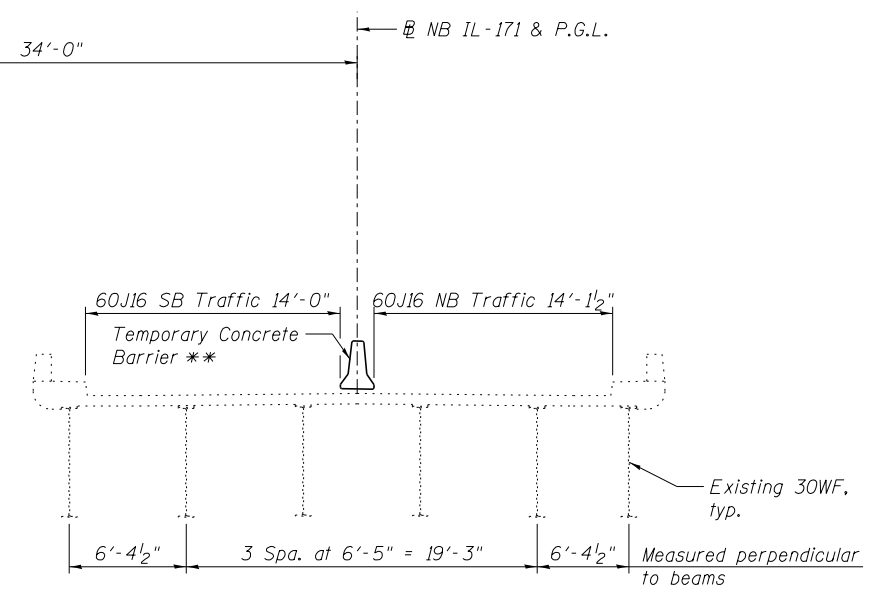
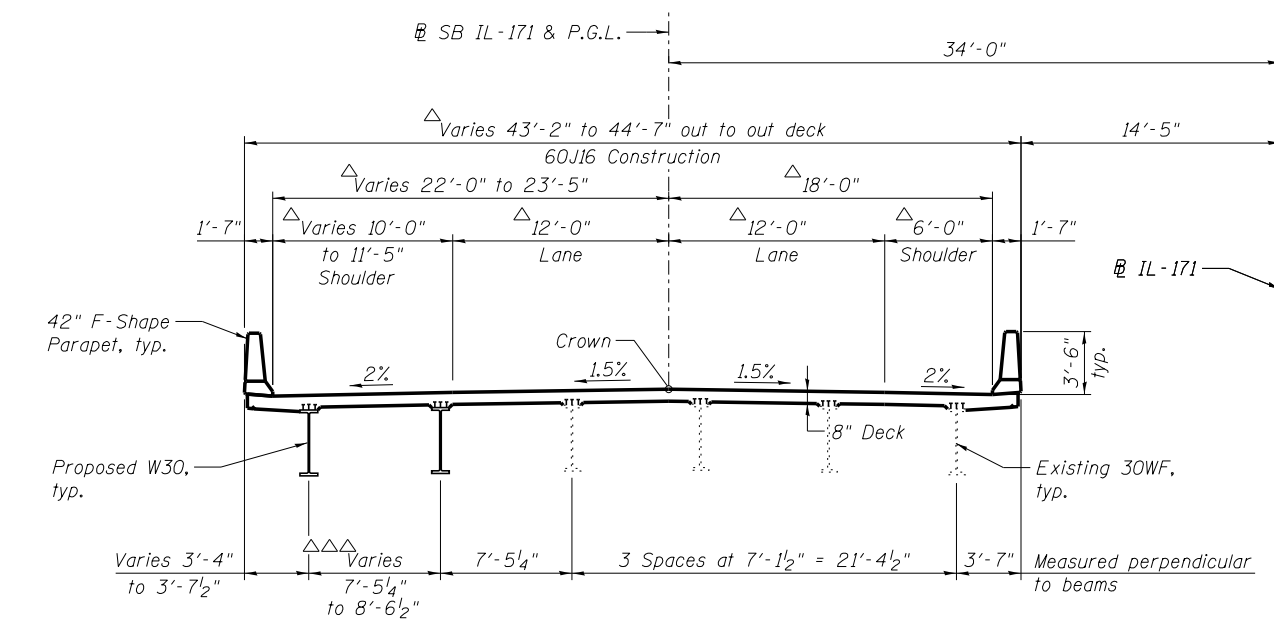


CONTRACT 60J16 REMOVAL
(Spans 8-12 Looking Upstation)



△ Measured perpendicular to IL-171
△△△ Measured perpendicular to Beam D2

CONTRACT 60J16 CONSTRUCTION
(Spans 8-12 Looking Upstation)

LEGEND

Indicates Removal of Existing Concrete Deck No. 5.

NOTES:

1. All dimensions are measured perpendicular to IL-171 unless noted otherwise.
2. The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See Sheet SG54 for Conduit Removal Details.
3. Do not anchor Temp. Concrete Barrier to exist. deck.

** See Sheet SG12 and maintenance of traffic sheets for more information.

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312-565-0450 Job No. 10093

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		CHECKED - RMM	REVISED -
		DRAWN - FSM	REVISED -
		CHECKED - RMM	REVISED -
PLOT SCALE =			
PLOT DATE = 8/6/2014			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

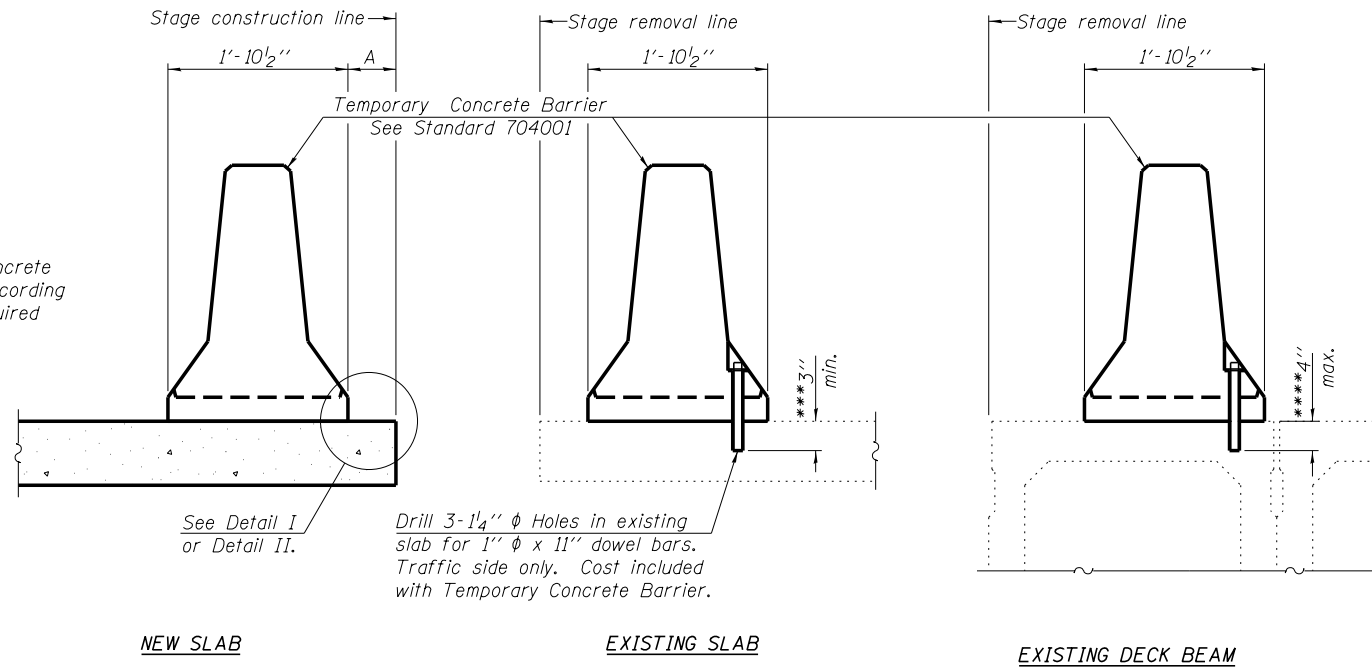
STAGE CONSTRUCTION DETAILS SPANS 8 THRU 12
STRUCTURE NO. 016-0486

SHEET NO. SG11 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	601
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

Y:\chicago\100005\100093\Eng_Docs_Phase_1\1\SN_016_0486_0487_1st_Ave.cover_Canal\Final\Final_0486_016_011_staging-8thru12.dgn 7:29:20 PM 8/6/2014

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

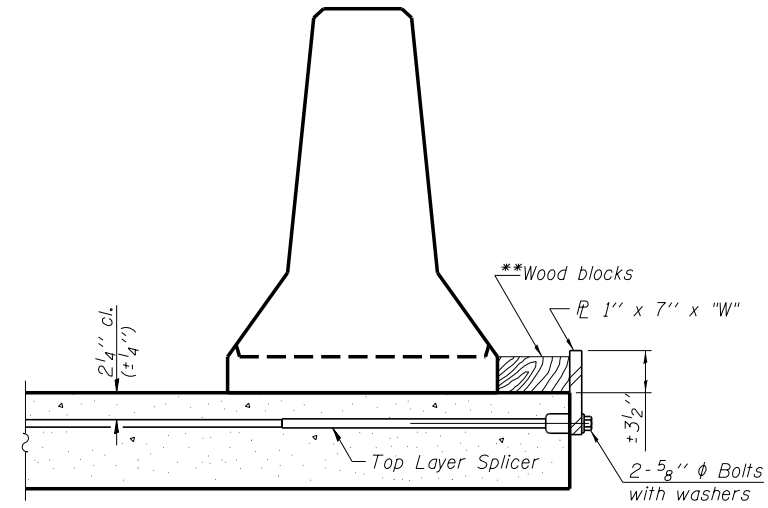
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel PL 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 C of each barrier panel.

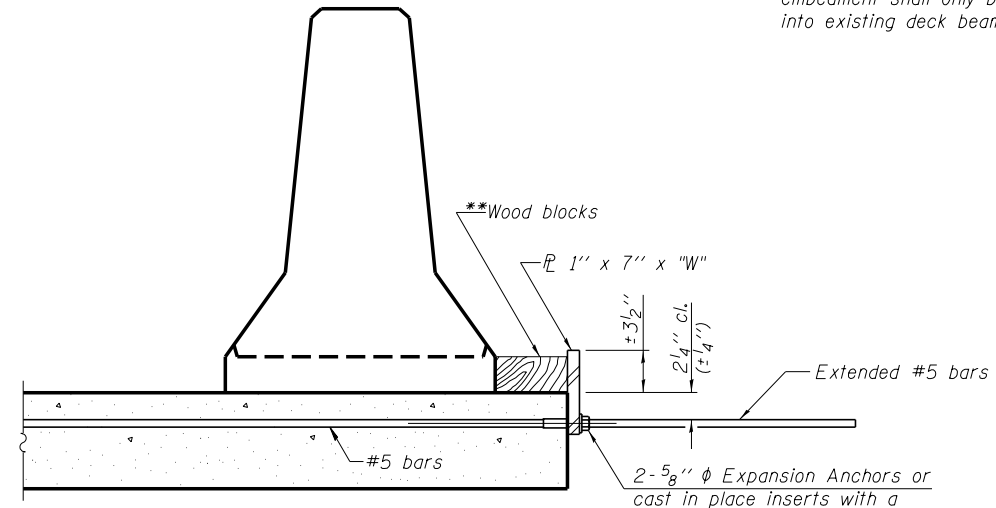
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** 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.

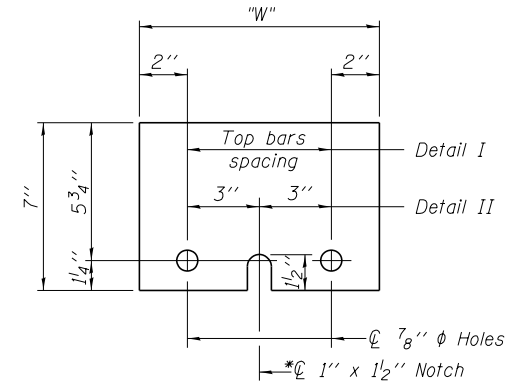
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1" x 7" x "W"
* Required only with Detail II

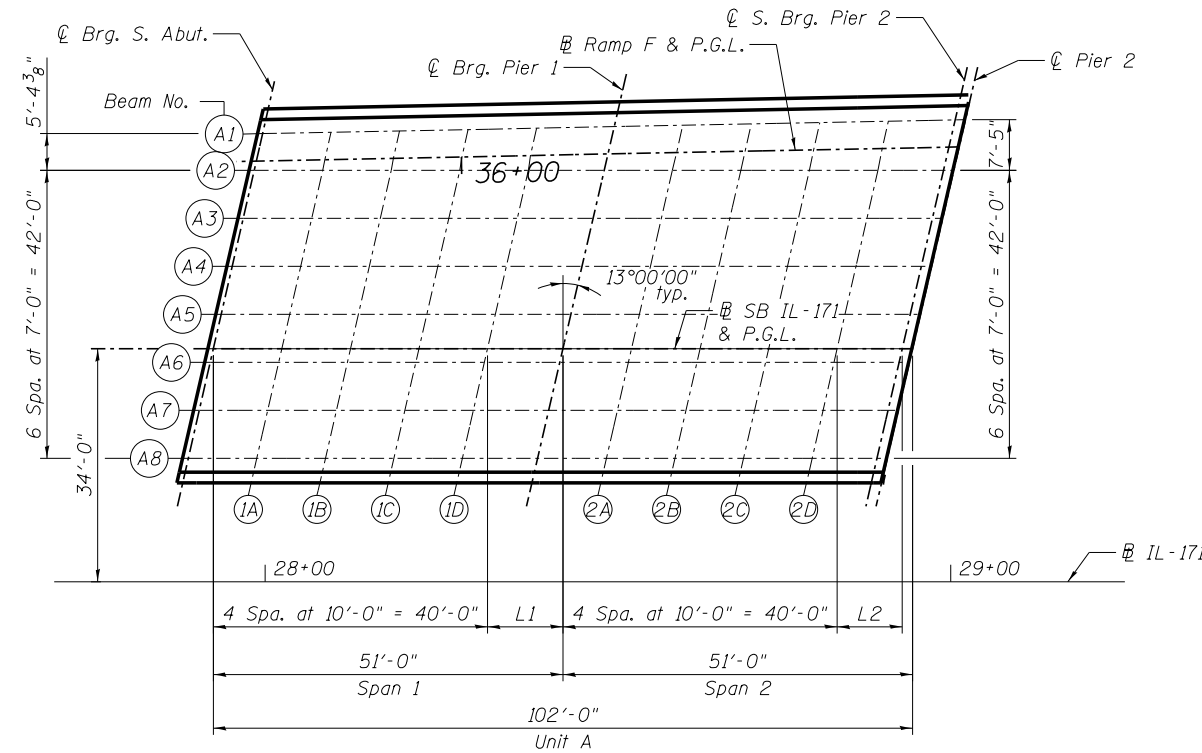
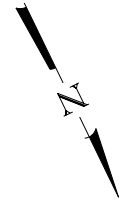
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

FILE NAME =	USER NAME = jsurber	DESIGNED - FSM	REVISD -
		CHECKED - RMM	REVISD -
		DRAWN - FSM	REVISD -
		CHECKED - RMM	REVISD -
PLOT SCALE =			
PLOT DATE = 8/6/2014			

F.A.P. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	602
CONTRACT NO.			60J16	

Y:\chicago\100005\10093\Eng_Docs_Phase_II\SN_016_0486_0487_1st_Ave_cover_Canal\Final\Final_0486\0160486_60J16_012_Temp_Conc_Barrier.dgn 7:29:21 PM 8/6/2014



PLAN - UNIT A

SCREED SPACING

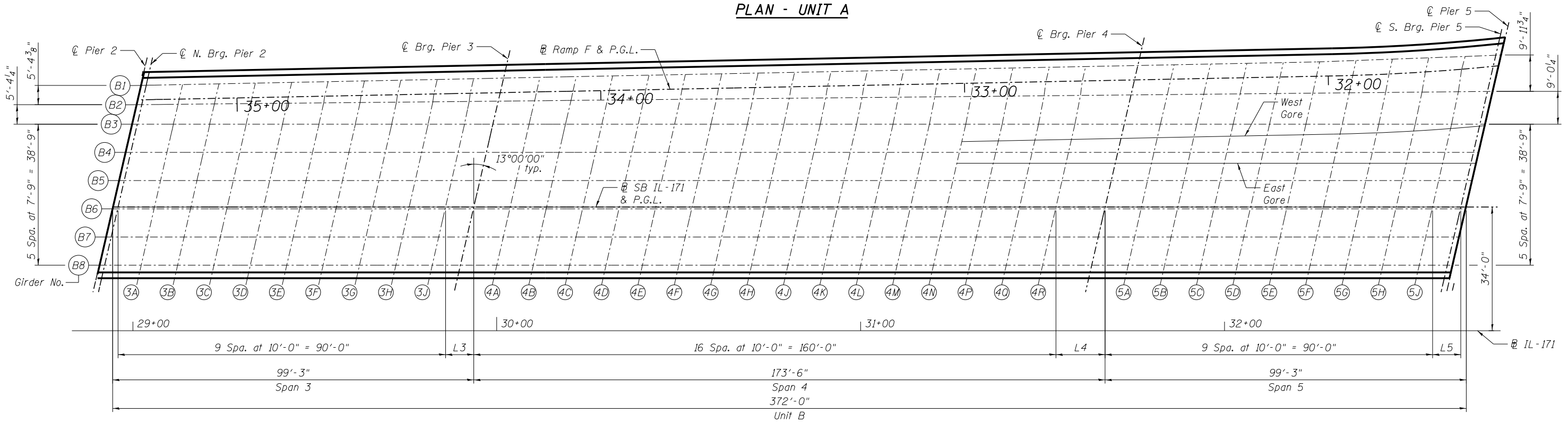
(Unit A)

LOCATION	L1	L2
Girder A1	11'-3"	10'-2 ⁷ / ₈ "
Girders A2-A8	11'-0"	10'-0"
SB IL-171 & P.G.L.	11'-0"	10'-0"

SCREED SPACING

(Unit B)

LOCATION	L3	L4	L5
Girder B1	8'-8 ³ / ₄ "	14'-4 ¹ / ₈ "	8'-11 ¹ / ₄ "
Ramp F & P.G.L.	---	---	9'-2 ⁷ / ₈ "
Girder B2	8'-5 ³ / ₄ "	13'-10 ⁷ / ₈ "	8'-5 ³ / ₄ "
Girders B3-B8	8'-3"	13'-6"	8'-3"
West Gore	---	---	9'-1 ¹ / ₂ "
East Gore	---	---	8'-3"
SB IL-171 & P.G.L.	8'-3"	13'-6"	8'-3"



PLAN - UNIT B

NOTES:

- All screed spacing is measured along girder/beam ϕ .
- All girder/beam spacing is measured perpendicular to ϕ IL-171.

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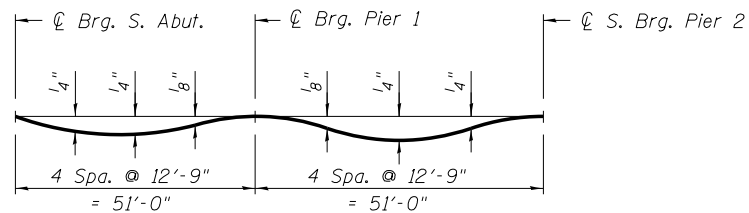
FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
0160486.60J16.013.TOS.Elev.Plan.1thru5.dgn	PLOT SCALE =	CHECKED - LRB	REVISED -
	PLOT DATE = 8/6/2014	DRAWN - KMS	REVISED -
		CHECKED - LRB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS PLAN SPAN 1 THRU 5
STRUCTURE NO. 016-0486

SHEET NO. SG13 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	603
CONTRACT NO.			60J16	
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 SG14 & SG15.

BEAM A1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+96.18	-31.32	626.37	626.37
⊕ Brg. S. Abut.	27+98.68	-31.37	626.36	626.36
1A	28+08.68	-31.57	626.31	626.33
1B	28+18.68	-31.77	626.27	626.30
1C	28+28.68	-31.97	626.23	626.25
1D	28+38.68	-32.17	626.19	626.20
⊕ Brg. Pier 1	28+49.68	-32.39	626.14	626.14
2A	28+59.68	-32.59	626.10	626.10
2B	28+69.68	-32.79	626.06	626.07
2C	28+79.68	-32.99	626.01	626.04
2D	28+89.68	-33.19	625.97	625.99
⊕ S. Brg. Pier 2	28+99.68	-33.40	625.93	625.93
⊕ Pier 2	29+00.68	-33.42	625.93	625.93

BEAM A2

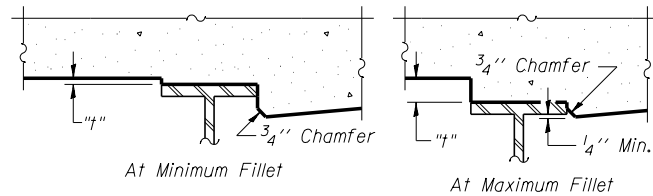
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+95.94	-26.00	626.47	626.47
⊕ Brg. S. Abut.	27+98.44	-26.00	626.46	626.46
1A	28+08.44	-26.00	626.43	626.44
1B	28+18.44	-26.00	626.39	626.41
1C	28+28.44	-26.00	626.35	626.37
1D	28+38.44	-26.00	626.31	626.32
⊕ Brg. Pier 1	28+49.44	-26.00	626.27	626.27
2A	28+59.44	-26.00	626.23	626.24
2B	28+69.44	-26.00	626.19	626.21
2C	28+79.44	-26.00	626.15	626.18
2D	28+89.44	-26.00	626.12	626.13
⊕ S. Brg. Pier 2	28+99.44	-26.00	626.08	626.08
⊕ Pier 2	29+00.44	-26.00	626.07	626.07

BEAM A3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+94.33	-19.00	626.62	626.62
⊕ Brg. S. Abut.	27+96.83	-19.00	626.61	626.61
1A	28+06.83	-19.00	626.57	626.59
1B	28+16.83	-19.00	626.53	626.56
1C	28+26.83	-19.00	626.50	626.52
1D	28+36.83	-19.00	626.46	626.47
⊕ Brg. Pier 1	28+47.83	-19.00	626.42	626.42
2A	28+57.83	-19.00	626.38	626.38
2B	28+67.83	-19.00	626.34	626.36
2C	28+77.83	-19.00	626.30	626.32
2D	28+87.83	-19.00	626.26	626.28
⊕ S. Brg. Pier 2	28+97.83	-19.00	626.22	626.22
⊕ Pier 2	28+98.83	-19.00	626.22	626.22

BEAM A4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+92.71	-12.00	626.77	626.77
⊕ Brg. S. Abut.	27+95.21	-12.00	626.76	626.76
1A	28+05.21	-12.00	626.72	626.73
1B	28+15.21	-12.00	626.68	626.70
1C	28+25.21	-12.00	626.64	626.66
1D	28+35.21	-12.00	626.60	626.61
⊕ Brg. Pier 1	28+46.21	-12.00	626.56	626.56
2A	28+56.21	-12.00	626.52	626.53
2B	28+66.21	-12.00	626.49	626.50
2C	28+76.21	-12.00	626.45	626.47
2D	28+86.21	-12.00	626.41	626.42
⊕ S. Brg. Pier 2	28+96.21	-12.00	626.37	626.37
⊕ Pier 2	28+97.21	-12.00	626.37	626.37



FILLET HEIGHTS

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

NOTE:

Offset measured from ⊕ SB IL-171 & P.G.L.

FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
0160486.60J16.014.TOS.Elev.1and2.dgn		CHECKED - LRB	REVISED -
	PLOT SCALE =	DRAWN - TJJ	REVISED -
	PLOT DATE = 8/6/2014	CHECKED - LRB	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	604
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

BEAM A5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+91.09	-5.00	626.88	626.88
⊕ Brg. S. Abut.	27+93.59	-5.00	626.87	626.87
1A	28+03.59	-5.00	626.83	626.85
1B	28+13.59	-5.00	626.79	626.82
1C	28+23.59	-5.00	626.75	626.77
1D	28+33.59	-5.00	626.71	626.72
⊕ Brg. Pier 1	28+44.59	-5.00	626.67	626.67
2A	28+54.59	-5.00	626.63	626.64
2B	28+64.59	-5.00	626.60	626.61
2C	28+74.59	-5.00	626.56	626.58
2D	28+84.59	-5.00	626.52	626.53
⊕ S. Brg. Pier 2	28+94.59	-5.00	626.48	626.48
⊕ Pier 2	28+95.59	-5.00	626.48	626.48

SB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+89.94	0.00	626.96	626.96
⊕ Brg. S. Abut.	27+92.44	0.00	626.95	626.95
1A	28+02.44	0.00	626.91	626.93
1B	28+12.44	0.00	626.87	626.89
1C	28+22.44	0.00	626.83	626.85
1D	28+32.44	0.00	626.79	626.80
⊕ Brg. Pier 1	28+43.44	0.00	626.75	626.75
2A	28+53.44	0.00	626.71	626.72
2B	28+63.44	0.00	626.68	626.69
2C	28+73.44	0.00	626.64	626.66
2D	28+83.44	0.00	626.60	626.61
⊕ S. Brg. Pier 2	28+93.44	0.00	626.56	626.56
⊕ Pier 2	28+94.44	0.00	626.56	626.56

BEAM A6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+89.48	2.00	626.93	626.93
⊕ Brg. S. Abut.	27+91.98	2.00	626.92	626.92
1A	28+01.98	2.00	626.88	626.90
1B	28+11.98	2.00	626.84	626.87
1C	28+21.98	2.00	626.80	626.82
1D	28+31.98	2.00	626.77	626.77
⊕ Brg. Pier 1	28+42.98	2.00	626.72	626.72
2A	28+52.98	2.00	626.69	626.69
2B	28+62.98	2.00	626.65	626.66
2C	28+72.98	2.00	626.61	626.63
2D	28+82.98	2.00	626.57	626.59
⊕ S. Brg. Pier 2	28+92.98	2.00	626.53	626.53
⊕ Pier 2	28+93.98	2.00	626.53	626.53

BEAM A7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+87.86	9.00	626.83	626.83
⊕ Brg. S. Abut.	27+90.36	9.00	626.82	626.82
1A	28+00.36	9.00	626.78	626.80
1B	28+10.36	9.00	626.74	626.77
1C	28+20.36	9.00	626.71	626.73
1D	28+30.36	9.00	626.67	626.68
⊕ Brg. Pier 1	28+41.36	9.00	626.63	626.63
2A	28+51.36	9.00	626.59	626.59
2B	28+61.36	9.00	626.55	626.57
2C	28+71.36	9.00	626.51	626.53
2D	28+81.36	9.00	626.47	626.49
⊕ S. Brg. Pier 2	28+91.36	9.00	626.43	626.43
⊕ Pier 2	28+92.36	9.00	626.43	626.43

BEAM A8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+86.25	16.00	626.71	626.71
⊕ Brg. S. Abut.	27+88.75	16.00	626.70	626.70
1A	27+98.75	16.00	626.66	626.68
1B	28+08.75	16.00	626.62	626.65
1C	28+18.75	16.00	626.59	626.61
1D	28+28.75	16.00	626.55	626.56
⊕ Brg. Pier 1	28+39.75	16.00	626.51	626.51
2A	28+49.75	16.00	626.47	626.47
2B	28+59.75	16.00	626.43	626.45
2C	28+69.75	16.00	626.39	626.41
2D	28+79.75	16.00	626.35	626.37
⊕ S. Brg. Pier 2	28+89.75	16.00	626.32	626.32
⊕ Pier 2	28+90.75	16.00	626.31	626.31

NOTE:

Offset measured from SB IL-171 & P.G.L.



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FILE NAME =	0160486_60J16_015.TOS.Elev.land2.dgn	USER NAME =	jsurber	DESIGNED -	TJJ	REVISED -	
		CHECKED -	LRB	REVISIONS			
		PLOT SCALE =		DRAWN -	TJJ	REVISED -	
		PLOT DATE =	8/6/2014	CHECKED -	LRB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS SPANS 1 AND 2 (2 OF 2)
STRUCTURE NO. 016-0486

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	605
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG15 OF SG100 SHEETS

EAST GORE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Pier 2	---	---	---	---
⊙ N. Brg. Pier 2	---	---	---	---
3A	---	---	---	---
3B	---	---	---	---
3C	---	---	---	---
3D	---	---	---	---
3E	---	---	---	---
3F	---	---	---	---
3G	---	---	---	---
3H	---	---	---	---
3J	---	---	---	---
⊙ Brg. Pier 3	---	---	---	---
4A	---	---	---	---
4B	---	---	---	---
4C	---	---	---	---
4D	---	---	---	---
4E	---	---	---	---
4F	---	---	---	---
4G	---	---	---	---
4H	---	---	---	---
4J	---	---	---	---
4K	---	---	---	---
4L	---	---	---	---
4M	---	---	---	---
4N	31+26.46	-12.00	625.49	625.61
4P	31+36.46	-12.00	625.45	625.54
4Q	31+46.46	-12.00	625.41	625.47
4R	31+56.46	-12.00	625.38	625.40
⊙ Brg. Pier 4	31+69.96	-12.00	625.32	625.32
5A	31+79.96	-12.00	625.29	625.28
5B	31+89.96	-12.00	625.25	625.24
5C	31+99.96	-12.00	625.21	625.21
5D	32+09.96	-12.00	625.17	625.19
5E	32+19.96	-12.00	625.13	625.18
5F	32+29.96	-12.00	625.10	625.15
5G	32+39.96	-12.00	625.06	625.12
5H	32+49.96	-12.00	625.02	625.07
5J	32+59.96	-12.00	624.98	625.00
⊙ S. Brg. Pier 5	32+68.21	-12.00	624.95	624.95
⊙ Pier 5	32+69.21	-12.00	624.95	624.95

GIRDER B5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Pier 2	28+96.11	-7.25	626.44	626.44
⊙ N. Brg. Pier 2	28+97.11	-7.25	626.44	626.44
3A	29+07.11	-7.25	626.40	626.42
3B	29+17.11	-7.25	626.36	626.40
3C	29+27.11	-7.25	626.32	626.38
3D	29+37.11	-7.25	626.29	626.34
3E	29+47.11	-7.25	626.25	626.28
3F	29+57.11	-7.25	626.21	626.22
3G	29+67.11	-7.25	626.17	626.17
3H	29+77.11	-7.25	626.13	626.12
3J	29+87.11	-7.25	626.09	626.09
⊙ Brg. Pier 3	29+95.36	-7.25	626.06	626.06
4A	30+05.36	-7.25	626.02	626.04
4B	30+15.36	-7.25	625.99	626.03
4C	30+25.36	-7.25	625.95	626.03
4D	30+35.36	-7.25	625.91	626.02
4E	30+45.36	-7.25	625.87	626.01
4F	30+55.36	-7.25	625.83	626.00
4G	30+65.36	-7.25	625.80	625.98
4H	30+75.36	-7.25	625.76	625.95
4J	30+85.36	-7.25	625.72	625.91
4K	30+95.36	-7.25	625.68	625.87
4L	31+05.36	-7.25	625.64	625.81
4M	31+15.36	-7.25	625.60	625.75
4N	31+25.36	-7.25	625.57	625.69
4P	31+35.36	-7.25	625.53	625.62
4Q	31+45.36	-7.25	625.49	625.55
4R	31+55.36	-7.25	625.45	625.48
⊙ Brg. Pier 4	31+68.86	-7.25	625.40	625.40
5A	31+78.86	-7.25	625.36	625.35
5B	31+88.86	-7.25	625.32	625.32
5C	31+98.86	-7.25	625.29	625.29
5D	32+08.86	-7.25	625.25	625.27
5E	32+18.86	-7.25	625.21	625.25
5F	32+28.86	-7.25	625.17	625.23
5G	32+38.86	-7.25	625.13	625.19
5H	32+48.86	-7.25	625.09	625.14
5J	32+58.86	-7.25	625.06	625.08
⊙ S. Brg. Pier 5	32+67.11	-7.25	625.02	625.02
⊙ Pier 5	32+68.11	-7.25	625.02	625.02

SB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Pier 2	28+94.44	0.00	626.56	626.56
⊙ N. Brg. Pier 2	28+95.44	0.00	626.55	626.55
3A	29+05.44	0.00	626.52	626.54
3B	29+15.44	0.00	626.48	626.52
3C	29+25.44	0.00	626.44	626.49
3D	29+35.44	0.00	626.40	626.45
3E	29+45.44	0.00	626.36	626.40
3F	29+55.44	0.00	626.32	626.34
3G	29+65.44	0.00	626.29	626.29
3H	29+75.44	0.00	626.25	626.24
3J	29+85.44	0.00	626.21	626.20
⊙ Brg. Pier 3	29+93.69	0.00	626.18	626.18
4A	30+03.69	0.00	626.14	626.16
4B	30+13.69	0.00	626.10	626.15
4C	30+23.69	0.00	626.06	626.14
4D	30+33.69	0.00	626.03	626.14
4E	30+43.69	0.00	625.99	626.13
4F	30+53.69	0.00	625.95	626.11
4G	30+63.69	0.00	625.91	626.09
4H	30+73.69	0.00	625.87	626.06
4J	30+83.69	0.00	625.83	626.03
4K	30+93.69	0.00	625.80	625.98
4L	31+03.69	0.00	625.76	625.93
4M	31+13.69	0.00	625.72	625.87
4N	31+23.69	0.00	625.68	625.80
4P	31+33.69	0.00	625.64	625.73
4Q	31+43.69	0.00	625.61	625.66
4R	31+53.69	0.00	625.57	625.59
⊙ Brg. Pier 4	31+67.19	0.00	625.52	625.52
5A	31+77.19	0.00	625.48	625.47
5B	31+87.19	0.00	625.44	625.43
5C	31+97.19	0.00	625.40	625.40
5D	32+07.19	0.00	625.36	625.39
5E	32+17.19	0.00	625.32	625.37
5F	32+27.19	0.00	625.29	625.34
5G	32+37.19	0.00	625.25	625.31
5H	32+47.19	0.00	625.21	625.26
5J	32+57.19	0.00	625.17	625.20
⊙ S. Brg. Pier 5	32+65.44	0.00	625.14	625.14
⊙ Pier 5	32+66.44	0.00	625.14	625.14

NOTE:

Offset measured from SB IL-171 & P.G.L.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
		CHECKED - LRB	REVISED -
		DRAWN - TJJ	REVISED -
		CHECKED - LRB	REVISED -
0160486.60J16.018.TOS.Elev.3thru5.dgn			
	PLOT SCALE =		
	PLOT DATE = 8/6/2014		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS SPANS 3 THRU 5 (3 OF 4)
STRUCTURE NO. 016-0486

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	608
CONTRACT NO.			60J16	
SHEET NO. SG18 OF SG100 SHEETS				
ILLINOIS FED. AID PROJECT				

GIRDER B6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓞ Pier 2	28+94.32	0.50	626.55	626.55
Ⓞ N. Brg. Pier 2	28+95.32	0.50	626.55	626.55
3A	29+05.32	0.50	626.51	626.53
3B	29+15.32	0.50	626.47	626.51
3C	29+25.32	0.50	626.43	626.48
3D	29+35.32	0.50	626.39	626.44
3E	29+45.32	0.50	626.36	626.39
3F	29+55.32	0.50	626.32	626.33
3G	29+65.32	0.50	626.28	626.28
3H	29+75.32	0.50	626.24	626.23
3J	29+85.32	0.50	626.20	626.19
Ⓞ Brg. Pier 3	29+93.57	0.50	626.17	626.17
4A	30+03.57	0.50	626.13	626.15
4B	30+13.57	0.50	626.09	626.14
4C	30+23.57	0.50	626.06	626.14
4D	30+33.57	0.50	626.02	626.13
4E	30+43.57	0.50	625.98	626.12
4F	30+53.57	0.50	625.94	626.11
4G	30+63.57	0.50	625.90	626.09
4H	30+73.57	0.50	625.87	626.06
4J	30+83.57	0.50	625.83	626.02
4K	30+93.57	0.50	625.79	625.98
4L	31+03.57	0.50	625.75	625.92
4M	31+13.57	0.50	625.71	625.86
4N	31+23.57	0.50	625.67	625.80
4P	31+33.57	0.50	625.64	625.73
4Q	31+43.57	0.50	625.60	625.65
4R	31+53.57	0.50	625.56	625.59
Ⓞ Brg. Pier 4	31+67.07	0.50	625.51	625.51
5A	31+77.07	0.50	625.47	625.46
5B	31+87.07	0.50	625.43	625.42
5C	31+97.07	0.50	625.39	625.40
5D	32+07.07	0.50	625.36	625.38
5E	32+17.07	0.50	625.32	625.36
5F	32+27.07	0.50	625.28	625.34
5G	32+37.07	0.50	625.24	625.30
5H	32+47.07	0.50	625.20	625.25
5J	32+57.07	0.50	625.16	625.19
Ⓞ S. Brg. Pier 5	32+65.32	0.50	625.13	625.13
Ⓞ Pier 5	32+66.32	0.50	625.13	625.13

GIRDER B7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓞ Pier 2	28+92.53	8.25	626.44	626.44
Ⓞ N. Brg. Pier 2	28+93.53	8.25	626.44	626.44
3A	29+03.53	8.25	626.40	626.42
3B	29+13.53	8.25	626.36	626.40
3C	29+23.53	8.25	626.32	626.37
3D	29+33.53	8.25	626.28	626.33
3E	29+43.53	8.25	626.25	626.28
3F	29+53.53	8.25	626.21	626.22
3G	29+63.53	8.25	626.17	626.17
3H	29+73.53	8.25	626.13	626.12
3J	29+83.53	8.25	626.09	626.08
Ⓞ Brg. Pier 3	29+91.78	8.25	626.06	626.06
4A	30+01.78	8.25	626.02	626.04
4B	30+11.78	8.25	625.99	626.03
4C	30+21.78	8.25	625.95	626.03
4D	30+31.78	8.25	625.91	626.02
4E	30+41.78	8.25	625.87	626.01
4F	30+51.78	8.25	625.83	626.00
4G	30+61.78	8.25	625.79	625.98
4H	30+71.78	8.25	625.76	625.95
4J	30+81.78	8.25	625.72	625.91
4K	30+91.78	8.25	625.68	625.87
4L	31+01.78	8.25	625.64	625.81
4M	31+11.78	8.25	625.60	625.75
4N	31+21.78	8.25	625.57	625.69
4P	31+31.78	8.25	625.53	625.62
4Q	31+41.78	8.25	625.49	625.55
4R	31+51.78	8.25	625.45	625.48
Ⓞ Brg. Pier 4	31+65.28	8.25	625.40	625.40
5A	31+75.28	8.25	625.36	625.35
5B	31+85.28	8.25	625.32	625.31
5C	31+95.28	8.25	625.28	625.29
5D	32+05.28	8.25	625.25	625.27
5E	32+15.28	8.25	625.21	625.25
5F	32+25.28	8.25	625.17	625.23
5G	32+35.28	8.25	625.13	625.19
5H	32+45.28	8.25	625.09	625.14
5J	32+55.28	8.25	625.06	625.08
Ⓞ S. Brg. Pier 5	32+63.53	8.25	625.02	625.02
Ⓞ Pier 5	32+64.53	8.25	625.02	625.02

GIRDER B8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓞ Pier 2	28+90.75	16.00	626.31	626.31
Ⓞ N. Brg. Pier 2	28+91.75	16.00	626.31	626.31
3A	29+01.75	16.00	626.27	626.29
3B	29+11.75	16.00	626.23	626.27
3C	29+21.75	16.00	626.19	626.25
3D	29+31.75	16.00	626.15	626.20
3E	29+41.75	16.00	626.12	626.15
3F	29+51.75	16.00	626.08	626.09
3G	29+61.75	16.00	626.04	626.04
3H	29+71.75	16.00	626.00	625.99
3J	29+81.75	16.00	625.96	625.96
Ⓞ Brg. Pier 3	29+90.00	16.00	625.93	625.93
4A	30+00.00	16.00	625.89	625.91
4B	30+10.00	16.00	625.86	625.90
4C	30+20.00	16.00	625.82	625.90
4D	30+30.00	16.00	625.78	625.89
4E	30+40.00	16.00	625.74	625.88
4F	30+50.00	16.00	625.70	625.87
4G	30+60.00	16.00	625.66	625.85
4H	30+70.00	16.00	625.63	625.82
4J	30+80.00	16.00	625.59	625.78
4K	30+90.00	16.00	625.55	625.74
4L	31+00.00	16.00	625.51	625.68
4M	31+10.00	16.00	625.47	625.62
4N	31+20.00	16.00	625.44	625.56
4P	31+30.00	16.00	625.40	625.49
4Q	31+40.00	16.00	625.36	625.42
4R	31+50.00	16.00	625.32	625.36
Ⓞ Brg. Pier 4	31+63.50	16.00	625.27	625.29
5A	31+73.50	16.00	625.23	625.26
5B	31+83.50	16.00	625.19	625.24
5C	31+93.50	16.00	625.15	625.20
5D	32+03.50	16.00	625.12	625.16
5E	32+13.50	16.00	625.08	625.12
5F	32+23.50	16.00	625.04	625.10
5G	32+33.50	16.00	625.00	625.06
5H	32+43.50	16.00	624.96	625.01
5J	32+53.50	16.00	624.93	624.95
Ⓞ S. Brg. Pier 5	32+61.75	16.00	624.89	624.89
Ⓞ Pier 5	32+62.75	16.00	624.89	624.89

NOTE:
Offset measured from @ SB IL-171 & P.G.L.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	0160486_60J16_019.TOS.Elev.3thru5.dgn	USER NAME =	jsurber	DESIGNED -	TJJ	REVISED -	
		CHECKED -	LRB	REVISIONS -			
		PLOT SCALE =		DRAWN -	TJJ	REVISED -	
		PLOT DATE =	8/6/2014	CHECKED -	LRB	REVISED -	

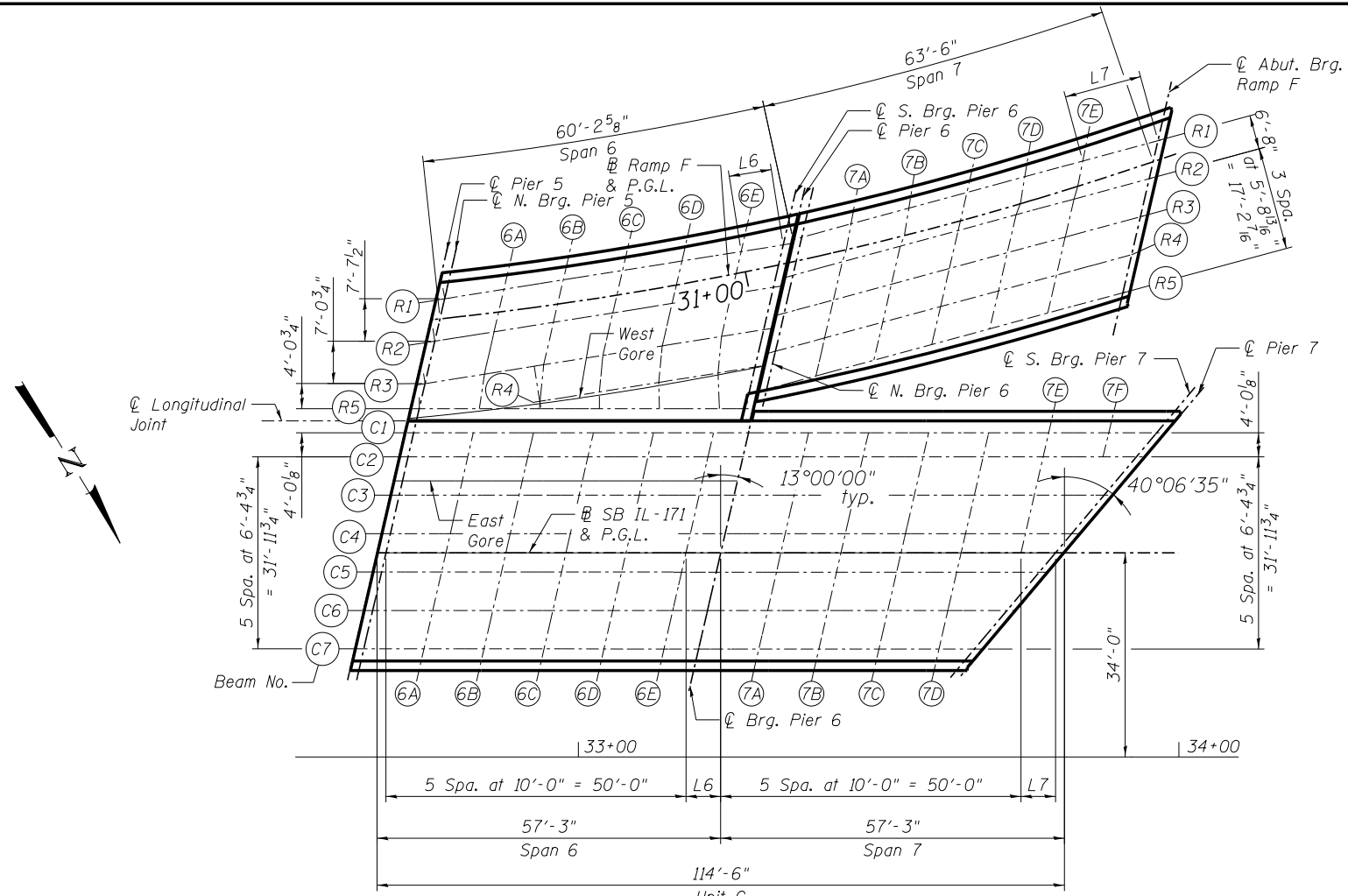
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS SPANS 3 THRU 5 (4 OF 4)
STRUCTURE NO. 016-0486

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	609
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG19 OF SG100 SHEETS

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PLAN - UNIT C

SCREED SPACING

(Ramp F)

LOCATION	L6	L7
Beam R1	8'-9 1/4"	12'-4 5/8"
Ramp F	8'-7 1/8"	12'-8 1/8"
Beam R2-R4	8'-6 3/4"	12'-4 5/8"
West Gore	---	12'-4 5/8"
Beam R5	5'-8 1/2"	12'-4 5/8"

SCREED SPACING

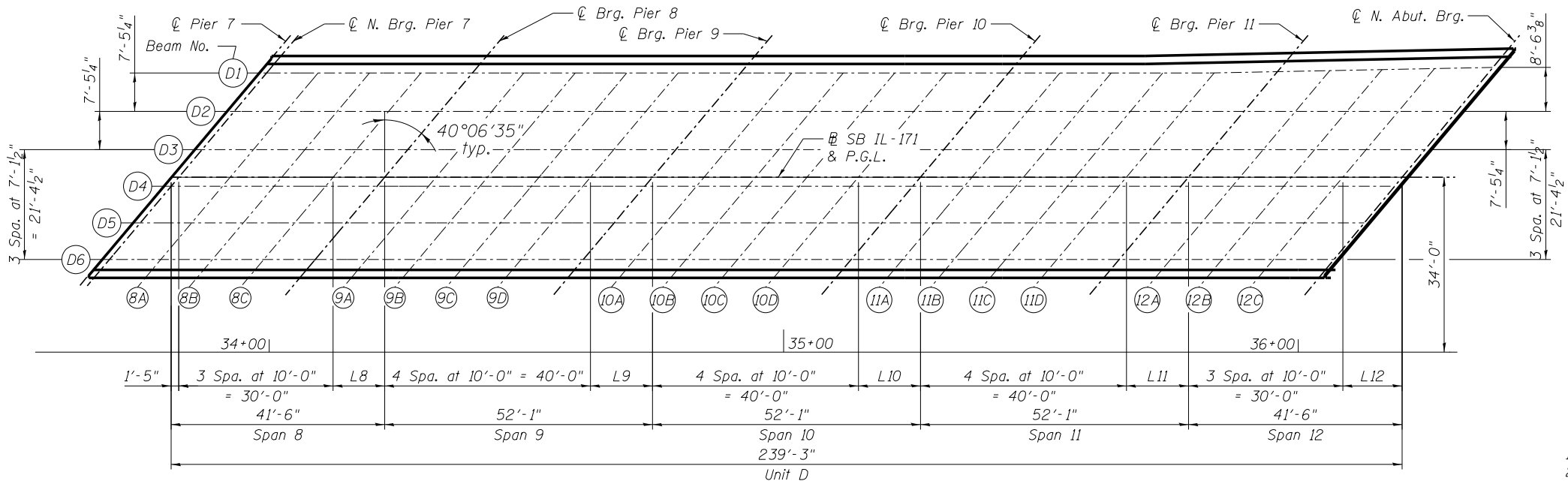
(Unit C)

LOCATION	L6	L7
Beam C1	6'-5 3/4"	8'-0 3/4"
Beam C2	6'-5 3/4"	5'-7 3/8"
East Gore	6'-5 3/4"	---
Beam C3	6'-5 3/4"	11'-8 3/8"
Beam C4	6'-5 3/4"	7'-9 1/2"
SB IL-171 & P.G.L.	6'-5 3/4"	5'-10"
Beam C5	6'-5 3/4"	13'-10 1/2"
Beam C6	6'-5 3/4"	9'-11 5/8"
Beam C7	6'-5 3/4"	6'-0 5/8"

SCREED SPACING

(Unit D)

LOCATION	L8	L9	L10	L11	L12
Beam D1	10'-1"	12'-1 1/8"	12'-1"	12'-3 1/4"	12'-2 5/8"
Beams D2-D6	10'-1"	12'-1 1/8"	12'-1"	12'-1"	11'-6"
SB IL-171 & P.G.L.	10'-1"	12'-1 1/8"	12'-1"	12'-1"	11'-6"



PLAN - UNIT D

NOTES:

- All screed spacing is measured along ϕ Beam.
- Ramp F Spans 6 & 7 are measured along to ϕ Ramp F.

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
		CHECKED - LRB/AJK	REVISED -
		DRAWN - KMS	REVISED -
		CHECKED - LRB/AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

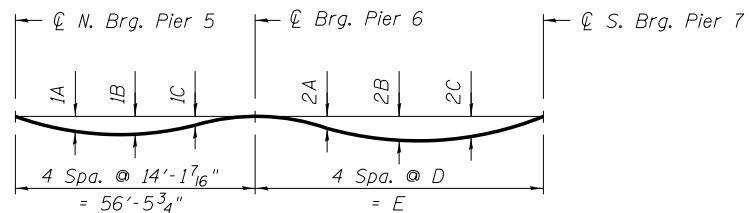
TOP OF SLAB ELEVATIONS PLAN SPANS 6 THRU 12
STRUCTURE NO. 016-0486

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	610
CONTRACT NO.			60J16	

SHEET NO. SG20 OF SG100 SHEETS

ILLINOIS FED. AID PROJECT

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DEAD LOAD DEFLECTION DIAGRAM

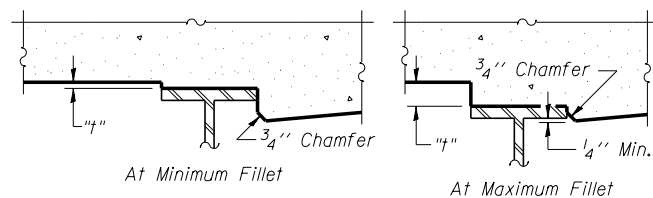
(Includes weight of concrete only.)

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 SG21 & SG22.

DEAD LOAD DEFLECTION TABLE

Beam	1A	1B	1C	2A	2B	2C	D	E
C1	1/4"	1/4"	0"	3/8"	3/4"	5/8"	17'-0 3/16"	68'-0 3/4"
C2	1/4"	1/4"	1/8"	1/4"	1/2"	3/8"	16'-4 7/8"	65'-7 1/16"
C3	1/4"	1/4"	1/8"	1/4"	1/2"	3/8"	15'-5 3/8"	61'-8 1/16"
C4	1/4"	1/4"	1/8"	1/4"	1/4"	1/4"	14'-5 3/8"	57'-9 1/2"
C5	1/4"	1/4"	1/8"	1/4"	1/4"	1/4"	13'-5 3/8"	53'-10 1/2"
C6	1/4"	3/8"	1/8"	0"	1/8"	1/8"	12'-5 1/8"	49'-11 1/16"
C7	1/4"	3/8"	1/8"	0"	1/8"	1/8"	11'-6 3/16"	46'-0 5/8"



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

LONGITUDINAL JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Centerline Pier 5	32+71.52	-22.00	624.80	624.80
Centerline N. Brg. Pier 5	32+72.79	-22.00	624.79	624.79
6A	32+82.79	-22.00	624.79	624.80
6B	32+92.79	-22.00	624.75	624.77
6C	33+02.79	-22.00	624.71	624.73
6D	33+12.79	-22.00	624.68	624.68
6E	33+22.79	-22.00	624.64	624.64
Centerline Brg. Pier 6	33+28.77	-22.00	624.62	624.62
7A	---	---	---	---
7B	---	---	---	---
7C	---	---	---	---
7D	---	---	---	---
7E	---	---	---	---
7F	---	---	---	---
Centerline S. Brg. Pier 7	---	---	---	---
Centerline Pier 7	---	---	---	---

BEAM C1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Centerline Pier 5	32+71.06	-20.00	624.83	624.83
Centerline N. Brg. Pier 5	32+71.83	-20.00	624.83	624.83
6A	32+81.83	-20.00	624.81	624.83
6B	32+91.83	-20.00	624.77	624.79
6C	33+01.83	-20.00	624.74	624.75
6D	33+11.83	-20.00	624.70	624.71
6E	33+21.83	-20.00	624.66	624.66
Centerline Brg. Pier 6	33+28.31	-20.00	624.64	624.64
7A	33+38.31	-20.00	624.58	624.60
7B	33+48.31	-20.00	624.50	624.55
7C	33+58.31	-20.00	624.45	624.51
7D	33+68.31	-20.00	624.41	624.48
7E	33+78.31	-20.00	624.38	624.43
7F	33+88.31	-20.00	624.34	624.37
Centerline S. Brg. Pier 7	33+96.37	-20.00	624.31	624.31
Centerline Pier 7	33+97.79	-20.00	624.31	624.31

BEAM C2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Centerline Pier 5	32+70.13	-15.99	624.88	624.88
Centerline N. Brg. Pier 5	32+70.90	-15.99	624.88	624.88
6A	32+80.90	-15.99	624.86	624.87
6B	32+90.90	-15.99	624.82	624.84
6C	33+00.90	-15.99	624.78	624.80
6D	33+10.90	-15.99	624.74	624.76
6E	33+20.90	-15.99	624.71	624.71
Centerline Brg. Pier 6	33+27.38	-15.99	624.68	624.68
7A	33+37.38	-15.99	624.64	624.65
7B	33+47.38	-15.99	624.58	624.60
7C	33+57.38	-15.99	624.53	624.57
7D	33+67.38	-15.99	624.49	624.53
7E	33+77.38	-15.99	624.46	624.49
7F	33+87.38	-15.99	624.42	624.44
Centerline S. Brg. Pier 7	33+92.99	-15.99	624.40	624.40
Centerline Pier 7	33+94.41	-15.99	624.40	624.40

EAST GORE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Centerline Pier 5	32+69.21	-12.00	624.95	624.95
Centerline N. Brg. Pier 5	32+69.98	-12.00	624.94	624.94
6A	32+79.98	-12.00	624.90	624.92
6B	32+89.98	-12.00	624.87	624.89
6C	32+99.98	-12.00	624.83	624.85
6D	33+09.98	-12.00	624.79	624.80
6E	33+19.98	-12.00	624.75	624.75
Centerline Brg. Pier 6	33+26.46	-12.00	624.73	624.73
7A	---	---	---	---
7B	---	---	---	---
7C	---	---	---	---
7D	---	---	---	---
7E	---	---	---	---
Centerline S. Brg. Pier 7	---	---	---	---
Centerline Pier 7	---	---	---	---

NOTE:

Offset measured from SB IL-171 & P.G.L.

FILE NAME = 0160486.60J16.021.TOS.Elev.6and7.dgn	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
		CHECKED - LRB	REVISED -
	PLOT SCALE =	DRAWN - TJJ	REVISED -
	PLOT DATE = 8/6/2014	CHECKED - LRB	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	611
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

BEAM C3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊕ Pier 5	32+68.65	-9.59	624.98	624.98
⊕ N. Brg. Pier 5	32+69.42	-9.59	624.98	624.98
6A	32+79.42	-9.59	624.94	624.96
6B	32+89.42	-9.59	624.90	624.93
6C	32+99.42	-9.59	624.87	624.89
6D	33+09.42	-9.59	624.83	624.84
6E	33+19.42	-9.59	624.79	624.79
⊕ Brg. Pier 6	33+25.90	-9.59	624.77	624.77
7A	33+35.90	-9.59	624.73	624.74
7B	33+45.90	-9.59	624.69	624.72
7C	33+55.90	-9.59	624.65	624.69
7D	33+65.90	-9.59	624.62	624.65
7E	33+75.90	-9.59	624.58	624.61
⊕ S. Brg. Pier 7	33+87.60	-9.59	624.54	624.54
⊕ Pier 7	33+89.02	-9.59	624.53	624.53

BEAM C4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊕ Pier 5	32+67.18	-3.20	625.09	625.09
⊕ N. Brg. Pier 5	32+67.95	-3.20	625.08	625.08
6A	32+77.95	-3.20	625.04	625.06
6B	32+87.95	-3.20	625.01	625.03
6C	32+97.95	-3.20	624.97	624.99
6D	33+07.95	-3.20	624.93	624.94
6E	33+17.95	-3.20	624.89	624.89
⊕ Brg. Pier 6	33+24.43	-3.20	624.87	624.87
7A	33+34.43	-3.20	624.83	624.84
7B	33+44.43	-3.20	624.79	624.81
7C	33+54.43	-3.20	624.75	624.78
7D	33+64.43	-3.20	624.72	624.74
7E	33+74.43	-3.20	624.68	624.69
⊕ S. Brg. Pier 7	33+82.22	-3.20	624.65	624.65
⊕ Pier 7	33+83.64	-3.20	624.65	624.65

SB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊕ Pier 5	32+66.44	0.00	625.14	625.14
⊕ N. Brg. Pier 5	32+67.21	0.00	625.13	625.13
6A	32+77.21	0.00	625.10	625.11
6B	32+87.21	0.00	625.06	625.08
6C	32+97.21	0.00	625.02	625.04
6D	33+07.21	0.00	624.98	624.99
6E	33+17.21	0.00	624.94	624.95
⊕ Brg. Pier 6	33+23.69	0.00	624.92	624.92
7A	33+33.69	0.00	624.88	624.89
7B	33+43.69	0.00	624.84	624.86
7C	33+53.69	0.00	624.80	624.83
7D	33+63.69	0.00	624.77	624.79
7E	33+73.69	0.00	624.73	624.74
⊕ S. Brg. Pier 7	33+79.52	0.00	624.71	624.71
⊕ Pier 7	33+80.94	0.00	624.71	624.71

BEAM C5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊕ Pier 5	32+65.70	3.20	625.09	625.09
⊕ N. Brg. Pier 5	32+66.47	3.20	625.09	625.09
6A	32+76.47	3.20	625.05	625.07
6B	32+86.47	3.20	625.01	625.04
6C	32+96.47	3.20	624.97	625.00
6D	33+06.47	3.20	624.94	624.95
6E	33+16.47	3.20	624.90	624.90
⊕ Brg. Pier 6	33+22.95	3.20	624.87	624.87
7A	33+32.95	3.20	624.83	624.84
7B	33+42.95	3.20	624.80	624.82
7C	33+52.95	3.20	624.76	624.79
7D	33+62.95	3.20	624.72	624.74
⊕ S. Brg. Pier 7	33+76.83	3.20	624.67	624.67
⊕ Pier 7	33+78.25	3.20	624.67	624.67

BEAM C6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊕ Pier 5	32+64.22	9.59	625.00	625.00
⊕ N. Brg. Pier 5	32+64.99	9.59	625.00	625.00
6A	32+74.99	9.59	624.96	624.98
6B	32+84.99	9.59	624.92	624.95
6C	32+94.99	9.59	624.88	624.91
6D	33+04.99	9.59	624.85	624.86
6E	33+14.99	9.59	624.81	624.81
⊕ Brg. Pier 6	33+21.47	9.59	624.78	624.78
7A	33+31.47	9.59	624.74	624.75
7B	33+41.47	9.59	624.71	624.72
7C	33+51.47	9.59	624.67	624.68
7D	33+61.47	9.59	624.63	624.64
⊕ S. Brg. Pier 7	33+71.44	9.59	624.60	624.60
⊕ Pier 7	33+72.86	9.59	624.59	624.59

BEAM C7

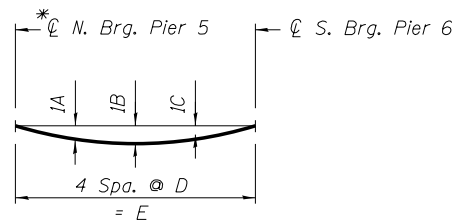
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊕ Pier 5	32+62.75	15.99	624.89	624.89
⊕ N. Brg. Pier 5	32+63.52	15.99	624.89	624.89
6A	32+73.52	15.99	624.85	624.87
6B	32+83.52	15.99	624.81	624.84
6C	32+93.52	15.99	624.77	624.80
6D	33+03.52	15.99	624.73	624.75
6E	33+13.52	15.99	624.70	624.70
⊕ Brg. Pier 6	33+20.00	15.99	624.67	624.67
7A	33+30.00	15.99	624.63	624.64
7B	33+40.00	15.99	624.60	624.61
7C	33+50.00	15.99	624.56	624.57
7D	33+60.00	15.99	624.52	624.53
⊕ S. Brg. Pier 7	33+66.05	15.99	624.50	624.50
⊕ Pier 7	33+67.47	15.99	624.49	624.49

NOTE:

Offset measured from SB IL-171 & P.G.L.

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		CHECKED -	LRB	REVISIONS -	-		
		PLOT SCALE =		DRAWN -	TJJ	REVISED -	-
		PLOT DATE =	8/6/2014	CHECKED -	LRB	REVISED -	-

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	612
CONTRACT NO.			60J16	
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 SG23.

DEAD LOAD DEFLECTION TABLE

Span 6 Beam	IA	IB	IC	D	E
R1	1"	1 1/2"	1"	14'-8 5/8"	58'-9 1/4"
R2 & R3	3/4"	1 1/8"	3/4"	14'-7 1/8"	58'-6 13/16"
*R4	3/4"	5/8"	3/8"	9'-11 5/8"	36'-1 1/4"
R5	3/4"	1"	3/4"	14'-8 1/8"	58'-8 1/2"

*Beam R4 is a partial length beam in Span 6. It frames into a crosshead beam and does not bear on Pier 5.

BEAM R1 - SPAN 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 5	31+51.76	3.69	623.61	623.61
☉ N. Brg. Pier 5	31+50.94	3.73	623.61	623.61
6A	31+40.88	4.24	623.52	623.58
6B	31+30.80	4.56	623.45	623.56
6C	31+20.72	4.69	623.39	623.51
6D	31+10.63	4.65	623.34	623.44
6E	31+00.55	4.42	623.30	623.35
☉ S. Brg. Pier 6	30+91.72	4.07	623.27	623.27
☉ Pier 6	30+90.90	4.03	623.27	623.27

RAMP F & P.G.L. - SPAN 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 5	31+53.03	0.00	623.84	623.84
☉ N. Brg. Pier 5	31+52.24	0.00	623.84	623.84
6A	31+42.24	0.00	623.78	623.83
6B	31+32.24	0.00	623.73	623.80
6C	31+22.24	0.00	623.68	623.76
6D	31+12.24	0.00	623.63	623.69
6E	31+02.24	0.00	623.57	623.61
☉ S. Brg. Pier 6	30+93.64	0.00	623.53	623.53
☉ Pier 6	30+92.81	0.00	623.52	623.52

BEAM R2 - SPAN 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 5	31+54.29	-3.71	624.07	624.07
☉ N. Brg. Pier 5	31+53.49	-3.66	624.06	624.06
6A	31+43.56	-3.20	623.98	624.03
6B	31+33.62	-2.91	623.91	623.99
6C	31+23.67	-2.81	623.85	623.95
6D	31+13.72	-2.88	623.81	623.88
6E	31+03.78	-3.14	623.77	623.81
☉ S. Brg. Pier 6	30+95.27	-3.51	623.75	623.75
☉ Pier 6	30+94.47	-3.55	623.74	623.74

BEAM R3 - SPAN 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 5	31+56.58	-10.58	624.48	624.48
☉ N. Brg. Pier 5	31+55.79	-10.53	624.47	624.47
6A	31+45.98	-10.02	624.40	624.45
6B	31+36.17	-9.69	624.33	624.42
6C	31+26.34	-9.54	624.27	624.37
6D	31+16.51	-9.56	624.22	624.30
6E	31+06.68	-9.77	624.18	624.22
☉ S. Brg. Pier 6	30+98.27	-10.09	624.16	624.16
☉ Pier 6	30+97.48	-10.13	624.16	624.16

BEAM R4 - SPAN 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 5	---	---	---	---
☉ N. Brg. Pier 5	---	---	---	---
6A	---	---	---	---
6B	31+35.96	-15.60	624.69	624.76
6C	31+28.63	-15.47	624.64	624.71
6D	31+18.91	-15.46	624.59	624.64
6E	31+09.18	-15.62	624.55	624.57
☉ S. Brg. Pier 6	31+00.86	-15.90	624.52	624.52
☉ Pier 6	31+00.07	-15.93	624.52	624.52

WEST GORE - SPAN 6

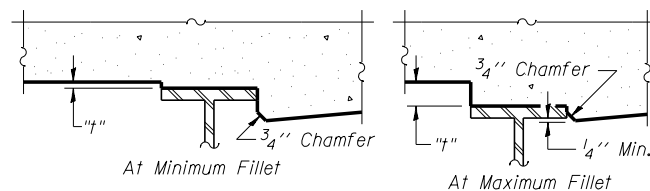
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 5	31+58.35	-16.00	624.79	624.79
☉ N. Brg. Pier 5	31+57.58	-16.00	624.79	624.79
6A	31+47.86	-16.00	624.77	624.82
6B	31+38.15	-16.00	624.72	624.79
6C	31+28.43	-16.00	624.67	624.75
6D	31+18.71	-16.00	624.62	624.69
6E	31+09.00	-16.00	624.57	624.60
☉ S. Brg. Pier 6	31+00.90	-16.00	624.53	624.53
☉ Pier 6	31+00.10	-16.00	624.52	624.52

BEAM R5 - SPAN 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 5	31+57.83	-14.41	624.70	624.70
☉ N. Brg. Pier 5	31+57.09	-14.48	624.70	624.70
6A	31+47.41	-15.53	624.74	624.79
6B	31+37.76	-16.75	624.80	624.88
6C	31+28.16	-18.14	624.73	624.81
6D	31+18.62	-19.70	624.66	624.72
6E	31+09.12	-21.44	624.59	624.61
☉ S. Brg. Pier 6	31+03.73	-22.51	624.55	624.55
☉ Pier 6	31+03.00	-22.65	624.55	624.55

☉ LONGITUDINAL JOINT - SPAN 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 5	31+58.46	-16.36	624.80	624.80
☉ N. Brg. Pier 5	31+57.72	-16.43	624.79	624.79
6A	31+48.07	-17.46	624.79	624.83
6B	31+38.46	-18.67	624.75	624.82
6C	31+28.89	-20.05	624.71	624.79
6D	31+19.37	-21.60	624.68	624.74
6E	31+09.91	-23.32	624.64	624.67
☉ S. Brg. Pier 6	31+04.53	-24.38	624.62	624.62
☉ Pier 6	31+03.81	-24.53	624.62	624.62



FILLET HEIGHTS

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

NOTE:

Station and offset measured from ☉ Ramp F & P.G.L.

benesch
engineers - scientists - planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

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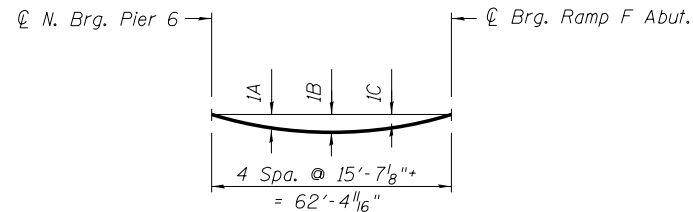
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PLOT DATE = 8/6/2014	DRAWN - TJJ	REVISED -
	CHECKED - LRB	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 6 AND 7 (3 OF 4)
STRUCTURE NO. 016-0486**

SHEET NO. SG23 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	613
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	



DEAD LOAD DEFLECTION DIAGRAM

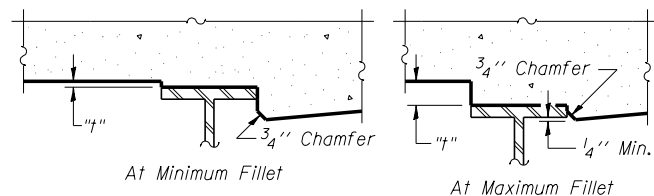
(Includes weight of concrete only.)

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 SG24.

DEAD LOAD DEFLECTION TABLE

Span 7 Beam	IA	IB	IC
R1	1 1/4"	1 3/4"	1 1/4"
R2-R5	1"	1 3/8"	1"



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM R1 - SPAN 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 6	30+90.64	4.57	623.24	623.24
☉ N. Brg. Pier 6	30+89.79	4.61	623.23	623.23
7A	30+79.71	4.97	623.16	623.23
7B	30+69.61	5.15	623.09	623.22
7C	30+59.52	5.14	623.04	623.18
7D	30+49.43	4.96	623.00	623.13
7E	30+39.35	4.58	622.97	623.05
☉ Brg. Ramp F Abut.	30+26.89	3.87	622.94	622.94
Bk. Ramp F Abut.	30+24.04	3.66	622.94	622.94

☉ RAMP F & P.G.L. - SPAN 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 6	30+92.81	0.00	623.52	623.52
☉ N. Brg. Pier 6	30+91.99	0.00	623.52	623.52
7A	30+81.99	0.00	623.47	623.52
7B	30+71.99	0.00	623.41	623.51
7C	30+61.99	0.00	623.36	623.47
7D	30+51.99	0.00	623.31	623.41
7E	30+41.99	0.00	623.26	623.32
☉ Brg. Ramp F Abut.	30+29.31	0.00	623.19	623.19
Bk. Ramp F Abut.	30+26.36	0.00	623.17	623.17

BEAM R2 - SPAN 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 6	30+93.87	-2.26	623.66	623.66
☉ N. Brg. Pier 6	30+93.03	-2.22	623.66	623.66
7A	30+83.07	-1.80	623.58	623.64
7B	30+73.11	-1.56	623.51	623.61
7C	30+63.13	-1.50	623.46	623.57
7D	30+53.16	-1.62	623.41	623.51
7E	30+43.20	-1.93	623.38	623.45
☉ Brg. Ramp F Abut.	30+30.88	-2.55	623.35	623.35
Bk. Ramp F Abut.	30+28.07	-2.70	623.34	623.34

BEAM R3 - SPAN 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 6	30+96.59	-8.16	624.03	624.03
☉ N. Brg. Pier 6	30+95.75	-8.11	624.02	624.02
7A	30+85.90	-7.64	623.94	624.00
7B	30+76.04	-7.34	623.87	623.97
7C	30+66.17	-7.23	623.82	623.93
7D	30+56.30	-7.30	623.77	623.87
7E	30+46.44	-7.54	623.73	623.80
☉ Brg. Ramp F Abut.	30+34.24	-8.10	623.70	623.70
Bk. Ramp F Abut.	30+31.45	-8.26	623.70	623.70

BEAM R4 - SPAN 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 6	30+99.25	-14.06	624.40	624.40
☉ N. Brg. Pier 6	30+98.42	-14.01	624.39	624.39
7A	30+88.68	-13.49	624.31	624.37
7B	30+78.92	-13.15	624.24	624.34
7C	30+69.15	-12.98	624.18	624.29
7D	30+59.38	-12.99	624.13	624.23
7E	30+49.62	-13.18	624.09	624.15
☉ Brg. Ramp F Abut.	30+37.53	-13.66	624.05	624.05
Bk. Ramp F Abut.	30+34.77	-13.81	624.05	624.05

BEAM R5 - SPAN 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 6	31+01.85	-19.99	624.63	624.63
☉ N. Brg. Pier 6	31+01.03	-19.93	624.63	624.63
7A	30+91.39	-19.36	624.62	624.68
7B	30+81.73	-18.97	624.60	624.70
7C	30+72.07	-18.75	624.54	624.65
7D	30+62.40	-18.70	624.48	624.59
7E	30+52.73	-18.84	624.44	624.51
☉ Brg. Ramp F Abut.	30+40.76	-19.25	624.40	624.40
Bk. Ramp F Abut.	30+38.03	-19.38	624.40	624.40

NOTE:

Station and offset measured from ☉ Ramp F & P.G.L.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	0160486.60J16.024.TOS.Elev.6and7.dgn
USER NAME =	jsurber
PLOT SCALE =	
PLOT DATE =	8/6/2014

DESIGNED -	TJJ	REVISED -	
CHECKED -	LRB	REVISED -	
DRAWN -	TJJ	REVISED -	
CHECKED -	LRB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS SPANS 6 AND 7 (4 OF 4)
STRUCTURE NO. 016-0486

SHEET NO. SG24 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	614
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

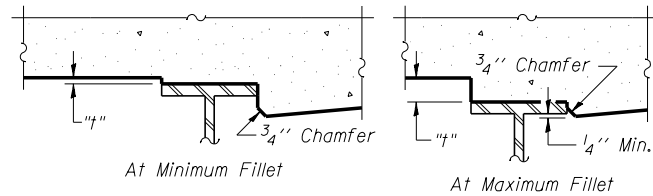
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BEAM D1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 7	33+97.99	-20.25	624.30	624.30
☉ N. Brg. Pier 7	33+99.41	-20.25	624.30	624.30
8A	34+09.41	-20.25	624.26	624.27
8B	34+19.41	-20.25	624.23	624.24
8C	34+29.41	-20.25	624.20	624.20
☉ Brg. Pier 8	34+39.49	-20.25	624.16	624.16
9A	34+49.49	-20.25	624.13	624.14
9B	34+59.49	-20.25	624.10	624.12
9C	34+69.49	-20.25	624.07	624.09
9D	34+79.49	-20.25	624.04	624.05
☉ Brg. Pier 9	34+91.58	-20.25	624.00	624.00
10A	35+01.58	-20.25	623.97	623.98
10B	35+11.58	-20.25	623.94	623.96
10C	35+21.58	-20.25	623.91	623.93
10D	35+31.58	-20.25	623.88	623.89
☉ Brg. Pier 10	35+43.66	-20.25	623.85	623.85
11A	35+53.66	-20.25	623.82	623.82
11B	35+63.66	-20.25	623.79	623.80
11C	35+73.66	-20.25	623.76	623.78
11D	35+83.66	-20.25	623.73	623.74
☉ Brg. Pier 11	35+95.93	-20.47	623.68	623.68
12A	36+05.93	-20.67	623.64	623.65
12B	36+15.93	-20.87	623.60	623.62
12C	36+25.93	-21.08	623.56	623.58
☉ Brg. N. Abut.	36+38.15	-21.31	623.51	623.51
Bk. N. Abut.	36+41.36	-21.37	623.50	623.50

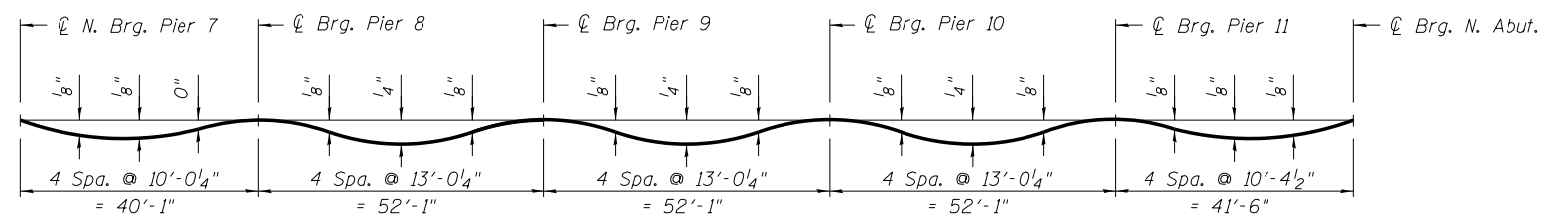
BEAM D2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 7	33+91.73	-12.81	624.47	624.47
☉ N. Brg. Pier 7	33+93.15	-12.81	624.47	624.47
8A	34+03.15	-12.81	624.43	624.44
8B	34+13.15	-12.81	624.40	624.41
8C	34+23.15	-12.81	624.37	624.37
☉ Brg. Pier 8	34+33.23	-12.81	624.33	624.33
9A	34+43.23	-12.81	624.30	624.31
9B	34+53.23	-12.81	624.27	624.29
9C	34+63.23	-12.81	624.24	624.26
9D	34+73.23	-12.81	624.21	624.22
☉ Brg. Pier 9	34+85.32	-12.81	624.17	624.17
10A	34+95.32	-12.81	624.14	624.15
10B	35+05.32	-12.81	624.11	624.13
10C	35+15.32	-12.81	624.08	624.10
10D	35+25.32	-12.81	624.05	624.06
☉ Brg. Pier 10	35+37.40	-12.81	624.01	624.01
11A	35+47.40	-12.81	623.98	623.99
11B	35+57.40	-12.81	623.95	623.97
11C	35+67.40	-12.81	623.92	623.94
11D	35+77.40	-12.81	623.89	623.90
☉ Brg. Pier 11	35+89.48	-12.81	623.86	623.86
12A	35+99.48	-12.81	623.82	623.83
12B	36+09.48	-12.81	623.79	623.80
12C	36+19.48	-12.81	623.75	623.77
☉ Brg. N. Abut.	36+30.98	-12.81	623.71	623.71
Bk. N. Abut.	36+34.14	-12.81	623.70	623.70



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



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 SG25 thru SG27.

NOTE:

Offset measured from ☉ SB IL-171 & P.G.L.

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FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
		CHECKED - AJK	REVISED -
0160486.60J16_025_T05.Elev.8thru12.dgn	PLOT SCALE =	DRAWN - TJJ	REVISED -
	PLOT DATE = 8/6/2014	CHECKED - AJK	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 8 THRU 12 (1 OF 3)
STRUCTURE NO. 016-0486**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	615
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG25 OF SG100 SHEETS

Y:\chicago\100005\100093\Eng_Docs_Phase_1\1\SN_016_0486_0487_1st_Ave._over_Canal\Final\Final_0486\0160486_60J16_025_T05.Elev.8thru12.dgn 7:29:41 PM 8/6/2014

BEAM D3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 7	33+85.46	-5.37	624.61	624.61
☉ N. Brg. Pier 7	33+86.88	-5.37	624.60	624.60
8A	33+96.88	-5.37	624.57	624.58
8B	34+06.88	-5.37	624.54	624.55
8C	34+16.88	-5.37	624.50	624.51
☉ Brg. Pier 8	34+26.96	-5.37	624.47	624.47
9A	34+36.96	-5.37	624.44	624.44
9B	34+46.96	-5.37	624.40	624.42
9C	34+56.96	-5.37	624.37	624.39
9D	34+66.96	-5.37	624.34	624.35
☉ Brg. Pier 9	34+79.05	-5.37	624.30	624.30
10A	34+89.05	-5.37	624.27	624.28
10B	34+99.05	-5.37	624.24	624.26
10C	35+09.05	-5.37	624.21	624.23
10D	35+19.05	-5.37	624.18	624.19
☉ Brg. Pier 10	35+31.13	-5.37	624.15	624.15
11A	35+41.13	-5.37	624.12	624.13
11B	35+51.13	-5.37	624.09	624.11
11C	35+61.13	-5.37	624.06	624.08
11D	35+71.13	-5.37	624.03	624.04
☉ Brg. Pier 11	35+83.21	-5.37	623.99	623.99
12A	35+93.21	-5.37	623.96	623.97
12B	36+03.21	-5.37	623.93	623.94
12C	36+13.21	-5.37	623.89	623.90
☉ Brg. N. Abut.	36+24.71	-5.37	623.85	623.85
Bk. N. Abut.	36+27.87	-5.37	623.84	623.84

☉ SB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 7	33+80.94	0.00	624.71	624.71
☉ N. Brg. Pier 7	33+82.36	0.00	624.70	624.70
8A	33+92.36	0.00	624.67	624.68
8B	34+02.36	0.00	624.63	624.64
8C	34+12.36	0.00	624.60	624.60
☉ Brg. Pier 8	34+22.44	0.00	624.56	624.56
9A	34+32.44	0.00	624.53	624.54
9B	34+42.44	0.00	624.50	624.52
9C	34+52.44	0.00	624.47	624.49
9D	34+62.44	0.00	624.44	624.45
☉ Brg. Pier 9	34+74.53	0.00	624.40	624.40
10A	34+84.53	0.00	624.37	624.38
10B	34+94.53	0.00	624.34	624.35
10C	35+04.53	0.00	624.31	624.33
10D	35+14.53	0.00	624.28	624.29
☉ Brg. Pier 10	35+26.61	0.00	624.24	624.24
11A	35+36.61	0.00	624.21	624.22
11B	35+46.61	0.00	624.18	624.20
11C	35+56.61	0.00	624.15	624.17
11D	35+66.61	0.00	624.12	624.13
☉ Brg. Pier 11	35+78.69	0.00	624.09	624.09
12A	35+88.69	0.00	624.05	624.06
12B	35+98.69	0.00	624.02	624.04
12C	36+08.69	0.00	623.99	624.00
☉ Brg. N. Abut.	36+20.19	0.00	623.95	623.95
Bk. N. Abut.	36+23.35	0.00	623.94	623.94

BEAM D4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 7	33+79.46	1.75	624.68	624.68
☉ N. Brg. Pier 7	33+80.88	1.75	624.68	624.68
8A	33+90.88	1.75	624.64	624.65
8B	34+00.88	1.75	624.61	624.62
8C	34+10.88	1.75	624.58	624.58
☉ Brg. Pier 8	34+20.96	1.75	624.54	624.54
9A	34+30.96	1.75	624.51	624.52
9B	34+40.96	1.75	624.48	624.50
9C	34+50.96	1.75	624.45	624.46
9D	34+60.96	1.75	624.41	624.42
☉ Brg. Pier 9	34+73.05	1.75	624.38	624.38
10A	34+83.05	1.75	624.35	624.35
10B	34+93.05	1.75	624.32	624.33
10C	35+03.05	1.75	624.29	624.30
10D	35+13.05	1.75	624.26	624.27
☉ Brg. Pier 10	35+25.13	1.75	624.22	624.22
11A	35+35.13	1.75	624.19	624.20
11B	35+45.13	1.75	624.16	624.18
11C	35+55.13	1.75	624.13	624.15
11D	35+65.13	1.75	624.10	624.11
☉ Brg. Pier 11	35+77.21	1.75	624.06	624.06
12A	35+87.21	1.75	624.03	624.04
12B	35+97.21	1.75	624.00	624.02
12C	36+07.21	1.75	623.97	623.98
☉ Brg. N. Abut.	36+18.71	1.75	623.93	623.93
Bk. N. Abut.	36+21.87	1.75	623.91	623.91

NOTE:

Offset measured from ☉ SB IL-171 & P.G.L.



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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	0160486.60J16.026.T05.Elev.8thru12.dgn	USER NAME =	jsurber	DESIGNED -	TJJ	REVISED -	
		CHECKED -	AJK	REVISIED -			
		PLOT SCALE =		DRAWN -	TJJ	REVISED -	
		PLOT DATE =	8/6/2014	CHECKED -	AJK	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS SPANS 8 THRU 12 (2 OF 3)
STRUCTURE NO. 016-0486

SHEET NO. SG26 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	616
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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BEAM D5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 7	33+73.46	8.88	624.60	624.60
☉ N. Brg. Pier 7	33+74.88	8.88	624.59	624.59
8A	33+84.88	8.88	624.56	624.57
8B	33+94.88	8.88	624.52	624.54
8C	34+04.88	8.88	624.49	624.49
☉ Pier 8	34+14.96	8.88	624.46	624.46
9A	34+24.96	8.88	624.42	624.43
9B	34+34.96	8.88	624.39	624.41
9C	34+44.96	8.88	624.36	624.38
9D	34+54.96	8.88	624.33	624.34
☉ Pier 9	34+67.05	8.88	624.29	624.29
10A	34+77.05	8.88	624.26	624.26
10B	34+87.05	8.88	624.23	624.24
10C	34+97.05	8.88	624.20	624.22
10D	35+07.05	8.88	624.17	624.18
☉ Pier 10	35+19.13	8.88	624.13	624.13
11A	35+29.13	8.88	624.10	624.11
11B	35+39.13	8.88	624.07	624.09
11C	35+49.13	8.88	624.04	624.06
11D	35+59.13	8.88	624.01	624.02
☉ Pier 11	35+71.21	8.88	623.98	623.98
12A	35+81.21	8.88	623.94	623.95
12B	35+91.21	8.88	623.91	623.93
12C	36+01.21	8.88	623.88	623.89
☉ Brg. N. Abut.	36+12.71	8.88	623.84	623.84
Bk. N. Abut.	36+15.87	8.88	623.83	623.83

BEAM D6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 7	33+67.46	16.00	624.49	624.49
☉ N. Brg. Pier 7	33+68.88	16.00	624.49	624.49
8A	33+78.88	16.00	624.45	624.46
8B	33+88.88	16.00	624.42	624.43
8C	33+98.88	16.00	624.38	624.39
☉ Pier 8	34+08.96	16.00	624.35	624.35
9A	34+18.96	16.00	624.32	624.32
9B	34+28.96	16.00	624.28	624.30
9C	34+38.96	16.00	624.25	624.27
9D	34+48.96	16.00	624.22	624.23
☉ Pier 9	34+61.05	16.00	624.18	624.18
10A	34+71.05	16.00	624.15	624.16
10B	34+81.05	16.00	624.12	624.14
10C	34+91.05	16.00	624.09	624.11
10D	35+01.05	16.00	624.06	624.07
☉ Pier 10	35+13.13	16.00	624.02	624.02
11A	35+23.13	16.00	623.99	624.00
11B	35+33.13	16.00	623.96	623.98
11C	35+43.13	16.00	623.93	623.95
11D	35+53.13	16.00	623.90	623.91
☉ Pier 11	35+65.21	16.00	623.87	623.87
12A	35+75.21	16.00	623.84	623.84
12B	35+85.21	16.00	623.81	623.82
12C	35+95.21	16.00	623.77	623.79
☉ Brg. N. Abut.	36+06.71	16.00	623.73	623.73
Bk. N. Abut.	36+09.87	16.00	623.72	623.72

NOTE:

Offset measured from ☉ SB IL-171 & P.G.L.



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FILE NAME =	0160486.60J16.027.TOS.Elev.8thru12.dgn	USER NAME =	jsurber	DESIGNED -	TJJ	REVISED -	-
		CHECKED -	AJK	REVISIONS -	-		
		PLOT SCALE =		DRAWN -	TJJ	REVISED -	-
		PLOT DATE =	8/6/2014	CHECKED -	AJK	REVISED -	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 8 THRU 12 (3 OF 3)
STRUCTURE NO. 016-0486**

SHEET NO. SG27 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	617
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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EAST EDGE OF SHOULDER

Location	Station (Along $\bar{\text{IL}}-171$)	Offset (from $\bar{\text{SB}}$ IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+56.29	18.00	626.79
A1	27+66.29	18.00	626.75
A2	27+76.29	18.00	626.71
N. End of South Appr. Pav't	27+86.29	18.00	626.67

EAST EDGE OF PAVEMENT

Location	Station (Along $\bar{\text{IL}}-171$)	Offset (from $\bar{\text{SB}}$ IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+57.68	12.00	626.90
A1	27+67.68	12.00	626.86
A2	27+77.68	12.00	626.82
N. End of South Appr. Pav't	27+87.68	12.00	626.79

$\bar{\text{SB}}$ IL-171, P.G.L. & CROWN

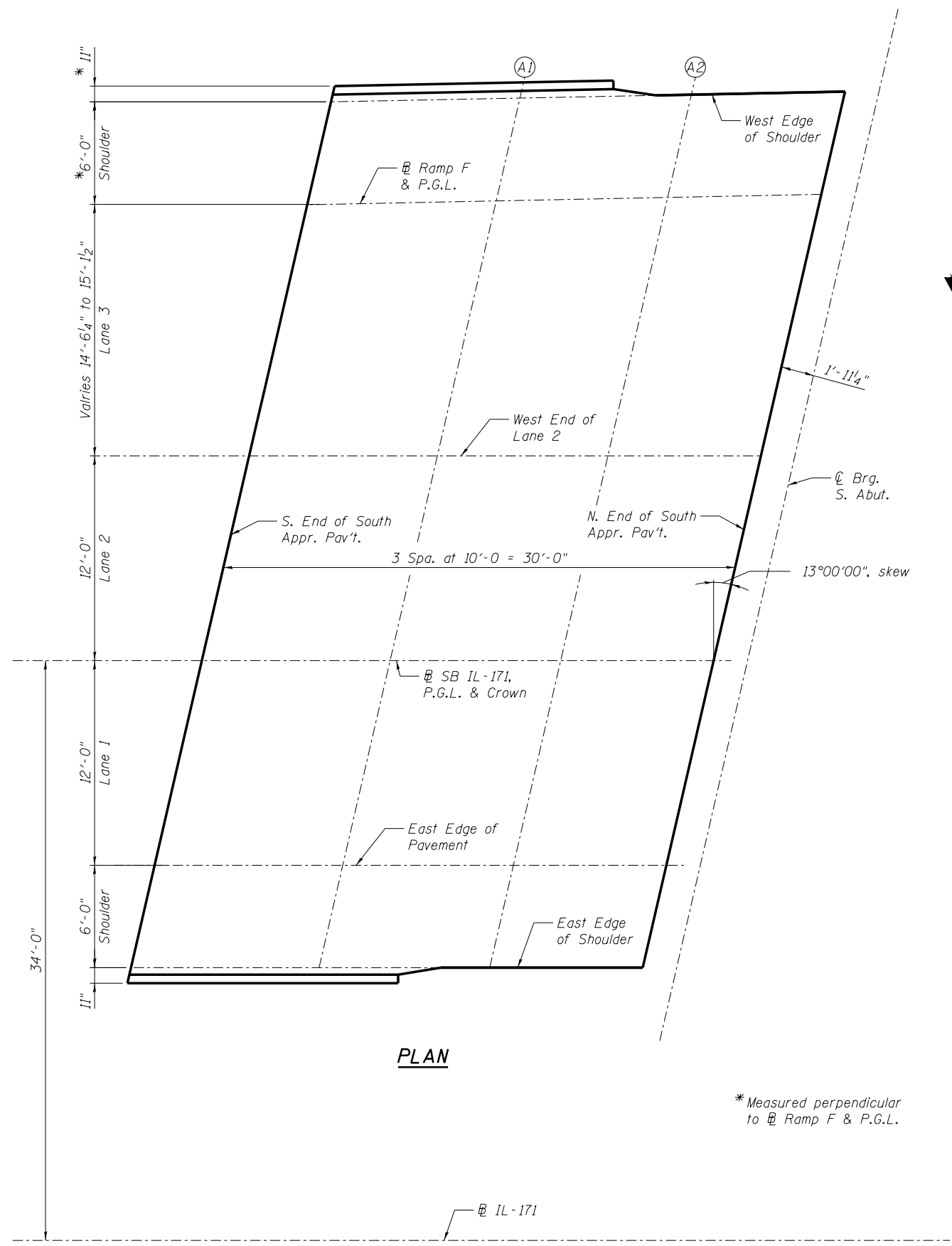
Location	Station (Along $\bar{\text{IL}}-171$)	Offset (from $\bar{\text{SB}}$ IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+60.45	0.00	627.07
A1	27+70.45	0.00	627.03
A2	27+80.45	0.00	626.99
N. End of South Appr. Pav't	27+90.45	0.00	626.95

WEST EDGE OF LANE 2

Location	Station (Along $\bar{\text{IL}}-171$)	Offset (from $\bar{\text{SB}}$ IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+63.22	-12.00	626.88
A1	27+73.22	-12.00	626.84
A2	27+83.22	-12.00	626.80
N. End of South Appr. Pav't	27+93.22	-12.00	626.76

WEST EDGE OF SHOULDER

Location	Station (Along $\bar{\text{IL}}-171$)	Offset (from $\bar{\text{SB}}$ IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+68.02	-32.77	626.44
A1	27+78.06	-32.97	626.40
A2	27+88.11	-33.17	626.36
N. End of South Appr. Pav't	27+98.16	-33.37	626.32



PLAN

* Measured perpendicular to $\bar{\text{Ramp F}}$ & P.G.L.

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FILE NAME =	USER NAME = jsurber	DESIGNED - DTS	REVISED -
0160486.60J16.028.Top of South Approach	0160486.60J16.028.Top of South Approach	CHECKED - TJJ	REVISED -
		DRAWN - KMS	REVISED -
		CHECKED - TJJ	REVISED -

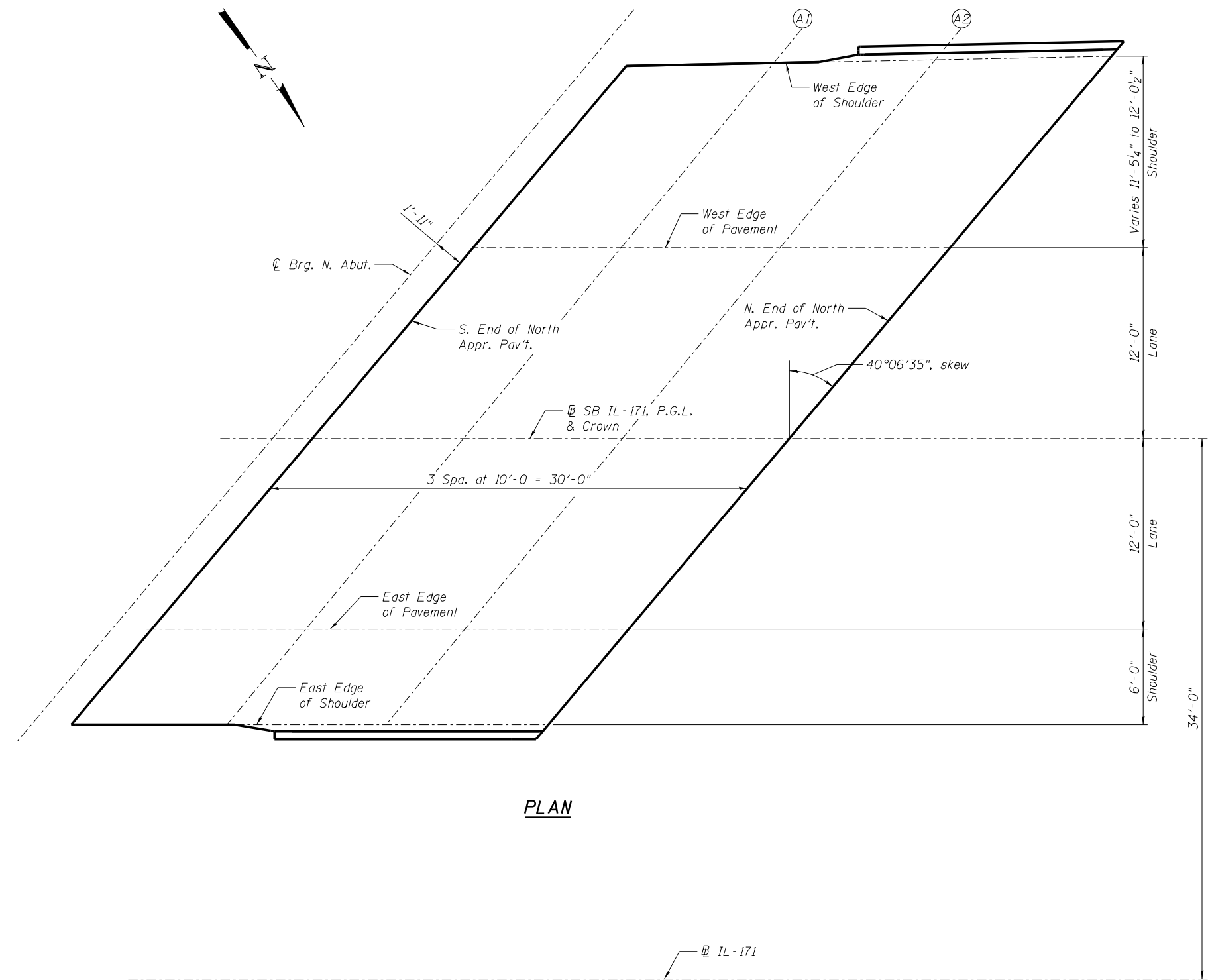
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-0486**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	618
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG28 OF SG100 SHEETS

Y:\chicago\100005\100093\Eng_Docs_Phase_1\1\SN_016_0486_0487_1st_Ave_Over_Canal\Final\0486\0160486_60J16_028_Top of South Approach Slab Elevations.dgn 7:29:45 PM 8/6/2014



PLAN

EAST EDGE OF SHOULDER

Location	Station (Along @ IL-171)	Offset (from @ SB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	36+07.54	18.00	623.69
A1	36+17.54	18.00	623.66
A2	36+27.54	18.00	623.62
N. End of North Appr. Pav't	36+37.54	18.00	623.58

EAST EDGE OF PAVEMENT

Location	Station (Along @ IL-171)	Offset (from @ SB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	36+12.59	12.00	623.79
A1	36+22.59	12.00	623.76
A2	36+32.59	12.00	623.72
N. End of North Appr. Pav't	36+42.59	12.00	623.68

@ SB IL-171, P.G.L. & CROWN

Location	Station (Along @ IL-171)	Offset (from @ SB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	36+22.70	0.00	623.94
A1	36+32.70	0.00	623.90
A2	36+42.70	0.00	623.86
N. End of North Appr. Pav't	36+52.70	0.00	623.82

WEST EDGE OF PAVEMENT

Location	Station (Along @ IL-171)	Offset (from @ SB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	36+32.81	-12.00	623.72
A1	36+42.81	-12.00	623.68
A2	36+52.81	-12.00	623.64
N. End of North Appr. Pav't	36+62.81	-12.00	623.60

WEST EDGE OF SHOULDER

Location	Station (Along @ IL-171)	Offset (from @ SB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	36+42.45	-23.44	623.45
A1	36+52.62	-23.64	623.41
A2	36+62.79	-23.84	623.36
N. End of North Appr. Pav't	36+72.96	-24.05	623.31

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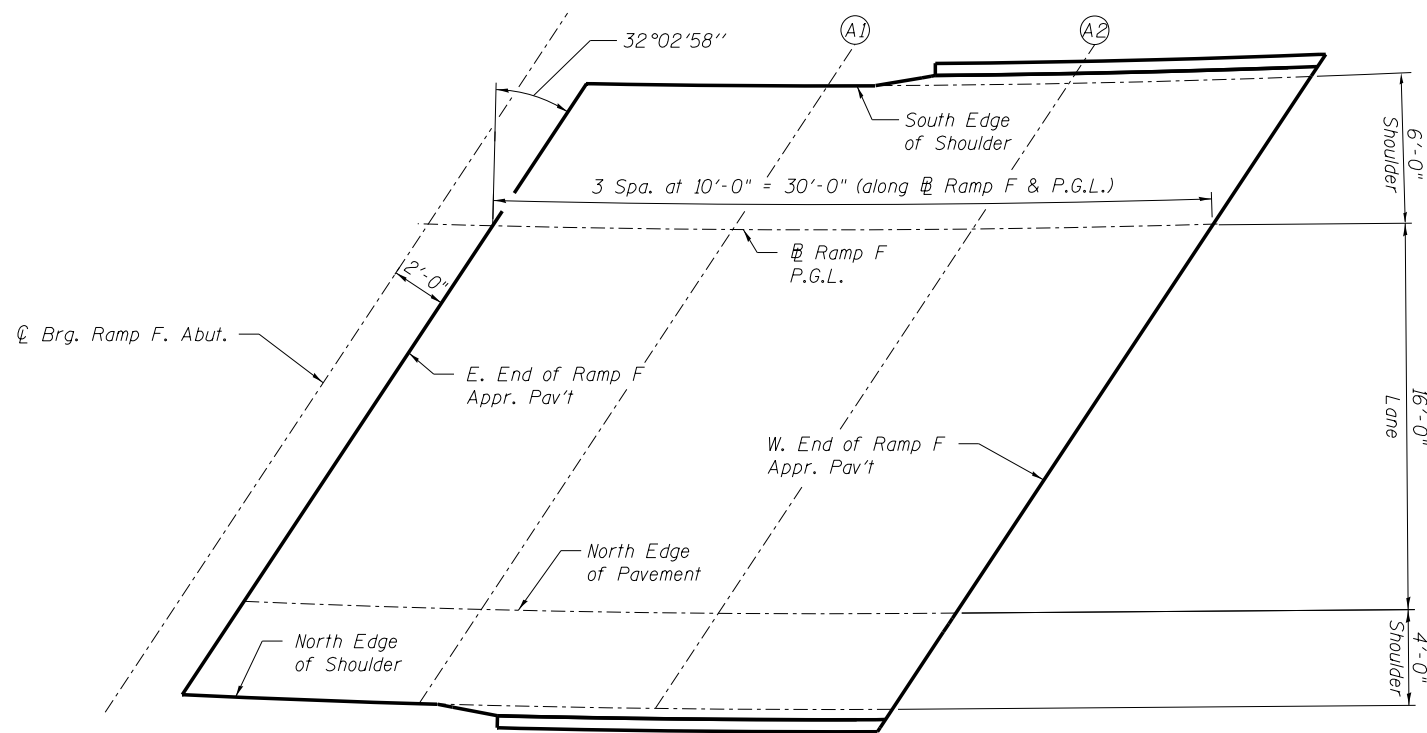
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-0486**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	619
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG29 OF SG100 SHEETS

Y:\chicago\100005\100093\Eng_Docs_Phase_1\16_016_0486_0487_1st_Ave_over_Canal\Final\0486\0160486.60J16.029.Top of North Approach Slab Elevations.dgn 7:29:47 PM 8/6/2014



PLAN

SOUTH EDGE OF SHOULDER

Location	Station (Along \bar{R} Ramp F & P.G.L.)	Offset (from \bar{R} Ramp F & P.G.L.)	Theoretical Grade Elevations
E. End of Ramp F Appr. Pav't	30+23.14	6.00	622.79
A1	30+12.99	6.00	622.72
A2	30+02.83	6.00	622.64
W. End of Ramp F Appr. Pav't	29+92.66	6.00	622.56

\bar{R} RAMP F & P.G.L.

Location	Station (Along \bar{R} Ramp F & P.G.L.)	Offset (from \bar{R} Ramp F & P.G.L.)	Theoretical Grade Elevations
E. End of Ramp F Appr. Pav't	30+26.95	0.00	623.17
A1	30+16.95	0.00	623.10
A2	30+06.95	0.00	623.03
W. End of Ramp F Appr. Pav't	29+96.95	0.00	622.96

NORTH EDGE OF SHOULDER

Location	Station (Along \bar{R} Ramp F & P.G.L.)	Offset (from \bar{R} Ramp F & P.G.L.)	Theoretical Grade Elevations
E. End of Ramp F Appr. Pav't	30+38.95	-20.00	624.44
A1	30+29.43	-20.00	624.38
A2	30+19.93	-20.00	624.32
W. End of Ramp F Appr. Pav't	30+10.44	-20.00	624.26

NOTE:

Lane dimensions measured radially to \bar{R} Ramp F & P.G.L.

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0160486.60J16.030.Top of Ramp F Approach	EDB	CHECKED - TJJ	REVISED -
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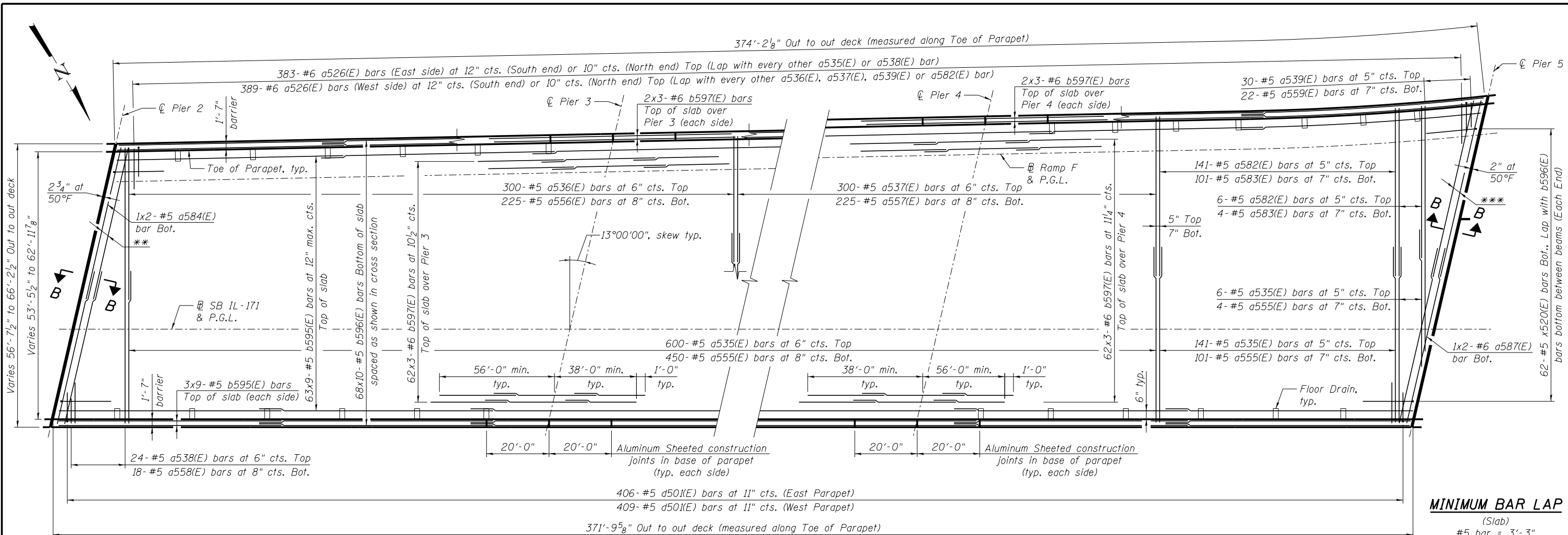
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF RAMP F APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-0486**

SHEET NO. SG30 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	620
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60J16	

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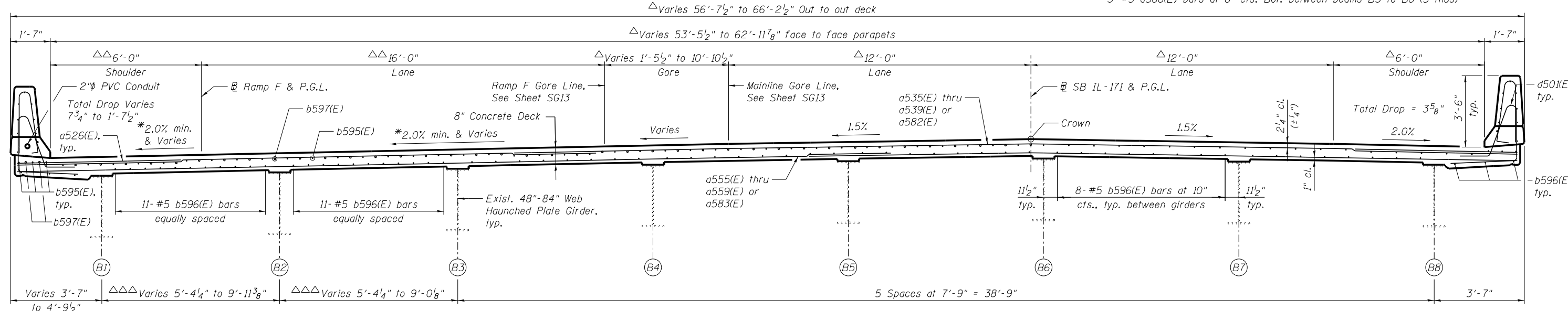
PLAN

*Ramp F Superelevation transitions from 6.00% @ Sta. 31+50.00 to 2.00% @ Sta. 33+00.00

**4x2- #5 a584(E) bars at 6" cts. Top
 3- #5 a585(E) bars at 6" cts. Bot. between beams B1 to B3 (2 thus)
 3- #5 a586(E) bars at 6" cts. Bot. between beams B3 to B8 (5 thus)

***4x2- #6 a587(E) bars at 6" cts. Top
 3- #6 a588(E) bars at 6" cts. Bot. between beams B1 to B2
 3- #6 a589(E) bars at 6" cts. Bot. between beams B2 to B3
 3- #5 a586(E) bars at 6" cts. Bot. between beams B3 to B8 (5 thus)

MINIMUM BAR LAP
 (Slab)
 #5 bar = 3'-3"
 #6 bar = 3'-10"



CROSS SECTION

(Looking Upstasion/North)

NOTES:

1. For Superstructure Details and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG42.
3. For locations and spacing of Floor Drains, see Sheet SG2.
4. Bars indicated thus 63x9- #5 etc. indicates 63 lines of bars with 9 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.
6. See Lighting Plans for Navigation Lighting details.

△ Measured perpendicular to IL-171
 △△ Measured perpendicular to Ramp F
 △△△ Measured perpendicular to east girder

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		DRAWN - RMG	REVISED -
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	PLOT DATE = 8/6/2014		

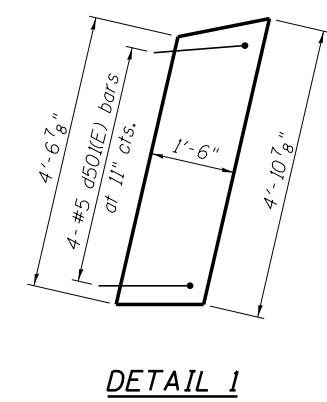
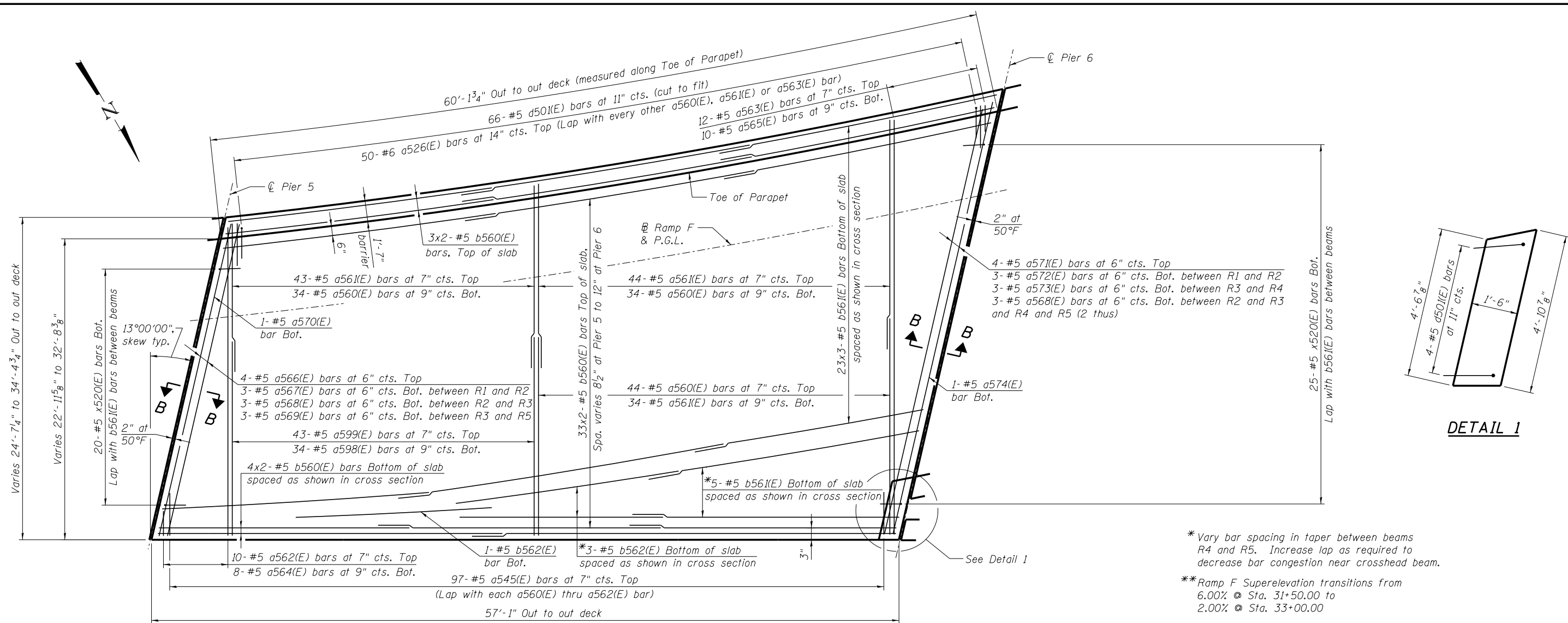
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DEPARTMENT OF TRANSPORTATION

DECK PLAN AND CROSS SECTION SPANS 3 THRU 5
STRUCTURE NO. 016-0486

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	622
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG32 OF SG100 SHEETS

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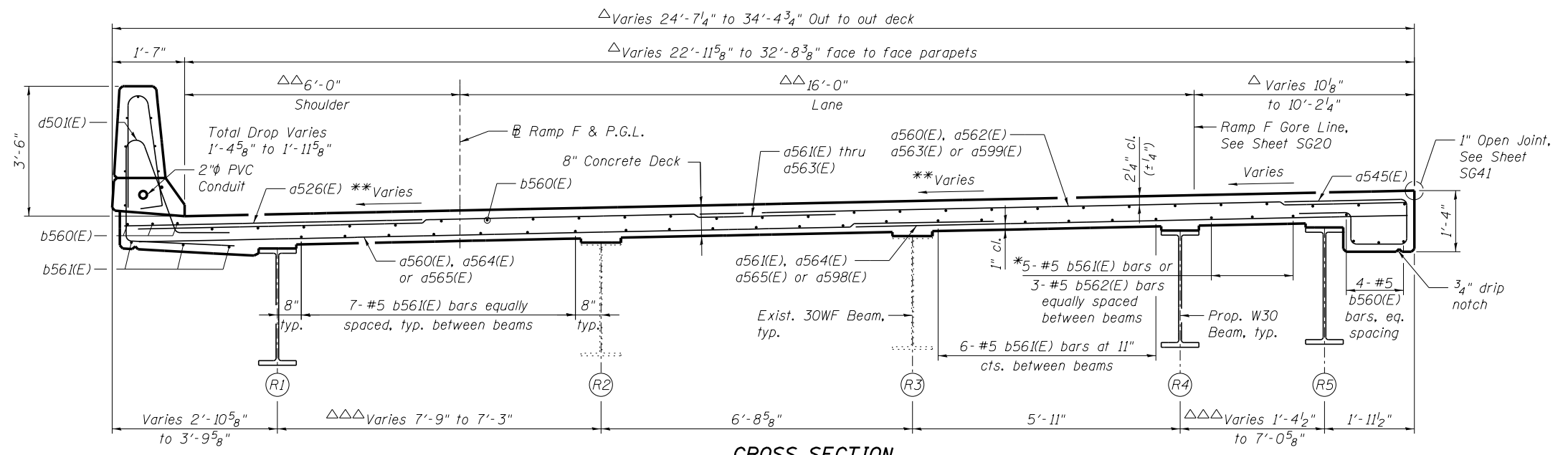
PLAN

* Vary bar spacing in taper between beams R4 and R5. Increase lap as required to decrease bar congestion near crosshead beam.
 ** Ramp F Superelevation transitions from 6.00% @ Sta. 31+50.00 to 2.00% @ Sta. 33+00.00
 Δ Measured perpendicular to open joint
 ΔΔ Measured perpendicular to Ramp F
 ΔΔΔ Measured perpendicular to east girder

MINIMUM BAR LAP
 (Slab)
 #5 bar = 3'-3"

NOTES:

1. For Superstructure Details and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG43.
3. Bars indicated thus 33x2-#5 etc. indicates 33 lines of bars with 2 lengths per line.
4. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.



CROSS SECTION

(Looking North/Upstation along IL-171)



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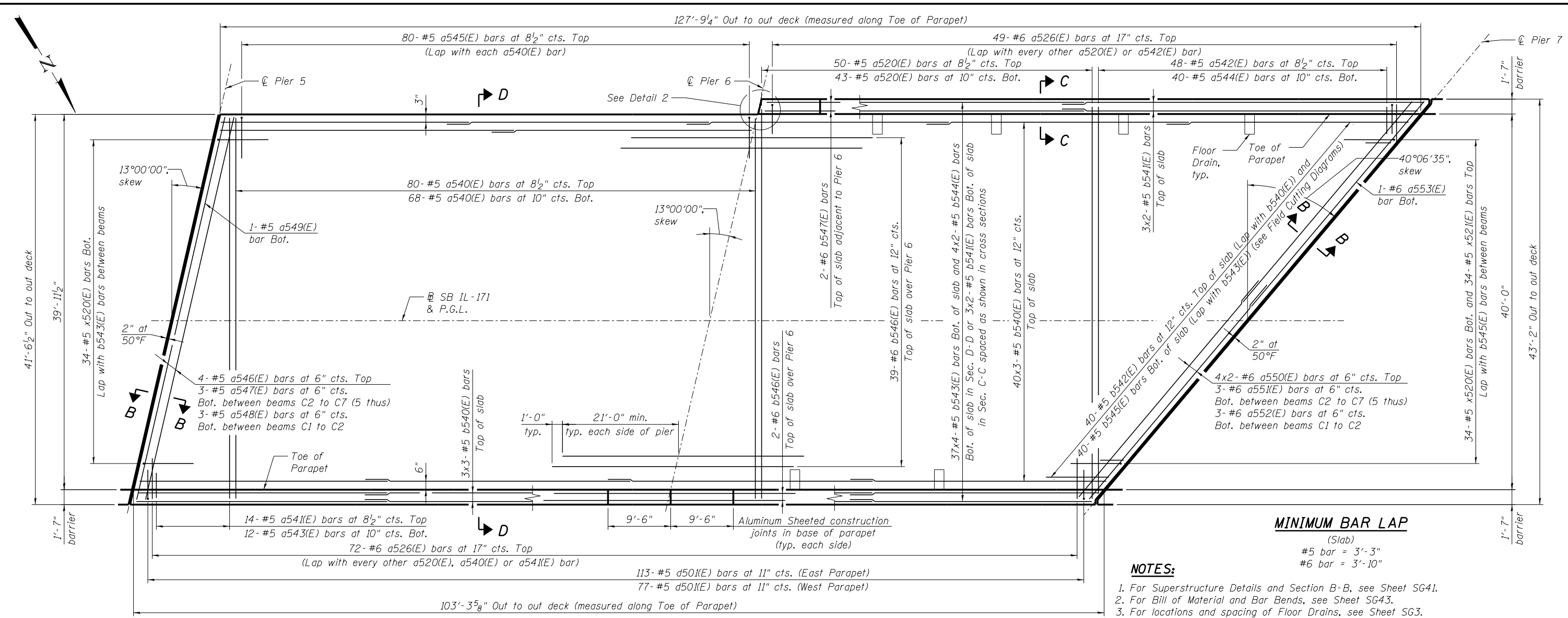
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**DECK PLAN AND CROSS SECTION SPAN 6 RAMP F
 STRUCTURE NO. 016-0486**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	623
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG33 OF SG100 SHEETS

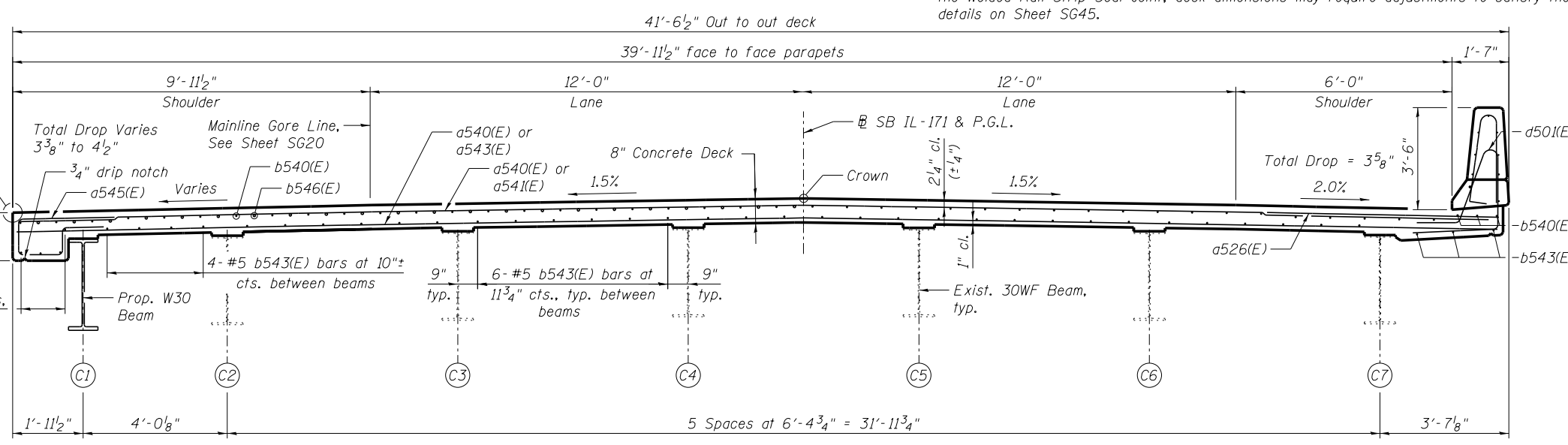
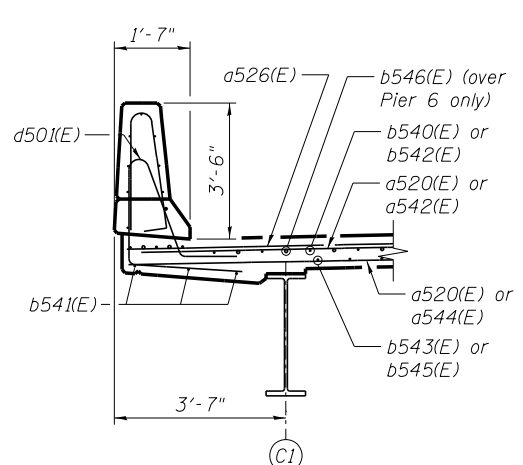
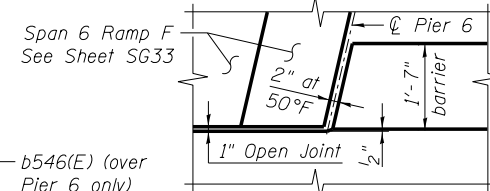
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MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

- NOTES:**
1. For Superstructure Details and Section B-B, see Sheet SG41.
 2. For Bill of Material and Bar Bends, see Sheet SG43.
 3. For locations and spacing of Floor Drains, see Sheet SG3.
 4. Bars indicated thus 40x3-#5 etc. indicates 40 lines of bars with 3 lengths per line.
 5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.

PLAN



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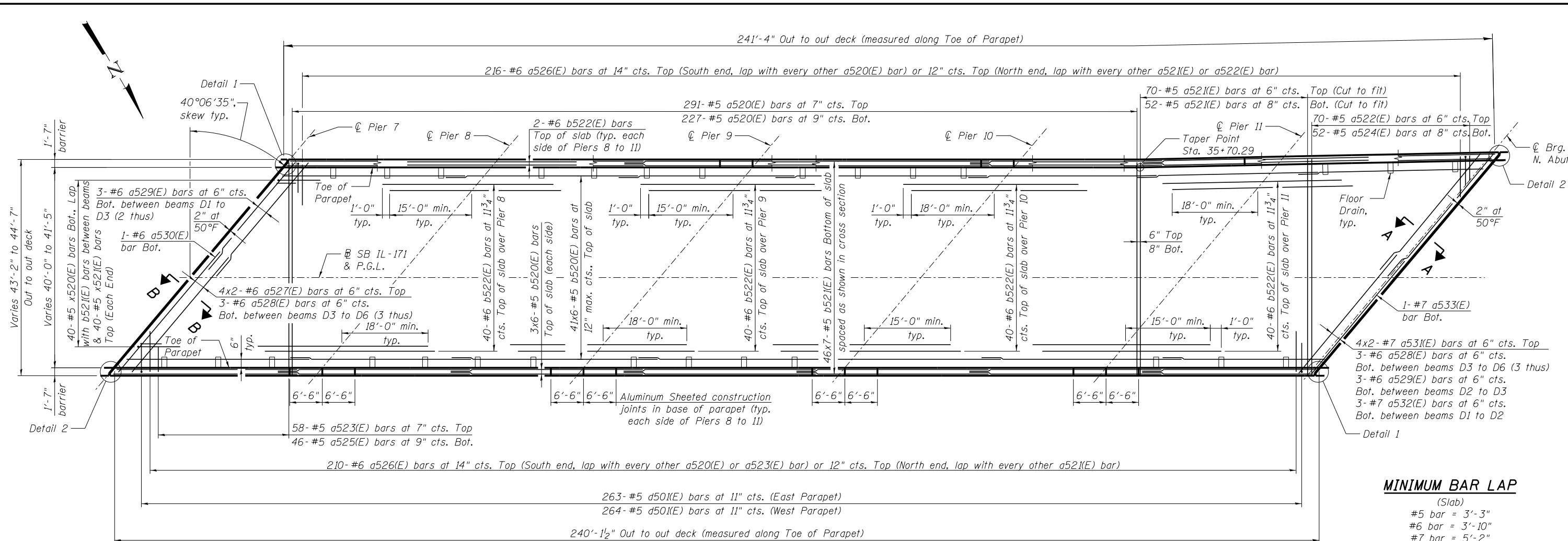
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DECK PLAN AND CROSS SECTION SPANS 6 AND 7
STRUCTURE NO. 016-0486

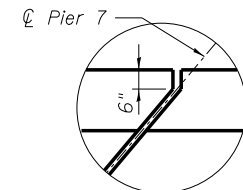
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373	2013-038B-R	COOK	821	625
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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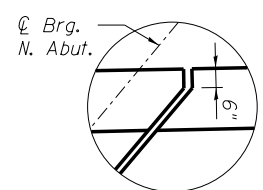


PLAN

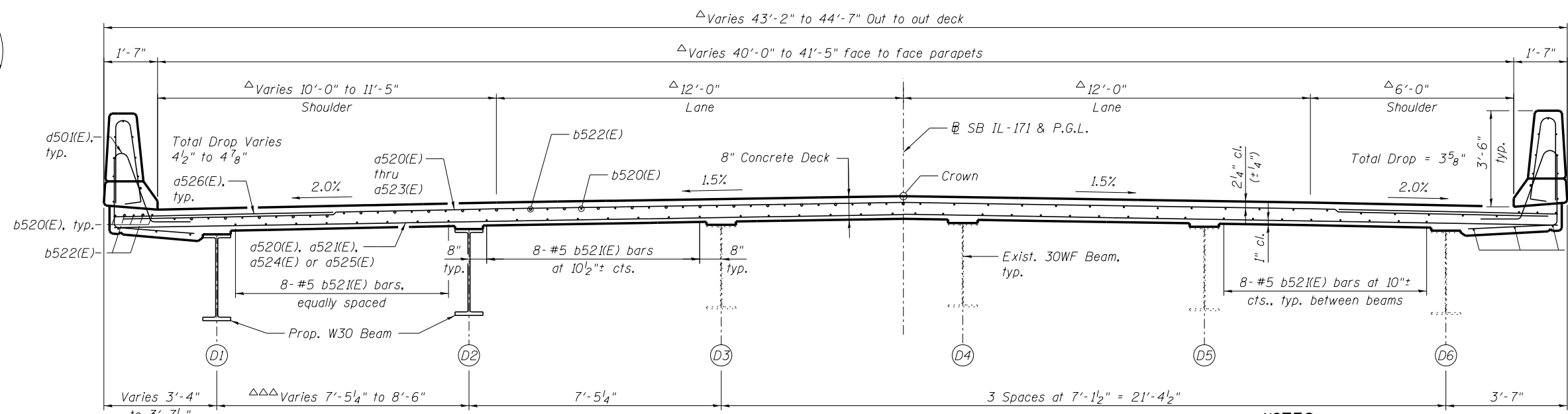
MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"
#7 bar = 5'-2"



DETAIL 1
(Pier 7 shown, N. Abut. similar)



DETAIL 2
(N. Abut. shown, Pier 7 similar)



CROSS SECTION
(Looking Upstation/North)

NOTES:

1. For Superstructure Details, Section A-A and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG43.
3. For locations and spacing of Floor Drains, see Sheet SG3.
4. Bars indicated thus 41x6-#5 etc. indicates 41 lines of bars with 6 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.

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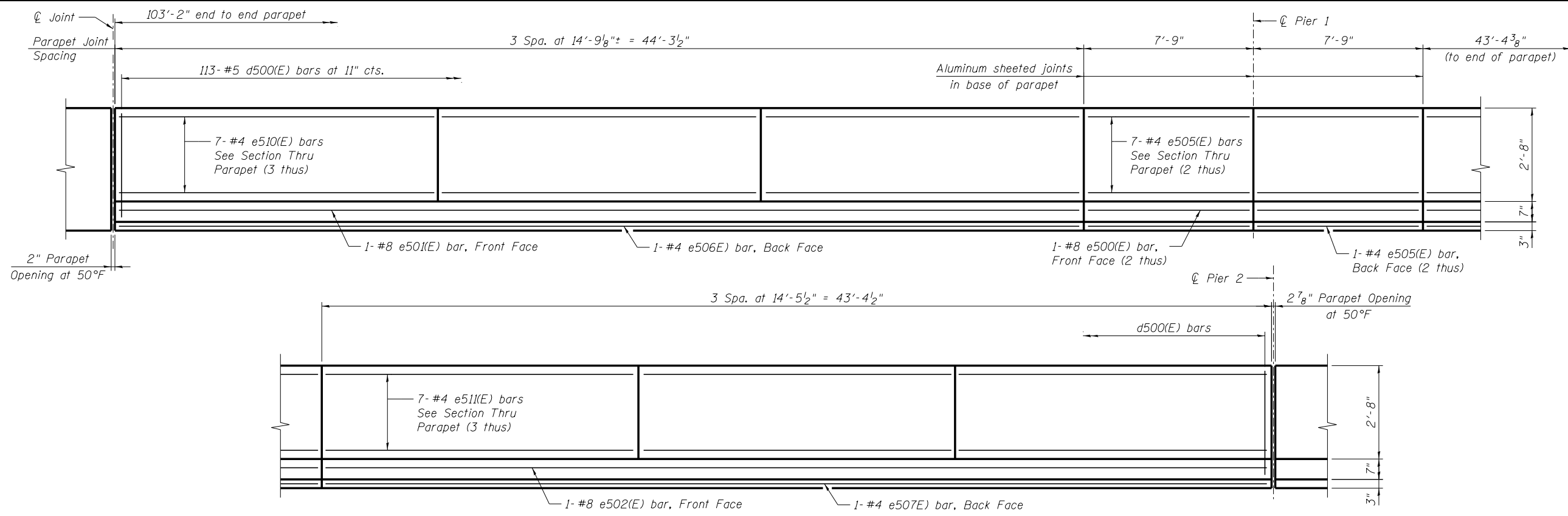
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DEPARTMENT OF TRANSPORTATION

DECK PLAN AND CROSS SECTION SPANS 8 THRU 12
STRUCTURE NO. 016-0486

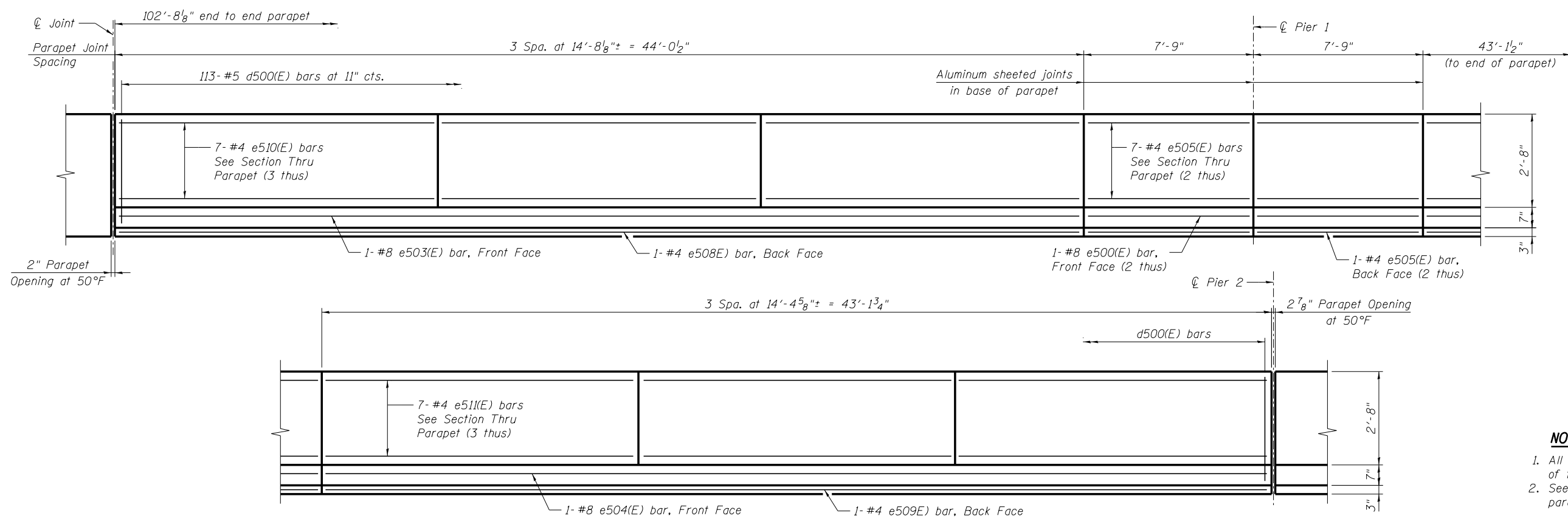
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373	2013-038B-R	COOK	821	626
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG36 OF SG100 SHEETS

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INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

- NOTES:**
- All dimensions shown are along the toe of the parapet (gutterline).
 - See Sheet SG41 for cross section thru parapet and parapet joint details.

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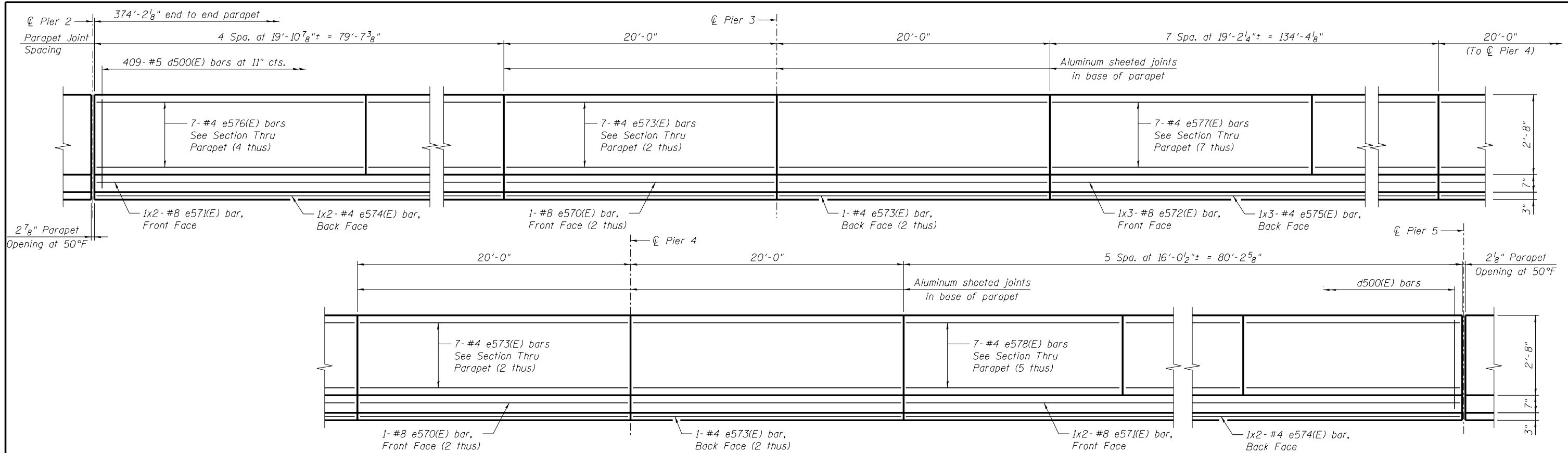
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET DETAILS SPANS 1 AND 2
STRUCTURE NO. 016-0486

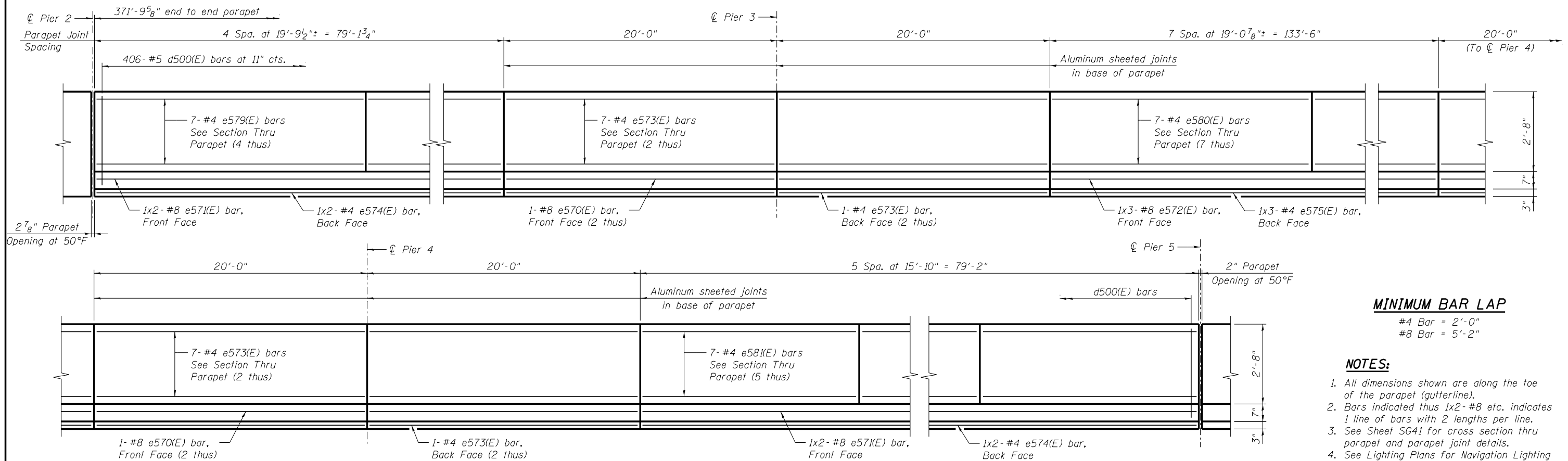
SHEET NO. SG37 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	627
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

MINIMUM BAR LAP

#4 Bar = 2'-0"
#8 Bar = 5'-2"

NOTES:

- All dimensions shown are along the toe of the parapet (gutterline).
- Bars indicated thus 1x2-#8 etc. indicates 1 line of bars with 2 lengths per line.
- See Sheet SG41 for cross section thru parapet and parapet joint details.
- See Lighting Plans for Navigation Lighting details.

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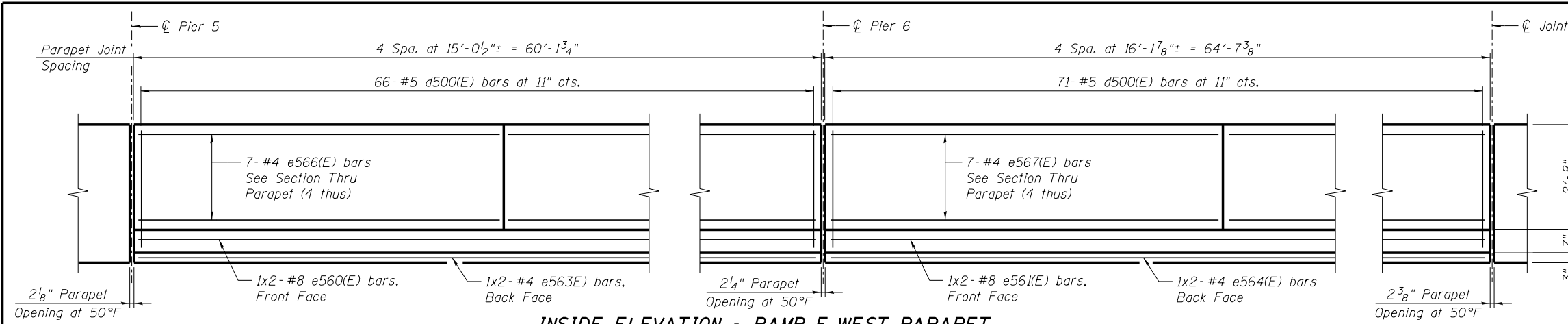
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PARAPET DETAILS SPANS 3 THRU 5
STRUCTURE NO. 016-0486

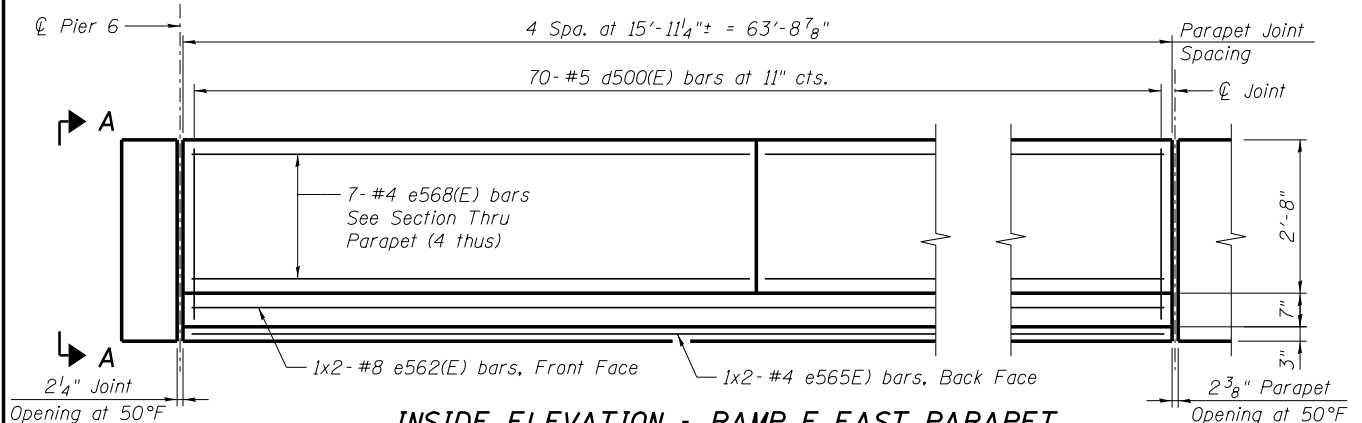
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

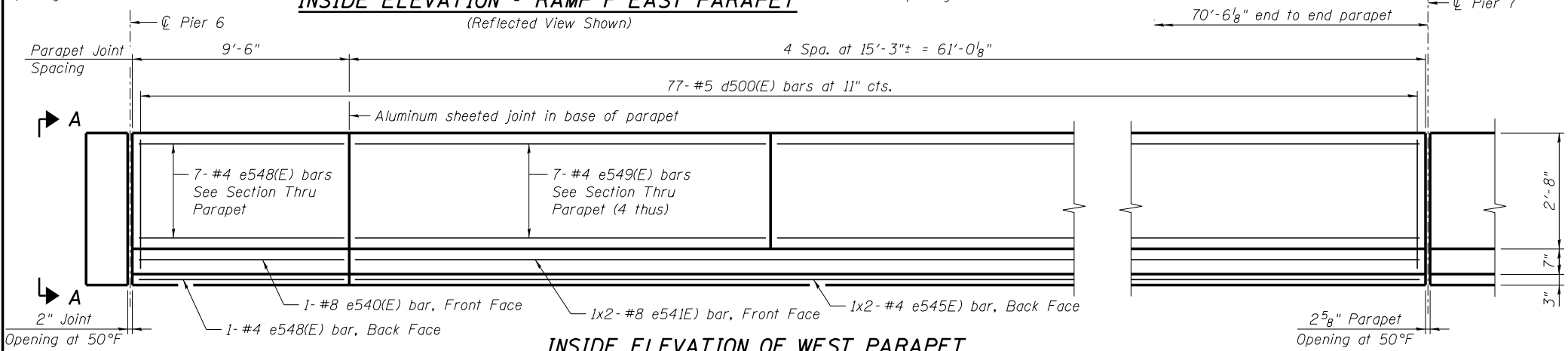
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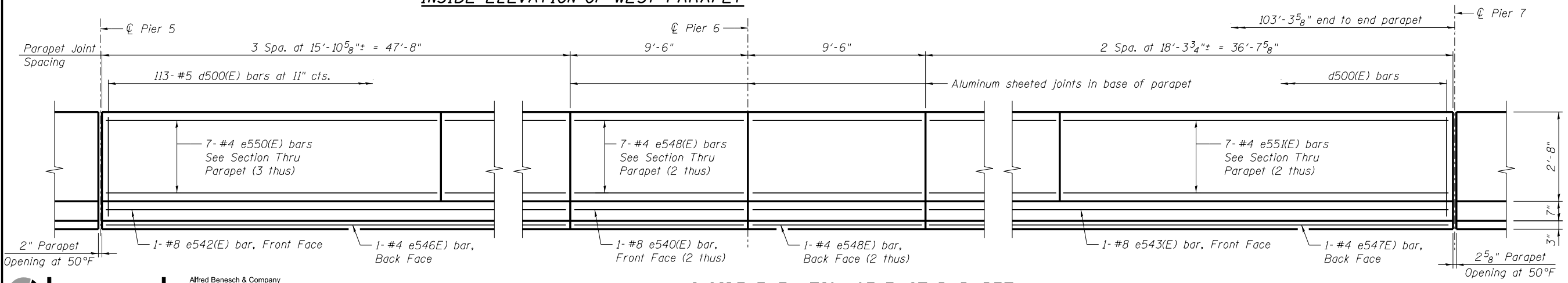
INSIDE ELEVATION - RAMP F WEST PARAPET



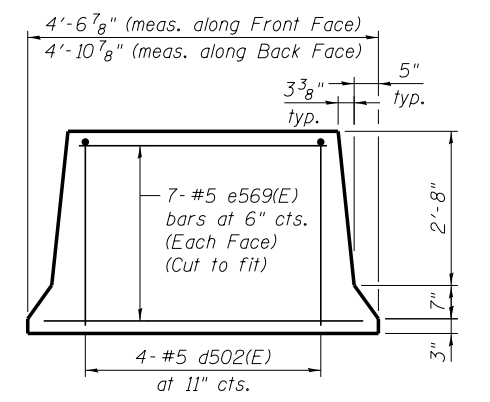
INSIDE ELEVATION - RAMP F EAST PARAPET



INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET



VIEW A-A

MINIMUM BAR LAP

- #4 Bar = 2'-0"
- #8 Bar = 5'-2"

NOTES:

- All dimensions shown are along the toe of the parapet (gutterline).
- Bars indicated thus 1x2-#8 etc. indicates 1 line of bars with 2 lengths per line.
- See Sheet SG41 for cross section thru parapet and parapet joint details.

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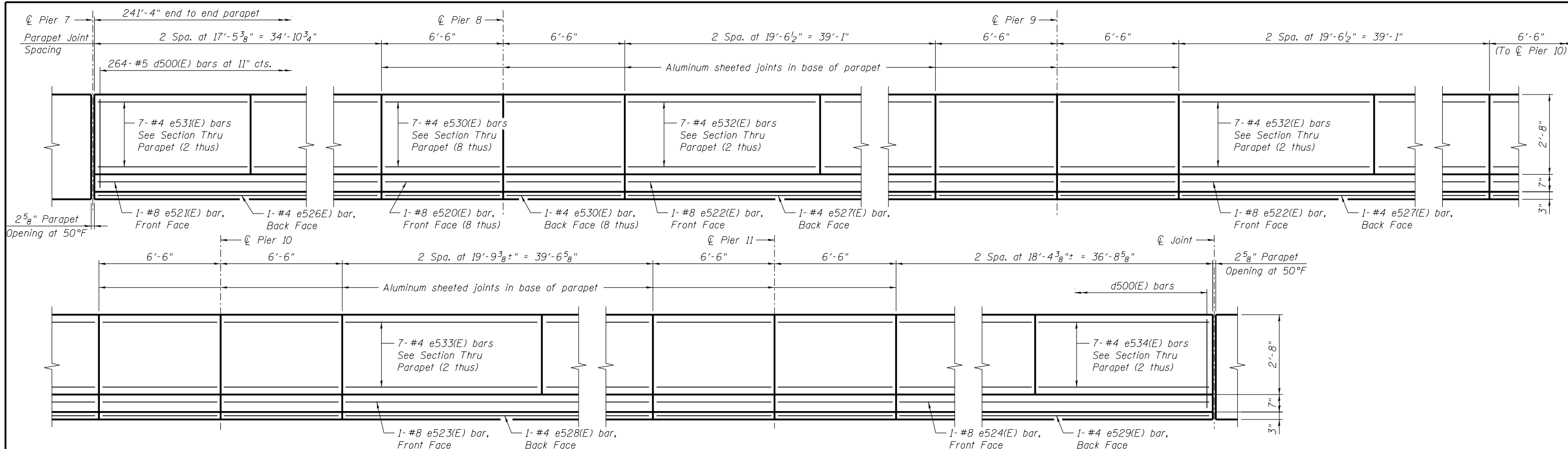
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET DETAILS SPANS 6 AND 7
STRUCTURE NO. 016-0486

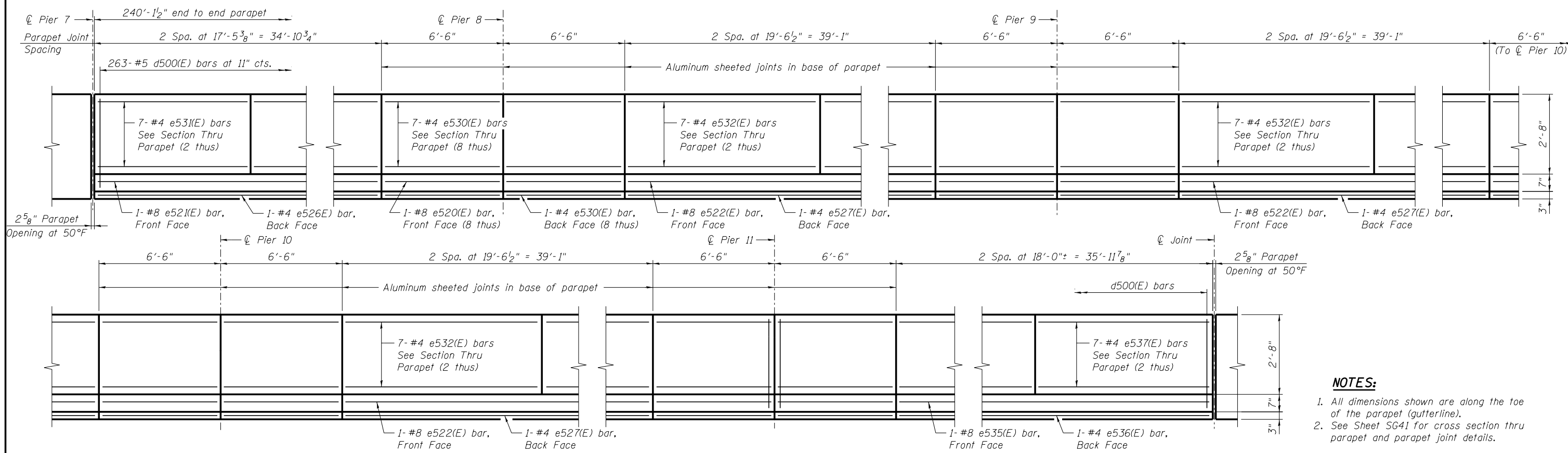
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373	2013-038B-R	COOK	821	629
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG39 OF SG100 SHEETS

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INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

- NOTES:**
1. All dimensions shown are along the toe of the parapet (gutterline).
 2. See Sheet SG41 for cross section thru parapet and parapet joint details.

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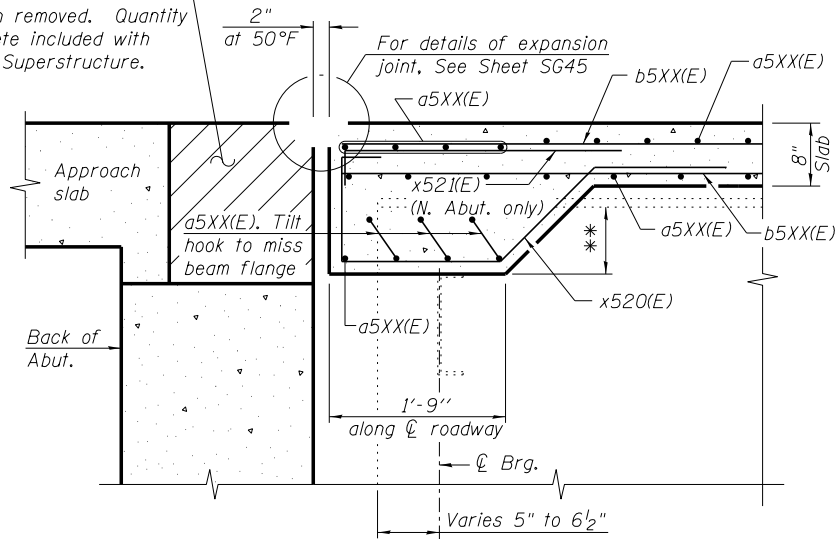
PARAPET DETAILS SPANS 8 THRU 12
STRUCTURE NO. 016-0486

SHEET NO. SG40 OF SG100 SHEETS

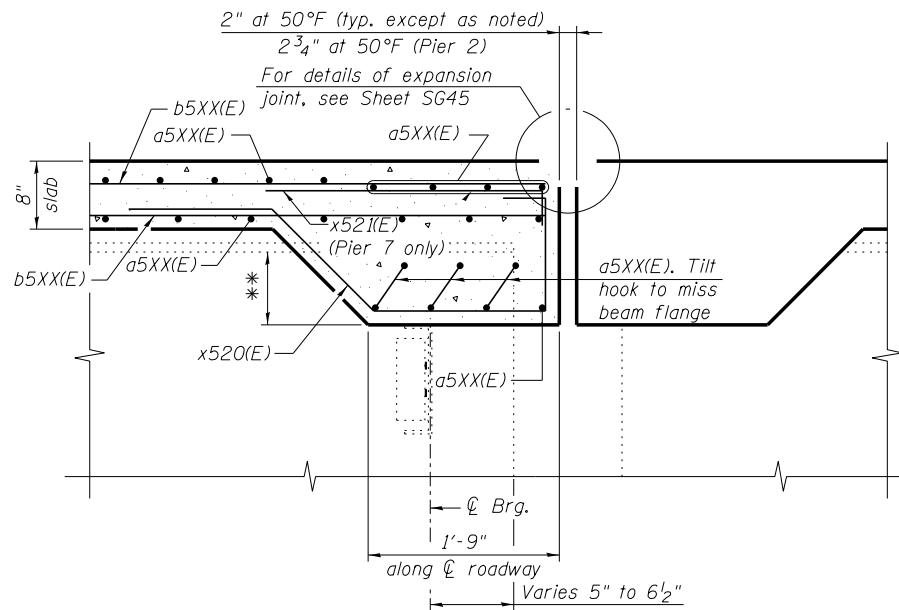
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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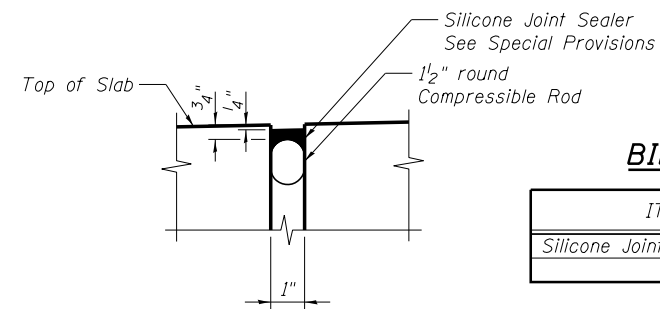
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SECTION A-A



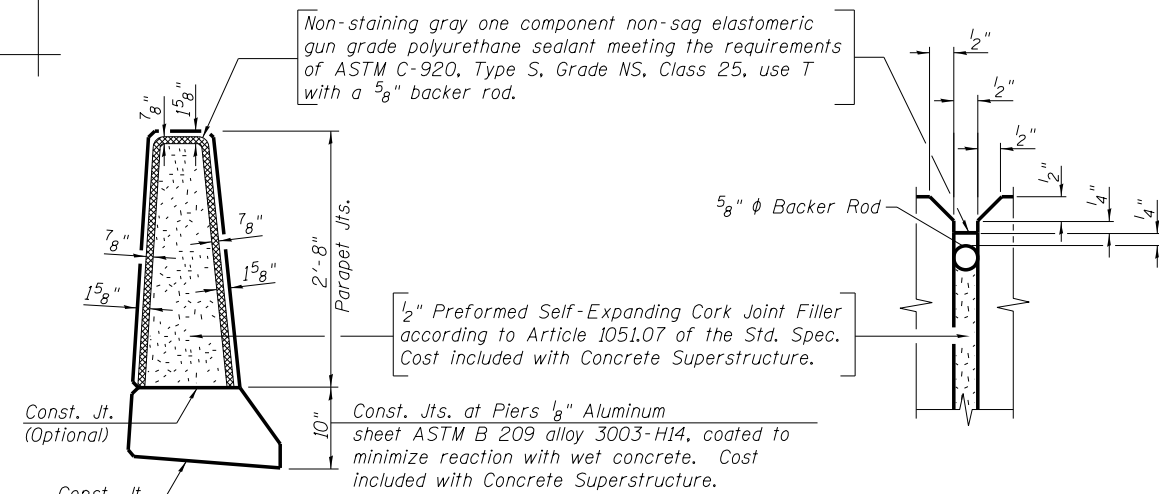
SECTION B-B



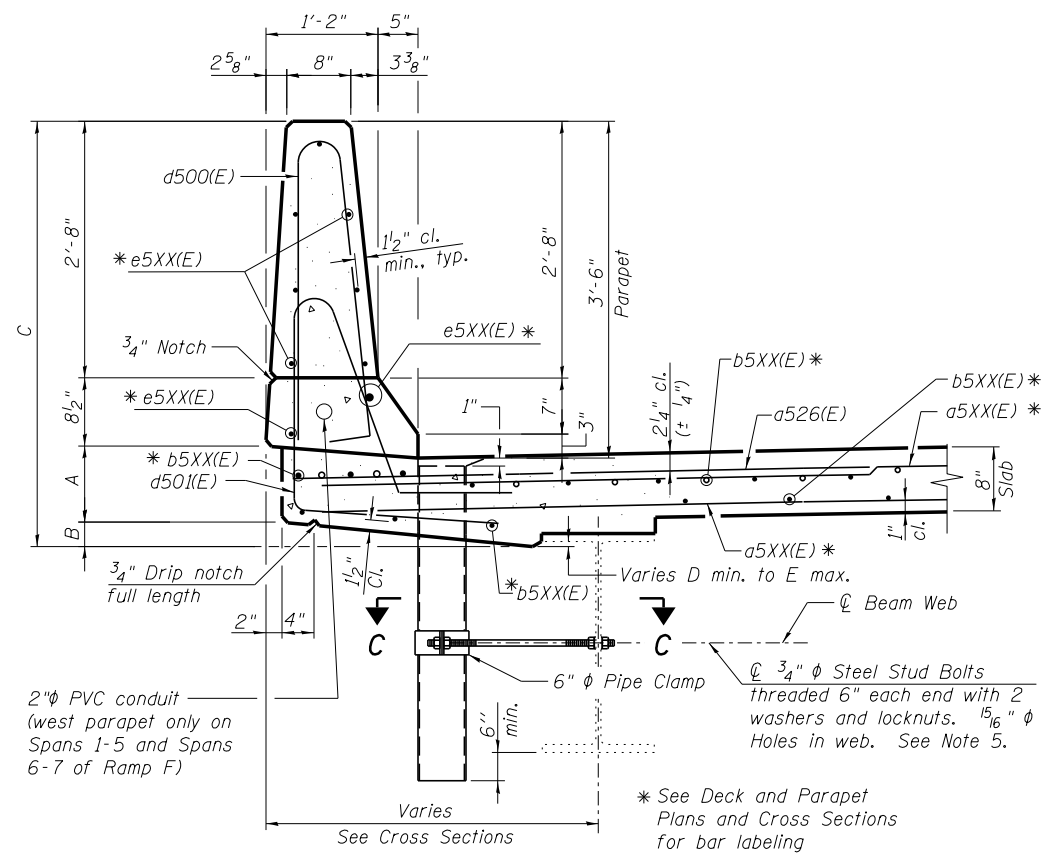
1" OPEN JOINT DETAIL

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Silicone Joint Sealer, 1"	Foot	58

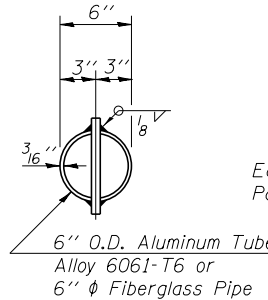


PARAPET JOINT DETAILS



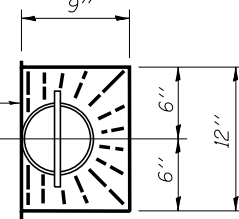
SECTION THRU PARAPET

Location	A	B	C	D	E
Spans 1-2	9 1/2"	3"	4'-5"	1 3/4"	2 1/2"
Spans 3-5	9 1/2"	4"	4'-6"	1 1/8"	4 3/8"
Spans 6-7 (Ramp F)	9 1/2"	4"	4'-6"	1 1/2"	3 1/2"
Spans 6-7 (Mainline)	9 1/2"	4"	4'-6"	1 1/2"	4"
Spans 8-12	9 1/2"	3"	4'-5"	1 1/8"	2 1/8"

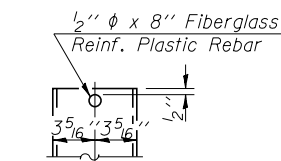


TOP PLAN

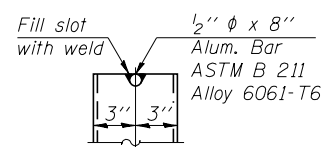
(Showing Aluminum Tube)



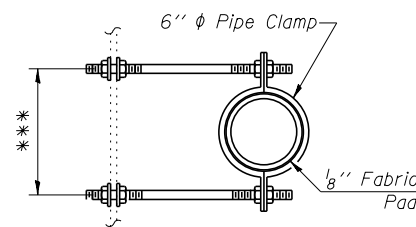
TOP PLAN



FIBERGLASS PIPE

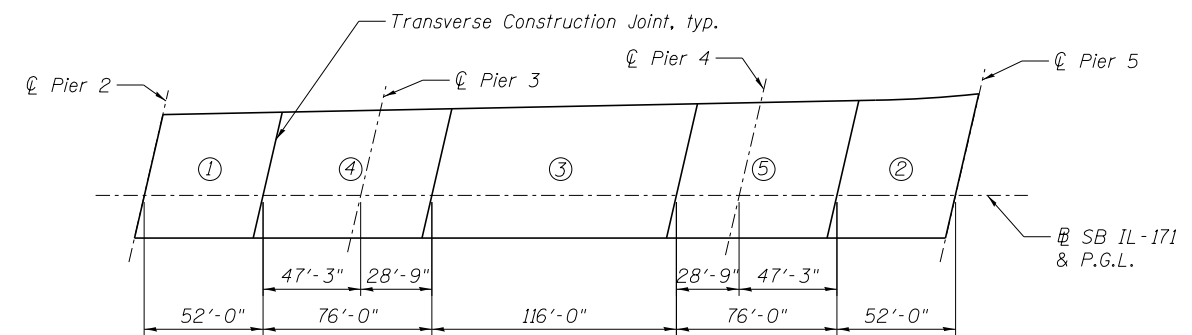


ALUMINUM TUBE



SECTION C-C

*** Dimension as required by Pipe Clamp



SPANS 3 THRU 5
REQUIRED DECK POUR SEQUENCE

NOTES:

- When the deck pour is stopped for the day at the transverse construction joint in the deck pouring sequence shown, the next pour shall not be made until both of the following are met:
 - At least 72 hours shall have elapsed from the end of the previous pour.
 - The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
- The Contractor is alerted that the dead load deflection values were developed based on the deck pouring sequence shown. Any deviation from this pouring sequence will result in changes to deck elevations. These changes shall be submitted to the Engineer to review and approve.
- Cleaning and painting of the exterior surfaces of the floor drains shall be performed under a separate painting contract.
- 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 galvanizing included with Floor Drains.
- Holes shall be drilled in field for existing beam and may be either field drilled or shop drilled for proposed beam.
- Floor drains shall be located clear of all diaphragms and cross frames.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME = 0160486.60J16.041.Deck_Details.dgn

USER NAME = jsurber
PLOT SCALE =
PLOT DATE = 8/6/2014

DESIGNED - JLS
CHECKED - MFH
DRAWN - RMG
CHECKED - MFH

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 016-0486

SHEET NO. SG41 OF SG100 SHEETS

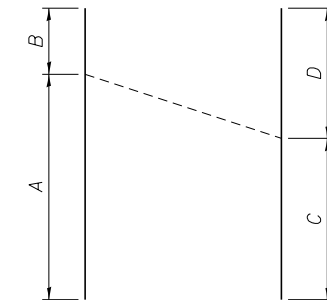
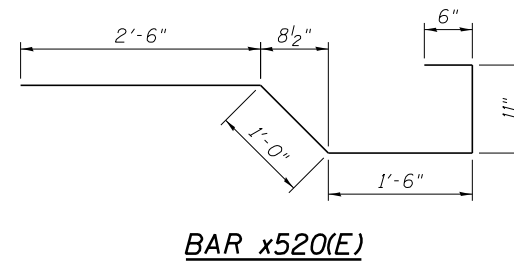
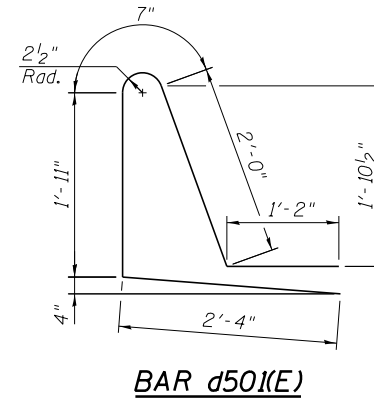
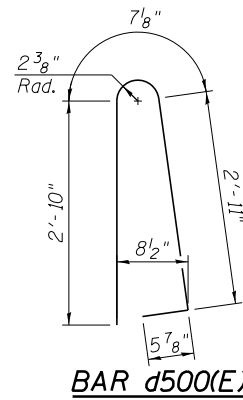
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	631
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	

**SPANS 1 AND 2
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a515(E)	4	#5	26'-10"	—
a516(E)	16	#5	30'-4"	—
a517(E)	3	#5	6'-5"	—
a518(E)	36	#5	8'-1"	—
a519(E)	3	#5	8'-6"	—
a526(E)	175	#6	6'-6"	—
a590(E)	308	#5	29'-6"	—
a592(E)	119	#5	40'-0"	—
a593(E)	119	#5	19'-0"	—
a594(E)	10	#5	55'-2"	—
a595(E)	11	#5	58'-0"	—
a596(E)	8	#5	53'-0"	—
a597(E)	9	#5	57'-3"	—
b590(E)	180	#5	36'-8"	—
b591(E)	220	#5	28'-4"	—
b592(E)	57	#6	37'-6"	—
d500(E)	226	#5	6'-10"	—
d501(E)	226	#5	8'-0"	—
e500(E)	4	#8	7'-5"	—
e501(E)	1	#8	43'-11"	—
e502(E)	1	#8	43'-0"	—
e503(E)	1	#8	43'-8"	—
e504(E)	1	#8	42'-9"	—
e505(E)	32	#4	7'-5"	—
e506(E)	1	#4	43'-11"	—
e507(E)	1	#4	43'-0"	—
e508(E)	1	#4	43'-8"	—
e509(E)	1	#4	42'-9"	—
e510(E)	42	#4	14'-4"	—
e511(E)	42	#4	14'-0"	—
x520(E)	98	#5	6'-5"	—
Concrete Superstructure	Cu. Yd.	182.3		
Bridge Deck Grooving	Sq. Yd.	576		
Protective Coat	Sq. Yd.	697		
Reinforcement Bars, Epoxy Coated	Pound	44,060		

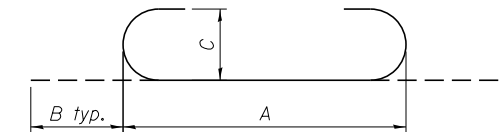
**SPANS 3 THRU 5
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a526(E)	772	#6	6'-6"	—
a535(E)	747	#5	39'-9"	—
a536(E)	300	#5	22'-6"	—
a537(E)	300	#5	25'-6"	—
a538(E)	12	#5	58'-4"	—
a539(E)	15	#5	53'-11"	—
a555(E)	555	#5	28'-3"	—
a556(E)	225	#5	34'-0"	—
a557(E)	225	#5	37'-0"	—
a558(E)	9	#5	57'-7"	—
a559(E)	11	#5	53'-2"	—
a582(E)	147	#5	27'-8"	—
a583(E)	105	#5	39'-4"	—
a584(E)	10	#5	30'-6"	—
a585(E)	6	#5	6'-4"	—
a586(E)	30	#5	8'-10"	—
a587(E)	10	#6	35'-9"	—
a588(E)	3	#6	11'-4"	—
a589(E)	3	#6	10'-4"	—
b595(E)	621	#5	44'-5"	—
b596(E)	680	#5	40'-4"	—
b597(E)	396	#6	34'-3"	—
d500(E)	815	#5	6'-10"	—
d501(E)	815	#5	8'-0"	—
e570(E)	8	#8	19'-8"	—
e571(E)	8	#8	42'-7"	—
e572(E)	6	#8	48'-2"	—
e573(E)	64	#4	19'-8"	—
e574(E)	8	#4	41'-0"	—
e575(E)	6	#4	46'-0"	—
e576(E)	28	#4	19'-7"	—
e577(E)	49	#4	18'-10"	—
e578(E)	35	#4	15'-8"	—
e579(E)	28	#4	19'-5"	—
e580(E)	49	#4	18'-8"	—
e581(E)	35	#4	15'-6"	—
x520(E)	124	#5	6'-5"	—
Concrete Superstructure	Cu. Yd.	690.2		
Bridge Deck Grooving	Sq. Yd.	2,284		
Protective Coat	Sq. Yd.	2,724		
Reinforcement Bars, Epoxy Coated	Pound	196,300		



CUTTING DIAGRAM
(See table for designations)

Bar	A	B	C	D
a538(E)	54'-1"	4'-3"	30'-3"	28'-1"
a539(E)	52'-7"	1'-4"	27'-10"	26'-1"
a558(E)	53'-4"	4'-3"	30'-3"	27'-4"
a559(E)	52'-6"	8"	27'-9"	25'-5"
a594(E)	51'-8"	3'-6"	28'-10"	26'-4"
a595(E)	55'-6"	2'-6"	30'-3"	27'-9"
a596(E)	51'-0"	2'-0"	28'-2"	24'-10"
a597(E)	54'-11"	2'-4"	30'-3"	27'-0"



BAR DIAGRAM
(See table for designations)

Bar	A	B	C
a517(E)	5'-3"	7"	5"
a518(E)	6'-11"	7"	5"
a519(E)	7'-4"	7"	5"
a585(E)	5'-2"	7"	5"
a586(E)	7'-8"	7"	5"
a588(E)	10'-0"	8"	6"
a589(E)	9'-0"	8"	6"

FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISED -
0160486.60J16.042.Reinforcing.Details.1th	SCALE =	CHECKED - MFH	REVISED -
	PLOT DATE = 8/6/2014	DRAWN - RMG	REVISED -
		CHECKED - MFH	REVISED -

F.A.P. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	632
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60J16	

**SPAN 6 RAMP F
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a526(E)	50	#6	6'-6"	—
a545(E)	97	#5	7'-5"	┌
a560(E)	112	#5	19'-0"	—
a561(E)	121	#5	16'-6"	—
a562(E)	5	#5	26'-0"	—
a563(E)	6	#5	35'-6"	—
a564(E)	4	#5	26'-8"	—
a565(E)	5	#5	30'-4"	—
a566(E)	4	#5	24'-8"	—
a567(E)	3	#5	8'-8"	┌
a568(E)	9	#5	8'-1"	┌
a569(E)	3	#5	5'-0"	┌
a570(E)	1	#5	18'-9"	—
a571(E)	4	#5	34'-9"	—
a572(E)	3	#5	9'-2"	┌
a573(E)	3	#5	7'-2"	┌
a574(E)	1	#5	28'-9"	—
a598(E)	34	#5	11'-9"	—
a599(E)	43	#5	14'-3"	—
b560(E)	80	#5	31'-9"	—
b561(E)	74	#5	22'-3"	—
b562(E)	4	#5	16'-0"	—
d500(E)	66	#5	6'-10"	┌
d501(E)	70	#5	8'-0"	┌
d502(E)	4	#5	7'-8"	┌
e560(E)	2	#8	32'-6"	—
e563(E)	2	#4	30'-11"	—
e566(E)	28	#4	14'-8"	—
e569(E)	14	#5	4'-6"	—
x520(E)	45	#5	6'-5"	┌
Concrete Superstructure	Cu. Yd.		56.7	
Bridge Deck Grooving	Sq. Yd.		165	
Protective Coat	Sq. Yd.		204	
Reinforcement Bars, Epoxy Coated	Pound		14,070	

**SPAN 7 RAMP F
BILL OF MATERIAL**

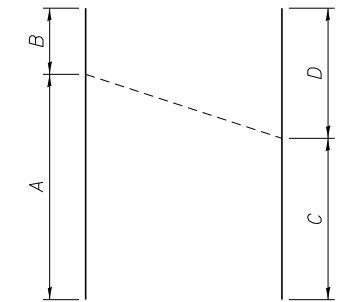
Bar	No.	Size	Length	Shape
a526(E)	94	#6	6'-6"	—
a575(E)	133	#5	28'-6"	—
a576(E)	20	#5	30'-3"	—
a577(E)	16	#5	29'-11"	—
a578(E)	8	#5	33'-4"	—
a579(E)	6	#5	8'-5"	┌
a580(E)	18	#5	7'-5"	┌
a581(E)	2	#5	26'-8"	—
b570(E)	64	#5	33'-11"	—
b571(E)	93	#5	23'-9"	—
d500(E)	141	#5	6'-10"	┌
d501(E)	141	#5	8'-0"	┌
e561(E)	2	#8	34'-9"	—
e562(E)	2	#8	34'-3"	—
e564(E)	2	#4	33'-2"	—
e565(E)	2	#4	32'-9"	—
e567(E)	28	#4	15'-9"	—
e568(E)	28	#4	15'-7"	—
x520(E)	50	#5	6'-5"	┌
Concrete Superstructure	Cu. Yd.		71.2	
Bridge Deck Grooving	Sq. Yd.		171	
Protective Coat	Sq. Yd.		247	
Reinforcement Bars, Epoxy Coated	Pound		14,660	

**SPANS 6 AND 7
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a520(E)	93	#5	42'-6"	—
a526(E)	121	#6	6'-6"	—
a540(E)	148	#5	41'-0"	—
a541(E)	7	#5	43'-0"	—
a542(E)	24	#5	44'-1"	—
a543(E)	6	#5	43'-3"	—
a544(E)	20	#5	43'-6"	—
a545(E)	80	#5	7'-5"	┌
a546(E)	4	#5	42'-1"	—
a547(E)	15	#5	7'-5"	┌
a548(E)	3	#5	5'-0"	┌
a549(E)	1	#5	36'-7"	—
a550(E)	8	#6	29'-9"	—
a551(E)	15	#6	9'-5"	┌
a552(E)	3	#6	6'-4"	┌
a553(E)	1	#6	46'-7"	—
b540(E)	129	#5	36'-6"	—
b541(E)	12	#5	37'-0"	—
b542(E)	20	#5	33'-0"	—
b543(E)	148	#5	28'-3"	—
b544(E)	8	#5	30'-4"	—
b545(E)	20	#5	34'-0"	—
b546(E)	41	#6	43'-0"	—
b547(E)	2	#6	22'-0"	—
d500(E)	190	#5	6'-10"	┌
d501(E)	190	#5	8'-0"	┌
e540(E)	3	#8	9'-2"	—
e541(E)	2	#8	32'-11"	—
e542(E)	1	#8	47'-4"	—
e543(E)	1	#8	36'-3"	—
e545(E)	2	#4	31'-4"	—
e546(E)	1	#4	47'-4"	—
e547(E)	1	#4	36'-3"	—
e548(E)	24	#4	9'-2"	—
e549(E)	28	#4	14'-10"	—
e550(E)	21	#4	15'-6"	—
e551(E)	14	#4	17'-11"	—
x520(E)	68	#5	6'-5"	┌
x521(E)	34	#5	4'-1"	┌
Concrete Superstructure	Cu. Yd.		156.1	
Bridge Deck Grooving	Sq. Yd.		494	
Protective Coat	Sq. Yd.		597	
Reinforcement Bars, Epoxy Coated	Pound		34,880	

**SPANS 8 THRU 12
BILL OF MATERIAL**

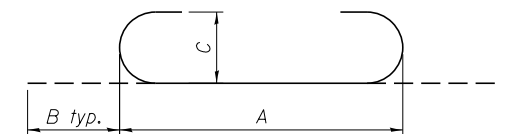
Bar	No.	Size	Length	Shape
a520(E)	518	#5	42'-6"	—
a521(E)	122	#5	43'-2"	—
a522(E)	35	#5	44'-9"	—
a523(E)	29	#5	43'-8"	—
a524(E)	26	#5	44'-11"	—
a525(E)	23	#5	42'-8"	—
a526(E)	426	#6	6'-6"	—
a527(E)	8	#6	29'-10"	—
a528(E)	18	#6	10'-4"	┌
a529(E)	9	#6	10'-9"	┌
a530(E)	1	#6	46'-11"	—
a531(E)	8	#7	31'-4"	—
a532(E)	3	#7	12'-6"	┌
a533(E)	1	#7	48'-4"	—
b520(E)	282	#5	43'-0"	—
b521(E)	322	#5	37'-3"	—
b522(E)	176	#6	34'-0"	—
d500(E)	527	#5	6'-10"	┌
d501(E)	527	#5	8'-0"	┌
e520(E)	16	#8	6'-2"	—
e521(E)	2	#8	34'-6"	—
e522(E)	5	#8	38'-9"	—
e523(E)	1	#8	39'-2"	—
e524(E)	1	#8	36'-4"	—
e526(E)	2	#4	34'-6"	—
e527(E)	5	#4	38'-9"	—
e528(E)	1	#4	39'-2"	—
e529(E)	1	#4	36'-4"	—
e530(E)	128	#4	6'-2"	—
e531(E)	28	#4	17'-1"	—
e532(E)	70	#4	19'-2"	—
e533(E)	14	#4	19'-5"	—
e534(E)	14	#4	18'-0"	—
e535(E)	1	#8	35'-7"	—
e536(E)	1	#4	35'-7"	—
e537(E)	14	#4	17'-8"	—
x520(E)	80	#5	6'-5"	┌
x521(E)	80	#5	4'-1"	┌
Concrete Superstructure	Cu. Yd.		345.7	
Bridge Deck Grooving	Sq. Yd.		1,020	
Protective Coat	Sq. Yd.		1,304	
Reinforcement Bars, Epoxy Coated	Pound		86,300	



CUTTING DIAGRAM

(See table for designations)

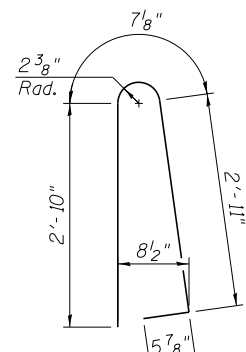
Bar	A	B	C	D
a522(E)	42'-6"	2'-3"	22'-8"	22'-1"
a523(E)	41'-7"	2'-1"	22'-2"	21'-6"
a524(E)	42'-3"	2'-8"	22'-10"	22'-1"
a525(E)	41'-4"	1'-4"	21'-10"	20'-10"
a541(E)	41'-0"	2'-0"	23'-0"	20'-0"
a542(E)	42'-1"	2'-0"	22'-6"	21'-7"
a543(E)	41'-0"	2'-3"	23'-5"	19'-10"
a544(E)	41'-6"	2'-0"	22'-3"	21'-3"
a562(E)	24'-0"	2'-0"	14'-3"	11'-9"
a563(E)	31'-0"	4'-6"	19'-0"	16'-6"
a564(E)	24'-2"	2'-6"	15'-0"	11'-8"
a565(E)	29'-0"	1'-4"	16'-8"	13'-8"
a576(E)	27'-6"	2'-9"	15'-9"	14'-6"
a577(E)	27'-2"	2'-9"	15'-9"	14'-2"
b542(E)	28'-0"	5'-0"	16'-10"	16'-2"
b545(E)	28'-6"	5'-6"	17'-4"	16'-8"



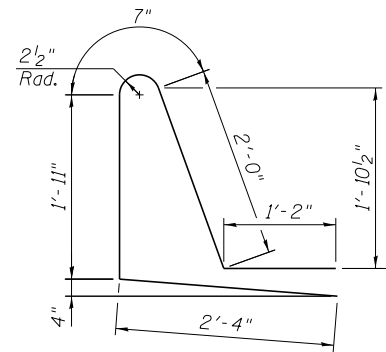
BAR DIAGRAM

(See table for designations)

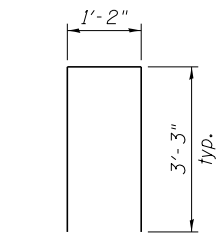
Bar	A	B	C
a528(E)	9'-0"	8"	6"
a529(E)	9'-5"	8"	6"
a532(E)	10'-10"	10"	7"
a547(E)	6'-3"	7"	5"
a548(E)	3'-10"	7"	5"
a551(E)	8'-1"	8"	6"
a552(E)	5'-0"	8"	6"
a567(E)	7'-6"	7"	5"
a568(E)	6'-11"	7"	5"
a569(E)	3'-10"	7"	5"
a572(E)	8'-0"	7"	5"
a573(E)	6'-0"	7"	5"
a579(E)	7'-3"	7"	5"
a580(E)	6'-3"	7"	5"



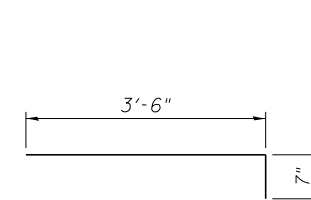
BAR d500(E)



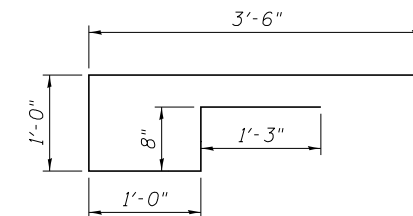
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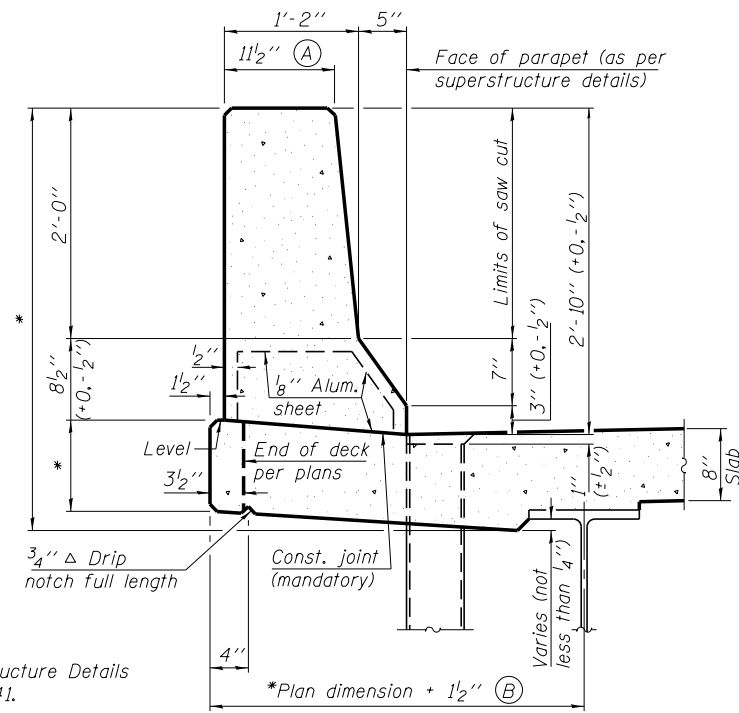
BAR d502(E)



BAR x521(E)

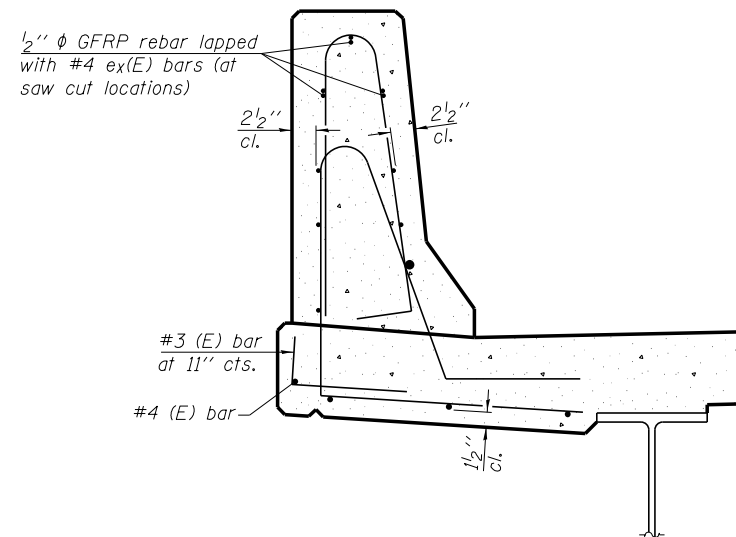


BAR a545(E)



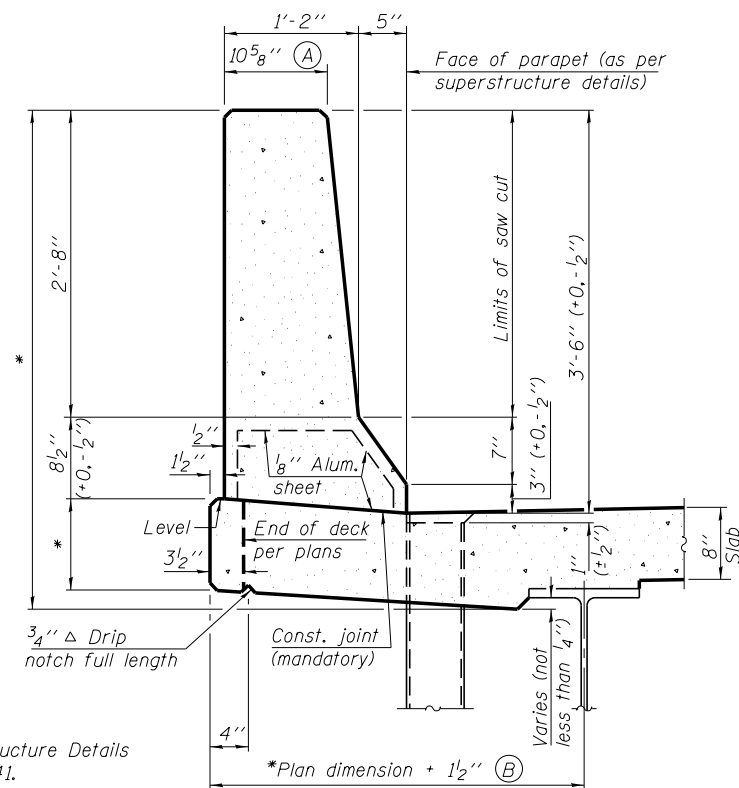
34" F SHAPE PARAPET SECTION
(Showing dimensions)

*See Superstructure Details on Sheet SG41.



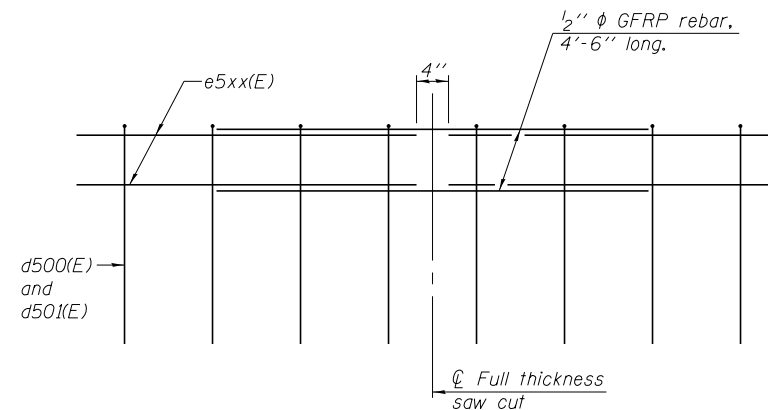
SECTION

(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



42" F SHAPE PARAPET SECTION
(Showing dimensions)

*See Superstructure Details on Sheet SG41.

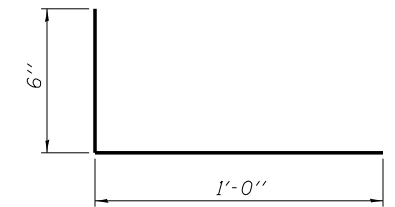


GFRP REBAR STIFFENING DETAIL

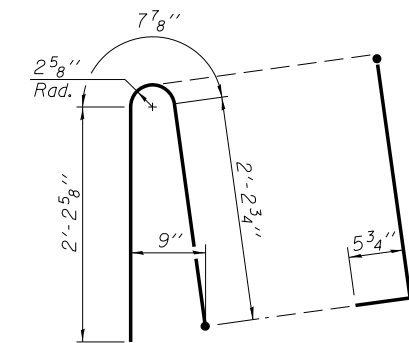
(Place as shown in parapet section at each parapet joint location.)

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

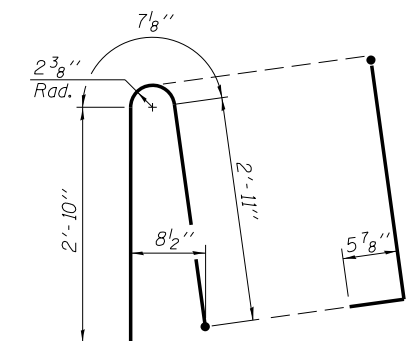


#3 (E) BAR



ALTERNATE BAR d500(E)

(For 34" parapet when conduit is present)



ALTERNATE BAR d500(E)

(For 42" parapet when conduit is present)



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SFP 34-42

8-16-12

FILE NAME =
0160486.60J16.044.parapetslipform.dgn

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CHECKED - MFH
DRAWN - JLS
PLOT SCALE =
PLOT DATE = 8/6/2014

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REVISOR -
REVISOR -
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REVISOR -

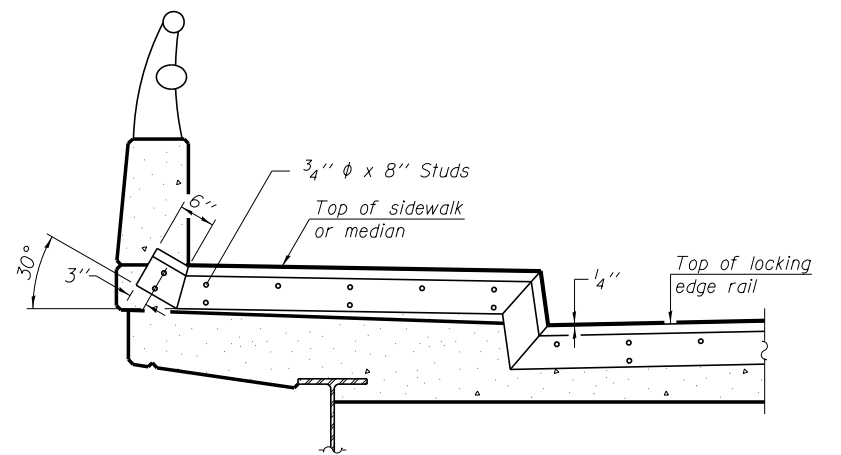
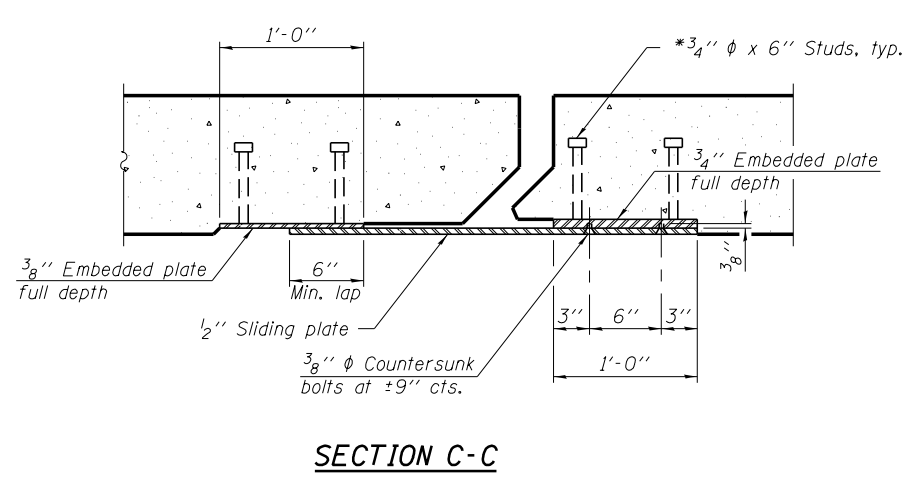
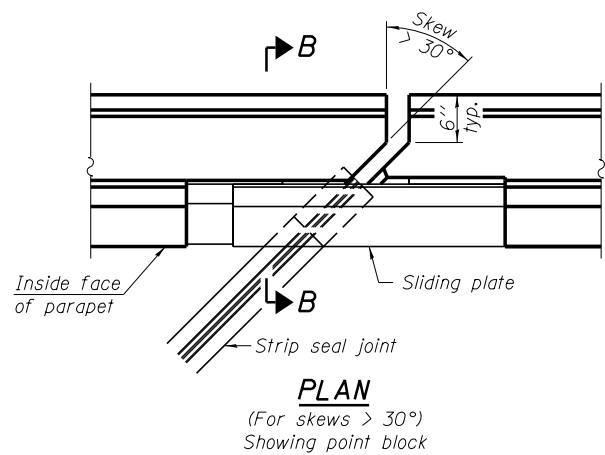
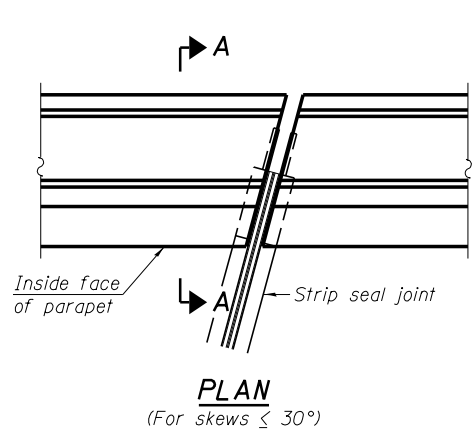
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 016-0486

SHEET NO. SG44 OF SG100 SHEETS

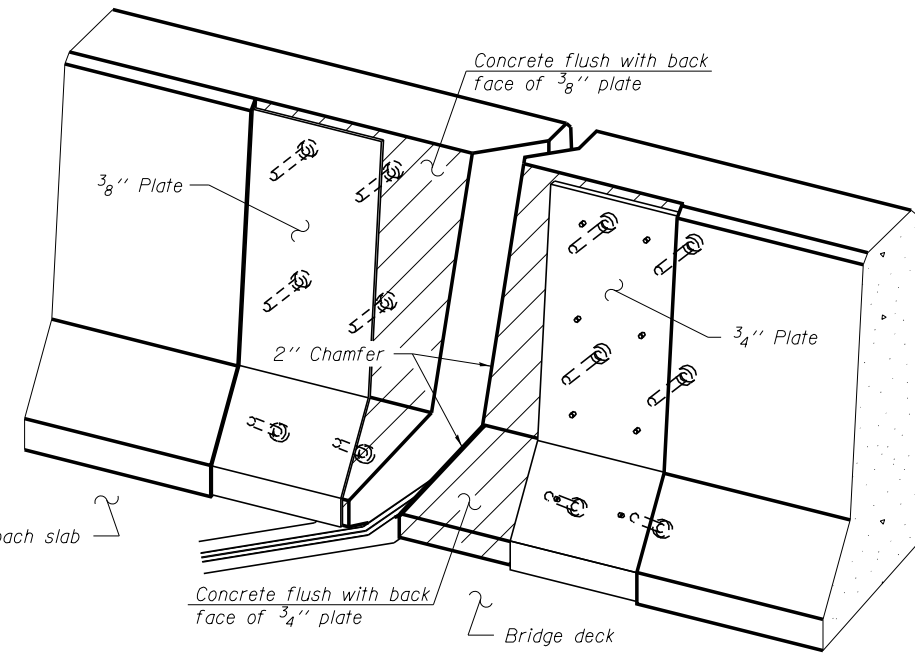
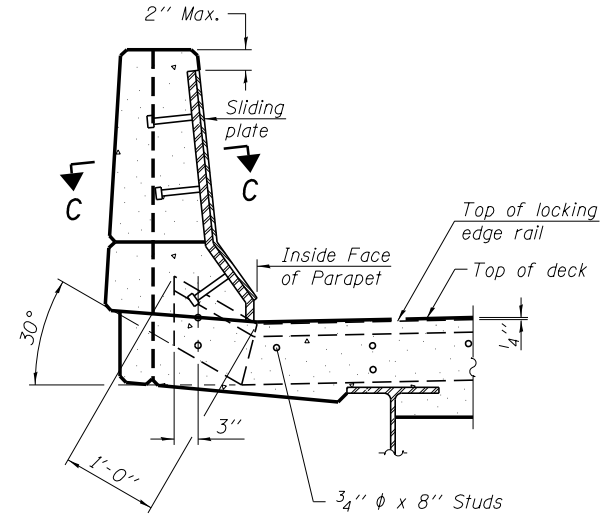
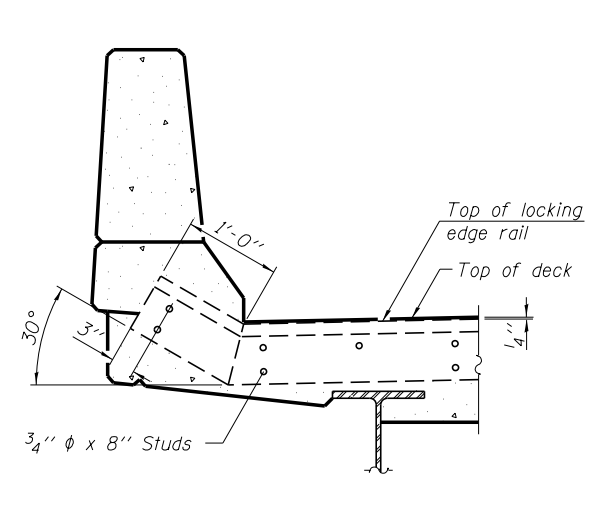
F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	634
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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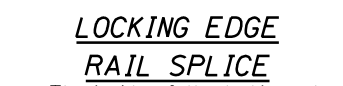
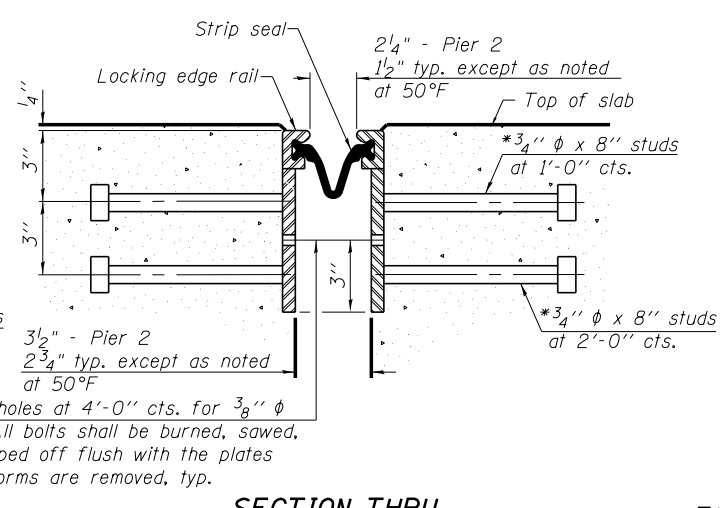
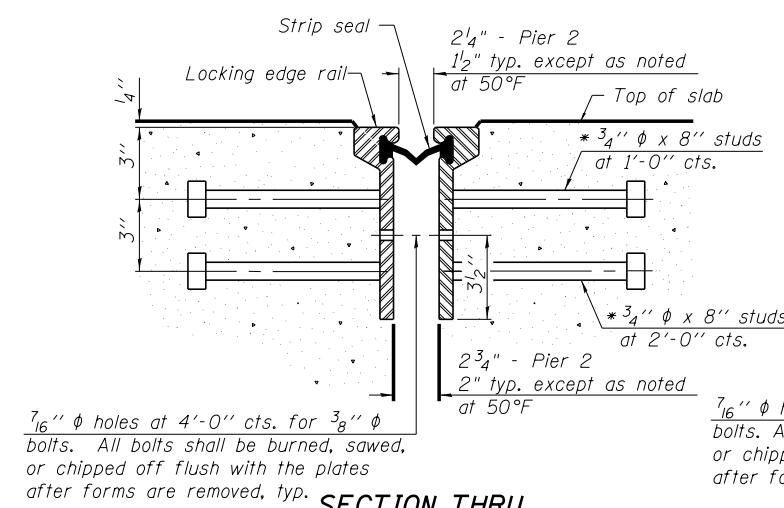
TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



Notes:

- At Pier 2, the strip seal shall be installed when the temperature is between 30° and 90°.
- The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
- The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.
- The manufacturer's recommended installation methods shall be followed.
- The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
- All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
- Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.
- Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.



*** Back gouge not required if complete joint penetration is verified by mock-up.

SECTION THRU ROLLED RAIL JOINT

SECTION THRU WELDED RAIL JOINT

LOCKING EDGE RAILS

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	353.5

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FILE NAME =	USER NAME = jsurber	DESIGNED - JOB/JLS	REVISED -
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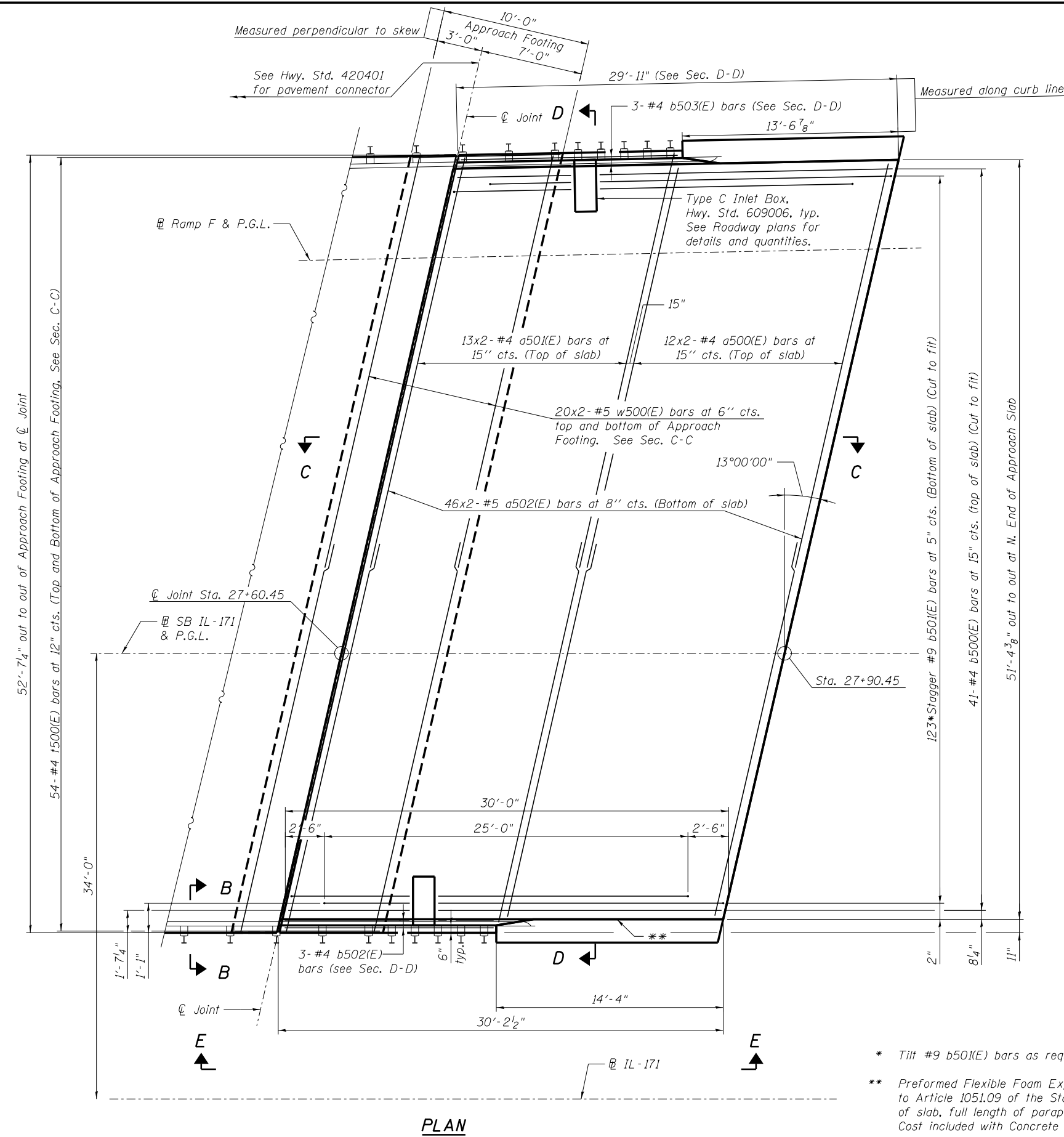
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-0486

SHEET NO. SG45 OF SG100 SHEETS

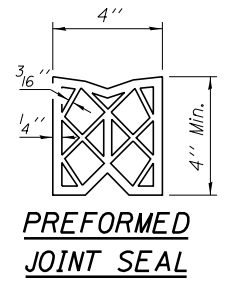
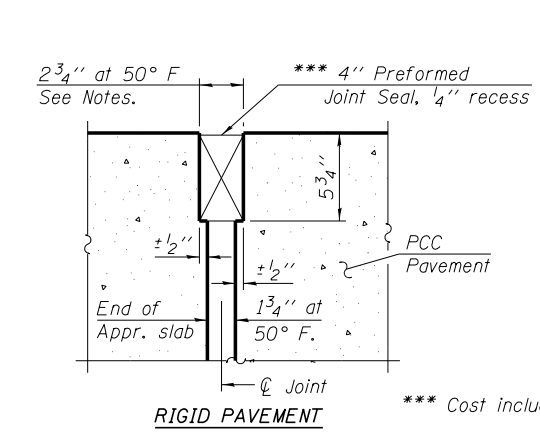
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	635
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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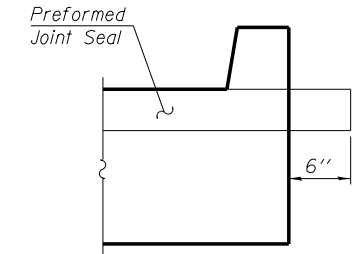


NOTES:

1. See sheet SG47 for Sections C-C & D-D and View E-E.
2. a500(E), a501(E) and a502(E) bar spacings measured along ϕ Rdwy.
3. The joint opening shall be determined per Article 520.04.
4. All dimensions measured along or perpendicular to the ϕ of Roadway, unless noted otherwise.



DETAIL A



VIEW B-B

*** Cost included with "Concrete Superstructure".

- * Tilt #9 b501(E) bars as required to maintain clearance.
- ** Preformed Flexible Foam Expansion Joint Filler according to Article 1051.09 of the Std. Specifications: Full depth of slab, full length of parapet. Typ. each parapet. Cost included with Concrete Superstructure.

MINIMUM BAR LAP
(APPROACH)
#4 bar = 2'-7"
#5 bar = 3'-3"

PLAN

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FILE NAME =	USER NAME = jsurber	DESIGNED - JOB	REVISED -
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DEPARTMENT OF TRANSPORTATION

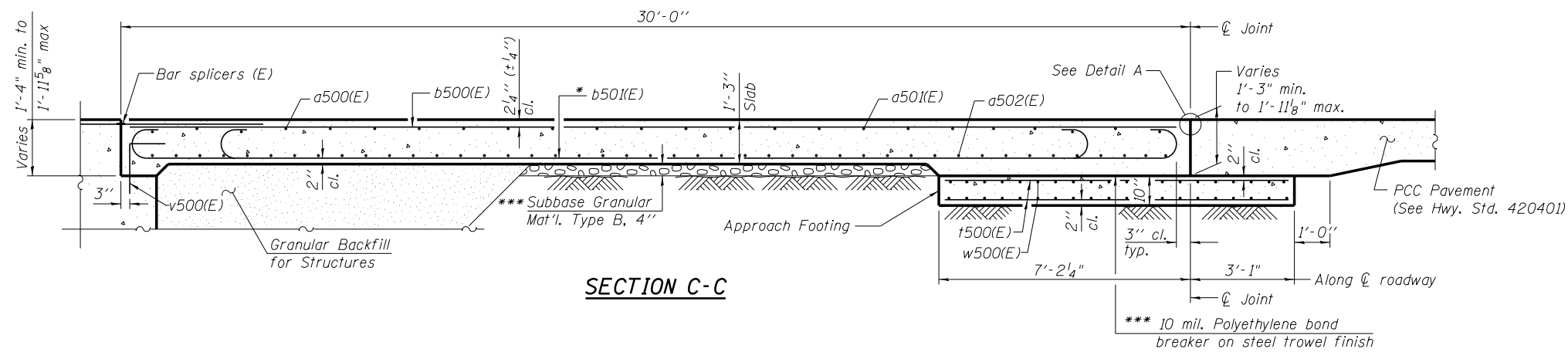
SOUTH BRIDGE APPROACH SLAB PLAN
STRUCTURE NO. 016-0486

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			60J16	

SHEET NO. SG46 OF SG100 SHEETS

ILLINOIS FED. AID PROJECT

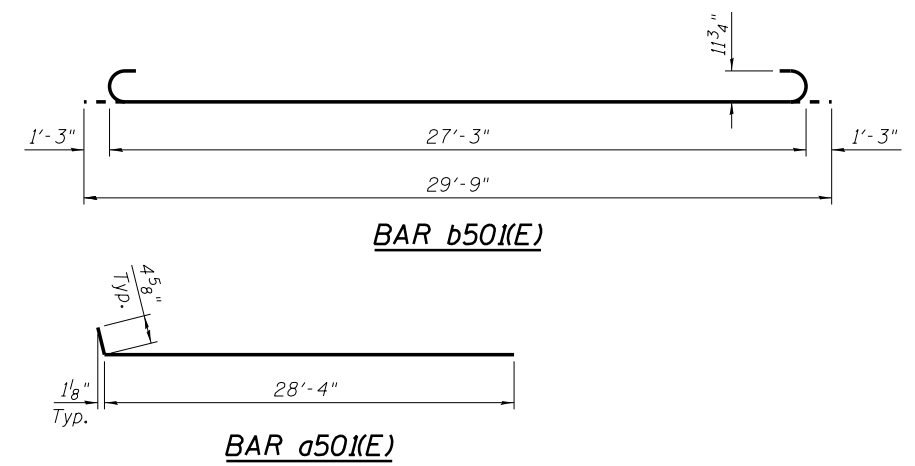
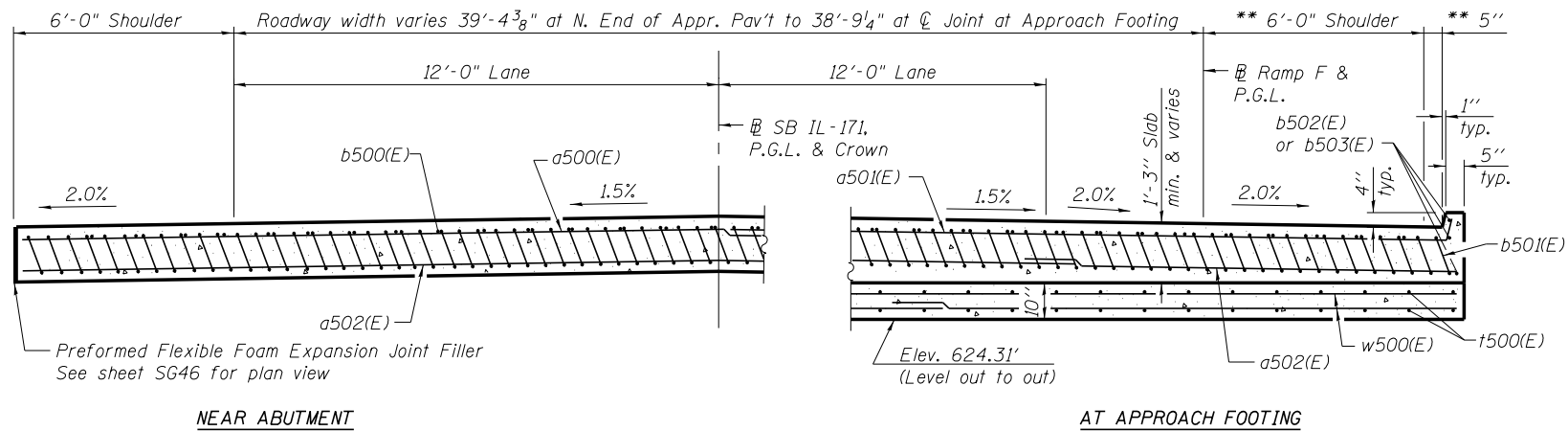
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NOTES:

1. See sheet SG46 for Detail A.
2. Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. For v500(E) bar details, see sheet SG83.
6. The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
7. For bar splicer details, see sheet SG92.
8. Cost of excavation for approach footing included with Concrete Structures.
9. For Granular Backfill for Structures and drainage treatment details, see sheet SG83.
10. For additional parapet details, see sheet SG76.

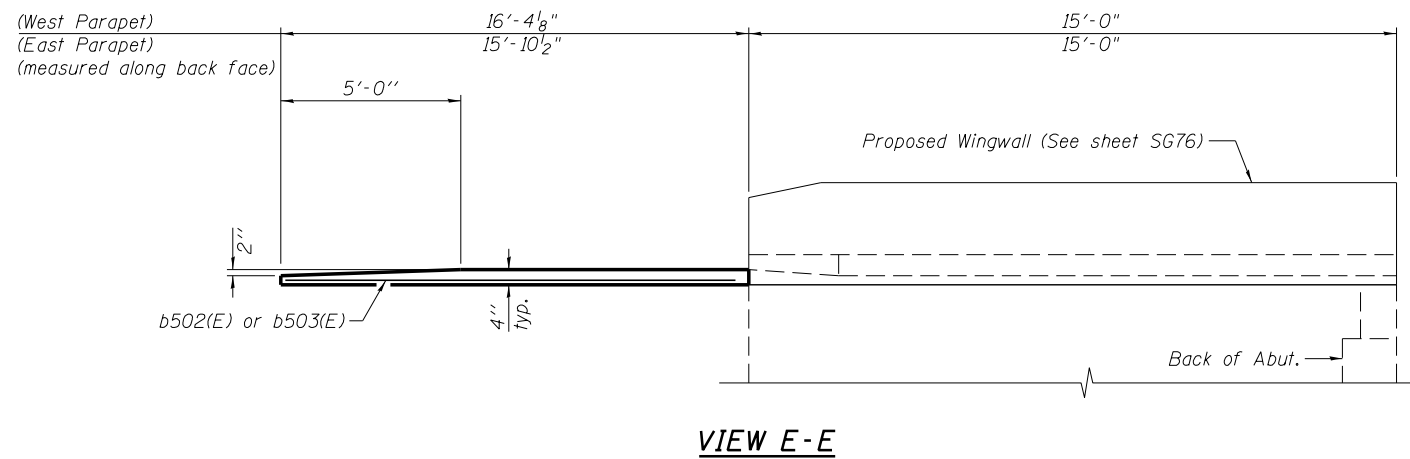
- * Tilt #9 b501(E) bars as required to maintain clearance.
- ** Measured Perpendicular to Ramp F & P.G.L.
- *** Cost included with "Concrete Superstructure".



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

**ONE APPROACH
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a500(E)	24	#4	27'-6"	—
a501(E)	26	#4	28'-9"	—
a502(E)	92	#5	28'-4"	—
b500(E)	41	#4	29'-8"	—
b501(E)	123	#9	29'-9"	—
b502(E)	3	#4	15'-5"	—
b503(E)	3	#4	16'-0"	—
t500(E)	108	#4	9'-11"	—
w500(E)	80	#5	28'-7"	—
Concrete Superstructure			Cu. Yd.	77.8
Concrete Structures			Cu. Yd.	16.7
Reinforcement Bars, Epoxy Coated			Pound	20,090



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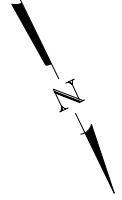
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		DRAWN - FSM	REVISED -
		CHECKED - GJK/DTS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 016-0486**

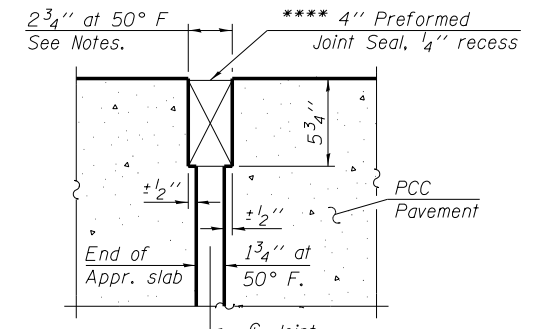
SHEET NO. SG47 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

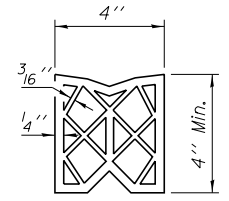


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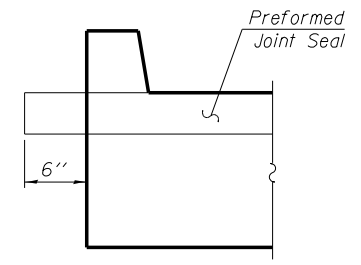
1. See sheet SG49 for Sections C-C & D-D and View E-E.
2. a503(E), a504(E) and a505(E) bar spacings measured along \perp Rdwy.
3. The joint opening shall be determined per Article 520.04.
4. All dimensions measured along or perpendicular to \perp of Roadway, unless noted otherwise.



**** Cost included with "Concrete Superstructure".



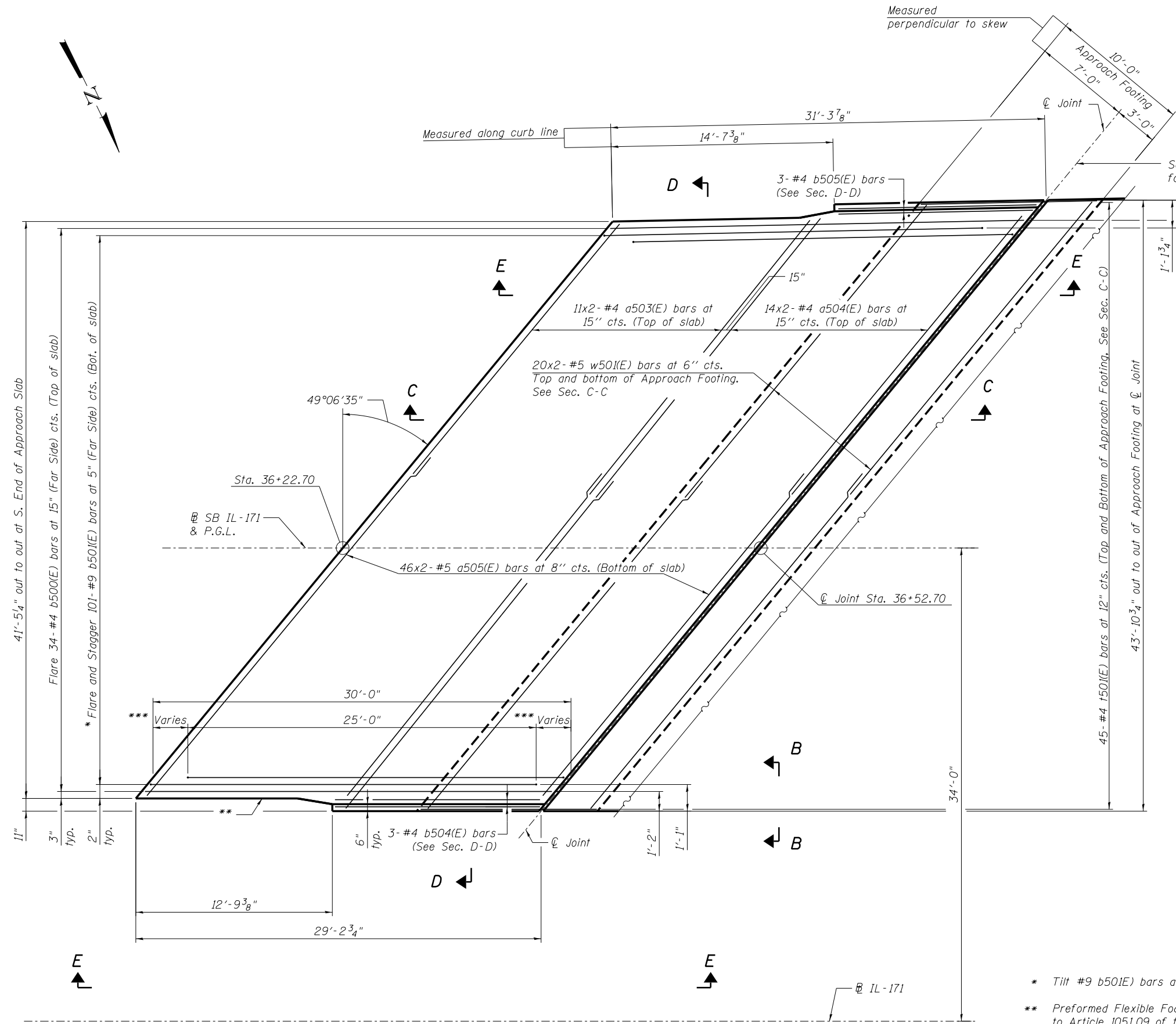
PREFORMED JOINT SEAL



VIEW B-B

MINIMUM BAR LAP (APPROACH)

- #4 bar = 2'-7"
- #5 bar = 3'-3"



PLAN

- * Tilt #9 b501E bars as required to maintain clearance.
- ** Preformed Flexible Foam Expansion Joint Filler according to Article 1051.09 of the Std. Specifications: Full depth of slab, full length of parapet. Typ. each parapet. Cost included with Concrete Superstructure.
- *** Dimension varies, but stagger shall be symmetric about approach slab.

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FILE NAME =	USER NAME = jsurber	DESIGNED - JOB	REVISED -
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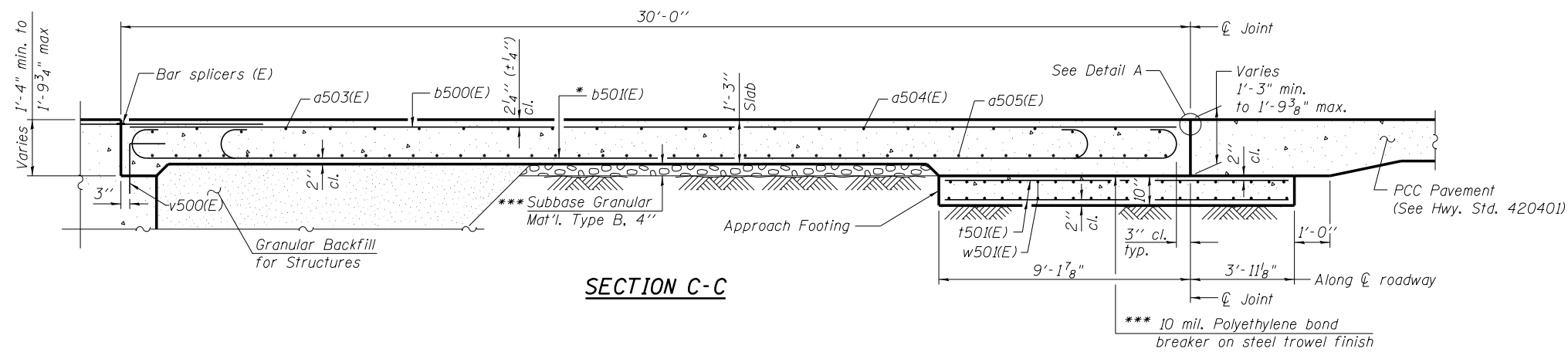
**NORTH BRIDGE APPROACH SLAB PLAN
STRUCTURE NO. 016-0486**

SHEET NO. SG48 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	638
CONTRACT NO.			60J16	

ILLINOIS FED. AID PROJECT

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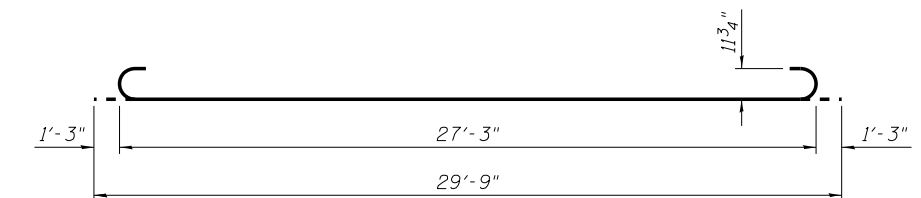


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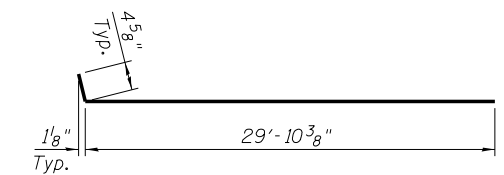
1. See sheet SG48 for Detail A.
2. Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. For v500(E) bar details, see sheet SG83.
6. The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
7. For bar splicer details, see sheet SG92.
8. Cost of excavation for approach footing included with Concrete Structures.
9. For Granular Backfill for Structures and drainage treatment details, see sheet SG83.
10. For additional parapet details, see sheet SG82.

* Tilt #9 b501(E) bars as required to maintain clearance.

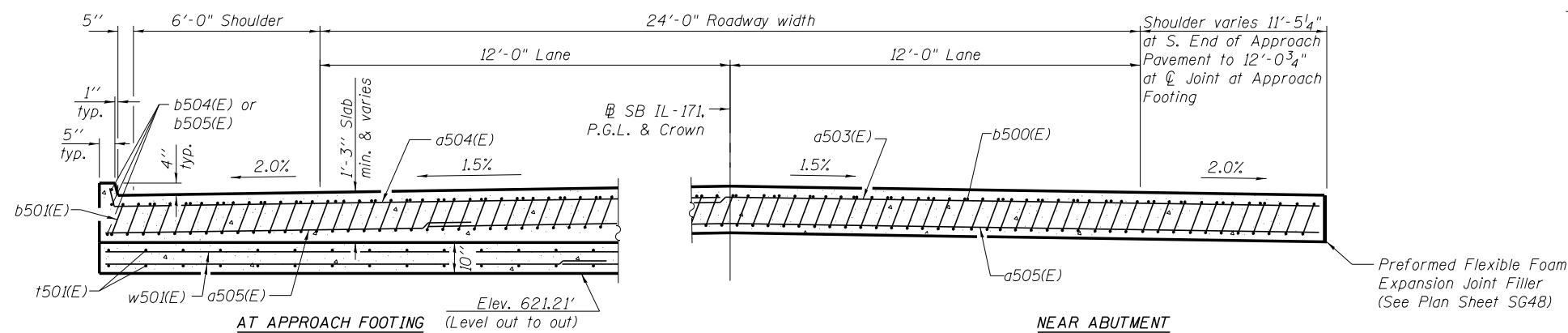
*** Cost included with "Concrete Superstructure".



BAR b501(E)



BAR a504(E)

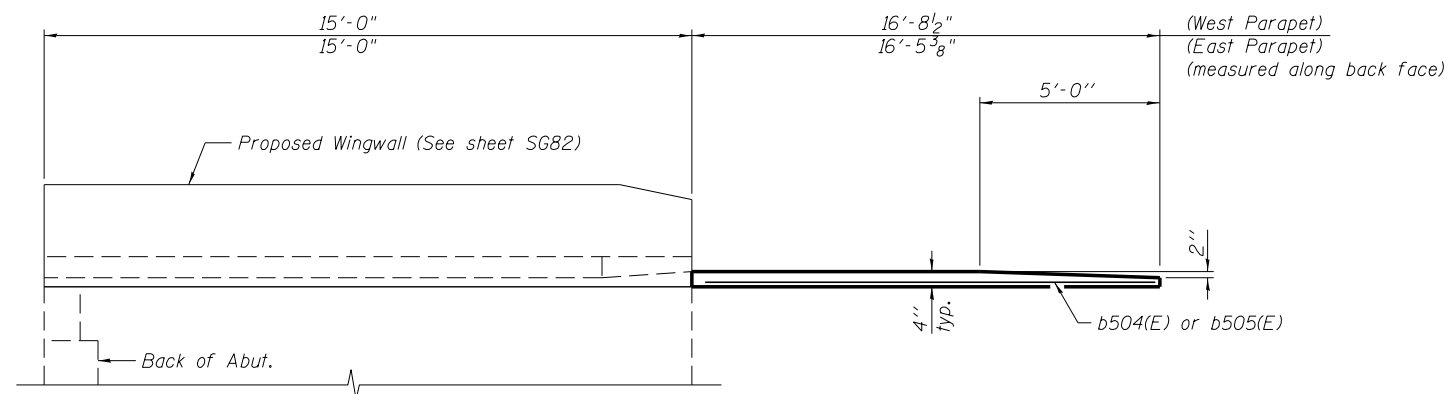


SECTION D-D

(See Plan for dimensions not shown)

**ONE APPROACH
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
a503(E)	22	#4	29'-3"	—	
a504(E)	28	#4	30'-3"	—	
a505(E)	92	#5	30'-2"	—	
b500(E)	34	#4	29'-8"	—	
b501(E)	101	#9	29'-9"	—	
b504(E)	3	#4	16'-1"	—	
b505(E)	3	#4	15'-11"	—	
t501(E)	90	#4	12'-7"	—	
w501(E)	80	#5	30'-3"	—	
Concrete Superstructure				Cu. Yd.	63.0
Concrete Structures				Cu. Yd.	17.8
Reinforcement Bars, Epoxy Coated				Pound	18,140



VIEW E-E

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FILE NAME =	USER NAME = jsurber	DESIGNED - JOB	REVISED -
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DEPARTMENT OF TRANSPORTATION**

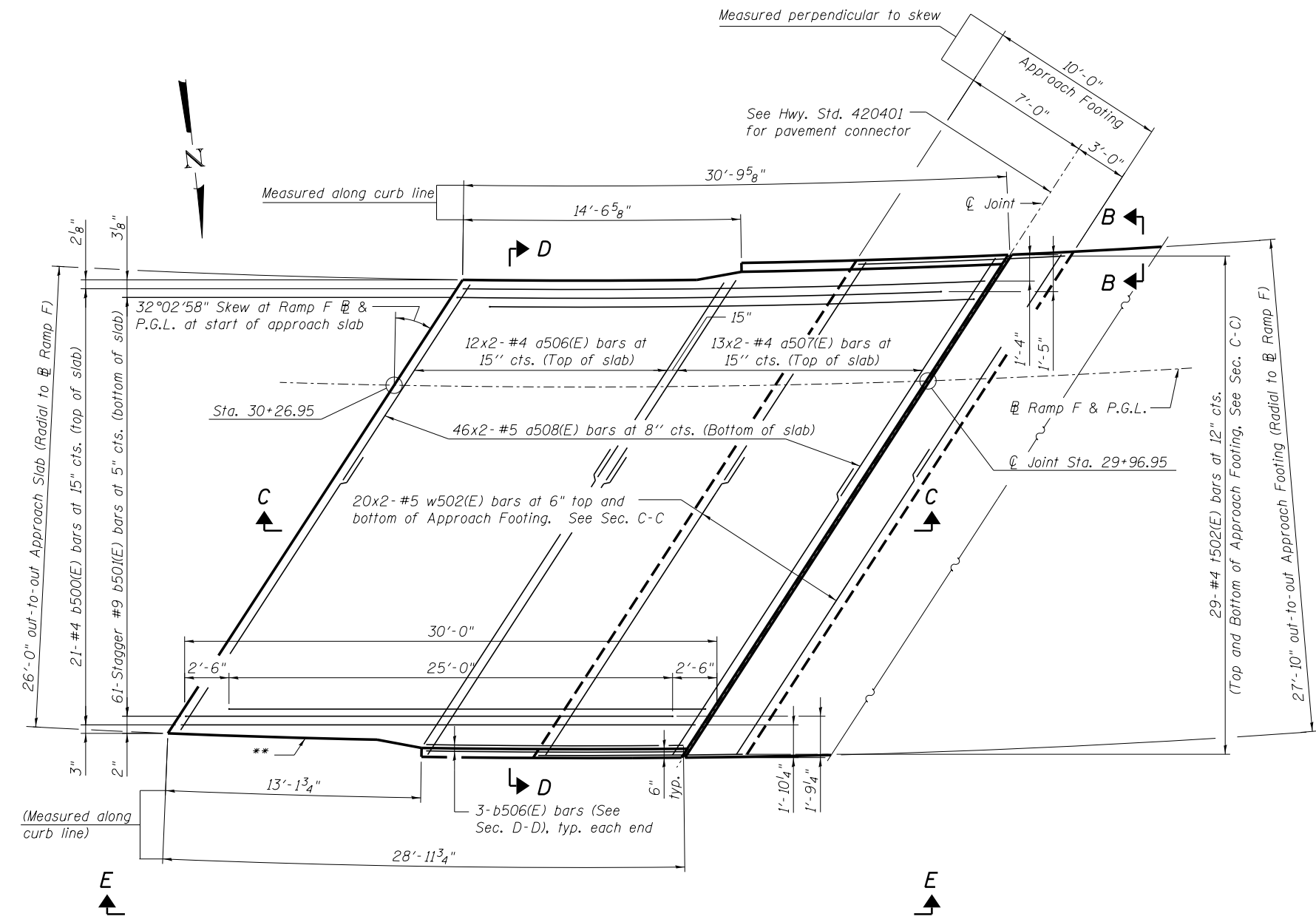
**NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 016-0486**

SHEET NO. SG49 OF SG100 SHEETS

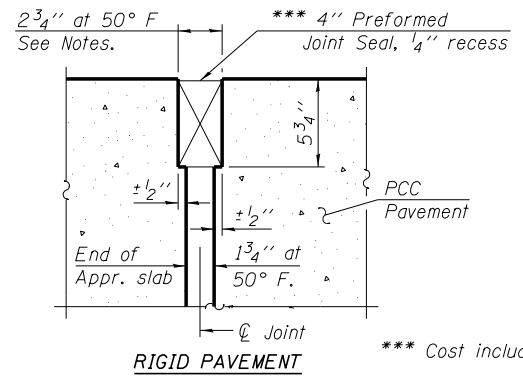
F.A.P. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	639
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

NOTES:

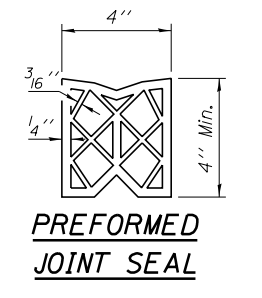
1. See sheet SG51 for Sections C-C & D-D and View E-E.
2. a506(E), a507(E) and a508(E) bar spacings measured along Ramp F.
3. The joint opening shall be determined per Article 520.04.



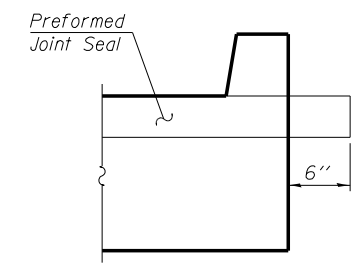
PLAN



DETAIL A



PREFORMED JOINT SEAL



VIEW B-B

*** Cost included with "Concrete Superstructure".

- * Tilt #9 b501(E) bars as required to maintain clearance.
- ** Preformed Flexible Foam Expansion Joint Filler according to Article 1051.09 of the Std. Specifications: Full depth of slab, full length of parapet. Typ. each parapet. Cost included with Concrete Superstructure.

MINIMUM BAR LAP (APPROACH)

- #4 bar = 2'-7"
- #5 bar = 3'-3"

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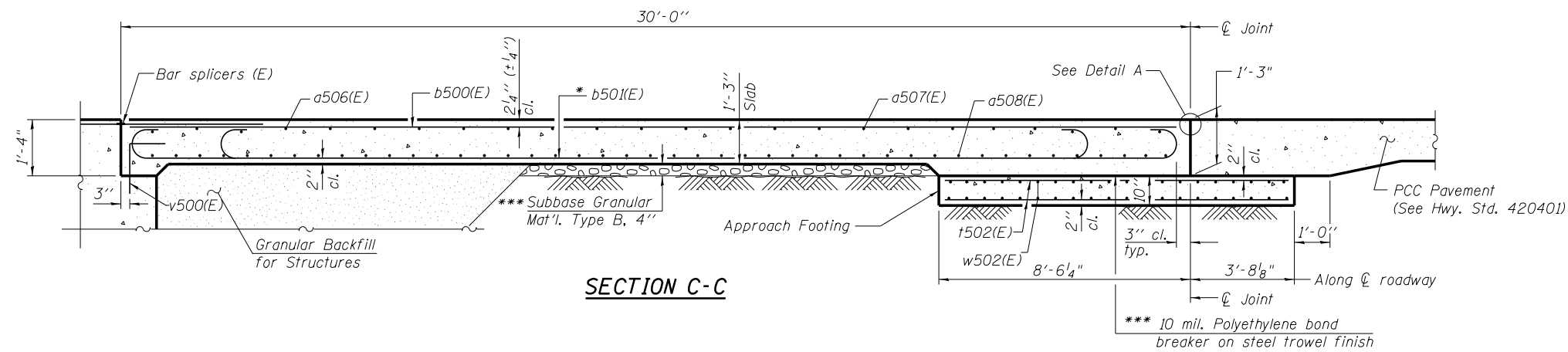
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	PLOT DATE = 8/6/2014	CHECKED - GJK/DTS	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**RAMP F BRIDGE APPROACH SLAB PLAN
 STRUCTURE NO. 016-0486**

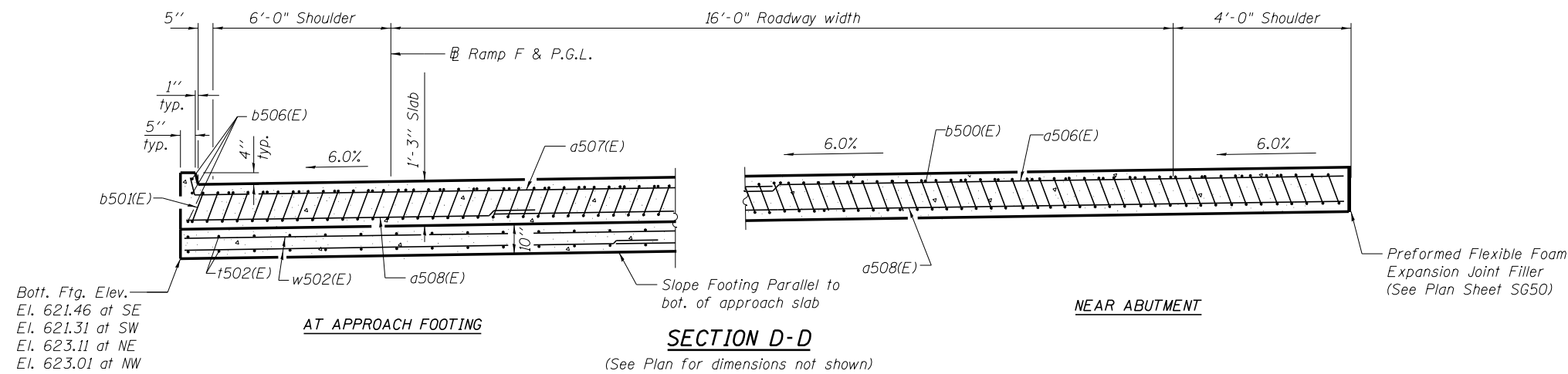
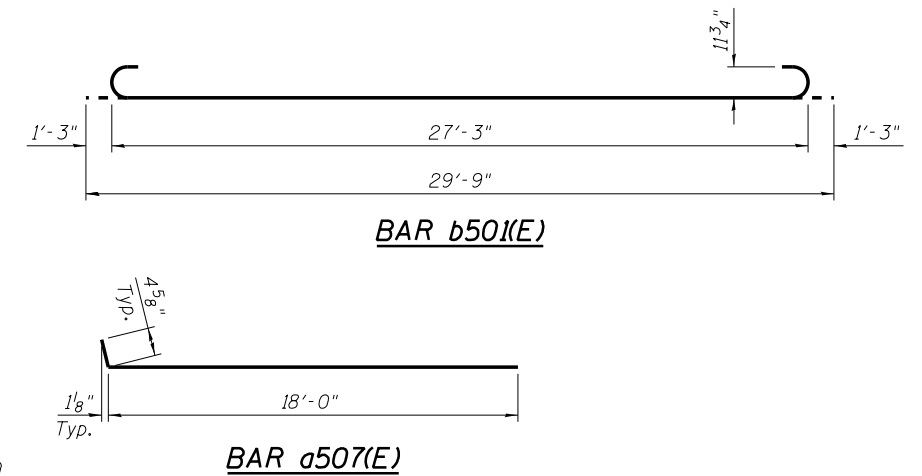
SHEET NO. SG50 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	640
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	



- NOTES:**
1. See sheet SG50 for Detail A.
 2. Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 3. Approach footing concrete shall be paid for as Concrete Structures.
 4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 5. For v500(E) bar details, see sheet SG83.
 6. The approach footing maximum applied service bearing pressure (Omax) = 2.0 ksf.
 7. For bar splicer details, see sheet SG92.
 8. Cost of excavation for approach footing included with Concrete Structures.
 9. For Granular Backfill for Structures and drainage treatment details, see sheet SG83.
 10. For additional parapet details, see sheet SG79.

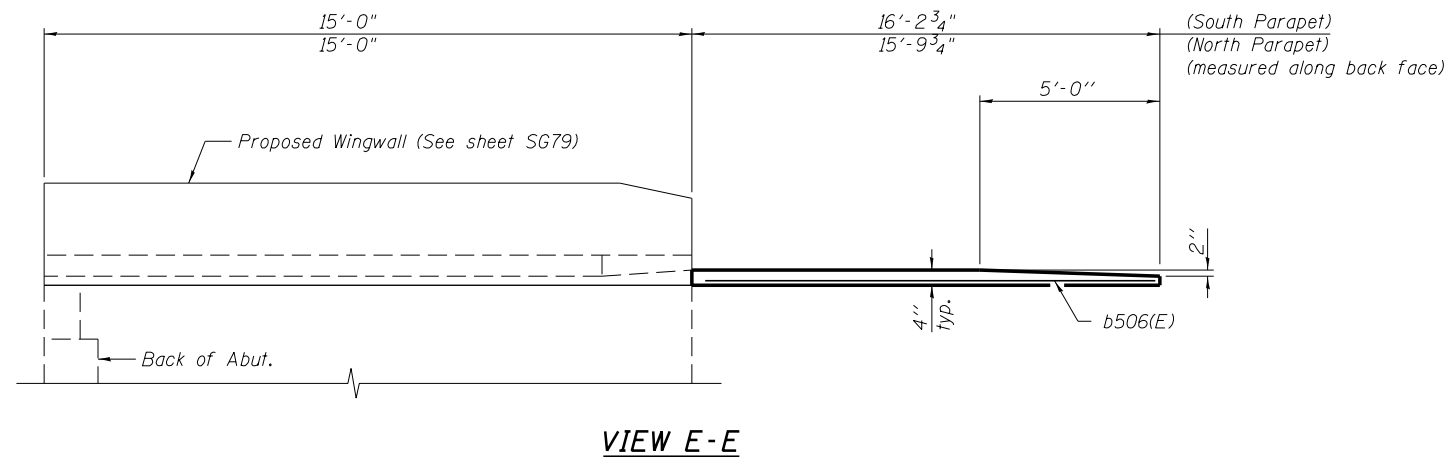
* Tilt #9 b501(E) bars as required to maintain clearance.
 *** Cost included with "Concrete Superstructure".



Bott. Ftg. Elev.
 El. 621.46 at SE
 El. 621.31 at SW
 El. 623.11 at NE
 El. 623.01 at NW

**ONE APPROACH
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a506(E)	24	#4	17'-3"	—
a507(E)	26	#4	18'-5"	—
a508(E)	92	#5	18'-5"	—
b500(E)	21	#4	29'-8"	—
b501(E)	61	#9	29'-9"	—
b506(E)	6	#4	15'-6"	—
t502(E)	58	#4	11'-8"	—
w502(E)	80	#5	18'-6"	—
Concrete Superstructure			Cu. Yd.	37.6
Concrete Structures			Cu. Yd.	10.5
Reinforcement Bars, Epoxy Coated			Pound	11,020



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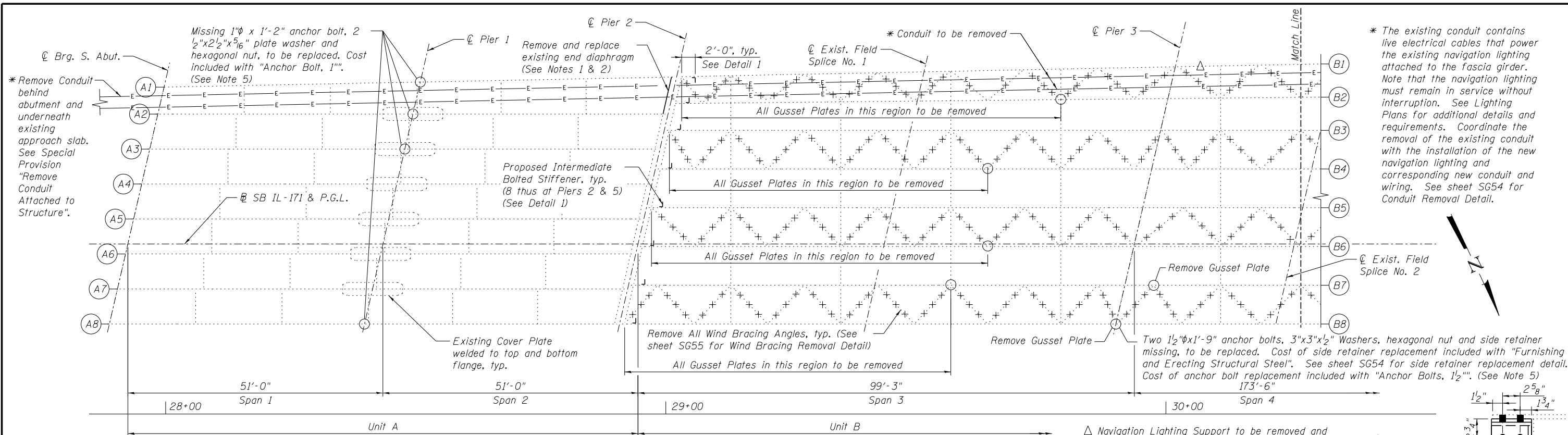
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**RAMP F BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 016-0486**

SHEET NO. SG51 OF SG100 SHEETS

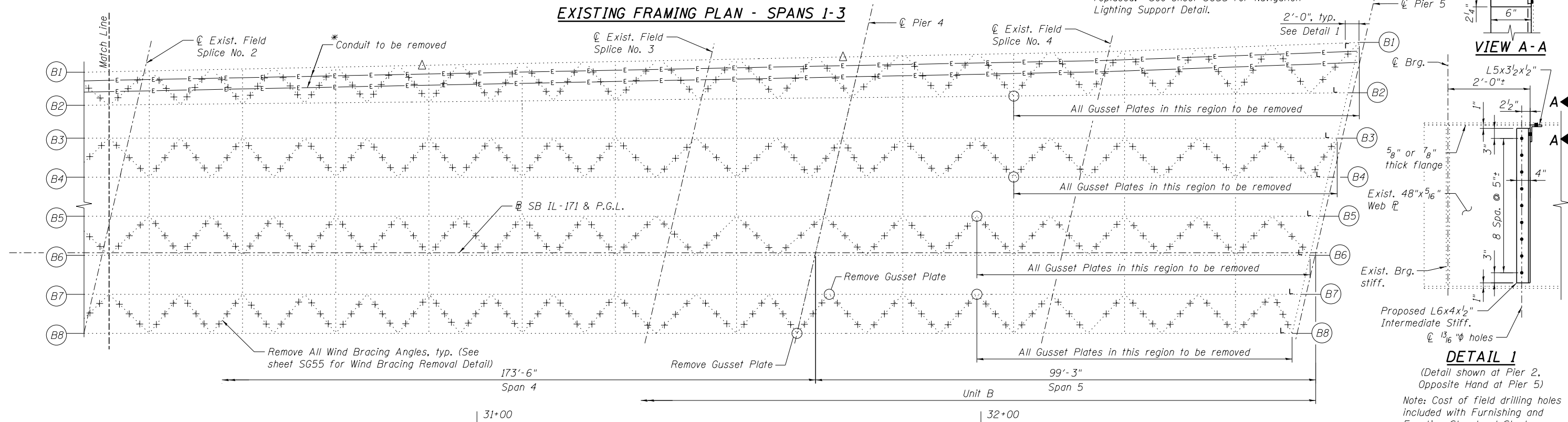
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	641
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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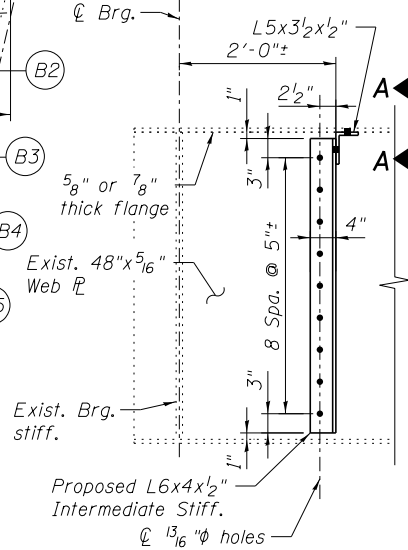


* The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See sheet SG54 for Conduit Removal Detail.

EXISTING FRAMING PLAN - SPANS 1-3



VIEW A-A



DETAIL 1

(Detail shown at Pier 2, Opposite Hand at Pier 5)
 Note: Cost of field drilling holes included with Furnishing and Erecting Structural Steel.

LEGEND

---x---x---x--- Remove existing steel

NOTES:

1. Removal of steel paid for as "Structural Steel Removal". Replacement of steel paid for as "Furnishing and Erecting Structural Steel".
2. See sheet SG55 for End Diaphragm Removal and Replacement Details.
3. See Sheet SG54 for new studs added at Exist. Field Splice No. 1 thru No. 4 in Spans 3-5.
4. The Engineer will inspect all existing bearing anchor bolts to ascertain their condition. Any damaged anchor bolts shall be reported to the BBS for further direction. The Contractor shall provide all means and access for the Engineer to perform the anchor bolt inspections. All costs associated with providing the access shall be considered included in the unit price for "Furnishing and Erecting Structural Steel".
5. Install new anchor bolt with diameter specified above, at existing bearing. Anchor Bolts shall be ASTM F1554, Grade 105, all-thread or an Engineer-approved alternate material. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554. If a drilled hole in the existing concrete does not exist, or is not deep enough to allow for the new anchor bolt projection above the existing side retainer angle to match the projection of the other existing anchor bolts, then a hole shall be drilled in the existing concrete to the appropriate depth. Holes in the existing concrete may be drilled through the existing holes in the bottom bearing plate, if this can be done without damaging the bearing. This work shall also include all labor, equipment and materials, if necessary, to remove and reinstall diaphragms or cross frames with new high-strength bolts to facilitate replacing anchor bolts. Drilled and set anchors shall be installed according to Article 521.06 of the Standard Specifications.

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		DRAWN - RMG	REVISION -
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STEEL REMOVAL AND REPAIR PLAN UNIT A & B
STRUCTURE NO. 016-0486

SHEET NO. SG52 OF SG100 SHEETS

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	642
CONTRACT NO.			60J16	

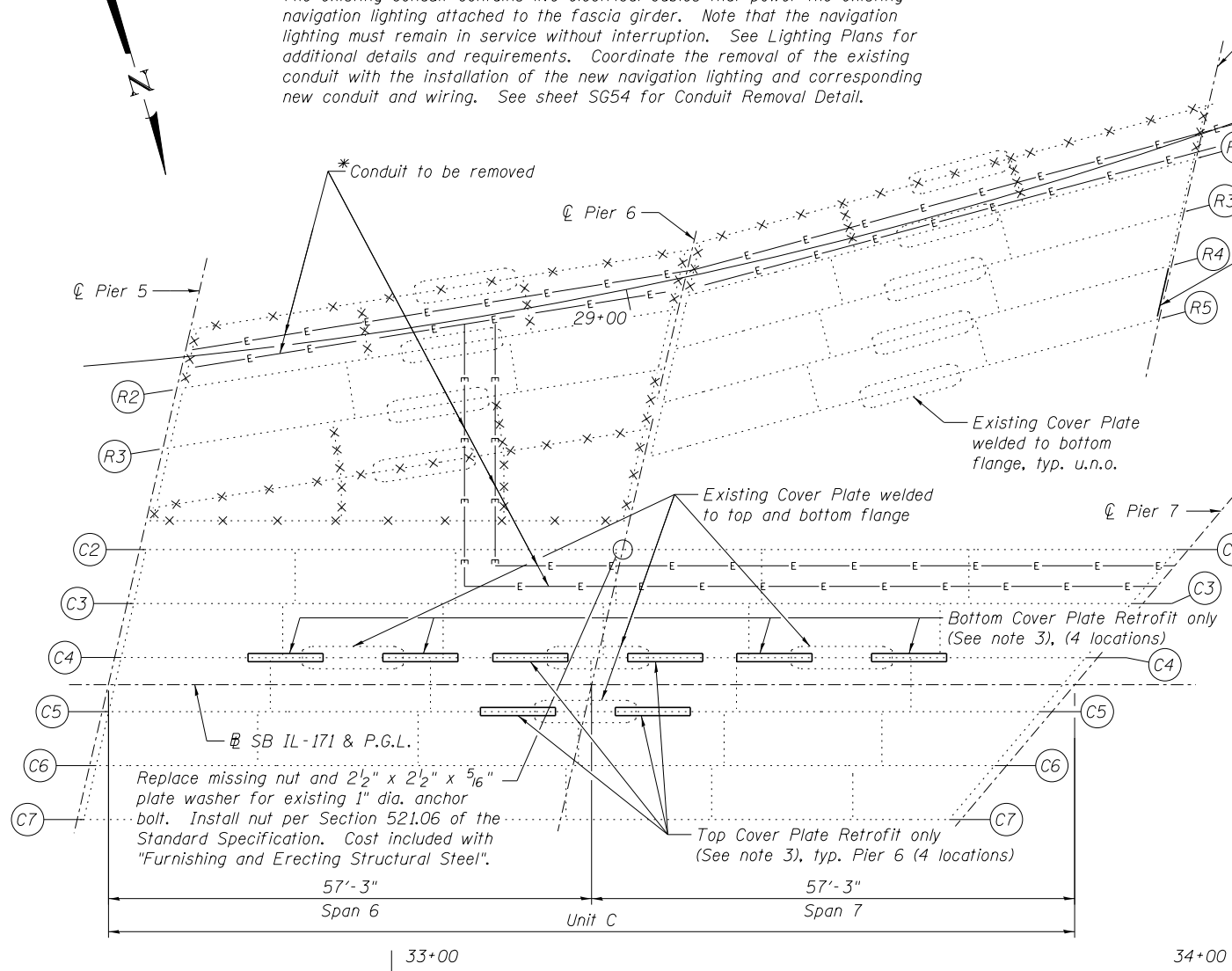
ILLINOIS FED. AID PROJECT

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* The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See sheet SG54 for Conduit Removal Detail.

LEGEND

---x---x---x---x---x--- Remove existing steel



BEAM STRENGTHENING NOTES:

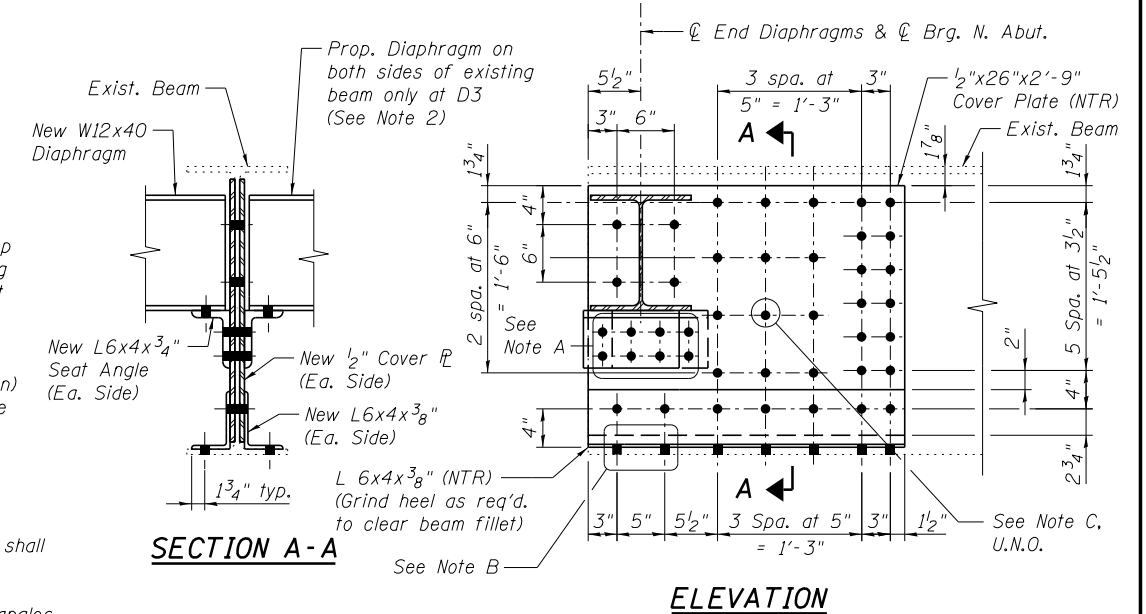
Note A:
See Sheet SG59 for bolt spacing at existing seat angle connection. Bolts for end diaphragm seat angle connection shall be 3/4" φ, ASTM A325 Type 1, mechanically galvanized, in 1 1/2" φ holes. Holes in new steel plates shall be field drilled using the holes in the existing beam web from the existing end diaphragm seat angles as a template. Holes in the new seat angles shall be shop drilled. The Contractor shall verify existing dimensions before ordering materials. Cost of field drilling shall be included in "Structural Steel Repair".

Note B:
Remove existing 3/4" φ bolts (4 each location) connecting the existing beam flange to the existing bearing bolster, field ream the existing holes to 1 1/2" φ, and bolt new connection with 7/8" φ H.S. bolts. Cost included with "Structural Steel Repair".

Note C:
Bolts for beam strengthening connections shall be 7/8" φ, ASTM A325 Type 1, mechanically galvanized, in 1 1/2" φ holes, unless noted otherwise. Holes in new steel plates and angles shall be shop drilled. Holes in the existing beam web and flange shall be field drilled using the holes from the new plates and angles as a template. Cost of field drilling shall be included in "Structural Steel Repair".

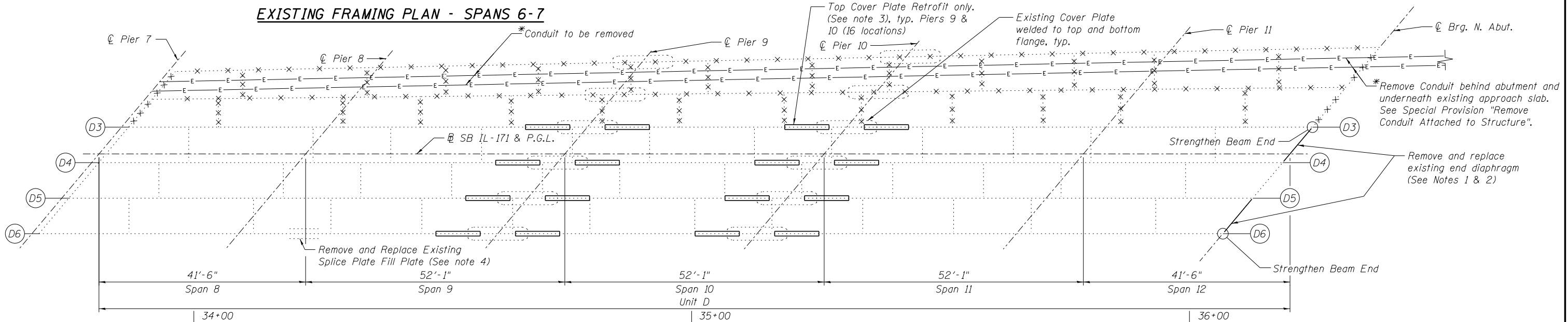
NOTES:

1. Removal of steel paid for as "Structural Steel Removal". Replacement of steel paid for as "Furnishing and Erecting Structural Steel".
2. See sheet SG55 for End Diaphragm Removal and Replacement Details.
3. Place bolted cover plate at ends of existing cover plates where shown. See sheet SG54 for Cover Plate Retrofit Detail.
4. See sheet SG54 for Field Splice Repair Detail.
5. Weight of existing bearings that are removed with existing beams are included in quantity of steel removal. Weight of elastomeric pads incidental to structural steel removal quantity.
6. The Engineer will inspect all existing bearing anchor bolts to ascertain their condition. Any damaged anchor bolts shall be reported to the BBS for further direction. The Contractor shall provide all means and access for the Engineer to perform the anchor bolt inspections. All costs associated with providing the access shall be considered included in the unit price for "Furnishing and Erecting Structural Steel".
7. At locations of existing beam and bearing removal and replacement, burn existing anchor bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy. Cost included with "Furnishing and Erecting Structural Steel".



BEAM STRENGTHENING DETAIL

(2 Locations) D3 shown, D6 similar.
The structural steel for the cover plates and flange angles shall meet the requirements of AASHTO M270 Grade 50



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EXISTING FRAMING PLAN - SPANS 8-12

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		DRAWN - RMG	REVISED -
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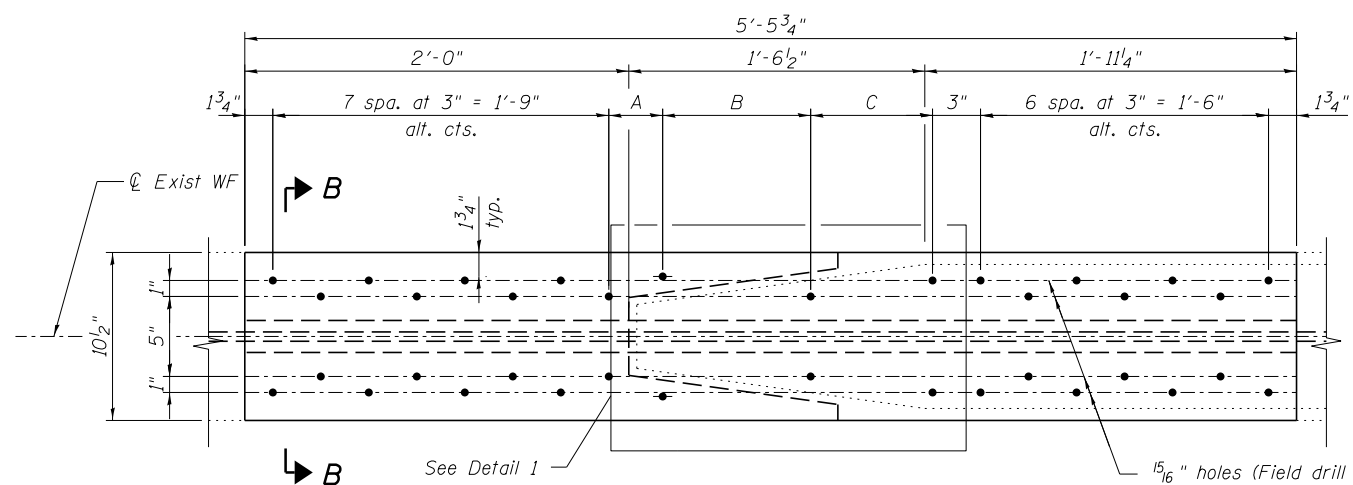
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL REMOVAL AND REPAIR PLAN UNIT C & D
STRUCTURE NO. 016-0486

SHEET NO. SG53 OF SG100 SHEETS

F.A.P. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	643
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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COVER PLATE RETROFIT

(See note 2)
 (36 bolts per retrofit)
 (24 Locations, 20 Top & 4 Bottom)

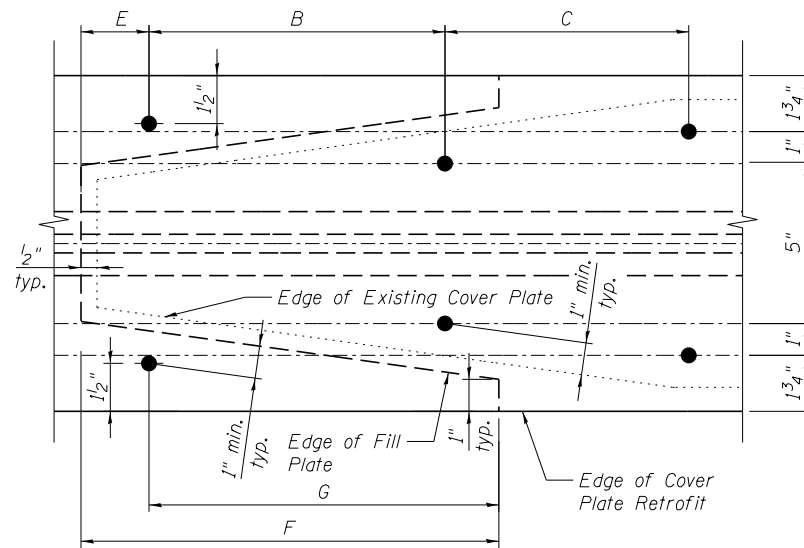
Note: Locations of Cover Plate Retrofit are symmetrical about the C of the existing cover plate.

BILL OF MATERIAL

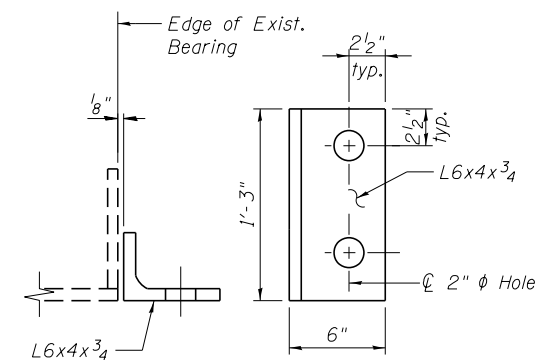
ITEM	UNIT	TOTAL
Structural Steel Removal	Pound	125,740
Remove Conduit Attached to Structure	Foot	1,950
Structural Steel Repair	Pound	7,270
Anchor Bolts, 1"	Each	4
Anchor Bolts, 1 1/2"	Each	2

COVER PLATE RETROFIT DIMENSION TABLE

Unit	A	B	C	E	F	G
C	3 3/8"	9 1/4"	7 5/8"	2 1/8"	1'-1 1/8"(-)	11'(-)
D	7 5/8"	7 3/8"	5"	6 3/8"	1'-2 3/8"(-)	8 1/4"(-)

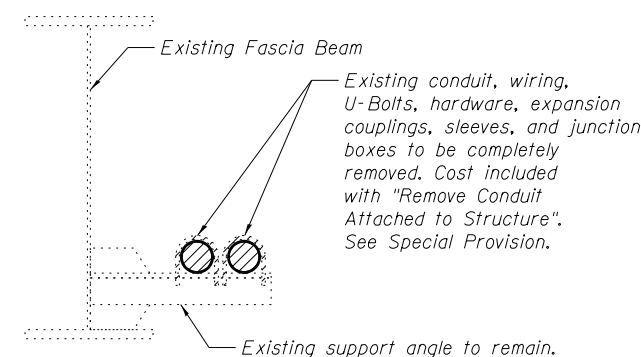


DETAIL 1



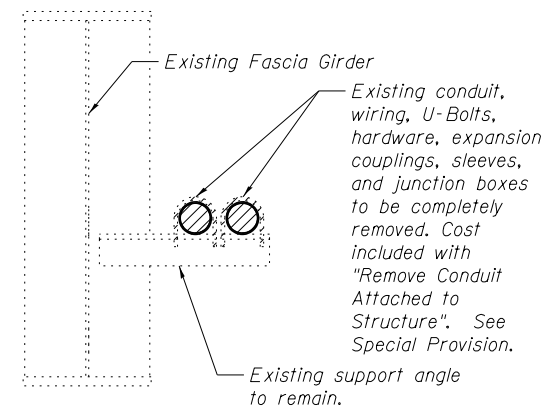
SIDE RETAINER REPLACEMENT

(1 Location)
 (See sheet SG52 for location of side retainer replacement)



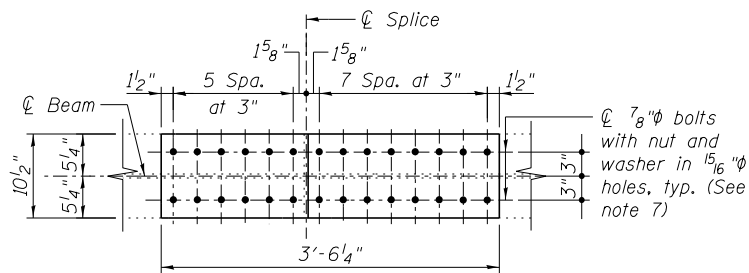
CONDUIT REMOVAL DETAIL

(Wide Flange Detail)

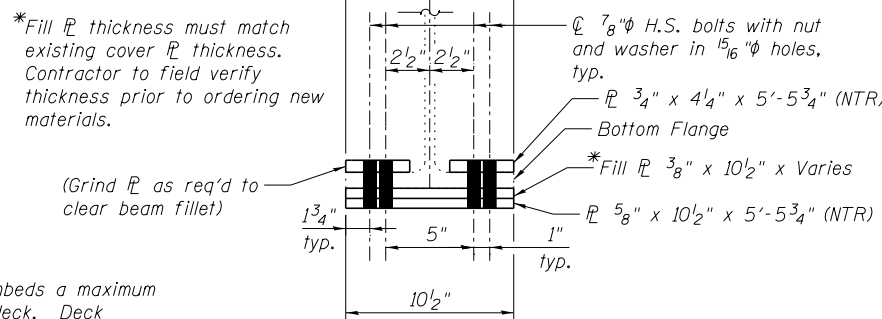


CONDUIT REMOVAL DETAIL

(Plate Girder Detail)

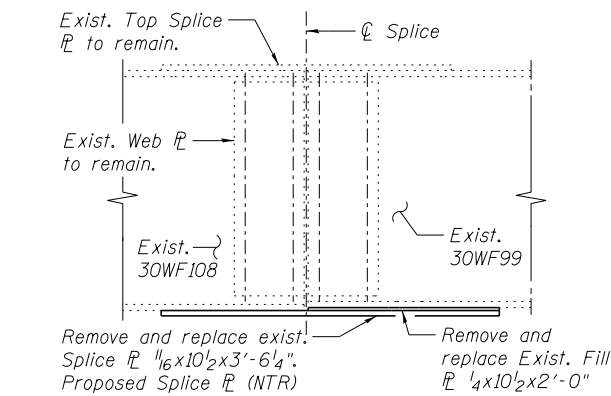


PROPOSED BOTTOM FLANGE SPLICE



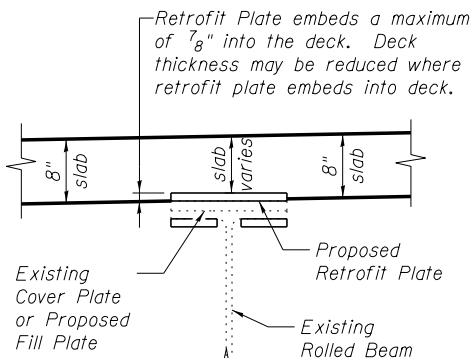
SECTION B-B

(Bottom shown, Top similar)

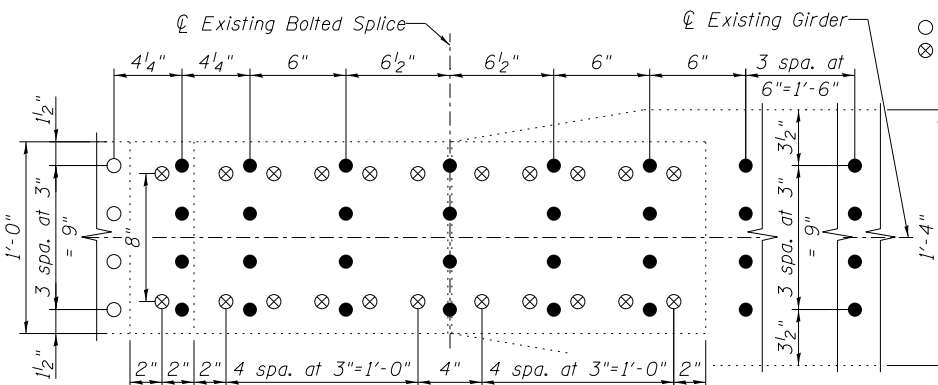


FIELD SPLICE REPAIR DETAIL

Note: No load other than self-weight of the steel beam may be present while the existing splice PL's are removed. See sheet SG53 for location of field splice repair.

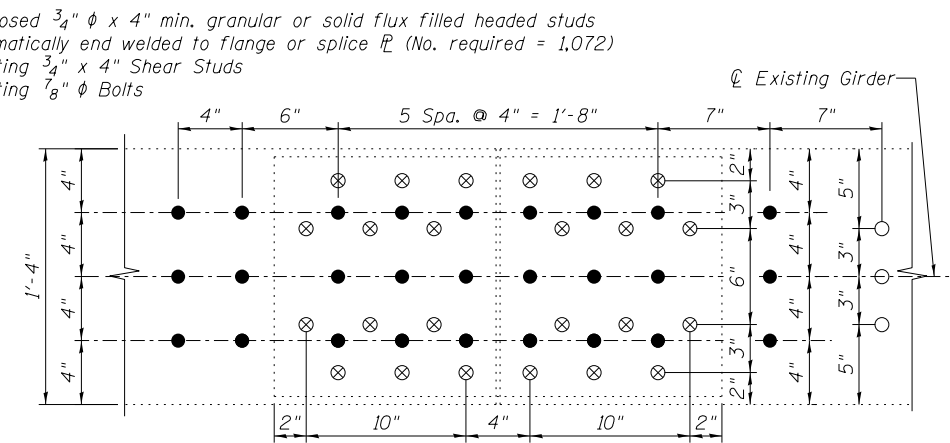


COVER PLATE RETROFIT EMBEDMENT



NEW STUD SPACING AT EXISTING BOLTED SPLICES SPANS 3 & 5

(Existing Field Splice No. 1 in Span 3 shown, Field Splice No. 4 in Span 5 opposite hand)
 (16 Locations)



NEW STUD SPACING AT EXISTING BOLTED SPLICES SPAN 4

(Existing Field Splice No. 2 in Span 4 shown, Field Splice No. 3 in Span 4 opposite hand)
 (16 Locations)

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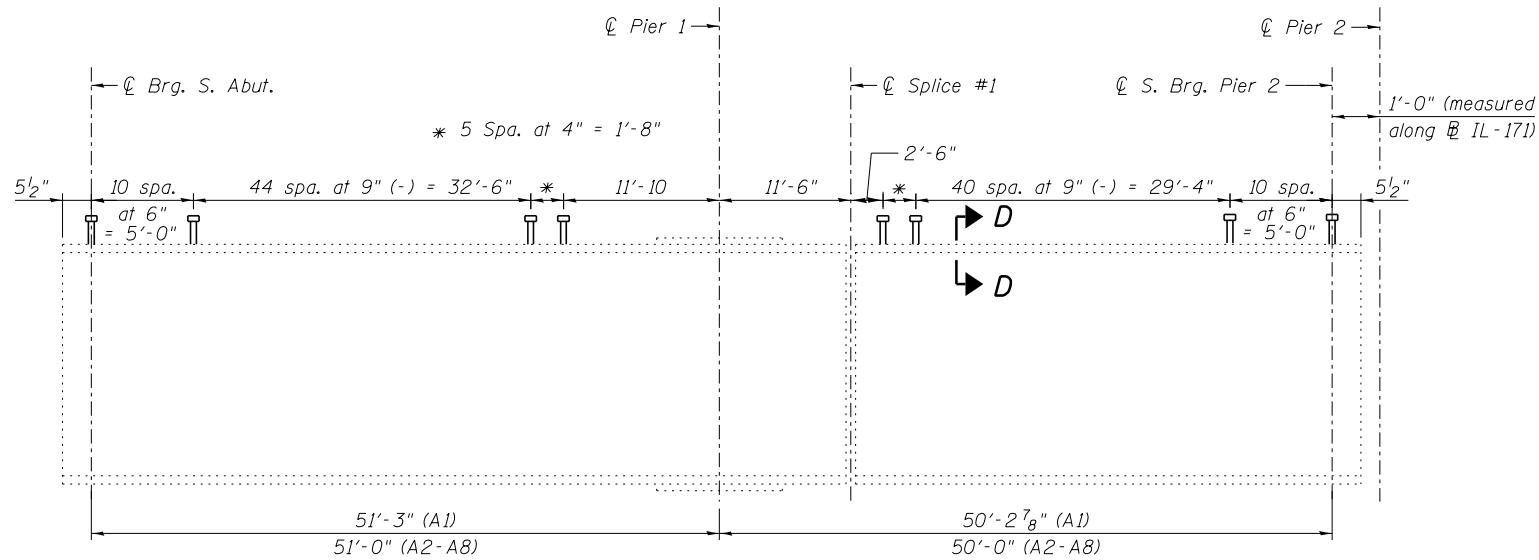
STATE OF ILLINOIS
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STRUCTURAL STEEL REPAIR DETAILS (1 OF 2)
STRUCTURE NO. 016-0486

SHEET NO. SG54 OF SG100 SHEETS

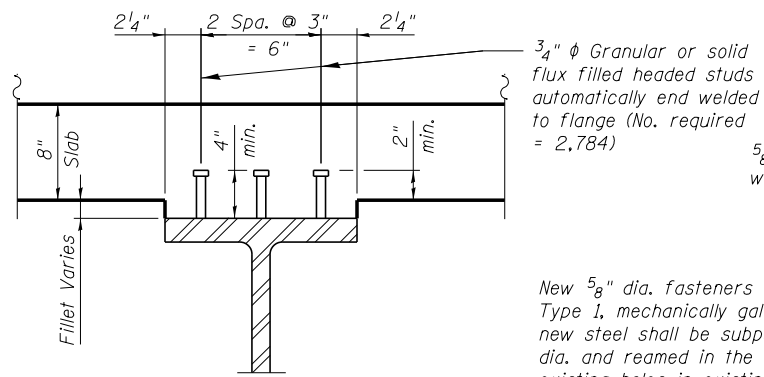
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	644
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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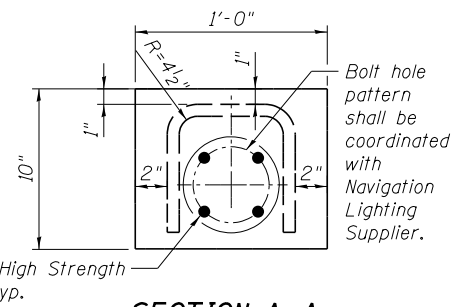
BEAM A1-A8 SPANS 1-2 ELEVATION

(Shear Stud Connector spacing shown for Beams A2-A8, Beam A1 similar)

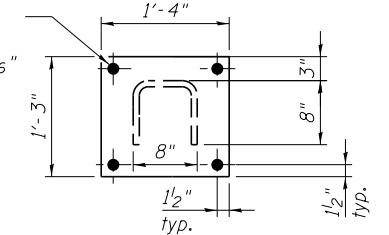


SECTION D-D

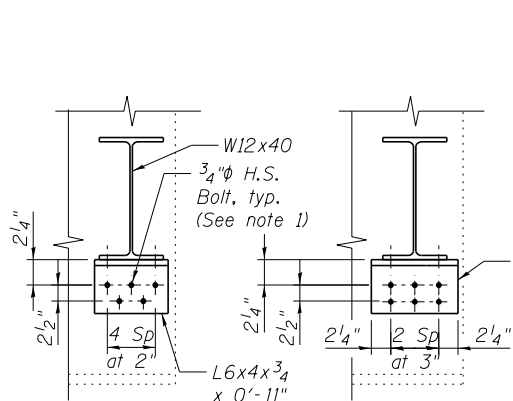
New 5/8" dia. fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Holes in new steel shall be subpunched or subdrilled 9/16" dia. and reamed in the field to 1/2" dia. Reuse existing holes in existing steel. Contractor to field verify location, size and spacing of existing holes prior to ordering new materials. Cost included with "Furnishing and Erecting Structural Steel".



SECTION A-A



SECTION B-B

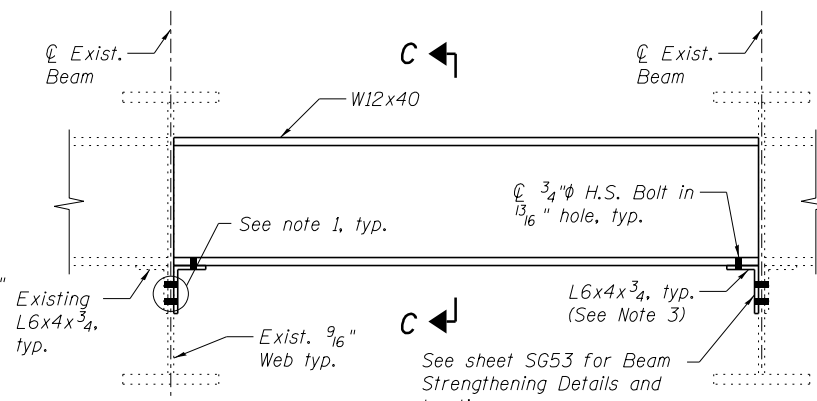


SECTION C-C

(At Unit A & Ramp F)

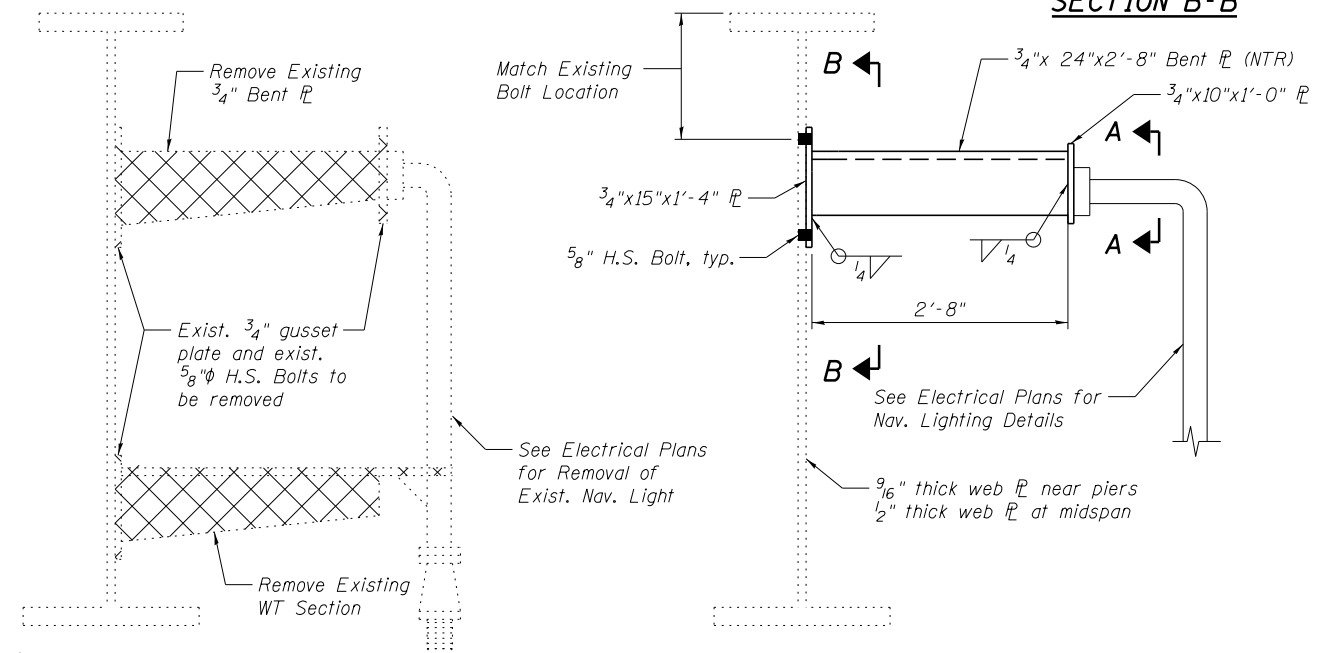
SECTION C-C

(At Unit D)



END DIAPHRAGM REPLACEMENT DETAIL

(No. of Locations 4)



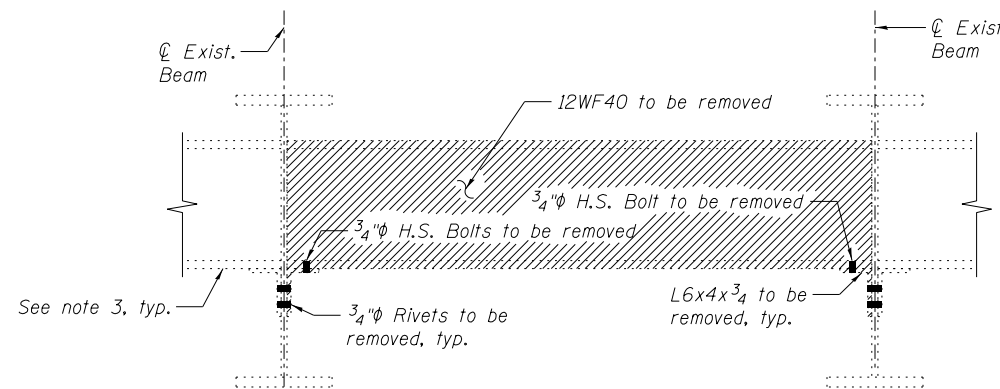
NAVIGATION LIGHTING SUPPORT DETAIL

(3 Locations)

Note: All Navigational Lighting Support Details shall be coordinated with Navigational Light Supplier. Steel removal is paid for as "Structural Steel Removal". New steel is paid for as "Furnishing and Erecting Structural Steel".

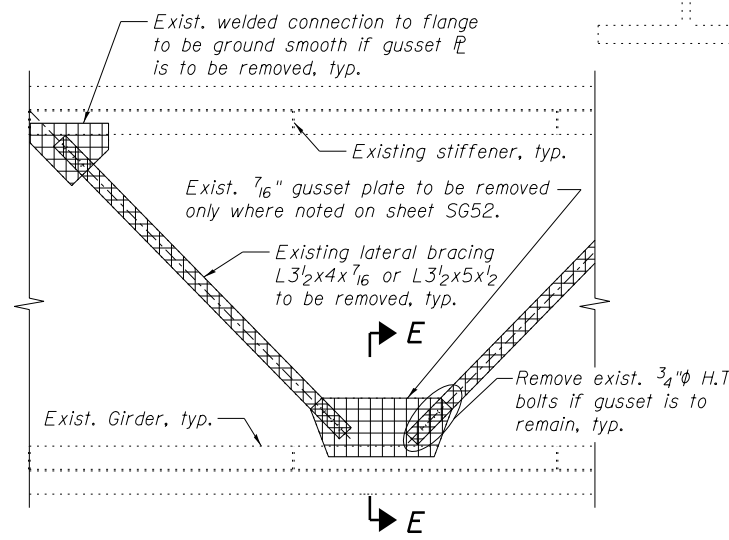
NOTES:

1. New 3/4" dia. fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Holes in new steel shall be subpunched or subdrilled 1/2" dia. and reamed in the field to 13/16" dia. Reuse existing holes in existing steel. Contractor to field verify location, size and spacing of existing holes prior to ordering new materials. Cost included with "Furnishing and Erecting Structural Steel". Unless noted otherwise.
2. See sheets SG52 & SG53 for location of diaphragm replacement and removal.
3. Contractor shall ensure that the adjacent existing diaphragm is supported during angle replacement under proposed diaphragm. Cost included with "Structural Steel Removal".
4. See sheet SG52 for location of wind bracing removal.
5. See sheet SG52 for location of Navigational Lighting Supports.
6. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.



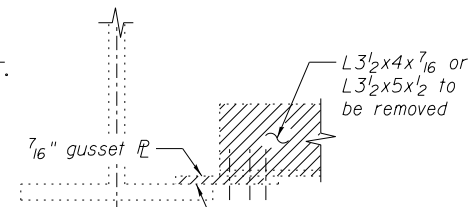
EXISTING END DIAPHRAGM REMOVAL DETAIL

(No. of Locations 4)



WIND BRACING REMOVAL DETAIL

(Removal of lateral bracing and gusset plates paid for as "Structural Steel Removal")
(211 angles to be removed)
(86 gusset plates to be removed)



SECTION E-E

Exist. Weld connection, see special provision for "Structural Steel Removal".

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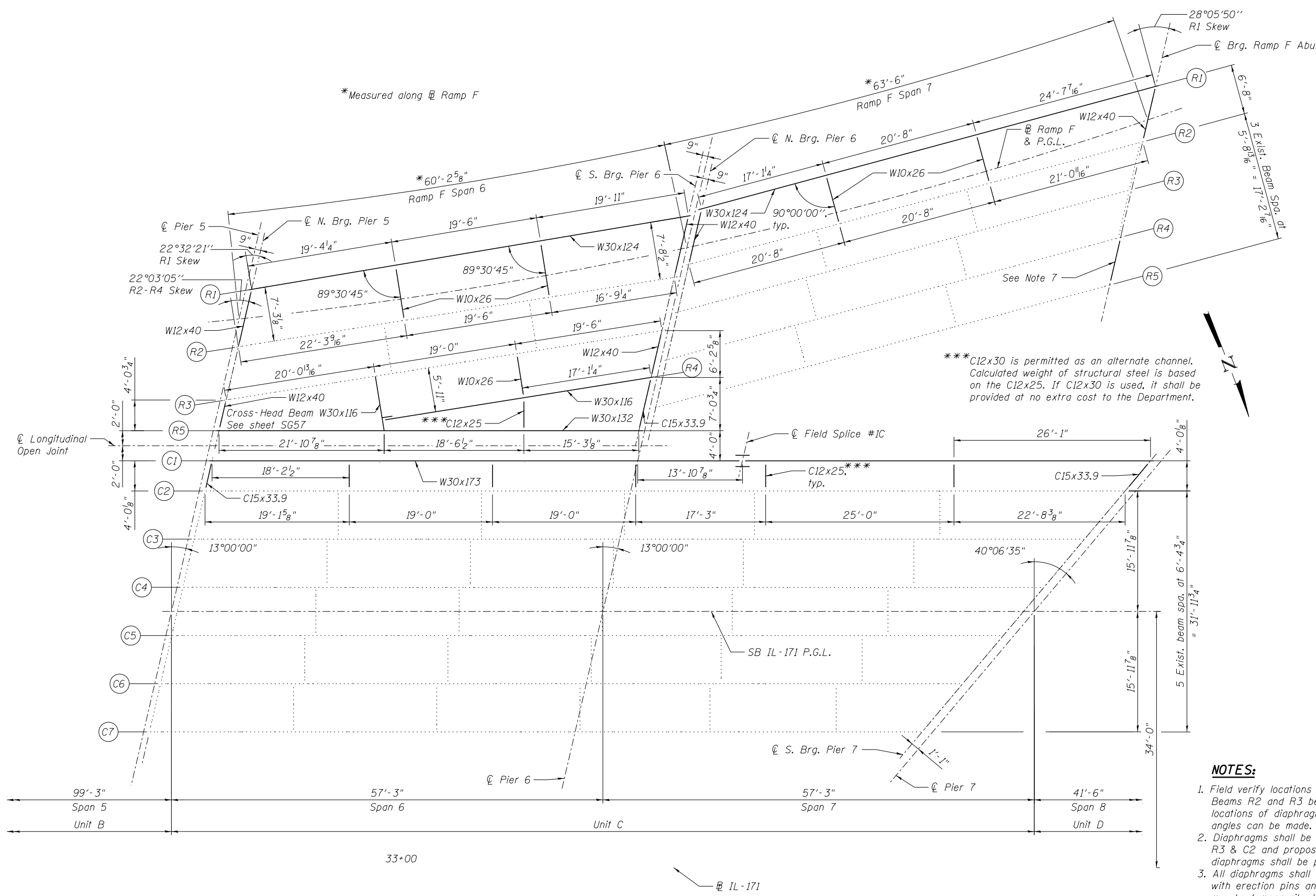
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS (2 OF 2)
STRUCTURE NO. 016-0486**

SHEET NO. SG55 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	645
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				



FRAMING PLAN (Spans 6-7)

- NOTES:**
1. Field verify locations of all existing diaphragm connections on Beams R2 and R3 before fabricating proposed beams. Adjust locations of diaphragms so that connections to existing bolted angles can be made.
 2. Diaphragms shall be placed perpendicular to existing Beams R2, R3 & C2 and proposed Beam R5. At all support locations, diaphragms shall be placed parallel to Ramp F.
 3. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
 4. See sheet SG57 for proposed girder elevations.
 5. See sheet SG59 for diaphragm details.
 6. See sheet SG60 for field bolted splice details.
 7. See sheet SG53 for structural steel removal and repairs.

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PLOT DATE = 8/6/2014			

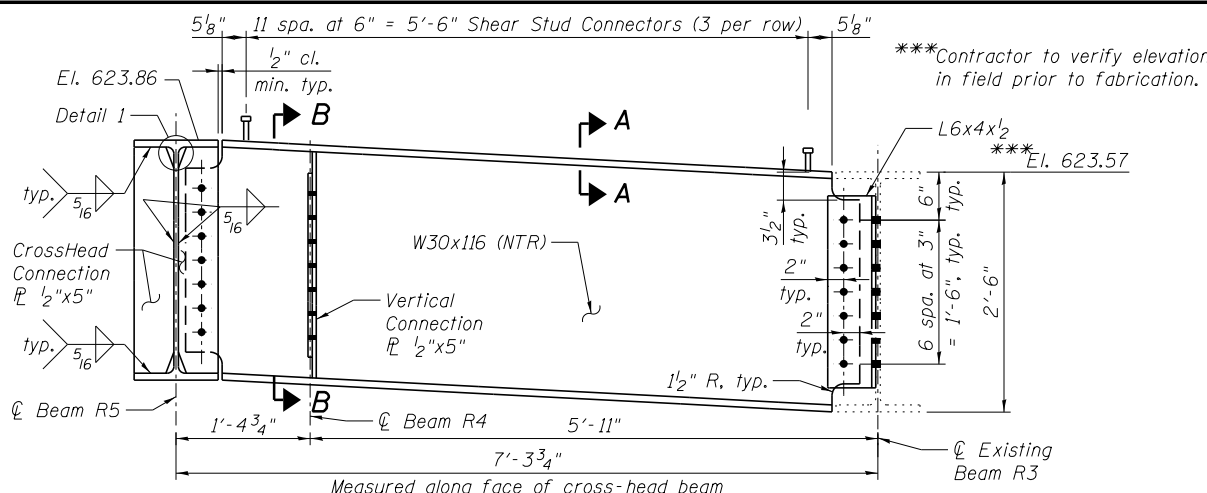
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FRAMING PLAN SPANS 6 & 7
STRUCTURE NO. 016-0486

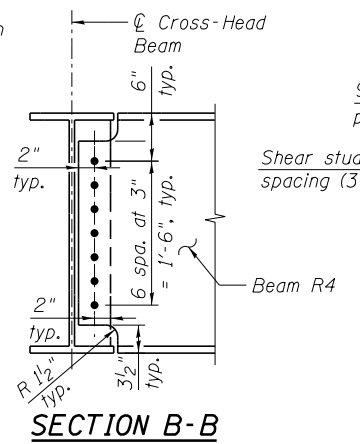
SHEET NO. SG56 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	646
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

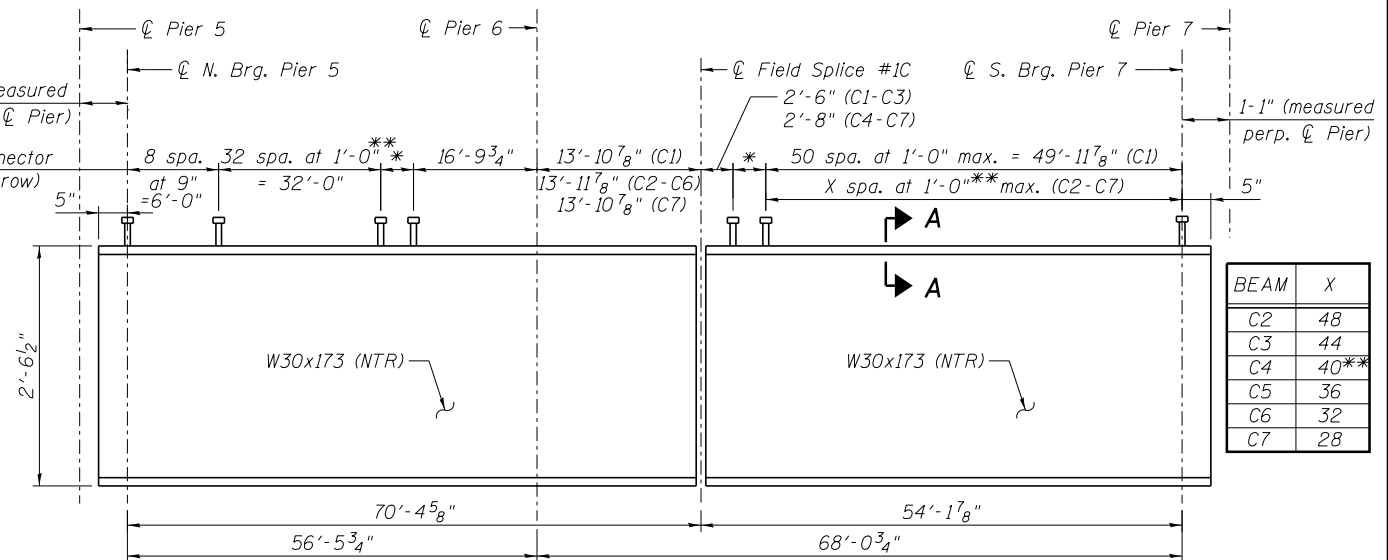
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CROSS-HEAD BEAM ELEVATION
(Looking East)

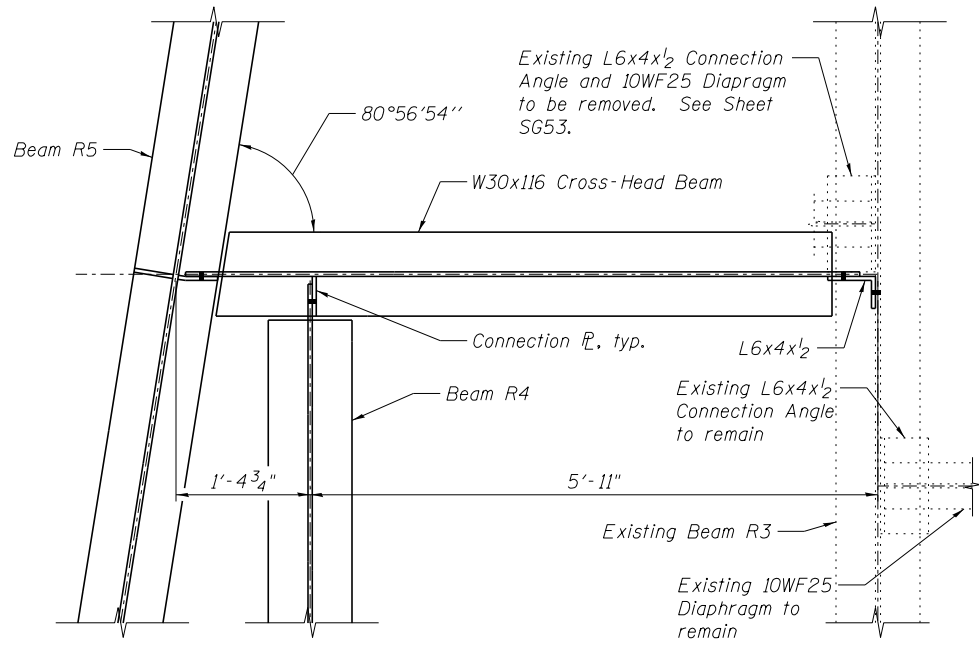


SECTION B-B

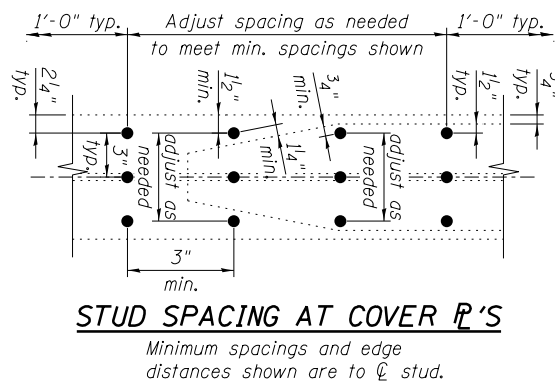


BEAM C1 ELEVATION

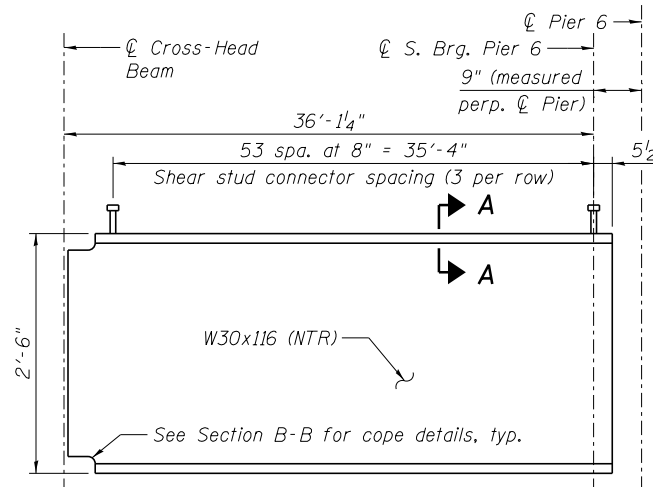
BEAM	X
C2	48
C3	44
C4	40***
C5	36
C6	32
C7	28



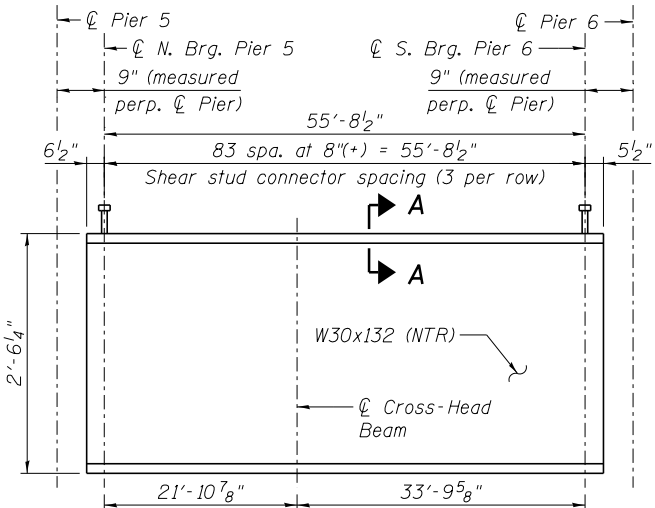
CROSS-HEAD BEAM FRAMING PLAN



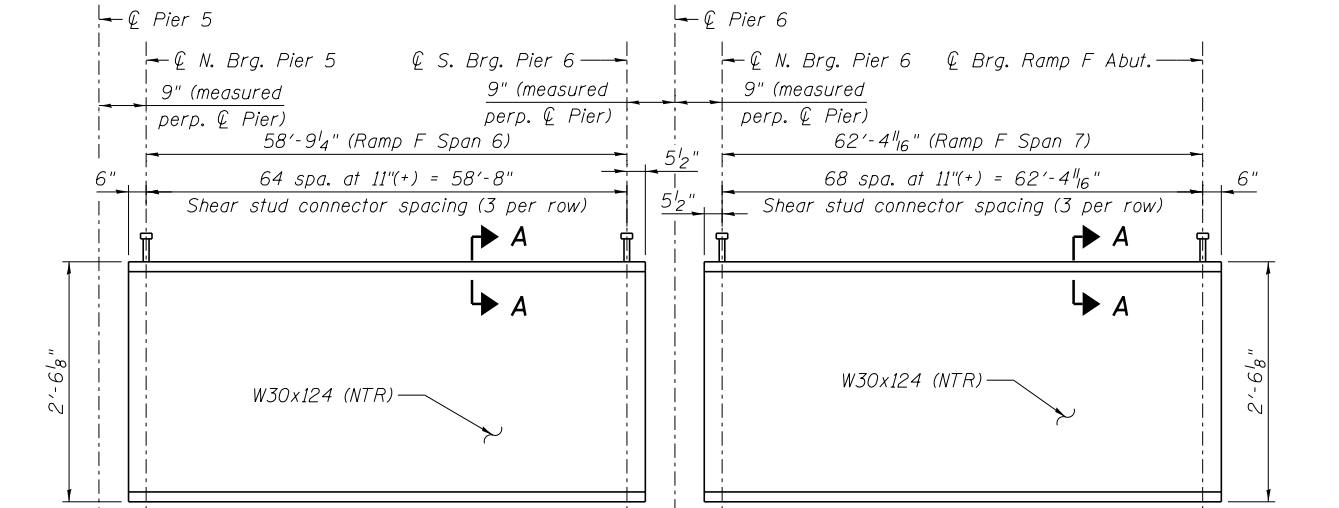
STUD SPACING AT COVER R'S



BEAM R4 ELEVATION



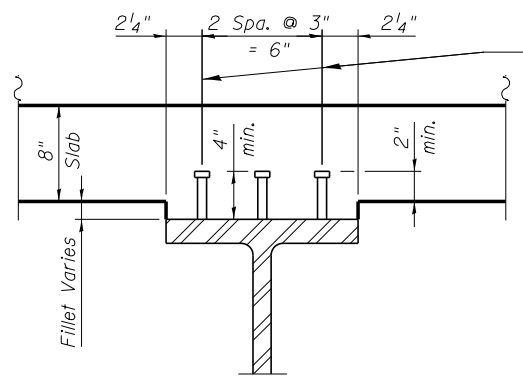
BEAM R5 ELEVATION



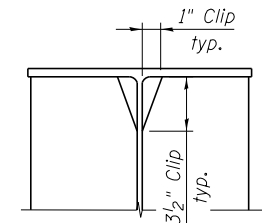
BEAM R1 ELEVATION

NOTES:

- All Rolled Beams, including Cross-Head Beam shall be AASHTO Grade 50 Steel.
- All diaphragms between beams shall be installed as steel is erected and secured with erection pins and bolts.
- Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 3/4 inch diameter, holes 5/16 inch diameter. Two hardened washers required for each set of oversized holes.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.



SECTION A-A



DETAIL 1

(Typical top & bottom flanges)

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
0160486.60J16.057.Girder_Elev_6thru7.dgn		CHECKED - AJK/LRB	REVISED -
		DRAWN - TJJ	REVISED -
		CHECKED - AJK/LRB	REVISED -

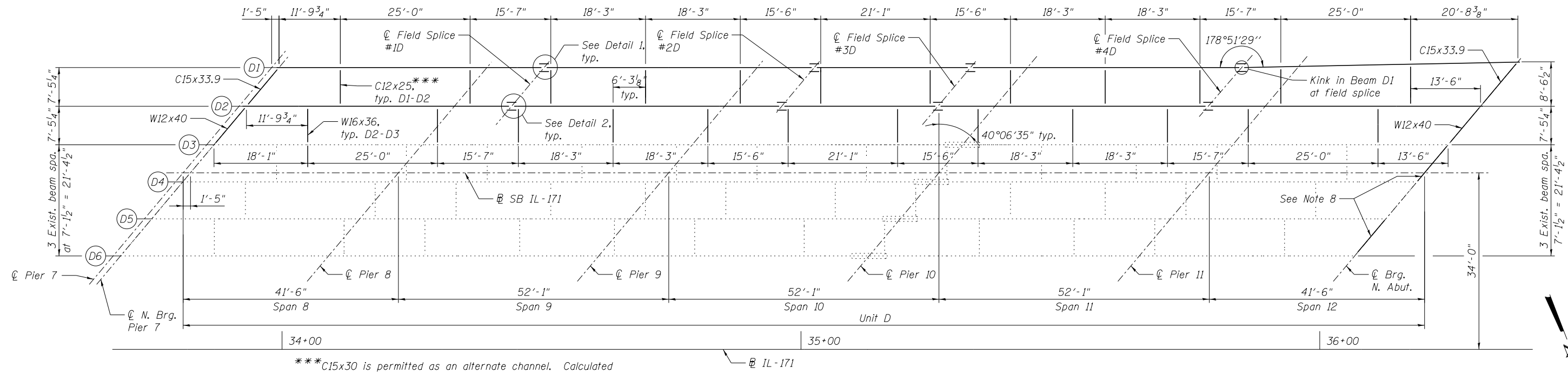
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER ELEVATIONS AND DETAILS - SPANS 6 AND 7
STRUCTURE NO. 016-0486

SHEET NO. SG57 OF SG100 SHEETS

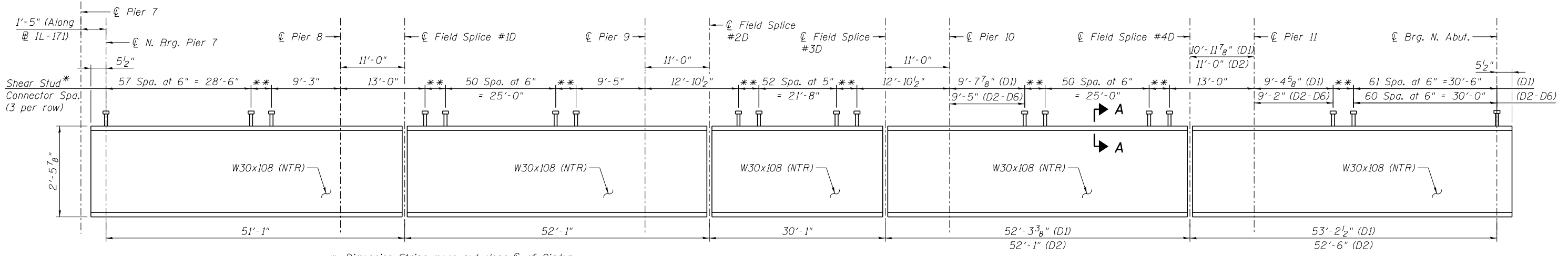
F.A.P. RTE. 373	SECTION 2013-038B-R	COUNTY COOK	TOTAL SHEETS 821	SHEET NO. 647
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	

Y:\chicago\100005\100093\Eng_Docs\Phase 1\1\SN_016_0486_0487_1st_Ave_cover_Canal\Final\Final_0486_0160486_60J16_057_Girder_Elev_6thru7.dgn 7:30:39 PM 8/6/2014



*** C15x30 is permitted as an alternate channel. Calculated weight of structural steel is based on the C15x25. If C15x30 is used, it shall be provided at no extra cost to the Department.

FRAMING PLAN (Spans 8-12)



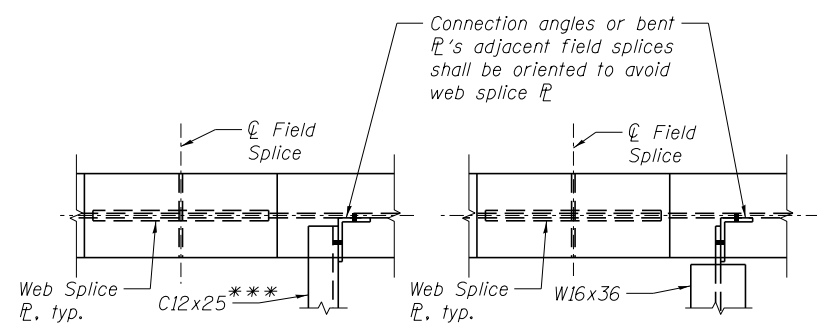
* Dimension String measured along \bar{C} of Girder
 ** 7 Spa. at 4" = 2'-4"

GIRDER D1 & D2 ELEVATION

(Shear Stud Connector spacing also applicable for existing Beams D3-D6)

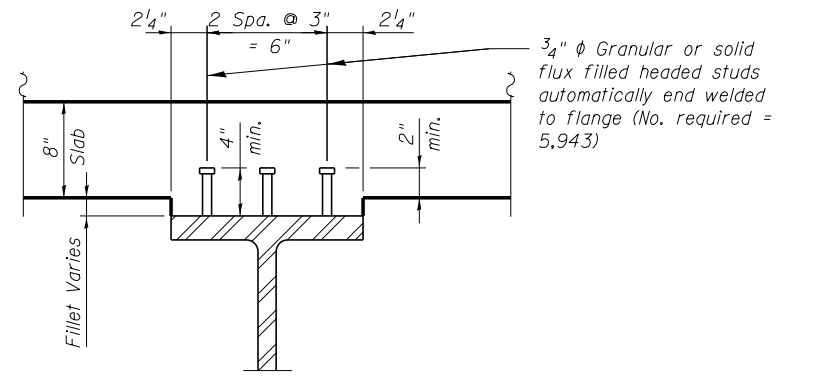
NOTES:

- Field verify location of all existing diaphragm connections on Beam D3 before fabricating proposed beams. Adjust locations of diaphragms so that connections to existing bolted angles can be made.
- Diaphragms shall be placed perpendicular to Beam D2 between Beams D1 & D2. At all support locations, diaphragms shall be placed parallel to \bar{C} Brg.
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- All Rolled Beams shall be AASHTO Grade 50 Steel.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- See sheet SG59 for diaphragm details.
- See sheet SG60 for field bolted splice details.
- See sheet SG53 for structural steel removal and repairs.



DETAIL 1

DETAIL 2



SECTION A-A

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FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
0160486.60J16.058.Framing_8thru12.dgn		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - TJJ	REVISED -
	PLOT DATE = 8/6/2014	CHECKED - AJK	REVISED -

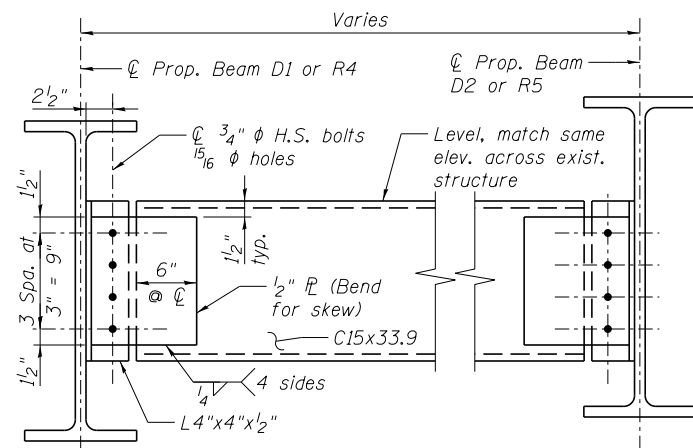
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN AND GIRDER ELEVATION SPANS 8 THRU 12
 STRUCTURE NO. 016-0486**

SHEET NO. SG58 OF SG100 SHEETS

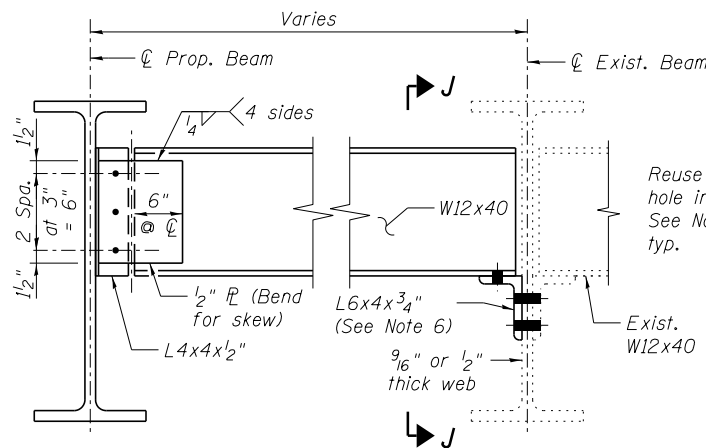
F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	648
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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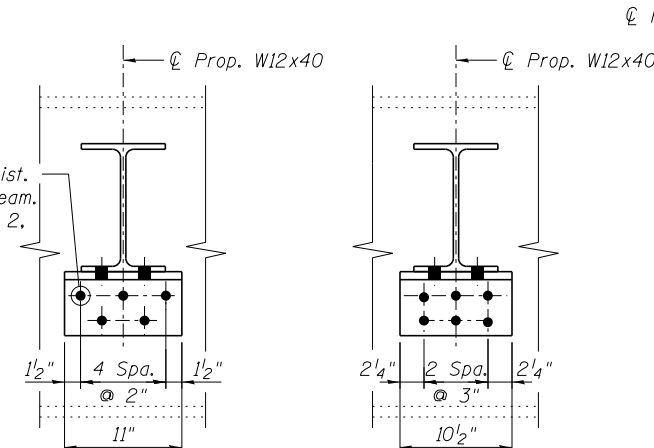
**PROPOSED END DIAPHRAGMS
BETWEEN TWO PROPOSED BEAMS**

UNIT D & RAMP F
(No. of Locations = 3)



**PROPOSED END DIAPHRAGMS
BETWEEN EXIST. & PROP. BEAMS**

UNIT D & RAMP F
(No. of Locations = 8)

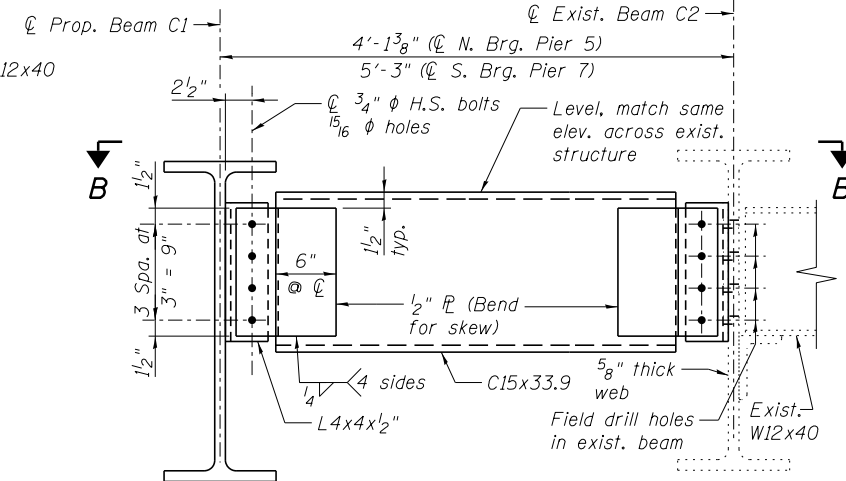


SECTION J-J

(Above detail is for diaphragm connections at Ramp F)

SECTION J-J

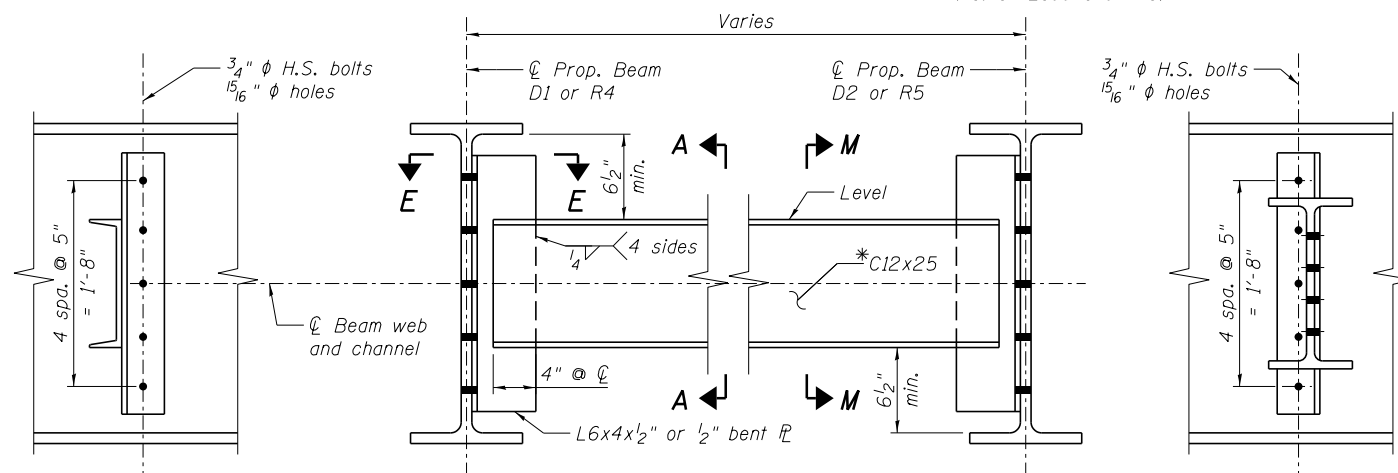
(Above detail is for diaphragm connections at Unit D)



PROPOSED END DIAPHRAGMS

UNIT C

Pier 5 Diaphragm shown looking North
Pier 7 similar
(No. of Locations = 2)



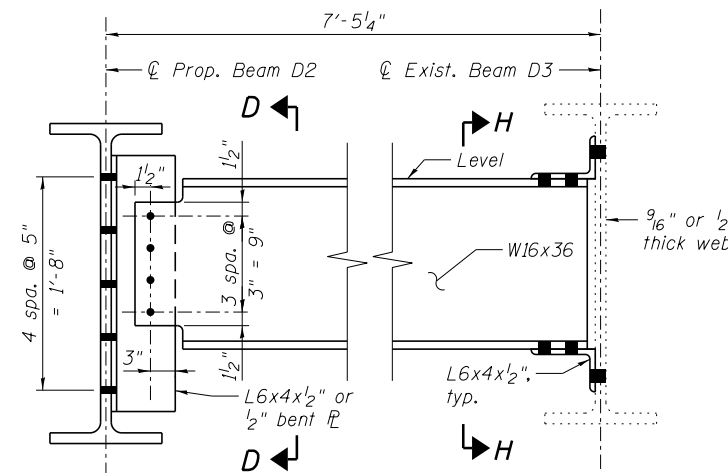
**SECTION A-A
SECTION M-M SIMILAR
SECTION N-N SIMILAR**

**PROPOSED INTERIOR DIAPHRAGMS
BETWEEN TWO PROPOSED BEAMS**

UNIT D & RAMP F

See Framing Plan for diaphragm orientation
(No. of Locations = 13)

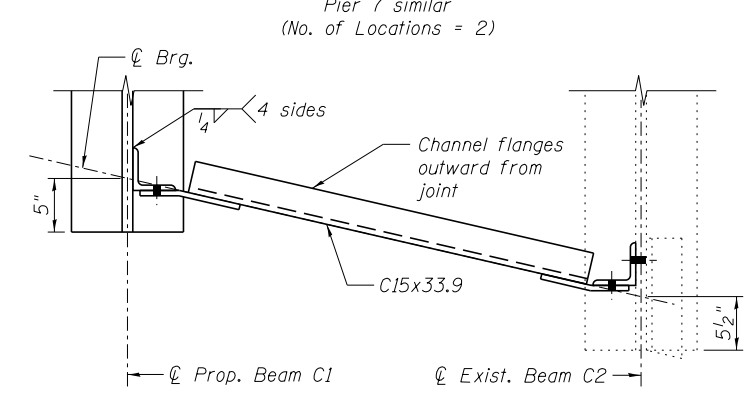
**SECTION D-D
SECTION K-K SIMILAR**



**PROPOSED INTERIOR DIAPHRAGMS
BETWEEN EXIST. & PROP. BEAMS**

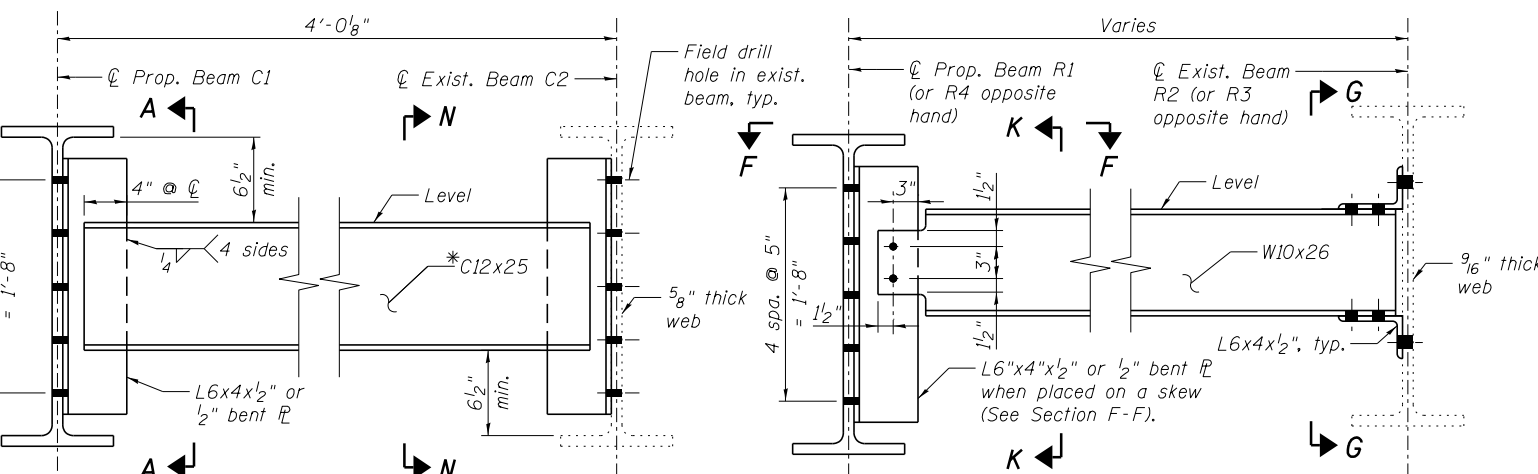
UNIT D

(No. of Locations = 12)



SECTION B-B

Pier 5 End Diaphragm shown, all other End Diaphragms similar



PROPOSED INTERIOR DIAPHRAGMS

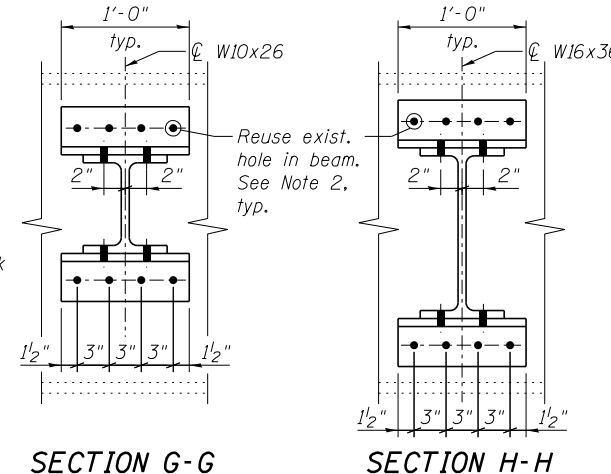
UNIT C

(No. of Locations = 5)

**PROPOSED INTERIOR DIAPHRAGMS
BETWEEN EXIST. & PROP. BEAMS**

RAMP F

(No. of Locations = 5)



SECTION G-G

SECTION H-H

*C15x30 is permitted as an alternate channel. Calculated weight of structural steel is based on the C15x25. If C15x30 is used, it shall be provided at no extra cost to the Department.

NOTES:

- Field verify all bolt hole locations and dimensions of existing connection elements to verify fit up before fabricating proposed diaphragms.
- For new structural steel elements connected to existing structural steel elements with preexisting holes, fasteners shall be Type 1, mechanically galvanized bolts. Holes shall be sunpunched or subdrilled 1/16" dia. and reamed in the field to 13/16" dia. for 3/4" dia. bolts.
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Cost of field drilling included with "Furnishing and Erecting Structural Steel".
- For framing plans, see sheets SG56 & SG58.
- Contractor shall ensure that the adjacent existing diaphragm is supported during angle replacement under proposed diaphragm. Cost included with "Furnishing and Erecting Structural Steel".

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FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
		CHECKED - LRB/AJK	REVISED -
		DRAWN - KMS	REVISED -
		CHECKED - LRB/AJK	REVISED -

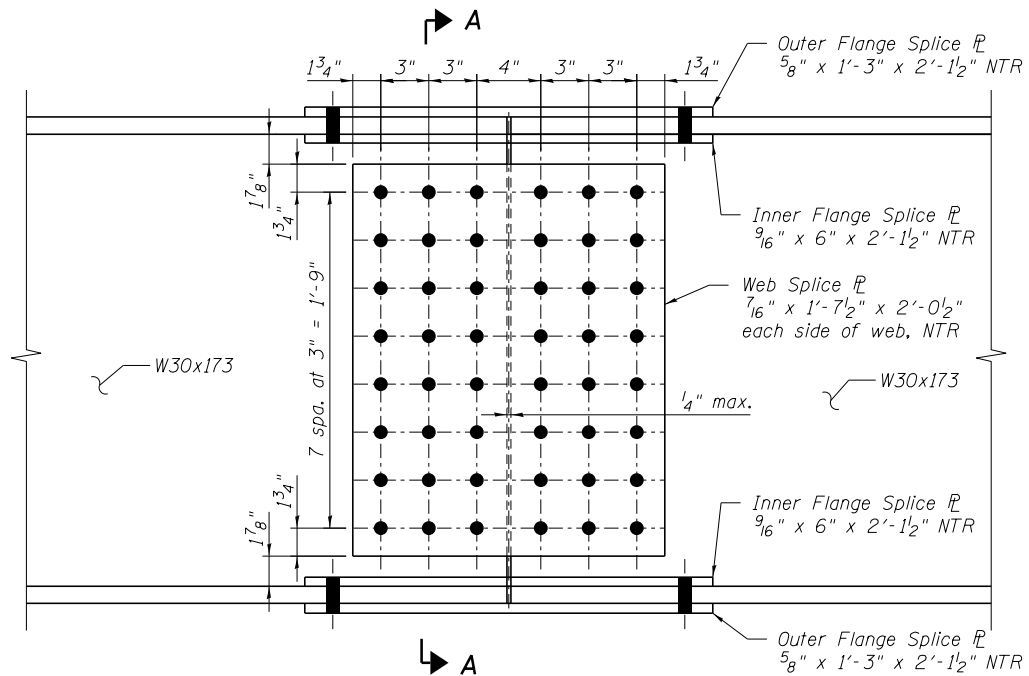
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STEEL DIAPHRAGM DETAILS SPANS 6-12
STRUCTURE NO. 016-0486**

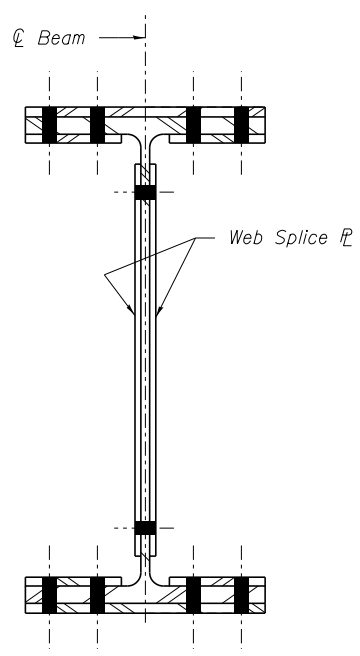
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	649
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG59 OF SG100 SHEETS

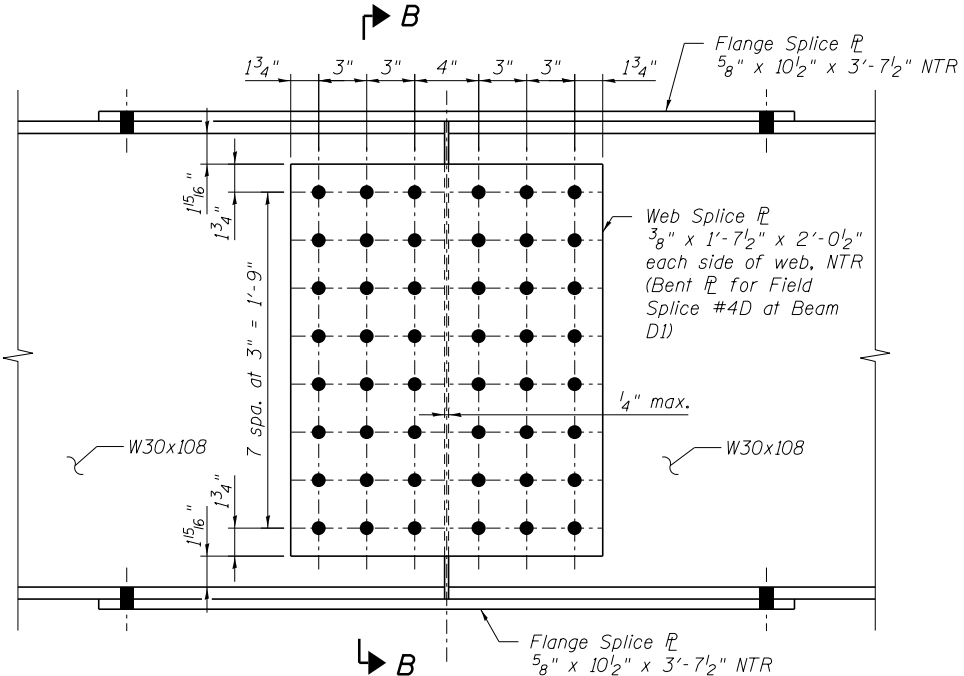
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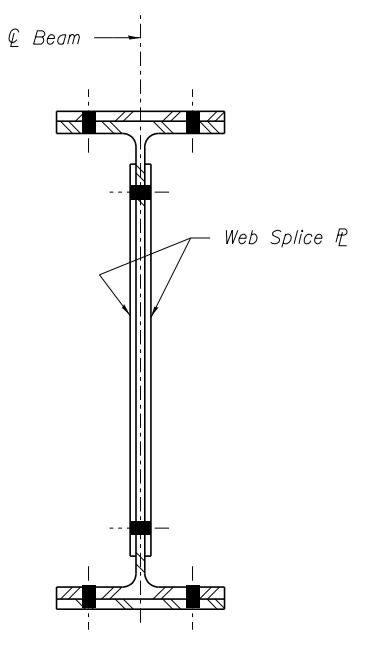
ELEVATION - FIELD SPLICE - BEAM C1
(48 Bolts per Web Splice)



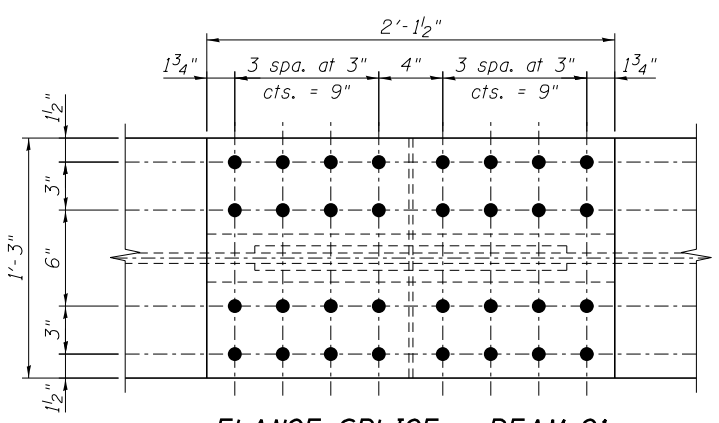
SECTION A-A



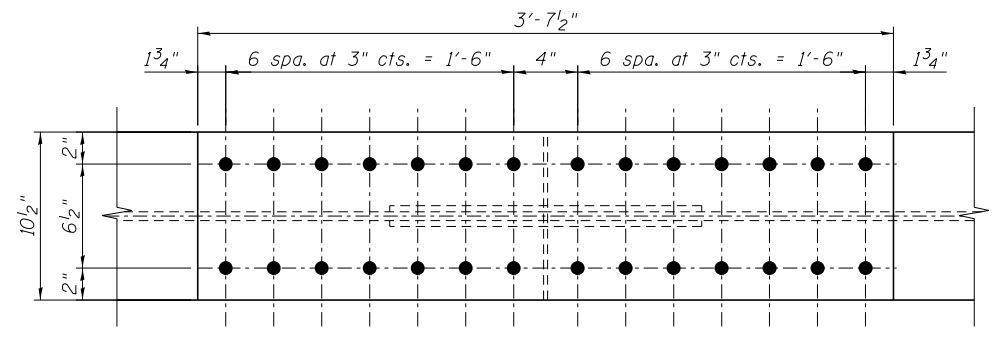
ELEVATION - FIELD SPLICE - BEAMS D1 & D2
(48 Bolts per Web Splice)



SECTION B-B



FLANGE SPLICE - BEAM C1
(Top & Bottom Flanges)
(32 Bolts per Flange Splice)



TYPICAL FLANGE SPLICE - BEAMS D1 & D2
(Top & Bottom Flanges)
(28 Bolts per Flange Splice)

TOP OF C1 BEAM ELEVATIONS

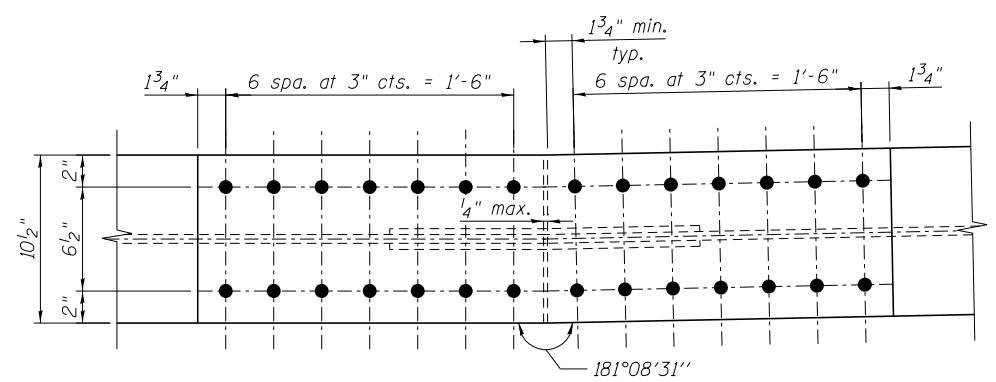
Location	Beam C1
⊙ N. Brq. Pier 5	624.07
⊙ Pier 6	623.85
⊙ Field Splice #1C	623.80
⊙ S. Brq. Pier 7	623.56

For fabricator use only.

TOP OF D1 & D2 BEAM ELEVATIONS

Location	Beam D1	Beam D2
⊙ N. Brq. Pier 7	623.54	623.72
⊙ Pier 8	623.37	623.55
⊙ Field Splice #1D	623.33	623.50
⊙ Pier 9	623.20	623.37
⊙ Field Splice #2D	623.17	623.34
⊙ Field Splice #3D	623.08	623.25
⊙ Pier 10	623.05	623.22
⊙ Field Splice #4D	622.93	623.10
⊙ Pier 11	622.89	623.07
⊙ Brq. N. Abut.	622.76	622.96

For fabricator use only.



FLANGE SPLICE - FIELD SPLICE #4D - BEAM D1
(Top & Bottom Flanges)
(28 Bolts per Flange Splice)

NOTES:

- All Splice Plates shall be AASHTO M270 Grade 50 steel.
- All Splice Bolts shall be 7/8" φ ASTM A325 High Strength with 15/16" φ holes.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
- See sheet SG56 for Spans 6-7 framing plan.
- See sheet SG58 for Spans 8-12 framing plan.

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FILE NAME = 0160486.60J16.060.Splice.Details.dgn	USER NAME = jsurber	DESIGNED - TJJ	REVISIONS -
		CHECKED - AJK/LRB	REVISIONS -
		DRAWN - TJJ	REVISIONS -
		CHECKED - AJK/LRB	REVISIONS -
			REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER SPLICE DETAILS
STRUCTURE NO. 016-0486

SHEET NO. SG60 OF SG100 SHEETS

F.A.P. R.T.E. 373	SECTION 2013-038B-R	COUNTY COOK	TOTAL SHEETS 821	SHEET NO. 650
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	

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UNIT A GIRDER A4

EXISTING INTERIOR GIRDER MOMENT TABLE				
		0.4 Span 1	Pier 1	0.6 Span 2
I_s	(in ⁴)	5,900	7,769	5,900
$I_c(n)$	(in ⁴)	16,206	7,769	16,206
$I_c(3n)$	(in ⁴)	12,094	----	12,094
S_s	(in ³)	359	462	359
$S_c(n)$	(in ³)	533	----	533
$S_c(3n)$	(in ³)	484	----	484
Z	(in ³)	----	----	----
ϕ	(k/')	0.854	1.009	0.854
Mϕ	('k)	153.5	318.6	142.9
sϕ	(k/')	0.130	----	0.130
M _s ϕ	('k)	26.5	----	24.9
M _L	('k)	348.4	185.6	334.6
M _I	('k)	99.0	52.9	95.6
$\bar{S}_3 [M_L + I]$	('k)	746	398	717
M _a	('k)	1203.2	931.0	1150.1
M _u	('k)	2467.6	----	2467.6
f _s ϕ non-comp	(ksi)	5.1	8.3	4.8
f _s ϕ (comp)	(ksi)	0.7	----	0.6
f _s $\bar{S}_3 [M_L + M_I]$	(ksi)	16.8	10.3	16.1
f _s (Overload)	(ksi)	22.6	18.6	21.5
f _s (Total)	(ksi)	----	24.2	----
VR	(k)	56.9	----	56.4

INTERIOR GIRDER REACTION TABLE				
		S. Abut	Pier 1	Pier 2
Rϕ	(k)	19.2	62.5	18.6
R _L	(k)	41.0	47.6	40.7
R _I	(k)	11.6	10.5	11.6
R _{Total}	(k)	71.9	120.7	71.0

* Compact section
 ** Braced non-compact and partially braced section

UNIT B GIRDER B4

EXISTING INTERIOR GIRDER MOMENT TABLE						
		0.4 Span 3	Pier 3	0.5 Span 4	Pier 4	0.6 Span 5
I_s	(in ⁴)	14,156	109,549	74,921	109,549	14,156
$I_c(n)$	(in ⁴)	39,307	109,549	159,567	109,549	39,307
$I_c(3n)$	(in ⁴)	29,855	----	117,321	----	29,855
S_s	(in ³)	651	2533	2274	2533	651
$S_c(n)$	(in ³)	888	----	2862	----	888
$S_c(3n)$	(in ³)	831	----	2642	----	831
Z	(in ³)	----	----	----	----	----
ϕ	(k/')	0.937	1.310	1.137	1.310	0.937
Mϕ	('k)	221.1	2526.4	1903.1	2526.4	221.1
sϕ	(k/')	0.130	----	0.130	----	0.130
M _s ϕ	('k)	50.1	----	237.7	----	50.1
M _L	('k)	784.0	1173.0	1625.9	1173.0	784.0
M _I	('k)	175.6	224.9	272.3	224.9	175.6
$\bar{S}_3 [M_L + I]$	('k)	1599	2330	3164	2330	1599
M _a	('k)	2431.7	6312.9	6895.9	6312.9	2431.7
M _u	('k)	3686.3	----	10518.2	----	3686.3
f _s ϕ non-comp	(ksi)	4.1	12.0	10.0	12.0	4.1
f _s ϕ (comp)	(ksi)	0.7	----	1.1	----	0.7
f _s $\bar{S}_3 [M_L + M_I]$	(ksi)	21.6	11.0	13.3	11.0	21.6
f _s (Overload)	(ksi)	26.4	23.0	24.4	23.0	26.4
f _s (Total)	(ksi)	----	29.9	----	29.9	----
VR	(k)	67.1	----	57.8	----	67.1

INTERIOR GIRDER REACTION TABLE					
		Pier 2	Pier 3	Pier 4	Pier 5
Rϕ	(k)	28.3	190.4	190.4	28.3
R _L	(k)	49.2	94.8	94.8	49.2
R _I	(k)	11.0	12.0	12.0	11.0
R _{Total}	(k)	88.5	297.2	297.2	88.5

* Compact section
 ** Braced non-compact and partially braced section

UNIT C GIRDER C3

EXISTING INTERIOR GIRDER MOMENT TABLE				
		0.4 Span 6	Pier 6	0.6 Span 7
I_s	(in ⁴)	8,230	8,230	8,230
$I_c(n)$	(in ⁴)	19,352	8,230	19,352
$I_c(3n)$	(in ⁴)	14,149	----	14,149
S_s	(in ³)	541	541	541
$S_c(n)$	(in ³)	739	----	739
$S_c(3n)$	(in ³)	670	----	670
Z	(in ³)	----	----	----
ϕ	(k/')	0.862	1.010	0.862
Mϕ	('k)	180.1	429.5	243.8
sϕ	(k/')	0.148	----	0.148
M _s ϕ	('k)	34.7	----	45.6
M _L	('k)	367.6	214.0	410.9
M _I	('k)	101.3	58.1	110.0
$\bar{S}_3 [M_L + I]$	('k)	781	454	868
M _a	('k)	1295.0	1148.0	1505.1
M _u	('k)	2865.4	----	2865.4
f _s ϕ non-comp	(ksi)	4.0	9.5	5.4
f _s ϕ (comp)	(ksi)	0.6	----	0.8
f _s $\bar{S}_3 [M_L + M_I]$	(ksi)	12.7	10.1	14.1
f _s (Overload)	(ksi)	17.3	19.6	20.3
f _s (Total)	(ksi)	----	25.4	----
VR	(k)	53.3	----	52.8

INTERIOR GIRDER REACTION TABLE				
		Pier 5	Pier 6	Pier 7
Rϕ	(k)	21.3	74.2	24.6
R _L	(k)	38.3	44.2	38.9
R _I	(k)	10.5	9.1	10.4
R _{Total}	(k)	70.1	127.5	73.9

* Compact section
 ** Braced non-compact and partially braced section

RAMP F SPAN 6 - GIRDER R2

EXISTING INTERIOR GIRDER MOMENT TABLE		
		0.5 Span 6F
I_s	(in ⁴)	6,524
$I_c(n)$	(in ⁴)	20,129
$I_c(3n)$	(in ⁴)	14,338
S_s	(in ³)	507
$S_c(n)$	(in ³)	747
$S_c(3n)$	(in ³)	681
Z	(in ³)	----
ϕ	(k/')	0.907
Mϕ	('k)	387.9
sϕ	(k/')	0.104
M _s ϕ	('k)	44.6
M _L	('k)	499.8
M _I	('k)	136.1
$\bar{S}_3 [M_L + I]$	('k)	1060
M _a	('k)	1940.0
M _u	('k)	2881.8
f _s ϕ non-comp	(ksi)	9.2
f _s ϕ (comp)	(ksi)	0.8
f _s $\bar{S}_3 [M_L + M_I]$	(ksi)	17.0
f _s (Overload)	(ksi)	27.0
f _s (Total)	(ksi)	----
VR	(k)	56.4

INTERIOR GIRDER REACTION TABLE			
		Pier 5	Pier 6
Rϕ	(k)	29.8	29.8
R _L	(k)	43.9	43.9
R _I	(k)	12.0	12.0
R _{Total}	(k)	85.6	85.6

* Compact section
 ** Braced non-compact and partially braced section

UNIT D - GIRDER D4

EXISTING INTERIOR GIRDER MOMENT TABLE										
		0.4 Span 8	Pier 8	0.5 Span 9	Pier 9	0.5 Span 10	Pier 10	0.5 Span 11	Pier 11	0.6 Span 12
I_s	(in ⁴)	4,470	4,470	3,990	5,516	3,990	5,516	3,990	4,470	4,470
$I_c(n)$	(in ⁴)	12,866	4,470	11,872	5,516	11,872	5,516	11,872	4,470	12,866
$I_c(3n)$	(in ⁴)	9,635	----	8,937	----	8,937	----	8,937	----	9,635
S_s	(in ³)	300	300	269	362	269	362	269	300	300
$S_c(n)$	(in ³)	456	----	417	----	417	----	417	----	456
$S_c(3n)$	(in ³)	414	----	378	----	378	----	378	----	414
Z	(in ³)	----	----	----	----	----	----	----	----	----
ϕ	(k/')	0.853	1.026	0.843	1.042	0.843	1.042	0.843	1.026	0.853
Mϕ	('k)	91.8	212.5	95.4	236.5	86.5	234.6	93.4	218.7	101.5
sϕ	(k/')	0.173	----	0.173	----	0.173	----	0.173	----	0.173
M _s ϕ	('k)	21.0	----	25.5	----	23.0	----	25.0	----	23.1
M _L	('k)	252.1	150.0	299.4	176.6	298.4	175.8	295.4	151.2	266.1
M _I	('k)	75.6	43.9	84.5	49.9	84.3	49.7	83.4	44.0	79.8
$\bar{S}_3 [M_L + I]$	('k)	546	323	640	378	638	376	631	325	577
M _a	('k)	856.7	696.4	989.0	798.3	971.5	793.4	974.7	707.4	911.4
M _u	('k)	1270.3	----	1166.3	----	1172.4	----	1166.8	----	1266.8
f _s ϕ non-comp	(ksi)	3.7	8.5	4.3	7.8	3.9	7.8	4.2	8.7	4.1
f _s ϕ (comp)	(ksi)	0.6	----	0.8	----	0.7	----	0.8	----	0.7
f _s $\bar{S}_3 [M_L + M_I]$	(ksi)	14.4	12.9	18.4	12.5	18.4	12.5	18.2	13.0	15.2
f _s (Overload)	(ksi)	18.7	21.4	23.5	20.3	23.0	20.2	23.1	21.8	19.9
f _s (Total)	(ksi)	----	27.9	----	26.4	----	26.3	----	28.3	----
VR	(k)	55.9	----	43.9	----	44.4	----	43.9	----	56.1

INTERIOR GIRDER REACTION TABLE							
		Pier 7	Pier 8	Pier 9	Pier 10	Pier 11	N. Abut.
Rϕ	(k)	15.7	52.0	53.7	53.5	52.8	16.4
R _L	(k)	39.3	47.4	47.7	47.3	47.4	39.7
R _I	(k)	11.8	10.9	10.4	10.3	10.8	11.9
R _{Total}	(k)	66.8	110.3	111.8	111.1	111.0	68.1

* Compact section
 ** Braced non-compact and partially braced section

RAMP F SPAN 7 - GIRDER R2

EXISTING INTERIOR GIRDER MOMENT TABLE		
		0.5 Span 7F
I_s	(in ⁴)	6,524
$I_c(n)$	(in ⁴)	19,447
$I_c(3n)$	(in ⁴)	13,702
S_s	(in ³)	507
$S_c(n)$	(in ³)	740
$S_c(3n)$	(in ³)	672
Z	(in ³)	----
ϕ	(k/')	0.817
Mϕ	('k)	397.9
sϕ	(k/')	0.208
M _s ϕ	('k)	101.2
M _L	('k)	477.7
M _I	('k)	127.4
$\bar{S}_3 [M_L + I]$	('k)	1009
M _a	('k)	1959.9
M _u	('k)	2840.5
f _s ϕ non-comp	(ksi)	9.4
f _s ϕ (comp)	(ksi)	1.8
f _s $\bar{S}_3 [M_L + M_I]$	(ksi)	16.4
f _s (Overload)	(ksi)	27.6
f _s (Total)	(ksi)	----
VR	(k)	49.8

INTERIOR GIRDER REACTION TABLE			
		Pier 6	Pier 7
Rϕ	(k)	32.2	32.2
R _L	(k)	38.9	38.9
R _I	(k)	10.4	10.4
R _{Total}	(k)	81.4	81.4

* Compact section
 ** Braced non-compact and partially braced section

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) 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 and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
 Z: Plastic Section Modulus of the steel section in non-composite areas (in³).
 ϕ: Un-factored non-composite dead load (kips/ft.).
 Mϕ: Un-factored moment due to non-composite dead load (kip-ft.).
 sϕ: Un-factored long-term composite (superimposed) dead load (kips/ft.).
 M_sϕ: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_L: Un-factored live load moment (kip-ft.).
 M_I: Un-factored moment due to impact (kip-ft.).
 M_a: Factored design moment (kip-ft.).
 1.3 [Mϕ + M_sϕ + $\frac{5}{8}$ (M_L + M_I)]
 M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 Mϕ + M_sϕ + $\frac{5}{8}$ (M_L + M_I)
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 1.3 [Mϕ + M_sϕ + $\frac{5}{8}$ (M_L + M_I)]
 VR: Maximum \bar{L} + impact shear range within the composite portion of the span for stud shear connector design (kips).



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 312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - TJJ	REVISED -
0160486.60J16.061.momtbls.dgn		CHECKED - DTS	REVISED -
	PLOT DATE = 8/6/2014		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT AND REACTION TABLES (1 OF 2)
 STRUCTURE NO. 016-0486

F.A.P. RT.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-0388-R	COOK	821	651
			CONTRACT NO. 60J16	
ILLINOIS FED. AID PROJECT				

UNIT D - GIRDER D2

EXISTING INTERIOR GIRDER MOMENT TABLE

	0.4 Span 8	Pier 8	0.5 Span 9	Pier 9	0.5 Span 10	Pier 10	0.5 Span 11	Pier 11	0.6 Span 12
I_s	(in ⁴) 4,470	4,470	4,470	4,470	4,470	4,470	4,470	4,470	4,470
$I_c(n)$	(in ⁴) 12,984	4,470	12,984	4,470	12,984	4,470	12,984	4,470	13,120
$I_c(3n)$	(in ⁴) 9,761	----	9,761	----	9,761	----	9,761	----	9,910
S_s	(in ³) 300	300	300	300	300	300	300	300	300
$S_c(n)$	(in ³) 457	----	457	----	457	----	457	----	459
$S_c(3n)$	(in ³) 415	----	415	----	415	----	415	----	418
Z	(in ³) ----	----	----	----	----	----	----	----	----
ρ	(k/')	0.884	1.057	0.884	1.057	0.884	1.057	0.884	1.070
$M \rho$	(k)	95.4	218.0	105.9	233.9	100.4	232.2	104.2	229.8
$s \rho$	(k/')	0.173	----	0.173	----	0.173	----	0.173	----
$M_s \rho$	(k)	21.2	----	26.7	----	25.1	----	26.6	----
$M \ell$	(k)	260.2	151.8	321.2	169.7	320.8	170.3	319.9	158.5
M_i	(k)	78.0	44.4	90.7	47.9	90.6	48.1	90.2	46.1
$\rho_3 [M \ell + i]$	(k)	564	327	687	363	686	364	684	341
M_o	(k)	884.4	708.6	1064.9	775.5	1054.5	775.1	1058.6	742.0
M_u	(k)	1768.2	----	1777.6	----	1782.7	----	1778.7	----
$f_s \rho$ non-comp	(ksi)	3.8	8.7	4.2	9.4	4.0	9.3	4.2	9.2
$f_s \rho$ (comp)	(ksi)	0.6	----	0.8	----	0.7	----	0.8	----
$f_s \rho_3 [M \ell + M_i]$	(ksi)	14.8	13.1	18.0	14.5	18.0	14.6	17.9	13.6
f_s (Overload)	(ksi)	19.2	21.8	23.0	23.9	22.7	23.8	22.9	21.4
f_s (Total)	(ksi)	----	28.3	----	31.0	----	31.0	----	29.7
VR	(k)	59.3	----	62.0	----	46.0	----	62.9	----

INTERIOR GIRDER REACTION TABLE

	Pier 7	Pier 8	Pier 9	Pier 10	Pier 11	N. Abut.
$R \rho$	(k) 16.1	53.9	55.4	55.2	55.7	17.7
$R \ell$	(k) 40.8	49.1	49.3	49.4	49.5	41.9
R_i	(k) 12.2	11.3	10.8	10.8	11.3	12.6
R_{Total}	(k) 69.2	114.3	115.5	115.3	116.5	72.2

* Compact section
 ** Braced non-compact and partially braced section

RAMP F SPAN 6 - GIRDER R4

EXISTING INTERIOR GIRDER MOMENT TABLE

	0.5 Span 7F	
I_s	(in ⁴) 4,930	
$I_c(n)$	(in ⁴) 12,767	
$I_c(3n)$	(in ⁴) 9,275	
S_s	(in ³) 329	
$S_c(n)$	(in ³) 480	
$S_c(3n)$	(in ³) 431	
Z	(in ³) ----	
ρ	(k/')	0.655
$M \rho$	(k)	104.7
$s \rho$	(k/')	0.104
$M_s \rho$	(k)	16.6
$M \ell$	(k)	201.1
M_i	(k)	60.3
$\rho_3 [M \ell + i]$	(k)	436
M_o	(k)	724.1
M_u	(k)	1834.6
$f_s \rho$ non-comp	(ksi)	3.8
$f_s \rho$ (comp)	(ksi)	0.5
$f_s \rho_3 [M \ell + M_i]$	(ksi)	10.9
f_s (Overload)	(ksi)	15.2
f_s (Total)	(ksi)	----
VR	(k)	42.0

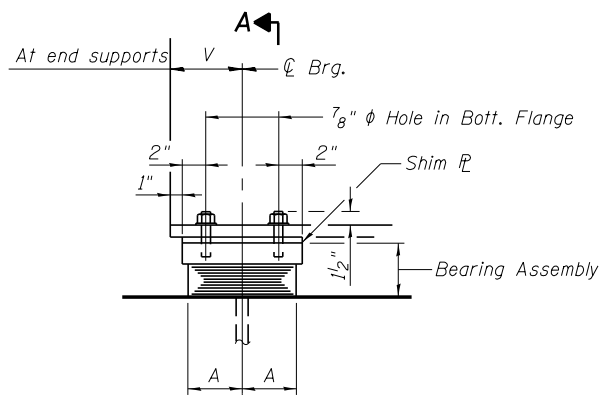
* Compact section
 ** Braced non-compact and partially braced section

INTERIOR GIRDER REACTION TABLE

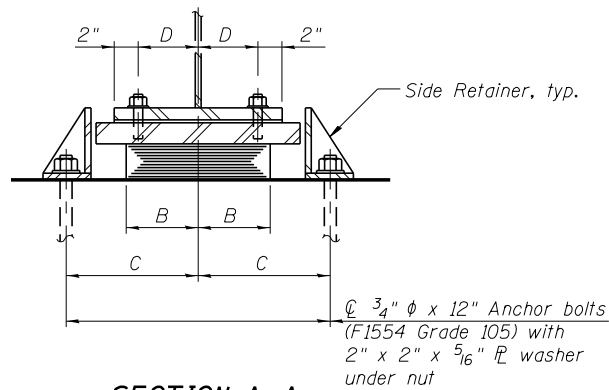
	Pier 6
$R \rho$	(k) 14.8
$R \ell$	(k) 32.8
R_i	(k) 9.8
R_{Total}	(k) 57.4

* Compact section
 ** Braced non-compact and partially braced section

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) 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 and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
 Z : Plastic Section Modulus of the steel section in non-composite areas (in³).
 ρ : Un-factored non-composite dead load (kips/ft.).
 $M \rho$: Un-factored moment due to non-composite dead load (kip-ft.).
 $s \rho$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
 $M_s \rho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 $M \ell$: Un-factored live load moment (kip-ft.).
 M_i : Un-factored moment due to impact (kip-ft.).
 M_o : Factored design moment (kip-ft.).
 $1.3 [M \rho + M_s \rho + \frac{5}{3} (M \ell + M_i)]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M \rho + M_s \rho + \frac{5}{3} (M \ell + M_i)$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M \rho + M_s \rho + \frac{5}{3} (M \ell + M_i)]$
 VR: Maximum ℓ + impact shear range within the composite portion of the span for stud shear connector design (kips).

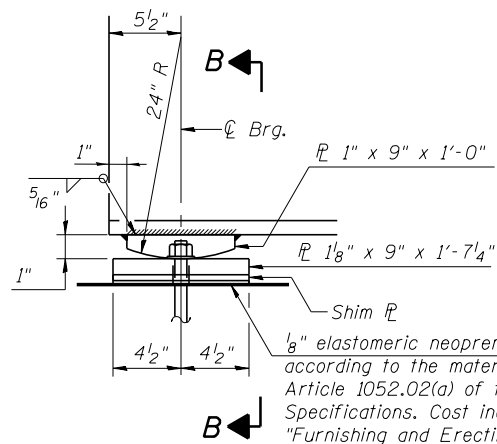


ELEVATION



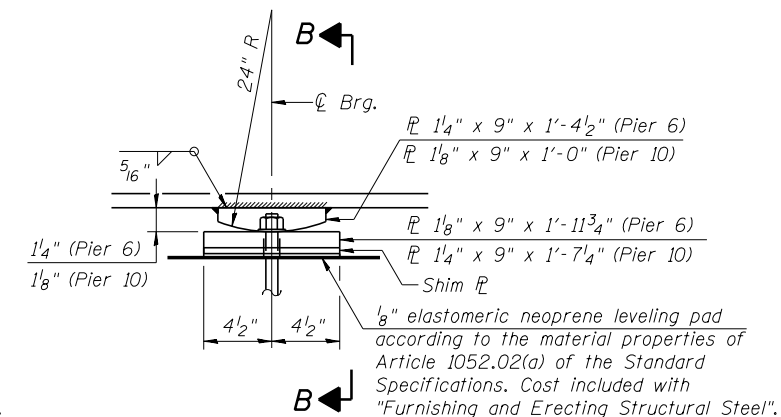
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.
(11 required, see table)



ELEVATION - END SUPPORT

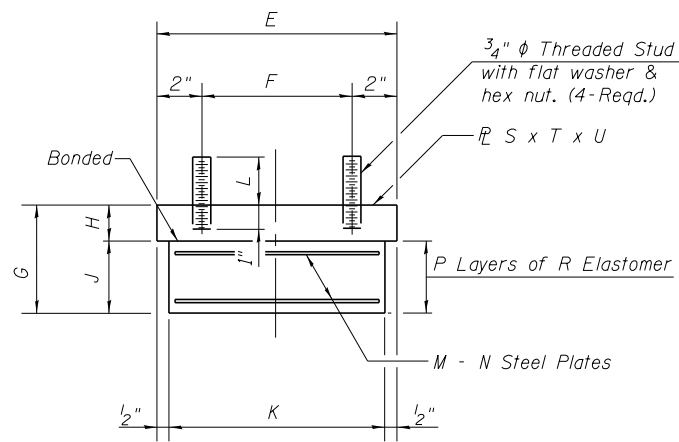
(1 required at Ramp F Beam R1, S Brg. Pier 6, Span 6)
(1 required at Ramp F Beam R4, S Brg. Pier 6, Span 6)
(1 required at Ramp F Beam R5, S Brg. Pier 6, Span 6)
(1 required at Ramp F Beam R1, N Brg. Pier 6, Span 7)



ELEVATION - CONTINUOUS SUPPORT

(1 required at Pier 6, Beam C1)
(1 required at Pier 10, Beam D1)
(1 required at Pier 10, Beam D2)

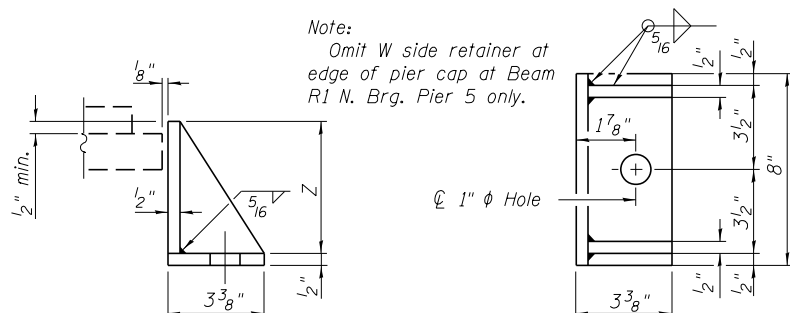
FIXED BEARING



BEARING ASSEMBLY

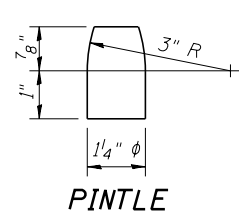
Note:
Shim plates shall not be placed under Bearing Assembly.

Note:
Omit W side retainer at edge of pier cap at Beam R1 N. Brg. Pier 5 only.

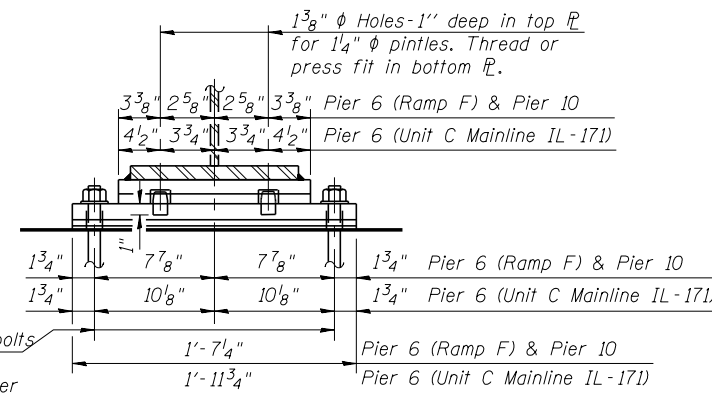


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



PINTLE



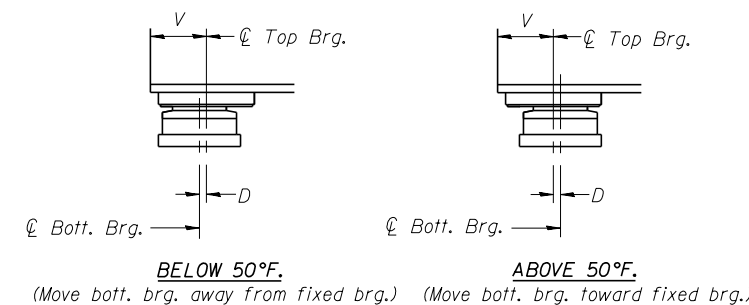
SECTION B-B

TYPE I ELASTOMERIC EXPANSION BEARINGS

Location	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	Z
Beams D1 & D2 Pier 8	5"	7"	10"	3 1/4"	11"	7"	5 1/16"	17 7/8"	3 3/16"	10"	2 3/4"	6"	1 1/8"	7"	7 1/16"	17 7/8"	11"	1'-4"	--	6"
Beams D1 & D2 Piers 9 & 11	5 1/2"	8"	11"	3 1/4"	12"	8"	4 1/4"	17 7/8"	2 3/8"	11"	2 3/4"	3"	1 1/8"	4"	1/2"	17 7/8"	12"	1'-6"	--	4 1/2"
Beam C1 N. Brg. Pier 5	3 1/2"	6"	9 1/2"	5 1/2"	8"	4"	3 3/4"	1 1/2"	1 3/4"	7"	2 7/8"	3"	3/32"	4"	3/8"	1 1/2"	8"	1'-3"	5"	3 1/2"
Beam C1 S. Brg. Pier 7	3 1/2"	6"	9 1/2"	5 1/2"	8"	4"	3 3/4"	1 1/2"	2 1/4"	7"	2 7/8"	4"	3/32"	5"	3/8"	1 1/2"	8"	1'-3"	5"	4"
Beam R1 N. Brg. Pier 5 & Ramp F Abut.	4 1/2"	6"	9"	3 1/4"	10"	6"	3 3/4"	1 1/2"	2 1/4"	9"	2 3/4"	4"	3/32"	5"	3/8"	1 1/2"	10"	1'-2"	6"	4"
Beam R5 N. Brg. Pier 5	5"	7"	10"	3 1/4"	11"	7"	4 5/16"	15 7/8"	2 1/16"	10"	2 3/4"	4"	1 1/8"	5"	7/16"	15 7/8"	11"	1'-4"	6 1/2"	4 5/8"

BILL OF MATERIAL

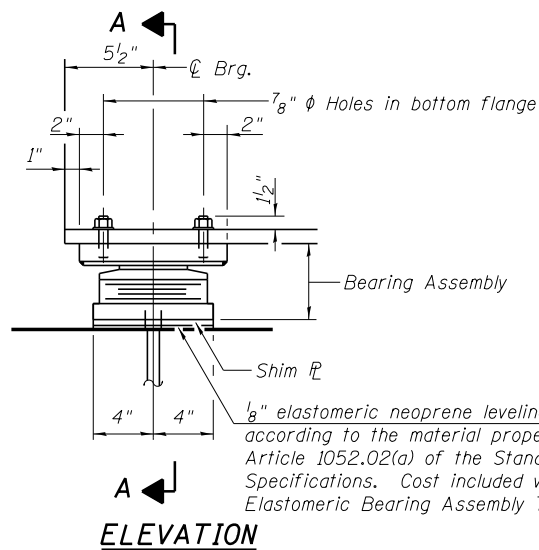
Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	11
Anchor Bolts, 3/4"	Each	35



BELOW 50°F. (Move bott. brg. away from fixed brg.) ABOVE 50°F. (Move bott. brg. toward fixed brg.)

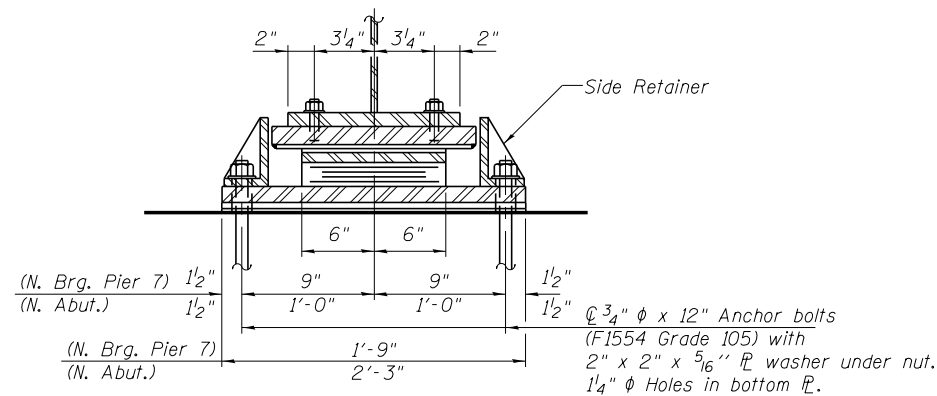
SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



ELEVATION

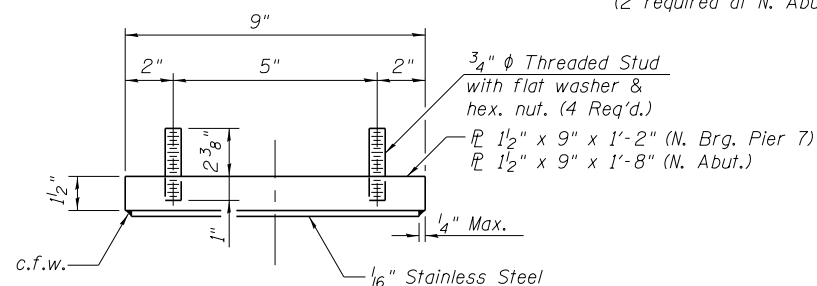
1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Elastomeric Bearing Assembly Type II.



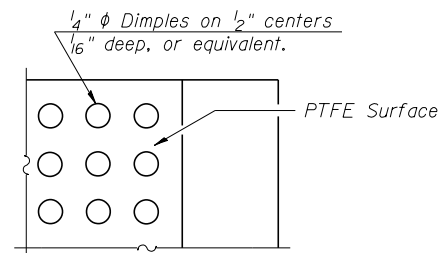
SECTION A-A

TYPE II ELASTOMERIC EXP. BRG.

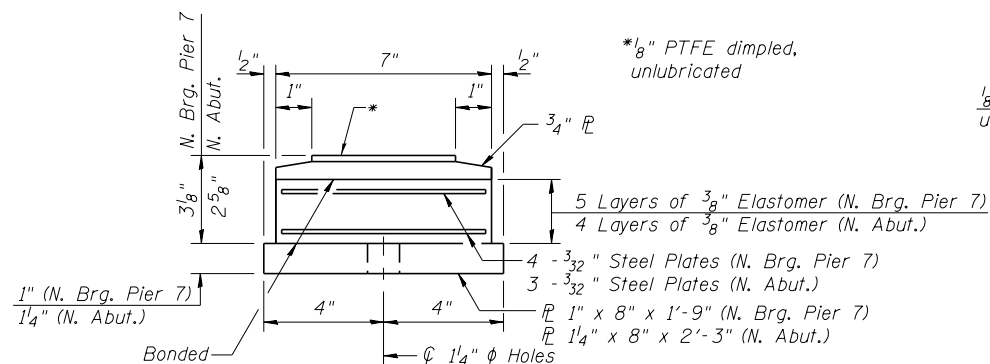
(2 required at N. Brg. Pier 7)
(2 required at N. Abut.)



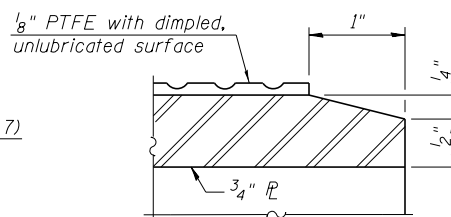
TOP BEARING ASSEMBLY



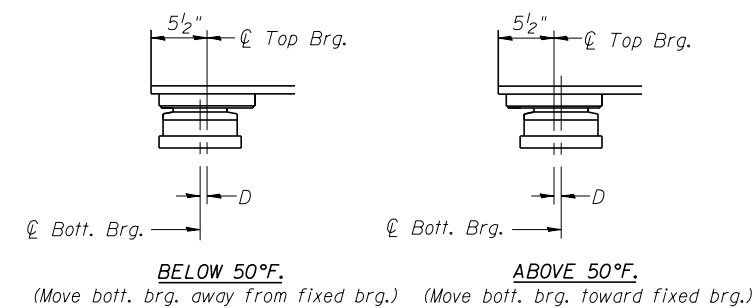
PLAN-PTFE SURFACE



BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE

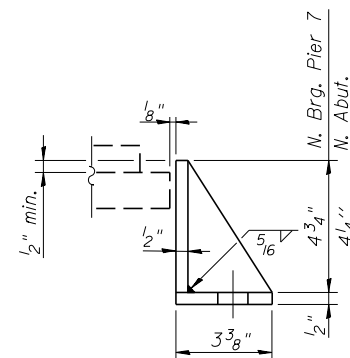


SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

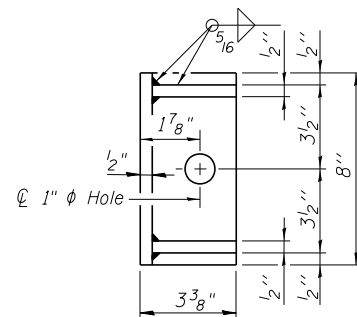
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	4
Anchor Bolts, 3/4"	Each	8



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



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I-2E-1

I-27-12

FILE NAME = 0160486.60J16.064.brgdet11.dgn

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PLOT DATE = 8/6/2014
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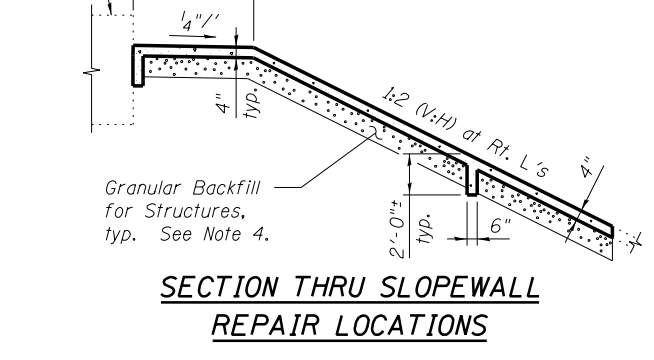
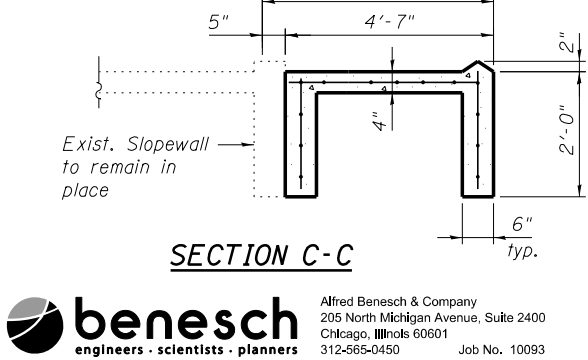
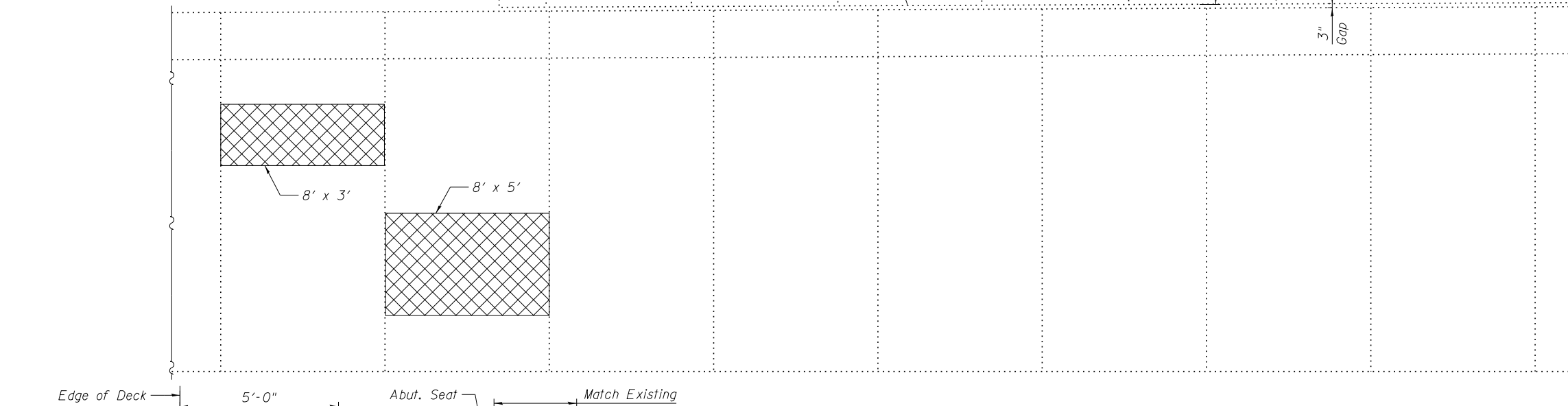
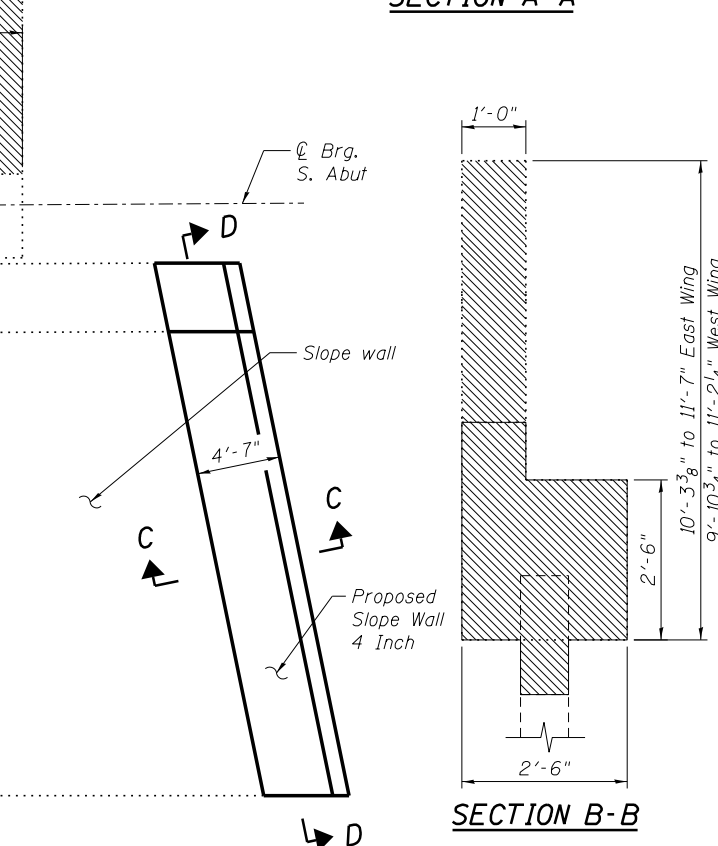
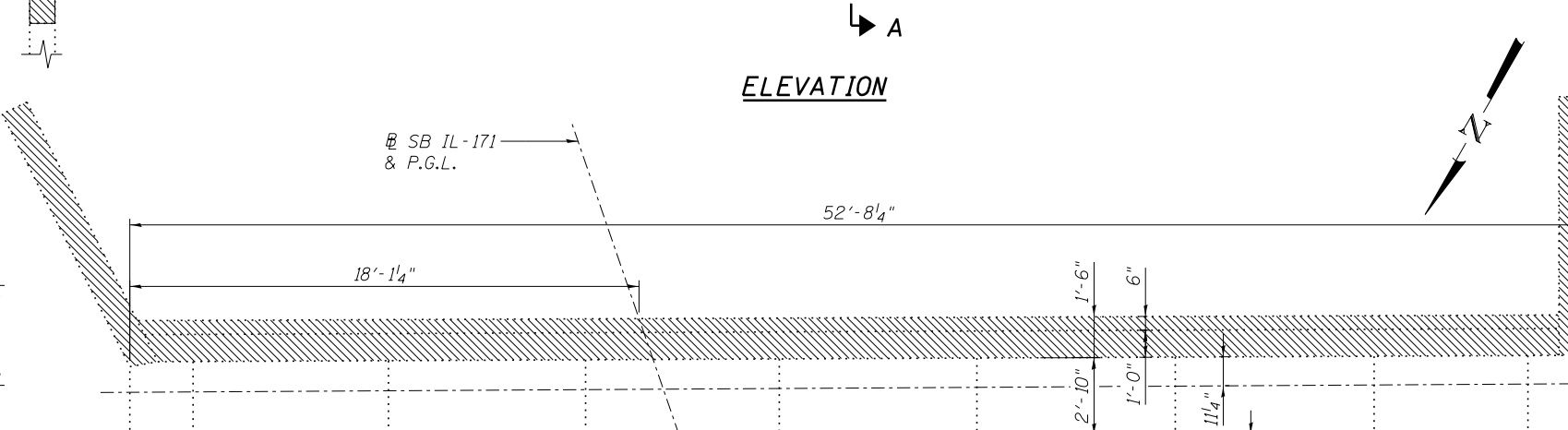
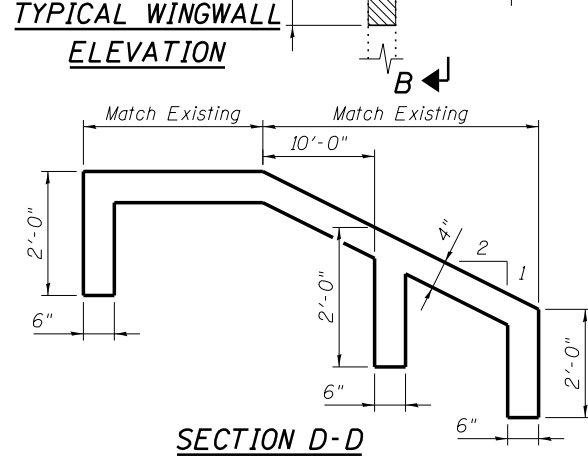
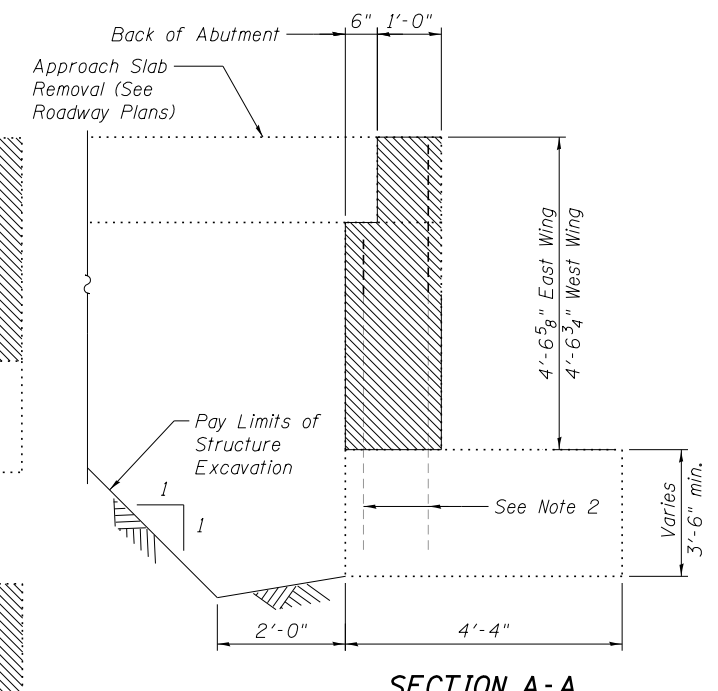
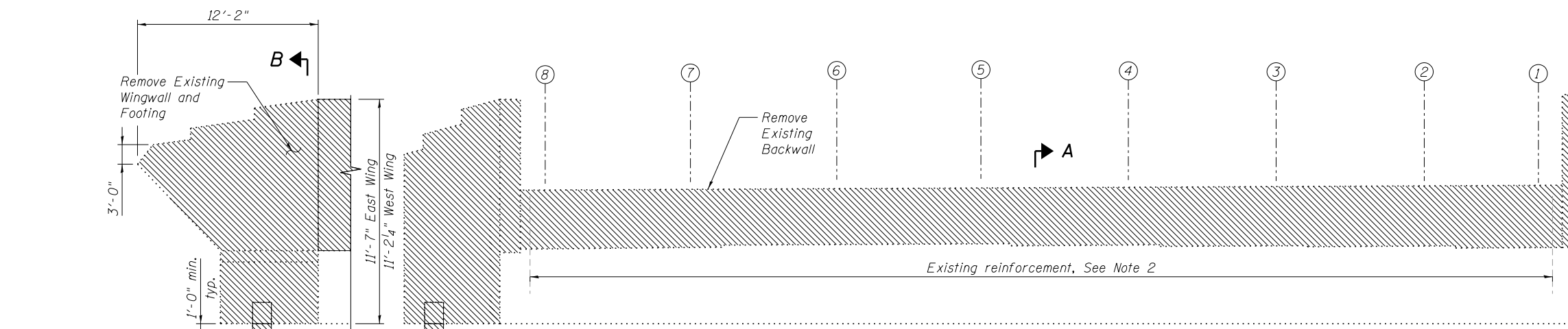
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REVISÉ -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS (2 OF 2)
STRUCTURE NO. 016-0486

SHEET NO. SG64 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	654
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				



LEGEND

- Concrete Removal
- Slope Wall Removal & Slope Wall 4 Inch

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Granular Backfill for Structures	Cu. Yd.	2
Concrete Removal	Cu. Yd.	22.2
Slope Wall Removal	Sq. Yd.	8
Slope Wall 4 Inch	Sq. Yd.	44

- NOTES:**
- Actual quantities of repairs shall be approved by the Engineer.
 - Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 - Sloped wall shall be reinforced with welded wire fabric, 6 in. X 6 in. W4.0 x W4.0, weighing 58 lbs per 100 sq ft.
 - Embankment required for the sloped wall widening shall be paid for as "Furnished Excavation".

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - JOB	REVISED -
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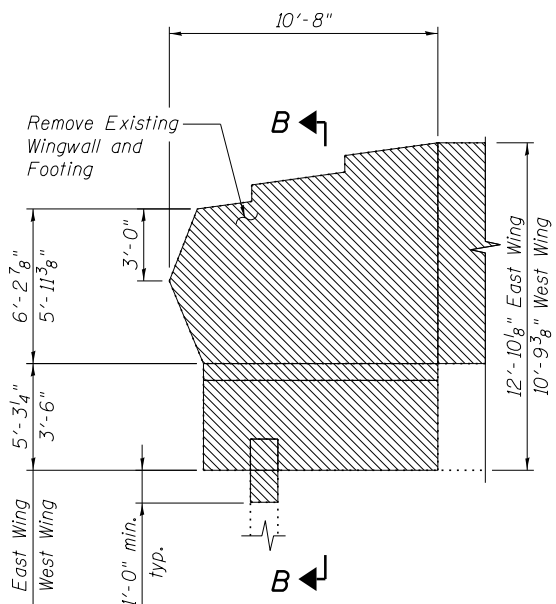
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT CONCRETE REMOVAL AND REPAIR DETAILS
STRUCTURE NO. 016-0486

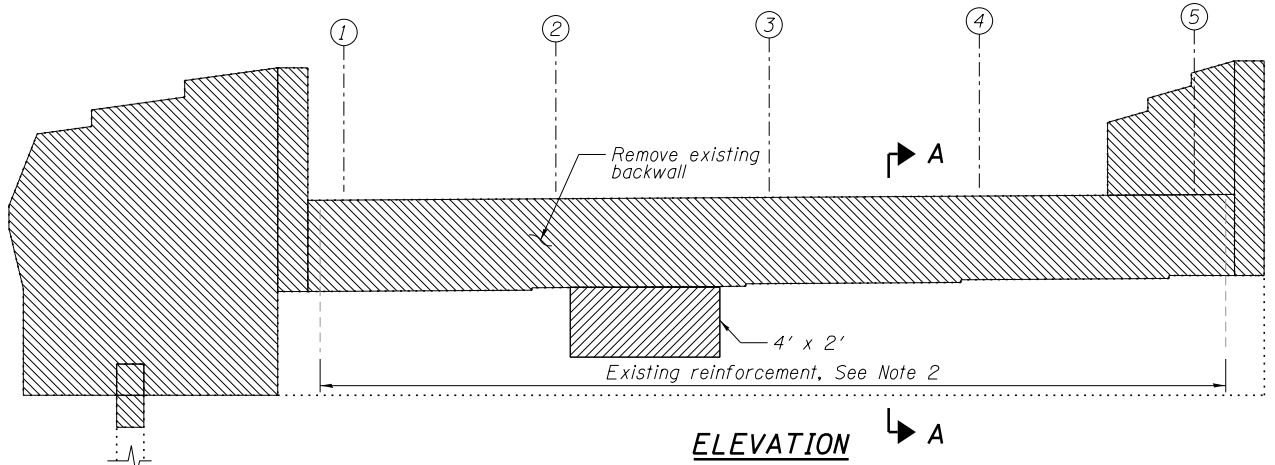
SHEET NO. SG65 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	655
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

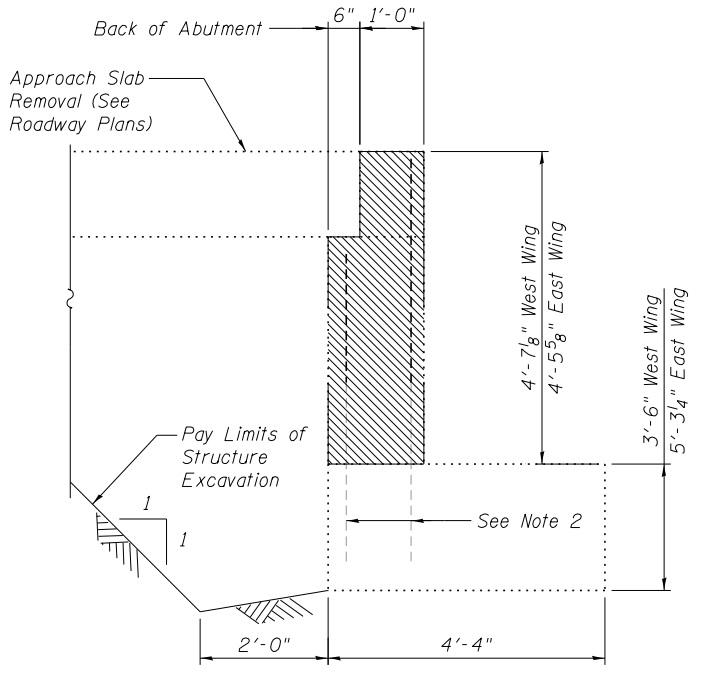
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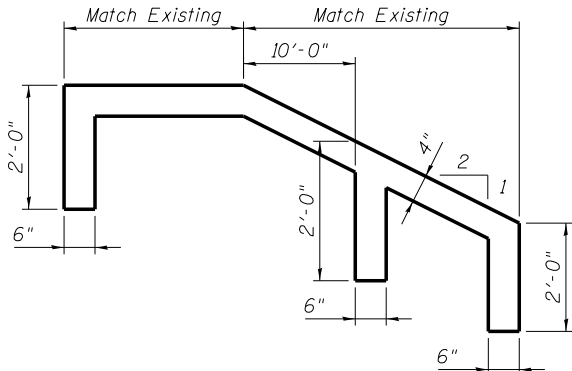
TYPICAL WINGWALL ELEVATION



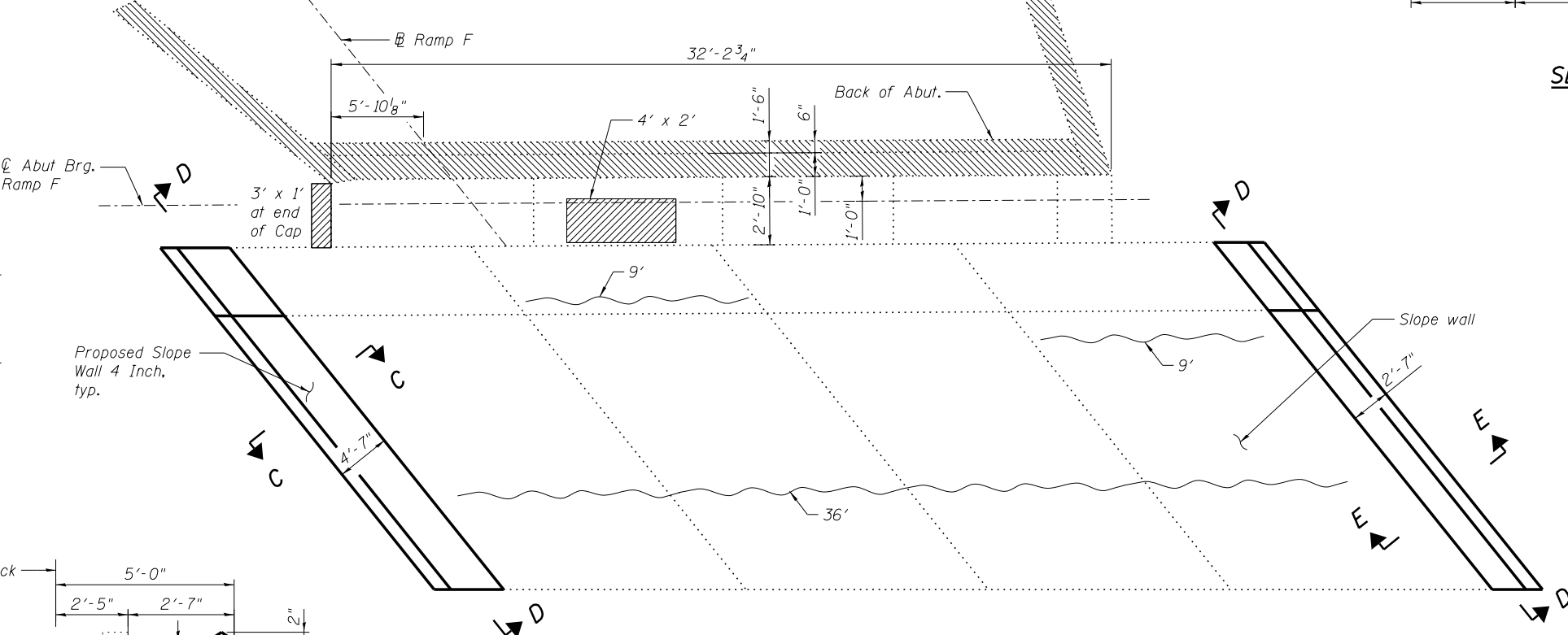
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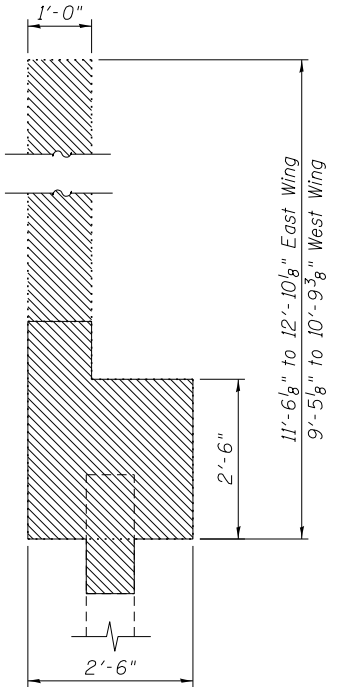
SECTION A-A



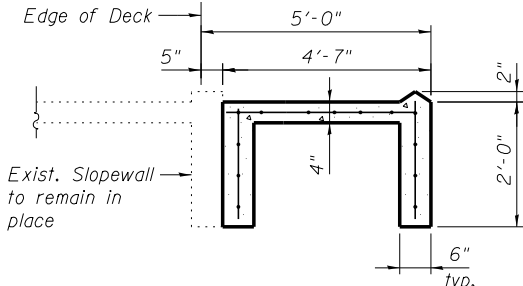
SECTION D-D



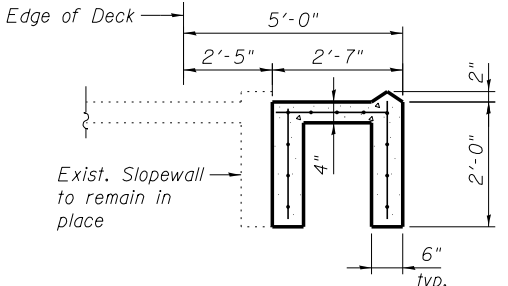
PLAN



SECTION B-B



SECTION C-C



SECTION E-E

LEGEND

- Concrete Removal
- Structural Repair of Concrete (Depth equal to or less than 5 inches)
- Epoxy Crack Injection

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	16.9
Slope Wall 4 Inch	Sq. Yd.	57
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	19
Epoxy Crack Injection	Foot	54

- NOTES:**
- Actual quantities of repairs shall be approved by the Engineer.
 - Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 - Slopewall shall be reinforced with welded wire fabric, 6 in. X 6 in. W4.0 x W4.0, weighing 58 lbs per 100 sq ft.
 - Embankment required for for the slopewall widening shall be paid for as "Furnished Excavation".
 - Crack widths are 1/8" ± 1/16" unless otherwise noted.

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

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	PLOT DATE = 8/6/2014	CHECKED - AWH	REVISED -

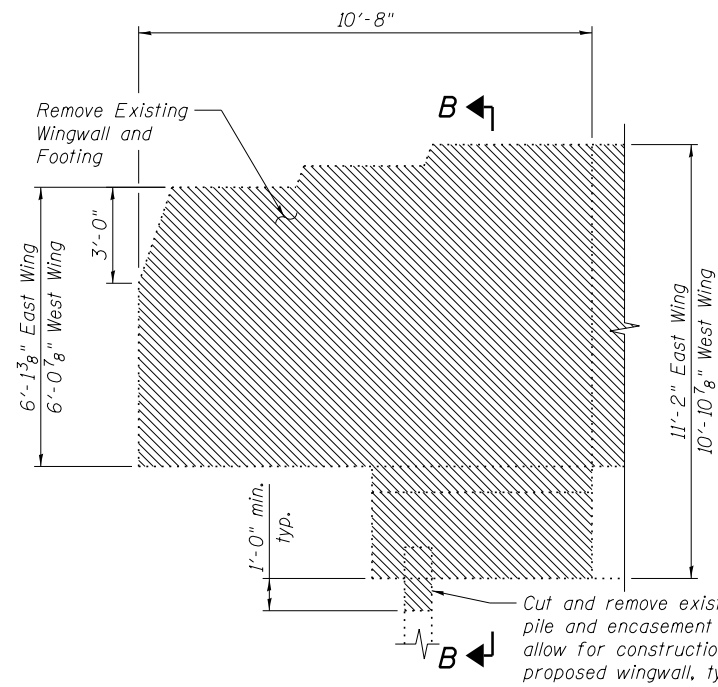
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAMP F ABUTMENT CONCRETE REMOVAL AND REPAIR DETAILS
STRUCTURE NO. 016-0486

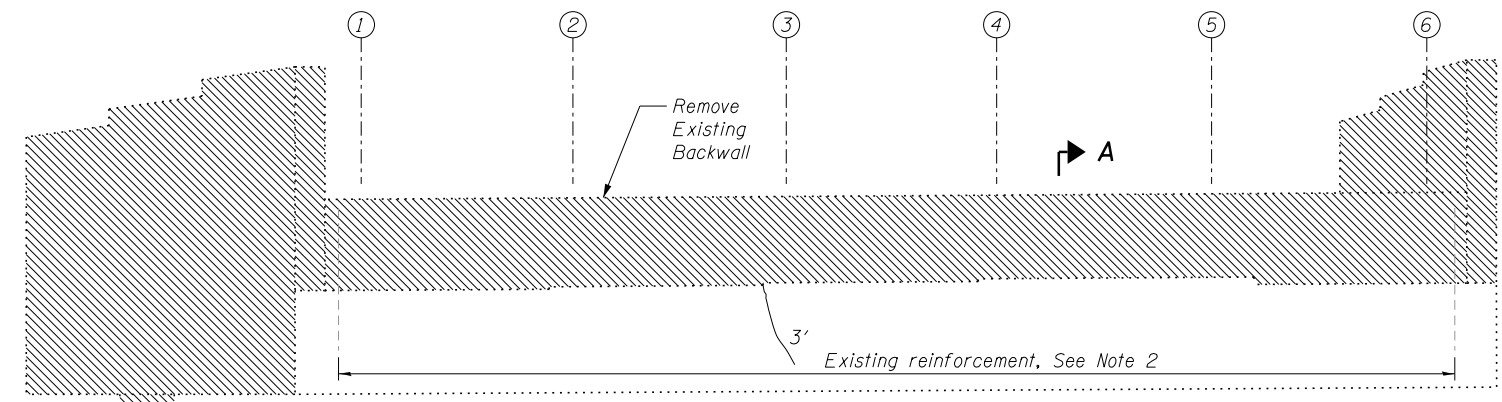
SHEET NO. SG66 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

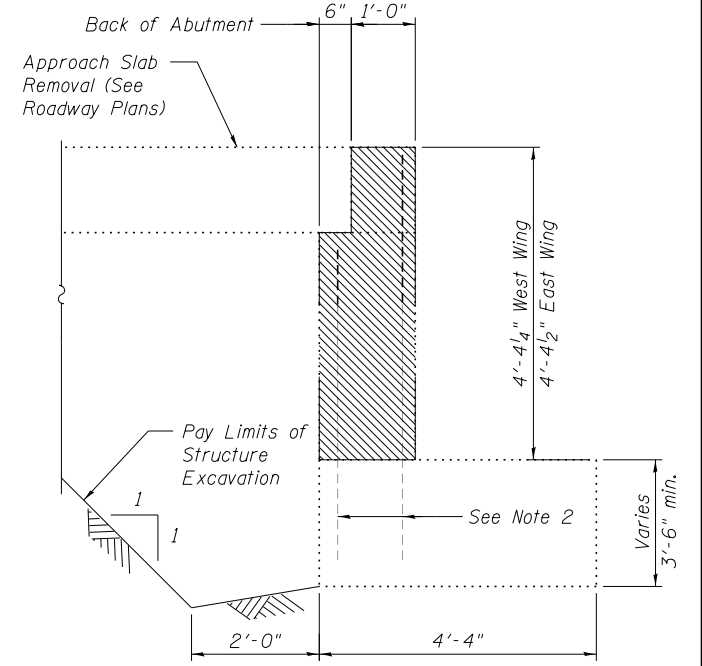
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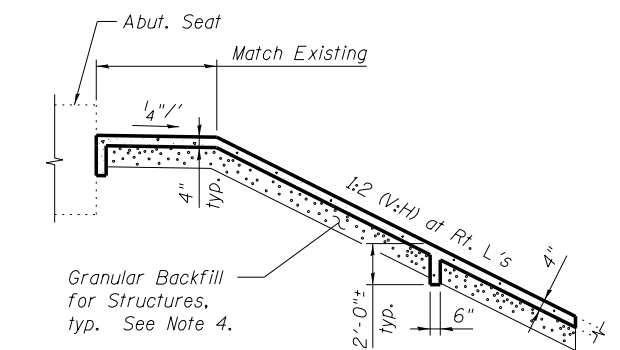
TYPICAL WINGWALL ELEVATION



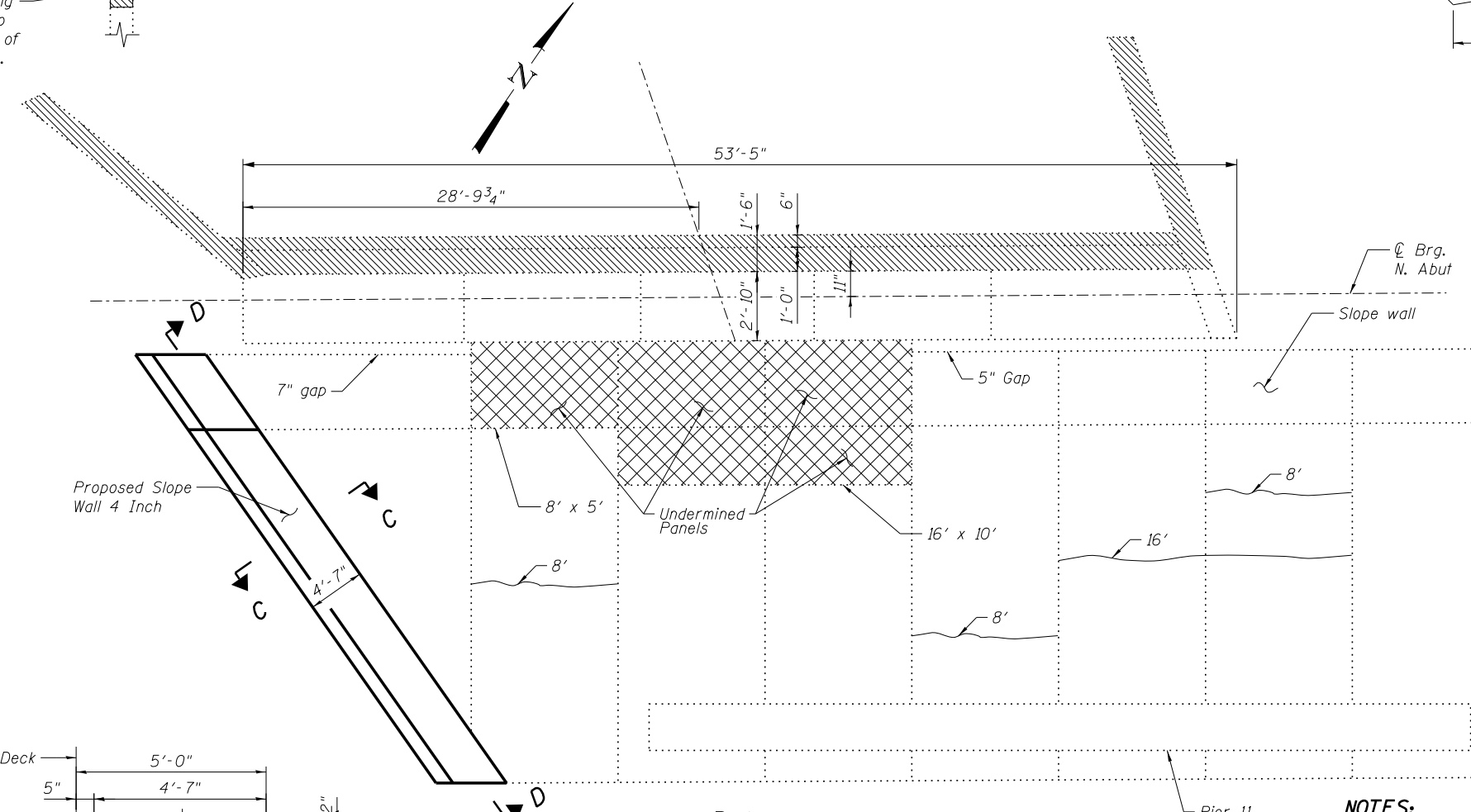
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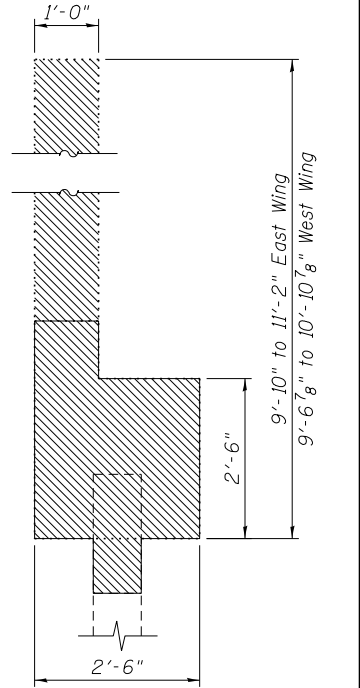
SECTION A-A



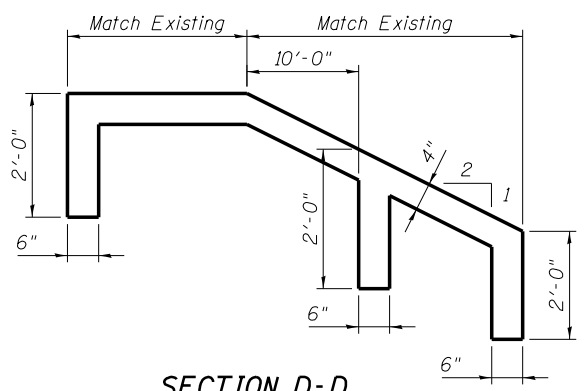
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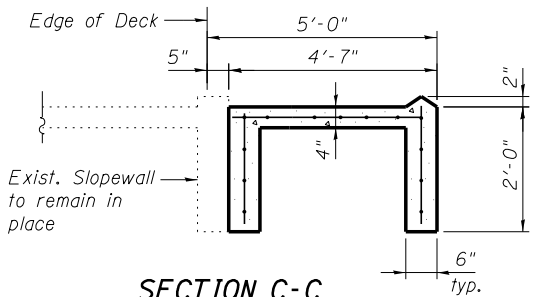
PLAN



SECTION B-B



SECTION D-D



SECTION C-C

- LEGEND**
- Concrete Removal
 - Slope Wall Removal & Slope Wall 6 Inch
 - Epoxy Crack Injection

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Granular Backfill for Structures	Cu. Yd.	4
Concrete Removal	Cu. Yd.	20.3
Slope Wall Removal	Sq. Yd.	23
Slope Wall 4 Inch	Sq. Yd.	49
Epoxy Crack Injection	Foot	43

- NOTES:**
- Actual quantities of repairs shall be approved by the Engineer.
 - Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 - Slope wall shall be reinforced with welded wire fabric, 6 in. X 6 in. W4.0 x W4.0, weighing 58 lbs per 100 sq ft.
 - Embankment required for for the slope wall widening shall be paid for as "Furnished Excavation".
 - Crack widths are 1/8" ± 1/16" unless otherwise noted.

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312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - JOB	REVISD -
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		DRAWN - FSM	REVISD -
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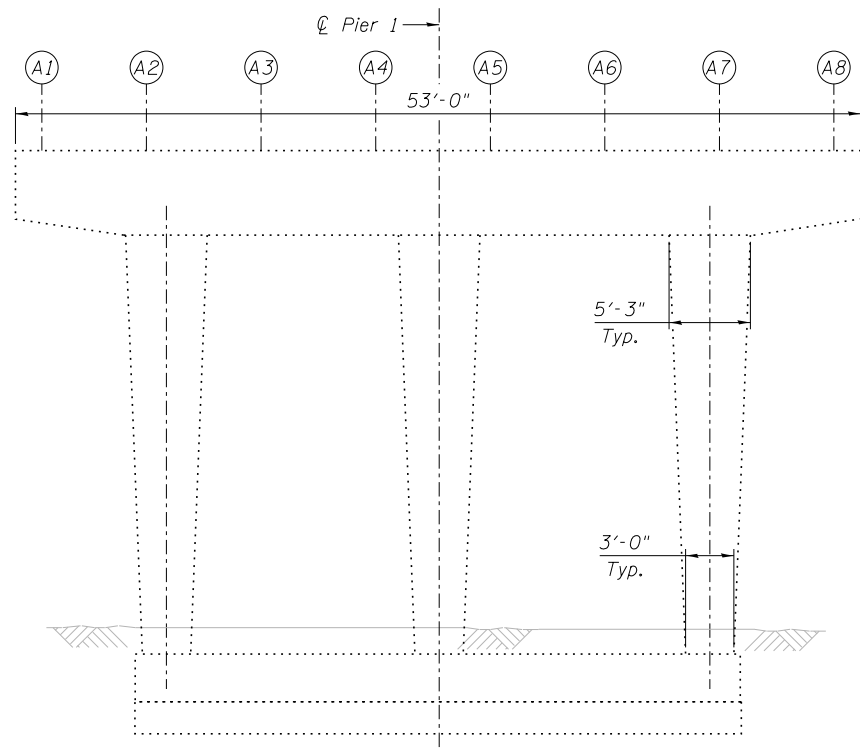
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT CONCRETE REMOVAL AND REPAIR DETAILS
STRUCTURE NO. 016-0486

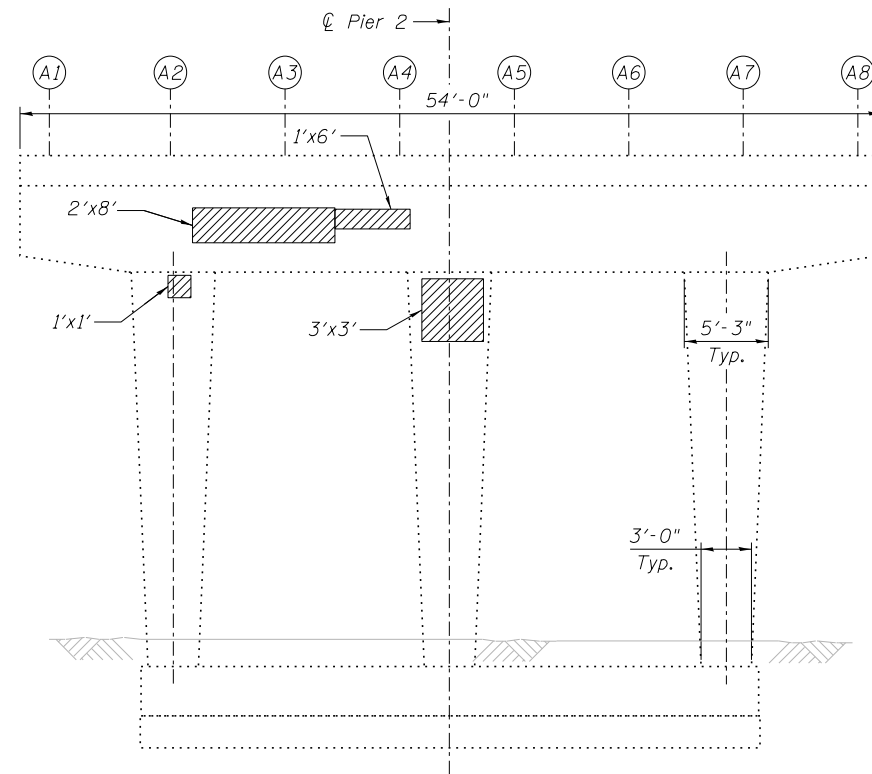
SHEET NO. SG67 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			60J16	

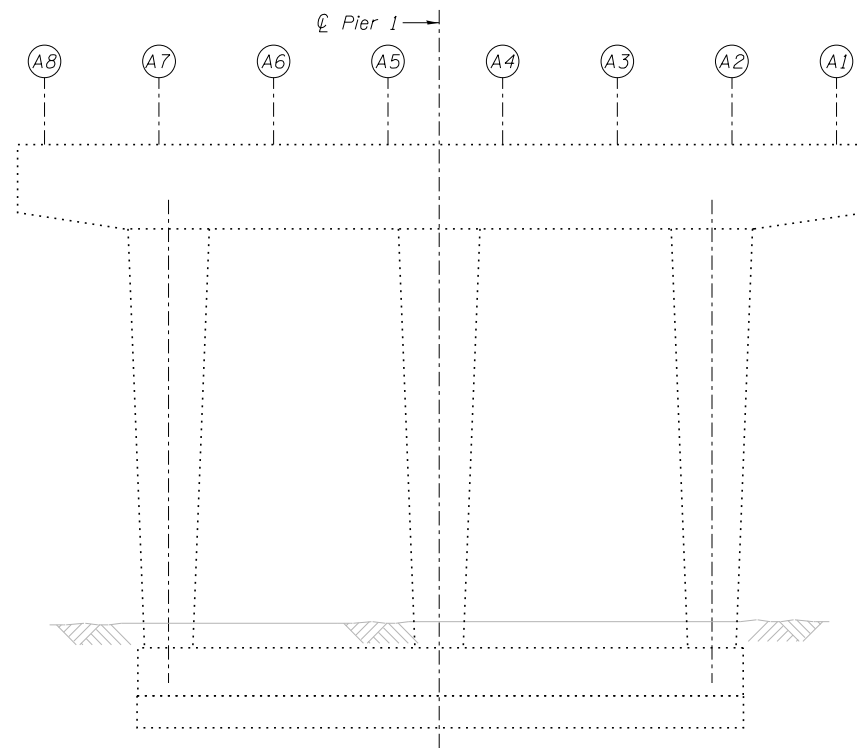
ILLINOIS FED. AID PROJECT



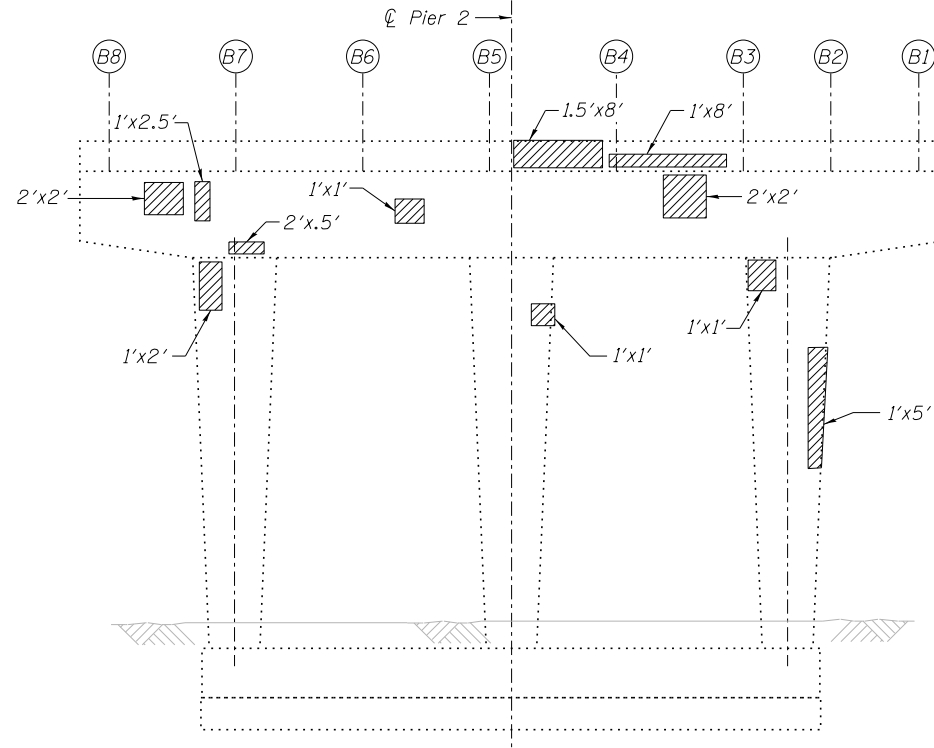
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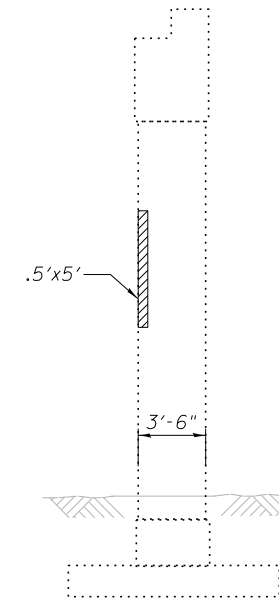
PIER 2
Looking West



PIER 1
Looking East



PIER 2
Looking East



PIER 2
Looking North

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	76

LEGEND

Structural Repair of Concrete
(Depth equal to or less than 5 inches)

NOTES:

1. Actual quantities of repairs shall be approved by the Engineer.



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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =
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CHECKED - RMM
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PLOT SCALE =
PLOT DATE = 8/6/2014

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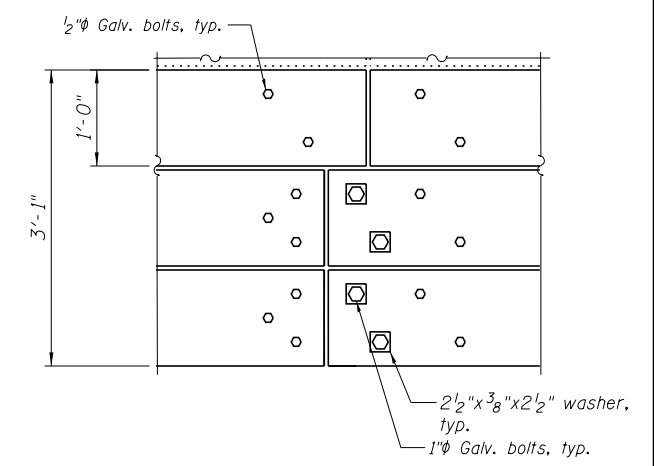
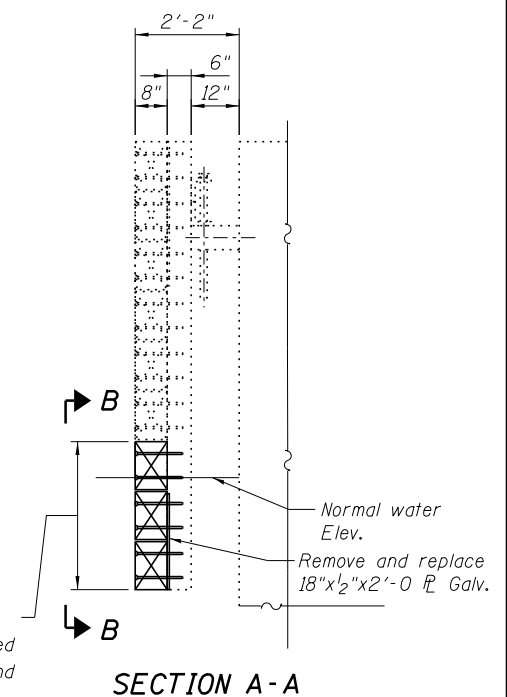
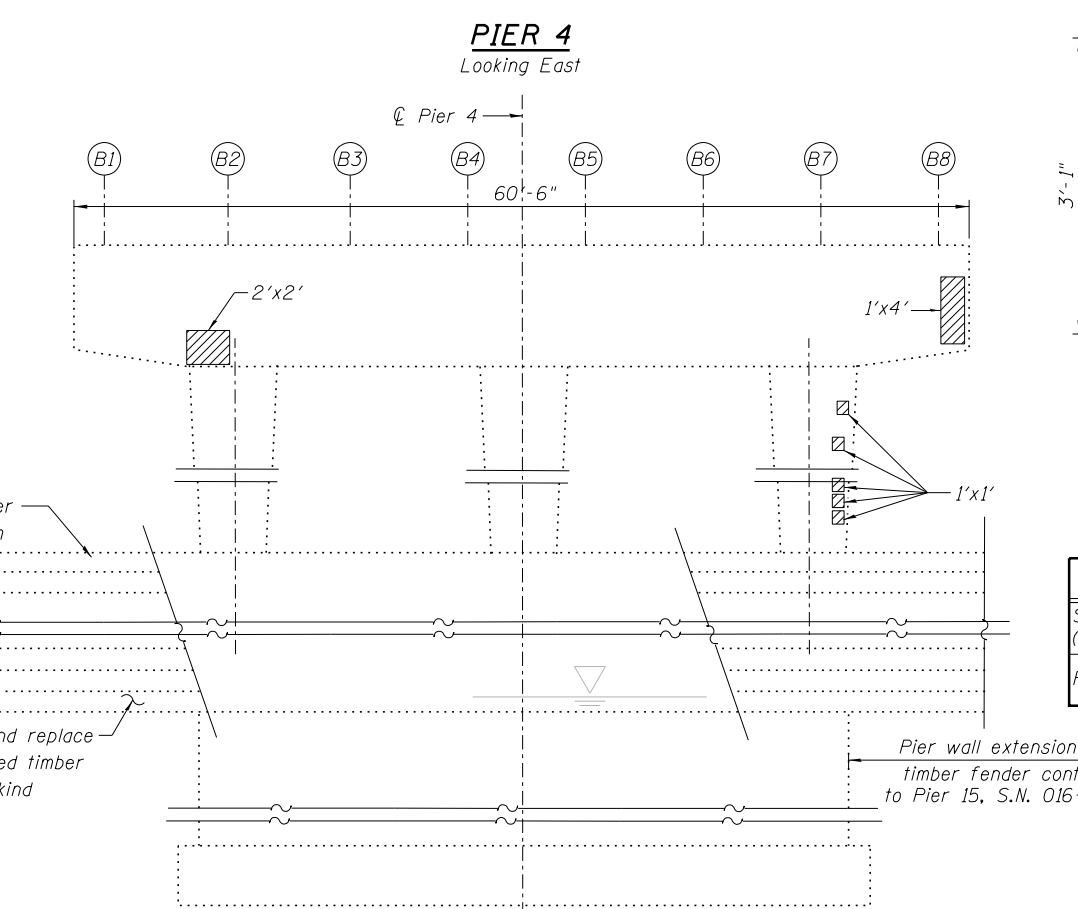
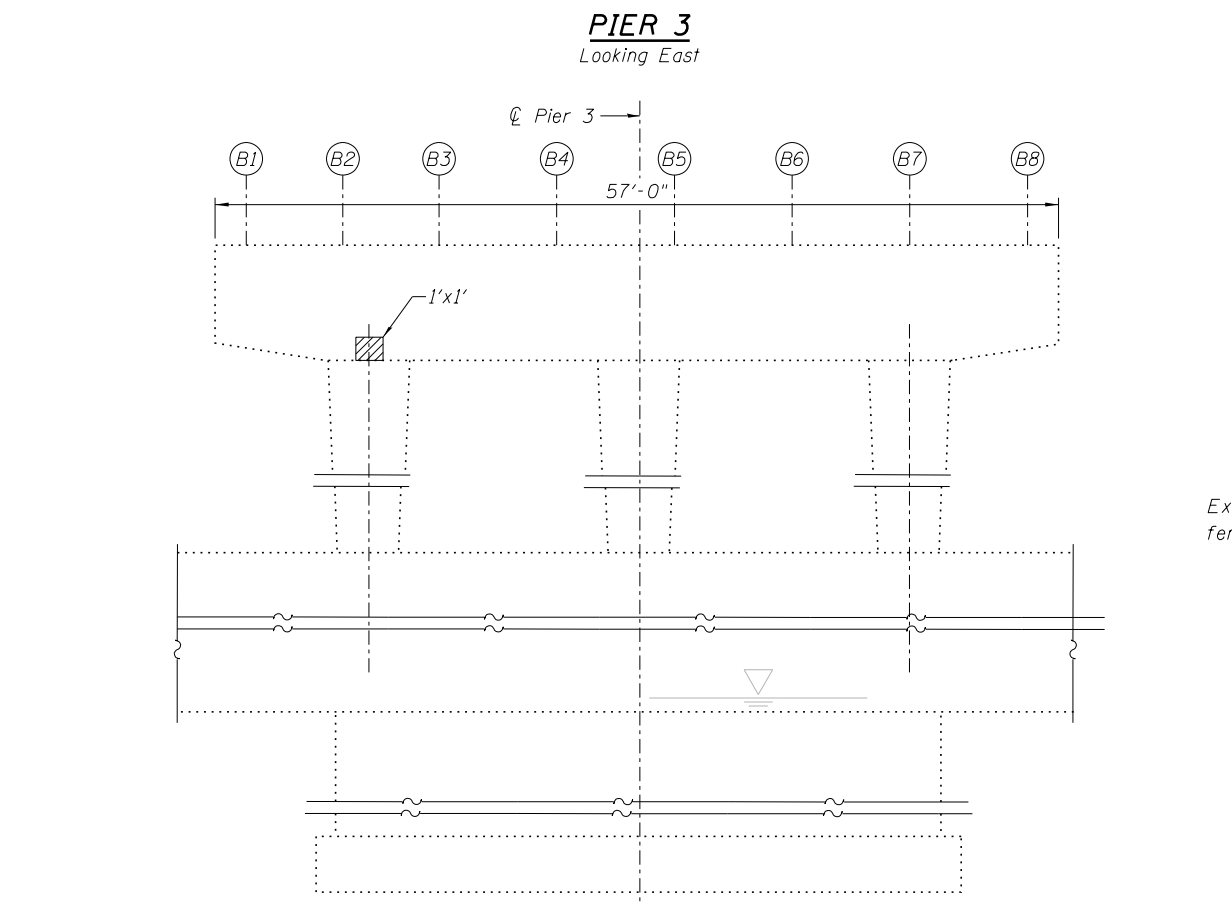
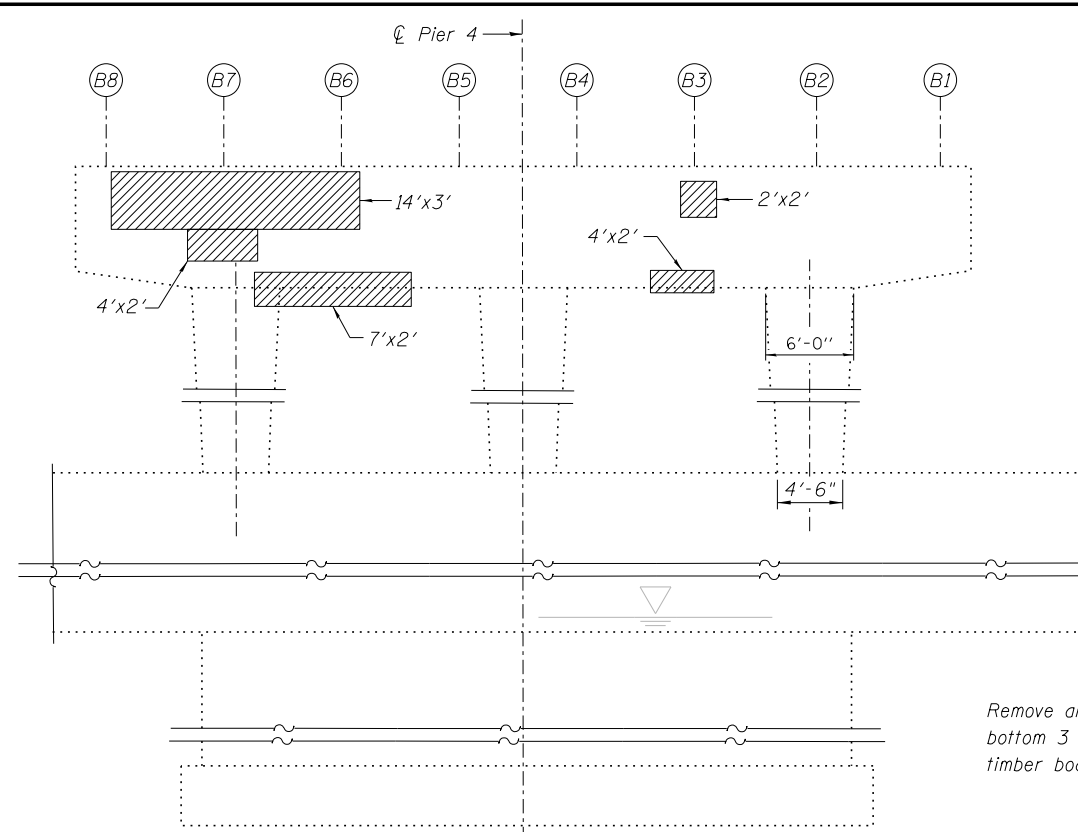
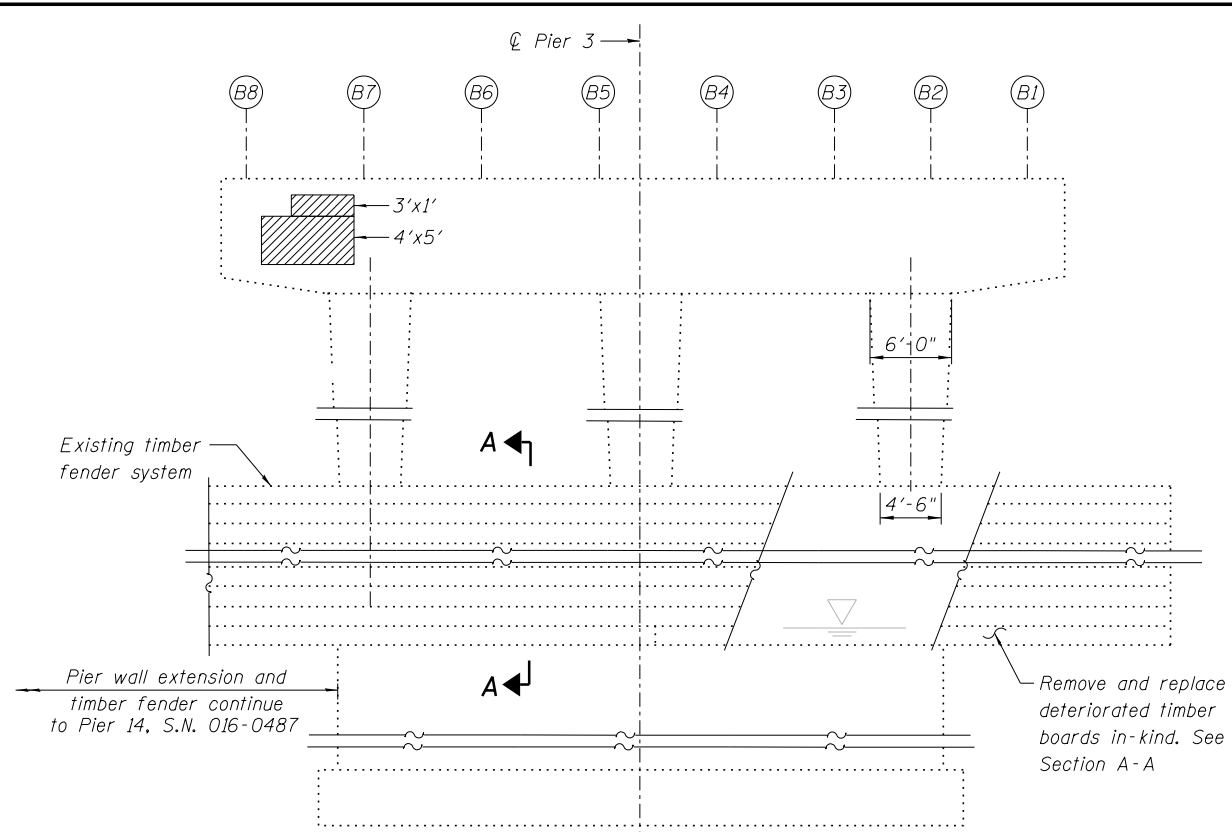
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 1 AND 2 REPAIR DETAILS
STRUCTURE NO. 016-0486

SHEET NO. SG68 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	658
CONTRACT NO. 60J16				

ILLINOIS FED. AID PROJECT



ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	114
Fender System	L. Sum	1.0

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 inches)

NOTES:

- Actual quantities of repairs shall be approved by the Engineer.
- Removal and replacement of timber boards shall be completed per the Special Provision for "Fender System".

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312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - FSM	REVISED -
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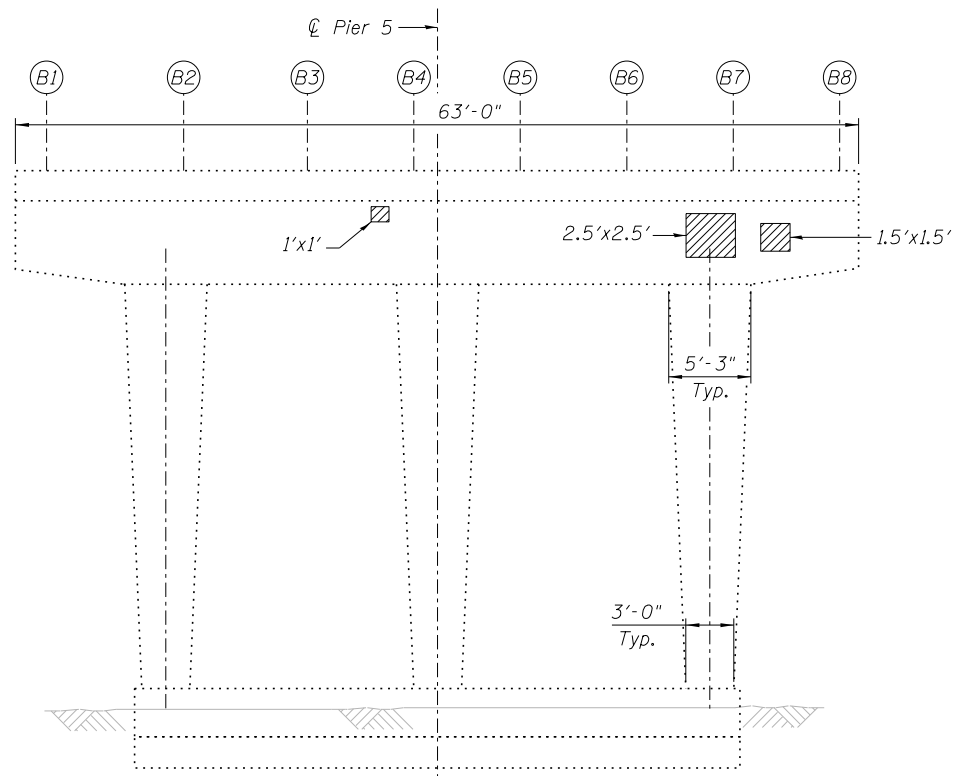
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIERS 3 AND 4 REPAIR DETAILS
STRUCTURE NO. 016-0486**

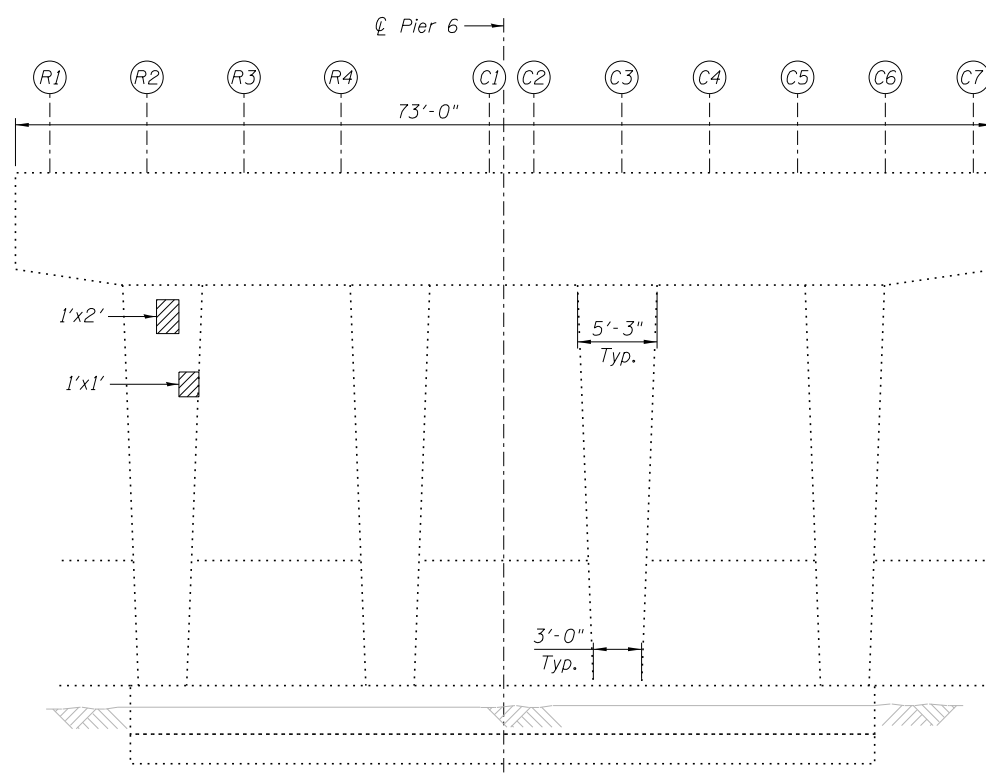
SHEET NO. SG69 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

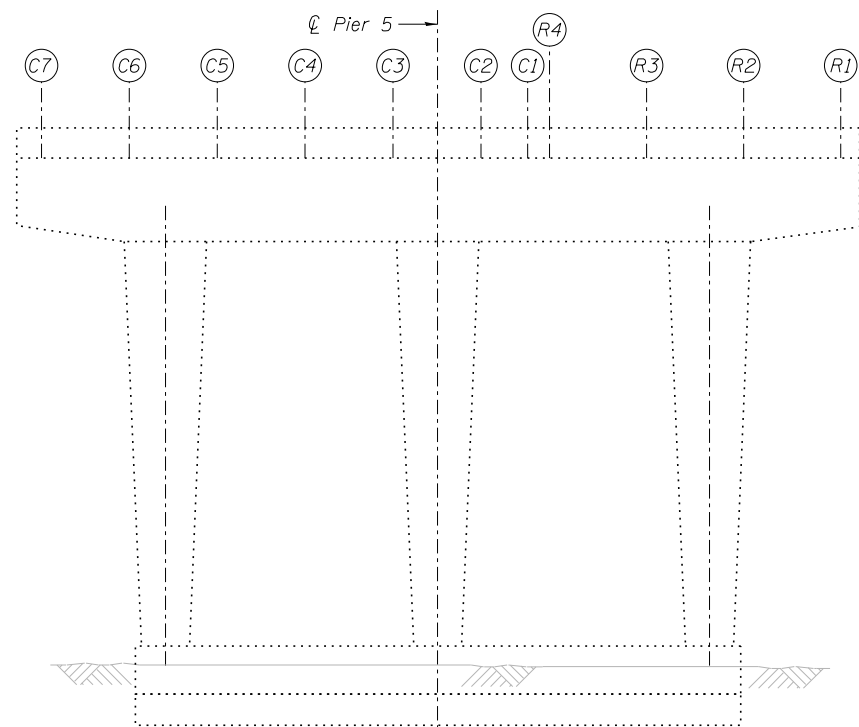
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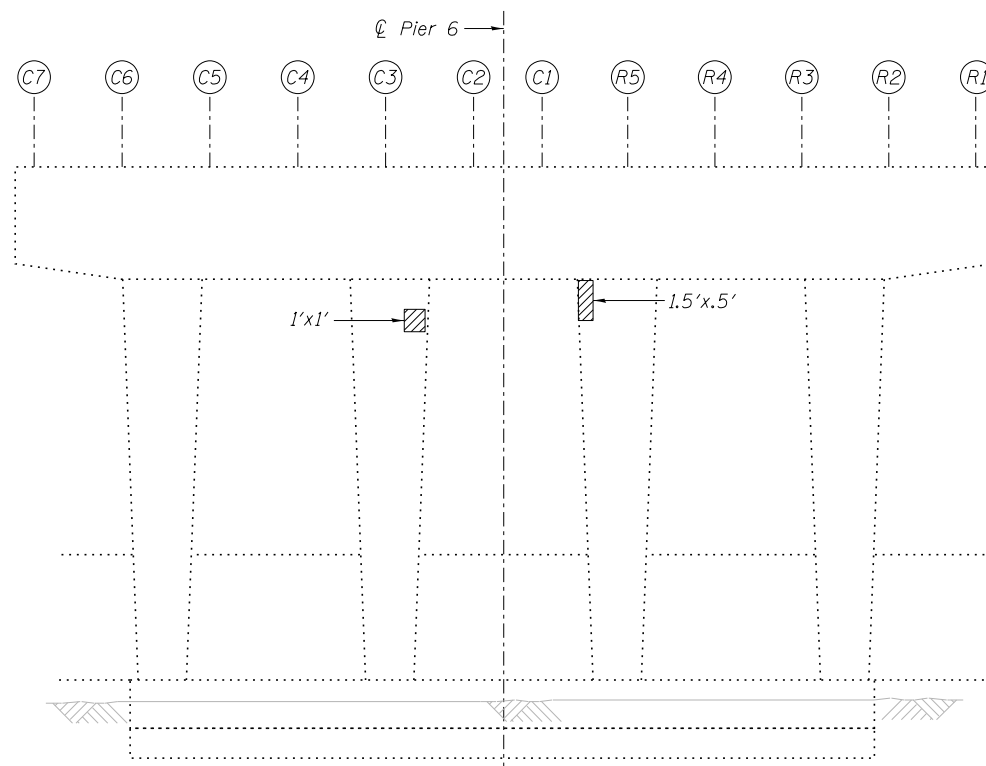
PIER 5
Looking West



PIER 6
Looking West



PIER 5
Looking East



PIER 6
Looking East

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	15

LEGEND

Structural Repair of Concrete
(Depth equal to or less than 5 inches)

NOTES:

1. Actual quantities of repairs shall be approved by the Engineer.



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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

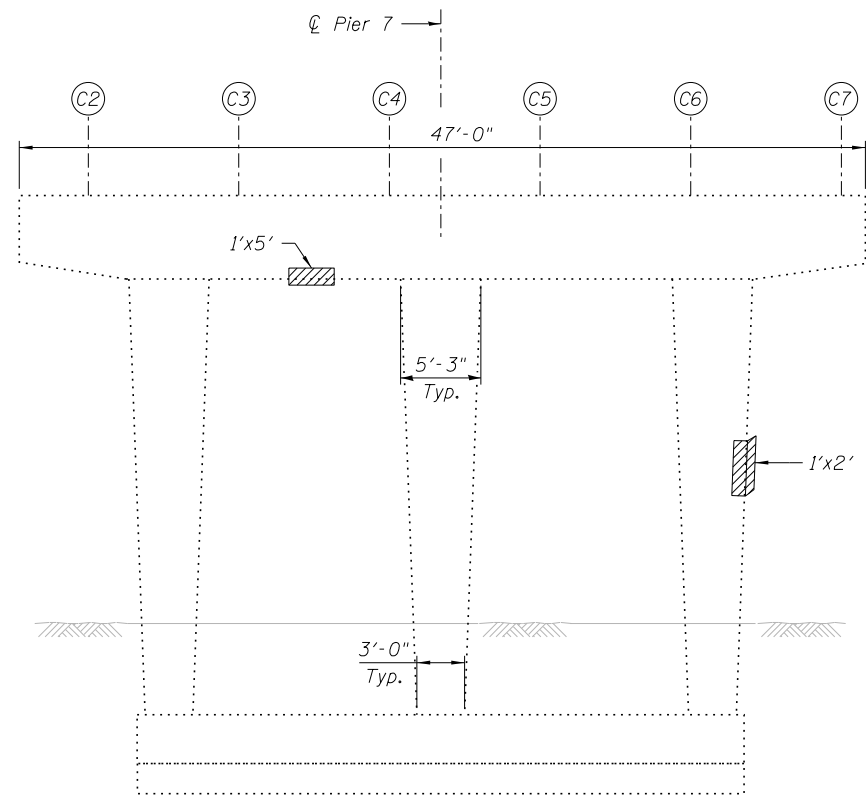
PIERS 5 AND 6 REPAIR DETAILS
STRUCTURE NO. 016-0486

SHEET NO. SG70 OF SG100 SHEETS

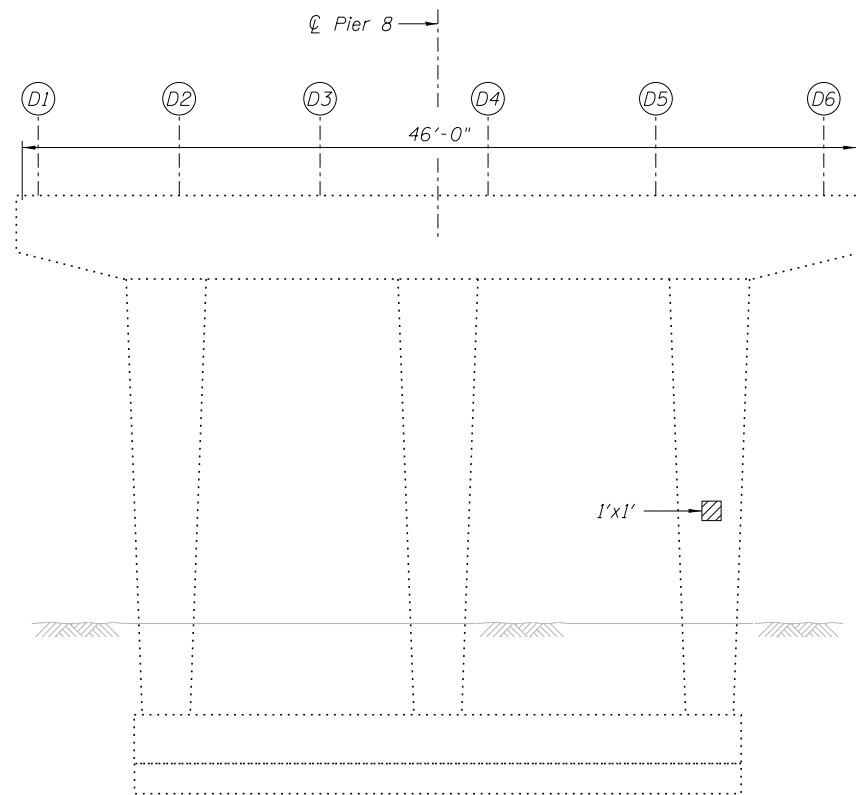
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373	2013-038B-R	COOK	821	660
CONTRACT NO. 60J16				

ILLINOIS FED. AID PROJECT

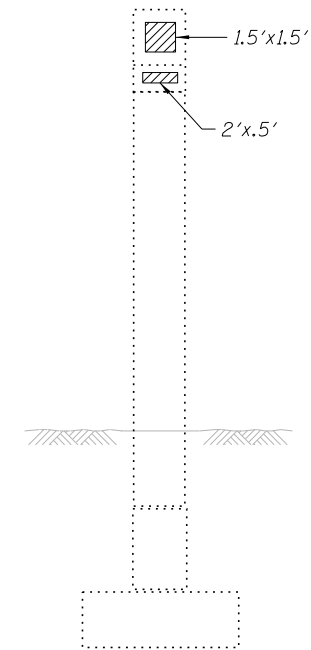
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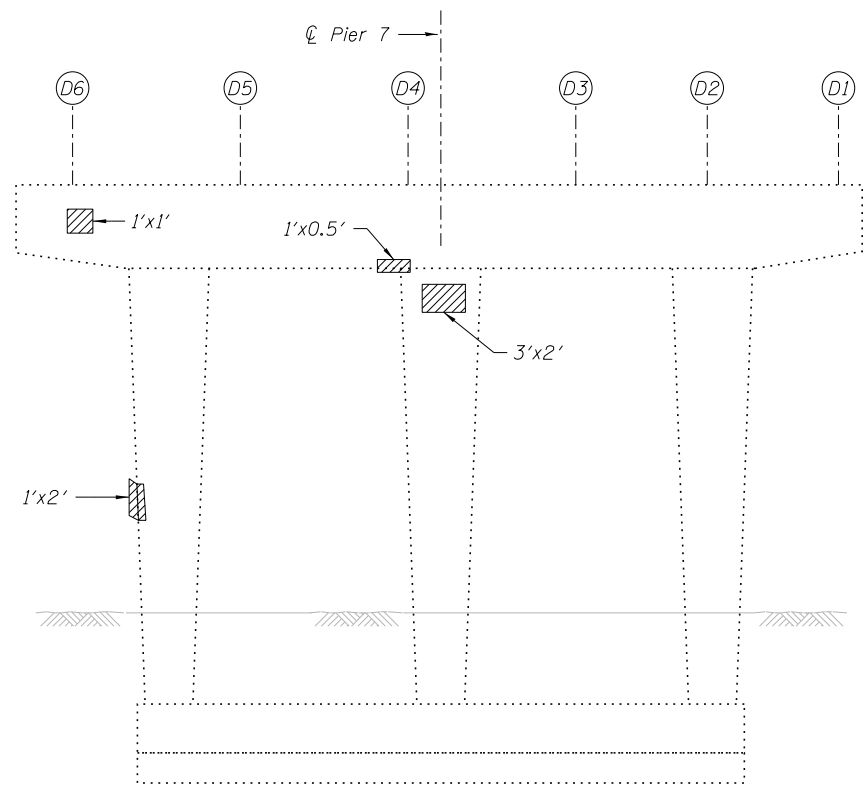
PIER 7
Looking West



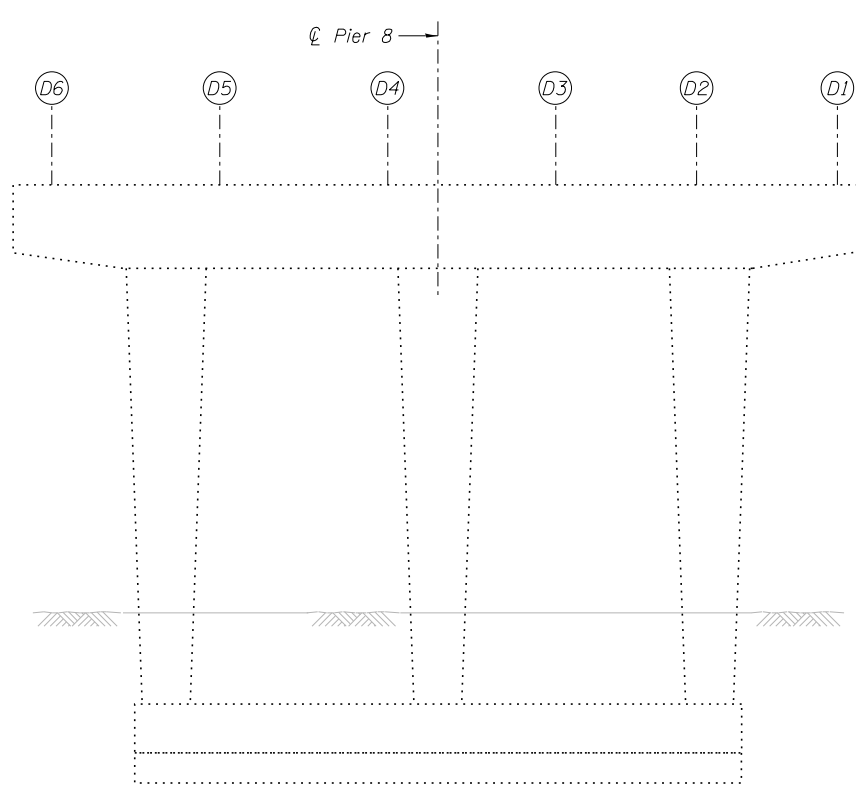
PIER 8
Looking West



PIER 8
Looking South



PIER 7
Looking East



PIER 8
Looking East

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	22

LEGEND

Structural Repair of Concrete
(Depth equal to or less than 5 inches)

NOTES:

- Actual quantities of repairs shall be approved by the Engineer.



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312-565-0450 Job No. 10093

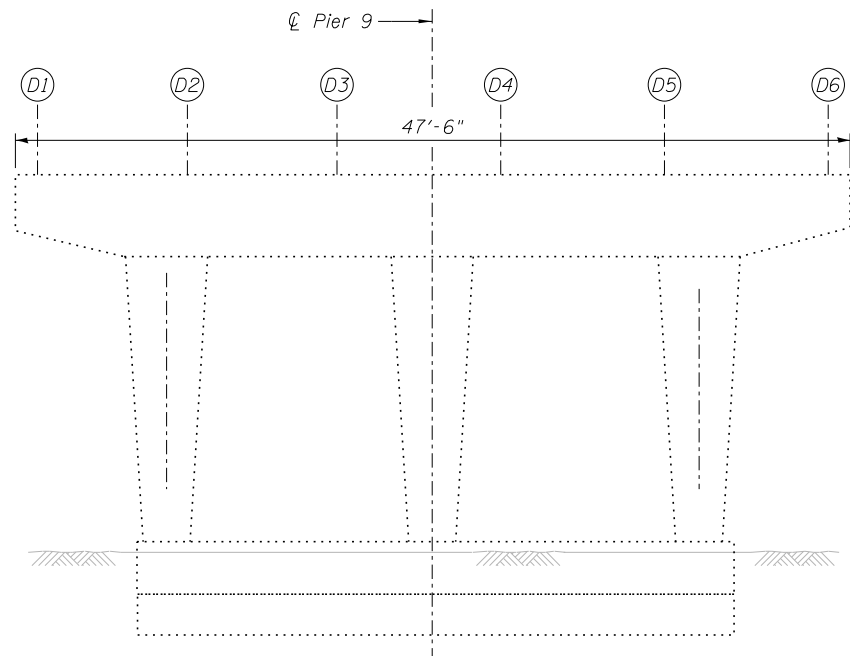
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

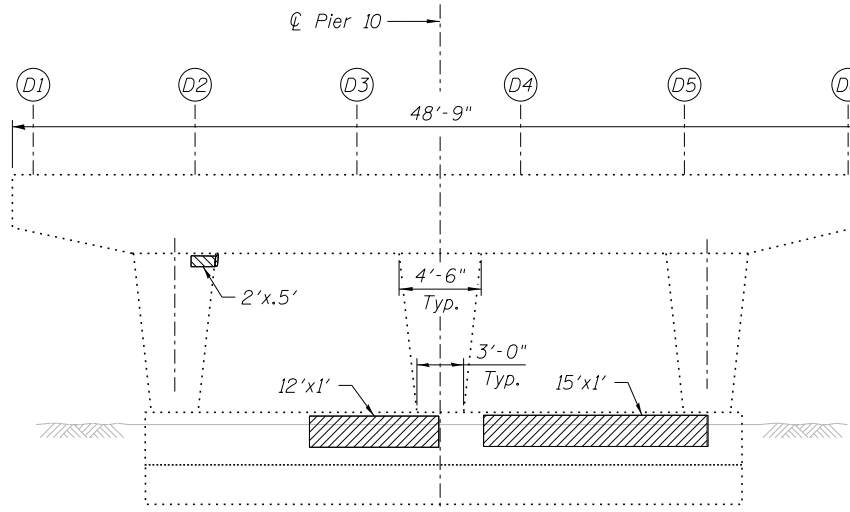
PIERS 7 AND 8 REPAIR DETAILS
STRUCTURE NO. 016-0486

SHEET NO. SG71 OF SG100 SHEETS

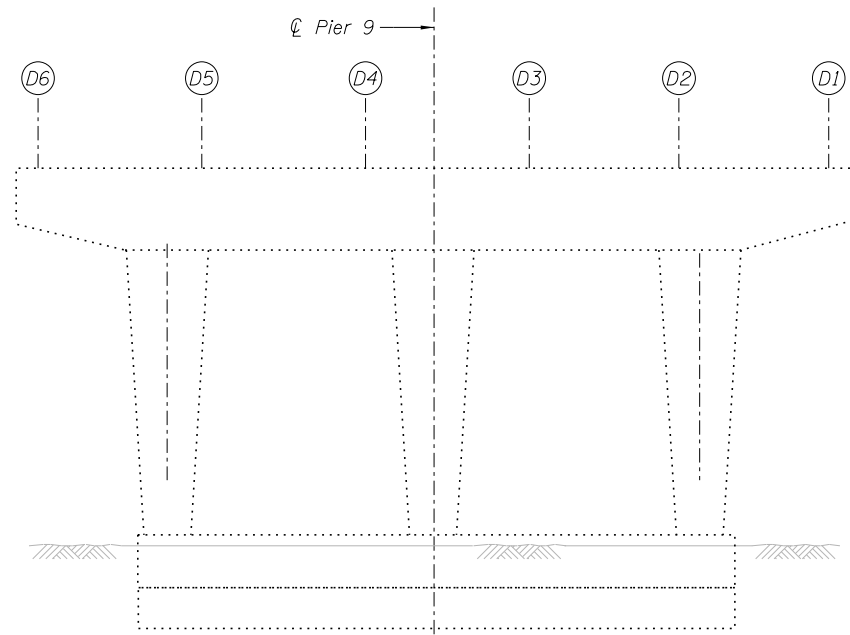
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CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	



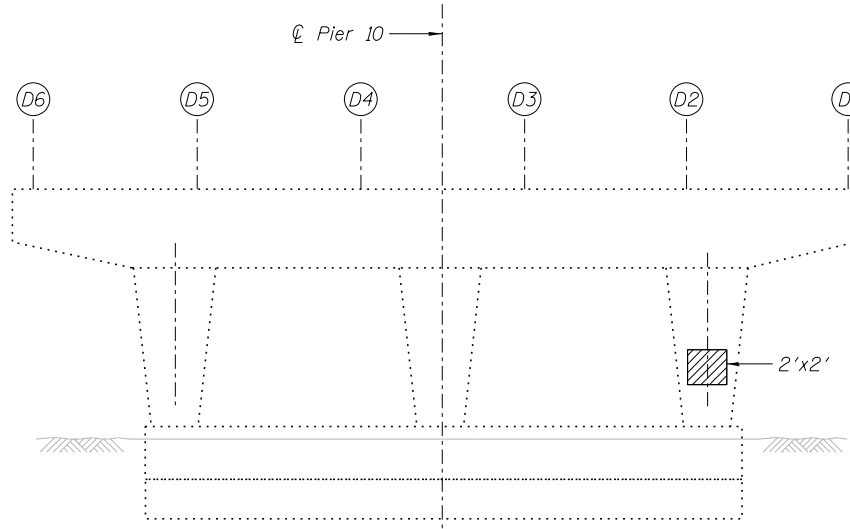
PIER 9
Looking West



PIER 10
Looking West



PIER 9
Looking East



PIER 10
Looking East

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	32

LEGEND

Structural Repair of Concrete
(Depth equal to or less than 5 inches)

NOTES:

1. Actual quantities of repairs shall be approved by the Engineer.

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

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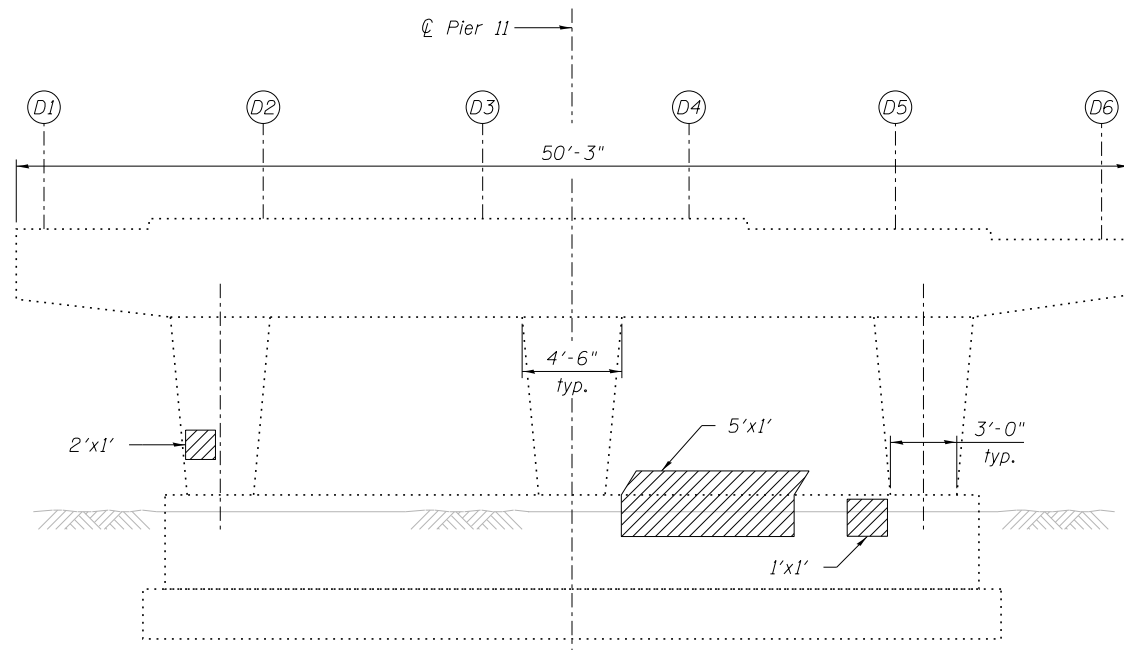
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 9 AND 10 REPAIR DETAILS
STRUCTURE NO. 016-0486

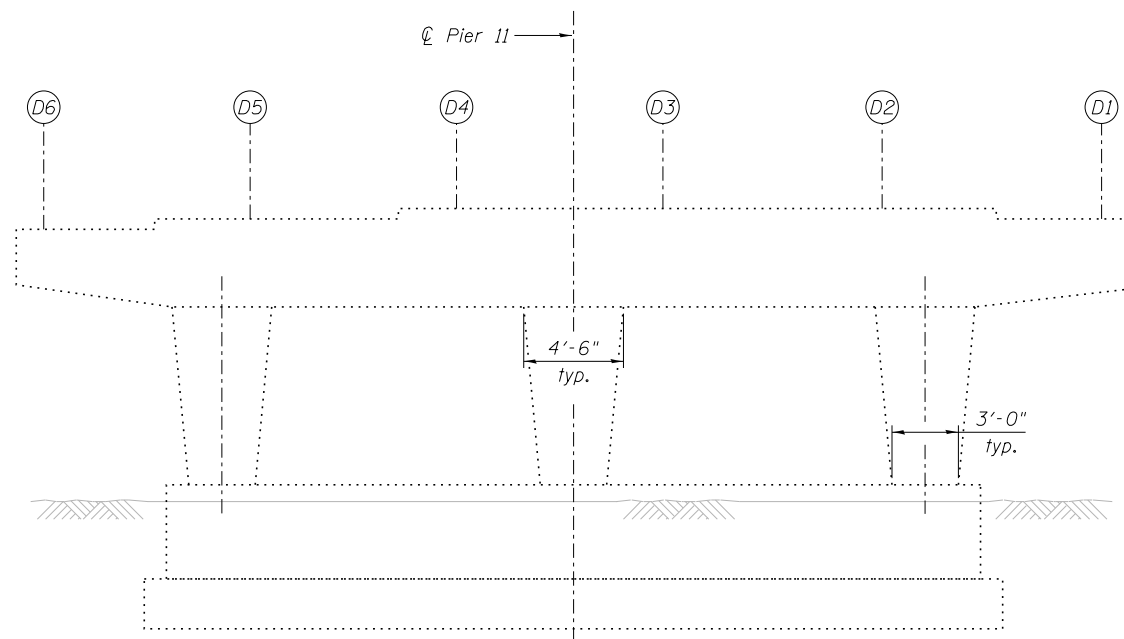
SHEET NO. SG72 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	662
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

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
PIER 11
Looking West



PIER 11
Looking East

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	8

LEGEND

 Structural Repair of Concrete
(Depth equal to or less than 5 inches)

NOTES:

- Actual quantities of repairs shall be approved by the Engineer.



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312-565-0450 Job No. 10093

FILE NAME =
0160486.60J16.073.pierrepair11.dgn

USER NAME = jsurber
PLOT SCALE =
PLOT DATE = 8/6/2014

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CHECKED - RMM
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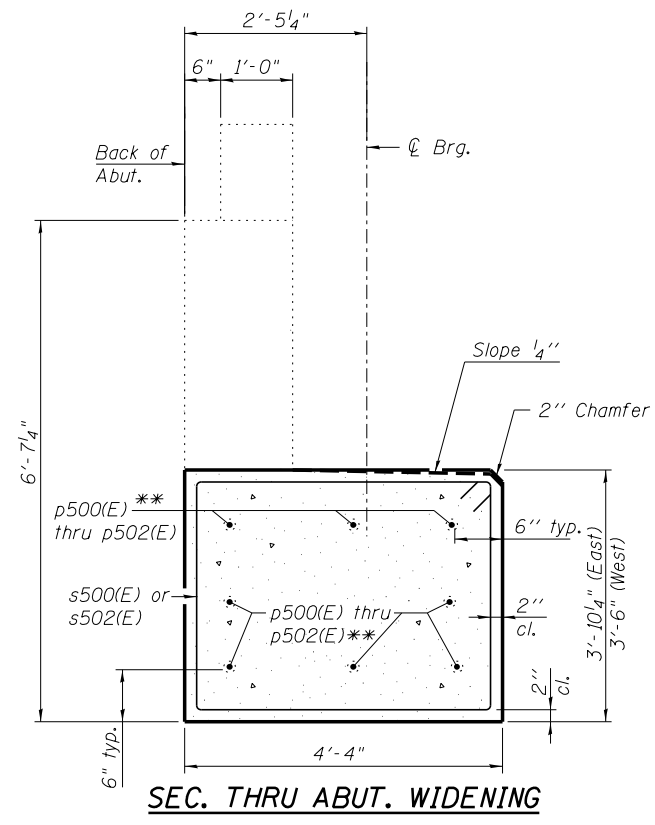
REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 11 REPAIR DETAILS
STRUCTURE NO. 016-0486**

SHEET NO. SG73 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	663
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	

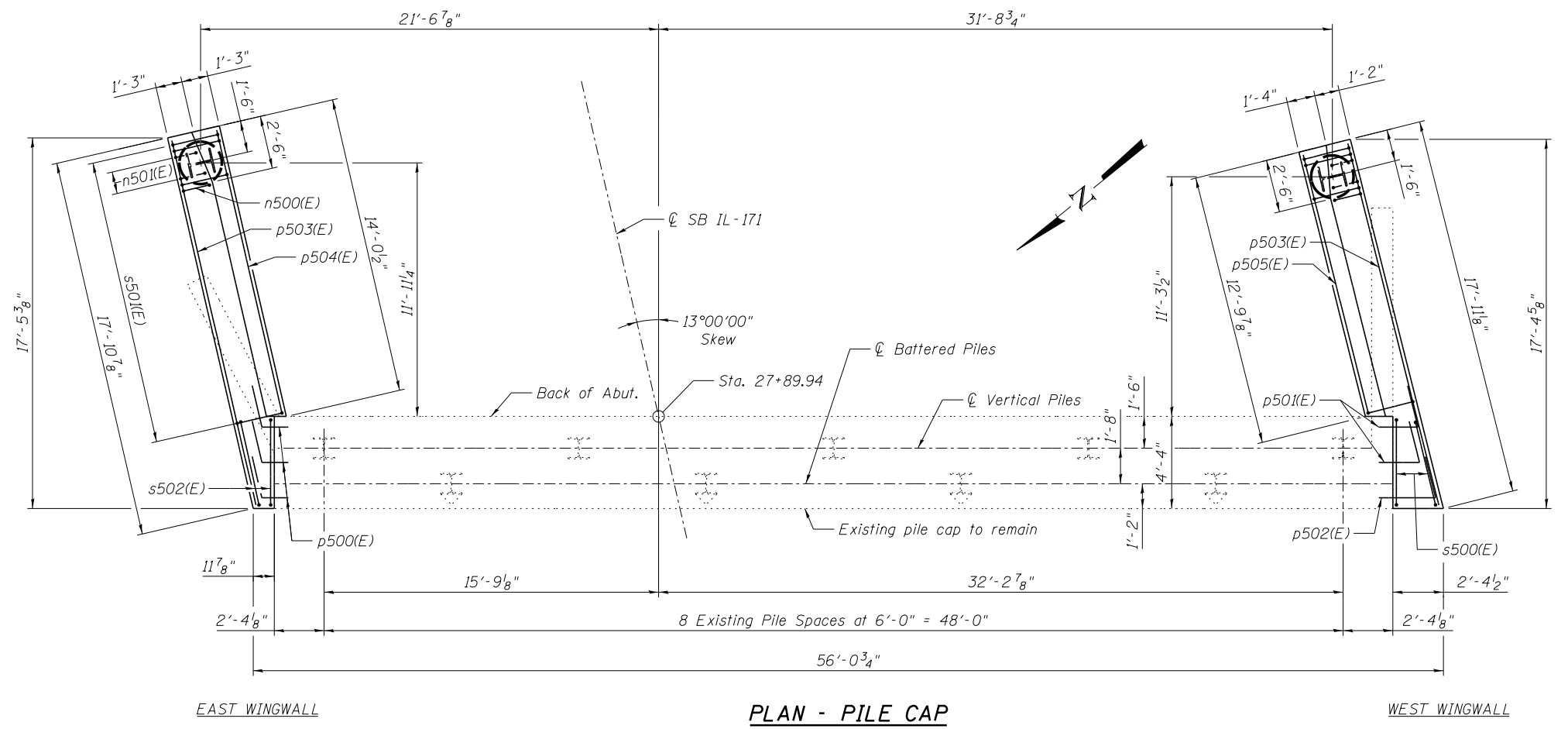


SEC. THRU ABUT. WIDENING

** Drill and grout bars according to Article 584 of the Std. Specs. with a minimum embedment of 8". Cost included with Concrete Structures.

NOTES:

1. See Sheet SG75 for abutment elevation backwall details and for wingwall details.



PLAN - PILE CAP

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FILE NAME =	USER NAME = jsurber	DESIGNED - AWH	REVISED -
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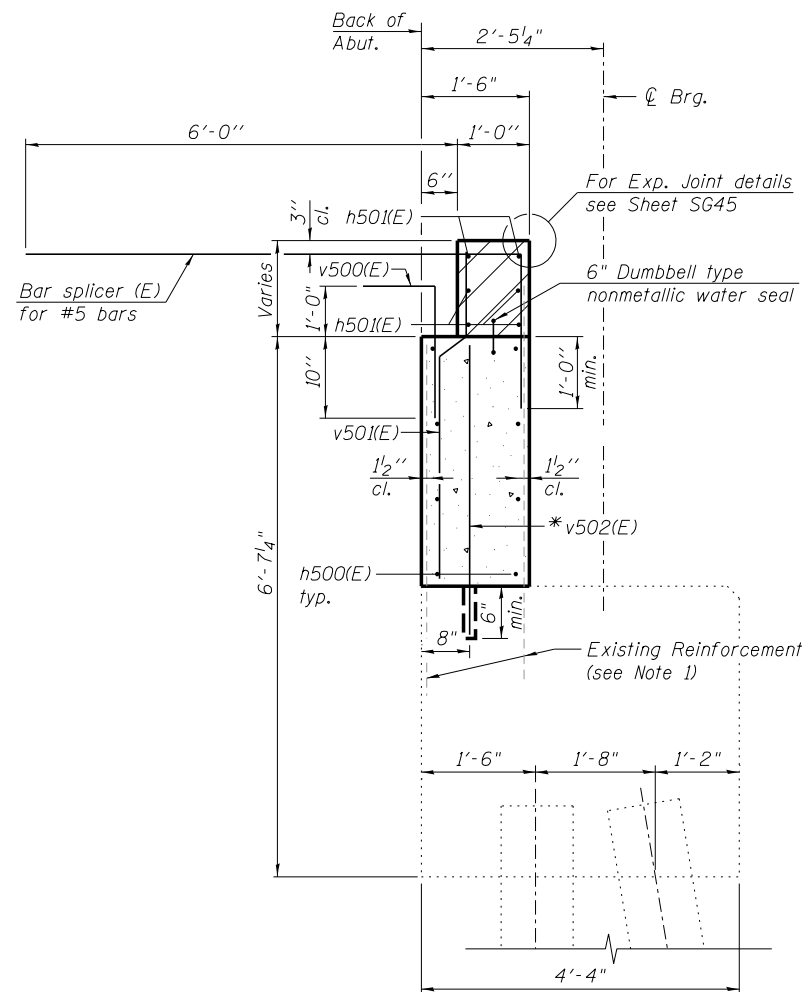
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT WIDENING DETAILS (1 OF 3)
STRUCTURE NO. 016-0486**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	664
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG74 OF SG100 SHEETS

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SEC. THRU EXISTING ABUT.

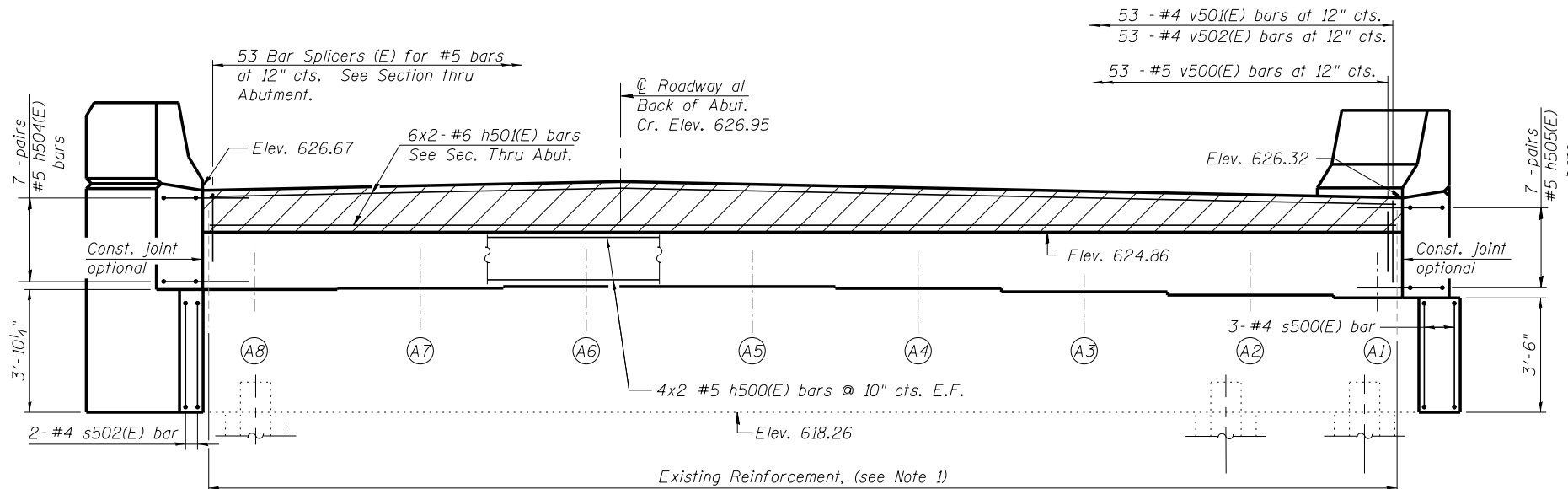
*Drill and grout bars according to Article 584 of the Std. Specs. with a minimum embedment of 6". Cost included with Concrete Structures.

NOTES:

- Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with concrete removal.
- Bars indicated thus 6x2-#5 etc. indicates 6 lines of bars with 2 lengths per line.

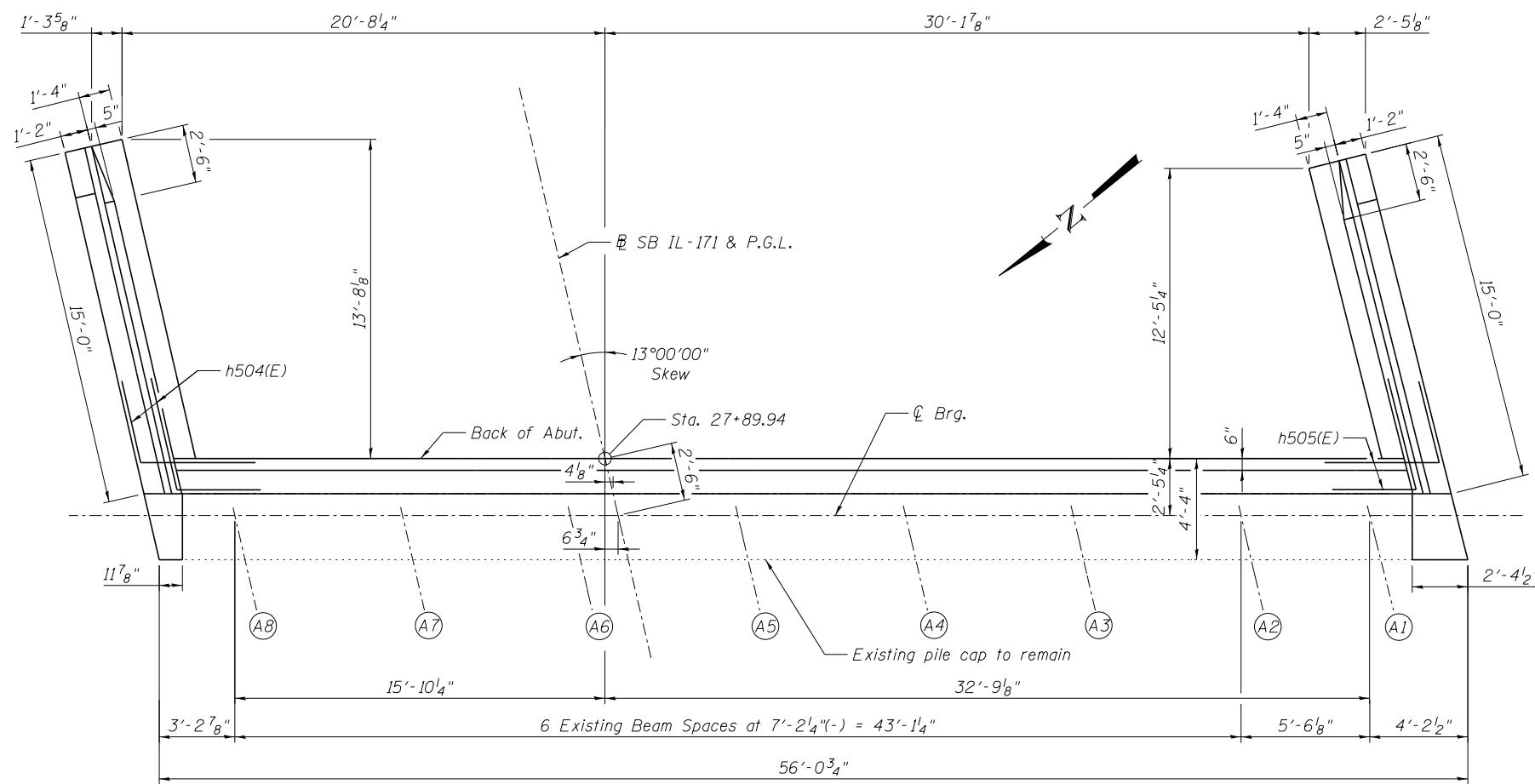
MINIMUM BAR LAP

(Abutment)
 #5 bar = 3'-3"
 #6 bar = 3'-10"



ELEVATION

(Looking downstation / East)



EAST WINGWALL

TOP VIEW

WEST WINGWALL

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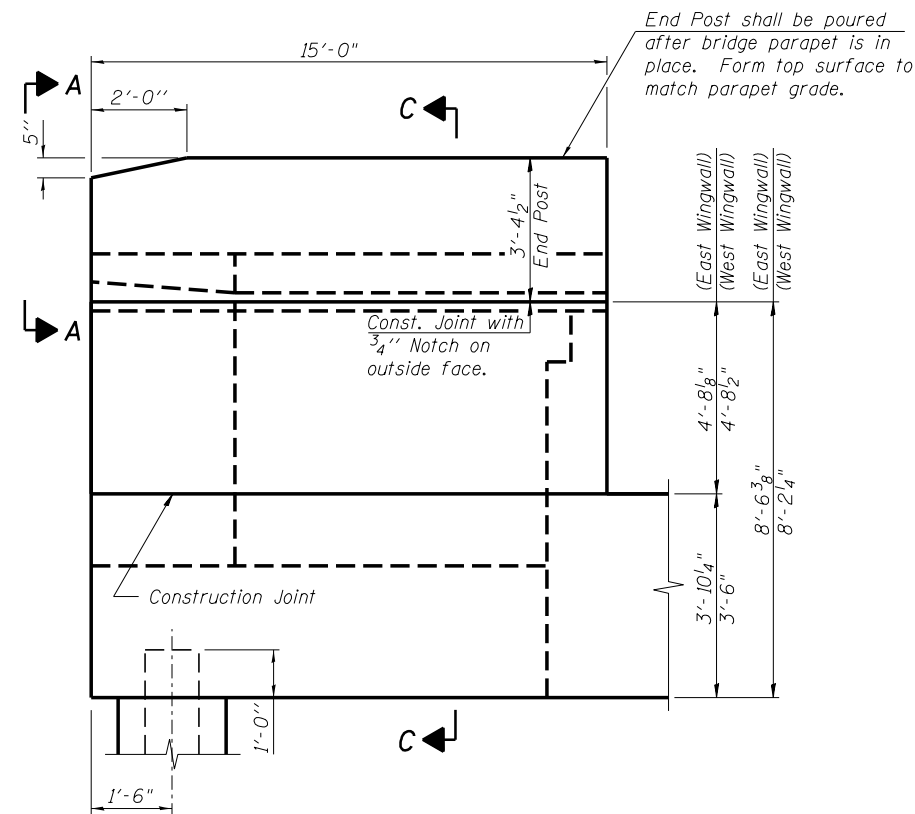
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		DRAWN - KMS	REVISIONS -
		CHECKED - AJK	REVISIONS -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT WIDENING DETAILS (2 OF 3)
 STRUCTURE NO. 016-0486**

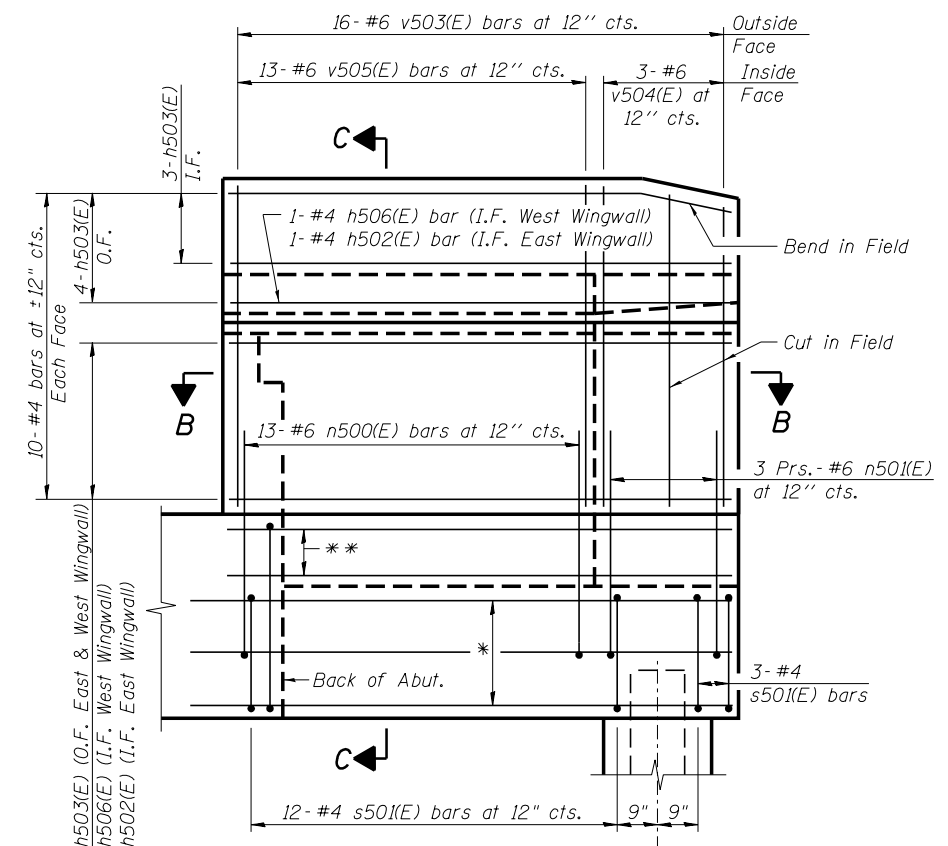
SHEET NO. SG75 OF SG100 SHEETS

F.A.P. RTE. 373	SECTION 2013-038B-R	COUNTY COOK	TOTAL SHEETS 821	SHEET NO. 665
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	



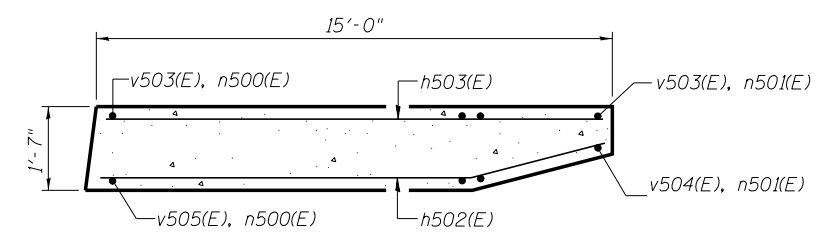
WINGWALL ELEVATION
Showing Dimensions

End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.

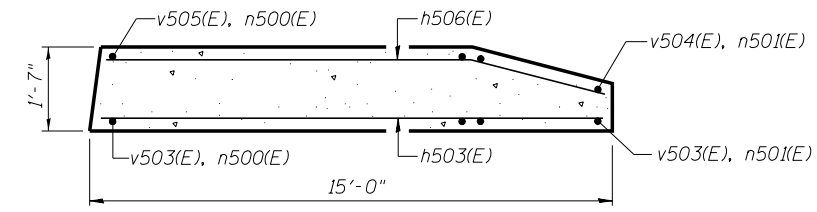


WINGWALL ELEVATION
Showing Reinforcement

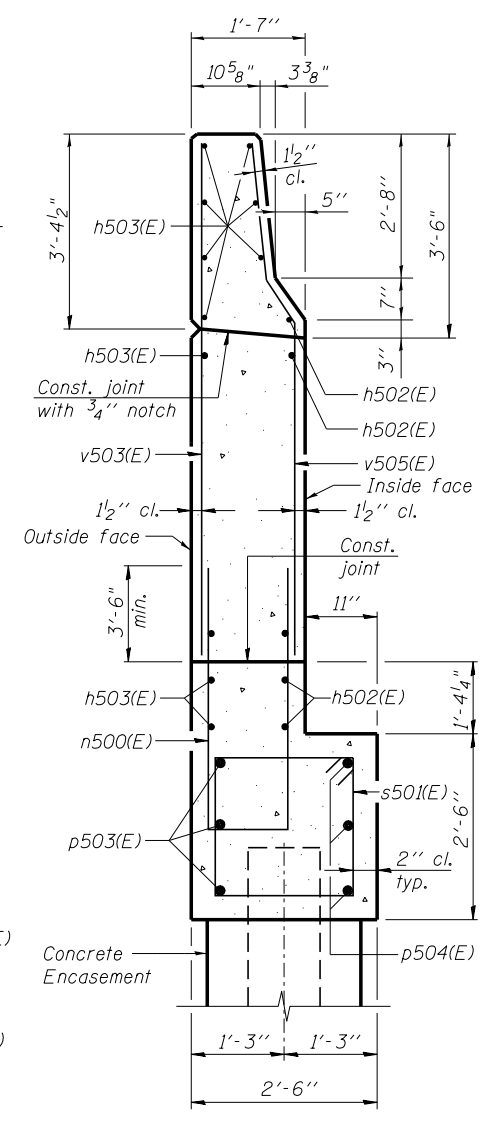
- * 3-#7 p503(E) bars (O.F. West Wingwall)
- 3-#7 p505(E) bars (I.F. West Wingwall)
- 3-#7 p504(E) bars (I.F. East Wingwall)
- 3-#7 p503(E) bars (O.F. East Wingwall)
- ** 2-#4 h503(E) bars (O.F. West & East Wingwall)
- 2-#4 h506(E) bars (I.F. West Wingwall)
- 2-#4 h502(E) bars (I.F. East Wingwall)



SECTION B-B
East Wingwall

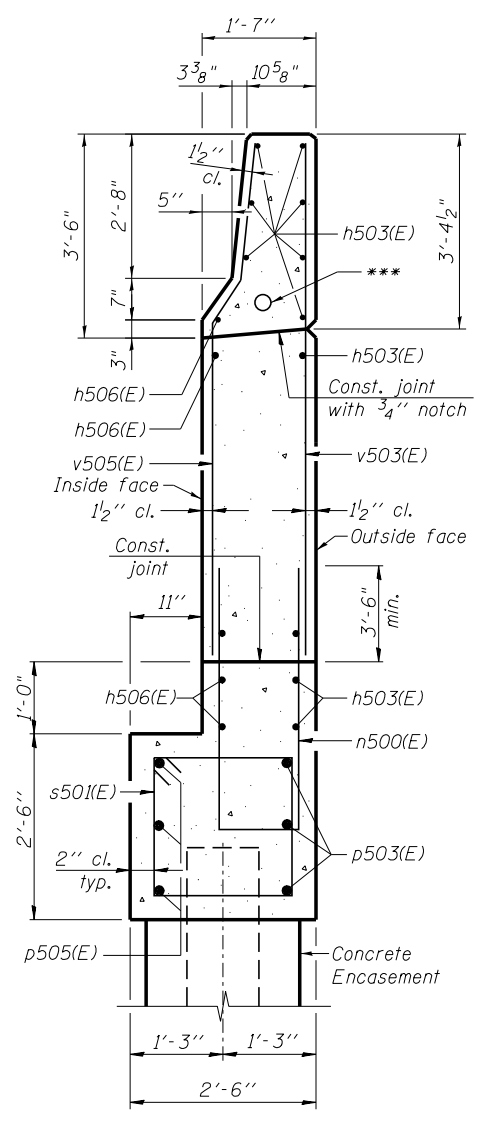


SECTION B-B
West Wingwall

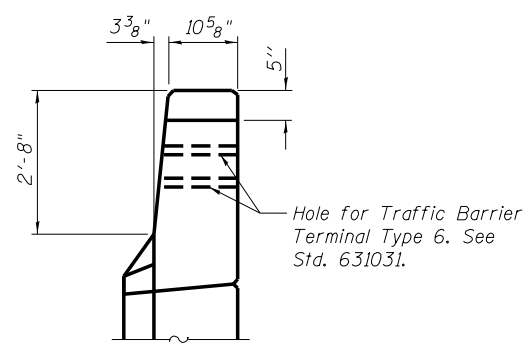


SECTION C-C
(East Wingwall)

*** 1 - 2" ∅ PVC Conduit. See Electrical Plans for Details.



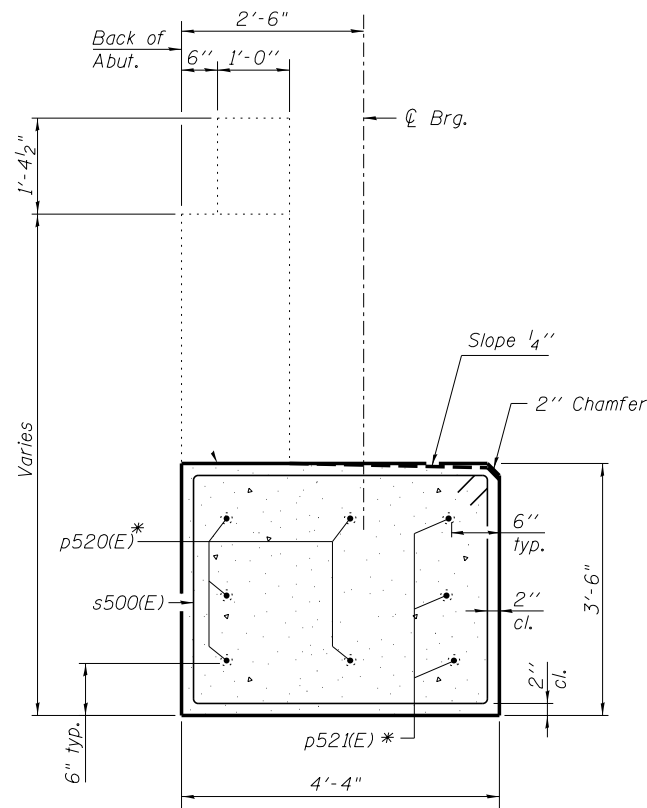
SECTION C-C
(West Wingwall)



VIEW A-A

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	PLOT DATE = 8/6/2014		

F.A.P. RT.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	666
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

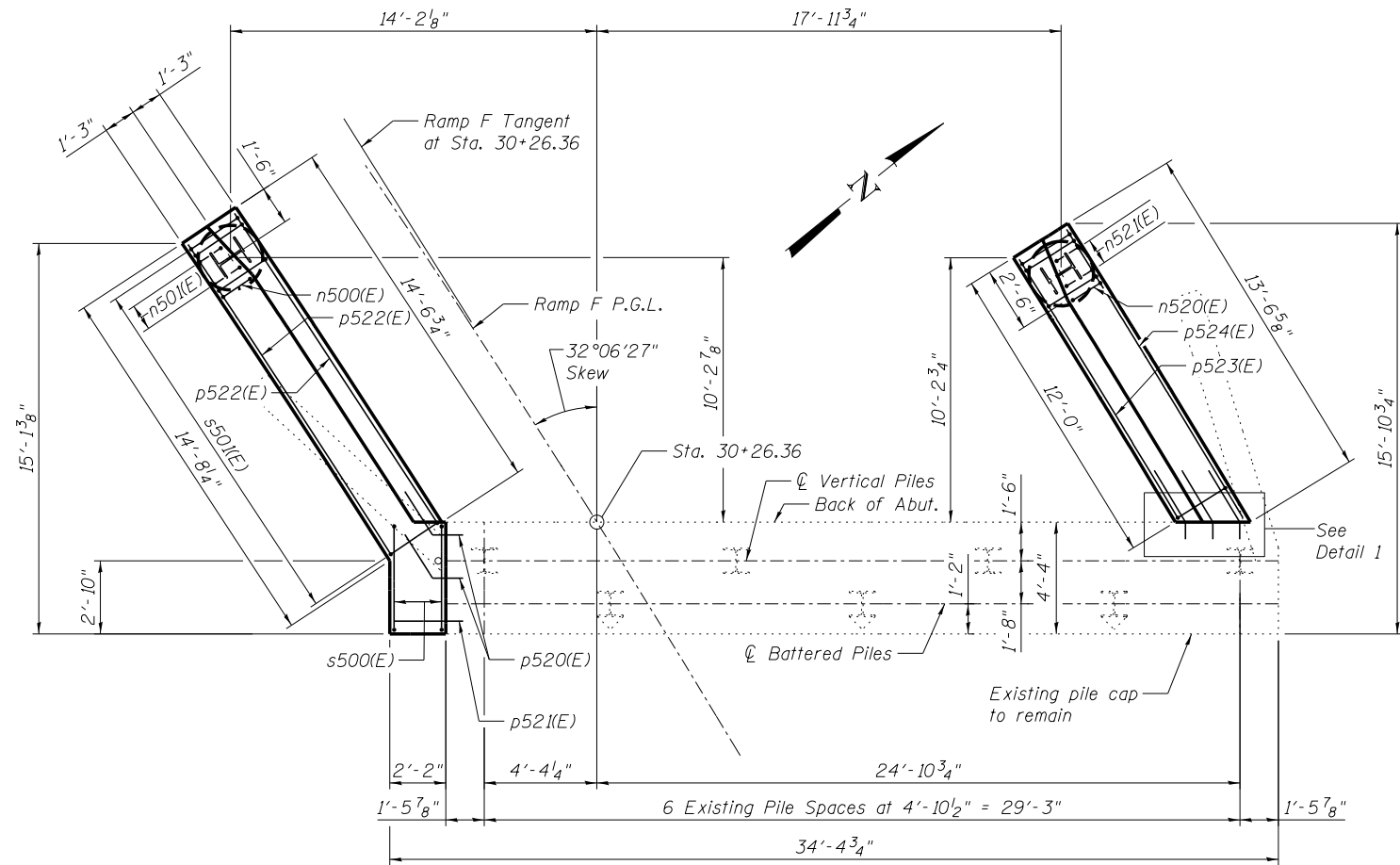


SEC. THRU ABUT. WIDENING

*Drill and grout bars according to Article 584 of the Std. Specs. with a minimum embedment of 8". Cost included with Concrete Structures.

NOTES:

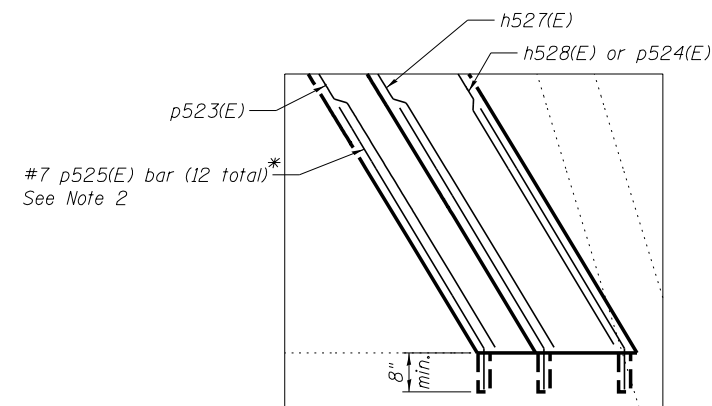
1. See Sheet SG78 for abutment elevation backwall details and for wingwall details.
2. The p525(E) bars shall lap with the p523(E), p524(E), h527(E), and h528(E) bars. See Section C-C (East Wingwall) on Sheet SG79.



WEST WINGWALL

EAST WINGWALL

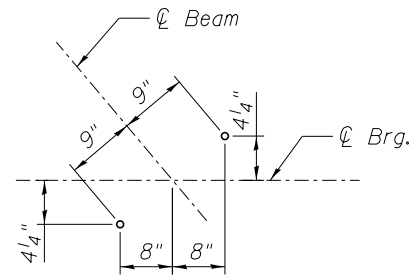
PLAN - PILE CAP



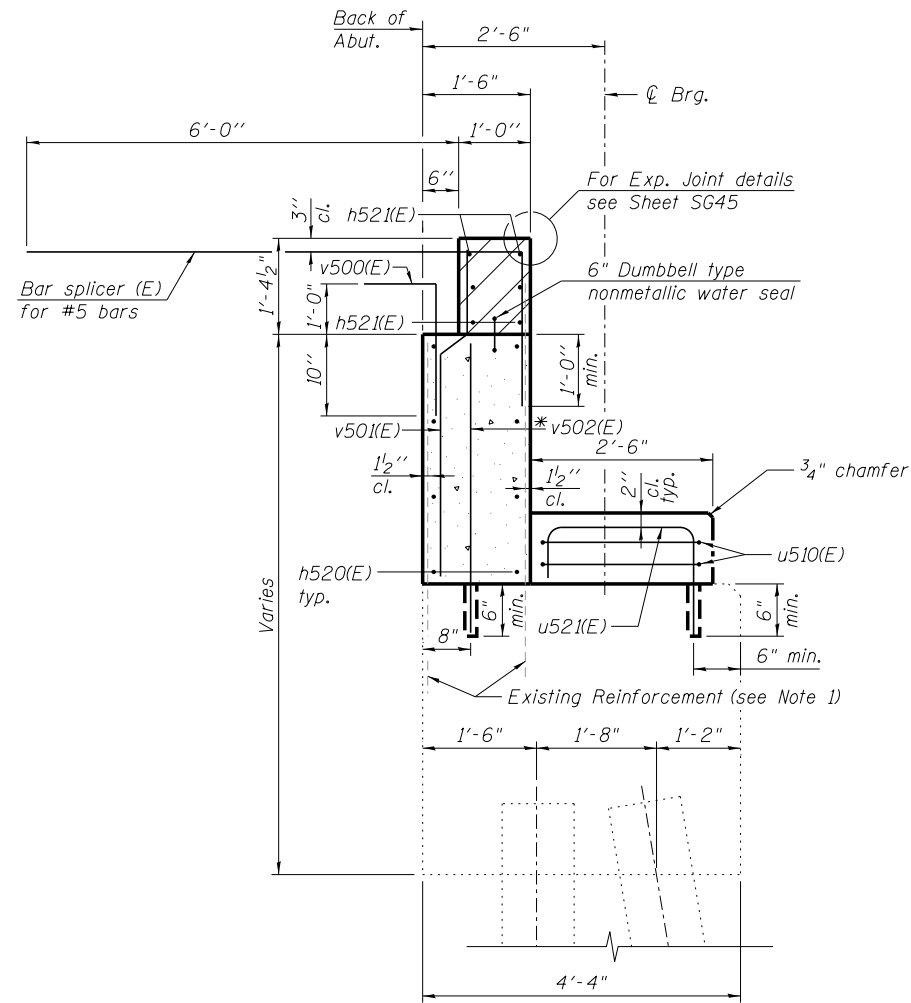
DETAIL 1

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	PLOT DATE = 8/6/2014		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	667
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				



ANCHOR BOLT LAYOUT



SEC. THRU EXISTING ABUT.

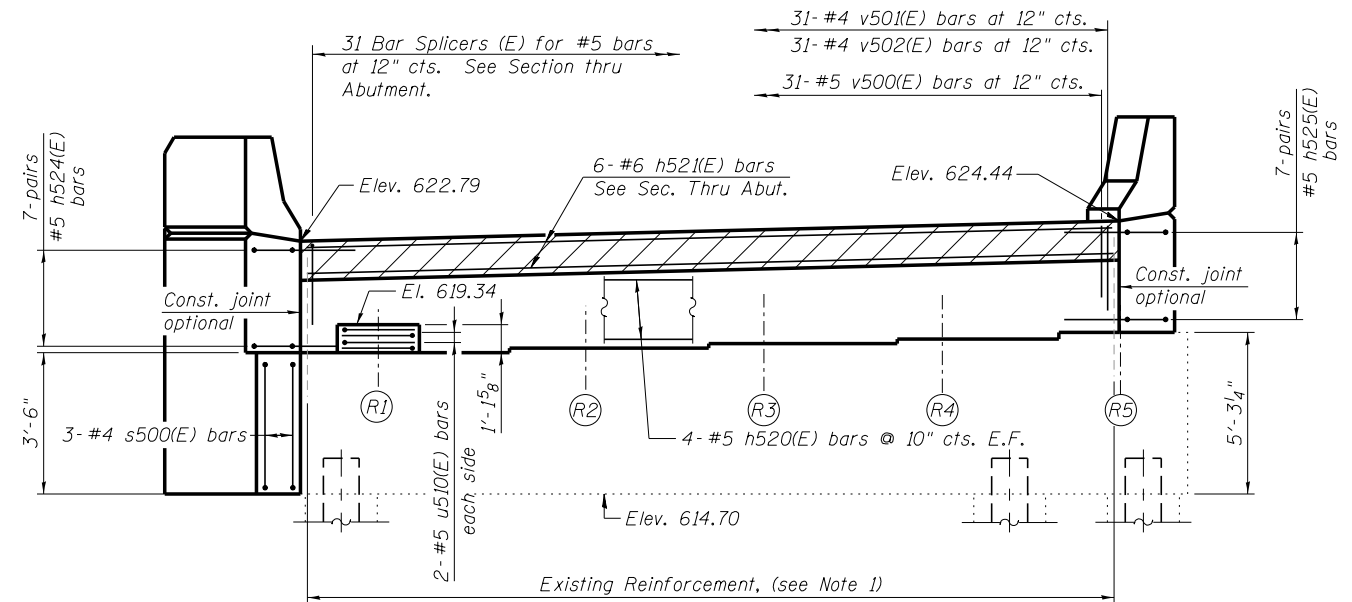
*Drill and grout bars according to Article 584 of the Std. Specs. with a minimum embedment of 6". Cost included with Concrete Structures.

NOTES:

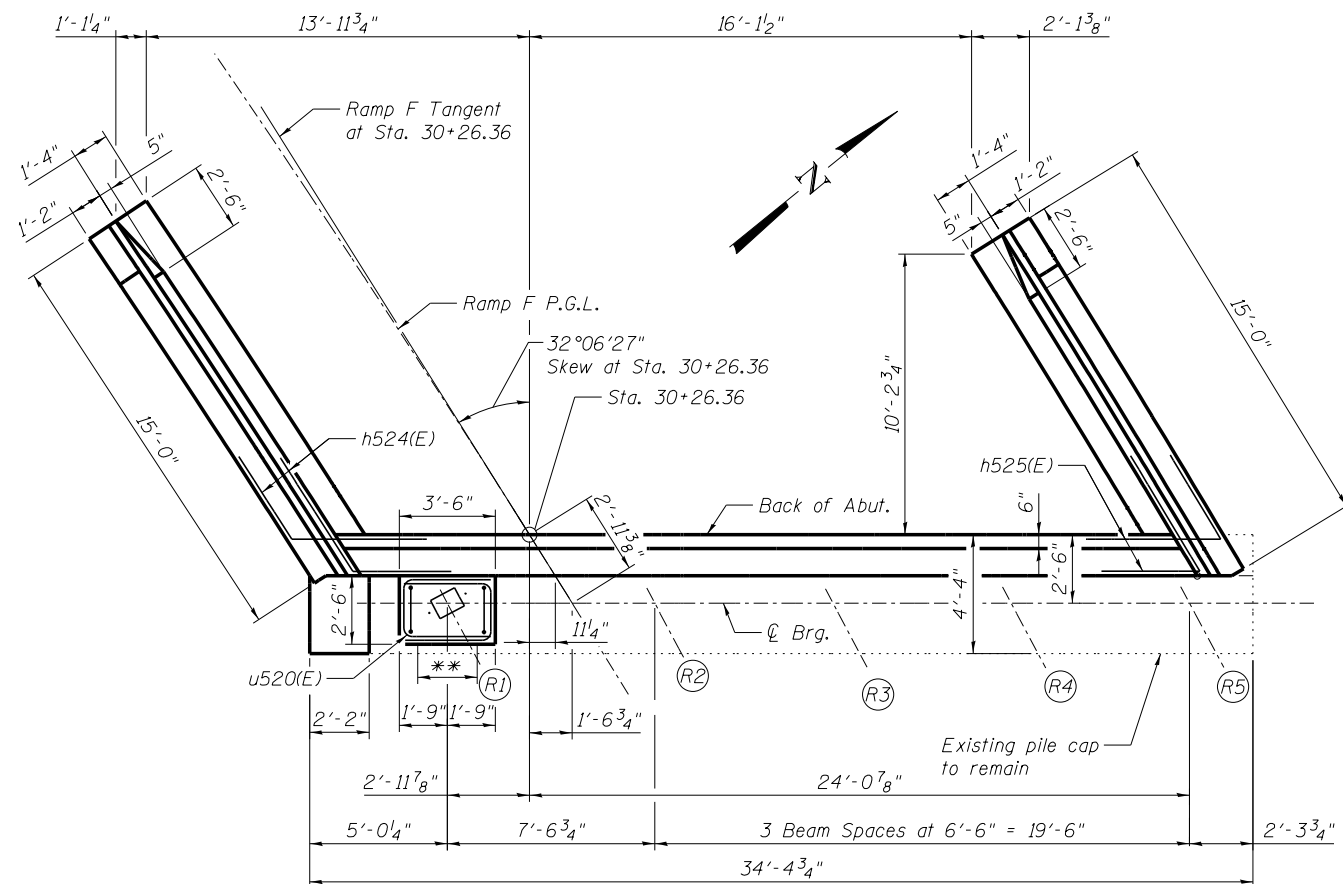
- Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with concrete removal.
- Space reinforcement in cap to miss anchor bolts.

MINIMUM BAR LAP

(Abutment)
 #5 bar = 3'-3"
 #6 bar = 3'-10"



ELEVATION
 (Looking downstation / West)



WEST WINGWALL

TOP VIEW

EAST WINGWALL

** 4- #5 u521(E) bars at 12"
 Space to miss anchor bolts

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		DRAWN - KMS	REVISED -
		CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

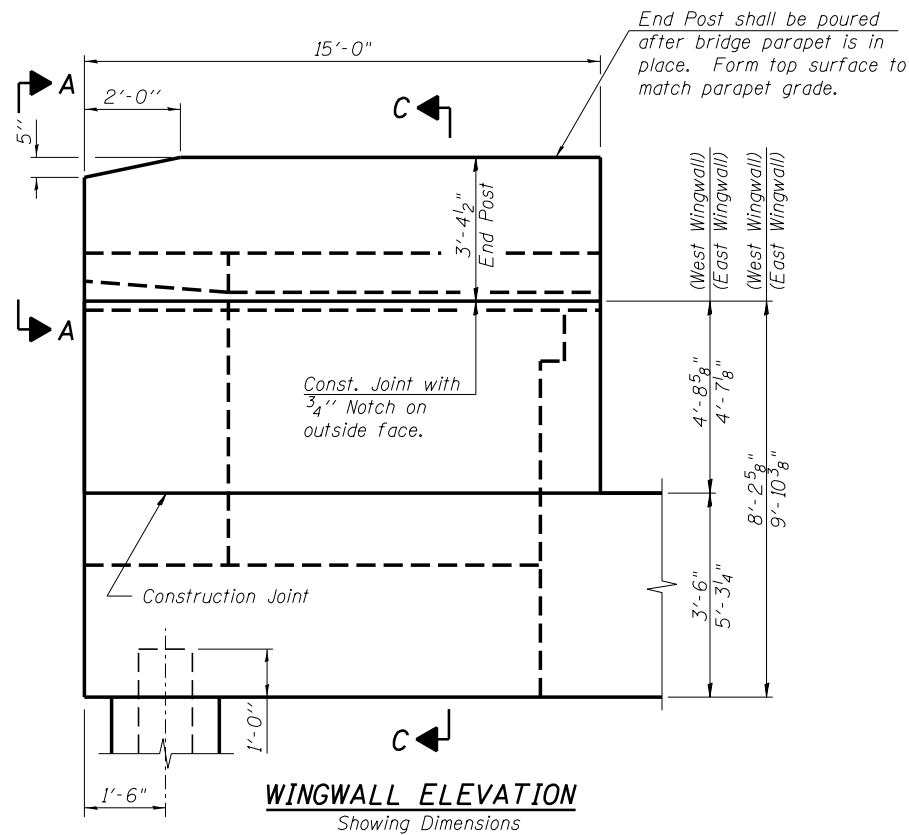
RAMP F ABUTMENT WIDENING DETAILS (2 OF 3)
STRUCTURE NO. 016-0486

SHEET NO. SG78 OF SG100 SHEETS

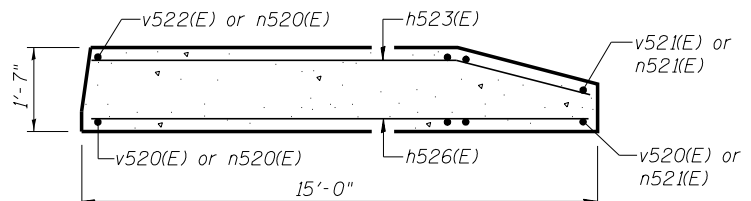
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	668
CONTRACT NO.			60J16	

ILLINOIS FED. AID PROJECT

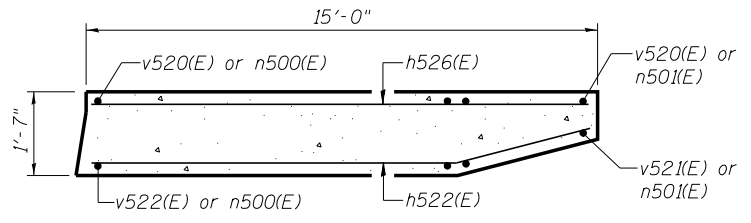
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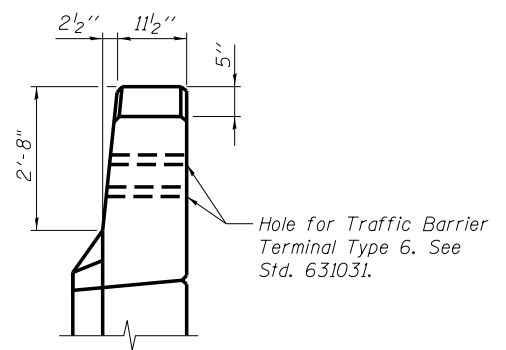
WINGWALL ELEVATION
Showing Dimensions



SECTION B-B
East Wingwall

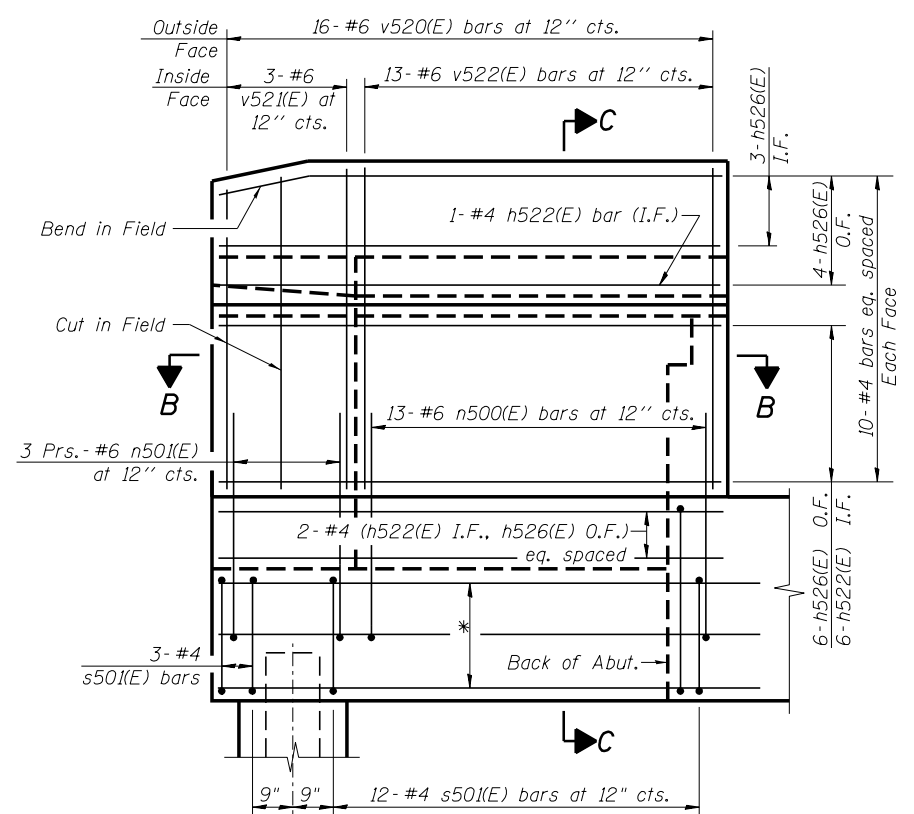


SECTION B-B
West Wingwall

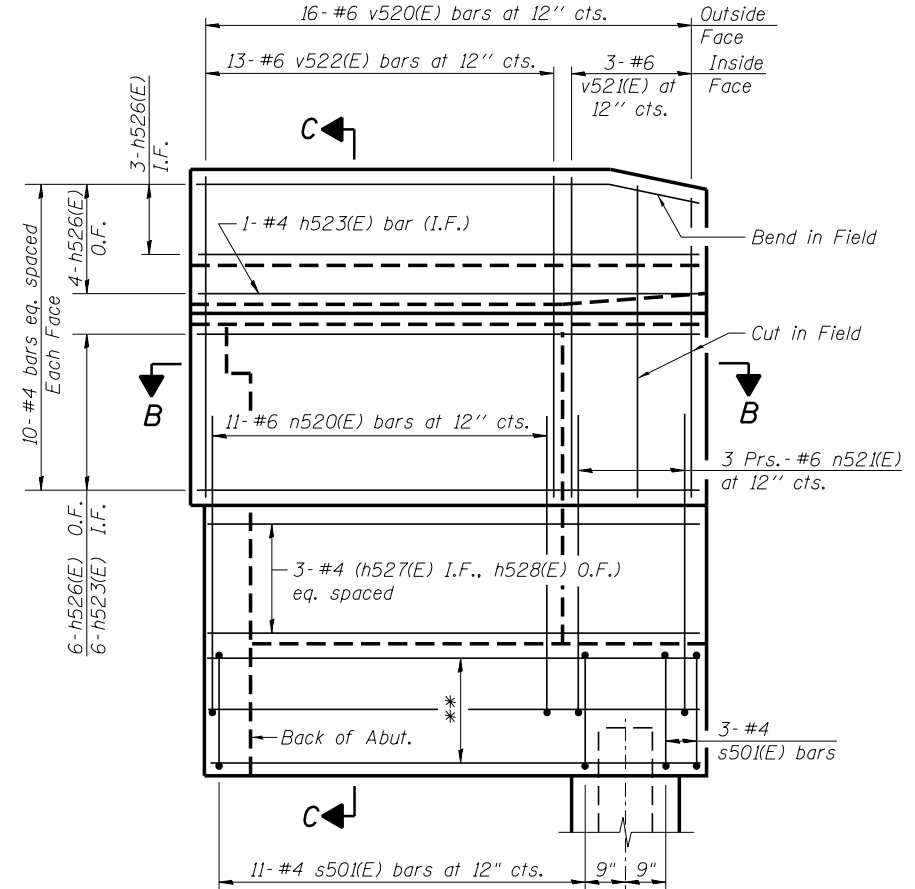


VIEW A-A

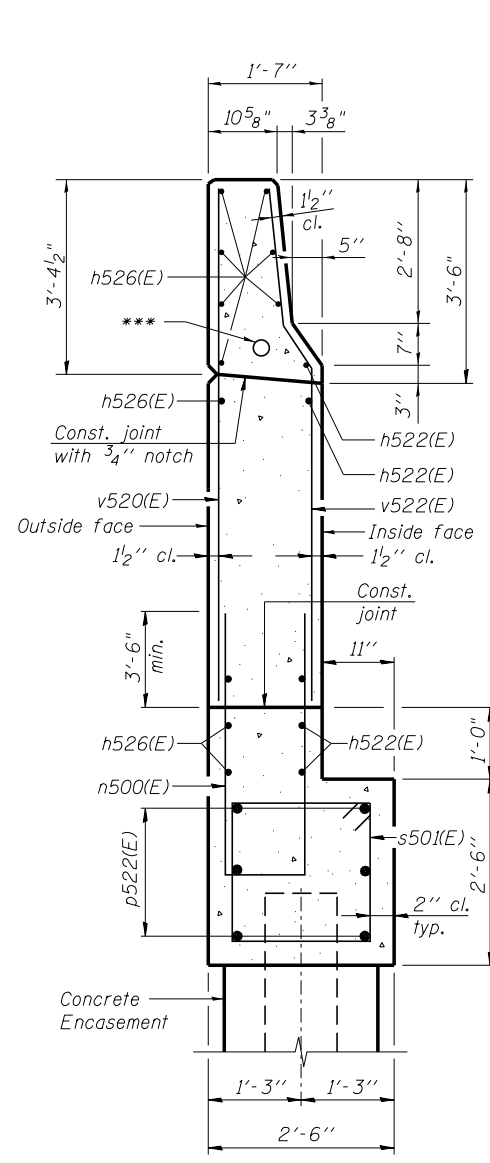
*** 1 - 2" ϕ PVC Conduit. See Electrical Plans for details.



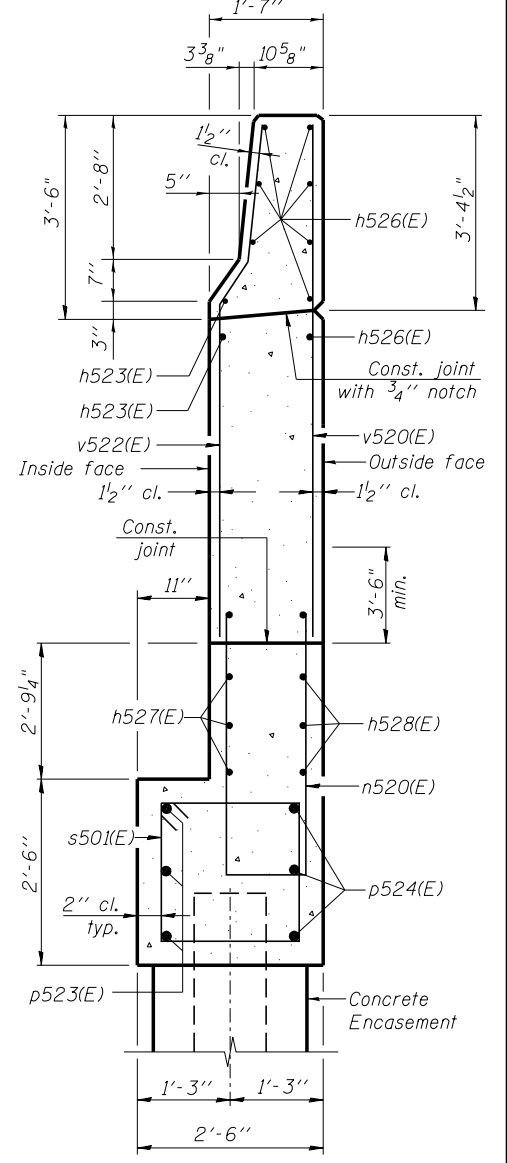
WEST WINGWALL ELEVATION
Showing Reinforcement



EAST WINGWALL ELEVATION
Showing Reinforcement



SECTION C-C
(West Wingwall)



SECTION C-C
(East Wingwall)



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312-565-0450 Job No. 10093

* 3 - #7 p522(E) bars (O.F.)
3 - #7 p522(E) bars (I.F.)

** 3 - #7 p523(E) bars (I.F.)
3 - #7 p524(E) bars (O.F.)

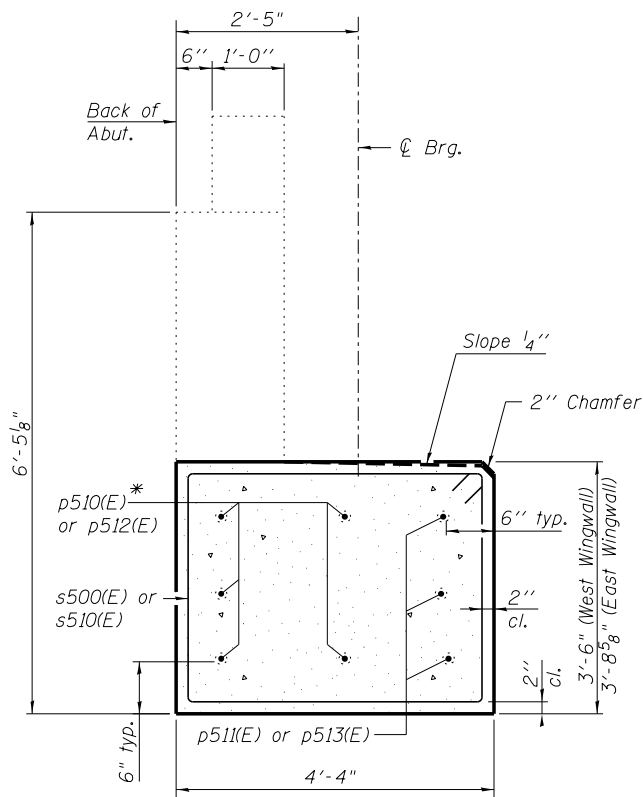
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			REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAMP F ABUTMENT WIDENING DETAILS (3 OF 3)
STRUCTURE NO. 016-0486

SHEET NO. SG79 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-0388-R	COOK	821	669
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

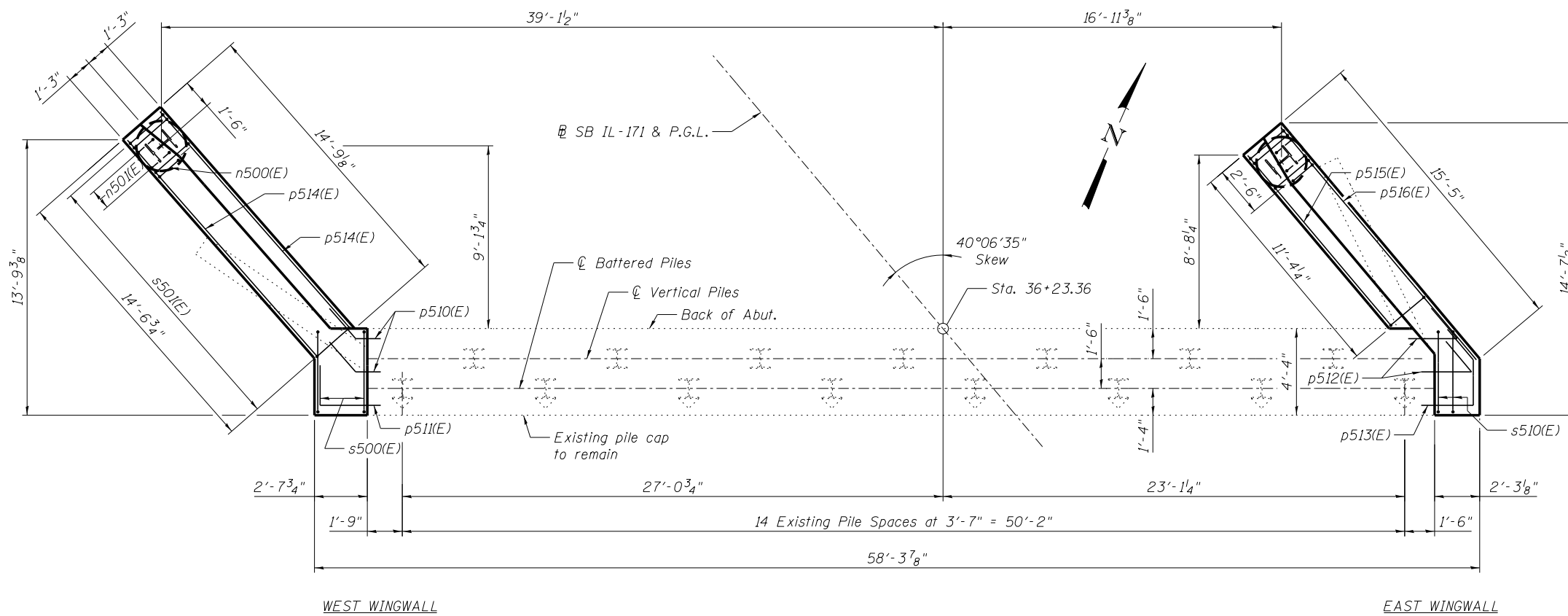


SEC. THRU ABUT. WIDENING

*Drill and grout bars according to Article 584 of the Std. Specs. with a minimum embedment of 8". Cost included with Concrete Structures.

NOTES:

1. See Sheet SG81 for abutment elevation backwall details and for wingwall details.



PLAN - PILE CAP

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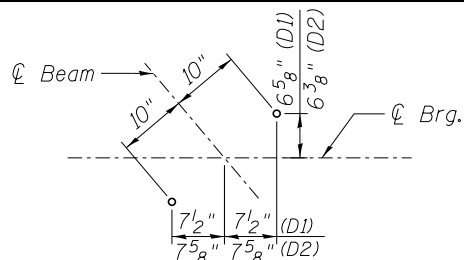
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

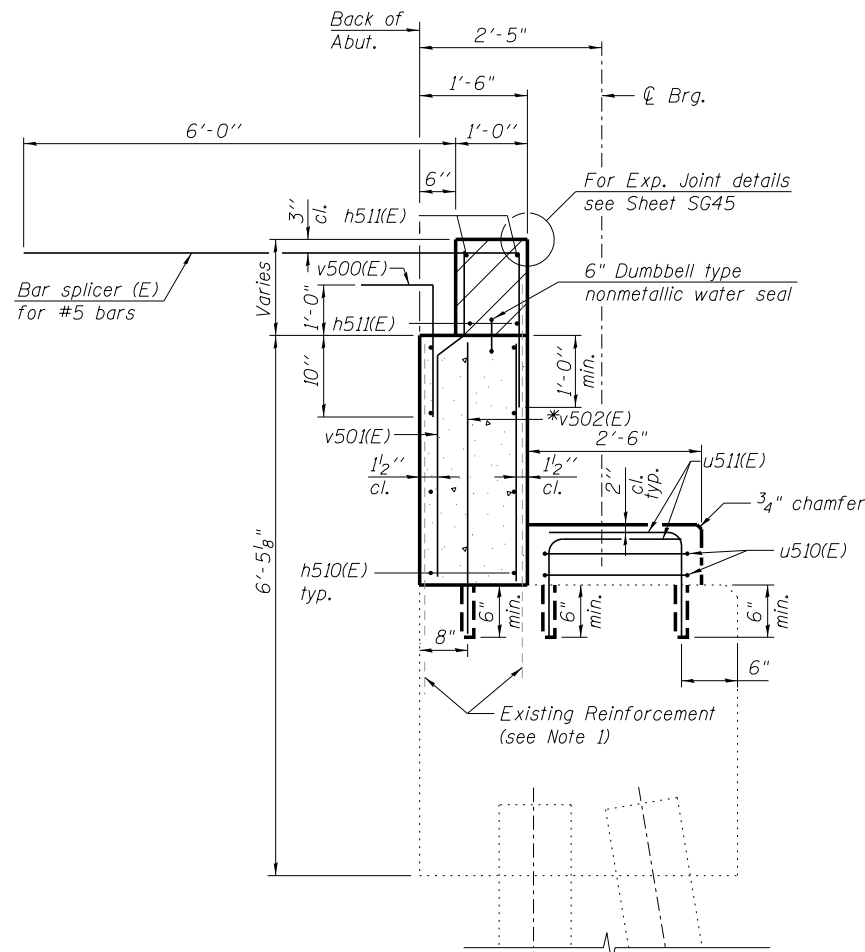
**NORTH ABUTMENT WIDENING DETAILS (1 OF 3)
STRUCTURE NO. 016-0486**

F.A.P. RTE. = 373	SECTION = 2013-038B-R	COUNTY = COOK	TOTAL SHEETS = 821	SHEET NO. = 670
CONTRACT NO. 60J16				ILLINOIS FED. AID PROJECT

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ANCHOR BOLT LAYOUT

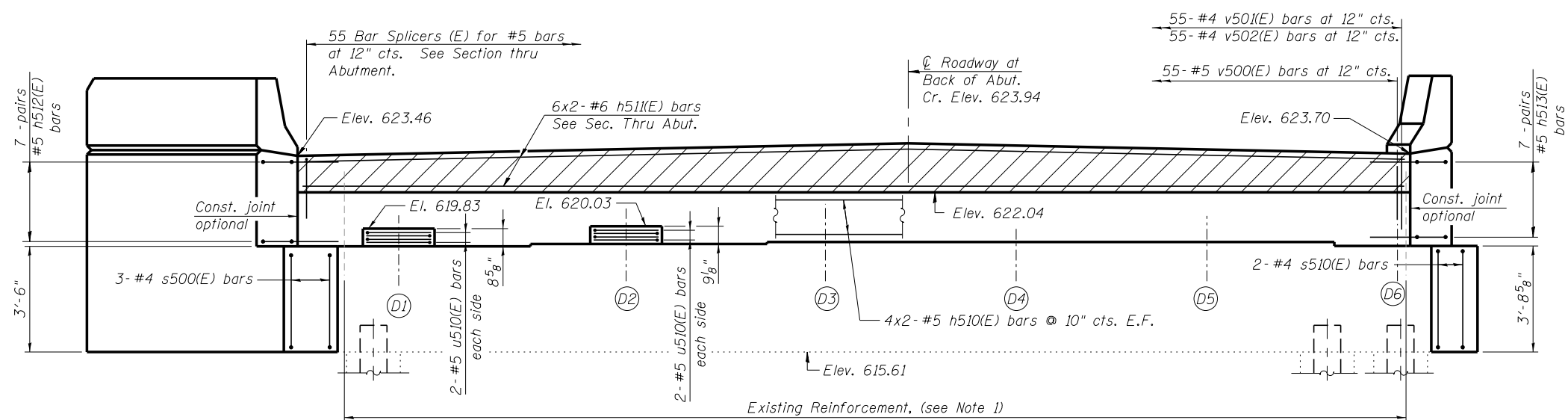


SEC. THRU EXISTING ABUT.

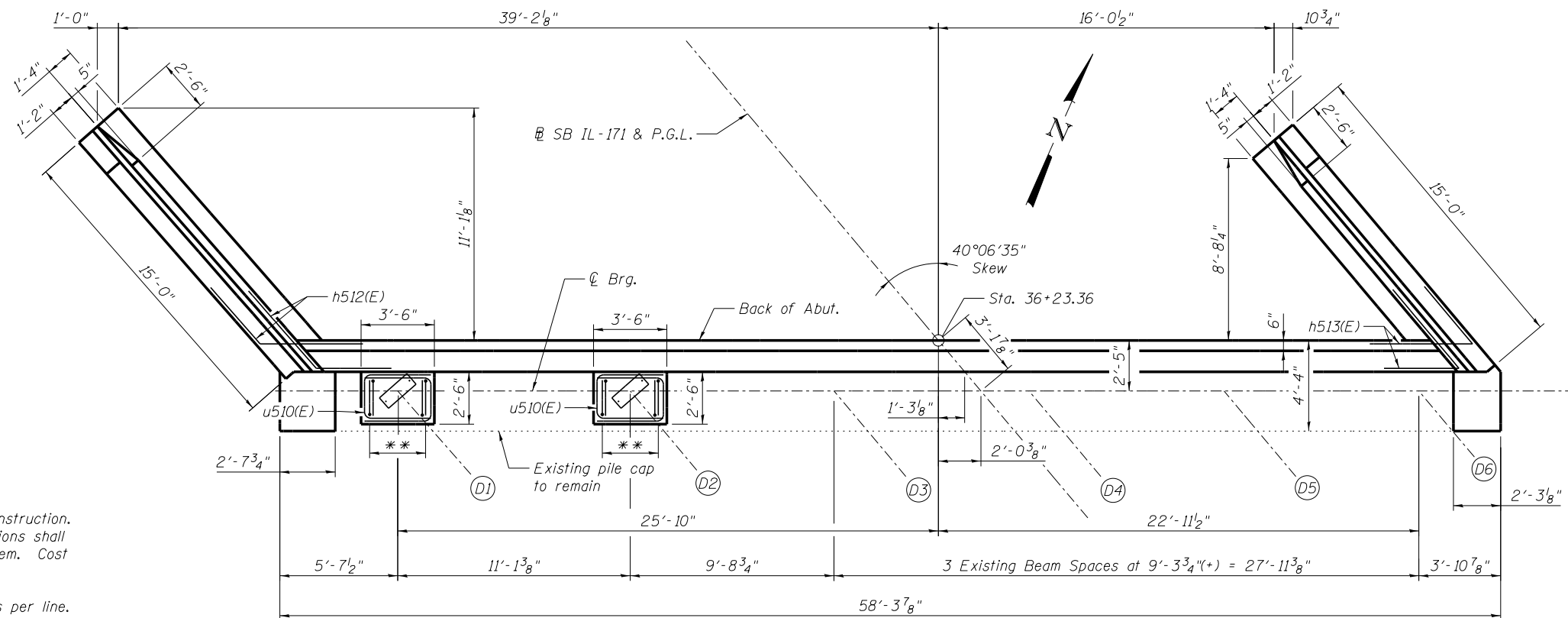
*Drill and grout bars according to Article 584 of the Std. Specs. with a minimum embedment of 6". Cost included with Concrete Structures.

NOTES:

- Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with concrete removal.
- Bars indicated thus 6x2-#5 etc. indicates 6 lines of bars with 2 lengths per line.
- Space reinforcement in cap to miss anchor bolts.



ELEVATION



WEST WINGWALL

EAST WINGWALL

** 4-#5 u511(E) bars at 12" (in pairs)
Space to miss anchor bolts

TOP VIEW

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FILE NAME =	USER NAME = jsurber	DESIGNED - AWH	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

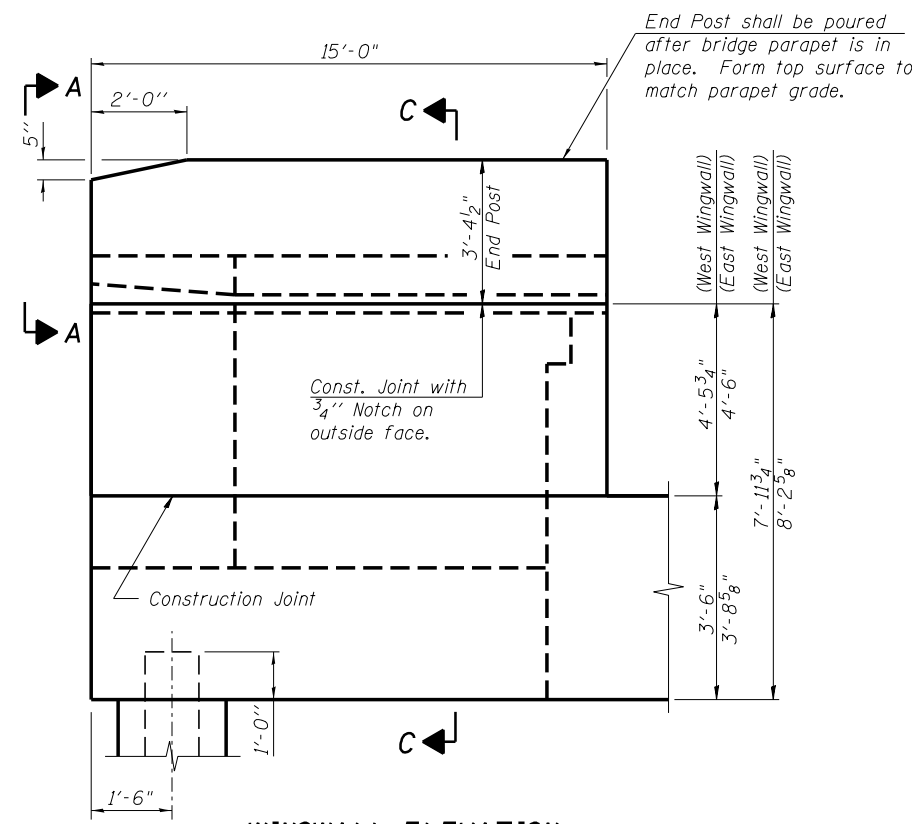
**NORTH ABUTMENT WIDENING DETAILS (2 OF 3)
STRUCTURE NO. 016-0486**

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CONTRACT NO. = 60J16				

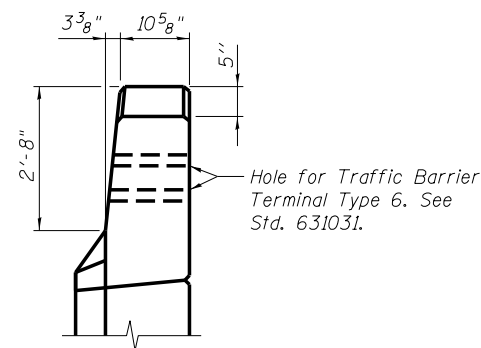
SHEET NO. SG81 OF SG100 SHEETS

ILLINOIS FED. AID PROJECT

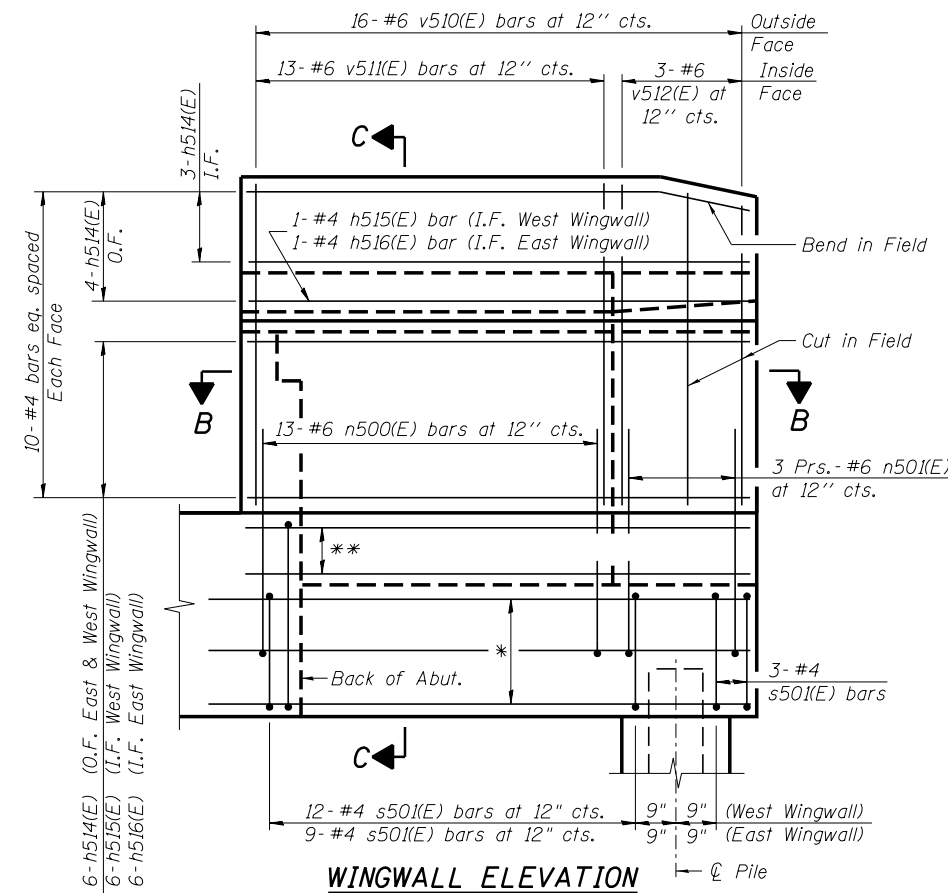
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WINGWALL ELEVATION
Showing Dimensions

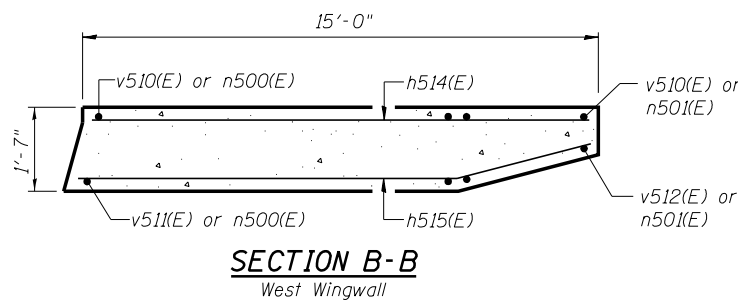


VIEW A-A

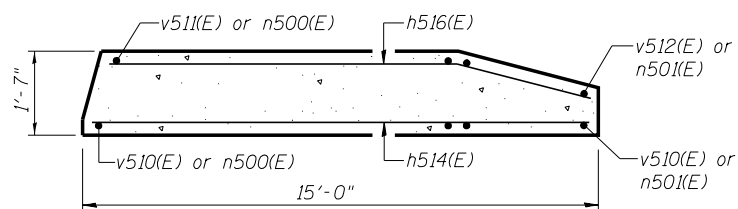


WINGWALL ELEVATION
Showing Reinforcement

- * 3-#7 p514(E) bars (O.F. West Wingwall)
- 3-#7 p514(E) bars (I.F. West Wingwall)
- 3-#7 p515(E) bars (I.F. East Wingwall)
- 3-#7 p516(E) bars (O.F. East Wingwall)
- ** 2-#7 h514(E) bars (O.F. West & East Wingwall)
- 2-#7 h515(E) bars (I.F. West Wingwall)
- 2-#7 h516(E) bars (I.F. East Wingwall)

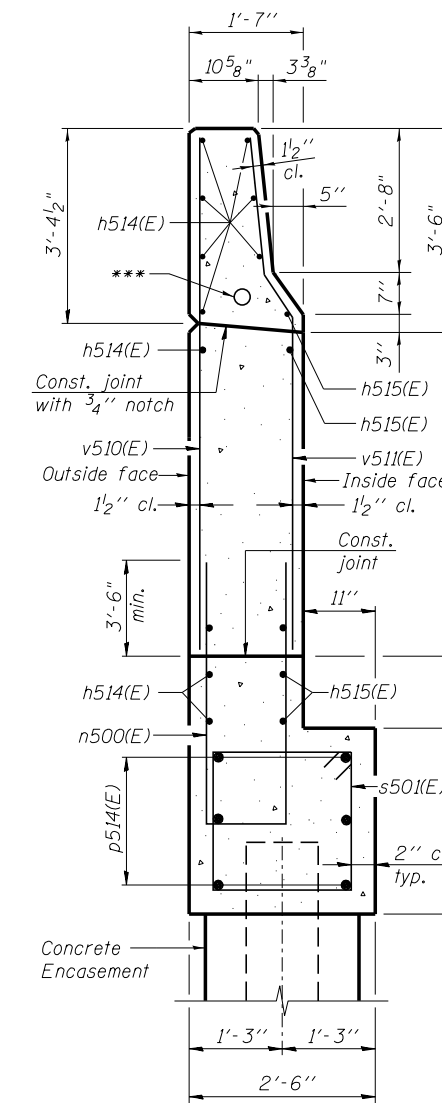


SECTION B-B
West Wingwall

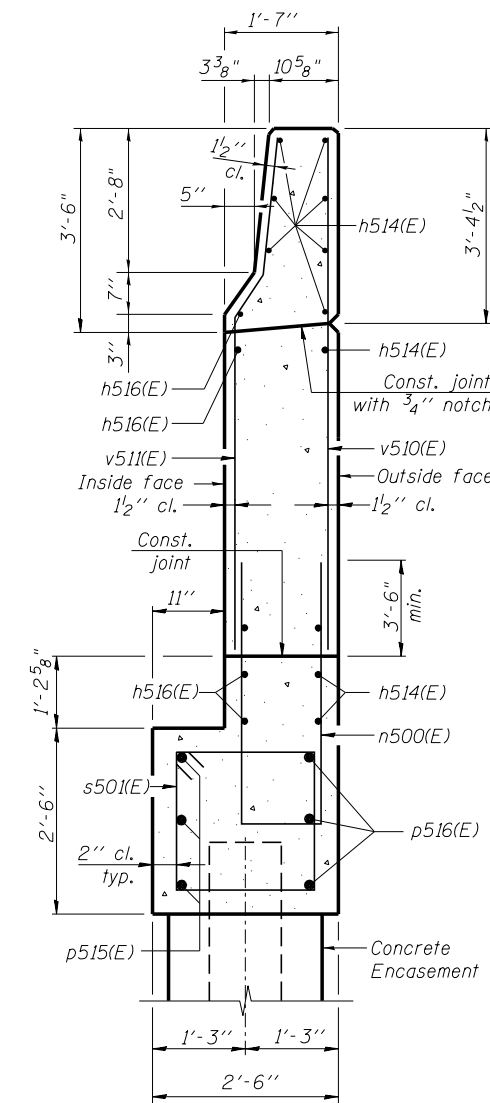


SECTION B-B
East Wingwall

*** 1 - 2" ϕ PVC Conduit. See Electrical Plans for details.



SECTION C-C
(West Wingwall)



SECTION C-C
(East Wingwall)

FILE NAME =	USER NAME = jsurber	DESIGNED - AWH	REVISED -
0160486.60J16.082.N.Abut.Widening.Details-016.5000	PLLOT DATE = 8/6/2014	CHECKED - AJK	REVISED -
		DRAWN - KMS	REVISED -
		CHECKED - AJK	REVISED -

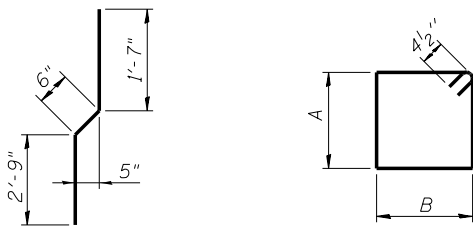
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	672
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

**SOUTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h500(E)	16	#5	28'-0"	▬
h501(E)	12	#6	28'-3"	▬
h502(E)	9	#4	15'-0"	▬
h503(E)	30	#4	14'-7"	▬
h504(E)	14	#5	8'-6"	▬
h505(E)	14	#5	8'-6"	▬
h506(E)	9	#4	14'-4"	▬
n500(E)	26	#6	13'-10"	▬
n501(E)	12	#6	6'-11"	▬
p500(E)	8	#7	3'-3"	▬
p501(E)	5	#7	3'-1"	▬
p502(E)	3	#7	4'-7"	▬
p503(E)	6	#7	17'-6"	▬
p504(E)	3	#7	13'-8"	▬
p505(E)	3	#7	12'-6"	▬
s500(E)	3	#4	15'-1"	▬
s501(E)	30	#4	9'-5"	▬
s502(E)	2	#4	15'-9"	▬
v500(E)	53	#5	3'-9"	▬
v501(E)	53	#4	4'-10"	▬
v502(E)	53	#6	3'-3"	▬
v503(E)	32	#6	7'-9"	▬
v504(E)	6	#6	7'-4"	▬
v505(E)	26	#6	8'-1"	▬
Structure Excavation		Cu. Yd.	149	
Concrete Structures		Cu. Yd.	24.9	
Concrete Superstructure		Cu. Yd.	4.0	
Reinforcement Bars, Epoxy Coated		Pound	4,480	
Furnishing Steel Piles HPI2x53		Foot	80	
Driving Piles		Foot	80	
Pile Shoes		Each	2	
Concrete Encasement		Cu. Yd.	0.7	
Concrete Sealer		Sq. Ft.	310	
Granular Backfill for Structures		Cu. Yd.	104	

PILE DATA

Type: HPI2x53 with Pile Shoes
Nominal Required Bearing: 225 kips
Allowable Resistance Available: 75 kips
Est. Length: 40 ft.
No. Production Piles: 2
No. Test Piles: 0



BAR v501(E)

BARS s500(E), s501(E), s502(E) & s510(E)

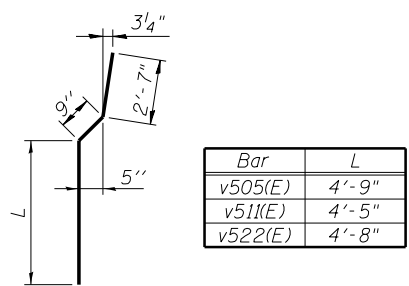
Bar	A	B
s500(E)	3'-2"	4'-0"
s501(E)	2'-2"	2'-2"
s502(E)	3'-6"	4'-0"
s510(E)	3'-4"	4'-0"

**NORTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h510(E)	16	#5	28'-9"	▬
h511(E)	12	#6	29'-0"	▬
h512(E)	14	#5	8'-6"	▬
h513(E)	14	#5	8'-6"	▬
h514(E)	30	#4	14'-8"	▬
h515(E)	9	#4	15'-6"	▬
h516(E)	9	#4	13'-11"	▬
n500(E)	26	#6	13'-10"	▬
n501(E)	12	#6	6'-11"	▬
p510(E)	5	#7	3'-3"	▬
p511(E)	3	#7	5'-2"	▬
p512(E)	5	#7	4'-6"	▬
p513(E)	3	#7	7'-0"	▬
p514(E)	6	#7	14'-5"	▬
p515(E)	3	#7	11'-1"	▬
p516(E)	3	#7	15'-2"	▬
s500(E)	3	#4	15'-1"	▬
s501(E)	27	#4	9'-5"	▬
s510(E)	2	#4	15'-5"	▬
u510(E)	8	#5	8'-6"	▬
u511(E)	16	#5	3'-2"	▬
v500(E)	55	#5	3'-9"	▬
v501(E)	55	#4	4'-10"	▬
v502(E)	55	#6	3'-3"	▬
v510(E)	32	#6	7'-8"	▬
v511(E)	26	#6	7'-9"	▬
v512(E)	6	#6	7'-3"	▬
Structure Excavation		Cu. Yd.	69	
Concrete Structures		Cu. Yd.	23.5	
Concrete Superstructure		Cu. Yd.	4.0	
Reinforcement Bars, Epoxy Coated		Pound	4,630	
Furnishing Steel Piles HPI2x53		Foot	80	
Driving Piles		Foot	80	
Pile Shoes		Each	2	
Concrete Encasement		Cu. Yd.	0.7	
Concrete Sealer		Sq. Ft.	338	
Granular Backfill for Structures		Cu. Yd.	99	

PILE DATA

Type: HPI2x53 with Pile Shoes
Nominal Required Bearing: 225 kips
Allowable Resistance Available: 75 kips
Est. Length: 55 ft.
No. Production Piles: 2
No. Test Piles: 0



BARS v505(E), v511(E) & v522(E)

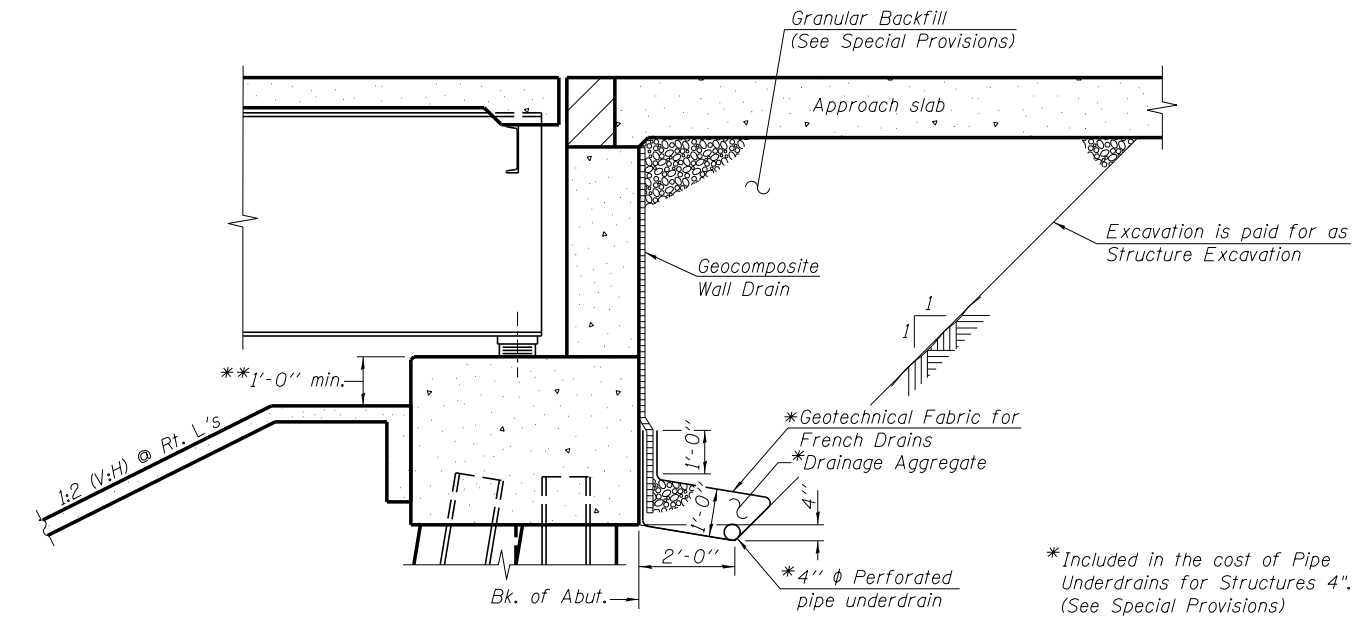
Bar	L
v505(E)	4'-9"
v511(E)	4'-5"
v522(E)	4'-8"

**RAMP F ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h520(E)	8	#5	30'-2"	▬
h521(E)	6	#6	30'-2"	▬
h522(E)	9	#4	15'-1"	▬
h523(E)	7	#4	14'-1"	▬
h524(E)	14	#5	8'-6"	▬
h525(E)	14	#5	8'-6"	▬
h526(E)	28	#4	14'-8"	▬
h527(E)	3	#4	12'-4"	▬
h528(E)	3	#4	13'-1"	▬
n500(E)	13	#6	13'-10"	▬
n501(E)	6	#6	6'-11"	▬
n520(E)	11	#6	16'-10"	▬
n521(E)	6	#6	8'-5"	▬
p520(E)	5	#7	3'-2"	▬
p521(E)	3	#7	4'-8"	▬
p522(E)	6	#7	14'-4"	▬
p523(E)	3	#7	11'-9"	▬
p524(E)	3	#7	13'-1"	▬
p525(E)	12	#7	5'-11"	▬
s500(E)	3	#4	15'-1"	▬
s501(E)	29	#4	9'-5"	▬
u510(E)	4	#5	8'-6"	▬
u521(E)	4	#5	4'-7"	▬
v500(E)	31	#5	3'-9"	▬
v501(E)	31	#4	4'-10"	▬
v502(E)	31	#6	3'-3"	▬
v520(E)	32	#6	7'-8"	▬
v521(E)	6	#6	7'-3"	▬
Structure Excavation		Cu. Yd.	78	
Concrete Structures		Cu. Yd.	25.7	
Concrete Superstructure		Cu. Yd.	4.0	
Reinforcement Bars, Epoxy Coated		Pound	3,840	
Furnishing Steel Piles HPI2x53		Foot	110	
Driving Piles		Foot	110	
Pile Shoes		Each	2	
Concrete Encasement		Cu. Yd.	0.7	
Concrete Sealer		Sq. Ft.	238	
Granular Backfill for Structures		Cu. Yd.	71	

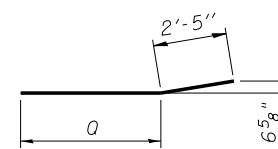
PILE DATA

Type: HPI2x53 with Pile Shoes
Nominal Required Bearing: 225 kips
Allowable Resistance Available: 75 kips
Est. Length: 55 ft.
No. Production Piles: 2
No. Test Piles: 0



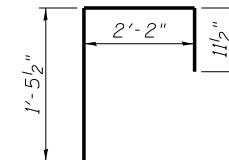
BACKFILL AND DRAINAGE DETAIL

Note:
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls (See Article 601.05 of the Standard Specifications and Highway Standard 60110).



BARS h502(E), h506(E), h515(E), h516(E), h522(E), h523(E) & h527(E)

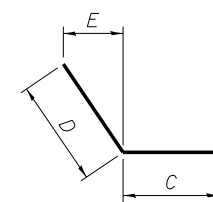
Bar	Q
h502(E)	12'-7"
h506(E)	11'-11"
h515(E)	13'-1"
h516(E)	11'-6"
h522(E)	12'-8"
h523(E)	11'-8"
h527(E)	9'-11"



BAR u521(E)

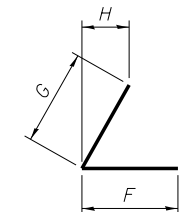
Bar	N	P
n500(E)	6'-3"	1'-4"
n520(E)	7'-9"	1'-4"
u510(E)	3'-2"	2'-2"

BARS n500(E), n520(E) & u510(E)



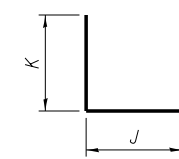
BARS h504(E), h512(E), h524(E), p500(E), p510(E), p520(E) & p525(E)

Bar	C	D	E
h504(E)	4'-11"	3'-7"	9 5/8"
h512(E)	4'-11"	3'-7"	2'-4 3/8"
h524(E)	4'-11"	3'-7"	1'-11 1/4"
p500(E)	1'-3"	2'-0"	5 3/8"
p510(E)	1'-3"	2'-0"	1'-3 7/8"
p520(E)	1'-2"	2'-0"	1'-0 7/8"
p525(E)	9"	5'-2"	4'-5 1/8"



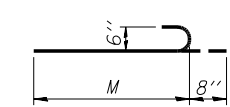
BARS h505(E), h513(E), h525(E), p501(E), p502(E) & p512(E)

Bar	F	G	H
h505(E)	3'-7"	4'-11"	1'-2 3/8"
h513(E)	4'-11"	3'-7"	2'-3 3/4"
h525(E)	3'-7"	4'-11"	2'-6 3/8"
p501(E)	1'-11"	2'-0"	5 7/8"
p502(E)	2'-7"	2'-0"	5 7/8"
p512(E)	2'-6"	2'-0"	1'-3 1/2"



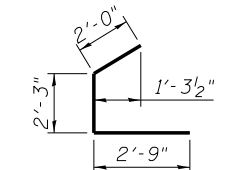
BARS p511(E), p521(E), v500(E) & u511(E)

Bar	J	K
p511(E)	2'-0"	3'-2"
p521(E)	2'-8"	2'-0"
v500(E)	1'-11"	1'-10"
u511(E)	1'-0"	2'-2"



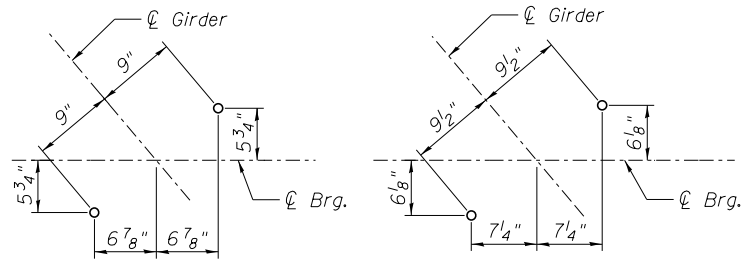
BARS n501(E) & n521(E)

Bar	M
n501(E)	6'-3"
n521(E)	7'-9"



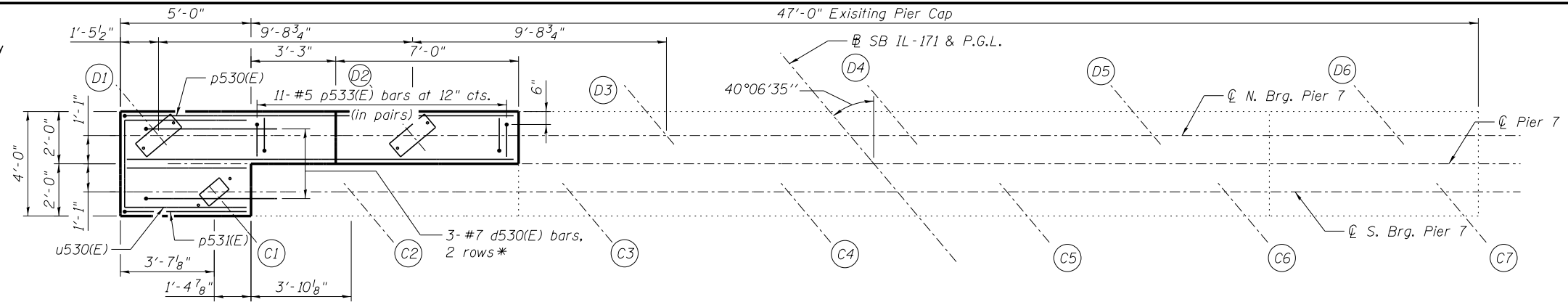
BAR p513(E)

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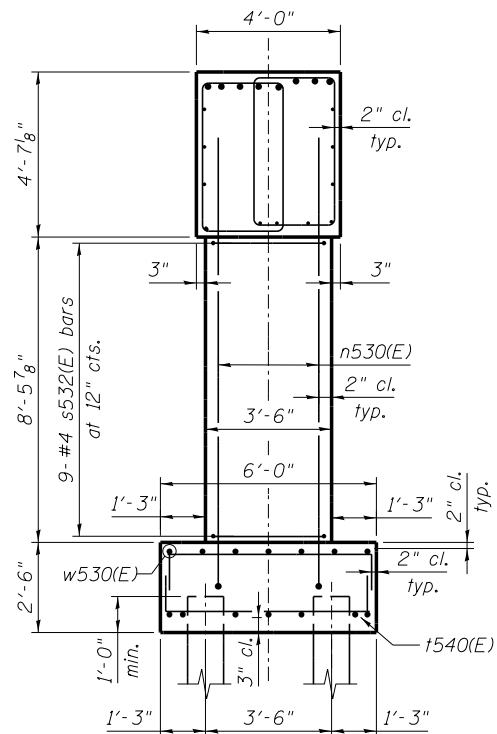


**ANCHOR BOLT LAYOUT
GIRDERS D1 & D2**

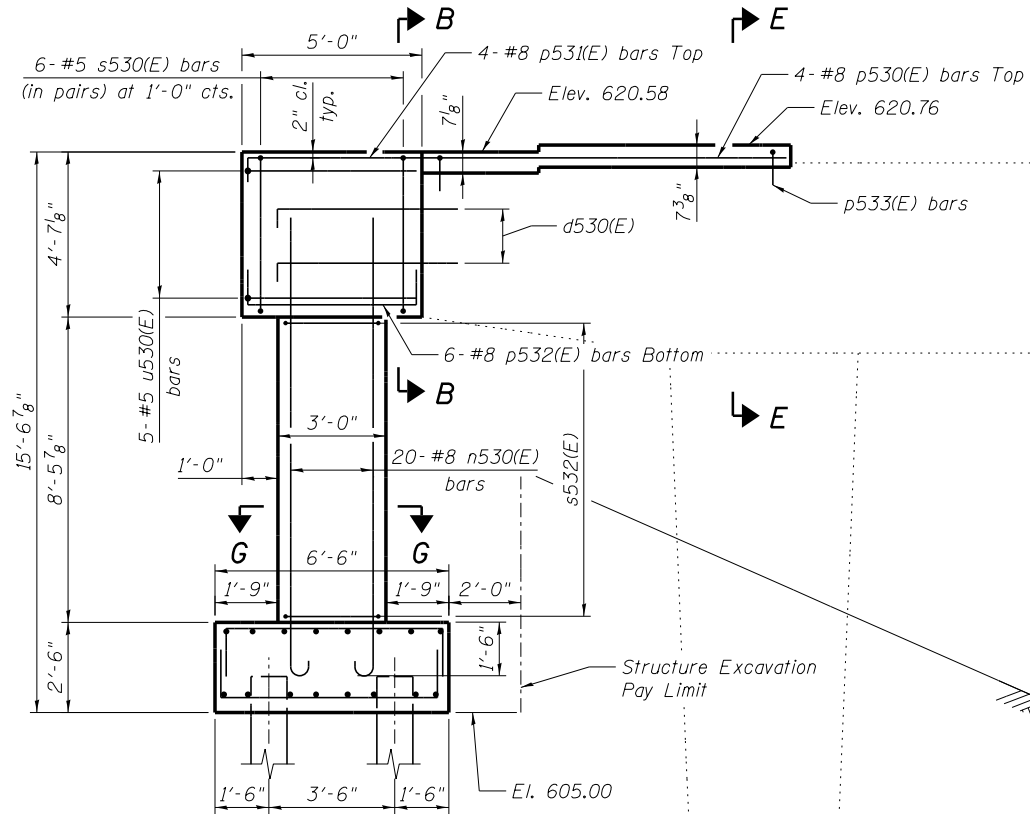
**ANCHOR BOLT LAYOUT
GIRDER C1**



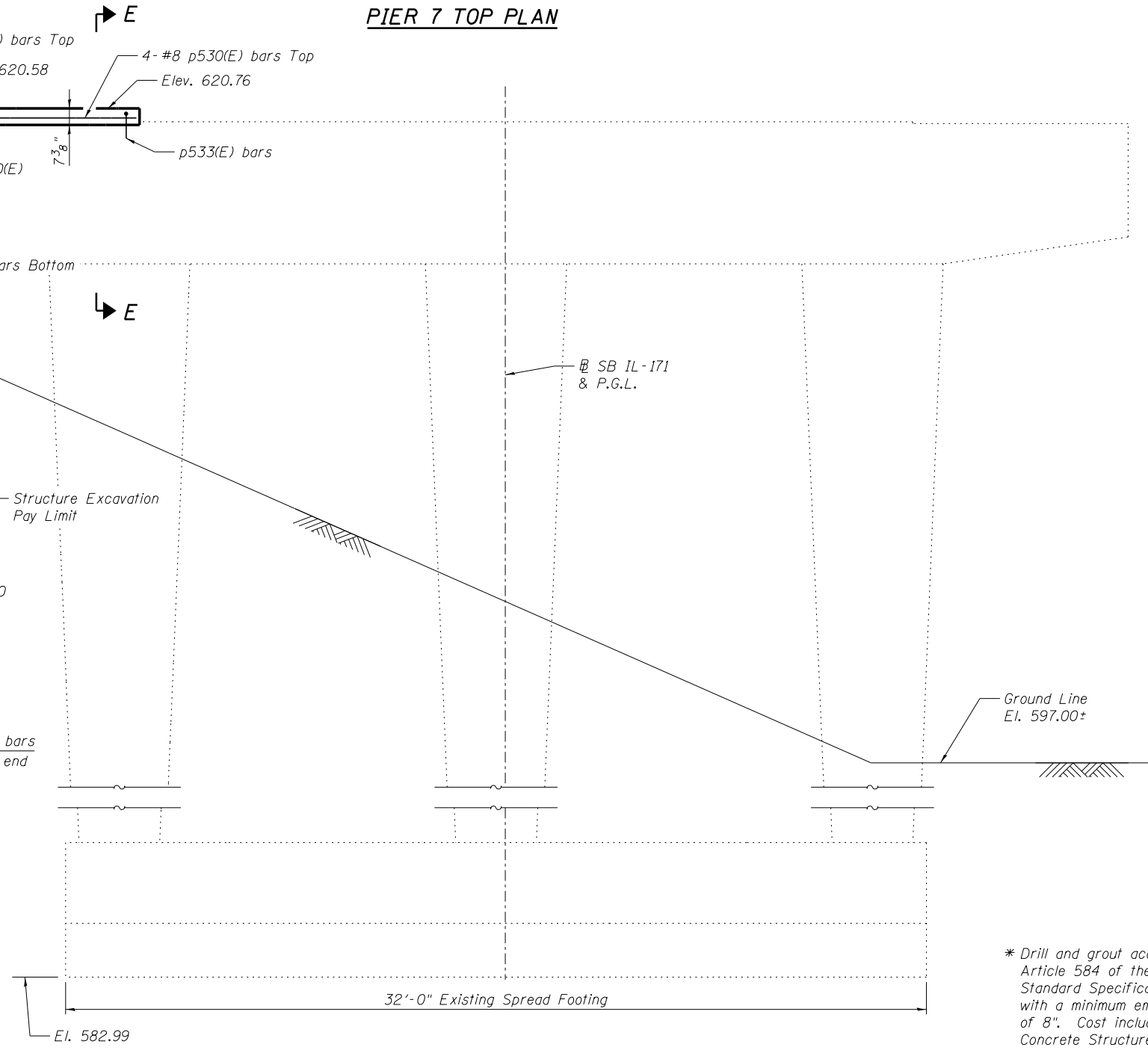
PIER 7 TOP PLAN



END VIEW



PIER 7 FOOTING PLAN



**PIER 7 ELEVATION
(Looking Upstation)**

PILE DATA

Type: HP12x53 with Pile Shoes
 Nominal Required Bearing: 394 kips
 Allowable Resistance Available: 131 kips
 Est. Length: 45 ft
 No. Production Piles: 3
 No. Test Piles: 1

NOTES:

1. Four steps monolithically with cap.
2. See Sheet SG87 for Section B-B, Section E-E, and Section G-G.
3. See Sheet SG6 for pile layout.
4. See Sheet SG88 for Bar Bends and Bill of Material.

* Drill and grout according to Article 584 of the Standard Specifications with a minimum embedment of 8". Cost included with Concrete Structures.

benesch engineers · scientists · planners
 Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - AWH	REVISED -
		CHECKED - AJK	REVISED -
		DRAWN - KMS	REVISED -
		CHECKED - AJK	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

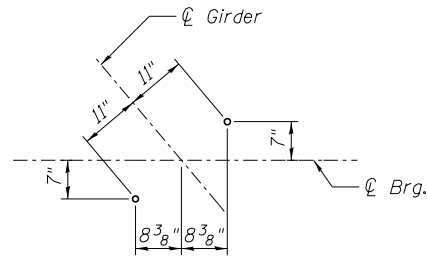
**PIER 7 WIDENING DETAILS
STRUCTURE NO. 016-0486**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	674
CONTRACT NO.			60J16	

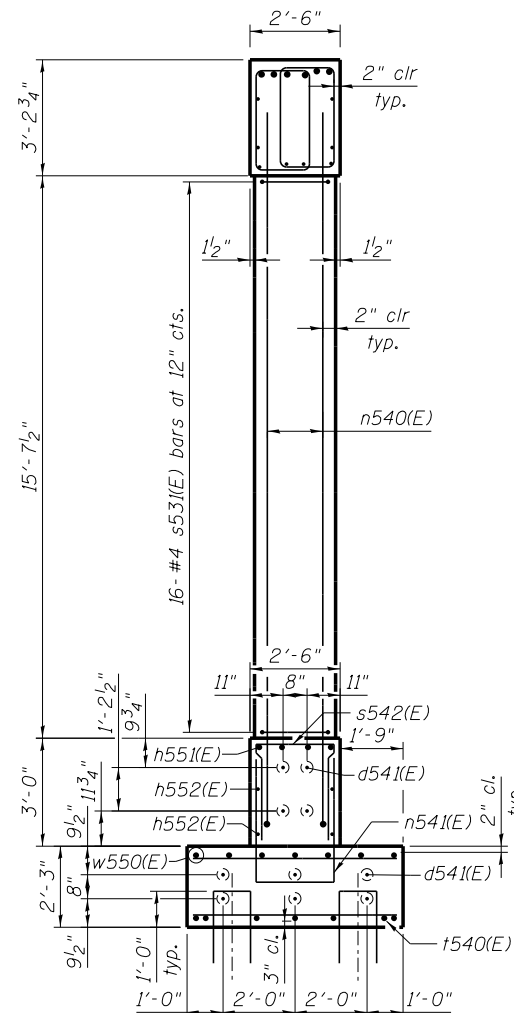
SHEET NO. SG84 OF SG100 SHEETS

ILLINOIS FED. AID PROJECT

Y:\chicago\100005\100093\Eng_Docs\Phase_1\1\SN_016_0486_0487_1st_Ave_over_Canal\Final\Final_0486\0160486_60J16_084_Pier_7_Widening_Details.dgn 8/6/2014 7:31:20 PM



ANCHOR BOLT LAYOUT



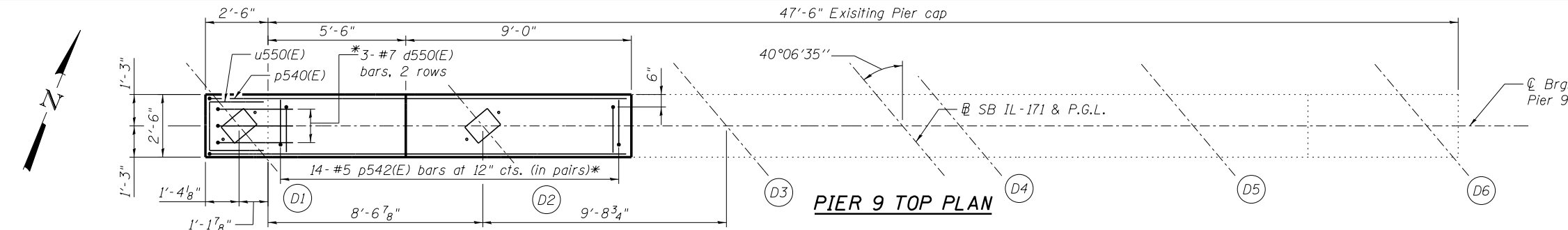
END VIEW

PILE DATA

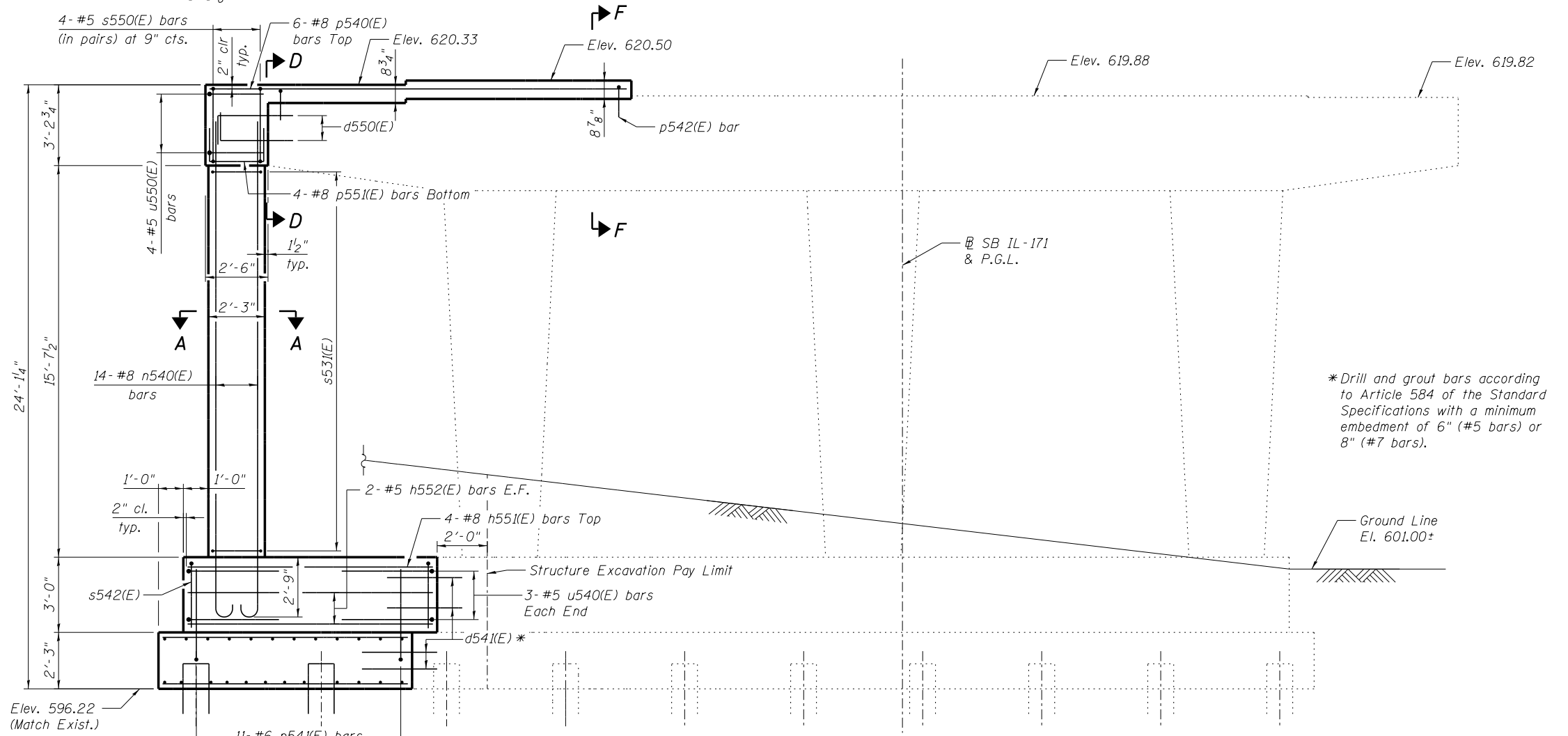
Type: HP12x53 with Pile Shoes
 Nominal Required Bearing: 314 kips
 Allowable Resistance Available: 105 kips
 Est. Length: 45 ft
 No. Production Piles: 3
 No. Test Piles: 1

NOTES:

1. Pour steps monolithically with cap.
2. See Sheet SG87 for Section A-A, Section D-D, and Section F-F.
3. See Sheet SG6 for pile layout.
4. See Sheet SG88 for Bar Bends and Bill of Material.

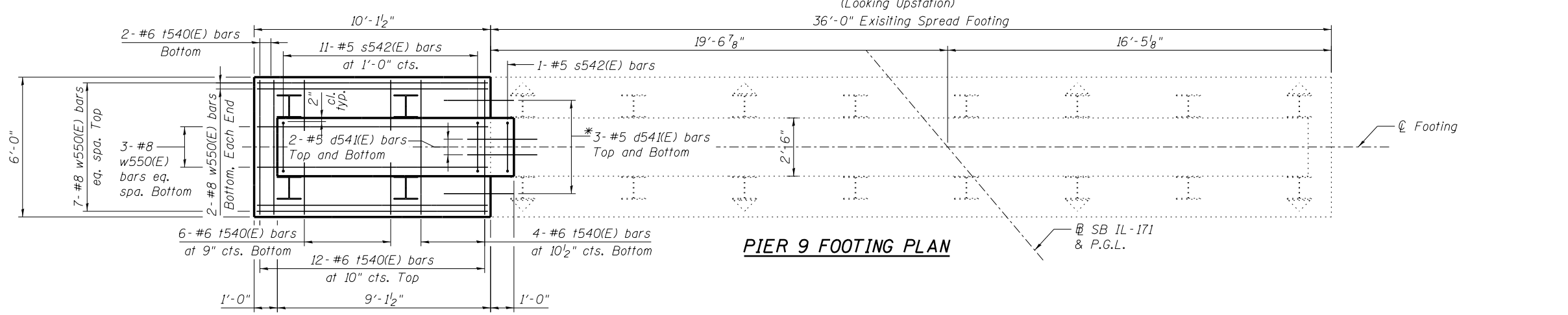


PIER 9 TOP PLAN



PIER 9 ELEVATION

(Looking Upstation)
 36'-0" Existing Spread Footing



PIER 9 FOOTING PLAN

*Drill and grout bars according to Article 584 of the Standard Specifications with a minimum embedment of 6" (#5 bars) or 8" (#7 bars).



Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - AWH	REVISD -
		CHECKED - AJK	REVISD -
		DRAWN - KMS	REVISD -
		CHECKED - AJK	REVISD -
PLOT DATE = 8/6/2014			

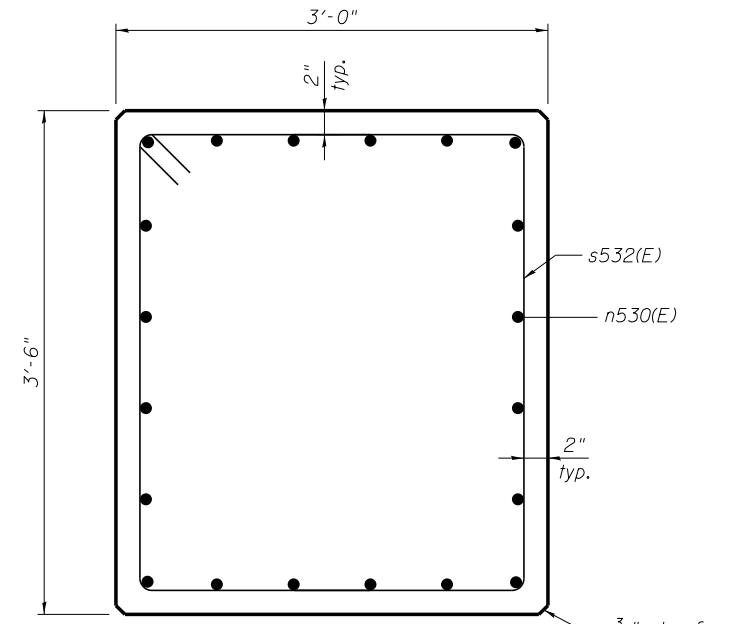
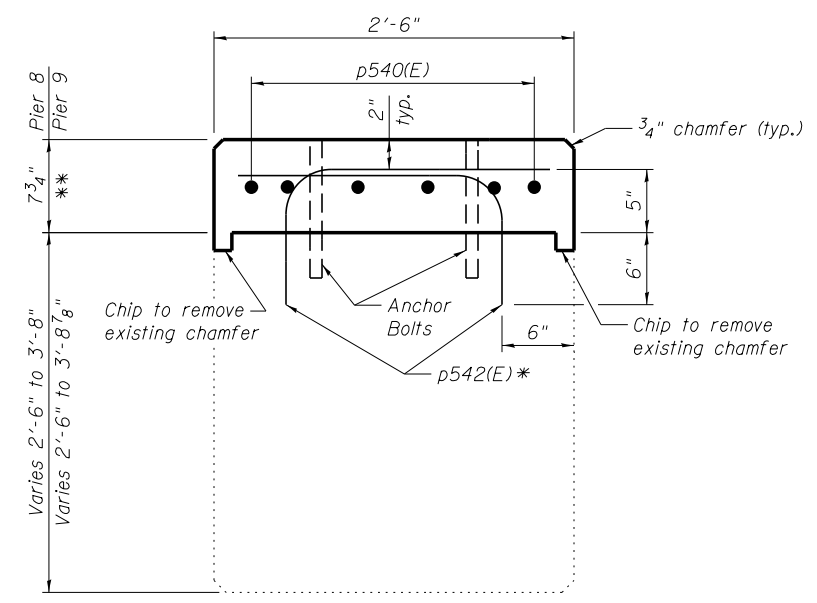
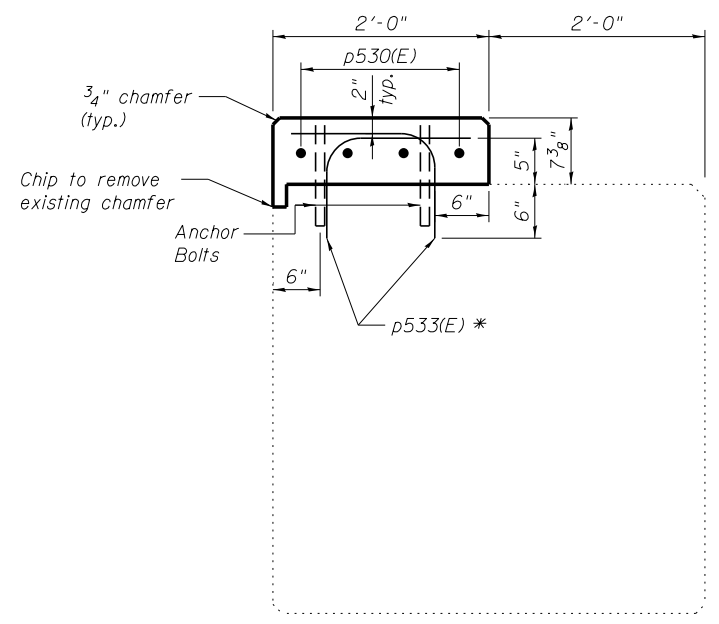
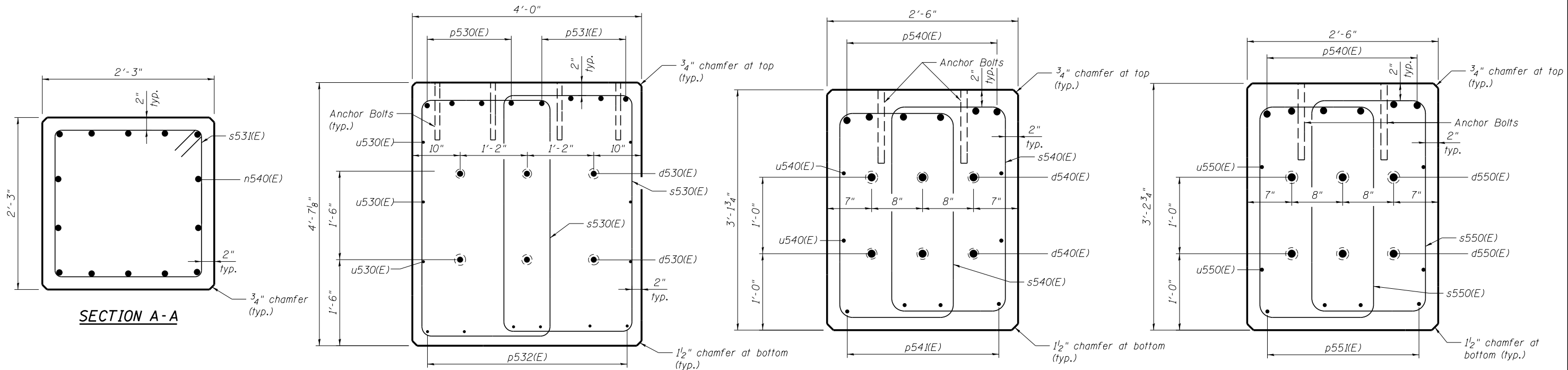
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 9 WIDENING DETAILS
 STRUCTURE NO. 016-0486

SHEET NO. SG86 OF SG100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	676
CONTRACT NO. 60J16				
ILLINOIS FED. AID PROJECT				

Y:\chicago\100005\100093\Eng_Docs\Phase_11\SN_016_0486_0487_1st_Ave_cover_Canal\Final\Final_0486\0160486_60J16_086_Pier_9_Widening_Details.dgn 7/31/24 PM 8/6/2014



SECTION E-E

SECTION F-F

SECTION G-G

*Space bars to miss anchor bolts

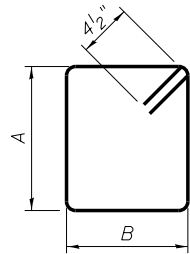
**Varies 8 3/4" to 8 7/8"

FILE NAME =	USER NAME = jsurber	DESIGNED - AWH	REVISED -
0160486.60J16.087.Pier.7.8.9.Sections.dgn	PLOT SCALE =	CHECKED - AJK	REVISED -
	PLOT DATE = 8/6/2014	DRAWN - KMS	REVISED -
		CHECKED - AJK	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	677
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

PIER 7 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d530(E)	6	#7	6'-2"	—
n530(E)	20	#8	13'-11"	—
p530(E)	4	#8	16'-3"	—
p531(E)	4	#8	6'-0"	—
p532(E)	6	#8	7'-4"	—
p533(E)	22	#5	2'-3"	—
s530(E)	12	#5	15'-3"	—
s532(E)	9	#4	12'-5"	—
t530(E)	15	#6	7'-8"	—
u530(E)	5	#5	13'-3"	—
w530(E)	15	#8	8'-10"	—
Structure Excavation	Cu. Yd.		28	
Concrete Structures	Cu. Yd.		10.8	
Reinforcement Bars, Epoxy Coated	Pound		2,090	
Furnishing Steel Piles HP12x53	Foot		135	
Driving Piles	Foot		135	
Test Pile Steel HP12x53	Each		1	
Pile Shoes	Each		4	
Concrete Sealer	Sq. Ft.		229	

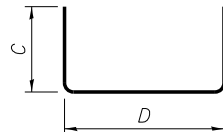


BARS s530(E), s531(E), s532(E), s540(E) & s550(E)

Bar	A	B
s530(E)	4'-3"	3'-0"
s531(E)	1'-11"	1'-11"
s532(E)	3'-2"	2'-8"
s540(E)	2'-9"	1'-6"
s550(E)	2'-10"	1'-6"

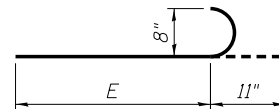
PIER 8 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d540(E)	6	#7	5'-2"	—
d541(E)	10	#5	4'-0"	—
h541(E)	4	#8	10'-6"	—
h542(E)	4	#5	10'-6"	—
n540(E)	14	#8	18'-11"	—
n541(E)	11	#6	9'-10"	—
p540(E)	6	#8	17'-10"	—
p541(E)	4	#8	6'-4"	—
p542(E)	26	#5	2'-11"	—
s531(E)	17	#4	8'-5"	—
s540(E)	10	#5	9'-3"	—
s542(E)	12	#5	7'-6"	—
t540(E)	26	#6	5'-8"	—
u540(E)	10	#5	9'-9"	—
w540(E)	14	#8	10'-6"	—
Structure Excavation	Cu. Yd.		64	
Concrete Structures	Cu. Yd.		13.4	
Reinforcement Bars, Epoxy Coated	Pound		2,570	
Furnishing Steel Piles HP12x53	Foot		120	
Driving Piles	Foot		120	
Test Pile Steel HP12x53	Each		1	
Pile Shoes	Each		4	



BARS n541(E), p541(E), s542(E), u540(E), p551(E), u550(E), p532(E), u530(E), t530(E) & w530(E)

Bar	C	D
n541(E)	3'-10"	2'-2"
p541(E)	1'-4"	3'-8"
s542(E)	2'-8"	2'-2"
u540(E)	3'-10"	2'-1"
p551(E)	1'-4"	2'-2"
u550(E)	2'-4"	2'-1"
p532(E)	1'-4"	4'-8"
u530(E)	4'-10"	3'-7"
t530(E)	1'-0"	5'-8"
w530(E)	1'-4"	6'-2"

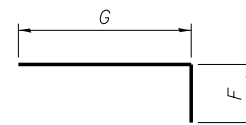


BARS n530(E) & n540(E)

Bar	E
n530(E)	13'-0"
n540(E)	18'-0"

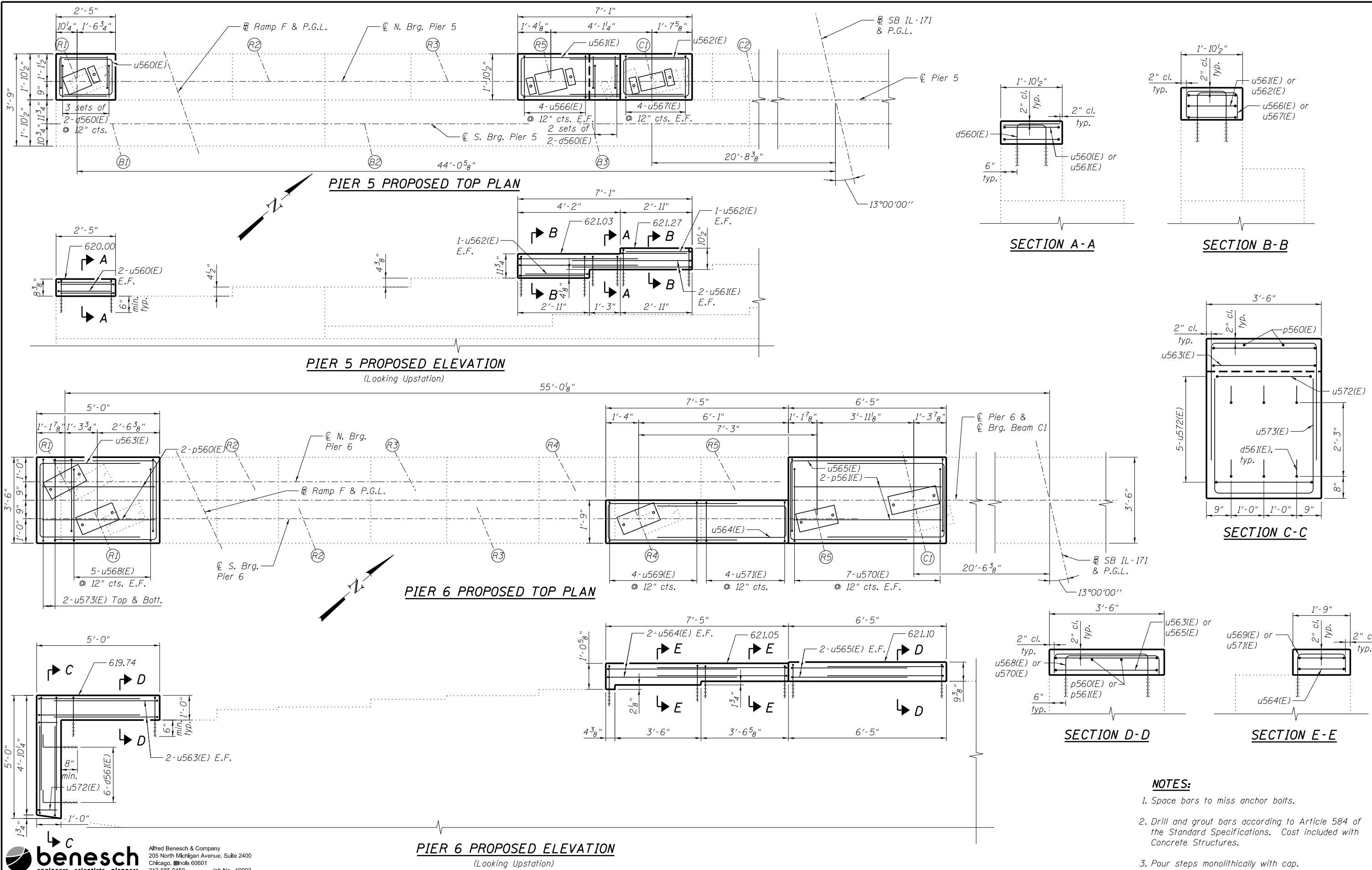
PIER 9 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d541(E)	10	#5	4'-0"	—
d550(E)	6	#7	3'-8"	—
h551(E)	4	#8	9'-9"	—
h552(E)	4	#5	9'-9"	—
n540(E)	14	#8	18'-11"	—
n541(E)	11	#6	9'-10"	—
p540(E)	6	#8	17'-10"	—
p542(E)	28	#5	2'-11"	—
p551(E)	4	#8	4'-10"	—
s531(E)	16	#4	8'-5"	—
s542(E)	12	#5	7'-6"	—
s550(E)	8	#5	9'-5"	—
t540(E)	24	#6	5'-8"	—
u540(E)	6	#5	9'-9"	—
u550(E)	4	#5	6'-9"	—
w550(E)	14	#8	9'-9"	—
Structure Excavation	Cu. Yd.		41	
Concrete Structures	Cu. Yd.		12.6	
Reinforcement Bars, Epoxy Coated	Pound		2,450	
Furnishing Steel Piles HP12x53	Foot		135	
Driving Piles	Foot		135	
Test Pile Steel HP12x53	Each		1	
Pile Shoes	Each		4	



BARS d540(E), p540(E), p542(E), d550(E), p530(E), p531(E), p533(E) & d530(E)

Bar	F	G
d540(E)	1'-2"	4'-0"
p540(E)	1'-4"	16'-6"
p542(E)	11"	1'-10"
d550(E)	1'-2"	2'-6"
p530(E)	1'-4"	14'-11"
p531(E)	1'-4"	4'-8"
p533(E)	11"	1'-4"
d530(E)	1'-2"	5'-0"



- NOTES:**
- Space bars to miss anchor bolts.
 - Drill and grout bars according to Article 584 of the Standard Specifications. Cost included with Concrete Structures.
 - Pour steps monolithically with cap.

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 312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - TJJ	REVISD -
0160486.60J16.089.Pier.5.6.dgn		CHECKED - AJK	REVISD -
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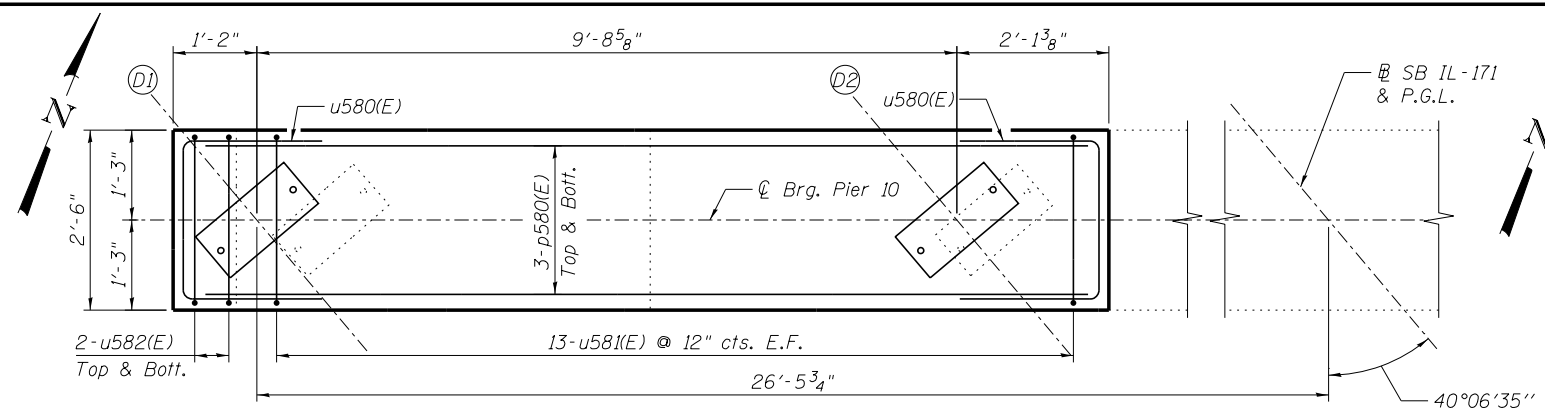
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIER 5 & 6 CAP DETAILS
 STRUCTURE NO. 016-0486**

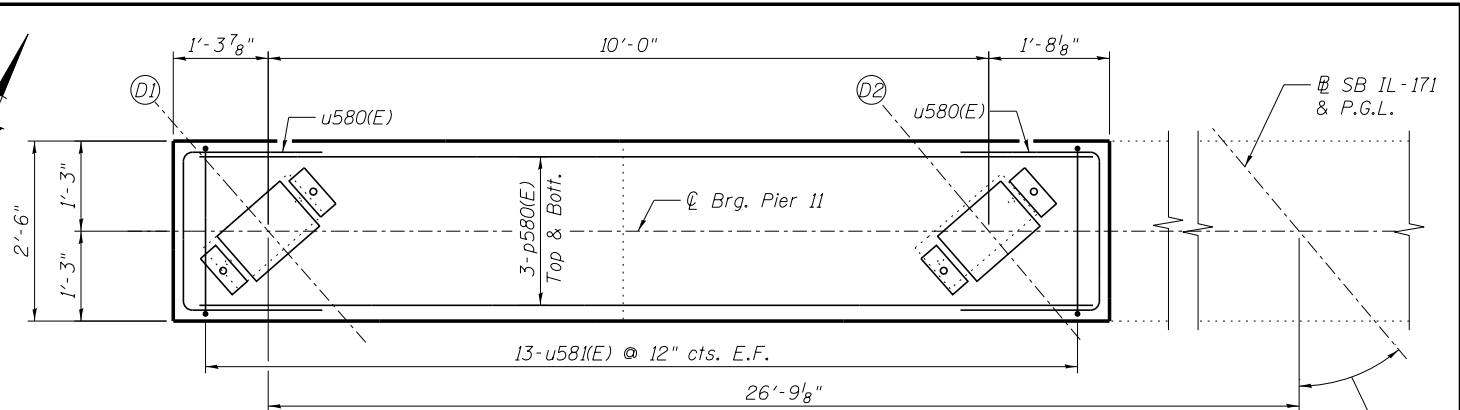
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	679
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

SHEET NO. SG89 OF SG100 SHEETS

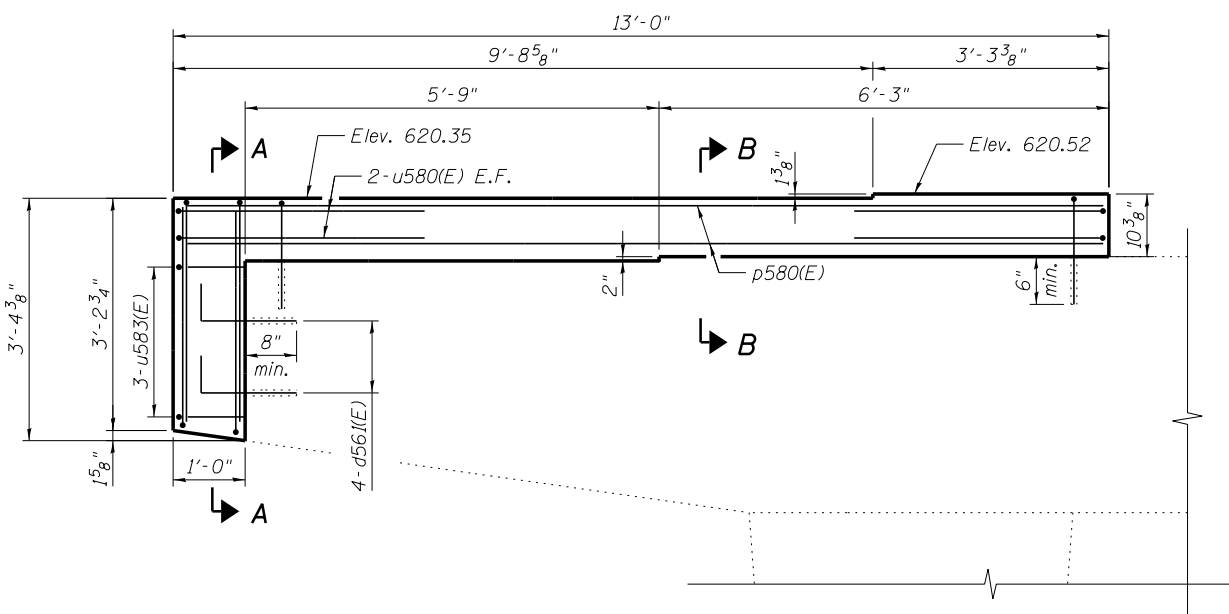
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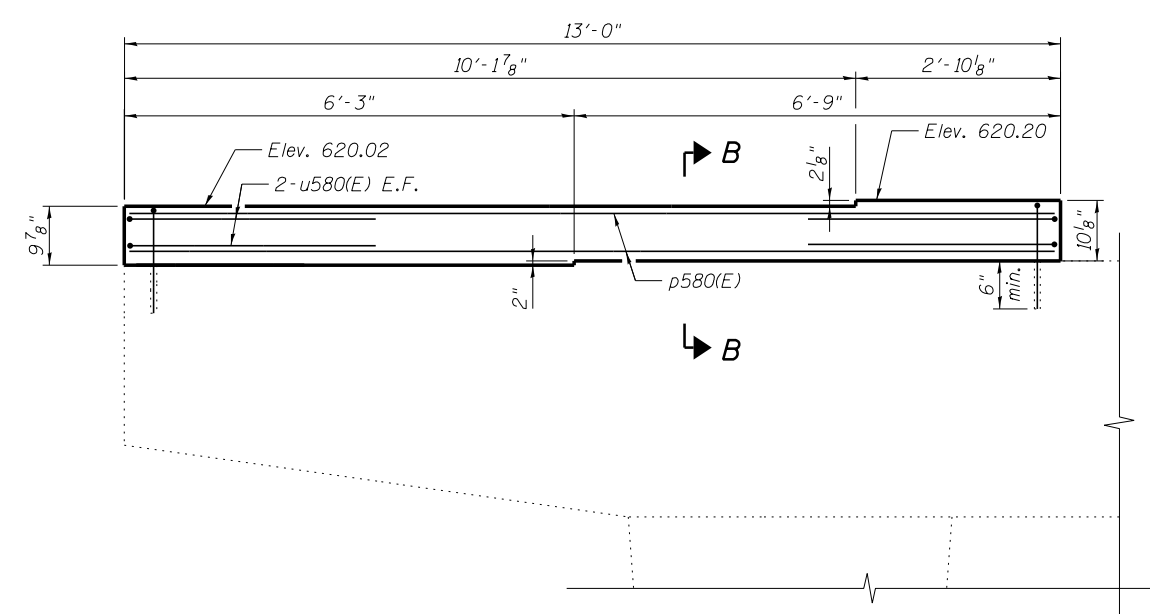
PIER 10 PROPOSED TOP PLAN



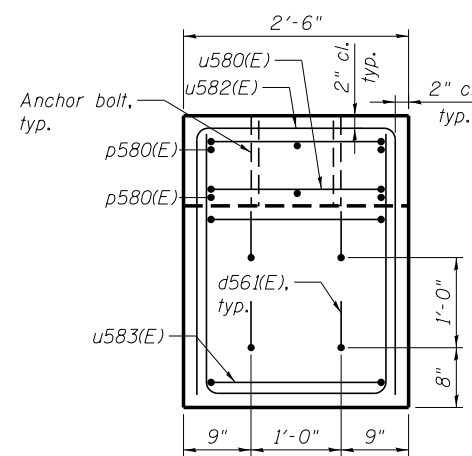
PIER 11 PROPOSED TOP PLAN



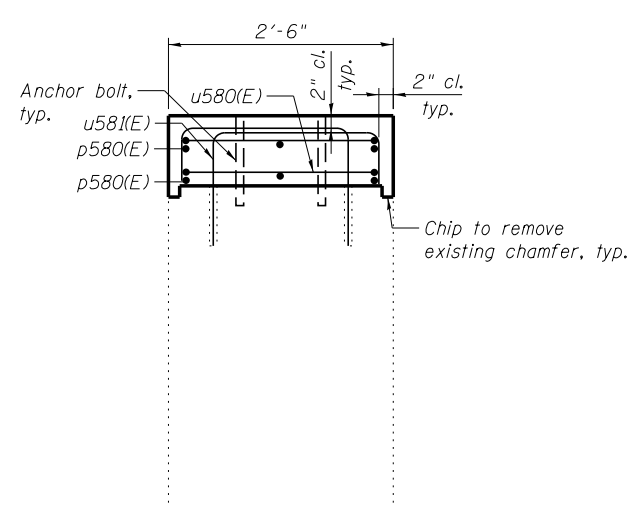
PIER 10 PROPOSED ELEVATION
(Looking Upstasion)



PIER 11 PROPOSED ELEVATION
(Looking Upstasion)



SECTION A-A



SECTION B-B

NOTES:

1. Space bars to miss anchor bolts.
2. Drill and grout bars according to Article 584 of the Standard Specifications. Cost included with Concrete Structures.
3. Pour steps monolithically with cap.

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FILE NAME = 0160486.60J16.090.Pier.10.11.dgn	USER NAME = jsurber	DESIGNED - TJJ	REVISIONS -
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		DRAWN - TJJ	REVISIONS -
		CHECKED - AJK	REVISIONS -
			REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 10 & 11 CAP DETAILS
STRUCTURE NO. 016-0486

SHEET NO. S690 OF S6100 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	680
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

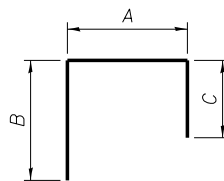
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**PIER 5
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d560(E)	10	#5	2'-2"	L
u560(E)	4	#5	5'-8"	L
u561(E)	4	#5	11'-6"	L
u562(E)	4	#5	6'-8"	L
u566(E)	8	#5	3'-3"	L
u567(E)	8	#5	3'-1"	L
Concrete Structures			Cu. Yd.	0.6
Reinforcement Bars, Epoxy Coated			Pound	180
Concrete Sealer			Sq. Ft.	40

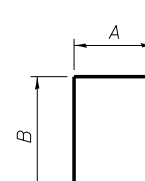
**PIER 6
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d561(E)	6	#7	2'-6"	L
p560(E)	2	#5	4'-8"	—
p561(E)	2	#5	6'-1"	—
u563(E)	4	#5	11'-1"	L
u564(E)	4	#5	11'-8"	L
u565(E)	4	#5	12'-5"	L
u568(E)	10	#5	5'-0"	L
u569(E)	4	#5	3'-7"	L
u570(E)	14	#5	4'-6"	L
u571(E)	4	#5	3'-1"	L
u572(E)	5	#5	4'-9"	L
u573(E)	4	#5	11'-2"	L
Concrete Structures			Cu. Yd.	2.2
Reinforcement Bars, Epoxy Coated			Pound	420
Concrete Sealer			Sq. Ft.	116



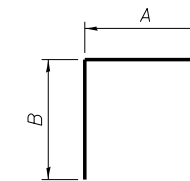
BARS

Bar	A	B	C
u566(E)	1'-2"	1'-4"	9"
u567(E)	1'-2"	1'-3"	8"
u568(E)	2'-10"	1'-4"	10"
u569(E)	1'-5"	1'-4"	10"
u570(E)	2'-10"	1'-1"	7"
u571(E)	1'-5"	1'-1"	7"



BARS

Bar	A	B
d560(E)	1'-2"	1'-0"
d561(E)	1'-2"	1'-4"



BARS

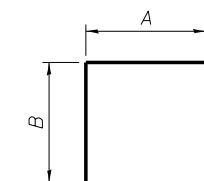
Bar	A	B
u560(E)	1'-6"	2'-1"
u561(E)	1'-6"	5'-0"
u562(E)	1'-6"	2'-7"
u563(E)	3'-1"	4'-0"
u564(E)	1'-4"	5'-2"
u565(E)	3'-1"	4'-8"
u572(E)	3'-1"	10"
u573(E)	3'-2"	4'-0"

**PIER 10
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d561(E)	4	#7	2'-6"	L
p580(E)	6	#5	12'-8"	—
u580(E)	4	#5	8'-11"	L
u581(E)	26	#5	3'-8"	L
u582(E)	4	#5	8'-0"	L
u583(E)	3	#5	3'-7"	L
Concrete Structures			Cu. Yd.	1.3
Reinforcement Bars, Epoxy Coated			Pound	290

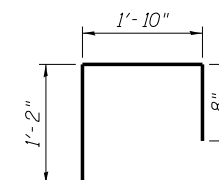
**PIER 11
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
p580(E)	6	#5	12'-8"	—
u580(E)	4	#5	8'-11"	L
u581(E)	26	#5	3'-8"	L
Concrete Structures			Cu. Yd.	1.0
Reinforcement Bars, Epoxy Coated			Pound	220

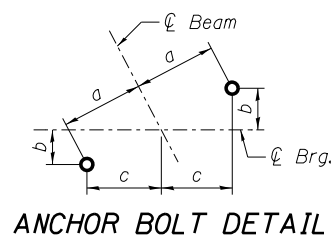


BARS

Bar	A	B
u580(E)	2'-1"	3'-5"
u582(E)	2'-2"	2'-11"
u583(E)	2'-1"	9"



BAR u581(E)



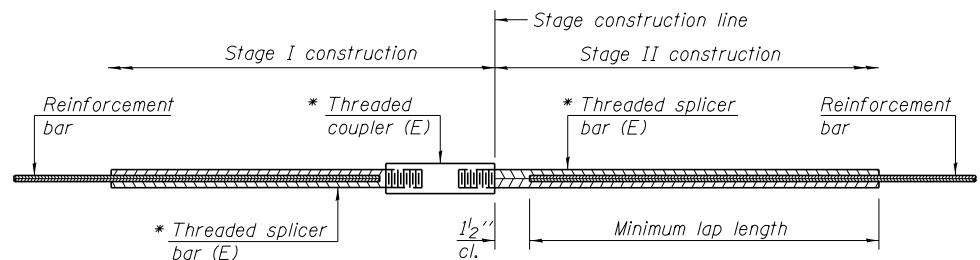
ANCHOR BOLT DETAIL

PIERS 5 & 6

PIER	Dimension	Beam R1-6	Beam R1-7	Beam R4	Beam R5	Beam C1
Pier 5	a	9"	---	---	10"	9 1/2"
	b	3 1/2"	---	---	2 1/4"	2 1/8"
	c	8 3/8"	---	---	9 3/4"	9 1/4"
Pier 6	a	7 1/8"	7 1/8"	7 1/8"	7 1/8"	10 1/8"
	b	3"	3 3/4"	2 1/8"	1 3/4"	2 1/4"
	c	7 1/4"	7"	7 1/4"	7 5/8"	9 1/8"

PIERS 10 & 11

PIER	Dimension	Beam D1	Beam D2
Pier 10	a	7 7/8"	7 7/8"
	b	5"	5"
	c	6"	6"
Pier 11	a	11"	11"
	b	7 1/4"	7"
	c	8 1/4"	8 3/8"



STANDARD BAR SPLICER ASSEMBLY

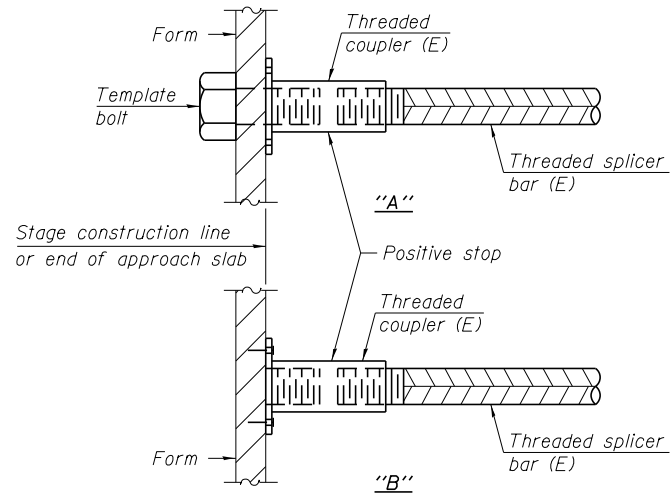
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

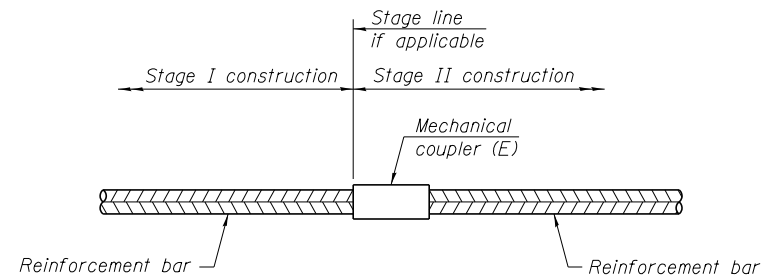
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



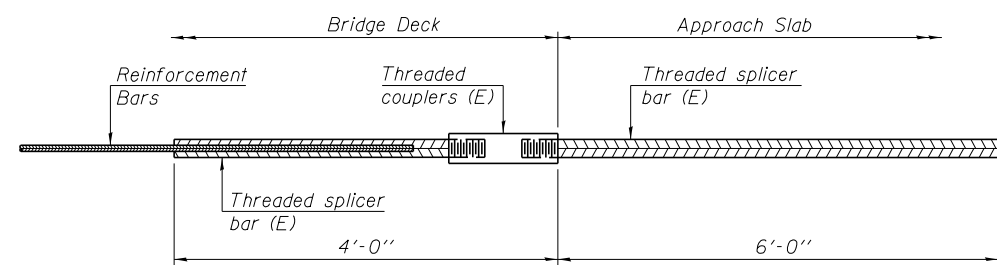
INSTALLATION AND SETTING METHODS

"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.



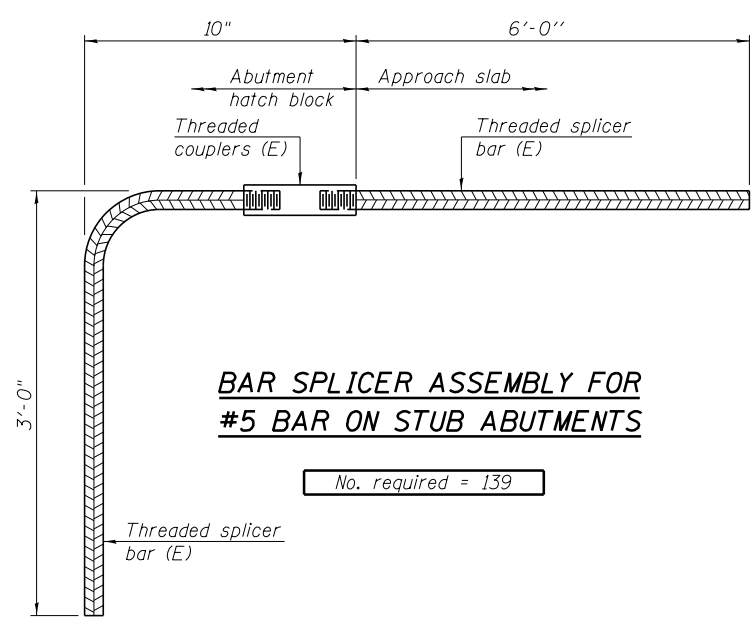
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 139

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
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FILE NAME = 0160486.60J16.092.barsplicedet.dgn	USER NAME = jsurber	DESIGNED - AWH	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - FSM	REVISED -
	PLOT DATE = 8/6/2014	CHECKED - RMM	REVISED -

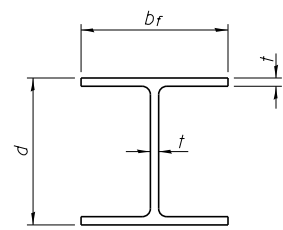
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 016-0486**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	682
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	

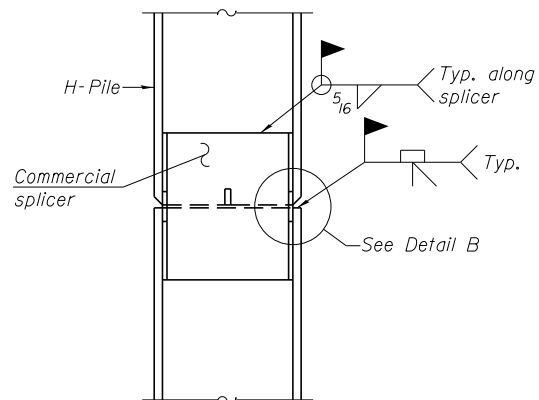
SHEET NO. SG92 OF SG100 SHEETS

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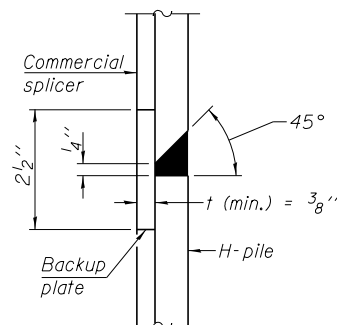


STEEL PILE TABLE

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 1/8"	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 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

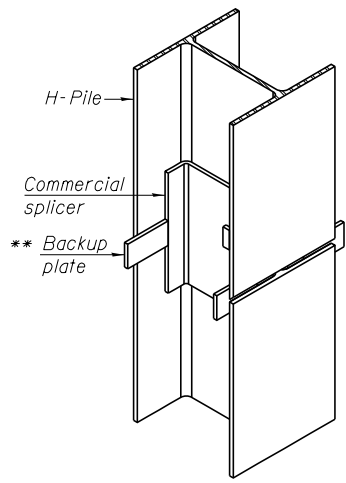


ELEVATION

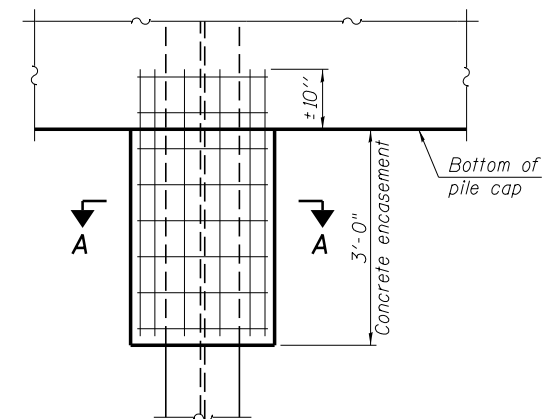


DETAIL "B"

WELDED COMMERCIAL SPLICE

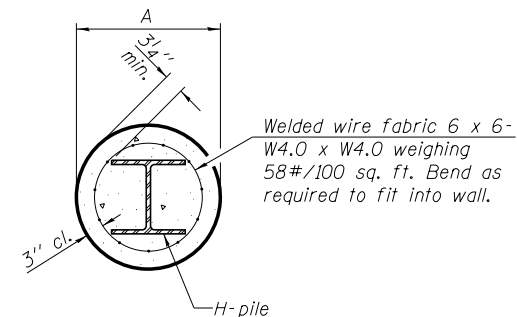


ISOMETRIC VIEW



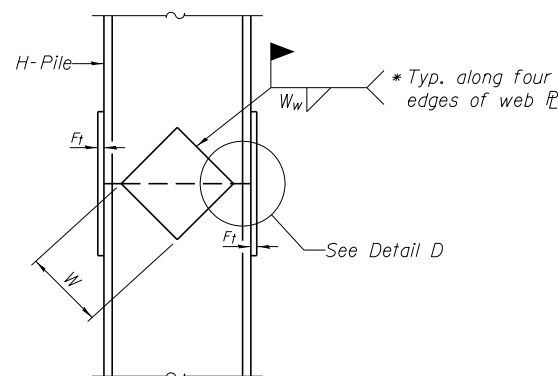
ELEVATION

PILE ENCASEMENT

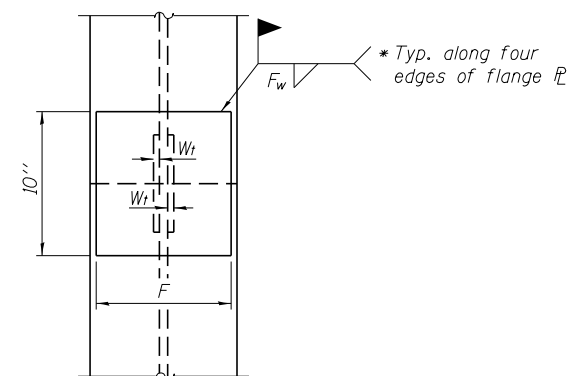


SECTION A-A

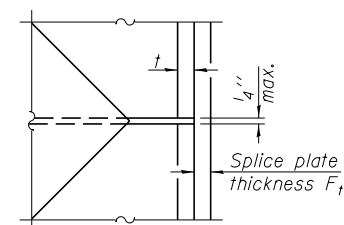
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



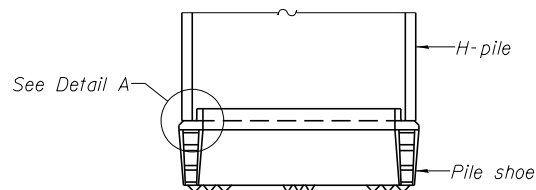
END VIEW



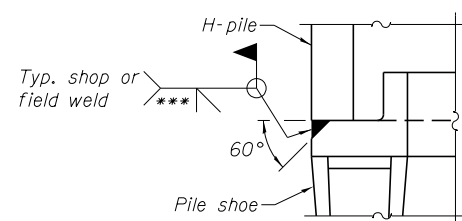
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 1/2"	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"

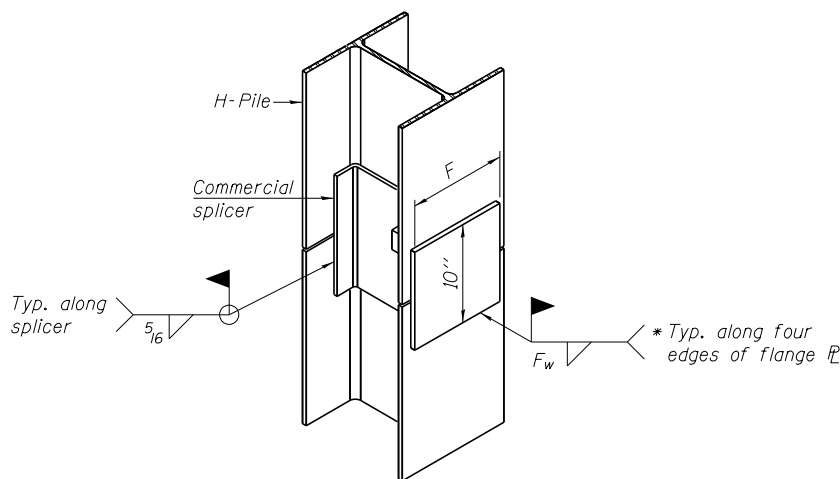


ELEVATION



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



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME = 0160486.60J16.093.steelhp1e.dgn

USER NAME = jsurber
DESIGNED - FSM
CHECKED - RMM
DRAWN - FSM
PLOT SCALE =
PLOT DATE = 8/6/2014

DESIGNED - FSM
CHECKED - RMM
DRAWN - FSM
CHECKED - RMM

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 016-0486

SHEET NO. SG93 OF SG100 SHEETS

F.A.P. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	683
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				



SOIL BORING LOG

GSI Job No. 10025
Page 1 of 2
Date 1/28/13

ROUTE FAP 373 (IL 171) DESCRIPTION IL Route 171 from 47th St. to 55th St. LOGGED BY JZ
SECTION 2013-038B-R LOCATION SW 1/4, SEC. 12, TWP. T38N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD HSA/MUD ROTARY HAMMER TYPE CME Automatic

STRUCT. NO.	DEPT H	BLOW S	UCS Qu	MOIST	Surface Water Elev.	DEPT H	BLOW S	UCS Qu	MOIST
Station	(ft)	(/6")	(tsf)	(%)	n/a ft	(ft)	(/6")	(tsf)	(%)
016-0486 30+72.59					n/a				
BORING NO. <u>SB-01</u> Station <u>27+47</u> Offset <u>19.90ft Left</u> Ground Surface Elev. <u>626.90</u> ft					Groundwater Elev.: First Encounter <u>Dry to 10.0'</u> ft Upon Completion <u>n/a</u> ft After <u> </u> Hrs. <u> </u> ft				
17.0" CONCRETE	8				CLAY LOAM-brown & gray-stiff to very stiff (Fill) (continued)	4			
625.44	5	2.8	15			7	1.7	21	
	5	B				10	B		
	5					3			
	4	1.3	25			3	3.3	19	
	4	P				10	P		
	1					4			
	2	1.4	18			6	2.2	22	
	4	B				7	B		
	8					5			
	11	1.3	17			10	3.5	17	
	12	B				13	P		
616.40	-10					-30			
SILTY CLAY LOAM-dark brown & gray-medium dense (Fill)	4								
	5		17						
	8								
613.90	4					4			
CLAY LOAM-brown & gray-stiff to very stiff (Fill)	8	1.0	16			5	2.3	18	
	8	P				8	B		
	-15					-35			
	4								
	4		25						
	5								
	8					5			
	6		21			7	2.1	24	
	8					11	B		
	-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, from 137 (Rev. 8-99)



SOIL BORING LOG

GSI Job No. 10025
Page 2 of 2
Date 1/28/13

ROUTE FAP 373 (IL 171) DESCRIPTION IL Route 171 from 47th St. to 55th St. LOGGED BY JZ
SECTION 2013-038B-R LOCATION SW 1/4, SEC. 12, TWP. T38N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD HSA/MUD ROTARY HAMMER TYPE CME Automatic

STRUCT. NO.	DEPT H	BLOW S	UCS Qu	MOIST	Surface Water Elev.	DEPT H	BLOW S	UCS Qu	MOIST
Station	(ft)	(/6")	(tsf)	(%)	n/a ft	(ft)	(/6")	(tsf)	(%)
016-0486 30+72.59					n/a				
BORING NO. <u>SB-01</u> Station <u>27+47</u> Offset <u>19.90ft Left</u> Ground Surface Elev. <u>626.90</u> ft					Groundwater Elev.: First Encounter <u>Dry to 10.0'</u> ft Upon Completion <u>n/a</u> ft After <u> </u> Hrs. <u> </u> ft				
CLAY LOAM-brown & gray-stiff to very stiff (Fill) (continued)					CLAY LOAM-gray-hard (continued)				
						9			
						13	5.7	16	
						17	B		
						-65			
						5			
						8	2.9	25	
						10	B		
						-70			
579.90									
CLAY LOAM-gray-hard									
						5			
						11			
						19	6.4	11	
						25	B		
						29	P		
						-50			
						5			
						11			
						17	5.5	13	
						19	B		
						-55			
						10			
						16	5.8	15	
						26	B		
						-60			
						548.40			
						50/0"			
						547.40			
						-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, from 137 (Rev. 8-99)

Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

ROCK CORE LOG

PAGE 1 of 1
DATE 1/28/2013
LOGGED BY DR
GSI JOB No. 10025

ROUTE FAP 373 (IL 171) DESCRIPTION 1st Ave. Bridge Rehabilitation & Replacement, 47th St. to 55th St.
SECTION 2013-038B-R LOCATION SEC 11, 12, 13 & 14 T 38 N, R 12 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. 016-0486 CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Station 30+72.59 Core Diameter 2.0 in
BORING NO. SB-01 Top of Rock Elev. 548.4
Station 27+47 Begin Core Elev. 547.4
Offset 19.9' Left
Ground Surface Elev. 626.9

DEPTH	CORRECTION	RECOVERY	ROD	CORRECTED	STRENGTH
(ft)	(#)	(%)	(%)	(ft)	(tsf)
1	99.9	70.1	n/a	132.4	82.5
-84.5					
-89.5					

SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
RUN 1 (-79.5' to -89.5')
Light gray mottled gray with horizontal bedding. Vertical fracture from -80.1' to -82.0'.
Horizontal fractures @ -82.4', -83.0', -84.0', -85.2', -85.4', -86.7', -88.4', -88.8' & -88.9'.

Color pictures of the cores Yes _____ Cores will be stored for examination for _____
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - FSM	REVISED -
		CHECKED - RMM	REVISED -
		DRAWN - FSM	REVISED -
		CHECKED - RMM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS SOUTH ABUTMENT
STRUCTURE NO. 016-0486

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	684
CONTRACT NO.				60J16

SHEET NO. 5694 OF 56100 SHEETS

ILLINOIS FED. AID PROJECT



SOIL BORING LOG

GSI Job No. 10025
Page 1 of 2
Date 2/4/13

ROUTE FAP 373 (IL 171) DESCRIPTION IL Route 171 from 47th St. to 55th St. LOGGED BY JZ
SECTION 2013-038B-R LOCATION SW 1/4, SEC. 12, TWP. T38N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD HSA/MUD ROTARY HAMMER TYPE CME Automatic

Table with columns for DEPTH (ft), BLOW COUNT (blows/ft), UNIFIED SOIL CLASSIFICATION (UCS), and MOISTURE CONTENT (%). Includes soil descriptions like ASPHALT, CONCRETE, CRUSHED STONE, and CLAY LOAM.

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, from 137 (Rev. 8-99)



SOIL BORING LOG

GSI Job No. 10025
Page 2 of 2
Date 2/4/13

ROUTE FAP 373 (IL 171) DESCRIPTION IL Route 171 from 47th St. to 55th St. LOGGED BY JZ
SECTION 2013-038B-R LOCATION SW 1/4, SEC. 12, TWP. T38N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD HSA/MUD ROTARY HAMMER TYPE CME Automatic

Table with columns for DEPTH (ft), BLOW COUNT (blows/ft), UNIFIED SOIL CLASSIFICATION (UCS), and MOISTURE CONTENT (%). Includes soil descriptions like CRUSHED STONE, CLAY LOAM, and SILTY LOAM.

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, from 137 (Rev. 8-99)

ROCK CORE LOG form containing project details, boring data, soil descriptions, and a photograph of a rock core sample labeled SB-08 RUN 1 -72.5' to -82.5' TOP.

Color pictures of the cores Yes Cores will be stored for examination for
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)



FILE NAME = USER NAME = jsurber DESIGNED - FSM REVISED -
CHECKED - RMM REVISED -
PLOT SCALE = DRAWN - FSM REVISED -
PLOT DATE = 8/6/2014 CHECKED - RMM REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS RAMP F ABUTMENT
STRUCTURE NO. 016-0486
SHEET NO. SC95 OF SC100 SHEETS

Summary table with columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO.

Vertical text on the right edge: Y:\chicago\100005\100093\Eng_Docs_Phase_1\11\SN_016_0486_0487_1st_Ave_cover_Canal\Final\Final_0486_016_095_Soil Boring Logs 2.dgn 7:31:49 PM 8/6/2014



SOIL BORING LOG

GSJ Job No. 10025
Page 1 of 2
Date 1/4/13

ROUTE FAP 373 (IL 171) DESCRIPTION IL Route 171 from 47th St. to 55th St.
SECTION 2013-038B-R LOCATION SW 1/4, SEC. 12, TWP. T38N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD MUD ROTARY HAMMER TYPE CME Automatic

Table with columns for Depth (ft), Blows (B), CUS, Moisture (%), and Soil Description. Includes entries for concrete bridge deck, void, clay loam, silty clay, and topsoil.

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, from 137 (Rev. 8-99)



SOIL BORING LOG

GSJ Job No. 10025
Page 2 of 2
Date 1/4/13

ROUTE FAP 373 (IL 171) DESCRIPTION IL Route 171 from 47th St. to 55th St.
SECTION 2013-038B-R LOCATION SW 1/4, SEC. 12, TWP. T38N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD MUD ROTARY HAMMER TYPE CME Automatic

Table with columns for Depth (ft), Blows (B), CUS, Moisture (%), and Soil Description. Includes entries for silty clay loam, clay loam, silty clay, and clayey gravel & fractured rock.

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, from 137 (Rev. 8-99)

ROCK CORE LOG form with header, project details, and a photograph of a rock core sample labeled 'SB-10 RUN 1 700 to 800 TOP'.

Color pictures of the cores Yes Cores will be stored for examination for
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)



FILE NAME = USER NAME = jsurber
DESIGNED - FSM REVISIED -
CHECKED - RMM REVISIED -
DRAWN - FSM REVISIED -
CHECKED - RMM REVISIED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS PIER 7
STRUCTURE NO. 016-0486

Table with columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO.



SOIL BORING LOG

GSI Job No. 10025
Page 1 of 2
Date 1/9/13

ROUTE FAP 373 (IL 171) DESCRIPTION IL Route 171 from 47th St. to 55th St. LOGGED BY JZ
SECTION 2013-038B-R LOCATION SW 1/4, SEC. 12, TWP. T38N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD MUD ROTARY HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPT H	BLOW S	UCS Qu	MOIST	Surface Water Elev. n/a ft	Stream Bed Elev. n/a ft	Groundwater Elev.:	DEPT H	BLOW S	UCS Qu	MOIST
9.0" CONCRETE BRIDGE DECK VOID	623.65						CLAY LOAM-brown & gray-medium stiff to hard (Fill) (continued)				
								8			
								10	8.0		17
								11	S		
								9			
								10	7.4		26
								12	B		
								2			
								2	0.5		20
								3	B		
								4			
								5	2.1		8
								7	B		
								10			
								24			7
								16			
								4			
								3	4.5		18
								5	P		
								5			12
								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, from 137 (Rev. 8-99)




SOIL BORING LOG

GSI Job No. 10025
Page 2 of 2
Date 1/9/13

ROUTE FAP 373 (IL 171) DESCRIPTION IL Route 171 from 47th St. to 55th St. LOGGED BY JZ
SECTION 2013-038B-R LOCATION SW 1/4, SEC. 12, TWP. T38N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD MUD ROTARY HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPT H	BLOW S	UCS Qu	MOIST	Surface Water Elev. n/a ft	Stream Bed Elev. n/a ft	Groundwater Elev.:	DEPT H	BLOW S	UCS Qu	MOIST
GRAVEL & STONE-gray-medium dense to dense (Apparent Fill) (continued)	582.40						SILT-gray-dense to very dense (continued)				
								13			
								16	2.3		23
								25	B		
								17			
								22	2.8		24
								27	B		
								11			
								13			19
								19			
								22			
								43			
								60			

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, from 137 (Rev. 8-99)




ROCK CORE LOG

PAGE 1 of 1
DATE 1/9/2013
LOGGED BY JK
GSI JOB No. 10025

FAP 373 (IL 171) DESCRIPTION 1st Ave. Bridge Rehabilitation & Replacement, 47th St. to 55th St.
SECTION 2013-038B-R LOCATION SEC 11, 12, 13 & 14 T 38 N, R 12 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. Station	CORING BARREL TYPE & SIZE	DEPTH (ft)	RECOVERY (%)	ROD (in)	CORRECTED (min)	STRENGTH (tsf)
016-0486 30+72.59	NX Double Swivel-10 ft 2.0 in					
BORING NO. SB-11 Station 34+27 Offset 48.3' Left Ground Surface Elev. 624.40	Top of Rock Elev. 553.9 Begin Core Elev. 554.9					
		1	93.8	42.5	n/a	903
						74.5
						79.5

RUN 1 (-69.5' to -78.5')
(-69.5' to -70.5') Cobbles & boulders.
(-70.5' to -78.5') SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
Light gray mottled gray with horizontal bedding. Horizontal fractures @ -70.9' & -71.4'.
Vertical fracture from -71.4' to -72.8'. Horizontal fractures @ -73.0' & -73.4'. Vertical fracture from -73.5' to -74.0'. Horizontal fractures @ -75.0', -75.3', -76.1', -76.3', -76.8' & -77.0'.



Color pictures of the cores Yes Cores will be stored for examination for -
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - FSM	REVISED -
		CHECKED - RMM	REVISED -
		DRAWN - FSM	REVISED -
		CHECKED - RMM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS PIER 8
STRUCTURE NO. 016-0486

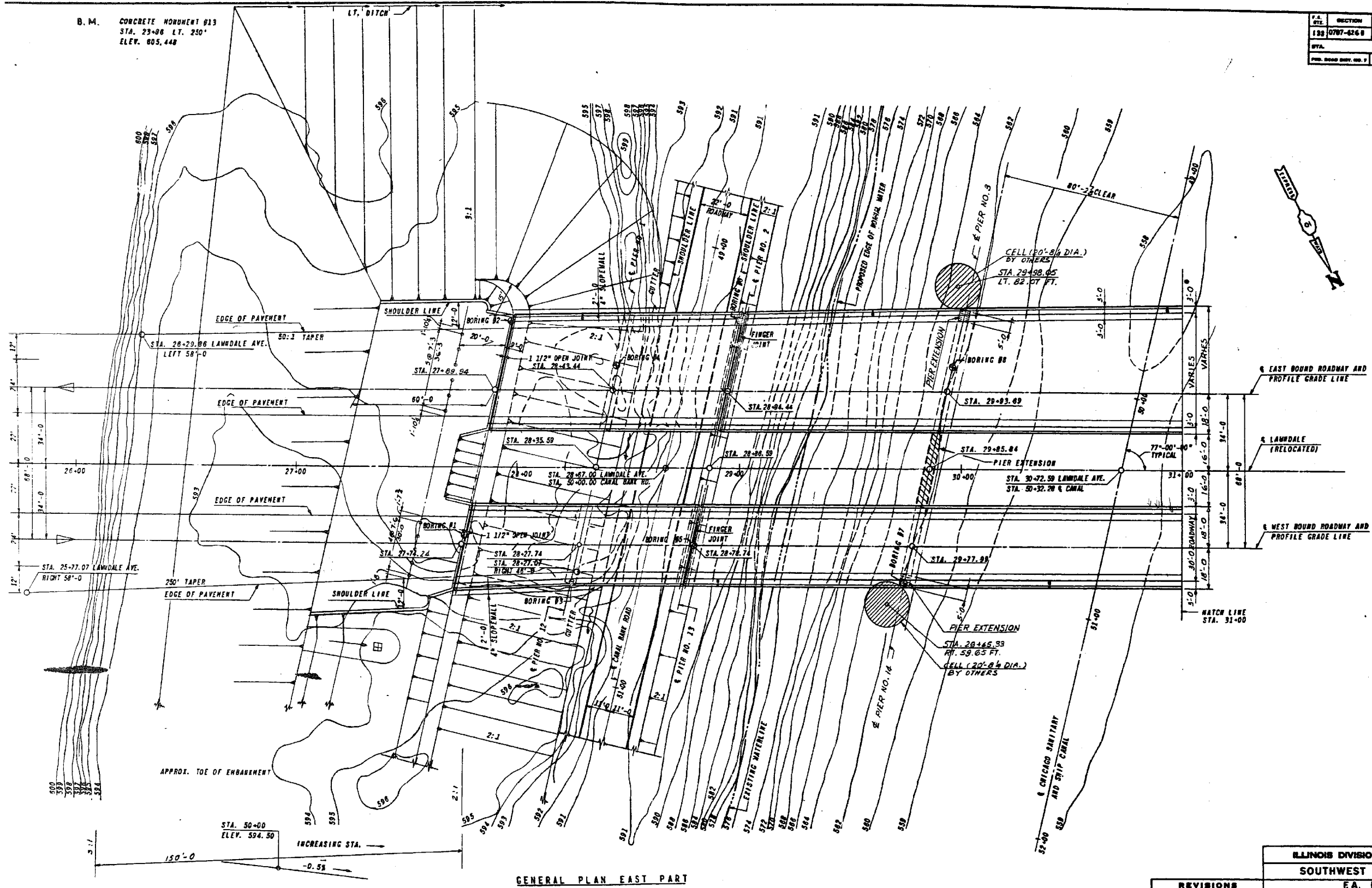
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	687
CONTRACT NO.			60J16	

SHEET NO. SG97 OF SG100 SHEETS

ILLINOIS FED. AID PROJECT

B.M. CONCRETE MONUMENT #13
STA. 23+86 LT. 250'
ELEV. 605.448

F.A. SITE	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
133	0707-626 B	SOUTHWEST	495	7
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		



PROFILE GRADE
CANAL BANK RD.

GENERAL PLAN EAST PART

REVISIONS	
NAME	DATE
DESIGNED BY	
REVIEWED	Cwy

ILLINOIS DIVISION OF HIGHWAYS	
SOUTHWEST EXPRESSWAY	
F.A. RT 133	
LAWDALE AVE. STRUCTURE OVER	
CHICAGO SANITARY AND SHIP CANAL	
SECTION 0707-626B	
GENERAL PLAN EAST PART	
SCALE: HORIZ. 1" = 20'	DRAWN BY J.P.
DATE 8-5-63	CHECKED BY L.O.B.

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engineers · scientists · planners

Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =
0160486.60J16.X01.exist.gpe.dgn

USER NAME = tjenicke
DESIGNED - FSM
CHECKED - RMM
DRAWN - FSM
PLOT DATE = 6/23/2014

REVISOR -
REVISOR -
REVISOR -
REVISOR -
REVISOR -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS GENERAL PLAN SPANS 1 THRU 4
STRUCTURE NO. 016-0486

SHEET NO. SGX1 OF SGX48 SHEETS

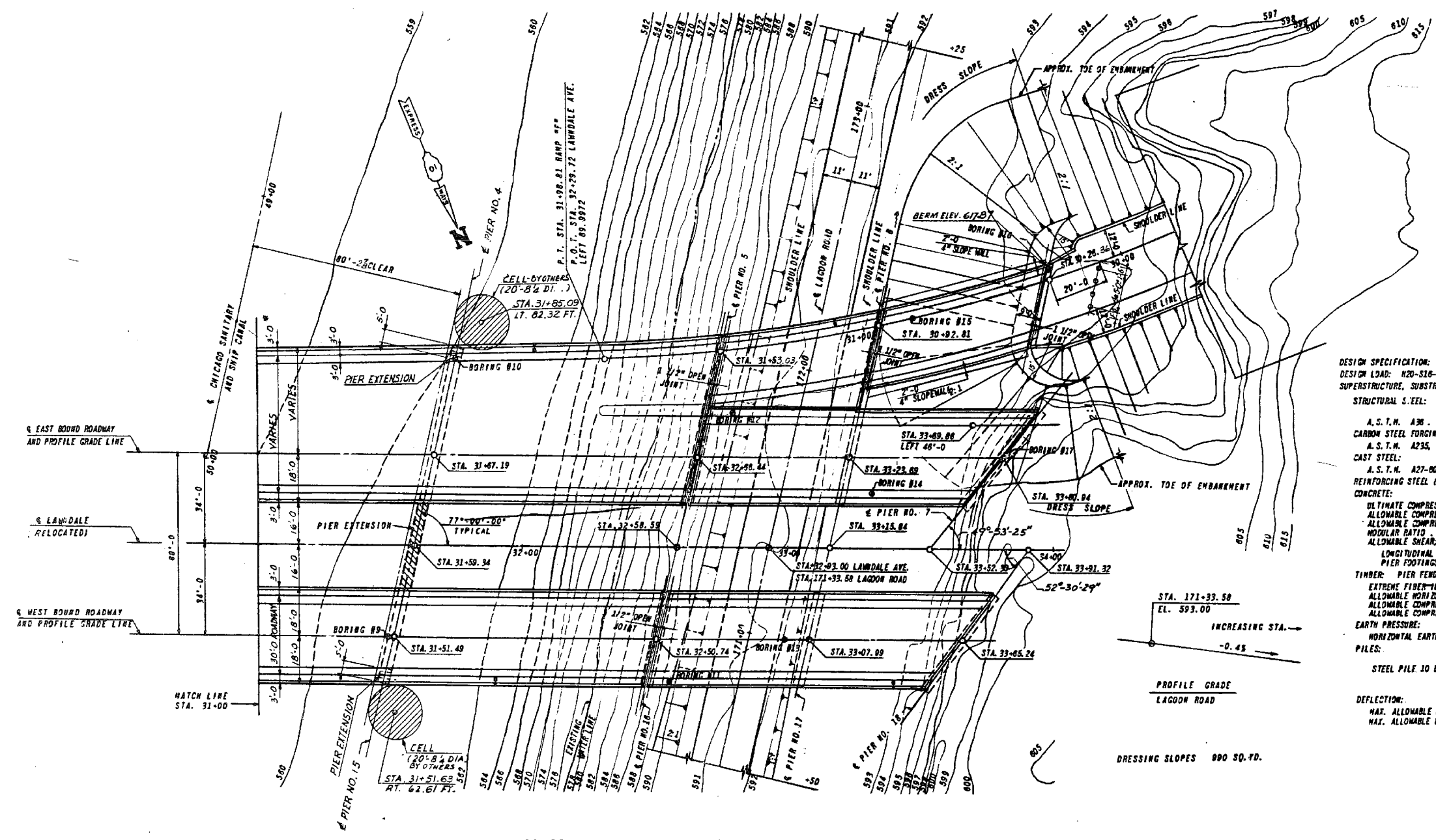
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	691
CONTRACT NO.				60J16
ILLINOIS FED. AID PROJECT				

X:\1000005\10093\Eng_Docs_Phase_1\11\SN_016_0486_0487_1st_Ave.cover_Consol\Final\Final_0486\0160486_60J16.X01.exist.gpe.dgn 2:52:28 PM 6/23/2014

F.A. RT.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
133	0707-626 B	SOUTHWEST	95	8
BYA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

B. M. CONCRETE MONUMENT #12
 STA. 30+05 LT. 395'
 ELEV. 635.043



DESIGN DATA

DESIGN SPECIFICATION: AASHTO 1961 EDITION
 DESIGN LOAD: H20-S16-44
 SUPERSTRUCTURE, SUBSTRUCTURE AND ABUTMENTS:

STRUCTURAL STEEL:

A. S. T. M. A36 $f_y = 20,000$ psi
 CARBON STEEL FORGINGS:
 A. S. T. M. A235, CLASS F $f_y = 40,000$ psi
 CAST STEEL:
 A. S. T. M. A27-80, GRADE 65-35 $f_y = 35,000$ psi
 REINFORCING STEEL (INTERMEDIATE AND HARD GRADE) $f_s = 20,000$ psi

CONCRETE:

ULTIMATE COMPRESSION $f'_c = 3,500$ psi
 ALLOWABLE COMPRESSION (WITHOUT EARTH PRESSURE) $f_c = 1,400$ psi
 ALLOWABLE COMPRESSION (WITH EARTH PRESSURE) $f_c = 1,200$ psi
 MODULAR RATIO $n = 10$
 ALLOWABLE SHEAR, BEAMS WITHOUT WEB REINFORCEMENT $v = 90$ psi
 LONGITUDINAL BARS ANCHORED $u = 90$ psi
 PIER FOOTINGS $v = 75$ psi

TIMBER: PIER FENDER

EXTREME FIBER-IN BENDING, PARALLEL TO GRAIN $f = 3,300$ psi
 ALLOWABLE HORIZONTAL SHEAR $u = 400$ psi
 ALLOWABLE COMPRESSION, PERPENDICULAR TO GRAIN $f = 1,500$ psi
 ALLOWABLE COMPRESSION, PARALLEL TO GRAIN $f = 3,100$ psi

EARTH PRESSURE:
 HORIZONTAL EARTH PRESSURE = EQUIV. FLUID PRESSURE 40 p/cf

PILES:
 STEEL PILE 10 HP 87 60 TONS

DEFLECTION:
 MAX. ALLOWABLE LIVE LOAD DEFLECTION, COMPOSITE 1/1200 SPAN
 MAX. ALLOWABLE LIVE LOAD DEFLECTION, NON-COMPOSITE 1/1000 SPAN

GENERAL PLAN WEST PART

REVISIONS		ILLINOIS DIVISION OF HIGHWAYS	
NAME	DATE	SOUTHWEST EXPRESSWAY	
		F.A. RT 133	
		LAWDALE AVE. STRUCTURE OVER	
		CHICAGO SANITARY AND SHIP CANAL	
		SECTION 0707-626B	
		GENERAL PLAN WEST PART	
DESIGNED BY	ST.	SCALE:	HORIZ. VERT. 1"=20'
REVIEWED BY	C.W.N.	DATE:	8-5-83
		DRAWN BY	D.U.
		CHECKED BY	L.D.B.

benesch
 engineers · scientists · planners

Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME =	USER NAME =	DESIGNED -	REVISOR -
0160486.60J16.X02.existgpe.dgn	tjenicke	FSM	
	PLOT SCALE =	CHECKED -	REVISOR -
		RMM	
	PLOT DATE =	DRAWN -	REVISOR -
	6/23/2014	FSM	
		CHECKED -	REVISOR -
		RMM	

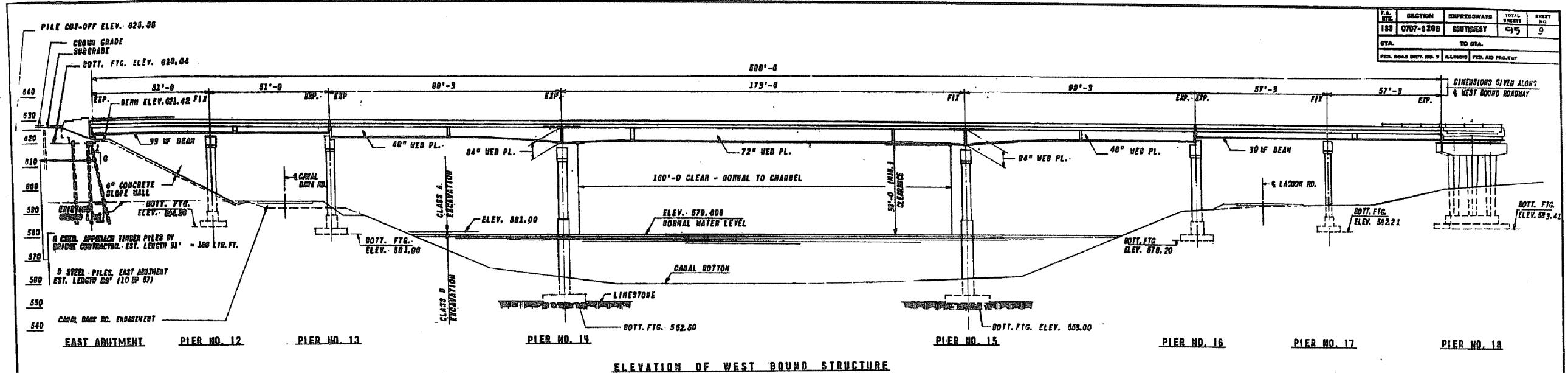
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS GENERAL PLAN SPANS 4 THRU 7
 STRUCTURE NO. 016-0486

SHEET NO. SGX2 OF SGX48 SHEETS

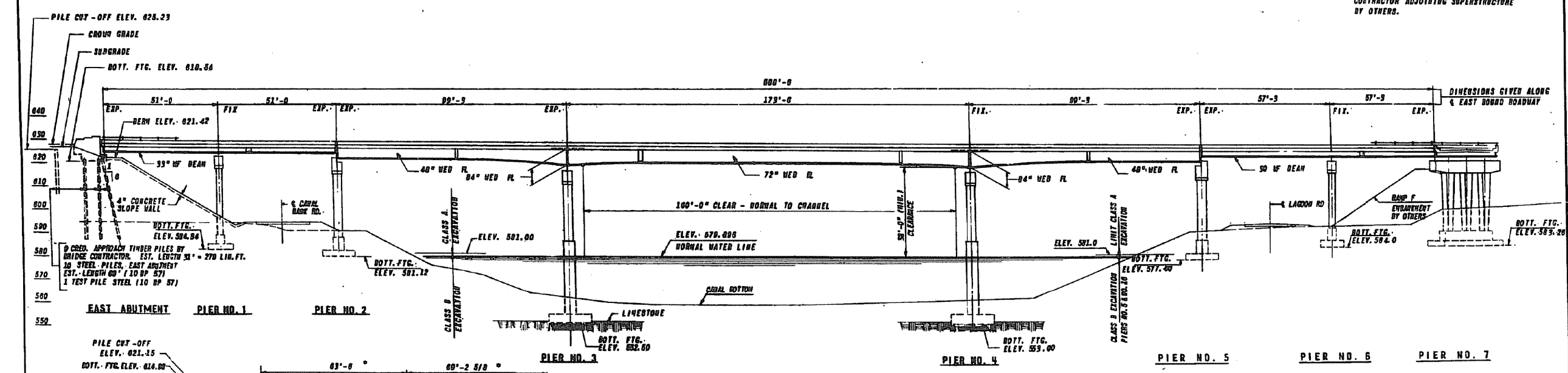
FOR INFORMATION ONLY				
F.A.P. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	692
			CONTRACT NO.	60J16
ILLINOIS FED. AID PROJECT				

X:\1000005\10093\Eng_Docs_Phase_III\SN_016_0486_0487_1st_Ave_cover_Conc\Final\Final_0486\0160486_60J16.X02.existgpe.dgn 2:52:30 PM 6/23/2014

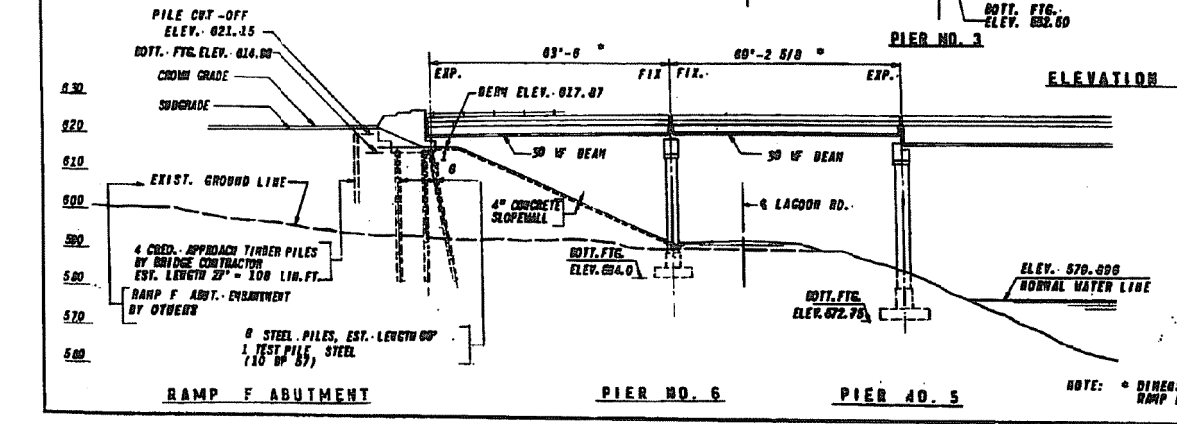


ELEVATION OF WEST BOUND STRUCTURE

NOTE: PIERS NO. 7 & NO. 18 BY BRIDGE CONTRACTOR ADJOINING SUPERSTRUCTURE BY OTHERS.



ELEVATION OF EAST BOUND STRUCTURE



NOTE: DIMENSIONS ALONG RAMP F SURVEY LINE

F.A. RTE.	SECTION	EXPRESSWAY	TOTAL SHEETS	SHEET NO.
133	0707-826B	SOUTHWEST	95	9
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT			

REVISIONS		ILLINOIS DIVISION OF HIGHWAYS	
NAME	DATE	SOUTHWEST EXPRESSWAY	
DESIGNED BY		F.A. RT 133	
REVIEWED		LAWDALE AVE. STRUCTURE OVER CHICAGO SANITARY AND SHIP CANAL SECTION 0707-826B ELEVATIONS	
		SCALE: HORIZ. VERT. DATE 6-5-63 DRAWN BY E.G. CHECKED BY L.D.S.	

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME =	DESIGNED -	REVISOR -
0160486.60J16.X03.genelev.dgn	tjenicke	FSM	
	PLOT SCALE =	CHECKED -	REVISOR -
		RMM	
	PLOT DATE =	DRAWN -	REVISOR -
	6/23/2014	FSM	
		CHECKED -	REVISOR -
		RMM	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS ELEVATION SPANS 1 THRU 7
STRUCTURE NO. 016-0486

SHEET NO. SGX3 OF SGX48 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	693
CONTRACT NO.			60J16	
ILLINOIS FED. AID PROJECT				

X:\100005\10093\Eng_Docs_Phase_1\11\SN_016_0486_0487_1st_Ave_cover_Conc\Final\Final_0486\0160486_60J16.X03.genelev.dgn 2:52:32 PM 6/23/2014

FOR DETAILS OF PIERS 7 AND 18 SEE CONTRACT PLANS FOR SECTION 0707-626B

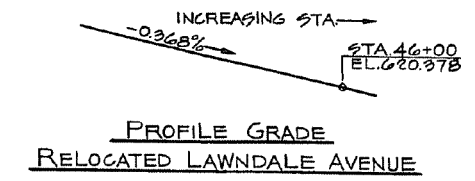
EXISTING GROUND TO BE REMOVED AND REPLACED UNDER SECTION 0707-635A TO SUBGRADE ELEVATION SHOWN

APPROACH PILE DATA		
LOCATION	N.W. ABUT.	S.W. ABUT.
NO. REQUIRED	7	9
EST. LENGTH	28'	28'
CUT OFF ELEV.	621.57	621.24

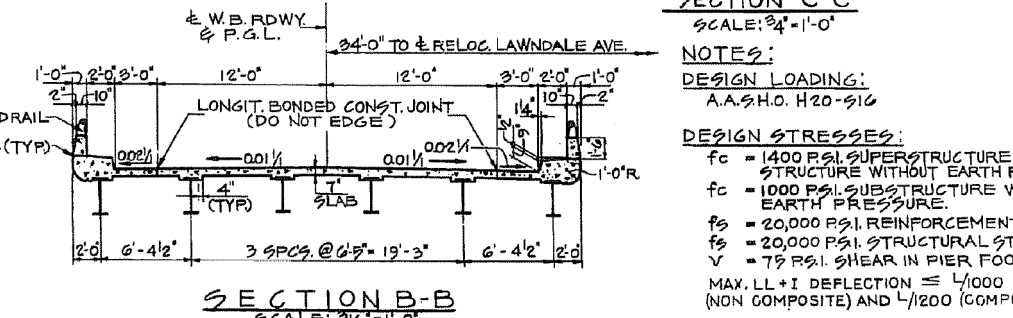
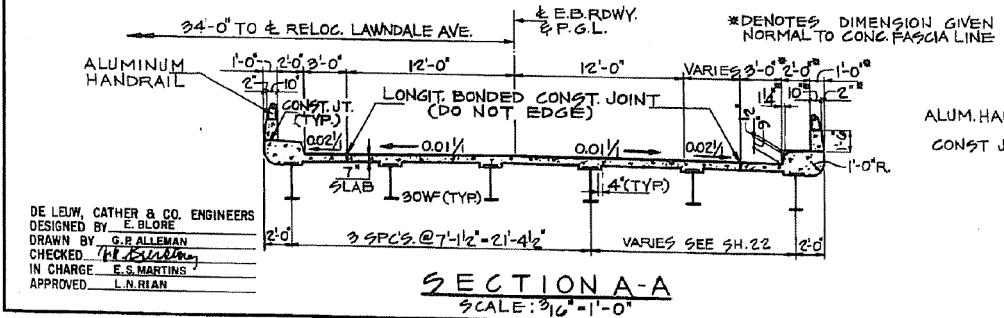
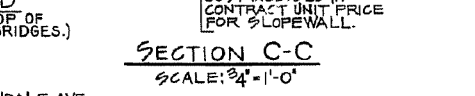
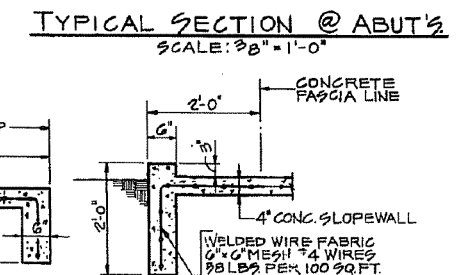
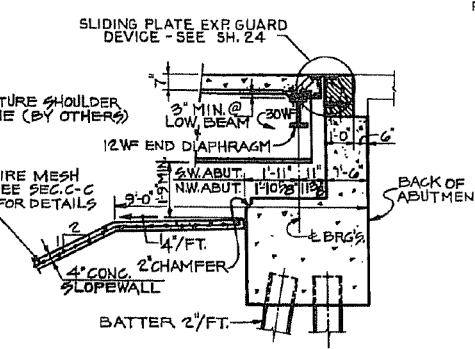
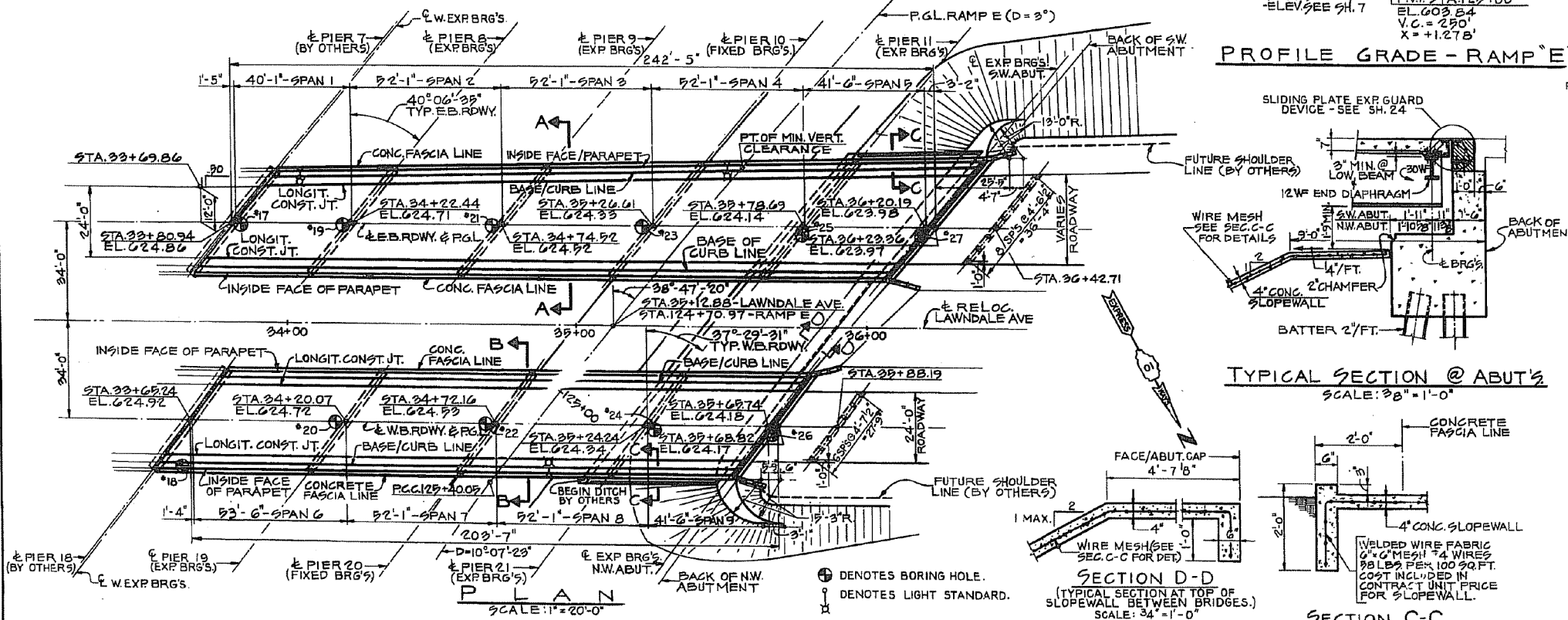
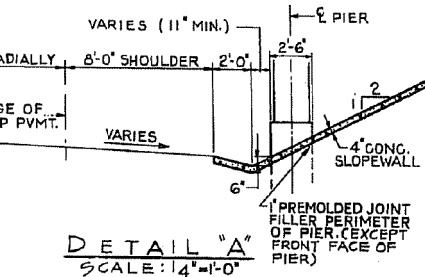
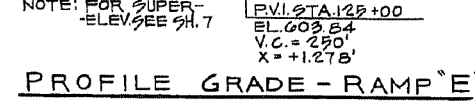
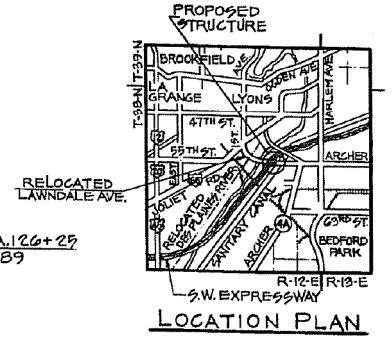
ELEVATION - E.B. ROADWAY
SCALE: 1" = 20'-0"

TABLE A
MIN. HORIZ. CLEARANCES (NORMAL TO RAMP'E)
DIM. (E.B. RDWY. / W.B. RDWY.)

A	9'-7 1/2"	9'-10 1/2"
B	10'-11"	12'-4 3/8"



NO.	REV.	DATE	BY	CHKD.	SHEET NO.	SHEETS
13	3	07/07-8/10/88	COOK	23	10	



TOTAL BILL OF MATERIAL
Section 0707-810 HB

ITEM	UNIT	SUPER STRUCT.	SUB STRUCT.	TOTAL
CLASS A EXCAVATION FOR STRUCT.	CU YD		69B	69B
CLASS X CONCRETE	CU YD	507.3	473.0	980.3
PROTECTIVE COAT	SQ YD	2,068		2,068
FURNISHING AND ERECTING STRUCTURAL STEEL	POUNDS	369,145		369,145
REINFORCEMENT BARS	POUNDS	123,563	69,149	192,712
FURNISH, CREO. PILES 20.1-38	LIN FT		44B	44B
DRIVING TIMBER PILES	LIN FT		44B	44B
FURNISH STEEL PILES 88P96	LIN FT		3,476	3,476
TEST PILES, (STEEL)	EACH		6	6
DRIVING STEEL PILES	LIN FT		3,476	3,476
SLOPE WALL 4 INCH	SQ YD		621	621
NAME PLATES	EACH		2	2
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	LIN FT		4C	4C
CONDUIT MOUNTED, 2" DIA., GALVANIZED STEEL	LIN FT	934		934
WIRE MESH 1/2" GALVANIZED STEEL	LIN FT	6		6
CONDUIT IN CONCRETE 1/2" DIA. GALVANIZED STEEL	LIN FT		23	23
TRENCH AND BACKFILL	LIN FT		20	20
HANDRAIL	LIN FT	888		888
EMBANKMENT	CU. YDS.		112	112

* INCLUDES 12 CU. YDS. FOR SLOPEWALL TOES.

NOTES:
DESIGN LOADING:
A.A.S.H.O. H20-310

DESIGN STRESSES:
f_c = 1400 PSI SUPERSTRUCTURE AND SUBSTRUCTURE WITHOUT EARTH PRESSURE.
f_c = 1000 PSI SUBSTRUCTURE WITH EARTH PRESSURE.
f_s = 20,000 PSI REINFORCEMENT BARS.
f_s = 20,000 PSI STRUCTURAL STEEL A-36.
V = 75 PSI SHEAR IN PIER FOOTING.
MAX. LL+I DEFLECTION ≤ L/1000 (NON COMPOSITE) AND L/1200 (COMPOSITE).

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
LAWNDALE AVE. OVER RAMP E
GENERAL PLAN AND ELEVATION

SCALE: AS NOTED DATE: 7-30-83

DE LEW, CATHER & CO. ENGINEERS
DESIGNED BY E. BLORE
DRAWN BY G. ALLEMAN
CHECKED BY H. BULLOCK
IN CHARGE F. S. MARTINS
APPROVED L. N. RIAN



FILE NAME	USER NAME	DESIGNED	CHECKED	PLOT SCALE	PLOT DATE
0160486.60J16.X04.genplan.8thru12.dgn	tjenicke	FSM	RMM		6/23/2014

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS GENERAL PLAN SPANS 8 THRU 12
STRUCTURE NO. 016-0486
SHEET NO. SGX4 OF SGX48 SHEETS

FOR INFORMATION ONLY

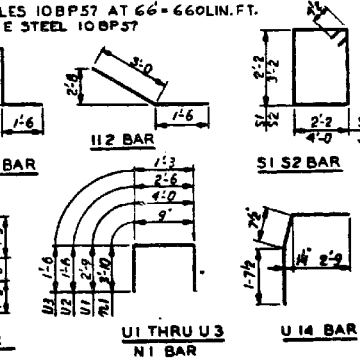
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	694

CONTRACT NO. 60J16
ILLINOIS FED. AID PROJECT

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F.A. RTE.	SECTION	EXPRESSWAY	TOTAL SHEETS	SHEET NO.
133	0707-626B	SOUTHWEST	95	29
BY: TO STA.				
PUB. ROAD DIST. NO. 1 ALLIANCE FOR ILL. AND ILLINOIS				

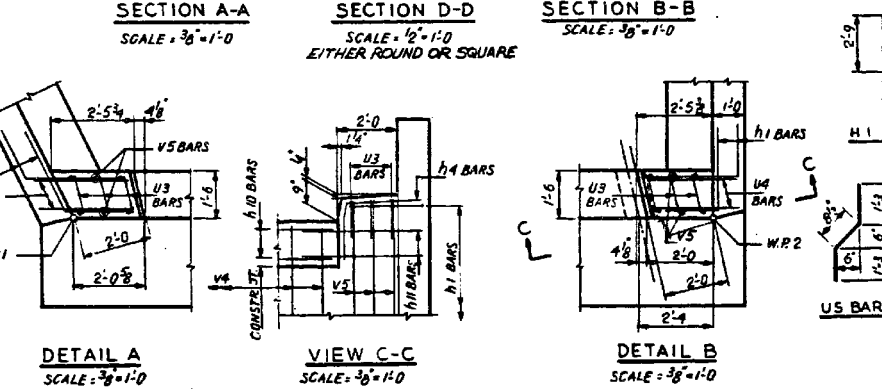
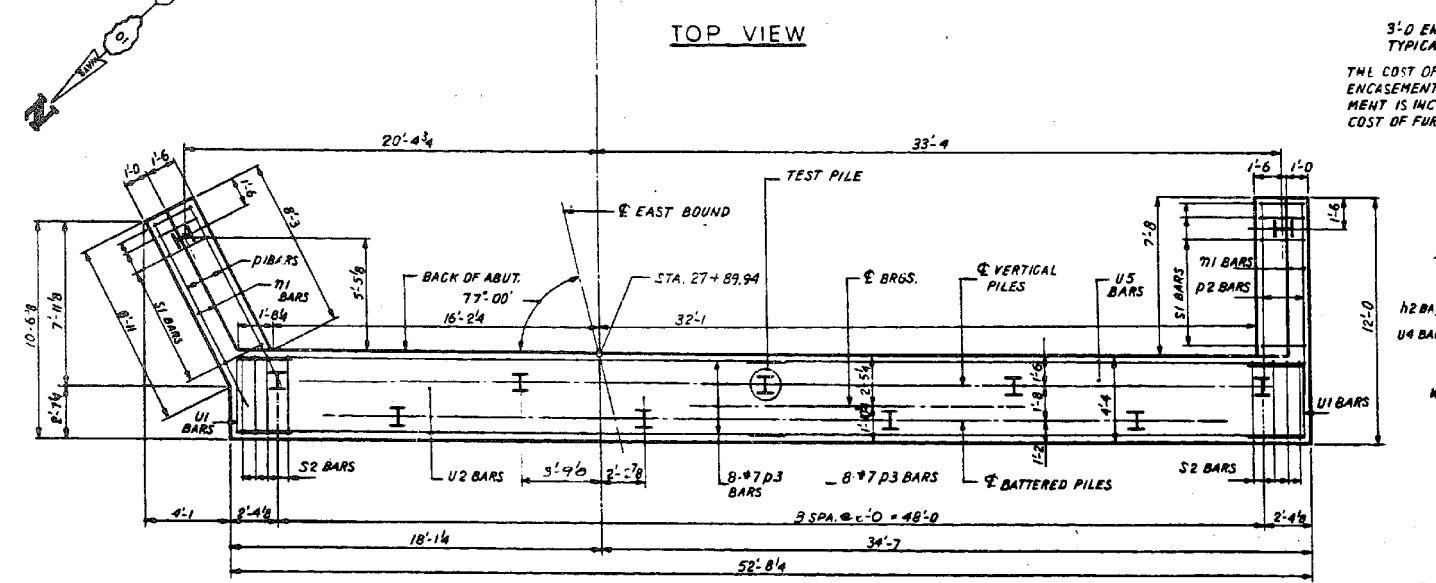
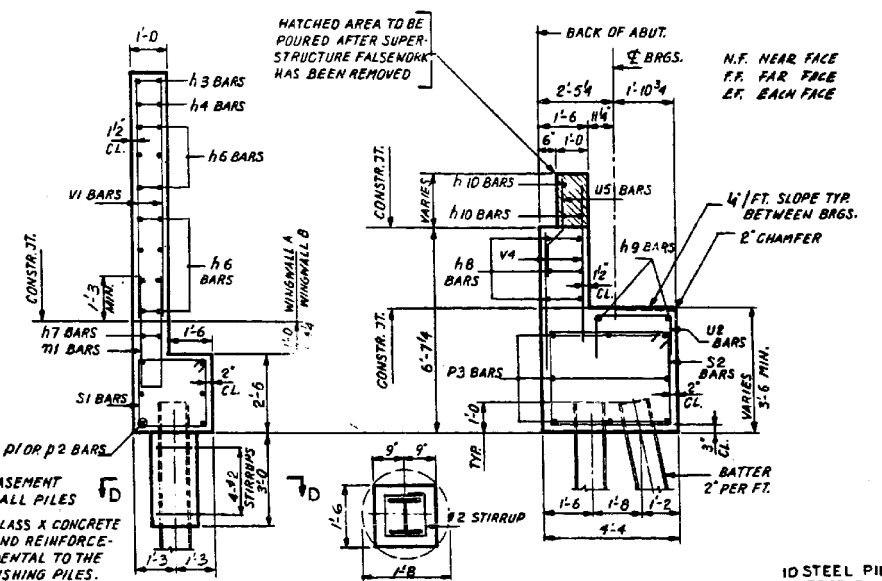
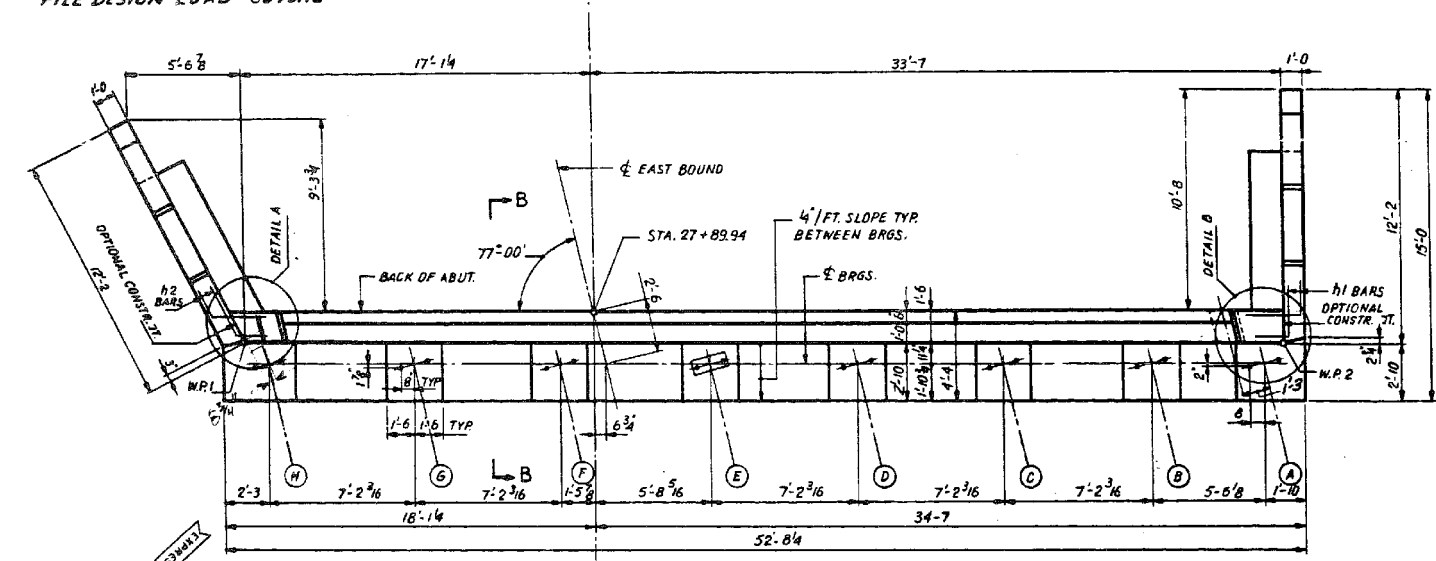
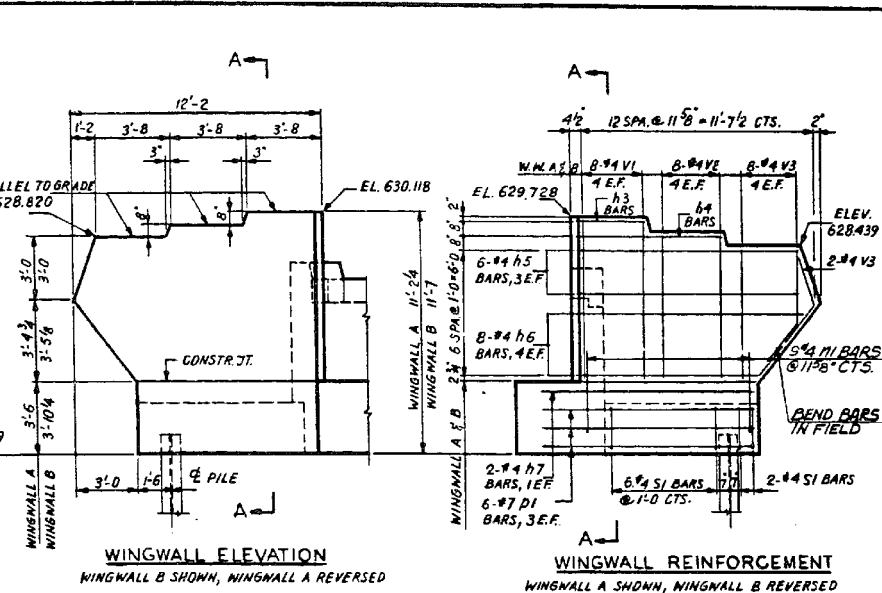
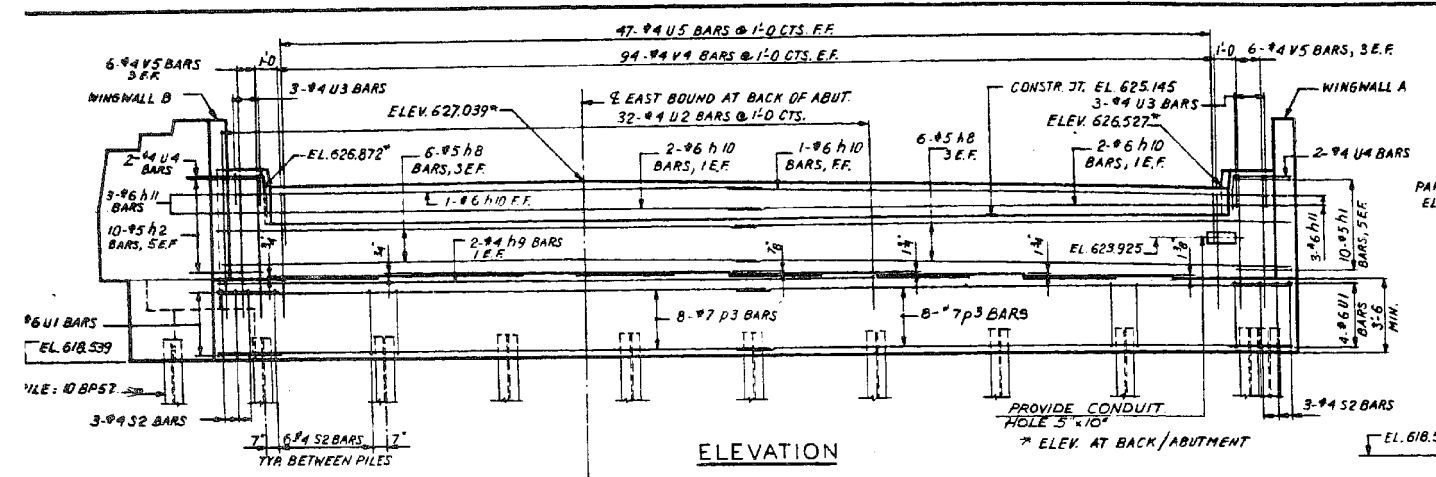
BILL OF REINFORCEMENT				
BAR NO.	SIZE	LENGTH	SHAPE	
h1	10	5	4'-3"	
h2	10	5	4'-6"	
h3	4	4	3'-2"	
h4	4	4	6'-10"	
h5	12	4	10'-6"	
h6	16	4	11'-8"	
h7	4	4	9'-3"	
h8	12	5	26'-10"	
h9	2	4	32'-2"	
h10	6	6	24'-0"	
h11	6	6	2'-9"	
m1	18	4	8'-5"	
p1	6	7	10'-0"	
p2	6	7	9'-3"	
p3	16	7	27'-1"	
s1	16	4	9'-5"	
s2	54	4	15'-1"	
u1	8	6	7'-6"	
u2	32	4	6'-10"	
u3	6	4	6'-2"	
u4	4	4	5'-0"	
u5	47	4	3'-6"	
v1	16	4	7'-6"	
v2	16	4	6'-11"	
v3	20	4	6'-3"	
v4	94	4	5'-1"	
v5	12	4	6'-4"	
EAST ABUT. E.B. QUANTITIES				
CLASS X CONCRETE	CU. YDS.	54.4		
REINFORCING BARS	LBS.	3,830		
PILES 10BP57	LIN. FT.	660		
TEST PILE 10BP57	EA.	1		



REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS				
SOUTHWEST EXPRESSWAY				
F.A. RT 133				
LAWDALE AVE. STRUCTURE OVER CHICAGO SANITARY AND SHIP CANAL				
SECTION 0707-626 B				
EAST ABUTMENT EAST BOUND				
SCALE:	HORIZ. VERT.	DATE:	BY:	CHECKED BY:
1/4"=1'-0"	1/8"=1'-0"	6/23/2014	J. W.	L.D.B.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	695
				CONTRACT NO. 60J16
ILLINOIS FED. AID PROJECT				



BEARING SEAT ELEVATIONS AT BEAMS							
A	B	C	D	E	F	G	H
622.039	622.151	622.297	622.443	622.519	622.519	622.456	622.293

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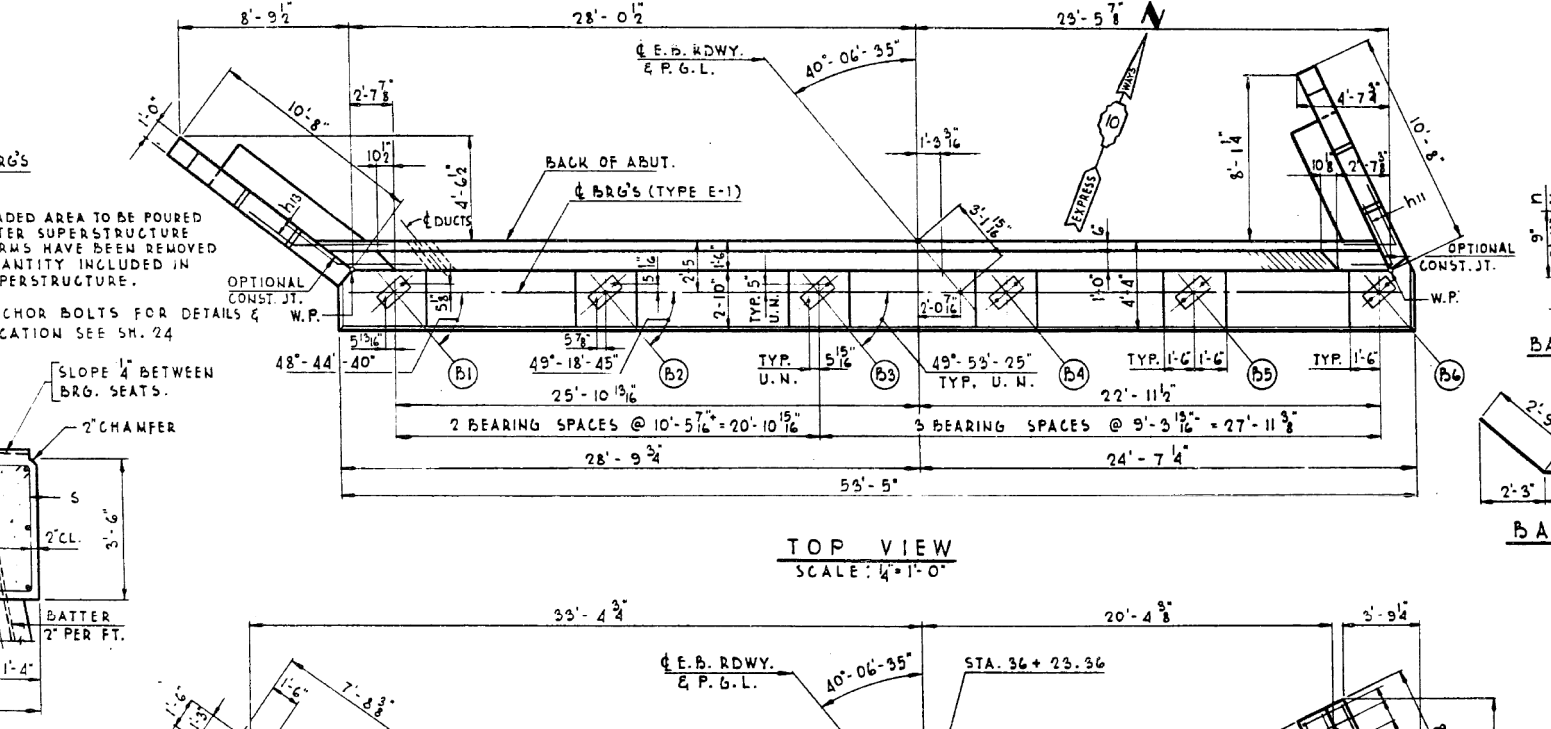
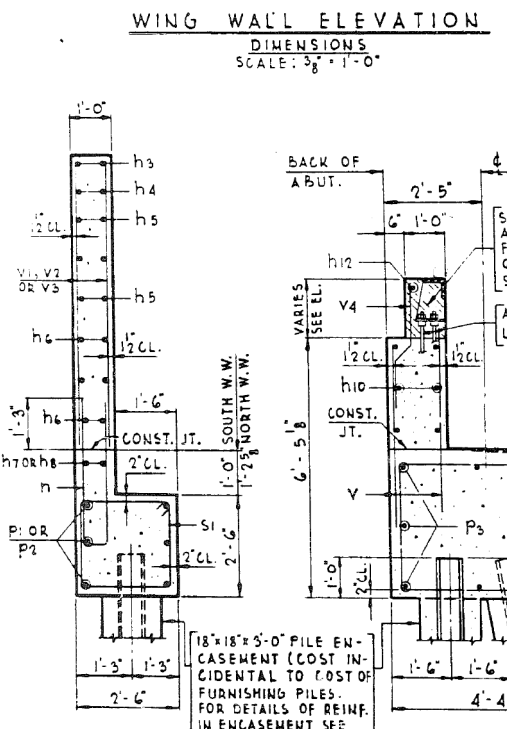
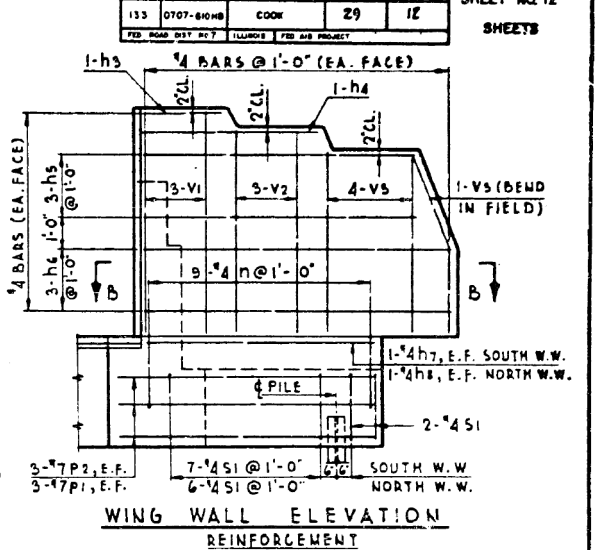
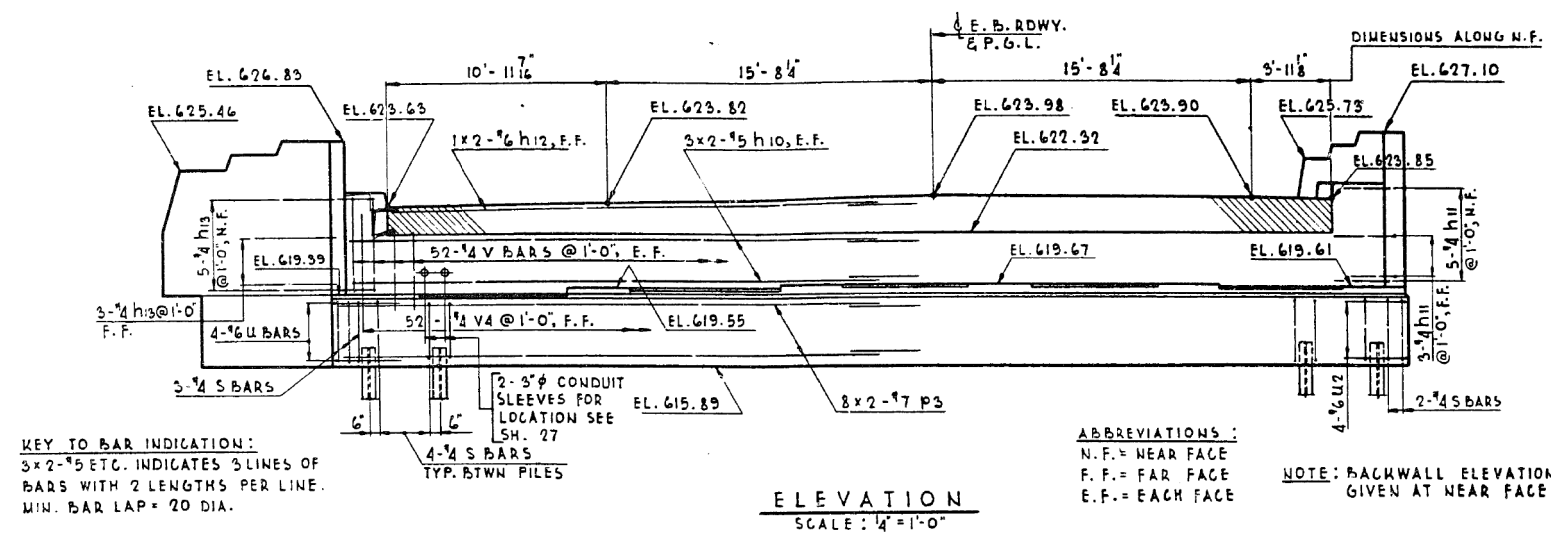
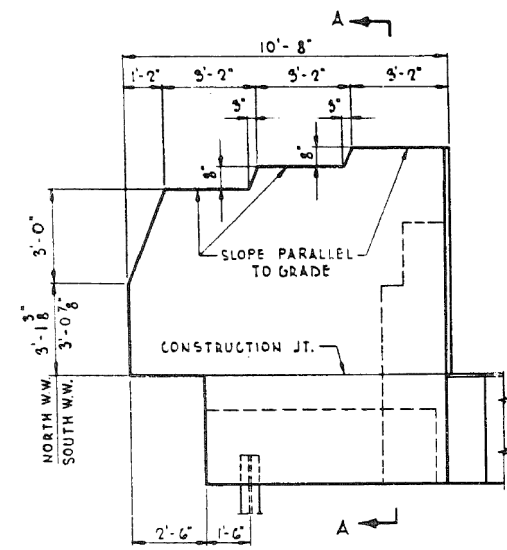
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		DRAWN - FSM	REVISED -
		CHECKED - RMM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS EAST ABUTMENT
STRUCTURE NO. 016-0486
SHEET NO. SGX5 OF SGX48 SHEETS

FOR INFORMATION ONLY

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SECTION B-B

BAR LIST

BAR NO.	SIZE	LENGTH	SHAPE
h3	4	4	2'-6"
h4	4	4	5'-9"
h5	12	4	9'-0"
h6	12	4	10'-3"
h7	2	4	8'-9"
h8	2	4	8'-3"
h10	12	5	25'-6"
h11	8	5	5'-0"
h12	2	6	23'-9"
h13	8	5	5'-3"
n	18	4	7'-9"
P1	6	7	8'-0"
P2	6	7	9'-3"
P3	16	7	27'-6"
s	61	4	15'-1"
S1	17	4	9'-5"
u	4	6	9'-11"
u2	4	6	7'-6"
v	104	4	4'-6"
V1	12	4	7'-5"
V2	12	4	6'-6"
V3	20	4	5'-9"
V4	32	4	3'-6"

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
CLASS X CONCRETE	CU YD	48.9
REINFORCEMENT BARS	POUNDS	5559
FURNISHING STEEL PILES 8BP36	LIN. FT.	608
TEST PILE STEEL 8BP36	EACH	1
DRIVING STEEL PILES	LIN. FT.	608
PROTECTIVE COAT *	SR YD	8
CLASS A EXCAV. FOR STRUCT.	CU YD	81

ILLINOIS DIVISION OF HIGHWAYS
 SOUTHWEST EXPRESSWAY
 LAWNDALE AVE. OVER 1/2 AMP E
 S.W. ABUTMENT-EASTBOUND BRIDGE.

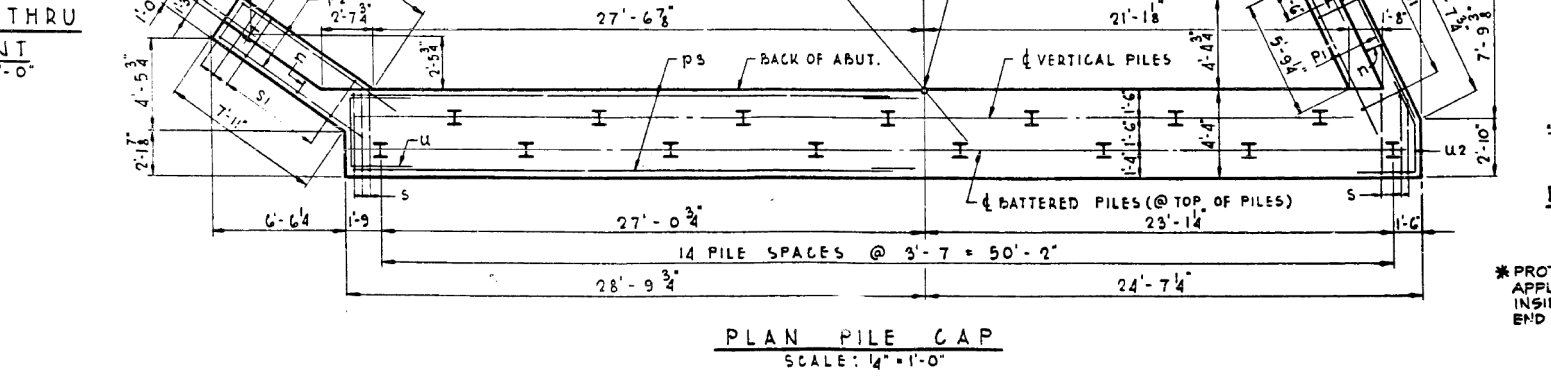
SCALE: AS NOTED

SECTION THRU ABUTMENT
 SCALE: 1/2" = 1'-0"

PILE DATA	
PILE TYPE	8BP36
MIN. CAPACITY TONS	30
NO. REQUIRED	17*
EST. LENGTH FEET	38

*INCLUDING TEST PILE.

DE LEUW, CATHAR & CO. ENGINEERS
 DESIGNED BY J.C. BROZ
 DRAWN BY F. BOBINAS
 CHECKED BY K.S. MARTINS
 IN CHARGE
 APPROVED L.N. RIAN

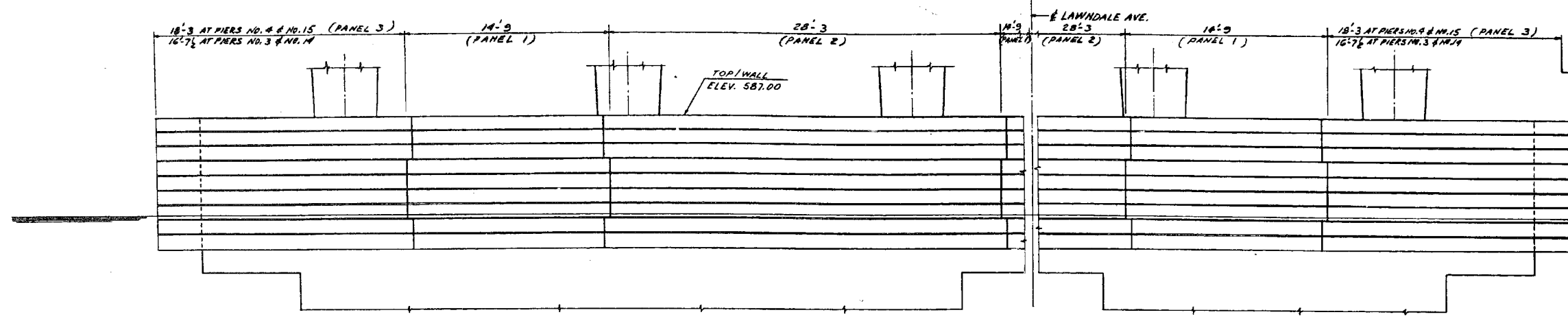


*PROTECTIVE COAT IS TO BE APPLIED TO THE TOPS AND INSIDE VERTICAL FACES OF END POSTS.

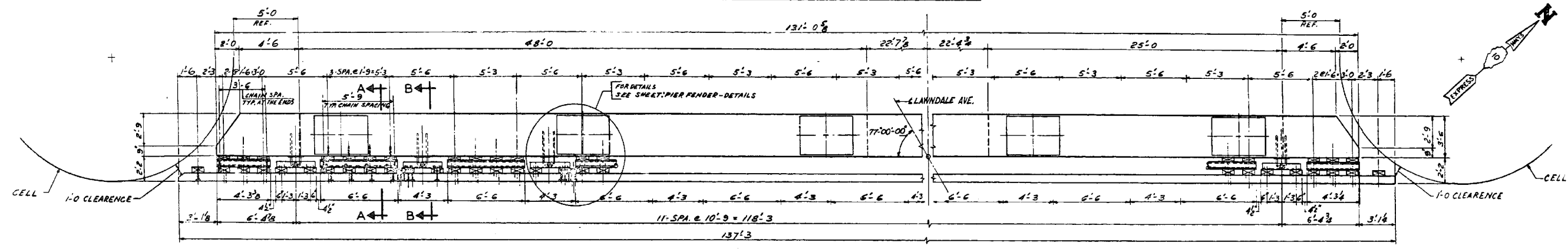
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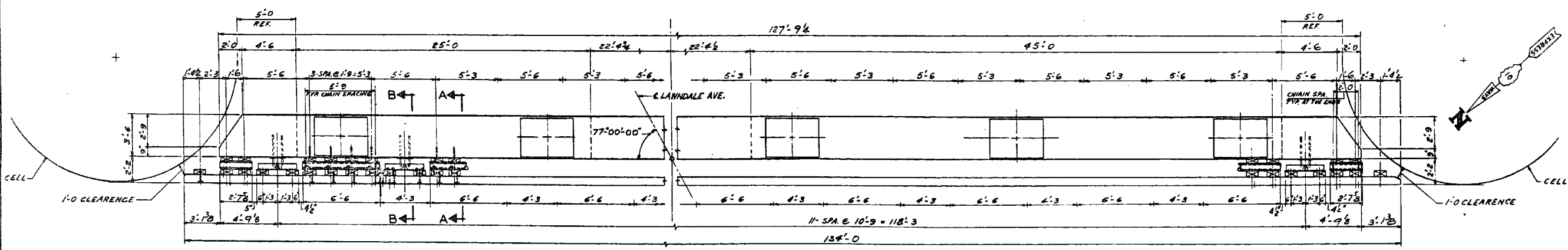
F.A. R.T.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
133	0707-626B	SOUTHWEST	99	45
BYA.		TO BYA.		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



FENDER ELEVATION FOR PIER NO.4 & NO.15
(LOOKING UP-STATION)
ELEVATION FOR PIER NO.3 & NO.14 OPPOSITE



FENDER PLAN AT PIERS NO.4 & NO.15



FENDER PLAN AT PIERS NO.3 & NO.14

ILLINOIS DIVISION OF HIGHWAYS	
SOUTHWEST EXPRESSWAY	
F.A. RT. 133	
LAWNDALE AVE. STRUCTURE OVER CHICAGO SANITARY AND SHIP CANAL	
SECTION 0707-626 B	
PIER FENDER PLAN & ELEVATION	
DESIGNED ST.	SCALE: HORIZ. 1/4"=1'-0"
REVIEWED C.W.W.	DATE 8-5-63
DRAWN BY E.M.	
CHECKED BY L.D.B.	

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FILE NAME =	USER NAME = tjenicke	DESIGNED - FSM	REVISED -
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	PLOT DATE = 6/23/2014	DRAWN - FSM	REVISED -
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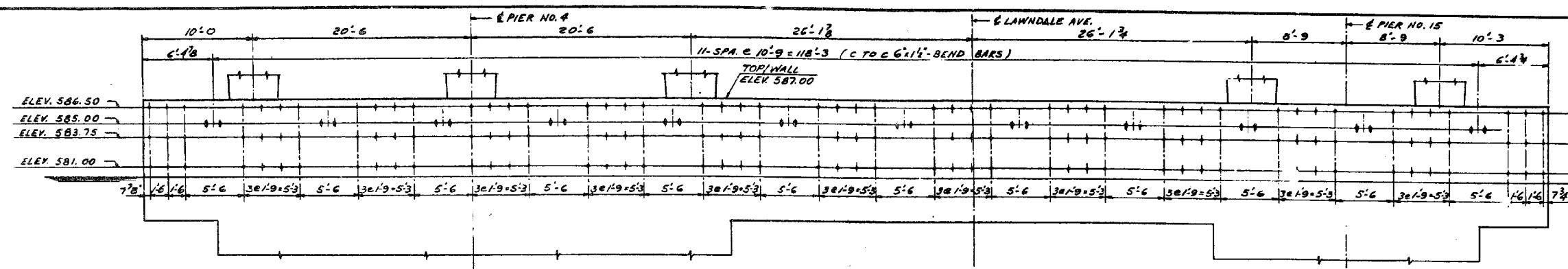
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS PIER FENDER PLAN AND ELEVATION
STRUCTURE NO. 016-0486
SHEET NO. SGX8 OF SGX48 SHEETS

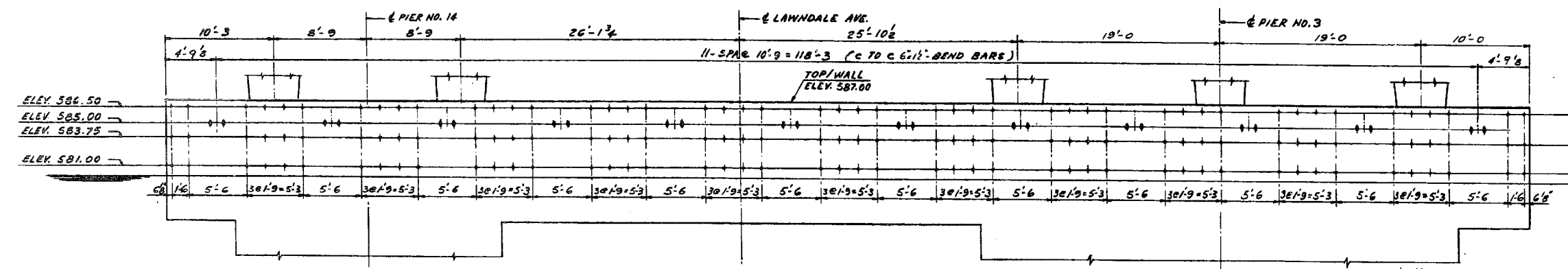
FOR INFORMATION ONLY				
F.A.P. R.T.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
133	2013-038B-R	COOK	821	698
			CONTRACT NO. 60J16	
ILLINOIS FED. AID PROJECT				

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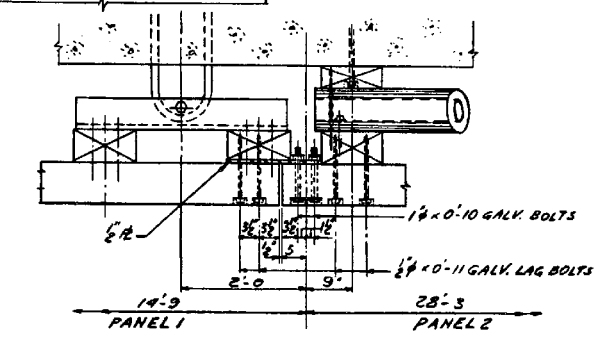
F.A. RTE.	SECTION	EXPRESSWAY	TOTAL SHEETS	SHEET NO.
133	0707-626B	SANITARY	95	46
STA.		TO STA.		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



ANCHOR BOLTS LAYOUT AT PIERS NO.4 & NO.15
(ELEVATION SHOWN FROM CANAL)
SCALE: 3/16" = 1'-0"



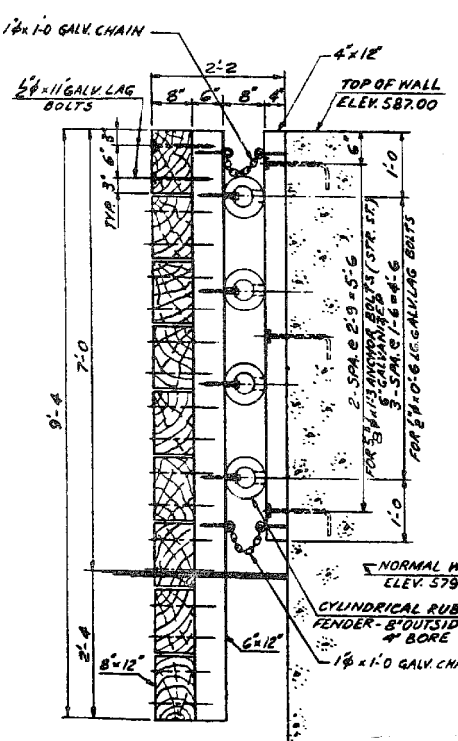
ANCHOR BOLTS LAYOUT AT PIERS NO. 14 & NO. 3
(ELEVATION SHOWN FROM CANAL)
SCALE: 3/16" = 1'-0"



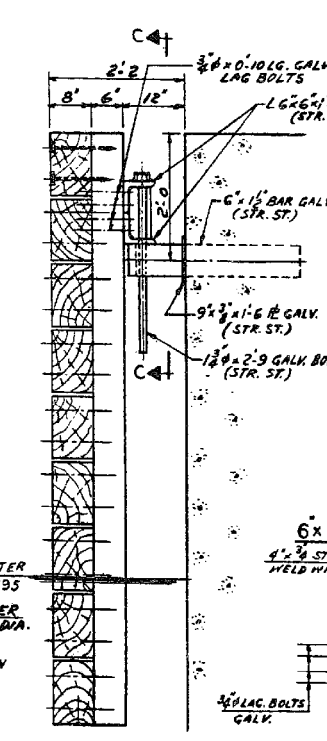
PIER FENDER AT PIER NO.3 & NO.14 PIER FENDER QUANTITIES *		
TIMBER	MBM	18.4
CYLINDRICAL RUBBER FENDER	LIN. FT.	307
STRUCTURAL STEEL	LBS.	7,150
HARDWARE	LBS.	1,830

PIER FENDER AT PIER NO.4 & NO.15 PIER FENDER QUANTITIES *		
TIMBER	MBM	14.8
CYLINDRICAL RUBBER FENDER	LIN. FT.	320
STRUCTURAL STEEL	LBS.	7,450
HARDWARE	LBS.	1,850

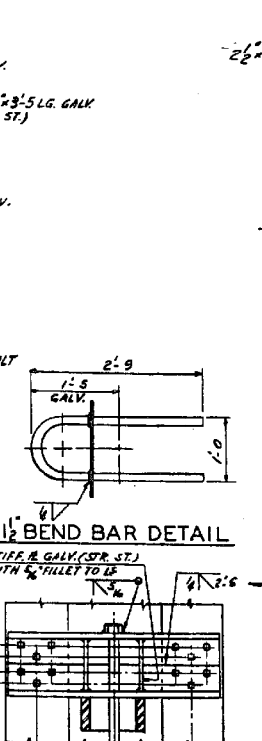
* QUANTITIES SHOWN FROM CELL TO CELL FOR ONE PIER FENDER.
TIMBER: DEMERARA GREEN HART (NECTANDRA RODIOEI)



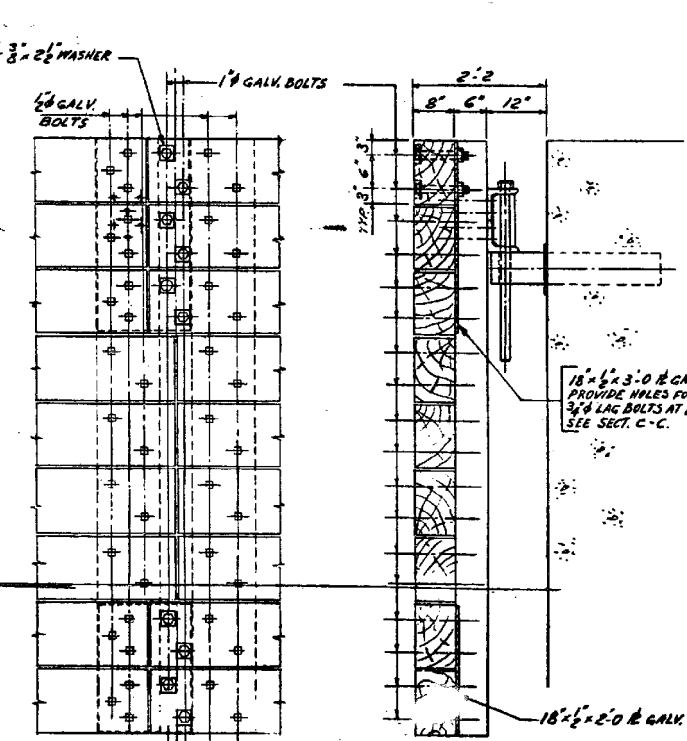
SECTION A-A
SCALE: 3/16" = 1'-0"



SECTION B-B
SCALE: 3/16" = 1'-0"



SECTION C-C
SCALE: 3/16" = 1'-0"



ILLINOIS DIVISION OF HIGHWAYS	
SOUTHWEST EXPRESSWAY	
F.A. RT. 133	
LAWDALE AVE. STRUCTURE OVER	
CHICAGO SANITARY AND SHIP CANAL	
SECTION 0707-626 B	
PIER FENDER - DETAILS	
DESIGNED ST.	SCALE: HORIZ. 1/8" = 1'-0"
REVIEWED CWW	DATE: 6-5-83
	DRAWN BY E.M. CHECKED BY L.D.B.

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = tjenicke	DESIGNED - FSM	REVISIONS -
0160486.60J16.X09.fender details.dgn		CHECKED - RMM	REVISIONS -
		DRAWN - FSM	REVISIONS -
		CHECKED - RMM	REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS PIER FENDER DETAILS
STRUCTURE NO. 016-0486

SHEET NO. SGX9 OF SGX48 SHEETS

FOR INFORMATION ONLY

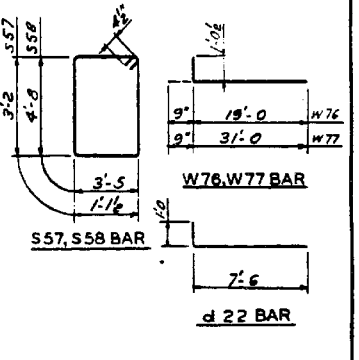
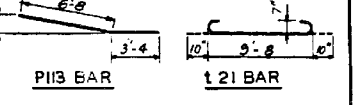
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	699
				CONTRACT NO. 60J16
ILLINOIS FED. AID PROJECT				

X:\1000005\10093\Eng_Docs_Phase_1\11\SN_016_0486_0487_1st_Ave.cover_Canal\Final\Final_0486\0160486_60J16.X09.fender_details.dgn 2:54:36 PM 6/23/2014

F.A. RTE.	SECTION	EXPRESSWAY	TOTAL SHEETS	SHEET NO.
133	0707-626B	SOUTHWEST	99	47
STA. TO STA.		FED. ROAD DIST. NO. 7		
		EASTBOUND		

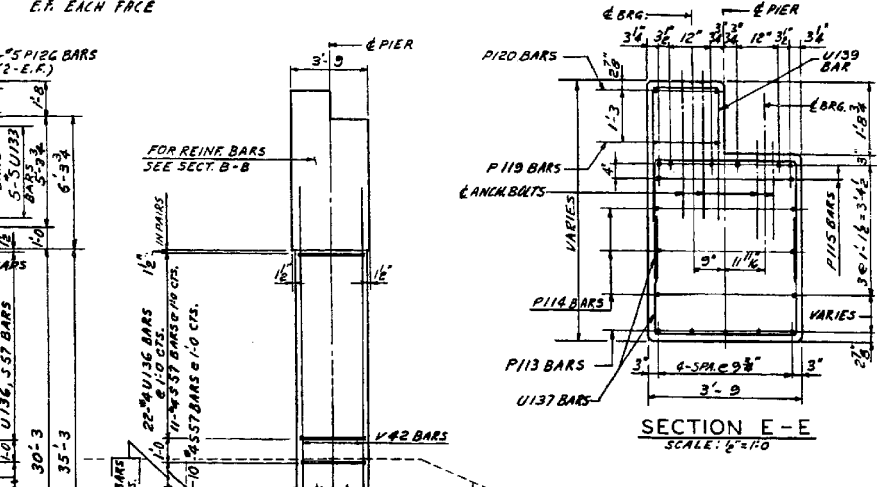
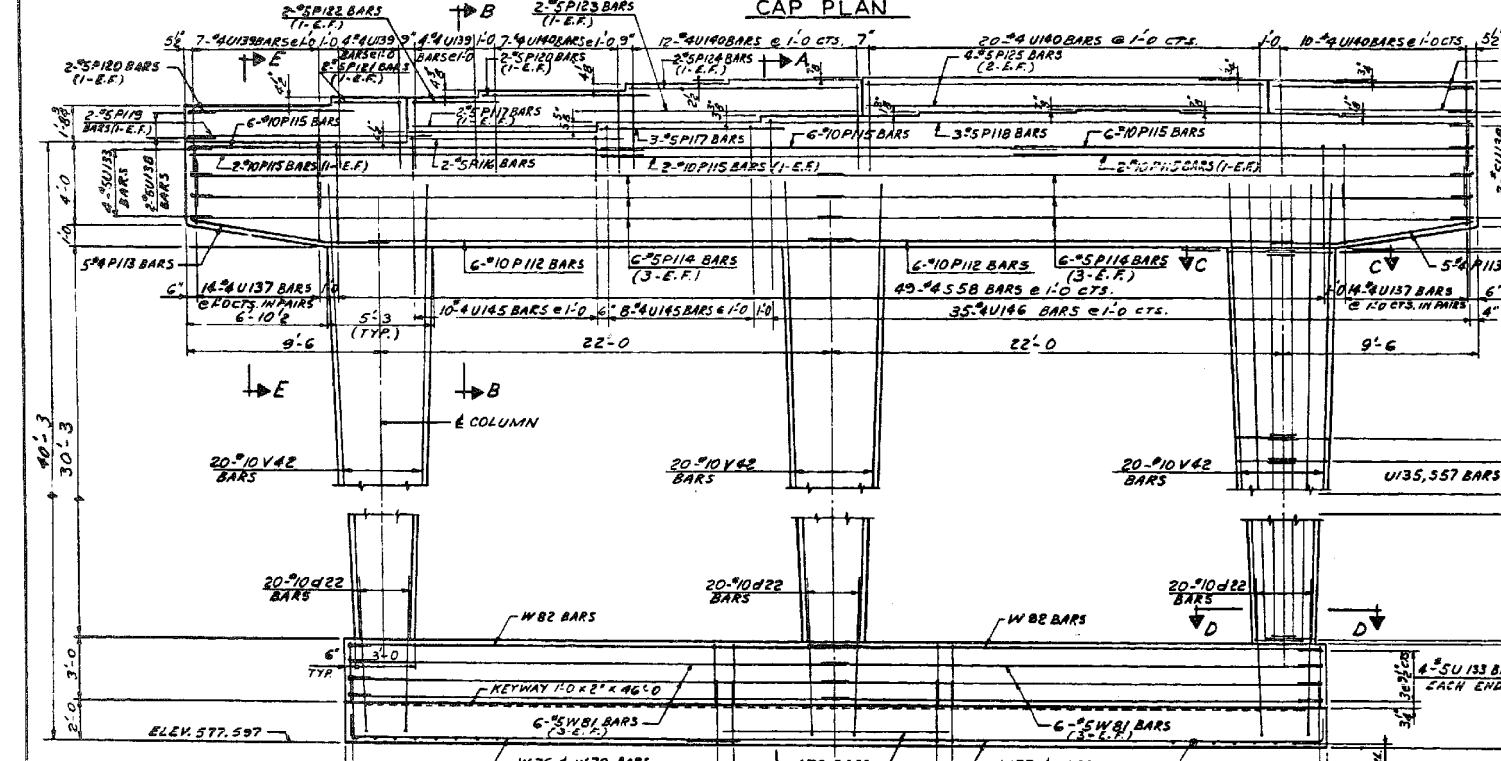
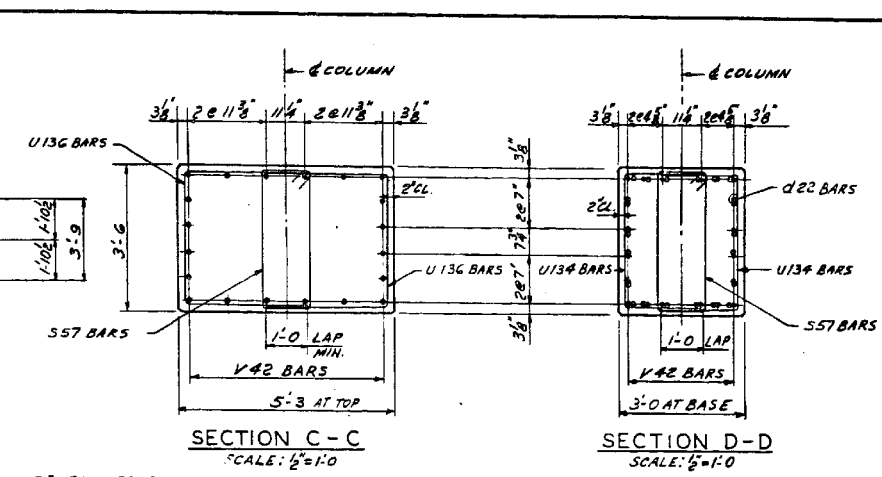
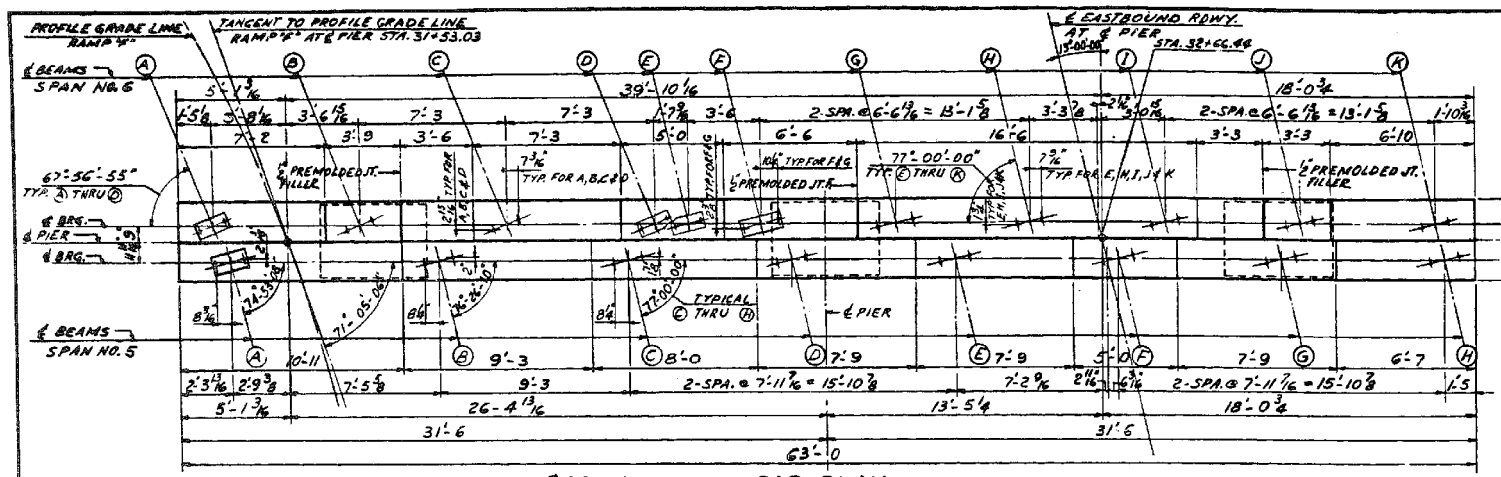
BILL OF REINFORCEMENT				
BAR NO.	SIZE	LENGTH	SHAPE	
d22	60	10	8'-6"	
P112	12	10	23'-7"	
P113	10	4	10'-0"	
P114	12	5	31'-10"	
P115	24	10	22'-4"	
P116	2	5	10'-4"	
P117	5	5	9'-1"	
P118	3	5	34'-6"	
P119	2	5	12'-0"	
P120	4	5	8'-4"	
P121	2	5	3'-5"	
P122	2	5	4'-7"	
P123	2	5	14'-1"	
P124	2	5	11'-2"	
P125	4	5	13'-5"	
P126	4	5	9'-9"	
S57	93	4	9'-4"	
S58	49	4	16'-11"	
E21	48	7	11'-4"	
U131	110	5	9'-2"	
U132	110	5	7'-7"	
U133	17	5	5'-6"	
U134	60	4	7'-7"	
U135	60	4	8'-4"	
U136	66	4	9'-1"	
U137	28	4	9'-1"	
U138	4	5	3'-9"	
U139	15	4	7'-11"	
U140	49	4	9'-4"	
U145	18	4	5'-0"	
U146	35	4	5'-6"	
V42	60	10	33'-3"	
W76	6	11	18'-9"	
W77	6	11	31'-9"	
W78	8	11	11'-0"	
W79	6	4	18'-4"	
W80	6	4	30'-4"	
W81	12	5	24'-5"	
W82	12	11	25'-0"	

PIER NO. 5 E.B. - QUANTITIES		
CLASS X CONCRETE	CU.YDS.	.63
REINFORCEMENT BARS	LBS.	25,555
CLASS A EXCAVATION	CU.YDS.	283
CLASS B EXCAVATION	CU.YDS.	92

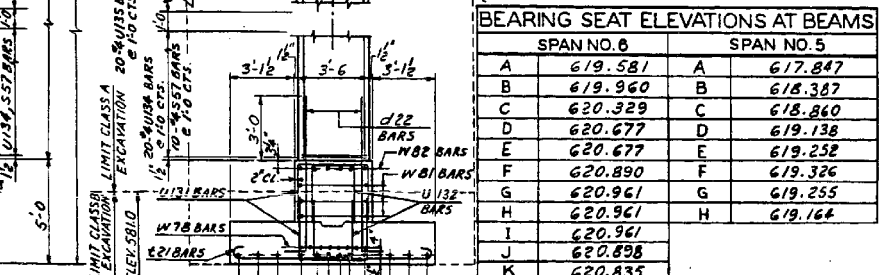
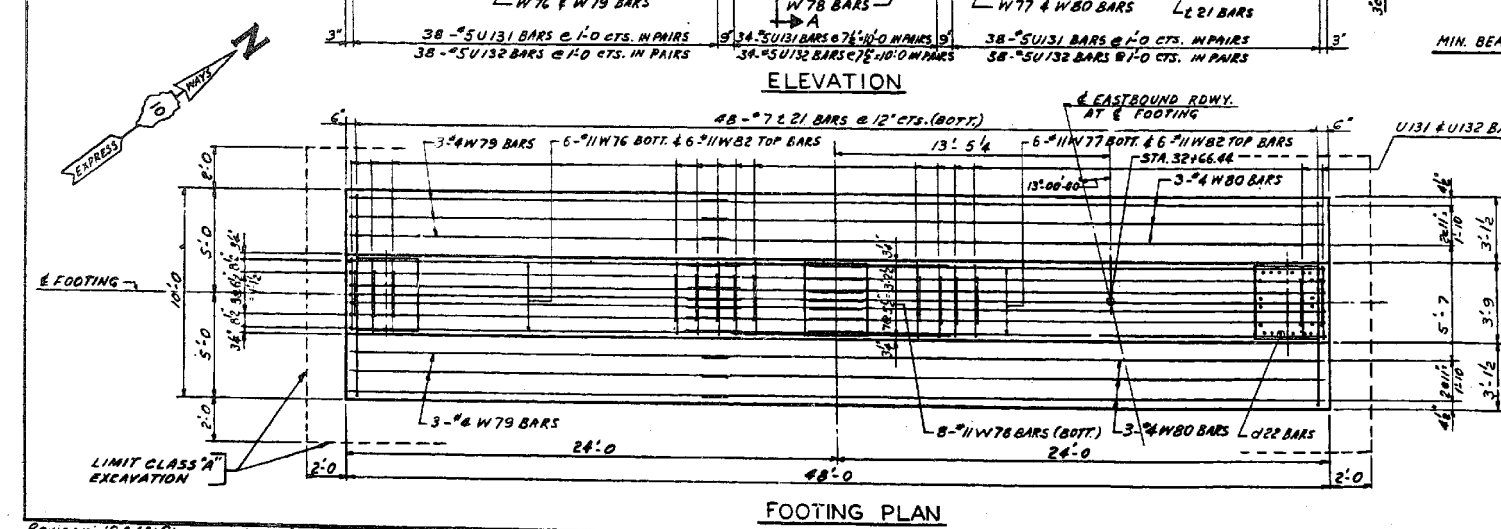


ILLINOIS DIVISION OF HIGHWAYS	
SOUTHWEST EXPRESSWAY	
F.A. RT. 133	
LAWDALE AVE. STRUCTURE OVER CHICAGO SANITARY AND SHIP CANAL	
SECTION 0707-626B	
PIER NO. 5 EASTBOUND	
DESIGNED ST:PK	SCALE: HORIZ. 1/4"=1'-0" DRAWN BY E.M.
REVIEWED C.W.W.	DATE: 8-5-63 CHECKED BY L.D.B.

FOR INFORMATION ONLY				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	700
			CONTRACT NO.	60J16
ILLINOIS FED. AID PROJECT				



BEARING SEAT ELEVATIONS AT BEAMS			
SPAN NO. 6		SPAN NO. 5	
A	619.581	A	617.847
B	619.960	B	618.387
C	620.329	C	618.860
D	620.677	D	619.138
E	620.677	E	619.252
F	620.890	F	619.326
G	620.961	G	619.255
H	620.961	H	619.164
I	620.961		
J	620.898		
K	620.835		



Revision: 10-9-63: Changed class from 159.5 cu yds to 163 cu yds. C.L.C.

benesch
engineers · scientists · planners

Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME =	DESIGNED -	REVISOR -
0160486.60J16.X10.exist.pier5.dgn	tjanicke	FSM	FSM
		CHECKED -	REVISOR -
		RMM	RMM
		DRAWN -	REVISOR -
		FSM	FSM
		CHECKED -	REVISOR -
		RMM	RMM
		PLOT DATE =	
		6/23/2014	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS PIER 5
STRUCTURE NO. 016-0486

SHEET NO. SGX10 OF SGX48 SHEETS

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