

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

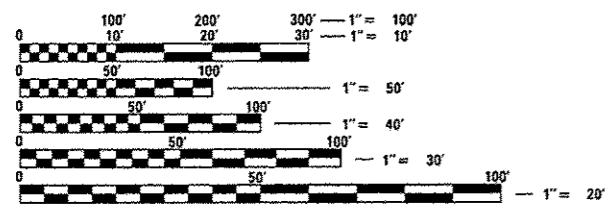
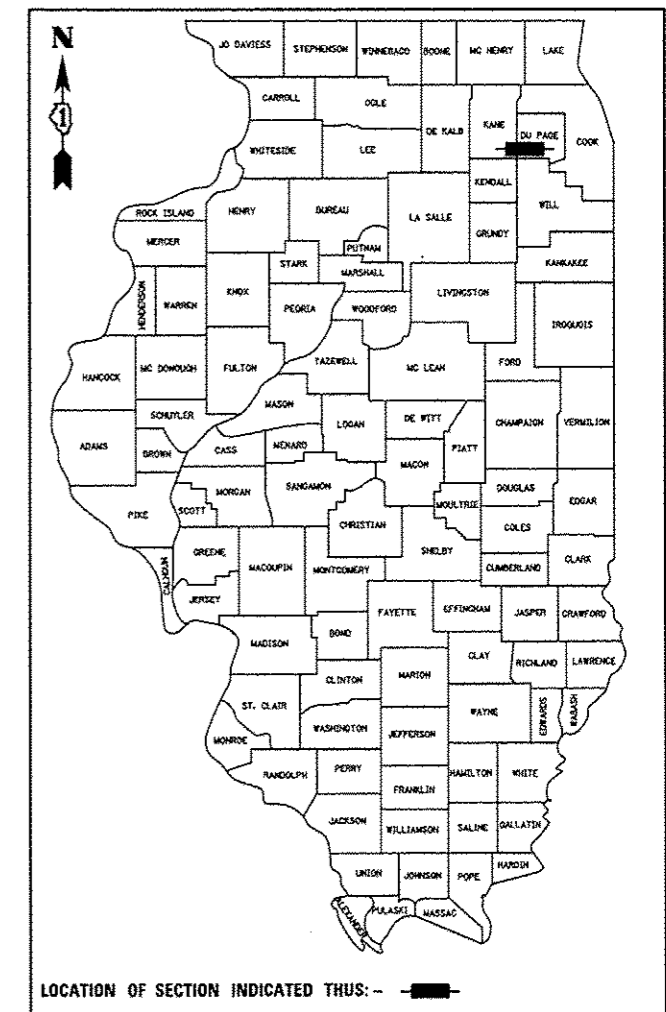
**PROPOSED  
HIGHWAY PLANS**

FAP 311 - US ROUTE 34 AT CANADIAN NATIONAL RAILROAD  
SECTION 652-A-F  
BEAMS AND BEARINGS FABRICATION  
DUPAGE COUNTY  
C-91-383-13

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A-F	DUPAGE	20	1
		ILLINOIS	CONTRACT NO. 60W84	

PROJECT LOCATED IN THE CITY OF AURORA  
FOR INDEX OF SHEETS SEE SHEET NO.2

D-91-383-13

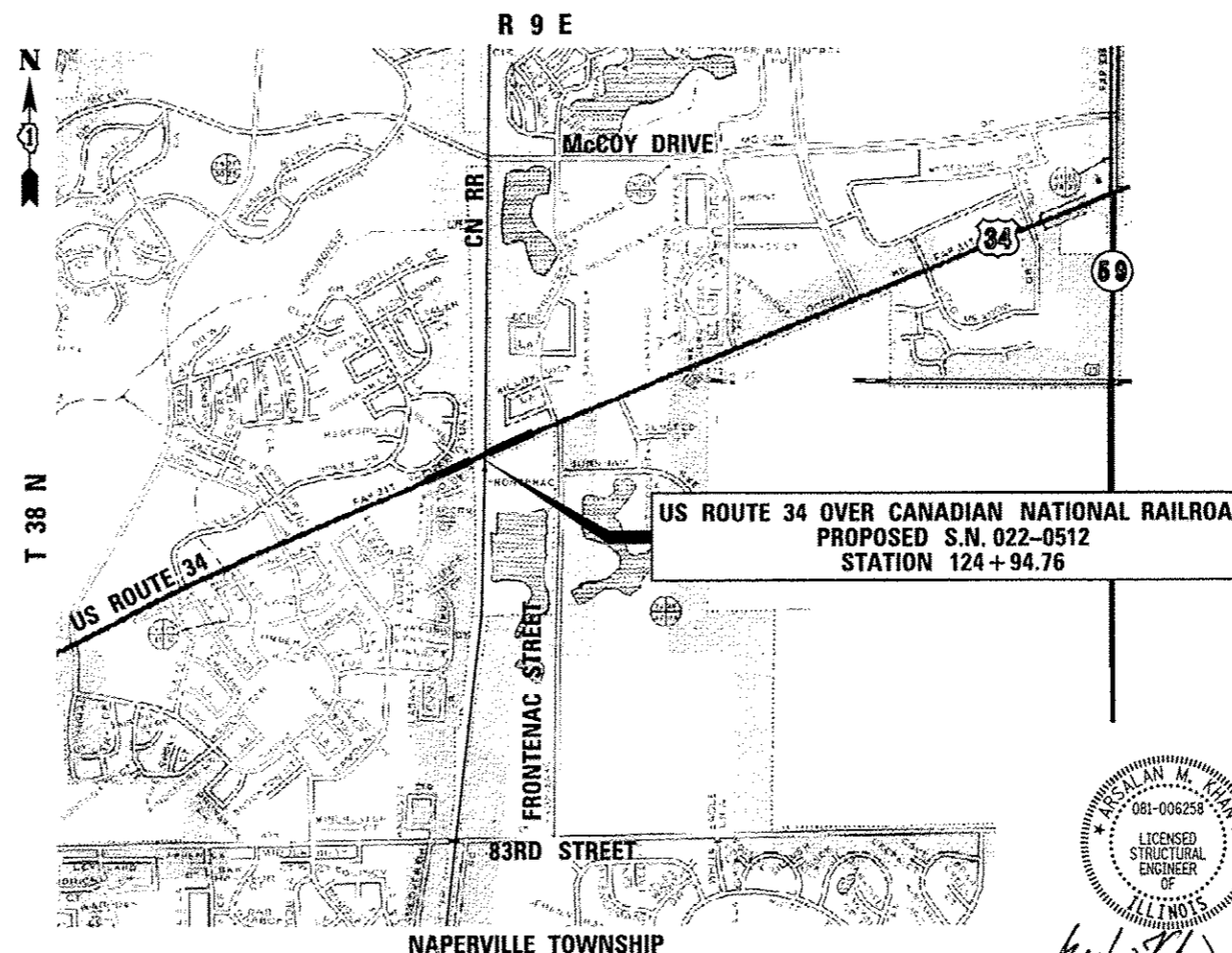


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

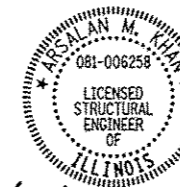
J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT MANAGER - BRIAN KUTTAB, P.E.  
PROJECT ENGINEER - ADDIS ABEBAW

CONTRACT NO. 60W84



LOCATION MAP  
NOT TO SCALE



*Arsalan M. Khan* 8-8-2013  
ARSALAN M. KHAN, S.E.  
LICENSE NO.: 081-006258  
EXPIRES: NOVEMBER 30, 2014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED August 12, 2013  
*John Fortmann*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER

Dec 6, 2013  
*John D. Baranzello, P.E.*  
ENGINEER OF DESIGN AND ENVIRONMENT

Dec 6, 2013  
*Omer Osman, P.E.*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

**URS** 100 S. WACKER DR., SUITE 500 TEL (312)-939-1000  
CHICAGO IL, 60606 FAX (312)-939-4198

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS AND SUMMARY OF QUANTITIES
- 3-20 BRIDGE PLANS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				100% STATE	BRIDGE
				0008	
				URBAN	
				S. N. 022-0512	
50500205	FURNISHING STRUCTURAL STEEL	L SUM	1		1
52100110	FURNISHING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	32		32
52100120	FURNISHING ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	16		16

3

FILE NAME = D:\DOT\_25366387.JS 34 of CN Proj\Drawings\Structures\Fab\_Contract\ID6784-Sht-50.dgn



USER NAME * URS	DESIGNED - MB	REVISED -
PLOT SCALE * 100.0000 * / 1"	DRAWN - KJB	REVISED -
PLOT DATE * 8/16/2013	CHECKED - SPF	REVISED -
	DATE - 8/16/2013	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A-F	DUPAGE	20	2
FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT			CONTRACT NO. 60W84	

Benchmark: CP#3 - P.K. Rod in ground at driveway next to Nicor Gas pressure regulation station. Sta. 113+67.17, 50.22' Rt, Elev. 706.54.

Existing Structure: None. One lane of traffic in both directions to be maintained during construction utilizing stage construction and Temporary MSE Walls.

Salvage: None.

STATION 124+94.76  
BUILT 20\_\_ BY  
STATE OF ILLINOIS  
F.A. RT. 311 SEC. 652-A  
LOADING HL-93  
STR. NO. 022-0512

**NAME PLATE**  
See Std. 515001

**LOADING HL-93**  
Allow 50#/sq. ft. for future wearing surface.

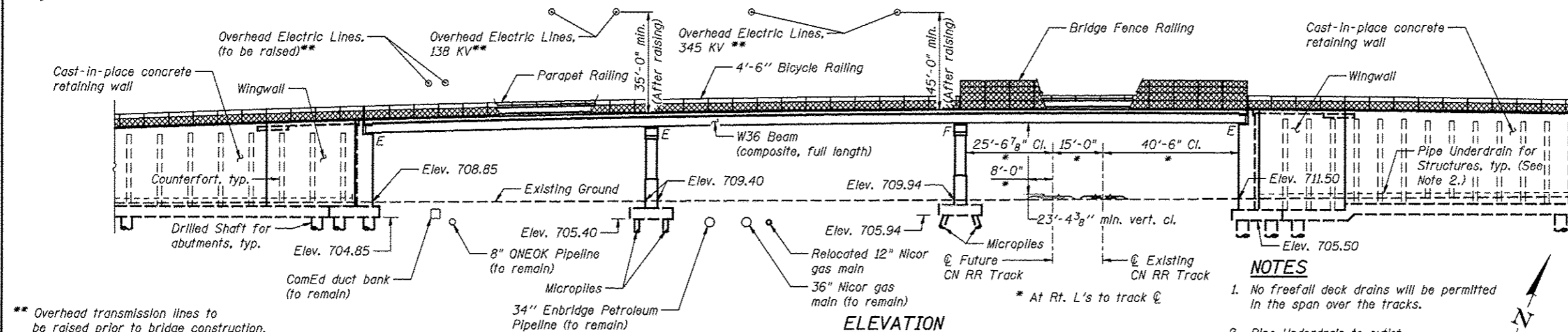
**DESIGN SPECIFICATIONS**  
2012 AASHTO LRFD Bridge Design Specifications,  
6th Edition

**DESIGN STRESSES**  
**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (M270 Grade 50)

**SEISMIC DATA**

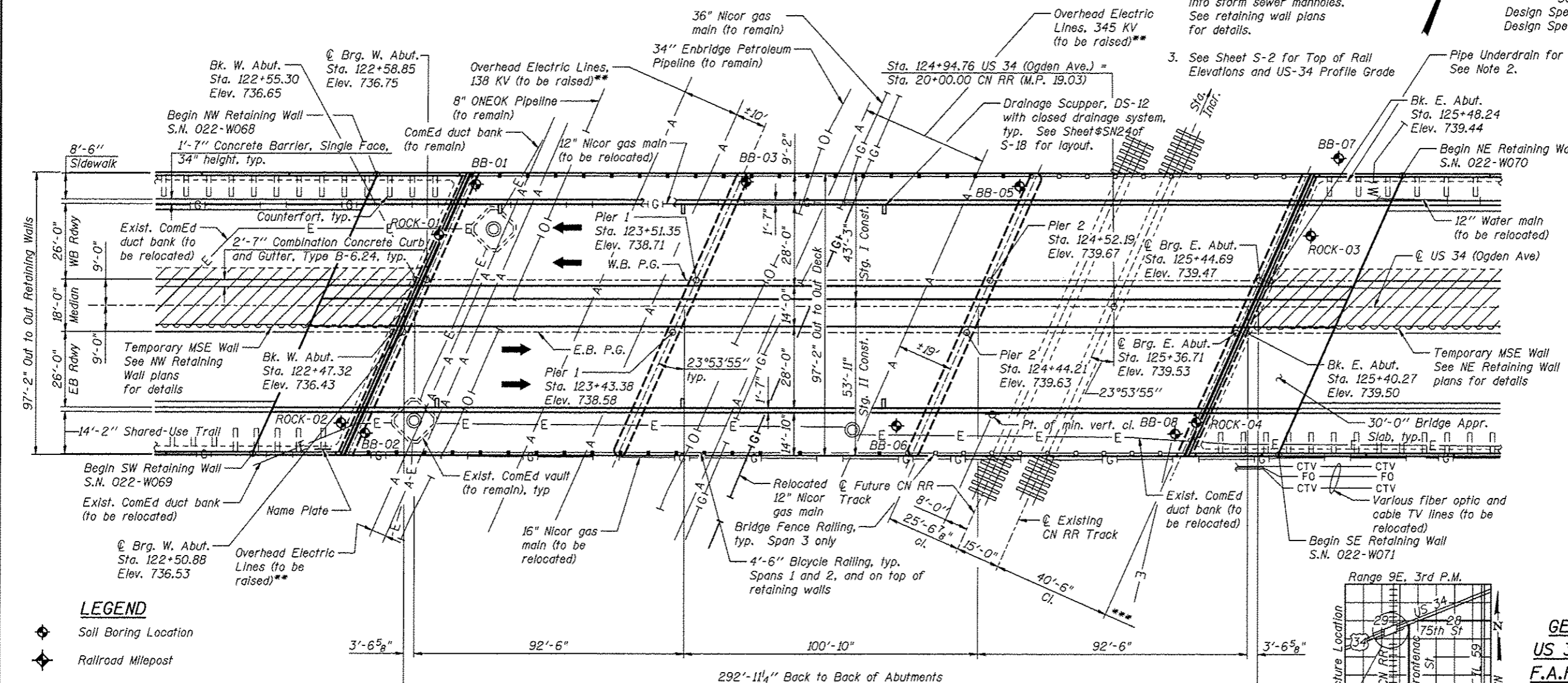
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.065  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.123  
Soil Site Class = C



\*\* Overhead transmission lines to be raised prior to bridge construction.

**NOTES**

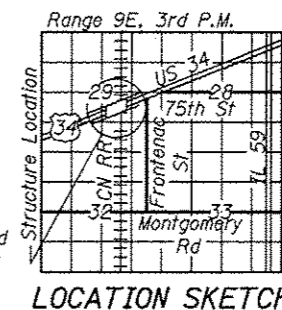
- No freefall deck drains will be permitted in the span over the tracks.
- Pipe Underdrain to outlet into storm sewer manholes. See retaining wall plans for details.
- See Sheet S-2 for Top of Rail Elevations and US-34 Profile Grade



**PLAN**

M.P. 19  
Sta. 18+50

\*\*\* Existing and future CN tracks may be shifted ±7'-6" to the west after the project is built to accommodate two future metra tracks at 15'-0" spacing to east of CN RR tracks.



**APPROVED**  
For Structural Adequacy Only

*D. Carl Perry*  
Engineer of Bridges & Structures



*Arsalan Khan*  
ARSALAN M. KHAN, S.E.  
LICENSE NO.: 081-006258  
EXPIRES: NOVEMBER 30, 2014  
DATE: 09-23-2013

**GENERAL PLAN & ELEVATION**  
**US 34 (OGDEN AVE.) OVER CN RR**  
**F.A.P. RTE. 311 - SECTION 652-A**  
**DUPAGE COUNTY**  
**STATION 124+94.76**  
**STRUCTURE NO. 022-0512**



USER NAME =	DESIGNED - PMV/KMP/BAR	REVISED
PLDT SCALE =	CHECKED - AMK	REVISED
PLOT DATE =	DRAWN - PMV	REVISED
	CHECKED - AMK	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DUPAGE	20	3
CONTRACT NO. 60W84				
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

- Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts  $\frac{7}{8}$  in.  $\phi$ , holes  $\frac{15}{16}$  in.  $\phi$ , unless otherwise noted.
- Calculated weight of Structural Steel =  
 AASHTO M270 Grade 50 = 985,119 lbs  
 AASHTO M270 Grade 36 = 83,866 lbs
- No field welding is permitted except as specified in the contract documents.
- All Structural Steel shall be galvanized according to the Special Provision "Hot Dip Galvanizing of Structural Steel." Cost included with Furnishing Structural Steel
- There are existing 138 kV and 345 kV lines within the project limits, the contractor needs to be aware that no outage or protection can be provided to these facilities. The plans include pay items for micropiles for this reason. Per ComEd and OSHA requirements, without the on-site presence of a representative of ComEd, all contract activities must stay 30 feet in any direction from the 345 kV lines and any ComEd conductors and 20 feet from the 138 kV lines. With on-site ComEd supervision, all contract activities must stay 20 feet in any direction from the 345 kV lines and any ComEd conductors and 13 feet from the 138 kV lines.
- The maximum height above the proposed top of bridge deck that equipment will be able to operate without de-energizing overhead ComEd transmission lines and without the onsite presence of a ComEd representative is estimated to be 15 feet.

Due to the overhead 345 kV and 138 kV electric lines, conventional methods using cranes to erect the steel superstructure may not be most effective or possible.

One feasible erection method would be girder launching. For each of the two construction stages, the steel framing system comprised of the 4 field sections of each beam line extending over Spans 1 and 2 could be ground assembled, spliced and interconnected behind the west abutment. The system would then be pushed or pulled uphill over the west abutment, Pier 1 and extend over Pier 2. For each beam line, the remaining 5th field section extending over the railroad would then be lifted one at a time using a crane positioned behind the east abutment and air-spliced to the previously launched portion.

If needed for erection of the steel superstructure, a force parallel to the the bridge beams of up to 130 kips may be applied to the top of the beam seats of either abutment during stage I and up to 300 kips during stage II.

Alternate erection methods may also be feasible. For the Contractor's proposed method, an erection plan, sealed by an Illinois Licensed Structural Engineer shall be prepared and submitted for review and approval. The cost for preparing this plan will not be paid for separately but will be considered to be included in the cost of the pay item "Furnishing and Erecting Structural Steel".

**INDEX OF SHEETS**

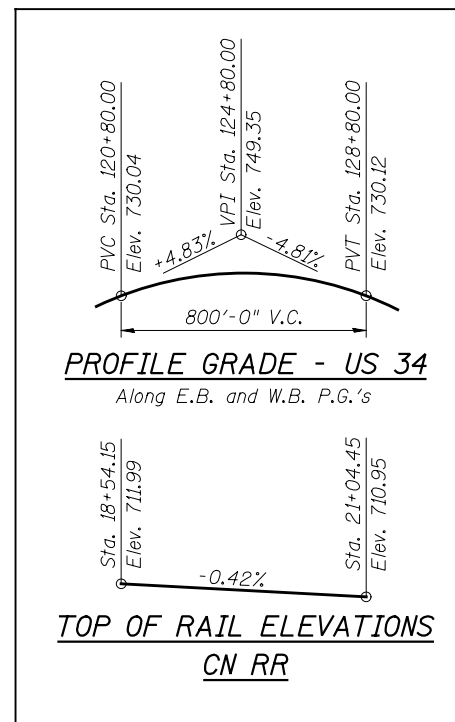
- S-1 General Plan and Elevation
- S-2 General Notes, Index of Sheets and Bill of Material
- \* S-3 Stage Construction Details
- \* S-4 Top of Slab Elevations 1
- \* S-5 Top of Slab Elevations 2
- \* S-6 Top of Slab Elevations 3
- \* S-7 Top of Slab Elevations 4
- \* S-8 Top of Slab Elevations 5
- \* S-9 Top of Slab Elevations 6
- \* S-10 Top of Slab Elevations 7
- \* S-11 Top of Slab Elevations 8
- \* S-12 Superstructure Plan and Cross Section
- \* S-13 Parapet Elevations and Details
- \* S-14 Deck Details
- S-15 Framing Plan and Beam Elevation
- S-16 Steel Details
- S-17 Bearing Details 1
- S-18 Bearing Details 2

\* These sheets included for information only.

**TOTAL BILL OF MATERIAL**

Item	Unit	Total
Furnishing Structural Steel	L Sum	1
Furnishing Elastomeric Bearing Assembly, Type I	Each	32
Furnishing Elastomeric Bearing Assembly, Type II	Each	16

FOR INFORMATION ONLY



FOR INFORMATION ONLY



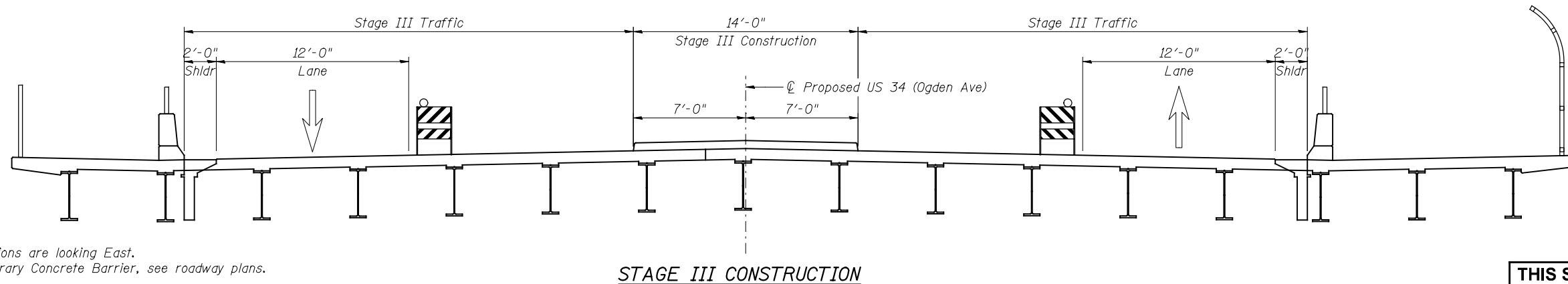
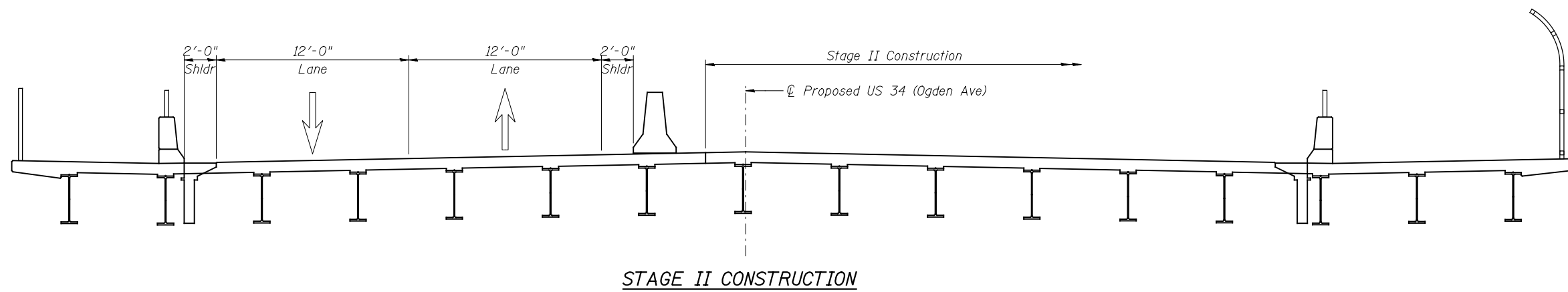
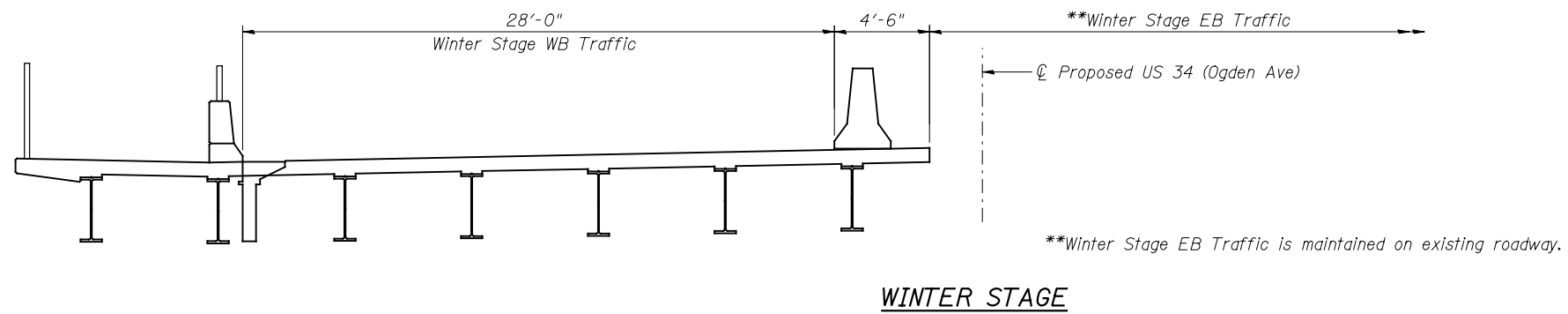
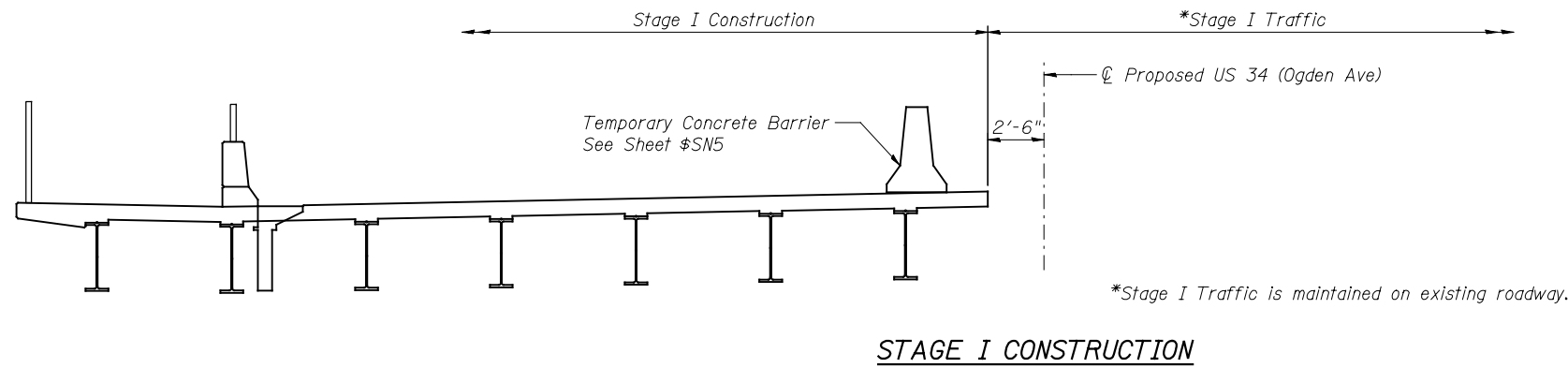
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	CHECKED - AMK	REVISED
PLOT SCALE =	DRAWN - BAR	REVISED
PLOT DATE =	CHECKED - AMK	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, BILL OF MATERIALS, AND INDEX OF SHEETS  
STRUCTURE NO. 022-0512

SHEET NO. S-2 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A		20	4
CONTRACT NO. 60W84			ILLINOIS FED. AID PROJECT	



**NOTES**

1. All staging cross sections are looking East.
2. For quantity of Temporary Concrete Barrier, see roadway plans.

**THIS SHEET INCLUDED FOR INFORMATION ONLY**



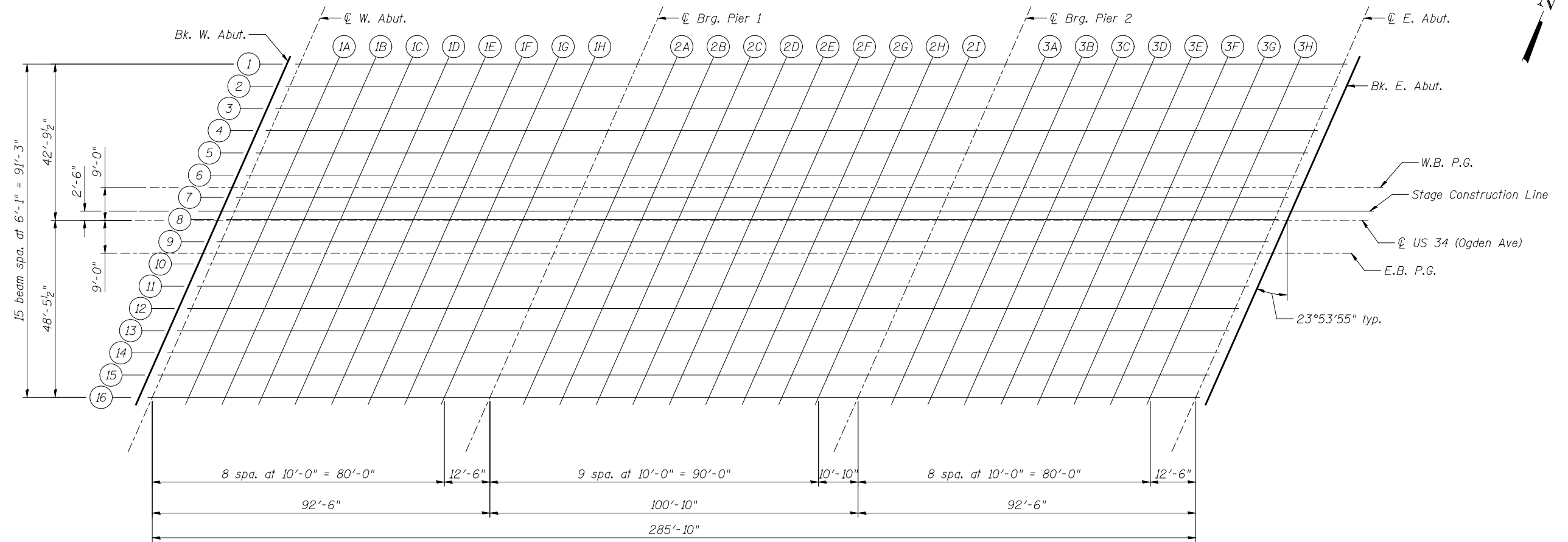
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	CHECKED - STB	REVISED
PLOT SCALE =	DRAWN - BAR	REVISED
PLOT DATE =	CHECKED - STB	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

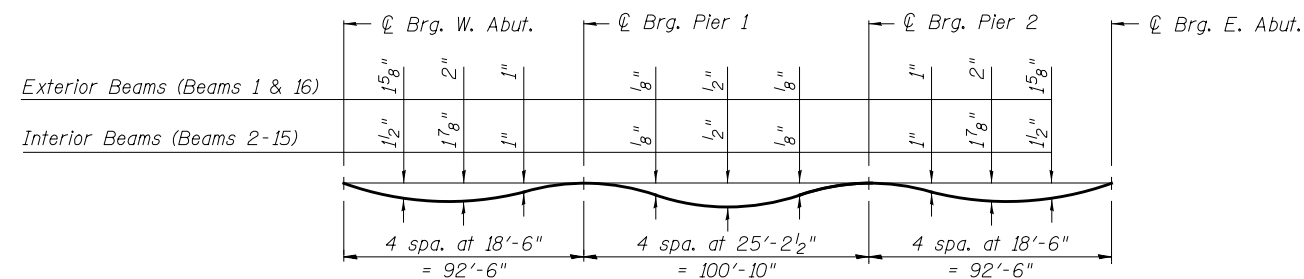
**STAGE CONSTRUCTION DETAILS  
STRUCTURE NO. 022-0512**

SHEET NO. S-3 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	5
CONTRACT NO. 60W84				
ILLINOIS FED. AID PROJECT				



PLAN

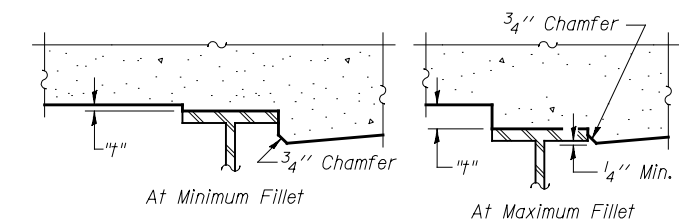


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the "Theoretical Elevations Adjusted for Dead Load Deflections" as shown on sheets S-7 thru S-13 of S-18.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets S-7 thru S-13 of S-18, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**



USER NAME =	DESIGNED - BAR	REVISED
	CHECKED - NPP	REVISED
PLOT SCALE =	DRAWN - BAR	REVISED
PLOT DATE =	CHECKED - KJZ	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS 1  
STRUCTURE NO. 022-0512

SHEET NO. S-4 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	6
CONTRACT NO. 60W84			ILLINOIS FED. AID PROJECT	

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+70.27	42.79' Lt.	736.54	736.54
☉ Brg. W. Abut.	122+73.83	42.79' Lt.	736.62	736.62
1A	122+83.83	42.79' Lt.	736.87	736.94
1B	122+93.83	42.79' Lt.	737.10	737.22
1C	123+03.83	42.79' Lt.	737.32	737.48
1D	123+13.83	42.79' Lt.	737.53	737.70
1E	123+23.83	42.79' Lt.	737.72	737.88
1F	123+33.83	42.79' Lt.	737.90	738.03
1G	123+43.83	42.79' Lt.	738.07	738.16
1H	123+53.83	42.79' Lt.	738.23	738.27
☉ Pier 1	123+66.33	42.79' Lt.	738.42	738.42
2A	123+76.33	42.79' Lt.	738.55	738.54
2B	123+86.33	42.79' Lt.	738.67	738.67
2C	123+96.33	42.79' Lt.	738.78	738.80
2D	124+06.33	42.79' Lt.	738.87	738.91
2E	124+16.33	42.79' Lt.	738.95	738.99
2F	124+26.33	42.79' Lt.	739.03	739.06
2G	124+36.33	42.79' Lt.	739.09	739.11
2H	124+46.33	42.79' Lt.	739.13	739.14
2I	124+56.33	42.79' Lt.	739.17	739.16
☉ Pier 2	124+67.16	42.79' Lt.	739.19	739.19
3A	124+77.16	42.79' Lt.	739.20	739.23
3B	124+87.16	42.79' Lt.	739.20	739.28
3C	124+97.16	42.79' Lt.	739.19	739.31
3D	125+07.16	42.79' Lt.	739.16	739.32
3E	125+17.16	42.79' Lt.	739.13	739.30
3F	125+27.16	42.79' Lt.	739.08	739.24
3G	125+37.16	42.79' Lt.	739.01	739.15
3H	125+47.16	42.79' Lt.	738.94	739.02
☉ E. Abut.	125+59.66	42.79' Lt.	738.83	738.83
Bk. E. Abut.	125+63.21	42.79' Lt.	738.80	738.80

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+67.58	36.71' Lt.	736.40	736.40
☉ Brg. W. Abut.	122+71.13	36.71' Lt.	736.49	736.49
1A	122+81.13	36.71' Lt.	736.74	736.80
1B	122+91.13	36.71' Lt.	736.97	737.09
1C	123+01.13	36.71' Lt.	737.20	737.34
1D	123+11.13	36.71' Lt.	737.41	737.56
1E	123+21.13	36.71' Lt.	737.61	737.75
1F	123+31.13	36.71' Lt.	737.79	737.91
1G	123+41.13	36.71' Lt.	737.97	738.04
1H	123+51.13	36.71' Lt.	738.13	738.17
☉ Pier 1	123+63.63	36.71' Lt.	738.31	738.31
2A	123+73.63	36.71' Lt.	738.45	738.44
2B	123+83.63	36.71' Lt.	738.57	738.58
2C	123+93.63	36.71' Lt.	738.68	738.70
2D	124+03.63	36.71' Lt.	738.78	738.81
2E	124+13.63	36.71' Lt.	738.87	738.91
2F	124+23.63	36.71' Lt.	738.94	738.98
2G	124+33.63	36.71' Lt.	739.01	739.03
2H	124+43.63	36.71' Lt.	739.06	739.06
2I	124+53.63	36.71' Lt.	739.10	739.09
☉ Pier 2	124+64.46	36.71' Lt.	739.13	739.13
3A	124+74.46	36.71' Lt.	739.14	739.17
3B	124+84.46	36.71' Lt.	739.14	739.21
3C	124+94.46	36.71' Lt.	739.13	739.24
3D	125+04.46	36.71' Lt.	739.11	739.25
3E	125+14.46	36.71' Lt.	739.07	739.23
3F	125+24.46	36.71' Lt.	739.03	739.18
3G	125+34.46	36.71' Lt.	738.97	739.09
3H	125+44.46	36.71' Lt.	738.90	738.97
☉ E. Abut.	125+56.96	36.71' Lt.	738.79	738.79
Bk. E. Abut.	125+60.52	36.71' Lt.	738.76	738.76

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+64.88	30.63' Lt.	736.46	736.46
☉ Brg. W. Abut.	122+68.44	30.63' Lt.	736.55	736.55
1A	122+78.44	30.63' Lt.	736.80	736.86
1B	122+88.44	30.63' Lt.	737.04	737.15
1C	122+98.44	30.63' Lt.	737.26	737.41
1D	123+08.44	30.63' Lt.	737.47	737.63
1E	123+18.44	30.63' Lt.	737.68	737.82
1F	123+28.44	30.63' Lt.	737.87	737.98
1G	123+38.44	30.63' Lt.	738.04	738.12
1H	123+48.44	30.63' Lt.	738.21	738.25
☉ Pier 1	123+60.94	30.63' Lt.	738.40	738.40
2A	123+70.94	30.63' Lt.	738.54	738.53
2B	123+80.94	30.63' Lt.	738.66	738.67
2C	123+90.94	30.63' Lt.	738.78	738.80
2D	124+00.94	30.63' Lt.	738.88	738.91
2E	124+10.94	30.63' Lt.	738.97	739.01
2F	124+20.94	30.63' Lt.	739.05	739.08
2G	124+30.94	30.63' Lt.	739.11	739.13
2H	124+40.94	30.63' Lt.	739.17	739.17
2I	124+50.94	30.63' Lt.	739.21	739.21
☉ Pier 2	124+61.77	30.63' Lt.	739.24	739.24
3A	124+71.77	30.63' Lt.	739.26	739.29
3B	124+81.77	30.63' Lt.	739.26	739.33
3C	124+91.77	30.63' Lt.	739.26	739.36
3D	125+01.77	30.63' Lt.	739.24	739.38
3E	125+11.77	30.63' Lt.	739.21	739.36
3F	125+21.77	30.63' Lt.	739.16	739.31
3G	125+31.77	30.63' Lt.	739.11	739.23
3H	125+41.77	30.63' Lt.	739.04	739.12
☉ E. Abut.	125+54.27	30.63' Lt.	738.94	738.94
Bk. E. Abut.	125+57.82	30.63' Lt.	738.91	738.91

Note:  
Work this with Sheet S-4.

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+62.18	24.54' Lt.	736.51	736.51
☉ Brg. W. Abut.	122+65.74	24.54' Lt.	736.61	736.61
1A	122+75.74	24.54' Lt.	736.86	736.92
1B	122+85.74	24.54' Lt.	737.10	737.21
1C	122+95.74	24.54' Lt.	737.33	737.47
1D	123+05.74	24.54' Lt.	737.55	737.70
1E	123+15.74	24.54' Lt.	737.75	737.90
1F	123+25.74	24.54' Lt.	737.94	738.06
1G	123+35.74	24.54' Lt.	738.12	738.20
1H	123+45.74	24.54' Lt.	738.29	738.33
☉ Pier 1	123+58.24	24.54' Lt.	738.49	738.49
2A	123+68.24	24.54' Lt.	738.63	738.62
2B	123+78.24	24.54' Lt.	738.76	738.76
2C	123+88.24	24.54' Lt.	738.87	738.89
2D	123+98.24	24.54' Lt.	738.98	739.01
2E	124+08.24	24.54' Lt.	739.07	739.11
2F	124+18.24	24.54' Lt.	739.16	739.19
2G	124+28.24	24.54' Lt.	739.22	739.24
2H	124+38.24	24.54' Lt.	739.28	739.29
2I	124+48.24	24.54' Lt.	739.33	739.32
☉ Pier 2	124+59.07	24.54' Lt.	739.36	739.36
3A	124+69.07	24.54' Lt.	739.38	739.41
3B	124+79.07	24.54' Lt.	739.39	739.46
3C	124+89.07	24.54' Lt.	739.39	739.49
3D	124+99.07	24.54' Lt.	739.37	739.51
3E	125+09.07	24.54' Lt.	739.34	739.50
3F	125+19.07	24.54' Lt.	739.30	739.45
3G	125+29.07	24.54' Lt.	739.25	739.37
3H	125+39.07	24.54' Lt.	739.19	739.26
☉ E. Abut.	125+51.57	24.54' Lt.	739.09	739.09
Bk. E. Abut.	125+55.13	24.54' Lt.	739.06	739.06

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+59.49	18.46' Lt.	736.57	736.57
☉ Brg. W. Abut.	122+63.04	18.46' Lt.	736.66	736.66
1A	122+73.04	18.46' Lt.	736.92	736.98
1B	122+83.04	18.46' Lt.	737.16	737.28
1C	122+93.04	18.46' Lt.	737.39	737.54
1D	123+03.04	18.46' Lt.	737.61	737.77
1E	123+13.04	18.46' Lt.	737.82	737.97
1F	123+23.04	18.46' Lt.	738.02	738.13
1G	123+33.04	18.46' Lt.	738.20	738.28
1H	123+43.04	18.46' Lt.	738.37	738.41
☉ Pier 1	123+55.54	18.46' Lt.	738.57	738.57
2A	123+65.54	18.46' Lt.	738.72	738.71
2B	123+75.54	18.46' Lt.	738.85	738.85
2C	123+85.54	18.46' Lt.	738.97	738.99
2D	123+95.54	18.46' Lt.	739.08	739.11
2E	124+05.54	18.46' Lt.	739.18	739.21
2F	124+15.54	18.46' Lt.	739.26	739.29
2G	124+25.54	18.46' Lt.	739.33	739.35
2H	124+35.54	18.46' Lt.	739.39	739.40
2I	124+45.54	18.46' Lt.	739.44	739.44
☉ Pier 2	124+56.38	18.46' Lt.	739.48	739.48
3A	124+66.38	18.46' Lt.	739.51	739.53
3B	124+76.38	18.46' Lt.	739.52	739.58
3C	124+86.38	18.46' Lt.	739.52	739.62
3D	124+96.38	18.46' Lt.	739.50	739.64
3E	125+06.38	18.46' Lt.	739.48	739.63
3F	125+16.38	18.46' Lt.	739.44	739.59
3G	125+26.38	18.46' Lt.	739.39	739.52
3H	125+36.38	18.46' Lt.	739.33	739.41
☉ E. Abut.	125+48.88	18.46' Lt.	739.24	739.24
Bk. E. Abut.	125+52.43	18.46' Lt.	739.21	739.21

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+56.79	12.38' Lt.	736.62	736.62
☉ Brg. W. Abut.	122+60.35	12.38' Lt.	736.72	736.72
1A	122+70.35	12.38' Lt.	736.98	737.04
1B	122+80.35	12.38' Lt.	737.22	737.34
1C	122+90.35	12.38' Lt.	737.46	737.61
1D	123+00.35	12.38' Lt.	737.68	737.84
1E	123+10.35	12.38' Lt.	737.89	738.04
1F	123+20.35	12.38' Lt.	738.09	738.21
1G	123+30.35	12.38' Lt.	738.28	738.36
1H	123+40.35	12.38' Lt.	738.46	738.49
☉ Pier 1	123+52.85	12.38' Lt.	738.66	738.66
2A	123+62.85	12.38' Lt.	738.81	738.80
2B	123+72.85	12.38' Lt.	738.94	738.95
2C	123+82.85	12.38' Lt.	739.07	739.09
2D	123+92.85	12.38' Lt.	739.18	739.21
2E	124+02.85	12.38' Lt.	739.28	739.32
2F	124+12.85	12.38' Lt.	739.37	739.40
2G	124+22.85	12.38' Lt.	739.44	739.46
2H	124+32.85	12.38' Lt.	739.51	739.51
2I	124+42.85	12.38' Lt.	739.56	739.55
☉ Pier 2	124+53.68	12.38' Lt.	739.60	739.60
3A	124+63.68	12.38' Lt.	739.63	739.65
3B	124+73.68	12.38' Lt.	739.64	739.71
3C	124+83.68	12.38' Lt.	739.64	739.75
3D	124+93.68	12.38' Lt.	739.63	739.77
3E	125+03.68	12.38' Lt.	739.61	739.77
3F	125+13.68	12.38' Lt.	739.58	739.73
3G	125+23.68	12.38' Lt.	739.53	739.66
3H	125+33.68	12.38' Lt.	739.48	739.55
☉ E. Abut.	125+46.18	12.38' Lt.	739.39	739.39
Bk. E. Abut.	125+49.74	12.38' Lt.	739.36	739.36

Note:  
Work this with Sheet S-4.

**THIS SHEET INCLUDED FOR INFORMATION ONLY**



USER NAME =	DESIGNED - BAR	REVISED
	CHECKED - NPP	REVISED
PLOT SCALE =	DRAWN - BAR	REVISED
PLOT DATE =	CHECKED - KJZ	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS 3  
STRUCTURE NO. 022-0512**

SHEET NO. S-6 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	8
CONTRACT NO. 60W84			ILLINOIS FED. AID PROJECT	



**W.B. P.G.**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+55.30	9' Lt.	736.65	736.65
☉ Brg. W. Abut.	122+58.85	9' Lt.	736.75	736.75
1A	122+68.85	9' Lt.	737.01	737.07
1B	122+78.85	9' Lt.	737.26	737.37
1C	122+88.85	9' Lt.	737.50	737.64
1D	122+98.85	9' Lt.	737.72	737.88
1E	123+08.85	9' Lt.	737.93	738.08
1F	123+18.85	9' Lt.	738.14	738.25
1G	123+28.85	9' Lt.	738.32	738.40
1H	123+38.85	9' Lt.	738.50	738.54
☉ Pier 1	123+51.35	9' Lt.	738.71	738.71
2A	123+61.35	9' Lt.	738.86	738.85
2B	123+71.35	9' Lt.	738.99	739.00
2C	123+81.35	9' Lt.	739.12	739.14
2D	123+91.35	9' Lt.	739.23	739.26
2E	124+01.35	9' Lt.	739.33	739.37
2F	124+11.35	9' Lt.	739.42	739.46
2G	124+21.35	9' Lt.	739.50	739.52
2H	124+31.35	9' Lt.	739.57	739.57
2I	124+41.35	9' Lt.	739.62	739.62
☉ Pier 2	124+52.19	9' Lt.	739.67	739.67
3A	124+62.19	9' Lt.	739.69	739.72
3B	124+72.19	9' Lt.	739.71	739.78
3C	124+82.19	9' Lt.	739.71	739.82
3D	124+92.19	9' Lt.	739.71	739.85
3E	125+02.19	9' Lt.	739.69	739.84
3F	125+12.19	9' Lt.	739.66	739.81
3G	125+22.19	9' Lt.	739.61	739.73
3H	125+32.19	9' Lt.	739.56	739.63
☉ E. Abut.	125+44.69	9' Lt.	739.47	739.47
Bk. E. Abut.	125+48.24		739.44	739.44

**BEAM 7**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+54.10	6.29' Lt.	736.68	736.68
☉ Brg. W. Abut.	122+57.65	6.29' Lt.	736.77	736.77
1A	122+67.65	6.29' Lt.	737.03	737.10
1B	122+77.65	6.29' Lt.	737.29	737.40
1C	122+87.65	6.29' Lt.	737.52	737.67
1D	122+97.65	6.29' Lt.	737.75	737.91
1E	123+07.65	6.29' Lt.	737.97	738.11
1F	123+17.65	6.29' Lt.	738.17	738.28
1G	123+27.65	6.29' Lt.	738.36	738.44
1H	123+37.65	6.29' Lt.	738.54	738.57
☉ Pier 1	123+50.15	6.29' Lt.	738.74	738.74
2A	123+60.15	6.29' Lt.	738.89	738.89
2B	123+70.15	6.29' Lt.	739.03	739.04
2C	123+80.15	6.29' Lt.	739.16	739.18
2D	123+90.15	6.29' Lt.	739.28	739.31
2E	124+00.15	6.29' Lt.	739.38	739.42
2F	124+10.15	6.29' Lt.	739.47	739.50
2G	124+20.15	6.29' Lt.	739.55	739.57
2H	124+30.15	6.29' Lt.	739.62	739.62
2I	124+40.15	6.29' Lt.	739.67	739.67
☉ Pier 2	124+50.99	6.29' Lt.	739.72	739.72
3A	124+60.99	6.29' Lt.	739.75	739.77
3B	124+70.99	6.29' Lt.	739.77	739.83
3C	124+80.99	6.29' Lt.	739.77	739.88
3D	124+90.99	6.29' Lt.	739.77	739.90
3E	125+00.99	6.29' Lt.	739.75	739.90
3F	125+10.99	6.29' Lt.	739.72	739.87
3G	125+20.99	6.29' Lt.	739.67	739.80
3H	125+30.99	6.29' Lt.	739.62	739.70
☉ E. Abut.	125+43.49	6.29' Lt.	739.54	739.54
Bk. E. Abut.	125+47.04	6.29' Lt.	739.51	739.51

**STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+52.42	2.5' Lt.	736.71	736.71
☉ Brg. W. Abut.	122+55.97	2.5' Lt.	736.81	736.81
1A	122+65.97	2.5' Lt.	737.07	737.13
1B	122+75.97	2.5' Lt.	737.32	737.44
1C	122+85.97	2.5' Lt.	737.56	737.71
1D	122+95.97	2.5' Lt.	737.79	737.95
1E	123+05.97	2.5' Lt.	738.01	738.15
1F	123+15.97	2.5' Lt.	738.21	738.33
1G	123+25.97	2.5' Lt.	738.41	738.48
1H	123+35.97	2.5' Lt.	738.59	738.62
☉ Pier 1	123+48.47	2.5' Lt.	738.80	738.80
2A	123+58.47	2.5' Lt.	738.95	738.94
2B	123+68.47	2.5' Lt.	739.09	739.09
2C	123+78.47	2.5' Lt.	739.22	739.24
2D	123+88.47	2.5' Lt.	739.34	739.37
2E	123+98.47	2.5' Lt.	739.44	739.48
2F	124+08.47	2.5' Lt.	739.54	739.57
2G	124+18.47	2.5' Lt.	739.62	739.64
2H	124+28.47	2.5' Lt.	739.69	739.69
2I	124+38.47	2.5' Lt.	739.74	739.74
☉ Pier 2	124+49.31	2.5' Lt.	739.79	739.79
3A	124+59.31	2.5' Lt.	739.82	739.85
3B	124+69.31	2.5' Lt.	739.84	739.91
3C	124+79.31	2.5' Lt.	739.85	739.96
3D	124+89.31	2.5' Lt.	739.85	739.99
3E	124+99.31	2.5' Lt.	739.83	739.99
3F	125+09.31	2.5' Lt.	739.80	739.95
3G	125+19.31	2.5' Lt.	739.76	739.88
3H	125+29.31	2.5' Lt.	739.71	739.78
☉ E. Abut.	125+41.81	2.5' Lt.	739.63	739.63
Bk. E. Abut.	125+45.36	2.5' Lt.	739.60	739.60

Note:  
Work this with Sheet S-4.

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**BEAM 8**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+51.40	0.21' Lt.	736.73	736.73
☉ Brg. W. Abut.	122+54.96	0.21' Lt.	736.83	736.83
1A	122+64.96	0.21' Lt.	737.09	737.15
1B	122+74.96	0.21' Lt.	737.35	737.46
1C	122+84.96	0.21' Lt.	737.59	737.73
1D	122+94.96	0.21' Lt.	737.82	737.97
1E	123+04.96	0.21' Lt.	738.04	738.18
1F	123+14.96	0.21' Lt.	738.24	738.36
1G	123+24.96	0.21' Lt.	738.44	738.51
1H	123+34.96	0.21' Lt.	738.62	738.65
☉ Pier 1	123+47.46	0.21' Lt.	738.83	738.83
2A	123+57.46	0.21' Lt.	738.98	738.98
2B	123+67.46	0.21' Lt.	739.12	739.13
2C	123+77.46	0.21' Lt.	739.25	739.27
2D	123+87.46	0.21' Lt.	739.37	739.40
2E	123+97.46	0.21' Lt.	739.48	739.52
2F	124+07.46	0.21' Lt.	739.57	739.61
2G	124+17.46	0.21' Lt.	739.66	739.68
2H	124+27.46	0.21' Lt.	739.73	739.73
2I	124+37.46	0.21' Lt.	739.78	739.78
☉ Pier 2	124+48.29	0.21' Lt.	739.83	739.83
3A	124+58.29	0.21' Lt.	739.87	739.89
3B	124+68.29	0.21' Lt.	739.89	739.96
3C	124+78.29	0.21' Lt.	739.90	740.00
3D	124+88.29	0.21' Lt.	739.89	740.03
3E	124+98.29	0.21' Lt.	739.88	740.04
3F	125+08.29	0.21' Lt.	739.85	740.00
3G	125+18.29	0.21' Lt.	739.81	739.94
3H	125+28.29	0.21' Lt.	739.76	739.84
☉ E. Abut.	125+40.79	0.21' Lt.	739.68	739.68
Bk. E. Abut.	125+44.35	0.21' Lt.	739.66	739.66

**☉ US 34 (OGDEN AVE)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+51.31	0' Lt.	736.73	736.73
☉ Brg. W. Abut.	122+54.87	0' Lt.	736.83	736.83
1A	122+64.87	0' Lt.	737.09	737.16
1B	122+74.87	0' Lt.	737.35	737.46
1C	122+84.87	0' Lt.	737.59	737.74
1D	122+94.87	0' Lt.	737.82	737.98
1E	123+04.87	0' Lt.	738.04	738.18
1F	123+14.87	0' Lt.	738.24	738.36
1G	123+24.87	0' Lt.	738.44	738.51
1H	123+34.87	0' Lt.	738.62	738.66
☉ Pier 1	123+47.37	0' Lt.	738.83	738.83
2A	123+57.37	0' Lt.	738.98	738.98
2B	123+67.37	0' Lt.	739.13	739.13
2C	123+77.37	0' Lt.	739.26	739.28
2D	123+87.37	0' Lt.	739.38	739.41
2E	123+97.37	0' Lt.	739.48	739.52
2F	124+07.37	0' Lt.	739.58	739.61
2G	124+17.37	0' Lt.	739.66	739.68
2H	124+27.37	0' Lt.	739.73	739.74
2I	124+37.37	0' Lt.	739.79	739.78
☉ Pier 2	124+48.20	0' Lt.	739.84	739.84
3A	124+58.20	0' Lt.	739.87	739.90
3B	124+68.20	0' Lt.	739.89	739.96
3C	124+78.20	0' Lt.	739.90	740.01
3D	124+88.20	0' Lt.	739.90	740.04
3E	124+98.20	0' Lt.	739.88	740.04
3F	125+08.20	0' Lt.	739.86	740.01
3G	125+18.20	0' Lt.	739.82	739.94
3H	125+28.20	0' Lt.	739.77	739.84
☉ E. Abut.	125+40.70	0' Lt.	739.69	739.69
Bk. E. Abut.	125+44.25	0' Lt.	739.66	739.66

**BEAM 9**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+48.71	5.88' Rt.	736.54	736.54
☉ Brg. W. Abut.	122+52.26	5.88' Rt.	736.63	736.63
1A	122+62.26	5.88' Rt.	736.90	736.97
1B	122+72.26	5.88' Rt.	737.16	737.27
1C	122+82.26	5.88' Rt.	737.41	737.55
1D	122+92.26	5.88' Rt.	737.64	737.80
1E	123+02.26	5.88' Rt.	737.86	738.01
1F	123+12.26	5.88' Rt.	738.07	738.19
1G	123+22.26	5.88' Rt.	738.27	738.34
1H	123+32.26	5.88' Rt.	738.45	738.49
☉ Pier 1	123+44.76	5.88' Rt.	738.67	738.67
2A	123+54.76	5.88' Rt.	738.82	738.82
2B	123+64.76	5.88' Rt.	738.97	738.97
2C	123+74.76	5.88' Rt.	739.10	739.12
2D	123+84.76	5.88' Rt.	739.22	739.26
2E	123+94.76	5.88' Rt.	739.33	739.37
2F	124+04.76	5.88' Rt.	739.43	739.46
2G	124+14.76	5.88' Rt.	739.52	739.54
2H	124+24.76	5.88' Rt.	739.59	739.60
2I	124+34.76	5.88' Rt.	739.65	739.65
☉ Pier 2	124+45.60	5.88' Rt.	739.71	739.71
3A	124+55.60	5.88' Rt.	739.74	739.77
3B	124+65.60	5.88' Rt.	739.77	739.83
3C	124+75.60	5.88' Rt.	739.78	739.89
3D	124+85.60	5.88' Rt.	739.78	739.92
3E	124+95.60	5.88' Rt.	739.77	739.92
3F	125+05.60	5.88' Rt.	739.74	739.89
3G	125+15.60	5.88' Rt.	739.71	739.83
3H	125+25.60	5.88' Rt.	739.66	739.73
☉ E. Abut.	125+38.10	5.88' Rt.	739.58	739.58
Bk. E. Abut.	125+41.65	5.88' Rt.	739.56	739.56

Note:  
Work this with Sheet S-4.

**THIS SHEET INCLUDED FOR INFORMATION ONLY**



USER NAME =	DESIGNED - BAR	REVISED
	CHECKED - NPP	REVISED
PLOT SCALE =	DRAWN - BAR	REVISED
PLOT DATE =	CHECKED - KJZ	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS 5  
STRUCTURE NO. 022-0512**

SHEET NO. S-8 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	10
CONTRACT NO. 60W84			ILLINOIS FED. AID PROJECT	

**E.B. P.G.**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+47.32	9' Rt.	736.43	736.43
☉ Brg. W. Abut.	122+50.88	9' Rt.	736.53	736.53
1A	122+60.88	9' Rt.	736.80	736.86
1B	122+70.88	9' Rt.	737.06	737.17
1C	122+80.88	9' Rt.	737.31	737.45
1D	122+90.88	9' Rt.	737.54	737.70
1E	123+00.88	9' Rt.	737.76	737.91
1F	123+10.88	9' Rt.	737.98	738.09
1G	123+20.88	9' Rt.	738.17	738.25
1H	123+30.88	9' Rt.	738.36	738.40
☉ Pier 1	123+43.38	9' Rt.	738.58	738.58
2A	123+53.38	9' Rt.	738.74	738.73
2B	123+63.38	9' Rt.	738.88	738.89
2C	123+73.38	9' Rt.	739.02	739.04
2D	123+83.38	9' Rt.	739.14	739.17
2E	123+93.38	9' Rt.	739.25	739.29
2F	124+03.38	9' Rt.	739.35	739.39
2G	124+13.38	9' Rt.	739.44	739.46
2H	124+23.38	9' Rt.	739.52	739.52
2I	124+33.38	9' Rt.	739.58	739.58
☉ Pier 2	124+44.21	9' Rt.	739.63	739.63
3A	124+54.21	9' Rt.	739.67	739.70
3B	124+64.21	9' Rt.	739.70	739.76
3C	124+74.21	9' Rt.	739.71	739.82
3D	124+84.21	9' Rt.	739.71	739.85
3E	124+94.21	9' Rt.	739.70	739.86
3F	125+04.21	9' Rt.	739.68	739.83
3G	125+14.21	9' Rt.	739.65	739.77
3H	125+24.21	9' Rt.	739.60	739.68
☉ E. Abut.	125+36.71	9' Rt.	739.53	739.53
Bk. E. Abut.	125+40.27	9' Rt.	739.50	739.50

**BEAM 10**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+46.01	11.96' Rt.	736.33	736.33
☉ Brg. W. Abut.	122+49.57	11.96' Rt.	736.43	736.43
1A	122+59.57	11.96' Rt.	736.71	736.77
1B	122+69.57	11.96' Rt.	736.97	737.08
1C	122+79.57	11.96' Rt.	737.21	737.36
1D	122+89.57	11.96' Rt.	737.45	737.61
1E	122+99.57	11.96' Rt.	737.67	737.82
1F	123+09.57	11.96' Rt.	737.89	738.00
1G	123+19.57	11.96' Rt.	738.09	738.16
1H	123+29.57	11.96' Rt.	738.28	738.31
☉ Pier 1	123+42.07	11.96' Rt.	738.49	738.49
2A	123+52.07	11.96' Rt.	738.65	738.65
2B	123+62.07	11.96' Rt.	738.80	738.81
2C	123+72.07	11.96' Rt.	738.94	738.96
2D	123+82.07	11.96' Rt.	739.07	739.10
2E	123+92.07	11.96' Rt.	739.18	739.22
2F	124+02.07	11.96' Rt.	739.28	739.31
2G	124+12.07	11.96' Rt.	739.37	739.39
2H	124+22.07	11.96' Rt.	739.45	739.45
2I	124+32.07	11.96' Rt.	739.51	739.51
☉ Pier 2	124+42.90	11.96' Rt.	739.57	739.57
3A	124+52.90	11.96' Rt.	739.61	739.63
3B	124+62.90	11.96' Rt.	739.63	739.70
3C	124+72.90	11.96' Rt.	739.65	739.76
3D	124+82.90	11.96' Rt.	739.65	739.79
3E	124+92.90	11.96' Rt.	739.64	739.80
3F	125+02.90	11.96' Rt.	739.62	739.77
3G	125+12.90	11.96' Rt.	739.59	739.71
3H	125+22.90	11.96' Rt.	739.55	739.62
☉ E. Abut.	125+35.40	11.96' Rt.	739.47	739.47
Bk. E. Abut.	125+38.95	11.96' Rt.	739.45	739.45

**BEAM 11**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+43.32	18.04' Rt.	736.13	736.13
☉ Brg. W. Abut.	122+46.87	18.04' Rt.	736.23	736.23
1A	122+56.87	18.04' Rt.	736.51	736.57
1B	122+66.87	18.04' Rt.	736.77	736.88
1C	122+76.87	18.04' Rt.	737.02	737.17
1D	122+86.87	18.04' Rt.	737.26	737.42
1E	122+96.87	18.04' Rt.	737.49	737.63
1F	123+06.87	18.04' Rt.	737.70	737.82
1G	123+16.87	18.04' Rt.	737.91	737.98
1H	123+26.87	18.04' Rt.	738.10	738.14
☉ Pier 1	123+39.37	18.04' Rt.	738.32	738.32
2A	123+49.37	18.04' Rt.	738.49	738.48
2B	123+59.37	18.04' Rt.	738.64	738.64
2C	123+69.37	18.04' Rt.	738.78	738.80
2D	123+79.37	18.04' Rt.	738.91	738.94
2E	123+89.37	18.04' Rt.	739.02	739.06
2F	123+99.37	18.04' Rt.	739.13	739.16
2G	124+09.37	18.04' Rt.	739.22	739.24
2H	124+19.37	18.04' Rt.	739.30	739.30
2I	124+29.37	18.04' Rt.	739.37	739.36
☉ Pier 2	124+40.20	18.04' Rt.	739.43	739.43
3A	124+50.20	18.04' Rt.	739.47	739.50
3B	124+60.20	18.04' Rt.	739.50	739.57
3C	124+70.20	18.04' Rt.	739.52	739.63
3D	124+80.20	18.04' Rt.	739.53	739.67
3E	124+90.20	18.04' Rt.	739.52	739.68
3F	125+00.20	18.04' Rt.	739.50	739.65
3G	125+10.20	18.04' Rt.	739.47	739.60
3H	125+20.20	18.04' Rt.	739.43	739.51
☉ E. Abut.	125+32.70	18.04' Rt.	739.36	739.36
Bk. E. Abut.	125+36.26	18.04' Rt.	739.34	739.34

Note:  
Work this with Sheet S-4.

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**BEAM 12**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+40.62	24.13' Rt.	735.93	735.93
☉ Brg. W. Abut.	122+44.17	24.13' Rt.	736.03	736.03
1A	122+54.17	24.13' Rt.	736.31	736.37
1B	122+64.17	24.13' Rt.	736.57	736.69
1C	122+74.17	24.13' Rt.	736.83	736.97
1D	122+84.17	24.13' Rt.	737.07	737.23
1E	122+94.17	24.13' Rt.	737.30	737.45
1F	123+04.17	24.13' Rt.	737.52	737.64
1G	123+14.17	24.13' Rt.	737.73	737.80
1H	123+24.17	24.13' Rt.	737.92	737.96
☉ Pier 1	123+36.67	24.13' Rt.	738.15	738.15
2A	123+46.67	24.13' Rt.	738.32	738.31
2B	123+56.67	24.13' Rt.	738.47	738.48
2C	123+66.67	24.13' Rt.	738.62	738.63
2D	123+76.67	24.13' Rt.	738.75	738.78
2E	123+86.67	24.13' Rt.	738.87	738.90
2F	123+96.67	24.13' Rt.	738.97	739.01
2G	124+06.67	24.13' Rt.	739.07	739.09
2H	124+16.67	24.13' Rt.	739.15	739.16
2I	124+26.67	24.13' Rt.	739.22	739.22
☉ Pier 2	124+37.51	24.13' Rt.	739.29	739.29
3A	124+47.51	24.13' Rt.	739.33	739.36
3B	124+57.51	24.13' Rt.	739.37	739.43
3C	124+67.51	24.13' Rt.	739.39	739.50
3D	124+77.51	24.13' Rt.	739.40	739.54
3E	124+87.51	24.13' Rt.	739.40	739.55
3F	124+97.51	24.13' Rt.	739.38	739.53
3G	125+07.51	24.13' Rt.	739.36	739.48
3H	125+17.51	24.13' Rt.	739.32	739.39
☉ E. Abut.	125+30.01	24.13' Rt.	739.25	739.25
Bk. E. Abut.	125+33.56	24.13' Rt.	739.23	739.23

**BEAM 13**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+37.92	30.21' Rt.	735.72	735.72
☉ Brg. W. Abut.	122+41.48	30.21' Rt.	735.82	735.82
1A	122+51.48	30.21' Rt.	736.11	736.17
1B	122+61.48	30.21' Rt.	736.38	736.49
1C	122+71.48	30.21' Rt.	736.63	736.78
1D	122+81.48	30.21' Rt.	736.88	737.04
1E	122+91.48	30.21' Rt.	737.11	737.26
1F	123+01.48	30.21' Rt.	737.34	737.45
1G	123+11.48	30.21' Rt.	737.55	737.62
1H	123+21.48	30.21' Rt.	737.74	737.78
☉ Pier 1	123+33.98	30.21' Rt.	737.97	737.97
2A	123+43.98	30.21' Rt.	738.15	738.14
2B	123+53.98	30.21' Rt.	738.30	738.31
2C	123+63.98	30.21' Rt.	738.45	738.47
2D	123+73.98	30.21' Rt.	738.59	738.62
2E	123+83.98	30.21' Rt.	738.71	738.75
2F	123+93.98	30.21' Rt.	738.82	738.85
2G	124+03.98	30.21' Rt.	738.92	738.94
2H	124+13.98	30.21' Rt.	739.00	739.01
2I	124+23.98	30.21' Rt.	739.08	739.07
☉ Pier 2	124+34.81	30.21' Rt.	739.15	739.15
3A	124+44.81	30.21' Rt.	739.20	739.22
3B	124+54.81	30.21' Rt.	739.23	739.30
3C	124+64.81	30.21' Rt.	739.26	739.36
3D	124+74.81	30.21' Rt.	739.27	739.41
3E	124+84.81	30.21' Rt.	739.27	739.43
3F	124+94.81	30.21' Rt.	739.26	739.41
3G	125+04.81	30.21' Rt.	739.24	739.36
3H	125+14.81	30.21' Rt.	739.20	739.28
☉ E. Abut.	125+27.31	30.21' Rt.	739.14	739.14
Bk. E. Abut.	125+30.87	30.21' Rt.	739.12	739.12

**BEAM 14**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+35.23	36.29' Rt.	735.51	735.51
☉ Brg. W. Abut.	122+38.78	36.29' Rt.	735.62	735.62
1A	122+48.78	36.29' Rt.	735.90	735.97
1B	122+58.78	36.29' Rt.	736.18	736.29
1C	122+68.78	36.29' Rt.	736.44	736.58
1D	122+78.78	36.29' Rt.	736.69	736.84
1E	122+88.78	36.29' Rt.	736.93	737.07
1F	122+98.78	36.29' Rt.	737.15	737.27
1G	123+08.78	36.29' Rt.	737.36	737.44
1H	123+18.78	36.29' Rt.	737.57	737.60
☉ Pier 1	123+31.28	36.29' Rt.	737.80	737.80
2A	123+41.28	36.29' Rt.	737.97	737.97
2B	123+51.28	36.29' Rt.	738.14	738.14
2C	123+61.28	36.29' Rt.	738.29	738.30
2D	123+71.28	36.29' Rt.	738.42	738.46
2E	123+81.28	36.29' Rt.	738.55	738.59
2F	123+91.28	36.29' Rt.	738.66	738.70
2G	124+01.28	36.29' Rt.	738.77	738.79
2H	124+11.28	36.29' Rt.	738.86	738.86
2I	124+21.28	36.29' Rt.	738.93	738.93
☉ Pier 2	124+32.12	36.29' Rt.	739.00	739.00
3A	124+42.12	36.29' Rt.	739.06	739.08
3B	124+52.12	36.29' Rt.	739.10	739.16
3C	124+62.12	36.29' Rt.	739.13	739.23
3D	124+72.12	36.29' Rt.	739.14	739.28
3E	124+82.12	36.29' Rt.	739.15	739.30
3F	124+92.12	36.29' Rt.	739.14	739.29
3G	125+02.12	36.29' Rt.	739.12	739.24
3H	125+12.12	36.29' Rt.	739.09	739.16
☉ E. Abut.	125+24.62	36.29' Rt.	739.03	739.03
Bk. E. Abut.	125+28.17	36.29' Rt.	739.01	739.01

Note:  
Work this with Sheet S-4.

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**BEAM 15**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+32.53	42.38' Rt.	735.49	735.49
⊕ Brg. W. Abut.	122+36.09	42.38' Rt.	735.59	735.59
1A	122+46.09	42.38' Rt.	735.88	735.94
1B	122+56.09	42.38' Rt.	736.16	736.27
1C	122+66.09	42.38' Rt.	736.42	736.57
1D	122+76.09	42.38' Rt.	736.68	736.83
1E	122+86.09	42.38' Rt.	736.92	737.06
1F	122+96.09	42.38' Rt.	737.15	737.26
1G	123+06.09	42.38' Rt.	737.36	737.44
1H	123+16.09	42.38' Rt.	737.57	737.60
⊕ Pier 1	123+28.59	42.38' Rt.	737.80	737.80
2A	123+38.59	42.38' Rt.	737.98	737.98
2B	123+48.59	42.38' Rt.	738.15	738.15
2C	123+58.59	42.38' Rt.	738.30	738.32
2D	123+68.59	42.38' Rt.	738.44	738.47
2E	123+78.59	42.38' Rt.	738.57	738.61
2F	123+88.59	42.38' Rt.	738.69	738.72
2G	123+98.59	42.38' Rt.	738.79	738.81
2H	124+08.59	42.38' Rt.	738.89	738.89
2I	124+18.59	42.38' Rt.	738.97	738.96
⊕ Pier 2	124+29.42	42.38' Rt.	739.04	739.04
3A	124+39.42	42.38' Rt.	739.10	739.12
3B	124+49.42	42.38' Rt.	739.14	739.21
3C	124+59.42	42.38' Rt.	739.17	739.28
3D	124+69.42	42.38' Rt.	739.19	739.33
3E	124+79.42	42.38' Rt.	739.20	739.36
3F	124+89.42	42.38' Rt.	739.20	739.35
3G	124+99.42	42.38' Rt.	739.18	739.30
3H	125+09.42	42.38' Rt.	739.15	739.23
⊕ E. Abut.	125+21.92	42.38' Rt.	739.10	739.10
Bk. E. Abut.	125+25.48	42.38' Rt.	739.08	739.08

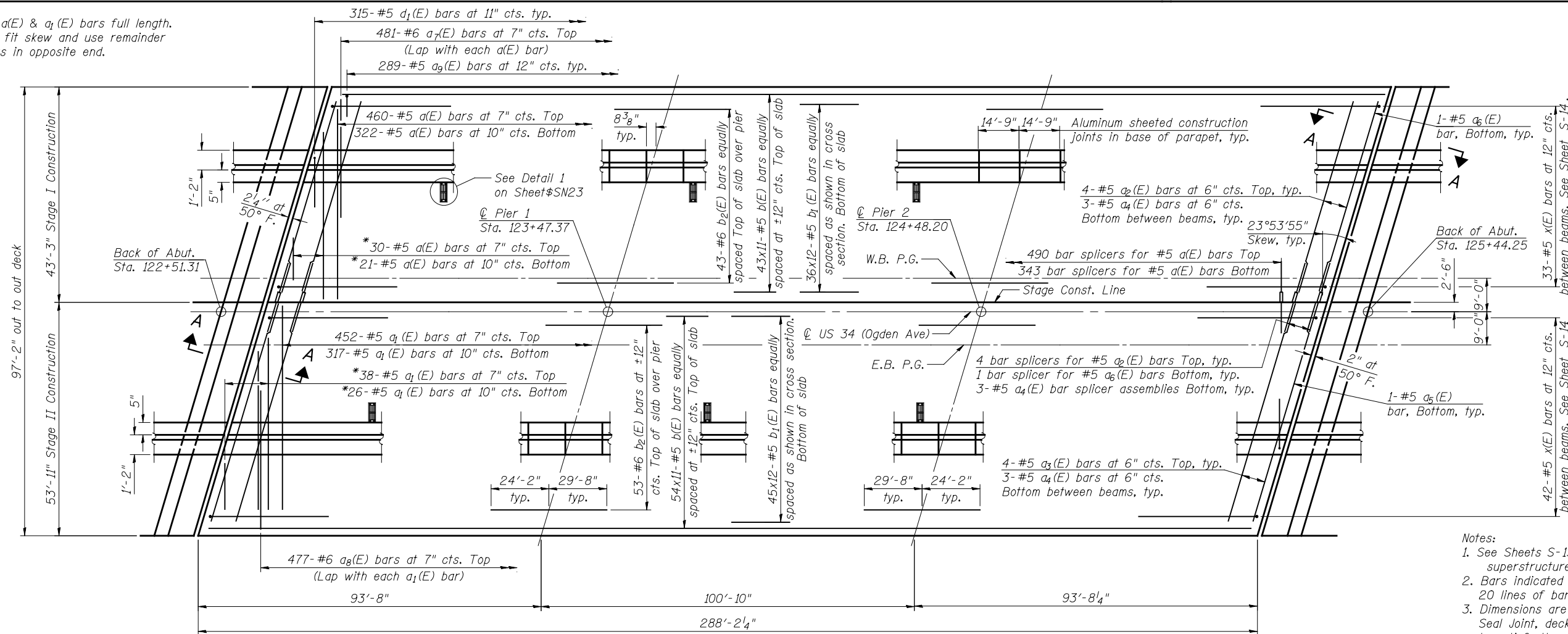
**BEAM 16**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	122+29.84	48.46' Rt.	735.47	735.47
⊕ Brg. W. Abut.	122+33.39	48.46' Rt.	735.58	735.58
1A	122+43.39	48.46' Rt.	735.87	735.94
1B	122+53.39	48.46' Rt.	736.15	736.27
1C	122+63.39	48.46' Rt.	736.42	736.58
1D	122+73.39	48.46' Rt.	736.67	736.85
1E	122+83.39	48.46' Rt.	736.92	737.08
1F	122+93.39	48.46' Rt.	737.15	737.28
1G	123+03.39	48.46' Rt.	737.37	737.45
1H	123+13.39	48.46' Rt.	737.58	737.62
⊕ Pier 1	123+25.89	48.46' Rt.	737.82	737.82
2A	123+35.89	48.46' Rt.	738.00	737.99
2B	123+45.89	48.46' Rt.	738.17	738.17
2C	123+55.89	48.46' Rt.	738.32	738.35
2D	123+65.89	48.46' Rt.	738.47	738.50
2E	123+75.89	48.46' Rt.	738.60	738.64
2F	123+85.89	48.46' Rt.	738.72	738.76
2G	123+95.89	48.46' Rt.	738.83	738.85
2H	124+05.89	48.46' Rt.	738.93	738.93
2I	124+15.89	48.46' Rt.	739.01	739.01
⊕ Pier 2	124+26.73	48.46' Rt.	739.09	739.09
3A	124+36.73	48.46' Rt.	739.15	739.18
3B	124+46.73	48.46' Rt.	739.19	739.27
3C	124+56.73	48.46' Rt.	739.23	739.35
3D	124+66.73	48.46' Rt.	739.25	739.41
3E	124+76.73	48.46' Rt.	739.26	739.43
3F	124+86.73	48.46' Rt.	739.26	739.43
3G	124+96.73	48.46' Rt.	739.25	739.38
3H	125+06.73	48.46' Rt.	739.22	739.31
⊕ E. Abut.	125+19.23	48.46' Rt.	739.18	739.18
Bk. E. Abut.	125+22.78	48.46' Rt.	739.16	739.16

Note:  
Work this with Sheet S-4.

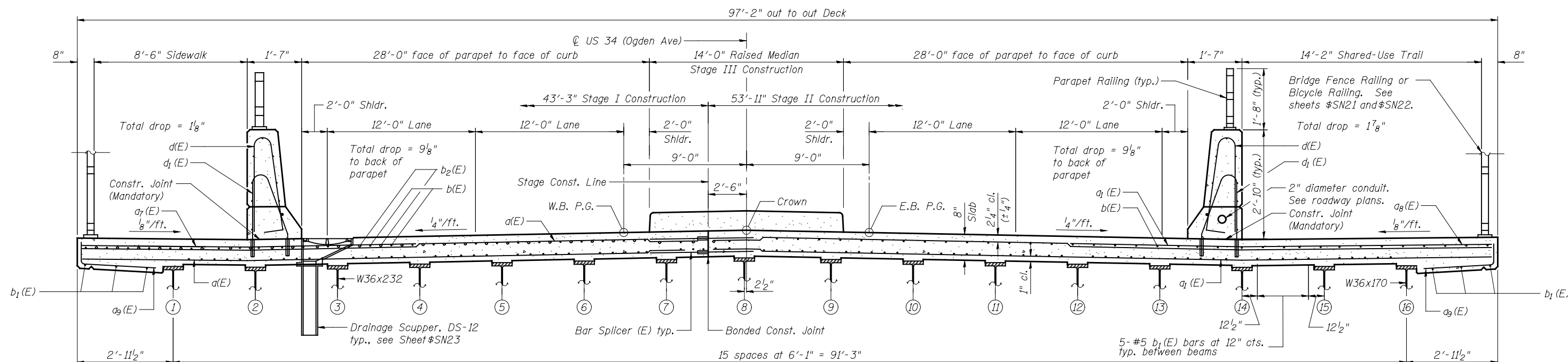
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\*Order a(E) & a<sub>1</sub>(E) bars full length.  
Cut to fit skew and use remainder  
of bars in opposite end.



**PLAN**

- Notes:
1. See Sheets S-13 and S-14 for parapet, median, superstructure details and Bill of Material.
  2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
  3. Dimensions are based on a Rolled Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details Sheet#SN25.
  4. See Sheet S-14 for Section A-A.



**NEAR PIER**

**CROSS SECTION**  
(Looking East)

**NEAR MIDSPAN**

**MINIMUM BAR LAP**  
#5 Bars = 3'-3"

**THIS SHEET INCLUDED FOR INFORMATION ONLY**



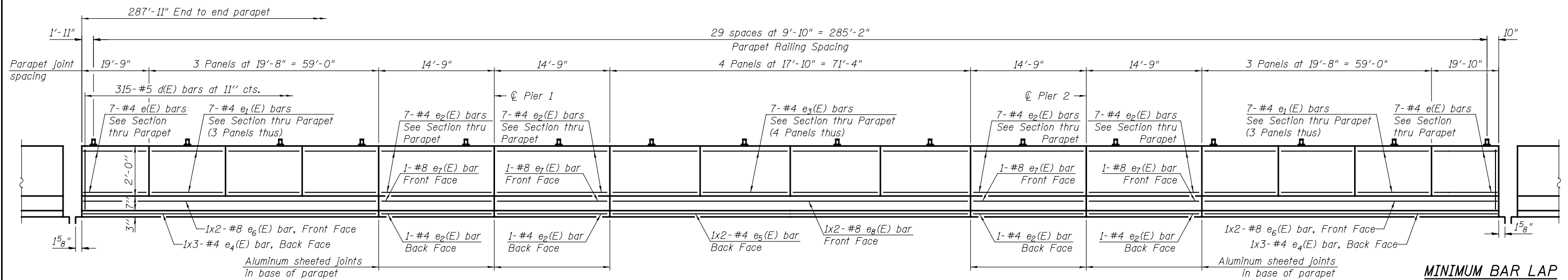
USER NAME =	DESIGNED - BAR	REVISED
	CHECKED - AMK	REVISED
PLOT SCALE =	DRAWN - BAR	REVISED
PLOT DATE =	CHECKED - AMK	REVISED

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE PLAN AND CROSS SECTION**  
**STRUCTURE NO. 022-0512**

SHEET NO. S-12 OF S-18 SHEETS

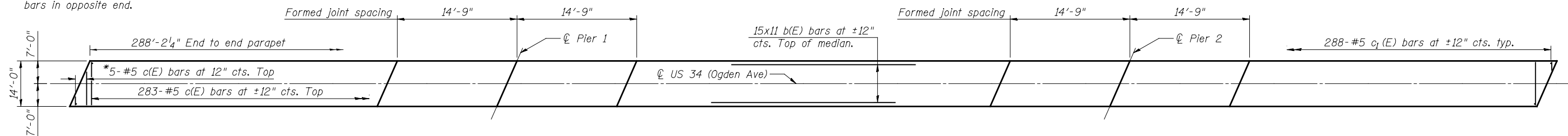
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	14
CONTRACT NO. 60W84			ILLINOIS FED. AID PROJECT	



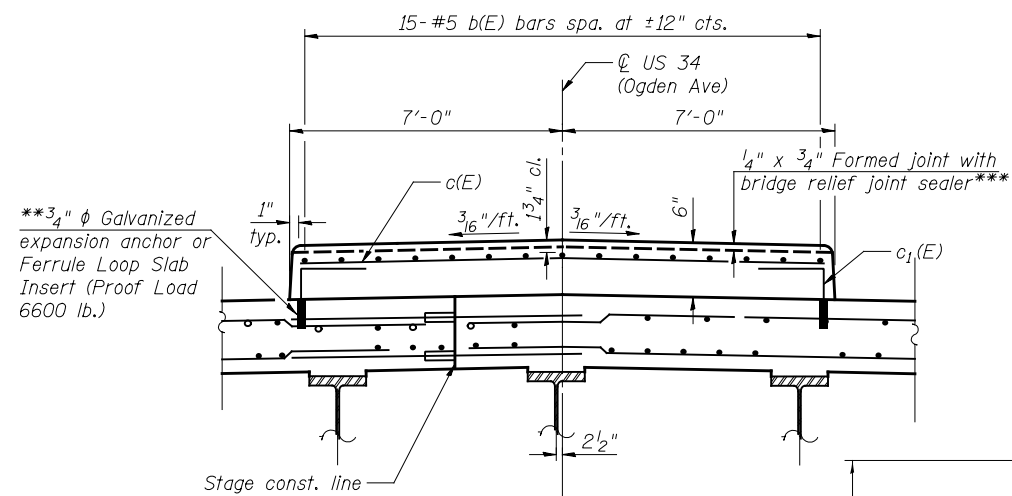
**INSIDE ELEVATION OF PARAPET**  
(All spacings are relative to front face of parapet)

**MINIMUM BAR LAP**  
(Parapet)  
#4 bar = 2'-0"  
#8 bar = 5'-2"

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



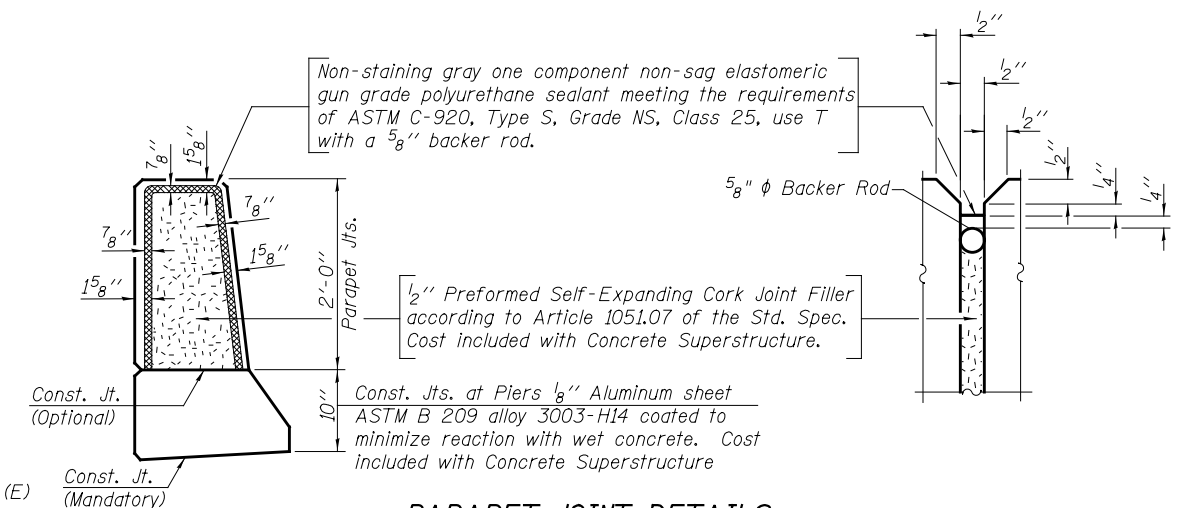
**RAISED CURB MEDIAN PLAN**



**RAISED CURB MEDIAN SECTION**

\*\*\*See Special Provisions. Full width along joint. Breaker rod not required.

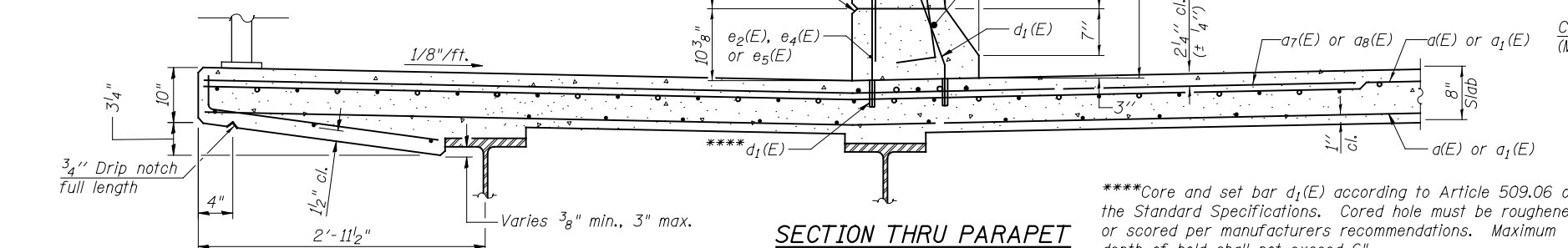
\*\*Cost of expansion anchors/inserts is included in the cost of Reinforcement Bars. Epoxy Coated



**PARAPET JOINT DETAILS**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

note: See Sheet S-14 for Bill of Material and bar bending diagrams.



**SECTION THRU PARAPET**



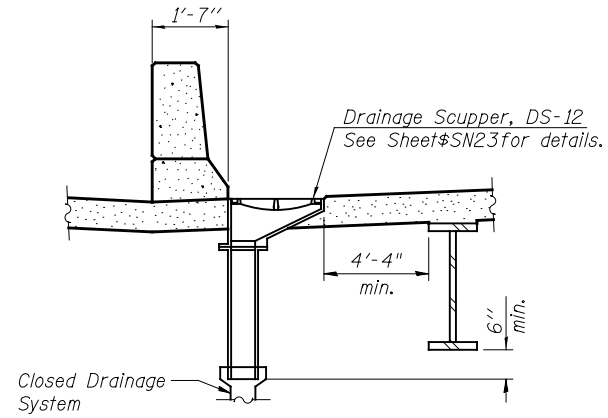
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	CHECKED - NPP	REVISIONS
PLOT SCALE =	DRAWN - BAR	REVISIONS
PLOT DATE =	CHECKED - NPP	REVISIONS

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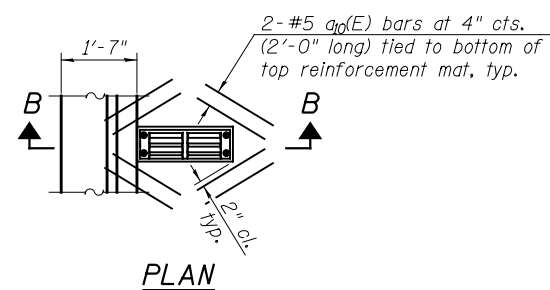
PARAPET ELEVATIONS AND DETAILS  
STRUCTURE NO. 022-0512

SHEET NO. S-13 OF S-18 SHEETS

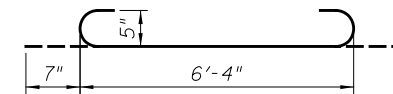
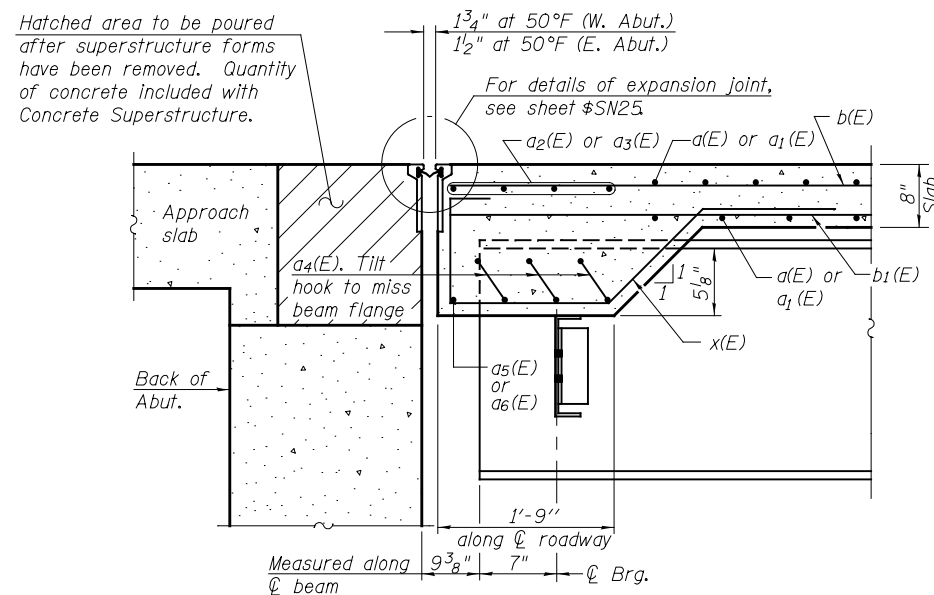
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	15
CONTRACT NO. 60W84			ILLINOIS FED. AID PROJECT	



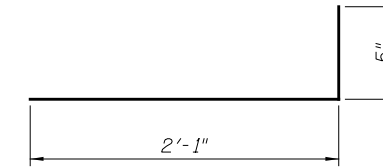
**SECTION B-B**



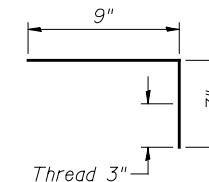
Note:  
Cut longitudinal reinforcement to clear drainage scuppers.



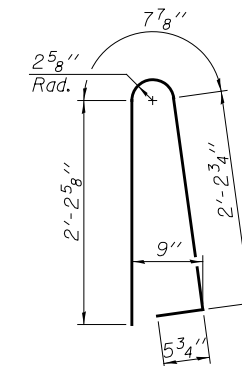
**BAR a<sub>4</sub>(E)**



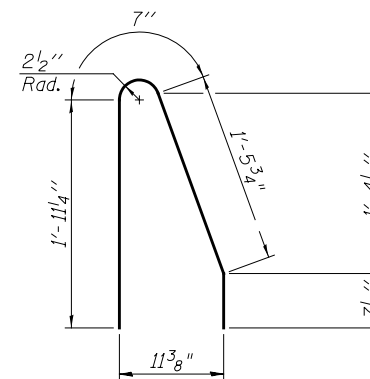
**BAR a<sub>9</sub>(E)**



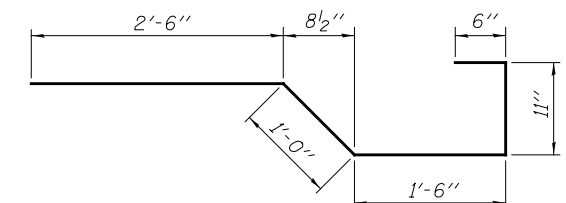
**BAR c<sub>1</sub>(E)**



**BAR d(E)**



**BAR d<sub>1</sub>(E)**



**BAR x(E)**

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	833	#5	42'-9"	—
a <sub>1</sub> (E)	833	#5	53'-6"	—
a <sub>2</sub> (E)	8	#5	46'-11"	—
a <sub>3</sub> (E)	8	#5	58'-7"	—
a <sub>4</sub> (E)	84	#5	7'-6"	U
a <sub>5</sub> (E)	2	#5	55'-7"	—
a <sub>6</sub> (E)	2	#5	43'-5"	—
a <sub>7</sub> (E)	481	#6	15'-9"	—
a <sub>8</sub> (E)	477	#6	21'-5"	—
a <sub>9</sub> (E)	578	#5	2'-6"	—
a <sub>10</sub> (E)	48	#5	2'-0"	—
b(E)	1232	#5	29'-2"	—
b <sub>1</sub> (E)	972	#5	27'-0"	—
b <sub>2</sub> (E)	192	#6	53'-10"	—
c(E)	288	#5	13'-6"	—
c <sub>1</sub> (E)	576	#5	1'-4"	L
d(E)	630	#5	5'-7"	U
d <sub>1</sub> (E)	630	#5	4'-7 1/2"	U
e(E)	28	#4	19'-7"	—
e <sub>1</sub> (E)	84	#4	19'-4"	—
e <sub>2</sub> (E)	64	#4	14'-5"	—
e <sub>3</sub> (E)	56	#4	17'-6"	—
e <sub>4</sub> (E)	12	#4	27'-6"	—
e <sub>5</sub> (E)	4	#4	36'-6"	—
e <sub>6</sub> (E)	8	#8	41'-10"	—
e <sub>7</sub> (E)	8	#8	14'-5"	—
e <sub>8</sub> (E)	4	#8	38'-1"	—
x(E)	150	#5	6'-5"	L
Reinforcement Bars, Epoxy Coated			Pound	211,290
Concrete Superstructure			Cu. Yds.	917.6

Bars indicated thus 1 x 7 - #8 etc. indicates 1 line of bars with 7 lengths per line.

**THIS SHEET INCLUDED FOR  
INFORMATION ONLY**



USER NAME =	DESIGNED - BAR	REVISED
	CHECKED - AMK	REVISED
PLOT SCALE =	DRAWN - BAR	REVISED
PLOT DATE =	CHECKED - AMK	REVISED

**STATE OF ILLINOIS  
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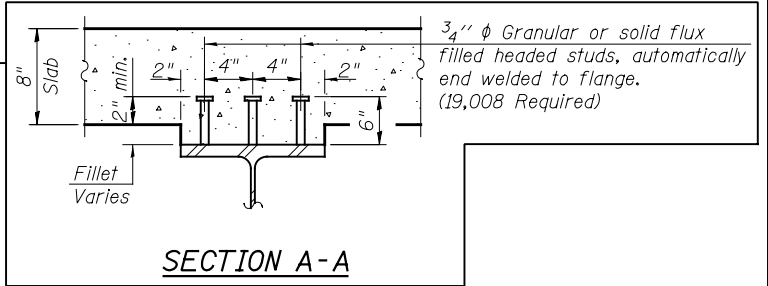
**DECK DETAILS  
STRUCTURE NO. 022-0512**

SHEET NO. S-14 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	16
CONTRACT NO. 60W84			ILLINOIS FED. AID PROJECT	



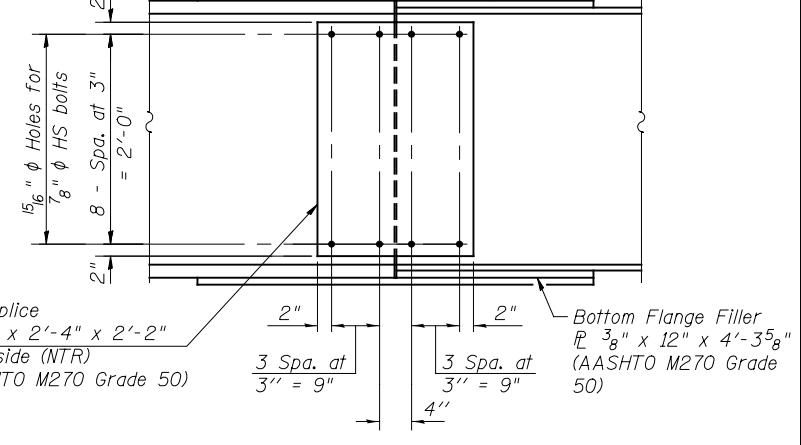
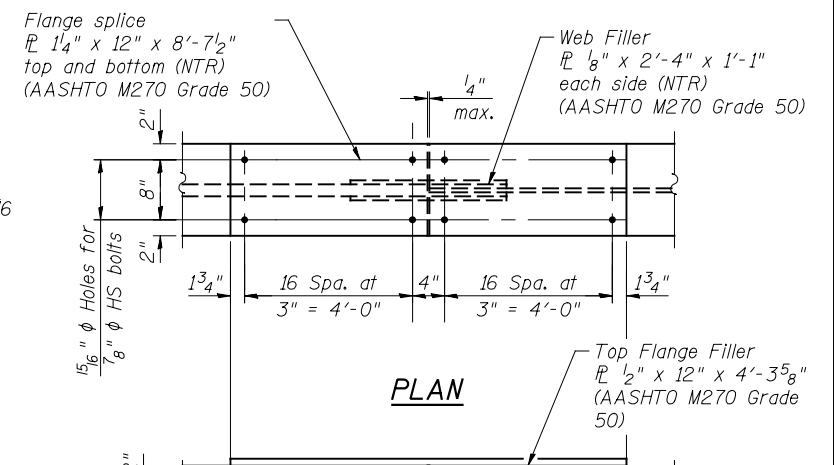
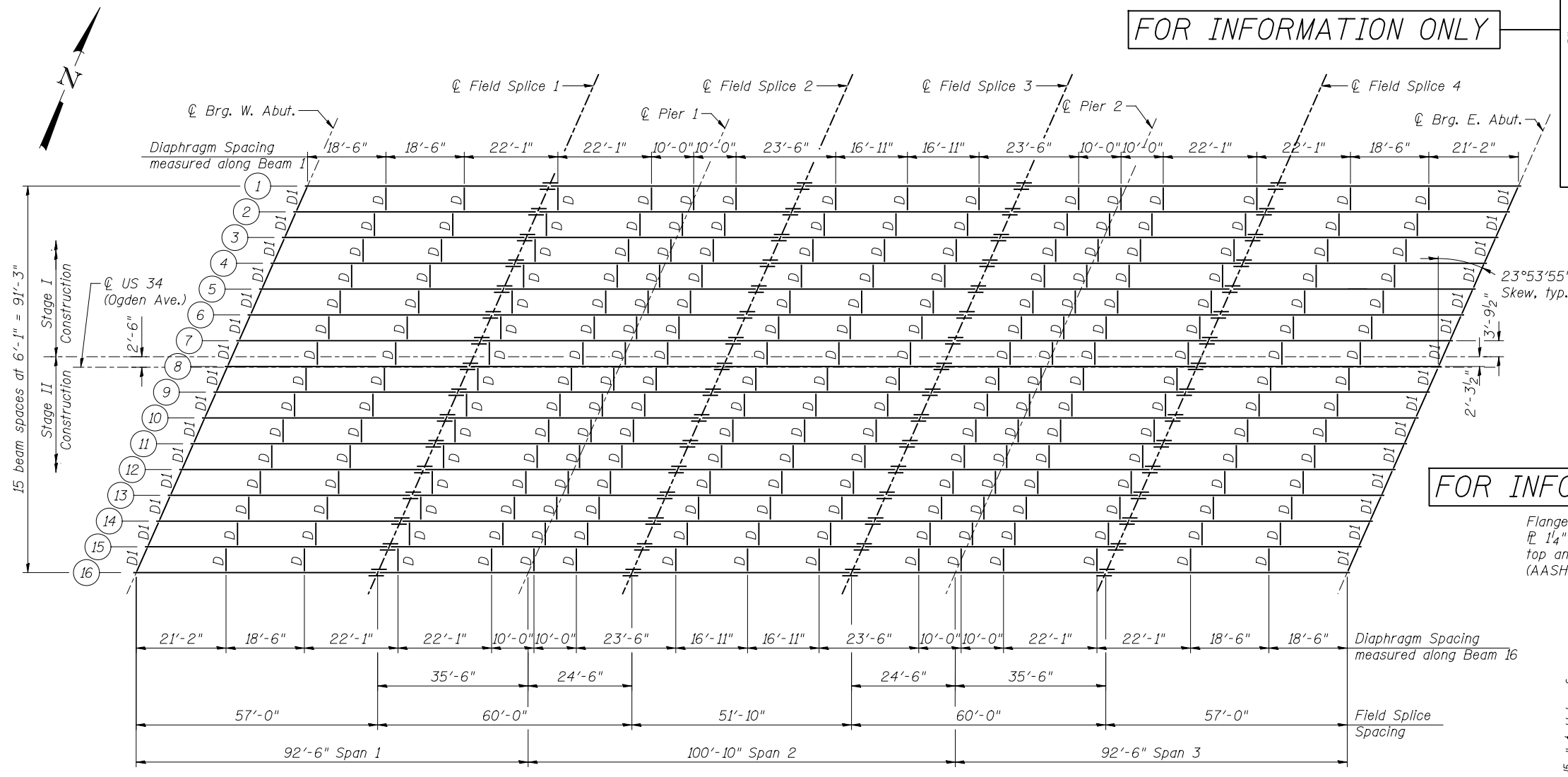
FOR INFORMATION ONLY



NOTES

1. See Sheet S-16 for diaphragm details, top of beam elevations, and moment and reaction tables.
2. For Bearing Details, see Sheets S-17 and S-18.
3. All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
4. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

FOR INFORMATION ONLY

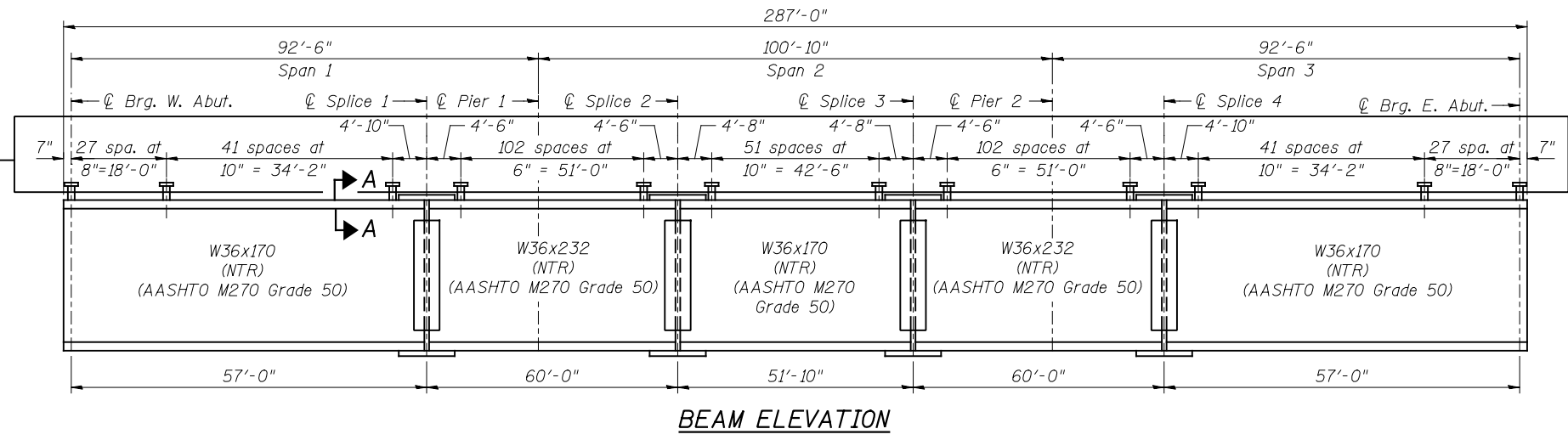


ELEVATION

SPLICE DETAIL

(64 Required)

FOR INFORMATION ONLY



BEAM ELEVATION



USER NAME =	DESIGNED - BAR	REVISED
	CHECKED - AMK/PMH	REVISED
PLOT SCALE =	DRAWN - BAR	REVISED
PLOT DATE =	CHECKED - PMH	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND BEAM ELEVATION  
STRUCTURE NO. 022-0512

SHEET NO. S-15 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	17
CONTRACT NO. 60W84				

ILLINOIS FED. AID PROJECT

INTERIOR BEAM MOMENT TABLE				
	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2	
$I_s$	(in <sup>4</sup> )	10,500	15,000	10,500
$I_c(n)$	(in <sup>4</sup> )	25,334	33,211	25,334
$I_c(3n)$	(in <sup>4</sup> )	18,571	24,174	18,571
$I_c(cr)$	(in <sup>4</sup> )	-	17,920	-
$S_s$	(in <sup>3</sup> )	581	809	581
$S_c(n)$	(in <sup>3</sup> )	813	1,101	813
$S_c(3n)$	(in <sup>3</sup> )	735	989	735
$S_c(cr)$	(in <sup>3</sup> )	-	875	-
DC1	(k/')	0.824	0.885	0.824
M <sub>DC1</sub>	(k)	480	-835	232
DC2	(k/')	0.25	0.25	0.25
M <sub>DC2</sub>	(k)	145	-246	72
DW	(k/')	0.234	0.234	0.234
M <sub>DW</sub>	(k)	135	-230	68
M <sub>ℓ + IM</sub>	(k)	1,243	-1,399	1,054
M <sub>u</sub> (Strength I)	(k)	3,159	-4,145	2,327
Φ <sub>F</sub> M <sub>n</sub>	(k)	4,010	4,503	4,010
f <sub>s</sub> DC1	(ksi)	9.9	-12.4	4.8
f <sub>s</sub> DC2	(ksi)	2.4	-3.4	1.2
f <sub>s</sub> DW	(ksi)	2.2	-3.2	1.1
f <sub>s</sub> (ℓ+IM)	(ksi)	18.3	-19.2	15.6
f <sub>s</sub> (Service II)	(ksi)	39.3	-44.8	28.1
0.95R <sub>n</sub> F <sub>y</sub>	(ksi)	47.5	47.5	47.5
f <sub>s</sub> (Total)(Strength I)	(ksi)	-	-	-
Φ <sub>F</sub> F <sub>n</sub>	(ksi)	-	-	-
V <sub>r</sub>	(k)	27.5	29.3	28.6

BEARING SEAT ELEVATIONS				
Beam No.	℄ Brg. W. Abut.	℄ Pier 1	℄ Pier 2	℄ Brg. E. Abut.
1	732.13	733.81	734.85	734.60
2	732.13	733.81	734.85	734.60
3	732.13	733.89	734.97	734.75
4	732.24	733.98	735.09	734.90
5	732.24	734.06	735.21	735.05
6	732.36	734.15	735.33	735.20
7	732.36	734.24	735.44	735.35
8	732.47	734.32	735.56	735.49
9	732.27	734.16	735.43	735.39
10	732.07	733.99	735.29	735.29
11	731.87	733.81	735.15	735.18
12	731.67	733.64	735.01	735.07
13	731.46	733.47	734.87	734.95
14	731.22	733.29	734.73	734.84
15	731.22	733.29	734.73	734.84
16	731.22	733.29	734.73	734.84

FOR  
INFORMATION  
ONLY

TOP OF BEAM ELEVATIONS (FOR FABRICATION ONLY)								
Beam No.	℄ Brg. W. Abut.	℄ Splice 1	℄ Pier 1	℄ Splice 2	℄ Splice 3	℄ Pier 2	℄ Splice 4	℄ Brg. E. Abut.
1	735.89	737.19	737.60	737.89	738.29	738.38	738.51	738.10
2	735.76	737.06	737.50	737.80	738.22	738.31	738.44	738.06
3	735.81	737.13	737.58	737.89	738.33	738.43	738.57	738.21
4	735.87	737.21	737.67	737.99	738.44	738.55	738.70	738.36
5	735.93	737.28	737.76	738.08	738.55	738.66	738.83	738.50
6	735.98	737.36	737.84	738.17	738.66	738.78	738.96	738.65
7	736.04	737.43	737.93	738.27	738.77	738.90	739.09	738.80
8	736.09	737.50	738.01	738.36	738.88	739.02	739.22	738.95
9	735.90	737.33	737.85	738.21	738.74	738.89	739.10	738.85
10	735.70	737.15	737.68	738.04	738.59	738.75	738.98	738.74
11	735.50	736.96	737.50	737.88	738.45	738.61	738.85	738.63
12	735.29	736.78	737.33	737.71	738.30	738.47	738.72	738.52
13	735.09	736.59	737.16	737.55	738.15	738.33	738.59	738.41
14	734.88	736.41	736.98	737.38	738.00	738.19	738.46	738.30
15	734.86	736.40	736.99	737.39	738.03	738.22	738.51	738.36
16	734.84	736.42	737.01	737.42	738.07	738.28	738.58	738.44

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).

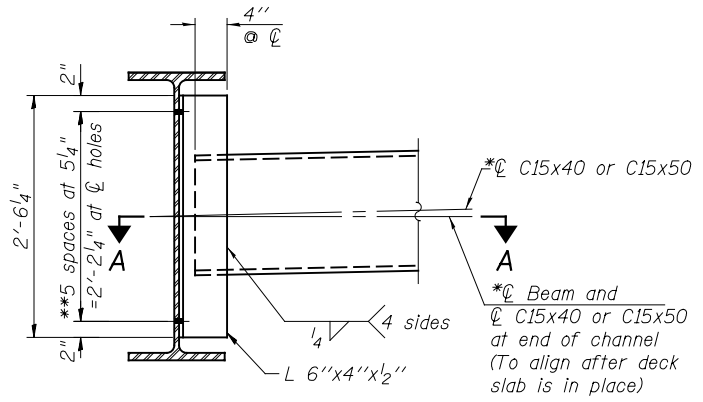
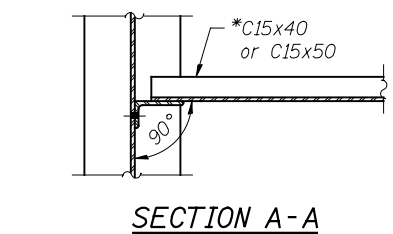
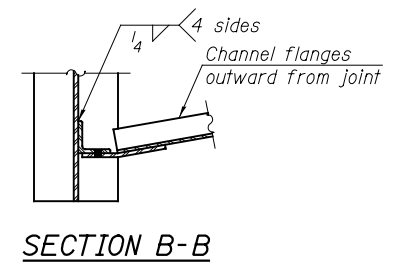
$I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(cr), S_c(cr)$ : Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing  $f_s$  (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

DC1: Un-factored non-composite dead load (kips/ft.).  
M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).  
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
M<sub>ℓ + IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).  
M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>ℓ + IM</sub>  
Φ<sub>F</sub>M<sub>n</sub>: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).  
f<sub>s</sub> DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).  
M<sub>DC1</sub> / S<sub>nc</sub>  
f<sub>s</sub> DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).  
M<sub>DC2</sub> / S<sub>c(3n)</sub> or M<sub>DC2</sub> / S<sub>c(cr)</sub> as applicable.  
f<sub>s</sub> DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).  
M<sub>DW</sub> / S<sub>c(3n)</sub> or M<sub>DW</sub> / S<sub>c(cr)</sub> as applicable.  
f<sub>s</sub> (ℓ+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).  
M<sub>ℓ + IM</sub> / S<sub>c(n)</sub> or M<sub>DW</sub> / S<sub>c(cr)</sub> as applicable.  
f<sub>s</sub> (Service II): Sum of stresses as computed below (ksi).  
f<sub>sDC1</sub> + f<sub>sDC2</sub> + f<sub>sDW</sub> + 1.3 f<sub>s</sub> (ℓ + IM)  
0.95R<sub>n</sub>F<sub>y</sub>f: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).  
f<sub>s</sub> (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).  
1.25 (f<sub>sDC1</sub> + f<sub>sDC2</sub>) + 1.5 f<sub>sDW</sub> + 1.75 f<sub>s</sub> (ℓ + IM)  
Φ<sub>F</sub>F<sub>n</sub>: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).  
V<sub>r</sub>: Maximum factored shear range in span computed according to Article 6.10.10.

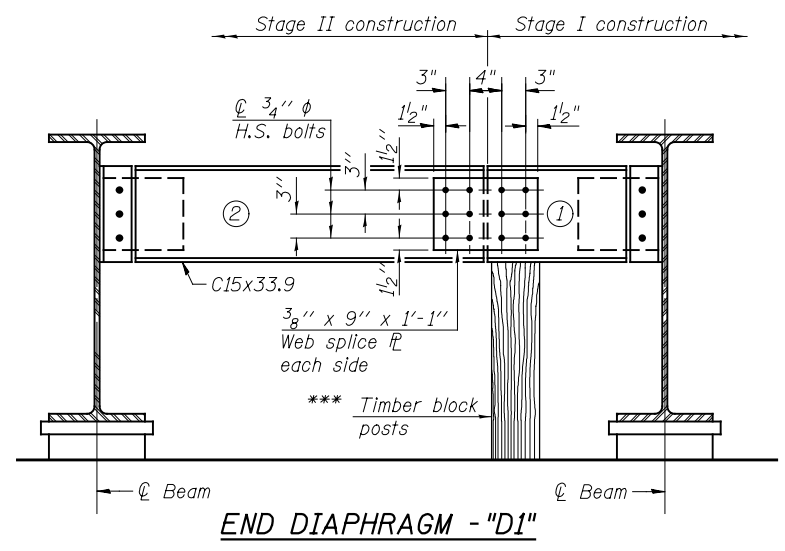
INTERIOR BEAM REACTION TABLE					
	W. Abut.	Pier 1	Pier 2	E. Abut.	
R <sub>DC1</sub>	(k)	30.20	91.84	91.84	30.20
R <sub>DC2</sub>	(k)	8.91	26.82	26.82	8.91
R <sub>DW</sub>	(k)	8.34	25.11	25.11	8.34
R <sub>ℓ + IM</sub>	(k)	90.01	169.28	169.28	90.01
R <sub>Total</sub>	(k)	137.46	313.05	313.05	137.46



**INTERIOR DIAPHRAGM - "D"**

Note:  
Two hardened washers required for each set of oversized holes.  
Bolts for slotted holes shall be finger tightened prior to the deck slab pouring and then fully tightened after completion of the pour.  
Slotted holes shall be positioned so that bolts start at one end under no concrete load and finish near the opposite end under deck load.  
\*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.  
The alternate, if utilized, shall be provided at no additional cost to the Department.  
\*\*3/4" φ HS bolts, 1 5/16" φ holes, u.n.o.

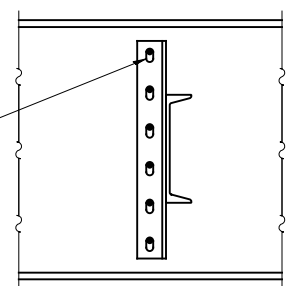
\*\*\* Cost of Timber Block Posts is included with Structural Steel.



**END DIAPHRAGM - "D1"**

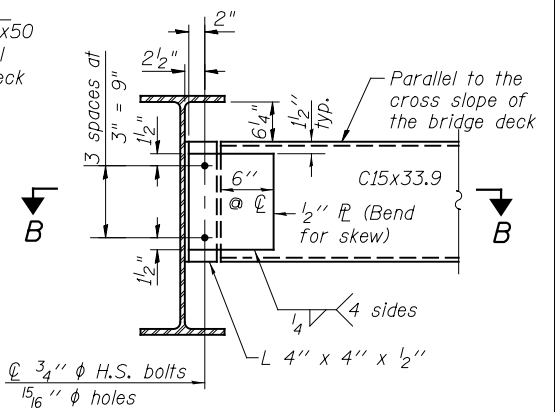
**END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE**

- 1) Order diaphragm in two sections.
- 2) Attach section ① of diaphragm to beam 7.
- 3) Place timber block posts between section ① of diaphragm and abutment bearing section.
- 4) Attach section ② of diaphragm to both beam 8 and section ① of diaphragm during stage II construction with splice plates.
- 5) Remove timber block posts.



**INTERIOR DIAPHRAGM AT STAGE CONSTRUCTION LINES**

At Beams 7 & 8  
(Not Required for diaphragms at ℄ Piers)  
5/16" plate washer required for each slotted hole



**END DIAPHRAGM - "D1"**

Note:  
Two hardened washers required for each set of oversized holes.

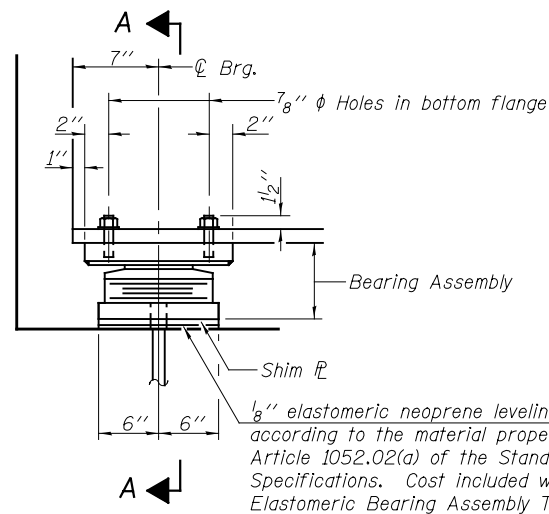


USER NAME =	DESIGNED - BAR	REVISED
PLOT SCALE =	CHECKED - AMK/PMH	REVISED
PLOT DATE =	DRAWN - BAR	REVISED
	CHECKED - PMH	REVISED

**STATE OF ILLINOIS  
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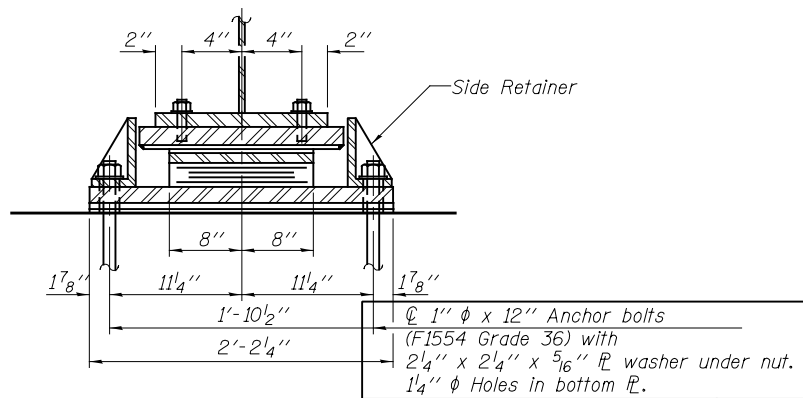
**STEEL DETAILS  
STRUCTURE NO. 022-0512**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	18
CONTRACT NO. 60W84				
ILLINOIS FED. AID PROJECT				

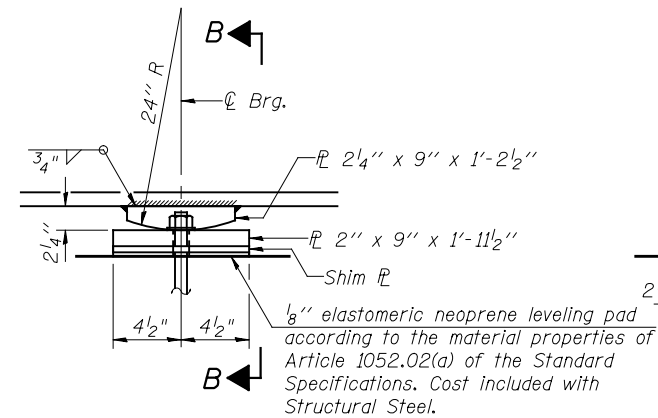


ELEVATION AT WEST ABUT.

TYPE II ELASTOMERIC EXP. BRG.

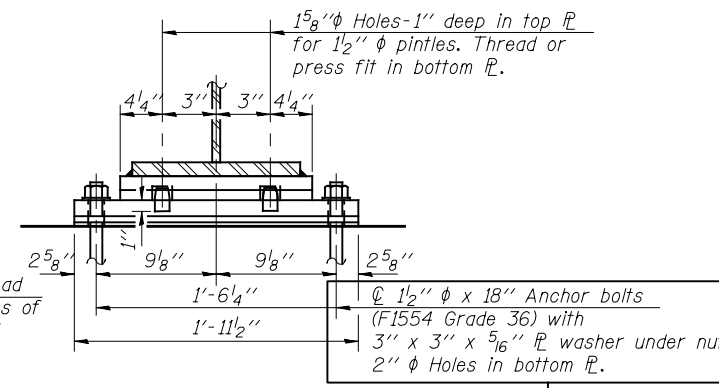


SECTION A-A



ELEVATION AT PIER 2

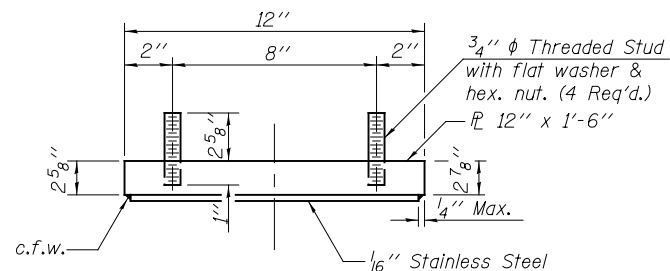
FIXED BEARING AT PIER 2



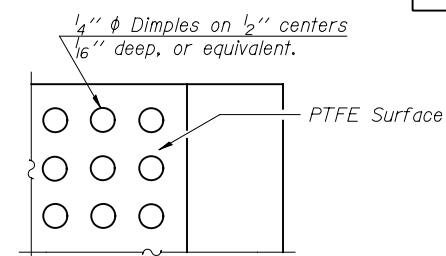
SECTION B-B

FOR INFORMATION ONLY

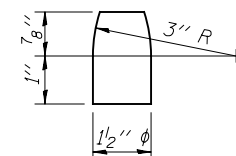
FOR INFORMATION ONLY



TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE



PINTLE

Notes:

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

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

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

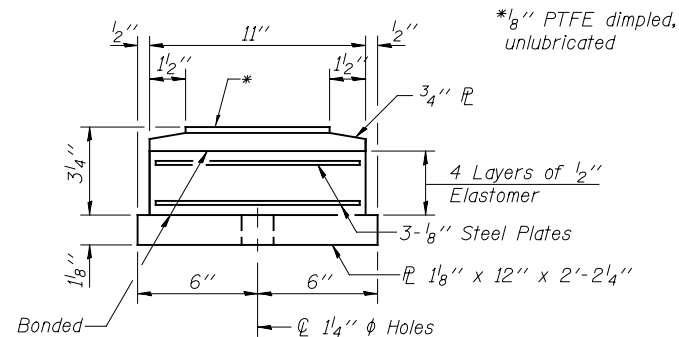
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

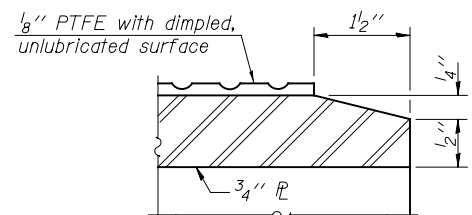
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



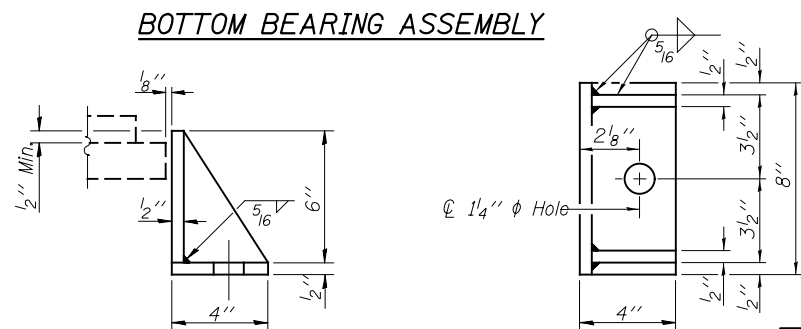
BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE

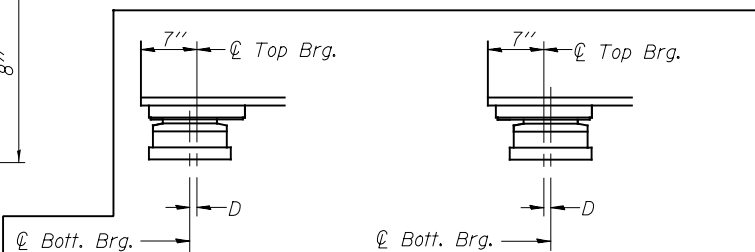
SHIM PLATE SCHEDULE

Beam	W. Abut.	Pier 2
1	1 1/2"	1"
2	-	-
3	3/4"	-
4	-	-
5	3/4"	-
6	-	-
7	5/8"	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	1/2"	-
15	1/8"	1/2"
16	-	1 1/8"



SIDE RETAINER

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



BELOW 50°F.

ABOVE 50°F.

(Move bott. brg. away from fixed brg.) (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.

FOR INFORMATION ONLY

BILL OF MATERIAL

Item	Unit	Total
Furnishing Elastomeric Bearing Assembly Type II	Each	16
Anchor Bolts, 1"	Each	32
Anchor Bolts, 1 1/2"	Each	32

I-2E-2

1-27-12



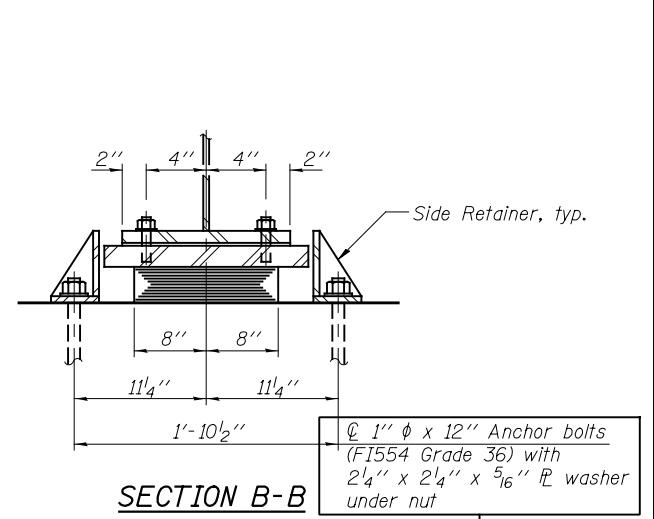
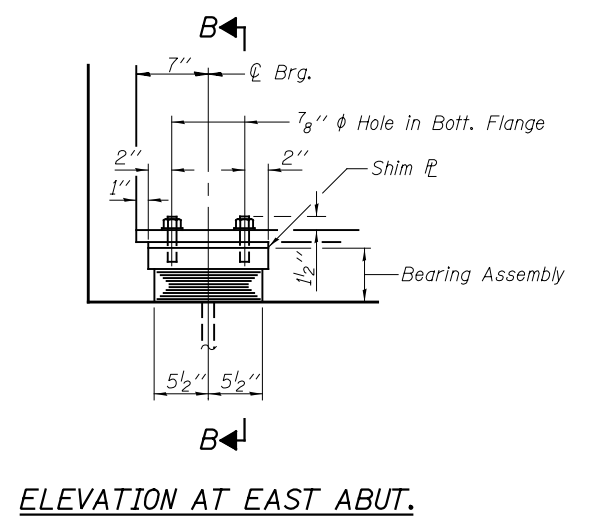
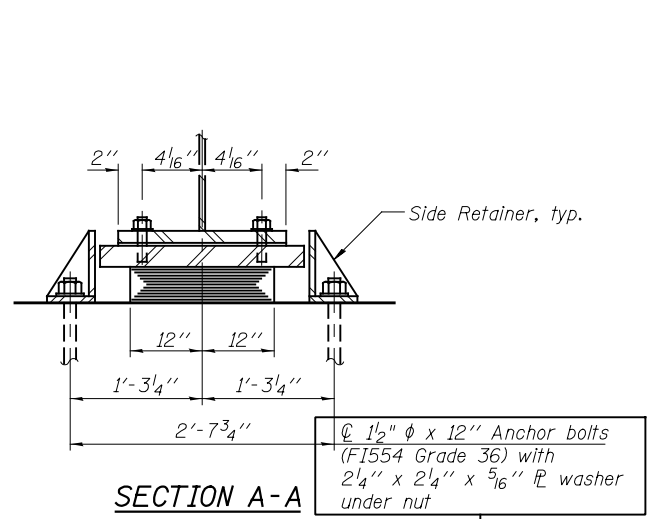
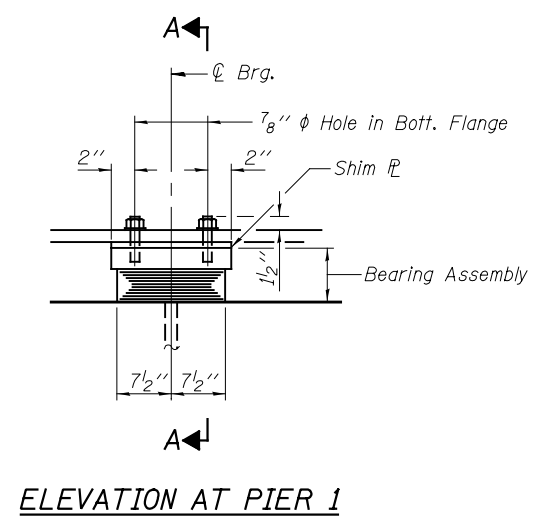
USER NAME =	DESIGNED - KMP	REVISIONS
	CHECKED - AMK	REVISIONS
PLOT SCALE =	DRAWN - BAR	REVISIONS
PLOT DATE =	CHECKED - KJZ	REVISIONS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS 1  
STRUCTURE NO. 022-0512

SHEET NO. S-17 OF S-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	19
ILLINOIS FED. AID PROJECT				CONTRACT NO. 60W84

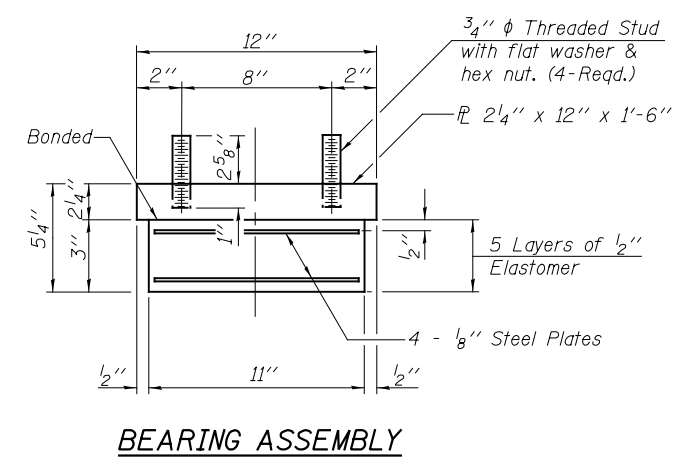
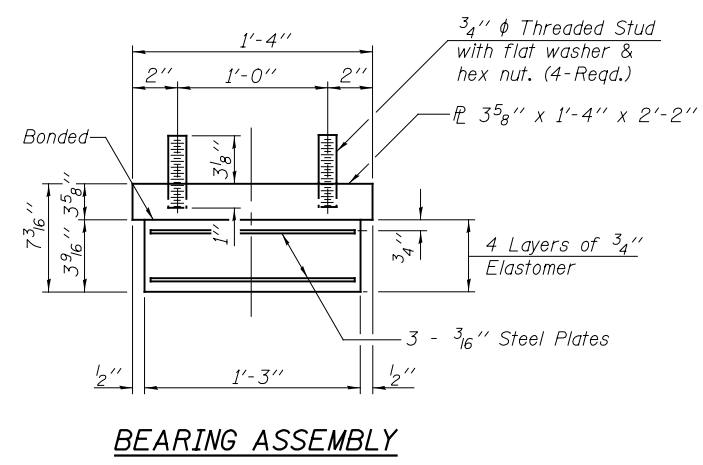


**TYPE I ELASTOMERIC EXP. BRG.**

**TYPE I ELASTOMERIC EXP. BRG.**

**FOR INFORMATION ONLY**

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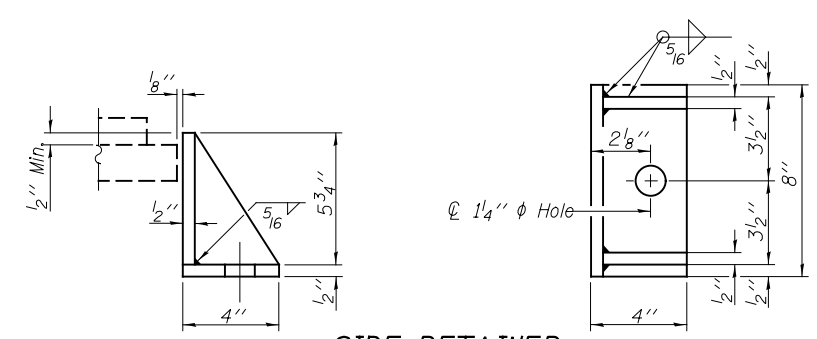
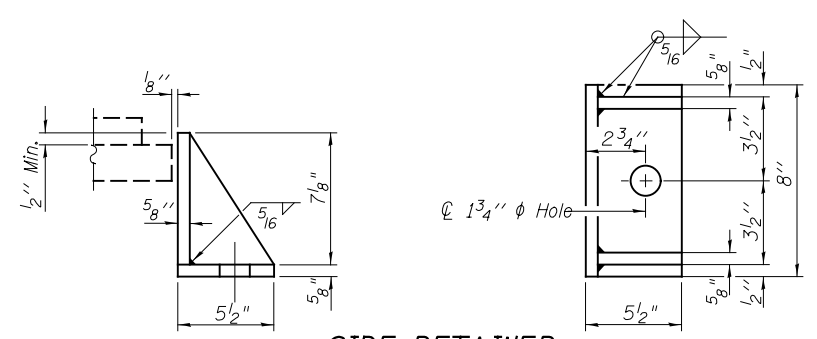
**Notes:**  
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
 Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.  
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
 Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
 Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

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

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

**SHIM PLATE SCHEDULE**

Beam	Pier 1	E. Abut.
1	1 1/4"	1/2"
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	1/8"	7/8"
16	3/8"	1 3/4"



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

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

**BILL OF MATERIAL**

Item	Unit	Total
Erecting Elastomeric Bearing Assembly Type I	Each	32
Anchor Bolts, 1"	Each	32
Anchor Bolts, 1 1/2"	Each	32

**FOR INFORMATION ONLY**

I-2E-1 1-27-12



USER NAME =	DESIGNED - KMP	REVISED
PLOT SCALE =	CHECKED - AMK	REVISED
PLOT DATE =	DRAWN - BAR	REVISED
	CHECKED - KJZ	REVISED

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BEARING DETAILS 2  
 STRUCTURE NO. 022-0512**

SHEET NO. 5-18 OF 5-18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652-A	DuPAGE	20	20
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60W84	