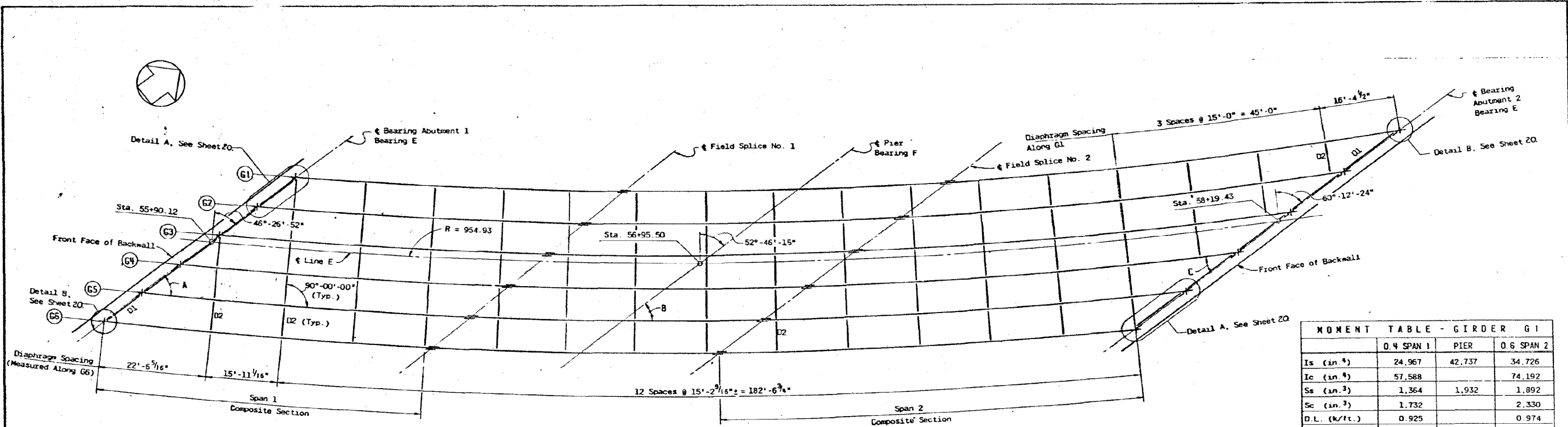


2/28/13 PM

3/29/2013

SA\1072_05_CADD\Structural\1. SN 0162471.CADD Sheets\0162471-60112-017-F\03.dgn



FRAMING PLAN

SCALE: 1" = 10'-0"

	0.4 SPAN 1	PIER	0.6 SPAN 2
Is (in. ⁴)	24,967	42,737	34,726
Ic (in. ⁴)	57,588		74,192
Ss (in. ³)	1,364	1,932	1,892
Sc (in. ³)	1,732		2,330
D.L. (k/ft.)	0.925		0.974
M.D.L. (ft.-k)	565	1,575	1,250
fs DL (ksi)	5.0	9.8	7.9
S.D.L. (k/ft.)	0.306		0.306
M.SDL (ft.-k)	216	516	392
M.LL (ft.-k)	988	1,115	1,167
M. Imp (ft.-k)	213	227	229
Total (ft.-k)	1,417	1,858	1,788
fsLL (ksi)	10.0	11.5	9.4
fs Total (ksi)	15.2 *	21.3 *	17.3 *
VR (k)	50.8		51.8

* Deflection governs. Final Stress includes correction for curvature.

	ABUTMENT 1	PIER	ABUTMENT 2
D.L. (k)	46.4	196.0	61.2
L.L. (k)	51.4	97.0	52.5
Imp. (k)	11.0	13.1	10.4
Total (k)	108.8	306.1	124.1

ITEM	UNIT	TOTAL
** Structural Steel	Lbs.	447,231
Stud Shear Connector	Each	3840

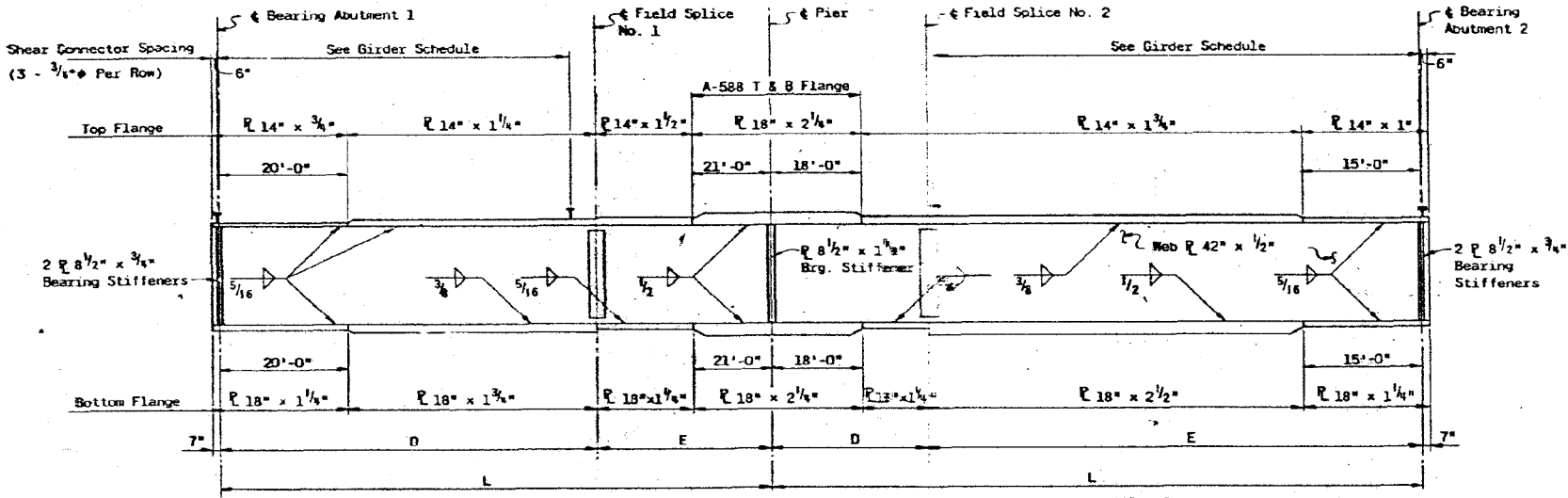
GIRDERS	BEARING ABUTMENT 1	FIELD SPLICE NO. 1	PIER	FIELD SPLICE NO. 2	BEARING ABUTMENT 2
1	26.25	25.83	25.54	25.52	24.69
2	26.74	26.32	26.04	25.78	25.21
3	27.22	26.81	26.53	26.46	25.72
4	27.70	27.28	27.03	26.94	26.24
5	28.18	27.78	27.52	27.43	26.75
6	28.66	28.27	28.01	27.92	27.25

* For fabrication only - Includes Total D.L.

GIRDERS	BEARING ABUTMENT 1	BEARING PIER	BEARING ABUTMENT 2
1 to 2	10'-7 1/4"	12'-2 3/16"	15'-1 3/8"
2 to 3	10'-6 3/16"	12'-0 3/16"	14'-8 1/8"
3 to 4	10'-5 7/8"	11'-10 5/16"	14'-4 3/16"
4 to 5	10'-4 1/8"	11'-8 1/2"	14'-1 1/16"
5 to 6	10'-3 1/8"	11'-6 13/16"	13'-9 5/8"

NOTES:

- For details of Diaphragms, Cross-Frames and Field Splice, See Sheet 20.
 - For details of Bearing and Joint Types and additional notes, See Sheet 21.
- ** Includes 381,608 Lbs A36 steel and 65,623 Lbs A588 steel. Bearings are included in the A36 steel.



GIRDER ELEVATION

NOT TO SCALE

GIRDER NO.	SPAN 1 L**	SPAN 2 L**	RADIUS	ANGLES*					SPAN 1		SPAN 2		SHEAR STUD SPACING	
				A	B	C	D**	E**	D**	E**	SPAN 1	SPAN 2		
1	108'-0"	129'-2 3/16"	938.92'	42°-30'-55"	35°-55'-29"	28°-02'-28"	71'-0"	17'-0"	31'-0"	98'-2 3/16"	92 Spcs. @ 9"	128 Spcs. @ 9"		
2	106'-9 3/16"	126'-8 1/2"	946.12'	42°-59'-19"	36°-31'-20"	28°-50'-57"	69'-5 3/16"	17'-0"	31'-0"	95'-8 1/2"	90 Spcs. @ 9"	125 Spcs. @ 9"		
3	105'-7 1/2"	124'-5"	963.32'	43°-27'-23"	37°-06'-10"	29°-37'-30"	69'-2 1/2"	16'-0"	31'-0"	93'-5"	90 Spcs. @ 9"	122 Spcs. @ 9"		
4	104'-6 7/16"	122'-3 3/16"	960.52'	43°-54'-09"	37°-40'-01"	30°-22'-19"	70'-2 1/4"	14'-0"	31'-0"	91'-3 3/16"	90 Spcs. @ 9"	119 Spcs. @ 9"		
5	103'-5"	120'-3 13/16"	967.72'	44°-20'-37"	38°-12'-56"	31°-08'-30"	69'-5"	14'-0"	30'-0"	90'-3 13/16"	90 Spcs. @ 9"	117 Spcs. @ 9"		
6	102'-6 1/16"	118'-5 7/8"	974.92'	44°-46'-29"	38°-45'-08"	31°-47'-10"	70'-5 1/8"	12'-0"	30'-0"	88'-5 7/8"	90 Spcs. @ 9"	115 Spcs. @ 9"		

* ANGLES ARE GIVEN AT INTERSECTION OF BEARINGS AND INSTANTANEOUS TANGENT OF GIRDER. ** ALL DIMENSIONS ARE MEASURED ALONG GIRDER.

REVISIONS

DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS
COOK COUNTY, ILLINOIS

GEORGE W. DIAMOND
PRESIDENT BOARD OF COMMISSIONERS

SUPERINTENDENT OF HIGHWAYS

STRUCTURAL STEEL FRAMING PLAN & DETAILS

STONY ISLAND CONNECTOR FAI 94
LINE E STRUCTURE

PROJECT - ERU 246(76)

SCALE - AS SHOWN

APPROVED: *[Signature]*
CHIEF ENGINEER

FAI Route No. 122
COUNTY HWY Route No. 174A
Sheet No. 19
Total Sheets 77
Drawing No.

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED - BAK	REVISED -
PLOT DATE = 03/29/2013	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 016-2471

SHEET NO. S-47 OF S-63 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	540

CONTRACT NO. 60J12

ILLINOIS FED. AID PROJECT