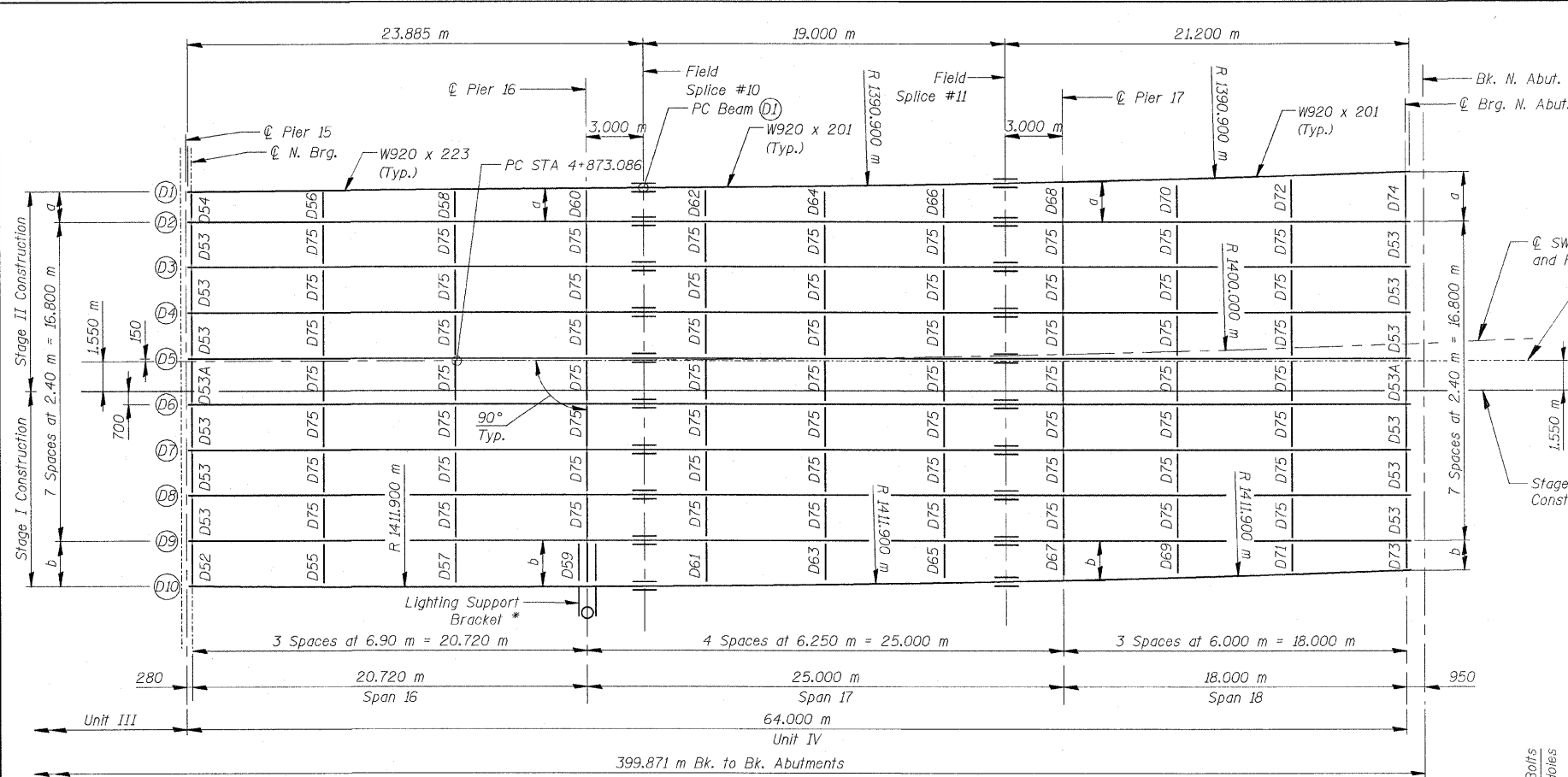


F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3578	15 VB-1-F	COOK	62	34
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 60H54				

LAYOUT DIMENSIONS (in meters)

	¢ N. Brg. Pier 15	¢ Brg. Pier 16	¢ Brg. Pier 17	¢ Brg. N. Abut.
a	1.617	1.764	2.114	2.642
b	2.382	2.434	2.092	1.571



PLAN

INTERIOR GIRDER REACTION TABLE

	Pier 15	Pier 16	Pier 17	N. Abut.
R _P	168.3	549.8	500.6	139.4
R _L	215.3	262.8	251.2	209.8
Imp.	55.0	64.7	63.3	56.2
R (Total)	438.6	877.3	815.1	405.4

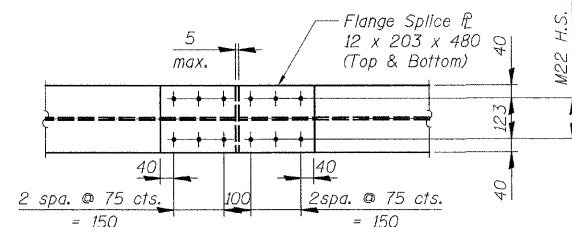
* See sheet SA39 for Lighting Support Bracket details.

INTERIOR GIRDER MOMENT TABLE

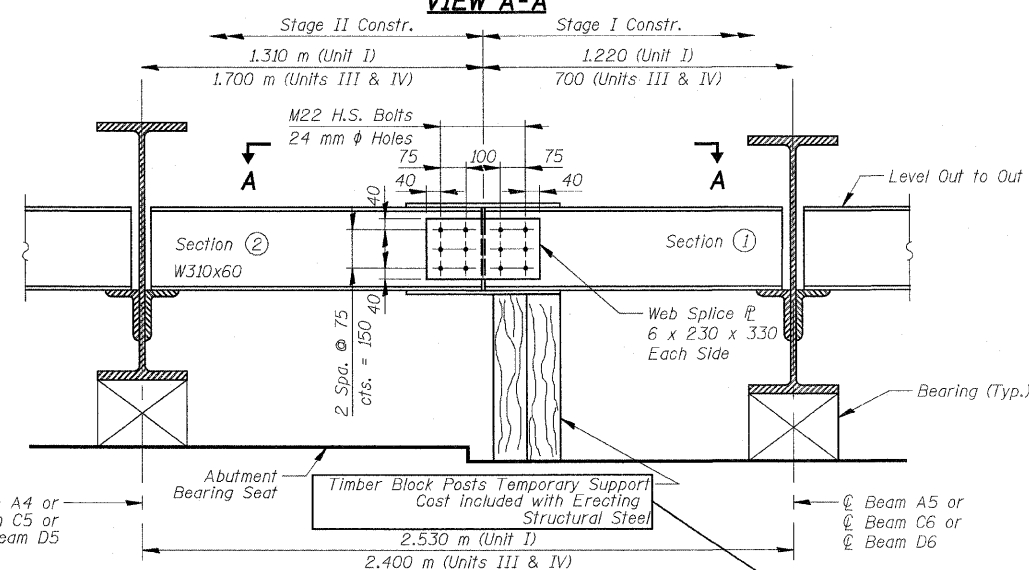
	0.4 Sp. 16	Pier 16	0.5 Sp. 17	Pier 17	0.6 Sp. 18
I _s	3,770	3,770	3,250	3,250	3,250
I _c (n)	9,649	9,649	8,727	8,727	8,727
I _c (sn)	7,149	7,149	6,490	6,490	6,490
S _s	8,280	8,280	7,200	7,200	7,200
S _c (n)	11,860	11,860	10,600	10,600	10,600
S _c (sn)	10,770	10,770	9,623	9,623	9,623
Z					
M	13.79	21.25	13.55	21.13	13.55
M _P	4.10	1,119	371	928	278
s _P	7.58		7.58		7.58
M _{sP}	247		266		176
M _L	812	498	850	439	673
M (Imp)	207	123	202	111	180
S ₃ [M _L +M(Imp)]	1,699	1,034	1,754	916	1,421
M _a	3,063	2,799	3,108	2,397	2,438
M _u	4,126		3,739		3,700
f _{sP} (non-comp)	49.52	135.14	51.54	128.90	38.63
f _{sP} (comp)	22.97		27.63		18.26
f _{s3/4+Imp}	143.22	124.85	165.46	127.23	134.07
f _s (Overload)	215.69	259.99	244.63	256.13	190.96
f _s (Total)		338.0		333.0	
VR	292		232		289

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 I_c(n) and S_c(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 I_c(sn) and S_c(sn) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (See AASHTO 10.38)
 VR is the maximum Live Load + Impact shear range in span.
 Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

M_a (Applied Moment) = 1.3[M_P + M_{sP} + S₃(M_L + M(Imp))].
 The Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1 and 10.50.1.1.
 f_s (Overload) is the sum of the stresses due to M_P + M_{sP} + S₃(M_L + M(Imp)).
 f_s (Total) (Non-compact section) is the sum of the stresses due to 1.3[M_P + M_{sP} + S₃(M_L + M(Imp))].



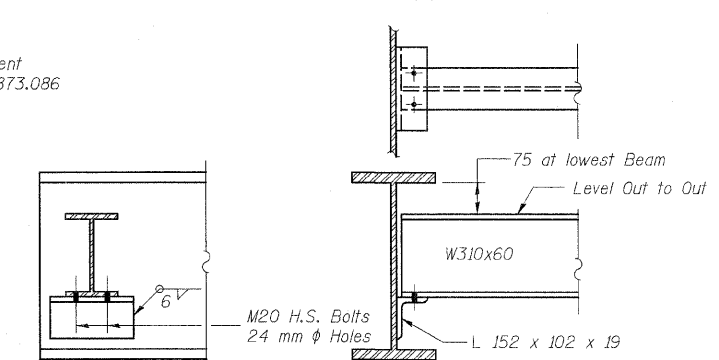
VIEW A-A



DIAPHRAGMS DIA, D7A & D53A

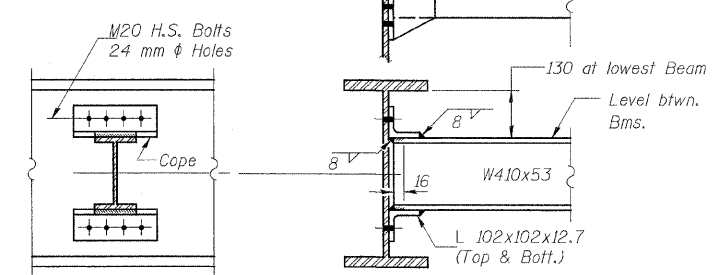
DIA, D7A - 1 Required
 D53A - 2 Required (Looking East)
 For details of connections to beams see Diaphragms D1, D7 & D53

NOT INCLUDED IN THIS CONTRACT



DIAPHRAGM D52 THRU D54, D73 & D74

- D52 - 1 Required
- D53 - 12 Required
- D54 - 1 Required
- D73 - 1 Required
- D74 - 1 Required



DIAPHRAGM D55 THRU D72 & D75

- D75 - 63 Required
- D55 thru D72 - 1 Required (18 total)

TOP OF BEAM ELEVATIONS (FOR FABRICATION ONLY)

	¢ N. Brg. Pier 15*	¢ Brg. Pier 16	¢ Field Splice #10	¢ Field Splice #11	¢ Brg. Pier 17	¢ Brg. N. Abut.
Beam D1	185.945	184.993	184.855	183.995	183.862	183.062
Beam D2	185.972	185.021	184.883	184.028	183.897	183.107
Beam D3	186.008	185.057	184.919	184.066	183.935	183.147
Beam D4	186.044	185.093	184.956	184.105	183.974	183.187
Beam D5	186.080	185.130	184.993	184.139	184.006	183.205
Beam D6	186.048	185.099	184.962	184.105	183.972	183.172
Beam D7	186.012	185.063	184.926	184.071	183.938	183.140
Beam D8	185.976	185.028	184.891	184.038	183.905	183.108
Beam D9	185.937	184.989	184.852	183.999	183.866	183.068
Beam D10	185.888	184.941	184.805	183.958	183.827	183.039

NOTES:

- Two hardened washers shall be required over all oversize holes for diaphragms.
- All dimensions are in millimeters (mm) except as noted.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION FRAMING PLAN - UNIT IV SOUTHWEST HIGHWAY OVER B&O RAILROAD AND STONY CREEK FAU 3578 SECTION 15 VB-1-F STRUCTURE NUMBER 016-2771 COOK COUNTY STATION 4+716.497
NAME	DATE	
		SCALE: NONE DATE: MAY 22, 2009
		DRAWN BY: E. Mroozek CHECKED BY: A. Yarglooglu

q:\cort\9556-a0\dr\awings\struc\Fabrication-plans\35-FAB-Framing Unit IV.dgn
 jvermillion(rwy.L)ise) 5/29/2009 10:02:27 PM

