

	0.4 Sp. 1 0.6 Sp. 3	Piers	0.5 Sp. 2
I_s	(in ⁴) 74941	130885	74941
I_c (n)	(in ⁴) 147685		147685
I_c (3n)	(in ⁴) 111715		111715
S_s	(in ³) 1839	3116	1839
S_c (n)	(in ³) 2324		2324
S_c (3n)	(in ³) 2136		2136
Z	(in ³)		
\bar{p}	(k/ft.) 1.150	1.570	1.150
$M\bar{p}$	(k) 1168	3392	1116
$s\bar{p}$	(k/ft.) 0.420		0.420
$Ms\bar{p}$	(k) 474		526
$M\bar{t}$	(k) 1176	1266	1204
M (Imp)	(k) 234	237	211
$S_3[M\bar{t} + M(\text{Imp})]$	(k) 2350	2505	2359
Ma	(k) 5190	7666	5201
Mu	(k) 5936		5936
$fs\bar{p}$ non-comp (k.s.i.)	7.7	13.1	7.3
$fs\bar{p}$ (comp) (k.s.i.)	2.7		3.0
$fsS_3(M\bar{t} + \text{Imp})$ (k.s.i.)	12.2	9.7	12.2
fs (Overload) (k.s.i.)	22.6	22.8	22.5
fs (Total) (k.s.i.)		29.6	
VR	(k) 61.4		58.7

	Abut.	Pier 1 or 2	Pier 3
$R\bar{p}$	(k) 72.1	251.2	74.0
$R\bar{t}$	(k) 45.9	92.8	45.9
Imp.	(k) 9.1	11.3	9.1
R (Total)	(k) 127.1	355.3	129.0

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing fs (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.
 $I_c(3n)$ and $S_c(3n)$ 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.
 Ma (Applied Moment) = $1.3[M\bar{p} + Ms\bar{p} + S_3(M\bar{t} + M(\text{Imp}))]$.
 The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.
 fs (Overload) is the sum of the stresses due to $M\bar{p} + Ms\bar{p} + S_3(M\bar{t} + M(\text{Imp}))$.
 fs (Total) (Non-compact section) is the sum of the stresses due to $1.3[M\bar{p} + Ms\bar{p} + S_3(M\bar{t} + M(\text{Imp}))]$.
 $R\bar{p}$ at Pier 3 includes Finger Joint weight.

BILL OF MATERIAL

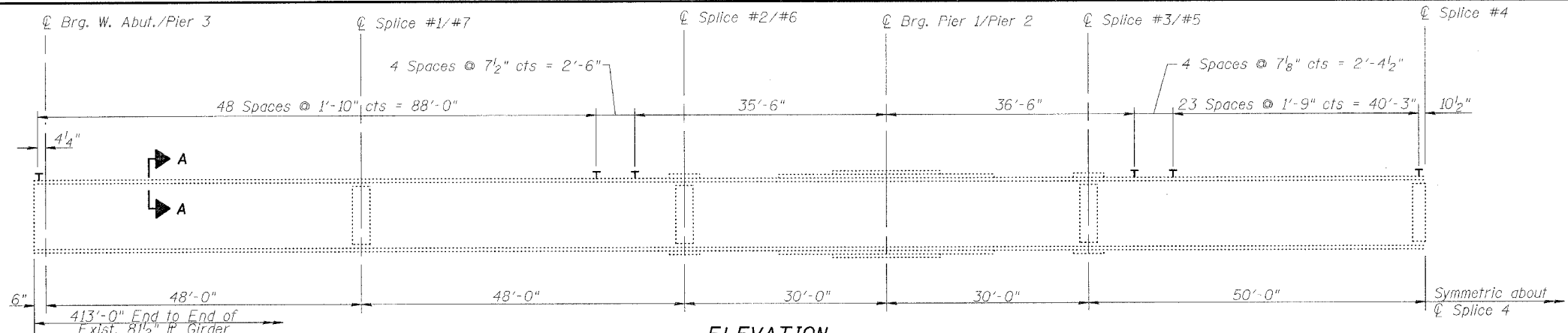
ITEM	UNIT	QUANTITY
Structural Steel Removal	Pound	17,520
Furnishing & Erecting Structural Steel	L Sum	1

ILLINOIS DEPARTMENT OF TRANSPORTATION

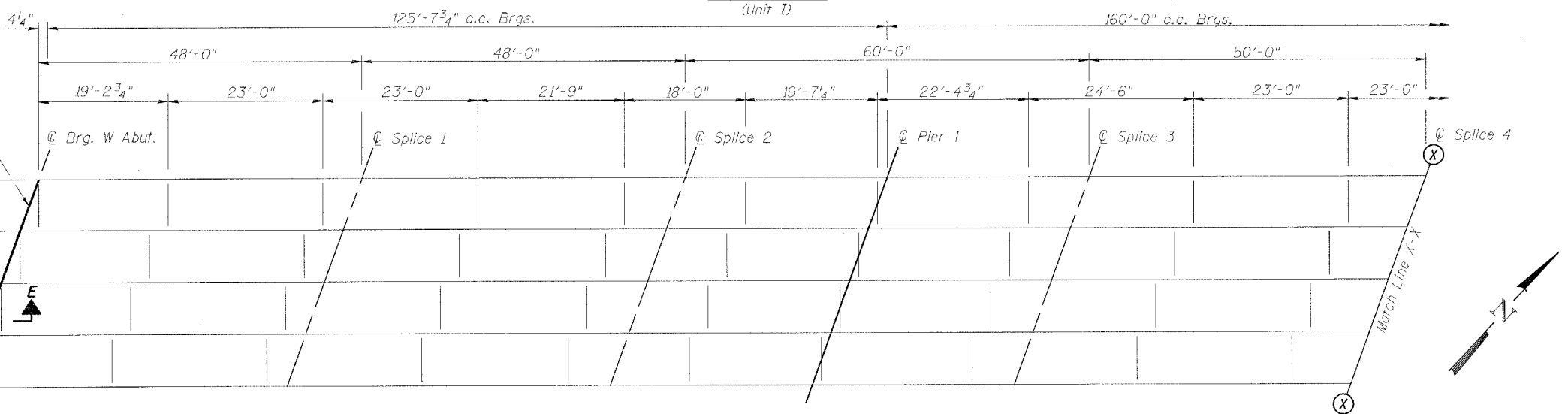
FRAMING PLAN UNIT I

OLD U.S. ROUTE 36 OVER
 SANGAMON RIVER
 F.A.U. ROUTE 7978
 SECTION BR-1
 SANGAMON COUNTY
 STA. 70+00.00
 STRUCTURE NUMBER 084-0052

DATE: JAN. 2005 DRAWN BY: NJV CHECKED BY: PBB



ELEVATION
(Unit 1)



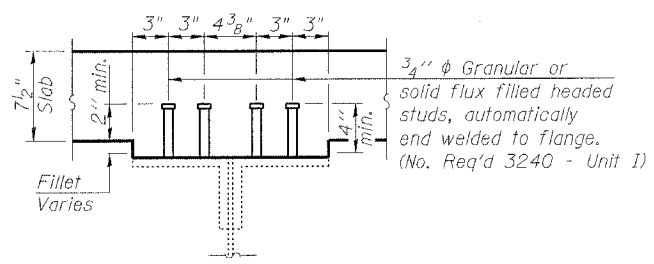
FRAMING PLAN
(Unit 1)

NOTES:

- Two hardened washers shall be required over all oversize holes at diaphragms.
- The cost of removing the existing diaphragms and Finger Joint to be included in the cost of Structural Steel Removal.
- The cost of the replacement diaphragms, hardware and painting to be included in the cost of Furnishing and Erecting Structural Steel. Cost of Field Drilling Holes in Beams included in the cost of Furnishing and Erecting Structural Steel.
- Existing dimensions to be field verified prior to ordering of material.
- See Sheet 16 of 25 for Section E-E.
- See Sheet 14 of 25 for Section C-C.

DIAPHRAGM REPLACEMENT:

- 1 Bottom L3 1/2"x3 1/2"x5/16"
 - 2 Bottom L 3 1/2"x3 1/2"x5/16" and South Gusset Plates Top & Bottom
 - 3 Top, Bottom and X-Brace L3 1/2"x3 1/2"x5/16" Including all 5/16" Gusset Plates.
- (See Sheet 16 of 25 for Diaphragm Details)



SECTION A-A