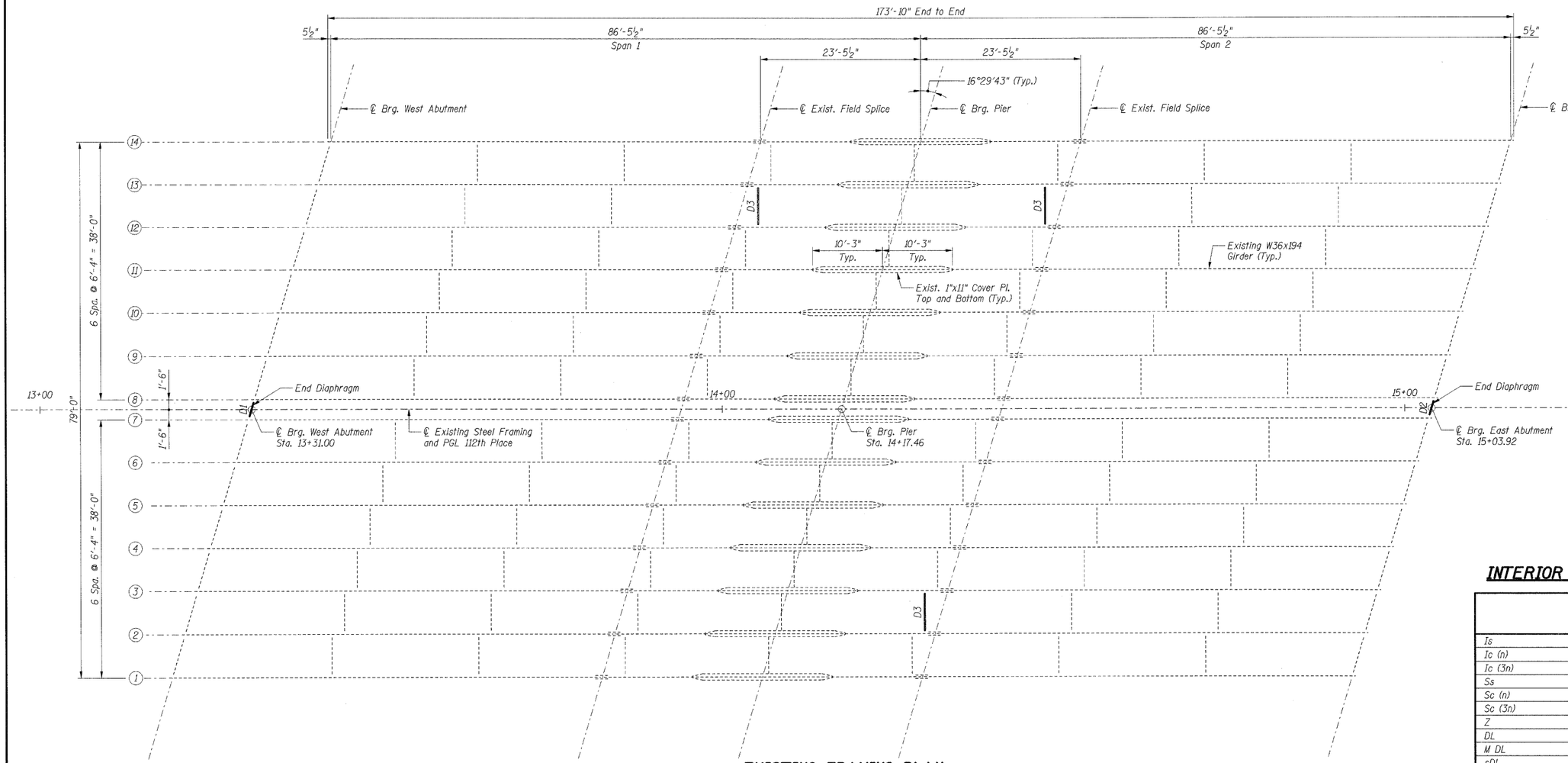
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	1920.1B-R	COOK	101	079
STA.		TO STA.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62533

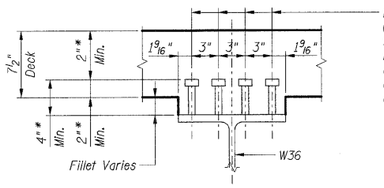


EXISTING FRAMING PLAN

(Existing W36 Composite Girders to Remain)

Notes:

1. For diaphragm details see Sheet S-014.
2. Diaphragms labeled D3 are to be removed and replaced as shown on Sheet S-014.



Existing $\frac{7}{8}$" ϕ stud shear connectors to remain. (total number of existing studs = 7168) Shear connectors damaged during deck removal shall be replaced by the Contractor at the Contractor's expense with $\frac{7}{8}$" ϕ granular or solid flux filled headed studs automatically end welded to flange.

EXISTING SHEAR CONNECTOR DETAIL

* Stud heights and vertical clearances apply to replacement studs (if required).

INTERIOR GIRDER REACTION TABLE

		Abutments	Pier
R DL	(k)	40.8	140.0
R LL	(k)	40.4	53.9
Imp.	(k)	9.6	12.7
R (Total)	(k)	90.8	206.6

INTERIOR GIRDER MOMENT TABLE

		0.4 Span 1 or 0.6 Span 2	Pier
Is	(in^4)	12100	19830
Ic (n)	(in^4)	28065	
Ic (3n)	(in^4)	20202	
Ss	(in^3)	664	1030
Sc (n)	(in^3)	923	
Sc (3n)	(in^3)	825	
Z	(in^3)		
DL	(k/ft)	0.846	1.350
M DL	(k-ft)	416	1261
sDL	(k/ft)	0.429	
M sDL	(k-ft)	230	
M LL	(k-ft)	613	457
M (Imp)	(k-ft)	145	108
5/3 [M LL + M (Imp)]	(k-ft)	1263	943
Ma	(k-ft)	2481	2865
Mu	(k-ft)	2809	
fs DL (non-comp)	(ksi)	7.5	14.7
fs DL (comp)	(ksi)	3.3	
fs 5/3 [M LL + M (Imp)]	(ksi)	16.4	11.0
fs (Overload)	(ksi)	27.3	25.7
fs (Total)	(ksi)		33.4
VR	(k)	54.0	

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total and Overload).
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs (Total and Overload).
VR is the maximum Live Load + Impact shear range within the composite portion of the span.
Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.
Ma (Applied Moment) = 1.3 [M DL + M sDL + 5/3 (M LL + M (Imp))].
Mu is the maximum bending strength. (compact, braced section)
fs (Overload) is the sum of the stresses due to M DL + M sDL + 5/3 (M LL + M (Imp)).
fs (Total) is the sum of the stresses due to 1.3 [M DL + M sDL + 5/3 (M LL + M (Imp))]. (non-compact section)

SHT. S-013

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 57 (INTERSTATE 57)
112TH PLACE BRIDGE DECK REPLACEMENT
112th PLACE OVER I-57
SN 016-0988 STA. 546+15.56
COOK COUNTY

STEEL FRAMING PLAN

DRAWN BY: CCE
DATE: 01/16/09 CHECKED BY: JLR

TENG

TENG & ASSOCIATES, INC.
ENGINEERS/ARCHITECTS/PLANNERS
205 N. MICHIGAN AVE., CHICAGO, IL 60601
TELEPHONE: 312.616.0000

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