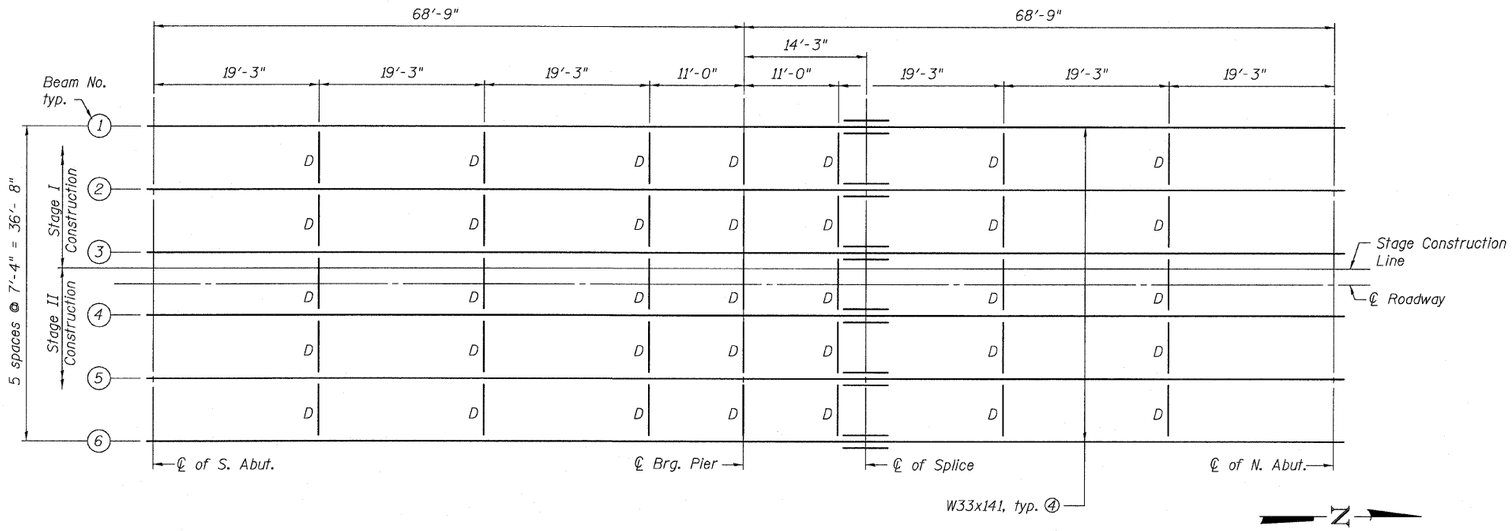
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

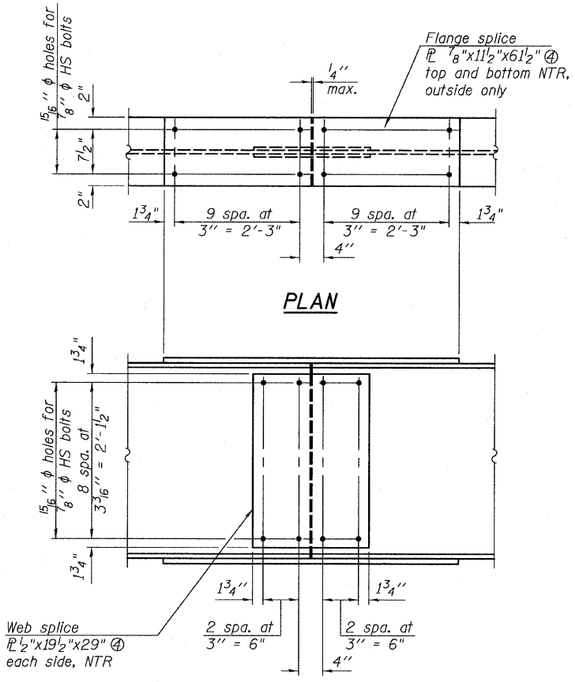
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	119BR-2	GRUNDY	52	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
24 SHEETS

Contract #66688



PLAN



ELEVATION

SPLICE DETAIL

(6 Required)

INTERIOR GIRDER MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in^4)	7450	7450
$I_c(n)$	(in^4)	19447	———
$I_c(3n)$	(in^4)	14423	———
S_s	(in^3)	448	448
$S_c(n)$	(in^3)	645	———
$S_c(3n)$	(in^3)	586	———
Z	(in^3)	———	514
$\wp$	(k/')	0.908	1.397
$M\wp$	('k)	300.4	769.9
$s\wp$	(k/')	0.489	———
$M_s\wp$	('k)	184.0	———
M_L	('k)	549.6	300.0
M_{IM}	('k)	141.8	77.4
$\frac{5}{3}[M_L + I]$	('k)	1152.3	629.0
M_a	('k)	2127.7	1818.6
M_u	('k)	3220.2	2108.2
f_s $\wp$ non-comp	(ksi)	8.05	14.37
f_s $\wp$ (comp)	(ksi)	3.77	6.25
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	21.44	16.85
f_s (Overload)	(ksi)	33.26	37.47
f_s (Total)	(ksi)	———	———
VR	(k)	59.7	———

INTERIOR BEAM REACTION TABLE			
		N. & S. Abut.	Pier
$R\wp$	(k)	36.8	118.4
R_L	(k)	45.3	52.1
R_I	(k)	11.7	9.9
R_{Total}	(k)	93.8	180.4

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: 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 and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Z: Plastic Section Modulus of the steel section in non-composite areas ($in.^3$).

$\wp$: Un-factored non-composite dead load (kips/ft.).

$M\wp$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\wp$: Un-factored long-term composite (superimposed) dead load (kips/ft.)

$M_s\wp$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Un-factored live load moment (kip-ft.).

M_I: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.).
$1.3\ [\ M\wp + M_s\wp + \frac{5}{3}(M_L + M_I)]$

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\wp + M_s\wp + \frac{5}{3}(M_L + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\wp + M_s\wp + \frac{5}{3}(M_L + M_I)]$

VR: Maximum L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

Notes:
1. For beam elevation and details, see sheet 13 of 24.
2. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor bolts.
3. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
4. AASHTO M 270 Grade 50W steel.
5. Diaphragms between beam lines 3 and 4 shall be installed during stage II construction.

FRAMING PLAN
IL 47 OVER WEST FORK MAZON RIVER
FAP ROUTE 326 - SECTION 119BR-2
GRUNDY COUNTY
STATION 466+07.00
STRUCTURE NO. 032-0116

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