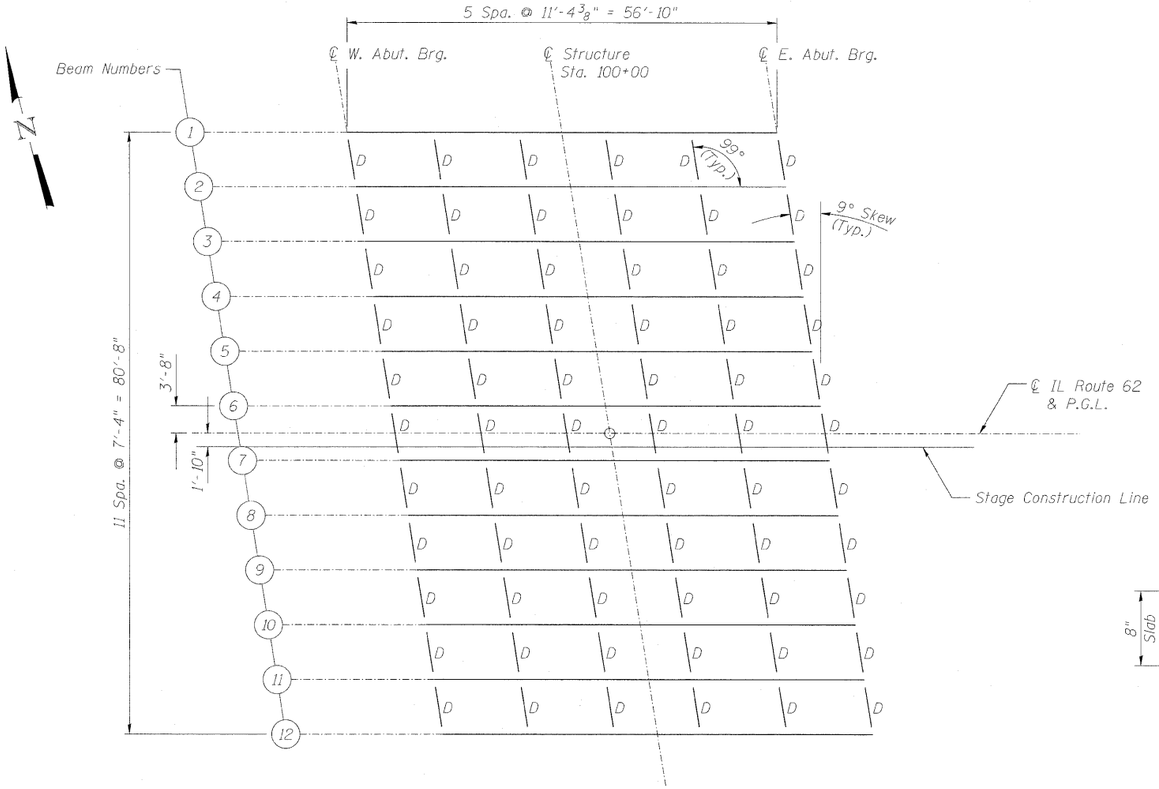
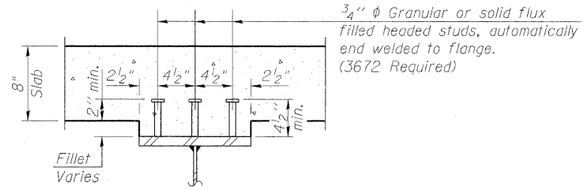
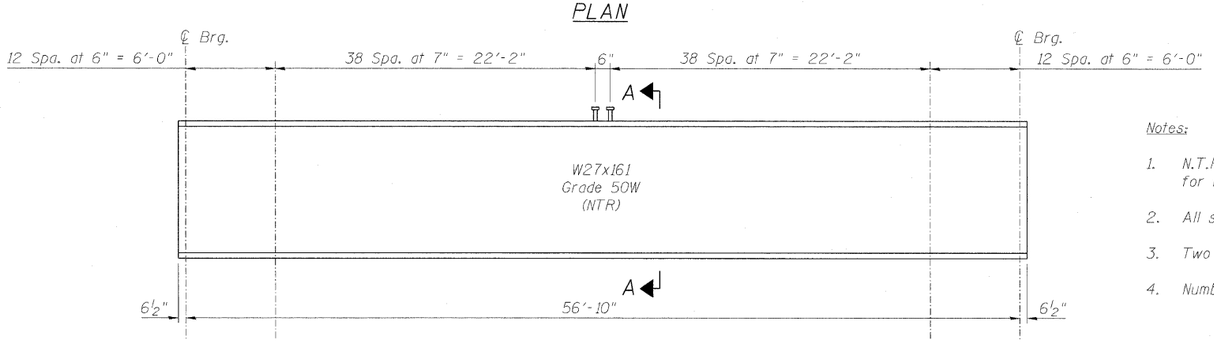
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



SECTION A-A



GIRDER ELEVATION

Notes:

1. N.T.R. designates members suject to the supplemental requirements for notch toughness (Zone 2).
2. All structural steel for beams shall be AASHTO M270 Grade 50W.
3. Two hardened washers are required over all oversized holes.
4. Number of shear connectors required, 306x12 beams = 3672.

INTERIOR GIRDER MOMENT TABLE		
		0.5 Span
I_s	(in^4)	6,310
$I_c(n)$	(in^4)	15,700
$I_c(3n)$	(in^4)	11,400
S_s	(in^3)	457
$S_c(n)$	(in^3)	642
$S_c(3n)$	(in^3)	580
DC1	(k/')	0.930
M_{DC1}	('k)	375
DC2	(k/')	0.240
M_{DC2}	('k)	97
DW	(k/')	0.370
M_{DW}	('k)	149
M_{L+IM}	('k)	873
M_u (Strength I)	('k)	2,342
$\phi_f M_{nc}$	('k)	3,042
f_s DC1	(ksi)	9.8
f_s DC2	(ksi)	2.0
f_s DW	(ksi)	3.1
f_s 1.3(L+IM)	(ksi)	21.2
f_s (Service II)	(ksi)	36.1
V_f	(k)	45.9

INTERIOR GIRDER REACTION TABLE		
		Abutments
R_{DC1}	(k)	27.3
R_{DC2}	(k)	6.9
R_{DW}	(k)	10.6
R_{L+IM}	(k)	83.7
R_{Total}	(k)	128.5

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) 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-Strength I, and Service II) 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-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+IM}$

V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

TOP OF BEAM ELEVATIONS - BEFORE DEFLECTION
(For Fabrication use only)

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7	Beam 8	Beam 9	Beam 10	Beam 11	Beam 12
℄ Brg. E. Abut.	699.793	699.939	700.085	700.231	700.377	700.522	700.521	700.372	700.224	700.075	699.926	699.777
℄ Brg. W. Abut.	699.571	699.727	699.883	700.038	700.194	700.349	700.357	700.219	700.080	699.941	699.802	699.663

FRAMING PLAN DETAILS
STRUCTURE NO. 016-0581

DESIGNED	MAH
CHECKED	JMH
DRAWN	DR
CHECKED	JMH

COLLINS ENGINEERS INC
123 N. WACKER DR., SUITE 300
CHICAGO, IL 60606
(312) 704-9300
ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000993

SHEET NO. S17 OF S27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116-Y-2-BR-1	COOK	74	37
		CONTRACT NO. 60J00		
	ILLINOIS	FED. AID PROJECT		