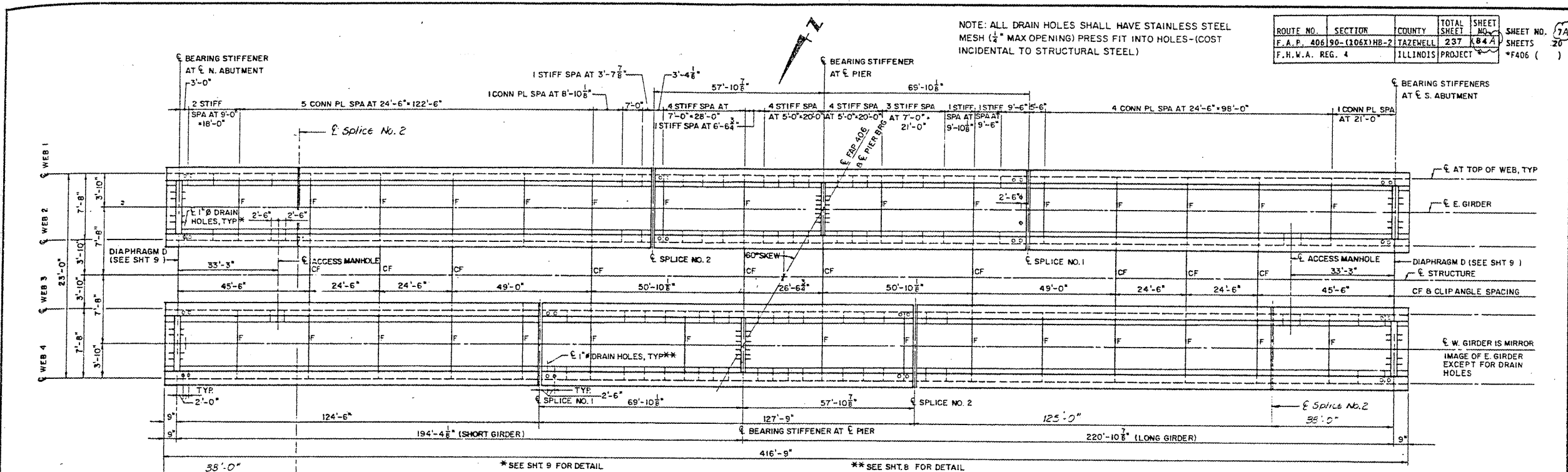


INFORMATION ONLY

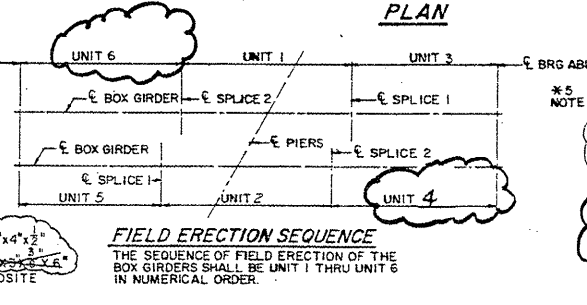
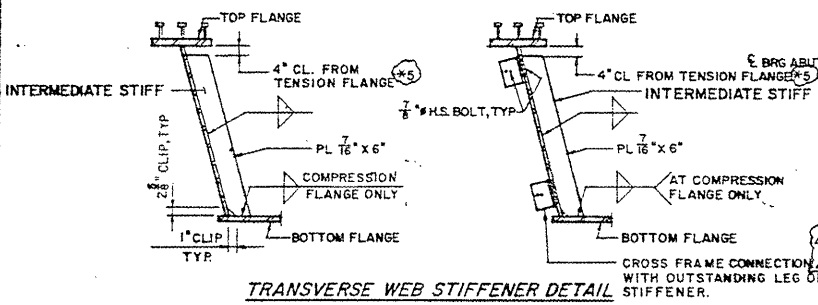
TWIN 72" WEB, 3 SIDED BOX GIRDER TO BE PAINTED

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VARIOUS	D4 BRIDGE PAINTING 09	TAZEWELL	12	7b



NOTE: ALL DRAIN HOLES SHALL HAVE STAINLESS STEEL MESH (1/4" MAX OPENING) PRESS FIT INTO HOLES - (COST INCIDENTAL TO STRUCTURAL STEEL)

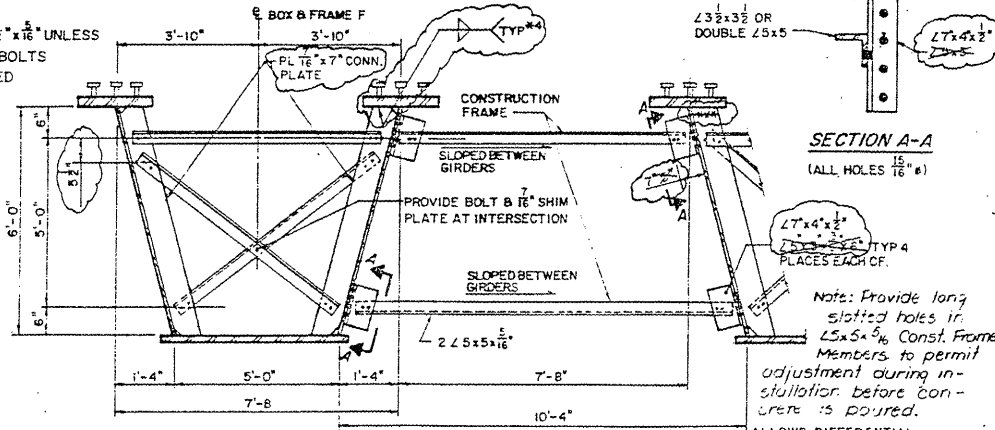
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 406190-(106X)HB-2		TAZEWELL	237	84A
F.H.W.A. REG. 4		ILLINOIS	PROJECT	*F406 ()



*5 NOTE: FOR UNITS 1 & 2, TENSION FLANGES ARE TOP FLANGES FOR UNITS 3, 4, 5 & 6, TENSION FLANGES ARE BOTTOM FLANGES

NOTE: ALL ANGLES ARE 3/2" x 3/2" x 1/8" UNLESS NOTED. ALL BOLTS ARE 5/8" H.S. BOLTS IN 1/2" HOLES & WITH HARDENED WASHERS UNLESS NOTED.

**WELD ALL 1/8" x 7" CONNECTION PLATES TO BOTH FLANGES AT CROSS FRAME LOCATIONS SHOWN AS "F" IN PLAN.



DESIGNED	JFJ
CHECKED	WCC
DRAWN	DEH
CHECKED	WCC

TYPICAL BOX GIRDER CROSS SECTION
NOTE: FRAMES F SHALL BE INSTALLED IN THE SHOP & SHALL REMAIN IN PLACE TO STIFFEN THE GIRDERS DURING ERECTION, PLACEMENT & CURING OF THE CONCRETE DECK. AFTER WHICH THESE FRAMES SHALL BE REMOVED & DISPOSED OF.

CONSTRUCTION FRAME (CF) — ALLOWS DIFFERENTIAL DEFLECTION OF BOXES
NOTE: CONSTRUCTION FRAMES SHALL BE PLACED IN THE FIELD & SHALL REMAIN IN PLACE TO STIFFEN THE GIRDERS DURING ERECTION, PLACEMENT & CURING OF THE CONCRETE DECK AFTER WHICH THESE FRAMES ALONG WITH ANGLES & THE DECK FORM SHALL BE REMOVED. PLACE 1/2" BOLT IN HOLES IN WEB PL.

GENERAL	0.4 SHORT SPAN	PIER	0.6 LONG SPAN
	BRACED-COMPOSITE NON-COMPACT		
Is (in.4)	161,295	393,256	236,898
Ic (in.4) (n=9)	295,757	422,583	401,380
Ss (in.3)	4349	10,870	6508
Sc (in.3) (N=9)	5347	11,091	7601
Sc (in.3) (N=27)	4919	11,098	7089
Z (in.3)	N/A		
DL (K/ft.)	2.081	2.699	2.287
MDL (ft.K)	3849	15,374	7561
sDL (K/ft.)	0.735	0.735	0.735
M ₂ DL (ft.K)	1493	4592	2464
MLL (ft.K)	3283	4928	4179
MIMP (ft.K)	514	744	604
5/3 (MLL + I) (ft.K)	6328	9453	7972
Mo (ft.K)	15,171	38,245	23,397
Mu (ft.K)	N/A		
fsDL (non-comp) (k.s.i.)	10.6	17.0	13.9
fsDL (comp) (k.s.i.) (n=27)	3.6	5.0	4.2
fs 5/3(LL + I) (k.s.i.)	14.2	10.2	12.6
fs (Overload) (k.s.i.)	28.4	32.2	30.7
fs (Total) (k.s.i.)	36.9	41.9	39.9
Allowable fs (Total) (k.s.i.)	48.4	49.4	48.1
Allowable fs (Overload) (k.s.i.)	47.5	47.5	47.5
VR (K)	137.7		

* fs (Total) = 1.3x [fsDL (non-comp) + fsDL (comp) + fs 5/3 (LL + I)]
* Allowable fs varies from Fy = 50 k.s.i. by the reduction required for Composite Hybrid Girders
See Sht 10 for Girder Reactions at Bearings

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 LL + impact shear range in span.
Z is the plastic section modulus used to determine fully plastic moments for compact braced section in non composite areas.
fs (Total) is the sum of the stresses due to 1.3 [MDL + M₂DL + 5/3 (MLL + I)].
fs (Overload) is the sum of the stresses due to MDL + M₂DL + 5/3 (MLL + I).
M DL - Moment due to dead loads on non-composite section.
M₂DL - Moment due to superimposed dead loads on composite section.
M LL - Moment due to live load on non-composite or composite section.
Mu - Full plastic moment capacity for compact braced section.
I - Live load impact.
Ms = Applied Moment = 1.3 [M DL + M₂DL + 5/3 (MLL + I)]

ELEVATION & PLAN VIEW