CONTRACT *72541

FAU 8071	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	201

(84-9-4)A,HBK,BY,BY-1 * 02-00382-02-PV

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GRADING & STRUCTURES
PROPOSED HIGHWAY PLANS

F.A.U. ROUTE 8071 (MACARTHUR BLVD) AND F.A. I. ROUTE 72 (I–72)
SECTION (84–9–4)A,HBK,BY,BY–1 AND SECTION 02–00382–02–PV

SANGAMON COUNTY
C–96–523–04

VOLUME II
STRUCTURE PLANS

HANSON

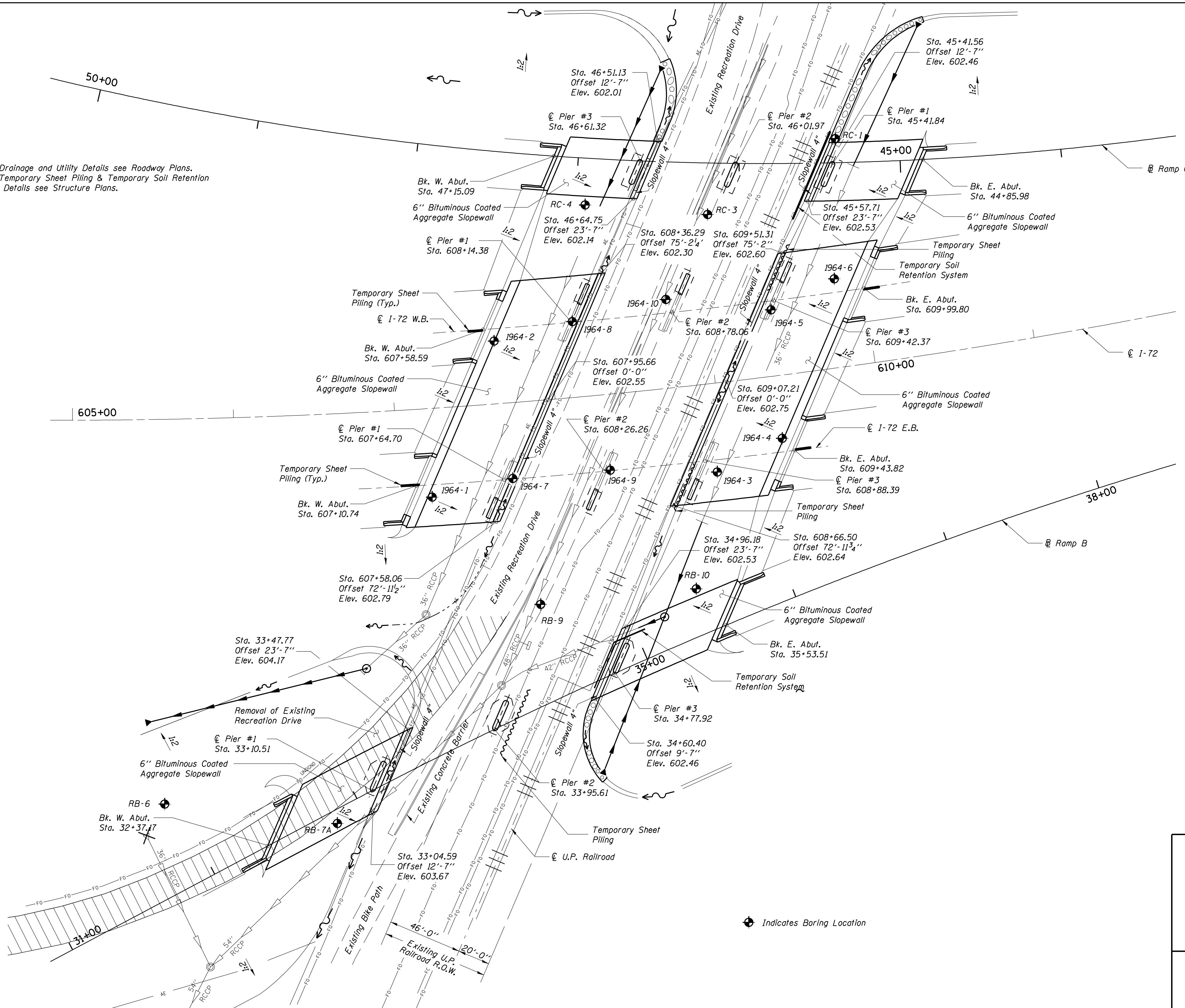
12/16/2006

CONTRACT * 72541

FAU ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
8071	*	SANGAMON	559	202
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (84-9-4)A,HBK,BY,BY-

Note:
For Drainage and Utility Details see Roadway Plans.
For Temporary Sheet Piling & Temporary Soil Retention System Details see Structure Plans.



N

30 0 30 60

Indicates Boring Location

Corporate License Number 184-001-084

STRUCTURES OVER U.P. RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STRUCTURE NO. 084-0074 (I-72 E.B.)
STRUCTURE NO. 084-0075 (I-72 W.B.)
STRUCTURE NO. 084-0514 (RAMP B)
STRUCTURE NO. 084-0516 (RAMP C)

HANSON

JOB# 96S2002B

DATE: 01/10/06

PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.O.W. CHECKED / CADD FILE NAME — NOTE BOOK NO. — BY — DATE

HANSON

PROFILE — SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED / STRUCTURE NOTAT'NS CH'KD — NOTE BOOK NO. — BY — DATE

12/16/2006
$FILE$

LAYOUT	CLG	04/28/06
DRAWN	CLG	04/28/06
REVIEWED	JAD/JMM	04/28/06

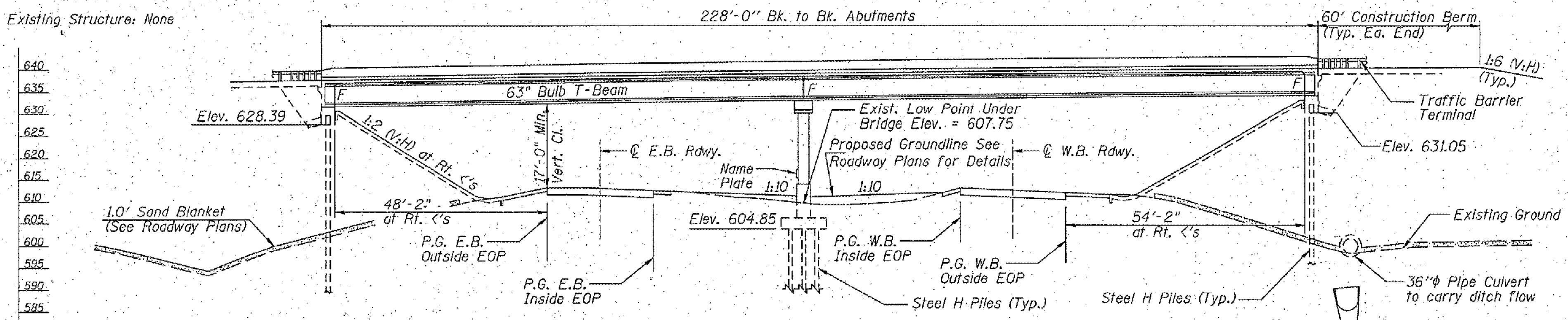
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	203
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

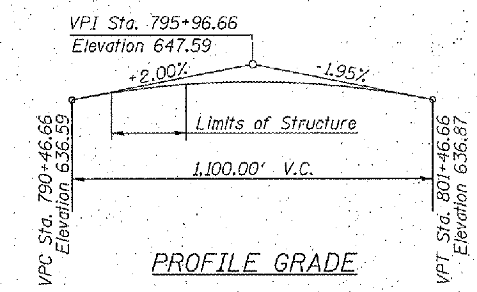
SHEET NO. 01
24 SHEETS

Bench Marks:
IDOT BM #15 Chiseled square at the southeast quadrant of the intersection of West Grand Avenue and Hazel Dell Road. Benchmark is located 33 feet south of the centerline of Hazel Dell Road on a headwall of a concrete pipe culvert. NAVD88 El. 602.47
IDOT BM #80 Chiseled cross on the center bolt of the east leg of an iron sign truss over the eastbound lane of Interstate 72. Benchmark is located 1.62 miles east of Il Route 4. NAVD88 El. 601.28
IDOT BM #0150 Disk in monument vault on survey calibration baseline. Benchmark is located 13 feet north of the centerline of Hazel Dell Road and 0.5 miles west of the intersection of Hazel Dell Road and West Grand Avenue. NAVD88 El. 600.47
IDOT BM #374 Railroad spike in power pole west of a bike path and southeast of Recreation Drive. Benchmark is located 0.81 miles south of the intersection of West Grand Avenue and Hazel Dell Road. NAVD88 El. 604.61

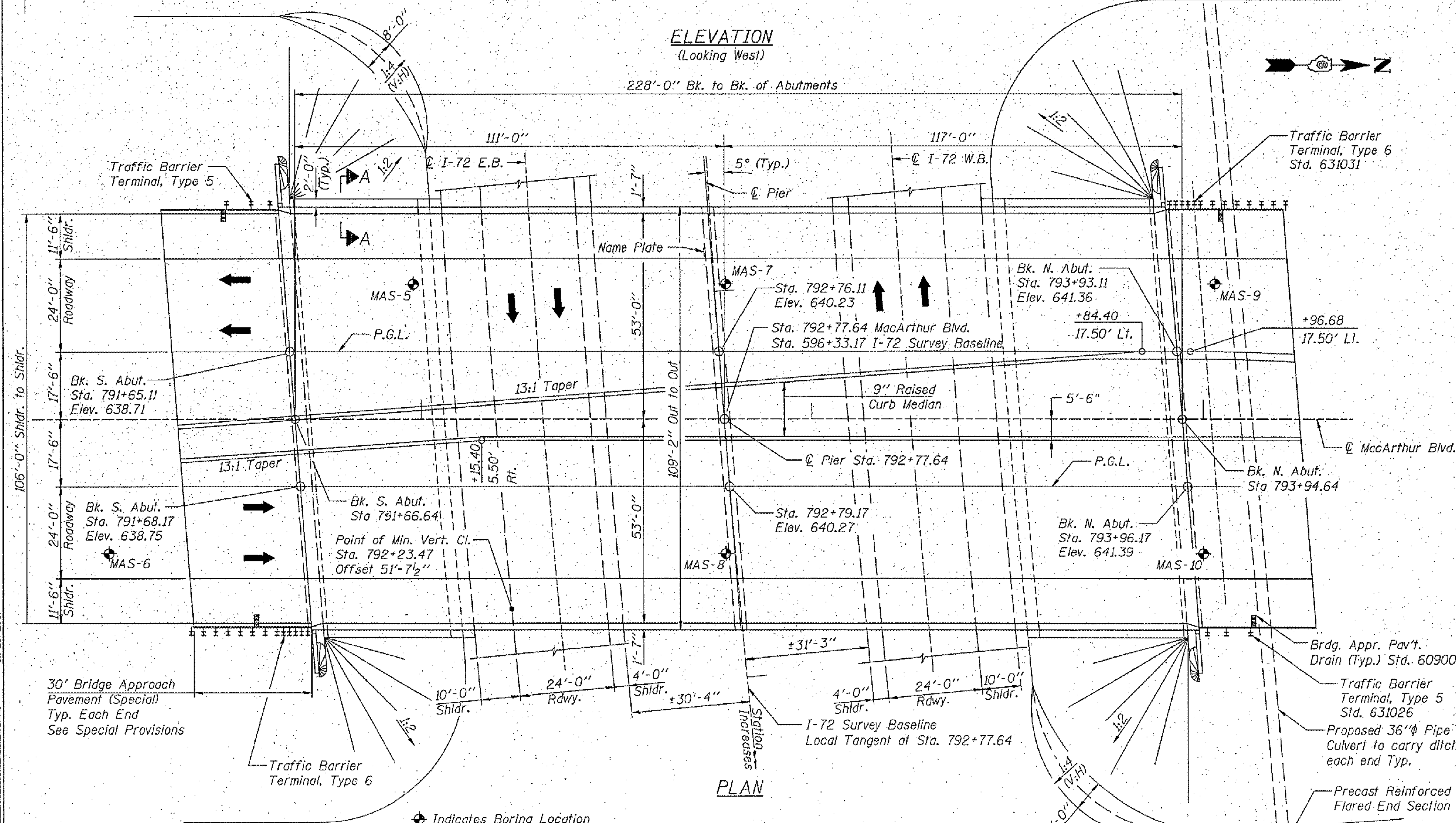
Existing Structure: None



ELEVATION
(Looking West)



PROFILE GRADE

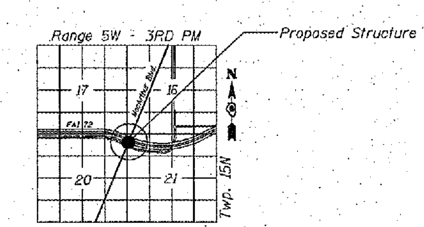


PLAN

◆ Indicates Boring Location

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

CURVE DATA
(I-72 Survey Baseline)
P.I. STA= 607+25.73
Δ= 36° 03' 13" (Lt.)
D= 01° 36' 09"
R= 3,575.66'
T= 1,163.65'
L= 2,250'
E= 184.58'
P.C. STA= 595+62.07
P.T. STA= 618+12.07
e= 4.5%
S.E. ATTN: 594+35 TO 596+35
617+52 TO 619+52



LOCATION SKETCH

DESIGN SPECIFICATIONS
AASHTO 2002

LOADING HS20-44
Allow 50 psf for future wearing surface.

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.05g
Site Coefficient (S) = 2.0

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (reinf.)

PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
f's = 270,000 psi (1/2"ϕ low lax strands)
fsi = 201,960 psi (1/2"ϕ low lax strands)

JAMES W. MOLL 4376 REGISTERED STRUCTURAL ENGINEER OF ILLINOIS
SIGNATURE:
DATE SIGNED: 1-26-07
LISC. EXP. DATE: 11-30-08

Corporate License Number 184-001-084

GENERAL PLAN AND ELEVATION
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB: 96S2002B
DATE: 02/02/05

LAYOUT	MNH	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JRM	02/02/05

H:\96JOBS\96s2002B\Struct\SN 084-0513.dgn 01/26/2007

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	204
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

SHEET NO. 02
24 SHEETS

Along I-72 E.B. Outside EOP		Along I-72 E.B. Inside EOP		Along I-72 W.B. Outside EOP		Along I-72 W.B. Inside EOP	
Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation
595+79.47	612.63	595+80.93	611.96	595+86.82	612.52	595+85.28	613.24
596+28.78	614.16	596+30.57	613.21	596+37.79	613.87	596+35.90	614.70
596+78.14	615.62	596+80.27	614.73	596+88.82	615.37	596+86.58	615.75

I-72 PAVEMENT ELEVATIONS

(The I-72 EB & WB pavement elevations shown were adjusted from surveyed elevations to account for a future mill of ¼" and an overlay of 3¾")

INDEX OF SHEETS

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The Contractor shall drive one HP12x74 test pile in a permanent location at each abutment and one HP10x57 test pile in a permanent location at the pier as directed by the Engineer before ordering the remainder of piles.

Slope wall shall be reinforced with welded wire fabric 6''x6'' - W4.0xW4.0 weighing 58 lbs. per 100 Sq. Ft.

When the deck pour is stopped for the day at one or more of the transverse Bonded Construction Joints in the deck Pouring Sequence as shown, the next pour shall not be made until both of the following requirements are met:

1. At least 72 hours shall have elapsed from the end of the previous pour.

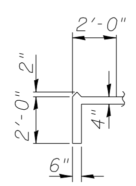
2. The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

All construction joints shall be bonded.

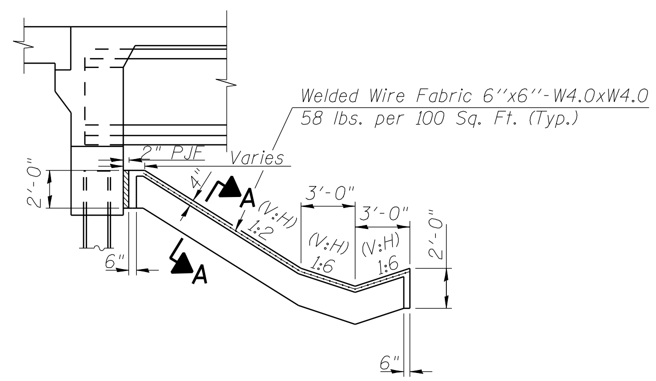
The piles at the abutments shall be driven through 18'' ϕ diameter pre-cored holes extending down to Elev. 602.0 at S. Abut. and 600.0 at N. Abut. or to the present ground elevation whichever occurs first. The annular spacing around the pile shall then be backfilled with dry loose sand. The cost of complying with these requirements shall be included with driving steel piles.

The Steel H-piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent the Nominal Required Bearing indicated in the pile data information.

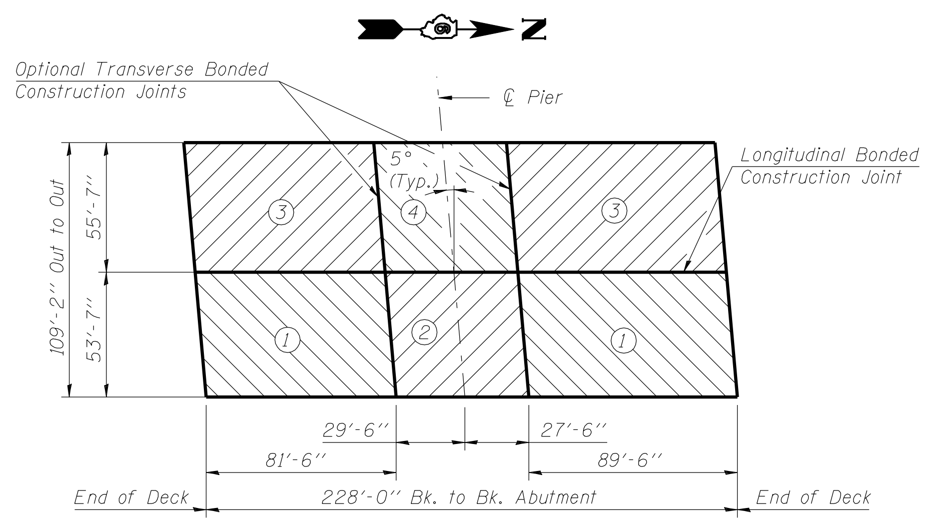


SECTION A-A



SECTION THRU SLOPEWALL

(Dimensions @ Rt. <'s to Bk. of Abutment)



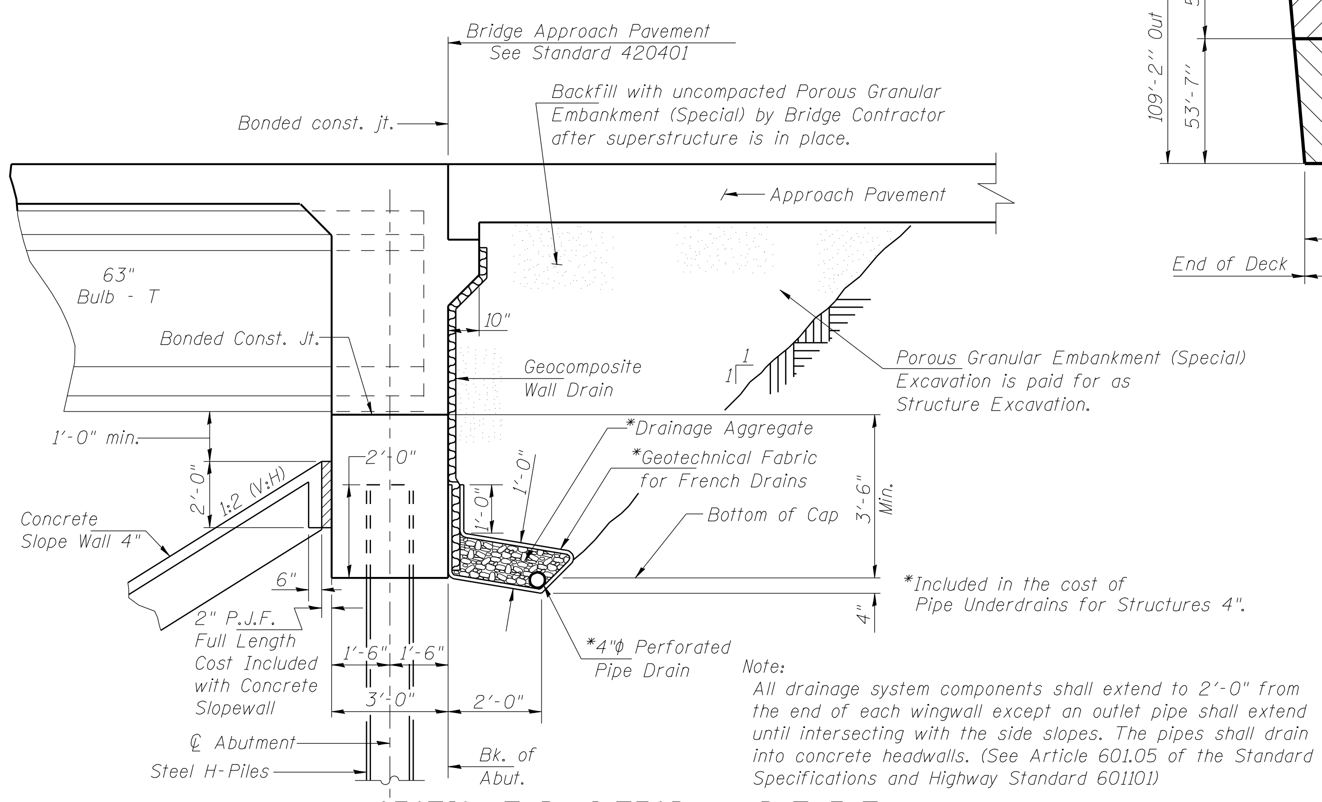
DECK POURING SEQUENCE

The concrete deck segments shall be poured in the numerical order shown above. The deck segments on either side of the bonded construction joint may be poured in one continuous operation without the optional transverse joints shown, subject to the Engineer's approval.

A delay of 21 days shall be provided after completion of deck pour 2

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.	-	662	662
Structure Excavation	Cu. Yd.	-	764	764
Concrete Structures	Cu. Yd.	-	379.4	379.4
Concrete Superstructure	Cu. Yd.	952.5	-	952.5
Bridge Deck Grooving	Sq. Yd.	2248	-	2248
Protective Coat	Sq. Yd.	2910	-	2910
Furnishing and Erecting Precast Prestressed Concrete Bulb-T-Beams 63''	Foot	4065	-	4065
Reinforcement Bars, Epoxy Coated	Pounds	184760	78500	263260
Slope wall 4 inches	Sq. Yd.	-	1187	1187
Furnishing Steel Piles HP10x57	Foot	-	1640	1640
Furnishing Steel Piles HP12x74	Foot	-	2244	2244
Driving Piles	Foot	-	3884	3884
Test Pile Steel HP10x57	Each	-	1	1
Test Pile Steel HP12x74	Each	-	2	2
Name Plates	Each	-	1	1
Bar Splicers	Each	800	-	800
Pipe Underdrains for Structures 4"	Foot	-	303	303
Geocomposite Wall Drain	Sq. Yd.	-	238	238
Concrete Encasement	Cu. Yd.	-	12.6	12.6



Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

SECTION THRU INTEGRAL ABUTMENT

(Dimensions @ Rt. <'s to Bk. of Abutment)

STATION 792+77.64
BUILT 20__ BY
STATE OF ILLINOIS
F.A.U. RT. 8071 SEC. (84-9-4)A,HBK,BY,BY-1
LOADING HS20-44
STR. NO. 084-0513

NAME PLATE

See Std. 515001

Corporate License Number 184-001-084

GENERAL NOTES & BILL OF MATERIAL
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB#: 96S2002B
DATE: 02/02/05

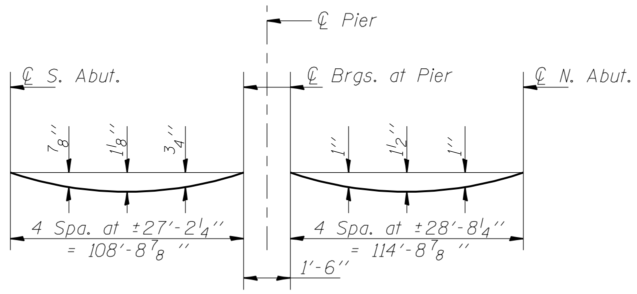
$FILE$
12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	205
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

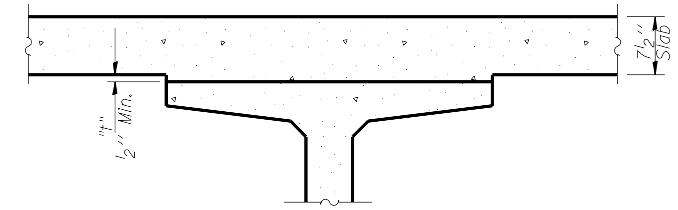
SHEET NO. 03
24 SHEETS



DEAD LOAD DEFLECTION DIAGRAM

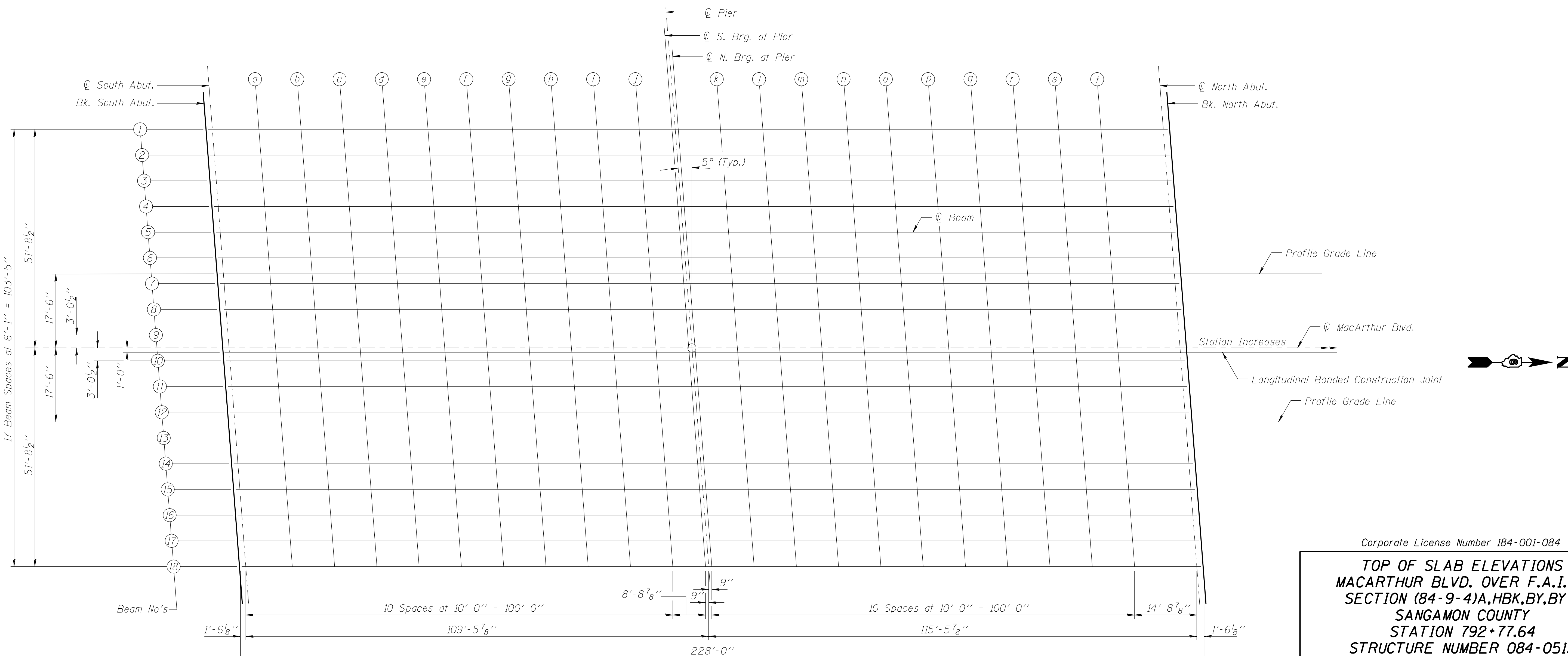
(Includes weight of concrete, excluding beams).

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 04 thru 07 of 24



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals on the diagrammatic plan. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS



DIAGRAMMATIC PLAN

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B

DATE: 02/02/05

$FILE$ 12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+62.12	-51.71	637.95	637.95
℄ S. Abut.	791+63.63	-51.71	637.97	637.97
a	791+73.63	-51.71	638.13	638.15
b	791+83.63	-51.71	638.28	638.33
c	791+93.63	-51.71	638.43	638.50
d	792+03.63	-51.71	638.57	638.66
e	792+13.63	-51.71	638.72	638.81
f	792+23.63	-51.71	638.85	638.94
g	792+33.63	-51.71	638.99	639.07
h	792+43.63	-51.71	639.12	639.19
i	792+53.63	-51.71	639.25	639.29
j	792+63.63	-51.71	639.37	639.39
℄ S. Brg. at Pier	792+72.37	-51.71	639.48	639.48
℄ Pier	792+73.12	-51.71	639.49	639.49
℄ N. Brg. at Pier	792+73.87	-51.71	639.50	639.50
k	792+83.87	-51.71	639.61	639.64
l	792+93.87	-51.71	639.72	639.78
m	793+03.87	-51.71	639.83	639.92
n	793+13.87	-51.71	639.94	640.04
o	793+23.87	-51.71	640.04	640.15
p	793+33.87	-51.71	640.14	640.26
q	793+43.87	-51.71	640.24	640.34
r	793+53.87	-51.71	640.33	640.42
s	793+63.87	-51.71	640.42	640.49
t	793+73.87	-51.71	640.50	640.54
℄ N. Abut.	793+88.60	-51.71	640.62	640.62
Bk. N. Abut.	793+90.12	-51.71	640.63	640.63

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+62.65	-45.63	638.08	638.08
℄ S. Abut.	791+64.16	-45.63	638.11	638.11
a	791+74.16	-45.63	638.26	638.29
b	791+84.16	-45.63	638.42	638.47
c	791+94.16	-45.63	638.56	638.64
d	792+04.16	-45.63	638.71	638.79
e	792+14.16	-45.63	638.85	638.94
f	792+24.16	-45.63	638.99	639.08
g	792+34.16	-45.63	639.12	639.20
h	792+44.16	-45.63	639.25	639.32
i	792+54.16	-45.63	639.38	639.43
j	792+64.16	-45.63	639.51	639.53
℄ S. Brg. at Pier	792+72.90	-45.63	639.61	639.61
℄ Pier	792+73.65	-45.63	639.62	639.62
℄ N. Brg. at Pier	792+74.40	-45.63	639.63	639.63
k	792+84.40	-45.63	639.74	639.77
l	792+94.40	-45.63	639.86	639.92
m	793+04.40	-45.63	639.97	640.05
n	793+14.40	-45.63	640.07	640.17
o	793+24.40	-45.63	640.17	640.29
p	793+34.40	-45.63	640.27	640.39
q	793+44.40	-45.63	640.37	640.47
r	793+54.40	-45.63	640.46	640.55
s	793+64.40	-45.63	640.55	640.62
t	793+74.40	-45.63	640.63	640.68
℄ N. Abut.	793+89.13	-45.63	640.75	640.75
Bk. N. Abut.	793+90.65	-45.63	640.76	640.76

BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+63.18	-39.54	638.22	638.22
℄ S. Abut.	791+64.69	-39.54	638.24	638.24
a	791+74.69	-39.54	638.40	638.42
b	791+84.69	-39.54	638.55	638.60
c	791+94.69	-39.54	638.70	638.77
d	792+04.69	-39.54	638.84	638.93
e	792+14.69	-39.54	638.98	639.08
f	792+24.69	-39.54	639.12	639.21
g	792+34.69	-39.54	639.26	639.34
h	792+44.69	-39.54	639.39	639.46
i	792+54.69	-39.54	639.51	639.56
j	792+64.69	-39.54	639.64	639.66
℄ S. Brg. at Pier	792+73.43	-39.54	639.74	639.74
℄ Pier	792+74.18	-39.54	639.75	639.75
℄ N. Brg. at Pier	792+74.93	-39.54	639.76	639.76
k	792+84.93	-39.54	639.88	639.91
l	792+94.93	-39.54	639.99	640.05
m	793+04.93	-39.54	640.10	640.18
n	793+14.93	-39.54	640.20	640.30
o	793+24.93	-39.54	640.31	640.42
p	793+34.93	-39.54	640.40	640.52
q	793+44.93	-39.54	640.50	640.60
r	793+54.93	-39.54	640.59	640.68
s	793+64.93	-39.54	640.68	640.75
t	793+74.93	-39.54	640.76	640.81
℄ N. Abut.	793+89.66	-39.54	640.88	640.88
Bk. N. Abut.	793+91.18	-39.54	640.89	640.89

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+63.71	-33.46	638.35	638.35
℄ S. Abut.	791+65.22	-33.46	638.38	638.38
a	791+75.22	-33.46	638.53	638.56
b	791+85.22	-33.46	638.68	638.74
c	791+95.22	-33.46	638.83	638.90
d	792+05.22	-33.46	638.98	639.06
e	792+15.22	-33.46	639.12	639.21
f	792+25.22	-33.46	639.26	639.35
g	792+35.22	-33.46	639.39	639.47
h	792+45.22	-33.46	639.52	639.59
i	792+55.22	-33.46	639.65	639.69
j	792+65.22	-33.46	639.77	639.79
℄ S. Brg. at Pier	792+73.96	-33.46	639.88	639.88
℄ Pier	792+74.71	-33.46	639.89	639.89
℄ N. Brg. at Pier	792+75.46	-33.46	639.89	639.89
k	792+85.46	-33.46	640.01	640.04
l	792+95.46	-33.46	640.12	640.18
m	793+05.46	-33.46	640.23	640.32
n	793+15.46	-33.46	640.34	640.44
o	793+25.46	-33.46	640.44	640.55
p	793+35.46	-33.46	640.54	640.65
q	793+45.46	-33.46	640.63	640.74
r	793+55.46	-33.46	640.72	640.82
s	793+65.46	-33.46	640.81	640.88
t	793+75.46	-33.46	640.89	640.94
℄ N. Abut.	793+90.20	-33.46	641.01	641.01
Bk. N. Abut.	793+91.71	-33.46	641.02	641.02

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+64.24	-27.38	638.49	638.49
℄ S. Abut.	791+65.75	-27.38	638.51	638.51
a	791+75.75	-27.38	638.67	638.69
b	791+85.75	-27.38	638.82	638.87
c	791+95.75	-27.38	638.97	639.04
d	792+05.75	-27.38	639.11	639.19
e	792+15.75	-27.38	639.25	639.34
f	792+25.75	-27.38	639.39	639.48
g	792+35.75	-27.38	639.52	639.60
h	792+45.75	-27.38	639.65	639.72
i	792+55.75	-27.38	639.78	639.83
j	792+65.75	-27.38	639.90	639.93
℄ S. Brg. at Pier	792+74.49	-27.38	640.01	640.01
℄ Pier	792+75.24	-27.38	640.02	640.02
℄ N. Brg. at Pier	792+75.99	-27.38	640.03	640.03
k	792+85.99	-27.38	640.14	640.17
l	792+95.99	-27.38	640.26	640.31
m	793+05.99	-27.38	640.36	640.45
n	793+15.99	-27.38	640.47	640.57
o	793+25.99	-27.38	640.57	640.68
p	793+35.99	-27.38	640.67	640.79
q	793+45.99	-27.38	640.76	640.87
r	793+55.99	-27.38	640.85	640.95
s	793+65.99	-27.38	640.94	641.02
t	793+75.99	-27.38	641.02	641.07
℄ N. Abut.	793+90.73	-27.38	641.14	641.14
Bk. N. Abut.	793+92.24	-27.38	641.15	641.15

BEAM #6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+64.78	-21.29	638.62	638.62
℄ S. Abut.	791+66.29	-21.29	638.65	638.65
a	791+76.29	-21.29	638.80	638.83
b	791+86.29	-21.29	638.95	639.01
c	791+96.29	-21.29	639.10	639.17
d	792+06.29	-21.29	639.25	639.33
e	792+16.29	-21.29	639.39	639.48
f	792+26.29	-21.29	639.52	639.61
g	792+36.29	-21.29	639.66	639.74
h	792+46.29	-21.29	639.79	639.86
i	792+56.29	-21.29	639.92	639.96
j	792+66.29	-21.29	640.04	640.06
℄ S. Brg. at Pier	792+75.03	-21.29	640.14	640.14
℄ Pier	792+75.78	-21.29	640.15	640.15
℄ N. Brg. at Pier	792+76.53	-21.29	640.16	640.16
k	792+86.53	-21.29	640.28	640.31
l	792+96.53	-21.29	640.39	640.45
m	793+06.53	-21.29	640.50	640.58
n	793+16.53	-21.29	640.60	640.70
o	793+26.53	-21.29	640.70	640.81
p	793+36.53	-21.29	640.80	640.92
q	793+46.53	-21.29	640.89	641.00
r	793+56.53	-21.29	640.98	641.08
s	793+66.53	-21.29	641.07	641.15
t	793+76.53	-21.29	641.16	641.20
℄ N. Abut.	793+91.27	-21.29	641.27	641.27
Bk. N. Abut.	793+92.78	-21.29	641.28	641.28

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B

DATE: 02/02/05

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

$FILE$
12/16/2006

WEST PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+65.11	-17.50	638.71	638.71
℄ S. Abut.	791+66.62	-17.50	638.73	638.73
a	791+76.62	-17.50	638.89	638.91
b	791+86.62	-17.50	639.04	639.09
c	791+96.62	-17.50	639.19	639.26
d	792+06.62	-17.50	639.33	639.41
e	792+16.62	-17.50	639.47	639.56
f	792+26.62	-17.50	639.61	639.70
g	792+36.62	-17.50	639.74	639.82
h	792+46.62	-17.50	639.87	639.94
i	792+56.62	-17.50	640.00	640.04
j	792+66.62	-17.50	640.12	640.14
℄ S. Brg. at Pier	792+75.36	-17.50	640.23	640.23
℄ Pier	792+76.11	-17.50	640.23	640.23
℄ N. Brg. at Pier	792+76.86	-17.50	640.24	640.24
k	792+86.86	-17.50	640.36	640.39
l	792+96.86	-17.50	640.47	640.53
m	793+06.86	-17.50	640.58	640.66
n	793+16.86	-17.50	640.68	640.78
o	793+26.86	-17.50	640.78	640.90
p	793+36.86	-17.50	640.88	641.00
q	793+46.86	-17.50	640.98	641.08
r	793+56.86	-17.50	641.07	641.16
s	793+66.86	-17.50	641.15	641.23
t	793+76.86	-17.50	641.24	641.28
℄ N. Abut.	793+91.59	-17.50	641.35	641.35
Bk. N. Abut.	793+93.11	-17.50	641.36	641.36

BEAM #7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+65.31	-15.21	638.76	638.76
℄ S. Abut.	791+66.82	-15.21	638.78	638.78
a	791+76.82	-15.21	638.94	638.96
b	791+86.82	-15.21	639.09	639.14
c	791+96.82	-15.21	639.24	639.31
d	792+06.82	-15.21	639.38	639.46
e	792+16.82	-15.21	639.52	639.61
f	792+26.82	-15.21	639.66	639.75
g	792+36.82	-15.21	639.79	639.87
h	792+46.82	-15.21	639.92	639.99
i	792+56.82	-15.21	640.05	640.10
j	792+66.82	-15.21	640.17	640.19
℄ S. Brg. at Pier	792+75.56	-15.21	640.28	640.28
℄ Pier	792+76.31	-15.21	640.28	640.28
℄ N. Brg. at Pier	792+77.06	-15.21	640.29	640.29
k	792+87.06	-15.21	640.41	640.44
l	792+97.06	-15.21	640.52	640.58
m	793+07.06	-15.21	640.63	640.71
n	793+17.06	-15.21	640.73	640.83
o	793+27.06	-15.21	640.83	640.95
p	793+37.06	-15.21	640.93	641.05
q	793+47.06	-15.21	641.03	641.13
r	793+57.06	-15.21	641.12	641.21
s	793+67.06	-15.21	641.20	641.28
t	793+77.06	-15.21	641.29	641.33
℄ N. Abut.	793+91.80	-15.21	641.40	641.40
Bk. N. Abut.	793+93.31	-15.21	641.41	641.41

BEAM #8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+65.84	-9.13	638.89	638.89
℄ S. Abut.	791+67.35	-9.13	638.92	638.92
a	791+77.35	-9.13	639.07	639.10
b	791+87.35	-9.13	639.22	639.27
c	791+97.35	-9.13	639.37	639.44
d	792+07.35	-9.13	639.52	639.60
e	792+17.35	-9.13	639.66	639.75
f	792+27.35	-9.13	639.79	639.88
g	792+37.35	-9.13	639.93	640.01
h	792+47.35	-9.13	640.06	640.12
i	792+57.35	-9.13	640.18	640.23
j	792+67.35	-9.13	640.30	640.33
℄ S. Brg. at Pier	792+76.09	-9.13	640.41	640.41
℄ Pier	792+76.84	-9.13	640.42	640.42
℄ N. Brg. at Pier	792+77.59	-9.13	640.43	640.43
k	792+87.59	-9.13	640.54	640.57
l	792+97.59	-9.13	640.65	640.71
m	793+07.59	-9.13	640.76	640.85
n	793+17.59	-9.13	640.87	640.96
o	793+27.59	-9.13	640.97	641.08
p	793+37.59	-9.13	641.06	641.18
q	793+47.59	-9.13	641.16	641.26
r	793+57.59	-9.13	641.25	641.34
s	793+67.59	-9.13	641.33	641.41
t	793+77.59	-9.13	641.42	641.46
℄ N. Abut.	793+92.33	-9.13	641.53	641.53
Bk. N. Abut.	793+93.84	-9.13	641.54	641.54

BEAM #9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+66.38	-3.04	639.03	639.03
℄ S. Abut.	791+67.88	-3.04	639.05	639.05
a	791+77.88	-3.04	639.21	639.23
b	791+87.88	-3.04	639.36	639.41
c	791+97.88	-3.04	639.51	639.58
d	792+07.88	-3.04	639.65	639.73
e	792+17.88	-3.04	639.79	639.88
f	792+27.88	-3.04	639.93	640.02
g	792+37.88	-3.04	640.06	640.14
h	792+47.88	-3.04	640.19	640.26
i	792+57.88	-3.04	640.32	640.36
j	792+67.88	-3.04	640.44	640.46
℄ S. Brg. at Pier	792+76.63	-3.04	640.54	640.54
℄ Pier	792+77.38	-3.04	640.55	640.55
℄ N. Brg. at Pier	792+78.13	-3.04	640.56	640.56
k	792+88.13	-3.04	640.67	640.70
l	792+98.13	-3.04	640.79	640.84
m	793+08.13	-3.04	640.89	640.98
n	793+18.13	-3.04	641.00	641.10
o	793+28.13	-3.04	641.10	641.21
p	793+38.13	-3.04	641.20	641.31
q	793+48.13	-3.04	641.29	641.39
r	793+58.13	-3.04	641.38	641.47
s	793+68.13	-3.04	641.47	641.54
t	793+78.13	-3.04	641.55	641.59
℄ N. Abut.	793+92.86	-3.04	641.66	641.66
Bk. N. Abut.	793+94.38	-3.04	641.68	641.68

℄ MACARTHUR BLVD.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+66.64	0.00	639.10	639.10
℄ S. Abut.	791+68.15	0.00	639.12	639.12
a	791+78.15	0.00	639.27	639.30
b	791+88.15	0.00	639.43	639.48
c	791+98.15	0.00	639.57	639.64
d	792+08.15	0.00	639.72	639.80
e	792+18.15	0.00	639.86	639.95
f	792+28.15	0.00	639.99	640.08
g	792+38.15	0.00	640.13	640.21
h	792+48.15	0.00	640.26	640.33
i	792+58.15	0.00	640.38	640.43
j	792+68.15	0.00	640.50	640.53
℄ S. Brg. at Pier	792+76.89	0.00	640.61	640.61
℄ Pier	792+77.64	0.00	640.62	640.62
℄ N. Brg. at Pier	792+78.39	0.00	640.63	640.63
k	792+88.39	0.00	640.74	640.77
l	792+98.39	0.00	640.85	640.91
m	793+08.39	0.00	640.96	641.05
n	793+18.39	0.00	641.06	641.16
o	793+28.39	0.00	641.16	641.28
p	793+38.39	0.00	641.26	641.38
q	793+48.39	0.00	641.36	641.46
r	793+58.39	0.00	641.45	641.54
s	793+68.39	0.00	641.53	641.61
t	793+78.39	0.00	641.61	641.66
℄ N. Abut.	793+93.13	0.00	641.73	641.73
Bk. N. Abut.	793+94.64	0.00	641.74	641.74

LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+66.73	1.00	639.08	639.08
℄ S. Abut.	791+68.23	1.00	639.10	639.10
a	791+78.23	1.00	639.26	639.28
b	791+88.23	1.00	639.41	639.46
c	791+98.23	1.00	639.55	639.63
d	792+08.23	1.00	639.70	639.78
e	792+18.23	1.00	639.84	639.93
f	792+28.23	1.00	639.97	640.06
g	792+38.23	1.00	640.11	640.19
h	792+48.23	1.00	640.24	640.31
i	792+58.23	1.00	640.36	640.41
j	792+68.23	1.00	640.48	640.51
℄ S. Brg. at Pier	792+76.98	1.00	640.59	640.59
℄ Pier	792+77.73	1.00	640.60	640.60
℄ N. Brg. at Pier	792+78.48	1.00	640.61	640.61
k	792+88.48	1.00	640.72	640.75
l	792+98.48	1.00	640.83	640.89
m	793+08.48	1.00	640.94	641.03
n	793+18.48	1.00	641.04	641.14
o	793+28.48	1.00	641.14	641.26
p	793+38.48	1.00	641.24	641.36
q	793+48.48	1.00	641.34	641.44
r	793+58.48	1.00	641.42	641.52
s	793+68.48	1.00	641.51	641.59
t	793+78.48	1.00	641.59	641.64
℄ N. Abut.	793+93.21	1.00	641.71	641.71
Bk. N. Abut.	793+94.73	1.00	641.72	641.72

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB: 96S2002B
DATE: 02/02/05

$FILE$ 12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	208
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 06
24 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No. 72541

BEAM #10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+66.91	3.04	639.04	639.04
℄ S. Abut.	791+68.41	3.04	639.06	639.06
a	791+78.41	3.04	639.22	639.24
b	791+88.41	3.04	639.37	639.42
c	791+98.41	3.04	639.51	639.59
d	792+08.41	3.04	639.66	639.74
e	792+18.41	3.04	639.80	639.89
f	792+28.41	3.04	639.93	640.02
g	792+38.41	3.04	640.07	640.15
h	792+48.41	3.04	640.20	640.27
i	792+58.41	3.04	640.32	640.37
j	792+68.41	3.04	640.44	640.47
℄ S. Brg. at Pier	792+77.16	3.04	640.55	640.55
℄ Pier	792+77.91	3.04	640.56	640.56
℄ N. Brg. at Pier	792+78.66	3.04	640.57	640.57
k	792+88.66	3.04	640.68	640.71
l	792+98.66	3.04	640.79	640.85
m	793+08.66	3.04	640.90	640.99
n	793+18.66	3.04	641.00	641.10
o	793+28.66	3.04	641.10	641.21
p	793+38.66	3.04	641.20	641.32
q	793+48.66	3.04	641.29	641.40
r	793+58.66	3.04	641.38	641.48
s	793+68.66	3.04	641.47	641.54
t	793+78.66	3.04	641.55	641.60
℄ N. Abut.	793+93.39	3.04	641.67	641.67
Bk. N. Abut.	793+94.91	3.04	641.68	641.68

BEAM #11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+67.44	9.13	638.92	638.92
℄ S. Abut.	791+68.95	9.13	638.94	638.94
a	791+78.95	9.13	639.10	639.12
b	791+88.95	9.13	639.25	639.30
c	791+98.95	9.13	639.39	639.47
d	792+08.95	9.13	639.54	639.62
e	792+18.95	9.13	639.68	639.77
f	792+28.95	9.13	639.81	639.90
g	792+38.95	9.13	639.95	640.03
h	792+48.95	9.13	640.08	640.15
i	792+58.95	9.13	640.20	640.25
j	792+68.95	9.13	640.32	640.35
℄ S. Brg. at Pier	792+77.69	9.13	640.43	640.43
℄ Pier	792+78.44	9.13	640.44	640.44
℄ N. Brg. at Pier	792+79.19	9.13	640.44	640.44
k	792+89.19	9.13	640.56	640.59
l	792+99.19	9.13	640.67	640.73
m	793+09.19	9.13	640.78	640.86
n	793+19.19	9.13	640.88	640.98
o	793+29.19	9.13	640.98	641.09
p	793+39.19	9.13	641.08	641.20
q	793+49.19	9.13	641.17	641.28
r	793+59.19	9.13	641.26	641.36
s	793+69.19	9.13	641.35	641.42
t	793+79.19	9.13	641.43	641.47
℄ N. Abut.	793+93.92	9.13	641.55	641.55
Bk. N. Abut.	793+95.44	9.13	641.56	641.56

BEAM #12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+67.97	15.21	638.80	638.80
℄ S. Abut.	791+69.48	15.21	638.82	638.82
a	791+79.48	15.21	638.98	639.00
b	791+89.48	15.21	639.13	639.18
c	791+99.48	15.21	639.28	639.35
d	792+09.48	15.21	639.42	639.50
e	792+19.48	15.21	639.56	639.65
f	792+29.48	15.21	639.69	639.78
g	792+39.48	15.21	639.83	639.91
h	792+49.48	15.21	639.96	640.03
i	792+59.48	15.21	640.08	640.13
j	792+69.48	15.21	640.20	640.22
℄ S. Brg. at Pier	792+78.22	15.21	640.31	640.31
℄ Pier	792+78.97	15.21	640.32	640.32
℄ N. Brg. at Pier	792+79.72	15.21	640.32	640.32
k	792+89.72	15.21	640.44	640.47
l	792+99.72	15.21	640.55	640.61
m	793+09.72	15.21	640.66	640.74
n	793+19.72	15.21	640.76	640.86
o	793+29.72	15.21	640.86	640.97
p	793+39.72	15.21	640.96	641.07
q	793+49.72	15.21	641.05	641.16
r	793+59.72	15.21	641.14	641.23
s	793+69.72	15.21	641.23	641.30
t	793+79.72	15.21	641.31	641.35
℄ N. Abut.	793+94.45	15.21	641.42	641.42
Bk. N. Abut.	793+95.97	15.21	641.43	641.43

EAST PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+68.17	17.50	638.75	638.75
℄ S. Abut.	791+69.68	17.50	638.78	638.78
a	791+79.68	17.50	638.93	638.96
b	791+89.68	17.50	639.08	639.13
c	791+99.68	17.50	639.23	639.30
d	792+09.68	17.50	639.37	639.46
e	792+19.68	17.50	639.51	639.61
f	792+29.68	17.50	639.65	639.74
g	792+39.68	17.50	639.78	639.86
h	792+49.68	17.50	639.91	639.98
i	792+59.68	17.50	640.04	640.08
j	792+69.68	17.50	640.16	640.18
℄ S. Brg. at Pier	792+78.42	17.50	640.26	640.26
℄ Pier	792+79.17	17.50	640.27	640.27
℄ N. Brg. at Pier	792+79.92	17.50	640.28	640.28
k	792+89.92	17.50	640.39	640.42
l	792+99.92	17.50	640.50	640.56
m	793+09.92	17.50	640.61	640.70
n	793+19.92	17.50	640.72	640.81
o	793+29.92	17.50	640.82	640.93
p	793+39.92	17.50	640.91	641.03
q	793+49.92	17.50	641.00	641.11
r	793+59.92	17.50	641.09	641.19
s	793+69.92	17.50	641.18	641.25
t	793+79.92	17.50	641.26	641.31
℄ N. Abut.	793+94.66	17.50	641.38	641.38
Bk. N. Abut.	793+96.17	17.50	641.39	641.39

BEAM #13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+68.50	21.29	638.68	638.68
℄ S. Abut.	791+70.01	21.29	638.71	638.71
a	791+80.01	21.29	638.86	638.88
b	791+90.01	21.29	639.01	639.06
c	792+00.01	21.29	639.16	639.23
d	792+10.01	21.29	639.30	639.38
e	792+20.01	21.29	639.44	639.53
f	792+30.01	21.29	639.57	639.66
g	792+40.01	21.29	639.71	639.79
h	792+50.01	21.29	639.84	639.91
i	792+60.01	21.29	639.96	640.01
j	792+70.01	21.29	640.08	640.10
℄ S. Brg. at Pier	792+78.75	21.29	640.19	640.19
℄ Pier	792+79.50	21.29	640.19	640.19
℄ N. Brg. at Pier	792+80.25	21.29	640.20	640.20
k	792+90.25	21.29	640.32	640.35
l	793+00.25	21.29	640.43	640.49
m	793+10.25	21.29	640.54	640.62
n	793+20.25	21.29	640.64	640.74
o	793+30.25	21.29	640.74	640.85
p	793+40.25	21.29	640.84	640.95
q	793+50.25	21.29	640.93	641.03
r	793+60.25	21.29	641.02	641.11
s	793+70.25	21.29	641.10	641.18
t	793+80.25	21.29	641.19	641.23
℄ N. Abut.	793+94.98	21.29	641.30	641.30
Bk. N. Abut.	793+96.50	21.29	641.31	641.31

BEAM #14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+69.04	27.38	638.56	638.56
℄ S. Abut.	791+70.55	27.38	638.59	638.59
a	791+80.55	27.38	638.74	638.77
b	791+90.55	27.38	638.89	638.94
c	792+00.55	27.38	639.04	639.11
d	792+10.55	27.38	639.18	639.26
e	792+20.55	27.38	639.32	639.41
f	792+30.55	27.38	639.46	639.55
g	792+40.55	27.38	639.59	639.67
h	792+50.55	27.38	639.72	639.79
i	792+60.55	27.38	639.84	639.89
j	792+70.55	27.38	639.96	639.98
℄ S. Brg. at Pier	792+79.29	27.38	640.07	640.07
℄ Pier	792+80.04	27.38	640.07	640.07
℄ N. Brg. at Pier	792+80.79	27.38	640.08	640.08
k	792+90.79	27.38	640.20	640.23
l	793+00.79	27.38	640.31	640.37
m	793+10.79	27.38	640.41	640.50
n	793+20.79	27.38	640.52	640.62
o	793+30.79	27.38	640.62	640.73
p	793+40.79	27.38	640.71	640.83
q	793+50.79	27.38	640.81	640.91
r	793+60.79	27.38	640.90	640.99
s	793+70.79	27.38	640.98	641.06
t	793+80.79	27.38	641.06	641.11
℄ N. Abut.	793+95.52	27.38	641.18	641.18
Bk. N. Abut.	793+97.04	27.38	641.19	641.19

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

$FILE$
12/16/2006

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B

DATE: 02/02/05

BEAM #15

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+69.57	33.46	638.45	638.45
℄ S. Abut.	791+71.08	33.46	638.47	638.47
a	791+81.08	33.46	638.62	638.65
b	791+91.08	33.46	638.77	638.82
c	792+01.08	33.46	638.92	638.99
d	792+11.08	33.46	639.06	639.14
e	792+21.08	33.46	639.20	639.29
f	792+31.08	33.46	639.34	639.43
g	792+41.08	33.46	639.47	639.55
h	792+51.08	33.46	639.60	639.67
i	792+61.08	33.46	639.72	639.77
j	792+71.08	33.46	639.84	639.86
℄ S. Brg. at Pier	792+79.82	33.46	639.95	639.95
℄ Pier	792+80.57	33.46	639.95	639.95
℄ N. Brg. at Pier	792+81.32	33.46	639.96	639.96
k	792+91.32	33.46	640.08	640.11
l	793+01.32	33.46	640.19	640.25
m	793+11.32	33.46	640.29	640.38
n	793+21.32	33.46	640.40	640.50
o	793+31.32	33.46	640.50	640.61
p	793+41.32	33.46	640.59	640.71
q	793+51.32	33.46	640.68	640.79
r	793+61.32	33.46	640.77	640.87
s	793+71.32	33.46	640.86	640.93
t	793+81.32	33.46	640.94	640.98
℄ N. Abut.	793+96.06	33.46	641.05	641.05
Bk. N. Abut.	793+97.57	33.46	641.07	641.07

BEAM #16

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+70.10	39.54	638.33	638.33
℄ S. Abut.	791+71.61	39.54	638.35	638.35
a	791+81.61	39.54	638.50	638.53
b	791+91.61	39.54	638.65	638.70
c	792+01.61	39.54	638.80	638.87
d	792+11.61	39.54	638.94	639.02
e	792+21.61	39.54	639.08	639.17
f	792+31.61	39.54	639.22	639.31
g	792+41.61	39.54	639.35	639.43
h	792+51.61	39.54	639.48	639.55
i	792+61.61	39.54	639.60	639.65
j	792+71.61	39.54	639.72	639.74
℄ S. Brg. at Pier	792+80.35	39.54	639.82	639.82
℄ Pier	792+81.10	39.54	639.83	639.83
℄ N. Brg. at Pier	792+81.85	39.54	639.84	639.84
k	792+91.85	39.54	639.96	639.99
l	793+01.85	39.54	640.07	640.12
m	793+11.85	39.54	640.17	640.26
n	793+21.85	39.54	640.28	640.37
o	793+31.85	39.54	640.37	640.49
p	793+41.85	39.54	640.47	640.59
q	793+51.85	39.54	640.56	640.67
r	793+61.85	39.54	640.65	640.75
s	793+71.85	39.54	640.74	640.81
t	793+81.85	39.54	640.82	640.86
℄ N. Abut.	793+96.59	39.54	640.93	640.93
Bk. N. Abut.	793+98.10	39.54	640.94	640.94

BEAM #17

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+70.63	45.63	638.21	638.21
℄ S. Abut.	791+72.14	45.63	638.23	638.23
a	791+82.14	45.63	638.38	638.41
b	791+92.14	45.63	638.53	638.59
c	792+02.14	45.63	638.68	638.75
d	792+12.14	45.63	638.82	638.90
e	792+22.14	45.63	638.96	639.05
f	792+32.14	45.63	639.10	639.19
g	792+42.14	45.63	639.23	639.31
h	792+52.14	45.63	639.36	639.43
i	792+62.14	45.63	639.48	639.53
j	792+72.14	45.63	639.60	639.62
℄ S. Brg. at Pier	792+80.88	45.63	639.70	639.70
℄ Pier	792+81.63	45.63	639.71	639.71
℄ N. Brg. at Pier	792+82.38	45.63	639.72	639.72
k	792+92.38	45.63	639.83	639.86
l	793+02.38	45.63	639.94	640.00
m	793+12.38	45.63	640.05	640.14
n	793+22.38	45.63	640.15	640.25
o	793+32.38	45.63	640.25	640.36
p	793+42.38	45.63	640.35	640.47
q	793+52.38	45.63	640.44	640.55
r	793+62.38	45.63	640.53	640.62
s	793+72.38	45.63	640.61	640.69
t	793+82.38	45.63	640.70	640.74
℄ N. Abut.	793+97.12	45.63	640.81	640.81
Bk. N. Abut.	793+98.63	45.63	640.82	640.82

BEAM #18

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	791+71.16	51.71	638.09	638.09
℄ S. Abut.	791+72.67	51.71	638.11	638.11
a	791+82.67	51.71	638.27	638.29
b	791+92.67	51.71	638.42	638.47
c	792+02.67	51.71	638.56	638.63
d	792+12.67	51.71	638.70	638.79
e	792+22.67	51.71	638.84	638.93
f	792+32.67	51.71	638.98	639.07
g	792+42.67	51.71	639.11	639.19
h	792+52.67	51.71	639.24	639.31
i	792+62.67	51.71	639.36	639.41
j	792+72.67	51.71	639.48	639.50
℄ S. Brg. at Pier	792+81.41	51.71	639.58	639.58
℄ Pier	792+82.16	51.71	639.59	639.59
℄ N. Brg. at Pier	792+82.91	51.71	639.60	639.60
k	792+92.91	51.71	639.71	639.74
l	793+02.91	51.71	639.82	639.88
m	793+12.91	51.71	639.93	640.02
n	793+22.91	51.71	640.03	640.13
o	793+32.91	51.71	640.13	640.24
p	793+42.91	51.71	640.23	640.34
q	793+52.91	51.71	640.32	640.42
r	793+62.91	51.71	640.41	640.50
s	793+72.91	51.71	640.49	640.57
t	793+82.91	51.71	640.57	640.62
℄ N. Abut.	793+97.65	51.71	640.69	640.69
Bk. N. Abut.	793+99.16	51.71	640.70	640.70

$FILE$
12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

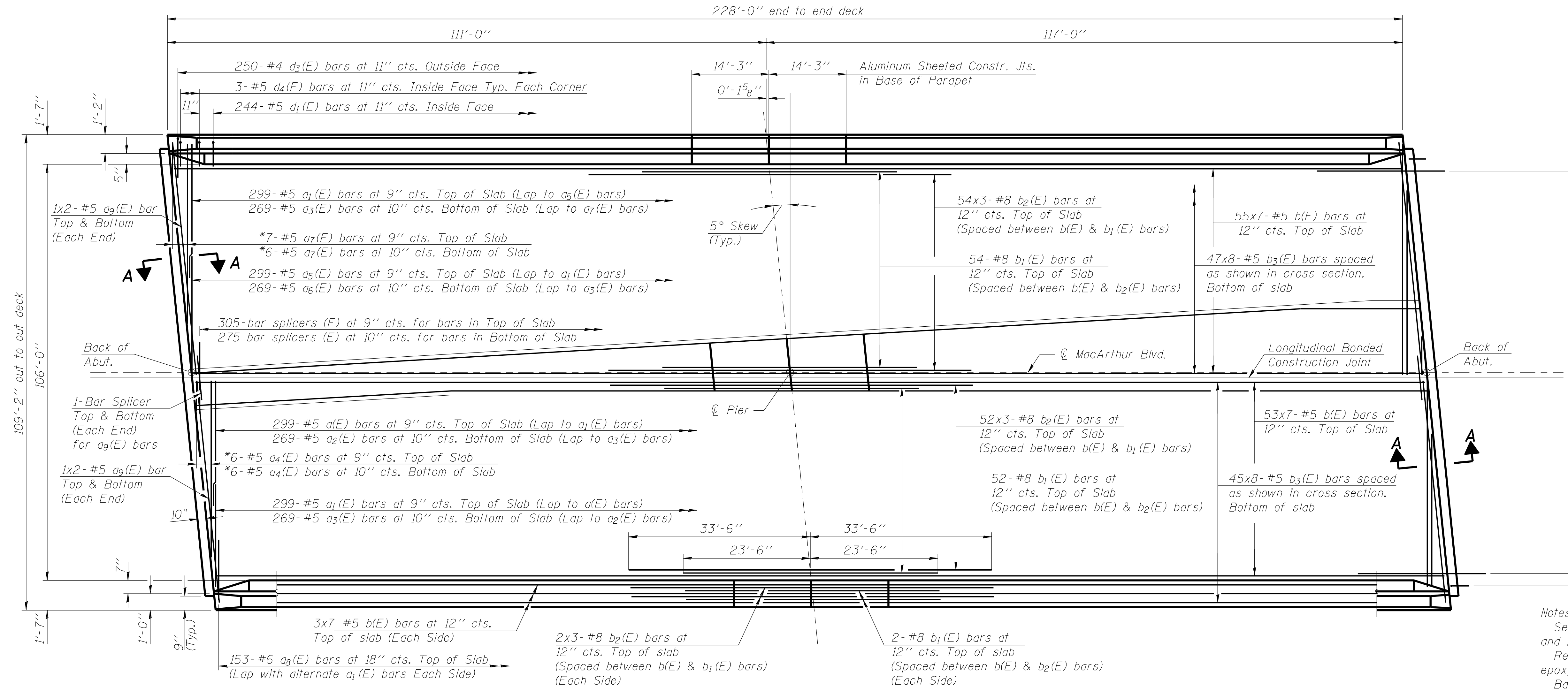
JOB# 96S2002B

DATE: 02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	210
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

SHEET NO. 08
24 SHEETS



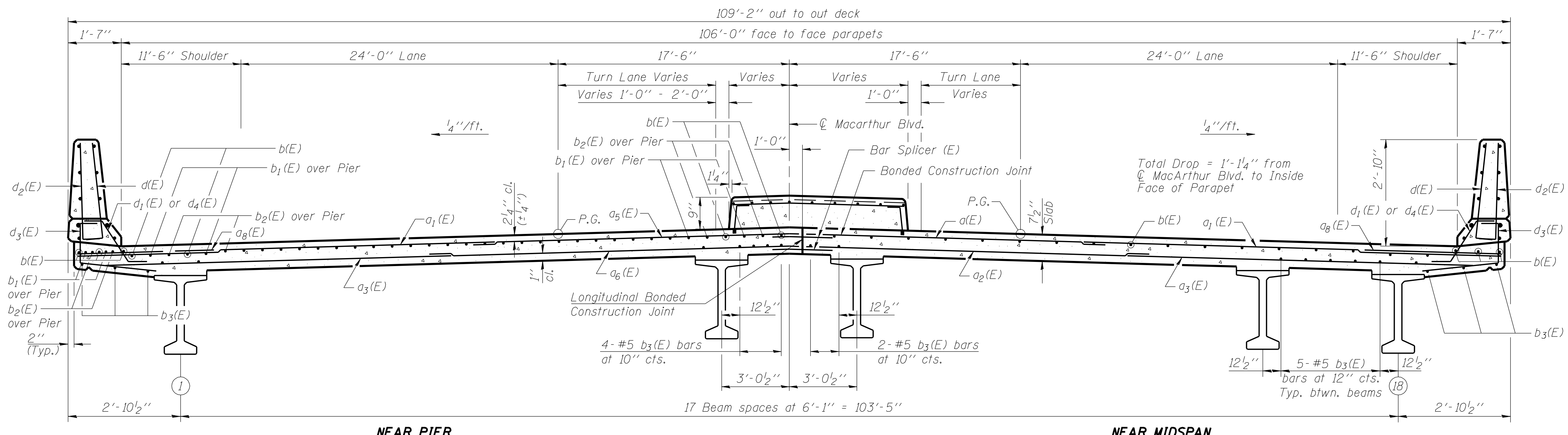
* Order a_4(E) and a_7(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

PLAN

Notes:
See Sheets 09 and 10 of 24 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
See Sheet 10 of 24 for parapet reinforcement.
See Bar Splicer (Coupler) Details, Sheet 20 of 24.
See Sheet 09 of 24 for median reinforcement.
See Sheet 11 of 24 for Section A-A.

MIN. BAR LAPS

#4 Bar - 1'-8"
#5 Bar - 2'-2"
#6 Bar - 2'-7"
#8 Bar - 4'-6"



CROSS SECTION
(Looking North)

Corporate License Number 184-001-084

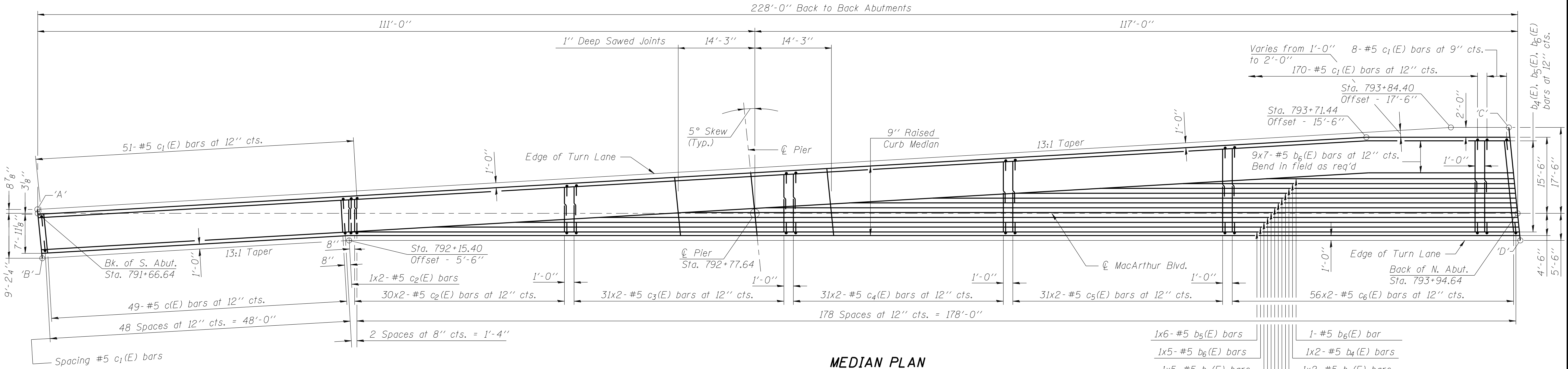
SUPERSTRUCTURE
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

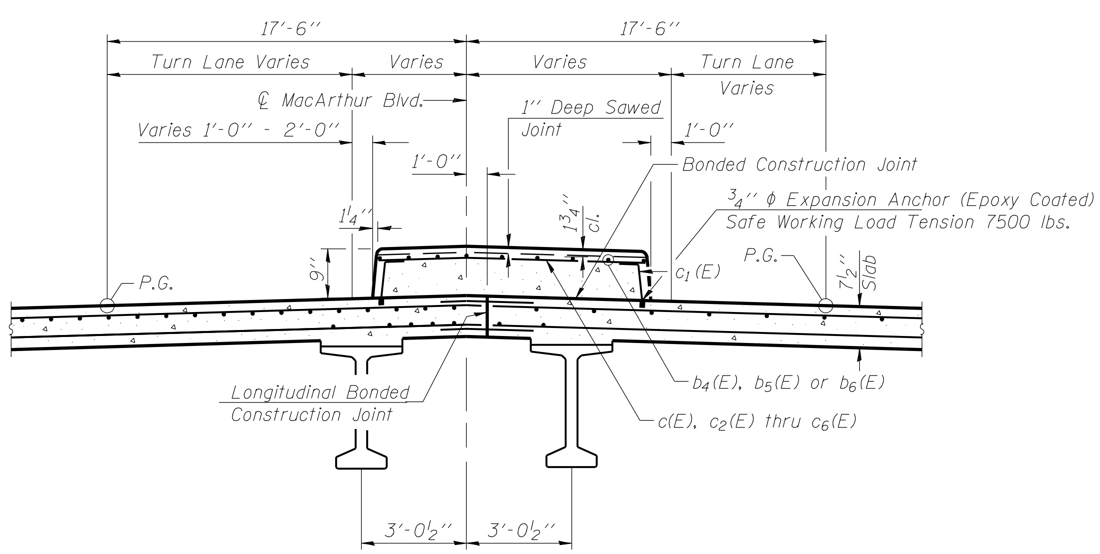
JOB: 96S2002B
DATE: 02/02/05

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

$FILE$ 12/16/2006



MEDIAN PLAN



CROSS SECTION
(Looking North)

Notes:
See Sheet 10 of 24 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
$\frac{3}{4}$'' ϕ Expansion Anchors (Epoxy Coated) shall be included in the contract unit price per pound of reinforcement bars epoxy coated.

MIN. BAR LAPS

#5 Bar - 2'-2''

MEDIAN POINTS		
POINT	STATION	OFFSET
'A'	791+66.57	0.74' Lt.
'B'	791+67.44	9.19' Rt.
'C'	793+93.11	17.50' Lt.
'D'	793+95.12	5.50' Rt.

MEDIAN POINTS
(at Back Abutments)

Corporate License Number 184-001-084

SUPERSTRUCTURE DETAILS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 02/02/05

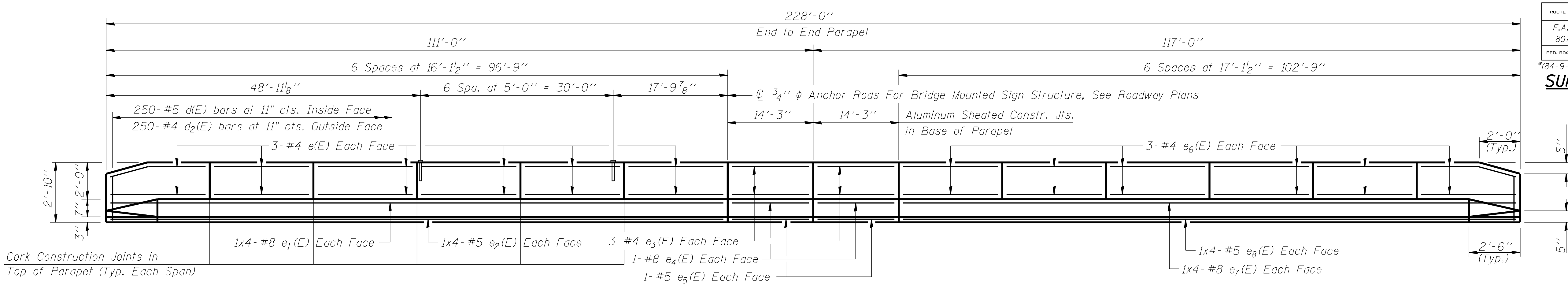
$FILE$ 12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	212
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

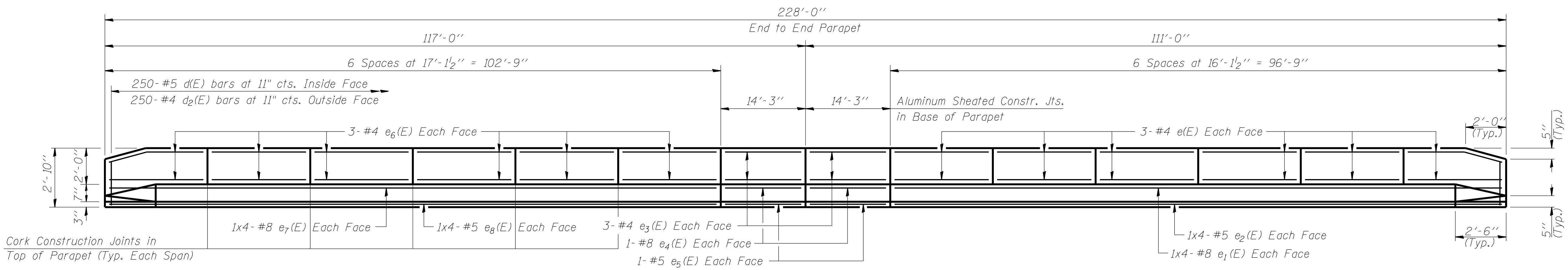
SHEET NO. 10
24 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

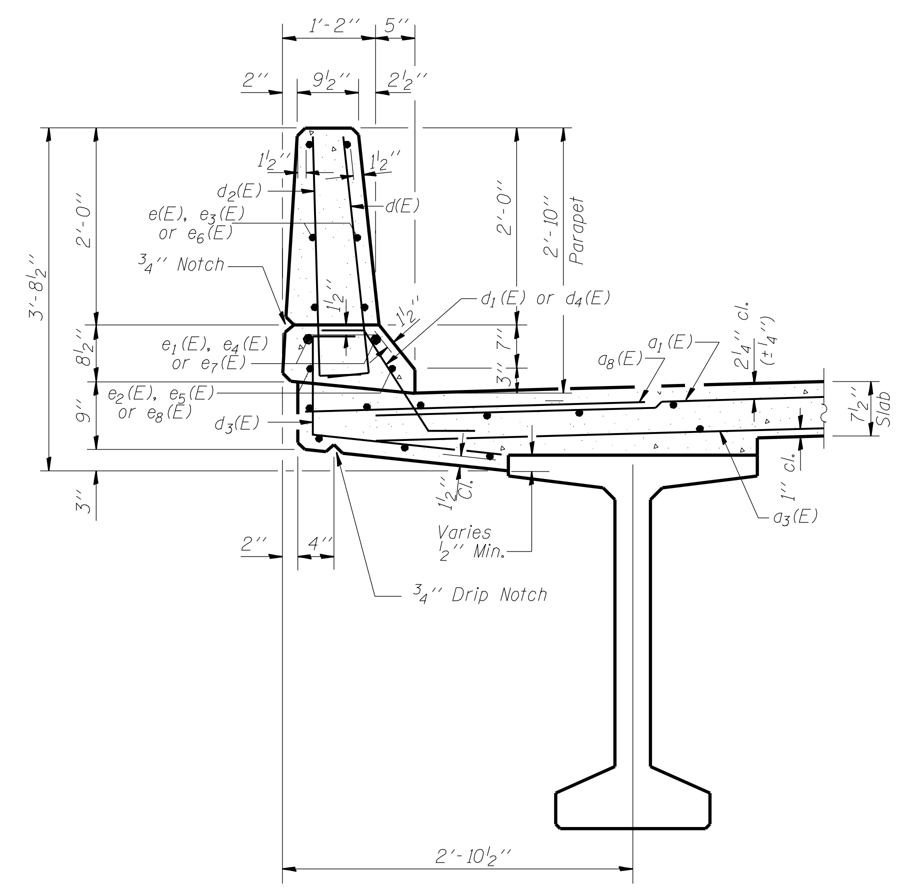


INSIDE ELEVATION OF WEST PARAPET

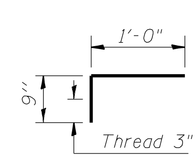
Note: Bar indicated thus 1x4-#5 etc. indicates 1 line of bars with 4 lengths per line.



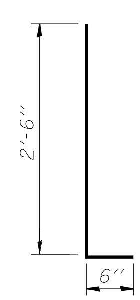
INSIDE ELEVATION OF EAST PARAPET



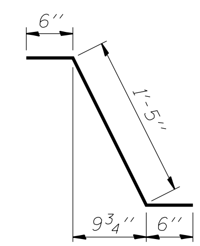
SECTION THRU PARAPET



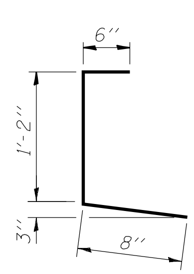
BAR c_1(E)



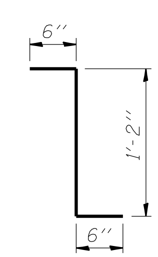
BARS d(E) & d_2(E)



BAR d_1(E)



BAR d_3(E)

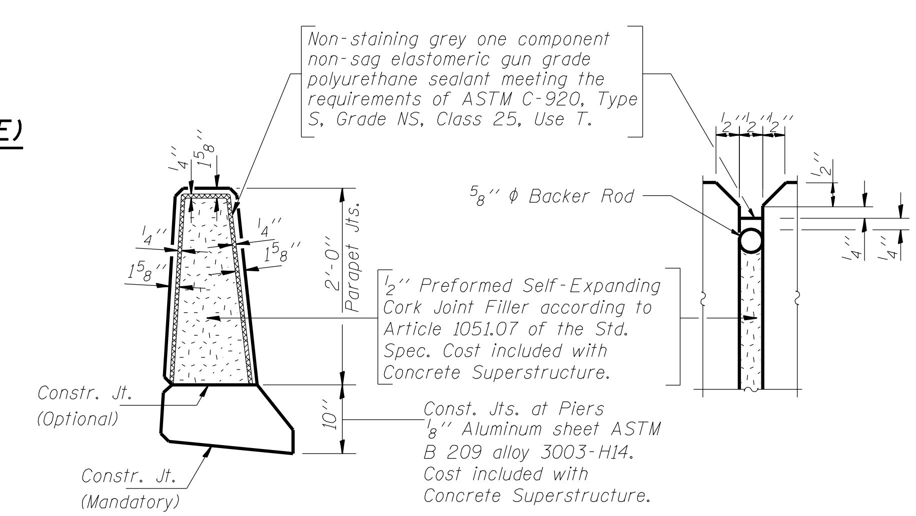


BAR d_4(E)

MIN. BAR LAPS

#4 Bar - 1'-8"
#5 Bar - 2'-2"
#6 Bar - 2'-7"
#8 Bar - 4'-6"

Reinforcement bars designated (E) shall be epoxy coated.



PARAPET JOINT DETAILS

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	299	#5	24'-3"	
a_1(E)	598	#5	31'-0"	
a_2(E)	269	#5	27'-6"	
a_3(E)	538	#5	27'-9"	
a_4(E)	12	#5	53'-1"	
a_5(E)	299	#5	26'-3"	
a_6(E)	269	#5	29'-6"	
a_7(E)	13	#5	55'-1"	
a_8(E)	306	#6	4'-6"	
a_9(E)	16	#5	28'-9"	
b(E)	798	#5	34'-6"	
b_1(E)	106	#8	47'-0"	
b_2(E)	318	#8	25'-6"	
b_3(E)	736	#5	30'-6"	
b_4(E)	5	#5	26'-6"	
b_5(E)	20	#5	31'-9"	
b_6(E)	81	#5	36'-0"	
c(E)	49	#5	7'-7"	
c_1(E)	458	#5	1'-9"	
c_2(E)	62	#5	6'-3"	
c_3(E)	62	#5	7'-6"	
c_4(E)	62	#5	8'-6"	
c_5(E)	62	#5	9'-9"	
c_6(E)	112	#5	11'-0"	
d(E)	500	#5	3'-0"	
d_1(E)	488	#5	2'-5"	
d_2(E)	500	#4	3'-0"	
d_3(E)	500	#4	2'-4"	
d_4(E)	12	#5	2'-2"	
e(E)	72	#4	15'-10"	
e_1(E)	16	#8	27'-6"	
e_2(E)	16	#5	25'-9"	
e_3(E)	24	#4	13'-11"	
e_4(E)	8	#8	13'-11"	
e_5(E)	8	#5	13'-11"	
e_6(E)	72	#4	16'-10"	
e_7(E)	16	#8	29'-0"	
e_8(E)	16	#5	27'-3"	
m(E)	12	#6	37'-9"	
m_1(E)	24	#6	38'-3"	
m_2(E)	108	#6	9'-3"	
m_3(E)	64	#6	3'-7"	
m_4(E)	4	#6	1'-5"	
m_5(E)	102	#4	5'-3"	
m_6(E)	18	#8	6'-2"	
m_7(E)	4	#6	5'-7"	
s(E)	216	#5	5'-6"	
s_1(E)	148	#4	14'-8"	
s_2(E)	68	#4	14'-0"	
v(E)	216	#5	2'-9"	
Concrete Superstructure			Cu. Yds.	952.5
Reinforcement Bars (Epoxy Coated)			Lbs.	184760

SUPERSTRUCTURE DETAILS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B

DATE: 02/02/05

Corporate License Number 184-001-084

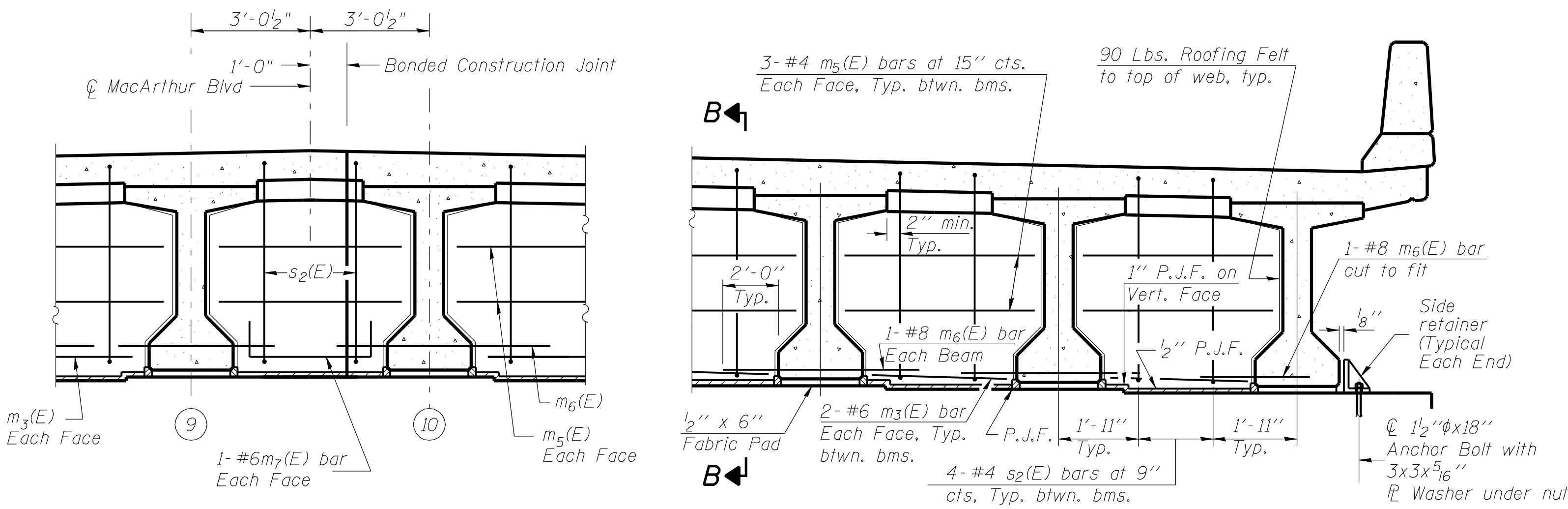
$FILE$ 12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	213
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

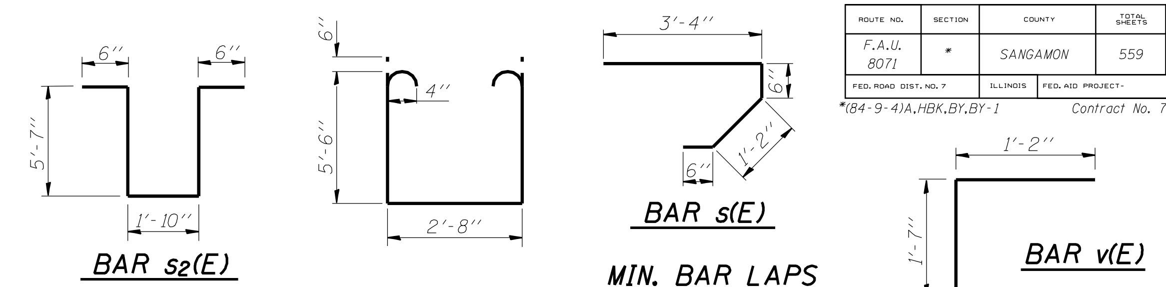
*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

SHEET NO. 11
24 SHEETS



DIAPHRAGM AT PIER

Dimensions Perpendicular to Beams. Looking Upstation at Pier



BAR s_2(E)

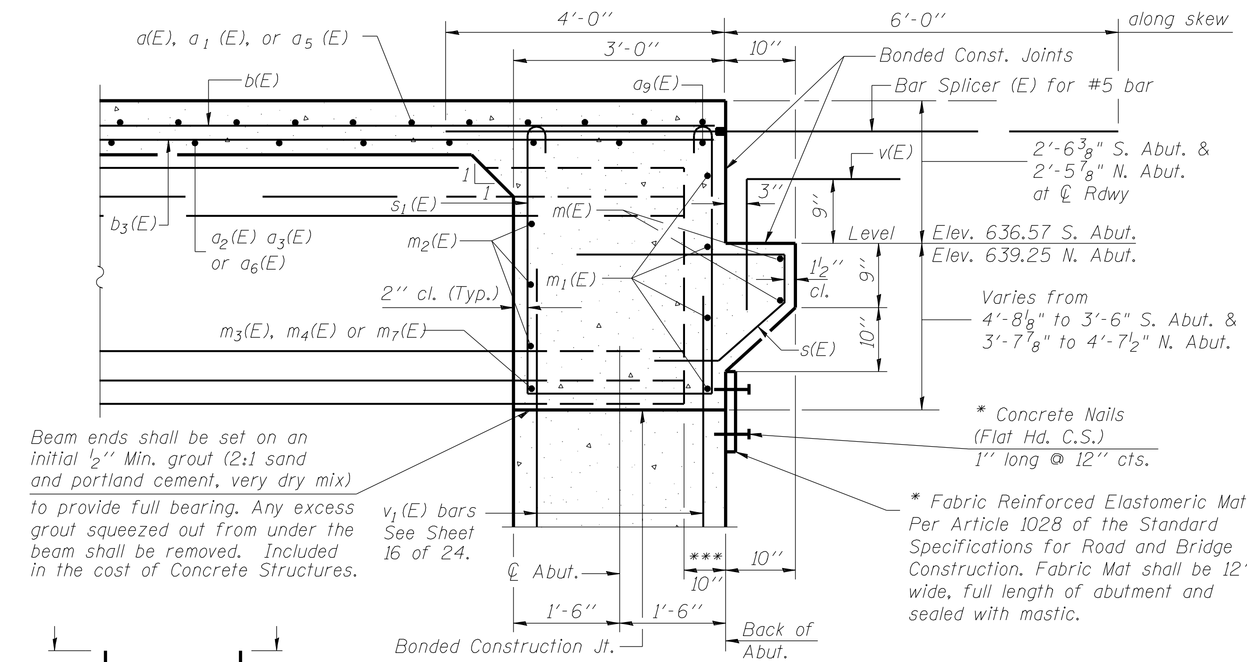
BAR s_1(E)

BAR s(E)

MIN. BAR LAPS

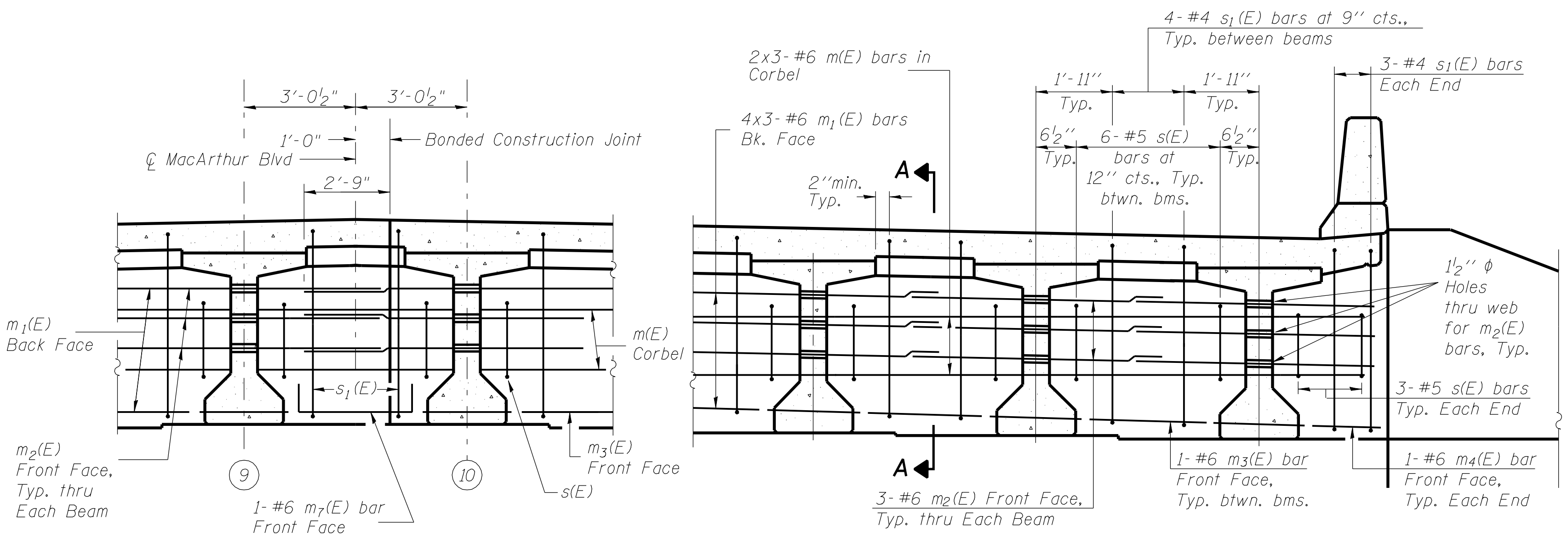
#6 Bar - 2'-9''

BAR v(E)



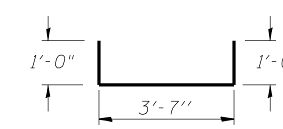
SECTION A-A

Dimensions at right angles to abutment, except as shown.
* Cost included with Concrete Structures.
*** Along ℄ Beam.

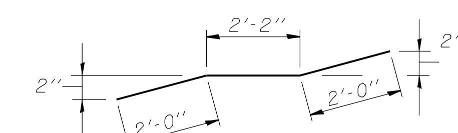


DIAPHRAGM AT ABUTMENT

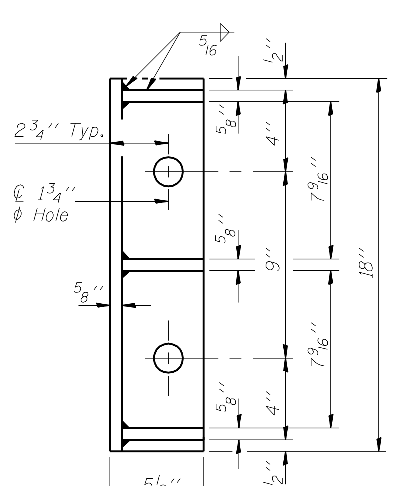
Dimensions Perpendicular to Beams. Looking Upstation at Abutment

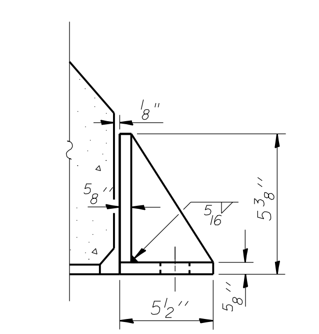


BAR m_7(E)



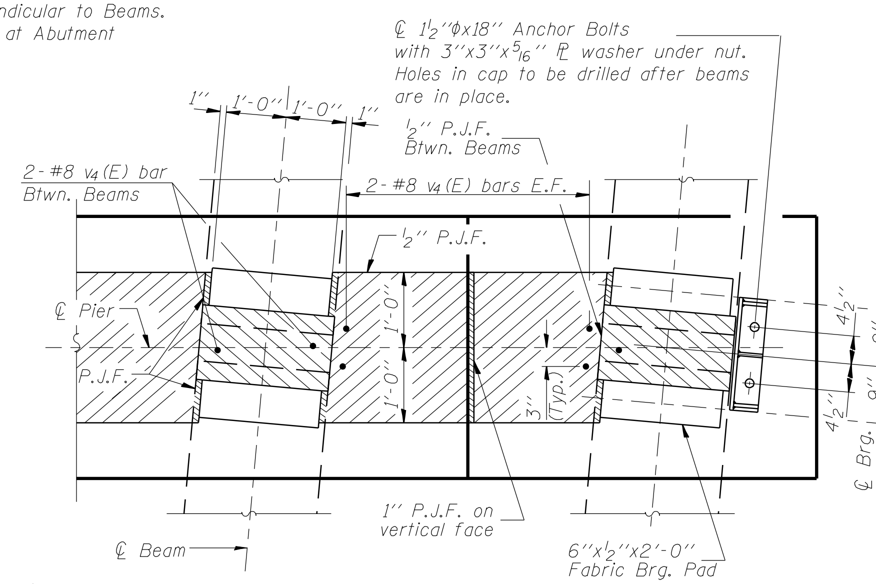
BAR m_6(E)





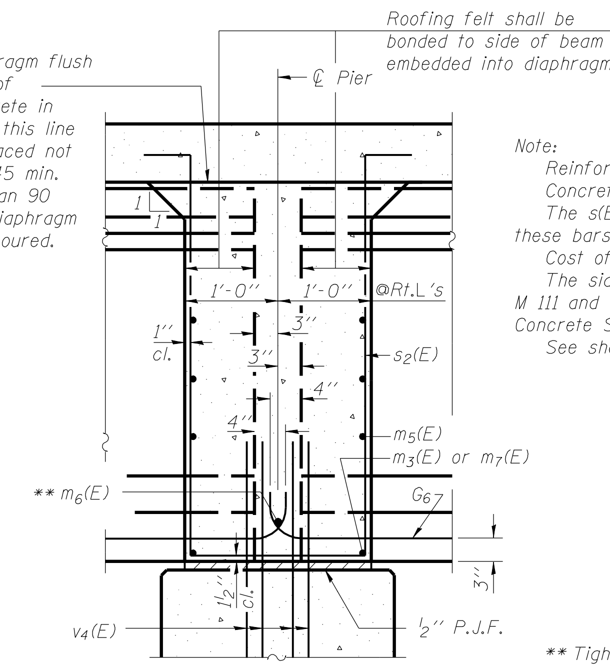
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



PARTIAL PIER PLAN

Pour diaphragm flush with bott. of slab. Concrete in slab above this line shall be placed not less than 45 min. or more than 90 min.after diaphragm has been poured.



SECTION B-B

Dimensions along ℄ of beam, except as shown.

** Tightly fasten the #8 bars together with No. 9 wire ties.

Note:
Reinforcement bars in diaphragm are billed with Superstructure on sheet 10 of 24.
Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 24.
The s(E), s_1(E) and s_2(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
Cost of 90 lb. roofing felt is included with Concrete Superstructure.
The side retainers shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Cost of side retainer and anchor bolts shall be included with Concrete Structures.
See sheet 21 of 24 for anchor bolt details.

Corporate License Number 184-001-084

DIAPHRAGM DETAILS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B

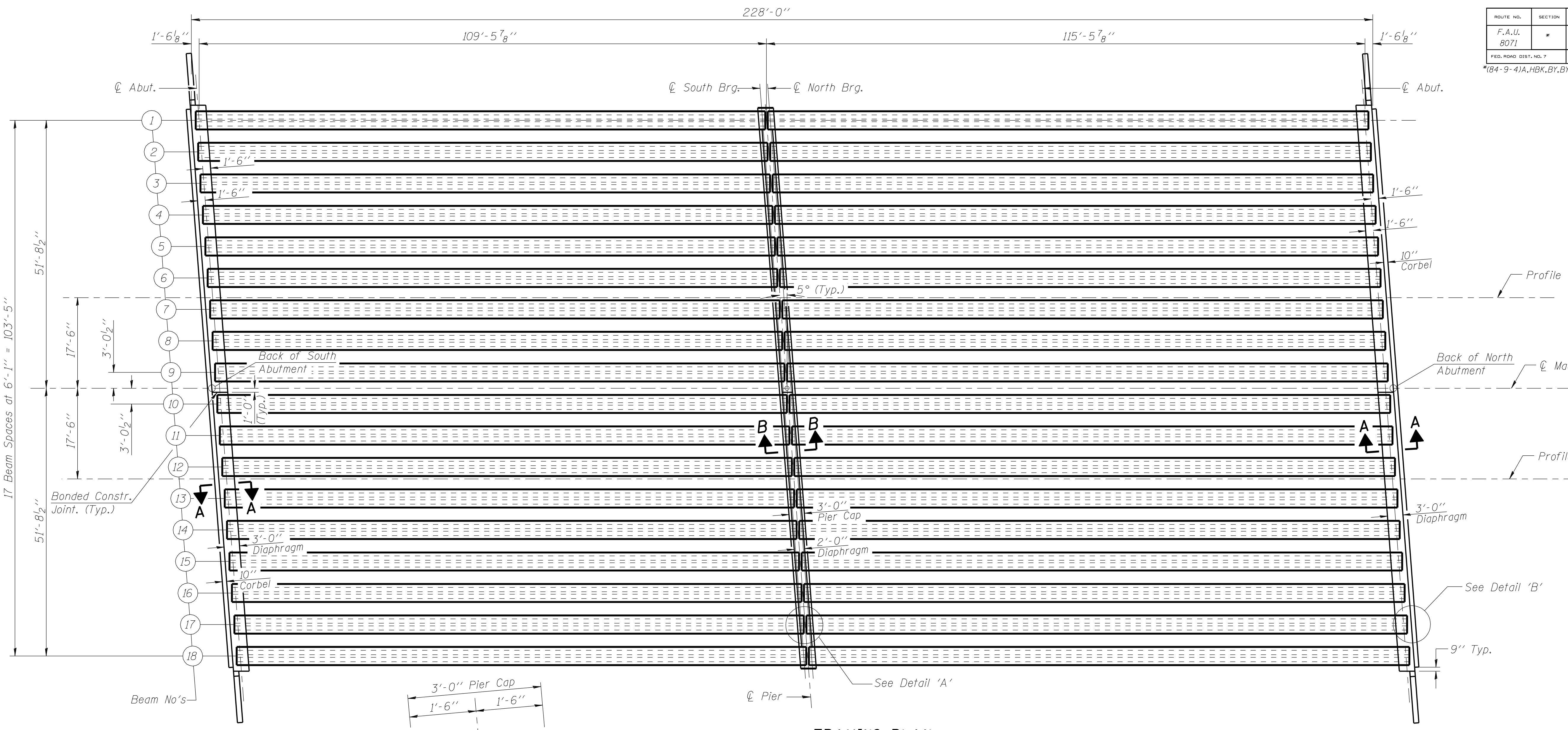
DATE: 02/02/05

$FILE$ 12/16/2006

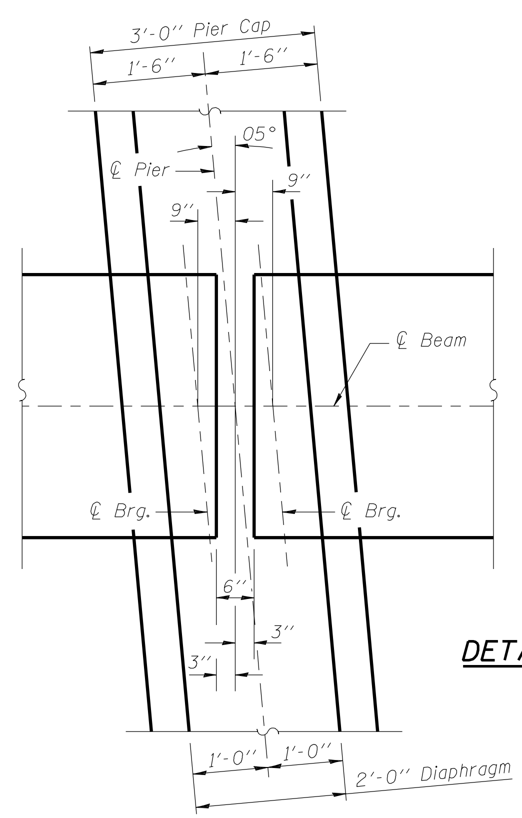
LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	214
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

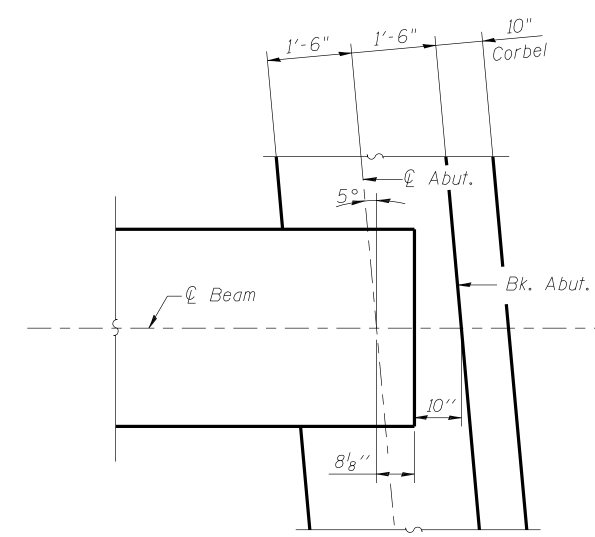
*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541



FRAMING PLAN



DETAIL 'A'



DETAIL 'B'

Z

Note:
See Sheet 11 of 24 for Section A-A and B-B.

Corporate License Number 184-001-084

FRAMING PLAN
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 02/02/05

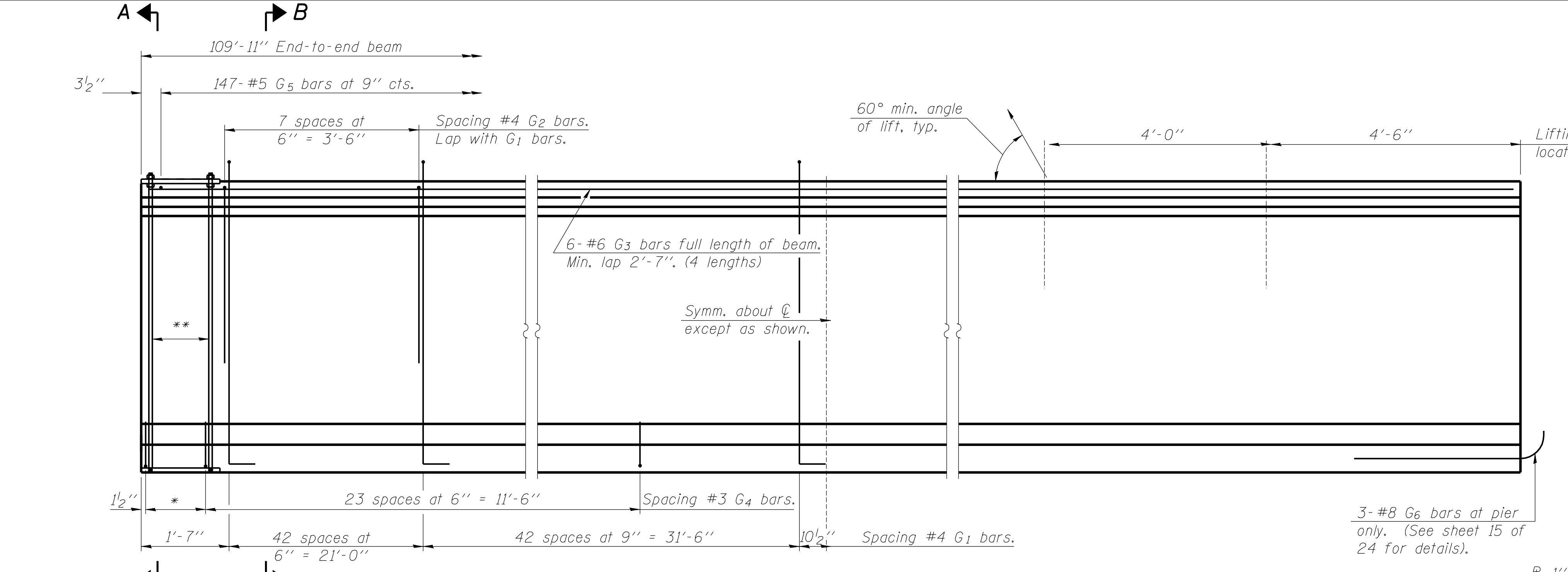
$FILE$
12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	215
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

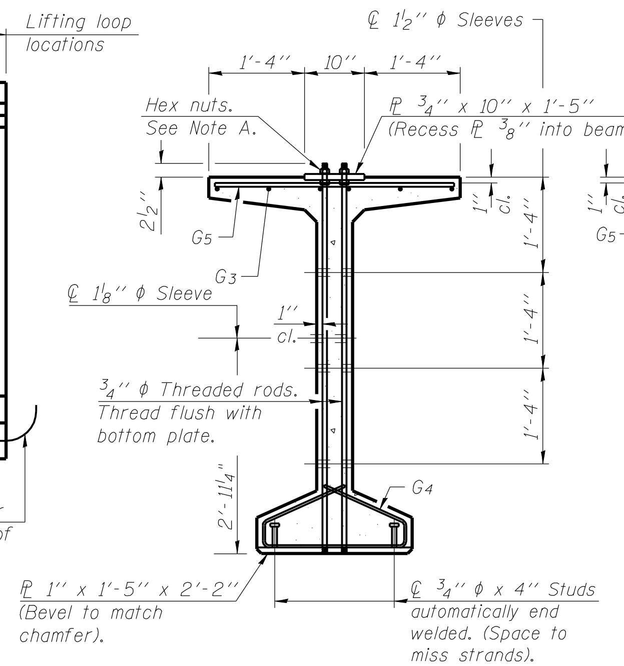
SHEET NO. 13
24 SHEETS



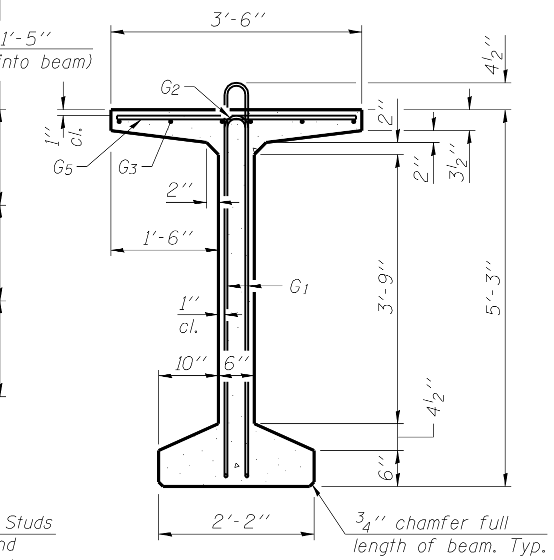
ELEVATION OF BEAM
(Showing reinforcement & dimensions)

* 4 spaces at 3¼'' = 1'-1''.
** 5-¾'' ϕ threaded dowel rods at 3¼'' cts., each face.

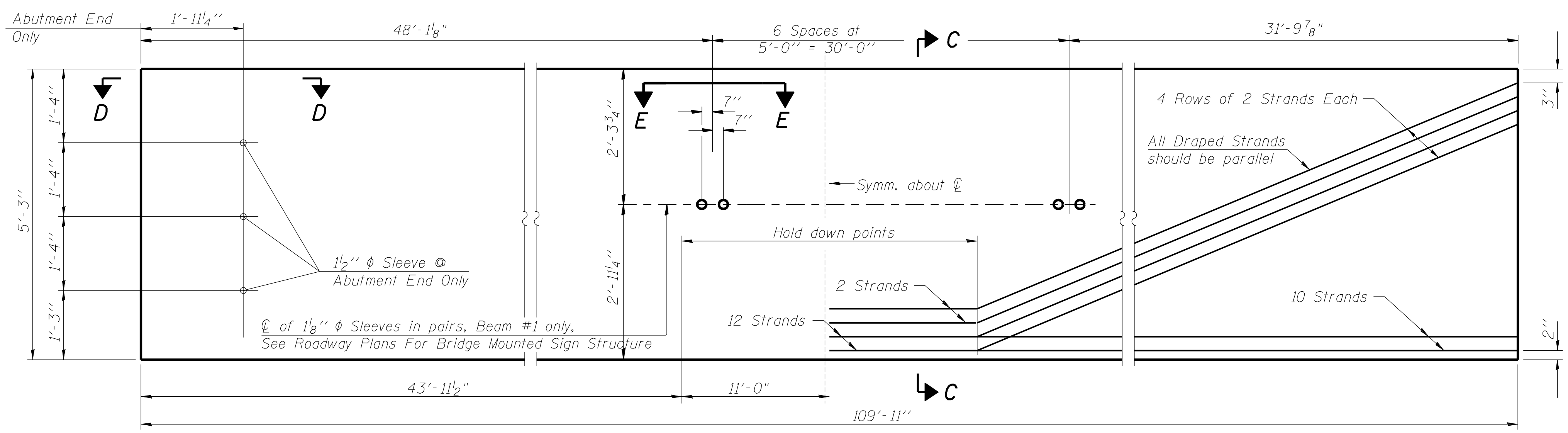
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



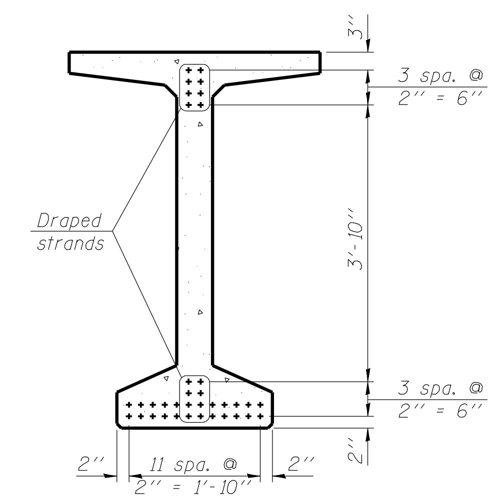
SECTION A-A



SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)

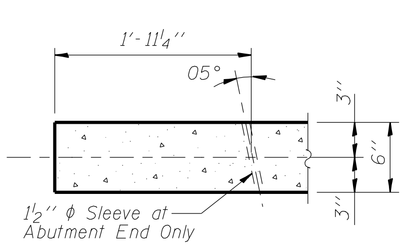


SECTION C-C

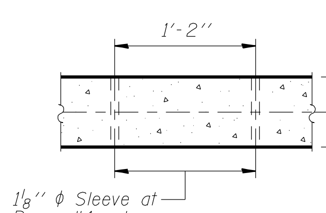
BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	171	#4	11'-11''	
G_2	16	#4	6'-2''	
G_3	24	#6	29'-6''	
G_4	56	#3	4'-11''	
G_5	147	#5	3'-4''	
G_6	3	#8	3'-9''	

Notes:
See sheet 15 of 24 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5000 psi.



SECTION D-D



SECTION E-E

Corporate License Number 184-001-084

63'' PPC BULB T-BEAM - SPAN 1
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 10/10/06

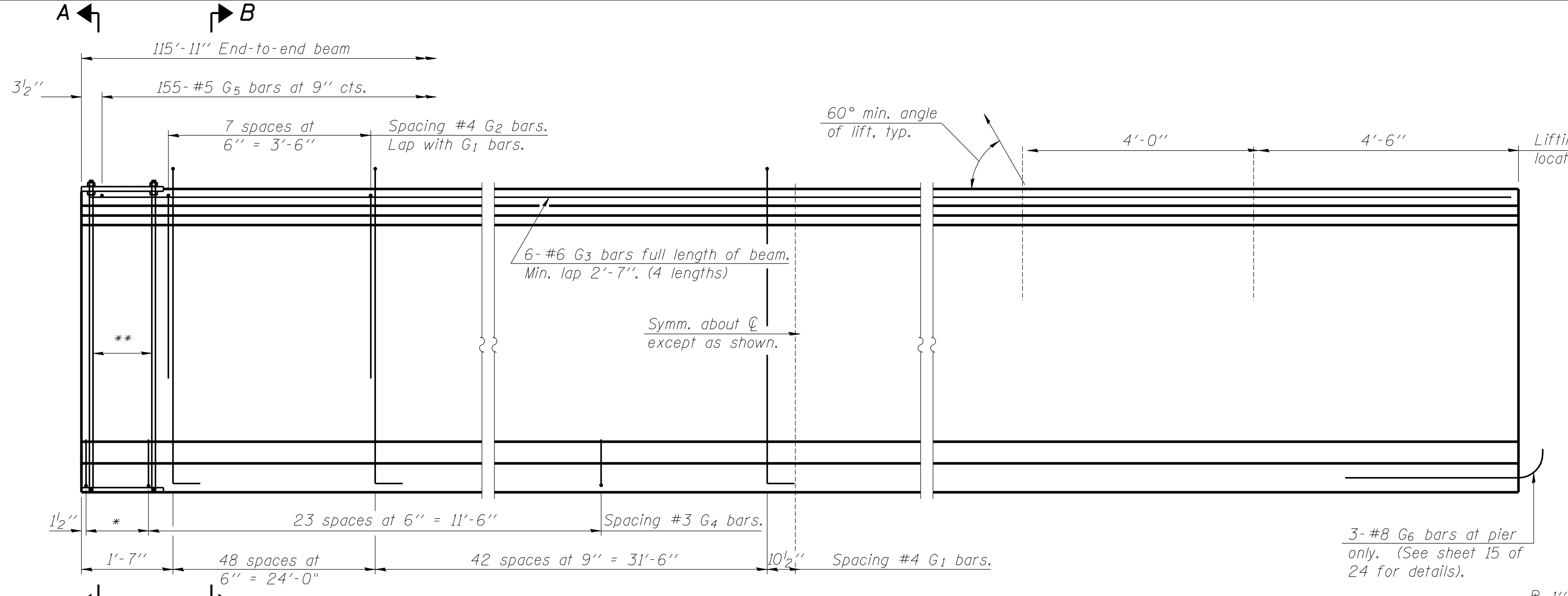
LAYOUT	MNM	10/10/06
DRAWN	DAP	10/10/06
REVIEWED	JWM	10/12/06

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	216
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
24 SHEETS

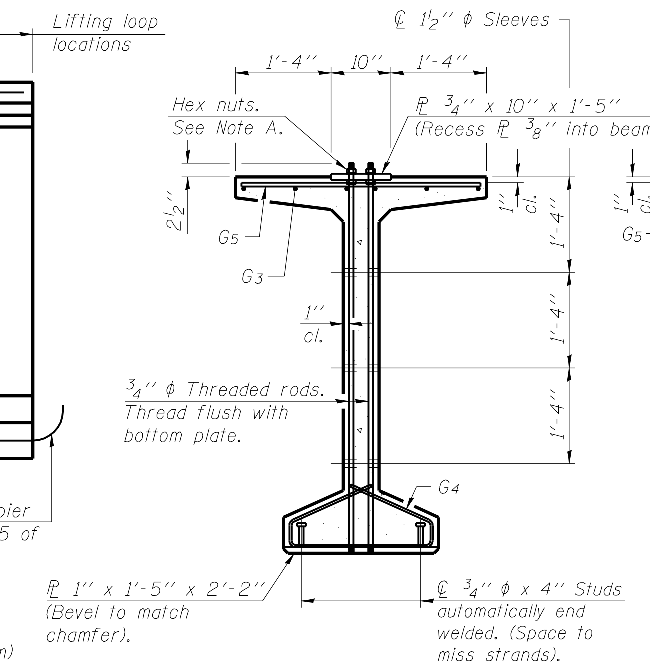
*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541



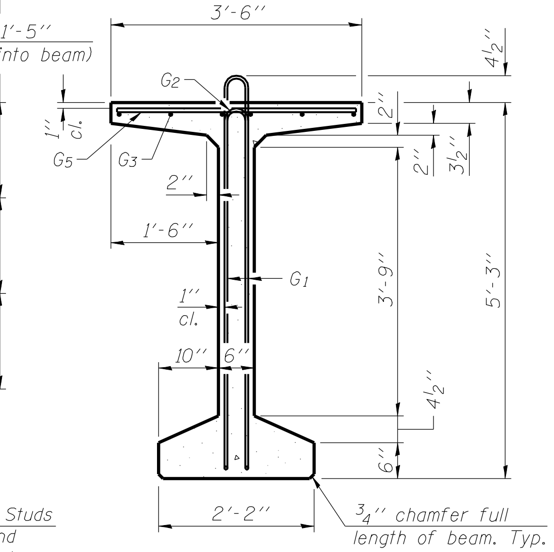
ELEVATION OF BEAM
(Showing reinforcement & dimensions)

* 4 spaces at 3¼'' = 1'-1''.
** 5-¾'' ϕ threaded dowel rods at 3¼'' cts., each face.

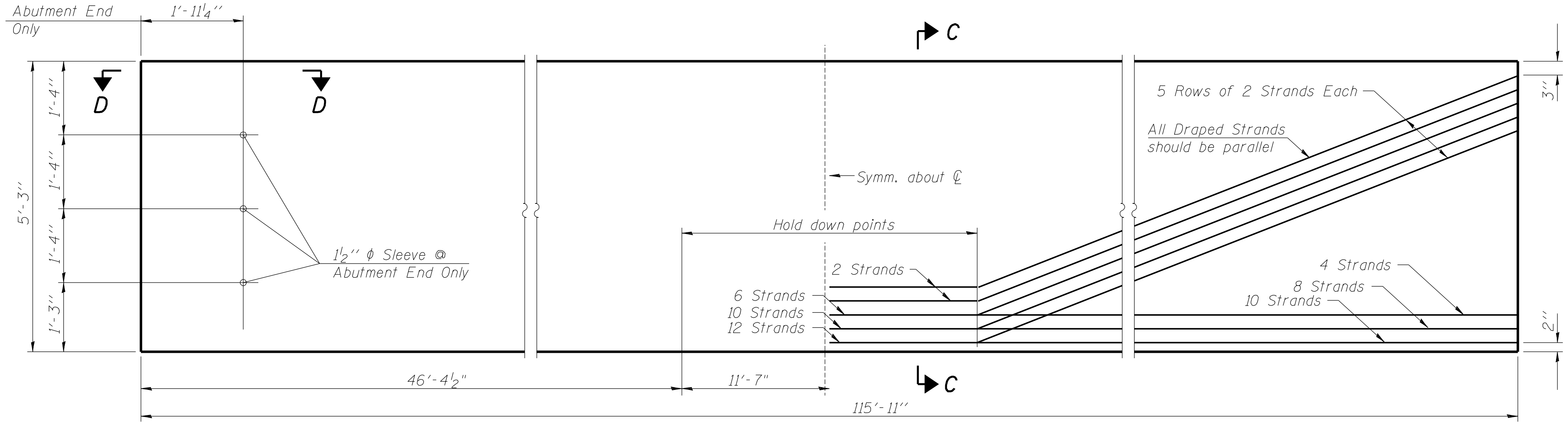
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



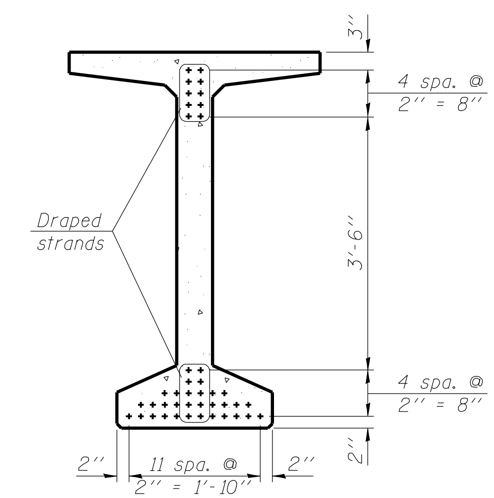
SECTION A-A



SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)

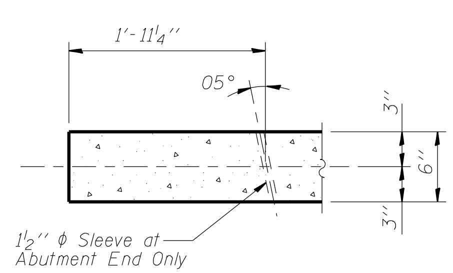


SECTION C-C

BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	183	#4	11'-11''	
G_2	16	#4	6'-2''	
G_3	24	#6	31'-0''	
G_4	56	#3	4'-11''	
G_5	155	#5	3'-4''	
G_6	3	#8	3'-9''	

Notes:
See sheet 15 of 24 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5000 psi.



SECTION D-D

$FILE$ 12/16/2006

LAYOUT	MNM	10/10/06
DRAWN	DAP	10/10/06
REVIEWED	JWM	10/12/06

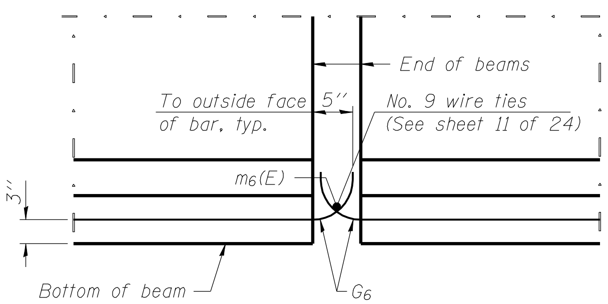
Corporate License Number 184-001-084

63'' PPC BULB T-BEAM - SPAN 2
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

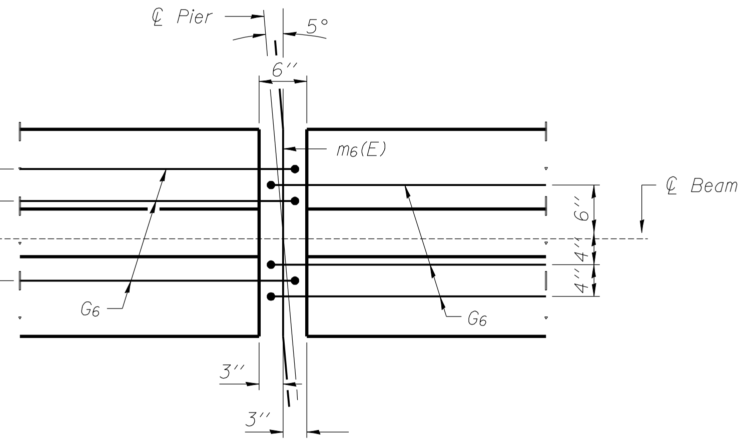
HANSON

JOB# 96S2002B

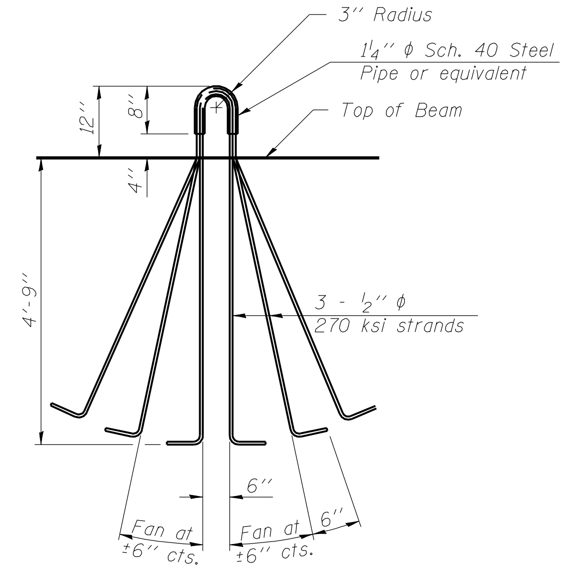
DATE: 10/10/06



ELEVATION OF BEAM AT PIER



PLAN OF BEAM AT PIER



LIFTING LOOP DETAIL

NOTES

All Sleeves, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete Bulb T-Beams shall be included in the contract unit price per foot of "Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams, 63 in."

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.

The nominal diameter shall be ½'' and the nominal cross-sectional area shall be 0.153 sq. in.

Non-prestressing steel shall conform to AASHTO designation M-31 or M 322, Grade 60.

A minimum 2½'' ϕ lifting pin shall be used to engage the lifting loops during handling.

Reinforcement bars designated (E) shall be epoxy coated.

Cut G_6 bars when necessary to maintain 1½'' clearance.

The bottom plates and studs shall be galvanized according to AASHTO M111 and ASTM A385.

Threaded rods shall be ASTM F 1554 Grade 55.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to all portions of the I-beam or Bulb-T beam, except the top surface of the top flange and the bottom surface of the bottom flange, starting at each beam end and extending out a distance of 63 inches. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

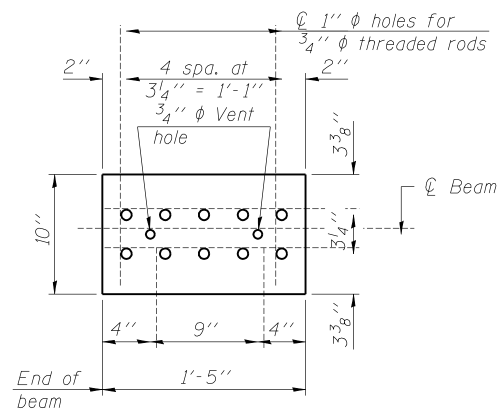
INTERIOR BEAM MOMENT TABLE

		0.4 Sp. #1	Pier	0.6 Sp. #2
I	(in⁴)	392638		392638
I'	(in⁴)	710689		710689
S_b	(in³)	12224		12224
S_b'	(in³)	15821		15821
S_t	(in³)	12715		12715
S_t'	(in³)	39308		39308
DL	(k/')	1.401		1.401
M DL	('k)	1979.3		2204.7
s DL	(k/')	0.397	0.397	0.397
Ms DL	('k)	321.3	602.9	385.6
M LL	('k)	756.0	741.4	793.4
M (Imp)	('k)	161.8	158.6	169.8

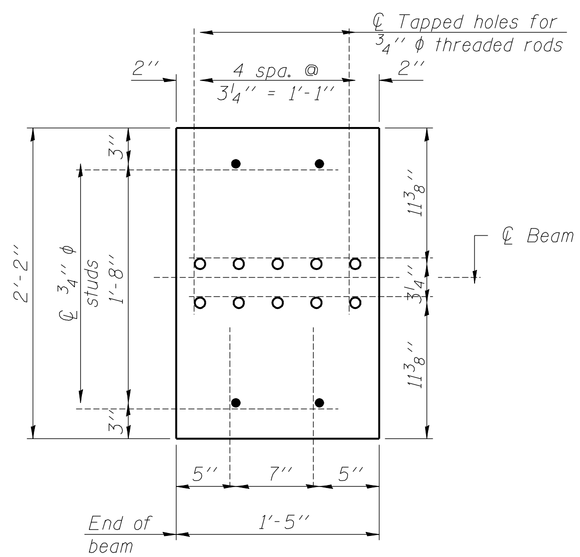
INTERIOR BEAM REACTION TABLE

			S. Abut.	Pier - Span 1	Pier - Span 2	N. Abut.
	R DL	(k)	76.0	76.0	80.2	80.2
**	Rs DL	(k)	16.0	28.0	28.0	17.5
**	R LL	(k)	35.6	32.1	32.1	35.8
**	Imp.	(k)	7.6	6.8	6.8	7.7
	R (Total)	(k)	135.2	142.9	147.1	141.2

I and I' are the moment of inertia and composite moment of inertia of the beam section.
S_b and S_b' are the non-composite and composite section modulus for the bottom fiber of the prestressed beam.
S_t and S_t' are the non-composite and composite section modulus for the top fiber of the prestressed beam
M DL is the moment due to dead loads on the non-composite prestressed beam. It is conservatively calculated at 0.5 of the span.
Ms DL is the moment due to dead loads on the composite section.
M LL is the moment due to live load on the composite section.
M (Imp) is the moment due to live load impact on the composite section.
** The total Rs DL, R LL and Impact Reactions are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier shall be based on the maximum reactions of either span.

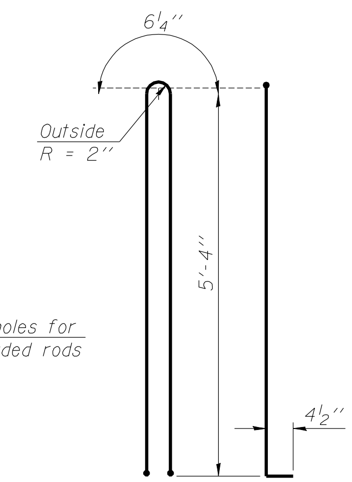


TOP PLATE

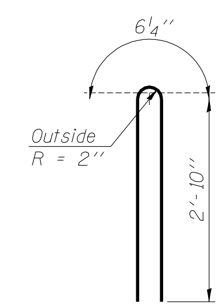


BOTTOM PLATE

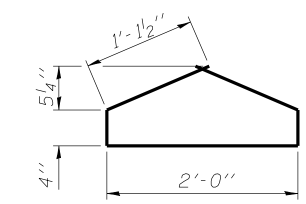
See bearing details for pintle hole locations when required.



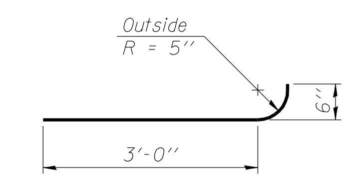
BAR G1



BAR G2



BAR G4



BAR G6

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams, 63''	Ft.	4065

Corporate License Number 184-001-084

63'' PPC BULB T-BEAM DETAILS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 10/10/06

$FILE$ 12/16/2006

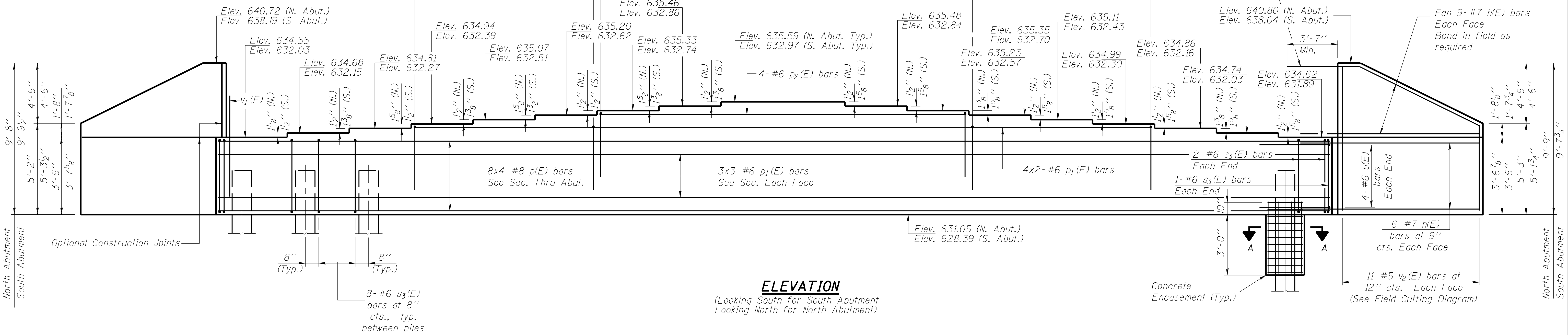
LAYOUT	MNM	10/10/06
DRAWN	DAP	10/10/06
REVIEWED	JWM	10/12/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	218
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 16
24 SHEETS

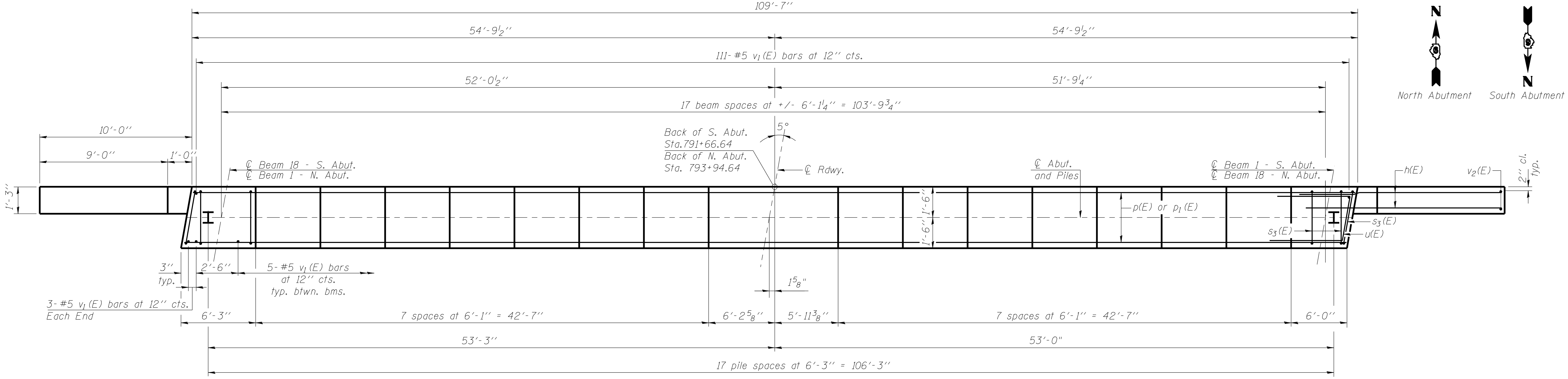
*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

Notes: Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
See sheet 17 of 24 for abutment details and bill of material.



ELEVATION

(Looking South for South Abutment
Looking North for North Abutment)



PLAN

PILE DATA

Type: Steel Piles HP12x74
Nominal Required Bearing: 589 kips
Allowable Resistance Available: 180 kips (S. Abut), 174 kips (N. Abut)
Est. Length: 64' at S. Abut. - 68' at N. Abut.
No. Required: 18 Piles/Abutment (Includes 1 Test Pile)
Test Piles: 1 required at each abutment

MIN. BAR LAPS

#6 - 2'-7"
#8 - 4'-6"

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

$FILE$
12/16/2006

Corporate License Number 184-001-084

NORTH & SOUTH ABUTMENTS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

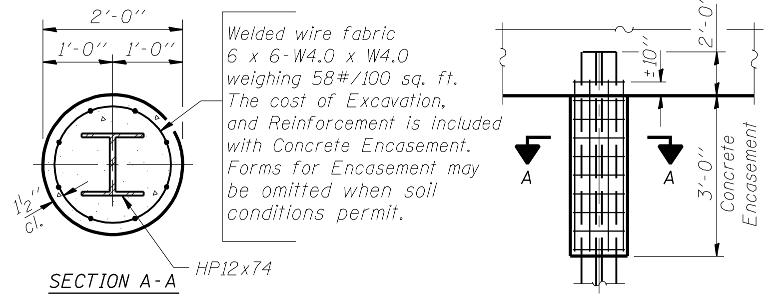
HANSON

JOB# 96S2002B
DATE: 02/02/05

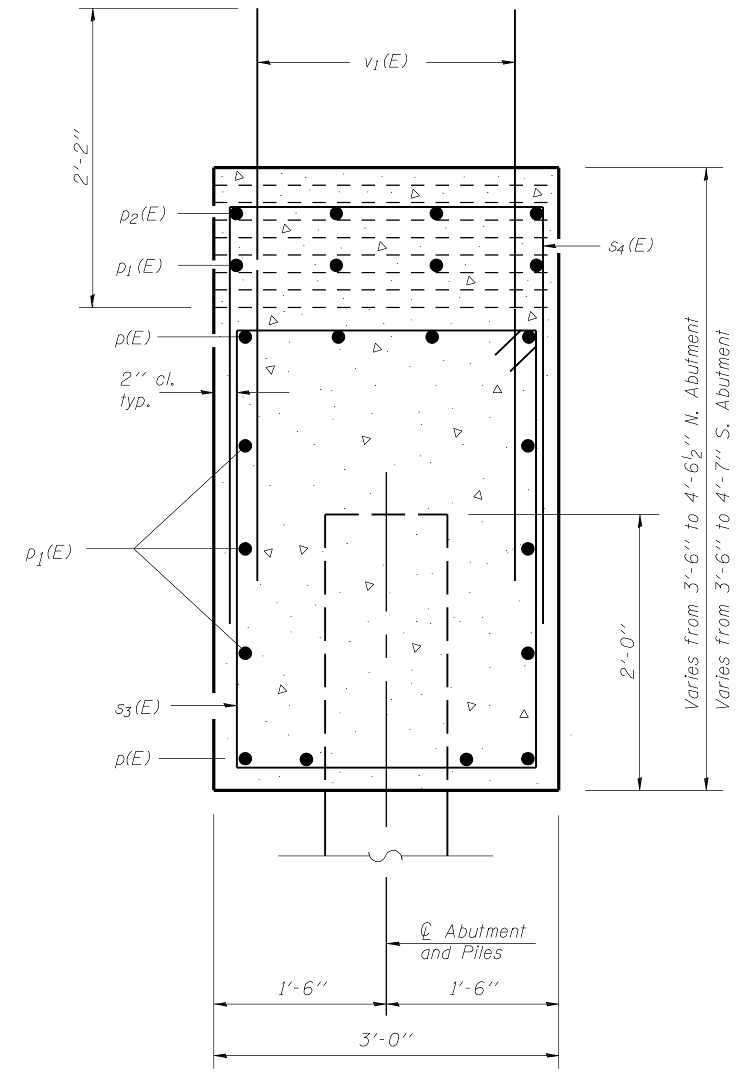
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	219
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

SHEET NO. 17
24 SHEETS



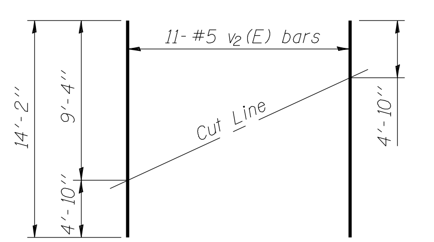
PILE ENCASEMENT DETAIL



SEC. THRU ABUT.

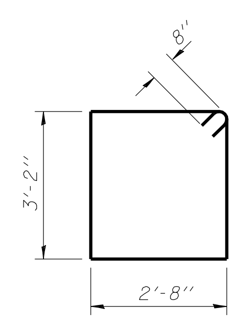
BILL OF MATERIAL
NORTH AND SOUTH ABUTMENT

Bar	No.	Size	Length	Shape
h(E)	120	#7	14'-6"	
p(E)	64	#8	30'-9"	
p_1(E)	52	#6	37'-9"	
p_2(E)	8	#6	36'-2"	
s_3(E)	284	#6	13'-0"	
s_4(E)	152	#5	8'-8"	
u(E)	16	#6	7'-9"	
v_1(E)	404	#5	4'-4"	
v_2(E)	44	#5	14'-2"	
Structure Excavation		Cu. Yd.	621	
Concrete Structures		Cu. Yd.	112.9	
Reinforcement Bars, Epoxy Coated		Pound	21780	
Furnishing Steel Piles HP12x74		Lin. Ft.	2244	
Driving Piles		Lin. Ft.	2244	
Test Pile Steel HP12x74		Each	2	
Concrete Encasement		Cu. Yd.	12.6	

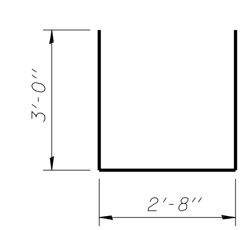


FIELD CUTTING DIAGRAM

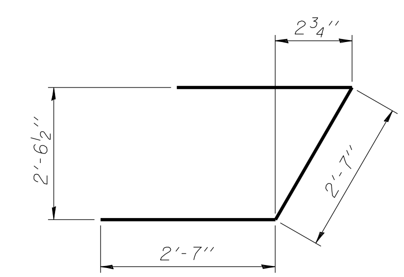
Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s_3(E)



BAR s_4(E)



BAR u(E)

Corporate License Number 184-001-084

NORTH & SOUTH ABUTMENT DETAILS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B

DATE: 02/02/05

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

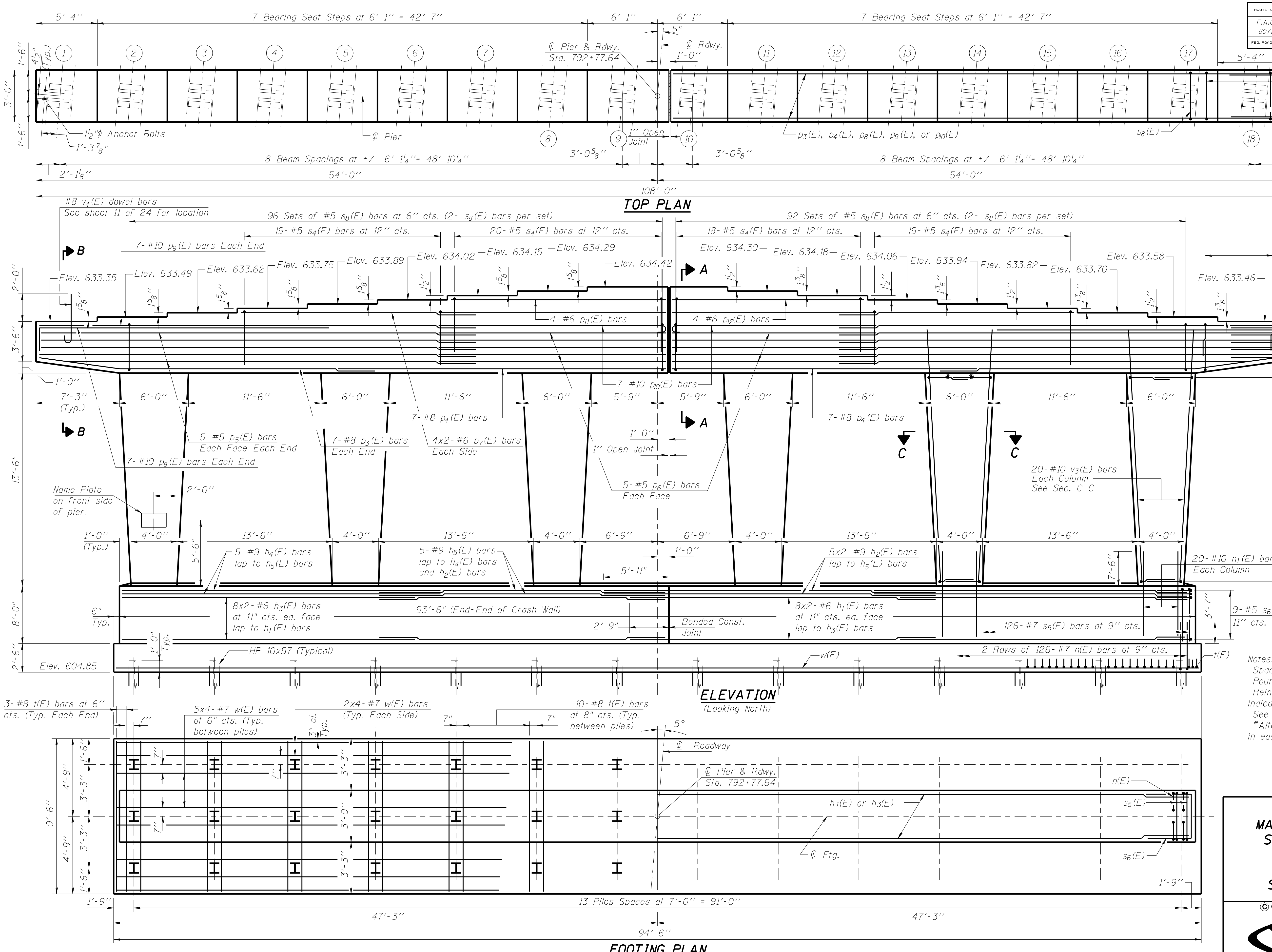
$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	220
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1

SHEET NO. 18
24 SHEETS

Contract No. 72541



MIN. BAR LAPS

#4	1'-8"
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"
#9	5'-9"
#10	7'-3"

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Reinforcement bars indicated thus 6x2-#5 etc. indicates 6 lines of bars with 2 lengths per line.
See sheet 19 of 24 for pier details, and bill of material.
*Alternate placement of 90° hooks in each column face, in each vertical line of $s_{10}(E)$ bars.

Corporate License Number 184-001-084

PIER
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 02/02/05

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

$FILE$ 12/16/2006

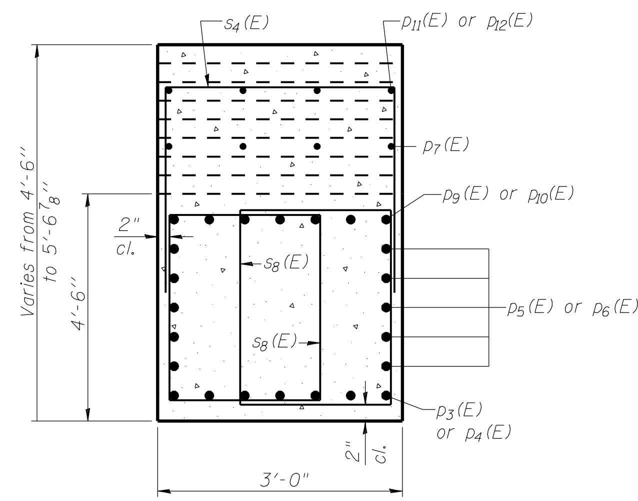
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	221
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

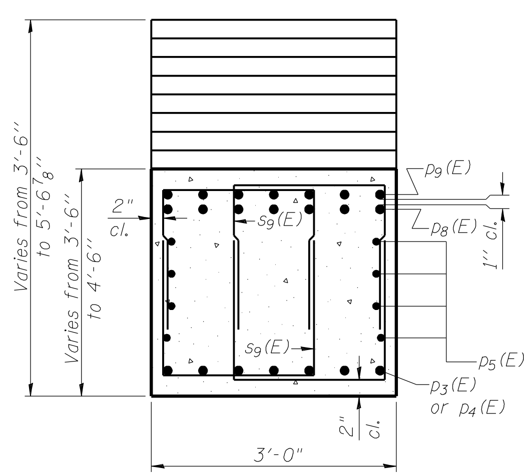
SHEET NO. 19
24 SHEETS

PILE DATA

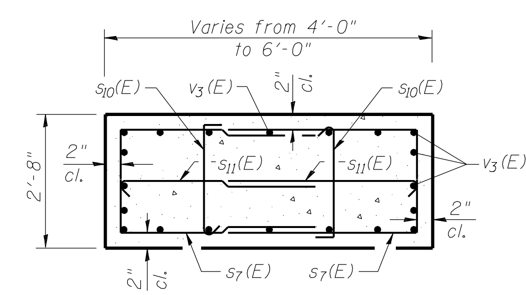
Pile Type: HP 10x57
Nominal Required Bearing: 454 kips
Allowable Resistance Available: 151 kips
Estimated Length: 40'
No. Required: 42 (Includes 1 Test Pile)
Test Piles: 1



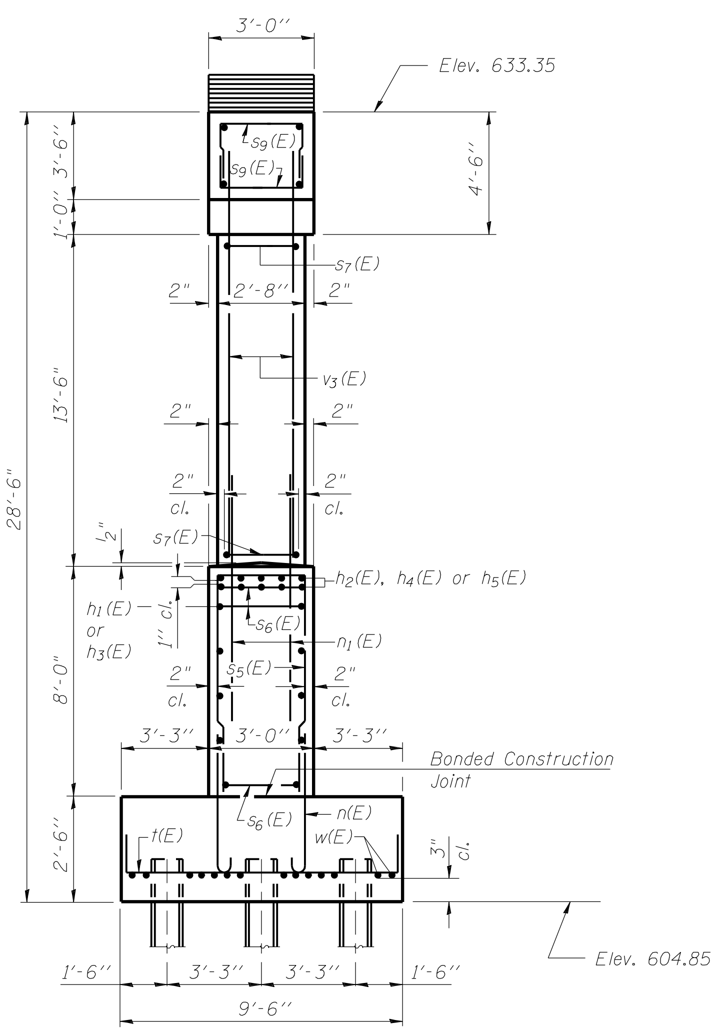
SECTION A-A



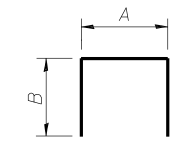
SECTION B-B



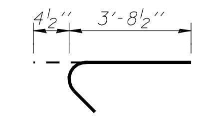
SECTION C-C



END VIEW
(Looking East)



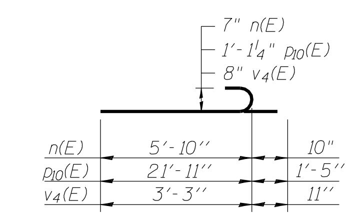
BARS $s_4(E)$ thru $s_7(E)$ and $s_9(E)$



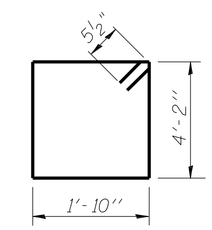
BAR $s_{11}(E)$

A & B DIMENSIONS

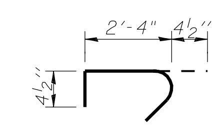
Bar	A	B
$s_4(E)$	2'-8"	3'-0"
$s_5(E)$	2'-8"	7'-8"
$s_6(E)$	2'-6"	2'-2"
$s_7(E)$	2'-4"	3'-8"
$s_9(E)$	2'-6"	3'-2"



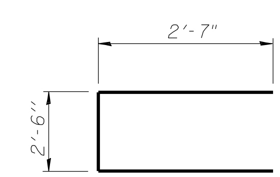
BARS $n(E)$, $p_{10}(E)$ & $v_4(E)$



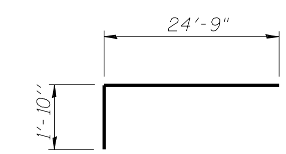
BAR $s_8(E)$



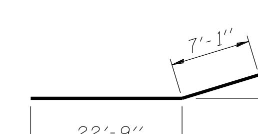
BAR $s_{10}(E)$



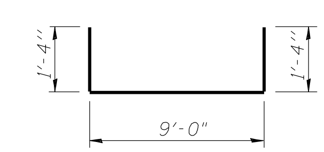
BAR $u_1(E)$



BAR $p_8(E)$



BAR $p_3(E)$



BAR $t(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_1(E)$	32	#6	25'-6"	
$h_2(E)$	20	#9	28'-9"	
$h_3(E)$	32	#6	25'-0"	
$h_4(E)$	10	#9	28'-3"	
$h_5(E)$	10	#9	25'-0"	
$n(E)$	252	#7	6'-8"	
$n_1(E)$	120	#10	12'-6"	
$p_3(E)$	14	#8	29'-10"	
$p_4(E)$	14	#8	29'-6"	
$p_5(E)$	20	#5	37'-6"	
$p_6(E)$	20	#5	19'-6"	
$p_7(E)$	16	#6	20'-0"	
$p_8(E)$	14	#10	26'-7"	
$p_9(E)$	14	#10	40'-0"	
$p_{10}(E)$	14	#10	23'-4"	
$p_{11}(E)$	4	#6	18'-10"	
$p_{12}(E)$	4	#6	16'-10"	
$s_4(E)$	76	#5	8'-8"	
$s_5(E)$	126	#7	18'-0"	
$s_6(E)$	18	#5	6'-10"	
$s_7(E)$	168	#4	9'-8"	
$s_8(E)$	376	#5	12'-11"	
$s_9(E)$	60	#5	8'-10"	
$s_{10}(E)$	168	#4	3'-1"	
$s_{11}(E)$	168	#4	4'-1"	
$t(E)$	136	#8	11'-8"	
$u_1(E)$	10	#6	7'-8"	
$v_3(E)$	120	#10	17'-10"	
$v_4(E)$	102	#8	4'-2"	
$w(E)$	56	#7	26'-3"	
Structure Excavation			Cu. Yd.	143
Concrete Structures			Cu. Yd.	266.5
Reinforcement Bars, Epoxy Coated			Pound	56720
Furnishing Steel Piles HP10x57			Ft.	1640
Driving Piles			Ft.	1640
Test Pile Steel HP10x57			Each	1

Reinforcement Bars designated (E) shall be epoxy coated.

MIN. BAR LAPS

#4 - 1'-8" #7 - 3'-5"
#5 - 2'-2" #8 - 4'-6"
#6 - 2'-7" #10 - 7'-3"

Corporate License Number 184-001-084

PIER DETAILS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB: 96S2002B
DATE: 02/02/05

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

$FILE$
12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	222
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

SHEET NO. 20
24 SHEETS

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

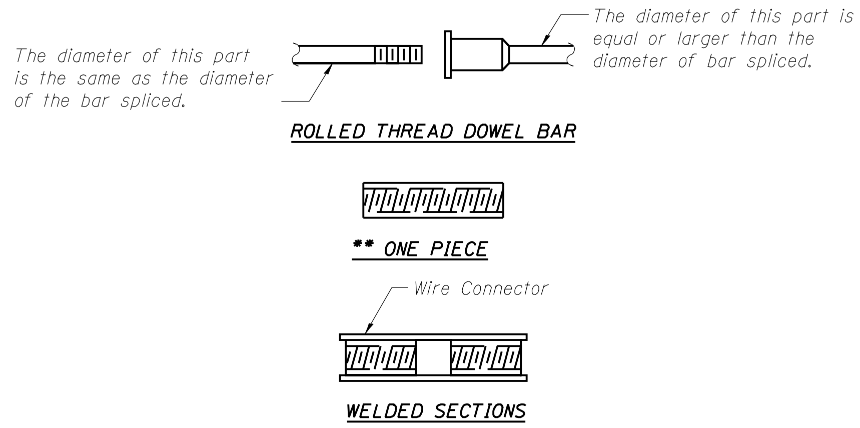
① Minimum Capacity (Tension in kips) $= 1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) $= 1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

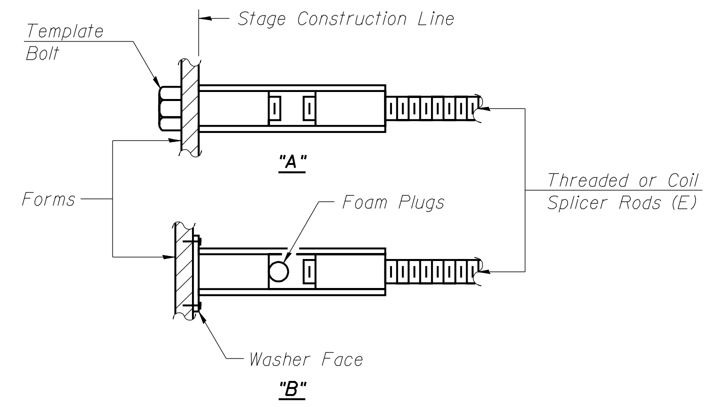
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



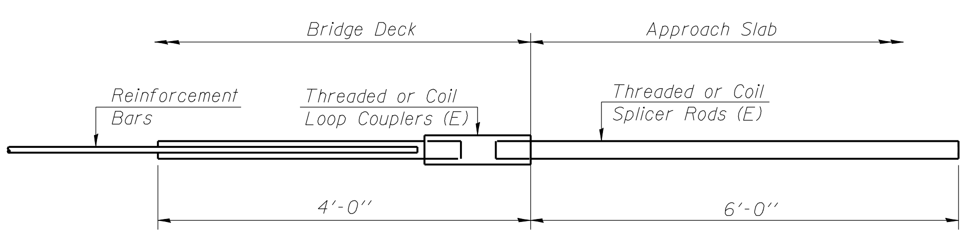
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



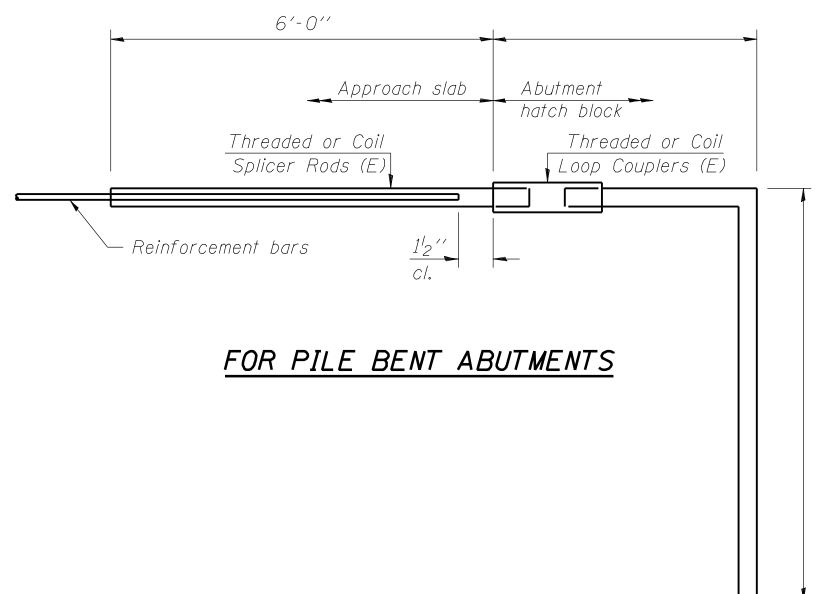
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



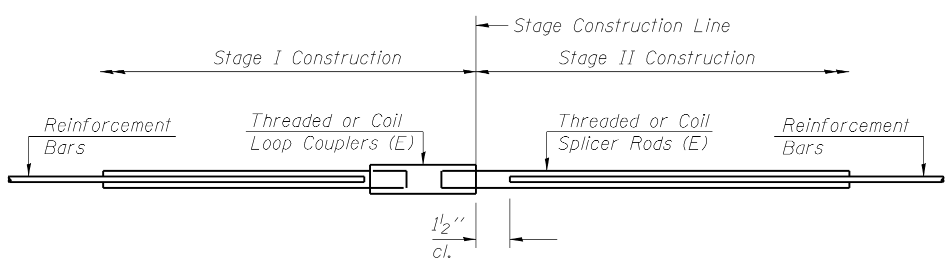
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 216



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 0



STANDARD

Bar Size	No. Assemblies Required	Location
#5	307	Top of slab
#5	277	Bottom of Slab

Corporate License Number 184-001-084

BAR SPLICER ASSEMBLY DETAILS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 02/02/05

$FILE$ 12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

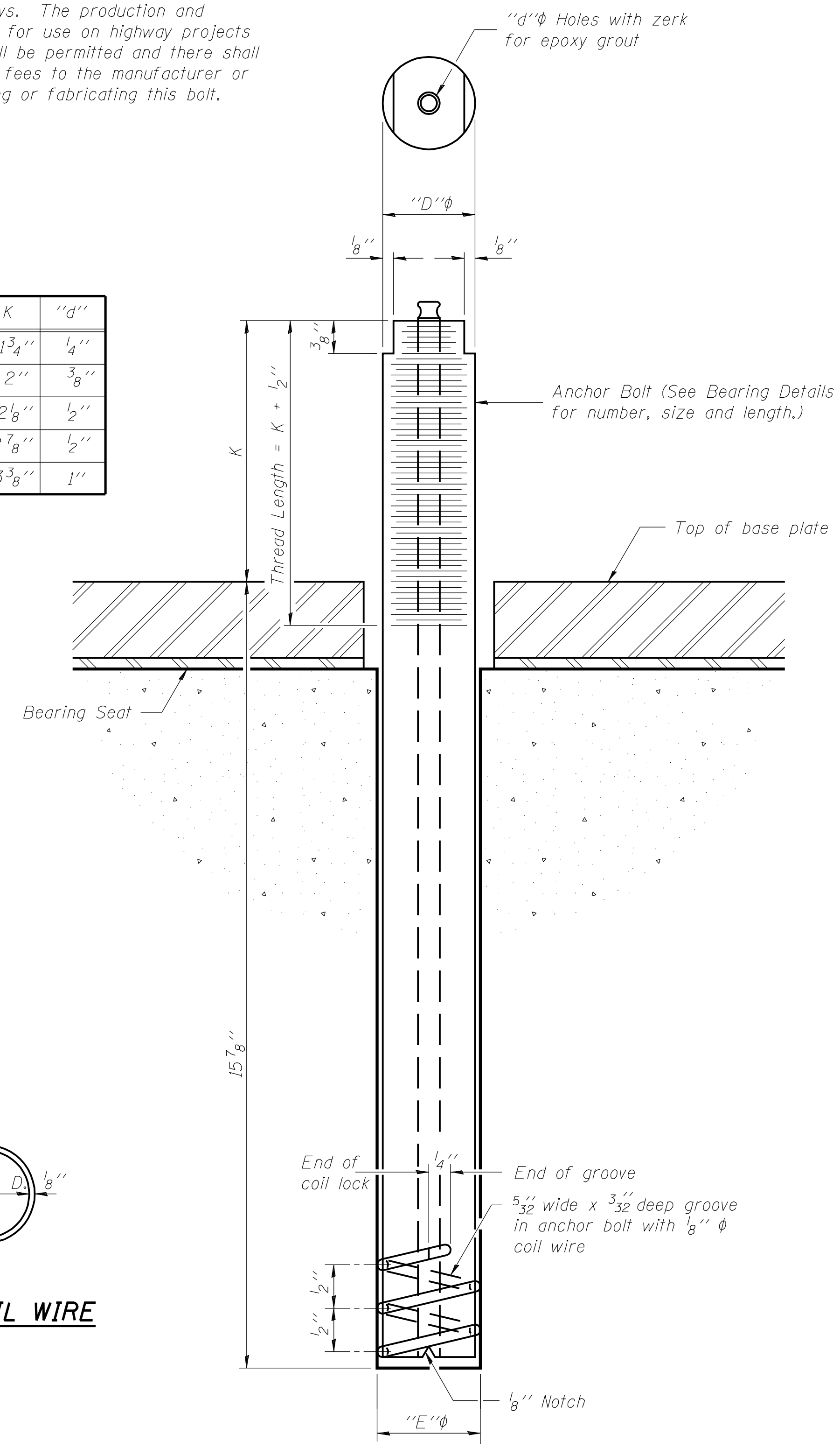
BSD-1 9-01-03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	223
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

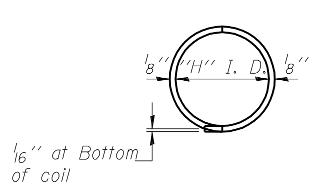
SHEET NO. 21
24 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

D	E	H	K	"d"
1"	1⅛"	13/16"	1¾"	¼"
1¼"	1⅜"	1 1/16"	2"	⅜"
1½"	1⅝"	1 5/16"	2⅛"	½"
2"	2⅛"	1 13/16"	2⅞"	½"
2½"	2⅝"	2 5/16"	3⅜"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT



PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Piers	A307

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Concrete Structures.

Corporate License Number 184-001-084

ANCHOR BOLT DETAILS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B

DATE: 02/02/05

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	224
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 22
24 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No. 72541

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 2   Date 5/22/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64
BORING NO. MAS-5 S. Abut
Station 791+98
Offset 35.00ft Left
Ground Surface Elev. 611.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 593.0 ft
Upon Completion 579.5 ft
After 144 Hrs. 594.0 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Grey and Brown Moist CLAY LOAM (Fill)			1 3 5	1.7 B	20
		-5	1 4 4	1.2 B	22
	604.00				
Brown and Grey to Dark Grey Moist SILTY CLAY (Fill)			1 4 6	2.4 B	20
		-10			
Black			2 5 9	2.4 B	25
Olive Grey			2 3 5	2.4 B	25
	596.50	-15			
Brown and Light Blue Grey V. Moist SILT			1 3 2	0.7 B	26
Free Water			1 3 3	1.2 S-12	24
	591.50	-20			
Brown and Grey Moist SILTY CLAY			0 1 2	0.6 B	25
	589.00				
Brown and Grey Moist Weathered SILTY CLAY (Till)			0 1 2	0.5 B	25
		-25			
	585.00				
Light Blue Grey Moist CLAY LOAM (Till)			0 1 2	0.9 B	20
		-30			
Greyish Brown			3 22 29	6.9 B	15
		-35			
Grey			7 15 22	7.1 S-10	10
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 2 of 2   Date 5/22/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64
BORING NO. MAS-5 S. Abut
Station 791+98
Offset 35.00ft Left
Ground Surface Elev. 611.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 593.0 ft
Upon Completion 579.5 ft
After 144 Hrs. 594.0 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Light Blue Grey Moist CLAY LOAM (Till) (continued)	570.50				
Dark Grey Moist Fissile Clayey SHALE			8 43 57 /5"		12
		-45			
			14 100 /5"		12
	562.00				
		-50			
		-55			
		-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1   Date 5/27/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64
BORING NO. MAS-6 S. Abut
Station 791+20
Offset 35.00ft Right
Ground Surface Elev. 601.6 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 585.1 ft
Upon Completion 584.6 ft
After 168 Hrs. Plugged ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Grey and Brown Moist SILTY CLAY					
Poor Recovery - Disturbed Sample			1 2 3	1.0 P	23
		-5			
	596.10				
Brown and Light Grey V. Moist SILTY CLAY LOAM			1 1 2	0.4 B	27
	593.60				
Brown and Grey Moist SILTY CLAY LOAM			1 2 2	0.8 B	25
		-10			
			0 1 1	0.4 B	28
	588.60				
Brown and Grey Moist Weathered CLAY (Till)			0 2 2	1.0 B	27
		-15			
			1 2 2	1.1 B	22
	583.60				
Brown and Grey Moist CLAY LOAM (Till)			1 2 2	1.0 B	15
		-20			
Brown and Grey Moist CLAY LOAM (Till) (continued)					
Brownish Grey			7 17 27	8.0 S-12	10
		-25			
	574.10				
Brown and Grey Moist Weathered Clayey SHALE			3 12 24		13
		-30			
Grey Dry Fissile Clayey SHALE			9 71 29 /1"		9
		-35			
			34 100 /2"		8
	561.60	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

$FILE$
12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

Corporate License Number 184-001-084

BORINGS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	225
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 23
24 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways
IDOT DISTRICT 6

Page 1 of 2 Date 5/21/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64

BORING NO. MAS-7 Center Pier
Station 792+78
Offset 35.00ft Left
Ground Surface Elev. 608.8 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 594.3 ft
Upon Completion 582.3 ft
After 168 Hrs. 589.3 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Grey and Brown Moist SILTY CLAY (Fill)		-5	1, 4, 5	2.6 B	18
Brown and Grey to Black			2, 5, 8	2.7 B	27
Black Moist SILTY CLAY	599.80	-10	2, 6, 8	2.6 B	29
Brown and Grey Moist SILT	597.80		1, 2, 3	0.7 B	26
Free Water		-15	1, 1, 3	0.8 B	27
Brown and Grey Moist SILTY CLAY	592.80		1, 2, 2	0.7 B	22
		-20	0, 1	0.7	27
Brown and Grey Moist SILTY CLAY (continued)			2	B	
Brown and Grey Weathered SILTY CLAY (Till)	586.80		0, 1, 2	0.9 B	26
		-25	1, 2, 2	1.4 B	22
Brown and Grey Moist CLAY LOAM (Till)	581.80	-30	2, 9, 29	5.2 B	17
		-35	2, 10, 18	3.6 B	10
Grey Moist Fissile Clayey SHALE	569.80	-40	5, 19		15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways
IDOT DISTRICT 6

Page 2 of 2 Date 5/21/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64

BORING NO. MAS-7 Center Pier
Station 792+78
Offset 35.00ft Left
Ground Surface Elev. 608.8 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 594.3 ft
Upon Completion 582.3 ft
After 168 Hrs. 589.3 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Grey Moist Fissile Clayey SHALE (continued)			81 /6"		
	563.30	-45	9, 47, 53 /2"		13
		-50			
		-55			
		-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways
IDOT DISTRICT 6

Page 1 of 2 Date 5/23/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64

BORING NO. MAS-8 Center Pier
Station 792+78
Offset 35.00ft Right
Ground Surface Elev. 613.4 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 593.9 ft
Upon Completion 583.4 ft
After 120 Hrs. 589.4 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown Moist CLAY LOAM (Fill)		-5	7, 9, 9	2.7 B	13
Black to Brown and Grey Moist SILTY CLAY (Fill)	607.40		2, 5, 6	2.8 B	18
Brown and Grey		-10	2, 4, 7	2.5 B	20
Black			2, 5, 8	2.1 B	27
Black Moist SILTY CLAY	599.40	-15	2, 5, 8	2.6 B	27
Brown and Grey Moist SILT	596.40		2, 2, 2	0.7 B	30
Free Water		-20	1, 2	1.0	29
Brown and Grey Moist SILT (continued)			3	B	
Brown and Grey Moist SILTY CLAY	592.40		1, 1, 3	0.6 B	24
Brown and Grey Moist Weathered SILTY CLAY (Till)	589.40	-25	0, 1, 2	0.6 B	27
Brown and Blue Grey Moist CLAY LOAM (Till)	585.90	-30	0, 2, 2	0.6 B	22
Greyish Brown w/4" Medium Grained SAND Seam		-35	3, 36, 32	7.0 S-12	9
		-40	5, 16	6.5	11

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Boring continued on next sheet.

Corporate License Number 184-001-084

BORINGS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 02/02/05

$FILE$
12/16/2006

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	226
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 24
24 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Date 5/23/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64

BORING NO. MAS-8 Center Pier
Station 792+78
Offset 35.00ft Right
Ground Surface Elev. 613.4 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 593.9 ft
Upon Completion 583.4 ft
After 120 Hrs. 589.4 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown and Blue Grey Moist CLAY LOAM (Till) (continued)			24	S-14	
	570.90				
Grey Moist Fissile Clayey SHALE			3		
		-45	9		16
			36		
			12		
		-50	37		12
			63		
			/5"		
			7		
		-55	41		13
	557.90		59		
			/2"		
		-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Date 5/20/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64

BORING NO. MAS-9 N. Abut
Station 794+03
Offset 35.00ft Left
Ground Surface Elev. 600.1 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 589.1 ft
Upon Completion 597.6 ft
After 192 Hrs. 598.1 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Tan and Light Grey Moist SILT			0		
			1	0.6	27
			2	B	
		-5			
			1		
			2	0.9	27
			3	B	
	592.60				
Brown and Grey V. Moist SILTY CLAY			0		
			1	0.3	27
			2	B	
		-10			
			0		
Free Water			1	0.5	26
			2	B	
	587.60				
Brown and Grey Moist SILTY CLAY (Till)			0		
			1	0.9	25
			2	B	
	585.10	-15			
Light Blue Grey V. Moist CLAY LOAM (Till)			0		
			0	0.3	20
			3	B	
			4		
Greyish Brown			14	8.3	9
			22	S-12	
		-20			

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Light Blue Grey V. Moist CLAY LOAM (Till) (continued)			8		
w/8" Grey V. Coarse Grained SAND Seam			49	6.9	11
			17	B	
		-25			
			7		
Grey			18	6.2	10
			26	B	
		-30			
	568.60				
Grey Dry Fissile Clayey SHALE			7		
			41		13
			59		
		-35	/3"		
			17		
	561.10		100		14
			/6"		
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Date 5/20/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur over I-72 LOGGED BY M. Tappan

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0513
Station 792+77.64

BORING NO. MAS-10 N. Abut
Station 794+00
Offset 35.00ft Right
Ground Surface Elev. 601.0 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 592.0 ft
Upon Completion 597.5 ft
After 192 Hrs. 599.0 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Tan and Light Grey Moist SILT			0		
			1	0.7	28
		-5	2	B	
			0		
			2	1.7	30
			2	B	
	593.00				
Brown and Grey Moist SILTY CLAY			0		
Free Water			2	0.7	22
		-10	2	B	
			0		
			1	0.5	25
			2	B	
	588.00				
Brown and Grey Moist Weathered SILTY CLAY (Till)			0		
			1	0.7	27
		-15	2	B	
			0		
			1	0.5	29
			2	B	
	583.00				
Brown and Grey Moist CLAY LOAM (Till)			2		
			14	5.3	10
		-20	19	S-13	

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown and Grey Moist CLAY LOAM (Till) (continued)			5		
			22	6.7	17
		-25	43	S-12	
			6		
Grey			13	8.7	33
		-30	22	S-14	
	567.00		8		
Dark Grey Moist Fissile Clayey SHALE			30		14
		-35	70		
			/5"		
			21		
	561.50		100		14
		-40	/5"		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Corporate License Number 184-001-084

BORINGS
MACARTHUR BLVD. OVER F.A.I. 72
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 792+77.64
STRUCTURE NUMBER 084-0513

HANSON

JOB# 96S2002B
DATE: 02/02/05

LAYOUT	MNM	10/22/04
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/02/05

$FILE$
12/16/2006

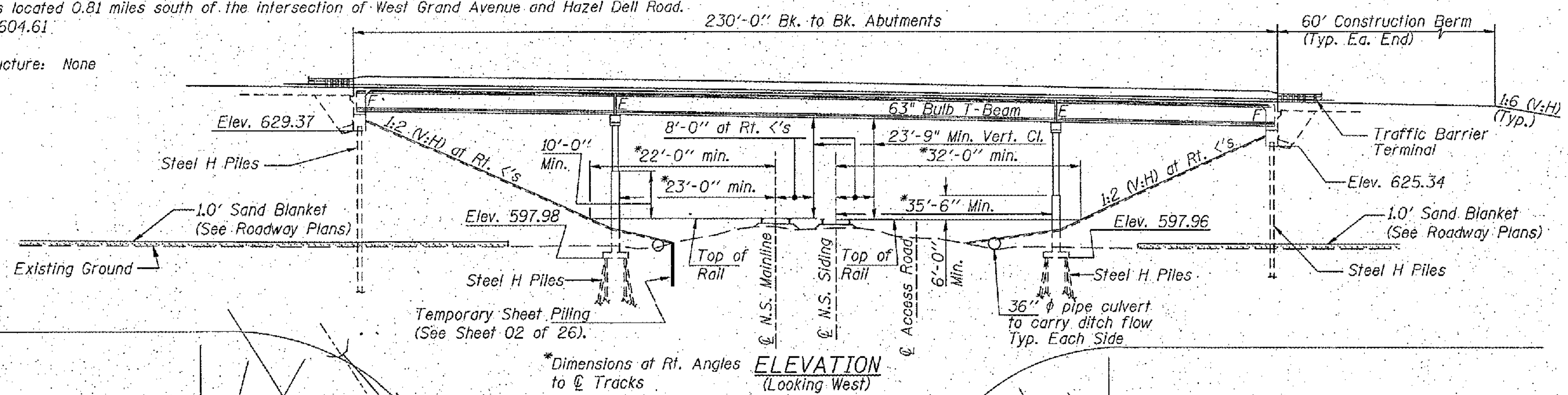
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	227
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*02-00382-02-PV CONTRACT NO. 72541

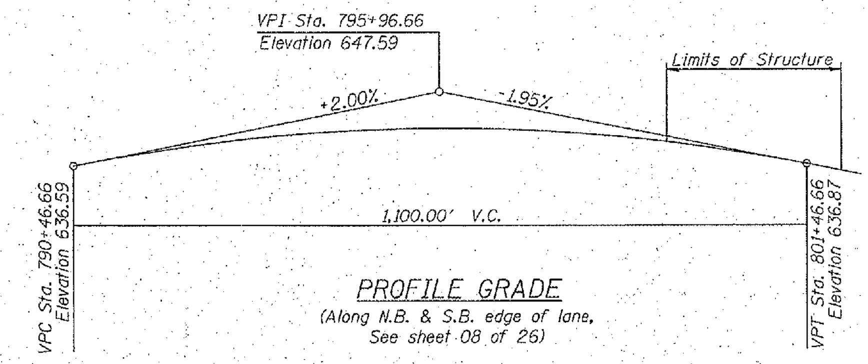
SHEET NO. 01
27 SHEETS

Bench Marks:
IDOT BM #15 Chiseled square at the southeast quadrant of the intersection of West Grand Avenue and Hazel Dell Road. Benchmark is located 33 feet south of the centerline of Hazel Dell Road on a headwall of a concrete pipe culvert. NAVD88 El. 602.47
IDOT BM #80 Chiseled cross on the center bolt of the east leg of an iron sign truss over the eastbound lane of Interstate 72. Benchmark is located 1.62 miles east of Il Route 4. NAVD88 El. 601.28
IDOT BM #0150 Disk in monument vault on survey calibration baseline. Benchmark is located 13 feet north of the centerline of Hazel Dell Road and 0.5 miles west of the intersection of Hazel Dell Road and West Grand Avenue. NAVD88 El. 600.47
IDOT BM #374 Railroad spike in power pole west of a bike path and southeast of Recreation Drive. Benchmark is located 0.81 miles south of the intersection of West Grand Avenue and Hazel Dell Road. NAVD88 El. 604.61

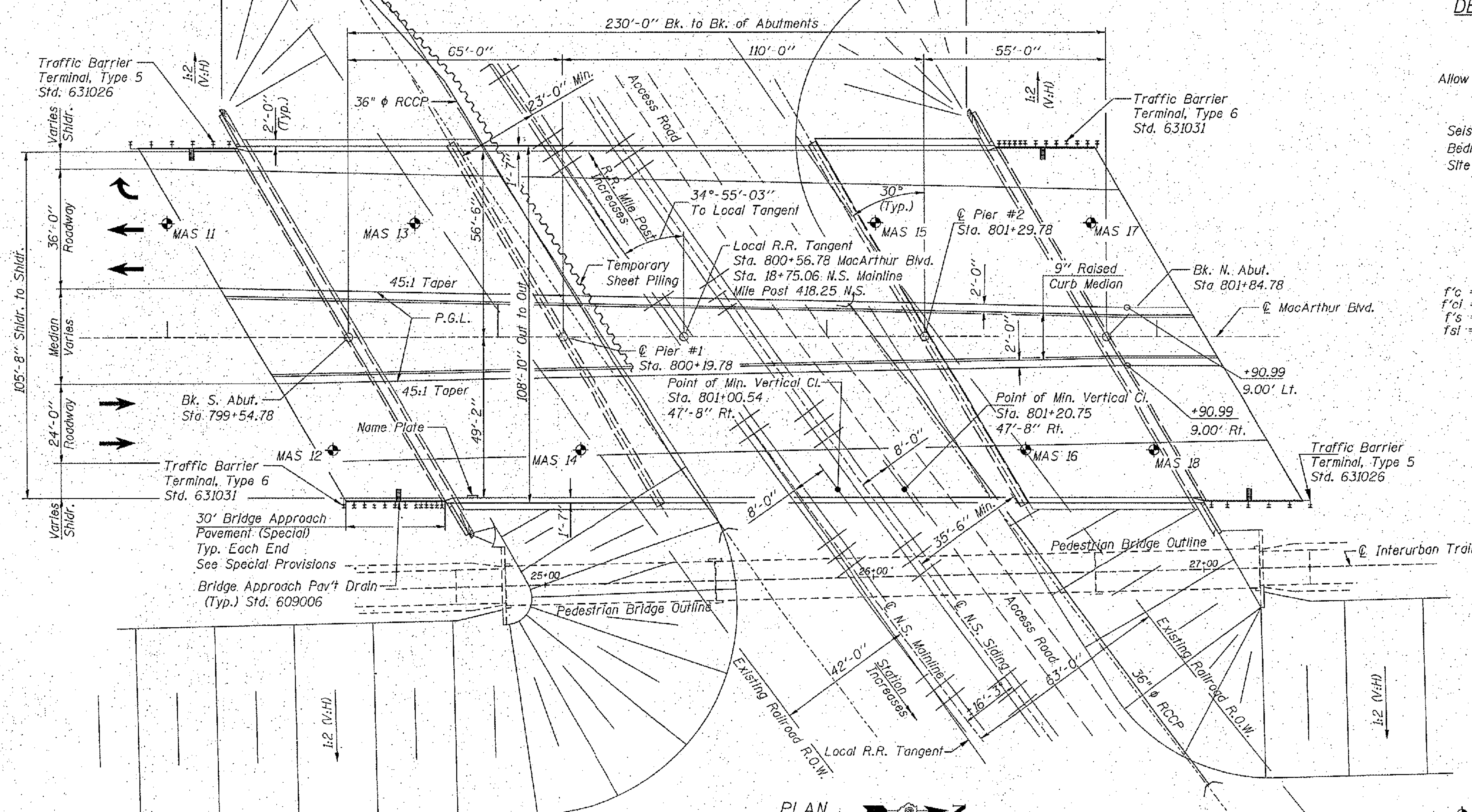
Existing Structure: None



ELEVATION
(Looking West)



PROFILE GRADE
(Along N.B. & S.B. edge of lane, See sheet 08 of 26)



PLAN

◆ Indicates Boring Location

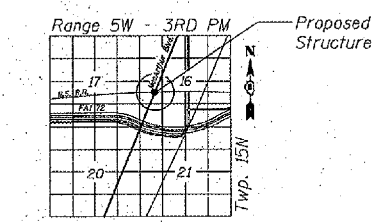
DESIGN SPECIFICATIONS
AASHTO 2002

LOADING HS20-44
Allow 50 psf for future wearing surface.

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.05g
Site Coefficient (S) = 2.0

DESIGN STRESSES
FIELD UNITS
$f'c$ = 3,500 psi
fy = 60,000 psi (reinf.)

PRECAST PRESTRESSED UNITS
$f'c$ = 6,000 psi
$f'ci$ = 5,000 psi
$f's$ = 270,000 psi (1/2"ϕ low lax strands)
fsi = 201,960 psi (1/2"ϕ low lax strands)



LOCATION SKETCH

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

JAMES W. MOHR 4376 REGISTERED STRUCTURAL ENGINEER OF ILLINOIS
SIGNATURE:
DATE SIGNED: 1-2-07
LISC. EXP. DATE: 11-30-08

Corporate License Number 184-001-084

GENERAL PLAN AND ELEVATION
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB: 96S2002B
DATE: 10/30/05

LAYOUT	MRM	05/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

INDEX OF SHEETS

STATION 800+69.78
BUILT 20__ BY
STATE OF ILLINOIS
F.A.U. RT. 8071 SEC. 02-00382-02-PV
LOADING HS20-44
STR. NO. 084-0512

NAME PLATE

See Std. 515001

N.S. SIDING TRACK				N.S. MAINLINE TRACK			
NORTH RAIL		SOUTH RAIL		NORTH RAIL		SOUTH RAIL	
Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation
15+94.36	606.25	15+94.35	606.35	15+93.45	606.54	15+93.46	606.68
16+96.83	606.26	16+96.73	606.35	16+96.30	606.52	16+96.15	606.68
18+01.02	606.24	18+00.91	606.33	18+00.13	606.53	18+00.00	606.68
19+01.99	606.24	19+01.98	606.34	19+01.63	606.53	19+01.43	606.67
20+04.77	606.25	20+04.56	606.34	20+04.16	606.53	20+03.68	606.68
21+07.42	606.24	21+07.44	606.34	21+06.97	606.52	21+06.63	606.66

EXISTING TOP OF RAIL ELEVATIONS

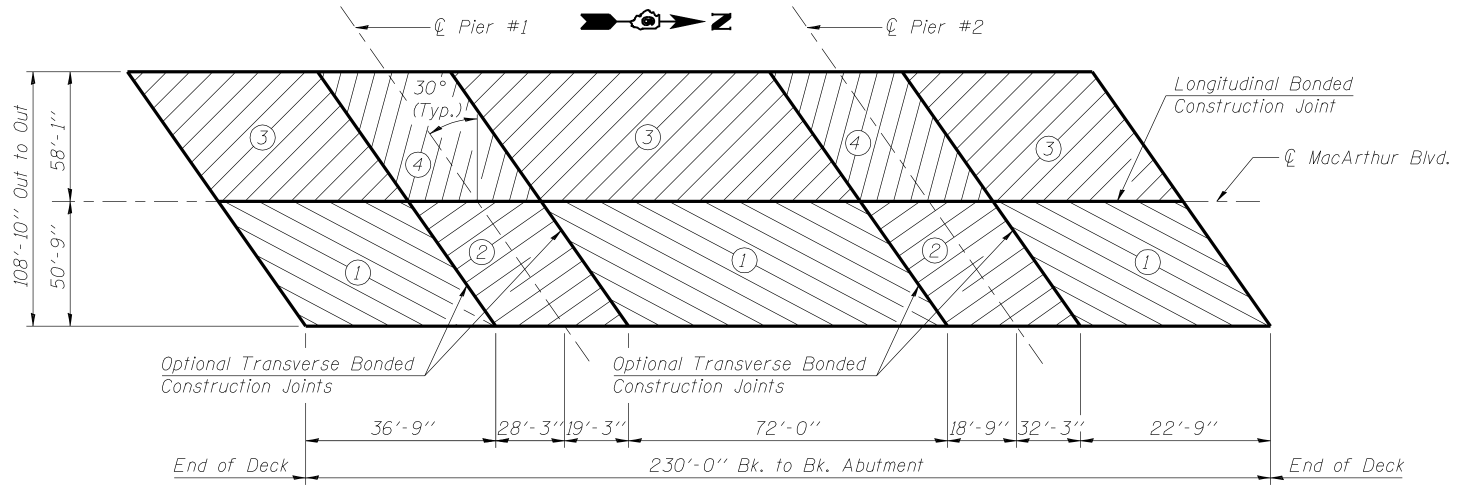
(Along N.S. Top of Rail)

Note:
The elevations of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Chief Engineer Bridges and Structures.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	228
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 02
27 SHEETS



DECK POURING SEQUENCE

The concrete deck segments shall be poured in the numerical order shown above. The deck segments on either side of the bonded construction joint may be poured in one continuous operation without the optional transverse joints shown, subject to the Engineer's approval.
A delay of 21 days shall be provided after completion of deck pour 2.

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

The structural steel bearing plates of the Elastomeric Bearing Assembly shall comform to the requirements of AASHTO M270 Grade 50.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The Contractor shall drive one HP12x53 test pile in a permanent location at each abutment and one HP12x74 test pile in a permanent location at the pier as directed by the Engineer before ordering the remainder of piles.

When the deck is stopped for the day at one or more of the transverse Bonded Construction Joints in the Deck Pouring Sequence as shown, the next pour shall not be made until both of the following requirements are met:

1. At least 72 hours shall have elapsed from the end of the previous pour except,

2. The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

All construction joints shall be bonded.

The piles at the abutments shall be driven through 18" ϕ diameter pre-cored holes extending down to Elev. 601.0 at S. Abut. and 600.0 at N. Abut. or to the present ground elevation whichever occurs first. The annular spacing around the pile shall then be backfilled with dry loose sand. The cost of complying with these requirements shall be included with driving steel piles.

No deck drains will be permitted in the span over tracks or within 10' of crossarm of a railroad pole line.

An unconfined compressive strength of 1.5 tons is required during placement of embankment material.

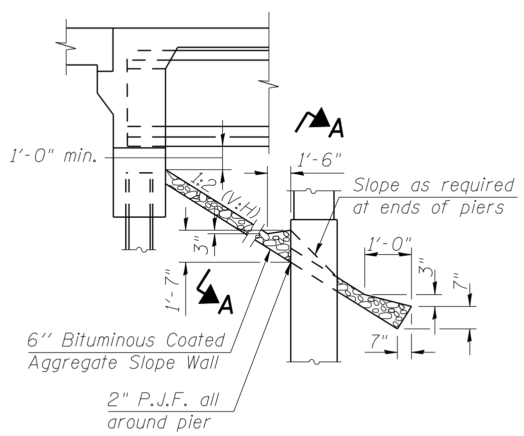
If the Contractor chooses to alter the temporary sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

The Steel H-piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

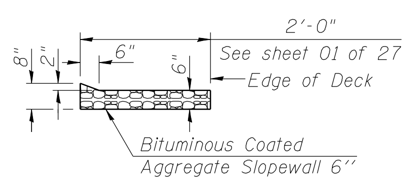
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.	-	778	778
Structure Excavation	Cu. Yd.	-	1256	1256
Concrete Structures	Cu. Yd.	-	1076.8	1076.8
Concrete Superstructure	Cu. Yd.	1073	-	1073
Bridge Deck Grooving	Sq. Yd.	2103	-	2103
Protective Coat	Sq. Yd.	2931	-	2931
Elastomeric Bearing Assembly, Type I	Each	68	-	68
Furnishing and Erecting Precast Prestressed Concrete Bulb-T-Beams 63"	Foot	3859.5	-	3859.5
Furnishing and Erecting Structural Steel	Pounds	3170	-	3170
Reinforcement Bars, Epoxy Coated	Pounds	184330	151010	335340
Bituminous Coated Aggregate Slope Wall 6"	Sq. Yd.	-	1727	1727
Furnishing Steel Piles HP12x53	Foot	-	2322	2322
Furnishing Steel Piles HP12x74	Foot	-	2516	2516
Driving Piles	Foot	-	4838	4838
Test Pile Steel HP12x53	Each	-	2	2
Test Pile Steel HP12x74	Each	-	2	2
Temporary Sheet Piling	Sq. Ft.	-	1380	1380
Name Plates	Each	1	-	1
Bar Splicers	Each	862	-	862
Pipe Underdrains for Structures 4"	Foot	-	350	350
Geocomposite Wall Drain	Sq. Yd.	-	265	265
Concrete Encasement	Cu. Yd.	-	13.3	13.3

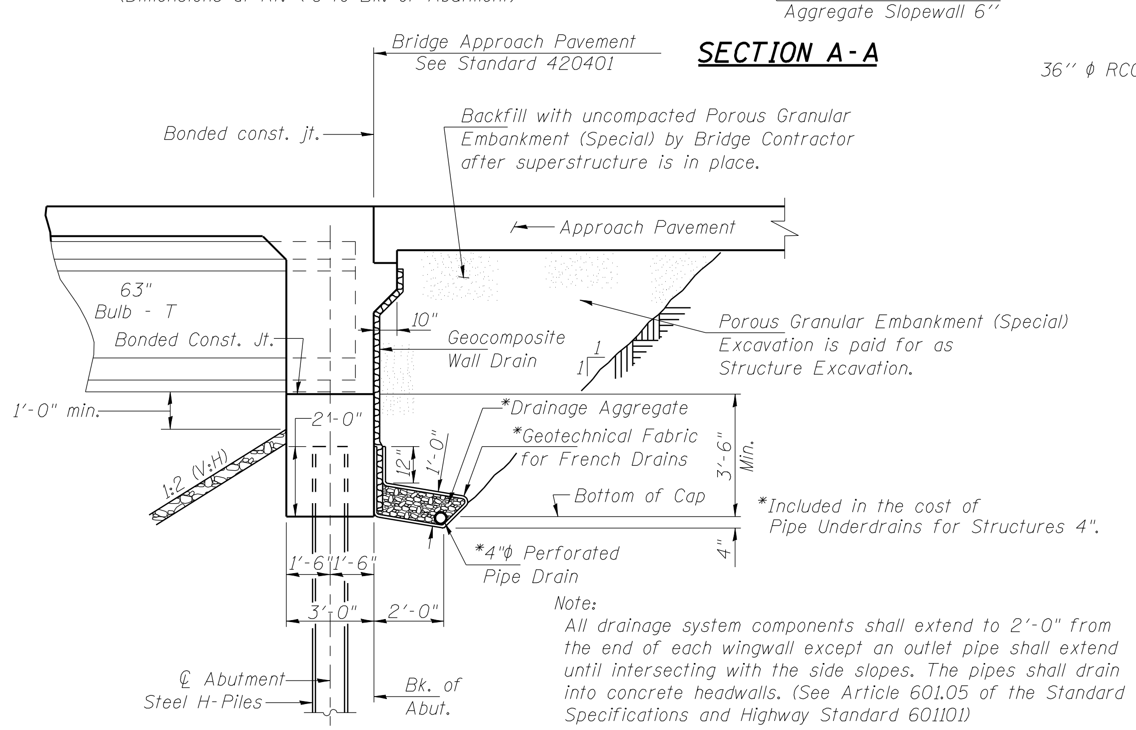


SECTION THRU SLOPEWALL

(Dimensions at Rt. ∠'s to Bk. of Abutment)



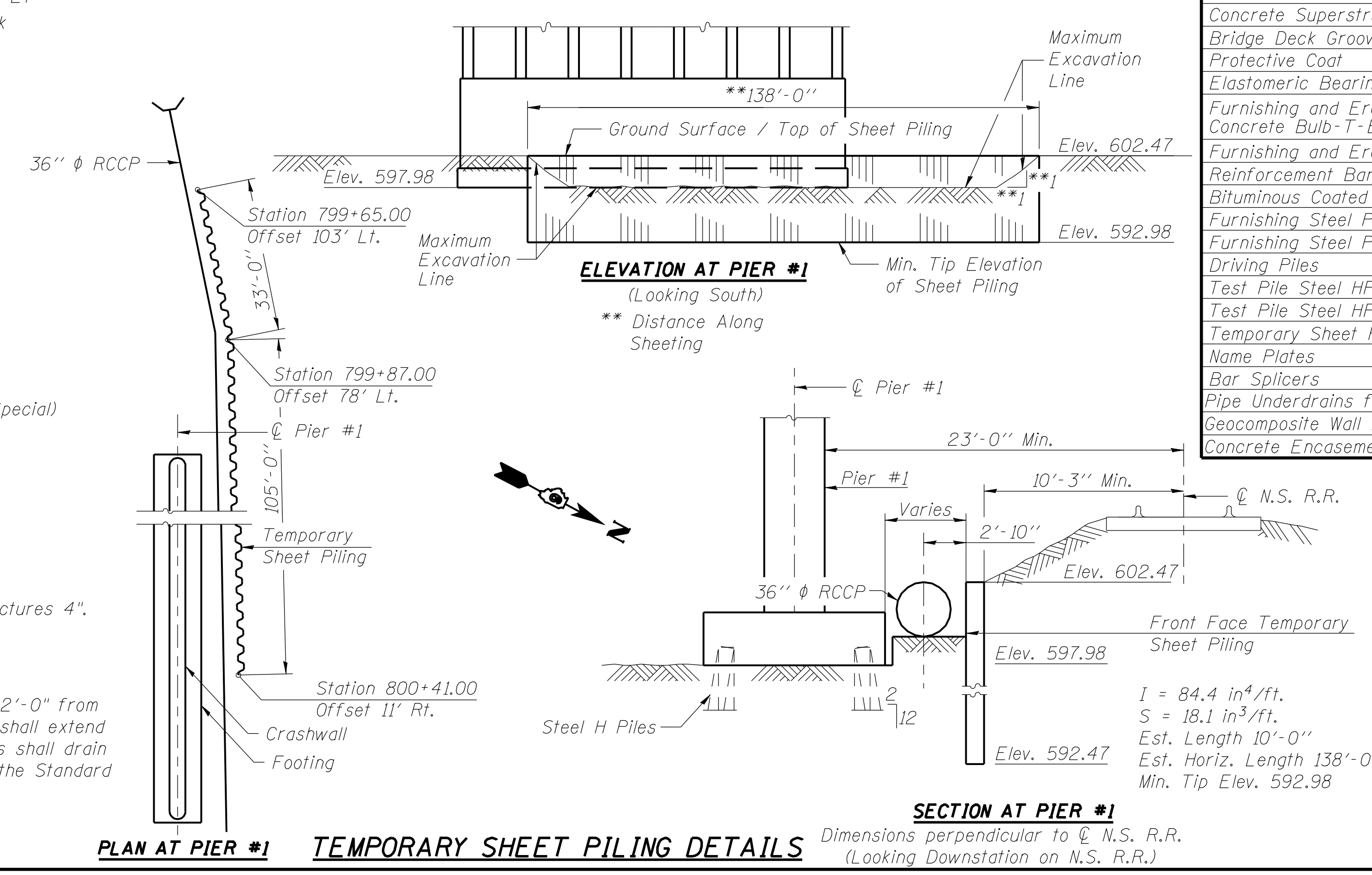
SECTION A-A



Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

SECTION THRU INTEGRAL ABUTMENT

(Dimensions @ Rt. ∠'s to Bk. of Abutment)



TEMPORARY SHEET PILING DETAILS

Corporate License Number 184-001-084

GENERAL NOTES & BILL OF MATERIAL
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB#: 96S2002B
DATE: 10/30/05

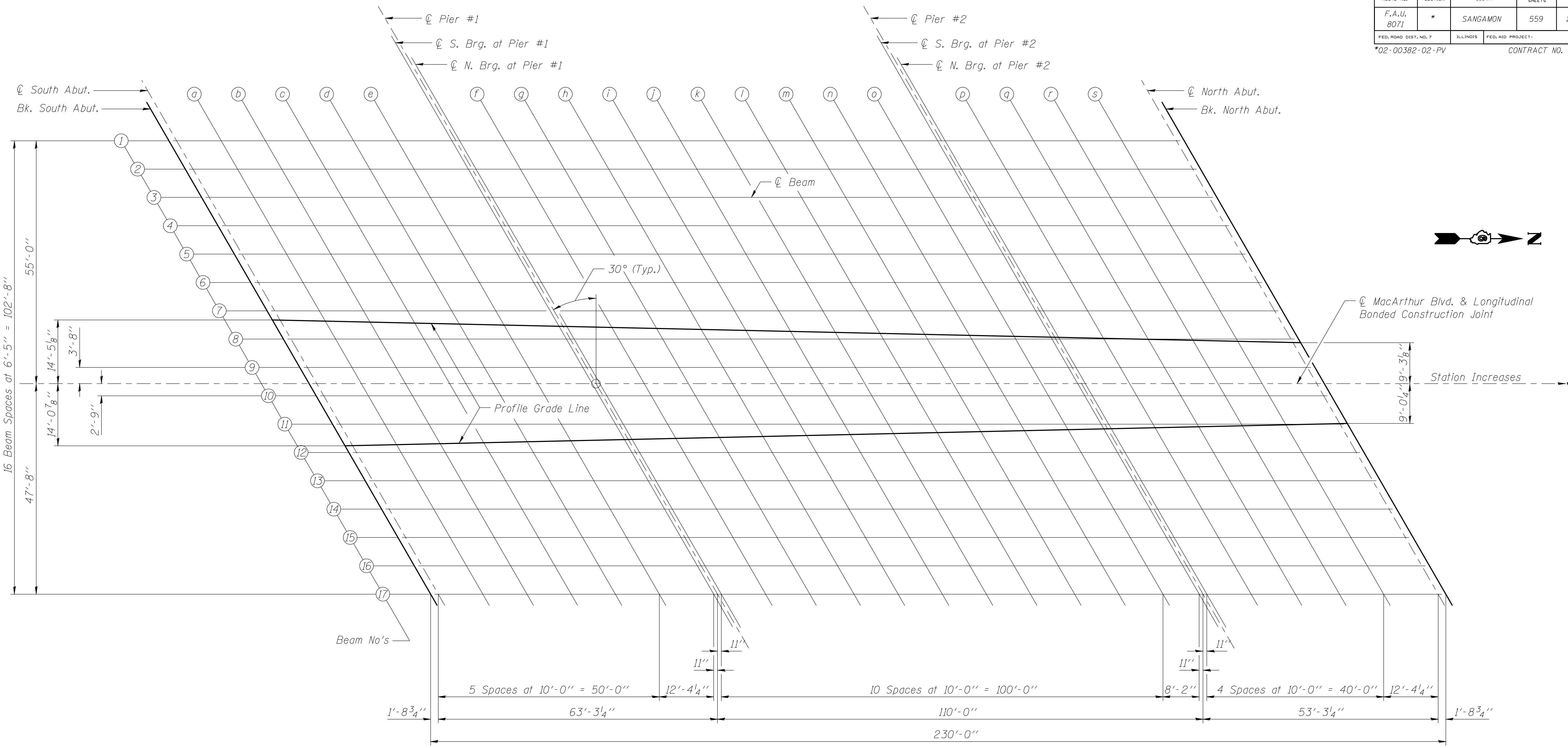
LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

$FILE$ 12/16/2006

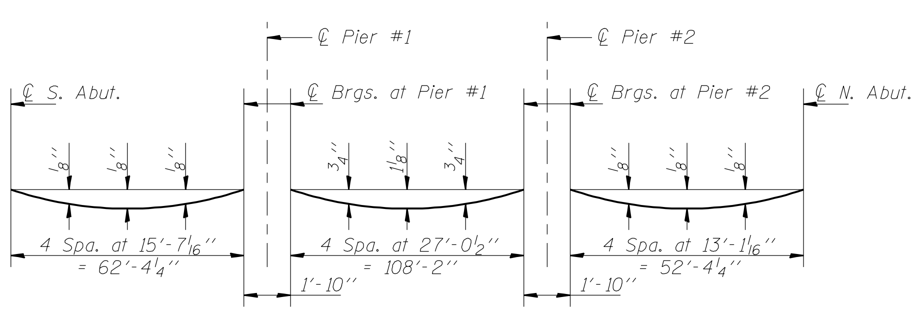
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	229
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 03
27 SHEETS

*02-00382-02-PV
CONTRACT NO. 72541



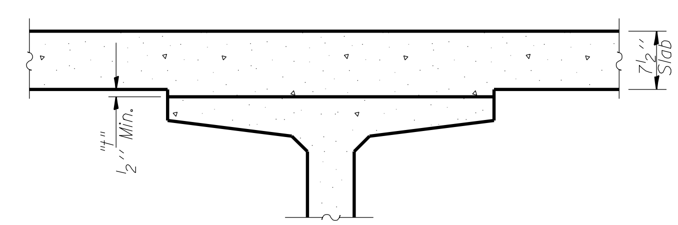
DIAGRAMMATIC PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 04 thru 07 of 27.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals on the diagrammatic plan. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	230
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 04
27 SHEETS

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+23.03	-55.00	639.49	639.49
℄ S. Abut.	799+24.76	-55.00	639.47	639.47
a	799+34.76	-55.00	639.35	639.36
b	799+44.76	-55.00	639.23	639.23
c	799+54.76	-55.00	639.10	639.11
d	799+64.76	-55.00	638.96	638.97
e	799+74.76	-55.00	638.83	638.83
℄ S. Brg. at Pier 1	799+87.11	-55.00	638.66	638.66
℄ Pier 1	799+88.03	-55.00	638.64	638.64
℄ N. Brg. at Pier 1	799+88.94	-55.00	638.63	638.63
f	799+98.94	-55.00	638.48	638.51
g	800+08.94	-55.00	638.34	638.38
h	800+18.94	-55.00	638.18	638.25
i	800+28.94	-55.00	638.03	638.10
j	800+38.94	-55.00	637.87	637.96
k	800+48.94	-55.00	637.71	637.79
l	800+58.94	-55.00	637.54	637.61
m	800+68.94	-55.00	637.37	637.44
n	800+78.94	-55.00	637.20	637.24
o	800+88.94	-55.00	637.02	637.04
℄ S. Brg. at Pier 2	800+97.11	-55.00	636.87	636.87
℄ Pier 2	800+98.03	-55.00	636.86	636.86
℄ N. Brg. at Pier 2	800+98.94	-55.00	636.84	636.84
p	801+08.94	-55.00	636.65	636.66
q	801+18.94	-55.00	636.47	636.47
r	801+28.94	-55.00	636.28	636.28
s	801+38.94	-55.00	636.08	636.08
℄ N. Abut.	801+51.29	-55.00	635.84	635.84
Bk. N. Abut.	801+53.03	-55.00	635.81	635.81

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+26.73	-48.58	639.58	639.58
℄ S. Abut.	799+28.46	-48.58	639.56	639.56
a	799+38.46	-48.58	639.44	639.44
b	799+48.46	-48.58	639.31	639.32
c	799+58.46	-48.58	639.18	639.19
d	799+68.46	-48.58	639.05	639.06
e	799+78.46	-48.58	638.91	638.92
℄ S. Brg. at Pier 1	799+90.81	-48.58	638.74	638.74
℄ Pier 1	799+91.73	-48.58	638.72	638.72
℄ N. Brg. at Pier 1	799+92.65	-48.58	638.71	638.71
f	800+02.65	-48.58	638.56	638.59
g	800+12.65	-48.58	638.41	638.46
h	800+22.65	-48.58	638.26	638.33
i	800+32.65	-48.58	638.10	638.18
j	800+42.65	-48.58	637.94	638.03
k	800+52.65	-48.58	637.78	637.86
l	800+62.65	-48.58	637.61	637.69
m	800+72.65	-48.58	637.44	637.51
n	800+82.65	-48.58	637.27	637.31
o	800+92.65	-48.58	637.09	637.11
℄ S. Brg. at Pier 2	801+00.81	-48.58	636.94	636.94
℄ Pier 2	801+01.73	-48.58	636.92	636.92
℄ N. Brg. at Pier 2	801+02.65	-48.58	636.90	636.90
p	801+12.65	-48.58	636.72	636.72
q	801+22.65	-48.58	636.53	636.53
r	801+32.65	-48.58	636.34	636.34
s	801+42.65	-48.58	636.14	636.14
℄ N. Abut.	801+55.00	-48.58	635.90	635.90
Bk. N. Abut.	801+56.73	-48.58	635.86	635.86

BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+30.44	-42.17	639.67	639.67
℄ S. Abut.	799+32.17	-42.17	639.65	639.65
a	799+42.17	-42.17	639.53	639.53
b	799+52.17	-42.17	639.40	639.41
c	799+62.17	-42.17	639.27	639.28
d	799+72.17	-42.17	639.13	639.14
e	799+82.17	-42.17	638.99	639.00
℄ S. Brg. at Pier 1	799+94.52	-42.17	638.82	638.82
℄ Pier 1	799+95.44	-42.17	638.80	638.80
℄ N. Brg. at Pier 1	799+96.35	-42.17	638.79	638.79
f	800+06.35	-42.17	638.64	638.67
g	800+16.35	-42.17	638.49	638.54
h	800+26.35	-42.17	638.34	638.40
i	800+36.35	-42.17	638.18	638.25
j	800+46.35	-42.17	638.02	638.10
k	800+56.35	-42.17	637.85	637.94
l	800+66.35	-42.17	637.68	637.76
m	800+76.35	-42.17	637.51	637.57
n	800+86.35	-42.17	637.33	637.38
o	800+96.35	-42.17	637.15	637.17
℄ S. Brg. at Pier 2	801+04.52	-42.17	637.00	637.00
℄ Pier 2	801+05.44	-42.17	636.99	636.99
℄ N. Brg. at Pier 2	801+06.35	-42.17	636.97	636.97
p	801+16.35	-42.17	636.78	636.79
q	801+26.35	-42.17	636.59	636.60
r	801+36.35	-42.17	636.40	636.40
s	801+46.35	-42.17	636.20	636.20
℄ N. Abut.	801+58.70	-42.17	635.96	635.96
Bk. N. Abut.	801+60.44	-42.17	635.92	635.92

Note:
Offset measured from ℄ MacArthur Blvd.

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+34.14	-35.75	639.76	639.76
℄ S. Abut.	799+35.87	-35.75	639.74	639.74
a	799+45.87	-35.75	639.61	639.62
b	799+55.87	-35.75	639.48	639.49
c	799+65.87	-35.75	639.35	639.36
d	799+75.87	-35.75	639.21	639.22
e	799+85.87	-35.75	639.07	639.08
℄ S. Brg. at Pier 1	799+98.22	-35.75	638.90	638.90
℄ Pier 1	799+99.14	-35.75	638.88	638.88
℄ N. Brg. at Pier 1	800+00.06	-35.75	638.87	638.87
f	800+10.06	-35.75	638.72	638.74
g	800+20.06	-35.75	638.57	638.62
h	800+30.06	-35.75	638.41	638.48
i	800+40.06	-35.75	638.25	638.33
j	800+50.06	-35.75	638.09	638.18
k	800+60.06	-35.75	637.92	638.01
l	800+70.06	-35.75	637.75	637.83
m	800+80.06	-35.75	637.58	637.64
n	800+90.06	-35.75	637.40	637.44
o	801+00.06	-35.75	637.22	637.24
℄ S. Brg. at Pier 2	801+08.22	-35.75	637.07	637.07
℄ Pier 2	801+09.14	-35.75	637.05	637.05
℄ N. Brg. at Pier 2	801+10.06	-35.75	637.03	637.03
p	801+20.06	-35.75	636.85	636.85
q	801+30.06	-35.75	636.65	636.66
r	801+40.06	-35.75	636.46	636.46
s	801+50.06	-35.75	636.27	636.27
℄ N. Abut.	801+62.41	-35.75	636.02	636.02
Bk. N. Abut.	801+64.14	-35.75	635.98	635.98

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+37.84	-29.33	639.85	639.85
℄ S. Abut.	799+39.58	-29.33	639.83	639.83
a	799+49.58	-29.33	639.70	639.70
b	799+59.58	-29.33	639.57	639.58
c	799+69.58	-29.33	639.43	639.44
d	799+79.58	-29.33	639.30	639.30
e	799+89.58	-29.33	639.15	639.16
℄ S. Brg. at Pier 1	800+01.93	-29.33	638.98	638.98
℄ Pier 1	800+02.84	-29.33	638.96	638.96
℄ N. Brg. at Pier 1	800+03.76	-29.33	638.95	638.95
f	800+13.76	-29.33	638.80	638.82
g	800+23.76	-29.33	638.64	638.69
h	800+33.76	-29.33	638.49	638.55
i	800+43.76	-29.33	638.33	638.40
j	800+53.76	-29.33	638.16	638.25
k	800+63.76	-29.33	637.99	638.08
l	800+73.76	-29.33	637.82	637.90
m	800+83.76	-29.33	637.65	637.71
n	800+93.76	-29.33	637.47	637.51
o	801+03.76	-29.33	637.29	637.30
℄ S. Brg. at Pier 2	801+11.93	-29.33	637.13	637.13
℄ Pier 2	801+12.84	-29.33	637.12	637.12
℄ N. Brg. at Pier 2	801+13.76	-29.33	637.10	637.10
p	801+23.76	-29.33	636.91	636.91
q	801+33.76	-29.33	636.72	636.72
r	801+43.76	-29.33	636.52	636.52
s	801+53.76	-29.33	636.33	636.33
℄ N. Abut.	801+66.11	-29.33	636.08	636.08
Bk. N. Abut.	801+67.84	-29.33	636.04	636.04

BEAM #6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+41.55	-22.92	639.93	639.93
℄ S. Abut.	799+43.28	-22.92	639.91	639.91
a	799+53.28	-22.92	639.78	639.79
b	799+63.28	-22.92	639.65	639.66
c	799+73.28	-22.92	639.52	639.53
d	799+83.28	-22.92	639.38	639.39
e	799+93.28	-22.92	639.24	639.24
℄ S. Brg. at Pier 1	800+05.63	-22.92	639.05	639.05
℄ Pier 1	800+06.55	-22.92	639.04	639.04
℄ N. Brg. at Pier 1	800+07.47	-22.92	639.03	639.03
f	800+17.47	-22.92	638.88	638.90
g	800+27.47	-22.92	638.72	638.77
h	800+37.47	-22.92	638.56	638.63
i	800+47.47	-22.92	638.40	638.48
j	800+57.47	-22.92	638.23	638.32
k	800+67.47	-22.92	638.06	638.15
l	800+77.47	-22.92	637.89	637.97
m	800+87.47	-22.92	637.71	637.78
n	800+97.47	-22.92	637.53	637.58
o	801+07.47	-22.92	637.35	637.37
℄ S. Brg. at Pier 2	801+15.63	-22.92	637.20	637.20
℄ Pier 2	801+16.55	-22.92	637.18	637.18
℄ N. Brg. at Pier 2	801+17.47	-22.92	637.16	637.16
p	801+27.47	-22.92	636.97	636.97
q	801+37.47	-22.92	636.78	636.78
r	801+47.47	-22.92	636.58	636.59
s	801+57.47	-22.92	636.38	636.39
℄ N. Abut.	801+69.82	-22.92	636.14	636.14
Bk. N. Abut.	801+71.55	-22.92	636.10	636.10

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	231
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 05
27 SHEETS

*02-00382-02-PV CONTRACT NO. 72541

Note:
Offset measured from ℄ MacArthur Blvd.

BEAM #7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+45.25	-16.50	640.02	640.02
℄ S. Abut.	799+46.99	-16.50	640.00	640.00
a	799+56.99	-16.50	639.87	639.87
b	799+66.99	-16.50	639.74	639.74
c	799+76.99	-16.50	639.60	639.61
d	799+86.99	-16.50	639.46	639.47
e	799+96.99	-16.50	639.31	639.32
℄ S. Brg. at Pier 1	800+09.34	-16.50	639.13	639.13
℄ Pier 1	800+10.25	-16.50	639.12	639.12
℄ N. Brg. at Pier 1	800+11.17	-16.50	639.10	639.10
f	800+21.17	-16.50	638.95	638.98
g	800+31.17	-16.50	638.80	638.84
h	800+41.17	-16.50	638.64	638.70
i	800+51.17	-16.50	638.47	638.55
j	800+61.17	-16.50	638.30	638.39
k	800+71.17	-16.50	638.13	638.22
l	800+81.17	-16.50	637.96	638.03
m	800+91.17	-16.50	637.78	637.85
n	801+01.17	-16.50	637.60	637.64
o	801+11.17	-16.50	637.42	637.43
℄ S. Brg. at Pier 2	801+19.34	-16.50	637.26	637.26
℄ Pier 2	801+20.25	-16.50	637.24	637.24
℄ N. Brg. at Pier 2	801+21.17	-16.50	637.23	637.23
p	801+31.17	-16.50	637.03	637.04
q	801+41.17	-16.50	636.84	636.84
r	801+51.17	-16.50	636.64	636.65
s	801+61.17	-16.50	636.44	636.45
℄ N. Abut.	801+73.52	-16.50	636.20	636.20
Bk. N. Abut.	801+75.25	-16.50	636.16	636.16

WEST PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+46.45	-14.43	640.05	640.05
℄ S. Abut.	799+48.20	-14.40	640.03	640.03
a	799+58.33	-14.17	639.90	639.90
b	799+68.46	-13.95	639.77	639.78
c	799+78.59	-13.72	639.64	639.64
d	799+88.72	-13.49	639.50	639.51
e	799+98.85	-13.27	639.36	639.36
℄ S. Brg. at Pier 1	800+11.36	-12.99	639.17	639.17
℄ Pier 1	800+12.29	-12.97	639.16	639.16
℄ N. Brg. at Pier 1	800+13.22	-12.95	639.15	639.15
f	800+23.35	-12.73	639.00	639.02
g	800+33.48	-12.50	638.84	638.89
h	800+43.61	-12.28	638.68	638.75
i	800+53.74	-12.05	638.52	638.60
j	800+63.87	-11.82	638.36	638.44
k	800+74.00	-11.60	638.19	638.27
l	800+84.13	-11.37	638.01	638.09
m	800+94.26	-11.15	637.84	637.90
n	801+04.39	-10.92	637.66	637.70
o	801+14.52	-10.70	637.47	637.49
℄ S. Brg. at Pier 2	801+22.79	-10.52	637.32	637.32
℄ Pier 2	801+23.72	-10.49	637.30	637.30
℄ N. Brg. at Pier 2	801+24.65	-10.47	637.29	637.29
p	801+34.78	-10.25	637.09	637.10
q	801+44.91	-10.02	636.90	636.90
r	801+55.04	-9.80	636.71	636.71
s	801+65.17	-9.57	636.51	636.51
℄ N. Abut.	801+77.68	-9.30	636.27	636.27
Bk. N. Abut.	801+79.44	-9.26	636.23	636.23

BEAM #8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+48.96	-10.08	640.11	640.11
℄ S. Abut.	799+50.69	-10.08	640.09	640.09
a	799+60.69	-10.08	639.95	639.96
b	799+70.69	-10.08	639.82	639.83
c	799+80.69	-10.08	639.68	639.69
d	799+90.69	-10.08	639.54	639.55
e	800+00.69	-10.08	639.39	639.40
℄ S. Brg. at Pier 1	800+13.04	-10.08	639.21	639.21
℄ Pier 1	800+13.96	-10.08	639.20	639.20
℄ N. Brg. at Pier 1	800+14.88	-10.08	639.18	639.18
f	800+24.88	-10.08	639.03	639.05
g	800+34.88	-10.08	638.87	638.92
h	800+44.88	-10.08	638.71	638.78
i	800+54.88	-10.08	638.54	638.62
j	800+64.88	-10.08	638.38	638.46
k	800+74.88	-10.08	638.20	638.29
l	800+84.88	-10.08	638.03	638.10
m	800+94.88	-10.08	637.85	637.91
n	801+04.88	-10.08	637.67	637.71
o	801+14.88	-10.08	637.48	637.50
℄ S. Brg. at Pier 2	801+23.04	-10.08	637.32	637.32
℄ Pier 2	801+23.96	-10.08	637.31	637.31
℄ N. Brg. at Pier 2	801+24.88	-10.08	637.29	637.29
p	801+34.88	-10.08	637.10	637.10
q	801+44.88	-10.08	636.90	636.90
r	801+54.88	-10.08	636.70	636.71
s	801+64.88	-10.08	636.50	636.51
℄ N. Abut.	801+77.23	-10.08	636.26	636.26
Bk. N. Abut.	801+78.96	-10.08	636.22	636.22

BEAM #9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+52.66	-3.67	640.19	640.19
℄ S. Abut.	799+54.40	-3.67	640.17	640.17
a	799+64.40	-3.67	640.04	640.04
b	799+74.40	-3.67	639.90	639.91
c	799+84.40	-3.67	639.76	639.77
d	799+94.40	-3.67	639.62	639.63
e	800+04.40	-3.67	639.47	639.48
℄ S. Brg. at Pier 1	800+16.75	-3.67	639.29	639.29
℄ Pier 1	800+17.66	-3.67	639.27	639.27
℄ N. Brg. at Pier 1	800+18.58	-3.67	639.26	639.26
f	800+28.58	-3.67	639.10	639.13
g	800+38.58	-3.67	638.94	638.99
h	800+48.58	-3.67	638.78	638.85
i	800+58.58	-3.67	638.62	638.69
j	800+68.58	-3.67	638.45	638.53
k	800+78.58	-3.67	638.27	638.36
l	800+88.58	-3.67	638.10	638.17
m	800+98.58	-3.67	637.91	637.98
n	801+08.58	-3.67	637.73	637.77
o	801+18.58	-3.67	637.54	637.56
℄ S. Brg. at Pier 2	801+26.75	-3.67	637.39	637.39
℄ Pier 2	801+27.66	-3.67	637.37	637.37
℄ N. Brg. at Pier 2	801+28.58	-3.67	637.35	637.35
p	801+38.58	-3.67	637.16	637.16
q	801+48.58	-3.67	636.96	636.97
r	801+58.58	-3.67	636.76	636.77
s	801+68.58	-3.67	636.56	636.57
℄ N. Abut.	801+80.93	-3.67	636.32	636.32
Bk. N. Abut.	801+82.66	-3.67	636.28	636.28

℄ MACARTHUR BLVD. & LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+54.78	0.00	640.24	640.24
℄ S. Abut.	799+56.51	0.00	640.22	640.22
a	799+66.51	0.00	640.09	640.09
b	799+76.51	0.00	639.95	639.96
c	799+86.51	0.00	639.81	639.82
d	799+96.51	0.00	639.67	639.67
e	800+06.51	0.00	639.52	639.52
℄ S. Brg. at Pier 1	800+18.86	0.00	639.33	639.33
℄ Pier 1	800+19.78	0.00	639.32	639.32
℄ N. Brg. at Pier 1	800+20.70	0.00	639.30	639.30
f	800+30.70	0.00	639.15	639.17
g	800+40.70	0.00	638.99	639.03
h	800+50.70	0.00	638.82	638.89
i	800+60.70	0.00	638.66	638.73
j	800+70.70	0.00	638.49	638.57
k	800+80.70	0.00	638.31	638.40
l	800+90.70	0.00	638.13	638.21
m	801+00.70	0.00	637.95	638.02
n	801+10.70	0.00	637.77	637.81
o	801+20.70	0.00	637.58	637.60
℄ S. Brg. at Pier 2	801+28.86	0.00	637.42	637.42
℄ Pier 2	801+29.78	0.00	637.40	637.40
℄ N. Brg. at Pier 2	801+30.70	0.00	637.39	637.39
p	801+40.70	0.00	637.19	637.19
q	801+50.70	0.00	637.00	637.00
r	801+60.70	0.00	636.80	636.80
s	801+70.70	0.00	636.60	636.60
℄ N. Abut.	801+83.05	0.00	636.35	636.35
Bk. N. Abut.	801+84.78	0.00	636.32	636.32

BEAM #10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+56.37	2.75	640.16	640.16
℄ S. Abut.	799+58.10	2.75	640.14	640.14
a	799+68.10	2.75	640.01	640.01
b	799+78.10	2.75	639.87	639.88
c	799+88.10	2.75	639.73	639.74
d	799+98.10	2.75	639.59	639.59
e	800+08.10	2.75	639.44	639.44
℄ S. Brg. at Pier 1	800+20.45	2.75	639.25	639.25
℄ Pier 1	800+21.37	2.75	639.24	639.24
℄ N. Brg. at Pier 1	800+22.28	2.75	639.22	639.22
f	800+32.28	2.75	639.06	639.09
g	800+42.28	2.75	638.90	638.95
h	800+52.28	2.75	638.74	638.81
i	800+62.28	2.75	638.57	638.65
j	800+72.28	2.75	638.40	638.49
k	800+82.28	2.75	638.23	638.31
l	800+92.28	2.75	638.05	638.12
m	801+02.28	2.75	637.87	637.93
n	801+12.28	2.75	637.68	637.72
o	801+22.28	2.75	637.49	637.51
℄ S. Brg. at Pier 2	801+30.45	2.75	637.33	637.33
℄ Pier 2	801+31.37	2.75	637.32	637.32
℄ N. Brg. at Pier 2	801+32.28	2.75	637.30	637.30
p	801+42.28	2.75	637.10	637.11
q	801+52.28	2.75	636.91	636.91
r	801+62.28	2.75	636.71	636.71
s	801+72.28	2.75	636.51	636.51
℄ N. Abut.	801+84.64	2.75	636.26	636.26
Bk. N. Abut.	801+86.37	2.75	636.23	636.23

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B

DATE: 10/30/05

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	232
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 06
27 SHEETS

BEAM #11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+60.07	9.17	639.98	639.98
℄ S. Abut.	799+61.80	9.17	639.96	639.96
a	799+71.80	9.17	639.82	639.83
b	799+81.80	9.17	639.69	639.69
c	799+91.80	9.17	639.54	639.55
d	800+01.80	9.17	639.40	639.41
e	800+11.80	9.17	639.25	639.25
℄ S. Brg. at Pier 1	800+24.16	9.17	639.06	639.06
℄ Pier 1	800+25.07	9.17	639.04	639.04
℄ N. Brg. at Pier 1	800+25.99	9.17	639.03	639.03
f	800+35.99	9.17	638.87	638.90
g	800+45.99	9.17	638.71	638.76
h	800+55.99	9.17	638.54	638.61
i	800+65.99	9.17	638.38	638.45
j	800+75.99	9.17	638.20	638.29
k	800+85.99	9.17	638.03	638.11
l	800+95.99	9.17	637.85	637.92
m	801+05.99	9.17	637.66	637.73
n	801+15.99	9.17	637.48	637.52
o	801+25.99	9.17	637.29	637.31
℄ S. Brg. at Pier 2	801+34.16	9.17	637.13	637.13
℄ Pier 2	801+35.07	9.17	637.11	637.11
℄ N. Brg. at Pier 2	801+35.99	9.17	637.09	637.09
p	801+45.99	9.17	636.90	636.90
q	801+55.99	9.17	636.70	636.71
r	801+65.99	9.17	636.50	636.51
s	801+75.99	9.17	636.30	636.30
℄ N. Abut.	801+88.34	9.17	636.05	636.05
Bk. N. Abut.	801+90.07	9.17	636.02	636.02

EAST PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+62.90	14.07	639.84	639.84
℄ S. Abut.	799+64.61	14.03	639.82	639.82
a	799+74.49	13.81	639.69	639.69
b	799+84.36	13.59	639.56	639.56
c	799+94.23	13.37	639.42	639.43
d	800+04.11	13.15	639.28	639.29
e	800+13.98	12.93	639.14	639.14
℄ S. Brg. at Pier 1	800+26.17	12.66	638.95	638.95
℄ Pier 1	800+27.08	12.64	638.94	638.94
℄ N. Brg. at Pier 1	800+27.98	12.62	638.93	638.93
f	800+37.86	12.40	638.77	638.80
g	800+47.73	12.18	638.62	638.67
h	800+57.60	11.96	638.46	638.53
i	800+67.48	11.74	638.30	638.37
j	800+77.35	11.53	638.13	638.22
k	800+87.22	11.31	637.96	638.04
l	800+97.10	11.09	637.79	637.86
m	801+06.97	10.87	637.61	637.68
n	801+16.84	10.65	637.43	637.47
o	801+26.72	10.43	637.25	637.27
℄ S. Brg. at Pier 2	801+34.78	10.25	637.09	637.09
℄ Pier 2	801+35.69	10.23	637.08	637.08
℄ N. Brg. at Pier 2	801+36.59	10.21	637.06	637.06
p	801+46.46	9.99	636.87	636.87
q	801+56.34	9.77	636.68	636.69
r	801+66.21	9.55	636.49	636.49
s	801+76.08	9.33	636.30	636.30
℄ N. Abut.	801+88.28	9.06	636.06	636.06
Bk. N. Abut.	801+89.99	9.02	636.03	636.03

Note:
Offset measured from ℄ MacArthur Blvd.

BEAM #12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+63.78	15.58	639.80	639.80
℄ S. Abut.	799+65.51	15.58	639.78	639.78
a	799+75.51	15.58	639.64	639.64
b	799+85.51	15.58	639.50	639.51
c	799+95.51	15.58	639.36	639.37
d	800+05.51	15.58	639.21	639.22
e	800+15.51	15.58	639.06	639.06
℄ S. Brg. at Pier 1	800+27.86	15.58	638.87	638.87
℄ Pier 1	800+28.78	15.58	638.85	638.85
℄ N. Brg. at Pier 1	800+29.69	15.58	638.84	638.84
f	800+39.69	15.58	638.68	638.70
g	800+49.69	15.58	638.52	638.56
h	800+59.69	15.58	638.35	638.42
i	800+69.69	15.58	638.18	638.26
j	800+79.69	15.58	638.00	638.09
k	800+89.69	15.58	637.83	637.91
l	800+99.69	15.58	637.65	637.72
m	801+09.69	15.58	637.46	637.53
n	801+19.69	15.58	637.27	637.32
o	801+29.69	15.58	637.08	637.10
℄ S. Brg. at Pier 2	801+37.86	15.58	636.92	636.92
℄ Pier 2	801+38.78	15.58	636.90	636.90
℄ N. Brg. at Pier 2	801+39.69	15.58	636.89	636.89
p	801+49.69	15.58	636.69	636.70
q	801+59.69	15.58	636.49	636.50
r	801+69.69	15.58	636.29	636.30
s	801+79.69	15.58	636.09	636.10
℄ N. Abut.	801+92.04	15.58	635.85	635.85
Bk. N. Abut.	801+93.78	15.58	635.81	635.81

BEAM #13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+67.48	22.00	639.62	639.62
℄ S. Abut.	799+69.21	22.00	639.59	639.59
a	799+79.21	22.00	639.45	639.46
b	799+89.21	22.00	639.31	639.32
c	799+99.21	22.00	639.17	639.18
d	800+09.21	22.00	639.02	639.03
e	800+19.21	22.00	638.87	638.87
℄ S. Brg. at Pier 1	800+31.57	22.00	638.67	638.67
℄ Pier 1	800+32.48	22.00	638.66	638.66
℄ N. Brg. at Pier 1	800+33.40	22.00	638.65	638.65
f	800+43.40	22.00	638.48	638.51
g	800+53.40	22.00	638.32	638.37
h	800+63.40	22.00	638.15	638.22
i	800+73.40	22.00	637.98	638.06
j	800+83.40	22.00	637.81	637.89
k	800+93.40	22.00	637.63	637.71
l	801+03.40	22.00	637.44	637.52
m	801+13.40	22.00	637.26	637.32
n	801+23.40	22.00	637.07	637.11
o	801+33.40	22.00	636.88	636.90
℄ S. Brg. at Pier 2	801+41.57	22.00	636.72	636.72
℄ Pier 2	801+42.48	22.00	636.70	636.70
℄ N. Brg. at Pier 2	801+43.40	22.00	636.68	636.68
p	801+53.40	22.00	636.49	636.49
q	801+63.40	22.00	636.29	636.29
r	801+73.40	22.00	636.09	636.09
s	801+83.40	22.00	635.89	635.89
℄ N. Abut.	801+95.75	22.00	635.64	635.64
Bk. N. Abut.	801+97.48	22.00	635.61	635.61

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

$FILE$
12/16/2006

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B

DATE: 10/30/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	233
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 07
27 SHEETS

*02-00382-02-PV CONTRACT NO. 72541

Note:
Offset measured from ℄ MacArthur Blvd.

BEAM #14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+71.19	28.42	639.43	639.43
℄ S. Abut.	799+72.92	28.42	639.41	639.41
a	799+82.92	28.42	639.27	639.27
b	799+92.92	28.42	639.13	639.13
c	800+02.92	28.42	638.98	638.99
d	800+12.92	28.42	638.83	638.84
e	800+22.92	28.42	638.68	638.68
℄ S. Brg. at Pier 1	800+35.27	28.42	638.48	638.48
℄ Pier 1	800+36.19	28.42	638.47	638.47
℄ N. Brg. at Pier 1	800+37.10	28.42	638.45	638.45
f	800+47.10	28.42	638.29	638.31
g	800+57.10	28.42	638.12	638.17
h	800+67.10	28.42	637.96	638.02
i	800+77.10	28.42	637.78	637.86
j	800+87.10	28.42	637.61	637.69
k	800+97.10	28.42	637.43	637.51
l	801+07.10	28.42	637.24	637.32
m	801+17.10	28.42	637.06	637.12
n	801+27.10	28.42	636.86	636.91
o	801+37.10	28.42	636.67	636.69
℄ S. Brg. at Pier 2	801+45.27	28.42	636.51	636.51
℄ Pier 2	801+46.19	28.42	636.49	636.49
℄ N. Brg. at Pier 2	801+47.10	28.42	636.48	636.48
p	801+57.10	28.42	636.28	636.28
q	801+67.10	28.42	636.08	636.08
r	801+77.10	28.42	635.88	635.88
s	801+87.10	28.42	635.68	635.68
℄ N. Abut.	801+99.45	28.42	635.44	635.44
Bk. N. Abut.	802+01.19	28.42	635.40	635.40

BEAM #15

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+74.89	34.83	639.25	639.25
℄ S. Abut.	799+76.62	34.83	639.22	639.22
a	799+86.62	34.83	639.08	639.09
b	799+96.62	34.83	638.94	638.95
c	800+06.62	34.83	638.79	638.80
d	800+16.62	34.83	638.64	638.65
e	800+26.62	34.83	638.48	638.49
℄ S. Brg. at Pier 1	800+38.97	34.83	638.29	638.29
℄ Pier 1	800+39.89	34.83	638.27	638.27
℄ N. Brg. at Pier 1	800+40.81	34.83	638.26	638.26
f	800+50.81	34.83	638.10	638.12
g	800+60.81	34.83	637.93	637.98
h	800+70.81	34.83	637.76	637.83
i	800+80.81	34.83	637.58	637.66
j	800+90.81	34.83	637.41	637.49
k	801+00.81	34.83	637.22	637.31
l	801+10.81	34.83	637.04	637.11
m	801+20.81	34.83	636.85	636.92
n	801+30.81	34.83	636.66	636.70
o	801+40.81	34.83	636.46	636.48
℄ S. Brg. at Pier 2	801+48.97	34.83	636.31	636.31
℄ Pier 2	801+49.89	34.83	636.29	636.29
℄ N. Brg. at Pier 2	801+50.81	34.83	636.27	636.27
p	801+60.81	34.83	636.07	636.07
q	801+70.81	34.83	635.87	635.87
r	801+80.81	34.83	635.67	635.68
s	801+90.81	34.83	635.47	635.47
℄ N. Abut.	802+03.16	34.83	635.23	635.23
Bk. N. Abut.	802+04.89	34.83	635.20	635.20

BEAM #16

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+78.60	41.25	639.06	639.06
℄ S. Abut.	799+80.33	41.25	639.04	639.04
a	799+90.33	41.25	638.90	638.90
b	800+00.33	41.25	638.75	638.76
c	800+10.33	41.25	638.60	638.61
d	800+20.33	41.25	638.45	638.46
e	800+30.33	41.25	638.29	638.30
℄ S. Brg. at Pier 1	800+42.68	41.25	638.10	638.10
℄ Pier 1	800+43.60	41.25	638.08	638.08
℄ N. Brg. at Pier 1	800+44.51	41.25	638.07	638.07
f	800+54.51	41.25	637.90	637.92
g	800+64.51	41.25	637.73	637.78
h	800+74.51	41.25	637.56	637.63
i	800+84.51	41.25	637.38	637.46
j	800+94.51	41.25	637.21	637.29
k	801+04.51	41.25	637.02	637.11
l	801+14.51	41.25	636.84	636.91
m	801+24.51	41.25	636.65	636.71
n	801+34.51	41.25	636.45	636.50
o	801+44.51	41.25	636.26	636.28
℄ S. Brg. at Pier 2	801+52.68	41.25	636.10	636.10
℄ Pier 2	801+53.60	41.25	636.08	636.08
℄ N. Brg. at Pier 2	801+54.51	41.25	636.06	636.06
p	801+64.51	41.25	635.86	635.86
q	801+74.51	41.25	635.66	635.67
r	801+84.51	41.25	635.46	635.47
s	801+94.51	41.25	635.27	635.27
℄ N. Abut.	802+06.86	41.25	635.02	635.02
Bk. N. Abut.	802+08.60	41.25	634.99	634.99

BEAM #17

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	799+82.30	47.67	638.88	638.88
℄ S. Abut.	799+84.03	47.67	638.85	638.85
a	799+94.03	47.67	638.71	638.71
b	800+04.03	47.67	638.56	638.57
c	800+14.03	47.67	638.41	638.42
d	800+24.03	47.67	638.26	638.27
e	800+34.03	47.67	638.10	638.11
℄ S. Brg. at Pier 1	800+46.38	47.67	637.90	637.90
℄ Pier 1	800+47.30	47.67	637.89	637.89
℄ N. Brg. at Pier 1	800+48.22	47.67	637.87	637.87
f	800+58.22	47.67	637.71	637.73
g	800+68.22	47.67	637.54	637.58
h	800+78.22	47.67	637.36	637.43
i	800+88.22	47.67	637.19	637.26
j	800+98.22	47.67	637.00	637.09
k	801+08.22	47.67	636.82	636.91
l	801+18.22	47.67	636.63	636.71
m	801+28.22	47.67	636.44	636.51
n	801+38.22	47.67	636.25	636.29
o	801+48.22	47.67	636.05	636.07
℄ S. Brg. at Pier 2	801+56.38	47.67	635.89	635.89
℄ Pier 2	801+57.30	47.67	635.87	635.87
℄ N. Brg. at Pier 2	801+58.22	47.67	635.85	635.85
p	801+68.22	47.67	635.65	635.66
q	801+78.22	47.67	635.45	635.46
r	801+88.22	47.67	635.26	635.26
s	801+98.22	47.67	635.06	635.06
℄ N. Abut.	802+10.57	47.67	634.82	634.82
Bk. N. Abut.	802+12.30	47.67	634.78	634.78

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

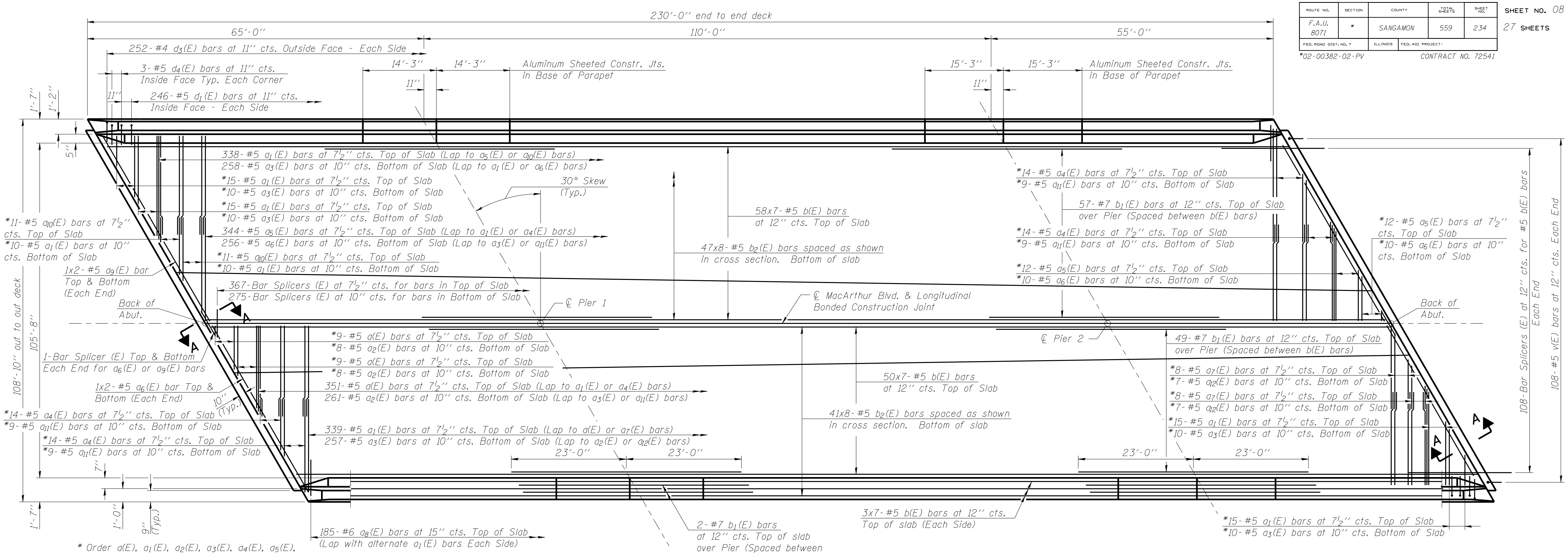
$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	234
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

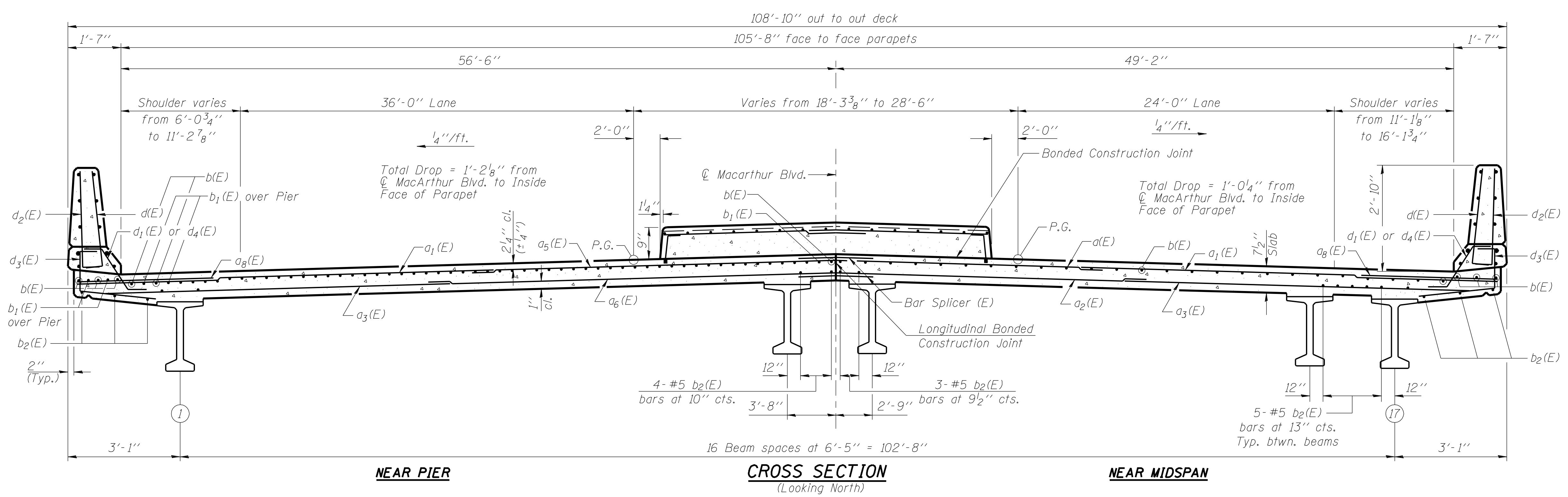
SHEET NO. 08
27 SHEETS

*02-00382-02-PV CONTRACT NO. 72541



* Order a(E), a_1(E), a_2(E), a_3(E), a_4(E), a_5(E), a_6(E), a_7(E), a_{10}(E), a_{11}(E) and a_{12}(E) bars full length. Cut to fit skew and use remainder of bars in adjacent location.

PLAN



CROSS SECTION
(Looking North)

Notes:
See Sheets 09 and 10 of 27 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
See Sheet 10 of 27 for parapet reinforcement.
See Bar Splicer (Coupler) Details, Sheet 22 of 27.
See Sheet 09 of 27 for median reinforcement.
For Section A-A see sheet 11 of 27.

MIN. BAR LAPS

#4 Bar - 1'-8"
#5 Bar - 2'-2"
#6 Bar - 2'-7"

Corporate License Number 184-001-084

SUPERSTRUCTURE
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB: 96S2002B
DATE: 10/30/05

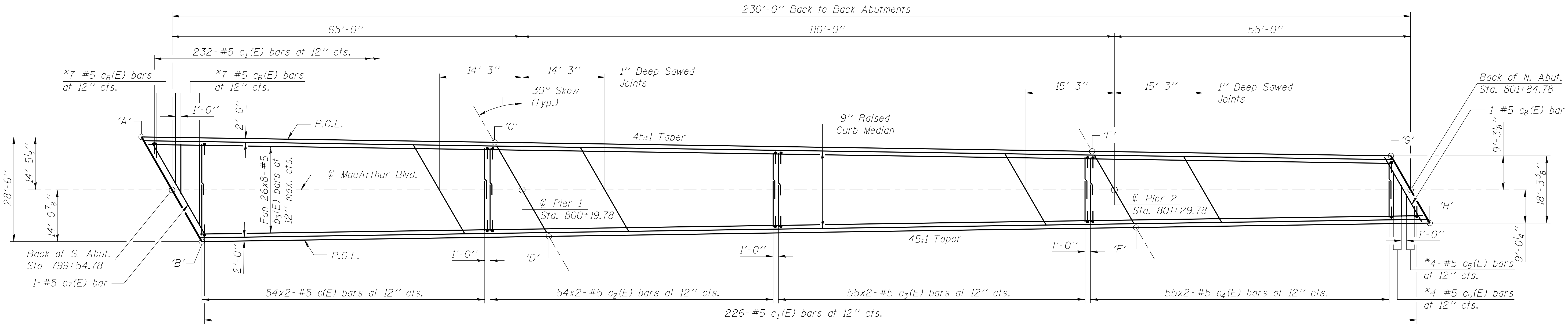
LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	235
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 09
27 SHEETS



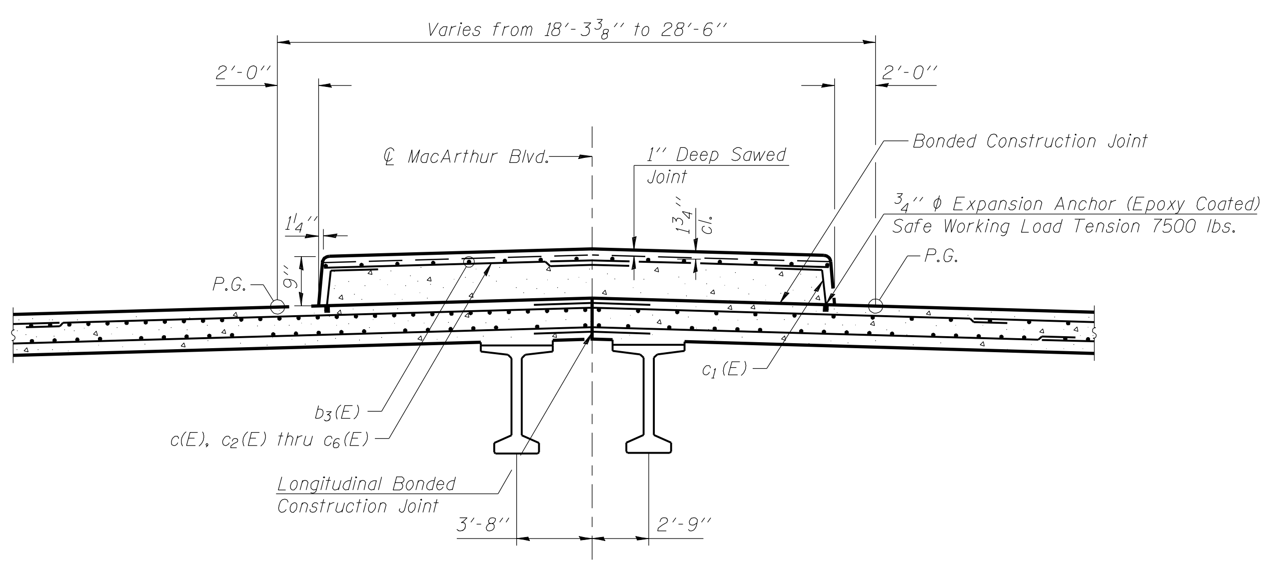
MEDIAN PLAN

* Order c_5(E) and c_6(E) bars full length. Cut to fit skew and use remainder of bars in same end of median.

N

MEDIAN POINTS			
POINT	STATION	OFFSET	ELEVATION
'A'	799+46.45	14.43' Lt.	640.05
'B'	799+62.90	14.07' Rt.	639.84
'C'	800+12.29	12.97' Lt.	639.16
'D'	800+27.08	12.64' Rt.	638.94
'E'	801+23.72	10.49' Lt.	637.30
'F'	801+35.69	10.23' Rt.	637.08
'G'	801+79.44	9.26' Lt.	636.23
'H'	801+89.99	9.02' Rt.	636.02

MEDIAN POINTS
(at P.G.L.)



CROSS SECTION
(Looking North)

Notes:
See Sheet 10 of 27 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
¾" ϕ Expansion Anchors (Epoxy Coated) shall be included in the contract unit price per pound of reinforcement bars epoxy coated.

MIN. BAR LAPS
#5 Bar - 2'-2"

Corporate License Number 184-001-084

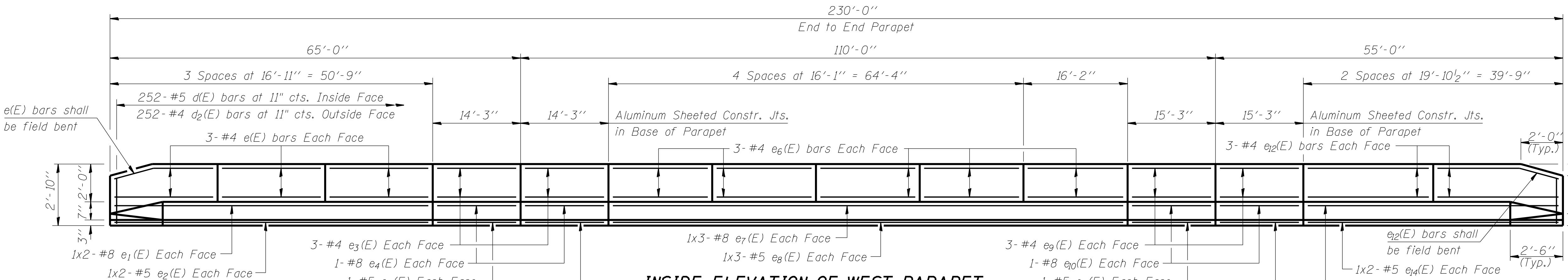
SUPERSTRUCTURE DETAILS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

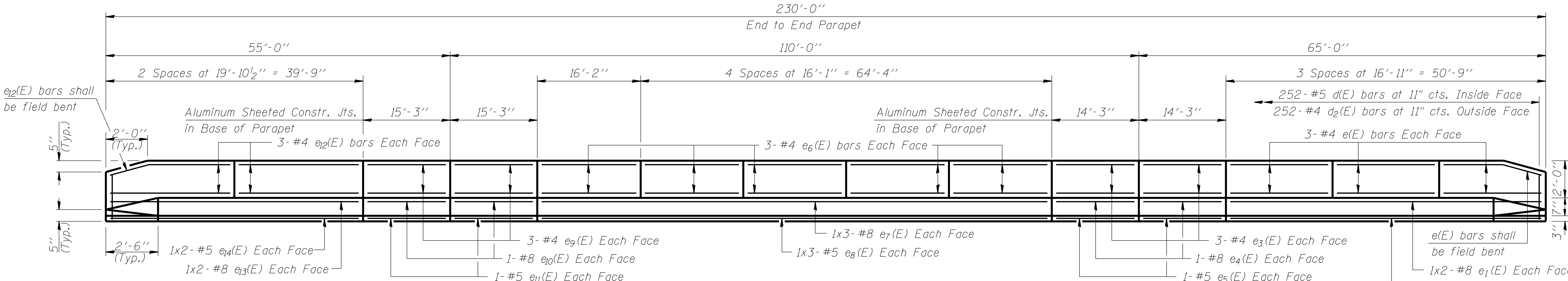
$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

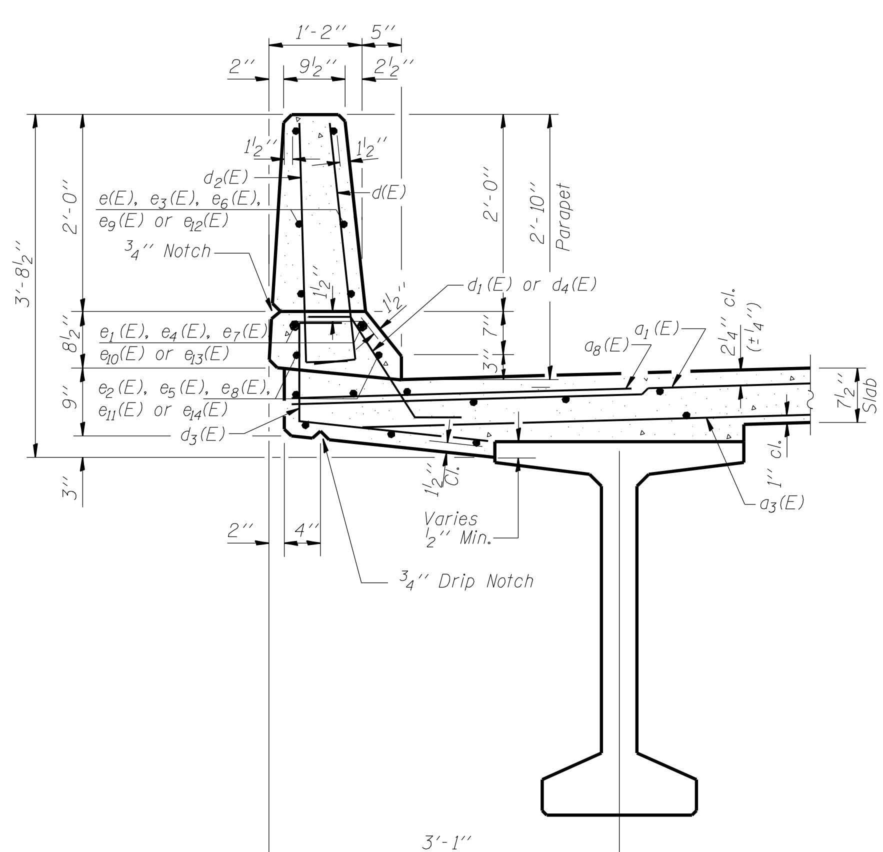


INSIDE ELEVATION OF WEST PARAPET

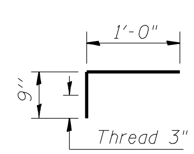
Note: Bar indicated thus 1x4-#5 etc. indicates 1 line of bars with 4 lengths per line.



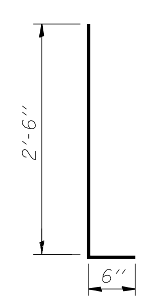
INSIDE ELEVATION OF EAST PARAPET



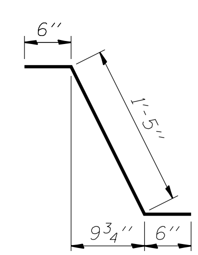
SECTION THRU PARAPET



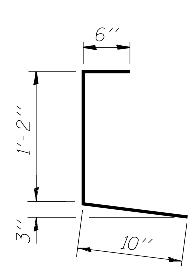
BAR $c_1(E)$



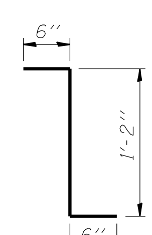
BARS $d(E)$ & $d_2(E)$



BAR $d_1(E)$



BAR $d_3(E)$

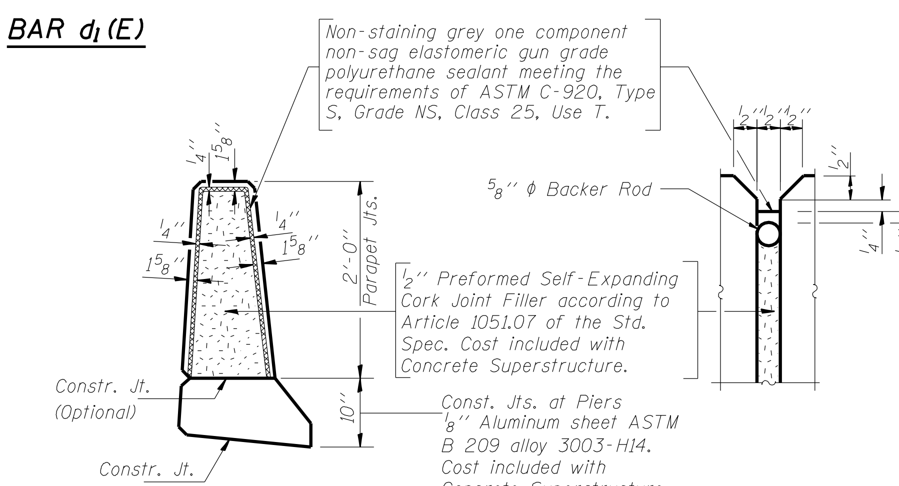


BAR $d_4(E)$

MIN. BAR LAPS

#4 Bar - 1'-8''
#5 Bar - 2'-2''
#6 Bar - 2'-7''
#8 Bar - 4'-6''

Reinforcement bars designated (E) shall be epoxy coated.



PARAPET JOINT DETAILS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	236
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 10
27 SHEETS

*02-00382-02-PV
CONTRACT NO. 72541

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	360	#5	19'-9''	
$a_1(E)$	717	#5	32'-9''	
$a_2(E)$	269	#5	23'-0''	
$a_3(E)$	535	#5	29'-0''	
$a_4(E)$	28	#5	35'-0''	
$a_5(E)$	356	#5	27'-3''	
$a_6(E)$	274	#5	30'-3''	
$a_7(E)$	8	#5	22'-0''	
$a_8(E)$	370	#6	4'-6''	
$a_9(E)$	8	#5	34'-6''	
$a_{10}(E)$	11	#5	29'-6''	
$a_{11}(E)$	18	#5	31'-9''	
$a_{12}(E)$	7	#5	25'-3''	
b(E)	798	#5	34'-9''	
$b_1(E)$	220	#7	46'-0''	
$b_2(E)$	704	#5	30'-9''	
$b_3(E)$	208	#5	30'-9''	
c(E)	108	#5	13'-0''	
$c_1(E)$	458	#5	1'-9''	
$c_2(E)$	108	#5	12'-0''	
$c_3(E)$	110	#5	10'-9''	
$c_4(E)$	110	#5	9'-6''	
$c_5(E)$	4	#5	13'-4''	
$c_6(E)$	7	#5	23'-2''	
$c_7(E)$	1	#5	27'-10''	
$c_8(E)$	1	#5	16'-1''	
d(E)	504	#5	3'-0''	
$d_1(E)$	492	#5	2'-5''	
$d_2(E)$	504	#4	3'-0''	
$d_3(E)$	504	#4	2'-6''	
$d_4(E)$	12	#5	2'-2''	
e(E)	36	#4	16'-7''	
$e_1(E)$	8	#8	27'-6''	
$e_2(E)$	8	#5	26'-6''	
$e_3(E)$	24	#4	13'-11''	
$e_4(E)$	8	#8	13'-11''	
$e_5(E)$	8	#5	13'-11''	
$e_6(E)$	60	#4	15'-9''	
$e_7(E)$	12	#8	29'-9''	
$e_8(E)$	12	#5	28'-3''	
$e_9(E)$	24	#4	14'-11''	
$e_{10}(E)$	8	#8	14'-11''	
$e_{11}(E)$	8	#5	14'-11''	
$e_{12}(E)$	24	#4	19'-6''	
$e_{13}(E)$	8	#8	22'-0''	
$e_{14}(E)$	8	#5	21'-0''	
m(E)	20	#6	27'-0''	
$m_1(E)$	40	#6	27'-3''	
$m_2(E)$	102	#6	10'-3''	
$m_3(E)$	96	#6	4'-6''	
$m_4(E)$	4	#6	2'-0''	
$m_5(E)$	192	#4	6'-5''	
$m_6(E)$	34	#8	6'-2''	
s(E)	236	#5	5'-6''	
$s_1(E)$	140	#4	15'-1''	
$s_2(E)$	128	#4	14'-7''	
v(E)	216	#5	2'-9''	
Concrete Superstructure			Cu. Yds.	1073.0
Reinforcement Bars (Epoxy Coated)			Lbs.	184330

SUPERSTRUCTURE DETAILS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

Corporate License Number 184-001-084

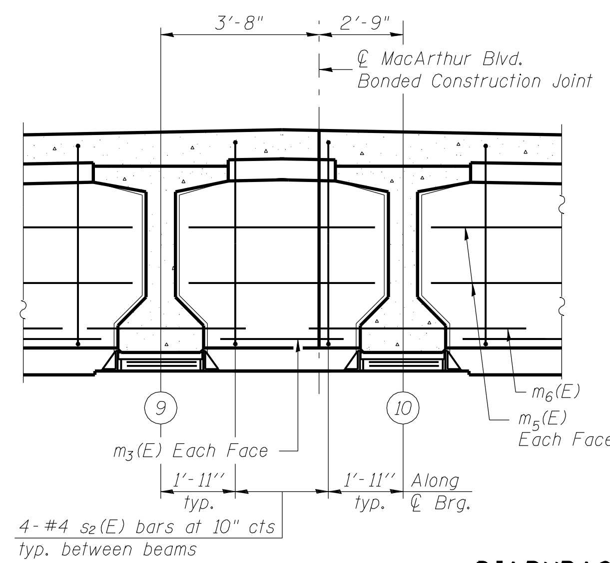
$FILE$
12/16/2006

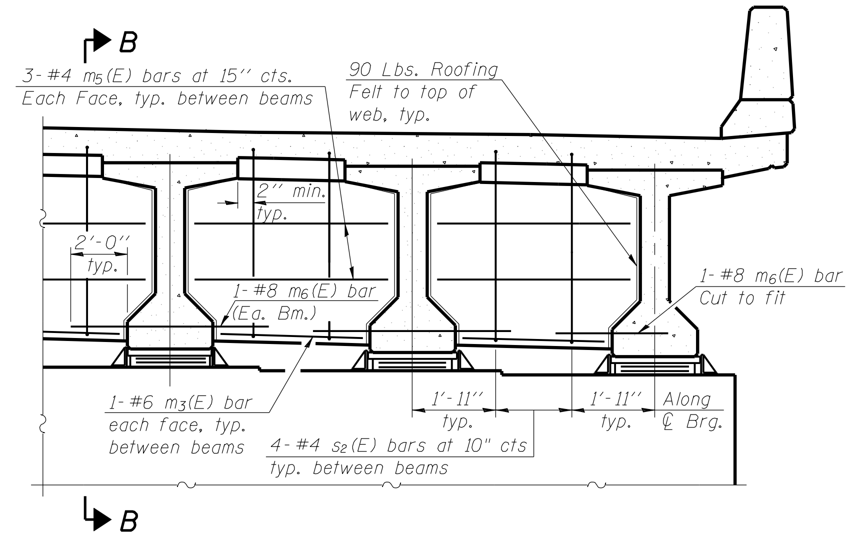
LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	237
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
27 SHEETS

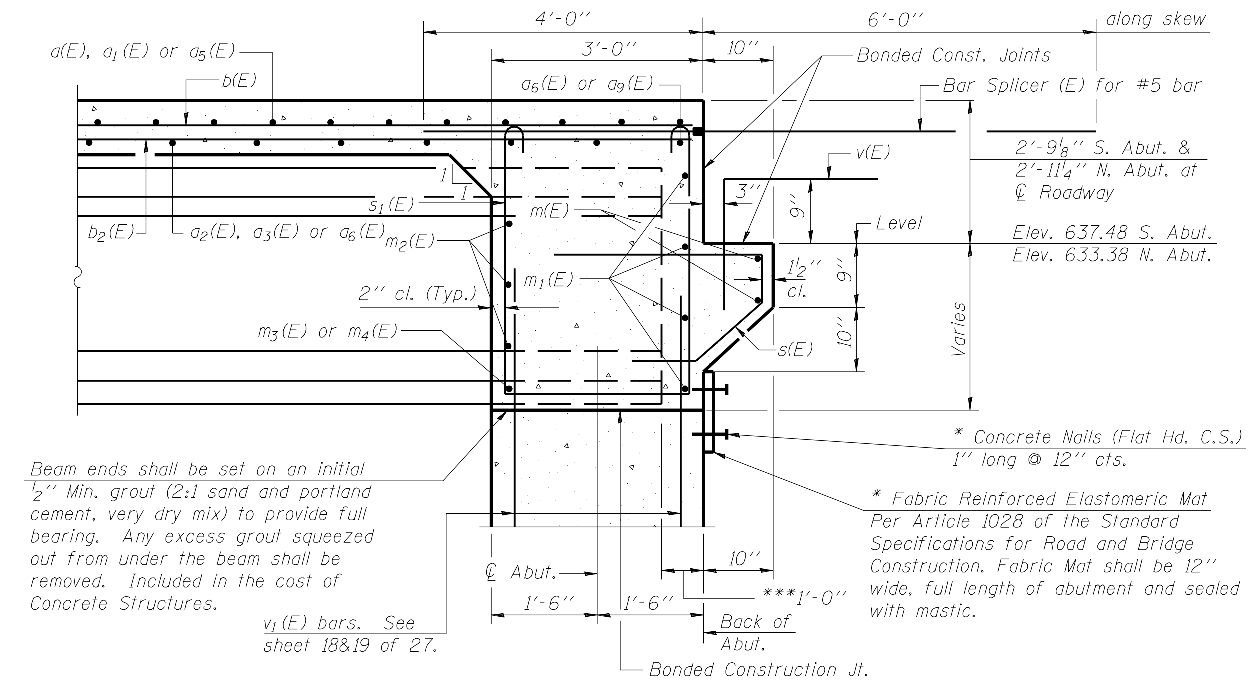
*02-00382-02-PV CONTRACT NO. 72541





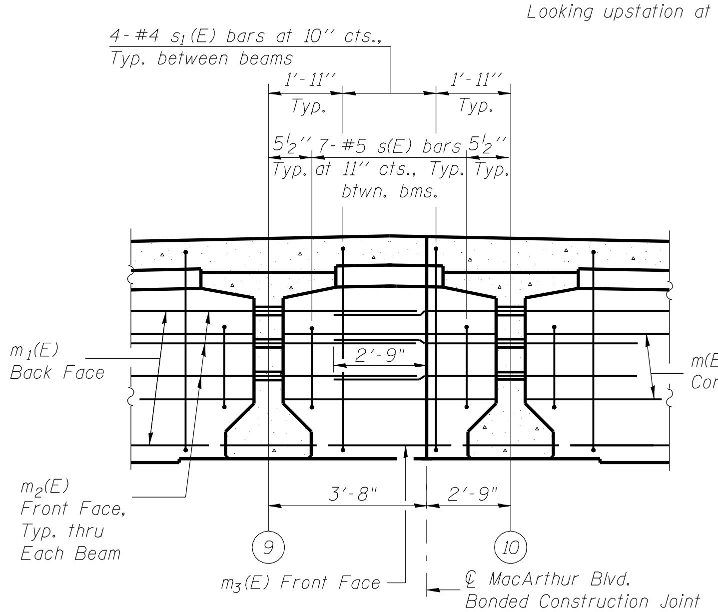
DIAPHRAGM AT PIER

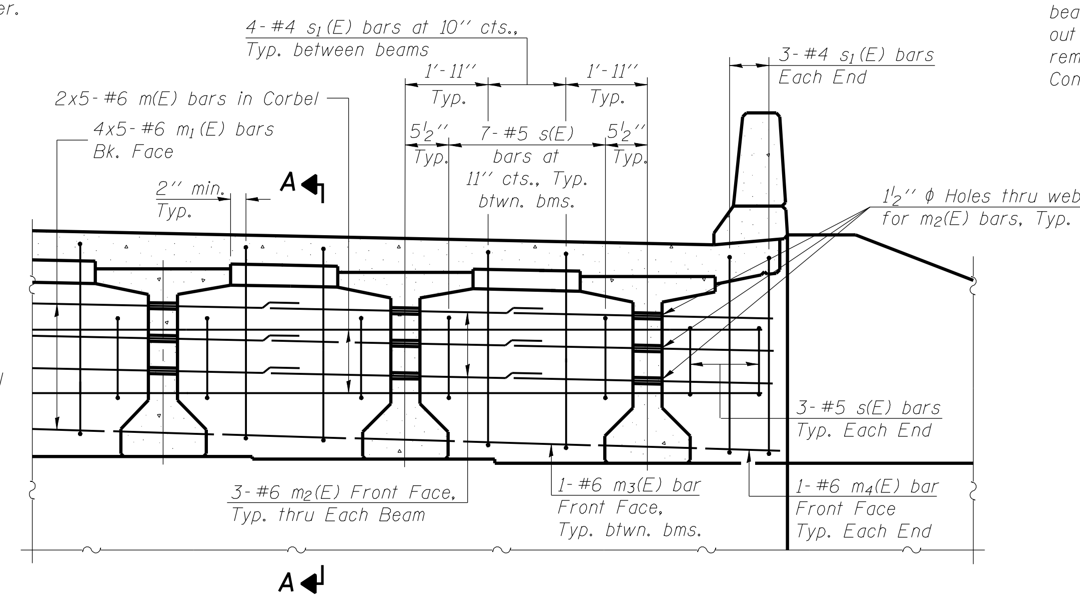
(Expansion)
Dimensions perpendicular to Beams
Looking upstation at Pier.



SECTION A-A

Dimensions at right angles to abutment, except as shown.
*Cost included with Concrete Structures.
***Along ℄ Beam



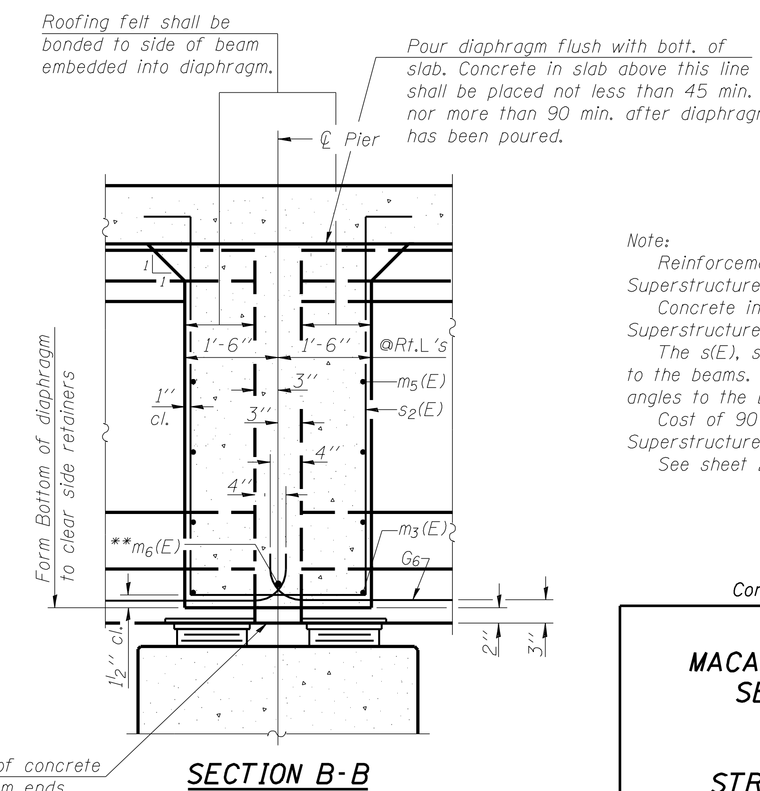


DIAPHRAGM AT ABUTMENT

Dimensions perpendicular to Beams
Looking upstation at Abutment.

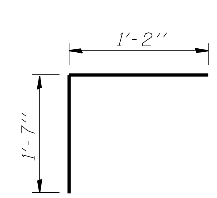
MIN. BAR LAPS

#6 Bar - 2'-9"

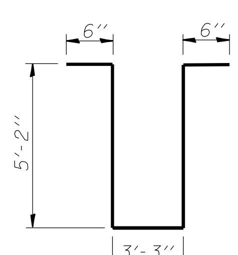


SECTION B-B AT PIER

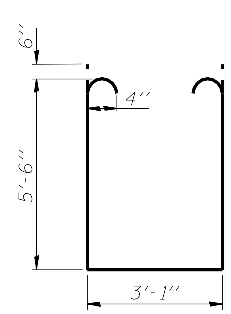
(Expansion)
**Tightly fasten the #8 bars together with No. 9 wire ties.
Dimensions along ℄ of beam, except as shown.



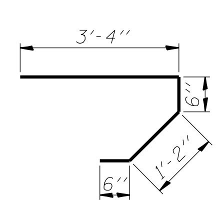
BAR v(E)



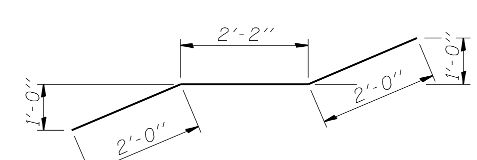
BAR s_2(E)



BAR s_1(E)



BAR s(E)



BAR m_6(E)

Note:
Reinforcement bars in diaphragm are billed with Superstructure on sheet 10 of 27.
Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 27.
The s(E), s_1(E) and s_2(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
Cost of 90 lb. roofing felt is included with Concrete Superstructure.
See sheet 23 of 27 for anchor bolt details.

Corporate License Number 184-001-084

DIAPHRAGM DETAILS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB: 96S2002B
DATE: 10/30/05

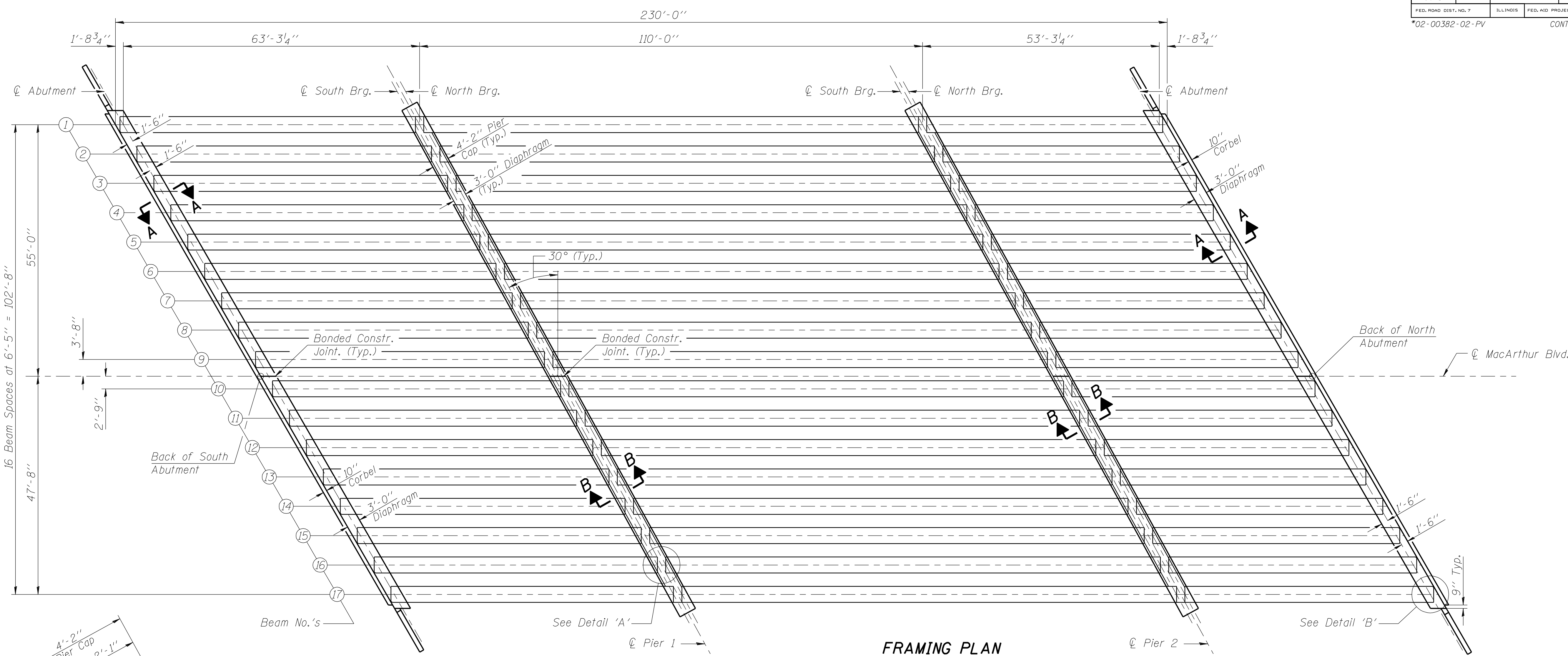
LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

$FILE$ 12/16/2006

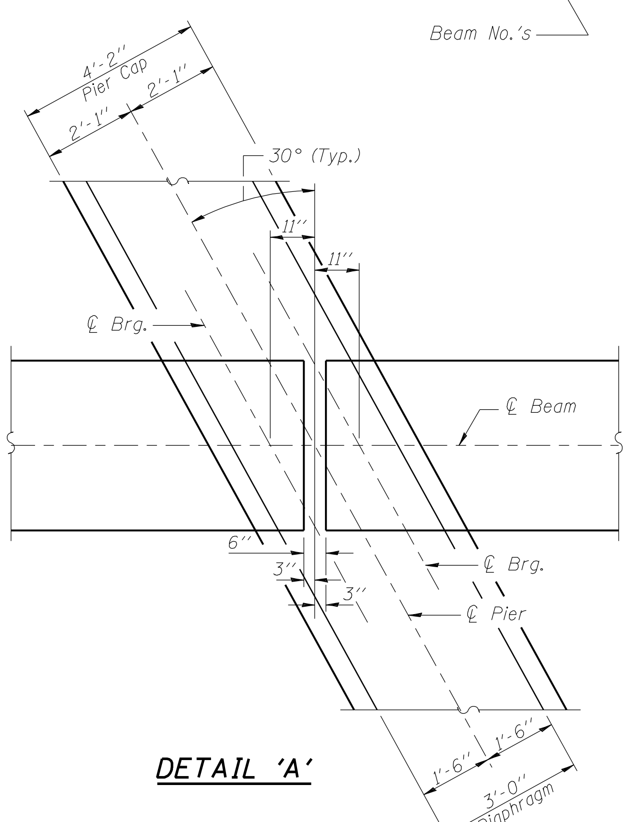
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	238
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

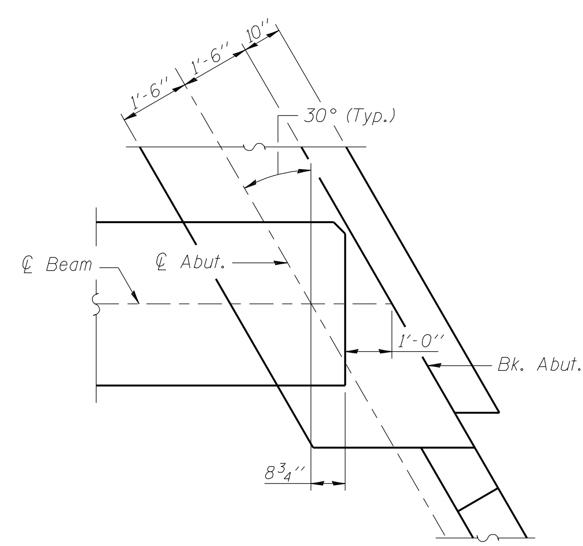
SHEET NO. 12
27 SHEETS



FRAMING PLAN



DETAIL 'A'



DETAIL 'B'

Note:
See Sheet 11 of 27 for Section A-A and B-B.

Corporate License Number 184-001-084

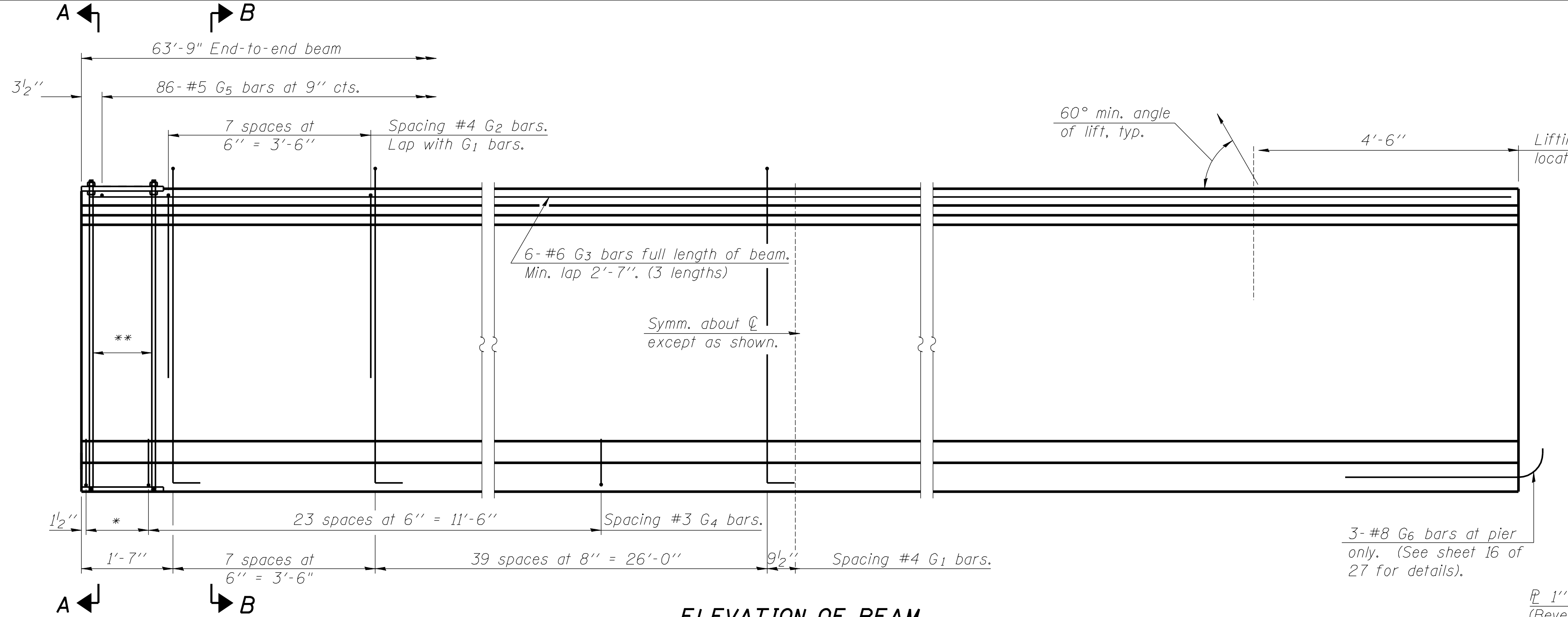
FRAMING PLAN
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

$FILE$
12/16/2006

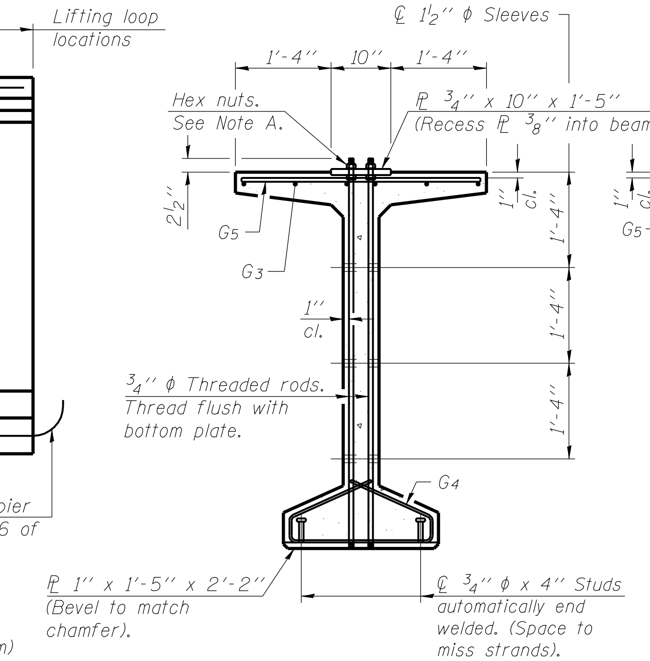


ELEVATION OF BEAM

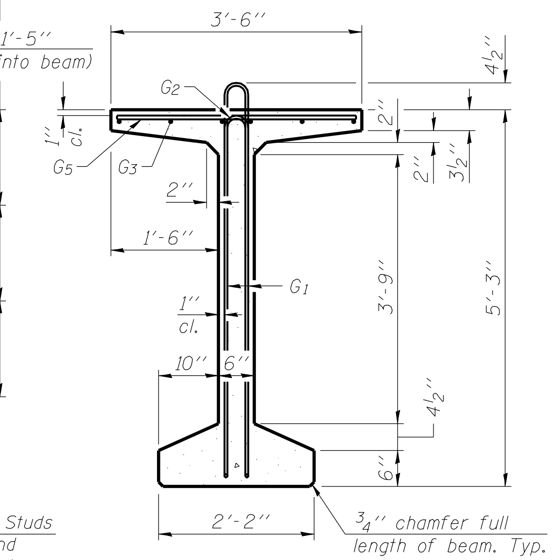
(Showing reinforcement & dimensions)

* 4 spaces at 3¼" = 1'-1".
** 5-¾" ϕ threaded dowel rods at 3¼" cts., each face.

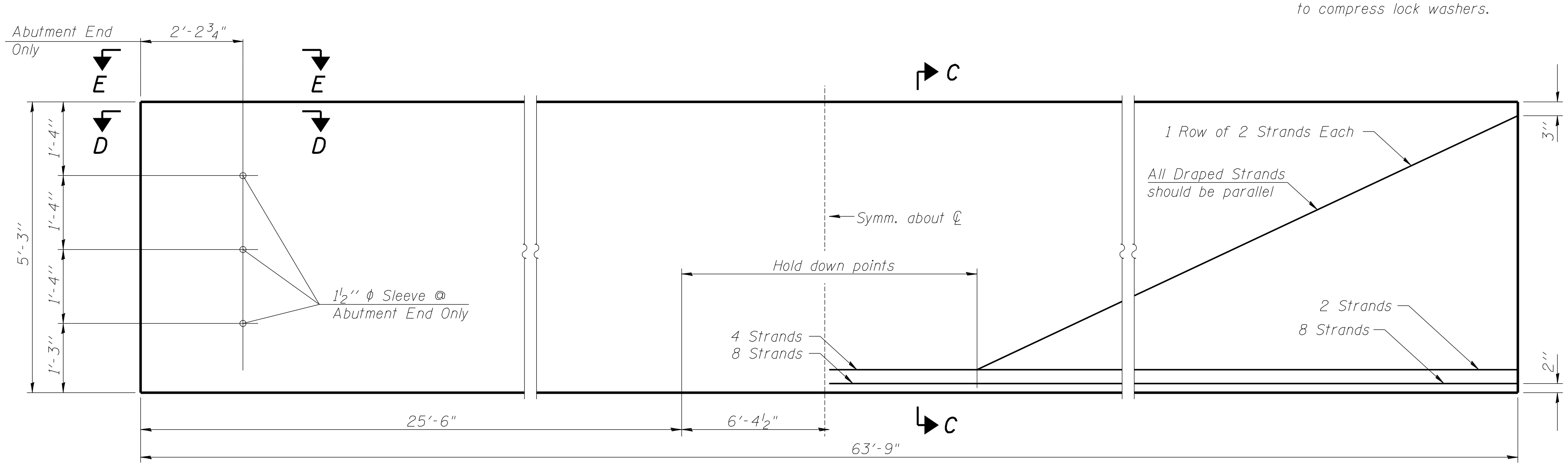
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



SECTION A-A

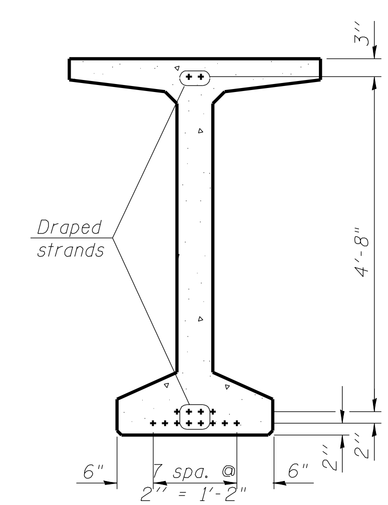


SECTION B-B



ELEVATION OF BEAM

(Showing prestressing steel)

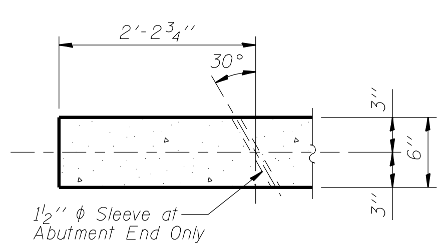


SECTION C-C

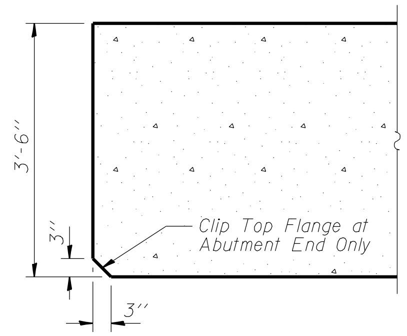
BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	95	#4	11'-11"	
G_2	16	#4	6'-2"	
G_3	18	#6	23'-0"	
G_4	56	#3	4'-11"	
G_5	86	#5	3'-4"	
G_6	3	#8	3'-9"	

Notes:
See sheet 16 of 27 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5000 psi.



SECTION D-D



SECTION E-E

Corporate License Number 184-001-084

63" PPC BULB T-BEAM - SPAN #1
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/10/06

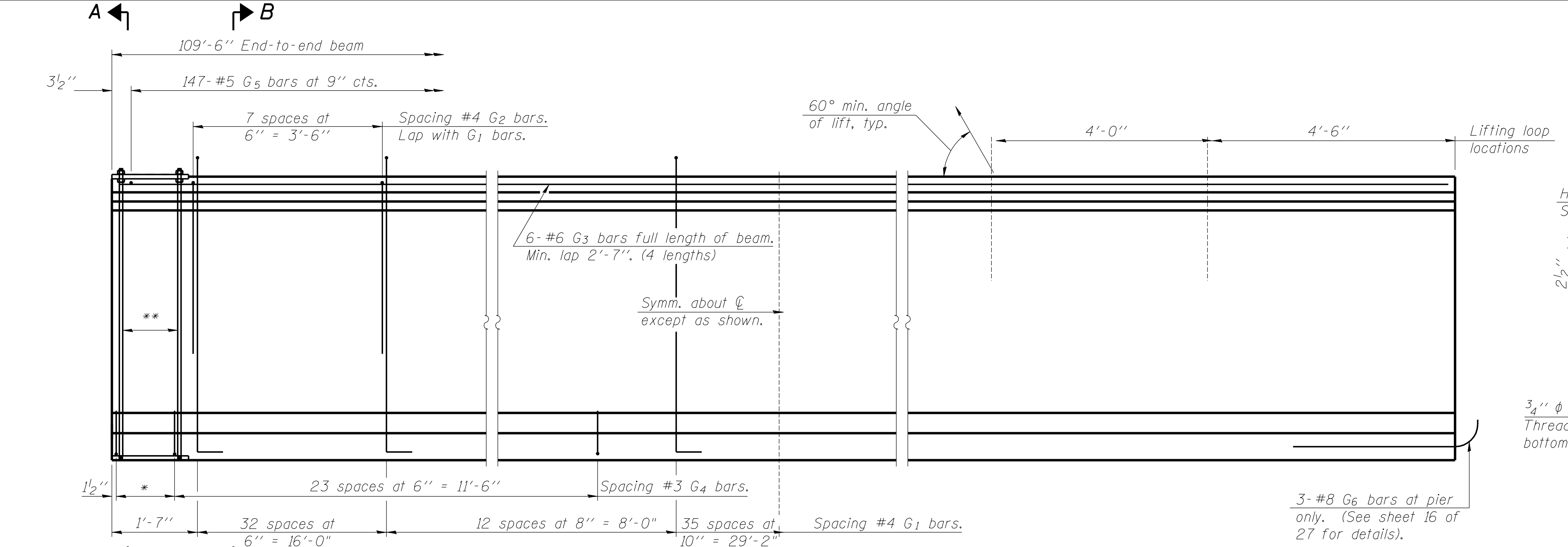
LAYOUT	MNM	10/10/06
DRAWN	DAP	10/10/06
REVIEWED	JWM	10/12/06

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	240
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 14
27 SHEETS

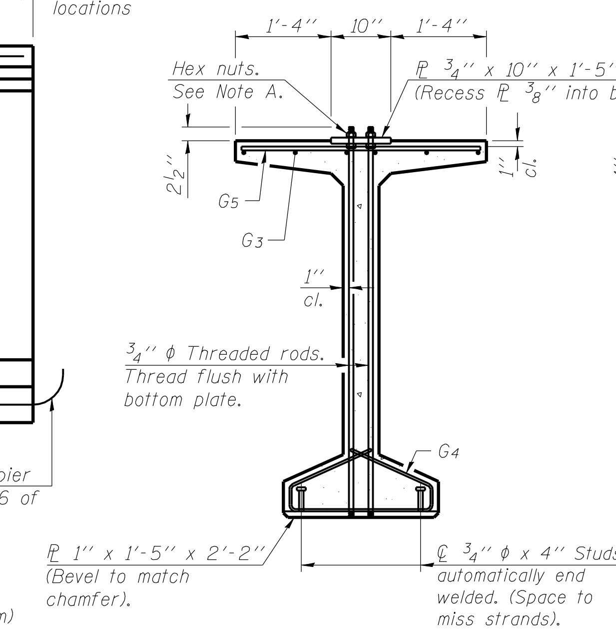


ELEVATION OF BEAM

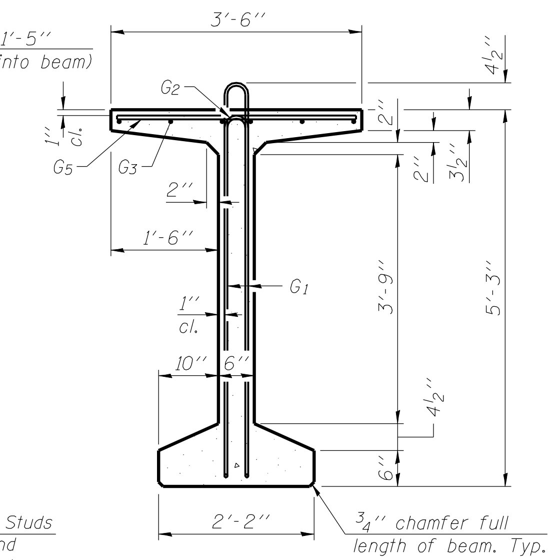
(Showing reinforcement & dimensions)

* 4 spaces at 3¼'' = 1'-1''.
** 5-¾'' ϕ threaded dowel rods at 3¼'' cts., each face.

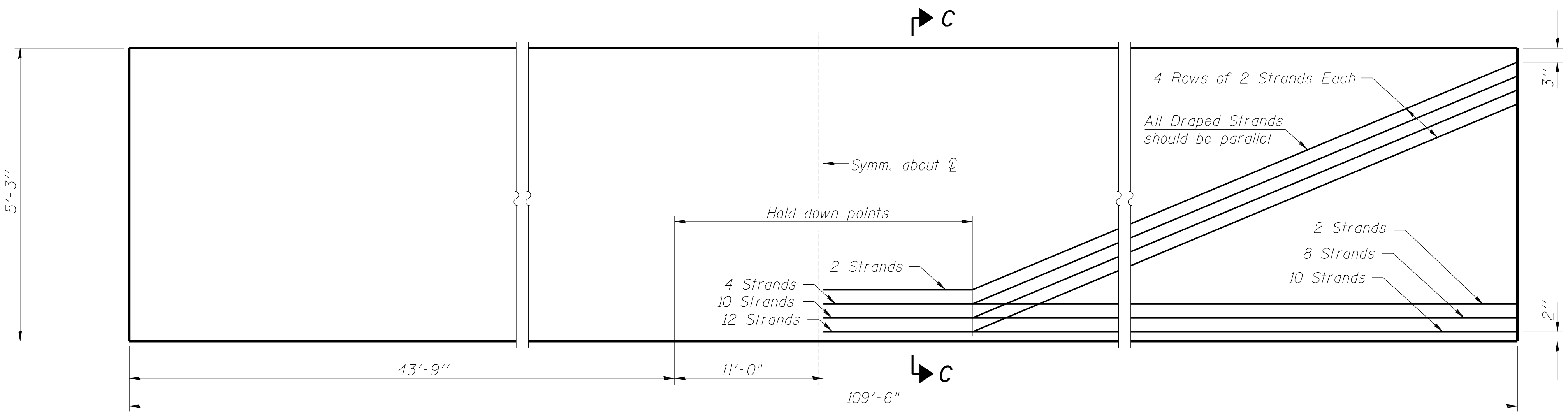
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



SECTION A-A

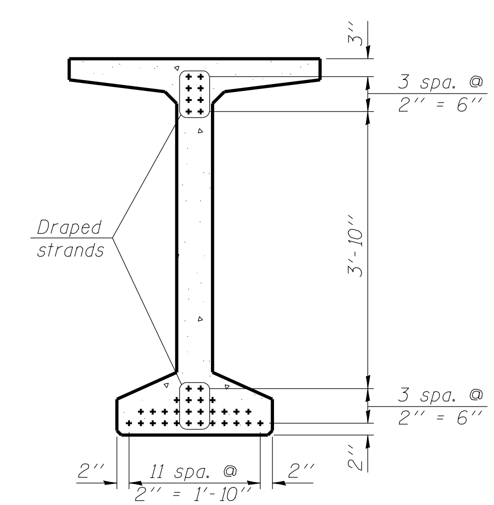


SECTION B-B



ELEVATION OF BEAM

(Showing prestressing steel)



SECTION C-C

BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	159	#4	11'-11''	
G_2	16	#4	6'-2''	
G_3	24	#6	29'-3''	
G_4	56	#3	4'-11''	
G_5	147	#5	3'-4''	
G_6	6	#8	3'-9''	

Notes:
See sheet 16 of 27 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5000 psi.

Corporate License Number 184-001-084

63'' PPC BULB T-BEAM - SPAN #2
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/10/06

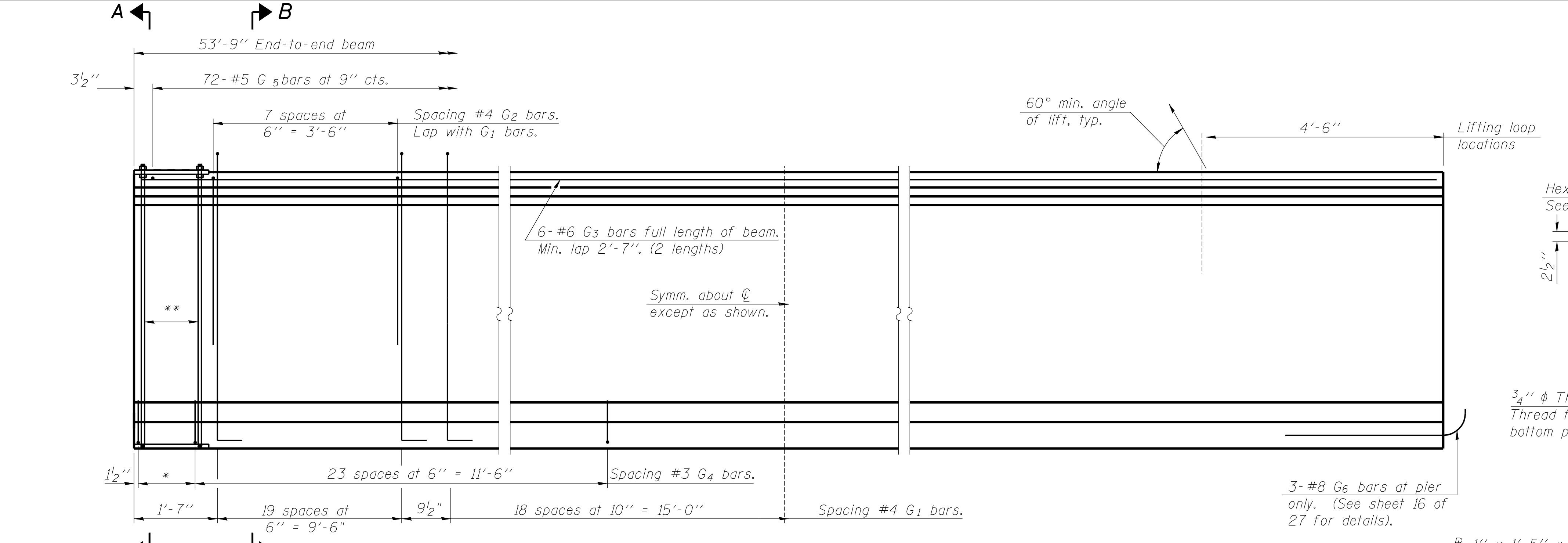
$FILE$
12/16/2006

LAYOUT	MNM	10/10/06
DRAWN	DAP	10/10/06
REVIEWED	JWM	10/12/06

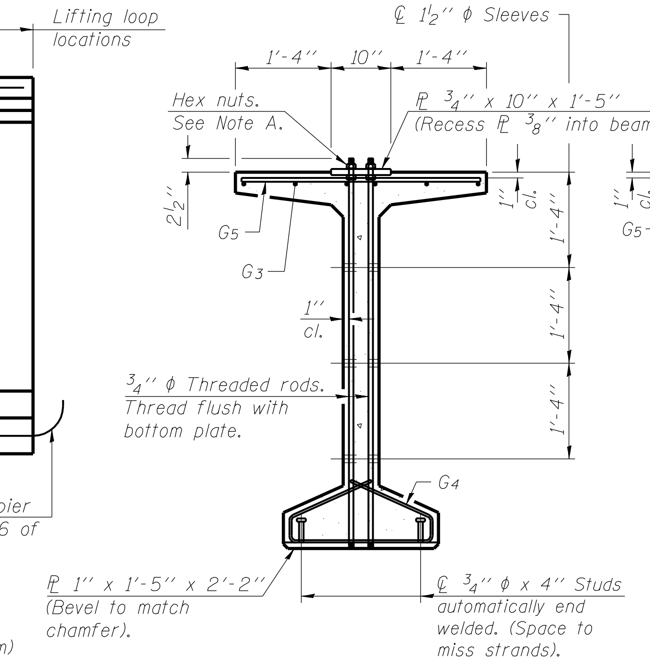
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	241
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

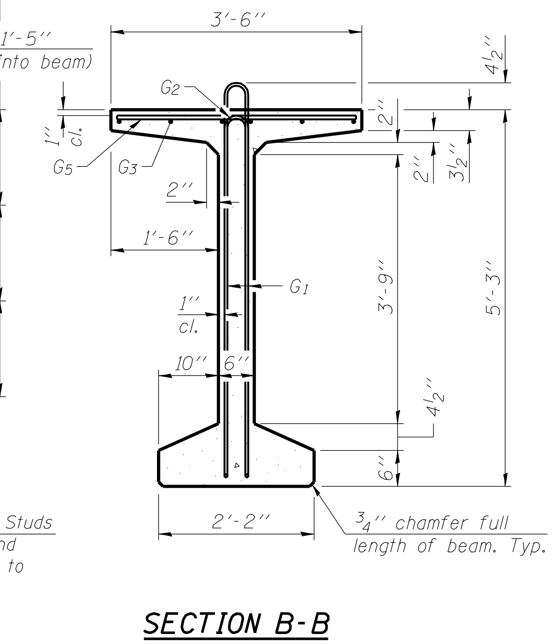
*02-00382-02-PV CONTRACT NO. 72541

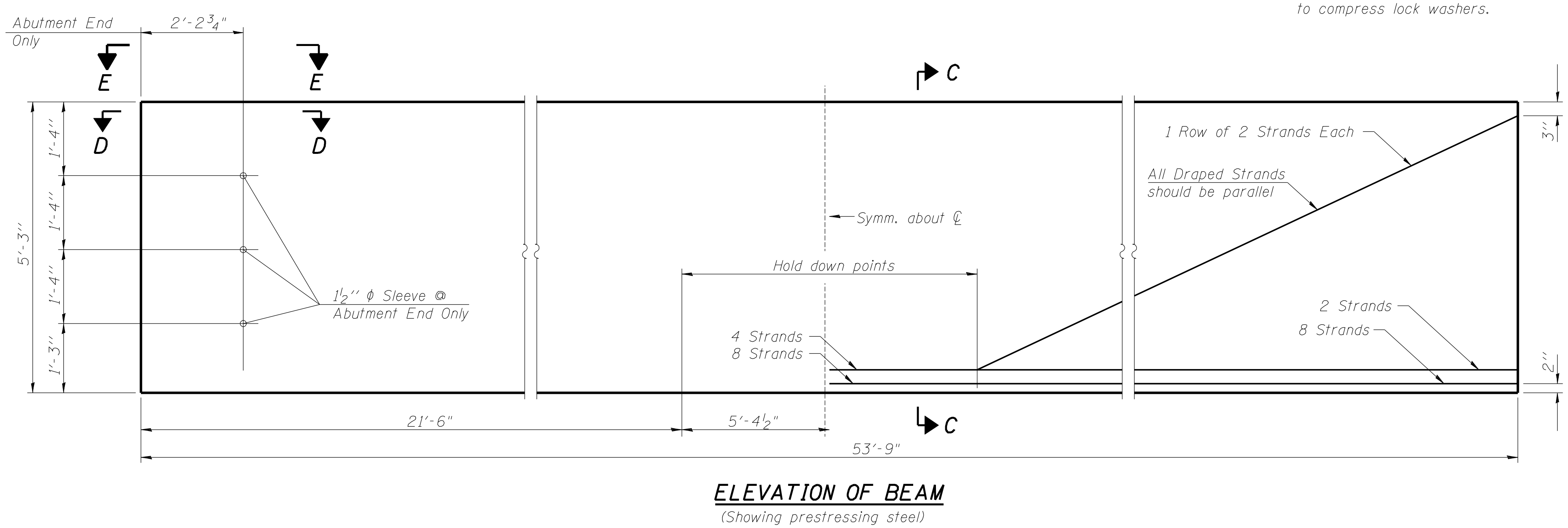
SHEET NO. 15
27 SHEETS

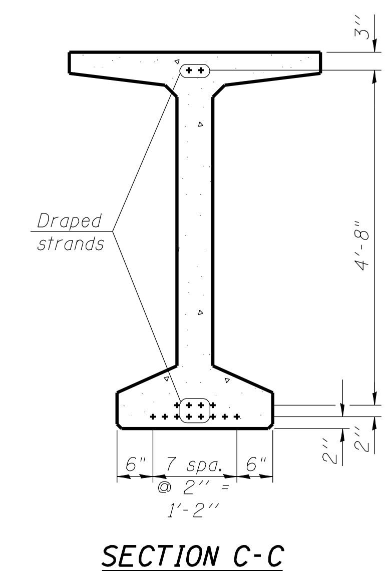


Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.





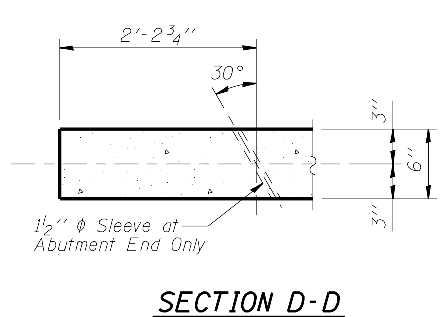


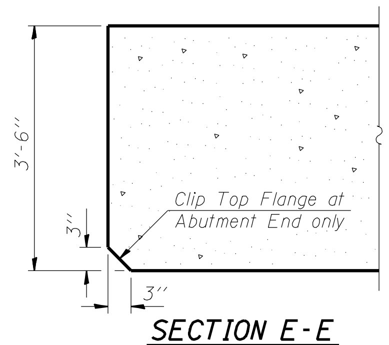


BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	77	#4	11'-11''	
G_2	16	#4	6'-2''	
G_3	12	#6	28'-3''	
G_4	56	#3	4'-11''	
G_5	72	#5	3'-4''	
G_6	3	#8	3'-9''	

Notes:
See sheet 16 of 27 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5000 psi.





$FILE$ 12/16/2006

LAYOUT	MNM	10/10/06
DRAWN	DAP	10/10/06
REVIEWED	JWM	10/12/06

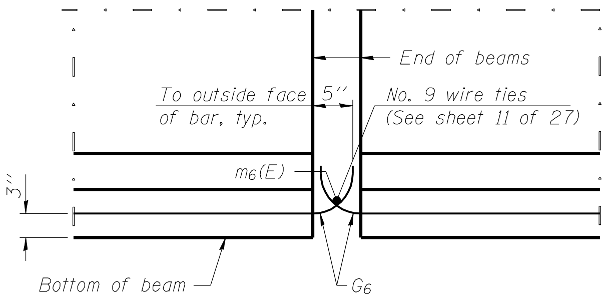
Corporate License Number 184-001-084

63'' PPC BULB T-BEAM - SPAN #3
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

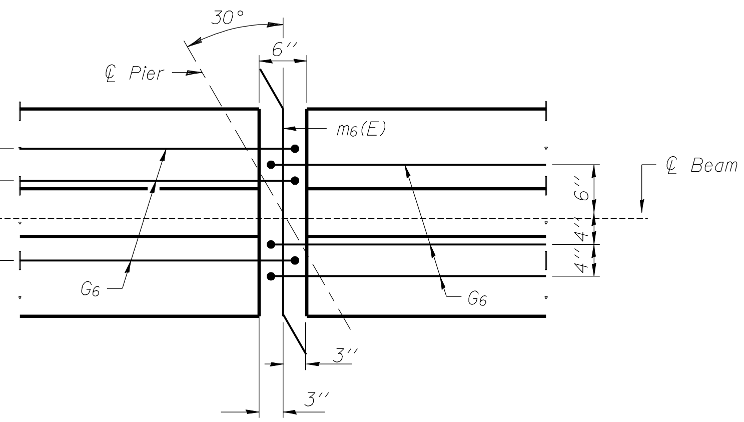
HANSON

JOB# 96S2002B

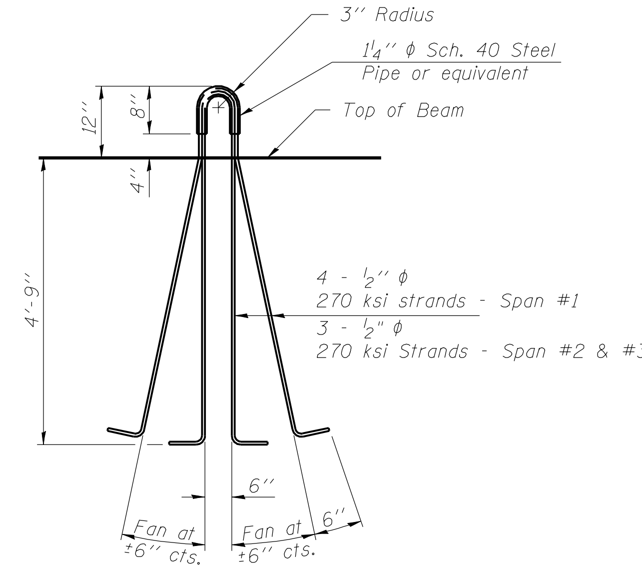
DATE: 10/10/06



ELEVATION OF BEAM AT PIER



PLAN OF BEAM AT PIER



LIFTING LOOP DETAIL

NOTES

All Sleeves, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete Bulb T-Beams shall be included in the contract unit price per foot of "Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams, 63 in."

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.

The nominal diameter shall be ½'' and the nominal cross-sectional area shall be 0.153 sq. in.

Non-prestressing steel shall conform to AASHTO designation M-31 or M 322, Grade 60.

A minimum 2½'' φ lifting pin shall be used to engage the lifting loops during handling.

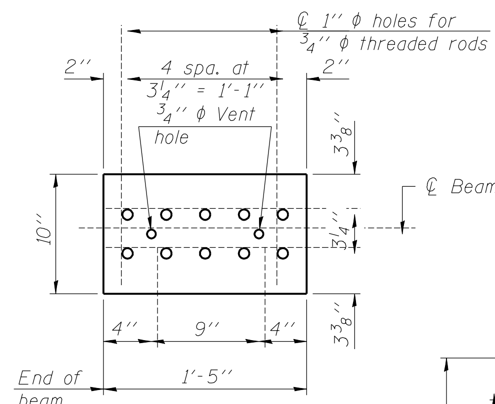
Reinforcement bars designated (E) shall be epoxy coated.

Cut G_6 bars when necessary to maintain 1½'' clearance.

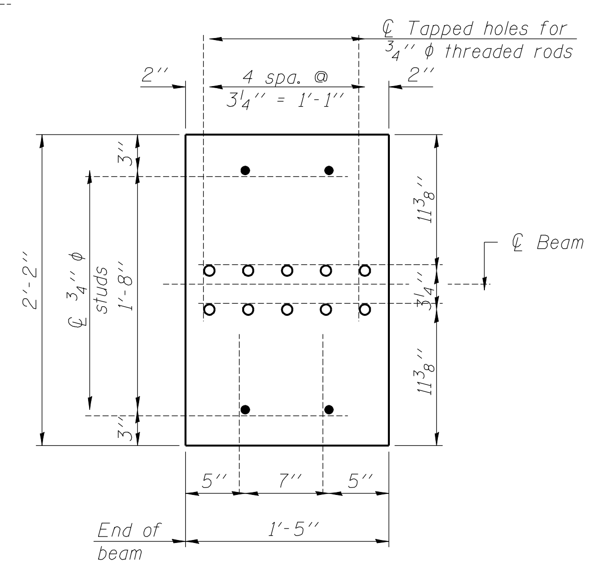
The bottom plates and studs shall be galvanized according to AASHTO M111 and ASTM A385.

Threaded rods shall be ASTM F 1554 Grade 55.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to all portions of the I-beam or Bulb-T beam, except the top surface of the top flange and the bottom surface of the bottom flange, starting at each beam end and extending out a distance of 63 inches. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

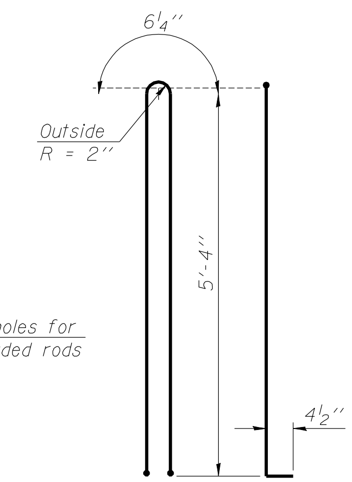


TOP PLATE

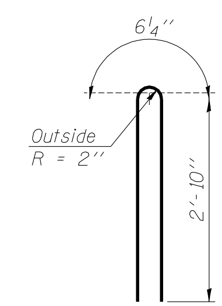


BOTTOM PLATE

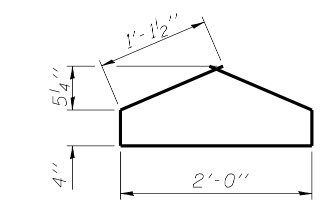
See bearing details for pintle hole locations when required.



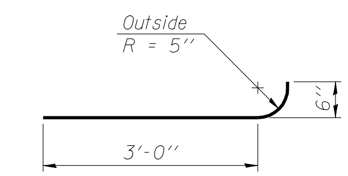
BAR G1



BAR G2



BAR G4



BAR G6

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams, 63''	Ft.	3859.5

INTERIOR BEAM MOMENT TABLE

		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. #3
I	(in⁴)	392638		392638		392638
I'	(in⁴)	721499		721499		721499
S_b	(in³)	12224		12224		12224
S_b'	(in³)	15906		15906		15906
S_t	(in³)	12715		12715		12715
S_t'	(in³)	40901		40901		40901
D	(k/')	1.39		1.39		1.39
M D	('k)	633.8		2024.5		445.3
s D	(k/')	0.44	0.44	0.44	0.44	0.44
Ms D	('k)	58.3	358.9	285.6	344.4	4.4
M L	('k)	414.7	474.2	580.6	468.6	331.6
M (Imp)	('k)	111.1	127.1	124.2	132.6	93.8

INTERIOR BEAM REACTION TABLE

			S. Abut.	Pier 1-Span 1	Pier 1-Span 2	Pier 2-Span 2	Pier 2-Span 3	N. Abut.
	R D	(k)	42.8	42.8	74.9	74.9	35.9	35.9
**	Rs D	(k)	7.7	21.9	21.9	21.1	21.1	4.7
**	R L	(k)	34.7	26.8	26.8	26.4	26.4	33.5
**	Imp.	(k)	9.3	6.3	6.3	6.4	6.4	9.5
	R (Total)	(k)	94.5	97.8	129.9	128.8	89.8	83.6

I and I' are the moment of inertia and composite moment of inertia of the beam section.
S_b and S_b' are the non-composite and composite section modulus for the bottom fiber of the prestressed beam.
S_t and S_t' are the non-composite and composite section modulus for the top fiber of the prestressed beam
M D is the moment due to dead loads on the non-composite prestressed beam. It is conservatively calculated at 0.5 of the span.
Ms D is the moment due to dead loads on the composite section.
M L is the moment due to live load on the composite section.
M (Imp) is the moment due to live load impact on the composite section.
** The total Rs D, R L and Impact Reactions are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier shall be based on the maximum reactions of either span.

$FILE$
12/16/2006

LAYOUT	MNM	10/10/06
DRAWN	DAP	10/10/06
REVIEWED	JWM	10/12/06

Corporate License Number 184-001-084

63'' PPC BULB T-BEAM DETAILS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

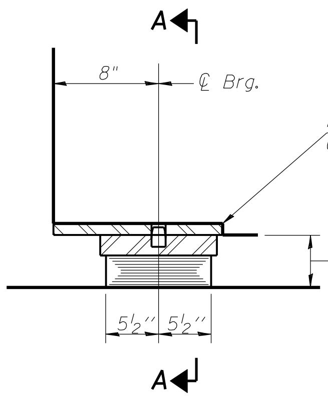
HANSON

JOB# 96S2002B

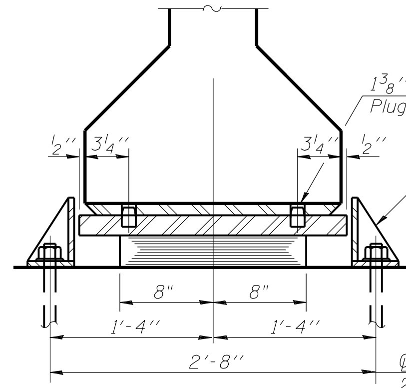
DATE: 10/10/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	243
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*02-00382-02-PV CONTRACT NO. 72541



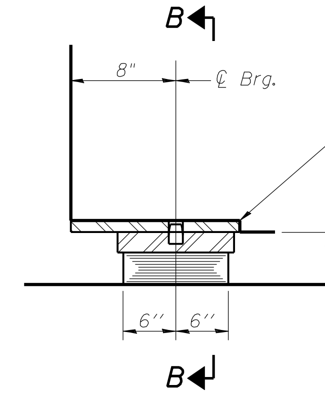
SECTION AT PIER



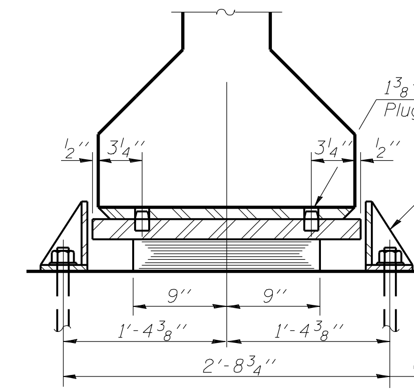
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.
(Span 1-Pier 1 & Span 3-Pier 2)

Notes:
After beams have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place.
See sheet 23 of 27 for anchor bolt installation.
See sheet 16 of 27 for additional details of plate cast with beam.

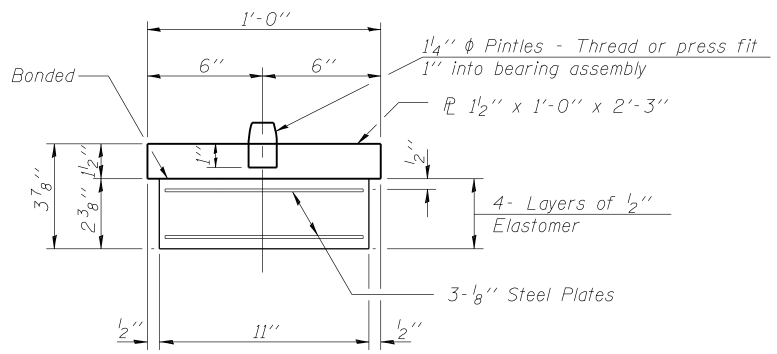


SECTION AT PIER



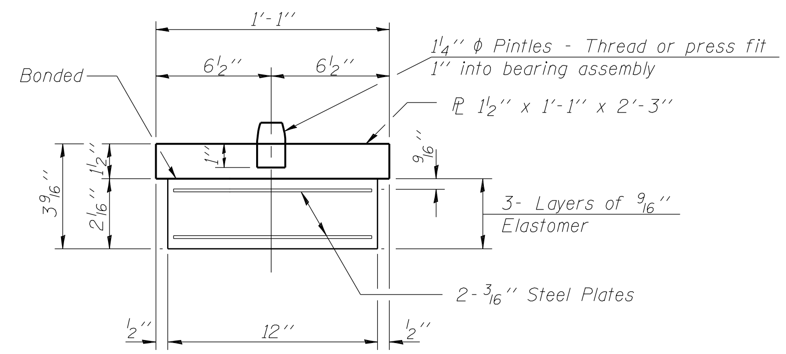
SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.
(Span 2-Pier 1 & 2)



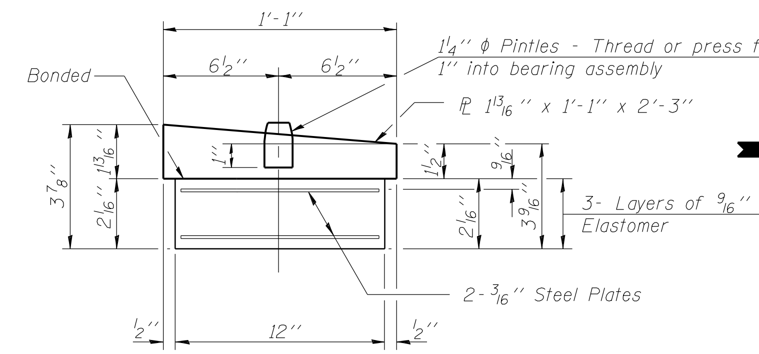
BEARING ASSEMBLY
(Span 1- Pier 1 & Span 3- Pier 2)

Note: Shim plates shall not be placed under Bearing Assembly.



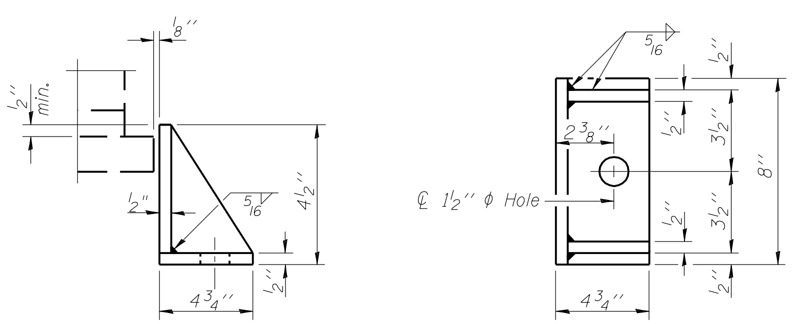
BEARING ASSEMBLY
(Span 2- Pier 1)

Note: Shim plates shall not be placed under Bearing Assembly.

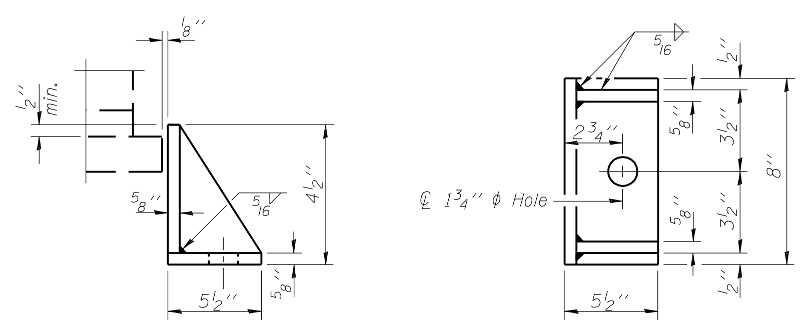


BEARING ASSEMBLY
(Span 2- Pier 2)

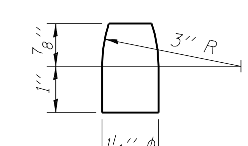
Note: Shim plates shall not be placed under Bearing Assembly. Bearing shall be placed using the correct orientation shown above.



SIDE RETAINER
(Span 1- Pier 1 & Span 3- Pier 2)
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.
Weight included with Structural Steel.



SIDE RETAINER
(Span 2- Pier 1 & 2)
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.
Weight included with Structural Steel.



PINTLE

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	68

Corporate License Number 184-001-084

ELASTOMERIC BEARING ASSEMBLY, TYPE I
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

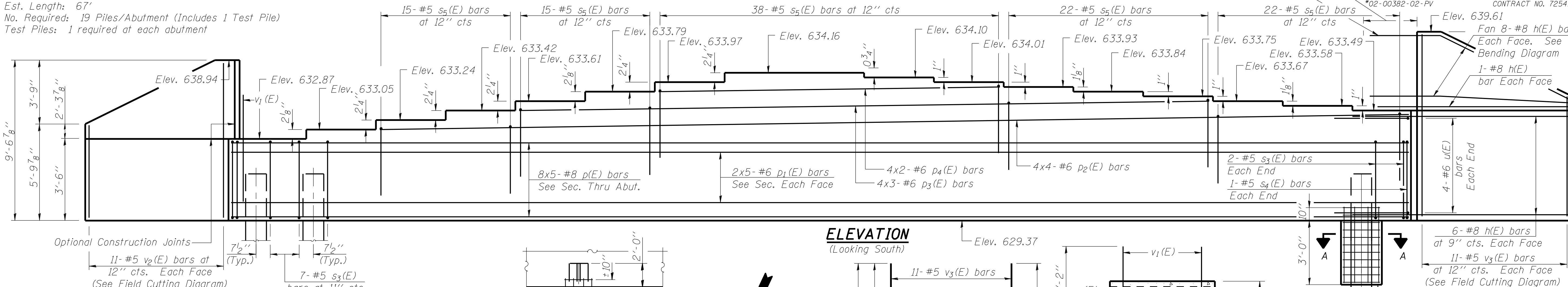
$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

PILE DATA

Type: Steel Piles HP12x53
Nominal Required Bearing: 419 kips
Allowable Resistance Available: 125 kips
Est. Length: 67'
No. Required: 19 Piles/Abutment (Includes 1 Test Pile)
Test Piles: 1 required at each abutment

Notes: Pour steps monolithically with cap. Reinforcement bars designated (E) shall be epoxy coated.

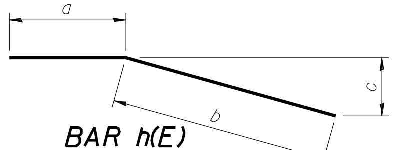


ELEVATION
(Looking South)

BENDING DIAGRAM

h(E) Bar Order	Dimensions a	Dimensions b	Dimensions c
h(E)-1	4'-8''	9'-7''	3'-8½''
h(E)-2	4'-10''	9'-5''	3'-3''
h(E)-3	5'-0''	9'-3''	2'-9½''
h(E)-4	5'-1''	9'-2''	2'-3½''
h(E)-5	5'-2''	9'-1''	1'-10''
h(E)-6	5'-3''	9'-0''	1'-4½''
h(E)-7	5'-4''	8'-11''	11''
h(E)-8	5'-4''	8'-11''	5½''

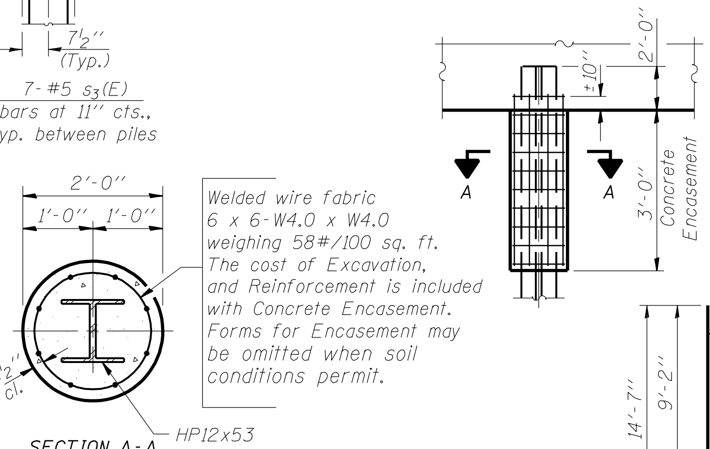
Bending table for h(E) bars. Bars shall be placed in wing using numerical order shown above starting at the top of wing.



BAR h(E)
Bending Daigram

MIN. BAR LAPS

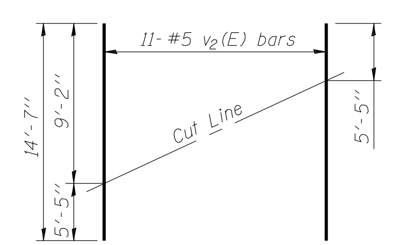
#4 - 1'-8''
#6 - 2'-7''
#8 - 4'-6''



SECTION A-A

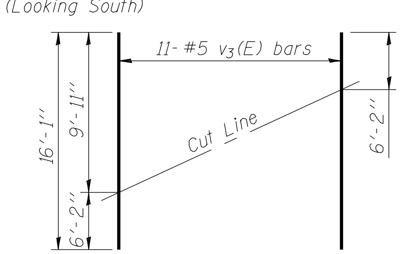
Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, and Reinforcement is included with Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit.

PILE ENCASEMENT DETAIL



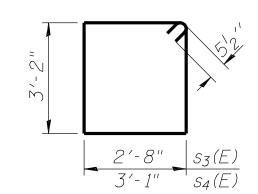
FIELD CUTTING DIAGRAM

Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.

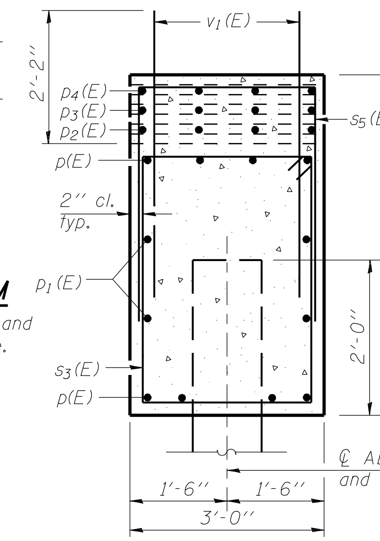


FIELD CUTTING DIAGRAM

Order v_3(E) full length. Cut as shown and use remainder of bars in opposite face.

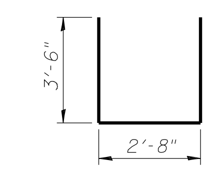


BARS s_3(E) or s_4(E)

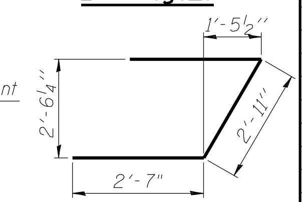


SEC. THRU ABUT.

Concrete Encasement (Typ.)



BAR s_5(E)

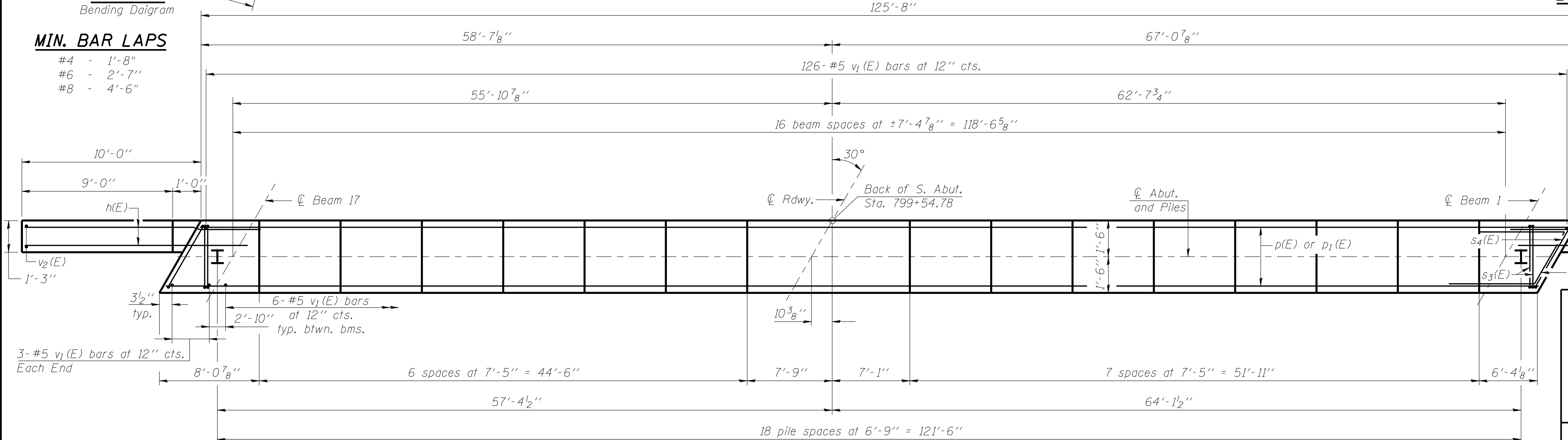


BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	60	#8	14'-3''	
p(E)	40	#8	28'-9''	
p_1(E)	20	#6	27'-3''	
p_2(E)	16	#6	30'-0''	
p_3(E)	12	#6	26'-5''	
p_4(E)	8	#6	19'-9''	
s_3(E)	130	#5	12'-7''	
s_4(E)	2	#5	13'-5''	
s_5(E)	112	#5	9'-8''	
u(E)	8	#6	8'-1''	
v_1(E)	228	#5	4'-4''	
v_2(E)	11	#5	14'-7''	
v_3(E)	11	#5	16'-1''	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	459
Concrete Structures	Cu. Yd.	67.6
Reinforcement Bars, Epoxy Coated	Pound	11950
Furnishing Steel Piles HP12x53	Lin. Ft.	1206
Driving Piles	Lin. Ft.	1206
Test Pile Steel HP12x53	Each	1
Concrete Encasement	Cu. Yd.	6.6



PLAN

Corporate License Number 184-001-084

SOUTH ABUTMENT
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB#: 96S2002B
DATE: 10/30/05

$FILE$ 12/16/2006

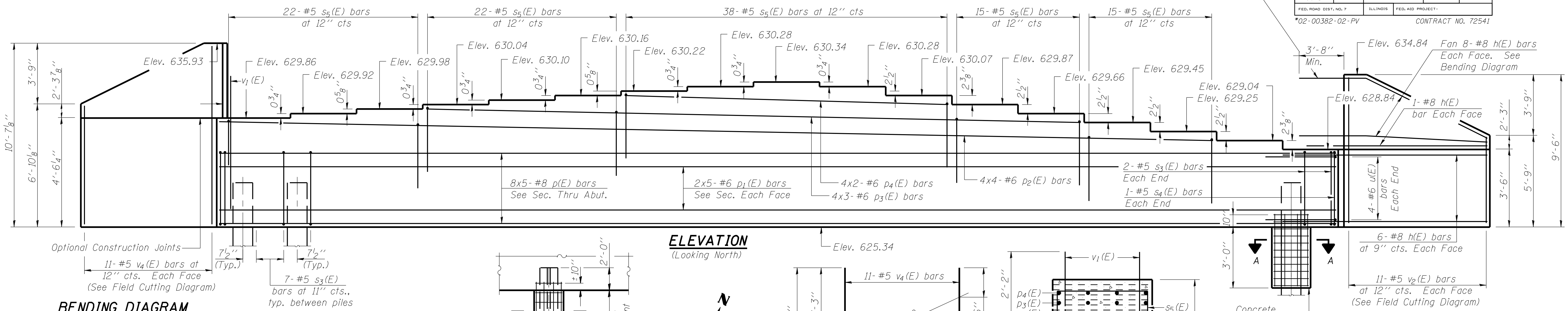
LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	245
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 19
27 SHEETS

Notes: Pour steps monolithically with cap. Reinforcement bars designated (E) shall be epoxy coated.

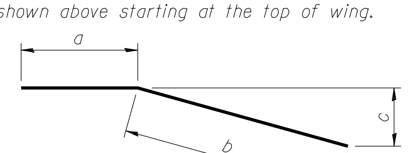


ELEVATION
(Looking North)

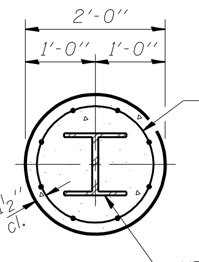
BENDING DIAGRAM

h(E) Bar Order	Dimensions		
	a	b	c
h(E)-1	4'-8''	9'-7''	3'-8½''
h(E)-2	4'-10''	9'-5''	3'-3''
h(E)-3	5'-0''	9'-3''	2'-9½''
h(E)-4	5'-1''	9'-2''	2'-3½''
h(E)-5	5'-2''	9'-1''	1'-10''
h(E)-6	5'-3''	9'-0''	1'-4½''
h(E)-7	5'-4''	8'-11''	11''
h(E)-8	5'-4''	8'-11''	5½''

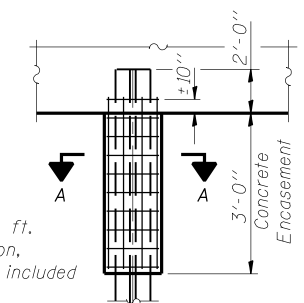
Bending table for h(E) bars. Bars shall be placed in wing using numerical order shown above starting at the top of wing.



BAR h(E)
Bending Daigram



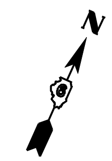
SECTION A-A

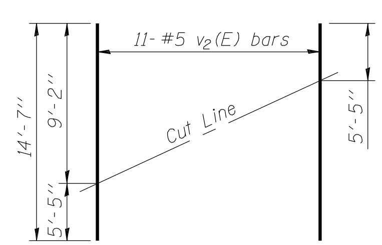


PILE ENCASEMENT DETAIL

PILE DATA

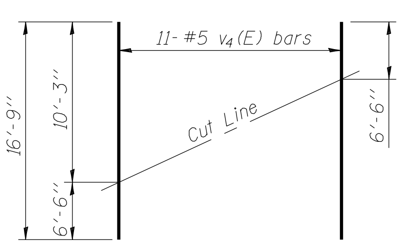
Type: Steel Piles HP12x53
Nominal Required Bearing: 419 kips
Allowable Resistance Available: 123 kips
Est. Length: 62'
No. Required: 19 Piles/Abutment (Includes 1 Test Pile)
Test Piles: 1 required at each abutment





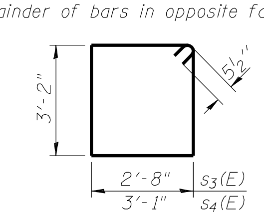
FIELD CUTTING DIAGRAM

Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.

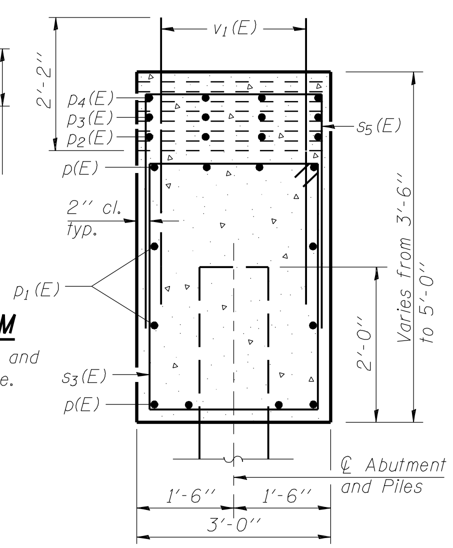


FIELD CUTTING DIAGRAM

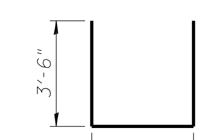
Order v_4(E) full length. Cut as shown and use remainder of bars in opposite face.



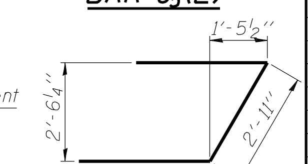
BARS s_3(E) or s_4(E)



SEC. THRU ABUT.



BAR s_5(E)



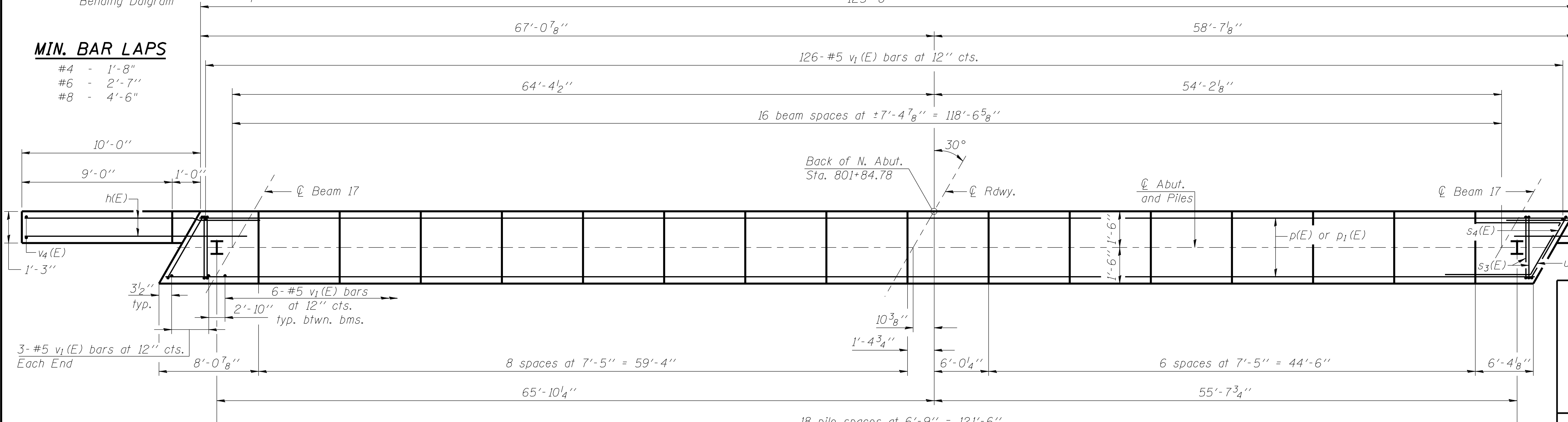
BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	60	#8	14'-3''	
p(E)	40	#8	28'-9''	
p_1(E)	20	#6	27'-3''	
p_2(E)	16	#6	30'-0''	
p_3(E)	12	#6	26'-5''	
p_4(E)	8	#6	19'-9''	
s_3(E)	130	#5	12'-7''	
s_4(E)	2	#5	13'-5''	
s_5(E)	112	#5	9'-8''	
u(E)	8	#6	8'-1''	
v_1(E)	228	#5	4'-4''	
v_2(E)	11	#5	14'-7''	
v_4(E)	11	#5	16'-9''	
Structure Excavation			Cu. Yd.	467
Concrete Structures			Cu. Yd.	70.3
Reinforcement Bars, Epoxy Coated			Pound	11960
Furnishing Steel Piles HP12x53			Lin. Ft.	1116
Driving Piles			Lin. Ft.	1116
Test Pile Steel HP12x53			Each	1
Concrete Encasement			Cu. Yd.	6.7

MIN. BAR LAPS

#4 - 1'-8"
#6 - 2'-7''
#8 - 4'-6''



PLAN

Corporate License Number 184-001-084

NORTH ABUTMENT
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

$FILE$ 12/16/2006

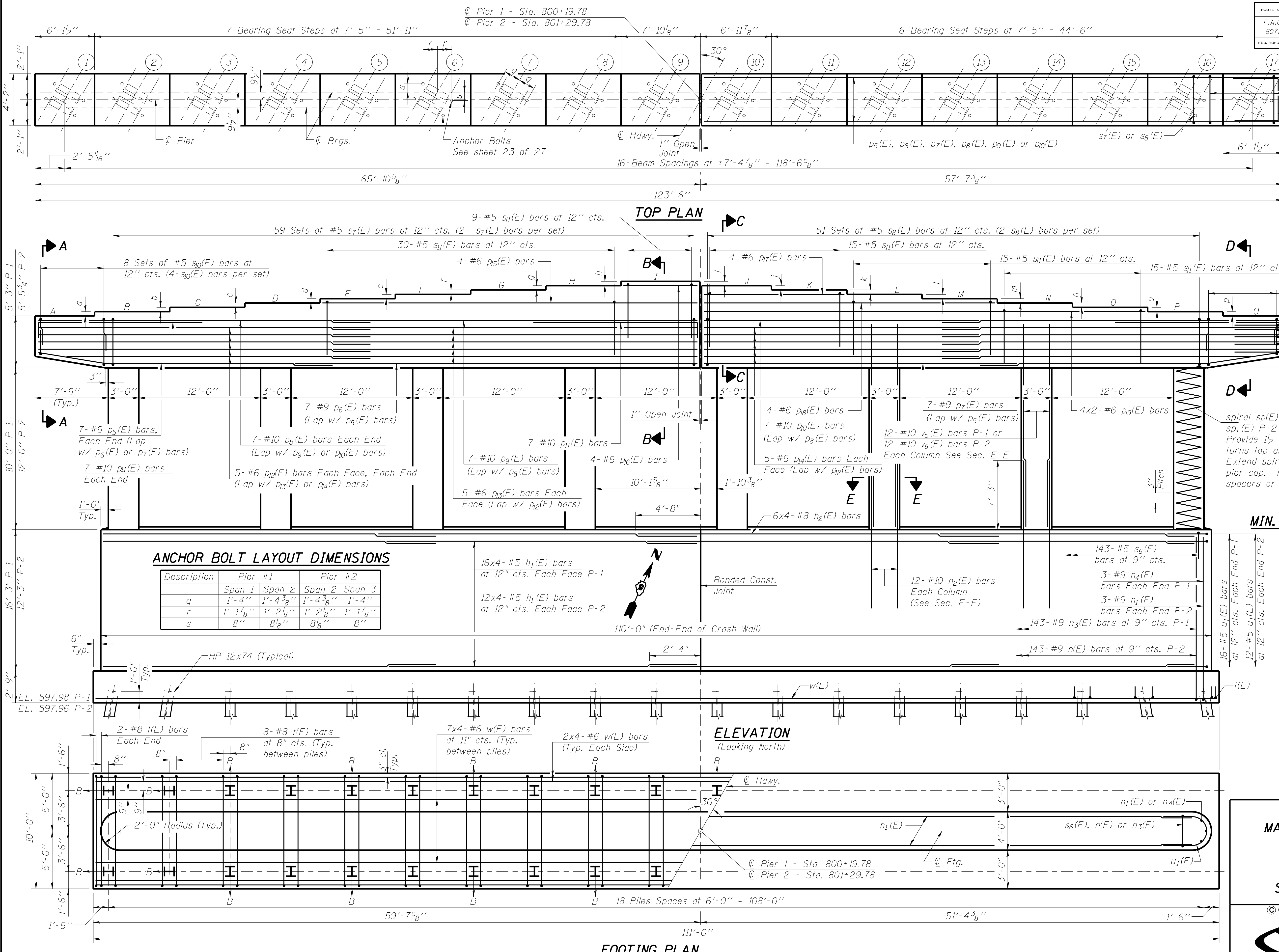
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	246

FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT-

*02-00382-02-PV

SHEET NO. 20 · 27 SHEETS

CONTRACT NO. 72541



ANCHOR BOLT LAYOUT DIMENSIONS

Description	Pier #1		Pier #2	
	Span 1	Span 2	Span 2	Span 3
q	1'-4''	1'-4 3/8''	1'-4 3/8''	1'-4''
r	1'-1 7/8''	1'-2 1/8''	1'-2 1/8''	1'-1 7/8''
s	8''	8 1/8''	8 1/8''	8''

STEP HEIGHT DIMENSIONS

Description	Pier 1	Pier 2
a	1''	7/8''
b	1''	3/4''
c	7/8''	3/4''
d	1''	3/4''
e	1''	3/4''
f	7/8''	3/4''
g	1''	3/4''
h	7/8''	7/8''
i	3/8''	3/4''
j	2 3/8''	2 3/8''
k	2 3/8''	2 1/2''
l	2 1/4''	2 3/8''
m	2 1/4''	2 1/2''
n	2 3/8''	2 1/2''
o	2 3/8''	2 1/2''
p	2 1/4''	2 1/2''

BEARING SEAT ELEVATIONS

Description	Pier 1	Pier 2
A	632.23	630.44
B	632.32	630.51
C	632.40	630.58
D	632.47	630.64
E	632.55	630.70
F	632.63	630.77
G	632.71	630.83
H	632.79	630.89
I	632.86	630.96
J	632.83	630.90
K	632.64	630.70
L	632.44	630.49
M	632.25	630.29
N	632.06	630.08
O	631.86	629.88
P	631.67	629.67
Q	631.48	629.46

spiral sp(E) P-1 or sp1(E) P-2 Each Column Provide 1 1/2 extra turns top and bottom. Extend spiral 2'' into pier cap. Provide 4-#4 spacers or equivalent.

MIN. BAR LAPS

- #4 - 1'-8"
- #5 - 2'-2"
- #6 - 2'-7"
- #7 - 3'-5"
- #8 - 4'-6"
- #9 - 5'-9''
- #10 - 7'-3"
- #4 Spirals - 2'-0''

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Reinforcement bars indicated thus 6x2-#5 etc. indicates 6 lines of bars with 2 lengths per line.
See sheet 21 of 27 for pier details, sections, and bill of material.
P-1 indicates Pier #1 etc.
EL. indicates Elevation.
B indicates Battered Pile and arrow indicates direction to batter the pile. Pile batter pattern is symmetrical about footing.

Corporate License Number 184-001-084

PIERS 1 & 2
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B

DATE: 10/30/05

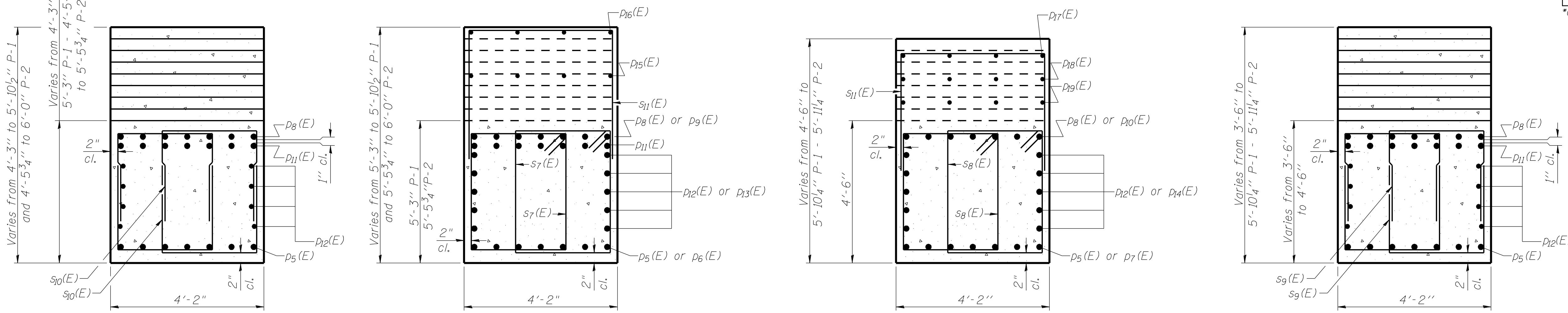
$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	247
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 21
27 SHEETS

*02-00382-02-PV CONTRACT NO. 72541



SECTION A-A

SECTION B-B

SECTION C-C

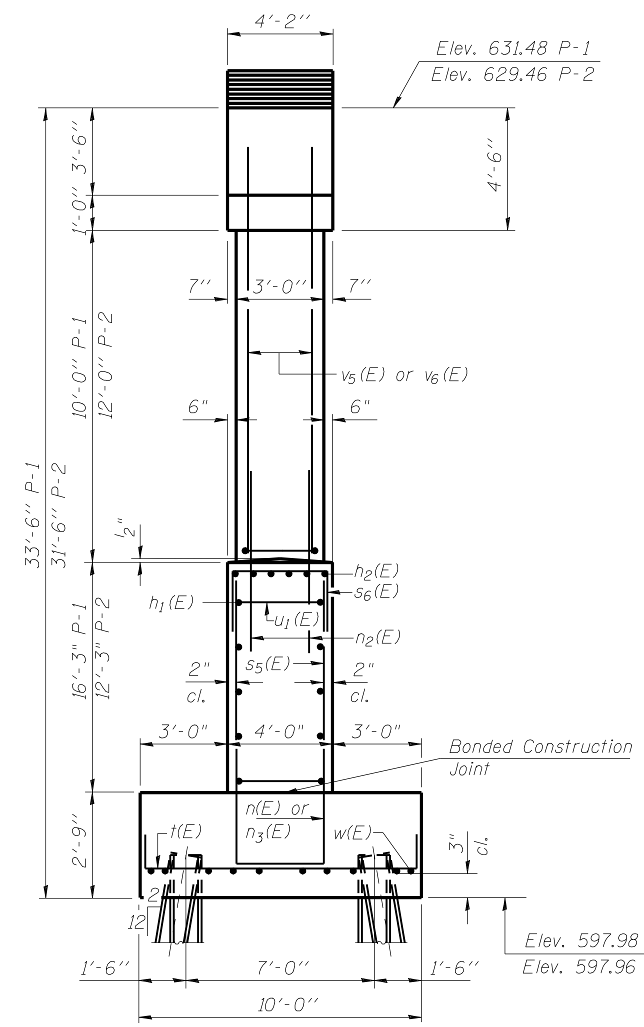
SECTION D-D

BILL OF MATERIAL-PIERS #1 & #2

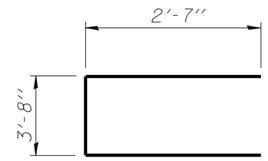
Bar	No.	Size	Length	Shape
h_1(E)	224	#5	29'-9"	
h_2(E)	48	#8	30'-9"	
n(E)	143	#9	32'-4"	
n_1(E)	6	#9	15'-7"	
n_2(E)	192	#10	14'-6"	
n_3(E)	143	#9	40'-4"	
n_4(E)	6	#9	19'-7"	
p_5(E)	28	#9	31'-4"	
p_6(E)	14	#9	40'-0"	
p_7(E)	14	#9	31'-8"	
p_8(E)	28	#10	35'-3"	
p_9(E)	14	#10	37'-9"	
p_{10}(E)	14	#10	29'-6"	
p_{11}(E)	42	#10	22'-10"	
p_{12}(E)	40	#6	33'-0"	
p_{13}(E)	20	#6	35'-3"	
p_{14}(E)	20	#6	27'-0"	
p_{15}(E)	8	#6	37'-2"	
p_{16}(E)	8	#6	7'-6"	
p_{17}(E)	8	#6	14'-0"	
p_{18}(E)	8	#6	28'-11"	
p_{19}(E)	16	#6	23'-3"	
s_6(E)	286	#5	7'-4"	
s_7(E)	236	#5	16'-1"	
s_8(E)	204	#5	14'-7"	
s_9(E)	64	#5	9'-0"	
s_{10}(E)	64	#5	9'-10"	
s_{11}(E)	168	#5	10'-10"	
* sp(E)	8	#4	10'-2"	
* sp_1(E)	8	#4	12'-2"	
t(E)	296	#8	12'-2"	
u_1(E)	56	#5	10'-1"	
u_2(E)	24	#6	8'-10"	
v_5(E)	96	#10	14'-6"	
v_6(E)	96	#10	16'-6"	
w(E)	88	#6	29'-6"	
Structure Excavation			Cu. Yd.	330
Concrete Structures			Cu. Yd.	938.9
Reinforcement Bars, Epoxy Coated			Pound	127100
Furnishing Steel Piles HP12x74			Ft.	2516
Driving Piles			Ft.	2516
Test Pile Steel HP12x74			Each	2

Reinforcement Bars designated (E) shall be epoxy coated.

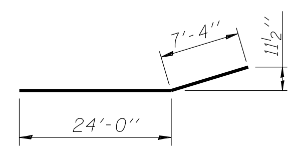
* Length shown is height of Spiral.



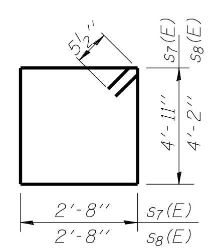
END VIEW
(Looking West)



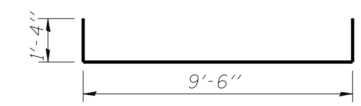
BAR u_2(E)



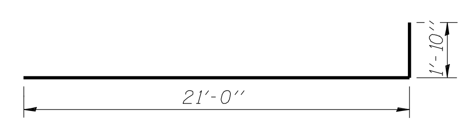
BAR p_5(E)



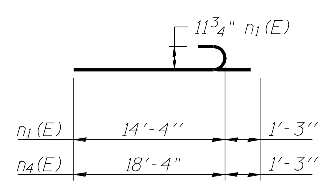
BARS s_7(E) & s_8(E)



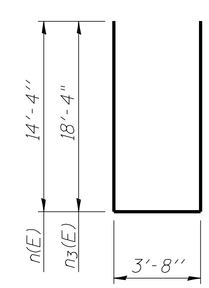
BAR t(E)



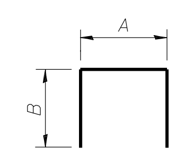
BAR p_{11}(E)



BARS n_1(E) & n_4(E)



BARS n(E) & n_3(E)



BARS s_6(E), s_9(E) thru s_{11}(E)

A & B DIMENSIONS

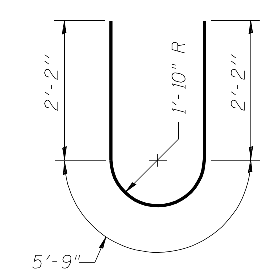
Bar	A	B
s_6(E)	3'-0"	2'-2"
s_9(E)	2'-8"	3'-2"
s_{10}(E)	2'-8"	3'-7"
s_{11}(E)	3'-10"	3'-6"

MIN. BAR LAPS

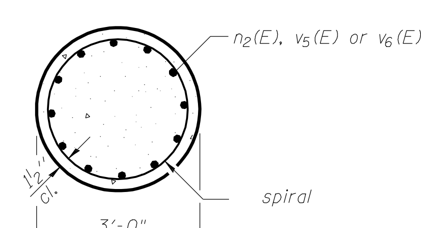
#4 Spirals - 2'-0"
#4 - 1'-8"
#5 - 2'-2"
#6 - 2'-7"
#7 - 3'-5"
#8 - 4'-6"
#9 - 5'-9"
#10 - 7'-3"

PILE DATA

Pile Type: HP 12x74
Nominal Required Bearing: 589 kips
Allowable Resistance Available: 178 kips (Pier #1), 179 kips (Pier #2)
Estimated Length: 34'
No. Required: 38 per Pier (Includes 1 Test Pile per Pier)
Test Piles: 1 per Pier



BAR u_1(E)



SECTION E-E

Corporate License Number 184-001-084

PIER DETAILS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B

DATE: 10/30/05

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

$FILE$
12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	248
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 22
27 SHEETS

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

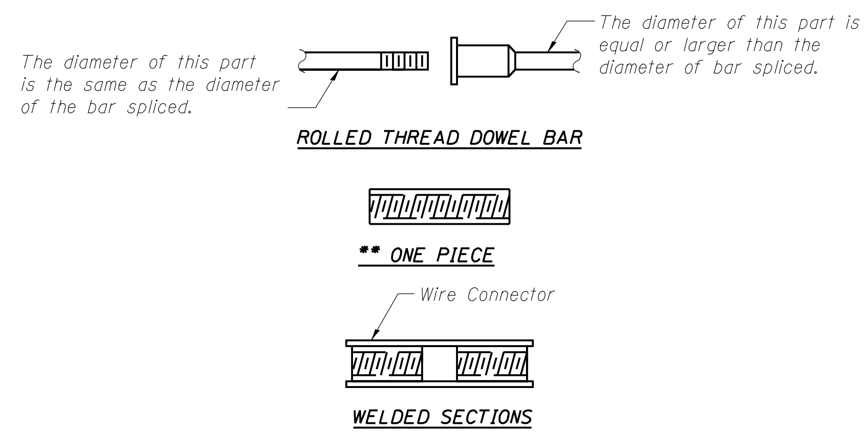
① Minimum Capacity (Tension in kips) = $1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

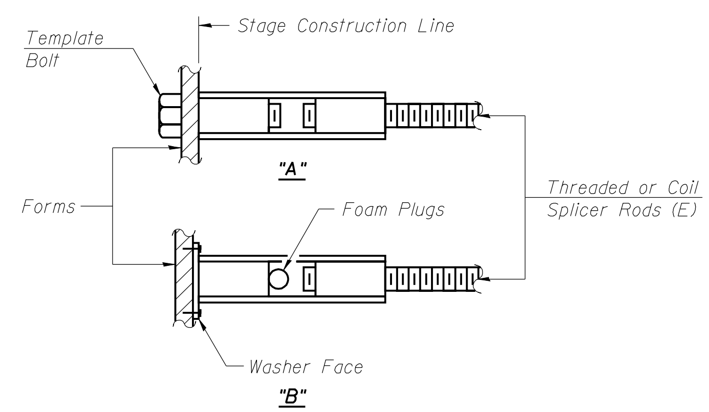
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8''	14.7	5.9
#5	2'-0''	23.0	9.2
#6	2'-7''	33.1	13.3
#7	3'-5''	45.1	18.0
#8	4'-6''	58.9	23.6
#9	5'-9''	75.0	30.0
#10	7'-3''	95.0	38.0
#11	9'-0''	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



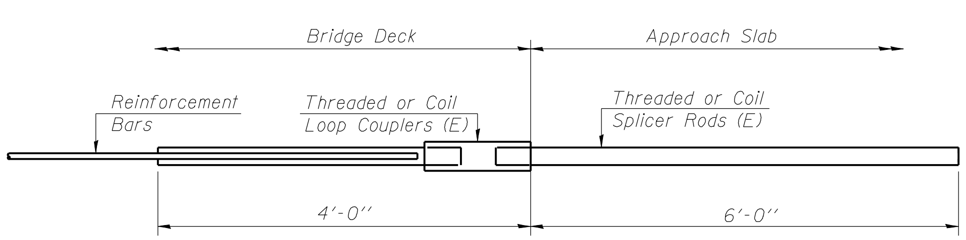
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



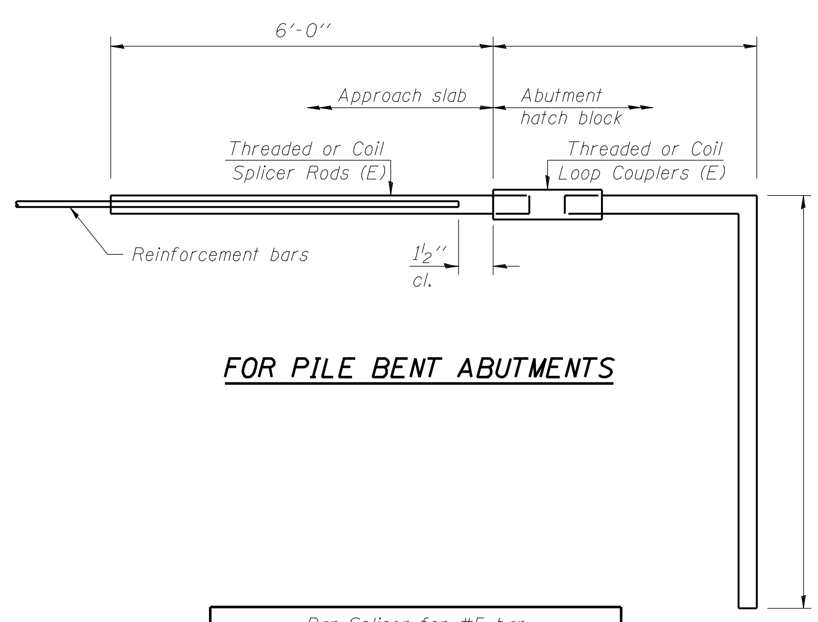
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



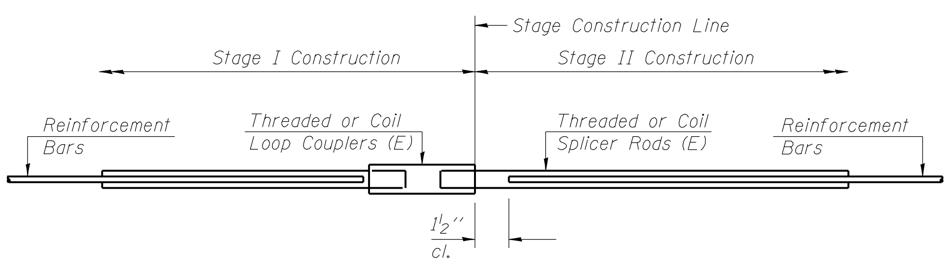
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 216



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 0



STANDARD

Bar Size	No. Assemblies Required	Location
#5	367	Top Slab
#5	275	Bottom Slab
#5	4	Each End Slab

Corporate License Number 184-001-084

BAR SPICER ASSEMBLY DETAILS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

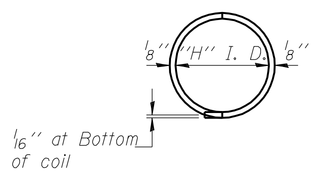
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	249
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

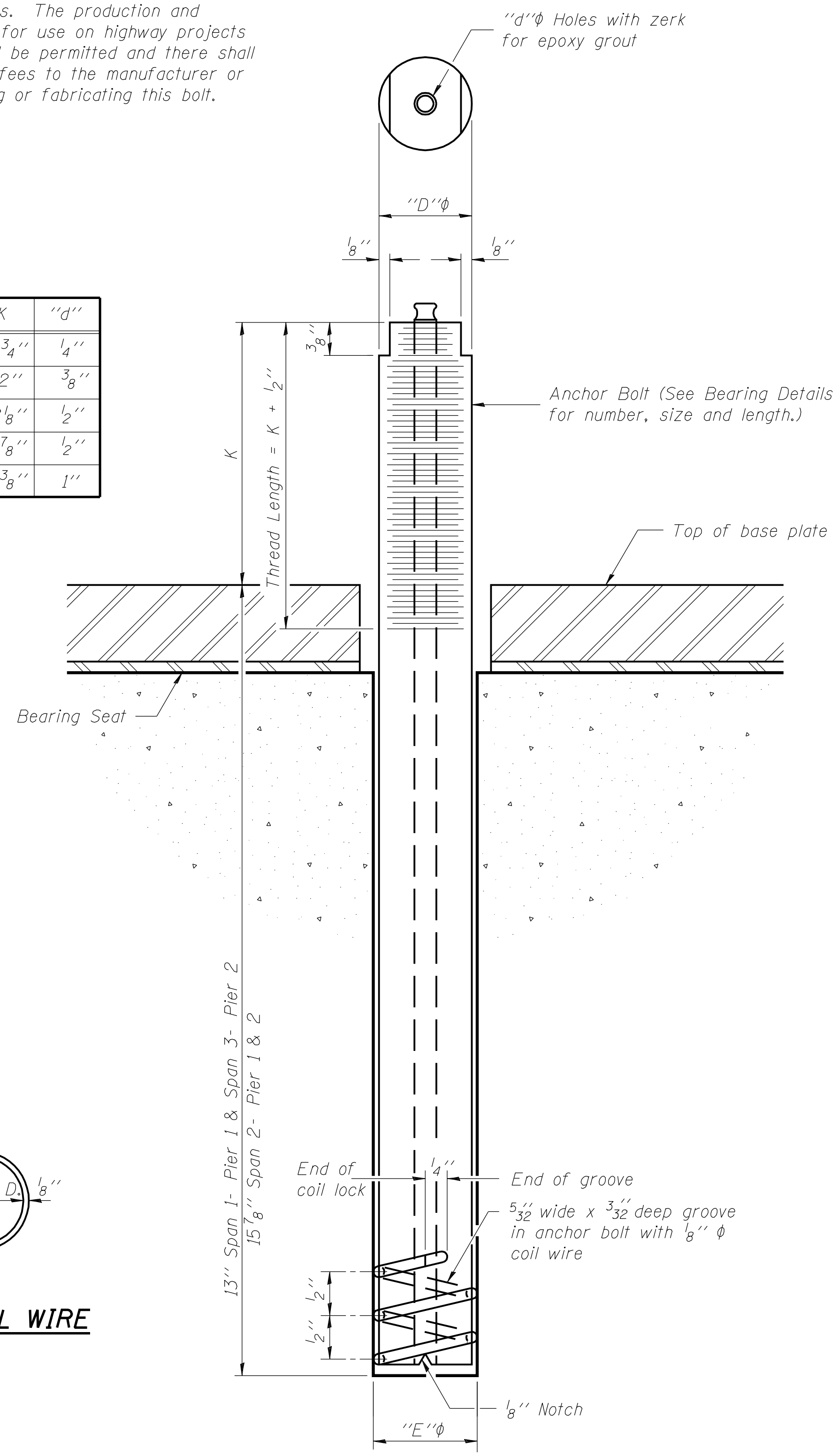
SHEET NO. 23
27 SHEETS

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	13/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



PLAN-COIL WIRE



ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.
The coil wire shall be made of any suitable soft steel wire.
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.
The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Piers	A307

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.
The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

Corporate License Number 184-001-084

ANCHOR BOLT DETAILS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	250
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 24
27 SHEETS

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 2
Date 3/18/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78

BORING NO. MAS-11 S. Abut
Station 799+00
Offset 35.00ft Left
Ground Surface Elev. 601.3 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 589.3 ft
Upon Completion 594.8 ft
After 9 D Hrs. 597.3 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Tan and Light Gray SILT LOAM			2		
		-5	4	1.0	24
	595.30		5	B	
Tan and Light Gray SILT			2		
			3	0.7	25
	592.80		3	B	
Brown and Gray Moist SILTY CLAY LOAM			1		
		-10	2	0.7	23
	590.30		2	B	
Brown and Gray V. Moist SILTY CLAY Free Water			0		
			0	0.4	25
	587.80		1	B	
Brown and Gray Moist SILTY CLAY (Till)			0		
		-15	1	0.6	28
	585.30		2	B	
Brown and Light Blue Gray Moist CLAY LOAM (Till)			1		
			1	0.6	21
			2		
			3		
Brown and Gray		-20	19	6.7	9
Brown and Light Blue Gray Moist CLAY LOAM (Till) (continued)			45	B	
			5		
			13	6.6	10
			29	S-12	
			5		
Grayish Brown		-25	13	7.8	10
			26	B	
			17		
Gray		-30	21	7.5	9
	569.80		22	B	
Gray Dry Fissile Clayey SHALE			7		
		-35	47		11
			53 /2"		
			17		
		-40	70		11

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/29/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 2 of 2
Date 3/18/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78

BORING NO. MAS-11 S. Abut
Station 799+00
Offset 35.00ft Left
Ground Surface Elev. 601.3 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 589.3 ft
Upon Completion 594.8 ft
After 9 D Hrs. 597.3 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray Dry Fissile Clayey SHALE (continued)	560.80		30 /1"		
		-45			
		-50			
		-55			
		-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/29/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 2
Date 3/14/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78

BORING NO. MAS-12 S. Abut
Station 799+50
Offset 35.00ft Right
Ground Surface Elev. 601.0 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 589.5 ft
Upon Completion 592.5 ft
After 13 D Hrs. 597.5 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Tan and Light Gray Moist SILT LOAM			0		
			2	0.6	31
	595.50	-5	2	B	
Tan and Light Gray Moist SILT			1		
			2	0.8	28
	593.00		3	B	
Gray Moist SILTY CLAY LOAM			0		
			1	0.7	24
	590.50	-10	2	B	
Brown and Gray Moist SILTY CLAY Free Water			0		
			1	0.6	29
			2	B	
			0		
			1	0.5	31
	585.50	-15	2	B	
Light Blue Gray Moist SILTY CLAY (Till)			1		
			2	1.0	22
			2	B	
			0		
Gray			1	0.6	23
	580.50	-20	4	B	
Gray to Reddish Brown Moist CLAY LOAM (Till)			3		
			46	10.0	11
			31		
			5		
Gray			13	6.2	11
		-25	24	B	
			2		
			12	6.0	10
	573.00		23	B	
Gray and Brown Moist Weathered Clayey SHALE			7		
			14		15
		-30	25		
			5		
Gray Moist Clayey SHALE			15		14
		-35	34		
			12		
			38		14
		-40	62		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/29/04
Latitude Longitude

Corporate License Number 184-001-084

BORINGS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	251
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 25
27 SHEETS

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 2 of 2
Date 3/14/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78

BORING NO. MAS-12 S. Abut
Station 799+50
Offset 35.00ft Right
Ground Surface Elev. 601.0 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 589.5 ft
Upon Completion 592.5 ft
After 13 D Hrs. 597.5 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray and Brown Moist Weathered Clayey SHALE (continued)			/5"		
	556.00	-45	4		
			37		12
			63		
			/4"		
		-50			
		-55			
		-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 3/17/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78

BORING NO. MAS-13 S. Pier
Station 799+75
Offset 35.00ft Left
Ground Surface Elev. 601.1 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 587.1 ft
Upon Completion 593.6 ft
After 10 D Hrs. 597.6 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray and Brown Moist SILTY CLAY			0		
			1	0.5	30
	596.10	-5	2	B	
Tan and Light Gray Moist SILT			0		
			1	0.5	26
			2	B	
	593.10				
Grayish Brown Moist SILTY CLAY LOAM			0		
			1	0.6	24
		-10	2	B	
	590.60				
Brown and Gray Moist SITLY CLAY			0		
			1	0.5	28
			2	B	
	588.10				
Gray and Brown Moist Weathered SILTY CLAY (Till) Free Water			0		
			0	0.7	26
		-15	1	B	
	585.60				
Light Blue Gray Moist CLAY LOAM (Till)			0		
			2	0.8	23
			3	B	
			1		
Grayish Brown			6	5.9	11
		-20	11	S-14	
Light Blue Gray Moist CLAY LOAM (Till) (continued)			1		
Grayish Brown Moist CLAY LOAM (Till) w/4" Medium Sand Seam			4	3.9	15
			21	S-12	
			3		
			23	7.3	13
		-25	29	B	
			3		
Gray Moist CLAY LOAM (Till)			11	6.6	10
		-30	30	B	
	568.60				
Grayish Brown Moist Weathered Clayey SHALE			5		
			35		15
		-35	65		
			/5"		
			8		
			45		13
Gray Dry Fissile Clayey SHALE			55		
	561.10	-40	/2"		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 3/17/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78

BORING NO. MAS-14 S. Pier
Station 800+25
Offset 35.00ft Right
Ground Surface Elev. 600.9 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 586.9 ft
Upon Completion 594.9 ft
After 11 D Hrs. 596.9 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray and Light Brown Moist SILT LOAM			1		
			2	0.6	25
		-5	2	B	
	595.40				
Brown and Gray Moist SILT			1		
			3	0.7	26
			3	B	
	592.90				
Dark Grayish Brown Moist SILTY CLAY LOAM			1		
			2	0.7	24
		-10	3	B	
	590.40				
Brown and Gray V. Moist SILTY CLAY			0		
			1	0.5	27
			2	B	
	587.90				
Brown and Gray V. Weathered SILTY CLAY (Till) Free Water			1		
			2	0.8	26
		-15	3	B	
	585.40				
Light Blue Gray Moist CLAY LOAM (Till)			0		
			1	0.7	20
			3	B	
			1		
			2	0.8	19
		-20	4	B	
	580.40				
Grayish Brown Moist V. Dirty Fine SAND			7		
			33		
	578.40		67		
			/5"		
Brown and Gray Moist CLAY LOAM (Till)			7		
			19	6.7	11
		-25	26	B	
	573.40				
Brown and Gray Moist V. Weathered Clayey SHALE			5		
			10		17
		-30	14		
			7		
Brown and Gray to Gray Dry Clayey SHALE			80		11
		-35	20		
			/1"		
			40		
			31		12
Gray Dry Fissile Clayey SHALE	561.40		100		
		-40	/5"		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

Corporate License Number 184-001-084

BORINGS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	252
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 26
27 SHEETS

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 4/15/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78
BORING NO. MAS-15 N. Pier
Station 801+15
Offset 35.00ft Left
Ground Surface Elev. 600.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 589.0 ft
Upon Completion 591.5 ft
After 24 Hrs. 597.5 ft

Description	Elev.	DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Tan and Light Gray Moist SILT LOAM			1		
		-5	1 2	0.7 B	26
	595.00				
Tan and Light Gray Moist SLIT			1		
			2 2	0.8 B	31
	591.50		1		
Gray and Brown Moist SILTY CLAY LOAM		-10	2 3	0.7 B	24
	590.00				
Brown and Gray Moist SILT CLAY Free Water			0		
			1 2	0.4 B	26
	587.50				
Brown and Gray Moist Weathered SILTY CLAY (Till)			0		
		-15	1 2	0.7 B	26
	585.00				
Light Blue Gray Moist CLAY LOAM (Till)			1		
			1 2	0.7 B	23
			0		
Brown and Gray Moist CLAY LOAM (Till) w/4" Medium SAND		-20	3 2	1.0 B	21
Seam Light Blue Gray Moist CLAY LOAM (Till) (continued)			3		
Gray Moist CLAY LOAM (Till)		-25	12 17	4.5 B	12
	574.50				
Brown Well Indurated Crystalline LIMESTONE			100 /1"		
Gray	572.50		100 /1"		
		-30			
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 2
Date 4/15/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78
BORING NO. MAS-16 N. Pier
Station 801+60
Offset 35.00ft Right
Ground Surface Elev. 600.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 594.0 ft
Upon Completion 588.0 ft
After 24 Hrs. 597.0 ft

Description	Elev.	DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Tan and Light Gray Moist SILT LOAM			1		
		-5	2 2	0.6 B	27
	595.00				
Tan and Light Gray SILT Free Water			0		
			1 2	0.5 B	25
	592.50				
Brown and Gray Moist SILTY CLAY LOAM Poor Recovery			0		
		-10	1 2	0.6 P	23
	589.00		0		
Brown and Gray Moist SILTY CLAY			1 1	0.4 B	25
	587.50				
Brown and Gray Moist Weathered SILTY CLAY (Till)			0		
		-15	1 2	0.7 B	25
			0		
Light Blue Gray V. Moist SILTY CLAY (Till)			1 2	0.4 B	24
			0		
Brown and Gray Moist CLAY LOAM (Till)		-20	3 2	1.1 B	15
Brown and Gray Moist Weathered SILTY CLAY (Till) (continued)			3		
		-25	10 16	6.7 B	11
			8		
	570.50	-30	25 13	7.1 S-13	9
Gray and Brown Moist Clayey Shale Weathered at Top			5		
		-35	24 76 /5"		15
			7		
Brown and Gray to Gray Dry Fissile Clayey SHALE	560.50	-40	47 53		14

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 2 of 2
Date 4/15/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78
BORING NO. MAS-16 N. Pier
Station 801+60
Offset 35.00ft Right
Ground Surface Elev. 600.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 594.0 ft
Upon Completion 588.0 ft
After 24 Hrs. 597.0 ft

Description	Elev.	DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
			/3"		
		-45			
		-50			
		-55			
		-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 9/28/04
Latitude Longitude

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

Corporate License Number 184-001-084

BORINGS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 8071	*	SANGAMON	559	253
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*02-00382-02-PV CONTRACT NO. 72541

SHEET NO. 27
27 SHEETS

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 2
Date 4/22/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78
BORING NO. MAS-17 N. Abut
Station 801+80
Offset 35.00ft Left
Ground Surface Elev. 600.4 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 591.4 ft
Upon Completion 581.4 ft
After 13 D Hrs. 596.4 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black to Brown and Grey Moist SILTY CLAY			1		
			2	1.0	28
			3	B	
			0		
Poor Recovery			1	0.5	25
		-5	2	P	
Tan and Light Grey V. Moist SILT	594.90		0		
			1	0.3	29
			1	B	
Brown and Grey Moist SILTY CLAY LOAM Free Water	592.40		0		
			1	0.6	23
		-10	2	B	
Brown and Grey Moist SILTY CLAY	589.90		0		
			1	0.4	28
			1	B	
Brown and Grey Moist Weathered SILTY CLAY (Till)	587.40		1		
			2	0.9	27
		-15	2	B	
Light Blue Grey V. Moist CLAY LOAM (Till)	584.90		0		
			1	0.3	30
			1	B	
Grey Wet CLAY LOAM (Till)			0		
Sampler Advanced by Weight of Hammer			0	0	26
		-20	0	B	

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Light Blue Grey V. Moist CLAY LOAM (Till) (continued)			4		
Greyish Brown Moist			16	8.7	11
			33	B	
			7		
			33	9.3	9
Thin Seam of LIMESTONE at top of bedrock	575.40	-25	67	S-14	
			/5"		
Blue Grey Moist Weathered Clayey SHALE			4		
			7		17
		-30	12		
			5		
Olive Brown and Blue Grey			21		15
		-35	79		
			/6"		
			8		
Grey and Brown			32		15
	560.40	-40	68		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 92804
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 2 of 2
Date 4/22/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78
BORING NO. MAS-17 N. Abut
Station 801+80
Offset 35.00ft Left
Ground Surface Elev. 600.4 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 591.4 ft
Upon Completion 581.4 ft
After 13 D Hrs. 596.4 ft

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
		/4"		
	-45			
	-50			
	-55			
	-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 92804
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 2
Date 4/22/03

ROUTE FAI 72/FAU 8021 DESCRIPTION MacArthur Over NSRR LOGGED BY M. Tappan
SECTION (84-9-4) HBK, BY, BY-1 /02-00382-02-PV LOCATION SE 1/4, SEC. 17, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 084-0512
Station 800+69.78
BORING NO. MAS-18 N. Abut
Station 801+99
Offset 35.00ft Right
Ground Surface Elev. 600.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 589.0 ft
Upon Completion 579.5 ft
After 13 D Hrs. 595.5 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black to Brown and Grey Moist SILTY CLAY			0		
			1	0.5	30
		-5	2	B	
Tan and Light Grey Moist SILT	595.00		0		
			2	0.7	25
			2	B	
Brown and Grey Moist SILTY CLAY LOAM	592.50		1		
			2	0.6	24
		-10	3	B	
Brown and Grey V. Moist SILTY CLAY	589.50		0		
			1	0.3	28
Free Water			2	B	
Brown and Grey Moist Weathered SILTY CLAY (Till)	587.50		1		
			2	0.7	26
		-15	2	B	
Light Blue Grey Moist CLAY LOAM (Till)	585.00		0		
			1	0.6	22
			2	B	
			1		
Grey w/4" Medium Grained SAND			2	1.1	21
		-20	4	B	

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Seam Light Blue Grey Moist CLAY LOAM (Till) (continued)					
			3		
Grey			19	9.0	11
		-25	33	B	
Olive Brown and Blue Grey Moist Weathered Clayey SHALE	573.00		4		
			8		17
		-30	13		
			9		
Brown and Grey			26		14
		-35	74		
			/5"		
			8		
			30		14
	560.50	-40	70		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING D96-536-02 MACARTHUR EXTENSION.GPJ D6TEMPLT.GDT 92804
Latitude Longitude

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

Corporate License Number 184-001-084

BORINGS
MACARTHUR BLVD. OVER N.S. R.R.
SECTION 02-00382-02-PV
SANGAMON COUNTY
STATION 800+69.78
STRUCTURE NUMBER 084-0512

HANSON

JOB# 96S2002B
DATE: 10/30/05

Bench Marks:
IDOT BM #15 Chiseled square at the southeast quadrant of the intersection of West Grand Avenue and Hazel Dell Road. Benchmark is located 33 feet south of the centerline of Hazel Dell Road on a headwall of a concrete pipe culvert. NAVD88 El. 602.47
IDOT BM #80 Chiseled cross on the center bolt of the east leg of an iron sign truss over the eastbound lane of Interstate 72. Benchmark is located 1.62 miles east of Il Route 4. NAVD88 El. 601.28
IDOT BM #0150 Disk in monument vault on survey calibration baseline. Benchmark is located 13 feet north of the centerline of Hazel Dell Road and 0.5 miles west of the intersection of Hazel Dell Road and West Grand Avenue. NAVD88 El. 600.47
IDOT BM #374 Railroad spike in power pole west of a bike path and southeast of Recreation Drive. Benchmark is located 0.81 miles south of the intersection of West Grand Avenue and Hazel Dell Road. NAVD88 El. 604.61

EXISTING STRUCTURE

Sta. 608+51.98 F.A.I. 72
Over Recreation Drive and U.P. Railroad
Dual 4-Span Continuous non-composite steel stringer structure. Constructed in 1966.
Length of W.B. Structure = 238'-3/4" and Length of E.B. Structure = 236'-2" Bk. to Bk. Abutments along ℄ of Roadway. Both E.B. and W.B. Structures are 36'-0" wide. Substructure consists of 6 reinforced concrete piers on steel piles and 4 reinforced concrete Abutments supported on steel piles. Structure No. 084-0074 Eastbound, Structure No. 084-0075 Westbound.

No Salvage.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	254

SHEET NO. 01
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No 72541

DESIGN SPECIFICATIONS

AASHTO 2002
AASHTO 2003 Curved Girder Spec.

LOADING HS20-44 & ALT.

Allow 25 psf for future wearing surface.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.05g
Site Coefficient (S) = 2.0

DESIGN STRESSES

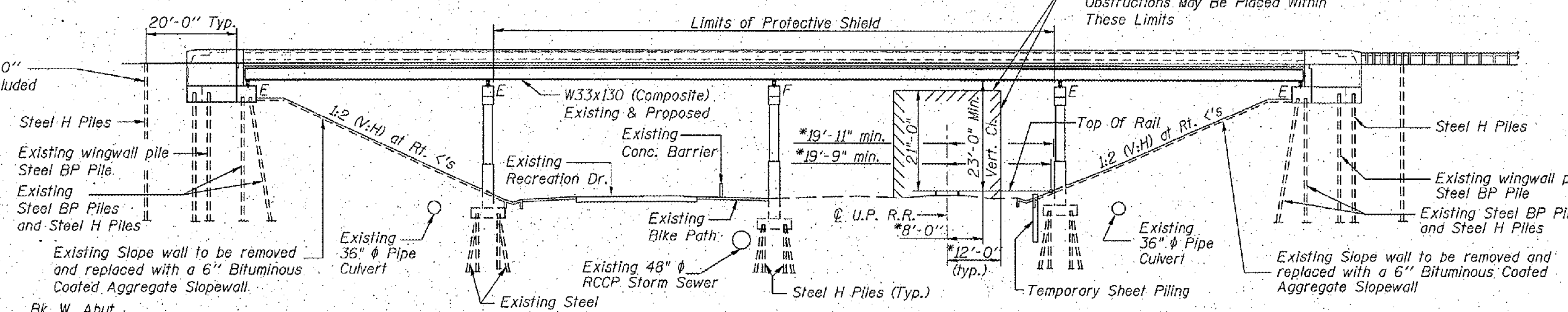
FIELD UNITS (Load Factor Design)
f'c = 3,500 psi (Existing and New Concrete)
fy = 40,000 psi (Existing Reinforcement)
fy = 60,000 psi (New Reinforcement)
fy = 36,000 psi ASTM A36 (Existing Structural Steel)
fy = 36,000 psi ASTM A36 (New Structural Steel)

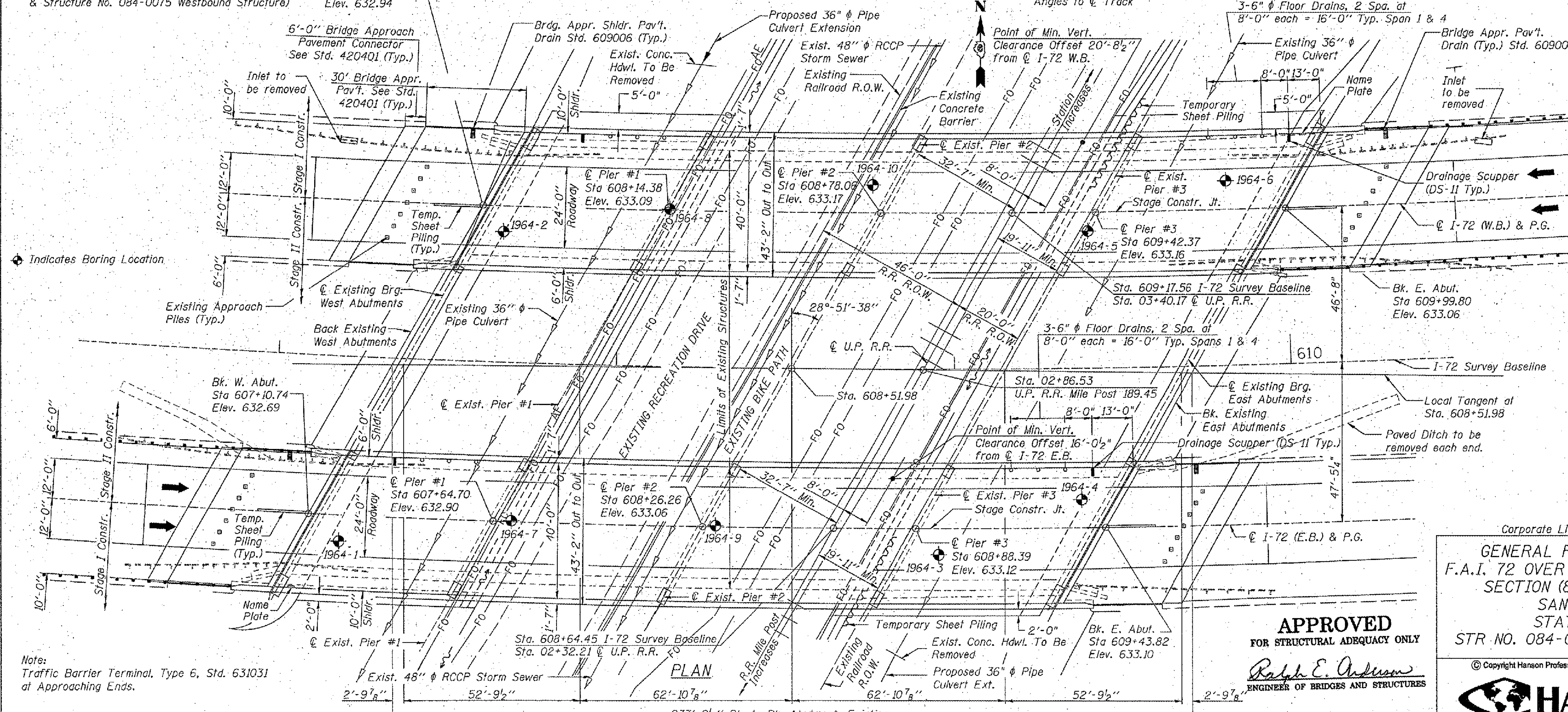
See Std. 515001

STATION 608+51.98
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. 72 SEC. (84-9-4)A,HBK,BY,BY-1
LOADING HS20-44
**

NAME PLATE

**(Structure No. 084-0074 Eastbound Structure & Structure No. 084-0075 Westbound Structure)

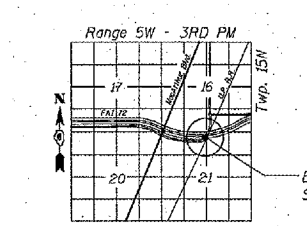




CURVE DATA

(I-72 Survey Baseline)
P.I. STA= 607+25.73
Δ= 36° 03' 13" (Lt.)
D= 01° 36' 09"
R= 3,575.66'
T= 1,163.65'
L= 2,250.00'
E= 184.58'
P.C. STA= 595+62.07
P.T. STA= 618+12.07
S.E.= 4.5%
S.E. ATTN: 594+35 to 596+35
617+52 to 619+52

JAMES W. MOLL 4376 REGISTERED STRUCTURAL ENGINEER OF ILLINOIS
SIGNATURE:
DATE SIGNED: 1-26-07
LISC. EXP. DATE: 11-30-08



LOCATION SKETCH

Note:
Traffic Barrier Terminal, Type 6, Std. 631031 at Approaching Ends.

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/11/03
REVIEWED	JWM	10/27/03

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Corporate License Number 184-001-084

GENERAL PLAN AND ELEVATION
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB 96S2002B
DATE 01/12/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	255
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 02
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1

Contract No 72541

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{7}{8}''$ ϕ, open holes $\frac{15}{16}''$ ϕ, unless otherwise noted.

Calculated weight of Structural Steel: AASHTO M270 Grade 36 = E.B. 39,690 lbs - W.B. 40,040 lbs.

Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.

Field welding of construction accessories will not be permitted to beams or girders.

Anchor bolts shall be set before bolting diaphragms over supports.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

Slope wall shall be reinforced with welded wire fabric, 6"x6"-W4.0xW4.0, weighing 58 lbs. per 100 Sq. Ft.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two $\frac{1}{8}''$ adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The contractor shall drive one HP10x42 test pile at the Abutments and Pier #2 for the E.B. & W.B. structures in a permanent location as directed by the Engineer before ordering the remainder of piles.

Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.

All existing construction accessories welded to the top flange over the pier between the quarter points of the beams or girders shall be removed. The remaining weld shall be ground smooth and inspected for cracks using magnetic particle testing. Any cracks that cannot be removed by grinding approximately $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of this work will be paid for according to Article 109.04.

Concrete Sealer shall be applied to the seat area of the abutment extensions.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

The existing structural steel shall be painted, cleaned, and lead coatings removed under a separate contract.

All Construction joints shall be bonded.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06 of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

No deck drains will be permitted in the span over tracks or within 10' of crossarms of a railroad pole line.

The Inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green Munsell No. 7.5G 4/8. See Special Provisions for "Cleaning and Painting New Metal Structures".

Drains shall be located clear of all diaphragms.

If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

Top of slab elevations were set using the proposed profile grade shown on this sheet to account for a future mill of $\frac{1}{4}''$ and an overlay of $3\frac{3}{4}''$.

The Steel H-piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

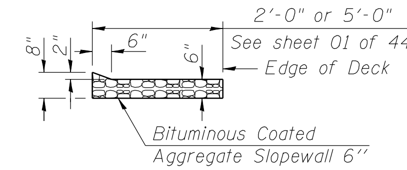
$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

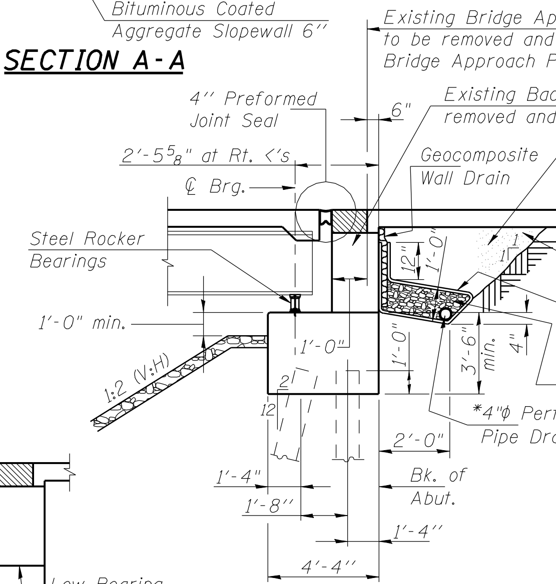
INDEX OF SHEETS

PROPOSED IMPROVEMENTS

Existing dual structures to be widened. Existing concrete deck to be removed and widened using staged construction. Superstructure will be widened by adding one new beam line, utilizing the same type of beam and bearings as the existing structure. All diaphragms at the abutments to be replaced. Existing Structural Steel shall be cleaned and painted under a seperate contract. Existing wingwalls and backwalls to be removed, abutments to be widened. Pier cap cantilevers removed, piers to be widened and repaired at locations of cracks and spalled areas. East and West slopewall to be removed and replaced. Existing approach pavements to be removed and replaced with 30' bridge approach pavements. Traffic to be maintained utilizing stage construction.



SECTION A-A

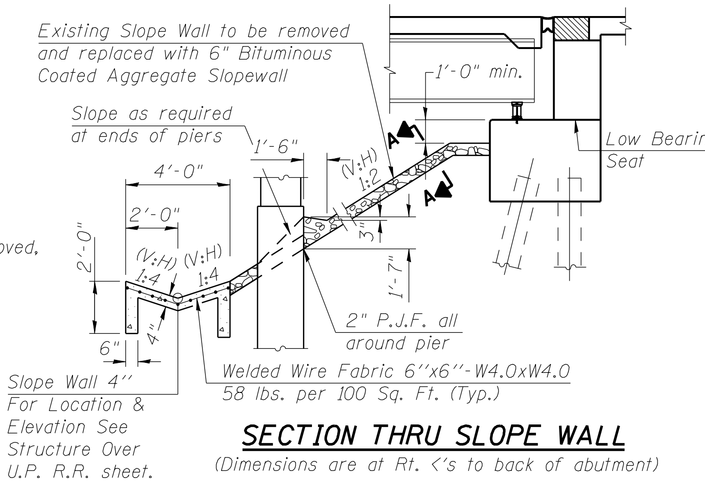


*Included in the cost of Pipe Underdrains for Structures 4".

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).
4" ϕ Perforated Pipe Drain shall be capped at the pipes high end, adjacent to wingwall. Cost included with Pipe Underdrains for Structures 4".

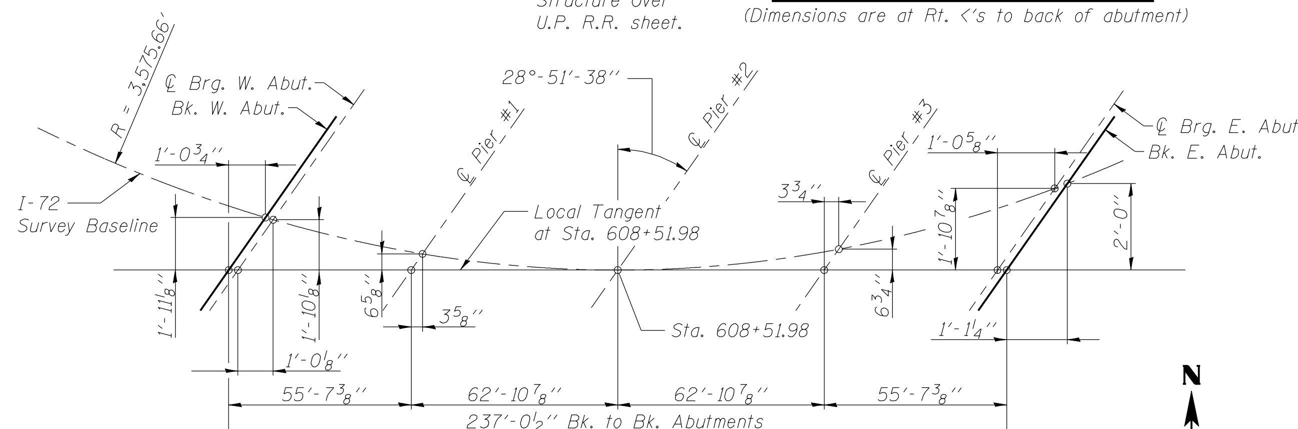
SECTION THRU ABUTMENT

(Dimensions at Rt. <'s to Bk. of Abutment)



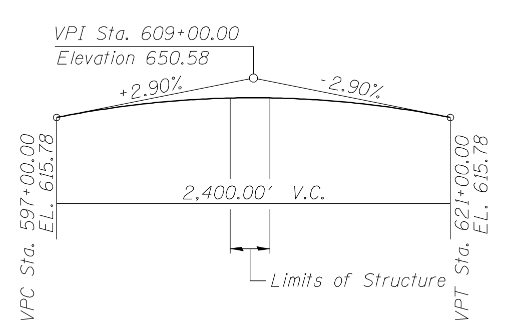
SECTION THRU SLOPE WALL

(Dimensions are at Rt. <'s to back of abutment)

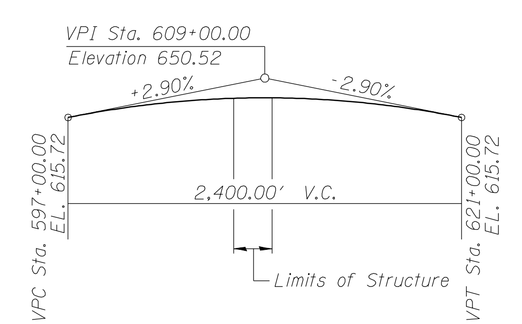


OFFSET SKETCH

I-72 Survey Baseline



I-72 W.B. PROPOSED PROFILE GRADE



I-72 E.B. PROPOSED PROFILE GRADE

(I-72 WB & EB Proposed Profile Grades shown above are a best fit vertical curve that was based on a survey of the existing deck, and were adjusted to account for a future mill of $\frac{1}{4}''$ and an overlay of $3\frac{3}{4}''$)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	-	117.6	117.6
Slope Wall Removal	Sq. Yd.	-	2100	2100
Removal of Existing Concrete Deck	Each	2	-	2
Porous Granular Embankment, Special	Cu. Yd.	-	132	132
Structure Excavation	Cu. Yd.	-	697	697
Floor Drains	Each	12	-	12
Concrete Structures	Cu. Yd.	-	340.0	340.0
Concrete Superstructure	Cu. Yd.	657.3	-	657.3
Bridge Deck Grooving	Sq. Yd.	1966	-	1966
Protective Coat	Sq. Yd.	2502	-	2502
Structural Repair of Conc. (Depth eq. to or less than 5")	Sq. Ft.	-	33	33
Furnishing and Erecting Structural Steel Bridge No. 1	L. Sum	1	-	1
Furnishing and Erecting Structural Steel Bridge No. 2	L. Sum	1	-	1
Stud Shear Connectors	Each	10710	-	10710
Structural Steel Removal	Pound	2920	-	2920
Reinforcement Bars, Epoxy Coated	Pound	148700	39400	188100
Slope Wall 4"	Sq. Yd.	-	152	152
Bituminous Coated Aggregate Slopewall 6"	Sq. Yd.	-	1982	1982
Furnishing Steel Piles HP10x42	Foot	-	1425	1425
Driving Piles	Foot	-	1425	1425
Test Pile Steel HP10x42	Each	-	6	6
Temporary Sheet Piling	Sq. Ft.	-	1105	1105
Name Plates	Each	2	-	2
Concrete Sealer	Sq. Ft.	-	98	98
Drainage Scuppers, DS-11	Each	4	-	4
Bridge Joint System (Expansion) $1\frac{5}{8}''$	Foot	187	-	187
Temporary Shoring and Cribbing	L. Sum	1	-	1
Bar Splicers	Each	1374	231	1605
Protective Shield	Sq. Yd.	1007	-	1007
Pipe Underdrains for Structures 4"	Foot	-	208	208
Geocomposite Wall Drain	Sq. Yd.	-	75	75

N

West Rail		East Rail	
Station	Elevation	Station	Elevation
0+00.00	605.31	0+00.03	605.33
0+67.95	605.32	0+67.76	605.35
1+83.47	605.26	1+83.48	605.25
2+80.82	605.24	2+80.71	605.24
3+81.80	605.12	3+81.74	605.13
4+81.65	605.26	4+81.69	605.24
5+78.38	605.39	5+78.51	605.36

All discrepencies shall be brought to the attention of the Field Engineer.

EXISTING TOP OF RAIL ELEVATIONS UP R.R.

Corporate License Number 184-001-084

GENERAL NOTES & BILL OF MATERIAL
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

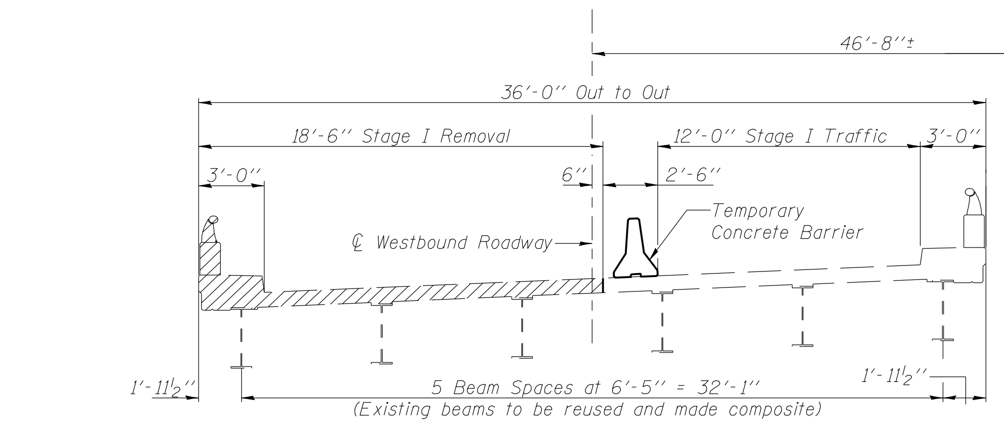
JOB#: 96S2002B

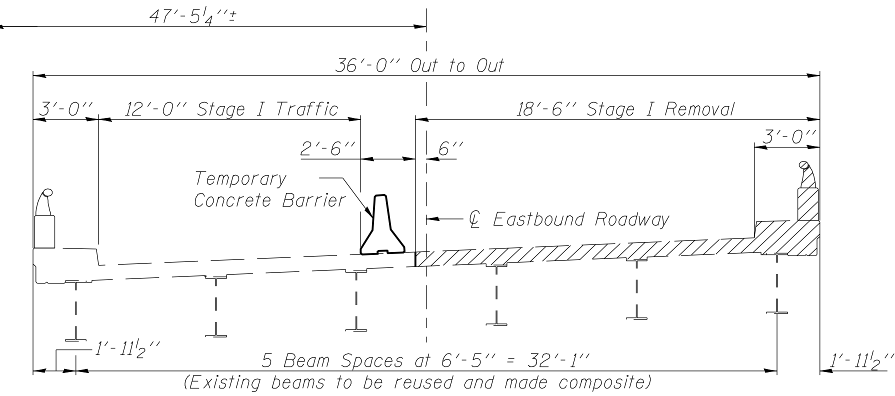
DATE: 01/12/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	256
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 03
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

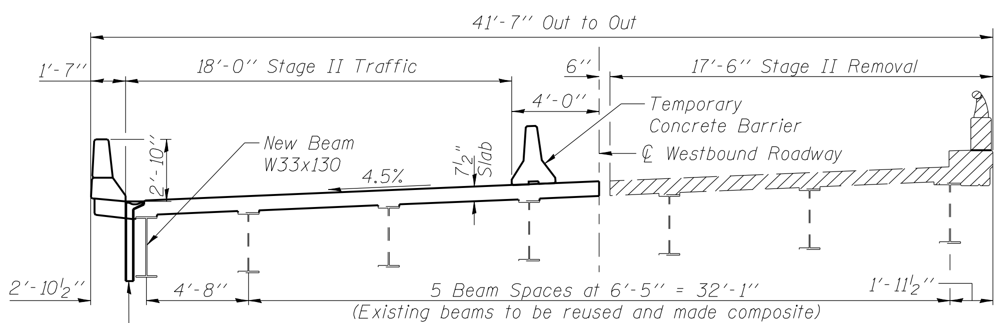


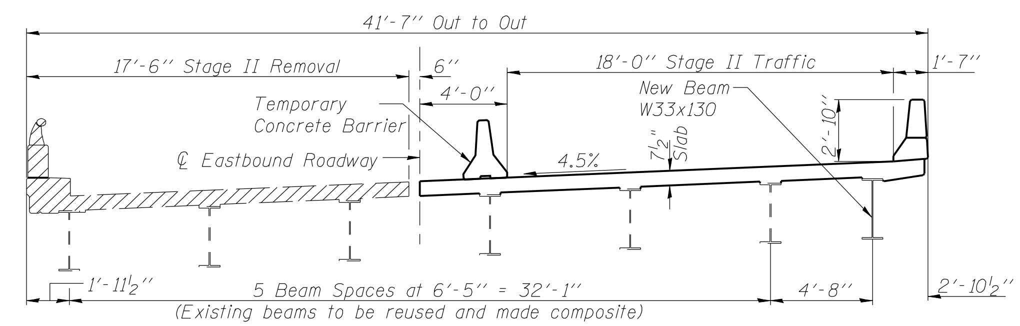


I-72 Survey Baseline

STAGE I REMOVAL
(Westbound Structure)

STAGE I REMOVAL
(Eastbound Structure)



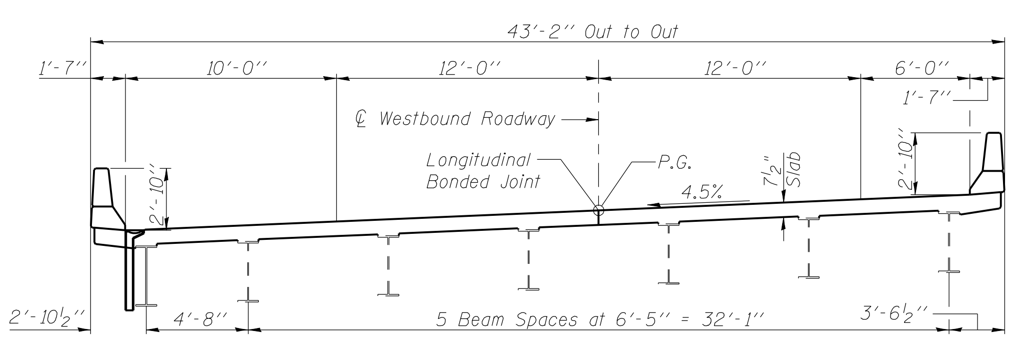


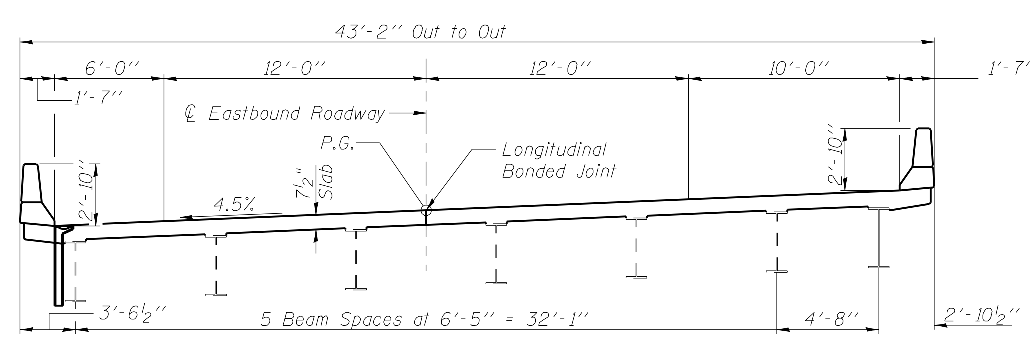
STAGE I CONSTRUCTION AND STAGE II REMOVAL
(Westbound Structure)

STAGE I CONSTRUCTION AND STAGE II REMOVAL
(Eastbound Structure)

Drainage Scupper or Floor Drain (See (See sheet 11 and 14 of 44 for location and spacing.

I-72 Survey Baseline



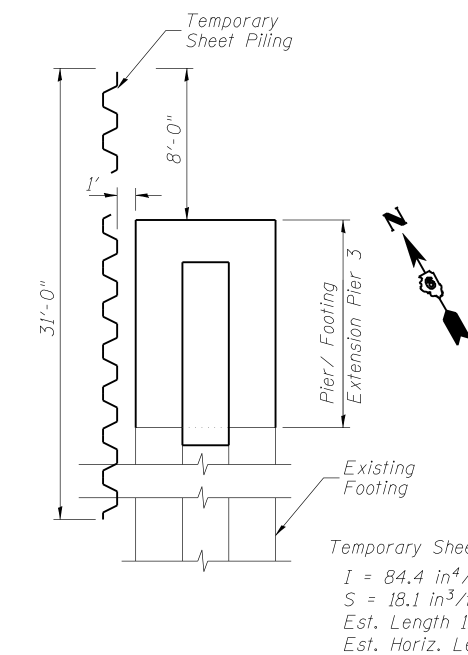


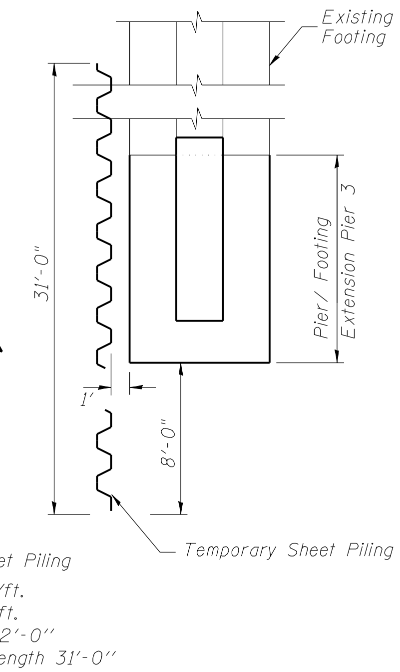
STAGE I CONSTRUCTION | STAGE II CONSTRUCTION | STAGE II CONSTRUCTION | STAGE I CONSTRUCTION

FINAL DECK CROSS SECTION
(Westbound Structure)

FINAL DECK CROSS SECTION
(Eastbound Structure)

Notes:
Cross Sections are shown looking East.
Horizontal dimensions measured radially.
For temporary sheet piling details at the abutments, see sheets 24, 27, 30 & 33 of 44.

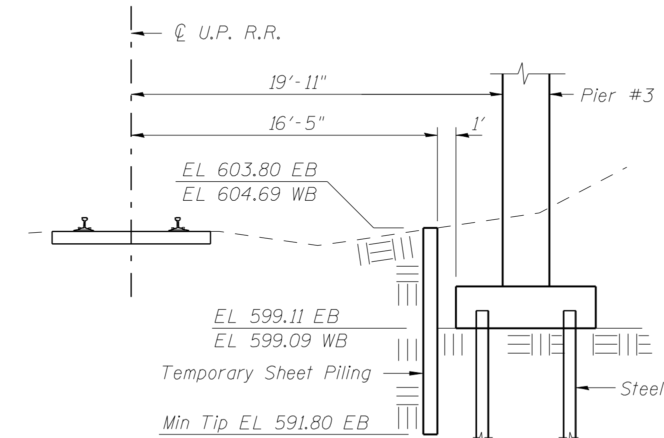




Temporary Sheet Piling
$I = 84.4\ in^4/ft.$
$S = 18.1\ in^3/ft.$
Est. Length 12'-0''
Est. Horiz. Length 31'-0''

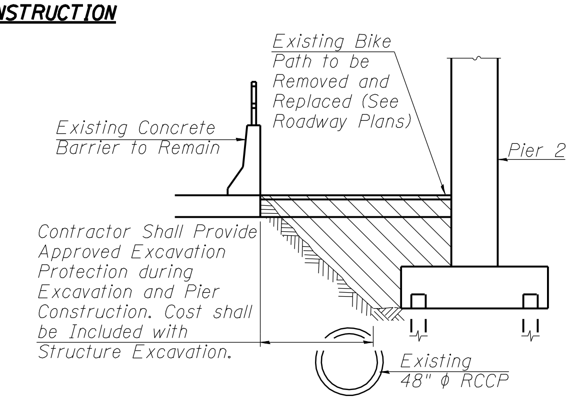
PLAN AT WESTBOUND PIER #3

PLAN AT EASTBOUND PIER #3



SECTION AT WESTBOUND & EASTBOUND PIER #3
(Looking North)
Dimensions perpendicular to ℄ U.P. R.R.

TEMPORARY SHEET PILING DETAILS



SECTION AT PIER 2

Corporate License Number 184-001-084

STAGE CONSTRUCTION DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

$FILE$
12/16/2006

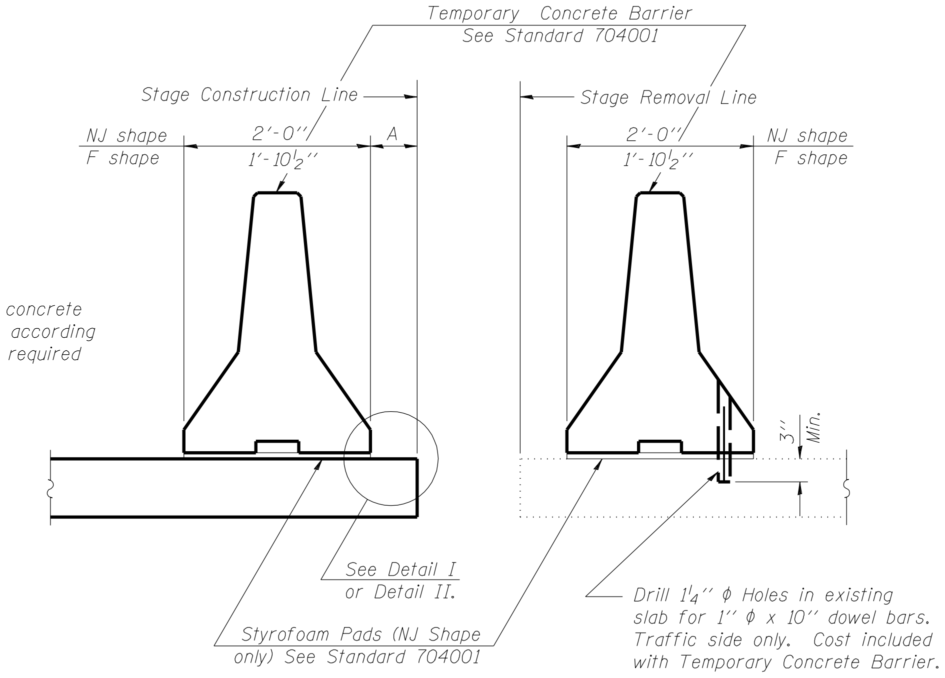
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	257
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 04
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



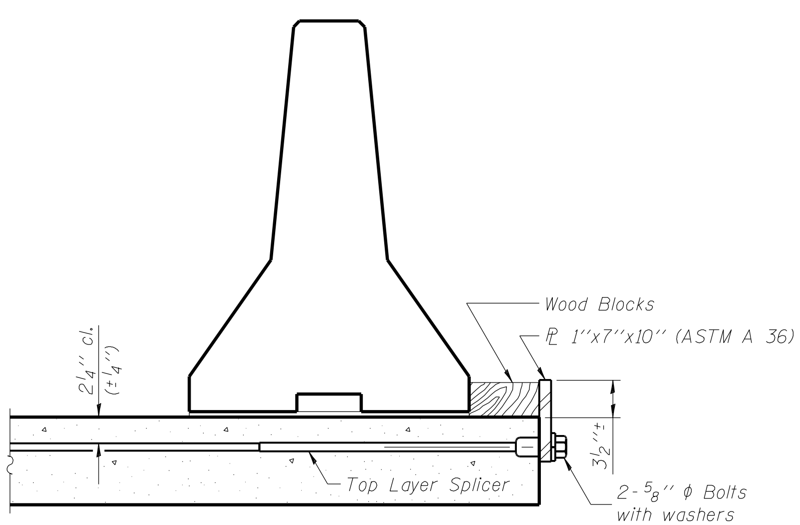
SECTIONS THRU SLAB

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1''x7''x10'' steel ℙ to the top layer of couplers with 2-⅝'' ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

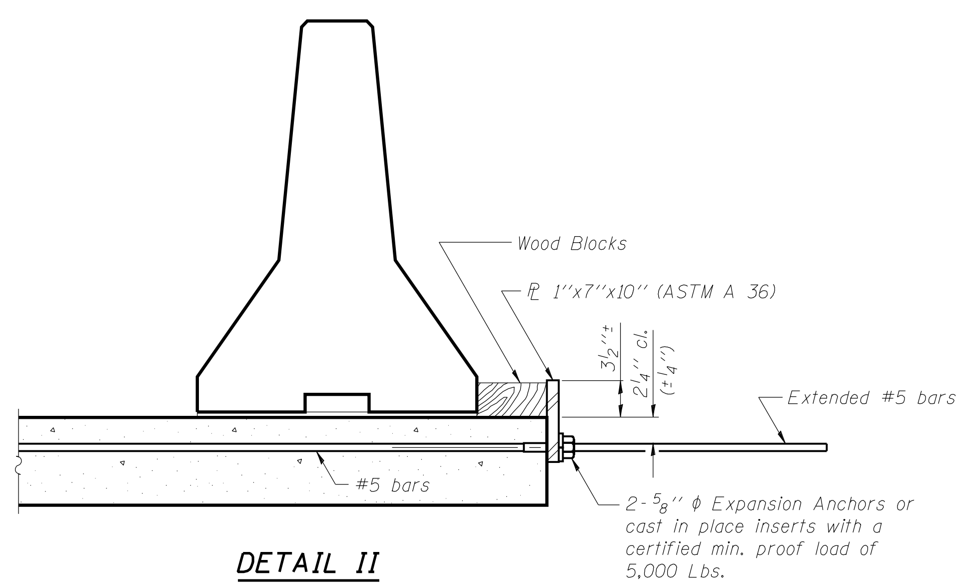
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1''x7''x10'' steel ℙ to the concrete slab with 2-⅝'' ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.



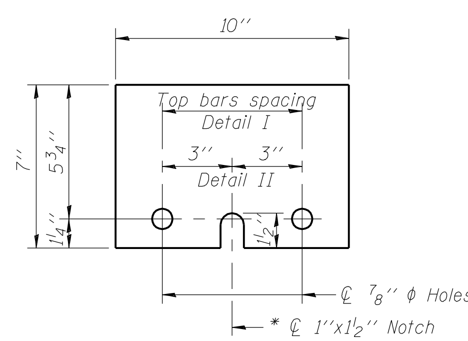
DETAIL I

The 1''x7''x10'' Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1''x7''x10'' Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



ℙ 1''x7''x10''

* Required only with Detail II

Corporate License Number 184-001-084

TEMPORARY CONCRETE BARRIER
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

$FILE$ 12/16/2006

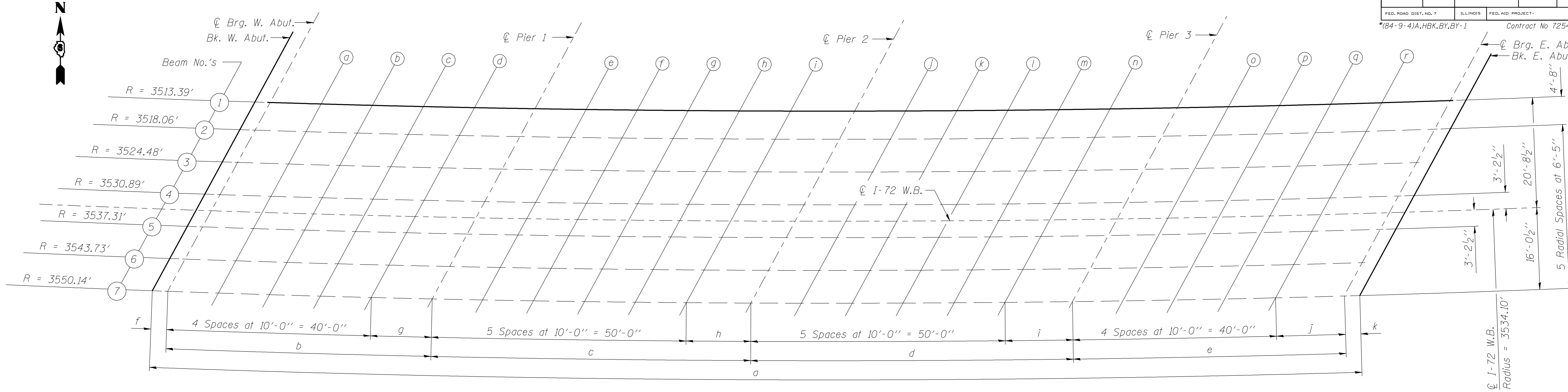
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

R-27 9-01-03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	258
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

SHEET NO. 05
44 SHEETS

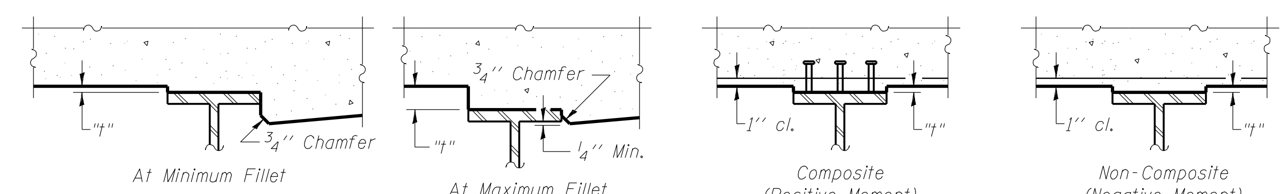


WESTBOUND DIAGRAMMATIC PLAN

WESTBOUND DIAGRAMMATIC PLAN - LAYOUT DIMENSIONS

(Measured Along Centerline of Beam)

Line No.	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7
a	238'-6 3/16"	238'-5"	238'-3 1/4"	238'-1 5/8"	238'-0 1/8"	237'-10 5/8"	237'-9"
b	52'-4 7/16"	52'-4 1/8"	52'-3 7/8"	52'-3 5/8"	52'-3 1/2"	52'-3"	52'-2 3/4"
c	62'-11 1/2"	62'-11 1/4"	62'-10 3/4"	62'-10 1/4"	62'-9 3/4"	62'-9 3/8"	62'-9 1/8"
d	63'-7 1/4"	63'-6 7/8"	63'-6 1/2"	63'-6 1/8"	63'-5 3/4"	63'-5 3/8"	63'-4 3/4"
e	53'-10 7/8"	53'-10 5/8"	53'-10 1/8"	53'-9 5/8"	53'-9 1/8"	53'-8 7/8"	53'-8 3/8"
f	2'-9 7/16"	2'-9 3/8"	2'-9 3/8"	2'-9 3/8"	2'-9 3/8"	2'-9 3/8"	2'-9 3/8"
g	12'-4 7/16"	12'-4 1/8"	12'-3 7/8"	12'-3 5/8"	12'-3 1/2"	12'-3"	12'-2 3/4"
h	12'-11 1/2"	12'-11 1/4"	12'-10 3/4"	12'-10 1/4"	12'-9 3/4"	12'-9 3/8"	12'-9 1/8"
i	13'-7 1/4"	13'-6 7/8"	13'-6 1/2"	13'-6 1/8"	13'-5 3/4"	13'-5 3/8"	13'-4 3/4"
j	13'-10 7/8"	13'-10 5/8"	13'-10 1/8"	13'-9 5/8"	13'-9 1/8"	13'-8 7/8"	13'-8 3/8"
k	2'-10 11/16"	2'-10 3/4"	2'-10 5/8"	2'-10 5/8"	2'-10 5/8"	2'-10 5/8"	2'-10 5/8"

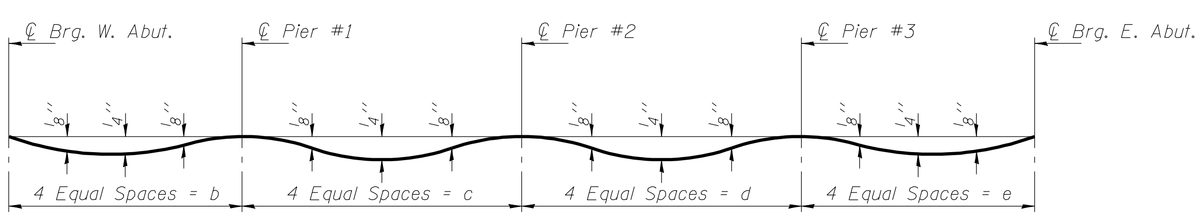


EXTERIOR BEAMS

INTERIOR BEAMS

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 06 and 07 of 44, minus slab thickness, equals the fillet heights "t" above top flange of beams.

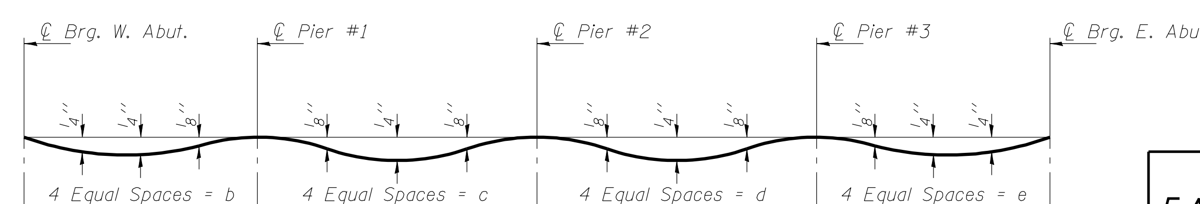
FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM - BEAM #1

(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 06 of 44.



DEAD LOAD DEFLECTION DIAGRAM - BEAMS #2-#7

(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 06 and 07 of 44.

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS-(WB)
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	259
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 06
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

Note:
Offset is from ℄ I-72 W.B.

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+69.52	-20.71	632.04	632.04
℄ Brg. W. Abut.	607+72.36	-20.71	632.05	632.05
a	607+82.55	-20.71	632.08	632.09
b	607+92.74	-20.71	632.11	632.12
c	608+02.94	-20.71	632.13	632.15
d	608+13.13	-20.71	632.16	632.17
℄ Pier #1	608+25.73	-20.71	632.18	632.18
e	608+35.93	-20.71	632.20	632.20
f	608+46.12	-20.71	632.21	632.22
g	608+56.31	-20.71	632.23	632.24
h	608+66.50	-20.71	632.23	632.25
i	608+76.69	-20.71	632.24	632.25
℄ Pier #2	608+89.90	-20.71	632.25	632.25
j	609+00.09	-20.71	632.25	632.25
k	609+10.29	-20.71	632.25	632.26
l	609+20.48	-20.71	632.24	632.26
m	609+30.67	-20.71	632.24	632.25
n	609+40.86	-20.71	632.23	632.24
℄ Pier #3	609+54.72	-20.71	632.21	632.21
o	609+64.92	-20.71	632.20	632.20
p	609+75.11	-20.71	632.18	632.19
q	609+85.30	-20.71	632.16	632.18
r	609+95.49	-20.71	632.14	632.15
℄ Brg. E. Abut.	610+09.66	-20.71	632.10	632.10
Bk. E. Abut.	610+12.61	-20.71	632.09	632.09

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+67.05	-16.04	632.24	632.24
℄ Brg. W. Abut.	607+69.88	-16.04	632.25	632.25
a	607+80.06	-16.04	632.28	632.30
b	607+90.24	-16.04	632.31	632.33
c	608+00.41	-16.04	632.34	632.36
d	608+10.59	-16.04	632.36	632.37
℄ Pier #1	608+23.16	-16.04	632.39	632.39
e	608+33.34	-16.04	632.40	632.41
f	608+43.52	-16.04	632.42	632.43
g	608+53.70	-16.04	632.43	632.45
h	608+63.88	-16.04	632.44	632.46
i	608+74.05	-16.04	632.45	632.46
℄ Pier #2	608+87.22	-16.04	632.46	632.46
j	608+97.40	-16.04	632.46	632.47
k	609+07.57	-16.04	632.46	632.47
l	609+17.75	-16.04	632.45	632.47
m	609+27.93	-16.04	632.45	632.46
n	609+38.11	-16.04	632.44	632.45
℄ Pier #3	609+51.93	-16.04	632.43	632.43
o	609+62.10	-16.04	632.41	632.42
p	609+72.28	-16.04	632.39	632.41
q	609+82.46	-16.04	632.38	632.40
r	609+92.64	-16.04	632.35	632.37
℄ Brg. E. Abut.	610+06.77	-16.04	632.32	632.32
Bk. E. Abut.	610+09.71	-16.04	632.31	632.31

BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+63.65	-9.63	632.52	632.52
℄ Brg. W. Abut.	607+66.48	-9.63	632.53	632.53
a	607+76.64	-9.63	632.56	632.58
b	607+86.80	-9.63	632.59	632.61
c	607+96.96	-9.63	632.62	632.64
d	608+07.12	-9.63	632.64	632.65
℄ Pier #1	608+19.64	-9.63	632.67	632.67
e	608+29.80	-9.63	632.69	632.69
f	608+39.96	-9.63	632.70	632.72
g	608+50.12	-9.63	632.72	632.74
h	608+60.28	-9.63	632.73	632.74
i	608+70.44	-9.63	632.74	632.75
℄ Pier #2	608+83.54	-9.63	632.74	632.74
j	608+93.70	-9.63	632.75	632.75
k	609+03.86	-9.63	632.75	632.76
l	609+14.02	-9.63	632.74	632.76
m	609+24.18	-9.63	632.74	632.76
n	609+34.34	-9.63	632.73	632.74
℄ Pier #3	609+48.09	-9.63	632.72	632.72
o	609+58.25	-9.63	632.71	632.71
p	609+68.41	-9.63	632.69	632.71
q	609+78.57	-9.63	632.67	632.69
r	609+88.73	-9.63	632.65	632.67
℄ Brg. E. Abut.	610+02.80	-9.63	632.62	632.62
Bk. E. Abut.	610+05.73	-9.63	632.61	632.61

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+60.27	-3.21	632.80	632.80
℄ Brg. W. Abut.	607+63.10	-3.21	632.81	632.81
a	607+73.24	-3.21	632.84	632.85
b	607+83.38	-3.21	632.87	632.89
c	607+93.52	-3.21	632.90	632.92
d	608+03.66	-3.21	632.92	632.93
℄ Pier #1	608+16.13	-3.21	632.95	632.95
e	608+26.27	-3.21	632.97	632.98
f	608+36.41	-3.21	632.99	633.00
g	608+46.55	-3.21	633.00	633.02
h	608+56.70	-3.21	633.01	633.03
i	608+66.84	-3.21	633.02	633.03
℄ Pier #2	608+79.88	-3.21	633.03	633.03
j	608+90.02	-3.21	633.03	633.04
k	609+00.16	-3.21	633.04	633.05
l	609+10.31	-3.21	633.03	633.05
m	609+20.45	-3.21	633.03	633.05
n	609+30.59	-3.21	633.02	633.03
℄ Pier #3	609+44.28	-3.21	633.01	633.01
o	609+54.42	-3.21	633.00	633.01
p	609+64.56	-3.21	632.99	633.00
q	609+74.70	-3.21	632.97	632.99
r	609+84.84	-3.21	632.95	632.97
℄ Brg. E. Abut.	609+98.85	-3.21	632.92	632.92
Bk. E. Abut.	610+01.77	-3.21	632.91	632.91

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS-(WB)
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB: 96S2002B
DATE: 01/12/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	260
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 07
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

℄ I-72 WB. P.G. LINE. & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+58.59	0.00	632.94	632.94
℄ Brg. W. Abut.	607+61.41	0.00	632.95	632.95
a	607+71.54	0.00	632.98	632.99
b	607+81.67	0.00	633.01	633.03
c	607+91.80	0.00	633.04	633.06
d	608+01.94	0.00	633.06	633.07
℄ Pier #1	608+14.38	0.00	633.09	633.09
e	608+24.51	0.00	633.11	633.12
f	608+34.65	0.00	633.13	633.14
g	608+44.78	0.00	633.14	633.16
h	608+54.91	0.00	633.16	633.17
i	608+65.04	0.00	633.17	633.17
℄ Pier #2	608+78.06	0.00	633.17	633.17
j	608+88.19	0.00	633.18	633.19
k	608+98.32	0.00	633.18	633.19
l	609+08.45	0.00	633.18	633.20
m	609+18.59	0.00	633.18	633.19
n	609+28.72	0.00	633.17	633.18
℄ Pier #3	609+42.37	0.00	633.16	633.16
o	609+52.51	0.00	633.15	633.15
p	609+62.64	0.00	633.13	633.15
q	609+72.77	0.00	633.12	633.14
r	609+82.90	0.00	633.10	633.12
℄ Brg. E. Abut.	609+96.88	0.00	633.07	633.07
Bk. E. Abut.	609+99.80	0.00	633.06	633.06

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+56.91	3.21	633.08	633.08
℄ Brg. W. Abut.	607+59.72	3.21	633.09	633.09
a	607+69.85	3.21	633.12	633.13
b	607+79.97	3.21	633.15	633.17
c	607+90.09	3.21	633.18	633.20
d	608+00.22	3.21	633.20	633.21
℄ Pier #1	608+12.64	3.21	633.23	633.23
e	608+22.76	3.21	633.25	633.26
f	608+32.88	3.21	633.27	633.28
g	608+43.00	3.21	633.29	633.30
h	608+53.13	3.21	633.30	633.31
i	608+63.25	3.21	633.31	633.32
℄ Pier #2	608+76.24	3.21	633.32	633.32
j	608+86.36	3.21	633.32	633.33
k	608+96.48	3.21	633.32	633.34
l	609+06.61	3.21	633.32	633.34
m	609+16.73	3.21	633.32	633.34
n	609+26.85	3.21	633.32	633.32
℄ Pier #3	609+40.48	3.21	633.30	633.30
o	609+50.60	3.21	633.29	633.30
p	609+60.72	3.21	633.28	633.30
q	609+70.85	3.21	633.26	633.28
r	609+80.97	3.21	633.25	633.26
℄ Brg. E. Abut.	609+94.91	3.21	633.22	633.22
Bk. E. Abut.	609+97.83	3.21	633.21	633.21

Note:
Offset is from ℄ I-72 W.B.

BEAM #6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+53.56	9.63	633.35	633.35
℄ Brg. W. Abut.	607+56.37	9.63	633.36	633.36
a	607+66.47	9.63	633.40	633.41
b	607+76.58	9.63	633.43	633.45
c	607+86.68	9.63	633.46	633.47
d	607+96.78	9.63	633.48	633.49
℄ Pier #1	608+09.16	9.63	633.51	633.51
e	608+19.26	9.63	633.53	633.54
f	608+29.37	9.63	633.55	633.57
g	608+39.47	9.63	633.57	633.59
h	608+49.57	9.63	633.58	633.60
i	608+59.68	9.63	633.59	633.60
℄ Pier #2	608+72.61	9.63	633.60	633.60
j	608+82.71	9.63	633.61	633.62
k	608+92.82	9.63	633.61	633.63
l	609+02.92	9.63	633.61	633.63
m	609+13.03	9.63	633.61	633.63
n	609+23.13	9.63	633.61	633.62
℄ Pier #3	609+36.69	9.63	633.60	633.60
o	609+46.80	9.63	633.59	633.59
p	609+56.90	9.63	633.57	633.59
q	609+67.01	9.63	633.56	633.58
r	609+77.11	9.63	633.54	633.56
℄ Brg. E. Abut.	609+91.00	9.63	633.51	633.51
Bk. E. Abut.	609+93.91	9.63	633.51	633.51

BEAM #7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+50.22	16.04	633.63	633.63
℄ Brg. W. Abut.	607+53.02	16.04	633.64	633.64
a	607+63.11	16.04	633.68	633.69
b	607+73.20	16.04	633.71	633.73
c	607+83.28	16.04	633.74	633.75
d	607+93.37	16.04	633.76	633.77
℄ Pier #1	608+05.69	16.04	633.79	633.79
e	608+15.78	16.04	633.82	633.82
f	608+25.86	16.04	633.84	633.85
g	608+35.95	16.04	633.85	633.87
h	608+46.04	16.04	633.87	633.88
i	608+56.12	16.04	633.88	633.89
℄ Pier #2	608+68.99	16.04	633.89	633.89
j	608+79.08	16.04	633.90	633.90
k	608+89.17	16.04	633.90	633.91
l	608+99.25	16.04	633.90	633.92
m	609+09.34	16.04	633.90	633.92
n	609+19.42	16.04	633.90	633.91
℄ Pier #3	609+32.92	16.04	633.89	633.89
o	609+43.01	16.04	633.88	633.89
p	609+53.10	16.04	633.87	633.88
q	609+63.18	16.04	633.85	633.87
r	609+73.27	16.04	633.84	633.86
℄ Brg. E. Abut.	609+87.09	16.04	633.81	633.81
Bk. E. Abut.	609+90.00	16.04	633.80	633.80

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS-(WB)
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

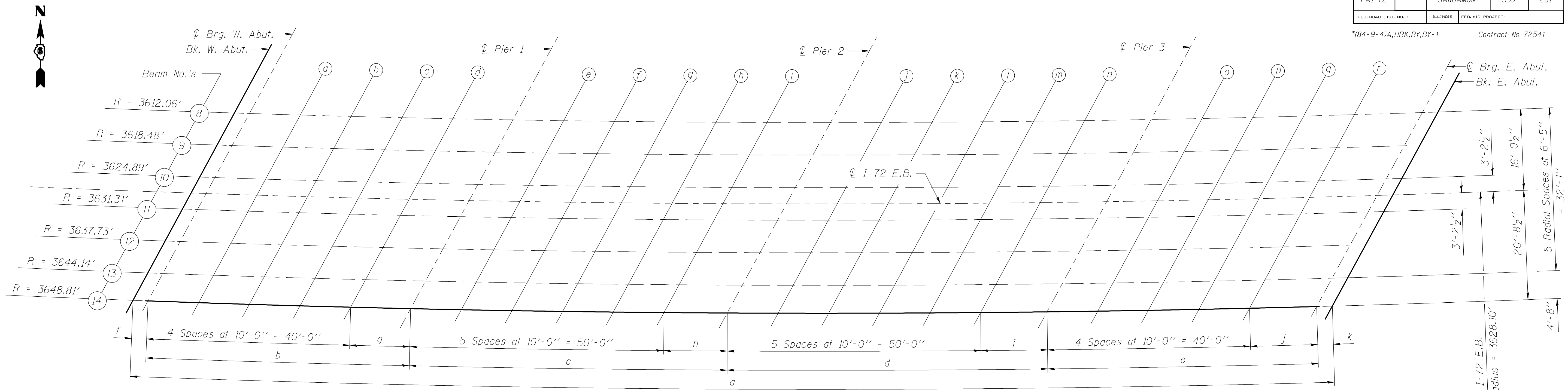
JOB# 96S2002B

DATE: 01/12/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	261
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

SHEET NO. 08
44 SHEETS

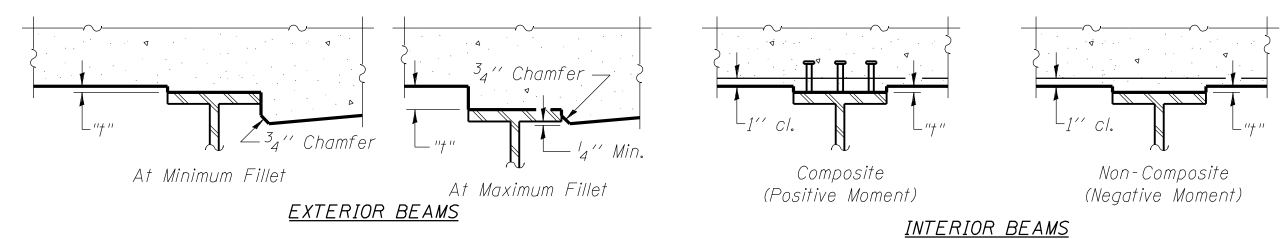


EASTBOUND DIAGRAMMATIC PLAN

EASTBOUND DIAGRAMMATIC PLAN - LAYOUT DIMENSIONS

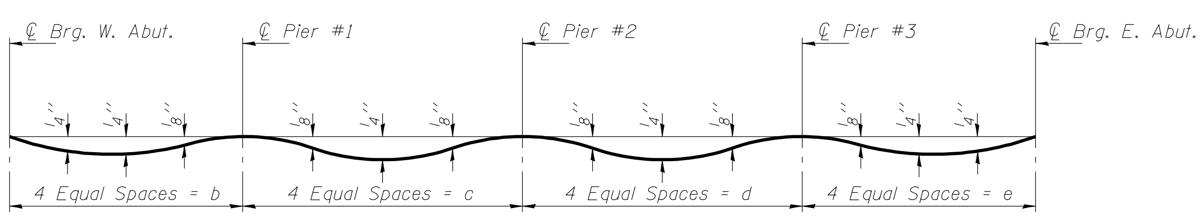
(Measured Along Centerline of Beam)

Line No.	Beam 8	Beam 9	Beam 10	Beam 11	Beam 12	Beam 13	Beam 14
a	236'-5 3/4"	236'-4 3/8"	236'-2 3/4"	236'-1 1/4"	236'-0"	235'-10 1/4"	235'-9 5/16"
b	51'-11 5/8"	51'-11 1/2"	51'-11 1/8"	51'-10 3/4"	51'-10 5/8"	51'-10 1/4"	51'-10 1/16"
c	62'-5 3/8"	62'-5"	62'-4 1/2"	62'-4 3/8"	62'-3 7/8"	62'-3 1/2"	62'-3 1/4"
d	63'-0 1/2"	63'-0"	62'-11 3/4"	62'-11 1/4"	62'-11"	62'-10 3/8"	62'-10 1/8"
e	53'-4 3/4"	53'-4 3/8"	53'-3 7/8"	53'-3 1/2"	53'-3 1/8"	53'-2 3/4"	53'-2 9/16"
f	2'-9 1/8"	2'-9 1/8"	2'-9 1/8"	2'-9 1/8"	2'-9 1/8"	2'-9 1/8"	2'-9 1/16"
g	11'-11 5/8"	11'-11 1/2"	11'-11 1/8"	11'-10 3/4"	11'-10 5/8"	11'-10 1/4"	11'-10 1/16"
h	12'-5 3/8"	12'-5"	12'-4 1/2"	12'-4 3/8"	12'-3 7/8"	12'-3 1/2"	12'-3 1/4"
i	13'-0 1/2"	13'-0"	12'-11 3/4"	12'-11 1/4"	12'-11"	12'-10 3/8"	12'-10 1/8"
j	13'-4 3/4"	13'-4 3/8"	13'-3 7/8"	13'-3 1/2"	13'-3 1/8"	13'-2 3/4"	13'-2 9/16"
k	2'-10 3/8"	2'-10 3/8"	2'-10 3/8"	2'-10 1/4"	2'-10 1/4"	2'-10 1/4"	2'-10 1/4"



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 09 and 10 of 44, minus slab thickness, equals the fillet heights "t" above top flange of beams.

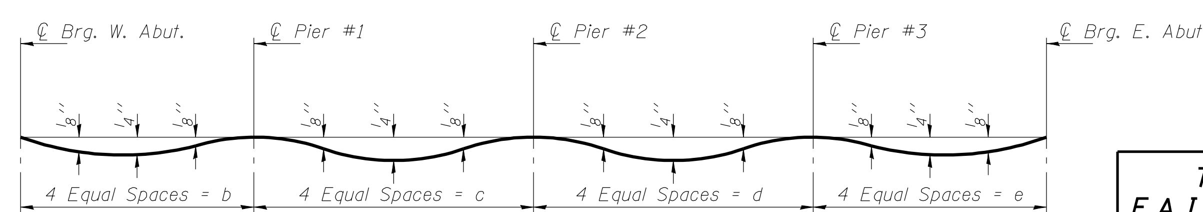
FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM - BEAMS #8-#13

(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 09 and 10 of 44.



DEAD LOAD DEFLECTION DIAGRAM - BEAM #14

(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 09 of 44.

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS-(EB)
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	262
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 09
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

BEAM #8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+18.71	-16.04	632.00	632.00
℄ Brg. W. Abut.	607+21.45	-16.04	632.01	632.01
a	607+31.36	-16.04	632.05	632.07
b	607+41.28	-16.04	632.09	632.11
c	607+51.19	-16.04	632.13	632.15
d	607+61.10	-16.04	632.17	632.17
℄ Pier #1	607+72.97	-16.04	632.20	632.20
e	607+82.89	-16.04	632.23	632.24
f	607+92.80	-16.04	632.26	632.27
g	608+02.71	-16.04	632.28	632.30
h	608+12.63	-16.04	632.31	632.32
i	608+22.54	-16.04	632.33	632.33
℄ Pier #2	608+34.88	-16.04	632.35	632.35
j	608+44.79	-16.04	632.36	632.37
k	608+54.70	-16.04	632.37	632.39
l	608+64.62	-16.04	632.38	632.40
m	608+74.53	-16.04	632.39	632.41
n	608+84.44	-16.04	632.40	632.40
℄ Pier #3	608+97.37	-16.04	632.40	632.40
o	609+07.28	-16.04	632.40	632.41
p	609+17.19	-16.04	632.39	632.41
q	609+27.11	-16.04	632.39	632.41
r	609+37.02	-16.04	632.38	632.40
℄ Brg. E. Abut.	609+50.29	-16.04	632.37	632.37
Bk. E. Abut.	609+53.13	-16.04	632.36	632.36

BEAM #9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+15.51	-9.63	632.28	632.28
℄ Brg. W. Abut.	607+18.25	-9.63	632.29	632.29
a	607+28.14	-9.63	632.33	632.34
b	607+38.04	-9.63	632.37	632.39
c	607+47.93	-9.63	632.41	632.42
d	607+57.83	-9.63	632.44	632.45
℄ Pier #1	607+69.66	-9.63	632.48	632.48
e	607+79.55	-9.63	632.51	632.52
f	607+89.45	-9.63	632.54	632.55
g	607+99.34	-9.63	632.56	632.58
h	608+09.24	-9.63	632.59	632.60
i	608+19.13	-9.63	632.61	632.62
℄ Pier #2	608+31.42	-9.63	632.63	632.63
j	608+41.31	-9.63	632.65	632.65
k	608+51.21	-9.63	632.66	632.67
l	608+61.10	-9.63	632.67	632.69
m	608+71.00	-9.63	632.68	632.69
n	608+80.89	-9.63	632.68	632.69
℄ Pier #3	608+93.76	-9.63	632.69	632.69
o	609+03.66	-9.63	632.69	632.69
p	609+13.55	-9.63	632.68	632.70
q	609+23.45	-9.63	632.68	632.70
r	609+33.35	-9.63	632.67	632.69
℄ Brg. E. Abut.	609+46.57	-9.63	632.66	632.66
Bk. E. Abut.	609+49.40	-9.63	632.66	632.66

Note:
Offset is from ℄ I-72 E.B.

BEAM #10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+12.33	-3.21	632.55	632.55
℄ Brg. W. Abut.	607+15.06	-3.21	632.56	632.56
a	607+24.94	-3.21	632.61	632.62
b	607+34.81	-3.21	632.65	632.66
c	607+44.69	-3.21	632.68	632.70
d	607+54.57	-3.21	632.72	632.73
℄ Pier #1	607+66.35	-3.21	632.76	632.76
e	607+76.23	-3.21	632.79	632.80
f	607+86.11	-3.21	632.82	632.83
g	607+95.98	-3.21	632.84	632.86
h	608+05.86	-3.21	632.87	632.88
i	608+15.74	-3.21	632.89	632.90
℄ Pier #2	608+27.97	-3.21	632.91	632.91
j	608+37.85	-3.21	632.93	632.94
k	608+47.73	-3.21	632.94	632.96
l	608+57.61	-3.21	632.95	632.97
m	608+67.48	-3.21	632.96	632.98
n	608+77.36	-3.21	632.97	632.98
℄ Pier #3	608+90.17	-3.21	632.97	632.97
o	609+00.05	-3.21	632.98	632.98
p	609+09.93	-3.21	632.97	632.99
q	609+19.81	-3.21	632.97	632.99
r	609+29.69	-3.21	632.96	632.98
℄ Brg. E. Abut.	609+42.85	-3.21	632.95	632.95
Bk. E. Abut.	609+45.68	-3.21	632.95	632.95

℄ I-72 EB, P.G. LINE, & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+10.74	0.00	632.69	632.69
℄ Brg. W. Abut.	607+13.47	0.00	632.70	632.70
a	607+23.34	0.00	632.74	632.76
b	607+33.21	0.00	632.78	632.80
c	607+43.08	0.00	632.82	632.84
d	607+52.95	0.00	632.86	632.87
℄ Pier #1	607+64.70	0.00	632.90	632.90
e	607+74.57	0.00	632.93	632.94
f	607+84.44	0.00	632.96	632.97
g	607+94.31	0.00	632.99	633.00
h	608+04.18	0.00	633.01	633.02
i	608+14.05	0.00	633.03	633.04
℄ Pier #2	608+26.26	0.00	633.05	633.05
j	608+36.12	0.00	633.07	633.08
k	608+45.99	0.00	633.08	633.10
l	608+55.86	0.00	633.10	633.12
m	608+65.73	0.00	633.11	633.12
n	608+75.60	0.00	633.11	633.12
℄ Pier #3	608+88.39	0.00	633.12	633.12
o	608+98.25	0.00	633.12	633.13
p	609+08.12	0.00	633.12	633.14
q	609+17.99	0.00	633.12	633.14
r	609+27.86	0.00	633.11	633.13
℄ Brg. E. Abut.	609+41.00	0.00	633.10	633.10
Bk. E. Abut.	609+43.82	0.00	633.10	633.10

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS-(EB)
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

BEAM #11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+09.16	3.21	632.82	632.82
℄ Brg. W. Abut.	607+11.88	3.21	632.84	632.84
a	607+21.74	3.21	632.88	632.89
b	607+31.60	3.21	632.92	632.94
c	607+41.46	3.21	632.96	632.98
d	607+51.32	3.21	633.00	633.01
℄ Pier #1	607+63.06	3.21	633.04	633.04
e	607+72.92	3.21	633.07	633.08
f	607+82.78	3.21	633.10	633.11
g	607+92.64	3.21	633.13	633.14
h	608+02.50	3.21	633.15	633.16
i	608+12.36	3.21	633.17	633.18
℄ Pier #2	608+24.54	3.21	633.20	633.20
j	608+34.40	3.21	633.21	633.22
k	608+44.26	3.21	633.23	633.24
l	608+54.12	3.21	633.24	633.26
m	608+63.98	3.21	633.25	633.26
n	608+73.84	3.21	633.26	633.27
℄ Pier #3	608+86.60	3.21	633.26	633.26
o	608+96.46	3.21	633.26	633.27
p	609+06.32	3.21	633.26	633.28
q	609+16.18	3.21	633.26	633.28
r	609+26.04	3.21	633.26	633.27
℄ Brg. E. Abut.	609+39.15	3.21	633.25	633.25
Bk. E. Abut.	609+41.97	3.21	633.24	633.24

BEAM #12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+06.00	9.63	633.10	633.10
℄ Brg. W. Abut.	607+08.72	9.63	633.11	633.11
a	607+18.56	9.63	633.16	633.17
b	607+28.40	9.63	633.20	633.22
c	607+38.25	9.63	633.24	633.25
d	607+48.09	9.63	633.27	633.28
℄ Pier #1	607+59.78	9.63	633.32	633.32
e	607+69.62	9.63	633.35	633.35
f	607+79.47	9.63	633.38	633.39
g	607+89.31	9.63	633.41	633.42
h	607+99.15	9.63	633.43	633.44
i	608+09.00	9.63	633.45	633.46
℄ Pier #2	608+21.12	9.63	633.48	633.48
j	608+30.97	9.63	633.50	633.50
k	608+40.81	9.63	633.51	633.52
l	608+50.65	9.63	633.52	633.54
m	608+60.50	9.63	633.53	633.55
n	608+70.34	9.63	633.54	633.55
℄ Pier #3	608+83.04	9.63	633.55	633.55
o	608+92.88	9.63	633.55	633.56
p	609+02.73	9.63	633.55	633.57
q	609+12.57	9.63	633.55	633.57
r	609+22.41	9.63	633.55	633.57
℄ Brg. E. Abut.	609+35.47	9.63	633.54	633.54
Bk. E. Abut.	609+38.28	9.63	633.54	633.54

Note:
Offset is from ℄ I-72 E.B.

BEAM #13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+02.86	16.04	633.37	633.37
℄ Brg. W. Abut.	607+05.57	16.04	633.39	633.39
a	607+15.39	16.04	633.43	633.44
b	607+25.22	16.04	633.47	633.49
c	607+35.04	16.04	633.51	633.53
d	607+44.87	16.04	633.55	633.56
℄ Pier #1	607+56.52	16.04	633.59	633.59
e	607+66.34	16.04	633.63	633.63
f	607+76.17	16.04	633.66	633.67
g	607+85.99	16.04	633.68	633.70
h	607+95.82	16.04	633.71	633.73
i	608+05.65	16.04	633.73	633.74
℄ Pier #2	608+17.72	16.04	633.76	633.76
j	608+27.55	16.04	633.78	633.79
k	608+37.37	16.04	633.79	633.81
l	608+47.20	16.04	633.81	633.83
m	608+57.02	16.04	633.82	633.83
n	608+66.85	16.04	633.83	633.84
℄ Pier #3	608+79.50	16.04	633.84	633.84
o	608+89.32	16.04	633.84	633.85
p	608+99.15	16.04	633.84	633.86
q	609+08.97	16.04	633.84	633.86
r	609+18.80	16.04	633.84	633.86
℄ Brg. E. Abut.	609+31.80	16.04	633.83	633.83
Bk. E. Abut.	609+34.61	16.04	633.83	633.83

BEAM #14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	607+00.58	20.71	633.57	633.57
℄ Brg. W. Abut.	607+03.28	20.71	633.58	633.58
a	607+13.09	20.71	633.63	633.64
b	607+22.91	20.71	633.67	633.69
c	607+32.72	20.71	633.71	633.73
d	607+42.53	20.71	633.75	633.76
℄ Pier #1	607+54.15	20.71	633.79	633.79
e	607+63.96	20.71	633.83	633.83
f	607+73.78	20.71	633.86	633.87
g	607+83.59	20.71	633.89	633.90
h	607+93.40	20.71	633.91	633.93
i	608+03.22	20.71	633.94	633.95
℄ Pier #2	608+15.26	20.71	633.97	633.97
j	608+25.07	20.71	633.98	633.99
k	608+34.88	20.71	634.00	634.01
l	608+44.69	20.71	634.01	634.03
m	608+54.51	20.71	634.03	634.04
n	608+64.32	20.71	634.04	634.04
℄ Pier #3	608+76.93	20.71	634.05	634.05
o	608+86.74	20.71	634.05	634.06
p	608+96.55	20.71	634.05	634.06
q	609+06.37	20.71	634.05	634.07
r	609+16.18	20.71	634.05	634.06
℄ Brg. E. Abut.	609+29.14	20.71	634.04	634.04
Bk. E. Abut.	609+31.95	20.71	634.04	634.04

Corporate License Number 184-001-084

TOP OF SLAB ELEVATIONS-(EB)
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB: 96S2002B
DATE: 01/12/06

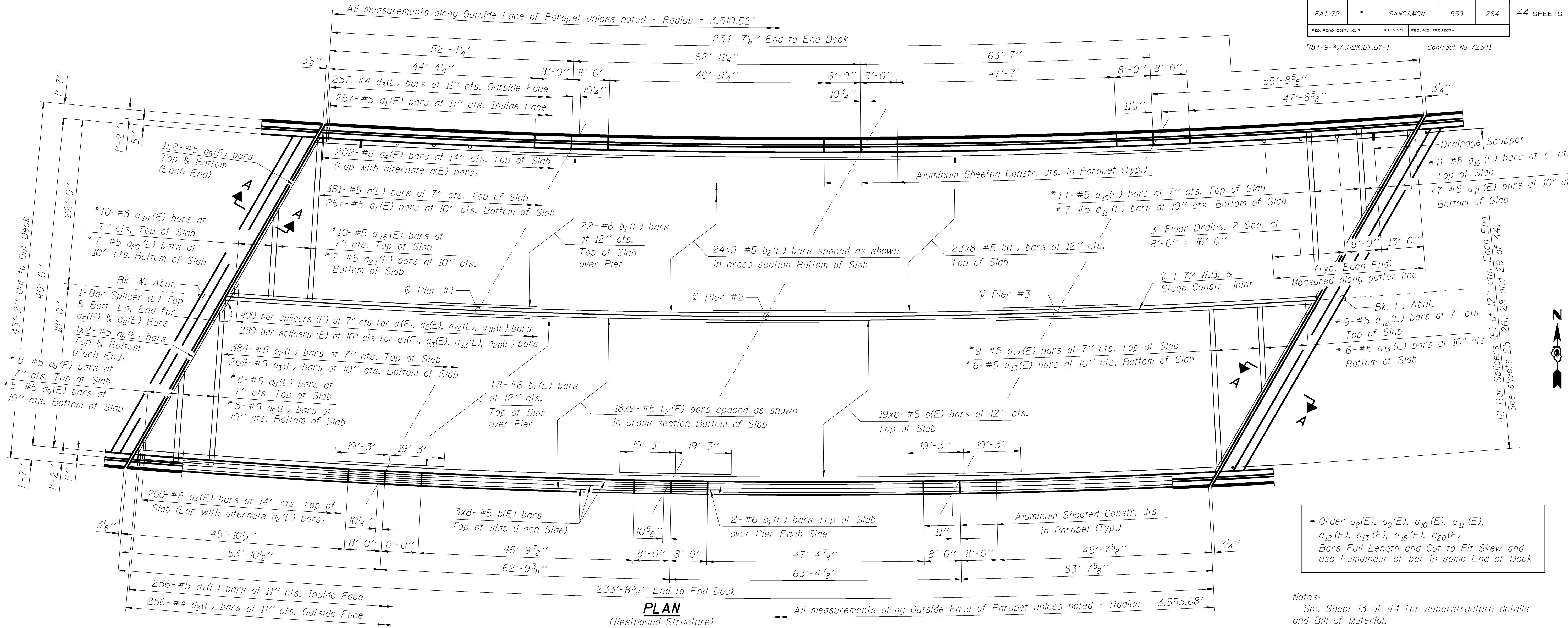
$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	264
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11 / 44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

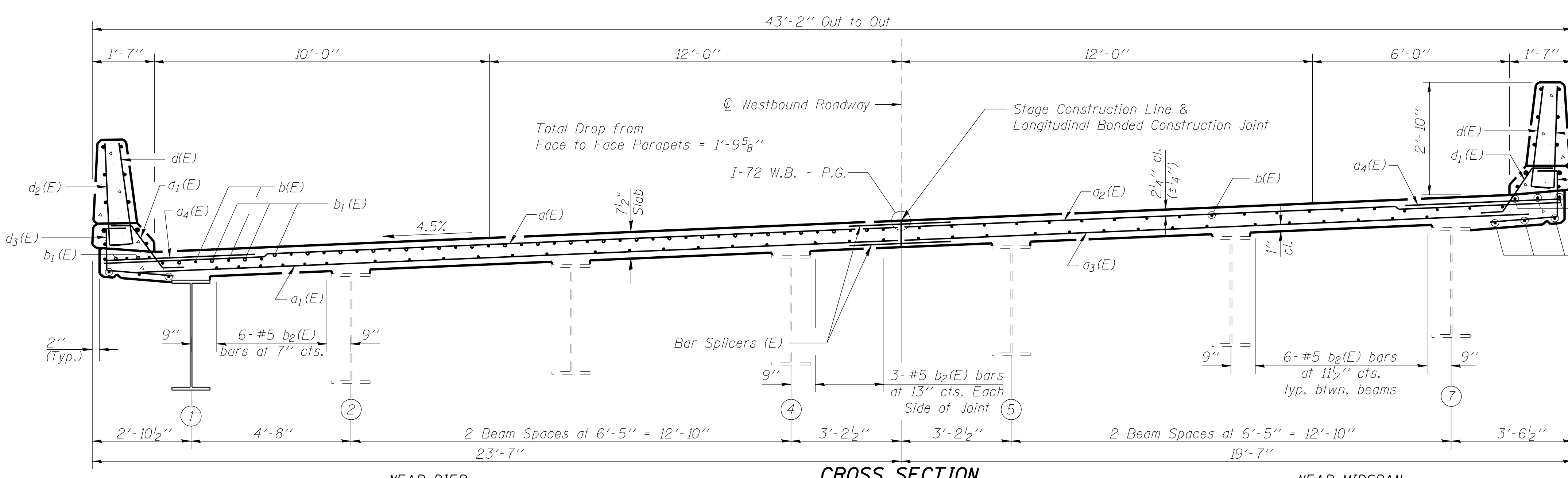


PLAN
(Westbound Structure)

* Order a_8(E), a_9(E), a_{10}(E), a_{11}(E), a_{12}(E), a_{13}(E), a_{18}(E), a_{20}(E) Bars Full Length and Cut to Fit Skew and use Remainder of bar in same End of Deck

Notes:
See Sheet 13 of 44 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
See Sheet 12 of 44 for parapet reinforcement.
See Bar Splicer (Coupler) Details, Sheet 40 of 44.
Transverse bars shall be placed radially. Longitudinal bars shall be placed along curve.

MIN. BAR LAPS
#5 Bar - 2'-2''
#6 Bar - 2'-7''



NEAR PIER
Stage I Construction

CROSS SECTION
(Looking East - Upstation, Horizontal dimensions are measured radial to ℄ Westbound Roadway)

NEAR MIDSPAN
Stage II Construction

Corporate License Number 184-001-084

SUPERSTRUCTURE - WESTBOUND
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB: 96S2002B
DATE: 01/12/06

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

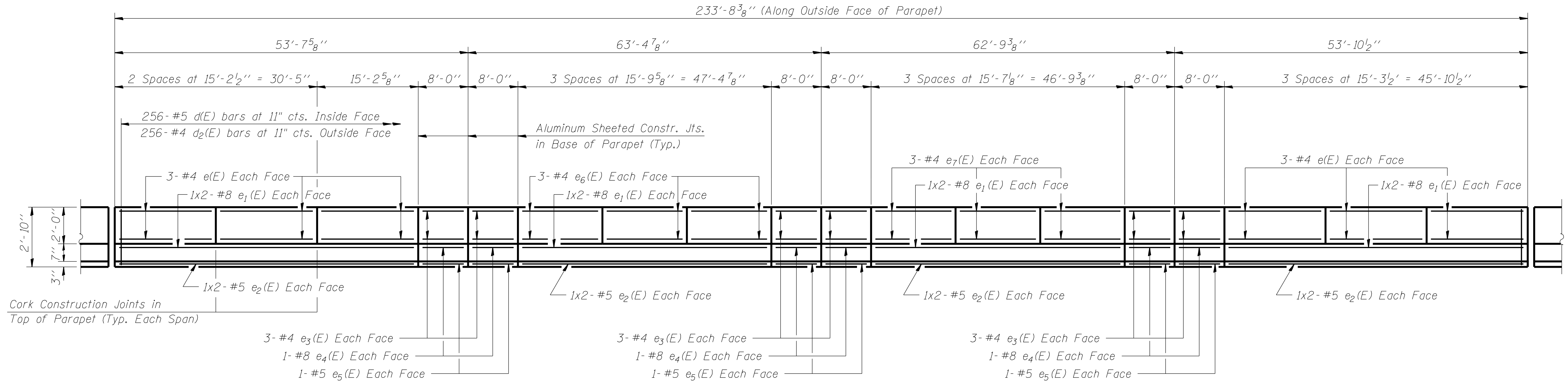
$FILE$ 12/16/2006

Notes: Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 1x2-#5 etc. indicates 1 line of bars with 2 lengths per line.
See sheet 13 of 44 for Superstructure Details and Bill of Material.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72 FAU 8071	*	SANGAMON	559	265
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 12
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

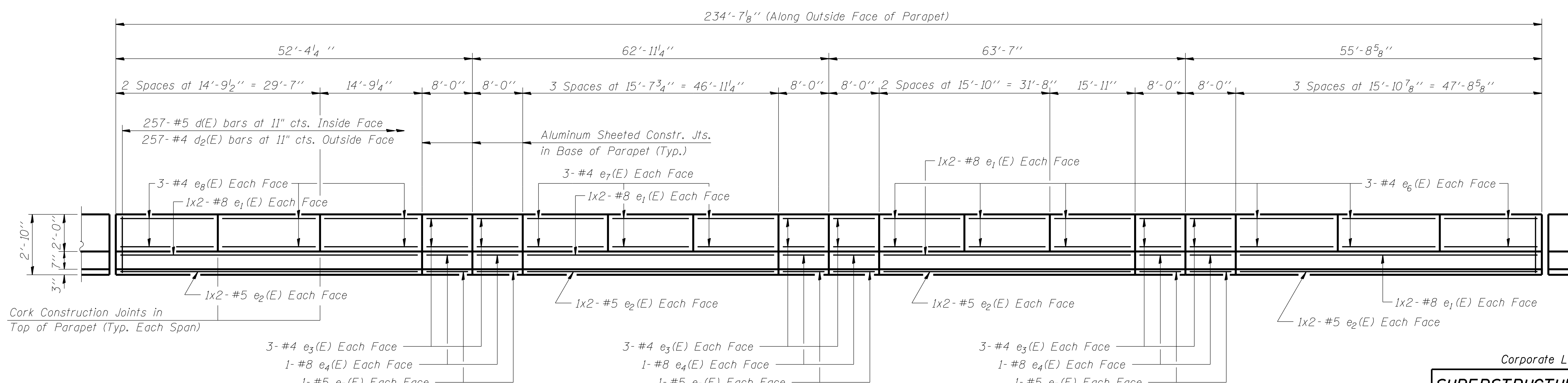


INSIDE ELEVATION OF SOUTH PARAPET

(Westbound Structure)

MIN. BAR LAPS

#5 Bar - 2'-2''
#8 Bar - 4'-6''



INSIDE ELEVATION OF NORTH PARAPET

(Westbound Structure)

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

SUPERSTRUCTURE DETAILS - WESTBOUND
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

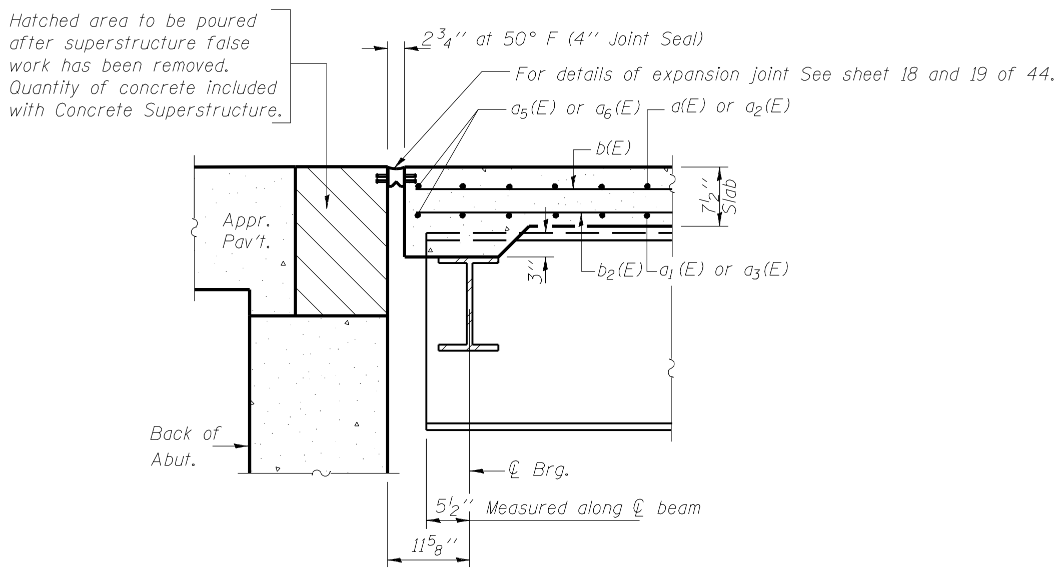
JOB# 96S2002B

DATE: 01/12/06

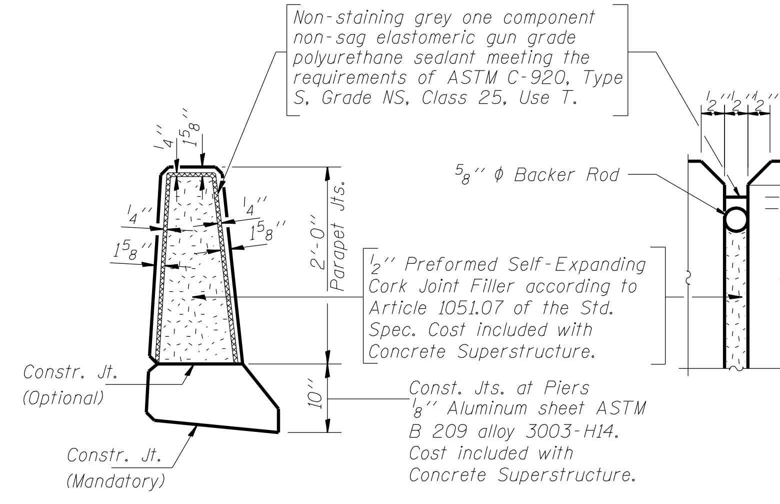
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72 FAU 8071	*	SANGAMON	559	266
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
44 SHEETS

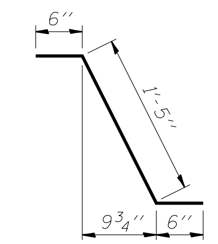
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



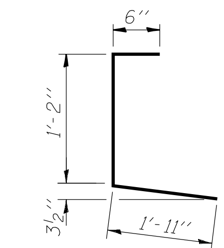
SECTION A-A
(At Rt. ∠'s to Bk. Abutment)



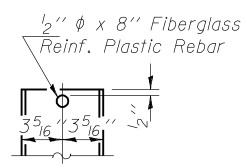
PARAPET JOINT DETAILS



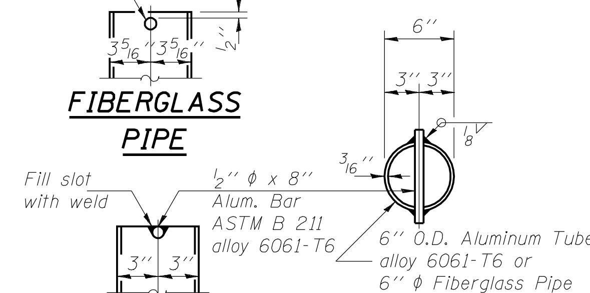
BAR d_1(E)



BAR d_3(E)

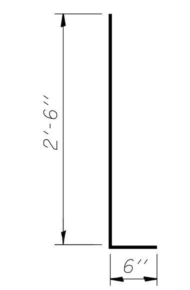


FIBERGLASS PIPE

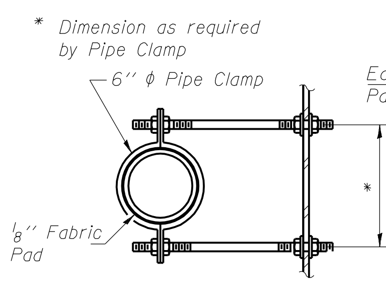


ALUMINUM TUBE

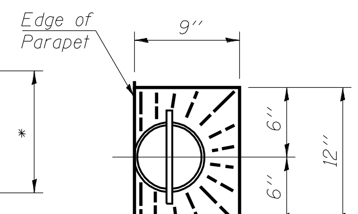
TOP PLAN
(Showing Aluminum Tube)



BARS d(E) & d_2(E)



SECTION B-B



TOP PLAN

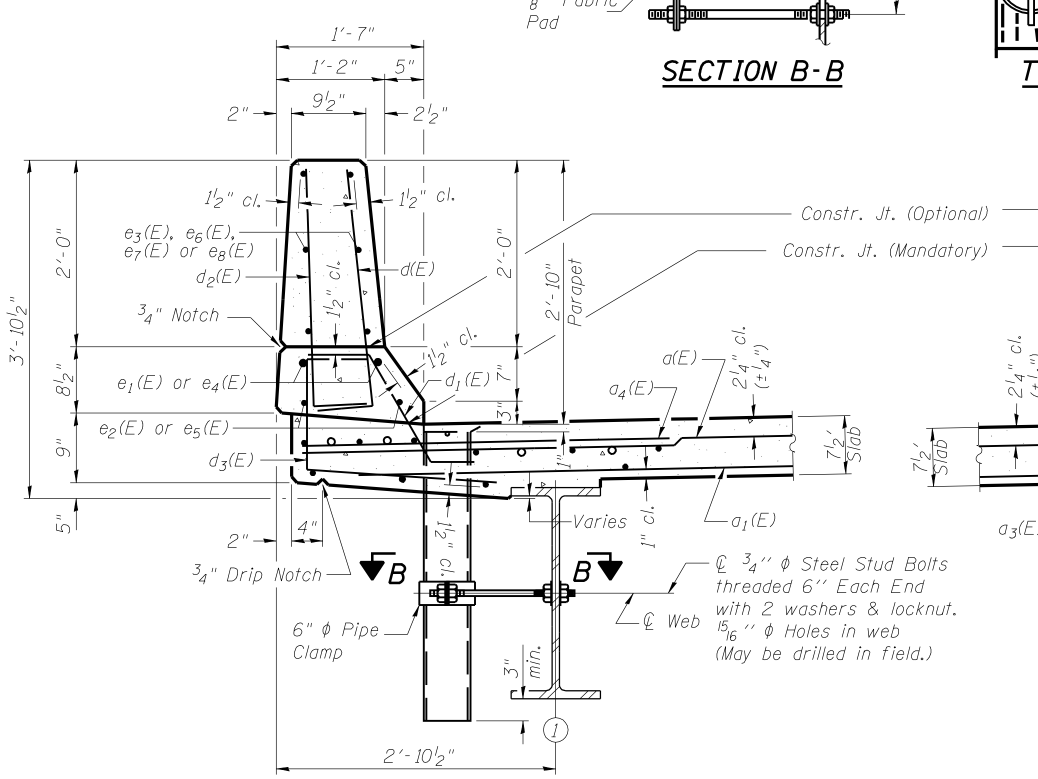
WESTBOUND SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	381	#5	23'-0"	——
a_1(E)	267	#5	22'-6"	——
a_2(E)	384	#5	19'-1"	——
a_3(E)	269	#5	18'-7"	——
a_4(E)	402	#6	4'-6"	——
a_5(E)	8	#5	14'-9"	——
a_6(E)	8	#5	12'-3"	——
a_7(E)	16	#5	1'-6"	——
a_8(E)	8	#5	18'-8"	——
a_9(E)	5	#5	19'-6"	——
a_{10} (E)	11	#5	23'-10"	——
a_{11} (E)	7	#5	24'-4"	——
a_{12} (E)	9	#5	19'-9"	——
a_{13} (E)	6	#5	20'-2"	——
a_{18} (E)	10	#5	22'-10"	——
a_{20}(E)	7	#5	22'-3"	——
b(E)	384	#5	31'-3"	——
b_1(E)	132	#6	38'-6"	——
b_2(E)	378	#5	28'-0"	——
d(E)	513	#5	3'-0"	
d_1(E)	513	#5	2'-5"	
d_2(E)	513	#4	3'-0"	
d_3(E)	513	#4	3'-7"	
e(E)	36	#4	14'-10"	——
e_1(E)	32	#8	26'-0"	——
e_2(E)	32	#5	24'-9"	——
e_3(E)	72	#4	7'-8"	——
e_4(E)	24	#8	7'-8"	——
e_5(E)	24	#5	7'-8"	——
e_6(E)	54	#4	15'-6"	——
e_7(E)	36	#4	15'-3"	——
e_8(E)	18	#4	14'-4"	——
Concrete Superstructure			Cu. Yds.	333.7
Reinforcement Bars (Epoxy Coated)			Lbs.	74550

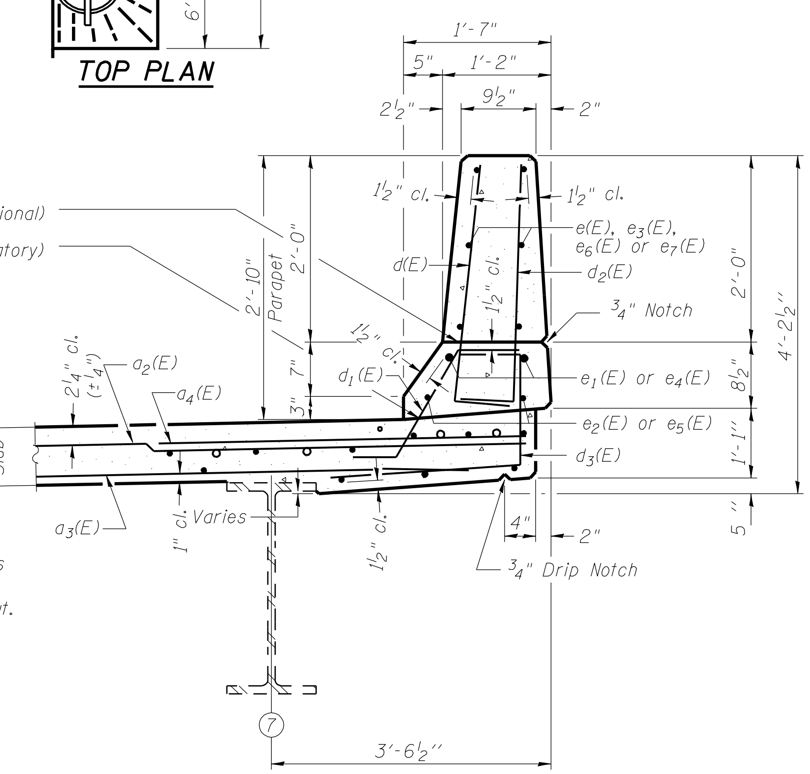
Reinforcement bars designated (E) shall be epoxy coated.
Cut longitudinal reinforcement to clear drainage scuppers.

MIN. BAR LAPS

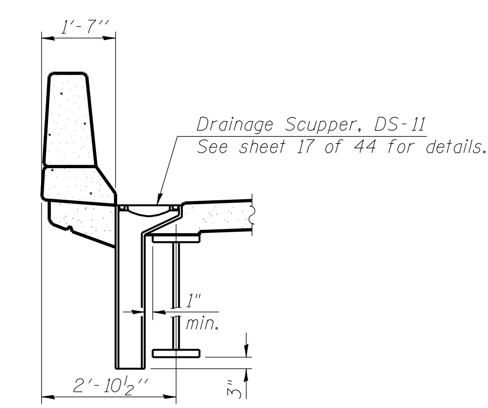
#5 Bar - 2'-2"
#6 Bar - 2'-7"
#8 Bar - 4'-6"



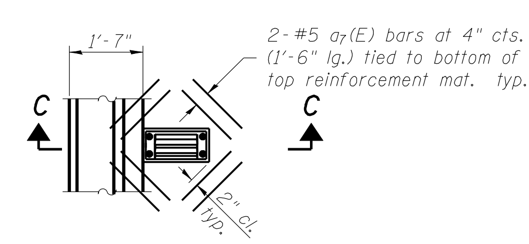
SECTION THRU NORTH PARAPET
(Looking East Upstation)



SECTION THRU SOUTH PARAPET
(Looking East Upstation)



SECTION C-C



PLAN

Corporate License Number 184-001-084

SUPERSTRUCTURE DETAILS- WESTBOUND
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

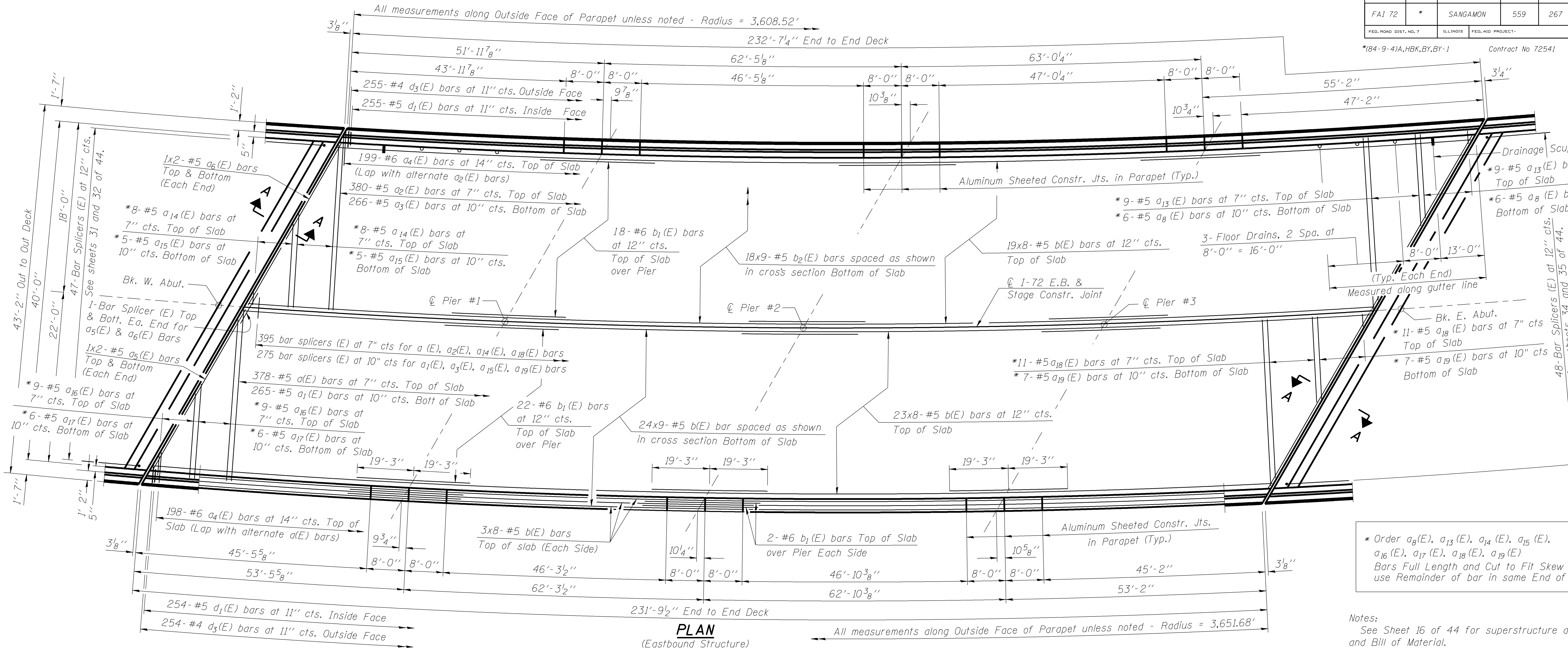
$FILE$
12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	267
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1

Contract No 72541

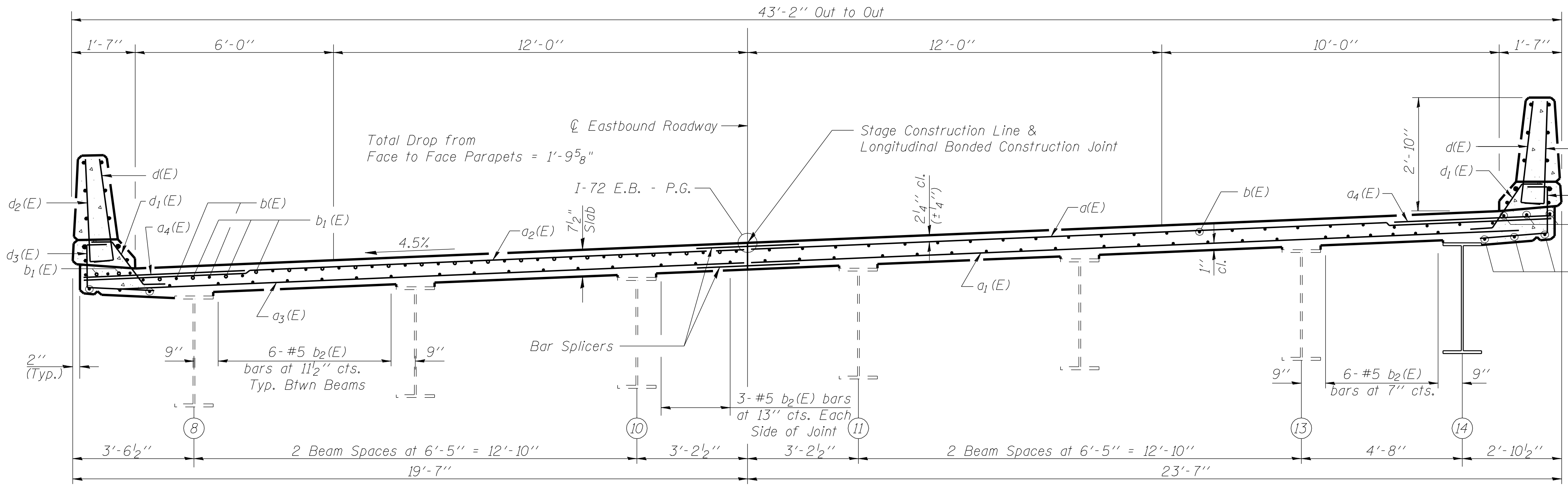


PLAN
(Eastbound Structure)

* Order a_8(E), a_{13}(E), a_{14}(E), a_{15}(E), a_{16}(E), a_{17}(E), a_{18}(E), a_{19}(E) Bars Full Length and Cut to Fit Skew and use Remainder of bar in same End of Deck

Notes:
See Sheet 16 of 44 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
See Sheet 15 of 44 for parapet reinforcement.
See Bar Splicer (Coupler) Details, Sheet 40 of 44.
Transverse bars shall be placed radially. Longitudinal bars shall be placed along curve.

MIN. BAR LAPS
#5 Bar - 2'-2"
#6 Bar - 2'-7"



NEAR PIER
Stage II Construction

CROSS SECTION
(Looking East - Upstation, Horizontal dimensions are measured radial to ℄ Eastbound Roadway)

NEAR MIDSPAN
Stage I Construction

Corporate License Number 184-001-084

SUPERSTRUCTURE - EASTBOUND
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB: 96S2002B
DATE: 01/12/06

$FILE$
12/16/2006

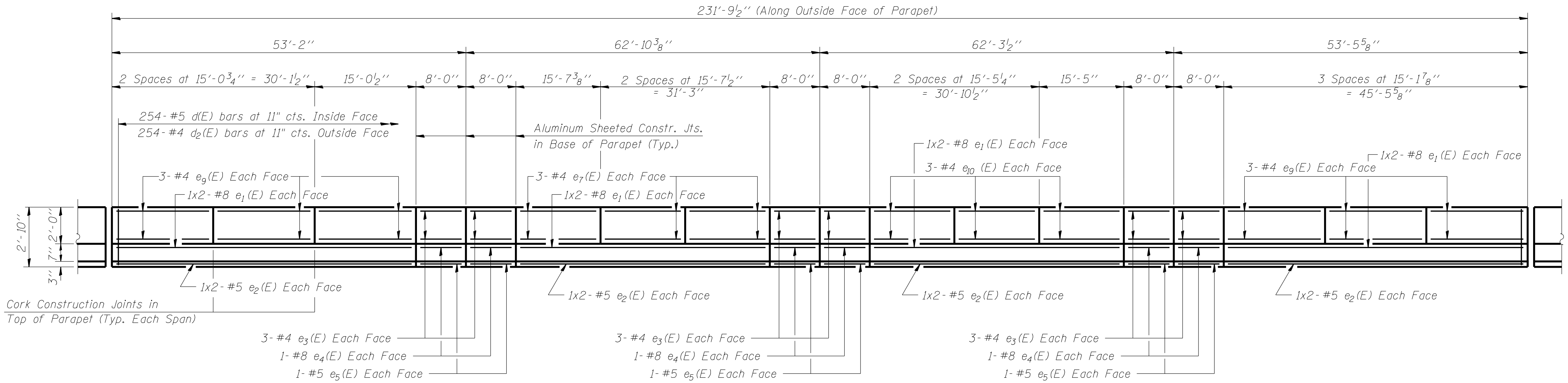
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72 FAU 8071	*	SANGAMON	559	268
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 15
44 SHEETS

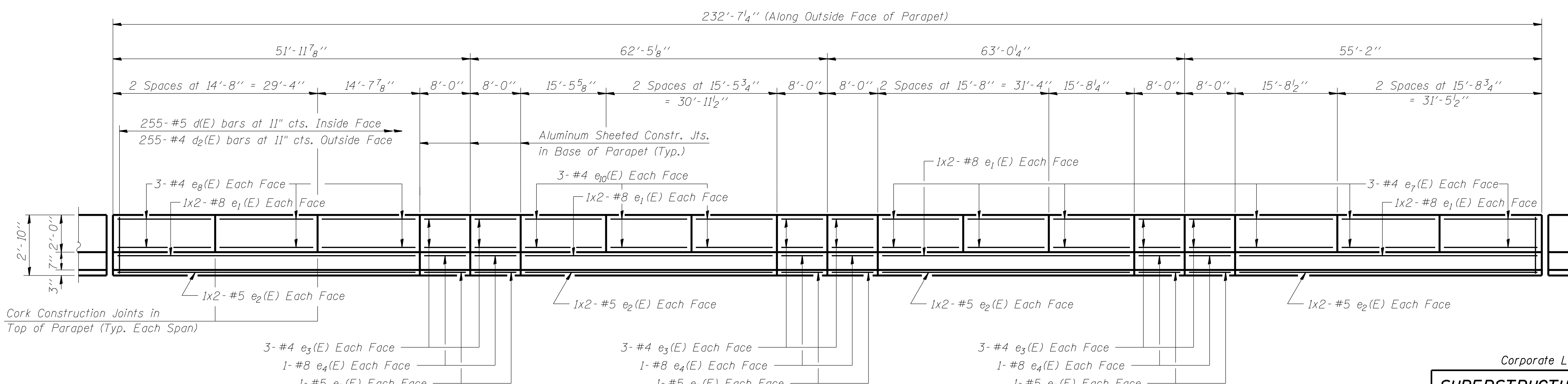
*(84-9-4)A,HBK,BY,BY-1   Contract No 72541

Notes: Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 1x2-#5 etc. indicates 1 line of bars with 2 lengths per line.
See sheet 16 of 44 for Superstructure Details and Bill of Material.



MIN. BAR LAPS
#5 Bar - 2'-2''
#8 Bar - 4'-6''

INSIDE ELEVATION OF SOUTH PARAPET
(Eastbound Structure)



INSIDE ELEVATION OF NORTH PARAPET
(Eastbound Structure)

Corporate License Number 184-001-084

SUPERSTRUCTURE DETAILS- EASTBOUND
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

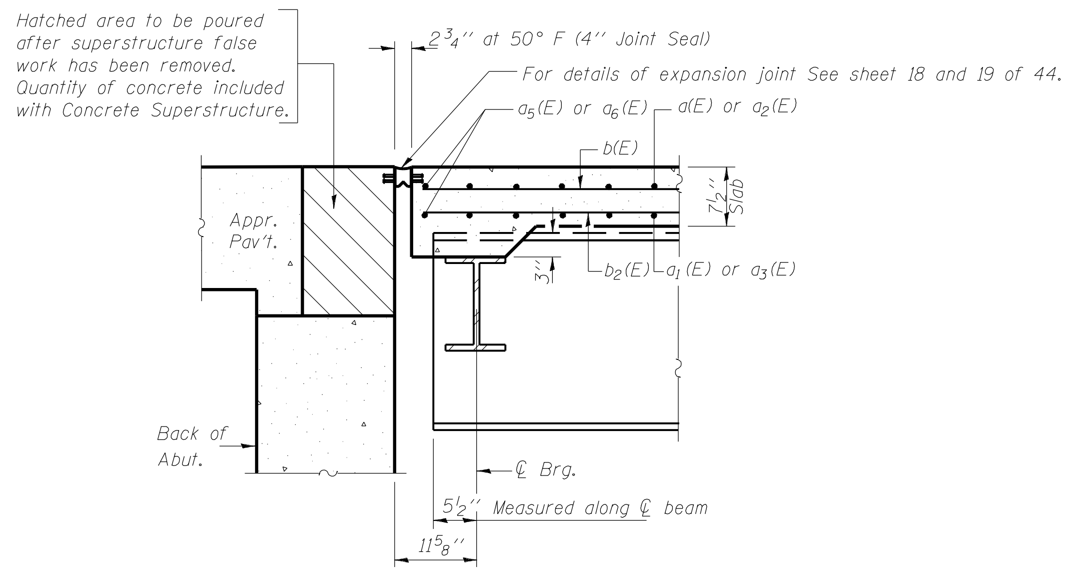
$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

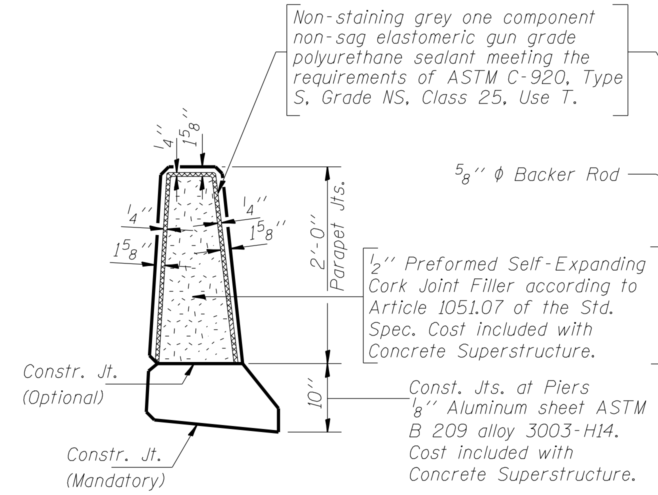
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72 FAU 8071	*	SANGAMON	559	269
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 16
44 SHEETS

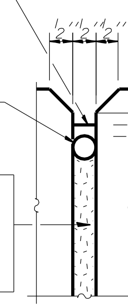
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

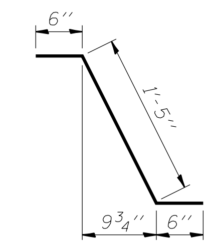


SECTION A-A
(At Rt. ∠'s to Bk. Abutment)

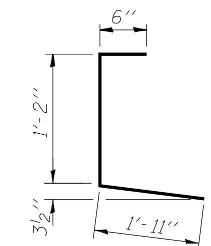


PARAPET JOINT DETAILS

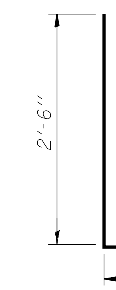




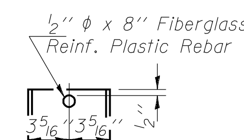
BAR d_1(E)



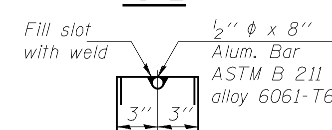
BAR d_3(E)



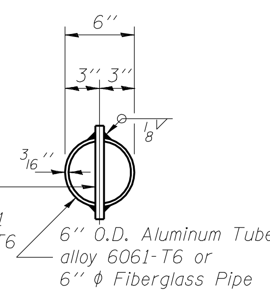
BARS d(E) & d_2(E)



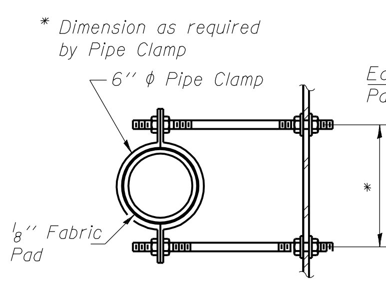
FIBERGLASS PIPE



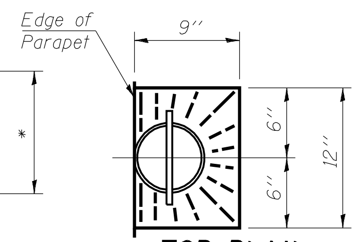
ALUMINUM TUBE



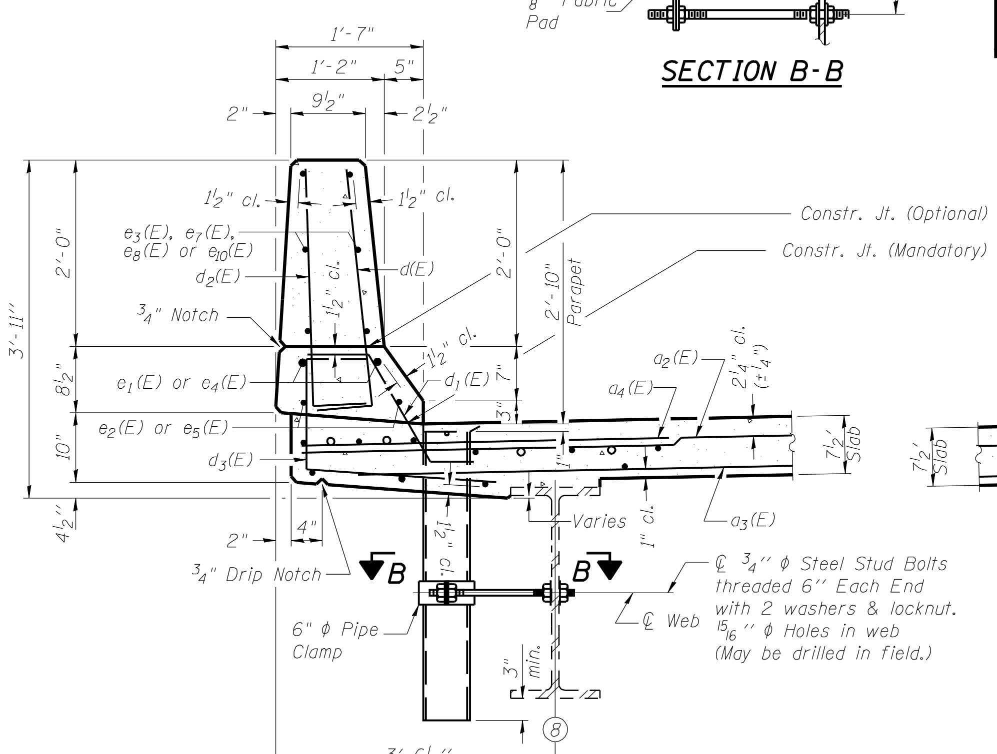
TOP PLAN
(Showing Aluminum Tube)



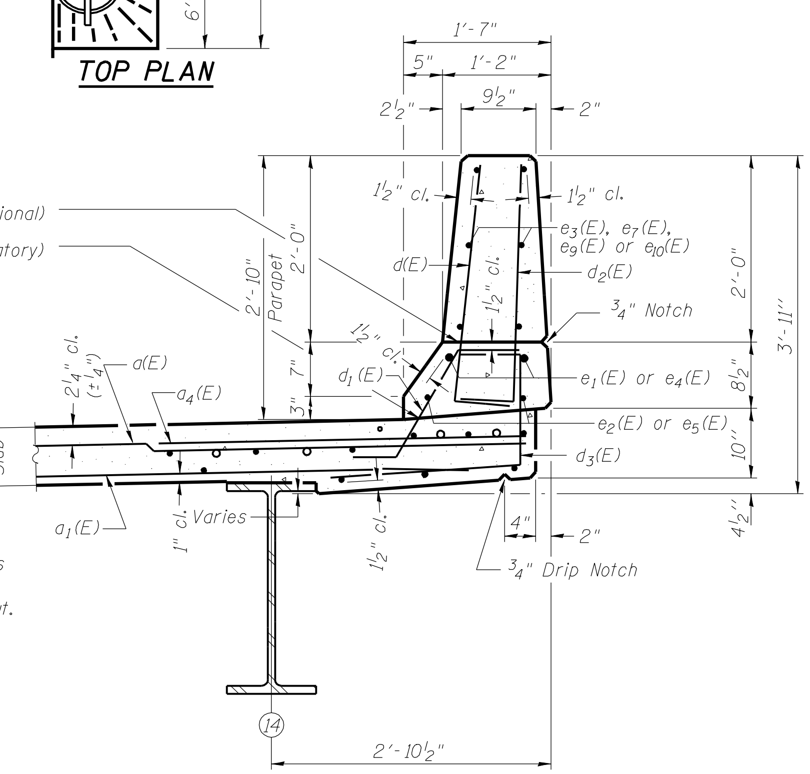
SECTION B-B



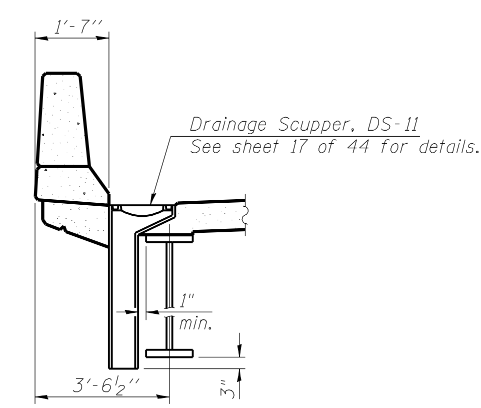
TOP PLAN



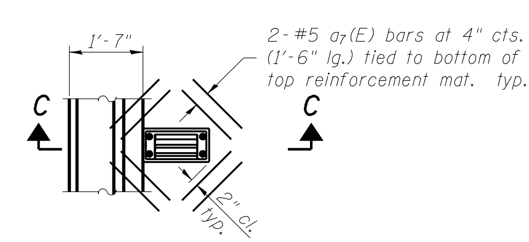
SECTION THRU NORTH PARAPET
(Looking East Upstation)



SECTION THRU SOUTH PARAPET
(Looking East Upstation)



SECTION C-C



PLAN

EASTBOUND SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	378	#5	23'-0''	——
a_1(E)	265	#5	22'-6''	——
a_2(E)	380	#5	19'-1''	——
a_3(E)	266	#5	18'-7''	——
a_4(E)	397	#6	4'-6''	——
a_5(E)	8	#5	14'-9''	——
a_6(E)	8	#5	12'-3''	——
a_7(E)	16	#5	1'-6''	——
a_8(E)	6	#5	18'-8''	——
a_{13}(E)	9	#5	19'-2''	——
a_{14}(E)	8	#5	18'-6''	——
a_{15}(E)	5	#5	19'-11''	——
a_{16}(E)	9	#5	23'-11''	——
a_{17}(E)	6	#5	23'-5''	——
a_{18}(E)	11	#5	22'-10''	——
a_{19}(E)	7	#5	24'-6''	——
b(E)	384	#5	31'-3''	——
b_1(E)	132	#6	38'-6''	——
b_2(E)	378	#5	28'-0''	——
d(E)	509	#5	3'-0''	
d_1(E)	509	#5	2'-5''	
d_2(E)	509	#4	3'-0''	
d_3(E)	509	#4	3'-7''	
e_1(E)	32	#8	26'-0''	——
e_2(E)	32	#5	24'-9''	——
e_3(E)	72	#4	7'-8''	——
e_4(E)	24	#8	7'-8''	——
e_5(E)	24	#5	7'-8''	——
e_7(E)	54	#4	15'-3''	——
e_8(E)	18	#4	14'-4''	——
e_9(E)	36	#4	14'-8''	——
e_{10}(E)	36	#4	15'-1''	——
Concrete Superstructure			Cu. Yds.	323.6
Reinforcement Bars (Epoxy Coated)			Lbs.	74150

Reinforcement bars designated (E) shall be epoxy coated.
Cut longitudinal reinforcement to clear drainage scuppers.

MIN. BAR LAPS

#5 Bar - 2'-2''
#6 Bar - 2'-7''
#8 Bar - 4'-6''

Corporate License Number 184-001-084

SUPERSTRUCTURE DETAILS- EASTBOUND
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

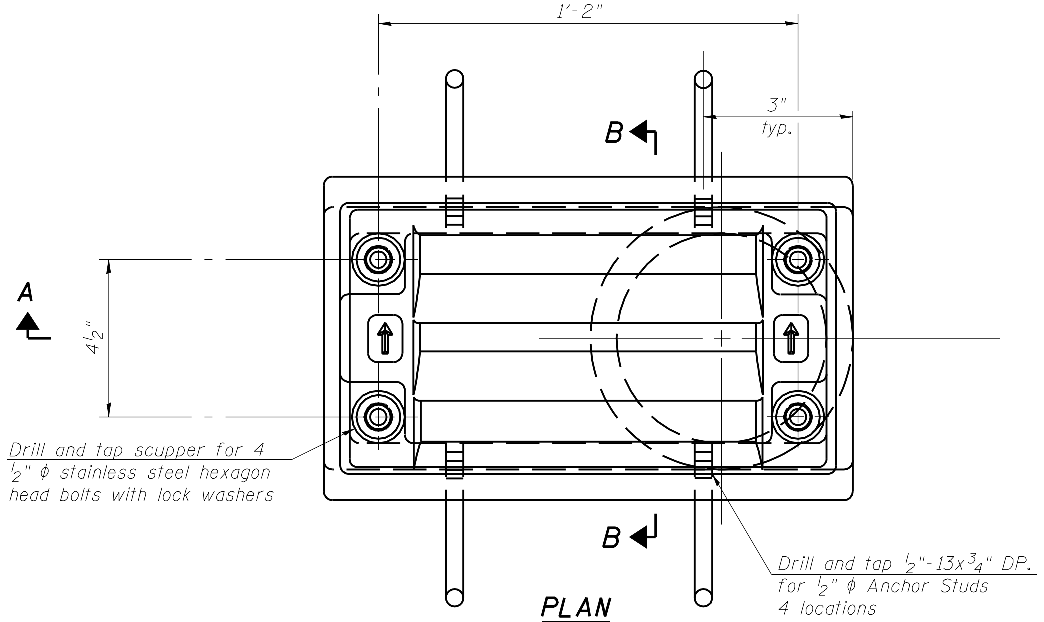
$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

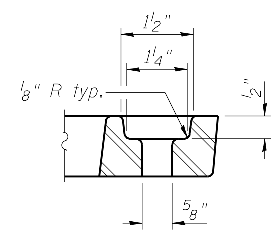
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	270
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 17
44 SHEETS

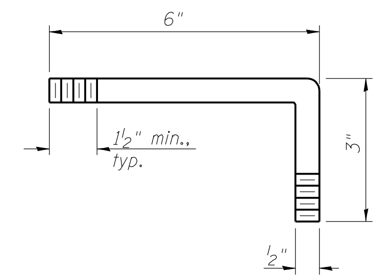
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



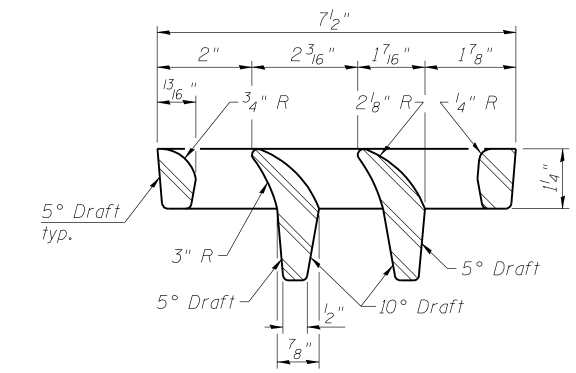
PLAN



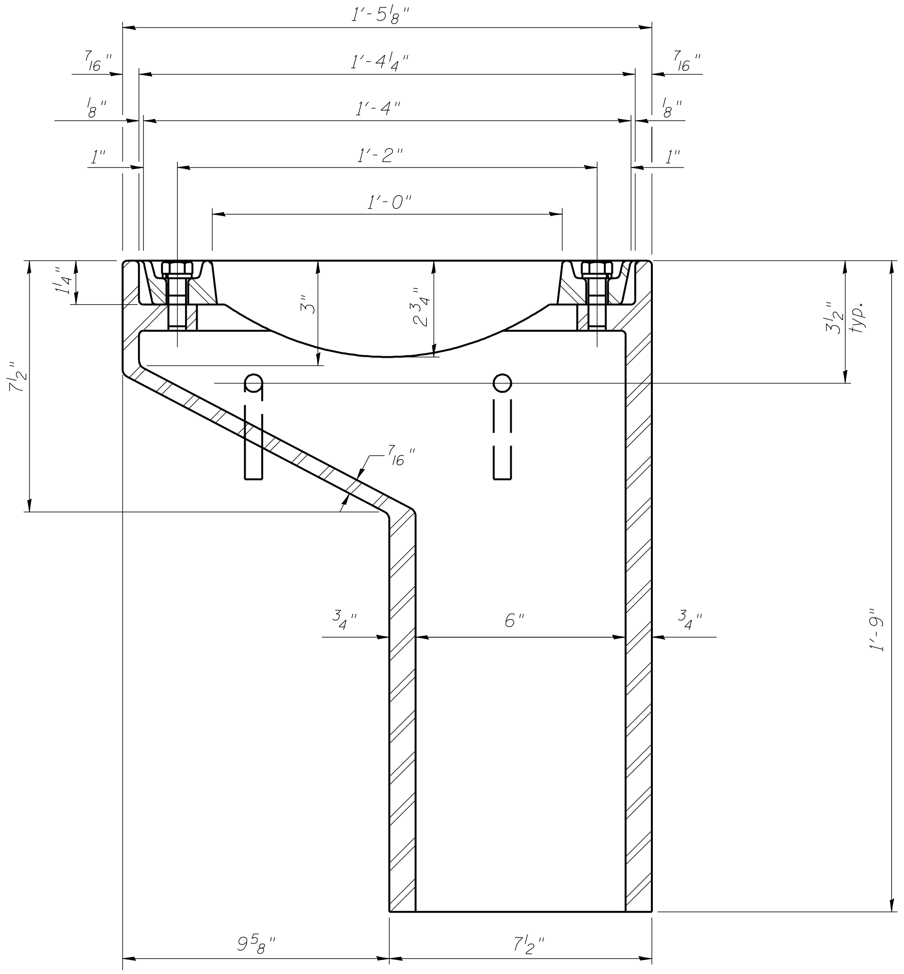
BOLT HOLE DETAIL



ANCHOR STUD DETAIL

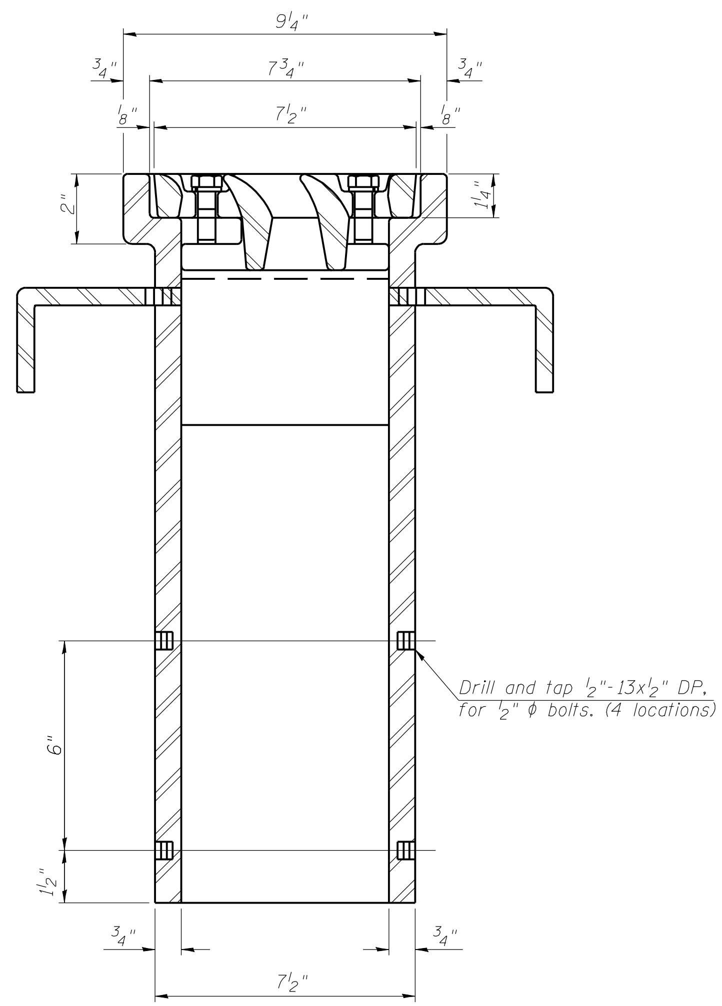


VANE GRATE DETAIL



SECTION A-A

See sheet 11 and 14 of 44 for scupper location relative to parapet.



SECTION B-B

Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

The grate, frame and downspout shall be galvanized according to AASHTO M 111 and ASTM A 385. Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	4

Corporate License Number 184-001-084

DRAINAGE SCUPPERS, DS-11
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

$FILE$ 12/16/2006

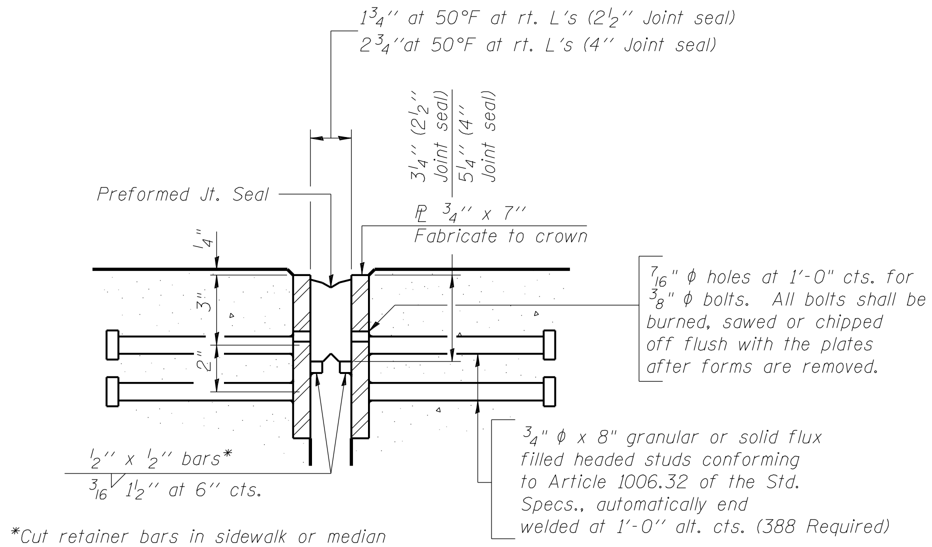
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	271
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 18

44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



*Cut retainer bars in sidewalk or median 6'' short of the sidewalk or median face.

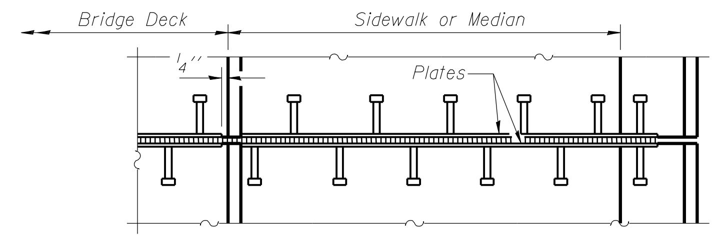
SECTION THRU EXPANSION JOINT

($2\frac{1}{2}$'' and 4'' joint seals)

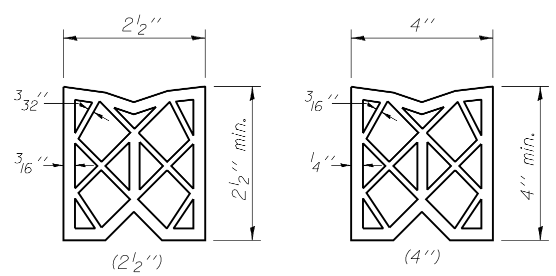
Bridge Joint System (Expansion)		
Design Movement	Required Preformed Joint Seal Size	Required Strip Seal Rated movement
1''	$2\frac{1}{2}$''	1''
$1\frac{5}{8}$''	4''	2''

GENERAL NOTES

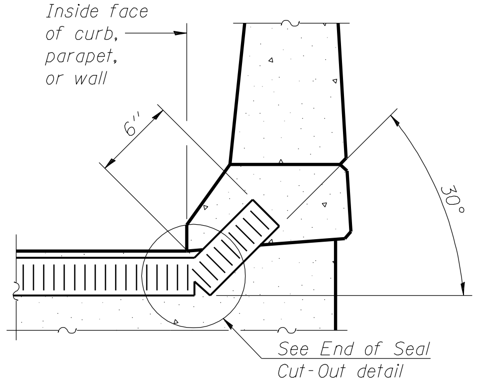
Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be $\frac{3}{16}$''. Seal space with silicone sealant suitable for structural steel.



PLAN AT SIDEWALK OR MEDIAN

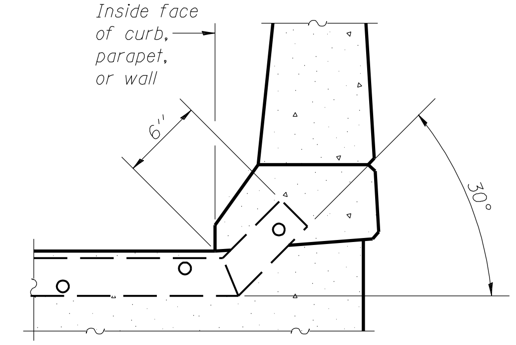


PREFORMED JOINT SEAL



AT CURB, PARAPET, OR WALL

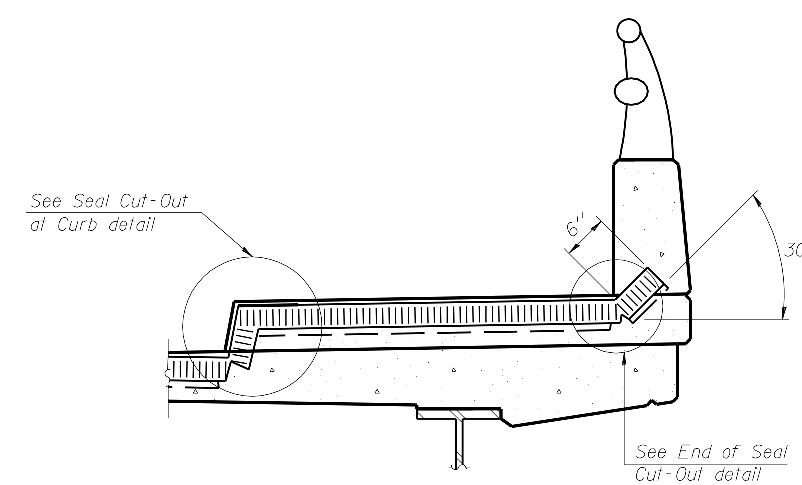
(Showing seal)



AT CURB, PARAPET, OR WALL

(Showing plate)

TYPICAL END TREATMENTS



AT SIDEWALK OR MEDIAN*

(Showing plate and seal)

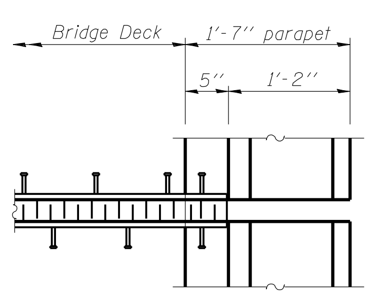
* Shorter plates with a single row of studs at 12" centers may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

BILL OF MATERIAL

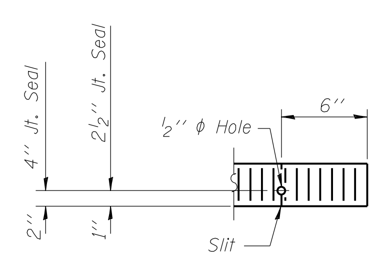
Item	Unit	Total
Bridge Joint System (Expansion) $1\frac{5}{8}$"	foot	187

(Sheet 1 of 2)

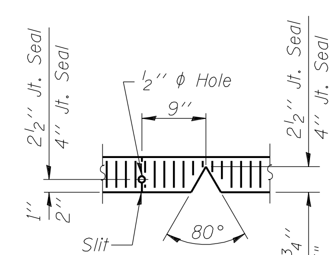
Corporate License Number 184-001-084



PLAN AT PARAPET



END OF SEAL CUT-OUT



SEAL CUT-OUT AT CURB

BRIDGE JOINT SYSTEM - EXPANSION (PREFORMED JOINT SEAL)

F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY, STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB: 96S2002B

DATE: 01/12/06

EJ-BJS 9-01-03

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	272
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 19
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No 72541

GENERAL NOTES

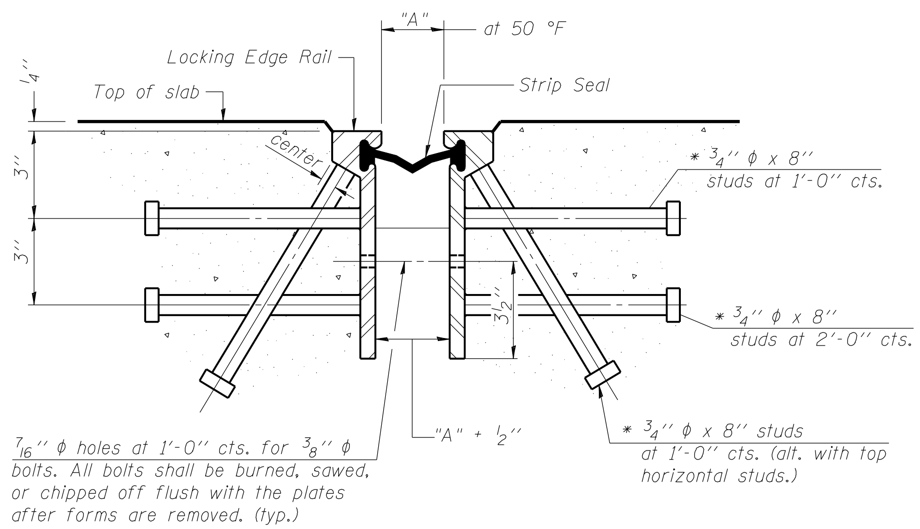
The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

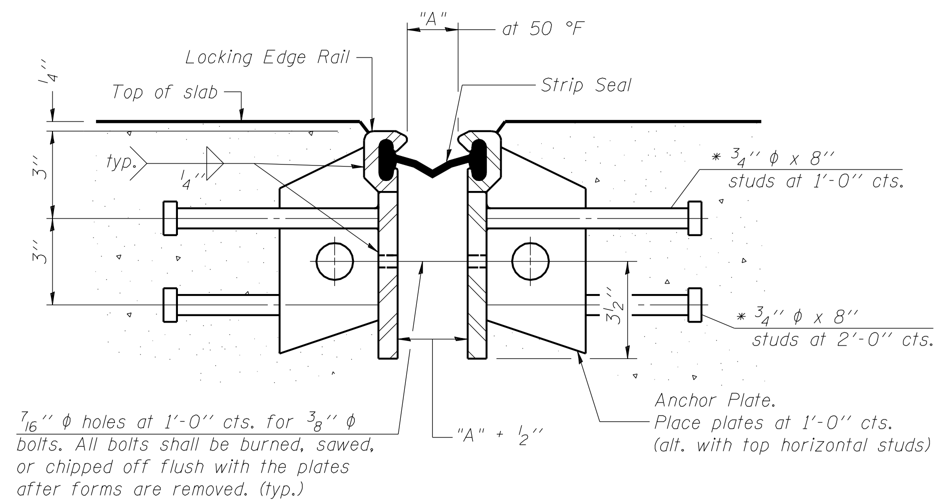
The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.



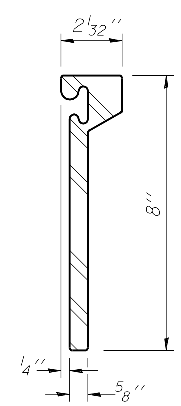
SECTION THRU ROLLED RAIL EXP. JOINT
(964 Studs Required)

Required Strip Seal rated movement	"A"
1"	1⅛"
2"	1¾"

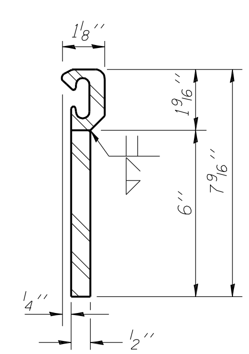
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



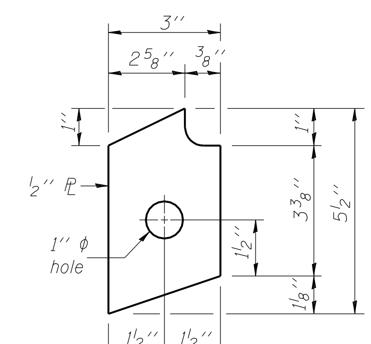
SECTION THRU WELDED RAIL EXP. JOINT
(596 Studs Required)
(368 Anchor Plates Required)



ROLLED (EXTRUDED) RAIL

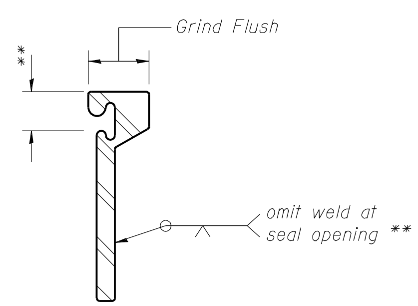


WELDED RAIL

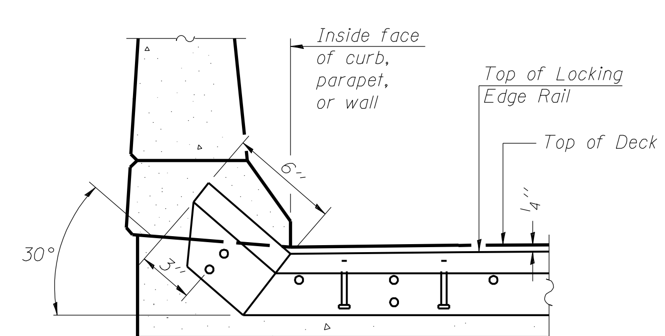


ANCHOR ℙ
(for welded rail)

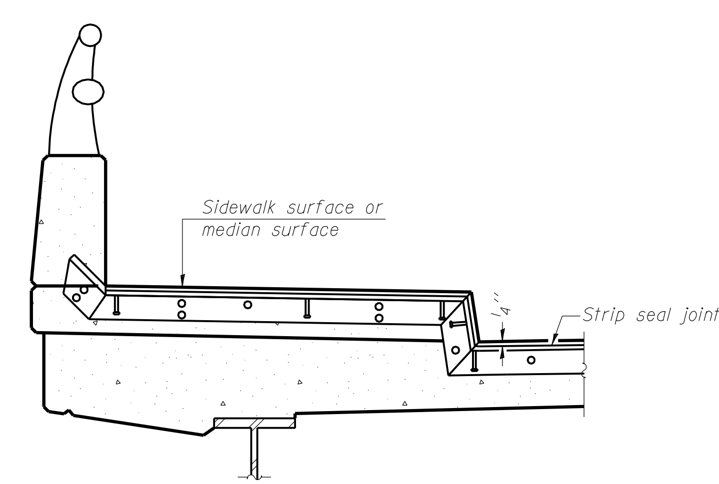
LOCKING EDGE RAILS



LOCKING EDGE RAIL SPLICE
The inside of the locking edge rail groove shall be free of weld residue.



AT CURB, PARAPET, OR WALL



AT SIDEWALK OR MEDIAN*

* Shorter plates with a single row of studs at 12" centers may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

(Sheet 2 of 2)

Corporate License Number 184-001-084

BRIDGE JOINT SYSTEM - EXPANSION
(ALTERNATE-STRIP SEAL)
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY, STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

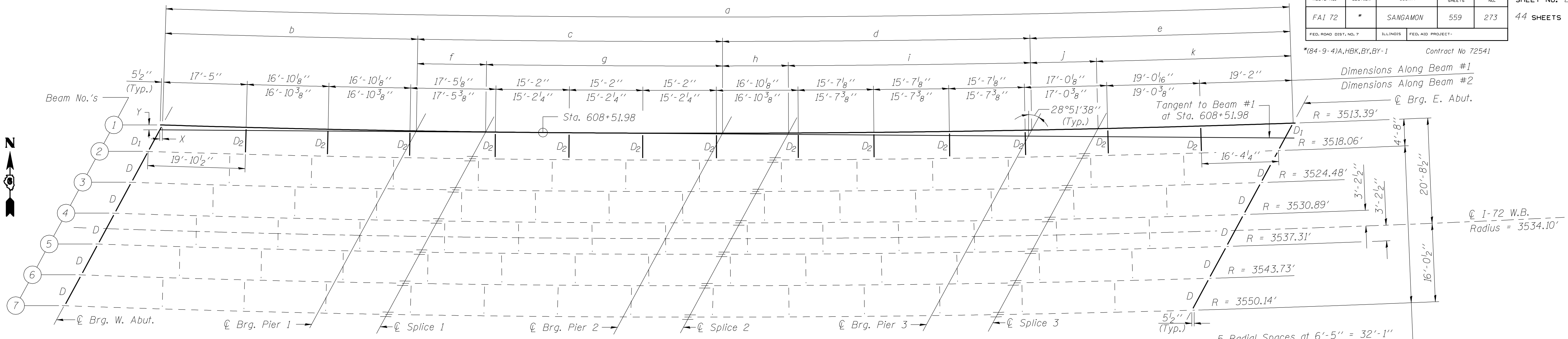
$FILE$ 12/16/2006

EJ-BJS 9-01-03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	273
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 20
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1
Contract No 72541



FRAMING PLAN WESTBOUND STRUCTURE

BEAM DIMENSIONS

(Measured Along Centerline of Beam)

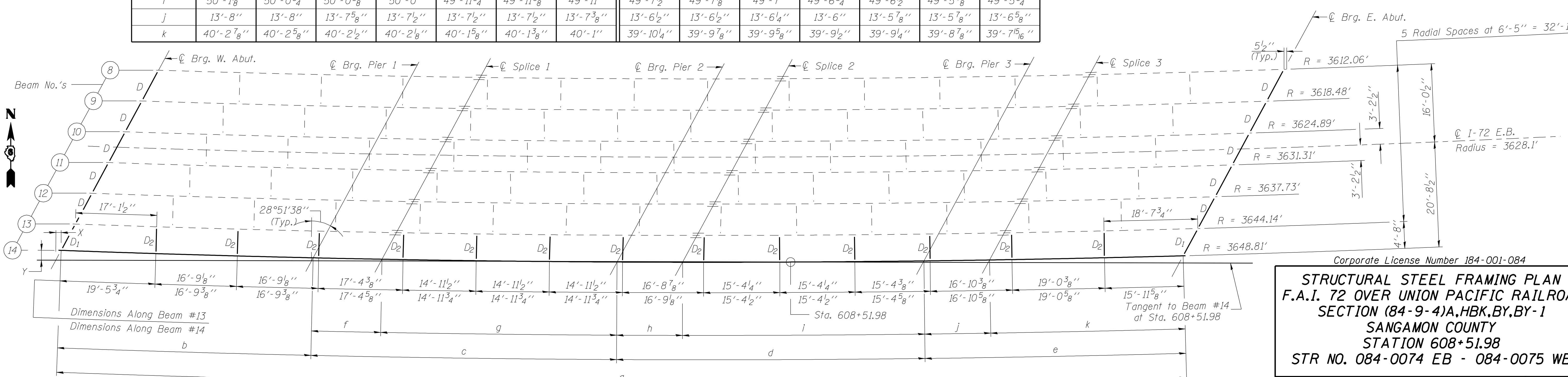
	WESTBOUND STRUCTURE							EASTBOUND STRUCTURE						
Line No.	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7	Beam 8	Beam 9	Beam 10	Beam 11	Beam 12	Beam 13	Beam 14
a	232'-10 1/16"	232'-8 7/8"	232'-7 1/4"	232'-5 5/8"	232'-4 1/8"	232'-2 5/8"	232'-1"	230'-10 1/4"	230'-8 7/8"	230'-7 1/4"	230'-5 7/8"	230'-4 5/8"	230'-2 7/8"	230'-2"
b	52'-4 7/16"	52'-4 1/8"	52'-3 7/8"	52'-3 5/8"	52'-3 1/2"	52'-3"	52'-2 3/4"	51'-11 5/8"	51'-11 1/2"	51'-11 1/8"	51'-10 3/4"	51'-10 5/8"	51'-10 1/4"	51'-10 1/16"
c	62'-11 1/2"	62'-11 1/4"	62'-10 3/4"	62'-10 1/4"	62'-9 3/4"	62'-9 3/8"	62'-9 1/8"	62'-5 3/8"	62'-5"	62'-4 1/2"	62'-4 3/8"	62'-3 7/8"	62'-3 1/2"	62'-3 1/4"
d	63'-7 1/4"	63'-6 7/8"	63'-6 1/2"	63'-6 1/8"	63'-5 3/4"	63'-5 3/8"	63'-4 3/4"	63'-0 1/2"	63'-0"	62'-11 3/4"	62'-11 1/4"	62'-11"	62'-10 3/8"	62'-10 1/8"
e	53'-10 7/8"	53'-10 5/8"	53'-10 1/8"	53'-9 5/8"	53'-9 1/8"	53'-8 7/8"	53'-8 3/8"	53'-4 3/4"	53'-4 3/8"	53'-3 7/8"	53'-3 1/2"	53'-3 1/8"	53'-2 3/4"	53'-2 9/16"
f	14'-1 1/2"	14'-1 1/2"	14'-1 3/8"	14'-1 1/4"	14'-1 1/8"	14'-1 1/8"	14'-1"	14'-0 3/8"	14'-0 1/4"	14'-0 1/8"	14'-0"	13'-11 7/8"	13'-11 7/8"	13'-11 3/4"
g	48'-10"	48'-9 3/4"	48'-9 3/8"	48'-9"	48'-8 5/8"	48'-8 1/4"	48'-8 1/8"	48'-5"	48'-4 3/4"	48'-4 3/8"	48'-4 3/8"	48'-4"	48'-3 5/8"	48'-3 1/2"
h	13'-6 1/8"	13'-6 1/8"	13'-6 1/8"	13'-6 1/8"	13'-6"	13'-6"	13'-5 3/4"	13'-5"	13'-4 7/8"	13'-4 3/4"	13'-4 1/2"	13'-4 1/2"	13'-4 1/2"	13'-4 3/8"
i	50'-1 1/8"	50'-0 3/4"	50'-0 3/8"	50'-0"	49'-11 3/4"	49'-11 3/8"	49'-11"	49'-7 1/2"	49'-7 1/8"	49'-7"	49'-6 3/4"	49'-6 1/2"	49'-5 7/8"	49'-5 3/4"
j	13'-8"	13'-8"	13'-7 5/8"	13'-7 1/2"	13'-7 1/2"	13'-7 1/2"	13'-7 3/8"	13'-6 1/2"	13'-6 1/2"	13'-6 1/4"	13'-6"	13'-5 7/8"	13'-5 7/8"	13'-6 5/8"
k	40'-2 7/8"	40'-2 5/8"	40'-2 1/2"	40'-2 1/8"	40'-1 5/8"	40'-1 3/8"	40'-1"	39'-10 1/4"	39'-9 7/8"	39'-9 5/8"	39'-9 1/2"	39'-9 1/4"	39'-8 7/8"	39'-7 15/16"

BEAM LAYOUT DIMENSIONS

(Measured from beam local tangent to Centerline of Beam)

Beam	℄ Brg W Abut		℄ pier #1		℄ splice #1		℄ pier #2	
	X	Y	X	Y	X	Y	X	Y
1	5 3/4"	10 7/16"	5/8"	1 1/8"	1/8"	1/4"	1 5/16"	2 3/8"
14	1'-8 13/16"	3' 1 3/4"	9"	1'-4 5/16"	6 5/8"	1'-0 1/16"	1 1/4"	2 5/16"

Beam	℄ splice #2		℄ pier #3		℄ splice #3		℄ Brg E Abut	
	X	Y	X	Y	X	Y	X	Y
1	2 7/16"	4 3/8"	9 9/16"	1'-5 3/8"	1'-0 5/16"	1'-10 3/8"	1'-10 1/2"	3'-4 7/8"
14	1/2"	15/16"	9/16"	1 1/16"	1 3/8"	2 1/2"	5 5/8"	10 3/16"



FRAMING PLAN EASTBOUND STRUCTURE

Corporate License Number 184-001-084

STRUCTURAL STEEL FRAMING PLAN
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

$FILE$
12/16/2006

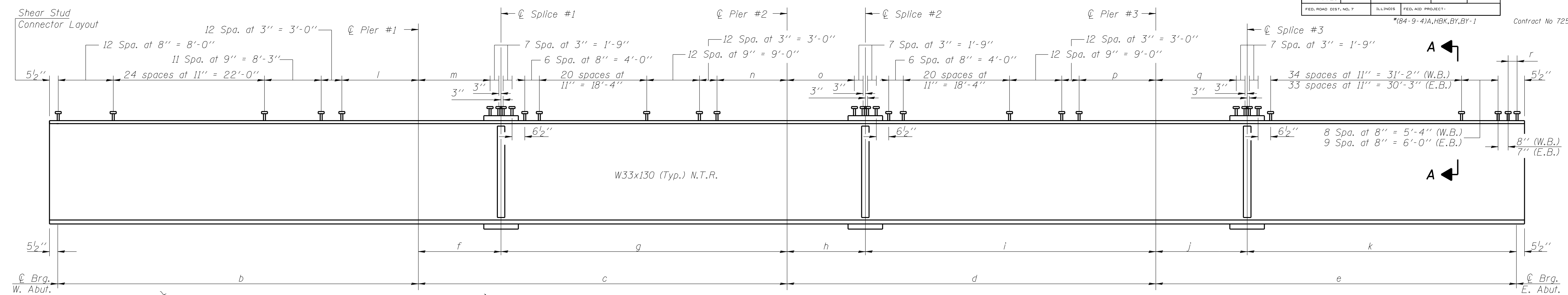
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72 FAU 8021	*	SANGAMON	559	274
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 21
44 SHEETS

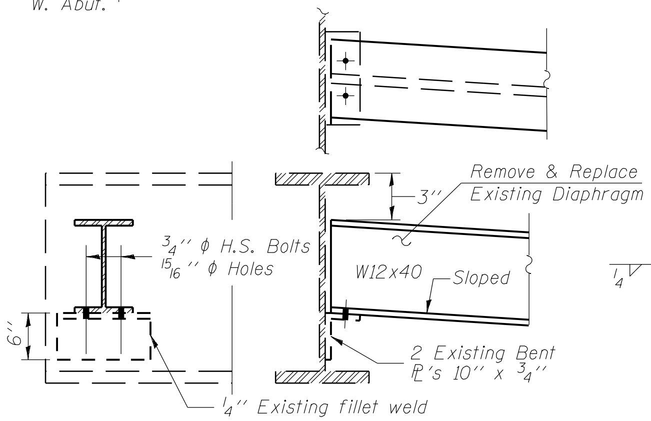
*(84-9-4)A,HBK,BY,BY-1

Contract No 72541



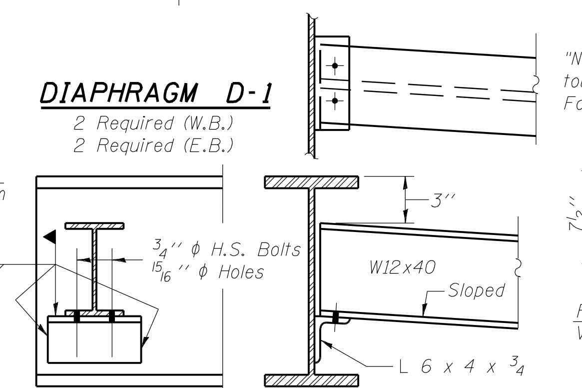
BEAM ELEVATION

"NTR" denotes members to which notch toughness requirements are applicable.
For dimensions b thru k see sheet 20 of 44.



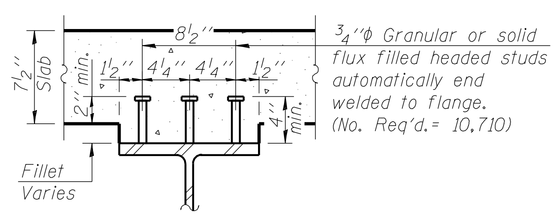
DIAPHRAGM D

10 Required (W.B.)
10 Required (E.B.)

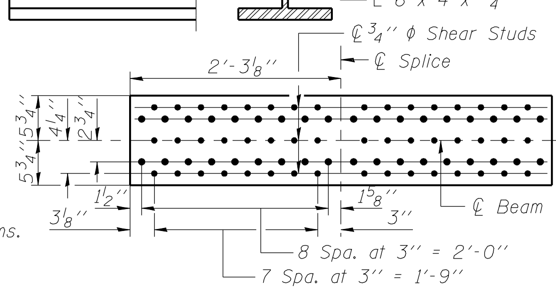


DIAPHRAGM D-1

2 Required (W.B.)
2 Required (E.B.)

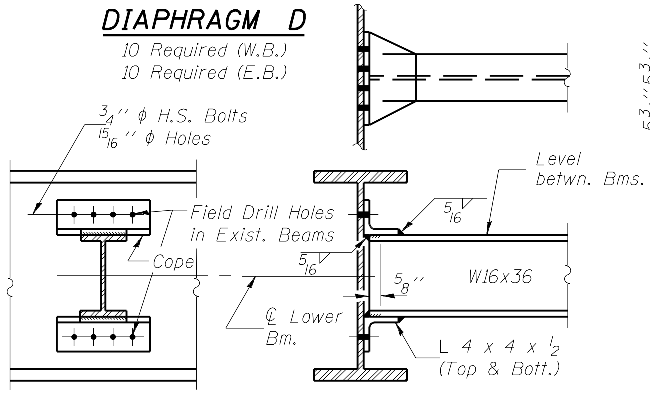


SECTION A-A



SHEAR STUD LAYOUT AT SPLICE

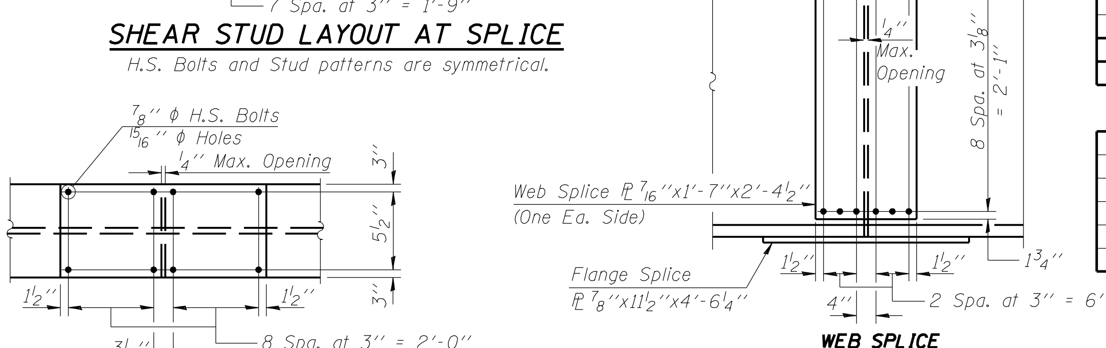
H.S. Bolts and Stud patterns are symmetrical.



DIAPHRAGM D-2

13 Required (W.B.)
13 Required (E.B.)

Note:
Two hardened washers shall be required over all oversize holes for diaphragms.



TOP & BOTTOM FLANGE SPLICE

WEB SPLICE

FIELD SPLICE DETAIL

H.S. Bolts shall conform to AASHTO M-164 Specifications (ASTM A325)

INTERIOR BEAM MOMENT TABLE		0.4 Sp. 1 or 0.6 Sp. 4	Pier #1 or #3	0.5 Sp. 2 or Sp. 3	Pier #2
Is	(in⁴)	6710	6710	6710	6710
Ic (n)	(in⁴)	21228	-	21228	-
Ic (3n)	(in⁴)	15074	-	15074	-
Ss	(in³)	406	406	406	406
Sc (n)	(in³)	665	-	665	-
Sc (3n)	(in³)	591	-	591	-
S_l	(in³)	18.9	18.9	18.9	18.9
DL	(k/ft.)	0.81	1.08	0.81	1.08
M_{DL}	('k)	168.2	369.0	134.9	354.8
s_{DL}	(k/ft.)	0.27	-	0.27	-
Ms_{DL}	('k)	58.5	-	47.6	-
M_{LL}	('k)	305.7	243.4	289.8	248.1
M (Imp)	('k)	76.4	48.7	72.5	49.6
$\frac{5}{3}[M_{LL}+M(Imp)]$	('k)	636.8	486.8	603.8	496.2
Ma	('k)	1122.6	1112.5	1022.2	1106.3
Mb_l	('k)	0.5	0.0	0.35	0.0
fs_{DL} non-comp	(k.s.i.)	5.0	10.9	4.0	10.5
fs_{DL} (comp)	(k.s.i.)	1.2	-	1.0	-
$fs\frac{5}{3}[M_{LL}+M(Imp)]$	(k.s.i.)	11.5	14.4	10.9	14.7
f_l	(k.s.i.)	0.3	0.0	0.2	0.0
fs (Overload)	(k.s.i.)	17.7	25.3	15.9	25.2
fs (Total)	(k.s.i.)	23.0	32.9	20.7	32.8
Fcr (Overload)	(k.s.i.)	34.2	34.2	34.2	34.2
VR	(k)	56.2	-	58.4	-
Fcr	(k.s.i.)	35.9	36.0	35.9	36.0

INTERIOR BEAM REACTION TABLE		E.&W. Abut.	Piers #1 & #3	Pier #2
R_{DL}	(k)	22.5	70.6	68.3
R_{LL}	(k)	41.5	49.4	49.2
Imp.	(k)	12.4	14.8	14.7
R (Total)	(k)	76.4	134.8	132.2

Fcr Critical average flange stress (smaller of Fcr1 or Fcr2 for partially braced flanges and Fy for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4).

Fcr (Overload) Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5.

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

$Ic_{(n)}$ and $Sc_{(n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

$Ic_{(3n)}$ and $Sc_{(3n)}$ 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.

M_{DL} Moment due to dead loads on non-composite section.

Ms_{DL} Moment due to dead loads on composite section.

M_{LL} Moment due to live load on non-composite or composite section.

M (Imp) Moment due to live load impact on non-composite or composite section.

Ma (Applied Moment)=$1.3[M_{DL} + Ms_{DL} + \frac{5}{3}(M_{LL} + M(Imp))]$.

fs (Overload) is the sum of the stresses due to $M_{DL} + Ms_{DL} + \frac{5}{3}(M_{LL} + M(Imp))$.

fs (Total) is the sum of the stresses due to $1.3[M_{DL} + Ms_{DL} + \frac{5}{3}(M_{LL} + M(Imp))]$.

Sb_l is the section modulus for one flange for lateral flange bending.

Mb_l is the lateral bending moment for flange (factored).

f_l is the calculated normal stress at the edge of flange due to lateral bending (factored).

M_{LL} and R_{LL} include the effects of centrifugal force and superelevation.

*TOP OF BEAM ELEVATIONS

Location / Beam	Beam #1	Beam #14
℄ Brg. W. Abut.	631.16	632.81
℄ Pier #1	631.25	632.95
℄ Splice #1	631.27	632.99
℄ Pier #2	631.31	633.09
℄ Splice #2	631.33	633.12
℄ Pier #3	631.30	633.15
℄ Splice #3	631.29	633.16
℄ Brg. E. Abut.	631.28	633.20

* For Fabrication only.

BEAM DIMENSIONS

(Measured Along Centerline of Beam)

Line No.	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7	Beam 8	Beam 9	Beam 10	Beam 11	Beam 12	Beam 13	Beam 14
l	11′-1 7/16″	11′-1 1/8″	11′-0 7/8″	11′-0 5/8″	11′-0 1/2″	11′-0″	10′-11 3/4″	10′-8 5/8″	10′-8 1/2″	10′-8 1/8″	10′-7 3/4″	10′-7 5/8″	10′-7 1/4″	10′-7 1/16″
m	12′-1 1/2″	12′-1 1/2″	12′-1 3/8″	12′-1 1/4″	12′-1 1/8″	12′-1 1/8″	12′-1″	12′-0 3/8″	12′-0 1/4″	12′-0 1/8″	12′-0″	11′-11 7/8″	11′-11 7/8″	11′-11 3/4″
n	11′-11 1/2″	11′-11 1/4″	11′-10 7/8″	11′-10 1/2″	11′-10 1/8″	11′-9 3/4″	11′-9 5/8″	11′-6 1/2″	11′-6 1/4″	11′-5 7/8″	11′-5 7/8″	11′-5 1/2″	11′-5 1/8″	11′-5″
o	11′-6 1/8″	11′-6 1/8″	11′-6 1/8″	11′-6 1/8″	11′-6″	11′-6″	11′-5 3/4″	11′-5″	11′-4 7/8″	11′-4 3/4″	11′-4 1/2″	11′-4 1/2″	11′-4 1/2″	11′-4 3/8″
p	13′-2 5/8″	13′-2 1/4″	13′-1 7/8″	13′-1 1/2″	13′-1 1/4″	13′-0 7/8″	13′-0 1/2″	12′-9″	12′-8 5/8″	12′-8 1/2″	12′-8 1/4″	12′-8″	12′-7 3/8″	12′-7 1/4″
q	11′-8″	11′-8″	11′-7 5/8″	11′-7 1/2″	11′-7 1/2″	11′-7 1/2″	11′-7 3/8″	11′-6 1/2″	11′-6 1/2″	11′-6 1/4″	11′-6″	11′-5 7/8″	11′-5 7/8″	11′-6 5/8″
r	6 3/8″	6 1/8″	6″	5 5/8″	5 1/8″	4 7/8″	4 1/2″	5 3/4″	5 3/8″	5 1/8″	5″	4 3/4″	4 3/8″	3 7/16″

Corporate License Number 184-001-084

STRUCTURAL STEEL DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB: 96S2002B
DATE: 01/12/06

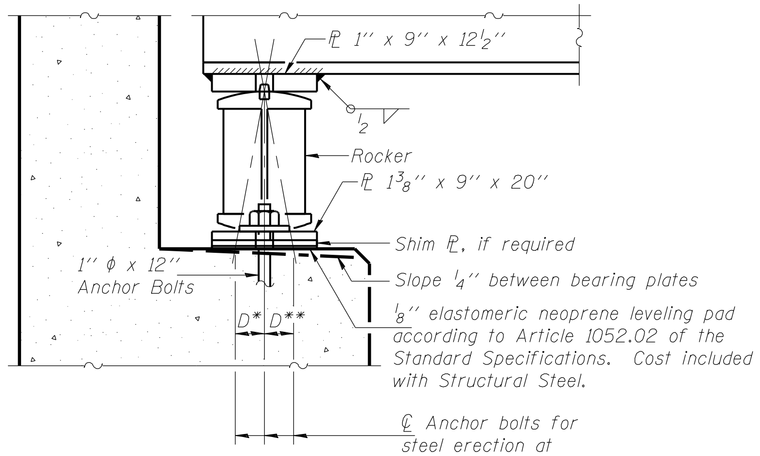
$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

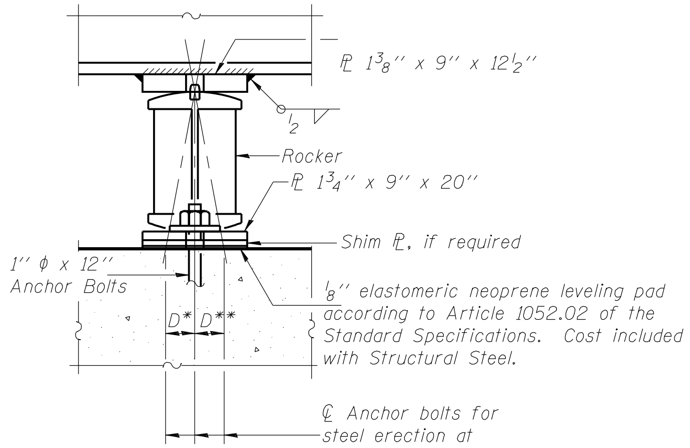
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	275
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 22
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No 72541



ELEVATION



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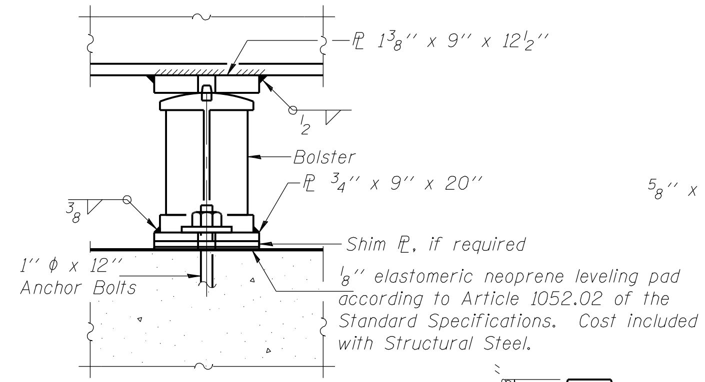

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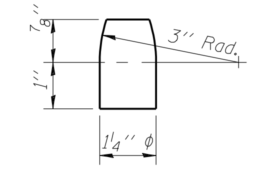
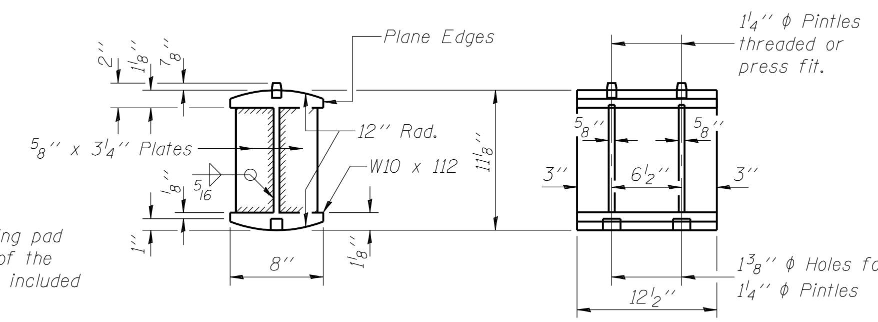
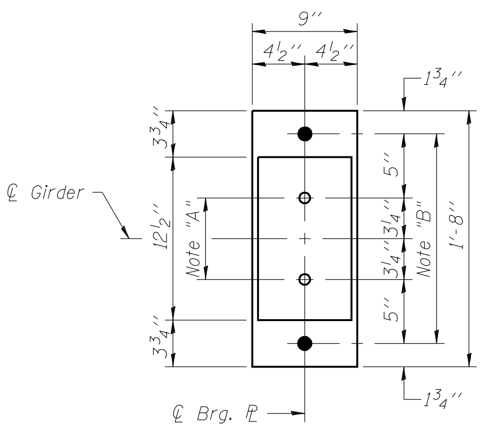


PINTLE

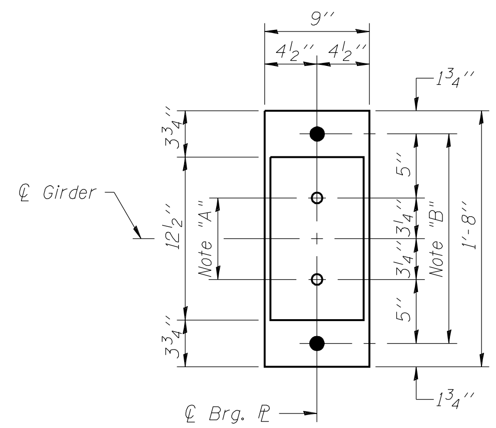


ROCKER



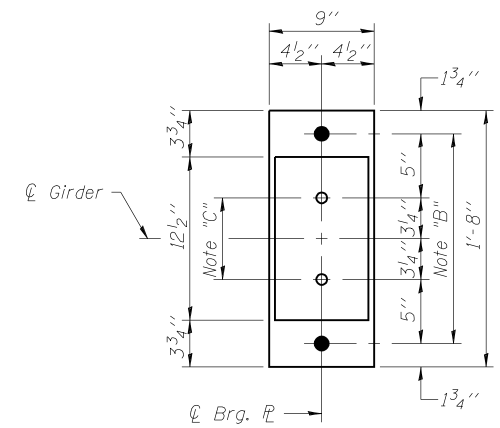
PLAN
AT ABUTMENT

Note "A"
1 3/8" φ Holes-1" deep in top PL for 1 1/4" φ Pintles. Thread or press fit pintles in bottom PL.



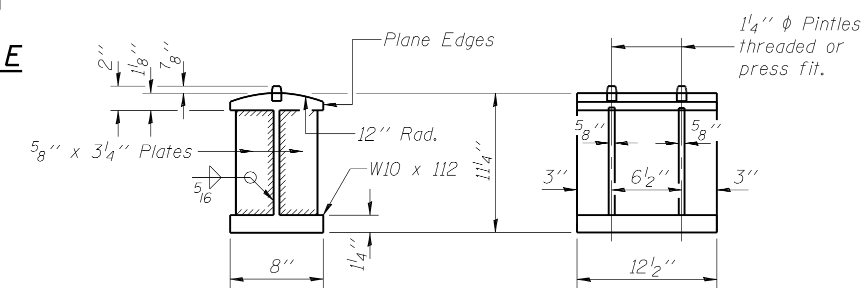
PLAN
AT PIERS #1 & #3

Note "B"
1 1/2" φ Holes for 1" φ Anchor Bolts-5/16" x 2 1/2" x 2 1/2" PL washer under nut.



PLAN
AT PIER #2

Note "C"
1 3/8" φ Holes-1" deep in top PL only for 1 1/4"φ Pintles.



BOLSTER

BEARING ASSEMBLY DETAILS
(Beams #1 & #14 Only)

NOTES FOR SETTING OF ANCHOR BOLTS
AT EXPANSION BEARINGS

a.) D* (Side of brg. away from fixed brg.)
D* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 50° F.
D** (Side of brg. toward fixed brg.)
D** = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 50° F.

b.) After girders have been erected and dimensions D* & D** determined, holes shall be drilled and anchor bolts shall be installed as shown on Sheets 25, 28, 31, 34, 37 & 38 of 44. All fixed anchor bolts may be built into the masonry.

Note:
Existing Bearing at piers #1, #2 & #3 for beams, 2, 6, 7, 8, 9 & 13 shall be removed and reinstalled for the pier cap removal and replacement. Cost to be included with Temporary Shoring and Cribbing.

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

BEARING DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

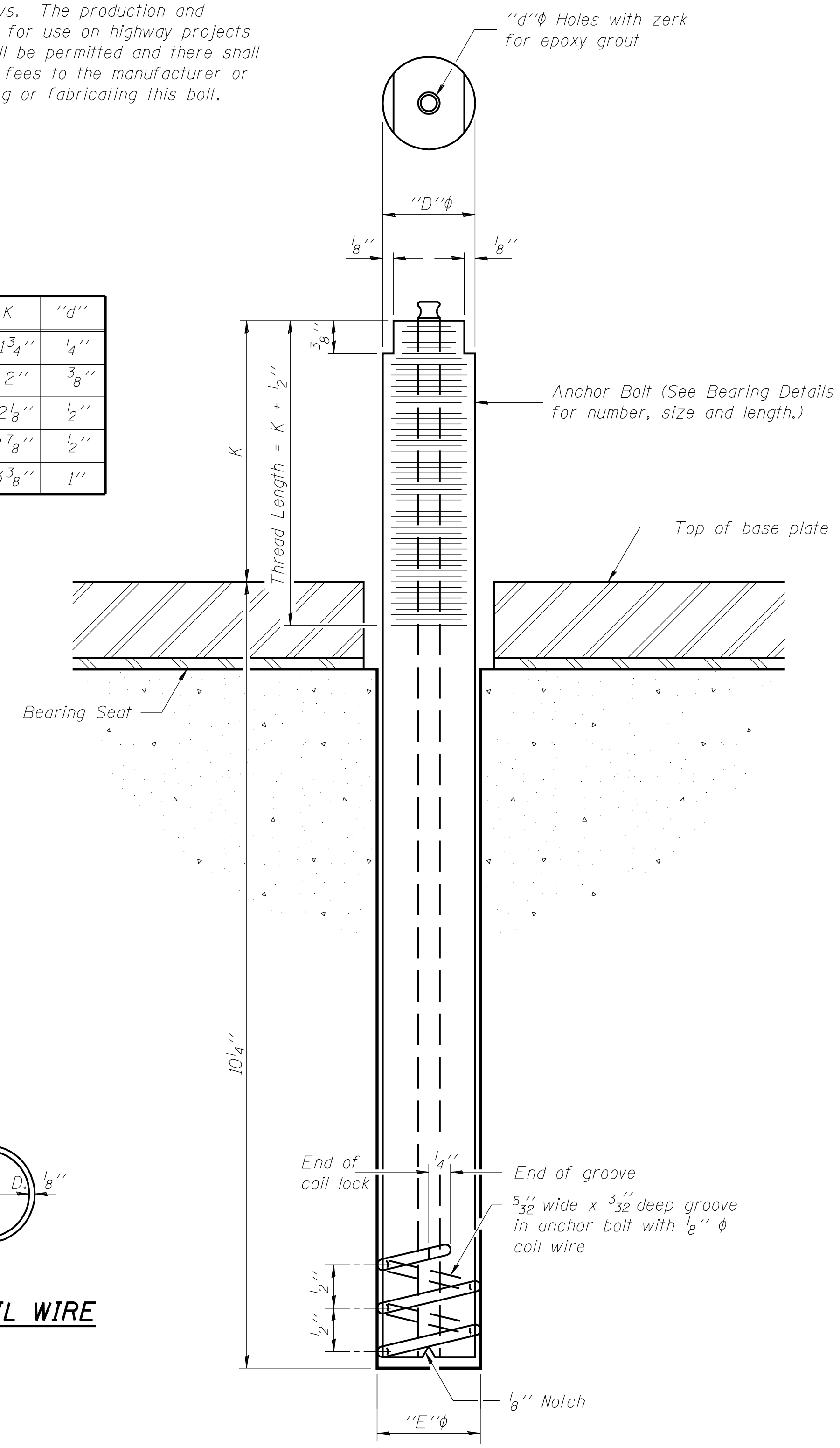
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	276
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 23
44 SHEETS

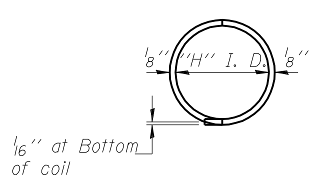
*(84-9-4)A,HBK,BY,BY-1   Contract No 72541

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	$1\frac{1}{8}$"	$\frac{13}{16}$"	$1\frac{3}{4}$"	$\frac{1}{4}$"
$1\frac{1}{4}$"	$1\frac{3}{8}$"	$1\frac{1}{16}$"	2"	$\frac{3}{8}$"
$1\frac{1}{2}$"	$1\frac{5}{8}$"	$1\frac{5}{16}$"	$2\frac{1}{8}$"	$\frac{1}{2}$"
2"	$2\frac{1}{8}$"	$1\frac{13}{16}$"	$2\frac{7}{8}$"	$\frac{1}{2}$"
$2\frac{1}{2}$"	$2\frac{5}{8}$"	$2\frac{5}{16}$"	$3\frac{3}{8}$"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT



PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.
The coil wire shall be made of any suitable soft steel wire.
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.
The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Piers	A307
Abutments	A307

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.
The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel Bridge No. 1 or Bridge No. 2.

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

ANCHOR BOLT ASSEMBLY DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

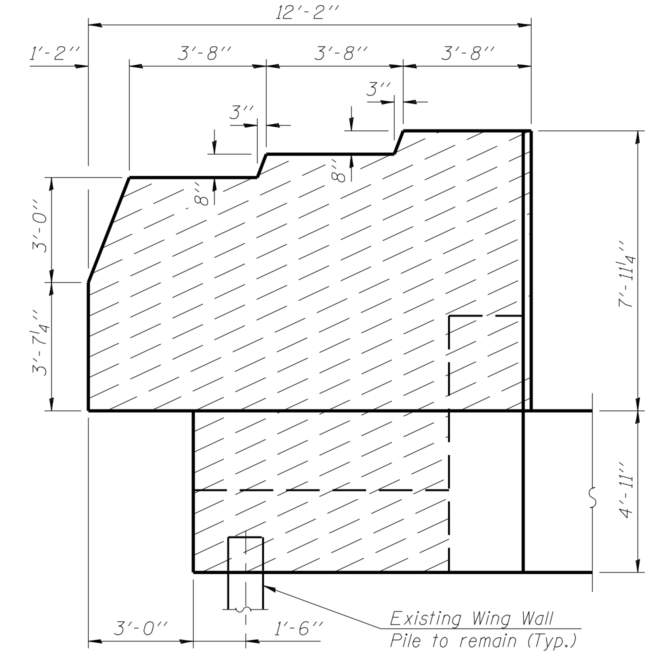
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	277
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 24
44 SHEETS

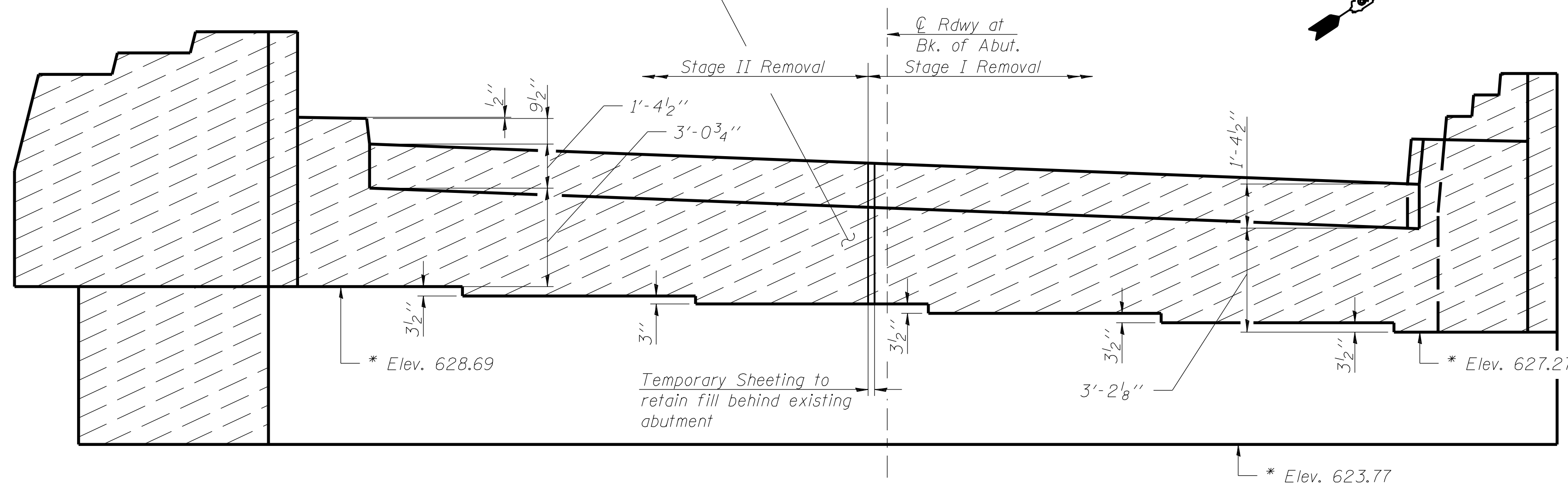
*(84-9-4)A,HBK,BY,BY-1   Contract No 72541

* Elevations given are from existing plans, and have been adjusted by deducting 0.69'. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.

Salvage existing vertical reinforcement bars. Cut as required to provide minimum 2'-2'' lap with new backwall vertical reinforcement bars. Bars damaged or not salvaged shall be replaced in kind with drilled and epoxy grouted bars as directed by the Engineer. No additional compensation will be allowed for grouted bars.

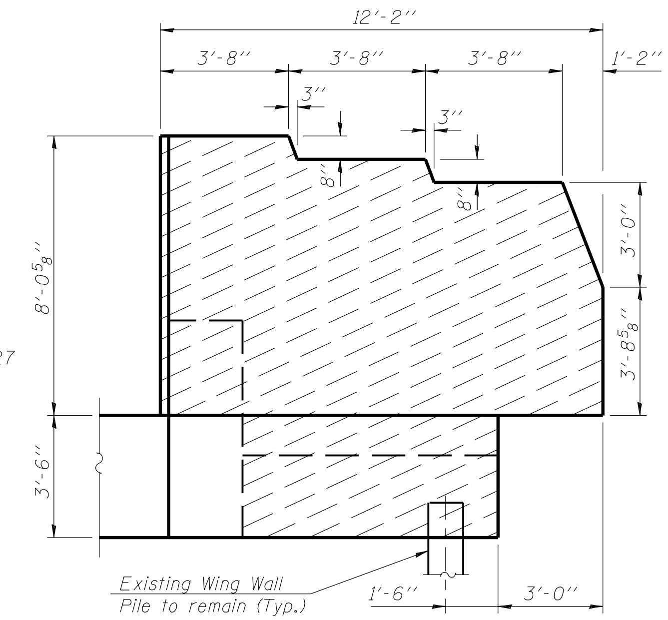


EXISTING SOUTH WING WALL ELEVATION

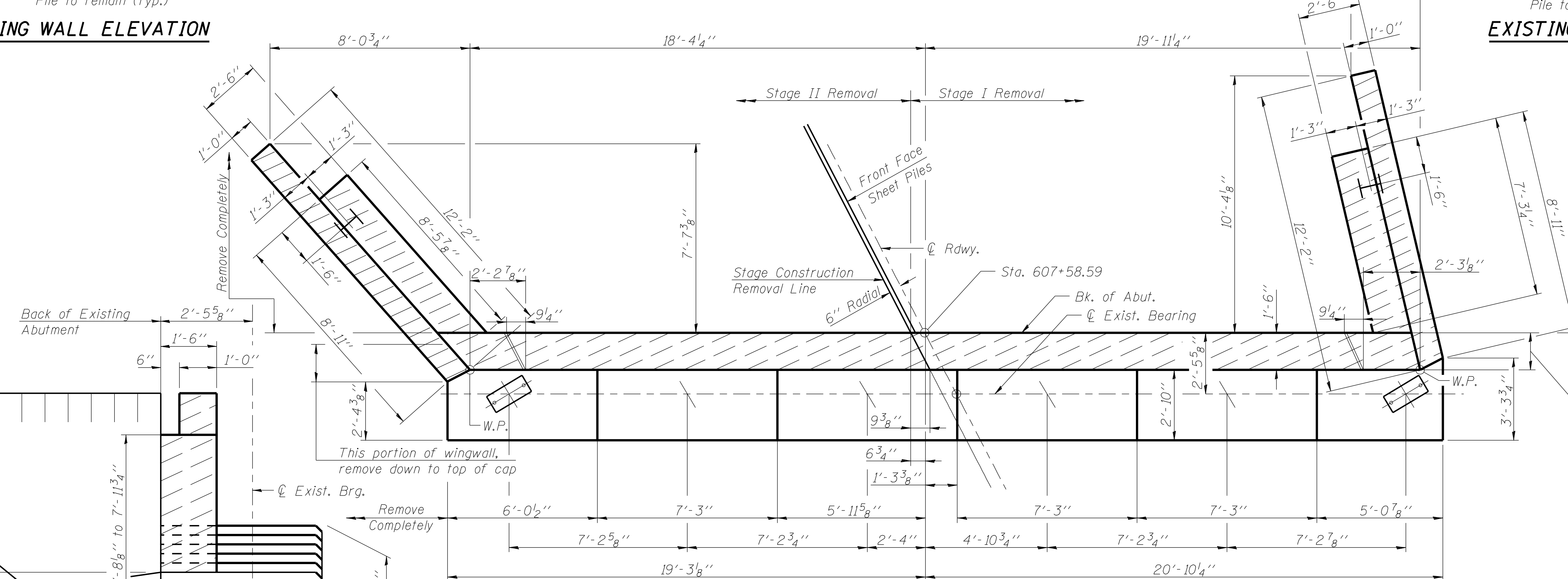


ELEVATION

(Showing Existing Abutment with Concrete Removal Limits)

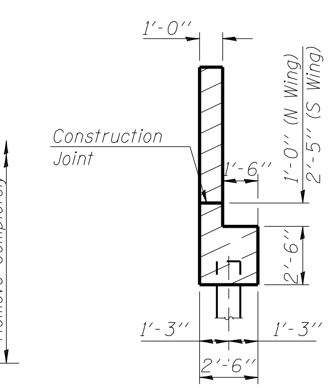


EXISTING NORTH WING WALL ELEVATION

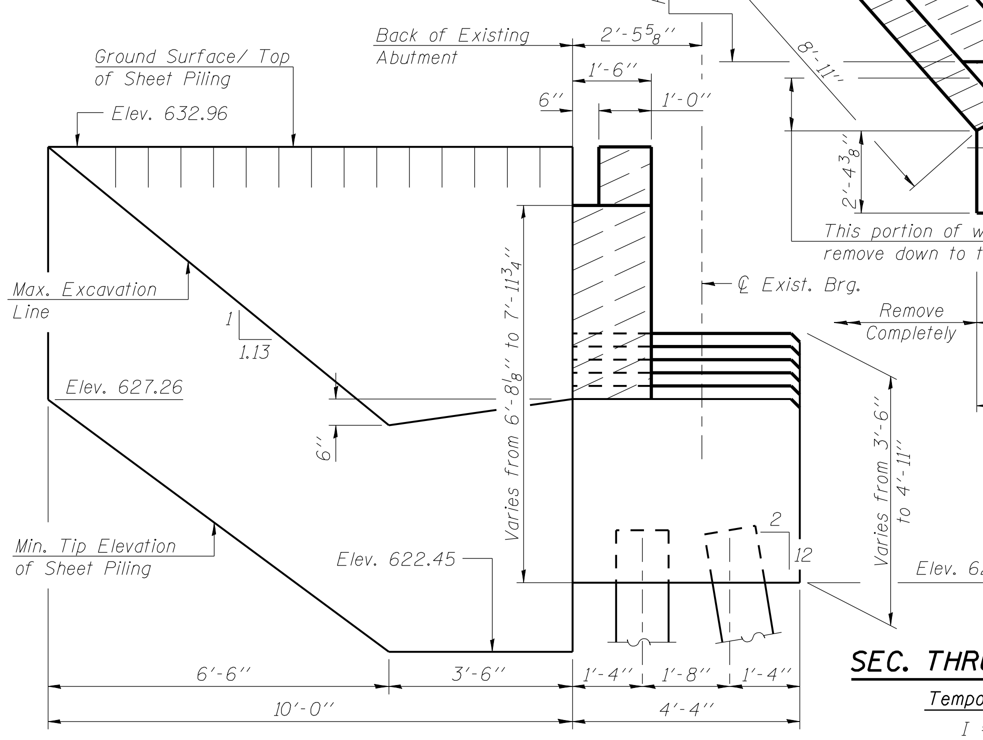


PLAN

(Showing Existing Abutment with Concrete Removal Limits)



SEC. THRU EXISTING WINGWALL



SEC. THRU EXISTING ABUT.

Temporary Sheet Piling

$I = 3.2\ in^4/ft.$

$S = 2.0\ in^3/ft.$

Note: Hatched areas indicates "Concrete Removal".

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	19.9
Temporary Sheet Piling	Sq. Ft.	90

Corporate License Number 184-001-084

W.B.-WEST ABUT. CONCRETE REMOVAL
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

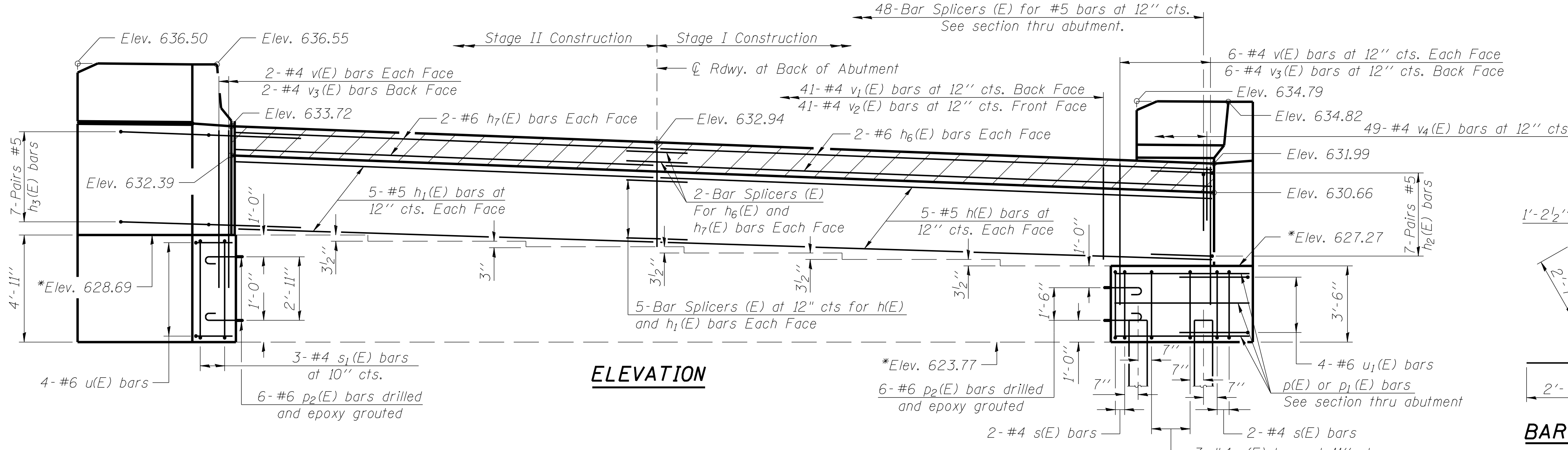
HANSON

JOB: 96S2002B

DATE: 01/12/06

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

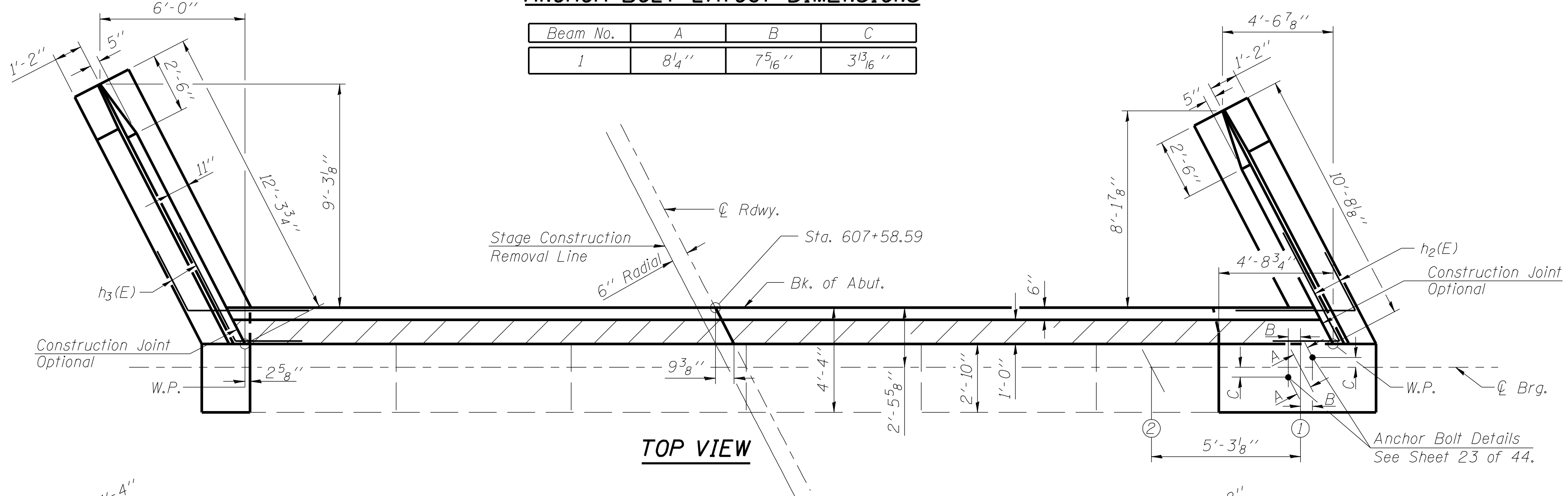
$FILE$ 12/16/2006



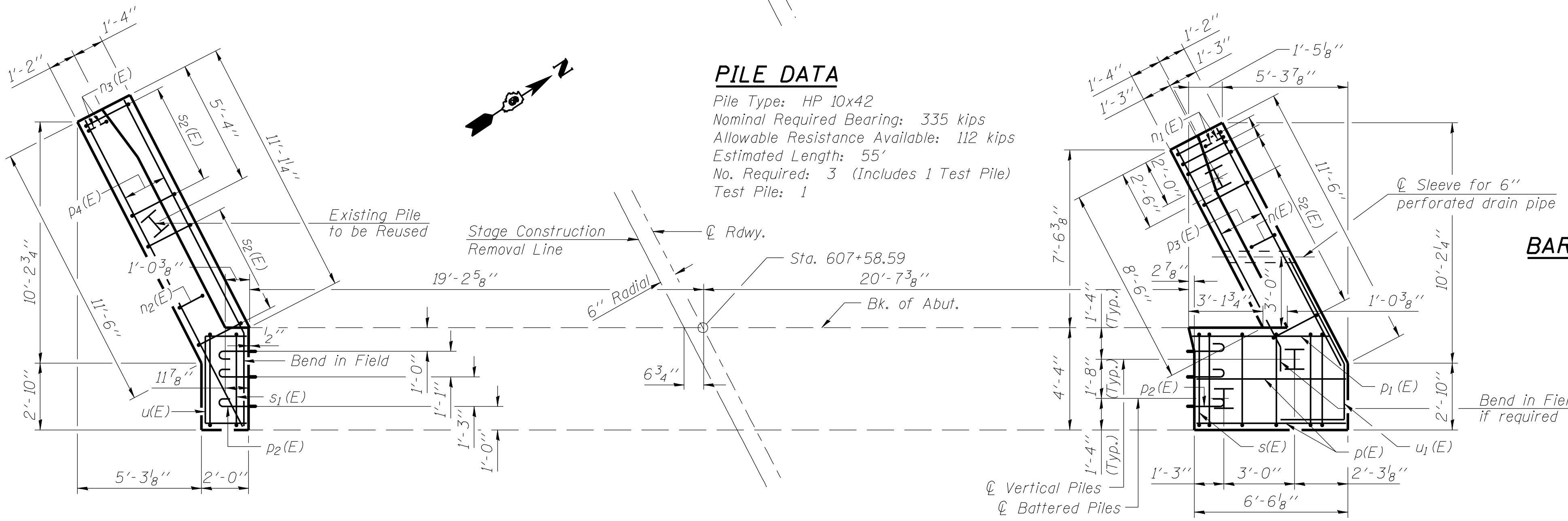
ELEVATION

ANCHOR BOLT LAYOUT DIMENSIONS

Beam No.	A	B	C
1	8¼''	7 5/16''	3 13/16''



TOP VIEW

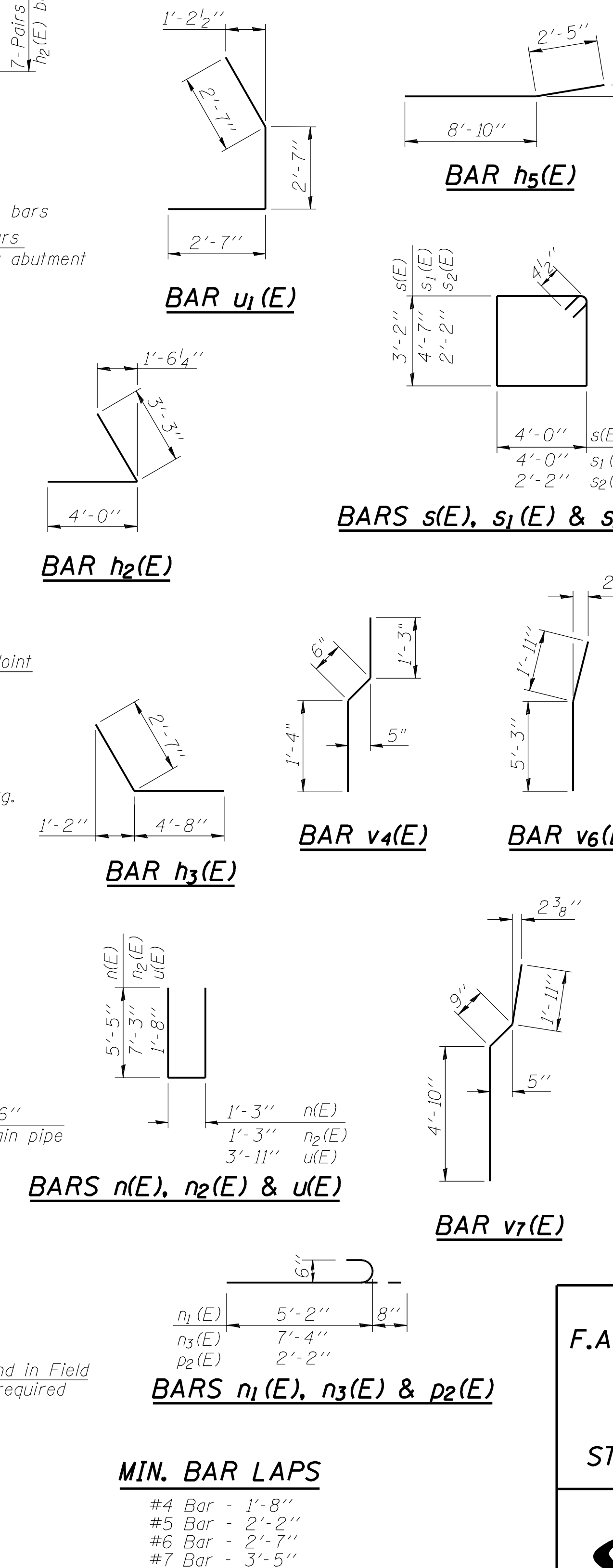


PLAN-PILE CAP

PILE DATA

Pile Type: HP 10x42
Nominal Required Bearing: 335 kips
Allowable Resistance Available: 112 kips
Estimated Length: 55'
No. Required: 3 (Includes 1 Test Pile)
Test Pile: 1

* Elevations given are from existing plans, and have been adjusted by deducting 0.69'. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.



BAR u_1(E) — BAR h_5(E) — BARS s(E), s_1(E) & s_2(E) — BAR h_2(E) — BAR v_4(E) — BAR v_6(E) — BAR h_3(E) — BARS n(E), n_2(E) & u(E) — BAR v_7(E) — BARS n_1(E), n_3(E) & p_2(E)

MIN. BAR LAPS

#4 Bar - 1'-8''
#5 Bar - 2'-2''
#6 Bar - 2'-7''
#7 Bar - 3'-5''

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	10	#5	24'-6''	
h_1(E)	10	#5	19'-10''	
h_2(E)	14	#5	7'-3''	
h_3(E)	14	#5	7'-3''	
h_4(E)	27	#4	11'-3''	
h_5(E)	19	#4	11'-3''	
h_6(E)	4	#6	24'-6''	
h_7(E)	4	#6	19'-10''	
n(E)	10	#6	12'-1''	
n_1(E)	6	#6	5'-10''	
n_2(E)	10	#6	15'-9''	
n_3(E)	6	#6	8'-0''	
p(E)	5	#7	6'-2''	
p_1(E)	3	#7	5'-8''	
p_2(E)	12	#6	2'-10''	
p_3(E)	6	#7	11'-6''	
p_4(E)	6	#7	14'-6''	
s(E)	7	#4	15'-1''	
s_1(E)	3	#4	17'-11''	
s_2(E)	24	#4	9'-5''	
u(E)	4	#6	7'-3''	
u_1(E)	4	#6	7'-9''	
v(E)	16	#4	6'-0''	
v_1(E)	41	#4	3'-7''	
v_2(E)	41	#4	3'-2''	
v_3(E)	8	#4	3'-5''	
v_4(E)	49	#4	3'-1''	
v_5(E)	24	#6	7'-2''	
v_6(E)	6	#6	7'-2''	
v_7(E)	20	#6	7'-6''	
Structure Excavation			Cu. Yd.	91
Concrete Structures			Cu. Yd.	29.8
Reinforcement Bars Epoxy Coated			Pound	3560
Furnishing Steel Piles HP10x42			Lin. Ft.	110
Driving Piles			Lin. Ft.	110
Test Piles Steel HP10x42			Each	1

Reinforcement Bars designated (E) shall be Epoxy Coated.
For details of Bar Splicers, see sheet 40 of 44.
Bars epoxy grouted shall have an embedment sufficient to obtain 1.25 x the yield strength of the reinforcing bar.
Drill holes for epoxy grouted bars to miss existing reinforcement.

Corporate License Number 184-001-084

WESTBOUND-WEST ABUTMENT
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB: 96S2002B
DATE: 01/12/06

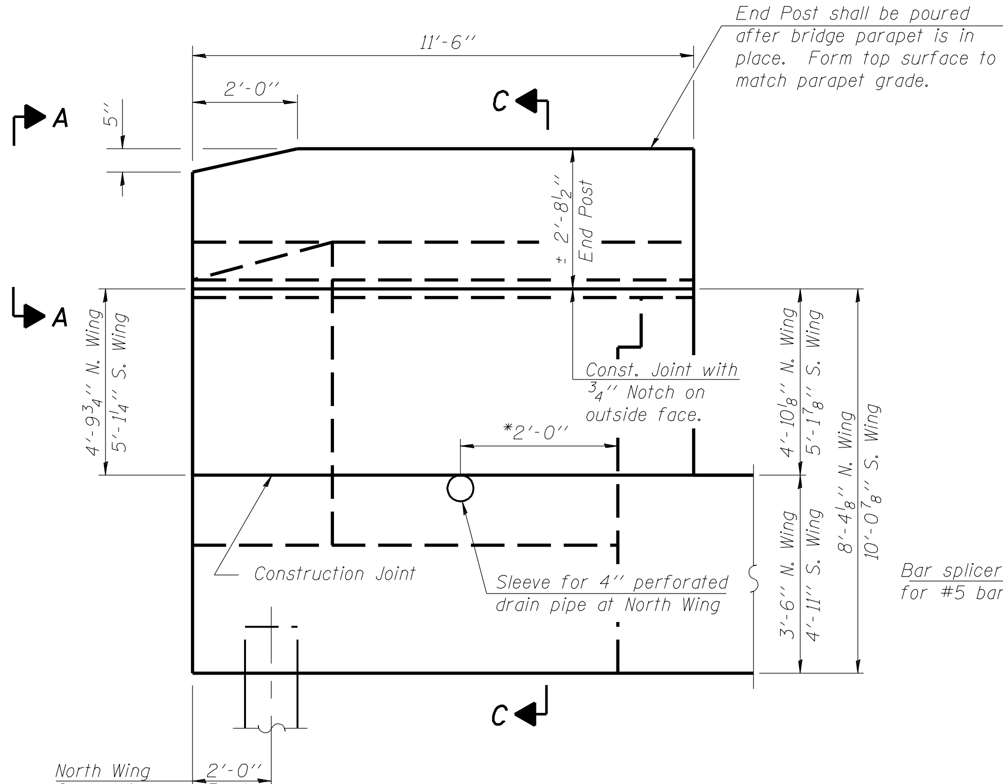
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	279
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 26
44 SHEETS

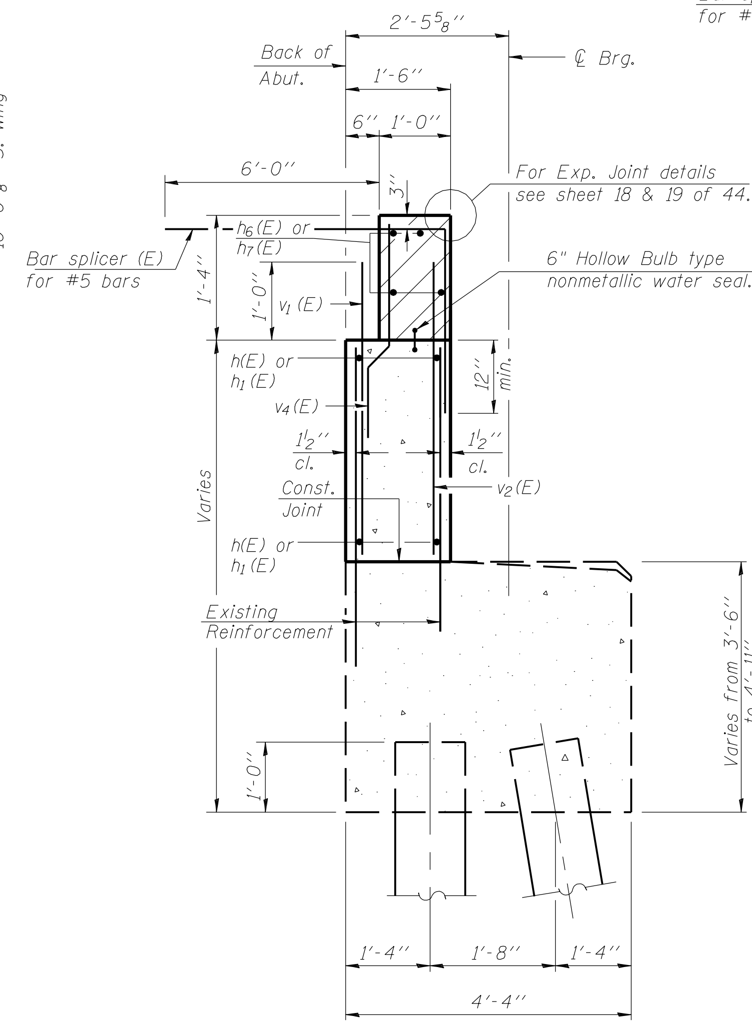
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



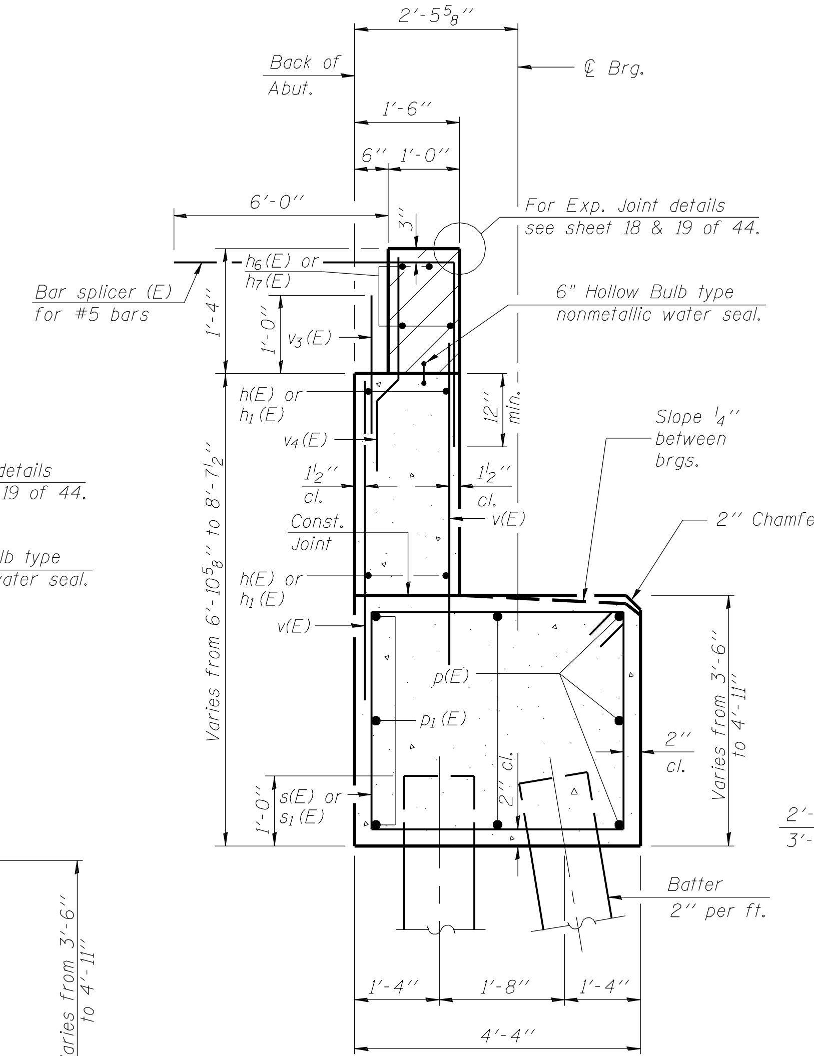
WING WALL ELEVATION

Showing Dimensions

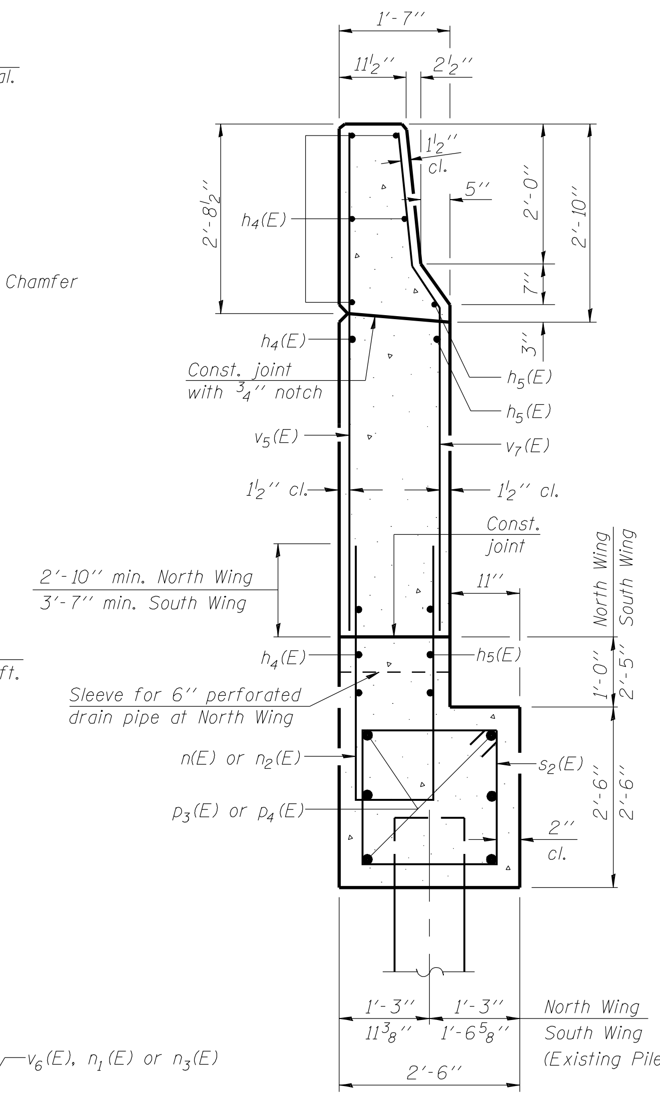
*Dimension perpendicular to Back of Abutment



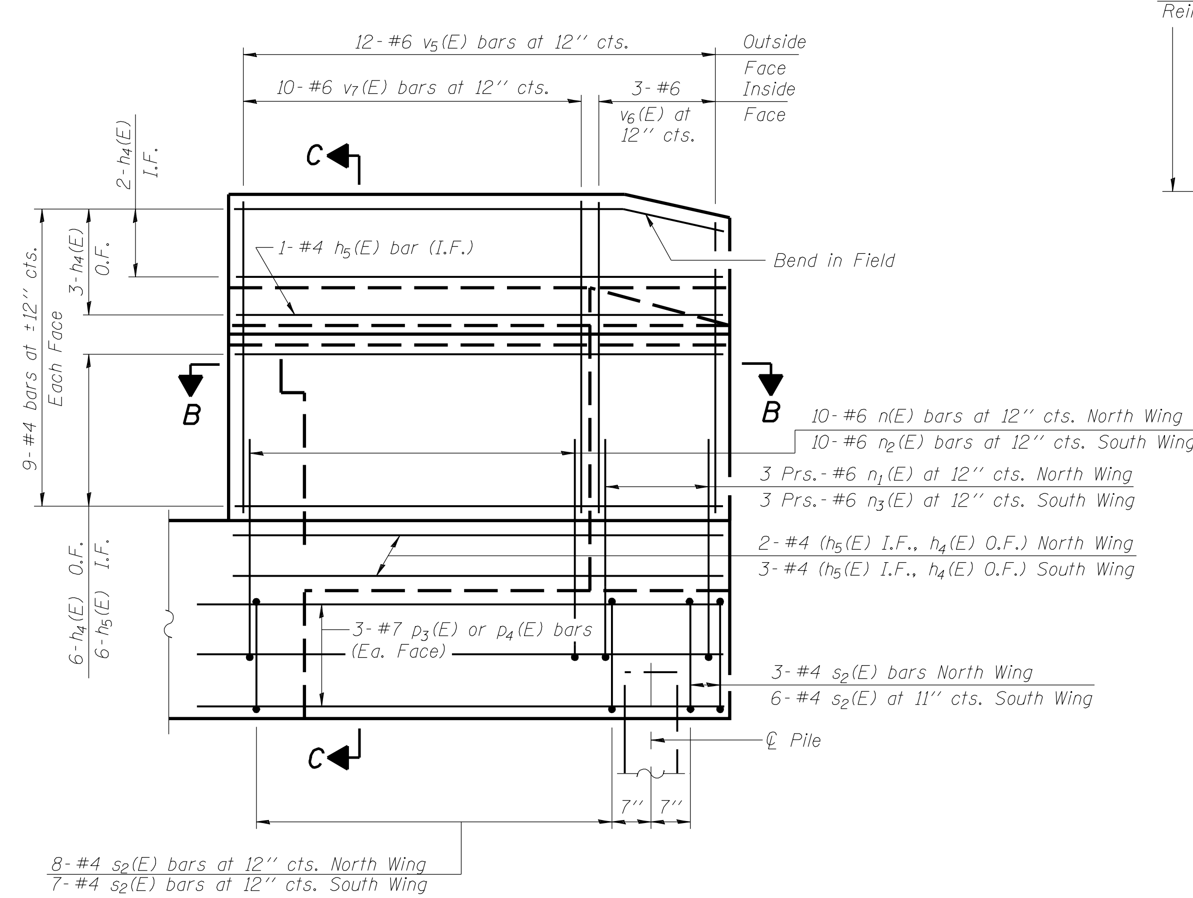
SEC. THRU EXISTING ABUT.



SEC. THRU ABUT.

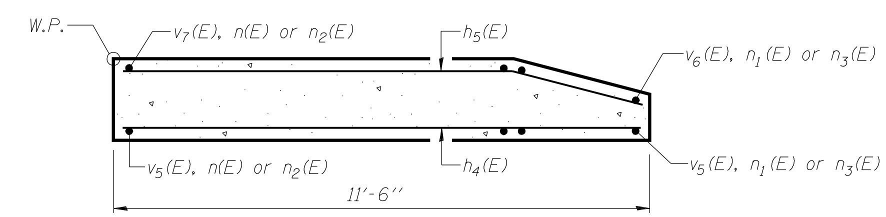


SECTION C-C



WING WALL ELEVATION

Showing Reinforcement



SEC. B-B

Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
Quantity of concrete in end post included with Concrete Superstructure on sheet 13 of 44.
Cost for sleeve shall be included with Concrete Structures.

MIN. BAR LAPS

#4 Bar - 1'-8''
#5 Bar - 2'-2''
#6 Bar - 2'-7''
#7 Bar - 3'-5''

Corporate License Number 184-001-084

WESTBOUND-WEST ABUTMENT DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

$FILE$
12/16/2006

* Elevations given are from existing plans, and have been adjusted by deducting 0.69'. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.

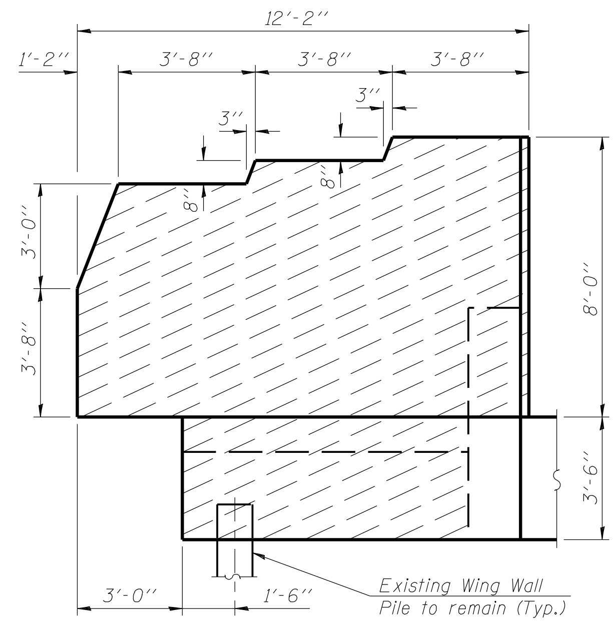
Salvage existing vertical reinforcement bars. Cut as required to provide minimum 2'-2" lap with new backwall vertical reinforcement bars. Bars damaged or not salvaged shall be replaced in kind with drilled and epoxy grouted bars as directed by the Engineer. No additional compensation will be allowed for grouted bars.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	280

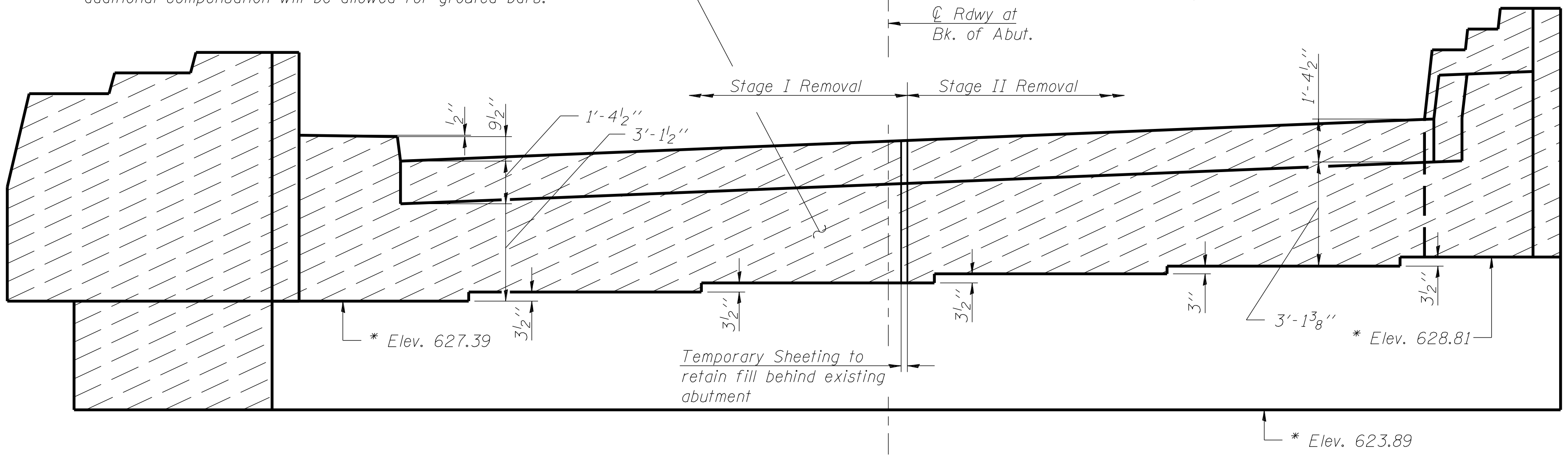
FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT-

SHEET NO. 27
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No 72541

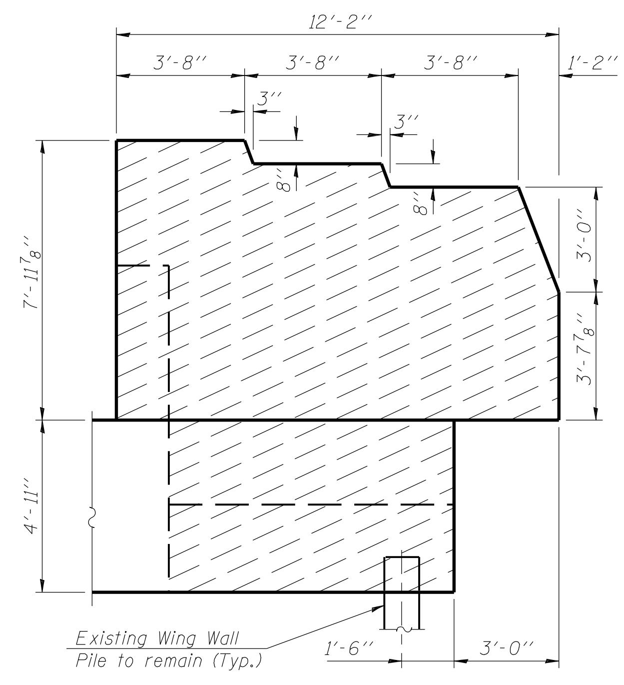


EXISTING NORTH WING WALL ELEVATION

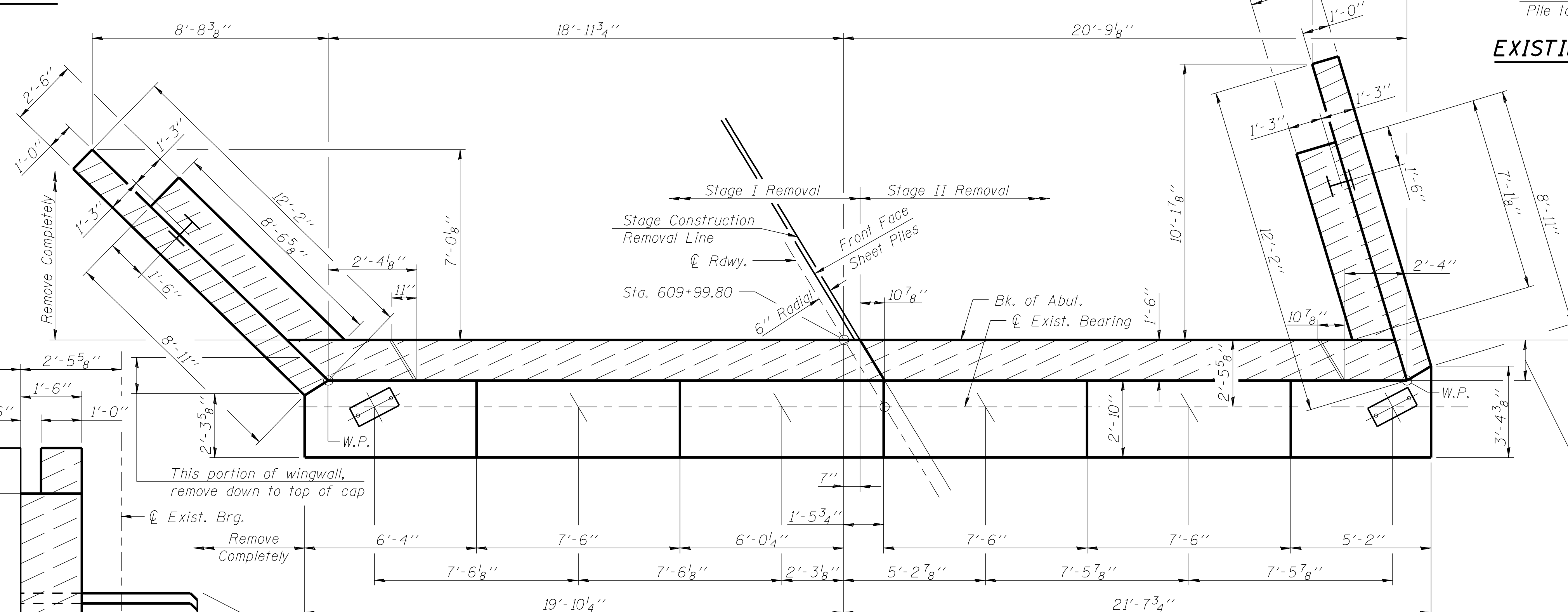


ELEVATION

(Showing Existing Abutment with Concrete Removal Limits)

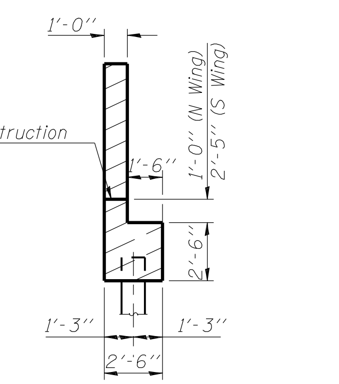


EXISTING SOUTH WING WALL ELEVATION



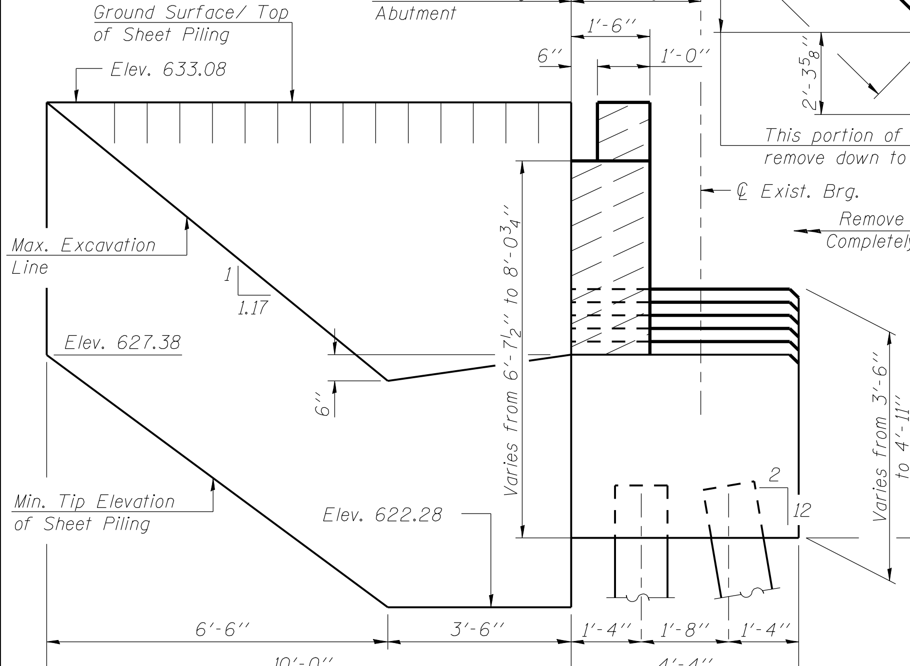
PLAN

(Showing Existing Abutment with Concrete Removal Limits)



SEC. THRU EXISTING WINGWALL

Note: Hatched areas indicates "Concrete Removal".



SEC. THRU EXISTING ABUT.

Temporary Sheet Piling

$I = 3.2\ in^4/ft.$
$S = 2.0\ in^3/ft.$

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	20.4
Temporary Sheet Piling	Sq. Ft.	91

Corporate License Number 184-001-084

W.B.-EAST ABUT. CONCRETE REMOVAL
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

$FILE$ 12/16/2006

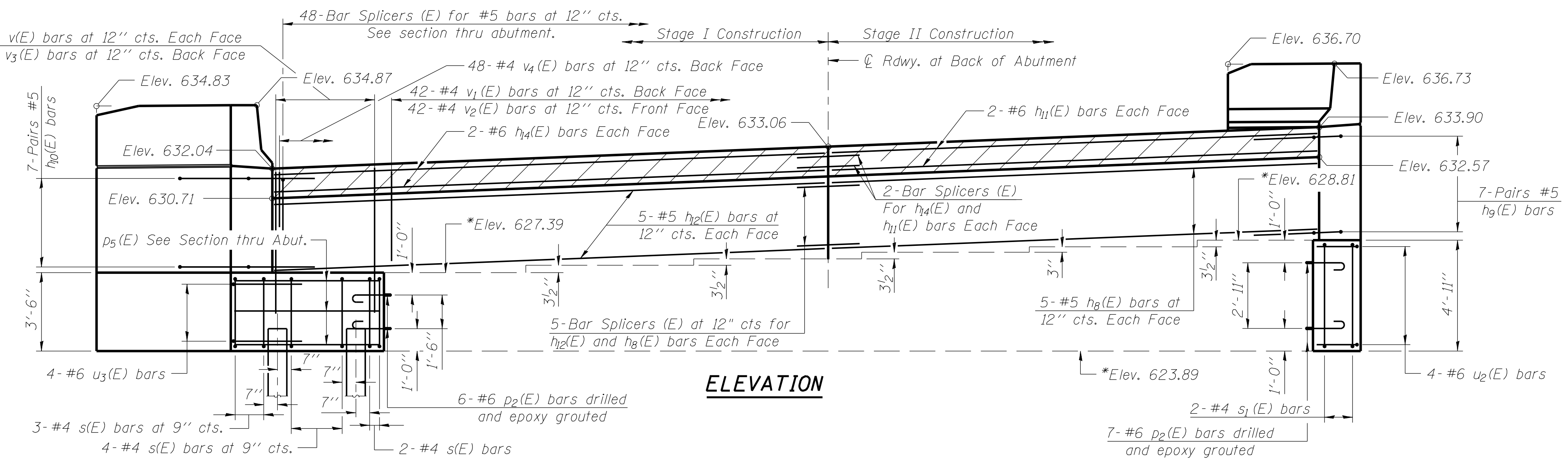
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	281
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 28
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

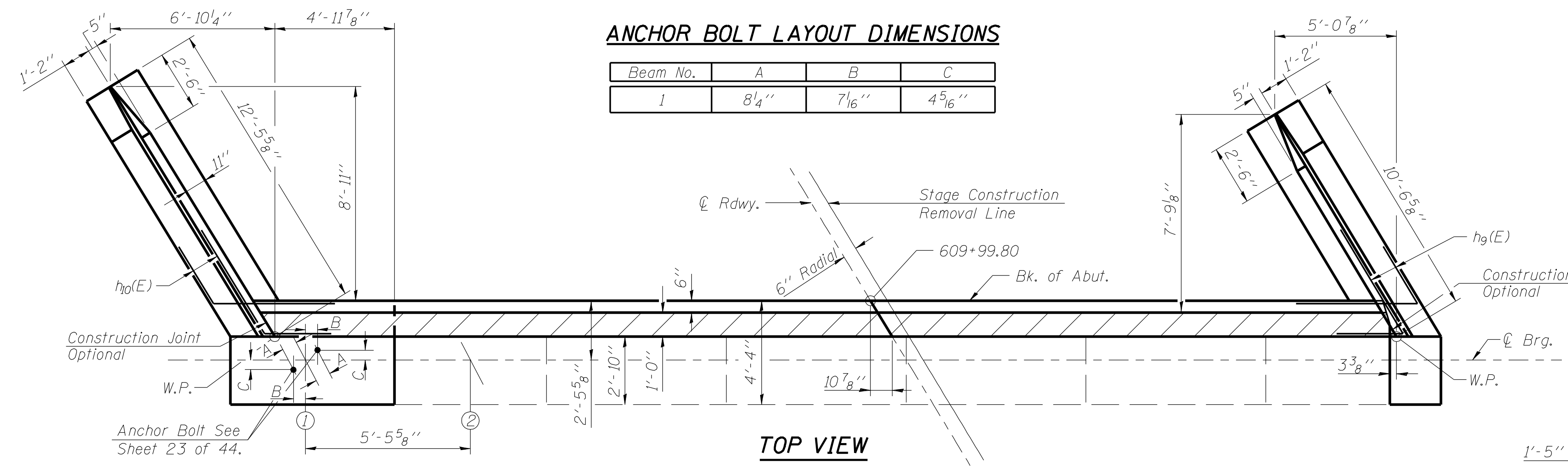
* Elevations given are from existing plans, and have been adjusted by deducting 0.69'. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.



ELEVATION

ANCHOR BOLT LAYOUT DIMENSIONS

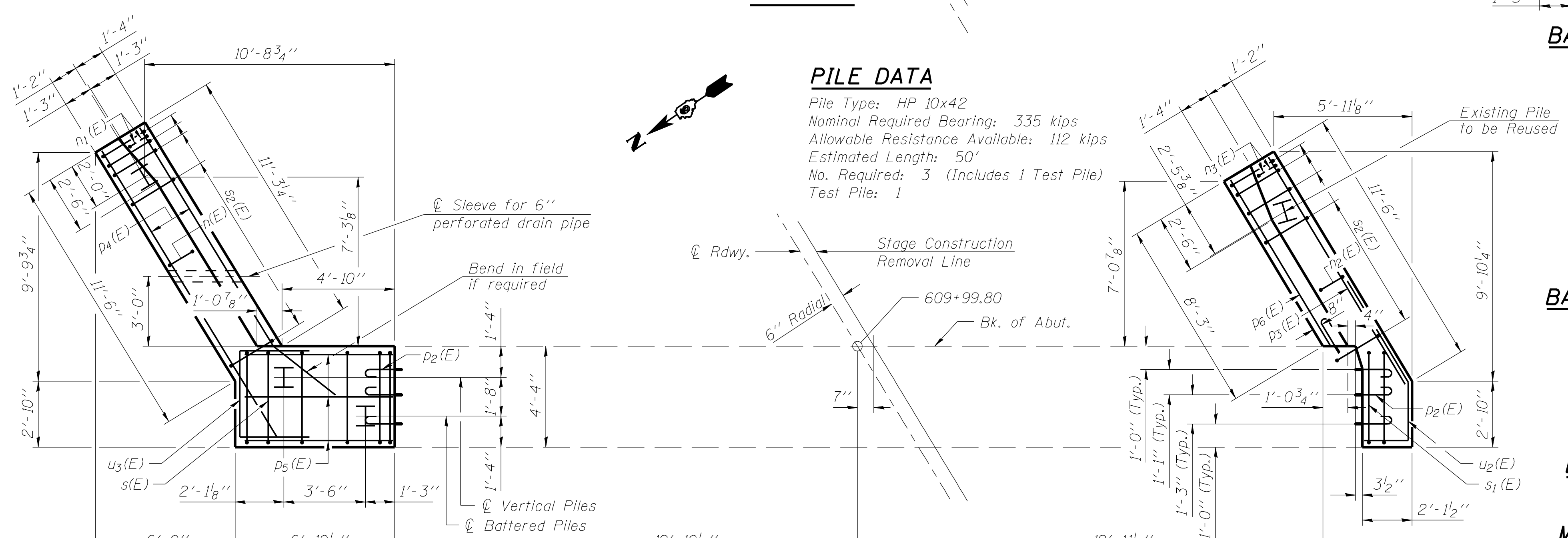
Beam No.	A	B	C
1	8¼"	7 1/16"	4 5/16"



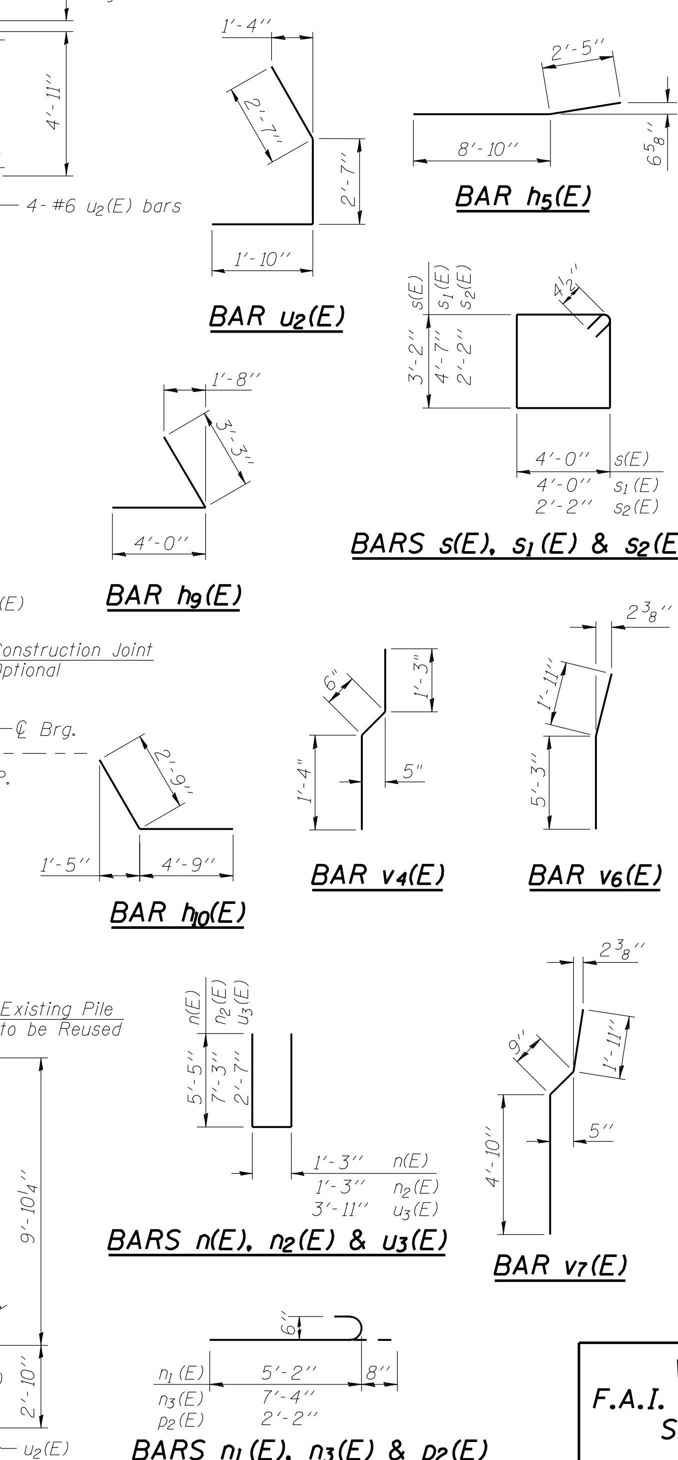
TOP VIEW

PILE DATA

Pile Type: HP 10x42
Nominal Required Bearing: 335 kips
Allowable Resistance Available: 112 kips
Estimated Length: 50'
No. Required: 3 (Includes 1 Test Pile)
Test Pile: 1



PLAN-PILE CAP



MIN. BAR LAPS

#4 Bar - 1'-8"
#5 Bar - 2'-2"
#6 Bar - 2'-7"
#7 Bar - 3'-5"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_4(E)	27	#4	11'-3"	
h_5(E)	19	#4	11'-3"	
h_8(E)	10	#5	20'-8"	
h_9(E)	14	#5	7'-3"	
h_{10}(E)	14	#5	7'-6"	
h_{11}(E)	4	#6	20'-8"	
h_{12}(E)	10	#5	25'-5"	
h_{14}(E)	4	#6	25'-5"	
n(E)	10	#6	12'-1"	
n_1(E)	6	#6	5'-10"	
n_2(E)	10	#6	15'-9"	
n_3(E)	6	#6	8'-0"	
p_2(E)	13	#6	2'-10"	
p_3(E)	3	#7	11'-6"	
p_4(E)	6	#7	14'-6"	
p_5(E)	8	#7	6'-6"	
p_6(E)	3	#7	8'-0"	
s(E)	9	#4	15'-1"	
s_1(E)	2	#4	17'-11"	
s_2(E)	23	#4	9'-5"	
u_2(E)	4	#6	7'-0"	
u_3(E)	4	#6	9'-1"	
v(E)	12	#4	6'-0"	
v_1(E)	42	#4	3'-7"	
v_2(E)	42	#4	3'-2"	
v_3(E)	6	#4	3'-5"	
v_4(E)	48	#4	3'-1"	
v_5(E)	24	#6	7'-2"	
v_6(E)	6	#6	7'-2"	
v_7(E)	20	#6	7'-6"	
Structure Excavation			Cu. Yd.	91
Concrete Structures			Cu. Yd.	30.3
Reinforcement Bars Epoxy Coated			Pound	3570
Furnishing Steel Piles HP10x42			Lin. Ft.	100
Driving Piles			Lin. Ft.	100
Test Piles Steel HP10x42			Each	1

Reinforcement Bars designated (E) shall be Epoxy Coated.

For details of Bar Splicers, see sheet 40 of 44.

Bars epoxy grouted shall have an embedment sufficient to obtain 1.25 x the yield strength of the reinforcing bar.

Drill holes for epoxy grouted bars to miss existing reinforcement.

Corporate License Number 184-001-084

WESTBOUND-EAST ABUTMENT
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

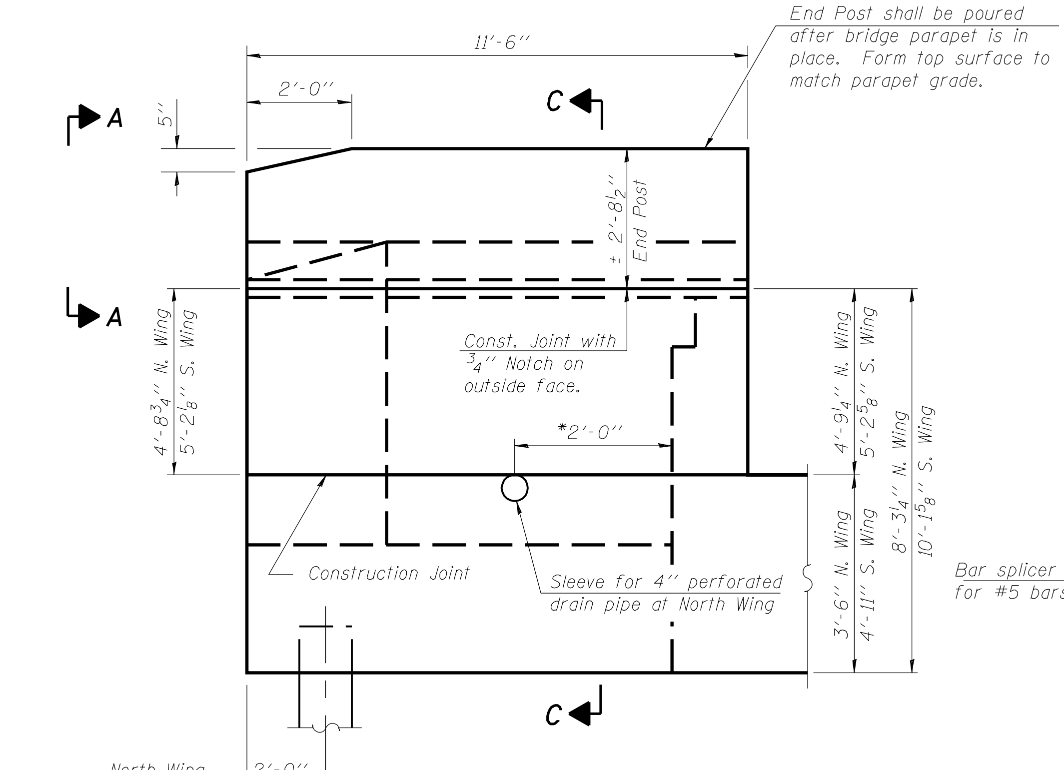
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	282
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 29
44 SHEETS

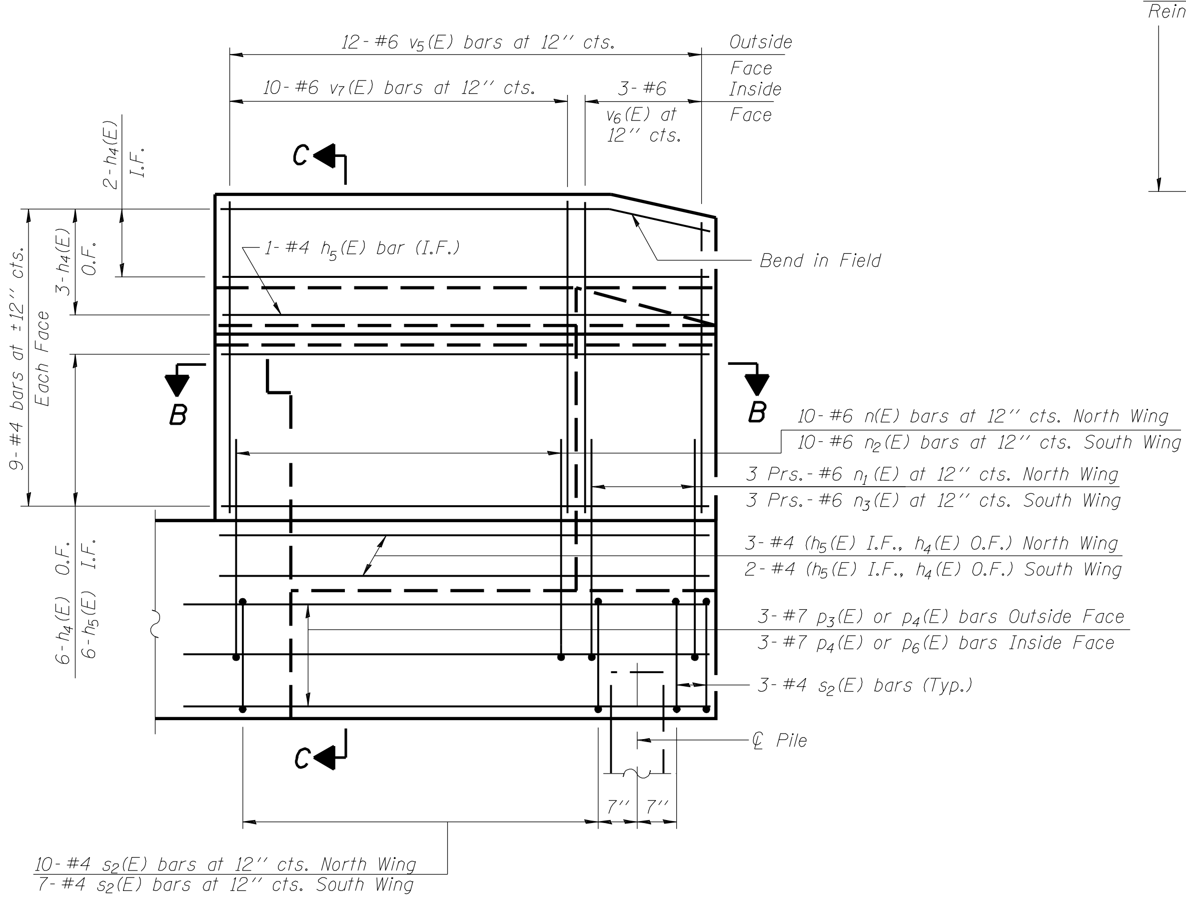
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



WING WALL ELEVATION

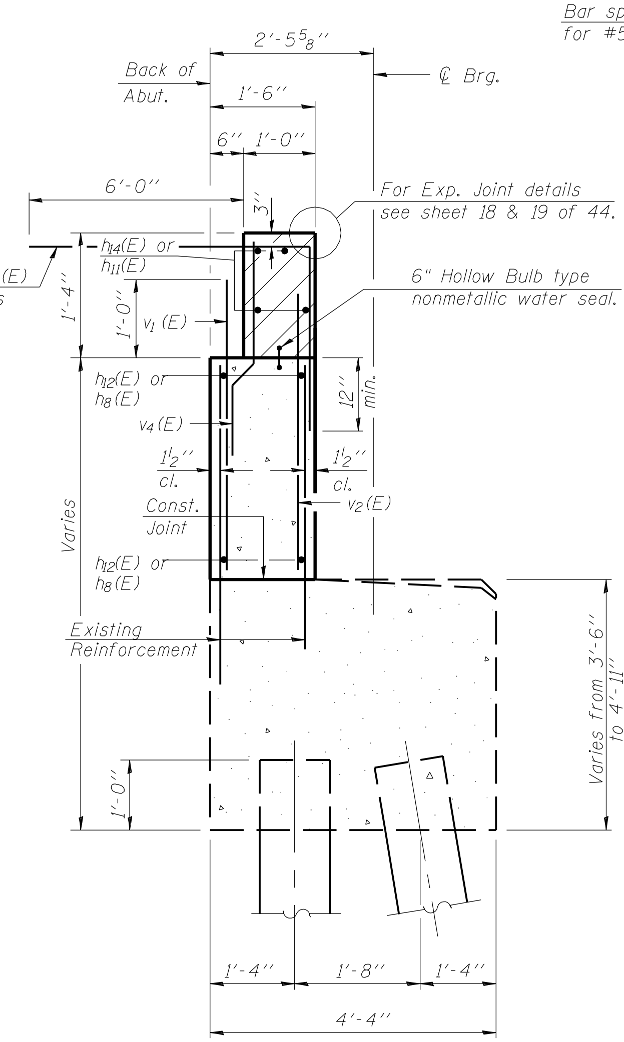
Showing Dimensions

*Dimension perpendicular to Back of Abutment

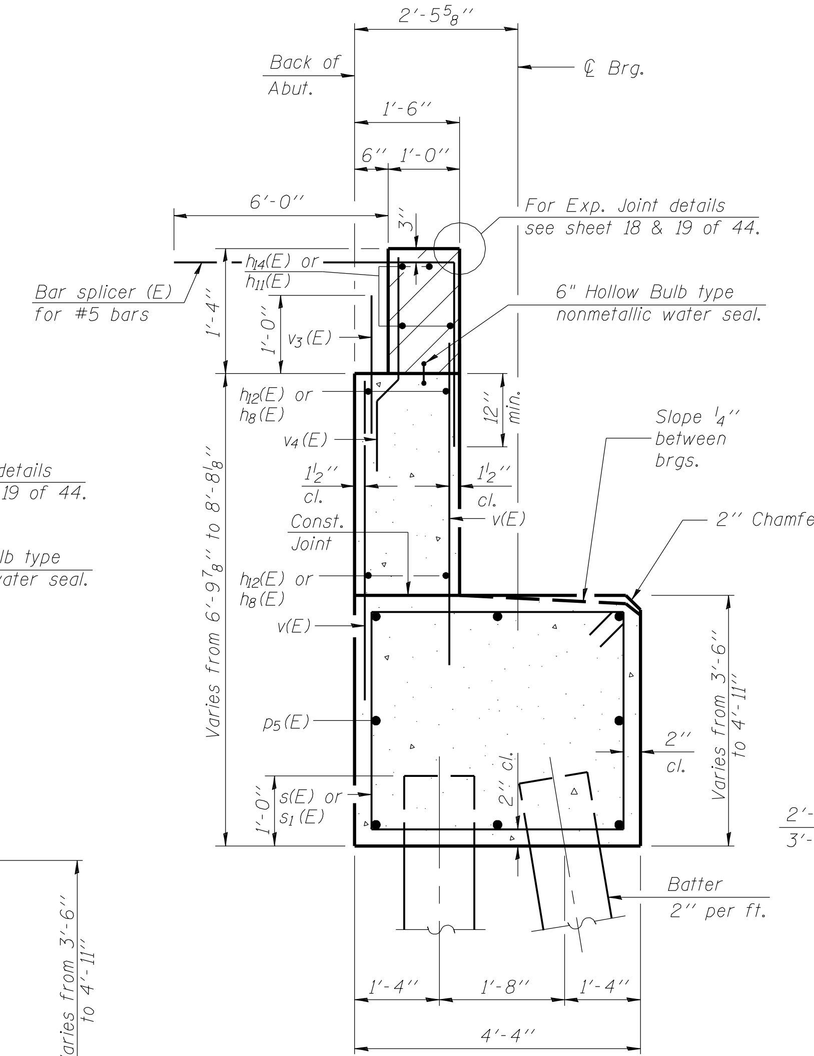


WING WALL ELEVATION

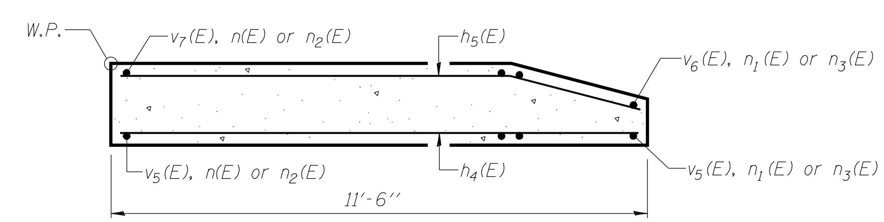
Showing Reinforcement



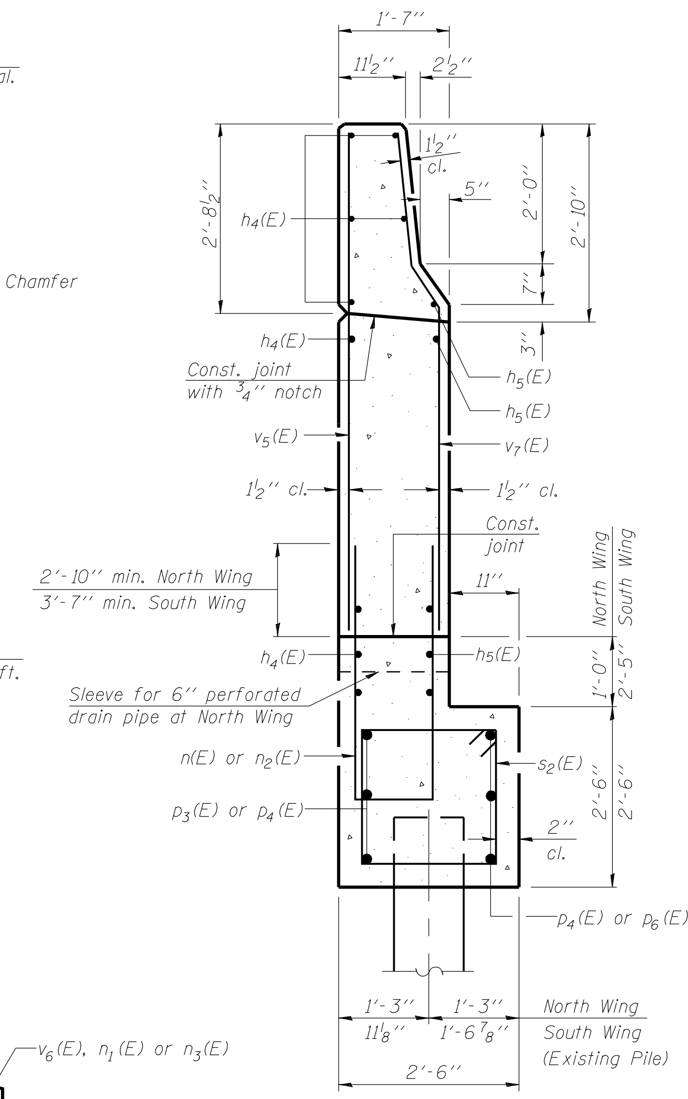
SEC. THRU EXISTING ABUT.



SEC. THRU ABUT.



SEC. B-B



SECTION C-C

Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
Quantity of concrete in end post included with Concrete Superstructure on sheet 13 of 44.
Cost for sleeve shall be included with Concrete Structures.

MIN. BAR LAPS

#4 Bar - 1'-8''
#5 Bar - 2'-2''
#6 Bar - 2'-7''
#7 Bar - 3'-5''

Corporate License Number 184-001-084

WESTBOUND-EAST ABUTMENT DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	283

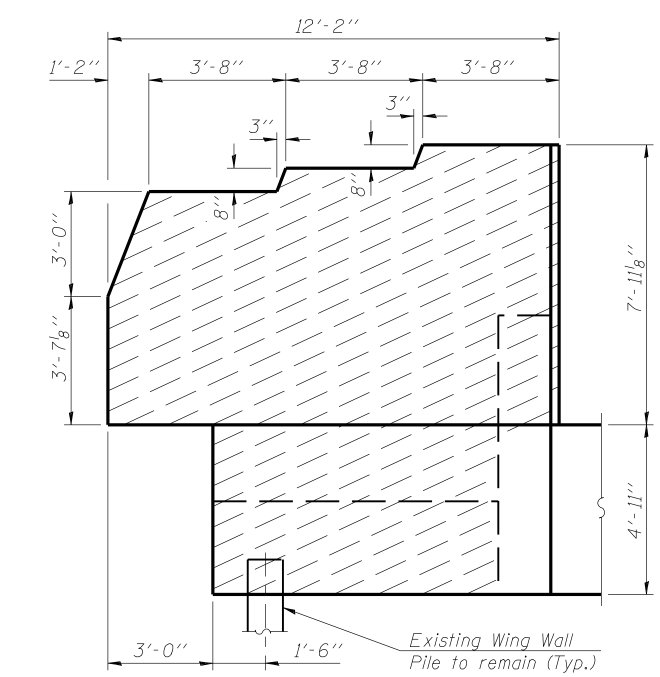
FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT-

SHEET NO. 30
44 SHEETS

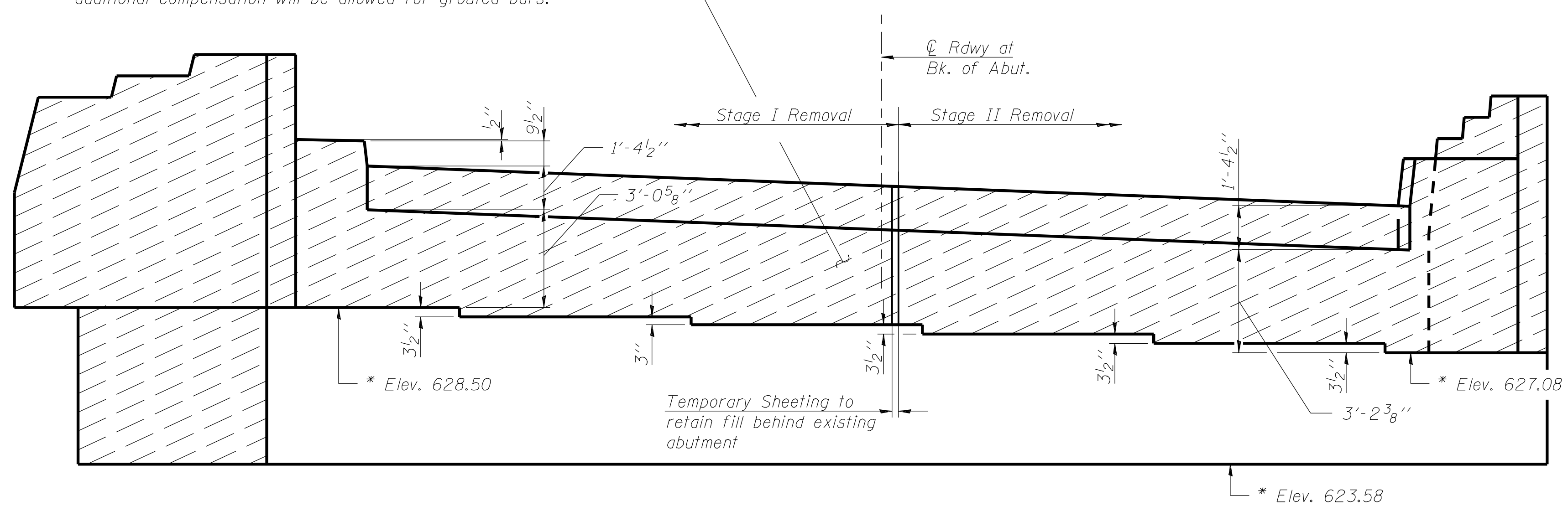
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

* Elevations given are from existing plans, and have been adjusted by deducting 0.69'. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.

Salvage existing vertical reinforcement bars. Cut as required to provide minimum 2'-2'' lap with new backwall vertical reinforcement bars. Bars damaged or not salvaged shall be replaced in kind with drilled and epoxy grouted bars as directed by the Engineer. No additional compensation will be allowed for grouted bars.

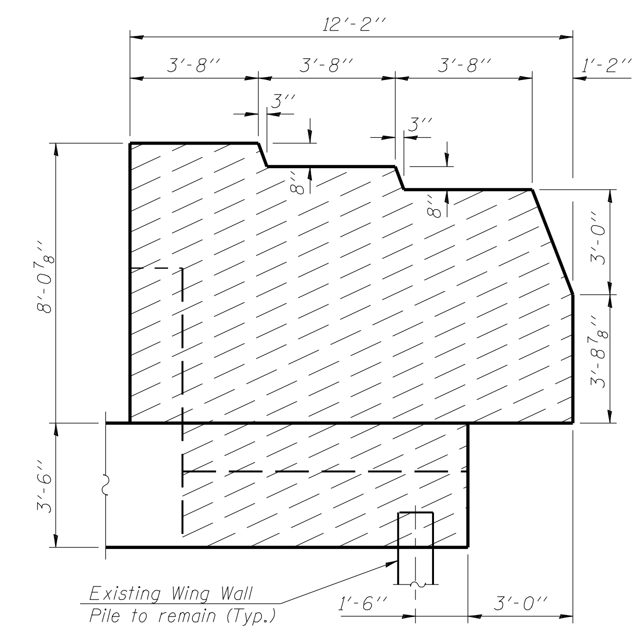


EXISTING SOUTH WING WALL ELEVATION

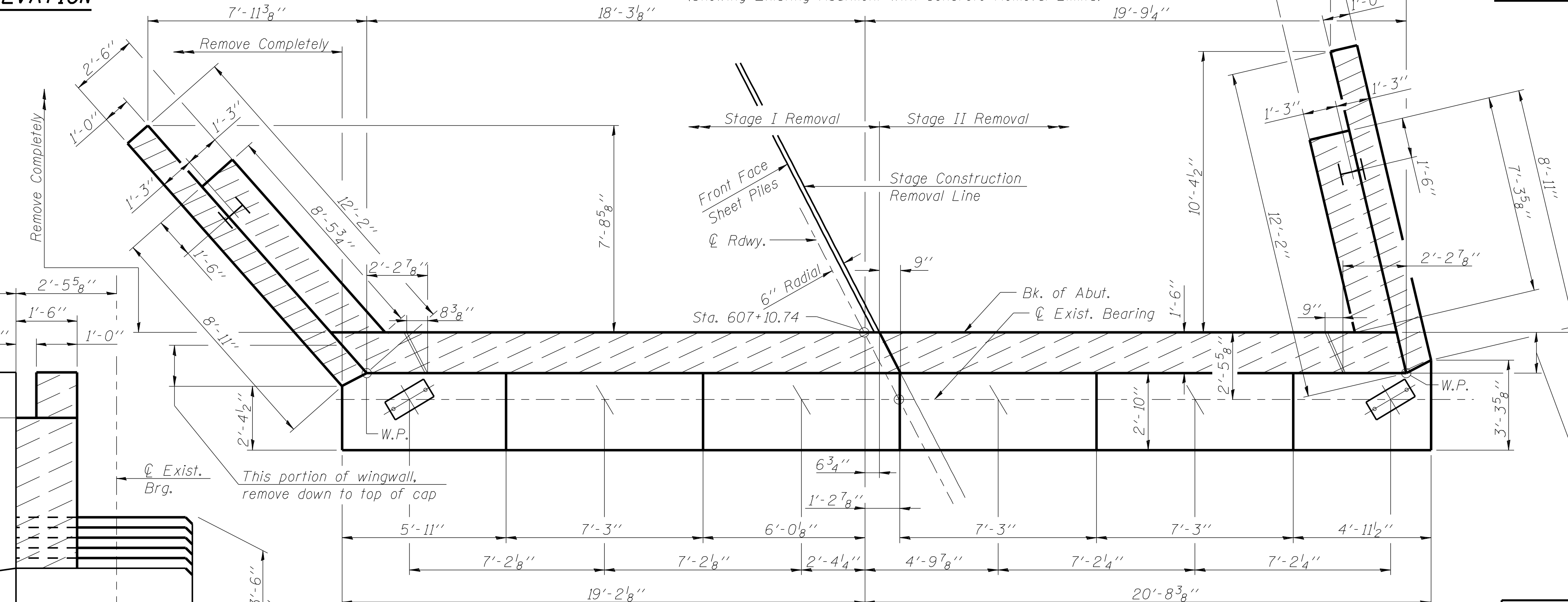


ELEVATION

(Showing Existing Abutment with Concrete Removal Limits)

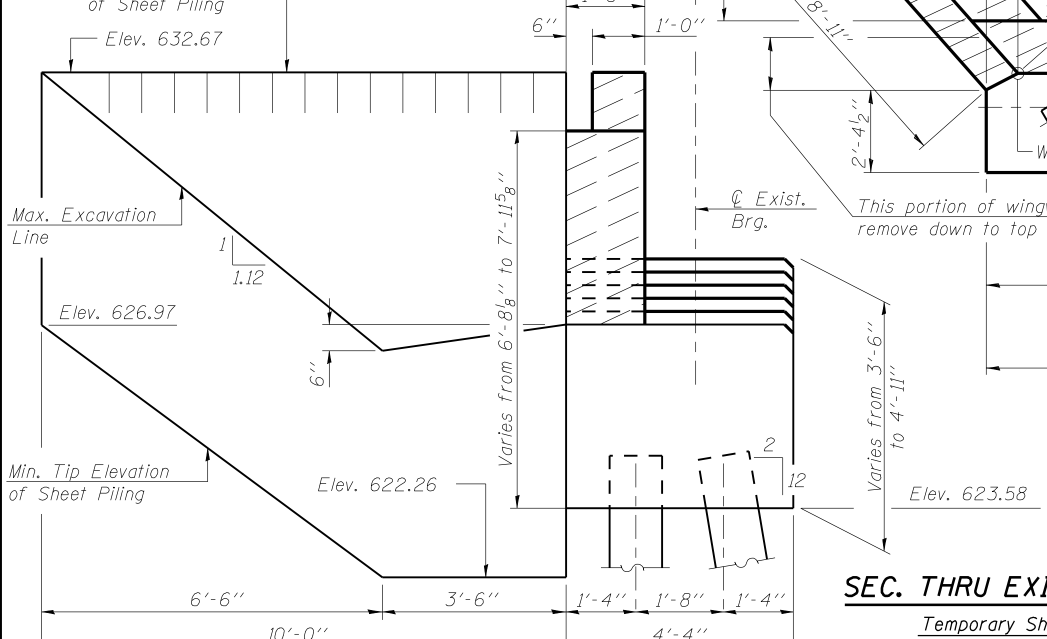


EXISTING NORTH WING WALL ELEVATION



PLAN

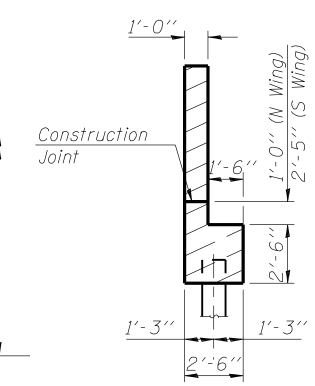
(Showing Existing Abutment with Concrete Removal Limits)



SEC. THRU EXISTING ABUT.

Temporary Sheet Piling

$I = 3.2\ in^4/ft.$
$S = 2.0\ in^3/ft.$



SEC. THRU EXISTING WINGWALL

Note: Hatched areas indicates "Concrete Removal".

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	20.0
Temporary Sheet Piling	Sq. Ft.	89

Corporate License Number 184-001-084

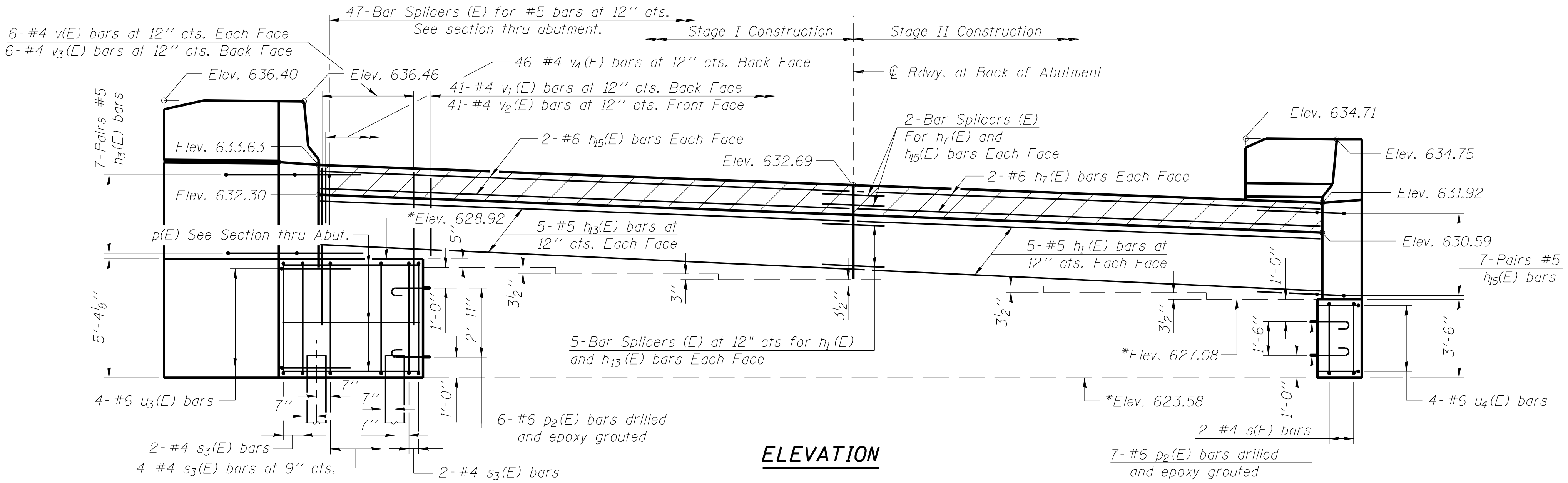
E.B.-WEST ABUT. CONCRETE REMOVAL
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03



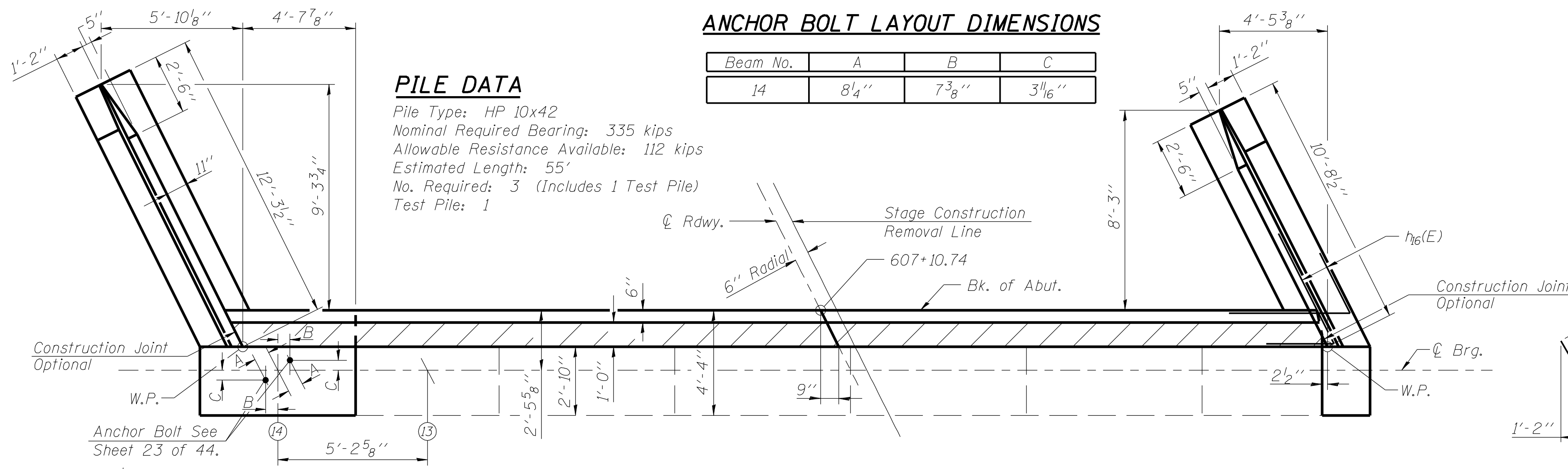
ELEVATION

ANCHOR BOLT LAYOUT DIMENSIONS

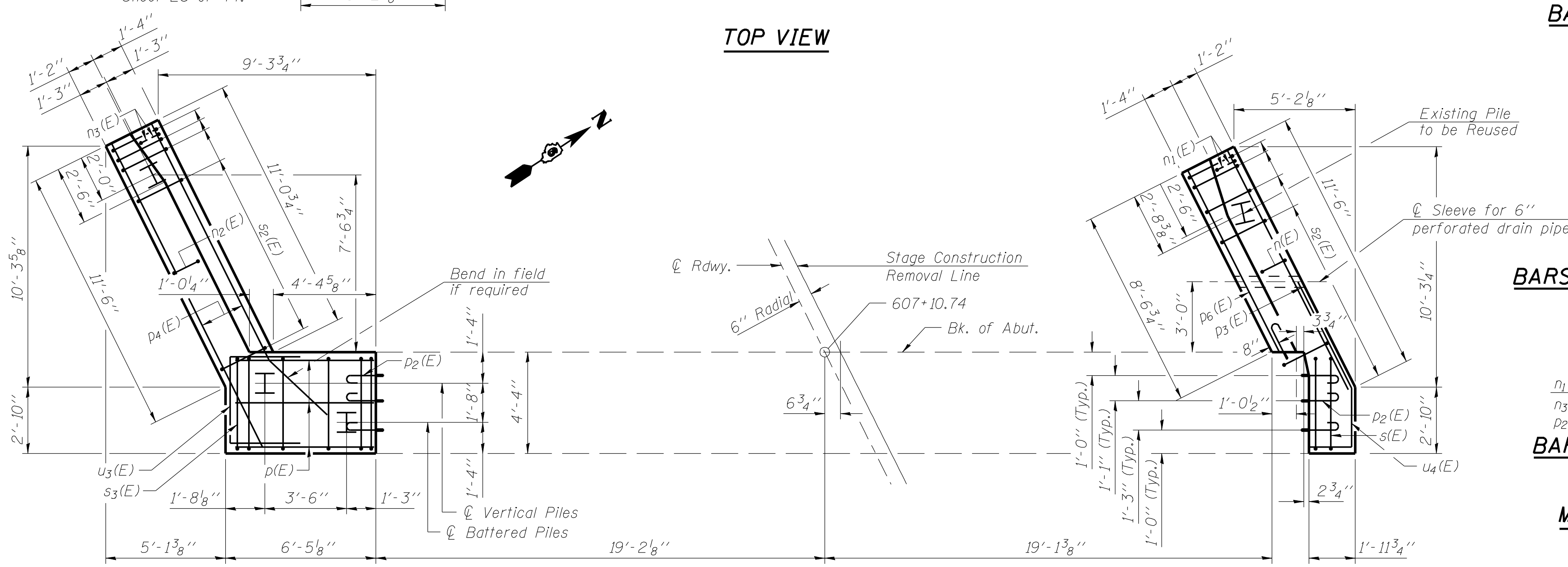
Beam No.	A	B	C
14	8¼"	7⅜"	3$^{11}/_{16}$"

PILE DATA

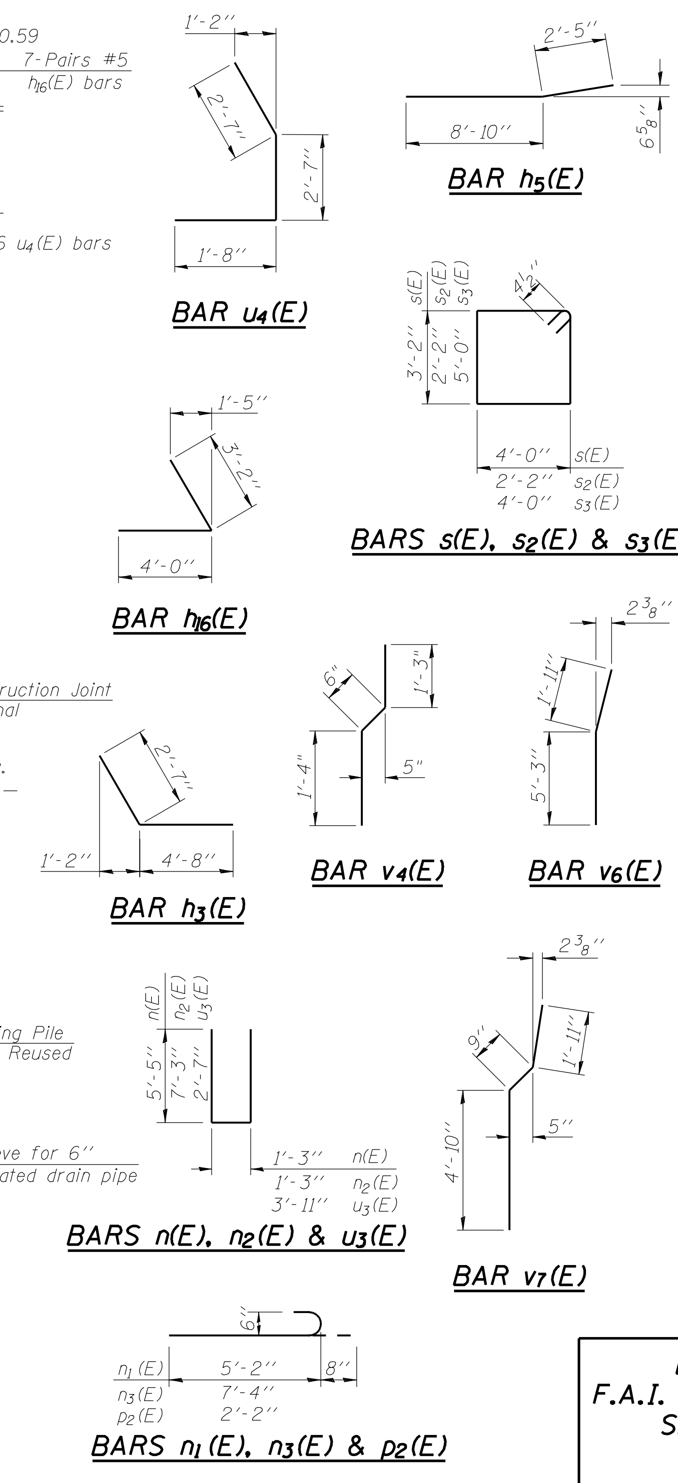
Pile Type: HP 10x42
Nominal Required Bearing: 335 kips
Allowable Resistance Available: 112 kips
Estimated Length: 55'
No. Required: 3 (Includes 1 Test Pile)
Test Pile: 1



TOP VIEW



PLAN-PILE CAP



MIN. BAR LAPS

#4 Bar - 1'-8"
#5 Bar - 2'-2"
#6 Bar - 2'-7"
#7 Bar - 3'-5"

* Elevations given are from existing plans, and have been adjusted by deducting 0.69'. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_1(E)	10	#5	19'-10"	
h_3(E)	14	#5	7'-3"	
h_4(E)	28	#4	11'-3"	
h_5(E)	20	#4	11'-3"	
h_7(E)	4	#6	19'-10"	
h_{13}(E)	10	#5	24'-3"	
h_{15}(E)	4	#6	24'-3"	
h_{16}(E)	14	#5	7'-2"	
n(E)	10	#6	12'-1"	
n_1(E)	6	#6	5'-10"	
n_2(E)	10	#6	15'-9"	
n_3(E)	6	#6	8'-0"	
p(E)	8	#7	6'-2"	
p_2(E)	13	#6	2'-10"	
p_3(E)	3	#7	11'-6"	
p_4(E)	6	#7	14'-6"	
p_6(E)	3	#7	8'-0"	
s(E)	2	#4	15'-1"	
s_2(E)	23	#4	9'-5"	
s_3(E)	8	#4	18'-9"	
u_3(E)	4	#6	9'-1"	
u_4(E)	4	#6	6'-10"	
v(E)	12	#4	6'-0"	
v_1(E)	41	#4	3'-7"	
v_2(E)	41	#4	3'-2"	
v_3(E)	6	#4	3'-5"	
v_4(E)	46	#4	3'-1"	
v_5(E)	24	#6	7'-2"	
v_6(E)	6	#6	7'-2"	
v_7(E)	20	#6	7'-6"	
Structure Excavation		Cu. Yd.	91	
Concrete Structures		Cu. Yd.	31.0	
Reinforcement Bars Epoxy Coated		Pound	3540	
Furnishing Steel Piles HP10x42		Lin. Ft.	110	
Driving Piles		Lin. Ft.	110	
Test Piles Steel HP10x42		Each	1	

Reinforcement Bars designated (E) shall be Epoxy Coated.
For details of Bar Splicers, see sheet 40 of 44.
Bars epoxy grouted shall have an embedment sufficient to obtain 1.25 x the yield strength of the reinforcing bar.
Drill holes for epoxy grouted bars to miss existing reinforcement.

Corporate License Number 184-001-084

EASTBOUND-WEST ABUTMENT
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

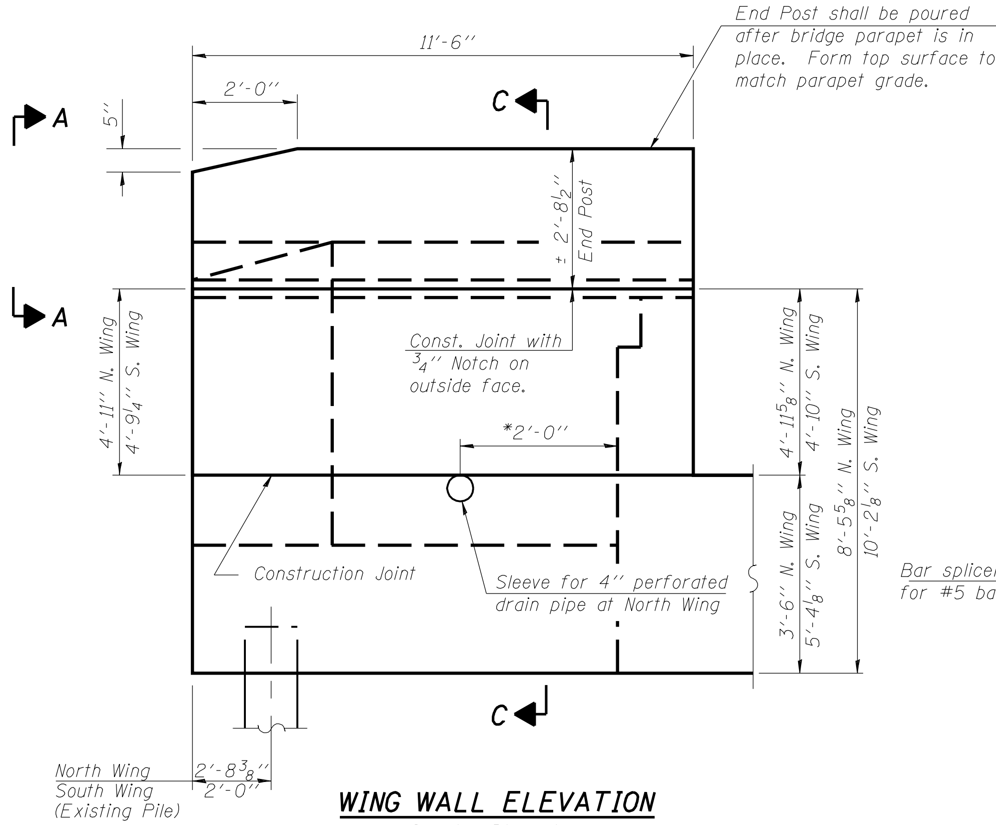
$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	285
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 32
44 SHEETS

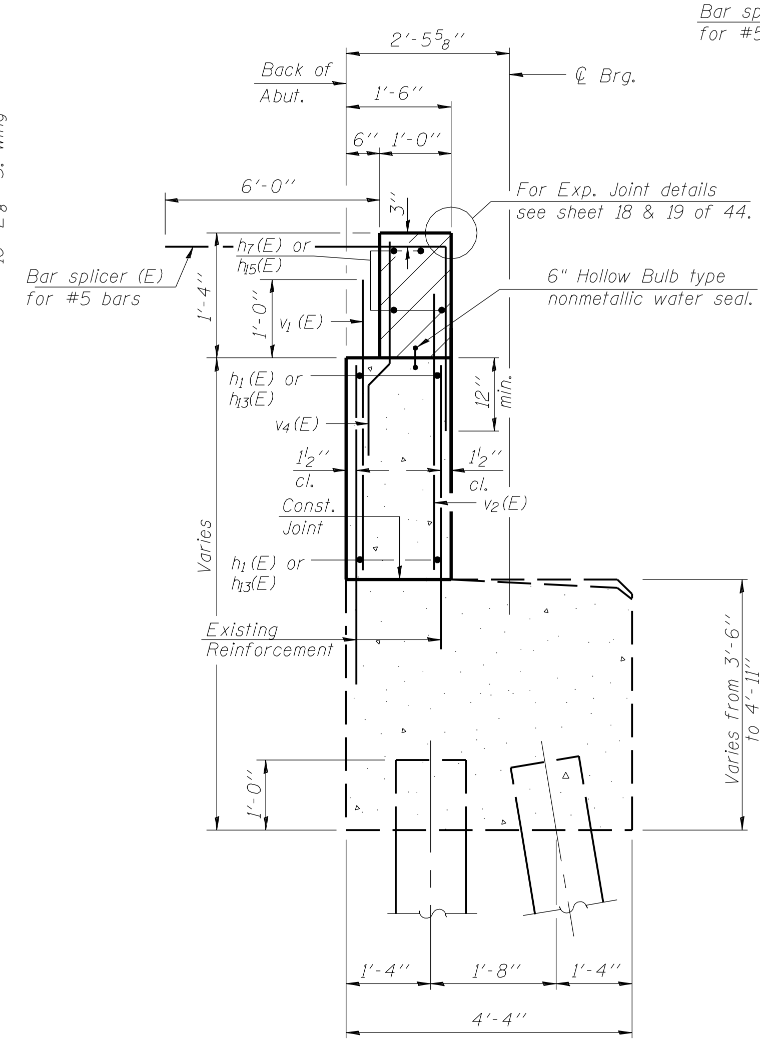
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



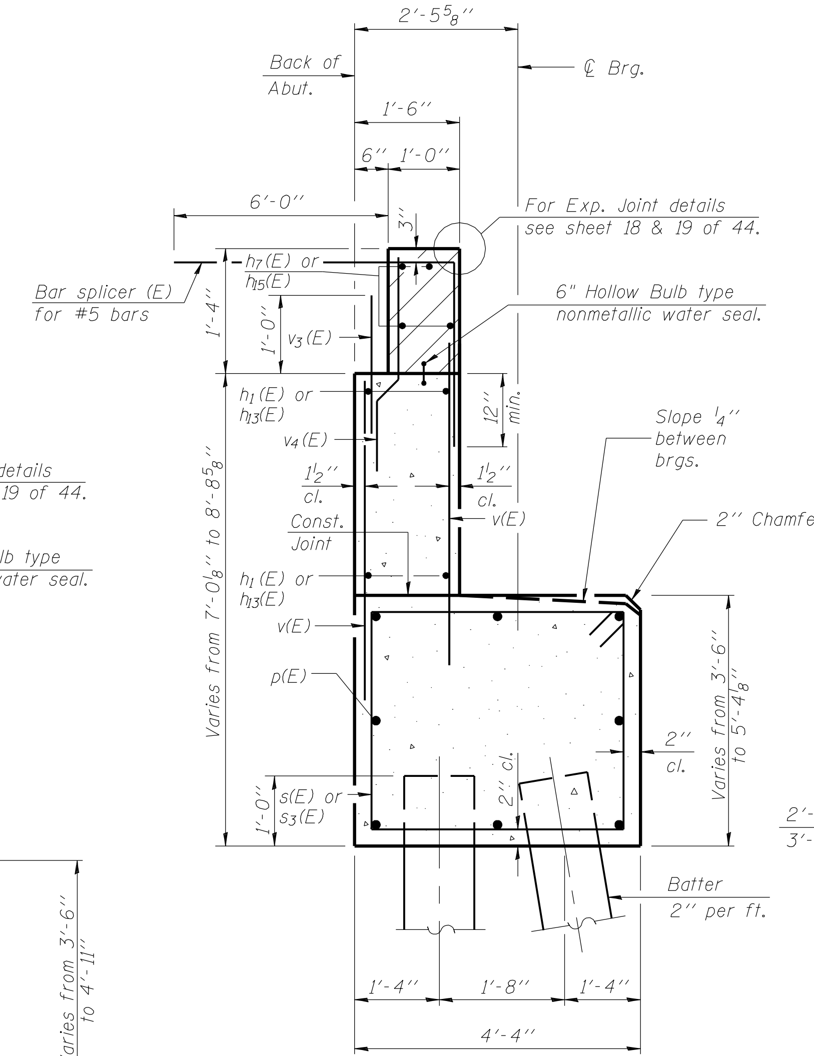
WING WALL ELEVATION

Showing Dimensions

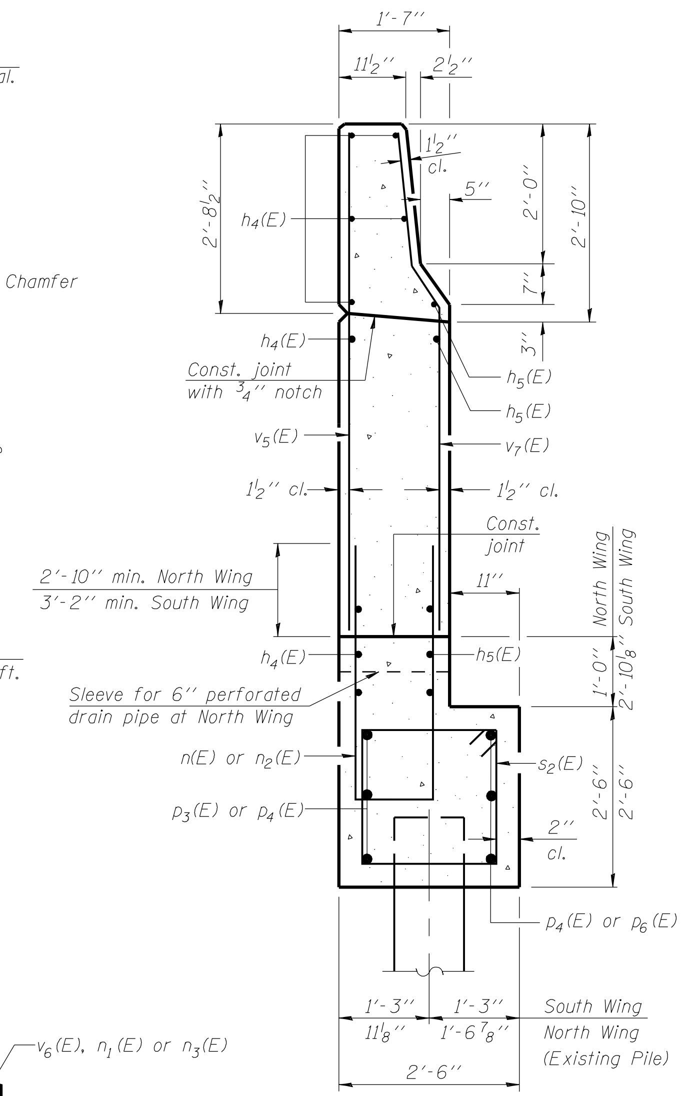
*Dimension perpendicular to Back of Abutment



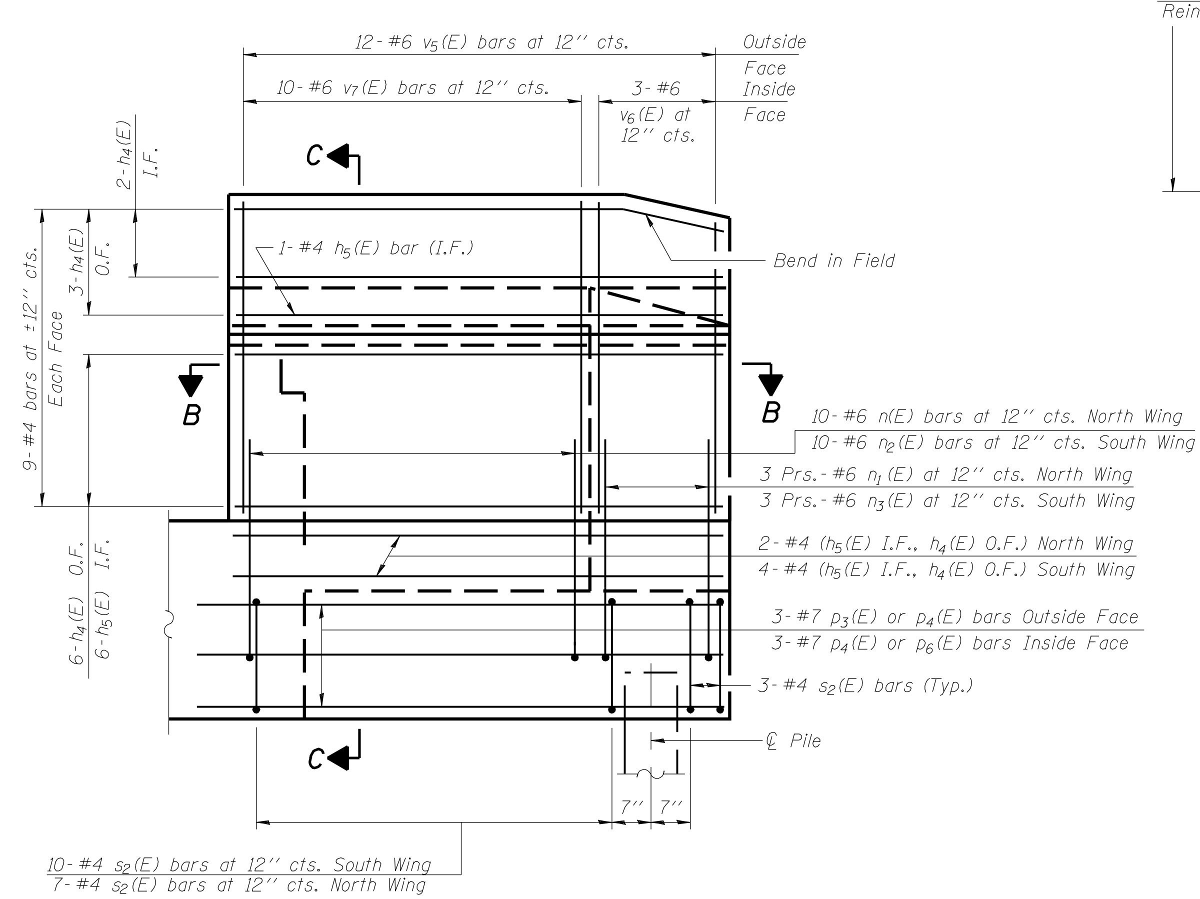
SEC. THRU EXISTING ABUT.



SEC. THRU ABUT.

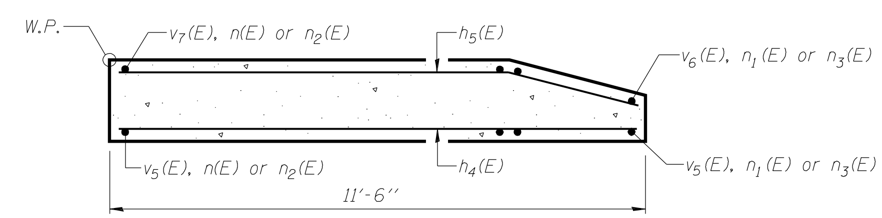


SECTION C-C



WING WALL ELEVATION

Showing Reinforcement



SEC. B-B

Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
Quantity of concrete in end post included with Concrete Superstructure on sheet 16 of 44.
Cost for sleeve shall be included with Concrete Structures.

MIN. BAR LAPS

#4 Bar - 1'-8''
#5 Bar - 2'-2''
#6 Bar - 2'-7''
#7 Bar - 3'-5''

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

EASTBOUND-WEST ABUTMENT DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

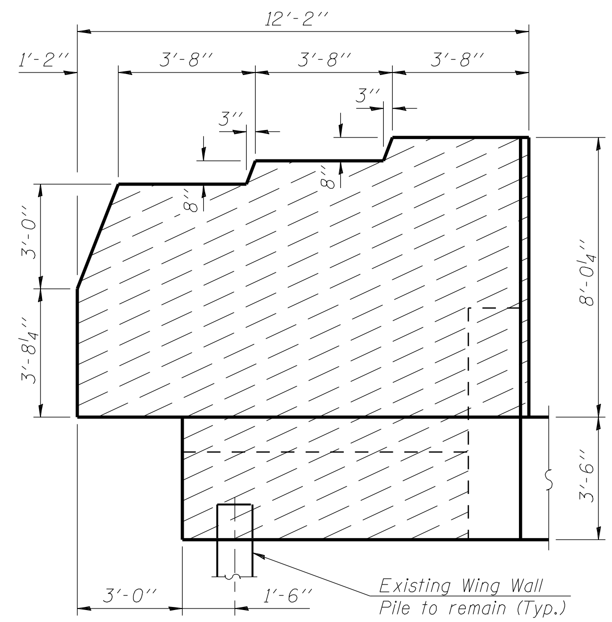
* Elevations given are from existing plans, and have been adjusted by deducting 0.69'. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.

Salvage existing vertical reinforcement bars. Cut as required to provide minimum 2'-2" lap with new backwall vertical reinforcement bars. Bars damaged or not salvaged shall be replaced in kind with drilled and epoxy grouted bars as directed by the Engineer. No additional compensation will be allowed for grouted bars.

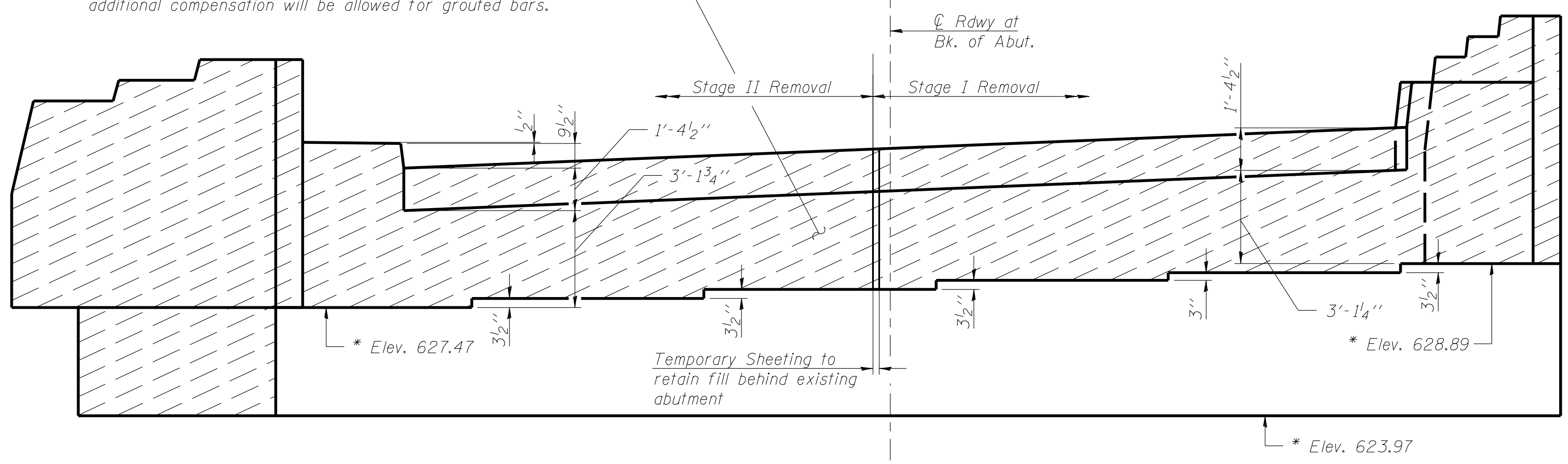
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	286
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 33
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

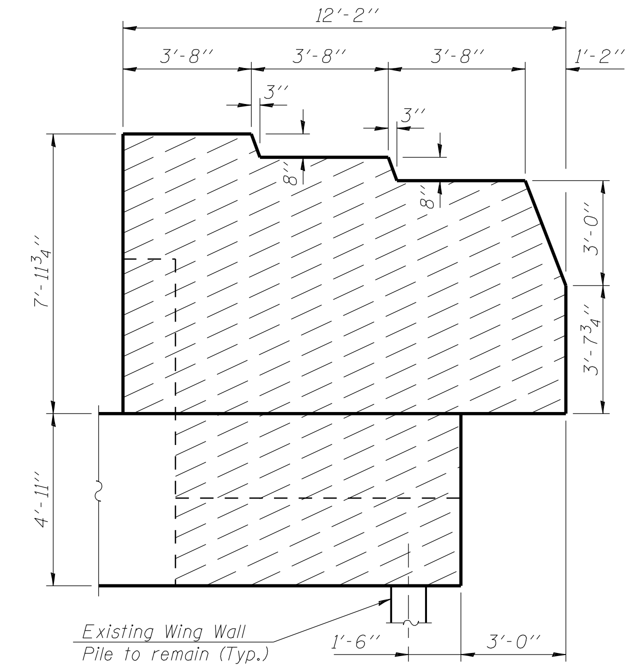


EXISTING NORTH WING WALL ELEVATION

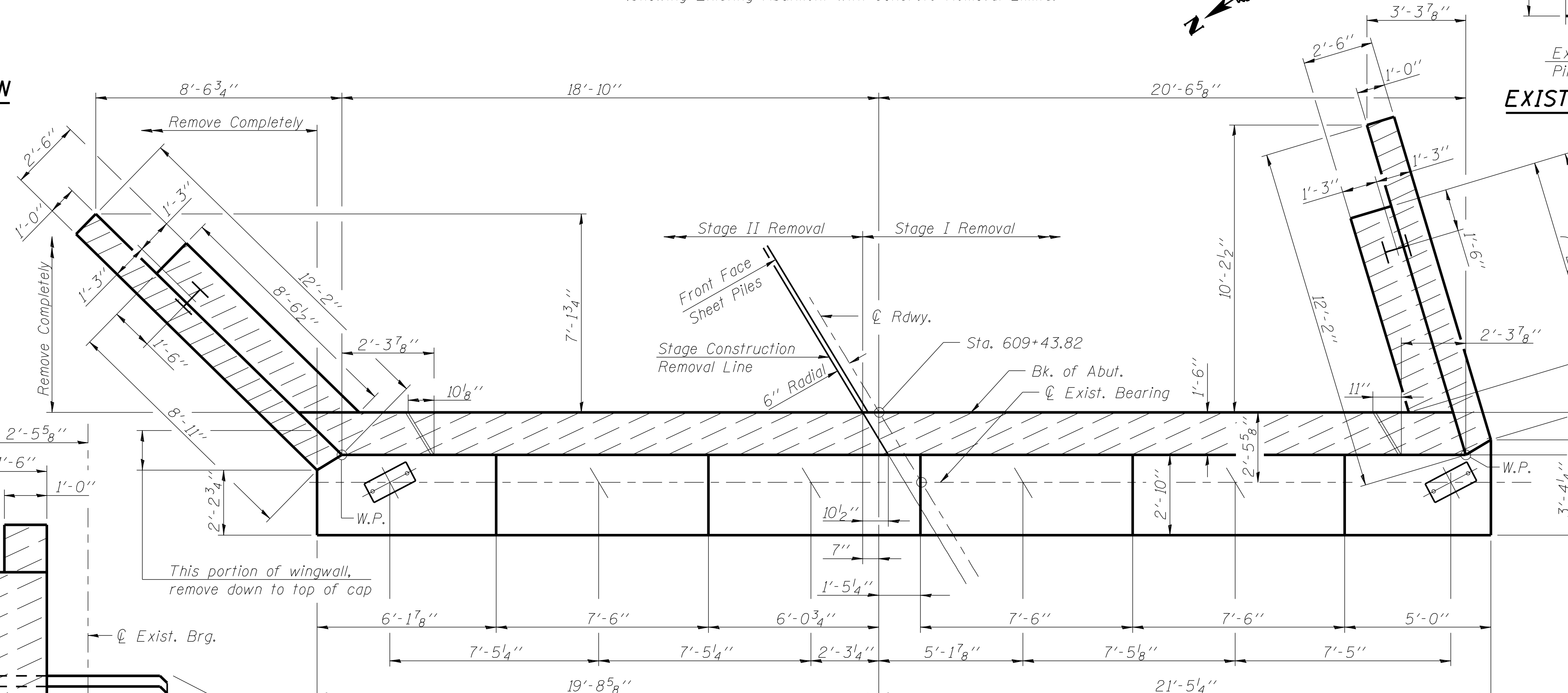


ELEVATION

(Showing Existing Abutment with Concrete Removal Limits)

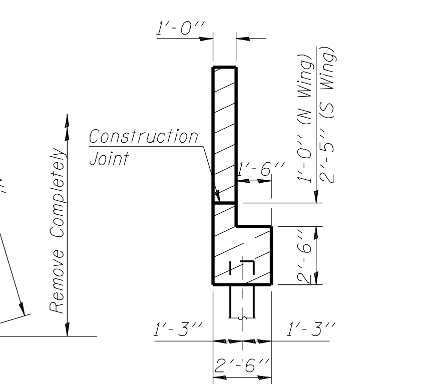


EXISTING SOUTH WING WALL ELEVATION



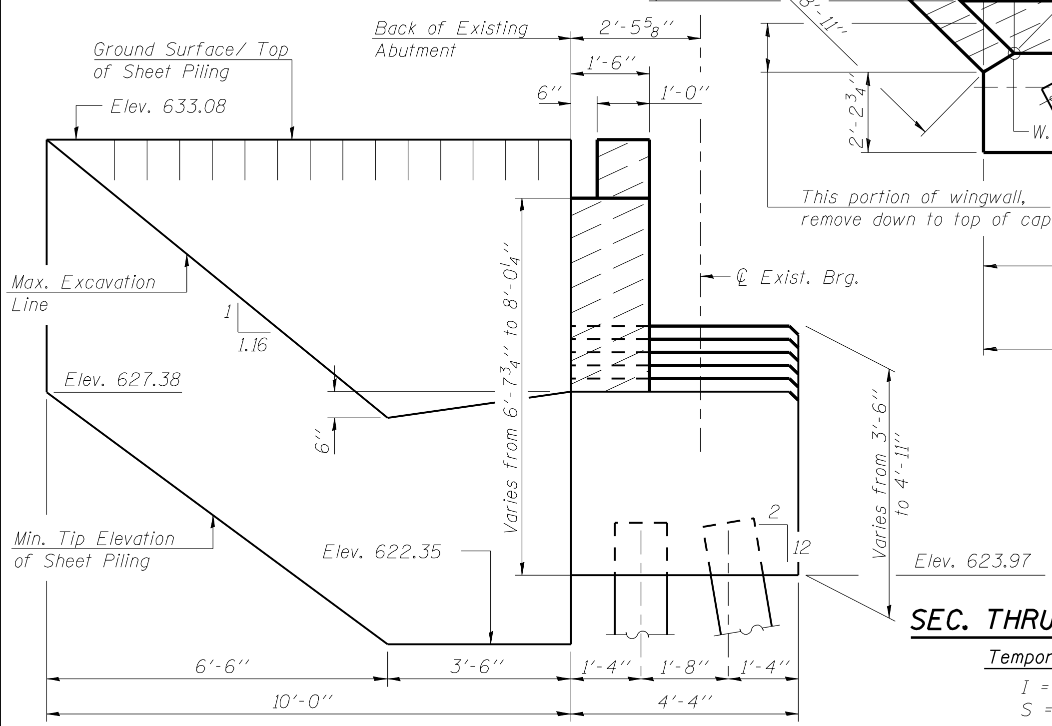
PLAN

(Showing Existing Abutment with Concrete Removal Limits)



SEC. THRU EXISTING WINGWALL

Note: Hatched areas indicates "Concrete Removal".



SEC. THRU EXISTING ABUT.

Temporary Sheet Piling

$I = 3.2\ in^4/ft.$
$S = 2.0\ in^3/ft.$

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	20.3
Temporary Sheet Piling	Sq. Ft.	91

Corporate License Number 184-001-084

E.B.-EAST ABUT. CONCRETE REMOVAL
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

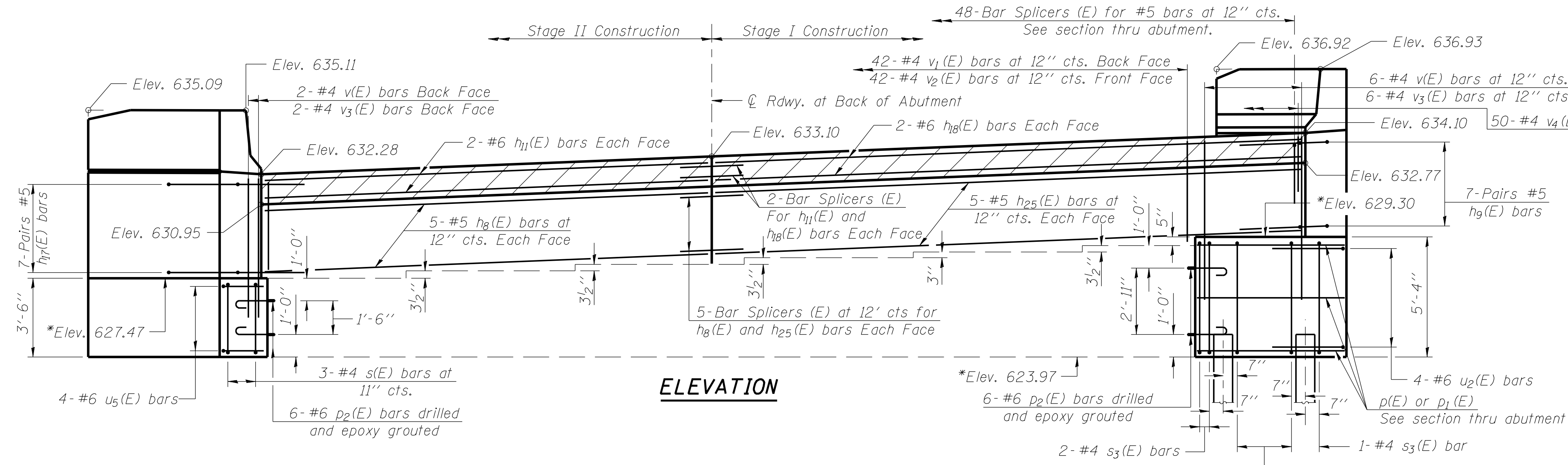
$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	287
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 34
44 SHEETS

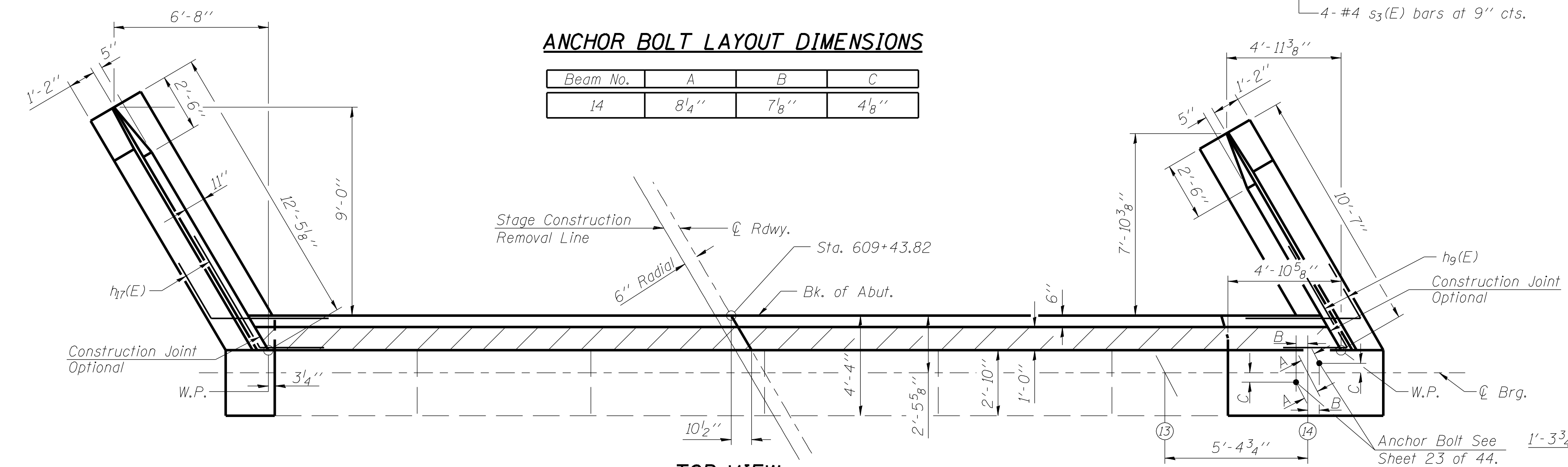
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



ELEVATION

ANCHOR BOLT LAYOUT DIMENSIONS

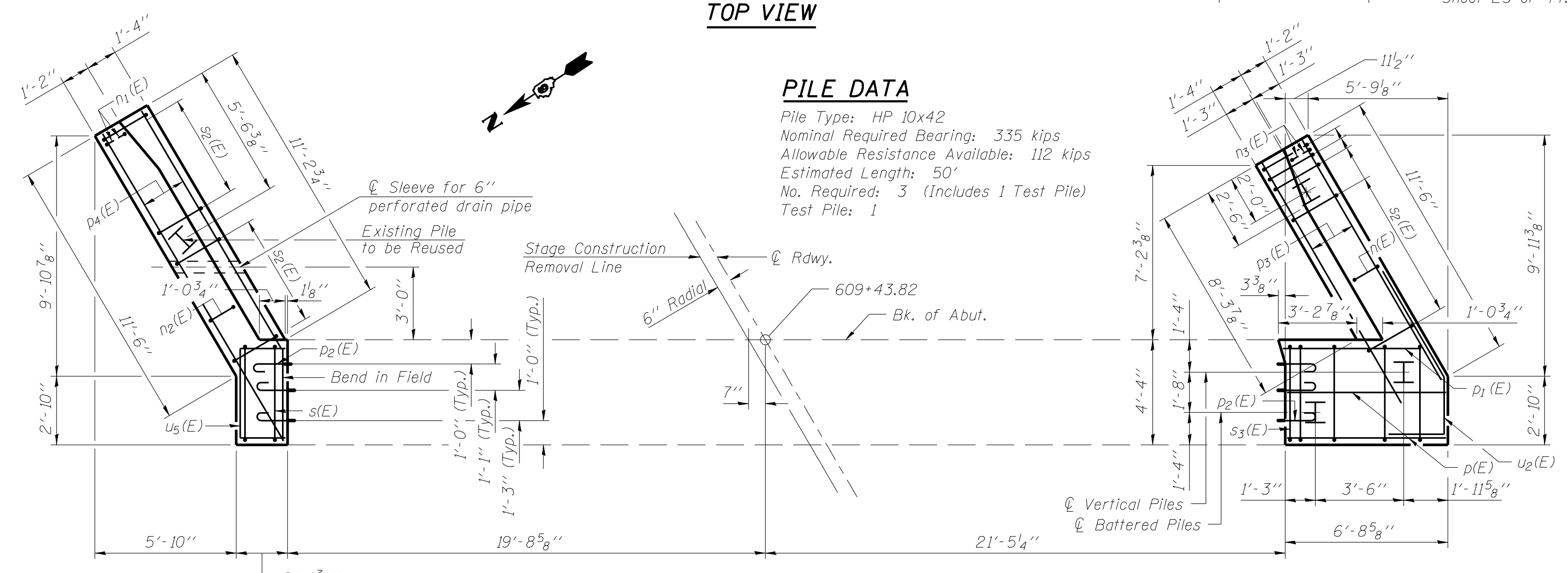
Beam No.	A	B	C
14	8¼″	7⅛″	4⅛″



TOP VIEW

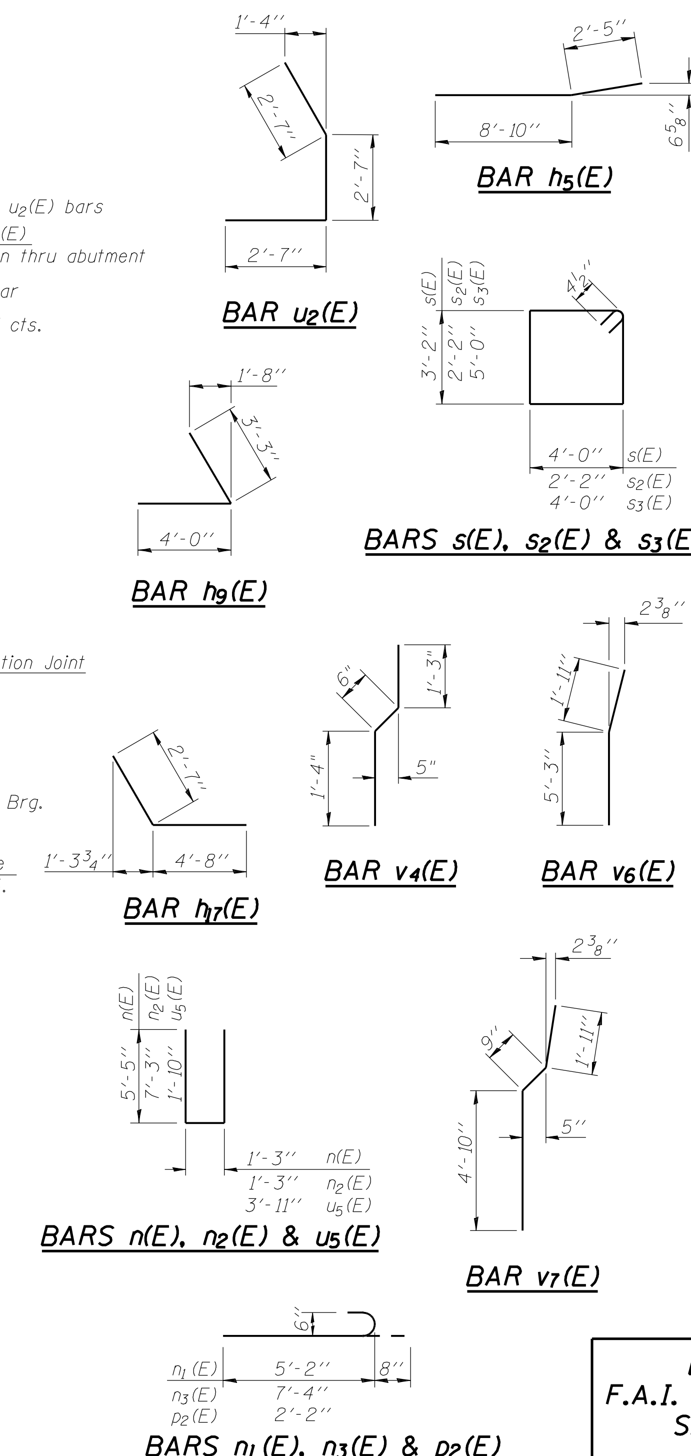
PILE DATA

Pile Type: HP 10x42
Nominal Required Bearing: 335 kips
Allowable Resistance Available: 112 kips
Estimated Length: 50′
No. Required: 3 (Includes 1 Test Pile)
Test Pile: 1



PLAN-PILE CAP

* Elevations given are from existing plans, and have been adjusted by deducting 0.69′. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.



MIN. BAR LAPS

#4 Bar - 1′-8″
#5 Bar - 2′-2″
#6 Bar - 2′-7″
#7 Bar - 3′-5″

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_4(E)	28	#4	11′-3″	
h_5(E)	20	#4	11′-3″	
h_8(E)	10	#5	20′-6″	
h_9(E)	14	#5	7′-3″	
h_{11}(E)	4	#6	20′-6″	
h_{17}(E)	14	#5	7′-3″	
h_{18}(E)	4	#6	25′-2″	
h_{25}(E)	10	#5	25′-2″	
n(E)	10	#6	12′-1″	
n_1(E)	6	#6	5′-10″	
n_2(E)	10	#6	15′-9″	
n_3(E)	6	#6	8′-0″	
p(E)	5	#7	6′-2″	
p_1(E)	3	#7	5′-8″	
p_2(E)	12	#6	2′-10″	
p_3(E)	6	#7	11′-6″	
p_4(E)	6	#7	14′-6″	
s(E)	3	#4	15′-1″	
s_2(E)	24	#4	9′-5″	
s_3(E)	7	#4	18′-9″	
u_2(E)	4	#6	7′-9″	
u_5(E)	4	#6	7′-7″	
v(E)	14	#4	6′-0″	
v_1(E)	42	#4	3′-7″	
v_2(E)	42	#4	3′-2″	
v_3(E)	8	#4	3′-5″	
v_4(E)	50	#4	3′-1″	
v_5(E)	24	#6	7′-2″	
v_6(E)	6	#6	7′-2″	
v_7(E)	20	#6	7′-6″	
Structure Excavation			Cu. Yd.	91
Concrete Structures			Cu. Yd.	31.7
Reinforcement Bars Epoxy Coated			Pound	3610
Furnishing Steel Piles HP10x42			Lin. Ft.	100
Driving Piles			Lin. Ft.	100
Test Piles Steel HP10x42			Each	1

Reinforcement Bars designated (E) shall be Epoxy Coated.
For details of Bar Splicers, see sheet 40 of 44.
Bars epoxy grouted shall have an embedment sufficient to obtain 1.25 x the yield strength of the reinforcing bar.
Drill holes for epoxy grouted bars to miss existing reinforcement.

Corporate License Number 184-001-084

EASTBOUND-EAST ABUTMENT
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

$FILE$ 12/16/2006

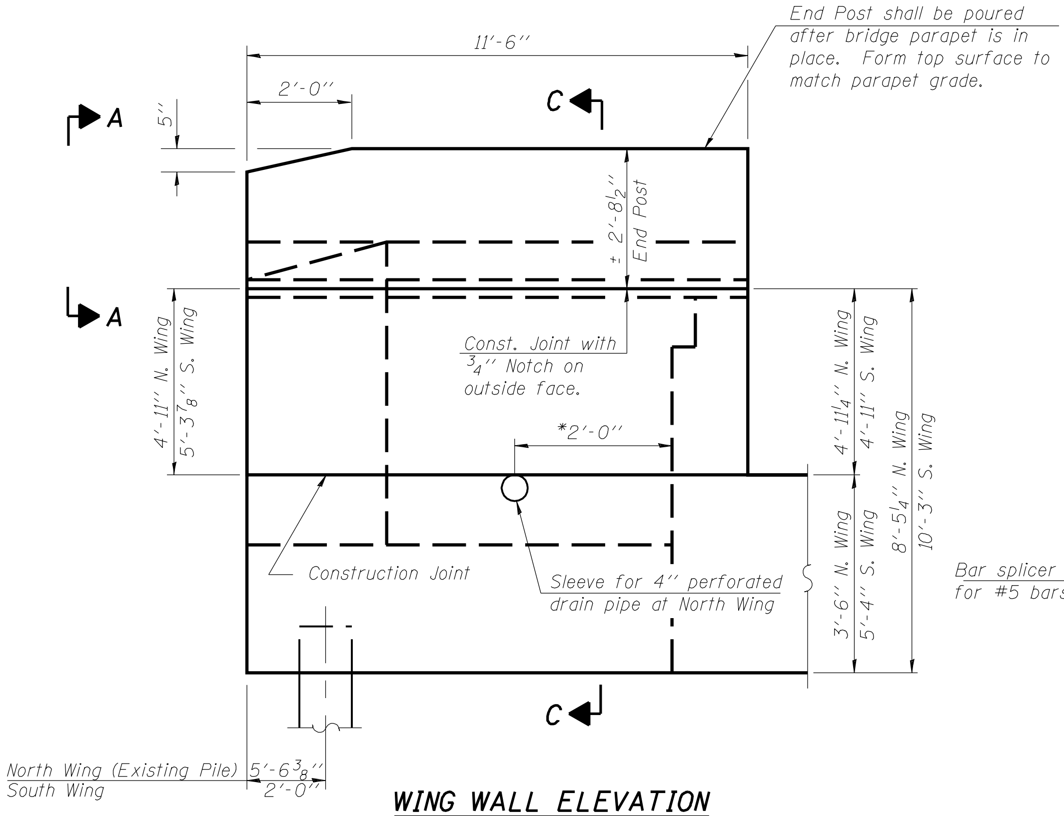
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	288
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 35

44 SHEETS

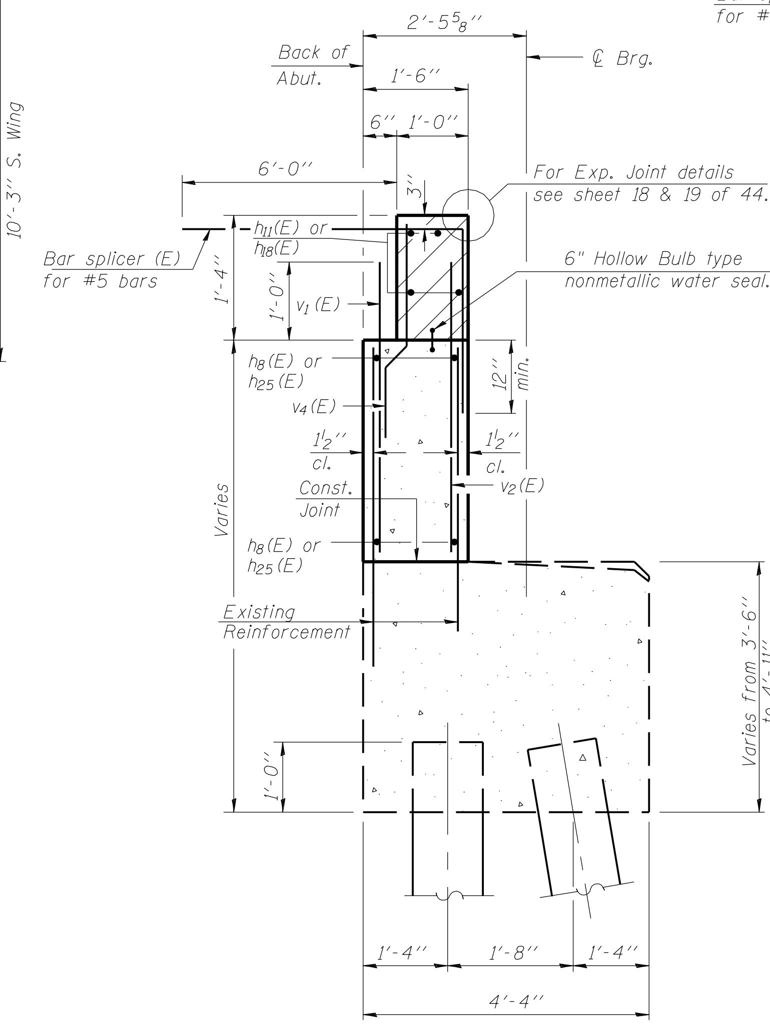
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



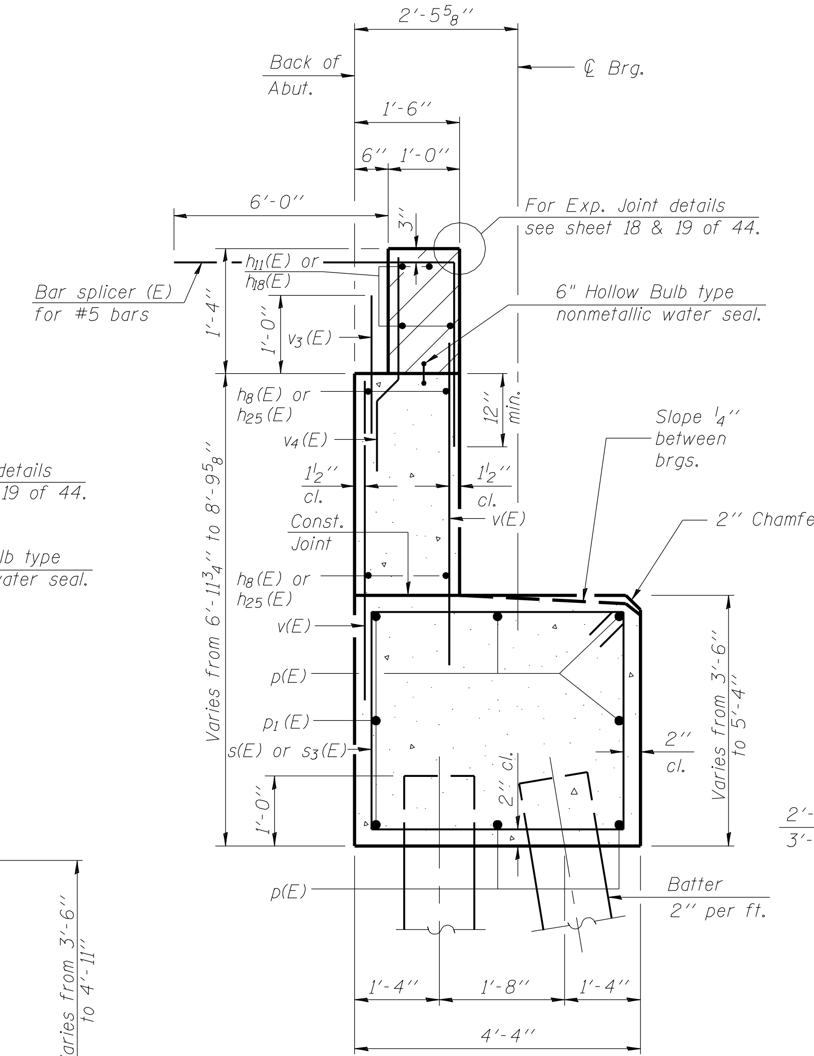
WING WALL ELEVATION

Showing Dimensions

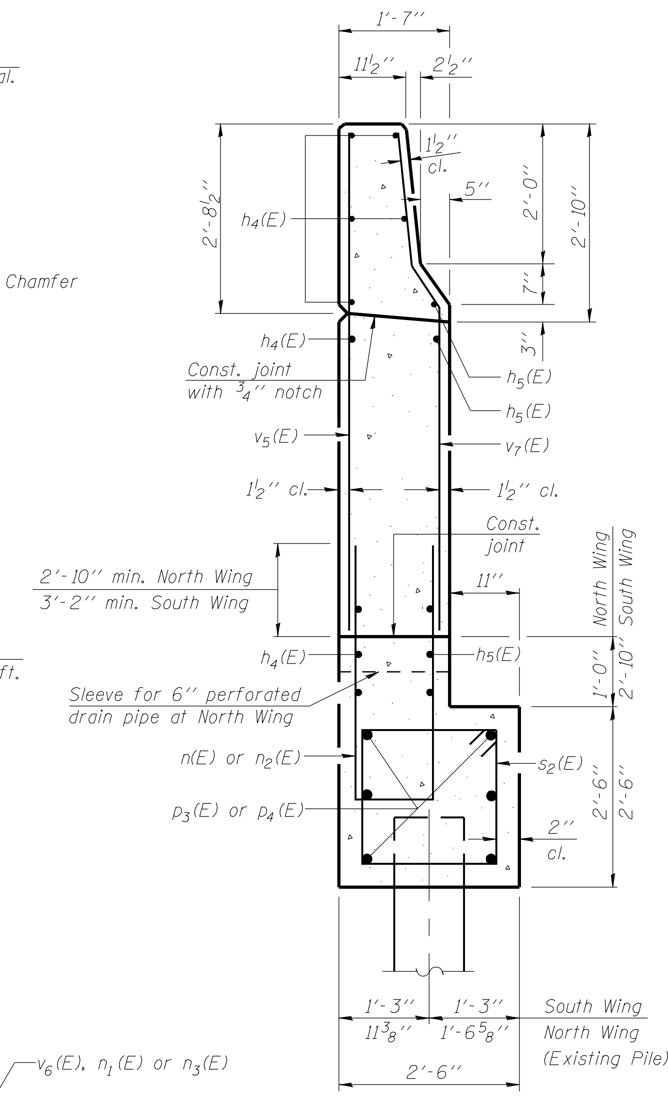
*Dimension perpendicular to Back of Abutment



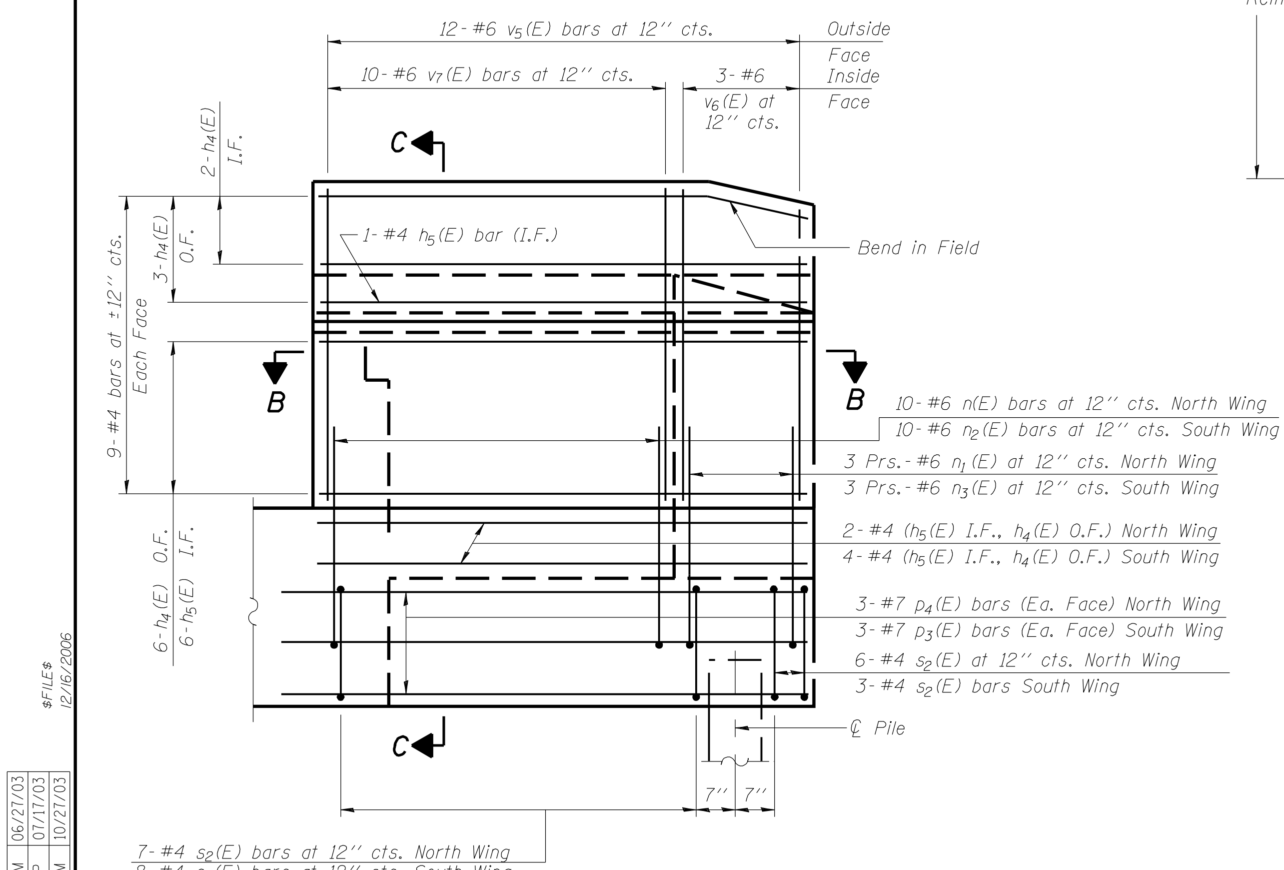
SEC. THRU EXISTING ABUT.



SEC. THRU ABUT.

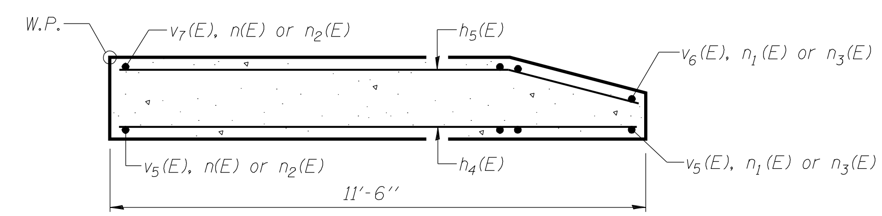


SECTION C-C



WING WALL ELEVATION

Showing Reinforcement



SEC. B-B

Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
Quantity of concrete in end post included with Concrete Superstructure on sheet 16 of 44.
Cost for sleeve shall be included with Concrete Structures.

MIN. BAR LAPS

#4 Bar - 1'-8"
#5 Bar - 2'-2"
#6 Bar - 2'-7"
#7 Bar - 3'-5"

Corporate License Number 184-001-084

EASTBOUND-EAST ABUTMENT DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

$FILE$ 12/16/2006

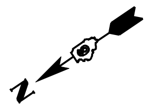
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

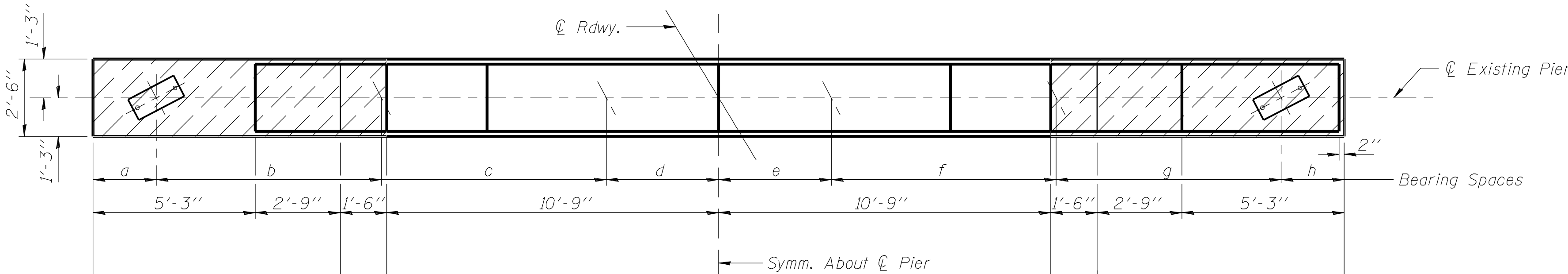
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	289
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

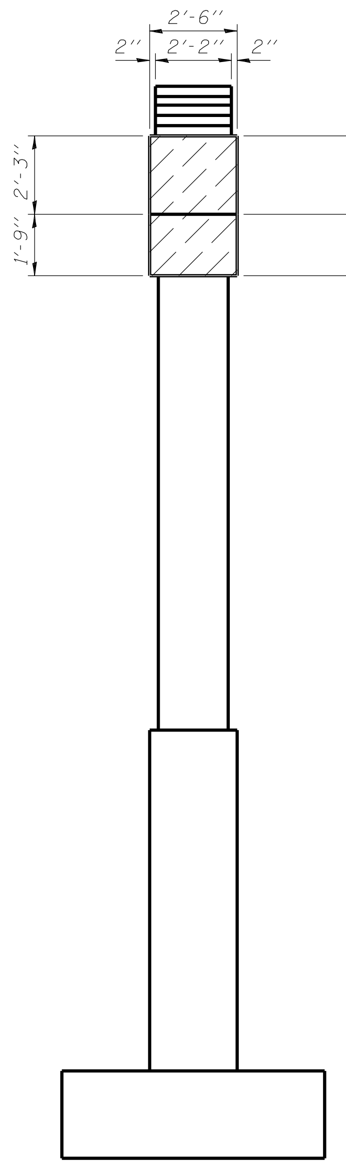
SHEET NO. 36
44 SHEETS

Note: Hatched areas indicate "Concrete Removal". See special provision "Temporary Shoring and Cribbing".

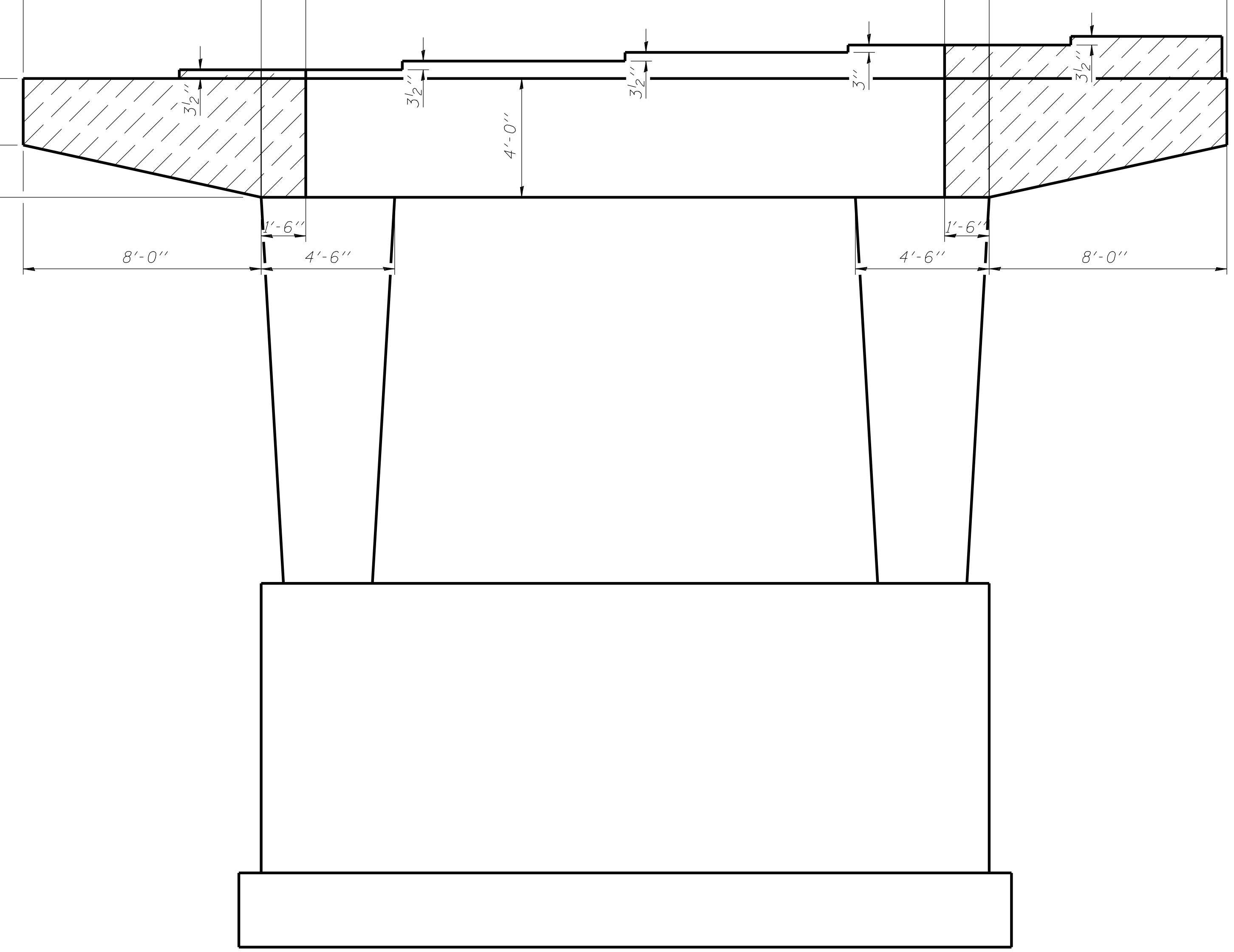




TOP PLAN
(Existing Piers 1-3 Showing Concrete Removal Limits)



END VIEW
(Existing Piers 1-3 Showing Concrete Removal Limits)



ELEVATION
(Existing Piers 1-3 Showing Concrete Removal Limits)
(Looking Upstation)

DIMENSIONS

	WESTBOUND			EASTBOUND		
	Pier #1	Pier #2	Pier #3	Pier #1	Pier #2	Pier #3
a	2'-0 1/2"	1'-10 1/4"	1'-8"	2'-2"	2'-0 1/8"	1'-10"
b	7'-3 1/2"	7'-4 3/8"	7'-5 3/8"	7'-2 7/8"	7'-3 5/8"	7'-4 1/2"
c	7'-3 3/8"	7'-4 3/8"	7'-5 1/4"	7'-2 7/8"	7'-3 5/8"	7'-4 1/2"
d	3'-7 11/16"	3'-8 1/8"	3'-8 9/16"	3'-7 3/8"	3'-7 3/4"	3'-8 3/16"
e	3'-7 11/16"	3'-8 1/8"	3'-8 9/16"	3'-7 3/8"	3'-7 3/4"	3'-8 3/16"
f	7'-3 3/8"	7'-4 1/4"	7'-5 1/8"	7'-2 3/4"	7'-3 1/2"	7'-4 3/8"
g	7'-3 3/8"	7'-4 1/4"	7'-5 1/8"	7'-2 3/4"	7'-3 1/2"	7'-4 1/4"
h	2'-0 1/2"	1'-10 1/4"	1'-8"	2'-2"	2'-0 1/8"	1'-10"

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	37.0

Corporate License Number 184-001-084

PIER CONCRETE REMOVAL
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	290

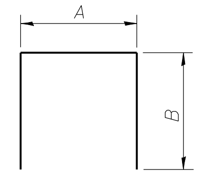
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT-

SHEET NO. 37 / 44 SHEETS

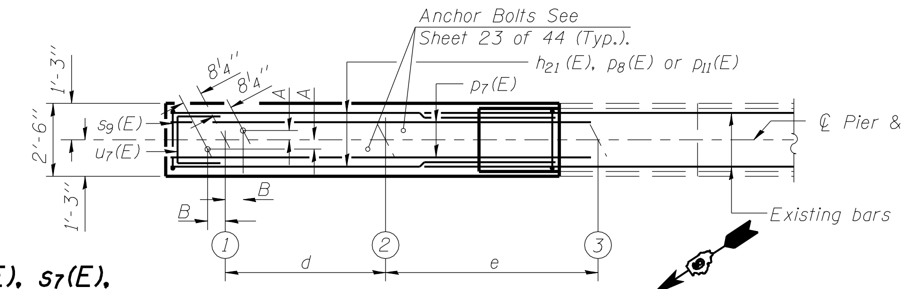
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

A & B DIMENSIONS

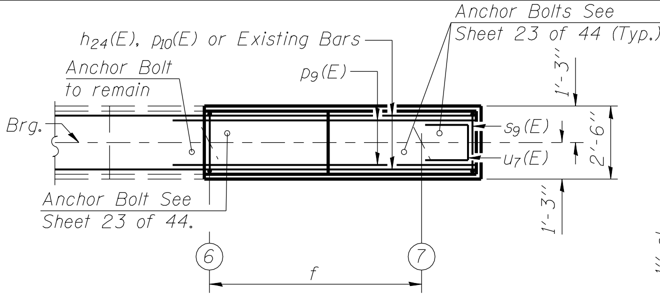
Bar	A	B
s_4(E)	2′-2″	4′-4″
s_5(E)	2′-2″	9′-5″
s_6(E)	2′-2″	12′-5″
s_7(E)	1′-8″	2′-10″
s_{10}(E)	1′-10″	2′-7″
u_6(E)	2′-1″	2′-2″
u_7(E)	2′-1″	2′-7″



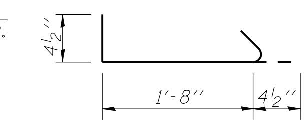
BARS s_4(E), s_5(E), s_6(E), s_7(E), s_{10}(E), u_6(E) & u_7(E)



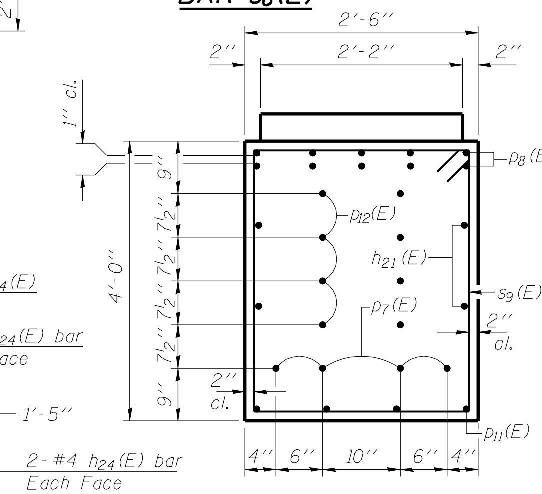
PARTIAL CAP PLAN



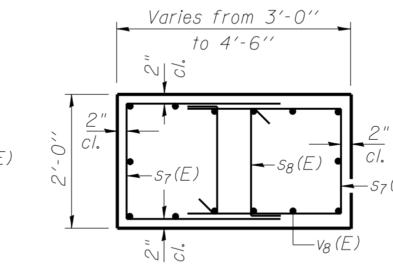
PARTIAL CAP PLAN



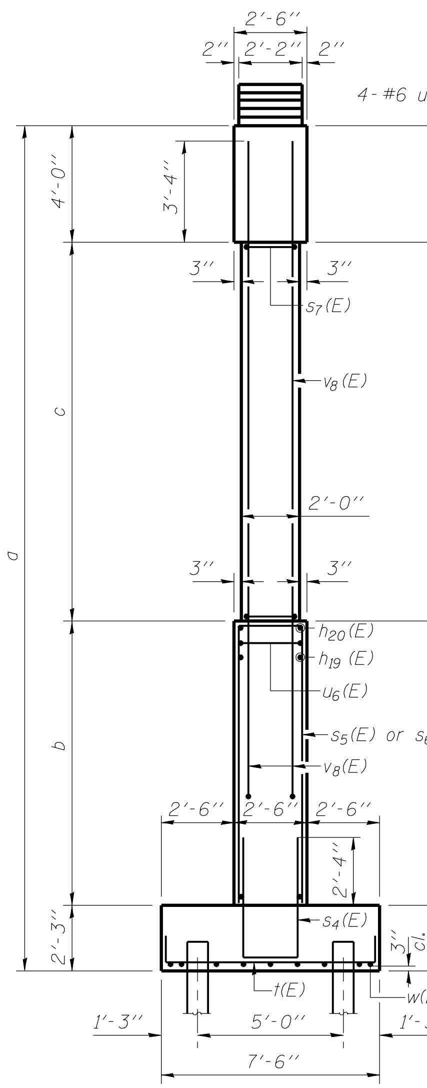
BAR s_8(E)



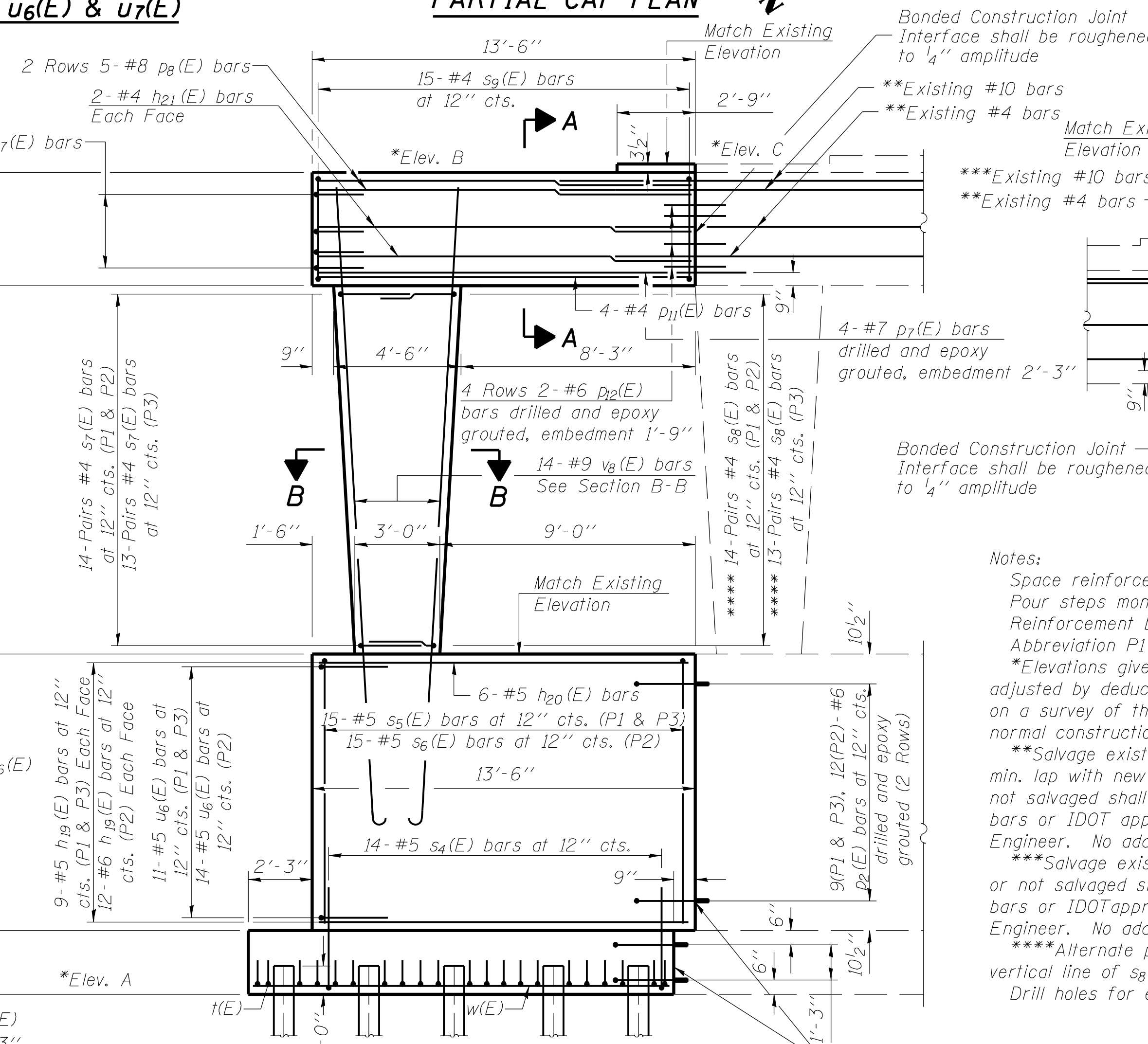
SECTION A-A



SECTION B-B

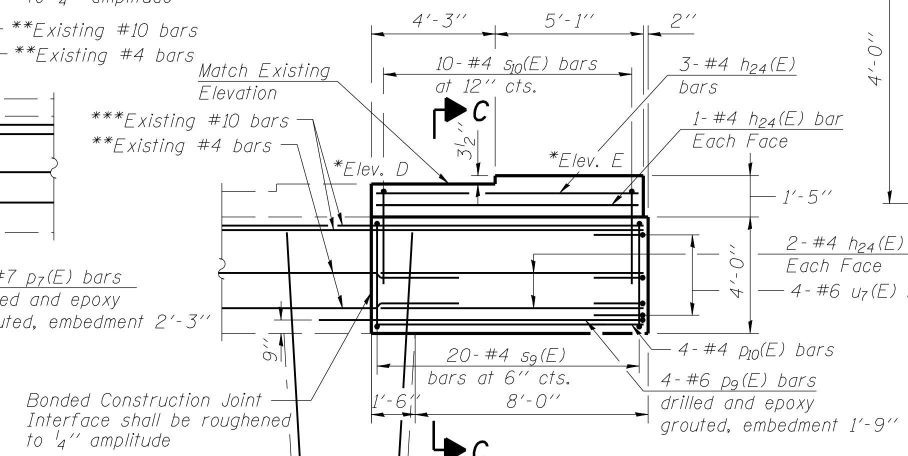


END VIEW



PARTIAL ELEVATION

(Looking Upstation - North End)



PARTIAL CAP ELEVATION

(Looking Upstation - South End)

Notes:

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

Reinforcement bars designated (E) shall be Epoxy Coated.

Abbreviation P1 etc., indicates Pier #1.

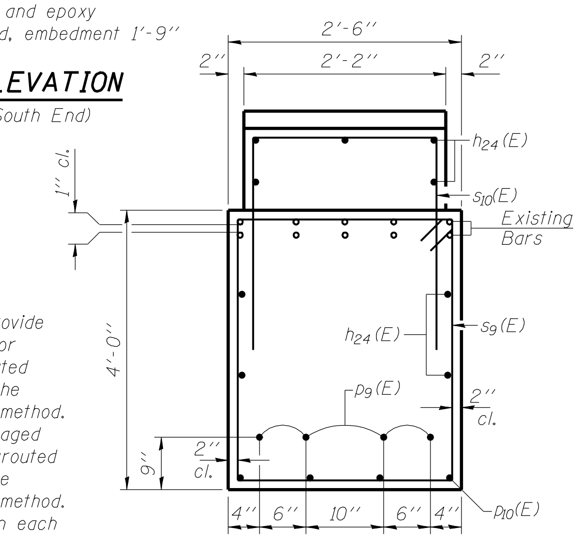
*Elevations given are from existing plans, and have been adjusted by deducting 0.69′. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.

**Salvage existing reinforcement bars. Cut as required to provide min. lap with new pier cap reinforcement bars. Bars damaged or not salvaged shall be replaced with either drilled and epoxy grouted bars or IDOT approved mechanical bar splicers as directed by the Engineer. No additional compensation will be allowed for either method.

***Salvage existing reinforcement bars full length. Bars damaged or not salvaged shall be replaced with either drilled and epoxy grouted bars or IDOTapproved mechanical bar splicers as directed by the Engineer. No additional compensation will be allowed for either method.

****Alternate placement of 90° hooks in each column face, in each vertical line of s_8(E) bars.

Drill holes for epoxy grouted bars to miss existing reinforcement.



SECTION C-C

DIMENSIONS & ELEVATIONS

Description	Pier #1	Pier #2	Pier #3
a	29′-0″	31′-6″	28′-3″
b	9′-9″	12′-9″	9′-9″
c	13′-0″	12′-6″	12′-3″
d	5′-3 5/8″	5′-4 1/4″	5′-5″
e	7′-3 1/2″	7′-4 3/8″	7′-5 3/8″
f	7′-3 3/8″	7′-4 1/8″	7′-5 1/8″
Elev. A	598.29	595.93	599.09
Elev. B	627.29	627.43	627.34
Elev. C	627.58	627.72	627.63
Elev. D	628.42	628.56	628.47
Elev. E	628.71	628.85	628.76

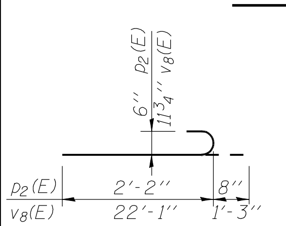
MIN. BAR LAPS

#4 Bar - 1′-8″
#5 Bar - 2′-2″
#6 Bar - 2′-7″
#8 Bar - 4′-6″

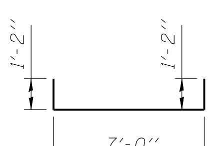
WESTBOUND PIERS 1-3 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{19} (E)	66	#5	13′-2″	
h_{20}(E)	18	#5	13′-2″	
h_{21}(E)	12	#4	13′-2″	
h_{24}(E)	27	#4	9′-0″	
p_2(E)	102	#6	2′-10″	
p_7(E)	12	#7	15′-7″	
p_8(E)	30	#8	13′-2″	
p_9(E)	12	#6	11′-1″	
p_{10}(E)	12	#4	9′-2″	
p_{11}(E)	12	#4	13′-2″	
p_{12}(E)	24	#6	3′-6″	
s_4(E)	42	#5	10′-10″	
s_5(E)	30	#5	21′-0″	
s_6(E)	15	#5	27′-0″	
s_7(E)	82	#4	7′-4″	
s_8(E)	82	#4	2′-5″	
s_9(E)	105	#4	12′-5″	
s_{10}(E)	30	#4	7′-0″	
t(E)	63	#7	9′-4″	
u_6(E)	36	#5	6′-5″	
u_7(E)	24	#6	7′-3″	
v_8 (E)	42	#9	23′-4″	
w(E)	27	#5	14′-6″	
Structure Excavation			Cu. Yd.	169
Concrete Structures			Cu. Yd.	107.6
Reinforcement Bars Epoxy Coated			Pound	12340
Furnishing Steel Piles HP10x42			Lin. Ft.	535
Driving Piles			Lin. Ft.	535
Test Piles Steel HP10x42			Each	1

Bars epoxy grouted shall have an embedment sufficient to obtain 1.25 x the yield strength of the reinforcing bar.



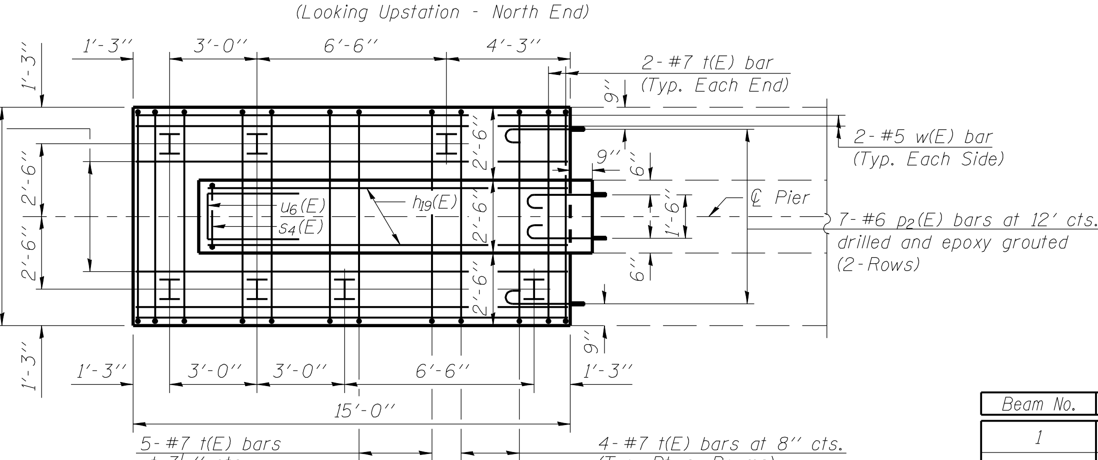
BARS p_2(E) & v_8(E)



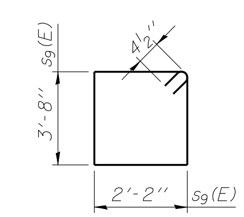
BAR t(E)

PILE DATA

Pile Type: HP10x42
Nominal Required Bearing: 335 kips
Allowable Resistance Available: 112 kips
Estimated Length: 25′ (Piers 1 & 2), 30′ (Pier 3)
No. Required: 7 (per pier, includes 1 test pile at Pier #2)
Test Pile: 1 (at Pier #2)



PARTIAL FOOTING PLAN



BAR s_9(E)

ANCHOR BOLT LAYOUT DIMENSIONS

Beam No.	Pier 1-A	Pier 1-B	Pier 2-A	Pier 2-B	Pier 3-A	Pier 3-B
1	3 15/16″	7 1/4″	4 1/16″	7 1/4″	4 3/16″	7 1/8″
2	3 7/8″	7 1/4″	4″	7 1/4″	4 1/8″	7 1/8″
7	3 7/8″	7 1/4″	4″	7 1/4″	4 1/8″	7 1/8″

Corporate License Number 184-001-084

WESTBOUND PIERS 1-3
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

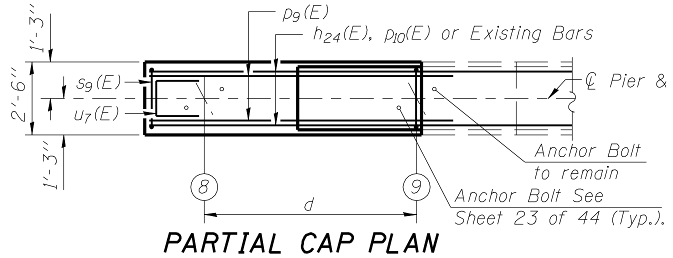
LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

$FILE$ 12/16/2006

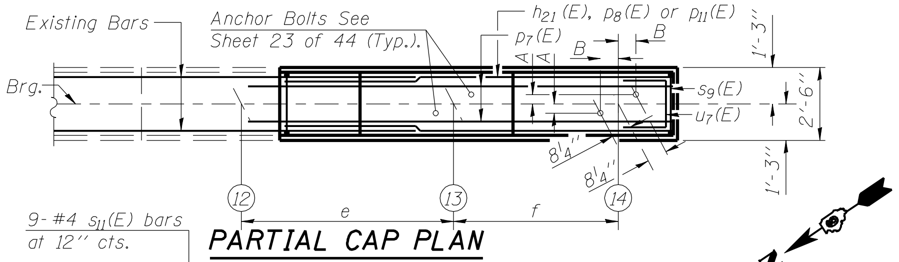
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	291
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 38
44 SHEETS

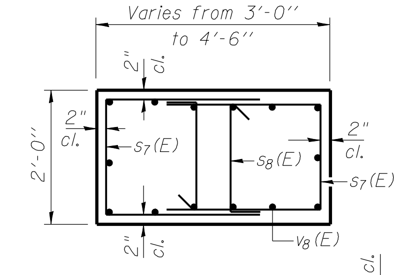
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



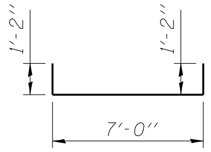
PARTIAL CAP PLAN



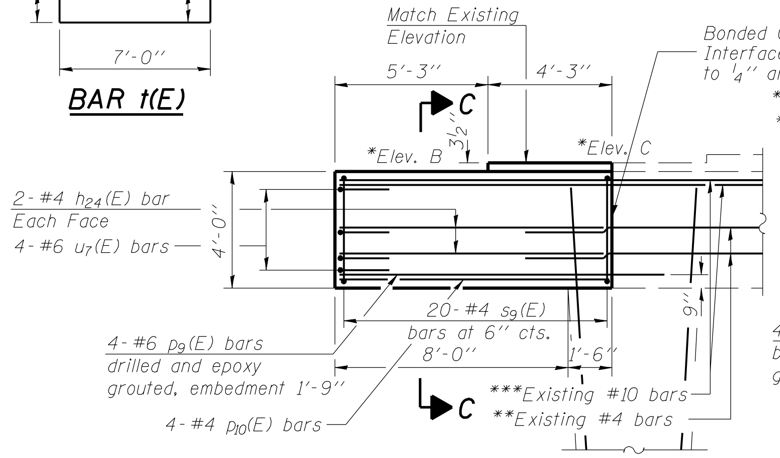
PARTIAL CAP PLAN



SECTION B-B

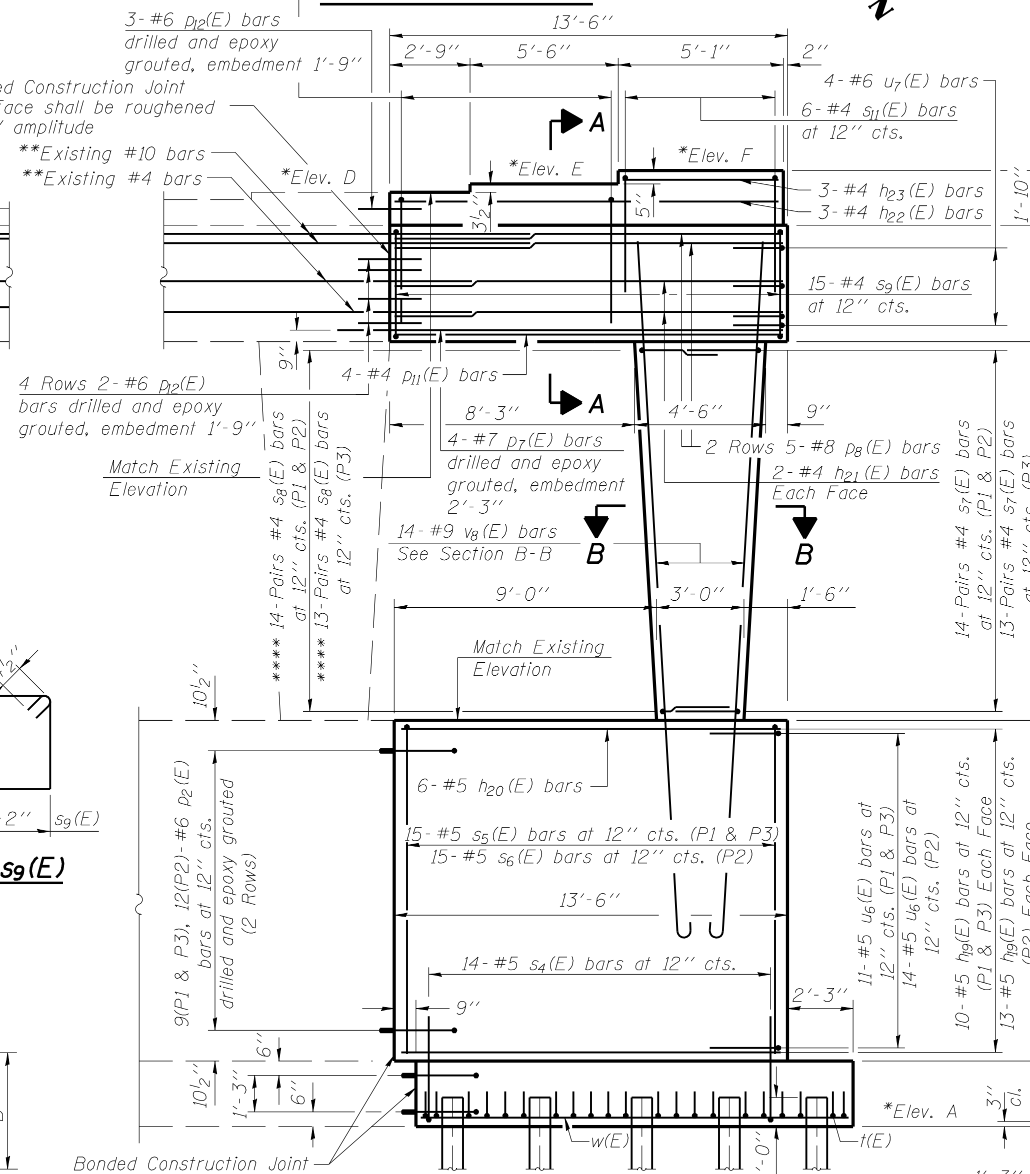


BAR t(E)

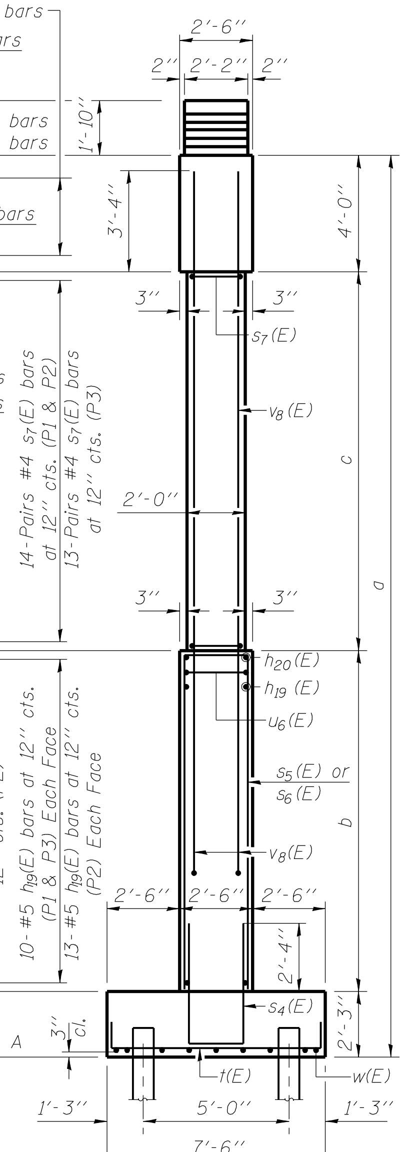


PARTIAL CAP ELEVATION
(Looking Upstation North End)

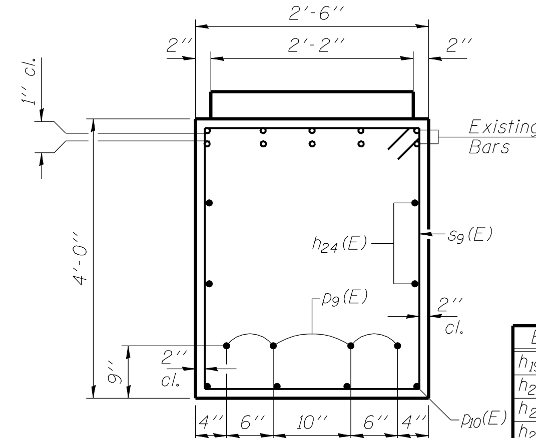
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be Epoxy Coated.
Abbreviation P1 etc., indicates Pier #1.
*Elevations given are from existing plans, and have been adjusted by deducting 0.69'. The comparison data is based on a survey of the existing bearing seats, and is subject to normal construction tolerance variations.
**Salvage existing reinforcement bars. Cut as required to provide min. lap with new pier cap reinforcement bars. Bars damaged or not salvaged shall be replaced with either drilled and epoxy grouted bars or IDOT approved mechanical bar splicers as directed by the Engineer. No additional compensation will be allowed for either method.
***Salvage existing reinforcement bars full length. Bars damaged or not salvaged shall be replaced with either drilled and epoxy grouted bars or IDOTapproved mechanical bar splicers as directed by the Engineer. No additional compensation will be allowed for either method.
****Alternate placement of 90° hooks in each column face, in each vertical line of $s_8(E)$ bars.
Drill holes for epoxy grouted bars to miss existing reinforcement.



PARTIAL ELEVATION
(Looking Upstation South End)



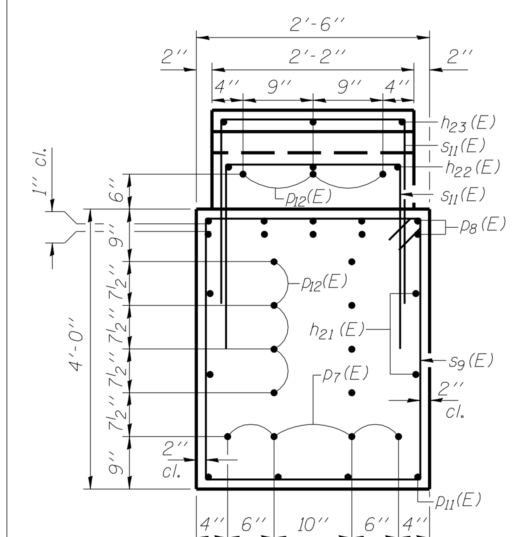
END VIEW



SECTION C-C

MIN. BAR LAPS

#4 Bar - 1'-8''
#5 Bar - 2'-2''
#6 Bar - 2'-7''
#8 Bar - 4'-6''

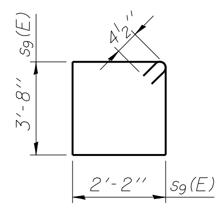


SECTION A-A

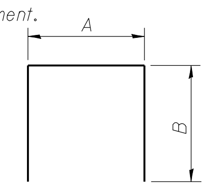
EASTBOUND PIERS 1-3 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_{19}(E)$	66	#5	13'-2''	
$h_{20}(E)$	18	#5	13'-2''	
$h_{21}(E)$	12	#4	13'-2''	
$h_{22}(E)$	9	#4	13'-0''	
$h_{23}(E)$	9	#4	4'-9''	
$h_{24}(E)$	12	#4	9'-0''	
$p_2(E)$	102	#6	2'-10''	
$p_7(E)$	12	#7	15'-7''	
$p_8(E)$	30	#8	13'-2''	
$p_9(E)$	12	#6	11'-1''	
$p_{10}(E)$	12	#4	9'-2''	
$p_{11}(E)$	12	#4	13'-2''	
$p_{12}(E)$	33	#6	3'-6''	
$s_4(E)$	42	#5	10'-10''	
$s_5(E)$	30	#5	21'-0''	
$s_6(E)$	15	#5	27'-0''	
$s_7(E)$	82	#4	7'-4''	
$s_8(E)$	82	#4	2'-5''	
$s_9(E)$	105	#4	12'-5''	
$s_{11}(E)$	45	#4	8'-10''	
$t(E)$	63	#7	9'-4''	
$u_6(E)$	36	#5	6'-5''	
$u_7(E)$	24	#6	7'-3''	
$v_8(E)$	42	#9	23'-4''	
$w(E)$	27	#5	23'-4''	
Structure Excavation			Cu. Yd.	164
Concrete Structures			Cu. Yd.	109.6
Reinforcement Bars Epoxy Coated			Pound	12780
Furnishing Steel Piles HP10x42			Lin. Ft.	470
Driving Piles			Lin. Ft.	470
Test Piles Steel HP10x42			Each	1

Bars epoxy grouted shall have an embedment sufficient to obtain 1.25 x the yield strength of the reinforcing bar.



BAR $s_9(E)$



BARS $s_4(E)$, $s_5(E)$, $s_6(E)$, $s_7(E)$, $s_{11}(E)$, $u_6(E)$ & $u_7(E)$

DIMENSIONS & ELEVATIONS

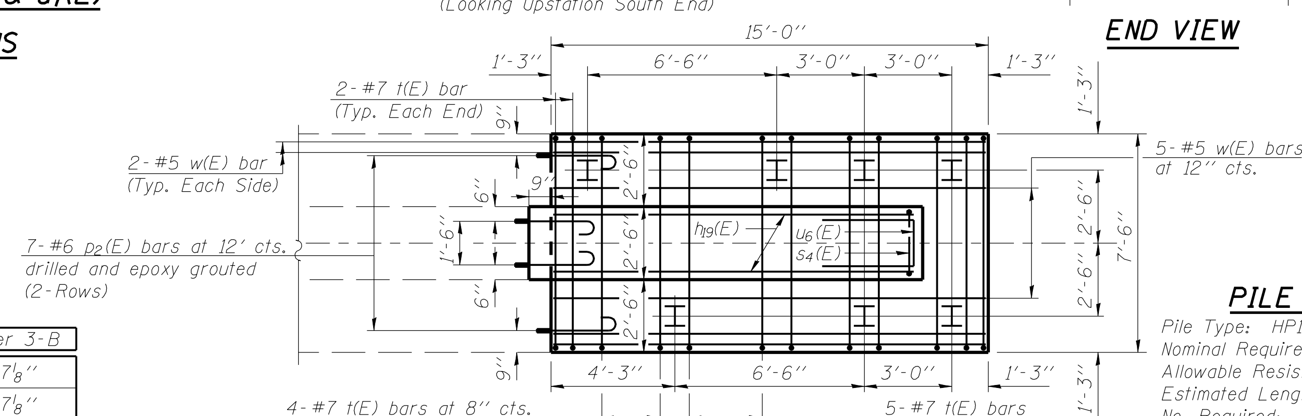
Description	Pier #1	Pier #2	Pier #3
a	29'-0''	31'-6''	28'-3''
b	9'-9''	12'-9''	9'-9''
c	13'-0''	12'-6''	12'-3''
d	7'-2 7/8''	7'-3 5/8''	7'-4 1/2''
e	7'-2 3/4''	7'-3 1/2''	7'-4 1/4''
f	5'-3''	5'-3 5/8''	5'-4 1/4''
Elev. A	598.16	595.87	599.11
Elev. B	627.16	627.37	627.36
Elev. C	627.45	627.66	627.65
Elev. D	628.28	628.50	628.49
Elev. E	628.58	628.79	628.78
Elev. F	628.99	629.20	629.19

A & B DIMENSIONS

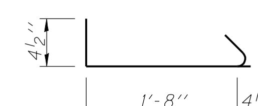
Bar	A	B
$s_4(E)$	2'-2''	4'-4''
$s_5(E)$	2'-2''	9'-5''
$s_6(E)$	2'-2''	12'-5''
$s_7(E)$	1'-8''	2'-10''
$s_{11}(E)$	1'-10''	3'-6''
$u_6(E)$	2'-1''	2'-2''
$u_7(E)$	2'-1''	2'-7''

ANCHOR BOLT LAYOUT DIMENSIONS

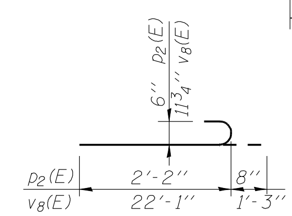
Beam No.	Pier 1-A	Pier 1-B	Pier 2-A	Pier 2-B	Pier 3-A	Pier 3-B
8	3 7/8''	7 1/4''	4''	7 1/4''	4 1/8''	7 1/8''
13	3 7/8''	7 1/4''	4''	7 1/4''	4 1/8''	7 1/8''
14	3 13/16''	7 5/16''	3 15/16''	7 1/4''	4 1/16''	7 3/16''



PARTIAL FOOTING PLAN



BAR $s_8(E)$



BARS $p_2(E)$ & $v_8(E)$

PILE DATA

Pile Type: HP10x42
Nominal Required Bearing: 335 kips
Allowable Resistance Available: 112 kips
Estimated Length: 25' (Piers 1 & 3), 20' (Pier 2)
No. Required: 7 (per pier, includes 1 test pile at Pier #2)
Test Pile: 1 (at Pier #2)

Corporate License Number 184-001-084

EASTBOUND PIERS 1-3
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

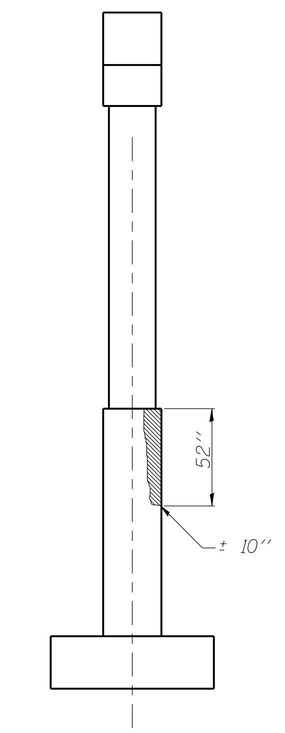
$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

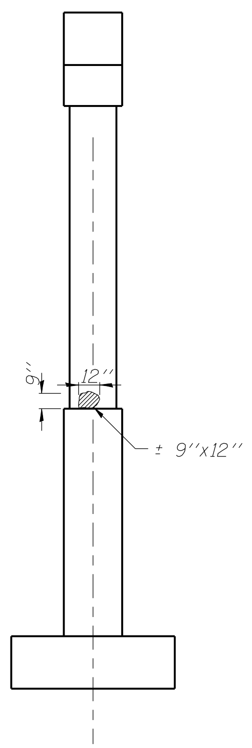
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	292
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 39
44 SHEETS

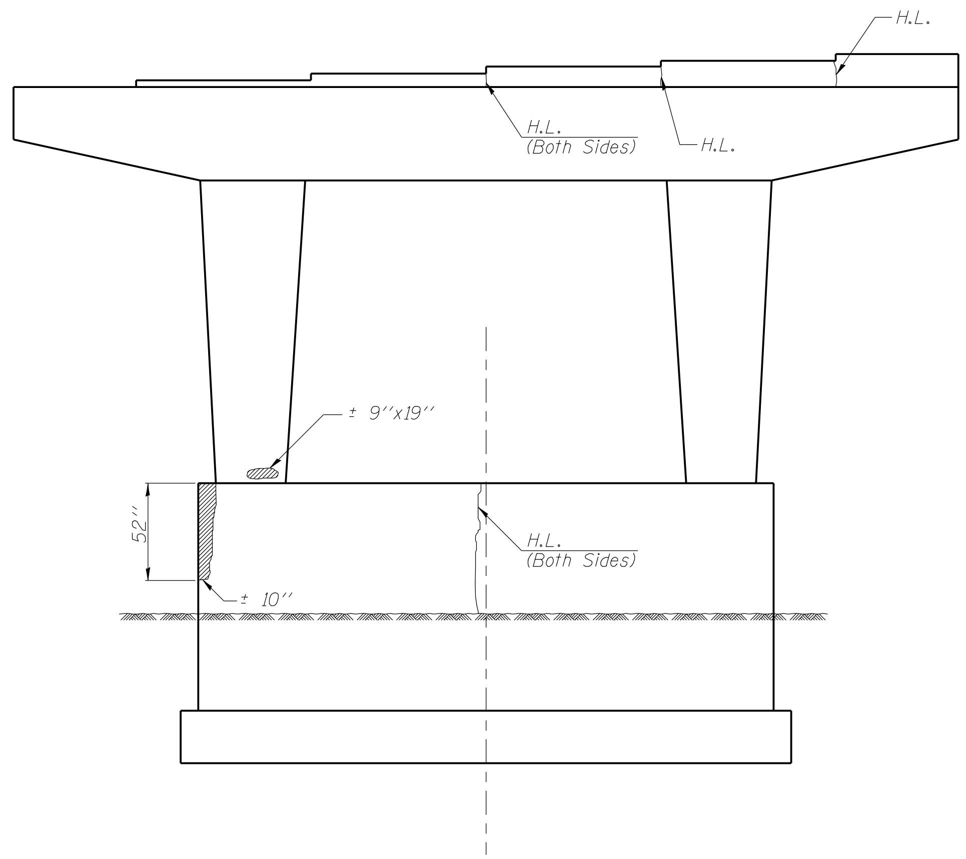
*(84-9-4)A,HBK,BY,BY-1 Contract No 72541



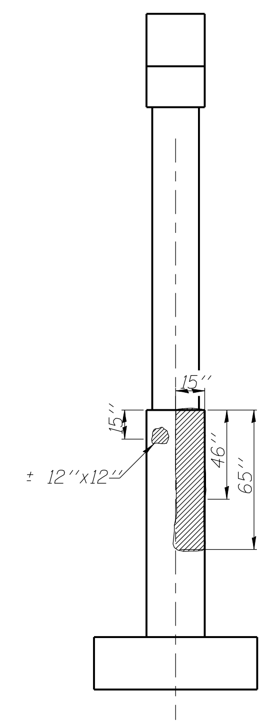
END VIEW - PIER 1
(I-72 E.B. North Side)



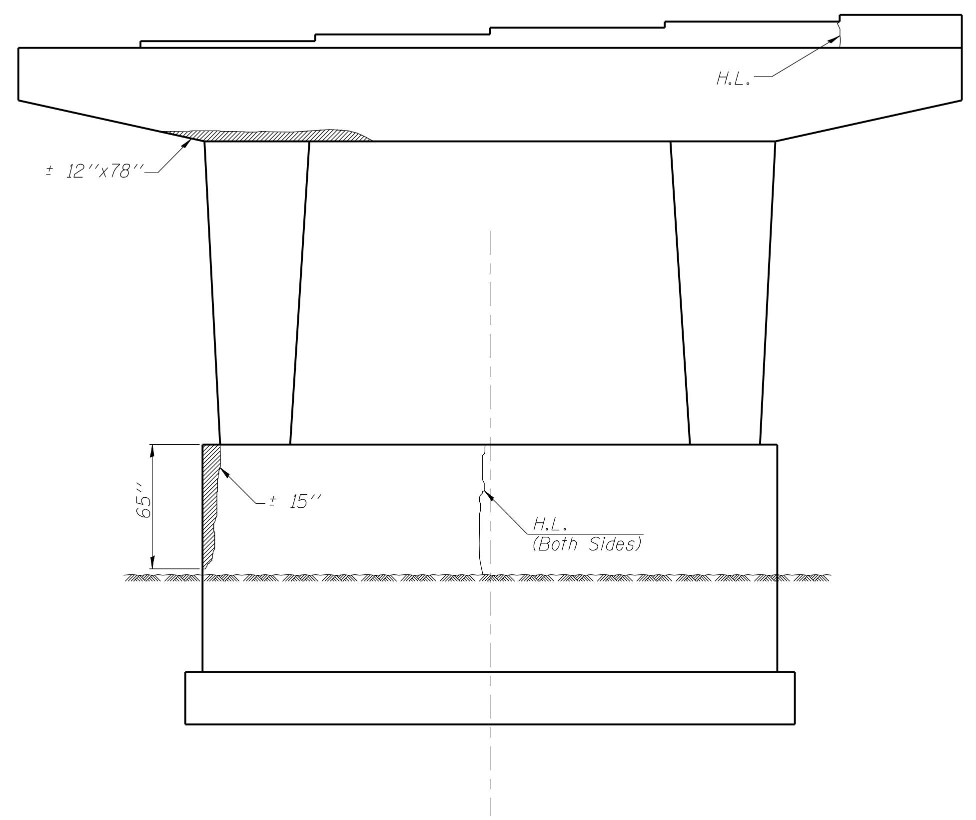
END VIEW - PIER 1
(I-72 E.B. South Side)



PIER 1 I-72 E.B.
(Looking East)



END VIEW - PIER 1
(I-72 W.B. North Side)



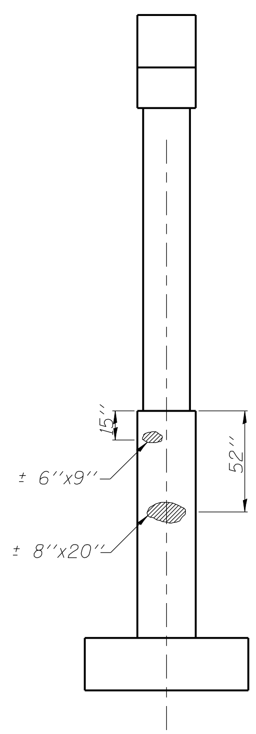
PIER 1 I-72 W.B.
(Looking East)

LEGEND

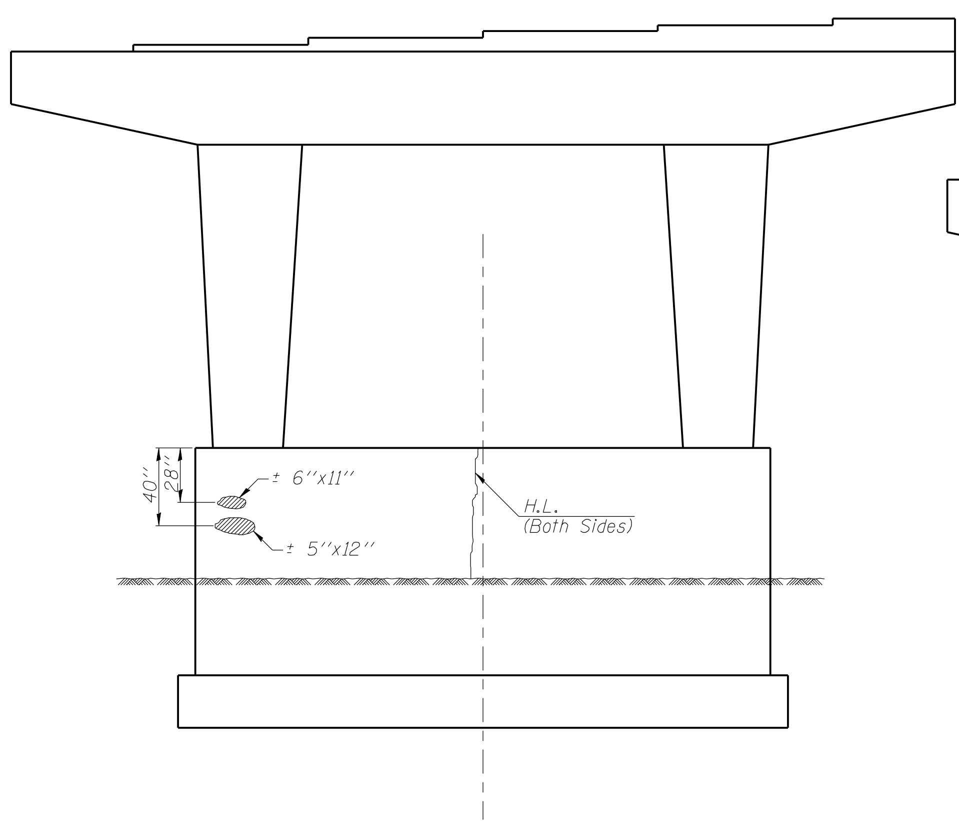
Structural Repair of Concrete (Depth equal to or less than 5 inches)

(H.L.) - Hairline Crack not to be sealed

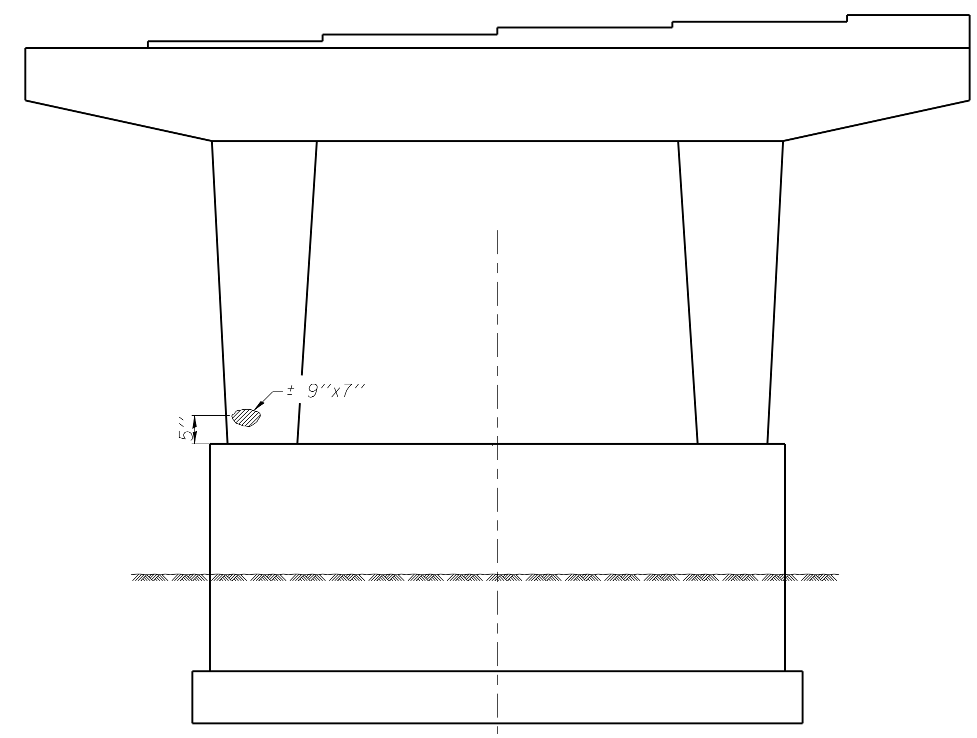
Note: Dimensions shown for repair are for estimating purpose only. Final limits of repair are to be determined in the field.



END VIEW - PIER 2
(I-72 E.B. North Side)



PIER 2 I-72 E.B.
(Looking East)



PIER 2 I-72 W.B.
(Looking East)

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	33

Corporate License Number 184-001-084

SUBSTRUCTURE REPAIRS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B

DATE: 01/12/06

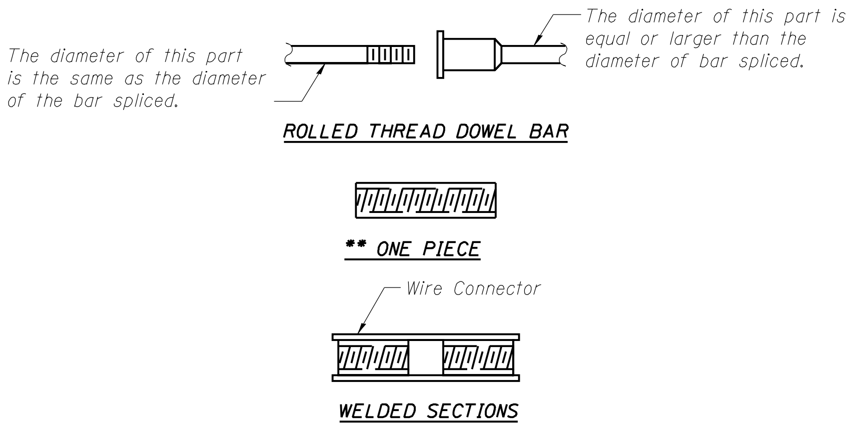
$FILE$ 12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	293
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

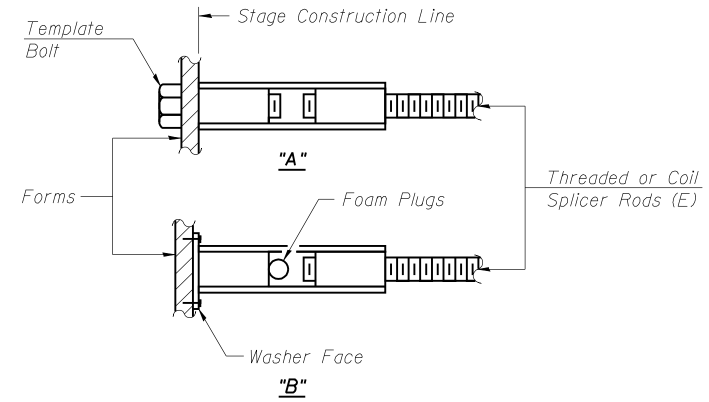
SHEET NO. 40
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No 72541



BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

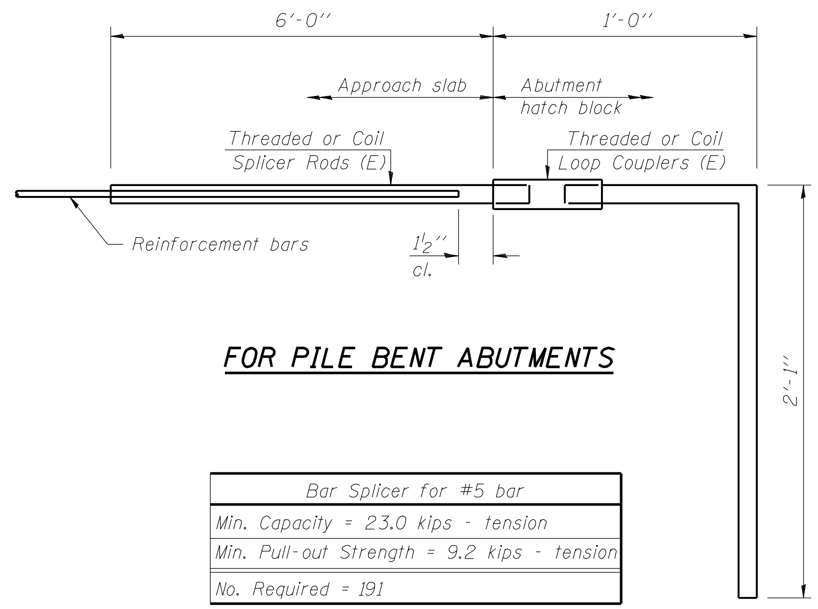
① Minimum Capacity (Tension in kips) $= 1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) $= 1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

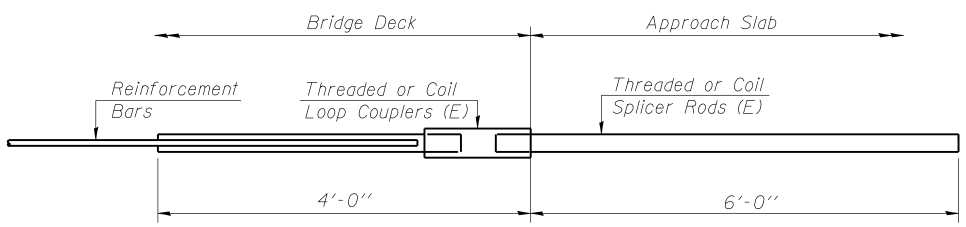
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements: Min. Capacity kips - tension	Strength Requirements: Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



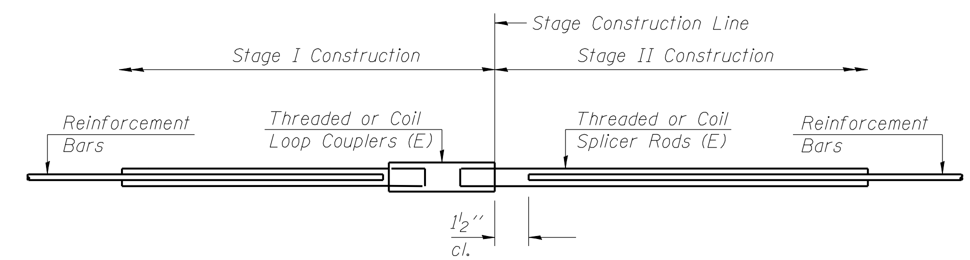
FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 191



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 0



STANDARD

Bar Size	No. Assemblies Required	Location
#5	402	W.B. Top of Slab Stage Construction Line
#5	397	E.B. Top of Slab Stage Construction Line
#5	282	W.B. Bottom of Slab Stage Construction Line
#5	277	E.B. Bottom of Slab Stage Construction Line
#5	40	Abutment Backwalls
#6	16	Abut. Portion Poured With Superstructure

Corporate License Number 184-001-084

BAR SPLICER ASSEMBLY DETAILS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

$FILE$ 12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	294
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 41
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 1/28/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Eastbound FAI 72 over UPRR LOGGED BY S. Lewis
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0074
Station 608+50

BORING NO. 1964-1 W. Abut
Station 607+20
Offset 55.00ft Rt
Ground Surface Elev. 601.0 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
▽ First Encounter No Data ft
▼ Upon Completion 594.0 ft
▼ After 24 Hrs. 596.5 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SILTY CLAY LOAM	599.50				
Yellow and Grey SILT (Soft)		-5	4		
	594.50				
Yellow and Grey SILTY CLAY (Soft)			7	0.5 E	
		-10	5		
	589.00				
Brown and Grey CLAY LOAM (Medium)			7	0.7 B	31
	586.00	-15			
Grey-Green SILTY CLAY LOAM (Stiff)			8	1.2 B	
			6	1.2 B	
	581.00	-20			
Grey-Green and Brown Layered SILTY CLAY w/Mica (V. Stiff)			22	3.1 S-15	
			60	3.1 S-15	
		-25	100 /9"	3.1 S-15	
	575.50				
Light Grey Shaley CLAY (V. Stiff)			100 /1"	3.2 E	
	571.00	-30			
Boring Completed			100 /1"		
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 11/16/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT District 6

SOIL BORING LOG

Page 1 of 1
Date 1/28/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Westbound FAI 72 over UPRR LOGGED BY S.Lewis
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0075
Station 608+50

BORING NO. 1964-2 W. Abut
Station 607+65
Offset 39.0ft Lt
Ground Surface Elev. 601.0 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
▽ First Encounter 593.5 ft
▽ Upon Completion 594.0 ft
▽ After 24 Hrs. 596.5 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black Silty Clay LOAM	599.50				
Yellow and Grey Mottled SILTY CLAY		-5	5		
	595.00				
Yellow and Grey Mottled SILT			11	0.5 E	
	591.50	-10			
Brown and Grey Mottled CLAY LOAM			3	0.6 B	
			6	0.8 B	
		-15	5	1.0 B	
	584.00				
Grey-Green SANDY CLAY LOAM (Till)			8	1.0 B	
		-20			
	580.50		22	1.8 S-15	
Brown and Grey-Green Layered SILTY CLAY			44	4.2 S-10	
		-25	100 /10"	3.2 B	
	575.00				
Light Grey Shaley CLAY			100 /3"		
	571.00	-30			
Boring Completed			100 /2"		
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name S:\SOILS\GINT FILES\SANGAMON\MACARTHUR EXTENSION STATE STRUCTURES.GPJ Data Template D6TEMPLT.GDT Date Printed 12/22/05
Latitude Longitude Datum Job Number

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 1/29/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Eastbound FAI 72 over UPRR LOGGED BY S. Lewis
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0074
Station 608+50

BORING NO. 1964-3 Pier 3
Station 608+95
Offset 55.00ft Rt
Ground Surface Elev. 601.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
▽ First Encounter No Data ft
▼ Upon Completion 594.0 ft
▼ After 24 Hrs. 596.5 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SILTY CLAY LOAM	600.00				
Yelow and Grey SILTY CLAY		-5	5		
	595.00				
Yellow and Grey SILT (Medium)			6	0.7 B	31
	592.50				
Brown and Grey CLAY LOAM		-10	5	1.0 B	
			4		29
		-15	5	0.9 B	
	584.50				
Grey-Green SANDY CLAY LOAM (Till) (Medium)			6	0.8 B	29
	582.00				
		-20	87	2.3	20
Brown and Grey-Green Thinly Layered SANDY CLAY (V. Stiff) (continued)				S-15	
	579.50				
Light Grey Thin Bedded SHALE (V. Stiff)			100 /2"	2.9 S-10	
		-25	100 /4"		
	574.50				
Boring Completed			100 /2"		
		-30			
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 1/16/04
Latitude Longitude

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

BORINGS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

*(84-9-4)A,HBK,BY,BY-1 Contract No 72541

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 1/29/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Eastbound FAI 72 over UPRR LOGGED BY S. Lewis
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0074
Station 608+50
BORING NO. 1964-4 E. Abut
Station 609+37
Offset 39.00ft Rt
Ground Surface Elev. 601.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
▽ First Encounter No Data ft
▼ Upon Completion 596.0 ft
▼ After ___ Hrs. No Data ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SILTY CLAY LOAM	600.00				
Yellow and Grey SILTY CLAY	597.00				
Yellow and Grey SILT (Stiff)		-5	10	1.0 E	
	592.50		8	1.6 B	29
Brown and Grey CLAY LOAM (Medium)		-10	4	0.7 B	29
			5	0.6 B	
	585.00	-15	6		
Grey-Green SANDY CLAY LOAM (Till) (Stiff)	582.00		9	2.1 B	21
		-20	72	1.5	18
Brown and Grey-Green Thin Bedded SANDY CLAY (Stiff) (continued)	579.50			B	
Light Grey Thinly Bedded Sandy SHALE w/Mica and Organic Matl. on Bedding Planes (V. Stiff)			100 /7"		14
	574.50	-25	100 /6"	4.0 B	16
Boring Completed			100 /2"		
		-30			
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 1/16/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 1/30/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Westbound FAI 72 over UPRR LOGGED BY S. Lewis
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0075
Station 608+50
BORING NO. 1964-5 Pier 3
Station 609+40
Offset 41.00ft Lt
Ground Surface Elev. 601.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
▽ First Encounter 595.0 ft
▼ Upon Completion 596.0 ft
▼ After 24 Hrs. 597.0 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SILTY CLAY LOAM	600.00				
Yellow and Grey SILTY CLAY (Stiff)		-5	7	1.1 B	29
	595.00				
Yellow and Grey SILT (Medium) Free Water	592.00		9	1.0 B	30
Brown and Grey CLAY LOAM (Medium)		-10	5		
			5	0.6 B	28
	585.00	-15	8	1.5 B	
Grey-Green SANDY CLAY LOAM			7	1.3 B	28
		-20	6		
Grey-Green SANDY CLAY LOAM (continued)	581.00				
Brown and Grey-Green Thin Layered CLAY (Hard)			44	4.2 S-10	17
	577.50				
Grey Sandy SHALE (V. Stiff)		-25	75		
			100 /6"		
	569.50	-30	100 /3"		
Boring Completed			100 /2"		
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 1/16/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 1/30/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Westbound FAI 72 over UPRR LOGGED BY S. Lewis
SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM
COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0075
Station 608+50
BORING NO. 1964-6 E. Abut
Station 609+82
Offset 55.00ft Lt
Ground Surface Elev. 601.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
▽ First Encounter No Data ft
▼ Upon Completion 596.0 ft
▼ After 24 Hrs. 597.0 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SILTY CLAY LOAM	600.00				
Yellow and Grey SILTY CLAY		-5	6		
	595.00				
Yellow and Grey SILT (Stiff)	592.00		5	2.0 B	28
Brown and Grey CLAY LOAM (Medium)		-10	5	0.9 B	
			5		
	585.00	-15	5	0.7 B	34
Grey-Green SANDY CLAY LOAM (Medium)	582.00		9	1.0 B	24
		-20	55	2.9	19
Brown and Grey-Green Thinly Layered SANDY CLAY (V. Stiff) (continued)				S-20	
			100 /8"		
	574.50	-25	100 /5"		
Boring Completed			100 /1"		
		-30			
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 1/16/04
Latitude Longitude

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

BORINGS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	296
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 43
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No 72541

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 2/7/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Eastbound FAI 72 over UPRR LOGGED BY S. Lewis

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0074
Station 608+50

BORING NO. 1964-7 Pier 1
Station 607+70
Offset 47.00ft Rt
Ground Surface Elev. 600.0 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 592.5 ft
Upon Completion 595.5 ft
After 24 Hrs. 595.5 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SILTY CLAY LOAM	599.00				
Yellow and Grey SILTY CLAY	595.50				
Yellow and Grey SILT (Soft)		-5	5	0.5 E	
	592.50				
Brown and Grey SILTY CLAY LOAM (Medium) Free Water			4		
		-10	4	0.7 B	
			7	1.1 B	
	585.50				
Blue-Gren SANDY CLAY LOAM (Stiff)		-15	7	1.3 B	
			8	1.1 B	
	581.50				
Grey-Green and Brown Layered SILTY CLAY (V. Stiff)		-20			
Grey-Green and Brown Layered SILTY CLAY (V. Stiff) (continued)			42	3.5 S-15	19
			100	4.4 S-10	
	576.00				
Light Grey SHALE (V. Stiff)		-25	100 /3"	3.2 E	
	572.50				
Boring Completed			100 /3"		
		-30			
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 11/16/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 2/7/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Westbound FAI 72 over UPRR LOGGED BY S. Lewis

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0075
Station 608+50

BORING NO. 1964-8 Pier 1
Station 608+15
Offset 47.00ft Lt
Ground Surface Elev. 599.0 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter No Data ft
Upon Completion 594.5 ft
After 24 Hrs. 595.5 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Yellow-Brown and Grey SILTY CLAY	594.50				
Yellow and Grey SILT		-5	3		28
	591.50				
Brown and Grey SILTY CLAY LOAM (Medium)			6		
		-10	4	0.6 B	28
	587.00				
Brown and Grey SANDY CLAY LOAM (Stiff)			7	1.1 B	29
		-15	8		
	582.50				
Grey-Green SANDY CLAY LOAM (Medium)			9	0.9 B	23
		-20			
Grey-Green SANDY CLAY LOAM (Medium) (continued)			5	0.5 B	30
	577.00				
Grey-Green and Brown SHALE (Stiff)			100	1.5 E	
	575.00				
Light Grey SHALE (V. Stiff)		-25	100 /4"	3.2 E	
	571.50				
Boring Completed			100 /3"		
		-30			
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 11/16/04
Latitude Longitude

$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

Corporate License Number 184-001-084

BORINGS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72	*	SANGAMON	559	297
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 44
44 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No 72541

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 2/10/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Eastbound FAI 72 over UPRR LOGGED BY S. Lewis

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0074
Station 608+50

BORING NO. 1964-9 Pier 2
Station 608+30
Offset 47.00ft Rt
Ground Surface Elev. 600.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter No Data ft
Upon Completion 594.5 ft
After 24 Hrs. 597.0 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	599.50				
Yellow-Brown and Grey SILTY CLAY	596.50				
Yellow and Grey SILT		-5	3		
			9		
	591.00	-10			
Brown and Grey SILTY CLAY LOAM (Medium)			2	0.6 B	31
			6	0.7 B	
	587.00				
Brown and Grey SANDY CLAY LOAM (Stiff)		-15	7	1.3 B	27
	583.50				
Grey-Green SANDY CLAY LOAM (Medium)			9		
	581.00				
Grey-Brown Sandy SHALE		-20			
Grey-Brown Sandy SHALE (continued)	580.00		100 /1"		
Light Brown SANDSTONE	579.50				
Grey-Brown Sandy SHALE			100 /6"		
	575.50	-25			
Boring Completed			100 /1"		
		-30			
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 1/16/04
Latitude Longitude

Illinois Department of Transportation
Division of Highways
IDOT DISTRICT 6

SOIL BORING LOG

Page 1 of 1
Date 2/11/64

ROUTE FAI 72/FAU 8021 DESCRIPTION Westbound FAI 72 over UPRR LOGGED BY S. Lewis

SECTION (84-9-4)HBK,BY,BY-1 LOCATION NE 1/4, SEC. 20, TWP. 15 N, RNG. 5 W, 3 PM

COUNTY Sangamon DRILLING METHOD HSA HAMMER TYPE 140 # Manual

STRUCT. NO. 084-0074
Station 608+50

BORING NO. 1964-10 Pier 2
Station 608+75
Offset 55.00ft Lt
Ground Surface Elev. 600.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter No Data ft
Upon Completion 594.5 ft
After 24 Hrs. 597.0 ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Yellow and Grey SILTY CLAY	596.00				
Yellow and Grey SILT (Soft)		-5	4	0.5 B	28
			6		
	591.00	-10			
Brown and Grey SILTY CLAY LOAM (Medium)			4	0.7 B	28
	588.00				
Brown and Grey SANDY CLAY LOAM (Medium)			6	0.8 B	28
	585.50	-15			
Grey-Green SANDY CLAY LOAM (Stiff)			5	1.1 B	28
			6		
	580.50	-20			
Grey-Brown Sandy SHALE			24	2.9 S-10	16
			80		
	577.50				
Dark Grey SHALE		-25	100 /9"	2.2 E	11
			100 /6"		
	570.50	-30			
Boring Completed			100 /3"		
Converted to gINT 01/14/03 by MRM					
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

SOIL BORING MACARTHUR EXTENSION STATE STRUCTURES.GPJ D6TEMPLT.GDT 1/16/04
Latitude Longitude

Corporate License Number 184-001-084

BORINGS
F.A.I. 72 OVER UNION PACIFIC RAILROAD
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 608+51.98
STR NO. 084-0074 EB - 084-0075 WB

HANSON

JOB# 96S2002B
DATE: 01/12/06

LAYOUT	MNM	06/27/03
DRAWN	DAP	07/17/03
REVIEWED	JWM	10/27/03

$FILE$
12/16/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72 FAU 8021	*	SANGAMON	559	298

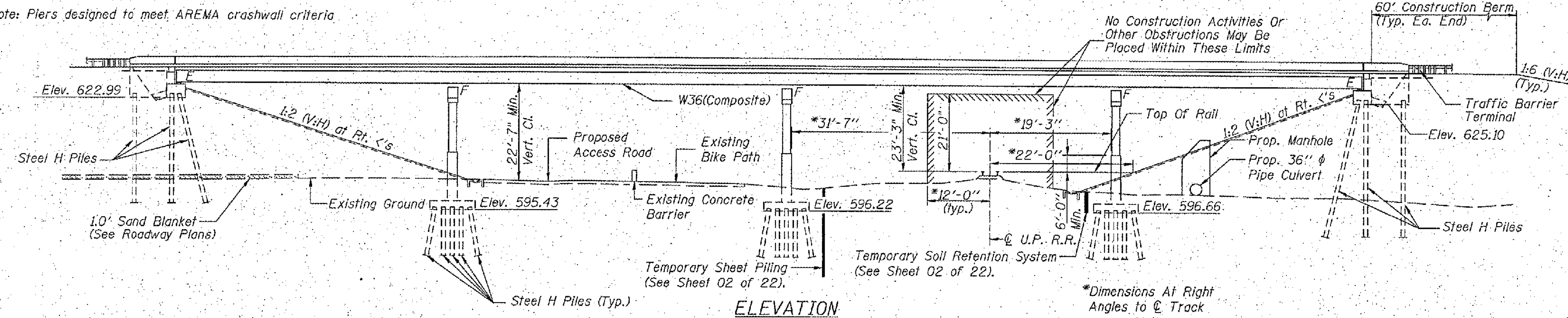
SHEET NO. 01
22 SHEETS

*(84-9-4)A,HBK,BY,BY-1   Contract No. 72541

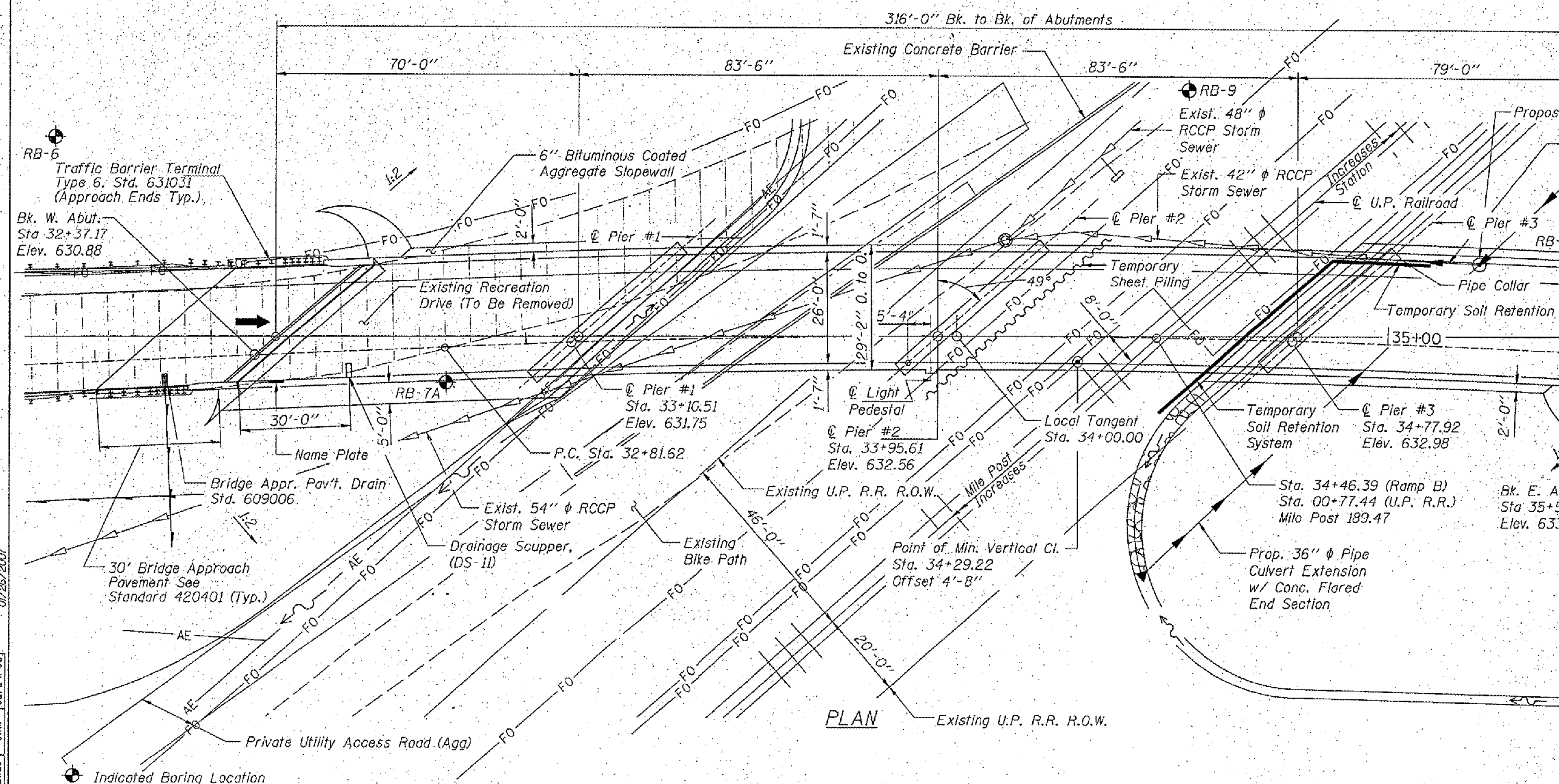
Bench Marks:
IDOT BM #15 Chiseled square at the southeast quadrant of the intersection of West Grand Avenue and Hazel Dell Road. Benchmark is located 33 feet south of the centerline of Hazel Dell Road on a headwall of a concrete pipe culvert. NAVD88 El. 602.47
IDOT BM #80 Chiseled cross on the center bolt of the east leg of an iron sign truss over the eastbound lane of Interstate 72. Benchmark is located 1.62 miles east of Il Route 4. NAVD88 El. 601.28
IDOT BM #0150 Disk in monument vault on survey calibration baseline. Benchmark is located 13 feet north of the centerline of Hazel Dell Road and 0.5 miles west of the intersection of Hazel Dell Road and West Grand Avenue. NAVD88 El. 600.47
IDOT BM #374 Railroad spike in power pole west of a bike path and southeast of Recreation Drive. Benchmark is located 0.81 miles south of the intersection of West Grand Avenue and Hazel Dell Road. NAVD88 El. 604.61

Existing Structure: None

Note: Piers designed to meet AREMA crashwall criteria



ELEVATION



PLAN

CURVE DATA
(Curve Ramp B2)

P.I. STA= 35+87.62
Δ= 12° 02' 48" (Rt.)
D= 01° 58' 33"
R= 2,900.00'
T= 306.00'
L= 609.74'
E= 16.10'
P.C. STA= 32+81.62
P.T. STA= 38+91.36
e= 3.80%
S.E. ATTN: 32+20.00 (2.0%) TO 33+12.00 (3.8%)
37+61.36 (3.8%) TO 38+91.36 (2.65%)

DESIGN SPECIFICATIONS
AASHTO 2002
AASHTO 2003 Curved Girder Spec.

LOADING HS20-44
Allow 50 psf for future wearing surface.

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.05g
Site Coefficient (S) = 2.0

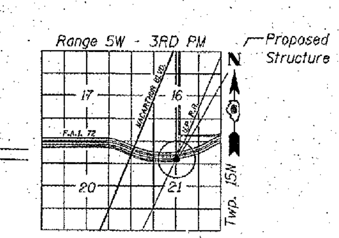
DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (reinf.)
fy = 50,000 psi (M 270 Grade 50)

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

JAMES W. HOLL
4376
REGISTERED STRUCTURAL ENGINEER
OF ILLINOIS
SIGNATURE:
DATE SIGNED: 6-2-07
LISC. EXP. DATE: 11-30-08

Corporate License Number 184-001-084



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
I-72/MACARTHUR BLVD. RAMP B OVER UPRR
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 33+95.61
STRUCTURE NUMBER 084-0514

HANSON

JOB: 96S2002B
DATE: 11/16/05

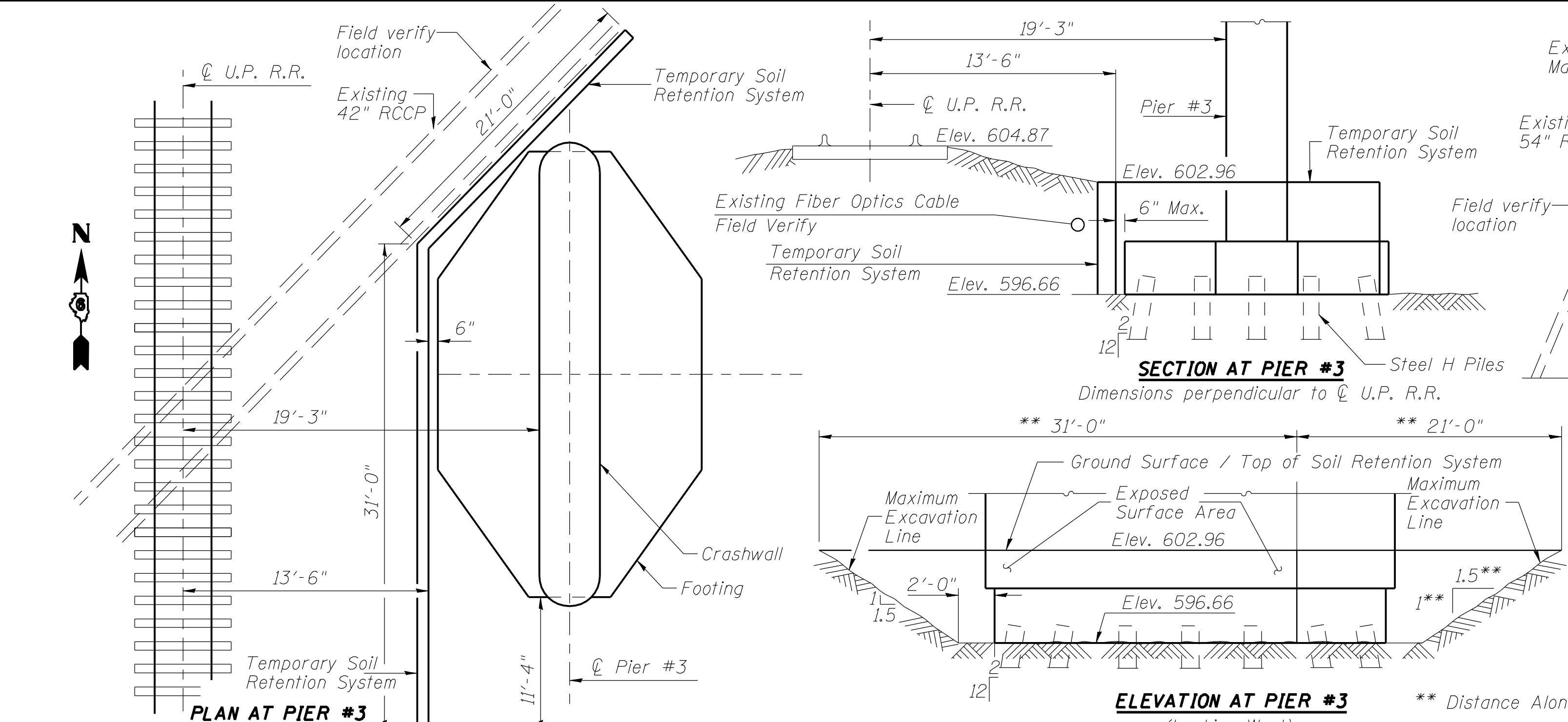
LAYOUT	MNM	06/27/03
DRAWN	DWP	01/04/05
REVIEWED	JWM	02/24/05

1:\96\JOBS\96S2002\x\Struct\SN 084-0514.dgn
01/26/2007

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72 FAU 8021	*	SANGAMON	559	299
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

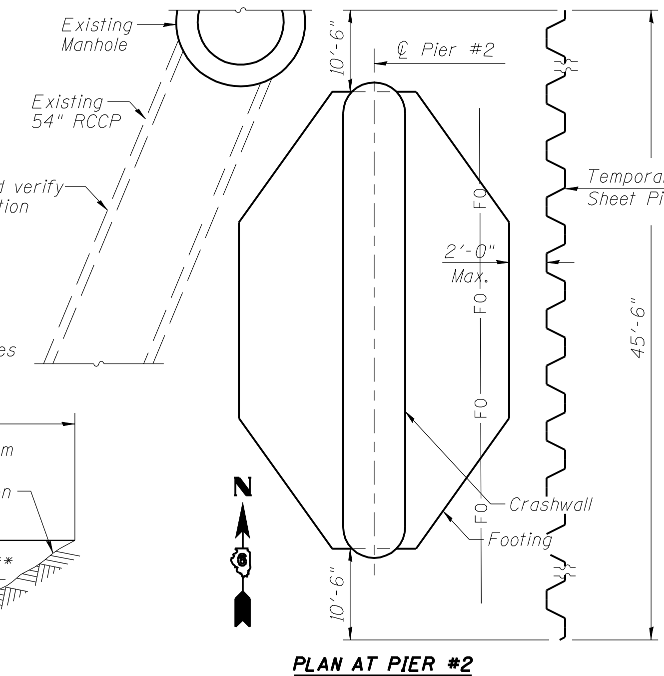
SHEET NO. 02
22 SHEETS

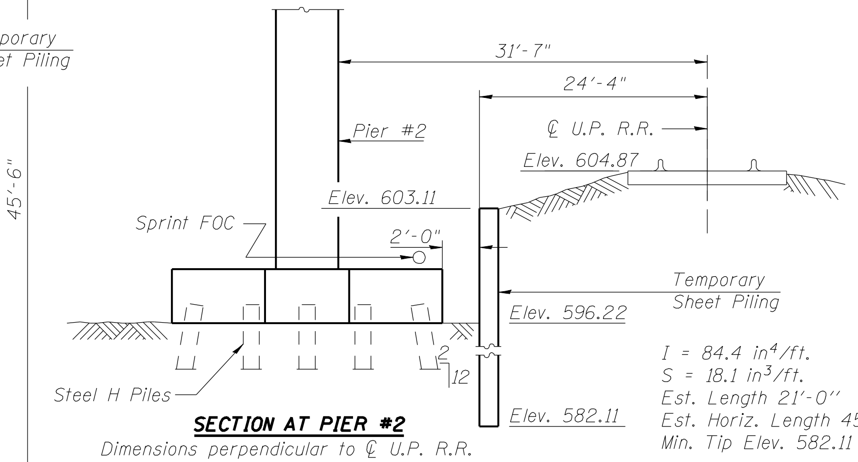
*(84-9-4)A,HBK,BY,BY-1   Contract No. 72541



TEMPORARY SOIL RETENTION SYSTEM

Slopes and distances shown along alignment of pier unless noted distance along sheeting.





TEMPORARY SHEET PILING DETAILS

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts 7/8" ϕ, open holes 15/16" ϕ, unless otherwise noted.

Calculated weight of Structural Steel: AASHTO M 270 Grade 50 = 303440 lbs

Field welding of construction accessories will not be permitted to beams.

Anchor bolts shall be set before bolting diaphragms over supports.

The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The Contractor shall drive one test pile in a permanent location at each substructure as directed by the Engineer before ordering the remainder of piles.

The concrete for bridge floors finished according to Article 503.16 of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The finishing machine, when required, shall be set parallel to the skew for striking off and screeding the concrete

Concrete Sealer shall be applied to the seat area of the Abutments.

All Construction joints shall be bonded.

The Inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No 7.5G 4/8. See Special Provisions for "Cleaning and Painting New Metal Structures".

No deck drains will be permitted in the span over tracks or within 10' of crossarms of a railroad pole line.

An unconfined compressive strength of 1.5 tons is required during placement of embankment material.

The piles at the abuments shall be driven through 18" ϕ pre-cored holes extending to Elev. 601.5 at the W. Abut. and 601.0 at the E. Abut. or to the present ground elevation or whichever occurs first. The piling at the piers shall be driven thru 18" ϕ pre-cored holes extending to Elev 590.04 at pier 1 and 590.34 at pier 2 or to the bottom of existing RCCP storm sewer elevation adjacent to the footing or whichever is lower. The annular spacing around the pile shall be backfilled with dry loose sand. The cost of complying with these requirements shall be included with driving steel piles.

If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans at Pier #2, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

Drains shall be located clear of all diaphragms.

A cantilevered sheet piling design does not appear feasible at Pier #3, and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

The Steel H-piles shall be according to AASHTO M270 Grade 50.

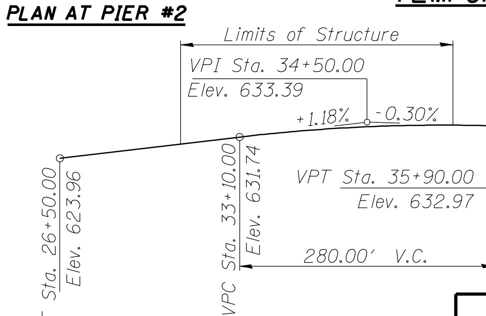
The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

INDEX OF SHEETS

West Rail		East Rail	
Station	Elevation	Station	Elevation
0+00.00	605.31	0+00.03	605.33
0+67.95	605.32	0+67.76	605.35
1+83.47	605.26	1+83.48	605.25
2+80.82	605.24	2+80.71	605.24
3+81.80	605.12	3+81.74	605.13
4+81.65	605.26	4+81.69	605.24
5+78.38	605.39	5+78.51	605.36

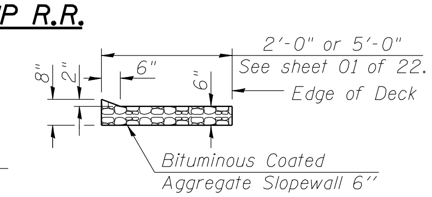
EXISTING TOP OF RAIL ELEVATIONS UP R.R.

Note:
The elevations of the existing top-of-rail profile shall be verified before beginning construction. All discrepencies shall be brought to the attention of the Chief Engineer Bridges and Structures.

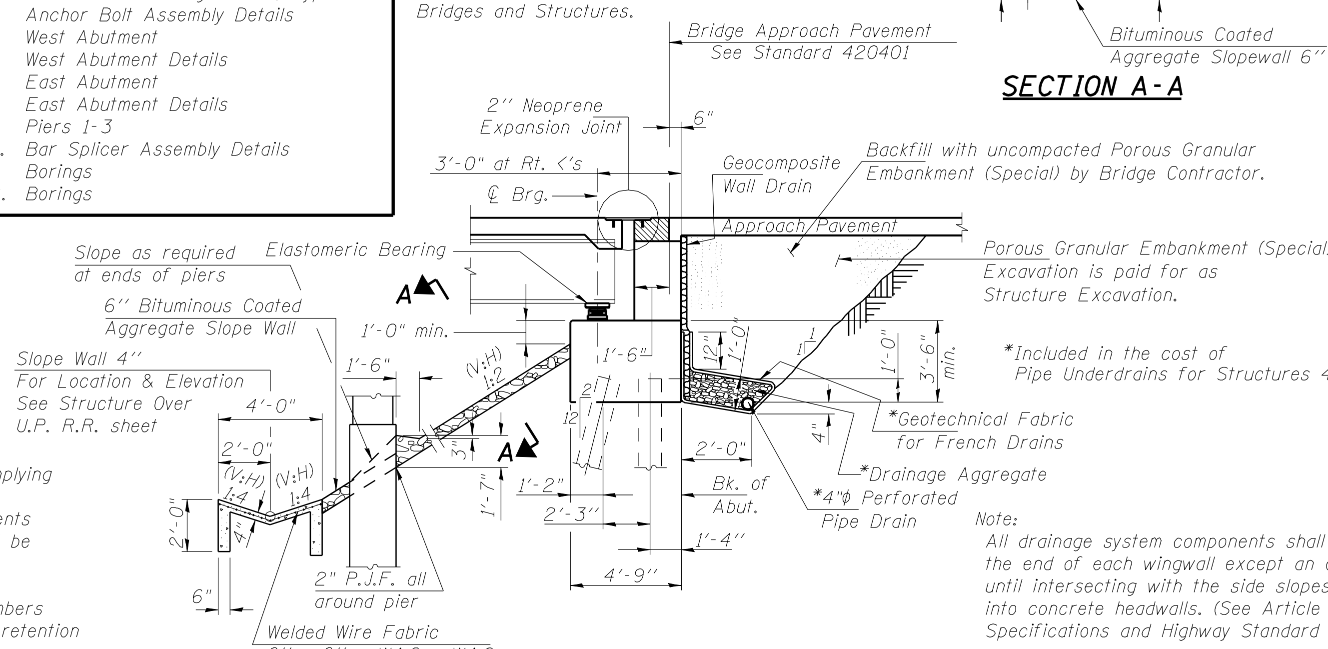


PROFILE GRADE

(Along Ramp B)



SECTION A-A



*Included in the cost of Pipe Underdrains for Structures 4".

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

SECTION THRU ABUTMENT AND SLOPEWALL

(Dimensions at Rt. <'s to Bk. of Abutment)

STATION 33+95.61
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. 72 SEC. (84-9-4)A,HBK,BY,BY1
LOADING HS20-44
STR. NO. 084-0514

NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.	-	146	146
Structure Excavation	Cu. Yd.	-	591	591
Neoprene Expansion Joint 2"	Foot	83	-	83
Concrete Structures	Cu. Yd.	-	450.3	450.3
Concrete Superstructure	Cu. Yd.	296.8	-	296.8
Bridge Deck Grooving	Sq. Yd.	820	-	820
Protective Coat	Sq. Yd.	1171	-	1171
Elastomeric Bearing Assembly, Type II	Each	10	-	10
Furnishing and Erecting Structural Steel Bridge No. 3	L. Sum	1	-	1
Stud Shear Connectors	Each	3825	-	3825
Reinforcement Bars, Epoxy Coated	Pound	70910	66210	137120
Slope Wall 4"	Sq. Yd.	-	48	48
Bituminous Coated Aggregate Slopewall 6"	Sq. Yd.	-	604	604
Furnishing Steel Piles HP10x57	Foot	-	1780	1780
Driving Piles	Foot	-	1780	1780
Test Pile Steel HP10x57	Each	-	5	5
Temporary Sheet Piling	Sq. Ft.	-	956	956
Name Plates	Each	1	-	1
Concrete Sealer	Sq. Ft.	-	234	234
Drainage Scuppers, DS-11	Each	1	-	1
Temporary Soil Retention System	Sq. Ft.	-	268	268
Bar Splicers	Each	-	79	79
Pipe Underdrains for Structures 4"	Foot	-	123	123
Geocomposite Wall Drain	Sq. Yd.	-	61	61

Corporate License Number 184-001-084

GENERAL NOTES & BILL OF MATERIAL
I-72/MACARTHUR BLVD. RAMP B OVER UPRR
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 33+95.61
STRUCTURE NUMBER 084-0514

HANSON

JOB# 96S2002B

DATE: 11/16/05

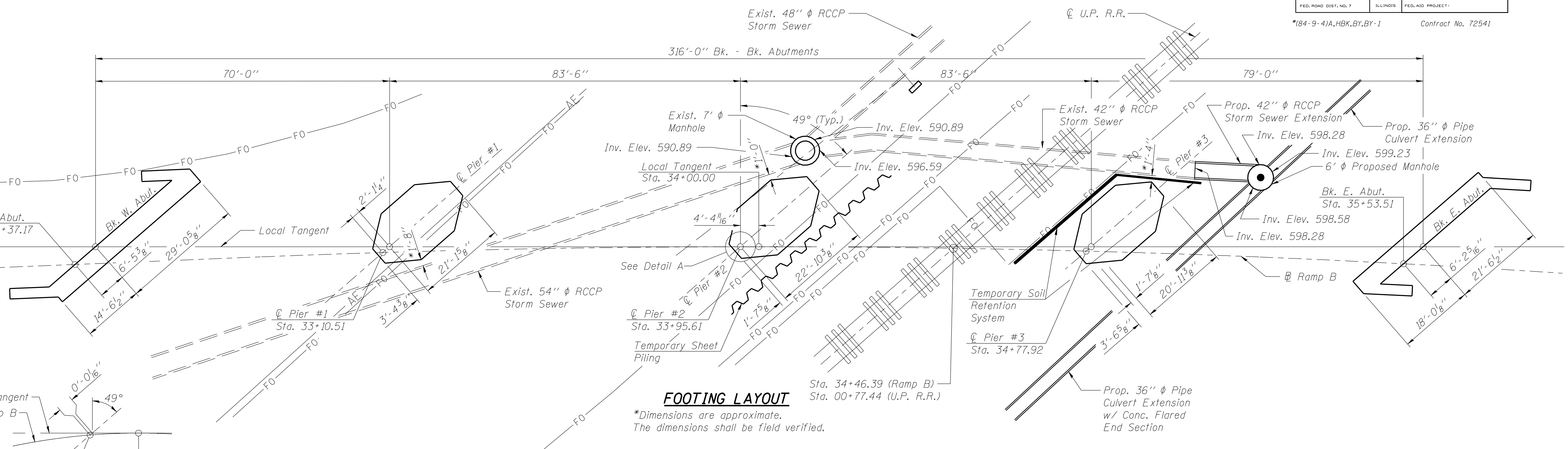
$FILE$
12/16/2006

LAYOUT	MNM	06/27/03
DRAWN	DAP	01/04/05
REVIEWED	JWM	02/24/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 72 FAU 8021	*	SANGAMON	559	300
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

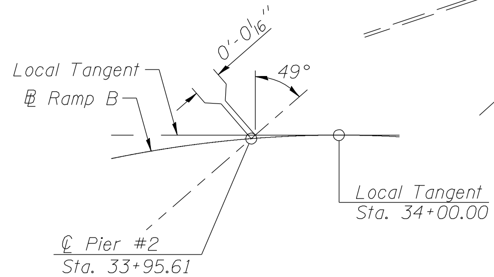
SHEET NO. 03
22 SHEETS

*(84-9-4)A,HBK,BY,BY-1 Contract No. 72541

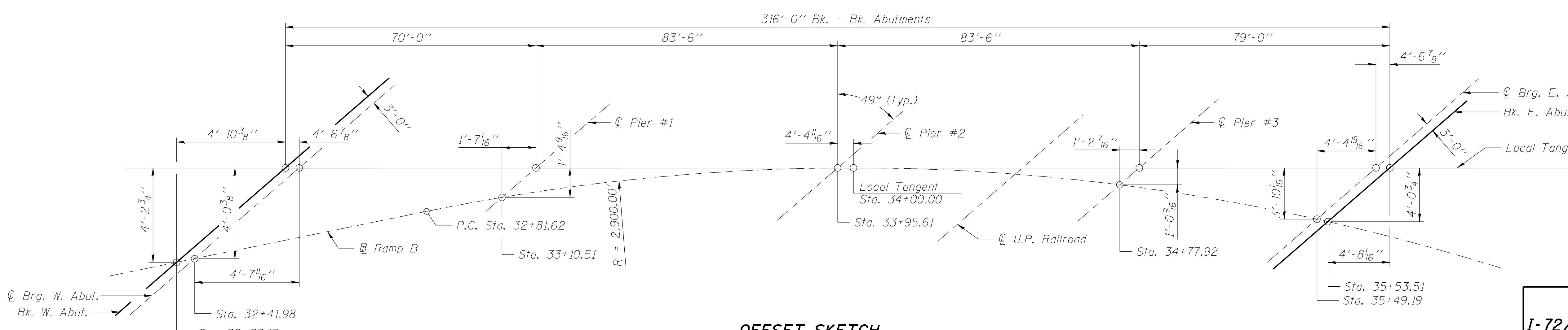


FOOTING LAYOUT

*Dimensions are approximate. The dimensions shall be field verified.



DETAIL A



OFFSET SKETCH

Corporate License Number 184-001-084

FOOTING LAYOUT
I-72/MACARTHUR BLVD. RAMP B OVER UPRR
SECTION (84-9-4)A,HBK,BY,BY-1
SANGAMON COUNTY
STATION 33+95.61
STRUCTURE NUMBER 084-0514

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LAYOUT	MNM	06/27/03
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