

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-31	COOK	12	1
STA.		STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

CONTRACT NO. 60B87

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY

F.A.P. 350 ILLINOIS ROUTE 50 (CICERO AVENUE)
OVER NORTH BRANCH CHICAGO RIVER
BEAM AND BEARING FABRICATION
SECTION 57B-3F
~~PROJECT NO.~~
COOK COUNTY
C-91-445-06

TRAFFIC DATA

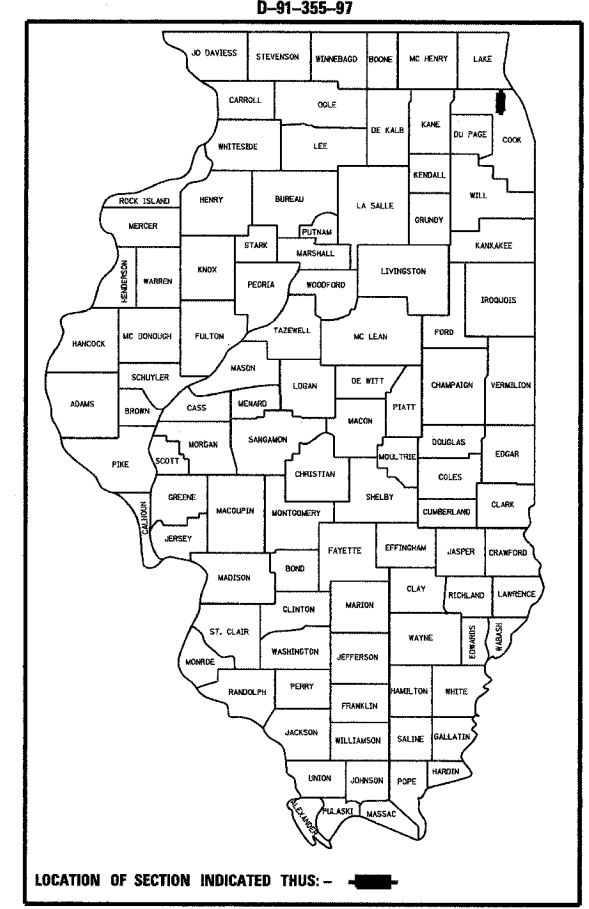
EXISTING ADT 14,500 (1999)
PROJECTED ADT 24,000 (2020)

SPEED LIMIT (POSTED)

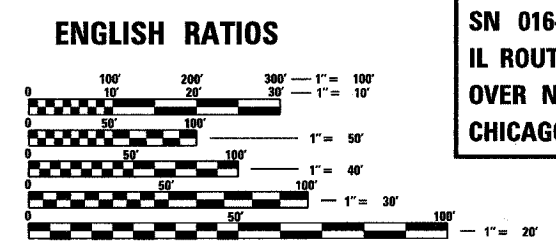
35 MPH IL 50 (CICERO AVENUE)

PROJECT IS LOCATED IN
THE CITY OF CHICAGO.

IDOT DESIGN-CONSULTANT PROJECT MANAGER: RAJENDRA C. SHAH (847) 705-4555



LOCATION OF SECTION INDICATED THUS: -

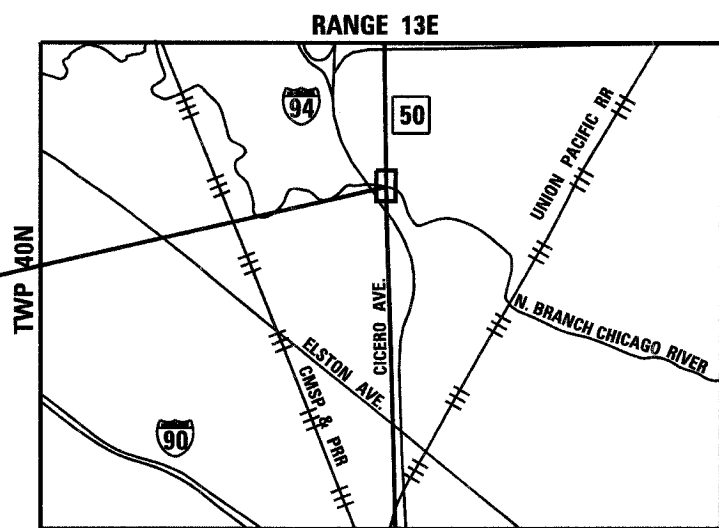


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

FOR UTILITY INFORMATION CONTACT
CHICAGO UTILITY ALERT NETWORK
312-744-7000

CONTRACT NO. 60B87

± STA. 23+65.80
SN 016-2782 (PROPOSED)
SN 016-0653 (EXISTING)
IL ROUTE 50 (CICERO AVE.)
OVER NORTH BRANCH
CHICAGO RIVER



JEFFERSON TOWNSHIP

LOCATION MAP
SCALE: 1" = 1000'

LENGTH OF BRIDGE = 125 LF = 0.024 MILE



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED June 28, 2006
Diane M. O'Keefe, P.E.
DISTRICT ENGINEER

August 18, 2006
Mike Dine, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

August 18, 2006
Milton R. Sica, P.E.
DIRECTOR, DIVISION OF HIGHWAYS

PATRICK ENGINEERING, INC.
PAUL M. LOPEZ, S.E.
081-005231

Paul M. Lopez



DATE 6-27-06

EXP 11-30-06

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	2
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 60887				

URBAN - 100% STATE

ILLINOIS ROUTE 50 (CICERO AVENUE) OVER NORTH BRANCH CHICAGO RIVER

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS & SUMMARY OF QUANTITIES
- 3-16 STRUCTURE PLANS

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE		
CODE NO.	ITEM	UNIT	TOTAL QTY.		BRIDGE X031-2A	
50300410	FURNISHING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	10		10	
50500205	FURNISHING STRUCTURAL STEEL	L. SUM	1		1	
X0322770	STORAGE OF STRUCTURAL STEEL AND BEARINGS	CAL. DAY	30		30	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
ILLINOIS ROUTE 50 (CICERO AVENUE) OVER
NORTH BRANCH CHICAGO RIVER

INDEX OF SHEETS &
SUMMARY OF QUANTITIES

SCALE: NONE
DATE: JUNE 29, 2006
DRAWN BY: G. HATLESTAD
CHECKED BY: P. LOPEZ



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	3
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		CONTRACT NO. 60B87

Bench Mark:
Chisled square on top of the wingwall at the south east corner of the Cicero Avenue Bridge over the North Branch of the Chicago River. Elev. 605.37

Existing Structure:
S.N. 016-0653 built as S.B.I Route 57 Sec. 57B-NRM3 in 1935. The existing bridge has two simple spans which consist of a PCC wearing surface and reinforced concrete tee beams. The existing deck is 76'-0" wide and 86'-0" long. The existing structure is to be removed and replaced. Traffic to be maintained utilizing stage construction.

No salvage

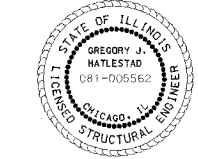
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing Elastomeric Bearing Assembly, Type I	Each	10
Furnishing Structural Steel	L. Sum	1
Storage of Structural Steel and Bearings	Cal Day	30

INDEX OF SHEETS

- S1. GENERAL PLAN AND ELEVATION
- S2. FRAMING PLAN & DETAILS
- S3. BEARING & DIAPHRAGM DETAILS
- S4. ANCHOR BOLTS
- S5. DECK ELEVATIONS I
- S6. DECK ELEVATIONS II
- S7. DECK PLAN & DETAILS
- S8. DIAPHRAGM DETAILS
- S9. NORTH ABUTMENT
- S10. SOUTH ABUTMENT

PATRICK ENGINEERING, INC.
GREGORY J. HATLESTAD, S.E.



Gregory J. Hatlestad
GREGORY J. HATLESTAD, S.E.
081-005562

EXP 11/30/06
DATE 7/07/06

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Andersson (TM)
ENGINEER OF BRIDGES AND STRUCTURES

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinf.)
fy = 50,000 psi (A270 Grade 50W)

LOADING HS20-44
Allowance for Future Wearing Surface = 50 lb/ft²

DESIGN SPECIFICATIONS
1996 AASHTO Standard Specifications for Highway Bridges and 1997-2002 Interims

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.035g
Site Coefficient (S) = 1.0

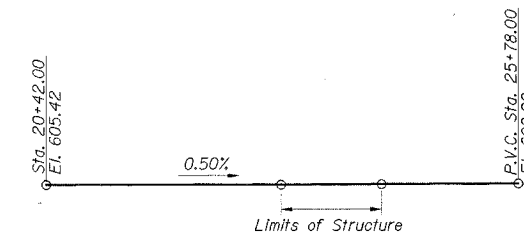
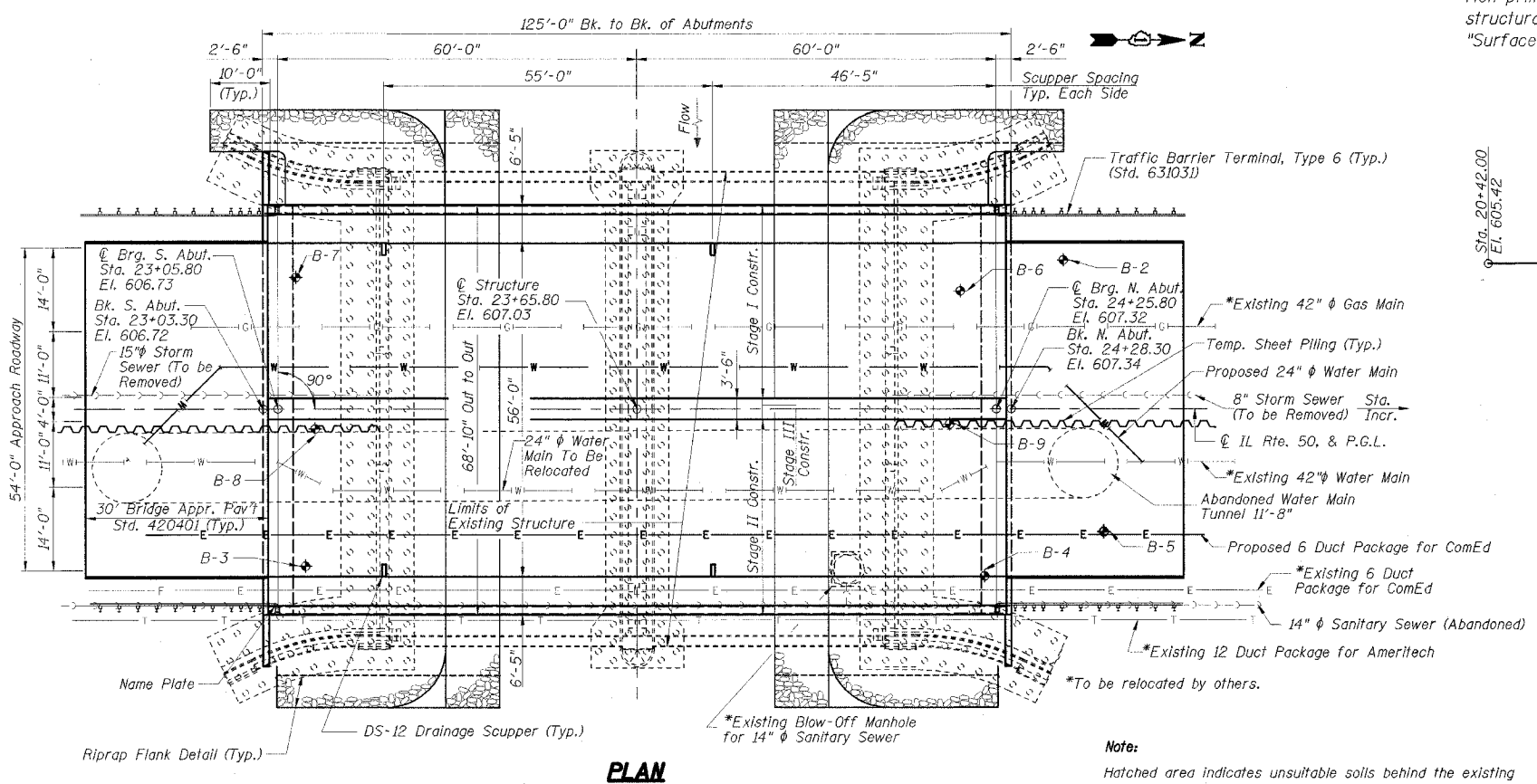
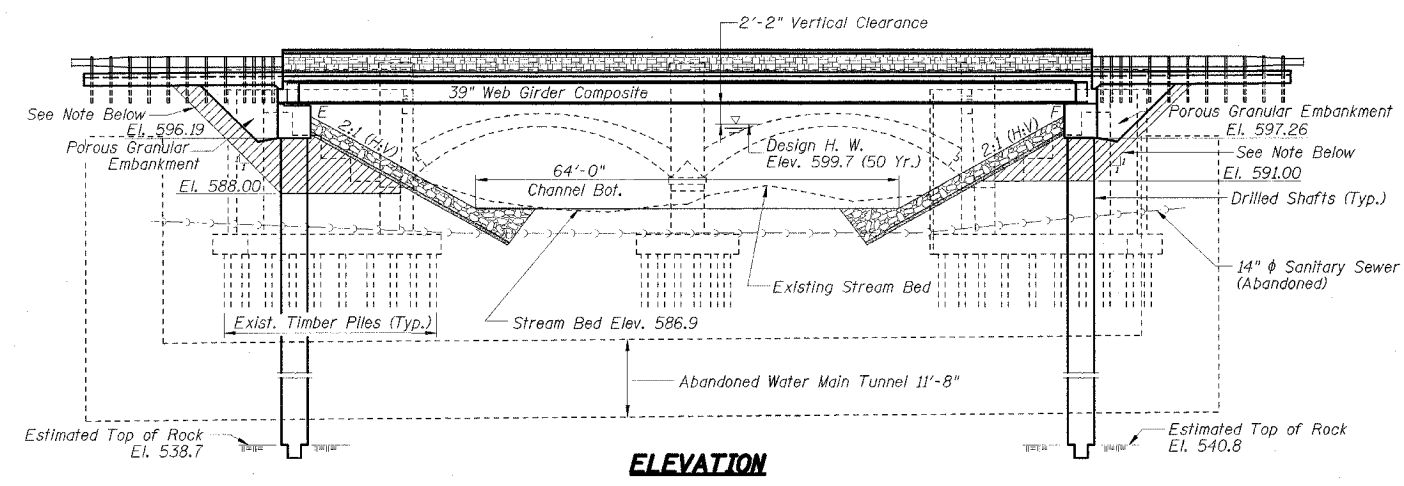
WATERWAY INFORMATION

DRAINAGE AREA = 112.3 Sq. Mi. PROPOSED LOW GRADE ELEV. = 605.4 @ Sta. 20+42

FLOOD	FREQ. YR.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E. Ft.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
DESIGN	10	2318	620	908	597.7	0.3	0.2	598.0	597.9
BASE	50	3510	636	1131	599.7	0.9	0.4	600.6	600.1
OVERTOPPING	100	4080	636	1257	600.8	1.3	0.5	602.1	601.3
MAX. CALC.	420	5180	636	-	603.4	2.1	-	605.5	-
	500	5460	-	1427	603.5	-	0.8	-	604.3

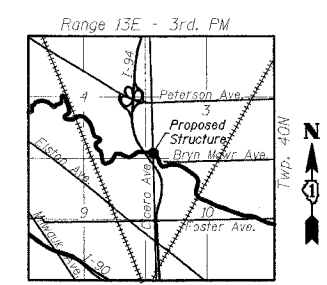
GENERAL NOTES

- Fasteners shall be high strength bolts, AASHTO M 164, Type 3 in unpainted areas and mechanically galvanized AASHTO M 164, Type 1 in painted areas. Bolts 3/4" φ, open holes 15/16" φ, unless otherwise noted.
- Calculated weight of Structural Steel = 341.632 lbs.
- All structural steel shall be AASHTO M 270 Grade 50W.
- The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
- 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 tension flanges, webs.
- AASHTO M 270 Grade 50W structural steel shall only be painted, at the ends of the beams, for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Those areas shall be primed in the shop with an inorganic zinc rich primer per AASHTO M 300, Type I. No field painting shall be required. All structural steel shall be cleaned as specified in the special provision for "Surface Preparation and Painting Requirements for Weathering Steel".



STATION 23+65.80
BUILT 200- BY
STATE OF ILLINOIS
F.A.P. RT. 350 SEC. 57B-3I
LOADING HS20
STR. NO. 016-2782

NAME PLATE
See Standard 515001



Note:
Hatched area indicates unsuitable soils behind the existing abutments in the western half of the northwest and southwest quadrants. This material shall be removed and replaced with suitable embankment. The replacement material shall be porous granular embankment with a gradation of CA-5 or CA-7. Removal of unsuitable material shall be done after temporary sheet piling is in place.



REVISIONS

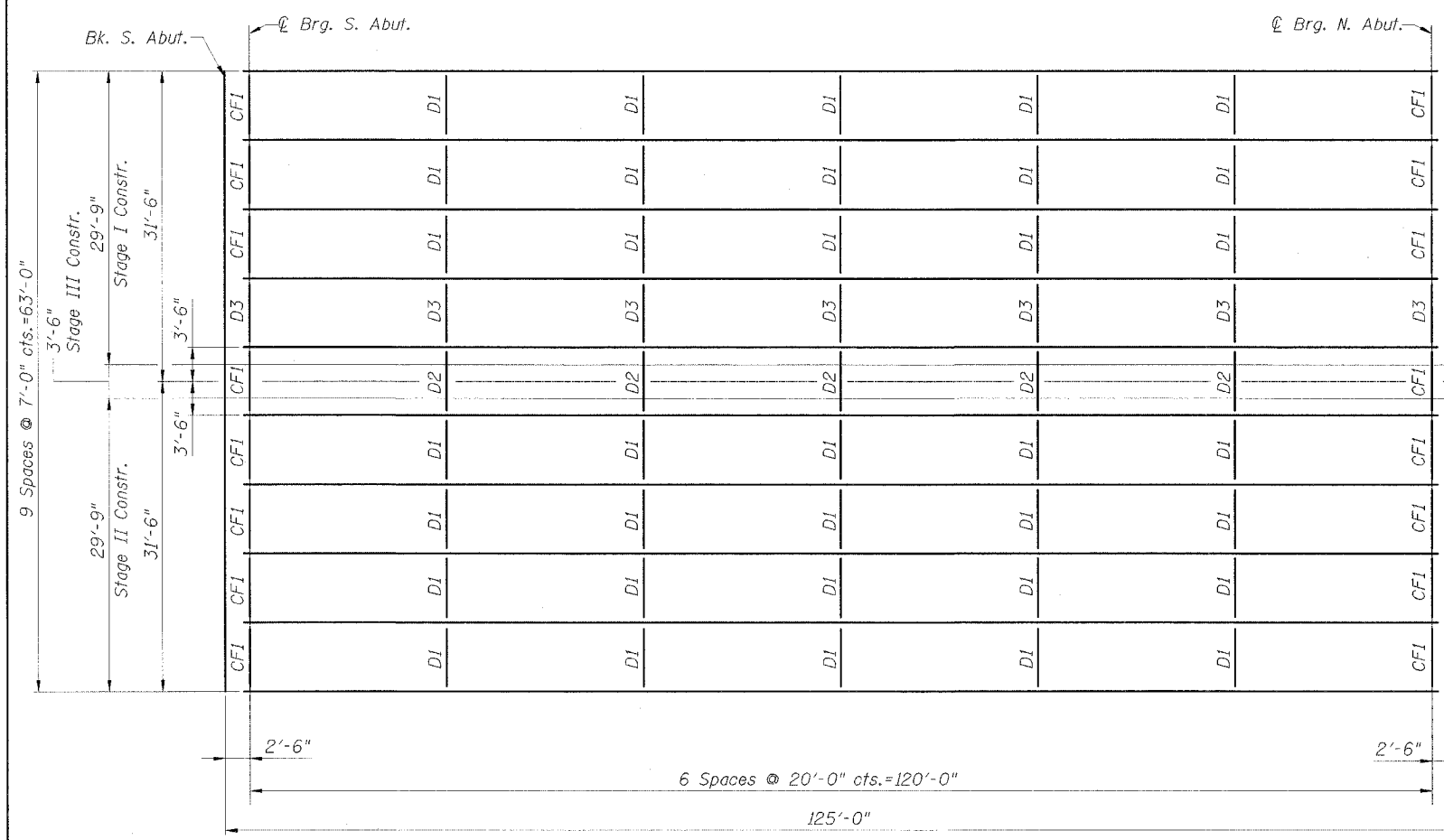
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN AND ELEVATION
FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
NORTH BRANCH OF THE CHICAGO RIVER
COOK COUNTY STATION 23+65.80
SECTION 57B-3F
STRUCTURE NO. 016-2782

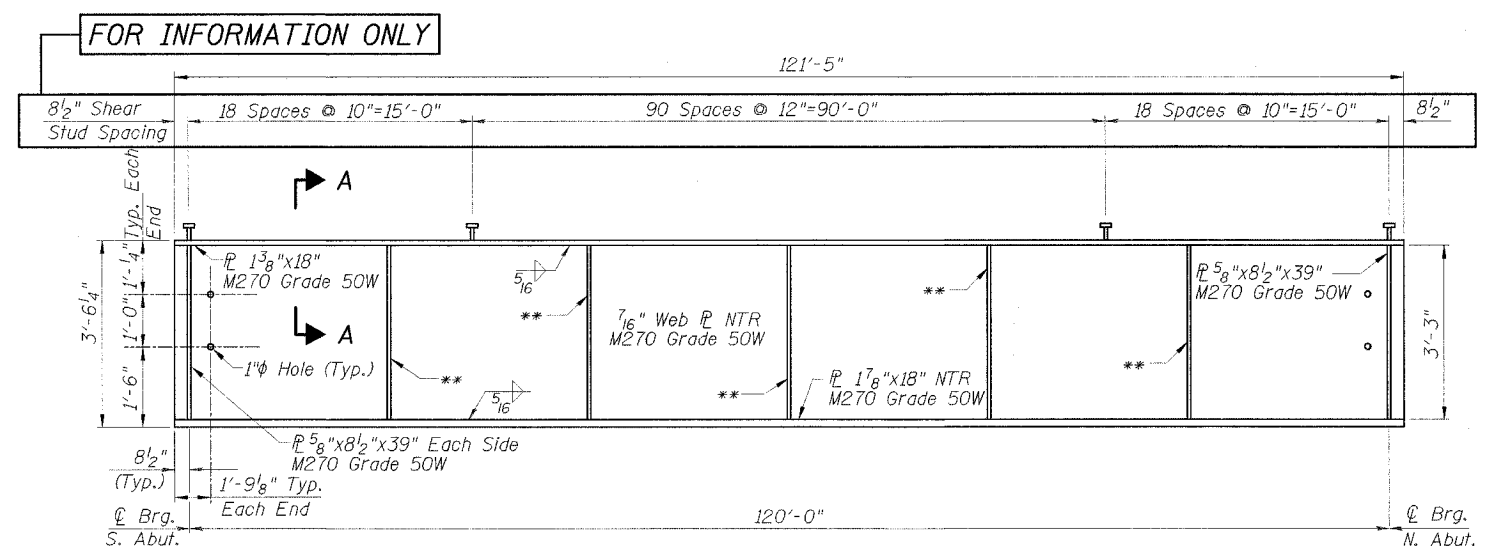
SCALE: NONE
DATE: 6/29/06
DRAWN BY: G. Hatlestad
CHECKED BY: P. Lopez

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	4
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

CONTRACT NO. 60887



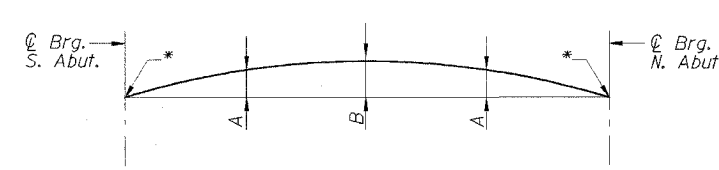
PLAN



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

** P 5/8" x 5 1/2" x 38" M270 Grade 50W West face of Web Girder 5, East face of Web Girder 4 Only. See Section at Diaphragm D3



CAMBER DIAGRAM

* Final top of web elevations to be used in computing the bearing's seat elevation.

CAMBER DIMENSIONS

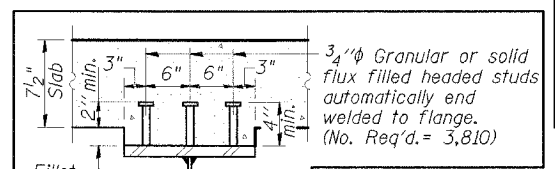
Girder	A	B
2-4, 7-9	4 3/8"	6 1/4"
5 & 6	3 3/4"	5 1/4"
1 & 10	4"	5 5/8"

TOP OF WEB ELEVATIONS (For Fabrication Only)

Girder	℄ Brg. S. Abut.	℄ Brg. N. Abut.
1	605.297	605.893
2	605.437	606.033
3	605.577	606.173
4	605.717	606.313
5	605.857	606.453
6	605.857	606.453
7	605.717	606.313
8	605.577	606.173
9	605.437	606.033
10	605.297	605.893

INTERIOR GIRDER MOMENT TABLE

		0.5 Sp. 1
I_s	(in ⁴)	25,882
I_c (n)	(in ⁴)	52,467
I_c (3n)	(in ⁴)	38,757
S_s	(in ³)	1,372
S_c (n)	(in ³)	1,657
S_c (3n)	(in ³)	1,545
I_p	(k ²)	0.977
M_R	(k)	1,758
s_R	(k ²)	0.825
M_{sR}	(k)	1,485
M_L	(k)	1,196
M (Imp)	(k)	244
$S_3[M_L + M(imp)]$	(k)	2,400
M_a	(k)	7,337
M_u	(k)	7,457
f_{sR} non-comp	(ksi)	15
f_{sR} (comp)	(ksi)	12
$f_{s3}[M_L + M(imp)]$	(ksi)	17
f_s (Overload)	(ksi)	44
f_s (Total)	(ksi)	
VR	(k)	57



SECTION A-A

FOR INFORMATION ONLY

INTERIOR GIRDER REACTION TABLE

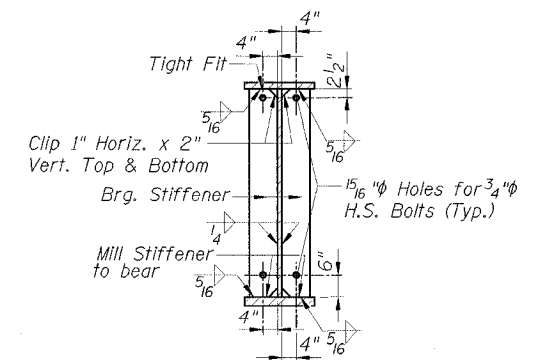
	N. Abut.	S. Abut.
R_R	(k)	94.1
R_{sR}	(k)	49.5
R_L	(k)	47.0
Imp.	(k)	9.6
R (Total)	(k)	200.2

* Includes additional superimposed dead load due to utilities.

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 I_c (n) and S_c (n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 I_c (3n) and S_c (3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads.
 VR is the maximum live Load + Impact shear range in span.
 M_a (Applied Moment) = $1.3[M_R + M_{sR} + S_3(M_L + I)]$.
 M_u is the Full Plastic Moment Capacity for Compact, Braced section.
 f_s (Overload) is the sum of the stresses due to $M_R + M_{sR} + S_3(M_L + I)$.
 f_s (Total) is the sum of the stresses due to $1.3[M_R + M_{sR} + S_3(M_L + I)]$.
 M_R Moment due to dead loads on non-composite section.
 M_{sR} Moment due to dead loads on composite section.
 M_L 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.

SECTION AT DIAPHRAGM D3

(Girder 4 shown, Girder 5 similar)



SECTION AT ABUTMENT

Notes:
 1. For diaphragm details see Sheet S3.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing Structural Steel	L. Sum	1

ILLINOIS DEPARTMENT OF TRANSPORTATION
 FRAMING PLAN & DETAILS
 FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
 NORTH BRANCH OF THE CHICAGO RIVER
 COOK COUNTY STATION 23+65.80
 SECTION 57B-3F
 STRUCTURE NO. 016-2782

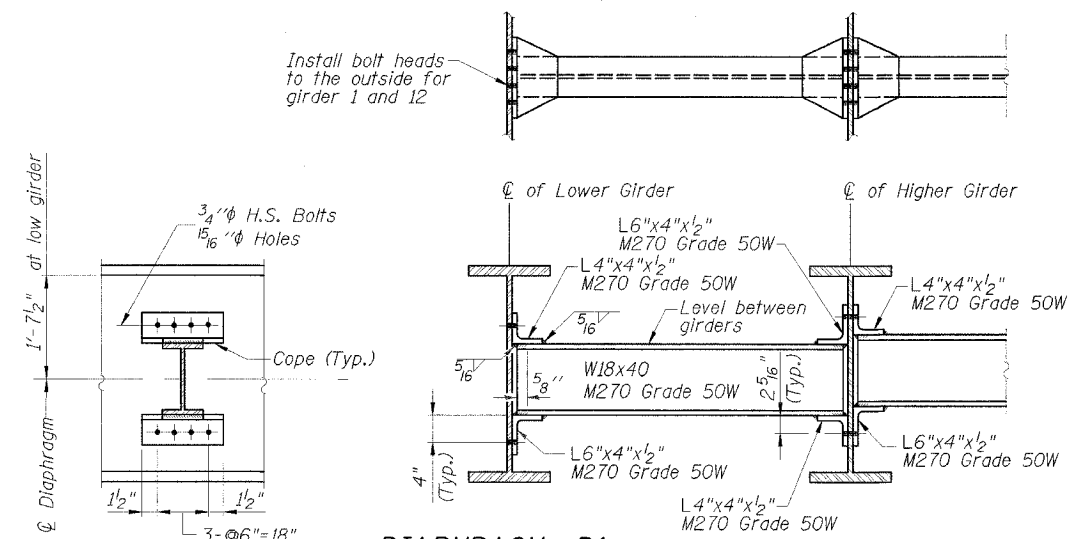
REVISIONS

NAME	DATE

SCALE: NONE
 DATE: 6/29/06
 DRAWN BY: G. Hatlestad
 CHECKED BY: P. Lopez

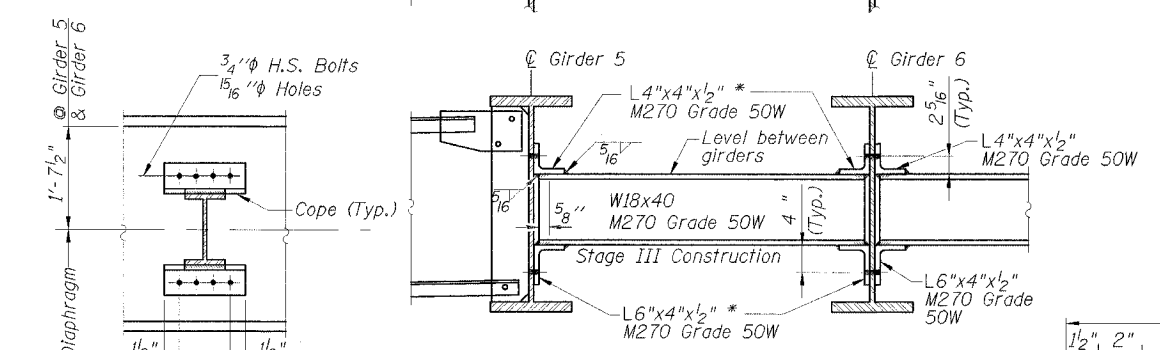
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	5
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

CONTRACT NO. 60887

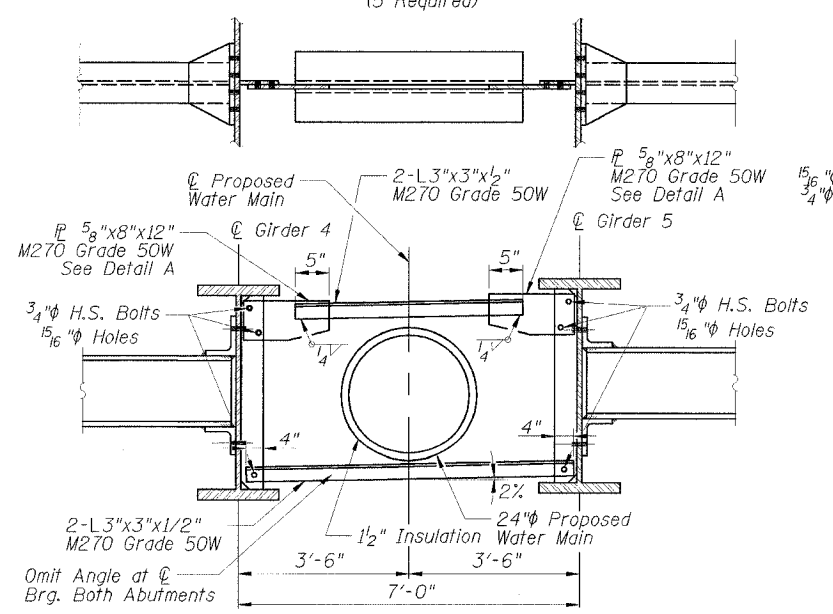


DIAPHRAGM D1
(35 Required)

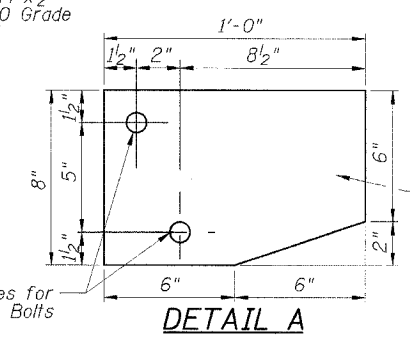
* 1/2" long - slotted vertical holes at stage construction line



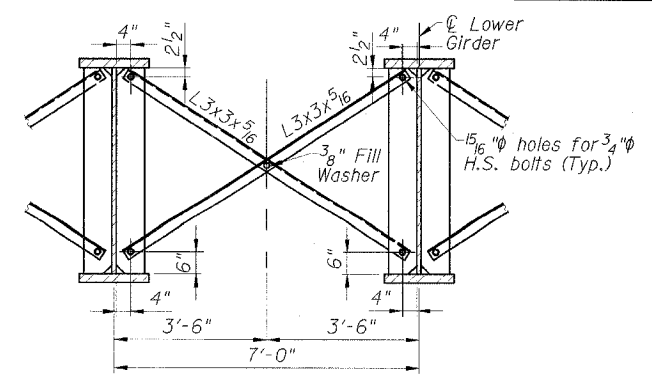
DIAPHRAGM D2
(5 Required)



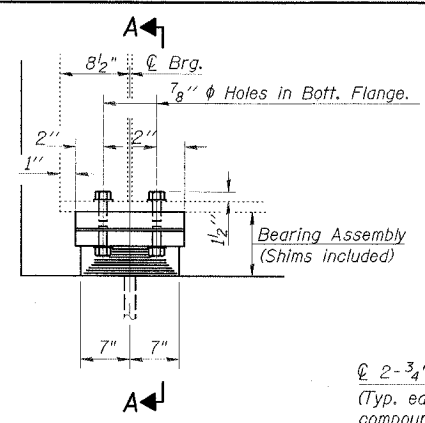
DIAPHRAGM D3
(7 Required)



DETAIL A

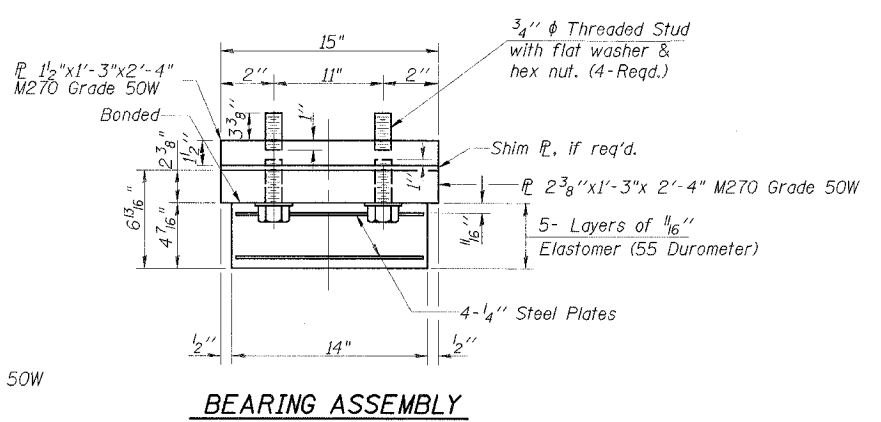


CROSS FRAME CF1
(16 Required)



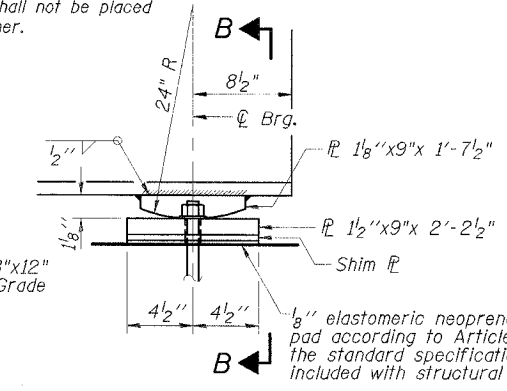
ELEVATION AT S. ABUT.

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

Note: Shim plates shall not be placed under elastomer.



ELEVATION AT N. ABUT.

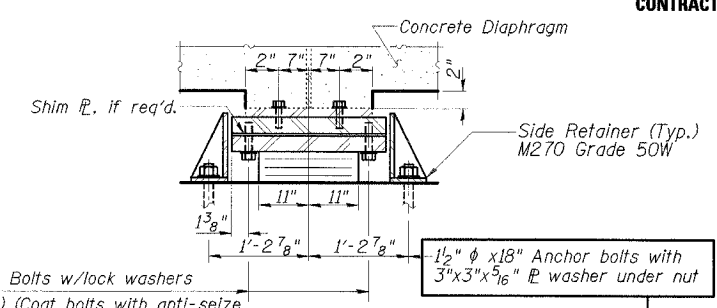
FIXED BEARING

All bearing plates and pintles shall be M270 Grade 50W



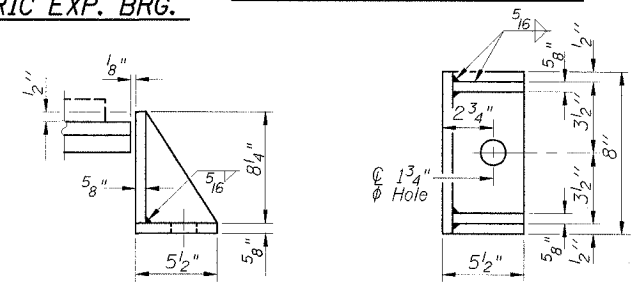
PINTLE

Note: Two hardened washers shall be required over all oversized holes for Diaphragms.



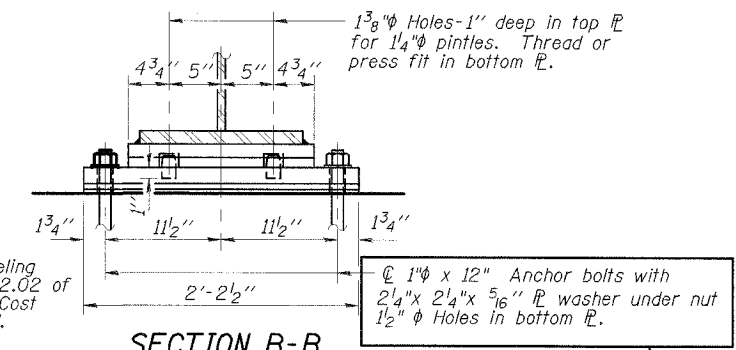
SECTION A-A

Not Included in This Contract



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.



SECTION B-B

Not Included in This Contract

BILL OF MATERIAL

Item	Unit	Total
Furnishing Elastomeric Bearing Assembly Type I	Each	10

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARING & DIAPHRAGM DETAILS
FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
NORTH BRANCH OF THE CHICAGO RIVER
COOK COUNTY STATION 23+65.80
SECTION 57B-3F
STRUCTURE NO. 016-2782

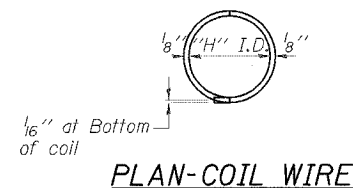
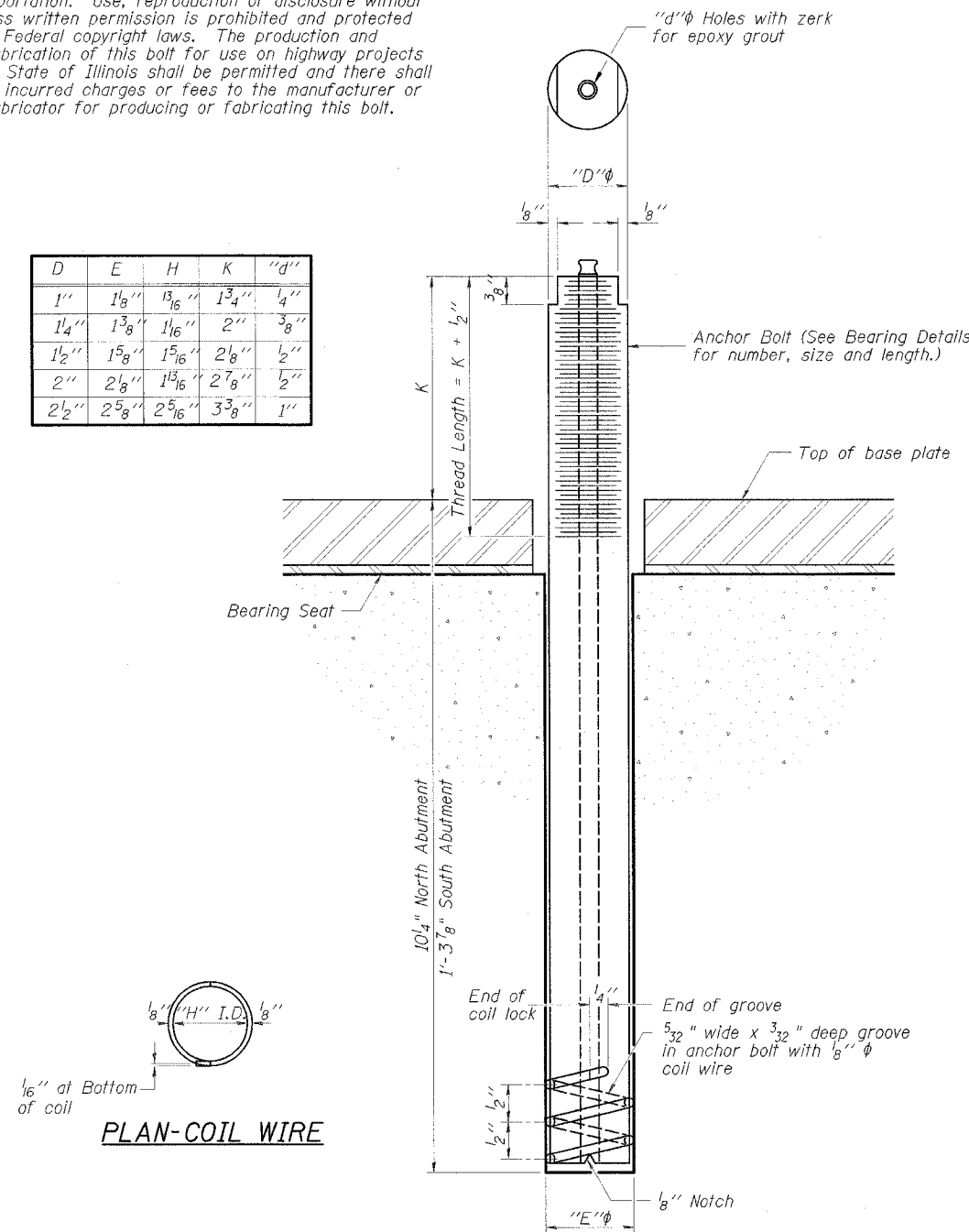
SCALE: NONE
DATE: 6/29/06
DRAWN BY: G. Hatlestad
CHECKED BY: P. Lopez

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	6
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

CONTRACT NO. 60887

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"	1 3/16"	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 15/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



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
S. Abut.	A307
N. Abut.	A307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

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".

THIS SHEET IS FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 ANCHOR BOLTS
 FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
 NORTH BRANCH OF THE CHICAGO RIVER
 COOK COUNTY STATION 23+65.80
 SECTION 57B-3F
 STRUCTURE NO. 016-2782

SCALE: NONE DRAWN BY: G. Hatlestad
 DATE: 6/29/06 CHECKED BY: P. Lopez

GIRDER #1

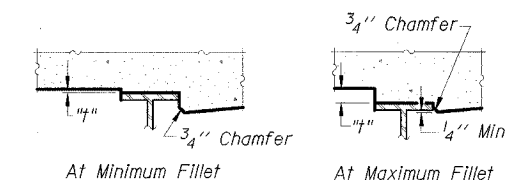
Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	-31.5	606.087	606.087
☉ Brg. S. Abut.	23+05.80	-31.5	606.099	606.099
A	23+15.80	-31.5	606.149	606.233
B	23+25.80	-31.5	606.198	606.360
C	23+35.80	-31.5	606.248	606.476
D	23+45.80	-31.5	606.298	606.576
E	23+55.80	-31.5	606.347	606.657
F	23+65.80	-31.5	606.397	606.717
G	23+75.80	-31.5	606.447	606.756
H	23+85.80	-31.5	606.496	606.774
I	23+95.80	-31.5	606.546	606.774
J	24+05.80	-31.5	606.595	606.757
K	24+15.80	-31.5	606.645	606.729
☉ Brg. N. Abut.	24+25.80	-31.5	606.695	606.695
Bk. N. Abut.	24+28.30	-31.5	606.707	606.707

WEST GUTTER LINE

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	-28.0	606.157	606.157
☉ Brg. S. Abut.	23+05.80	-28.0	606.169	606.169
A	23+15.80	-28.0	606.219	606.309
B	23+25.80	-28.0	606.268	606.442
C	23+35.80	-28.0	606.318	606.562
D	23+45.80	-28.0	606.368	606.665
E	23+55.80	-28.0	606.417	606.748
F	23+65.80	-28.0	606.467	606.809
G	23+75.80	-28.0	606.517	606.847
H	23+85.80	-28.0	606.566	606.863
I	23+95.80	-28.0	606.616	606.859
J	24+05.80	-28.0	606.665	606.839
K	24+15.80	-28.0	606.715	606.805
☉ Brg. N. Abut.	24+25.80	-28.0	606.765	606.765
Bk. N. Abut.	24+28.30	-28.0	606.777	606.777

GIRDER #2

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	-24.5	606.227	606.227
☉ Brg. S. Abut.	23+05.80	-24.5	606.239	606.239
A	23+15.80	-24.5	606.289	606.385
B	23+25.80	-24.5	606.338	606.523
C	23+35.80	-24.5	606.388	606.647
D	23+45.80	-24.5	606.438	606.754
E	23+55.80	-24.5	606.487	606.839
F	23+65.80	-24.5	606.537	606.901
G	23+75.80	-24.5	606.587	606.939
H	23+85.80	-24.5	606.636	606.953
I	23+95.80	-24.5	606.686	606.945
J	24+05.80	-24.5	606.735	606.920
K	24+15.80	-24.5	606.785	606.881
☉ Brg. N. Abut.	24+25.80	-24.5	606.835	606.835
Bk. N. Abut.	24+28.30	-24.5	606.847	606.847



To determine "f": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "f" above top flange of girders.

FILLET HEIGHTS

GIRDER #3

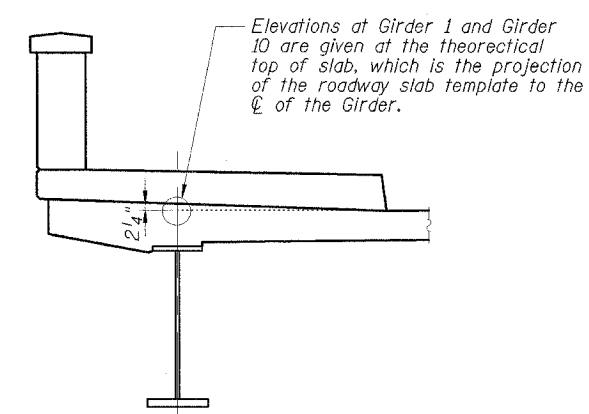
Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	-17.5	606.367	606.367
☉ Brg. S. Abut.	23+05.80	-17.5	606.379	606.379
A	23+15.80	-17.5	606.429	606.525
B	23+25.80	-17.5	606.478	606.663
C	23+35.80	-17.5	606.528	606.787
D	23+45.80	-17.5	606.578	606.894
E	23+55.80	-17.5	606.627	606.979
F	23+65.80	-17.5	606.677	607.041
G	23+75.80	-17.5	606.727	607.079
H	23+85.80	-17.5	606.776	607.093
I	23+95.80	-17.5	606.826	607.085
J	24+05.80	-17.5	606.875	607.060
K	24+15.80	-17.5	606.925	607.021
☉ Brg. N. Abut.	24+25.80	-17.5	606.975	606.975
Bk. N. Abut.	24+28.30	-17.5	606.987	606.987

GIRDER #4

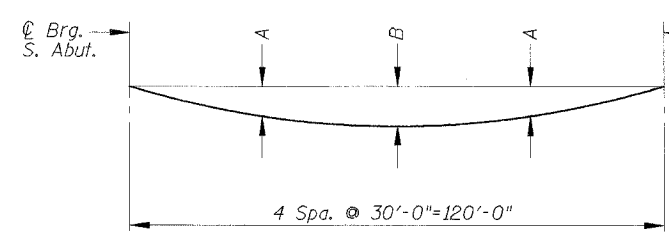
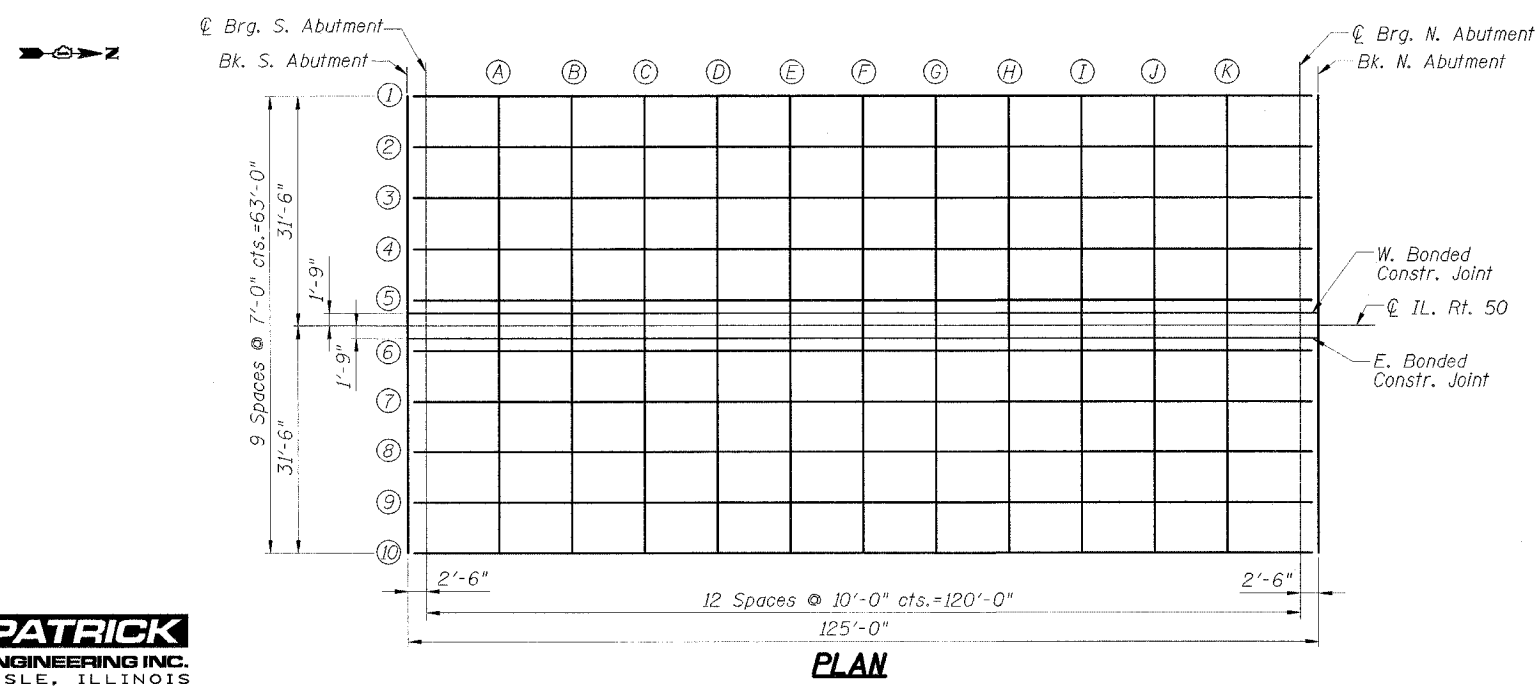
Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	-10.5	606.507	606.507
☉ Brg. S. Abut.	23+05.80	-10.5	606.519	606.519
A	23+15.80	-10.5	606.569	606.665
B	23+25.80	-10.5	606.618	606.803
C	23+35.80	-10.5	606.668	606.927
D	23+45.80	-10.5	606.718	607.034
E	23+55.80	-10.5	606.767	607.119
F	23+65.80	-10.5	606.817	607.181
G	23+75.80	-10.5	606.867	607.219
H	23+85.80	-10.5	606.916	607.233
I	23+95.80	-10.5	606.966	607.225
J	24+05.80	-10.5	607.015	607.200
K	24+15.80	-10.5	607.065	607.161
☉ Brg. N. Abut.	24+25.80	-10.5	607.115	607.115
Bk. N. Abut.	24+28.30	-10.5	607.127	607.127

GIRDER #5

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	-3.5	606.647	606.647
☉ Brg. S. Abut.	23+05.80	-3.5	606.659	606.659
A	23+15.80	-3.5	606.709	606.782
B	23+25.80	-3.5	606.758	606.900
C	23+35.80	-3.5	606.808	607.007
D	23+45.80	-3.5	606.858	607.101
E	23+55.80	-3.5	606.907	607.178
F	23+65.80	-3.5	606.957	607.237
G	23+75.80	-3.5	607.007	607.277
H	23+85.80	-3.5	607.056	607.299
I	23+95.80	-3.5	607.106	607.305
J	24+05.80	-3.5	607.155	607.297
K	24+15.80	-3.5	607.205	607.279
☉ Brg. N. Abut.	24+25.80	-3.5	607.255	607.255
Bk. N. Abut.	24+28.30	-3.5	607.267	607.267



LOCATION OF ELEVATIONS AT CENTERLINE OF GIRDERS



DEAD LOAD DEFLECTION DIAGRAM
(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 below.

Beam	A	B
2-4, 7-9	3 7/8"	5 1/2"
5 & 6	3 1/4"	4 5/8"
1 & 10	3 5/8"	5"

THIS SHEET IS FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK ELEVATIONS I
FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
NORTH BRANCH OF THE CHICAGO RIVER
COOK COUNTY STATION 23+65.80
SECTION 57B-3F
STRUCTURE NO. 016-2782

SCALE: NONE DRAWN BY: G. Hatlestad
DATE: 6/29/06 CHECKED BY: P. Lopez

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	8
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 60B87

WEST BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	-1.75	606.682	606.682
☉ Brg. S. Abut.	23+05.80	-1.75	606.694	606.694
A	23+15.80	-1.75	606.744	606.817
B	23+25.80	-1.75	606.793	606.935
C	23+35.80	-1.75	606.843	607.042
D	23+45.80	-1.75	606.893	607.136
E	23+55.80	-1.75	606.942	607.213
F	23+65.80	-1.75	606.992	607.272
G	23+75.80	-1.75	607.042	607.312
H	23+85.80	-1.75	607.091	607.334
I	23+95.80	-1.75	607.141	607.340
J	24+05.80	-1.75	607.190	607.332
K	24+15.80	-1.75	607.240	607.314
☉ Brg. N. Abut.	24+25.80	-1.75	607.290	607.290
Bk. N. Abut.	24+28.30	-1.75	607.302	607.302

CENTERLINE ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	0.0	606.717	606.717
☉ Brg. S. Abut.	23+05.80	0.0	606.729	606.729
A	23+15.80	0.0	606.779	606.782
B	23+25.80	0.0	606.828	606.835
C	23+35.80	0.0	606.878	606.887
D	23+45.80	0.0	606.928	606.938
E	23+55.80	0.0	606.977	606.989
F	23+65.80	0.0	607.027	607.039
G	23+75.80	0.0	607.077	607.088
H	23+85.80	0.0	607.126	607.137
I	23+95.80	0.0	607.176	607.184
J	24+05.80	0.0	607.225	607.232
K	24+15.80	0.0	607.275	607.278
☉ Brg. N. Abut.	24+25.80	0.0	607.325	607.325
Bk. N. Abut.	24+28.30	0.0	607.337	607.337

EAST BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	1.75	606.682	606.682
☉ Brg. S. Abut.	23+05.80	1.75	606.694	606.694
A	23+15.80	1.75	606.744	606.817
B	23+25.80	1.75	606.793	606.935
C	23+35.80	1.75	606.843	607.042
D	23+45.80	1.75	606.893	607.136
E	23+55.80	1.75	606.942	607.213
F	23+65.80	1.75	606.992	607.272
G	23+75.80	1.75	607.042	607.312
H	23+85.80	1.75	607.091	607.334
I	23+95.80	1.75	607.141	607.340
J	24+05.80	1.75	607.190	607.332
K	24+15.80	1.75	607.240	607.314
☉ Brg. N. Abut.	24+25.80	1.75	607.290	607.290
Bk. N. Abut.	24+28.30	1.75	607.302	607.302

GIRDER #6

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	3.5	606.647	606.647
☉ Brg. S. Abut.	23+05.80	3.5	606.659	606.659
A	23+15.80	3.5	606.709	606.782
B	23+25.80	3.5	606.758	606.900
C	23+35.80	3.5	606.808	607.007
D	23+45.80	3.5	606.858	607.101
E	23+55.80	3.5	606.907	607.178
F	23+65.80	3.5	606.957	607.237
G	23+75.80	3.5	607.007	607.277
H	23+85.80	3.5	607.056	607.299
I	23+95.80	3.5	607.106	607.305
J	24+05.80	3.5	607.155	607.297
K	24+15.80	3.5	607.205	607.279
☉ Brg. N. Abut.	24+25.80	3.5	607.255	607.255
Bk. N. Abut.	24+28.30	3.5	607.267	607.267

GIRDER #7

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	10.5	606.507	606.507
☉ Brg. S. Abut.	23+05.80	10.5	606.519	606.519
A	23+15.80	10.5	606.569	606.665
B	23+25.80	10.5	606.618	606.803
C	23+35.80	10.5	606.668	606.927
D	23+45.80	10.5	606.718	607.034
E	23+55.80	10.5	606.767	607.119
F	23+65.80	10.5	606.817	607.181
G	23+75.80	10.5	606.867	607.219
H	23+85.80	10.5	606.916	607.233
I	23+95.80	10.5	606.966	607.225
J	24+05.80	10.5	607.015	607.200
K	24+15.80	10.5	607.065	607.161
☉ Brg. N. Abut.	24+25.80	10.5	607.115	607.115
Bk. N. Abut.	24+28.30	10.5	607.127	607.127

GIRDER #8

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	17.5	606.367	606.367
☉ Brg. S. Abut.	23+05.80	17.5	606.379	606.379
A	23+15.80	17.5	606.429	606.525
B	23+25.80	17.5	606.478	606.663
C	23+35.80	17.5	606.528	606.787
D	23+45.80	17.5	606.578	606.894
E	23+55.80	17.5	606.627	606.979
F	23+65.80	17.5	606.677	607.041
G	23+75.80	17.5	606.727	607.079
H	23+85.80	17.5	606.776	607.093
I	23+95.80	17.5	606.826	607.085
J	24+05.80	17.5	606.875	607.060
K	24+15.80	17.5	606.925	607.021
☉ Brg. N. Abut.	24+25.80	17.5	606.975	606.975
Bk. N. Abut.	24+28.30	17.5	606.987	606.987

GIRDER #9

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	24.5	606.227	606.227
☉ Brg. S. Abut.	23+05.80	24.5	606.239	606.239
A	23+15.80	24.5	606.289	606.385
B	23+25.80	24.5	606.338	606.523
C	23+35.80	24.5	606.388	606.647
D	23+45.80	24.5	606.438	606.754
E	23+55.80	24.5	606.487	606.839
F	23+65.80	24.5	606.537	606.901
G	23+75.80	24.5	606.587	606.939
H	23+85.80	24.5	606.636	606.953
I	23+95.80	24.5	606.686	606.945
J	24+05.80	24.5	606.735	606.920
K	24+15.80	24.5	606.785	606.881
☉ Brg. N. Abut.	24+25.80	24.5	606.835	606.835
Bk. N. Abut.	24+28.30	24.5	606.847	606.847

EAST GUTTER LINE

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	28.0	606.157	606.157
☉ Brg. S. Abut.	23+05.80	28.0	606.169	606.169
A	23+15.80	28.0	606.219	606.309
B	23+25.80	28.0	606.268	606.442
C	23+35.80	28.0	606.318	606.562
D	23+45.80	28.0	606.368	606.665
E	23+55.80	28.0	606.417	606.748
F	23+65.80	28.0	606.467	606.809
G	23+75.80	28.0	606.517	606.847
H	23+85.80	28.0	606.566	606.863
I	23+95.80	28.0	606.616	606.859
J	24+05.80	28.0	606.665	606.839
K	24+15.80	28.0	606.715	606.805
☉ Brg. N. Abut.	24+25.80	28.0	606.765	606.765
Bk. N. Abut.	24+28.30	28.0	606.777	606.777

GIRDER #10

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflections
Bk. S. Abut.	23+03.30	31.5	606.087	606.087
☉ Brg. S. Abut.	23+05.80	31.5	606.099	606.099
A	23+15.80	31.5	606.149	606.233
B	23+25.80	31.5	606.198	606.360
C	23+35.80	31.5	606.248	606.476
D	23+45.80	31.5	606.298	606.576
E	23+55.80	31.5	606.347	606.657
F	23+65.80	31.5	606.397	606.717
G	23+75.80	31.5	606.447	606.756
H	23+85.80	31.5	606.496	606.774
I	23+95.80	31.5	606.546	606.774
J	24+05.80	31.5	606.595	606.757
K	24+15.80	31.5	606.645	606.729
☉ Brg. N. Abut.	24+25.80	31.5	606.695	606.695
Bk. N. Abut.	24+28.30	31.5	606.707	606.707

THIS SHEET IS FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

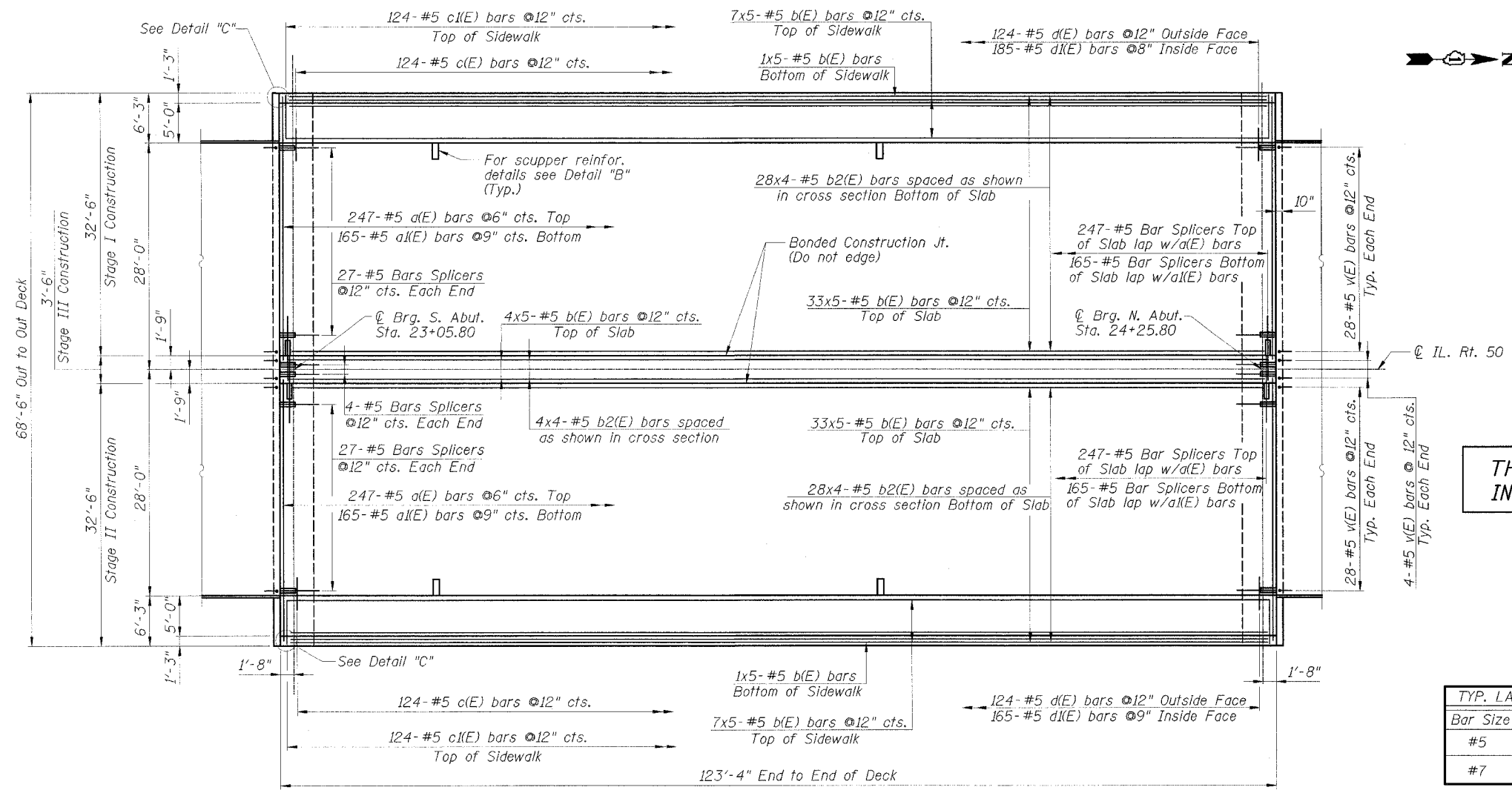
ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK ELEVATIONS II
FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
NORTH BRANCH OF THE CHICAGO RIVER
COOK COUNTY STATION 23+65.80
SECTION 57B-3F
STRUCTURE NO. 016-2782

SCALE: NONE DRAWN BY: G. Hatlestad
DATE: 6/29/06 CHECKED BY: P. Lopez

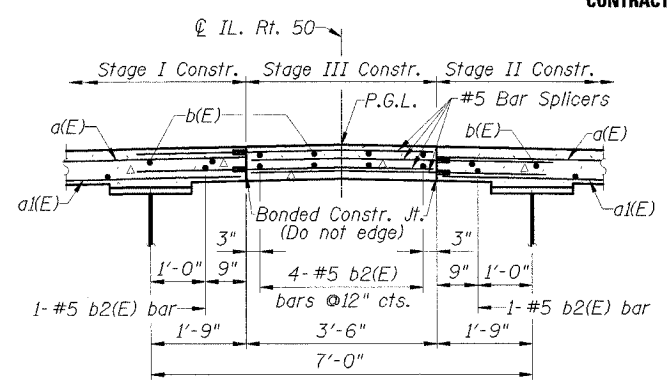


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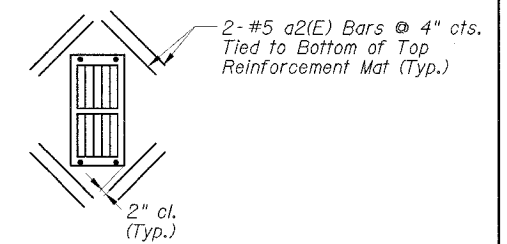
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	9
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		CONTRACT NO. 60B87



DECK PLAN

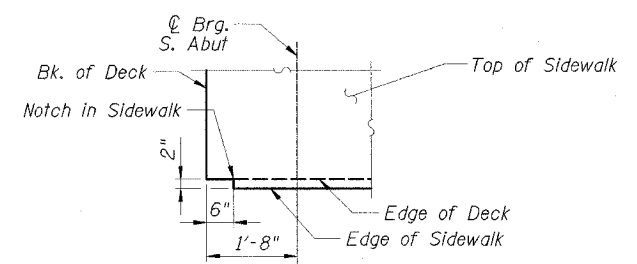


DETAIL "A"



DETAIL "B"

Cut longitudinal reinforcement to clear drainage scuppers.



DETAIL "C"

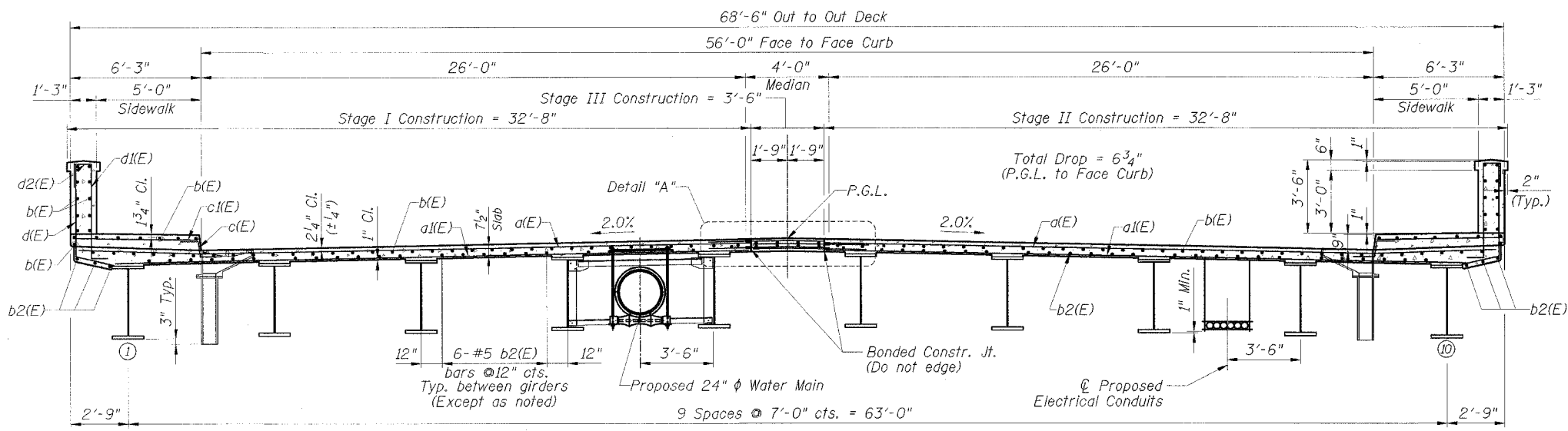
(East edge shown)
(West edge similar)

THIS SHEET IS FOR INFORMATION ONLY

TYP. LAP SPLICE		
Bar Size	Min. Lap	
#5	2'-2"	
#7	4'-10"	

Notes:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet S1 for Scupper Spacing.
4. See Sheet S7 for Parapet Details and Bill of Material.
5. See Sheet S14 for Bar Splicer Details.
6. See Sheet S16 for Scupper Details.
7. See Sheet S17 for Water Main Details.



CROSS SECTION
(Looking North)



REVISIONS	
NAME	DATE

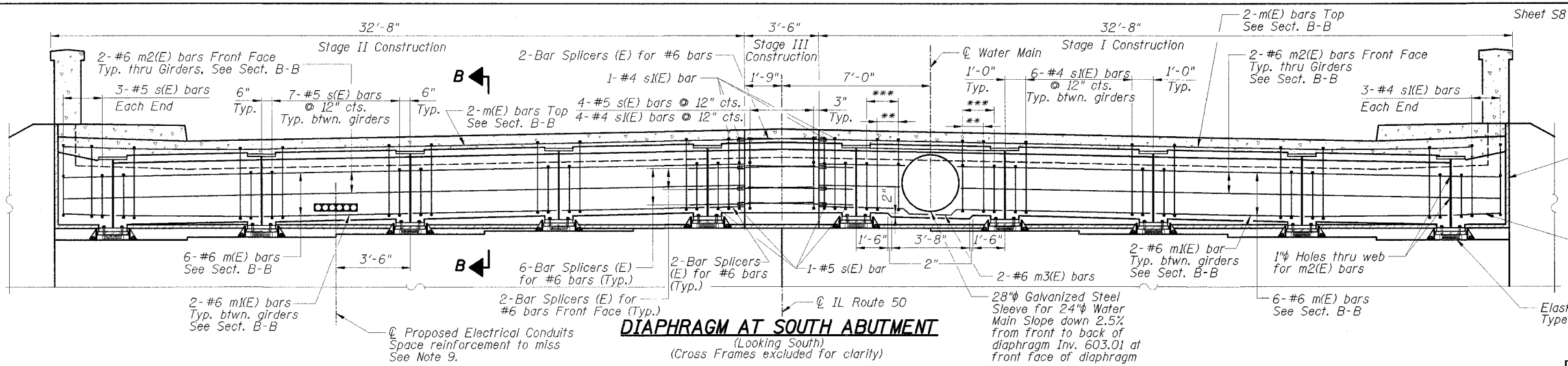
ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK PLAN & DETAILS
FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
NORTH BRANCH OF THE CHICAGO RIVER
COOK COUNTY STATION 23+65.80
SECTION 57B-3F
STRUCTURE NO. 016-2782

SCALE: NONE
DATE: 6/29/06
DRAWN BY: G. Hatlestad
CHECKED BY: P. Lopez

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	10
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

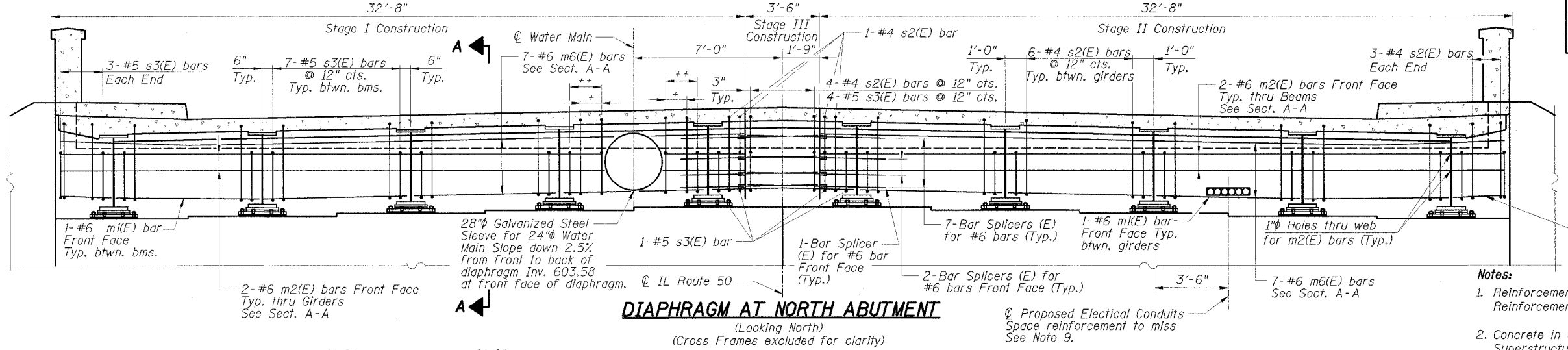
CONTRACT NO. 60B87

Sheet S8 of S10



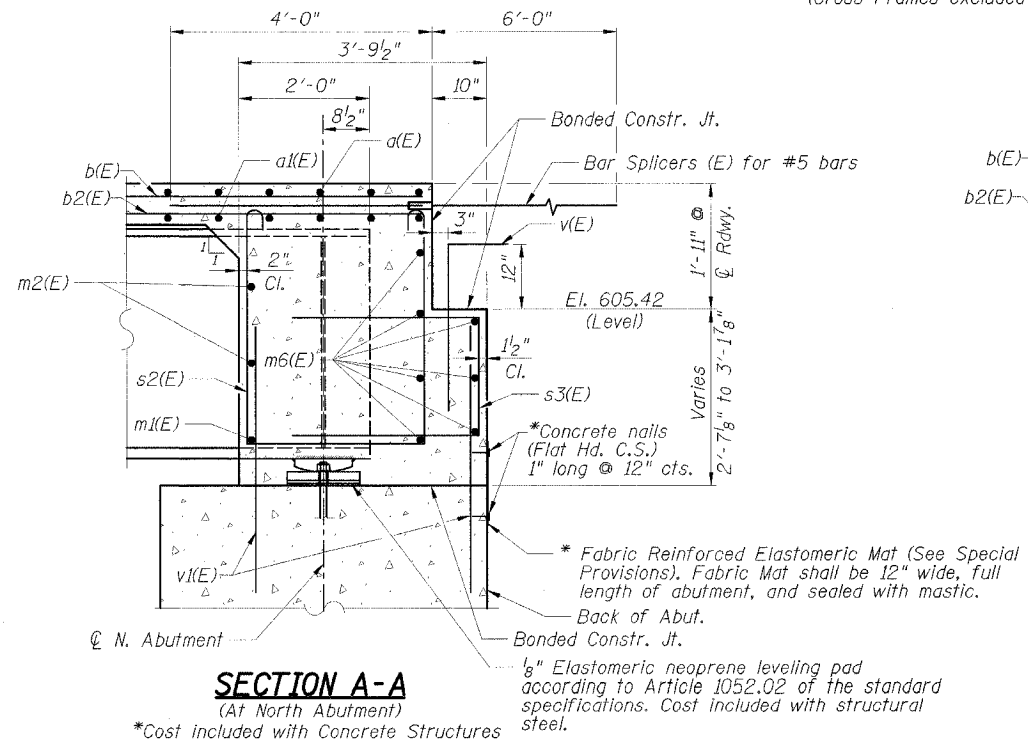
DIAPHRAGM AT SOUTH ABUTMENT
(Looking South)
(Cross Frames excluded for clarity)

THIS SHEET IS FOR INFORMATION ONLY

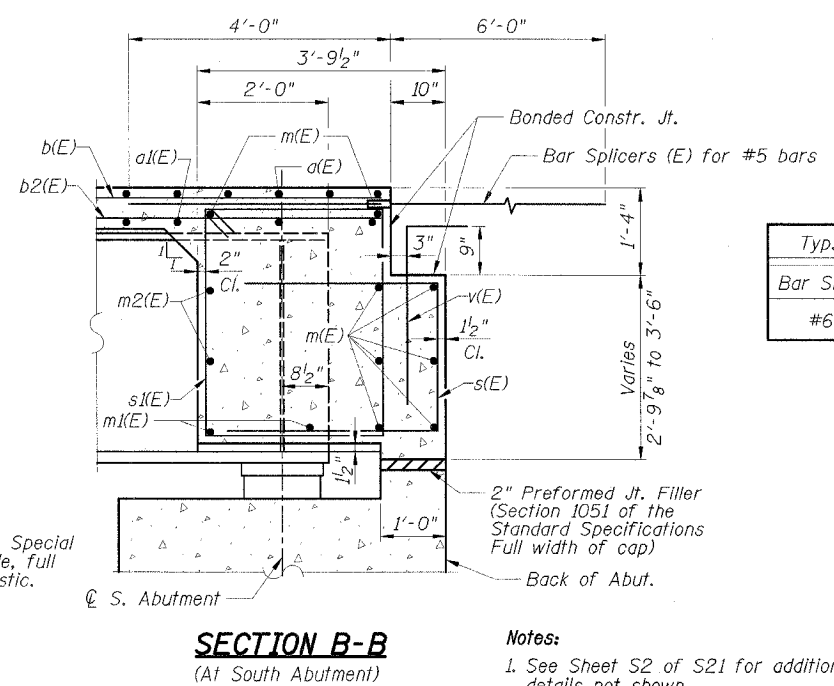


DIAPHRAGM AT NORTH ABUTMENT
(Looking North)
(Cross Frames excluded for clarity)

- Notes:**
1. Reinforcement bars in diaphragm are included with Reinforcement Bars, Epoxy Coated, on Sheet S7 of S21.
 2. Concrete in diaphragm is included with Concrete Superstructure on Sheet S7 of S21.
 3. For details of bars m3(E), s(E), s1(E), s2(E), and s3(E) see Sheet S7 of S21.
 4. The s(E), s1(E), s2(E), and s3(E) bars shall be placed parallel to the girders. Spacing for these bars shall be at right angles to the girders.
 5. For anchor bolt details see Sheet S13 of S21.
 6. For bar splicer details see Sheet S14 of S21.
 7. For spacing of v(E) and approach slab bar splicers see Sheet S6 of S21.
 8. For water main details see Sheet S17 of S21.
 9. Vertical location of proposed electrical conduits to be determined in field at time of construction.
 10. For Cross Frame details see Sheet S10 of S21.
 11. For bearing details see Sheet S10 of S21.



SECTION A-A
(At North Abutment)



SECTION B-B
(At South Abutment)

Typ. Lap Splice	
Bar Size	Min. Lap
#6	3'-7"

- Notes:**
1. See Sheet S2 of S21 for additional abutment details not shown.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DIAPHRAGM DETAILS
FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
NORTH BRANCH OF THE CHICAGO RIVER
COOK COUNTY STATION 23+65.80
SECTION 57B-3F
STRUCTURE NO. 016-2782

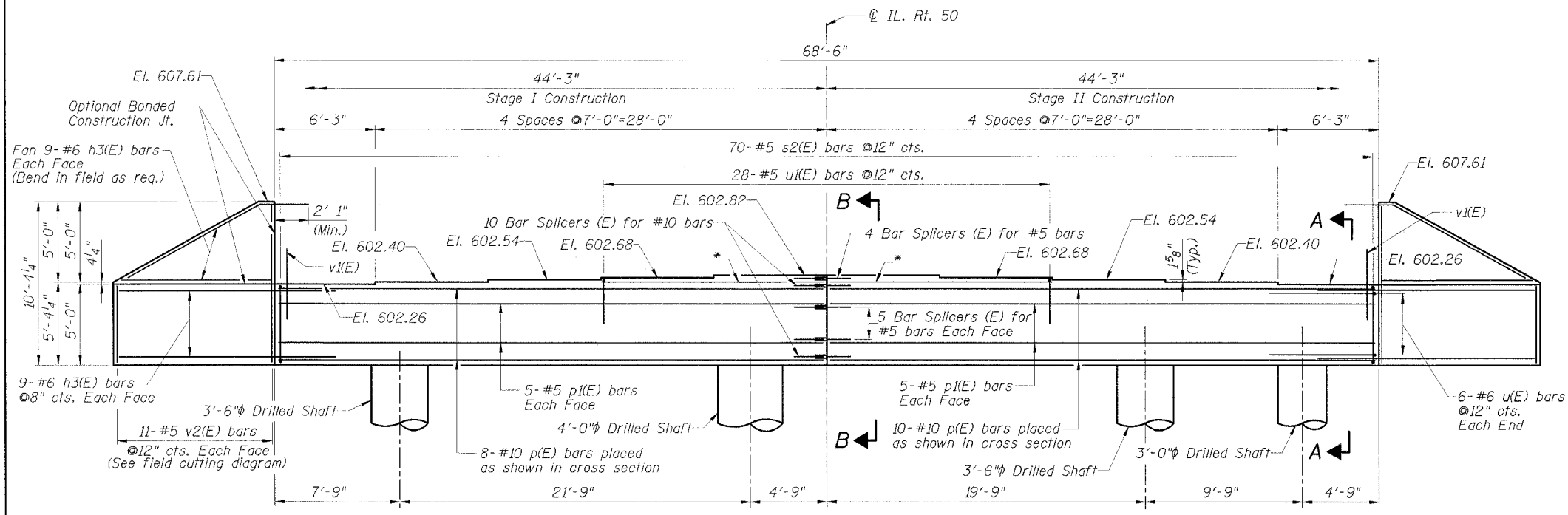
SCALE: NONE
DATE: 6/29/06
DRAWN BY: G. Hatlestad
CHECKED BY: P. Lopez



*Cost included with Concrete Structures

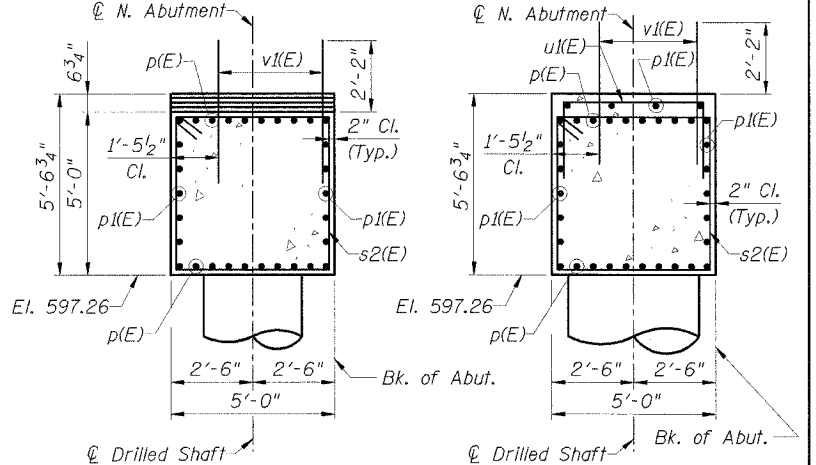
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	11
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

CONTRACT NO. 60887



NORTH ABUTMENT ELEVATION
(Looking North)

* 4- #5 p(E) bars placed as shown in Section B-B



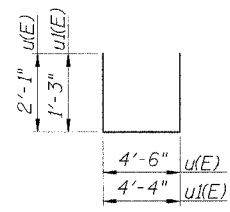
SECTION A-A

SECTION B-B

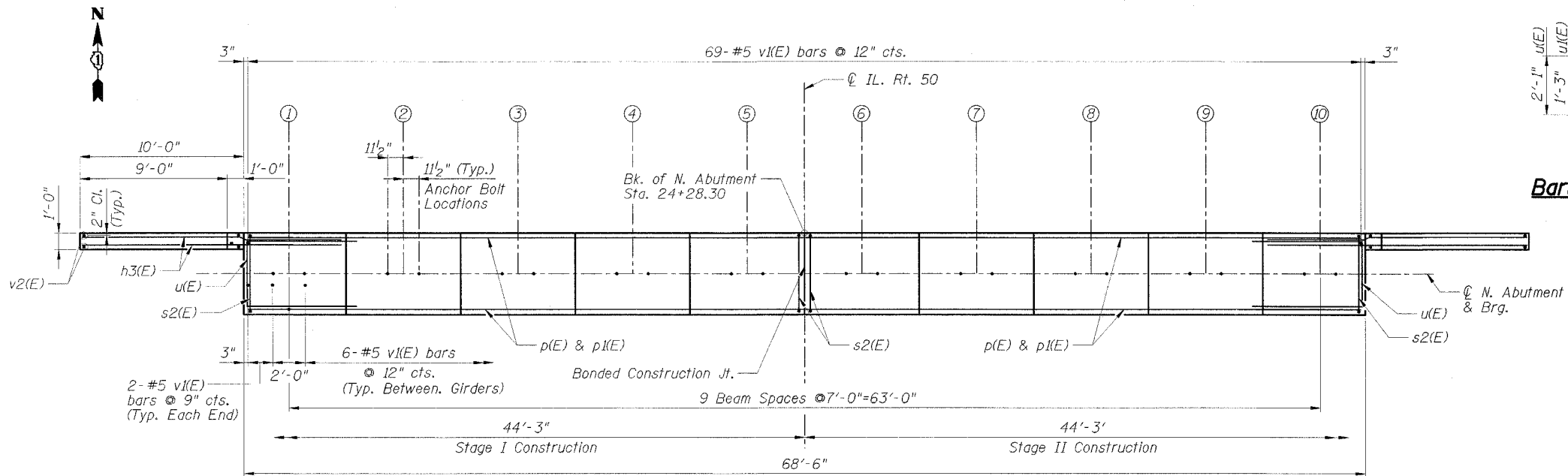
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h3(E)	72	#6	13'-0"	—
p(E)	40	#10	33'-11"	—
p1(E)	28	#5	33'-11"	—
s2(E)	70	#5	19'-8"	□
u(E)	12	#6	8'-8"	□
u1(E)	28	#5	6'-10"	□
v1(E)	127	#5	4'-4"	—
v2(E)	22	#5	14'-6"	—
Structure Excavation		Cu. Yd.	274.9	
Concrete Structures		Cu. Yd.	72.8	
Reinforcement Bars, Epoxy Coated		Lbs.	10,930	
Bar Splicers		Each	34	
Porous Granular Embankment		Cu. Yd.	177.7	

Bar s2(E)



Bars u(E) & u1(E)



PLAN

THIS SHEET IS FOR INFORMATION ONLY

- Notes:**
1. For Anchor Bolt details see Sheet S13.
 2. For Drilled Shaft details see Sheet S3.
 3. Reinforcement bars designated (E) shall be epoxy coated.
 4. Space reinforcement to miss anchor bolts.
 5. Cast steps monolithically with abutment.
 6. For PGE and Filter Fabric details see Sheet S2.
 7. For Bar Splicer details see Sheet S14.

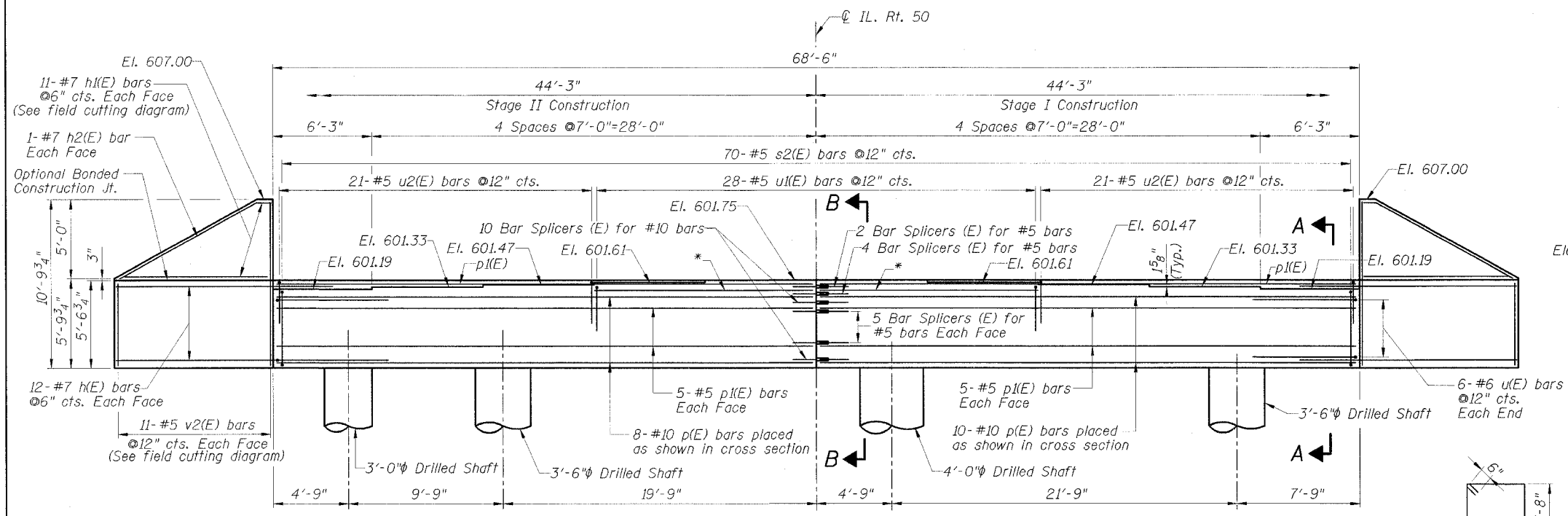
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
NORTH ABUTMENT
FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
NORTH BRANCH OF THE CHICAGO RIVER
COOK COUNTY STATION 23+65.80
SECTION 57B-3F
STRUCTURE NO. 016-2782

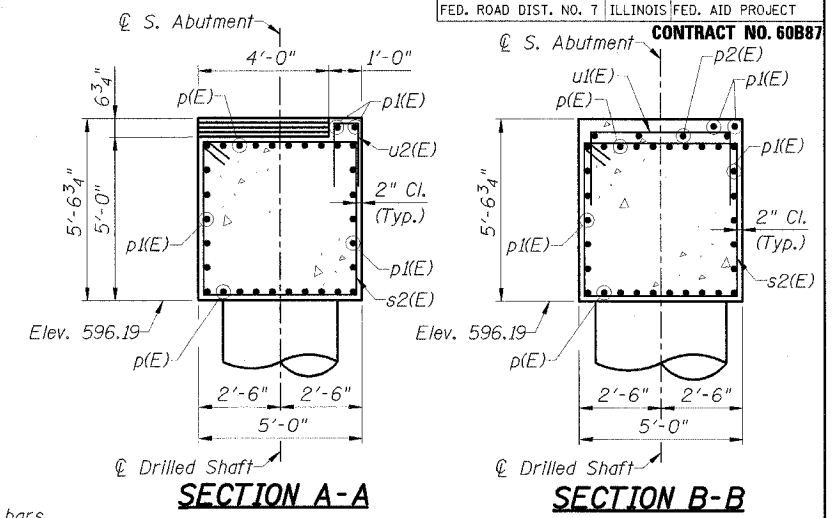
SCALE: NONE DRAWN BY: G. Hatlestad
DATE: 6/29/06 CHECKED BY: P. Lopez



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-3F	COOK	12	12
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		CONTRACT NO. 60B87



SOUTH ABUTMENT ELEVATION
(Looking South)

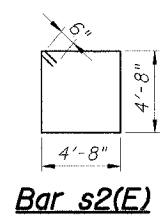


SECTION A-A

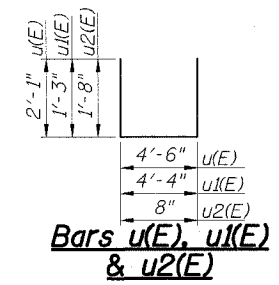
SECTION B-B

BILL OF MATERIAL

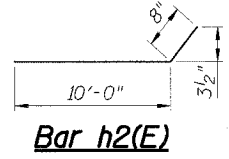
Bar	No.	Size	Length	Shape
h(E)	48	#7	12'-8"	—
h1(E)	22	#7	10'-4"	—
h2(E)	4	#7	10'-8"	—
p(E)	40	#10	33'-11"	—
p1(E)	24	#5	33'-11"	—
p2(E)	8	#5	13'-8"	—
s2(E)	70	#5	19'-8"	□
u(E)	12	#6	8'-8"	□
u1(E)	28	#5	6'-10"	□
u2(E)	42	#5	4'-0"	□
v2(E)	22	#5	14'-6"	—
Structure Excavation		Cu. Yd.	321.1	
Concrete Structures		Cu. Yd.	73.9	
Reinforcement Bars, Epoxy Coated		Lbs.	10,890	
Bar Splicers		Each	36	
Porous Granular Embankment		Cu. Yd.	198.1	



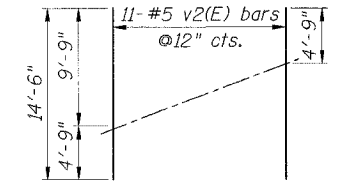
Bar s2(E)



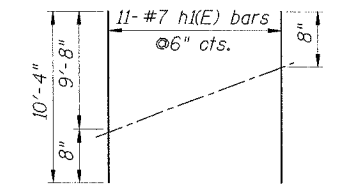
Bars u(E), u1(E) & u2(E)



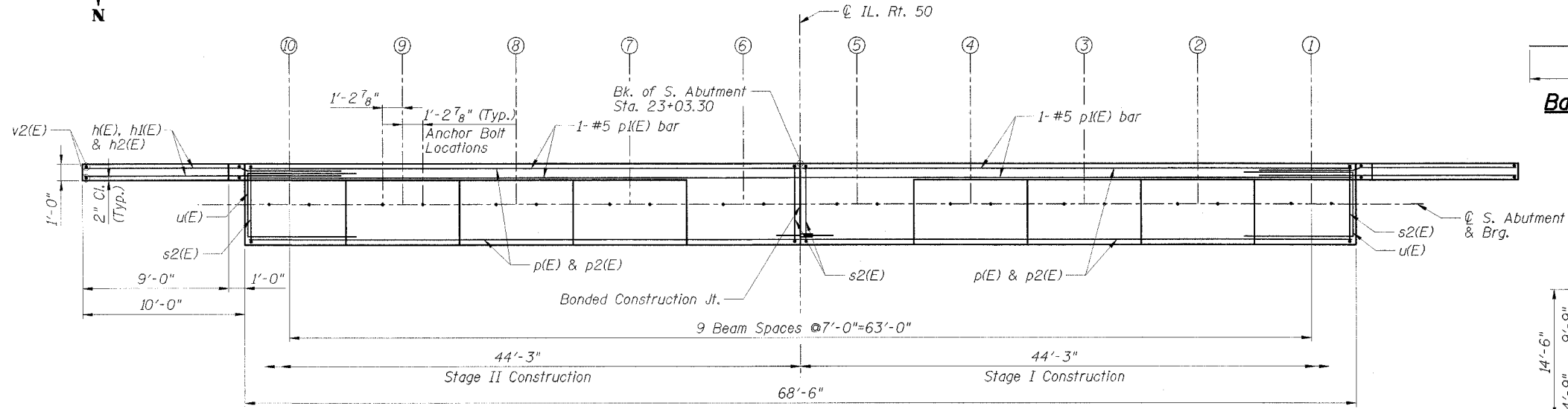
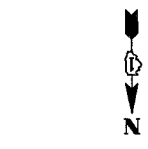
Bar h2(E)



FIELD CUTTING DIAGRAM



FIELD CUTTING DIAGRAM



PLAN

- Notes:**
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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SOUTH ABUTMENT
FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
NORTH BRANCH OF THE CHICAGO RIVER
COOK COUNTY STATION 23+65.80
SECTION 57B-3F
STRUCTURE NO. 016-2782

SCALE: NONE
DATE: 6/29/06
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