CONTRACT NO. 62747

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2006-043 RS	COOK	135	5
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

URBAN
90% FED./10% STATE

	CODE NO	ITEM	UNIT	TOTAL QUANTITIES	NB ROADWAY I000	SB ROADWAY I000	DRAINAGE I000	BRIDGES X231-2A	BRIDGES X031-2A	BRIDGES X131-2A
	~~55021600~~	~~RCCP CL III, TYP 2, REIN, CONC, CULVERT, ST, DRAIN, AND SEWER PIPE, CLASS III 12"~~	~~FOOT~~	~~80~~			~~80~~			
1	~~59000200~~	~~EPOXY CRACK INJECTION~~	~~FOOT~~	~~500~~				~~300~~	~~100~~	~~100~~
	60208240	CATCH BASINS, TYPE C, TYPE 24 FRAME AND GRATE	EACH	8			8			
	60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	757			757			
	63500105	DELINEATORS	EACH	2385	1183	1202				
	64200105	SHOULDER RUMBLE STRIP	FOOT	135,522	67,872	67,650				
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	20	10	10				
	67100100	MOBILIZATION	L SUM	1	0.4	0.4		0.2		
	~~70300240~~	~~TEMPORARY PAVEMENT MARKING - LINE 6"~~	~~FOOT~~	~~16,000~~	~~8,000~~	~~8,000~~				
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	1,700	850	850				
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	4,600	2,300	2,300				
*	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	174,596	86,159	88,437				
*	78000500	THERMOPLASTIC PAVEMENT MARKING - LINE 8"	FOOT	27,060	13,732	13,328				
*	78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	6,112	3,132	2,980				
	78003120	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 5"	FOOT	37,108	18,554	18,554				
*	78008210	POLYUREA PAVEMENT MARKING, TYPE I, 4"	FOOT	5002	2501	2501				
*	78008220	POLYUREA PAVEMENT MARKING, TYPE I, 5"	FOOT	1,252	626	626				
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	3,710	1,855	1,855				
*	78200510	BARRIER WALL MARKERS, TYPE A	EACH	978	489	489				
	78300100	PAVEMENT MARKING REMOVAL	SQ FT	99,220	49,610	49,610				
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	3,710	1,855	1,855				
*	81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	1,000	1000					
	X0321743	SILICONE JOINT SEALER, 1"	FOOT	107				107		
	X0321744	SILICONE JOINT SEALER, 2"	FOOT	1,343				613	260	470
*	X0322247	MAINTENANCE OF EXISTING TRAFFIC SURVEILLANCE	L SUM	1	0.5	0.5				
*	X0322300	ELECTRIC CABLE IN CONDUIT NO.18 4/C, TWISTED, SHIELDED	FOOT	10,133	10,133					
	X0322729	MATERIAL TRANSFER DEVICE	TON	37,284	18,672	18,612				
1	~~X0322905~~	~~PRECAST PRESTRESSED CONCRETE I BEAM REPAIRS~~	~~L. SUM~~	~~1~~				~~1~~		
	X0325114	ADJUSTING DRAINAGE SCUPPERS, TYPE A	EACH	14				6	7	1
2	X0325303	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5")	SQ FT	7					7	
1	~~X0325305~~	~~STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)~~	~~SQ FT~~	~~1300~~				~~1100~~	~~100~~	~~100~~
	X0325428	CLASS A PATCHES, TYPE II, 10 INCH (SPECIAL)	SQ YD	310						

* - SPECIALTY ITEMS

PLOT DATE = 5/23/2007
FILE NAME = #FILE$
PLOT SCALE = #SCALE$
USER NAME = defaultt

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
F.A.I. 94 (I-94)

SCALE:
DATE MAY 2007
DRAWN BY DCS
CHECKED BY

1 Rev. 7-20-07

Rev.

Edens I 94 Resurfacing Project

CONTRACT NO. 62747

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2006-043 RS	COOK	135	6
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

URBAN
90% FED. / 10% STATE

	CODE NO	ITEM	UNIT	TOTAL QUANTITIES	NB ROADWAY I000	SB ROADWAY I000	DRAINAGE I000	BRIDGES X231-ZA	BRIDGES X031-ZA	BRIDGES X131-ZA
	X0325429	CLASS A PATCHES, TYPE III, 10 INCH (SPECIAL)	SQ YD	92	36	56				
	X0325430	CLASS A PATCHES, TYPE IV, 10 INCH (SPECIAL)	SQ YD	280	47	233				
*	~~X0325815~~	REMOVE EXISTING CABLE	FOOT	10,133	10,133					
*	~~X0325816~~	CONDUIT IN TRENCH, P-DUCT, 1 1/4"	FOOT	1,000	1,000					
*			EACH							
*			EACH							
	X4063000	PRELIMINARY TEST STRIP (STONE MATRIX ASPHALT)	EACH	2	1	1				
	X4066580	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, N80	TON	37,284	18,672	18,612				
	X4066685	POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, N80	TON	30,932	15,491	15,441				
	X4067107	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	TON	13,021	6,521	6,500				
⚠1	50500715	JACK AND REMOVE EXSTING BEARINGS	EACH	41				41		
	X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	0.5	0.5				
	X7013820	TRAFFIC CONTROL SURVEILLANCE, EXPRESSWAYS	CAL DA	199	100	99				
	70100800	CHANGEABLE MESSAGE SIGN	CAL MO	48	24	24				
*	X8850102	INDUCTION LOOP	FOOT	2,478	2,478					
	Z0006110	BRIDGE DECK MICROSILICA CONCRETE OVERLAY	SQ YD	15,368				6,164	3,145	6,059
	Z0006204	BRIDGE DECK HYDRO-SCARIFICATION, 1/2"	SQ YD	15,368				6,164	3,145	6,059
	~~Z0010900~~	~~COLD MILLING (SPECIAL)~~	~~FOOT~~	~~89,785~~	~~44,799~~	~~44,986~~				
	Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	79				32	16	31
	Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	713				290	144	279
NP	Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	757			757			
	Z0018800	DRAINAGE SYSTEM	L. SUM	1				1		
	Z0030280	IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3	EACH	6	3	3				
	Z0030360	IMPACT ATTENUATORS, RELOCATE (SEVERE USE), TEST LEVEL 3	EACH	14	7	7				
⚠1	~~Z0031200~~	~~JACKING AND CRIBBING~~	~~EACH~~	~~2~~					~~2~~	
	Z0034806	MODULAR EXPANSION JOINT-SWIVEL 6"	FOOT	152						152
	Z0075315	TIE BARS 5/8"	EACH	318	133	185				
*	63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	1	3				
*	63100169	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (FLARED)	EACH	5	2	3				

NP = NON-PARTICIPATING
* - SPECIALTY ITEMS

⚠1 Rev. 7-20-07

Rev.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
F.A.I. 94 (I-94)

SCALE:
DATE JAN 2007
DRAWN BY DCS
CHECKED BY

Edens I 94 Resurfacing Project

PLOT DATE = 05/23/2007
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = $DATE$

CONTRACT NO. 62747

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2006-043 RS	COOK	135	6A
STA.		TO STA.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

URBAN
90% FED./10% STATE

	CODE NO	ITEM	UNIT	TOTAL QUANTITIES	NB ROADWAY I000	SB ROADWAY I000	DRAINAGE I000	BRIDGES X231-2A	BRIDGES X031-2A	BRIDGES X131-2A
	X0325821	CONCRETE BARRIER WALL REMOVAL AND REPLACEMENT (FULL DEPTH REPAIR)	FEET	55	30	25				
	X0325822	CONCRETE BARRIER WALL REMOVAL AND REPLACEMENT (PARTIAL DEPTH REPAIR)	FEET	397	232	165				
	44000155	HOT MIX ASPHALT SURFACE REMOVAL, 1-1/2"	SQ YD	1164	859	295				
	44000165	HOT MIX ASPHALT SURFACE REMOVAL, 4"	SQ YD	2493	1202	1291				
	50500505	STUD SHEAR CONNECTORS	EACH	720				720		
1	52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE 2	EACH	1						
	52100520	ANCHOR BOLTS, 1"	EACH	42				42	1	
	55019500	STORM SEWERS, TYPE I, RCCP CL IV, 12"	FT	80			80			
	70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1	.5	.5				
	70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	.5	.5				
	70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	.5	.5				
	70300220	TEMPORARY PAVEMENT MARKING, 4"	FEET	680499	680499					
	70300230	TEMPORARY PAVEMENT MARKING, 5"	FEET	75611	75611					
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	258338	258338					
*	78008240	POLYUREA PAVEMENT MARKING, TYPE I, 8" LINE	FEET	6765	6765					
*	78008250	POLYUREA PAVEMENT MARKING, TYPE I, 12" LINE	FEET	1528	1528					
	X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	791	791					
	52100530	ANCHOR BOLTS, 1-1/4"	EACH	40				40		
⊙	Z0076600	TRAINEES	HOUR	5,000	5,000					
	Z0010400	CLEANING BRIDGE SEATS	SQ FT	605				605		
	44000198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	47,496	23,880	23,616				
	X4400100	PORTLAND CEMENT CONCRETE SURFACE REMOVAL (VARIABLE DEPTH)	SQ YD	108,608	55,446	53,162				
1	Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	2					2	

⊙ Y080

* SPECIALTY ITEMS

1 Rev. 7-20-07

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
F.A.I. 94 (I-94)

SCALE: DRAWN BY
DATE JUNE 2007 CHECKED BY

Edens I 94 Resurfacing Project

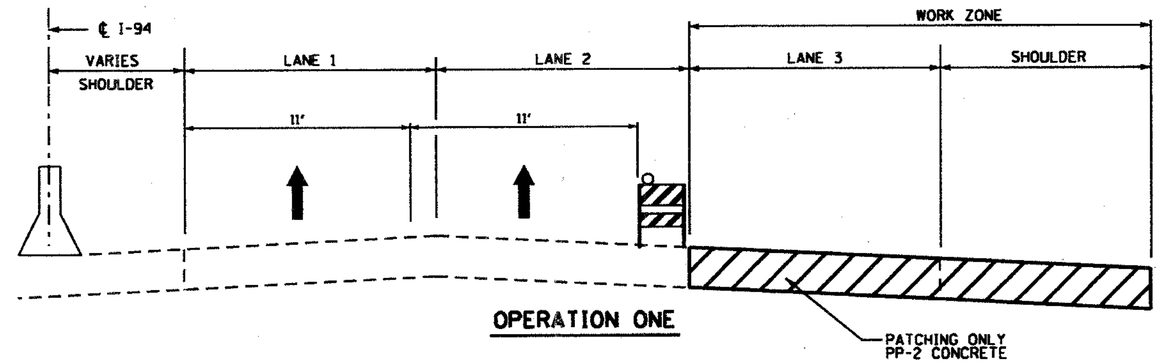
6B

PLOT DATE = 6/19/2007
FILE NAME = sht1.dgn
PLOT SCALE = 50.0000 '/ in.
USER NAME = cdotqa1

STAGE I: 2007

WEEKDAY OPERATIONS:

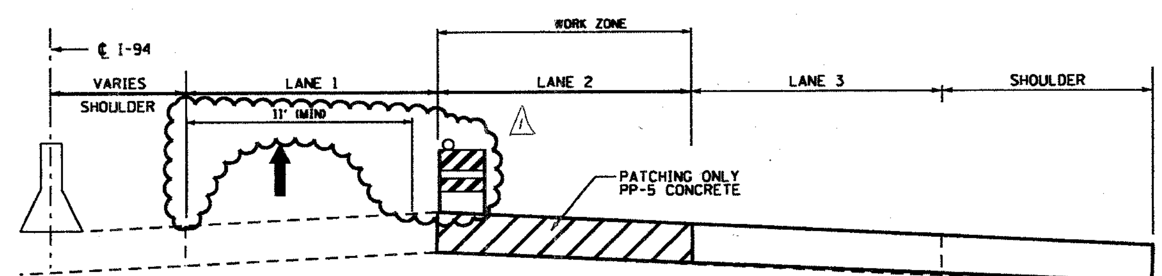
WORK SEQUENCE:
- APPLY TEMPORARY PAVEMENT MARKING LANES 1 & 2
- (LANE CLOSURES ALLOWED AS DETAILED IN THE SPECIAL PROVISIONS)
- COMPLETE PATCH OPERATIONS LANE 3 AND OUTSIDE SHOULDER WHERE SPECIFIED
- COMPLETE JOINT REPAIR BETWEEN LANE 3 AND SHOULDER AT LOCATIONS SPECIFIED IN THE SCHEDULE



OPERATION ONE

WEEKEND OPERATIONS:

- (LANE CLOSURES ALLOWED AS DETAILED IN THE SPECIAL PROVISIONS)
- COMPLETE PATCH OPERATIONS LANE 2 USING PP-5 CONCRETE
- LANE 2 AND 3 CLOSURE
  FRIDAY 10:00 PM TO SATURDAY 9:00 AM
  AND SATURDAY 10:00 PM TO SUNDAY 9:00 AM.

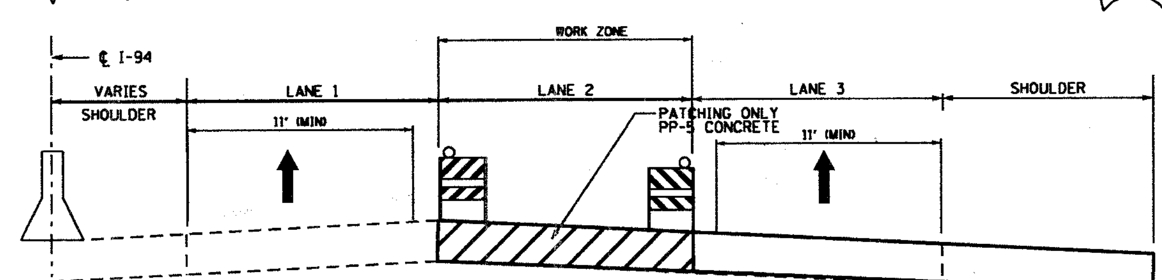


OPERATION TWO

PATCHING REQUIRED IN LANE 2

WEEKEND OPERATIONS (AFTER 9:00 AM SATURDAY AND SUNDAY):

TRAFFIC CONTROL AS PER DISTRICT ONE DETAIL FOR FREEWAY CENTER LANE CLOSURE. CENTER LANE CLOSURE SHALL BE REMOVED ONCE CLASS A PATCH REACHES APPROPRIATE STRENGTH.



OPERATION TWO

PATCHING REQUIRED IN LANE 2

REVISIONS NAME	DATE
HWL	7/11/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

N.T.S.

TRAFFIC CONTROL AND PROTECTION
F.A.I. 94 EDENS EXPRESSWAY
TYPICAL SECTIONS PER SEGMENT

SCALE: DRAWN BY
DATE JUNE 2007 CHECKED BY

Edens I 94 Resurfacing Project

Rev. 7-20-07

B.M. - Engineer to set temporary benchmark in field as necessary.

Existing Structure - Structure No. 016-0103&4, built as S.A. Rte. 263, Section 263-0707.1-15D at Station 277+11.26 in 1949, rehabilitated and widened in 1979 as FAI Route 94 (Edens Expressway). Section 1975-120-R & BR. The existing structures consist of a five span continuous non-composite steel multi-beam structure supporting a reinforced concrete deck. The steel beams consist of W36 rolled shapes. The substructure consists of reinforced concrete spill thru abutments supported on piles and reinforced concrete multi-column piers supported on piles.

Stage construction shall be utilized to maintain traffic during construction.

Salvage Existing Drainage Scupper Grate.

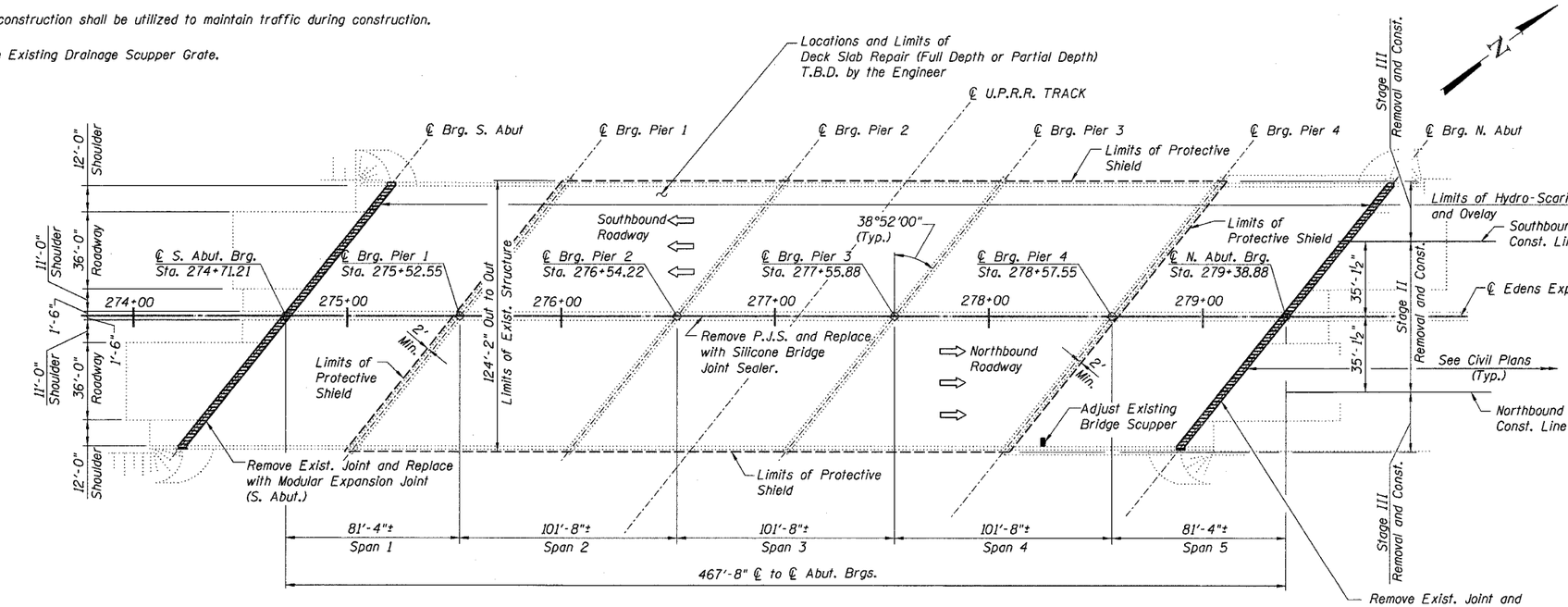
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	96
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

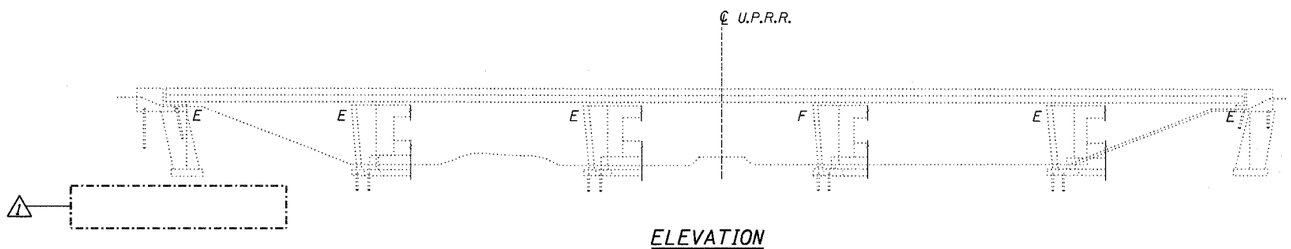
Contract # 62747

DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)



PLAN



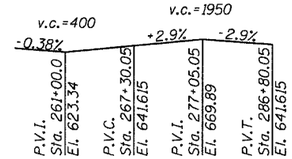
ELEVATION
(Looking West)

SCOPE OF WORK

1. Provide Protective Shield with limits as indicated.
2. [ ] ⚠1

Stage II:
3. Close Stage II construction areas to traffic.
4. Hydro-Scarify the deck slab.
5. Remove and replace expansion joints and surrounding concrete (including parapets).
6. Perform deck slab repair.
7. Adjust existing scuppers and install new grate.
8. Place Overlay.
9. Place temporary approach transitions.
10. Open Stage II Removal area to staged traffic.

Stage III:
11. Close Stage III Removal areas to traffic.
12. Repeat steps 4-9 but for Stage III construction.
13. Open bridge to traffic.

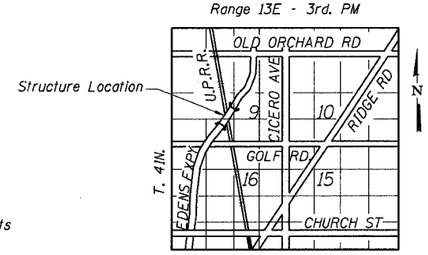


EXISTING PROFILE GRADE
EDENS EXPRESSWAY

STATE OF ILLINOIS
RICHARD W. GHOLLER
081-004858
EXP. 11/30/08
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER
7/13/07

NOTES
1. For joint removal and replacement plans and details, see Sheet Nos. 101 thru 104b
2. See Structural Notes on Sheet No. 97

Range 13E - 3rd. PM



LOCATION SKETCH

LEGEND
- - - Protective Shield Limits
Concrete Removal / Joint Reconstruction

DESIGNED -	DWH
CHECKED -	JSD
DRAWN -	EF
CHECKED -	JSD

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

GENERAL PLAN & ELEVATION
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER U.P.R.R.
COOK COUNTY
STATION 277+05.05
STRUCTURE NO. 016-0103 & 016-0104

⚠1 Revised 07/13/2007

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	97
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL NOTES

1. Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.
2. The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
3. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
6. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 based upon the unit price bid for the work.
7. Stage construction shall be utilized to maintain traffic during construction.
8. The Contractor shall exercise care during removal of existing joints to ensure that the slab, beams and diaphragms' integrity will not be detrimentally impacted. The Contractor shall repair any damage(s) to the slab, beams and diaphragms caused by his operation as directed by the Engineer at no additional cost to the Department.
9. The Contractor shall provide a Protective Shield under the deck for Full Deck Slab repairs as per direction of the Engineer and as shown on the plans.
10. The Contractor may have to remove the Name Plate(s) that interfere with the parapet removal for joint reconstruction. The Contractor shall reinstall the Name Plate(s) as directed by the Engineer. The cost of removal and reinstallation of Name Plate(s) shall be included in the cost for "Concrete Removal" and "Concrete Superstructure."
11. Protective coat shall be applied only to the new concrete provided for the reconstruction of the joints (top of deck slab, top and traffic face of parapet).
12. The Engineer shall determine extent, location and type of substructure and deck slab repairs in the field.
13. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

    As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that can not be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
14. Field welding of construction accessories will not be permitted to beams or girders.
15. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach pavement.
16. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
17. 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(b) 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.
18. Protective shielding shall be installed to insure that all electrical appurtenances below the bridge deck are adequately protected.
19. 

Typ. Lap Splice	
Bar Size	Min. Lap
#4	1'-8"
#5	2'-2"
#5*	3'-0"*
#6	2'-7"
#6*	3'-7"*
#7	3'-5"
#8	4'-6"

* Top Horizontal Bar

ABBREVIATION LIST

Abut.	Abutment	F/	Face of	R or Rad.	Radius
Alt.	Alternate	Ft.	Foot or Feet	RR	Railroad
		Ftg.	Footing	Req'd	Required
Bk.	Back			Rt.	Right
Brg.	Bearing	Gr.	Grade		
Btwn.	Between			Sht.	Sheet
B/	Bottom of	Jt.	Joint	Spa.	Spaces or Spacing
Bot.	Bottom			Sq.	Square
		L	Angle	S.S.	Stainless Steel
CIP	Cast in Place	Lt.	Left	Std.	Standard
CL	Centerline	Lg.	Long	Sta.	Station
Cts.	Centers			Stl.	Steel
Cl.	Clear	Max.	Maximum	St.	Street
Conc.	Concrete	Min.	Minimum	Sym.	Symmetrical
CJ	Construction Joint				
Const(r).	Construction	Nom.	Nominal	Temp.	Temporary
		N.T.S.	Not to Scale	Thk.	Thick
Dia.	Diameter	No(s).	Number(s)	T.B.D.	To be determined
				T/	Top of
Ea.	Each	Opp.	Opposite	Typ.	Typical
E	East				
E/	Edge of	Pavt.	Pavement	UNO	Unless Noted Otherwise
El. or Elev.	Elevation	PL	Plate		
Exist.	Existing	P.C.	Precast	VIF	Verify in Field
Exp.	Expansion	P.J.F.	Preformed Joint Filler		
Expy.	Expressway	P.J.S.	Preformed Joint Sealer	W	West
		PGL	Profile Grade Line	W/	With
		Prop.	Proposed		

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	EF
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

STRUCTURAL NOTES
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER U.P.R.R.
COOK COUNTY
STATION 277+05.05
STRUCTURE NO. 016-0103 & 016-0104

1 Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	98
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

TOTAL BILL OF MATERIAL

	Item	Unit	Super.	Sub.	Total
	Concrete Removal	Cu. Yd.	63.8		63.8
	Protective Shield	Sq. Yd.	4,208		4,208
	Concrete Superstructure	Cu. Yd.	71.8		71.8
	Bridge Deck Grooving	Sq. Yd.	5,951		5,951
	Protective Coat	Sq. Yd.	156		156
	Reinforcement Bars, Epoxy Coated	Pound	6,910		6,910
	Bar Splicers	Each	68		68
	Preformed Joint Strip Seal	Foot	154		154
	Bridge Deck Microsilica Concrete Overlay, 2½"	Sq. Yd.	6,059		6,059
	Bridge Deck Hydro-Scarification, ½"	Sq. Yd.	6,059		6,059
	Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	31		31
	Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	279		279
	Modular Expansion Joint - Swivel, 6"	Foot	152		152
	Silicone Bridge Joint Sealer, 2"	Foot	470		470
*	Adjusting Drainage Scuppers, Type A	Each	1		1

1

* Requires Special Provision

INDEX OF SHEETS

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DESIGNED	-	JSD
CHECKED	-	DWH
DRAWN	-	EF
CHECKED	-	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

TOTAL BILL OF MATERIAL
AND INDEX OF SHEETS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER U.P.R.R.
COOK COUNTY
STATION 277+05.05
STRUCTURE NO. 016-0103 & 016-0104

1 Revised 07/13/2007

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

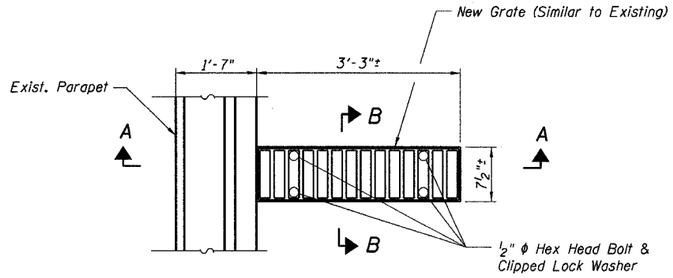
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	104d
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

Contract # 62747

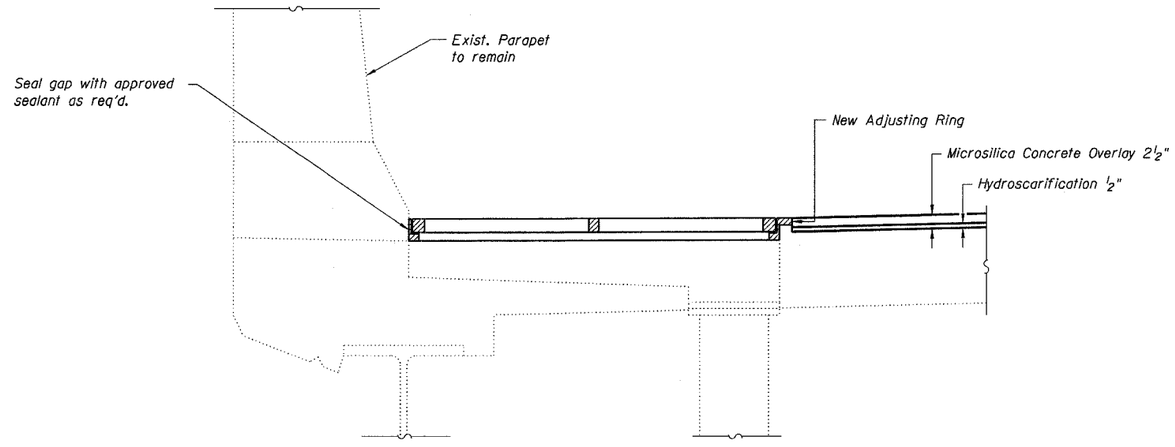
BILL OF MATERIAL

Item	Unit	Total
Adjusting Drainage Scuppers, Type A	Each	1

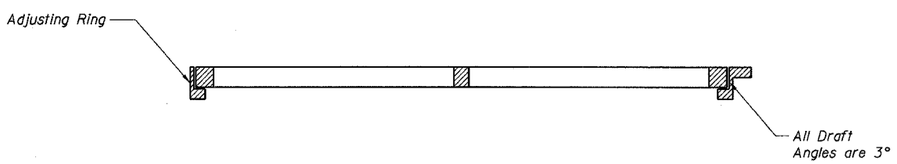
1



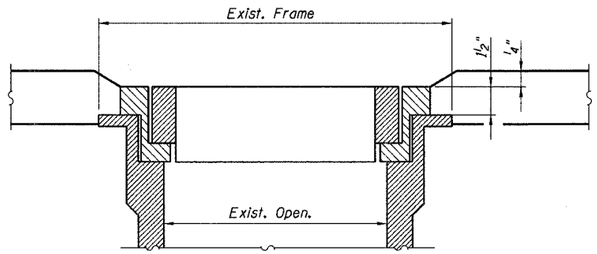
PROPOSED PLAN AT SCUPPER



SECTION THRU SCUPPER



SECTION A-A



SECTION B-B

NOTES

1. The contractor shall verify the exact location, type and dimensions of the existing scuppers before ordering the materials, the cost of which is included in the cost of Adjusting Drainage Scuppers.
2. For scupper locations, see General Plan & Elevation sheets.
3. For additional notes and Bill of Material, see Sheet 97 and 98
4. All cast iron parts shall be grey iron conforming to the requirements of AASHTO M 105, Class 35B.
5. Bolts, anchor studs, washers and nuts shall confrom to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
6. Cast iron parts shall be unfinished.
7. The Contractor shall take appraprate measures to assure the Protective Coat is not applied to the scuppers.
8. Adjusting ring and grates shall be from Neenah or approved equal. Structural steel weldments or equal sections and of the same configuration may be substitued for cast iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
9. Provide an ⅛" fillet weld arround perimeter of new adjusting ring to secure to existing scuper. Electrode shall be compatible with the existing scupper housing material.

DRAINAGE SCUPPER DETAILS

DESIGNED	-	JSD
CHECKED	-	DWH
DRAWN	-	JW
CHECKED	-	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

DRAINAGE SCUPPER ADJUSTMENT DETAILS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER U.P.R.R.
COOK COUNTY
STATION 277+05.05
STRUCTURE NO. 016-0103 & 016-0104

1 Revised 07/13/2007

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B.M. - Engineer to set temporary benchmark in field as necessary.

Existing Structure - Structure No. 016-0105, built as S.A. Rte. 263, Section 263-0607.1-15D at Station 265+65.22 in 1949. The structure was rehabilitated and widened in 1979 as FAI Route 94 (Edens Expressway), Section 1975-120-R & BR. The existing structure consists of a three span continuous non-composite steel multi-beam structure supporting a reinforced concrete deck. The steel beams consist of W36 rolled shapes. The substructure consists of reinforced concrete spill thru abutments supported on piles and reinforced concrete multi-column piers supported by spread footings.

Stage construction shall be utilized to maintain traffic during construction.

No Salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	105
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES
FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (reinf.)
fy = 50,000 psi (M270 Grade 50)

SCOPE OF WORK

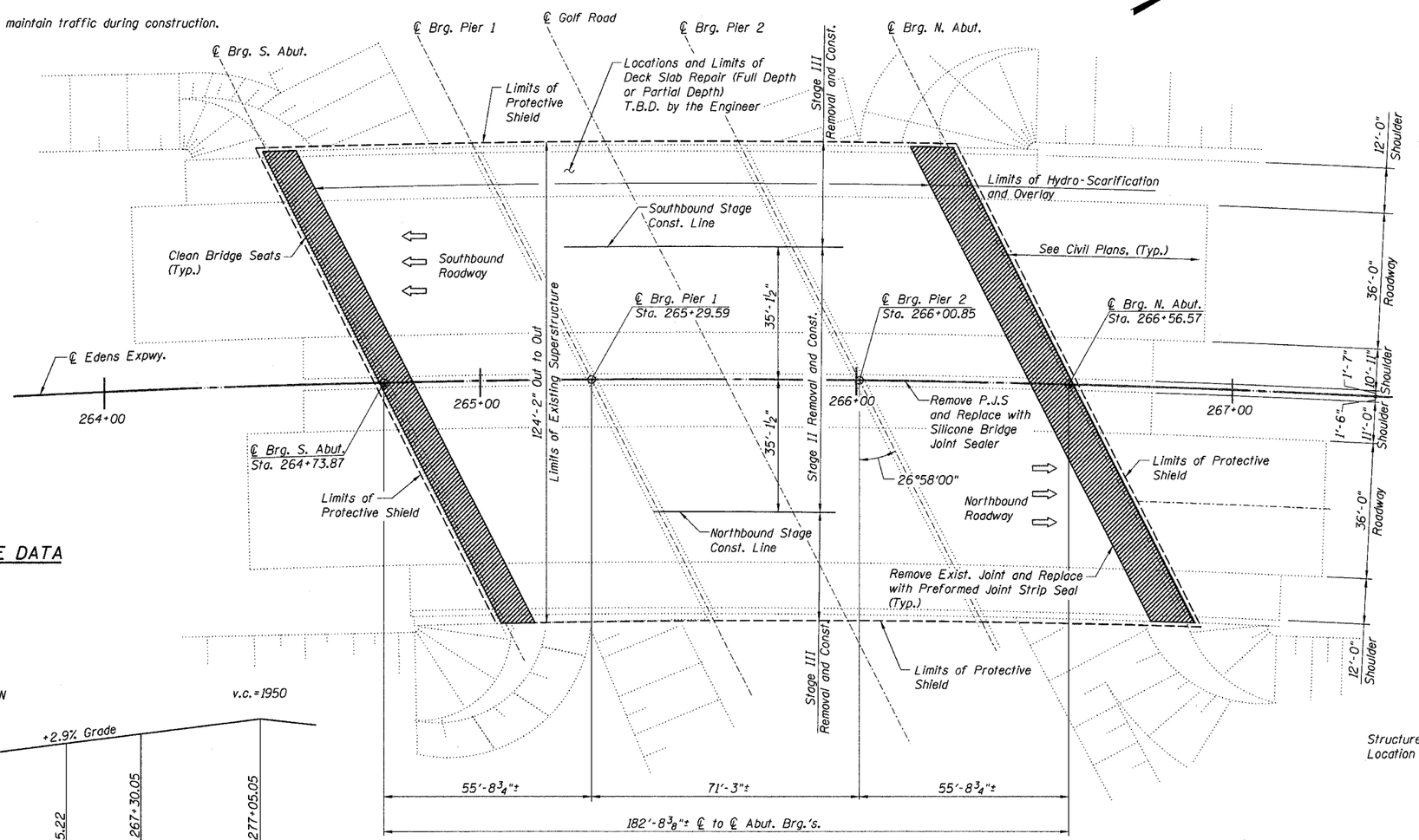
1. Provide Protective Shield with limits as indicated.
2. [ ] ⚠1

Stage II:
3. Close Stage II construction areas to traffic.
4. Replace exisitng bearings at abutments.
5. Hydro-Scarify the deck slab.
6. Remove and replace expansion joints and surrounding concrete (including parapets).
7. Perform deck slab repair.
8. Place Overlay.
9. Place temporary roadway transitions.
10. Open Stage II Removal area to staged traffic.

Stage III:
11. Close Stage III Removal areas to traffic.
12. Repeat steps 4-9 but for Stage III construction.
13. Open bridge to traffic.

NOTES

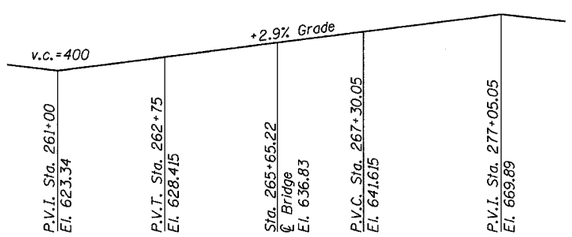
1. For joint removal and replacement plans and details, see Sheet No. 108 thru 109b
2. See Structural Notes on Sheet No. 105a



PLAN

EXISTING CURVE DATA

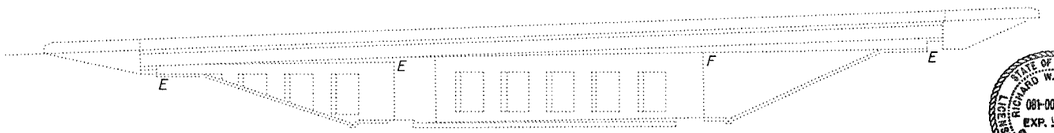
Δ = 36°41'
D = 1°36'
T = 1187.23'
L = 2292.71'
E = 191.67'
R = 3581.10'
S = 0.038'/'
P.I. = Sta. 260+96.20N



EXISTING PROFILE GRADE
EDENS EXPRESSWAY

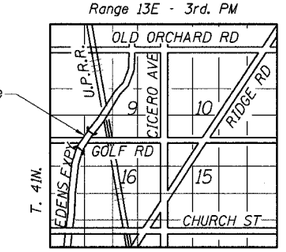
LEGEND

Protective Shield Limits
Concrete Removal / Joint Reconstruction



[ ] ⚠1

ELEVATION



LOCATION SKETCH

DESIGNED	DWH
CHECKED	JSD
DRAWN	EF
CHECKED	JSD

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

STATE OF ILLINOIS
RICHARD W. CHOU
081-004858
EXP. 11/30/08
LICENSED STRUCTURAL ENGINEER
Chicago, Illinois
7/13/07

GENERAL PLAN & ELEVATION
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER GOLF ROAD
COOK COUNTY
STATION 265+65.22
STRUCTURE NO. 016-0105

⚠1 Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	105a
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

STRUCTURAL NOTES

1. Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.
2. The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
3. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
6. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 based upon the unit price bid for the work.
7. Stage construction shall be utilized to maintain traffic during construction.
8. The Contractor shall exercise care during removal of existing joints to ensure that the slab, beams and diaphragms' integrity will not be detrimentally impacted. The Contractor shall repair any damage(s) to the slab, beams and diaphragms caused by his operation as directed by the Engineer at no additional cost to the Department.
9. The Contractor shall provide a Protective Shield under the deck for Full Deck Slab repairs as per direction of the Engineer and as shown on the plans.
10. The Contractor may have to remove the Name Plate(s) that interfere with the parapet removal for joint reconstruction. The Contractor shall reinstall the Name Plate(s) as directed by the Engineer. The cost of removal and reinstallation of Name Plate(s) shall be included in the cost for "Concrete Removal" and "Concrete Superstructure."
11. Protective coat shall be applied only to the new concrete provided for the reconstruction of the joints (top of deck slab, top and traffic face of parapet).
12. The Engineer shall determine extent, location and type of substructure and deck slab repairs in the field.
13. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

    As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that can not be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
14. Field welding of construction accessories will not be permitted to beams or girders.
15. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach pavement.
16. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
17. 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(b) 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.
18. Protective shielding shall be installed to insure that all electrical appurtenances below the bridge deck are adequately protected.
19. 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 $\frac{1}{8}$ inch adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. (For Type 1 Elastromeric Bearings, two $\frac{1}{8}$ inch adjusting shims shall be provided for each bearing and placed as detailed. △1

Typ. Lap Splice	
Bar Size	Min. Lap
#4	1'-8"
#5	2'-2"
#5*	3'-0"*
#6	2'-7"
#6*	3'-7"*
#7	3'-5"
#8	4'-6"

* Top Horizontal Bar

ABBREVIATION LIST

Abut.	Abutment	F/	Face of	R or Rad.	Radius
Alt.	Alternate	Ft.	Foot or Feet	RR	Railroad
		Ftg.	Footing	Req'd	Required
Bk.	Back			Rt.	Right
Brg.	Bearing	Gr.	Grade		
Btwn.	Between			Sht.	Sheet
B/	Bottom of	Jt.	Joint	Spa.	Spaces or Spacing
Bot.	Bottom			Sq.	Square
		L	Angle	S.S.	Stainless Steel
CIP	Cast in Place	Lt.	Left	Std.	Standard
CL	Centerline	Lg.	Long	Sta.	Station
Cts.	Centers			Stl.	Steel
Cl.	Clear	Max.	Maximum	St.	Street
Conc.	Concrete	Min.	Minimum	Sym.	Symmetrical
CJ	Construction Joint				
Const(r).	Construction	Nom.	Nominal	Temp.	Temporary
		N.T.S.	Not to Scale	Thk.	Thick
Dia.	Diameter	No(s).	Number(s)	T.B.D.	To be determined
				T/	Top of
Ea.	Each	Opp.	Opposite	Typ.	Typical
E	East				
E/	Edge of	Pavt.	Pavement	UNO	Unless Noted Otherwise
El. or Elev.	Elevation	PL	Plate		
Exist.	Existing	P.C.	Precast	VIF	Verify in Field
Exp.	Expansion	P.J.F.	Preformed Joint Filler		
Expy.	Expressway	P.J.S.	Preformed Joint Sealer	W	West
		PGL	Profile Grade Line	W/	With
		Prop.	Proposed		

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	EF
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

STRUCTURAL NOTES
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER GOLF ROAD
COOK COUNTY
STATION 265+65.22
STRUCTURE NO. 016-0105

△1 Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	105b
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract # 62747

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Concrete Removal	Cu. Yd.	104.7	2.5	107.2
Protective Shield	Sq. Yd.	2,553		2,553
Concrete Structures	Cu. Yd.		6.0	6.0
Concrete Superstructure	Cu. Yd.	115.2		115.2
Bridge Deck Grooving	Sq. Yd.	2,329		2,329
Protective Coat	Sq. Yd.	267		267
Stud Shear Connectors	Each	720		720
Reinforcement Bars, Epoxy Coated	Pound	14,700	940	15,640
Bar Splicers	Each	148		148
Preformed Joint Strip Seal	Foot	269		269
Elastomeric Bearing Assembly, Type I	Each	40		40
Anchor Bolts, 1"	Each	40		40
Anchor Bolts, 1¼"	Each	40		40
Bridge Deck Microsilica Concrete Overlay, 2½"	Sq. Yd.	2,215		2,215
Bridge Deck Hydro-Scarification, ½"	Sq. Yd.	2,215		2,215
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	12		12
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	108		108
Silicone Bridge Joint Sealer, 2"	Foot	183		183
Jack and Remove Existing Bearings	Each	40		40

1

INDEX OF SHEETS

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DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	EF
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

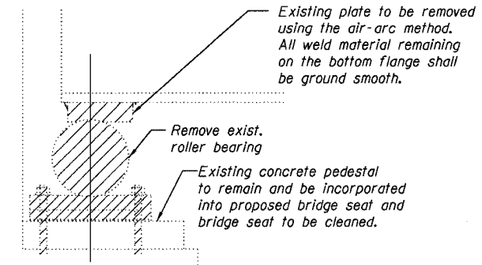
TOTAL BILL OF MATERIAL
AND INDEX OF SHEETS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER GOLF ROAD
COOK COUNTY
STATION 265+65.22
STRUCTURE NO. 016-0105

1 Revised 07/13/2007

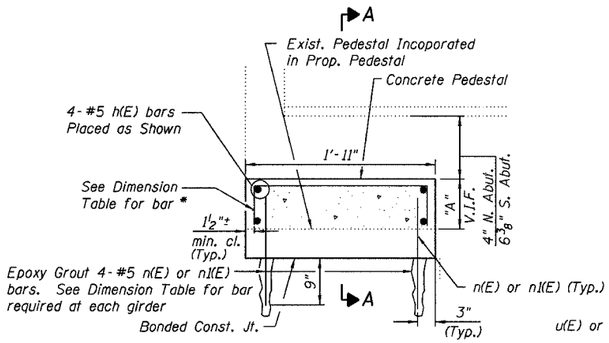
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	112
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

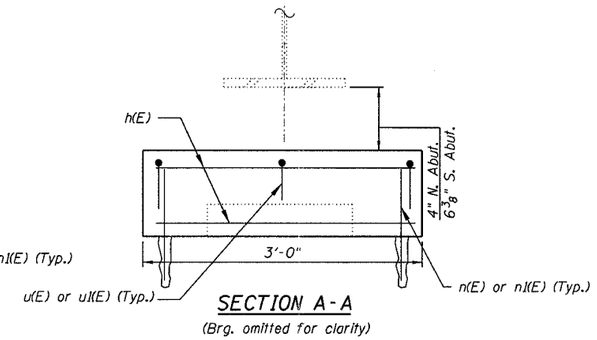
Contract # 62747



EXISTING ABUT. ELEVATION
AT BEAMS 2 THRU 4



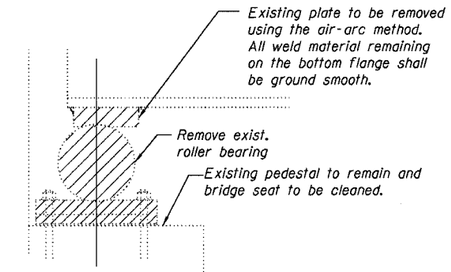
PROPOSED ABUT. ELEVATION
AT BEAMS 2 THRU 4 AND 12 THRU 19
(Brg. omitted for clarity)



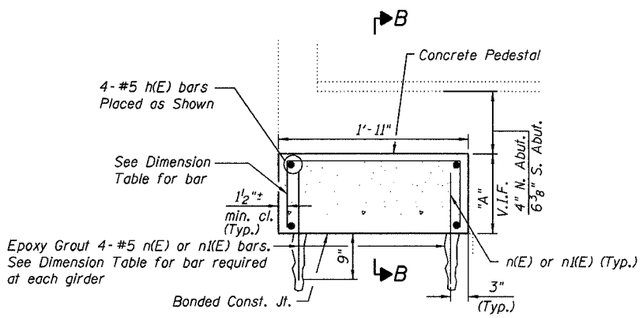
SECTION A-A
(Brg. omitted for clarity)

DIMENSION TABLE

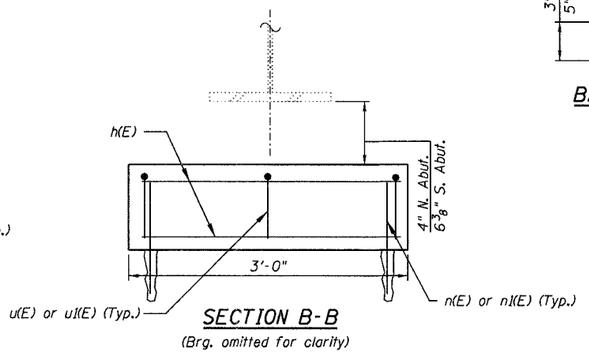
Girder	N. Abut. "A" (in)	N. Abut. bars required		S. Abut. "A" (in)	S. Abut. bars required	
1	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
2	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
3	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
4	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
5	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
6	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
7	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
8	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
9	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
10	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
11	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
12	8 1/8	3-#5 u(E)	n(E)	6 3/4	3-#5 u1(E)	n1(E)
13	8 1/8	3-#5 u(E)	n(E)	6 3/4	3-#5 u1(E)	n1(E)
14	8 1/8	3-#5 u(E)	n(E)	6 3/4	3-#5 u1(E)	n1(E)
15	8 1/8	3-#5 u(E)	n(E)	6 3/4	3-#5 u1(E)	n1(E)
16	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
17	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
18	9 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
19	8 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)
20	9 1/8	3-#5 u(E)	n(E)	5 3/4	3-#5 u1(E)	n1(E)



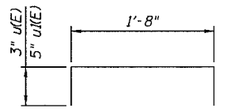
EXISTING ABUT. ELEVATION
AT BEAMS 1 AND 5 THRU 20



PROPOSED ABUT. ELEVATION
AT BEAMS 1, 5 THRU 11 AND 20
(Brg. omitted for clarity)



SECTION B-B
(Brg. omitted for clarity)



BARS u(E) & u1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	160	#5	2'-9"	——
n(E)	80	#5	1'-1"	——
n1(E)	80	#5	1'-3"	——
u(E)	60	#5	2'-2"	⌊⌋
u1(E)	60	#5	2'-6"	⌊⌋
Concrete Removal			Cu. Yd.	2.5
Concrete Structures			Cu. Yd.	6.0
Reinforcement Bars, Epoxy Coated			Pound	940

* Cut u bars in the field if necessary to fit around existing pedestals

LEGEND

Concrete Removal

NOTES

1. See Sheet No. 110 for proposed bearing details.
2. Epoxy Grouting of Bars is included with the cost of Concrete Structures.
3. The Contractor shall field verify all dimensions.

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	JSD
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

BEARING DETAILS III
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER GOLF ROAD
COOK COUNTY
STATION 265+65.22
STRUCTURE NO. 016-0105

1 Revised 07/13/2007

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B.M. - Engineer to set temporary benchmark in field as necessary.

Existing Structure - Structure No. 016-0106, built as S.A. Edens Superhighway, Section 263-0202.1-15D at Station 19+28.67 in 1949. The structure was rehabilitated and widened in 1979 as FAI Route 94 (Edens Expressway), Section 1975-118-R & BR. The existing structure consists of a simple span with vaulted, sand filled approach spans. The main span of the existing structure is a composite reinforced concrete deck supported by 36" PPC I-Beams. The sand filled vaulted approaches consist of 16" reinforced concrete slabs supported by the abutment, a pile supported intermediate bent and a pile supported end bent. The substructure consists of reinforced concrete full height abutments supported on pile foundations.

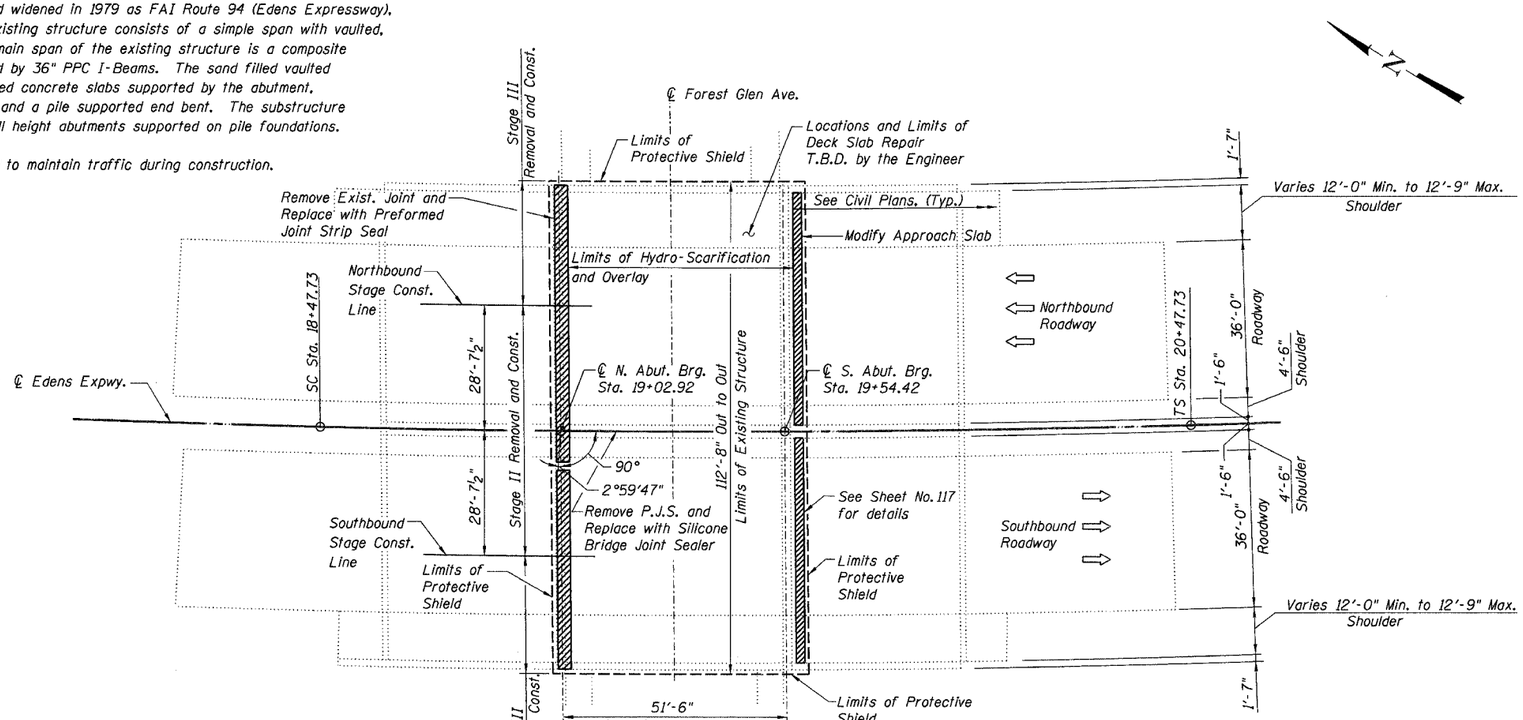
Stage construction shall be utilized to maintain traffic during construction.

No Salvage

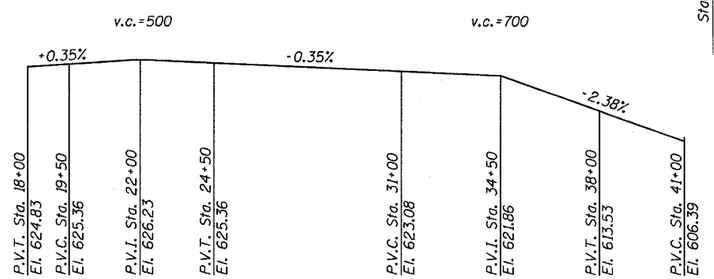
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	113
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

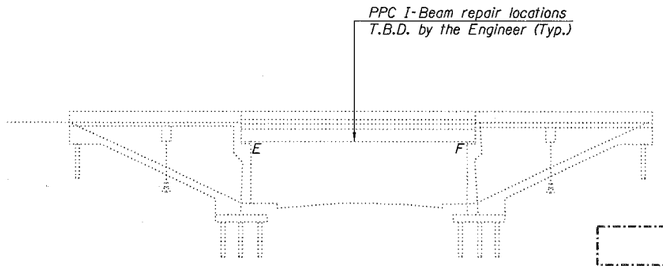
Contract # 62747



PLAN



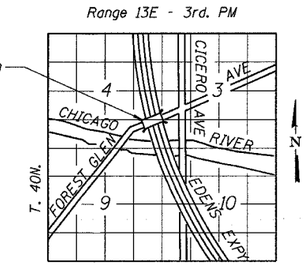
EXISTING PROFILE GRADE
EDENS EXPRESSWAY



ELEVATION
(Looking East)

EXISTING CURVE DATA

Δ = 38°21'
D = 3°
T = 764.52'
Ls = 200.0'
Es = 113.12'
R = 1910.08'
Lc = 1078.33'
P.I. = Sta. 13+33.92



LOCATION SKETCH

DESIGN SPECIFICATIONS

2002 AASHTO

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

SCOPE OF WORK

1. Provide Protective Shield with limits as indicated.
2. [ ] ⚠1

Stage II:

3. Close Stage II construction areas to traffic.
4. Hydro-Scarify the deck slab.
5. Remove and replace expansion joint and surrounding concrete (including parapets); Remove and replace concrete at fixed joint.
6. Perform deck slab repair.
7. Place Overlay.
8. Place temporary roadway transitions.
9. Open Stage II Removal area to staged traffic.

Stage III:

10. Close Stage III Removal areas to traffic.
11. Repeat steps 4-8 but for Stage III construction.
12. Open bridge to traffic.

NOTES

1. For joint removal and replacement plans and details, see Sheet No. 116 thru 117b
2. See Structural Notes on Sheet No. 113a

LEGEND

--- Protective Shield Limits
▨ Concrete Removal / Joint Reconstruction

STATE OF ILLINOIS
RICHARD W. CHOLIN
081-004858
EXP. 11/30/08
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER
7/13/07

DESIGNED	DWH
CHECKED	JSD
DRAWN	EF
CHECKED	JSD

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

GENERAL PLAN & ELEVATION
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER FOREST GLEN
COOK COUNTY
STATION 19+28.67
STRUCTURE NO. 016-0106

⚠1 Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	113a
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

STRUCTURAL NOTES

1. Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.
2. The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
3. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
6. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 based upon the unit price bid for the work.
7. Stage construction shall be utilized to maintain traffic during construction.
8. The Contractor shall exercise care during removal of existing joints to ensure that the slab, beams and diaphragms' integrity will not be detrimentally impacted. The Contractor shall repair any damage(s) to the slab, beams and diaphragms caused by his operation as directed by the Engineer at no additional cost to the Department.
9. The Contractor shall provide a Protective Shield under the deck for Full Deck Slab repairs as per direction of the Engineer and as shown on the plans.
10. The Contractor may have to remove the Name Plate(s) that interfere with the parapet removal for joint reconstruction. The Contractor shall reinstall the Name Plate(s) as directed by the Engineer. The cost of removal and reinstallation of Name Plate(s) shall be included in the cost for "Concrete Removal" and "Concrete Superstructure."
11. Protective coat shall be applied only to the new concrete provided for the reconstruction of the joints (top of deck slab, top and traffic face of parapet).
12. The Engineer shall determine extent, location and type of substructure and deck slab repairs in the field.
13. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

    As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that can not be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
14. Field welding of construction accessories will not be permitted to beams or girders.
15. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach pavement.
16. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
17. 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(b) 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.
18. Protective shielding shall be installed to insure that all electrical appurtenances below the bridge deck are adequately protected.
19. 

Typ. Lap Splice	
Bar Size	Min. Lap
#4	1'-8"
#5	2'-2"
#5*	3'-0"*
#6	2'-7"
#6*	3'-7"*
#7	3'-5"
#8	4'-6"

* Top Horizontal Bar

ABBREVIATION LIST

Abut.	Abutment	F/	Face of	R or Rad.	Radius
Alt.	Alternate	Ft.	Foot or Feet	RR	Railroad
		Ftg.	Footing	Req'd	Required
Bk.	Back			Rt.	Right
Brg.	Bearing	Gr.	Grade		
Btwn.	Between			Sht.	Sheet
B/	Bottom of	Jt.	Joint	Spa.	Spaces or Spacing
Bot.	Bottom			Sq.	Square
		L	Angle	S.S.	Stainless Steel
CIP	Cast in Place	Lt.	Left	Std.	Standard
CL	Centerline	Lg.	Long	Sta.	Station
Cts.	Centers			Stl.	Steel
Cl.	Clear	Max.	Maximum	St.	Street
Conc.	Concrete	Min.	Minimum	Sym.	Symmetrical
CJ	Construction Joint				
Const(r).	Construction	Nom.	Nominal	Temp.	Temporary
		N.T.S.	Not to Scale	Thk.	Thick
Dia.	Diameter	No(s).	Number(s)	T.B.D.	To be determined
				T/	Top of
Ea.	Each	Opp.	Opposite	Typ.	Typical
E	East				
E/	Edge of	Pavt.	Pavement	UNO	Unless Noted Otherwise
El. or Elev.	Elevation	PL	Plate		
Exist.	Existing	P.C.	Precast	VIF	Verify in Field
Exp.	Expansion	P.J.F.	Preformed Joint Filler		
Expy.	Expressway	P.J.S.	Preformed Joint Sealer	W	West
		PGL	Profile Grade Line	W/	With
		Prop.	Proposed		

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	EF
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

STRUCTURAL NOTES
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER FOREST GLEN
COOK COUNTY
STATION 19+28.67
STRUCTURE NO. 016-0106

1 Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	113b
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract # 62747

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Concrete Removal	Cu. Yd.	28.1		28.1
Protective Shield	Sq. Yd.	672		672
Concrete Superstructure	Cu. Yd.	31.7		31.7
Bridge Deck Grooving	Sq. Yd.	611		611
Protective Coat	Sq. Yd.	65		65
Reinforcement Bars, Epoxy Coated	Pound	5,080		5,080
Bar Splicers	Each	32		32
Preformed Joint Strip Seal	Foot	109		109
Bridge Deck Microsilica Concrete Overlay, 2 1/2"	Sq. Yd.	588		588
Bridge Deck Hydro-Scarification, 1/2"	Sq. Yd.	588		588
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	3		3
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	29		29
Silicone Bridge Joint Sealer, 1"	Foot	107		107
Silicone Bridge Joint Sealer, 2"	Foot	134		134

1

INDEX OF SHEETS

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DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	EF
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

TOTAL BILL OF MATERIAL
AND INDEX OF SHEETS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER FOREST GLEN
COOK COUNTY
STATION 19+28.67
STRUCTURE NO. 016-0106

1 Revised 07/13/2007

B.M. - Engineer to set temporary benchmark in field as necessary.

Existing Structure - Structure No. 016-0107, built as S.A. Edens Superhighway, Section 263-0102.1-15D at Station 23+63.00 in 1949. The structure was rehabilitated and widened in 1979 as FAI Route 94 (Edens Expressway), Section 1975-118-R & BR. The existing structure consists of a three span continuous steel multi-beam structure supporting a 7½" reinforced concrete deck. The deck is composite with the steel beams in the positive moment areas of the spans. The structure is flared with one beam line termination. The steel beams consist of W36 rolled shapes. The substructure consists of reinforced concrete spill-thru type abutments (1979 widening) supported on concrete drilled shaft foundations and reinforced concrete counterfort type abutments (original construction) supported on concrete piles and reinforced concrete multi-column piers supported by concrete piles.

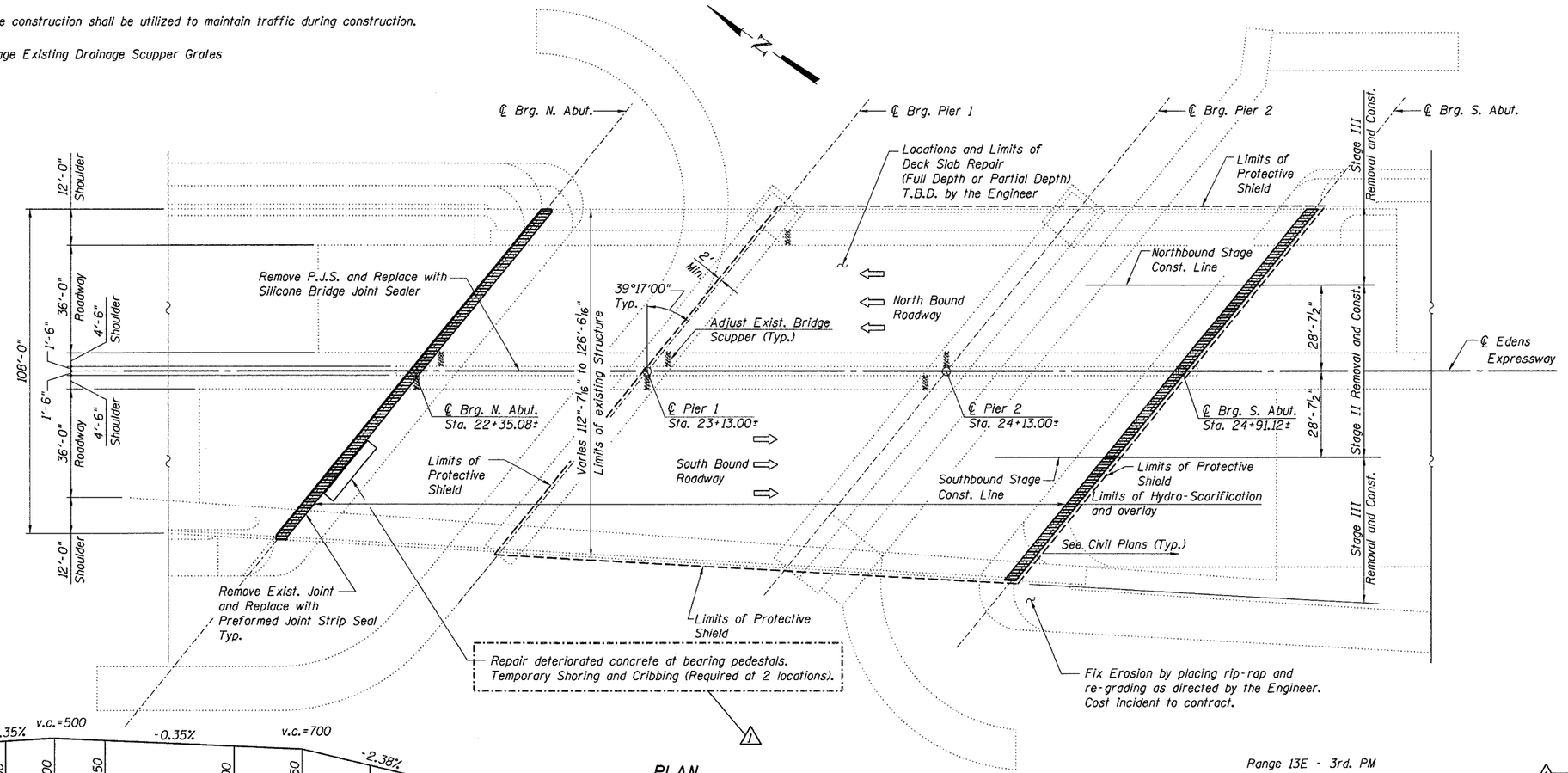
Stage construction shall be utilized to maintain traffic during construction.

Salvage Existing Drainage Scupper Grates

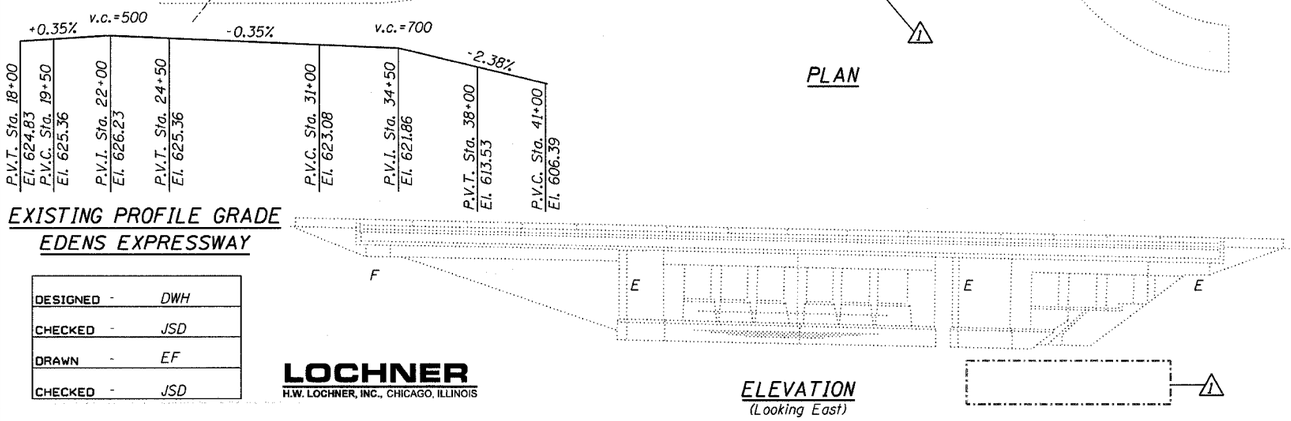
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	118
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747



PLAN



EXISTING PROFILE GRADE
EDENS EXPRESSWAY

ELEVATION
(Looking East)

DESIGNED	-	DWH
CHECKED	-	JSD
DRAWN	-	EF
CHECKED	-	JSD

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

SCOPE OF WORK
1. Provide Protective Shield with limits as indicated.
2. [ ] ⚠1

Stage II:
3. Close Stage II construction areas to traffic.
4. Hydro-Scarify the deck slab.
5. Remove and replace expansion joints and surrounding concrete (including parapets).
6. Perform deck slab repair.
7. Adjust existing scuppers and install new grate.
8. Place Overlay.
9. Place temporary roadway transitions.
10. Open Stage II Removal area to staged traffic.

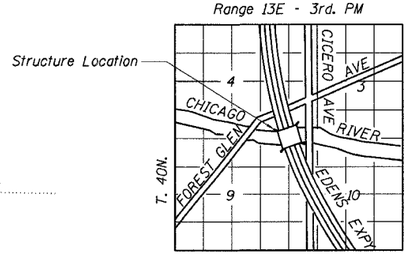
Stage III:
11. Close Stage III Removal areas to traffic.
12. Repeat steps 4-9 but for Stage III construction.
13. Open bridge to traffic.

NOTES
1. For joint removal and replacement plans and details, see Sheet No. 121 thru 122b
2. See Structural Notes on Sheet No. 118a
3. For locations of Structural Repair of Concrete and Temporary Shoring and Cribbing, See Sheet No. 122a

⚠1

LEGEND
--- Protective Shield Limits
Concrete Removal / Joint Reconstruction

Range 13E - 3rd. PM



LOCATION SKETCH

N

GENERAL PLAN & ELEVATION
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER NORTH BRANCH
COOK COUNTY
STATION 23+63.00
STRUCTURE NO. 016-0107

⚠1 Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	118a
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract # 62747

STRUCTURAL NOTES

1. Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.
2. The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
3. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
6. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 based upon the unit price bid for the work.
7. Stage construction shall be utilized to maintain traffic during construction.
8. The Contractor shall exercise care during removal of existing joints to ensure that the slab, beams and diaphragms' integrity will not be detrimentally impacted. The Contractor shall repair any damage(s) to the slab, beams and diaphragms caused by his operation as directed by the Engineer at no additional cost to the Department.
9. The Contractor shall provide a Protective Shield under the deck for Full Deck Slab repairs as per direction of the Engineer and as shown on the plans.
10. The Contractor may have to remove the Name Plate(s) that interfere with the parapet removal for joint reconstruction. The Contractor shall reinstall the Name Plate(s) as directed by the Engineer. The cost of removal and reinstallation of Name Plate(s) shall be included in the cost for "Concrete Removal" and "Concrete Superstructure."
11. Protective coat shall be applied only to the new concrete provided for the reconstruction of the joints (top of deck slab, top and traffic face of parapet).
12. The Engineer shall determine extent, location and type of substructure and deck slab repairs in the field.
13. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

    As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that can not be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
14. Field welding of construction accessories will not be permitted to beams or girders.
15. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach pavement.
16. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
17. 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(b) 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.
18. Protective shielding shall be installed to insure that all electrical appurtenances below the bridge deck are adequately protected.
19. 

Typ. Lap Splice	
Bar Size	Min. Lap
#4	1'-8"
#5	2'-2"
#5*	3'-0"*
#6	2'-7"
#6*	3'-7"*
#7	3'-5"
#8	4'-6"

* Top Horizontal Bar

ABBREVIATION LIST

Abut.	Abutment	F/	Face of	R or Rad.	Radius
Alt.	Alternate	Ft.	Foot or Feet	RR	Railroad
		Ftg.	Footing	Req'd	Required
Bk.	Back			Rt.	Right
Brg.	Bearing	Gr.	Grade		
Btwn.	Between			Sht.	Sheet
B/	Bottom of	Jt.	Joint	Spa.	Spaces or Spacing
Bot.	Bottom			Sq.	Square
		L	Angle	S.S.	Stainless Steel
CIP	Cast in Place	Lt.	Left	Std.	Standard
CL	Centerline	Lg.	Long	Sta.	Station
Cts.	Centers			Stl.	Steel
Cl.	Clear	Max.	Maximum	St.	Street
Conc.	Concrete	Min.	Minimum	Sym.	Symmetrical
CJ	Construction Joint				
Const(r).	Construction	Nom.	Nominal	Temp.	Temporary
		N.T.S.	Not to Scale	Thk.	Thick
Dia.	Diameter	No(s).	Number(s)	T.B.D.	To be determined
				T/	Top of
Ea.	Each	Opp.	Opposite	Typ.	Typical
E	East				
E/	Edge of	Pavt.	Pavement	UNO	Unless Noted Otherwise
El. or Elev.	Elevation	PL	Plate		
Exist.	Existing	P.C.	Precast	VIF	Verify in Field
Exp.	Expansion	P.J.F.	Preformed Joint Filler		
Expy.	Expressway	P.J.S.	Preformed Joint Sealer	W	West
		PGL	Profile Grade Line	W/	With
		Prop.	Proposed		

DESIGNED	-	JSD
CHECKED	-	DWH
DRAWN	-	EF
CHECKED	-	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

STRUCTURAL NOTES
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER NORTH BRANCH
COOK COUNTY
STATION 23+63.00
STRUCTURE NO. 016-0107

1 Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	118b
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract # 62747

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Concrete Removal	Cu. Yd.	63.7		63.7
Protective Shield	Sq. Yd.	2,443		2,443
Concrete Superstructure	Cu. Yd.	69.2		69.2
Bridge Deck Grooving	Sq. Yd.	3,105		3,105
Protective Coat	Sq. Yd.	120		120
Reinforcement Bars, Epoxy Coated	Pound	6,600		6,600
Bar Splicers	Each	64		64
Preformed Joint Strip Seal	Foot	297		297
Bridge Deck Microsilica Concrete Overlay, 2½"	Sq. Yd.	3,145		3,145
Bridge Deck Hydro-Scarification, ½"	Sq. Yd.	3,145		3,145
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	16		16
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	144		144
Temporary Shoring and Cribbing	Each	2		2
Silicone Bridge Joint Sealer, 2"	Foot	260		260
* Adjusting Drainage Scuppers, Type A	Each	7		7
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.		7	7

* Requires Special Provision

INDEX OF SHEETS

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	EF
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

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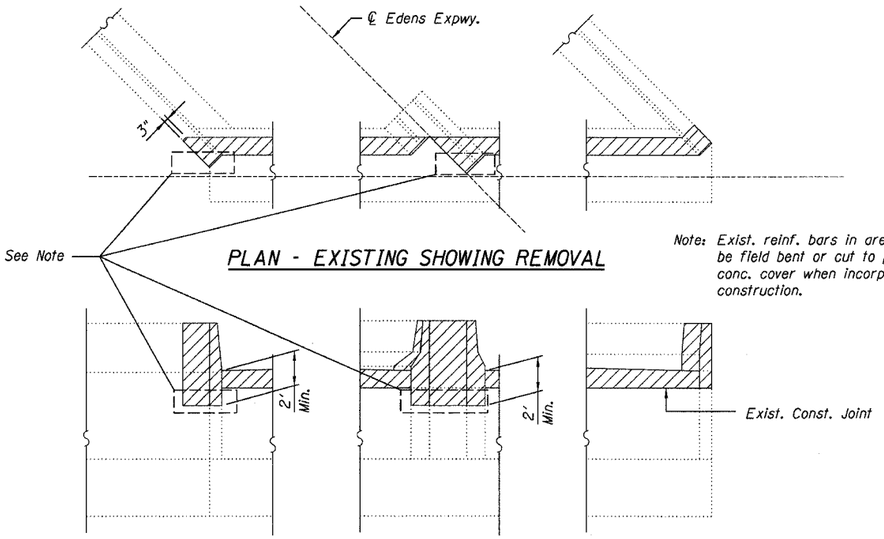
TOTAL BILL OF MATERIAL
AND INDEX OF SHEETS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER NORTH BRANCH
COOK COUNTY
STATION 23+63.00
STRUCTURE NO. 016-0107

⚠ Revised 07/13/2007

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	122a
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		

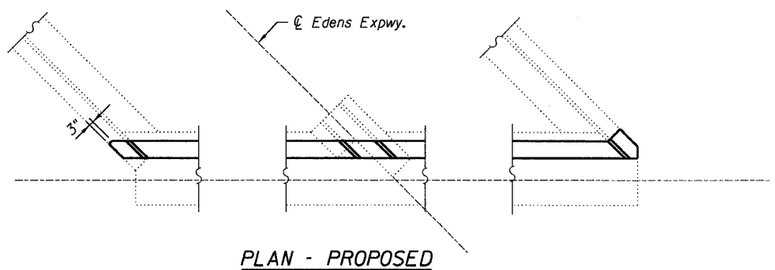
Contract # 62747



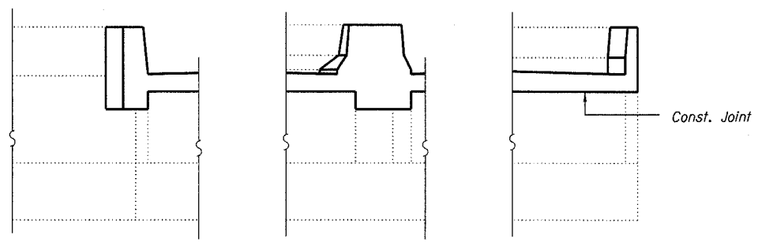
PLAN - EXISTING SHOWING REMOVAL

Note: Exist. reinf. bars in areas indicated shall be field bent or cut to provide 1½" clear conc. cover when incorporated into new construction.

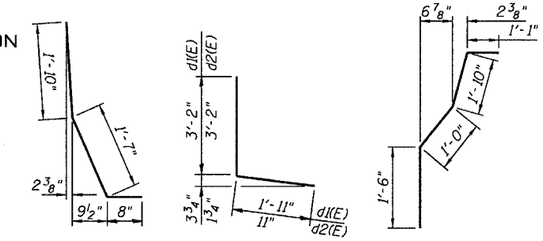
ELEVATION - EXISTING SHOWING REMOVAL



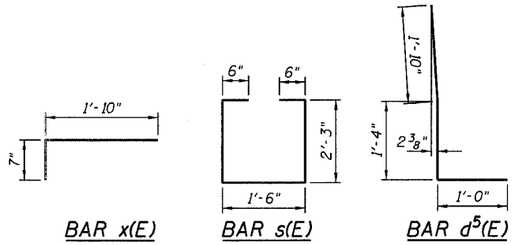
PLAN - PROPOSED



ELEVATION - PROPOSED

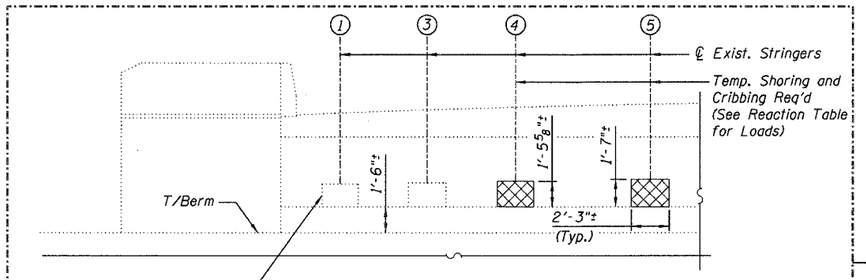


BAR d(E) BARS d¹(E) & d²(E) BAR d³(E)



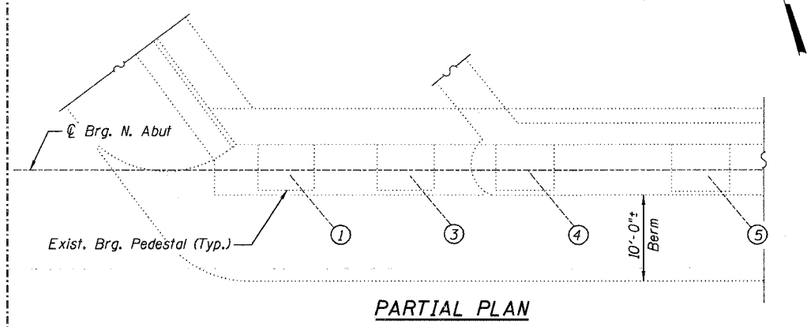
BAR x(E) BAR s(E) BAR d⁵(E)

BAR BEND DETAILS



PARTIAL ELEVATION

Exist. Stringer and Deck not shown for Clarity



PARTIAL PLAN

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	12	#6	35'-2"	
a1(E)	40	#5	35'-2"	
a2(E)	6	#6	34'-4"	
a3(E)	20	#5	34'-4"	
a4(E)	3	#6	36'-1"	
a5(E)	10	#5	36'-1"	
a6(E)	3	#6	54'-1"	
a7(E)	10	#5	54'-1"	
d(E)	12	#5	4'-1"	
d1(E)	12	#4	5'-1"	
d2(E)	12	#4	4'-1"	
d3(E)	8	#5	5'-5"	
d4(E)	4	#4	4'-0"	
d5(E)	12	#5	4'-2"	
s(E)	123	#4	4'-9"	
x(E)	233	#5	2'-5"	
x1(E)	12	#5	34'-10"	
x2(E)	6	#5	29'-0"	
x3(E)	6	#5	48'-0"	
Concrete Removal			Cu. Yd.	63.7
Concrete Superstructure			Cu. Yd.	69.2
Bridge Deck Grooving			Sq. Yd.	3,105
Protective Coat			Sq. Yd.	120
Reinforcement Bars, Epoxy Coated			Pound	6,600
Silicone Bridge Joint Sealer, 2"			Foot	260
Structural Repair of Concrete (Depth Greater Than 5")			Sq. Ft.	7
Temporary Shoring and Cribbing			Ea.	2

REACTION TABLE

		Abutment
R_D	(k)	25.3
R_L	(k)	31.7
Imp	(k)	7.9
R_{Total}	(k)	64.9

NOTE

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED -	JSD
CHECKED -	AMK
DRAWN -	JSD
CHECKED -	AMK

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H.W. LOCHNER, INC., CHICAGO, ILLINOIS

LEGEND

Concrete Removal

Structural Repair of Concrete

REINFORCING BAR DETAILS & SUPERSTRUCTURE BILL OF MATERIAL
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER NORTH BRANCH
COOK COUNTY
STATION 23+63.00
STRUCTURE NO. 016-0107

1 Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

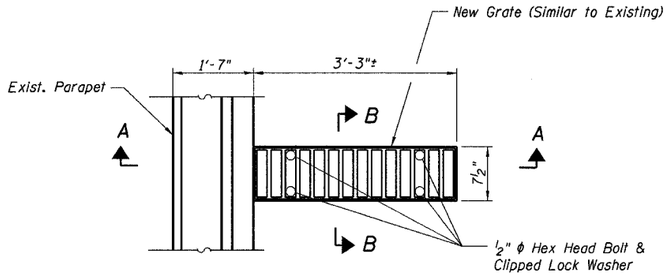
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	122d
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract # 62747

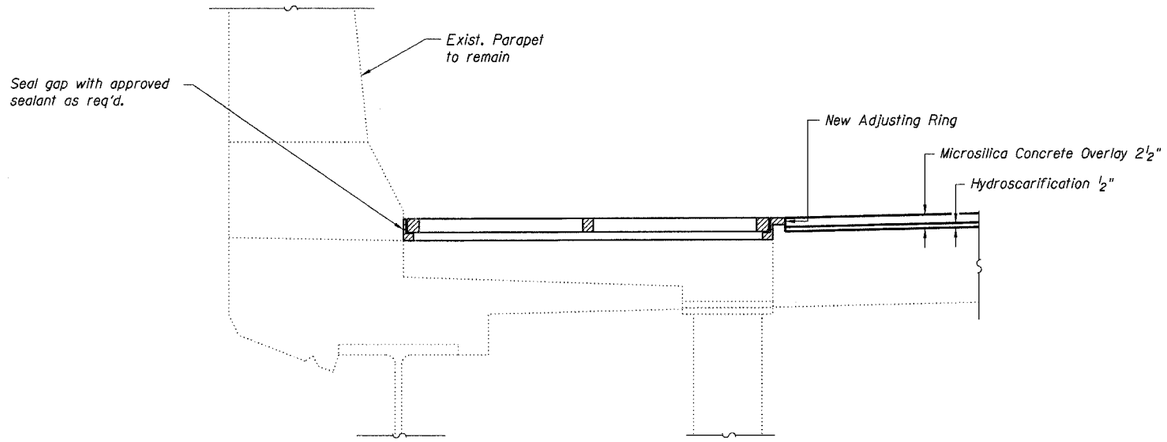
BILL OF MATERIAL

Item	Unit	Total
Adjusting Drainage Scuppers, Type A	Each	7

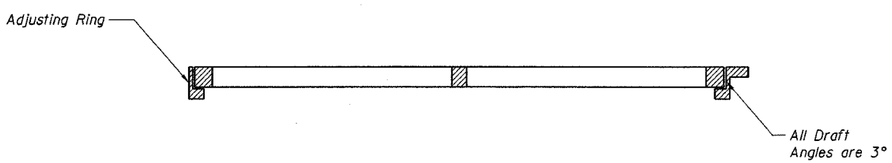
1



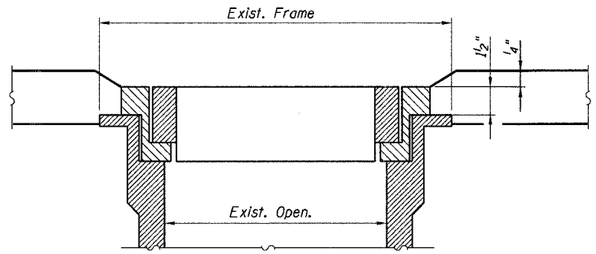
PROPOSED PLAN AT SCUPPER



SECTION THRU SCUPPER



SECTION A-A



SECTION B-B

NOTES

1. The contractor shall verify the exact location, type and dimensions of the existing scuppers before ordering the materials, the cost of which is included in the cost of Adjusting Drainage Scuppers.
2. For scupper locations, see General Plan & Elevation sheets.
3. For additional notes and Bill of Material, see Sheet 118a and 118b
4. All cast iron parts shall be grey iron conforming to the requirements of AASHTO M 105, Class 35B.
5. Bolts, anchor studs, washers and nuts shall confrom to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
6. Cast iron parts shall be unfinished.
7. The Contractor shall take appropriate measures to assure the Protective Coat is not applied to the scuppers.
8. Adjusting ring and grates shall be from Neenah or approved equal. Structural steel weldments or equal sections and of the same configuration may be substitued for cast iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
9. Provide an ⅛" fillet weld arround perimeter of new adjusting ring to secure to existing scuper. Electrode shall be compatible with the existing scupper housing material.

DRAINAGE SCUPPER ADJUSTMENT DETAILS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER NORTH BRANCH
COOK COUNTY
STATION23+63.00
STRUCTURE NO. 016-0107

DESIGNED	-	JSD
CHECKED	-	DWH
DRAWN	-	JW
CHECKED	-	DWH

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H.W. LOCHNER, INC., CHICAGO, ILLINOIS

DRAINAGE SCUPPER DETAILS

1 Revised 07/13/2007

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B.M. - Engineer to set temporary benchmark in field as necessary.

Existing Structure - Structure No. 016-0108, built as S.A. Edens Superhighway, Section 263-0101.1-15D at Station 29+14.49 in 1949. The structure was rehabilitated and widened in 1979 as FAI Route 94 (Edens Expressway), Section 1975-118-R & BR. The existing structure consists of a four span continuous steel multi-beam structure supporting a 7½" reinforced concrete deck. The deck is composite with the steel beams in the end spans only. The steel beams consist of W36 rolled shapes. The original (1949) substructure consists of reinforced concrete pile bent abutments and reinforced concrete multi-column piers supported by concrete piles. The widened substructure (1979) utilizes drilled shafts to support the abutment extension and solid wall pier extensions supported by concrete piles.

Stage construction shall be utilized to maintain traffic during construction.

Salvage Existing Drainage Scupper Grates.

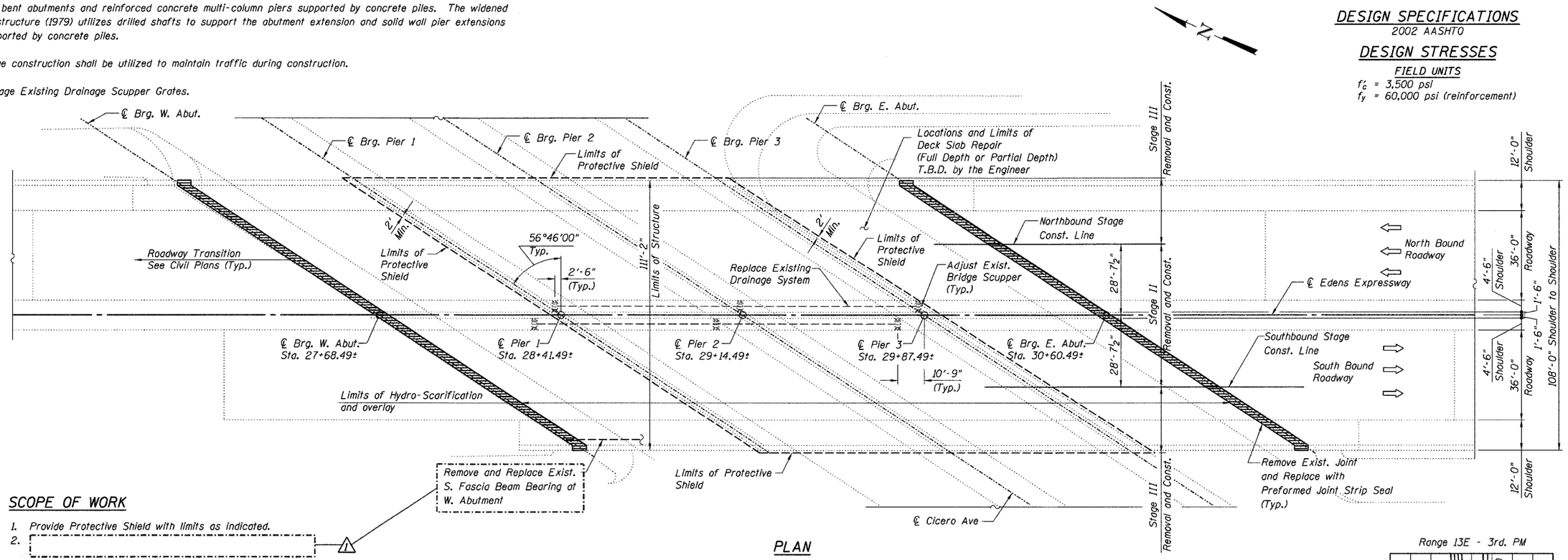
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	123
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)



PLAN

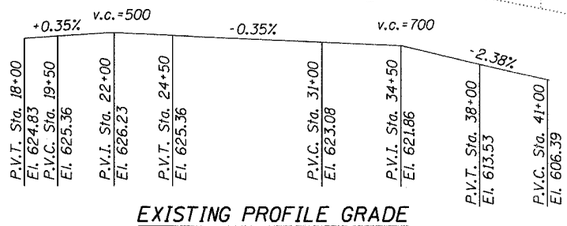
SCOPE OF WORK

1. Provide Protective Shield with limits as indicated.
2. ⚠1

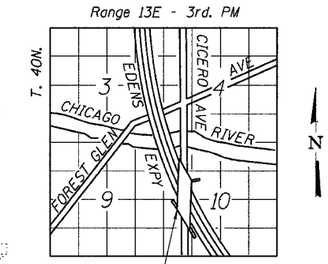
Stage II:
3. Close Stage II construction areas to traffic.
4. Hydro-Scarify the deck slab.
5. Remove and replace expansion joints and surrounding concrete (including parapets).
6. Perform deck slab repair.
7. Adjust existing scuppers and install new grates; replace drainage system.
8. Place Overlay.
9. Place temporary roadway transitions.
10. Open Stage II Construction area to staged traffic.

Stage III:
11. Close Stage III Removal areas to traffic.
12. Repeat steps 4-9 but for Stage III construction.
13. Open bridge to traffic.

ELEVATION
(Looking East)



EXISTING PROFILE GRADE
EDENS EXPRESSWAY



LOCATION SKETCH

LEGEND
Protective Shield Limits
Concrete Removal / Joint Reconstruction

NOTES
1. For joint removal and replacement plans and details, see Sheet No. 126 thru 130
2. See Structural Notes on Sheet No. 123a

STATE OF ILLINOIS
RICHARD W. CHOU
081-004958
EXP. 11/30/08
LICENSED STRUCTURAL ENGINEER
CHICAGO, ILLINOIS
7/13/07

DESIGNED -	DWH
CHECKED -	JSD
DRAWN -	EF
CHECKED -	JSD

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

GENERAL PLAN & ELEVATION
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER CICERO AVE.
COOK COUNTY
STATION 29+14.49
STRUCTURE NO. 016-0108

⚠1 Revised 07/13/2007

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	123a
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL NOTES

1. Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.
2. The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
3. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
6. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 based upon the unit price bid for the work.
7. Stage construction shall be utilized to maintain traffic during construction.
8. The Contractor shall exercise care during removal of existing joints to ensure that the slab, beams and diaphragms' integrity will not be detrimentally impacted. The Contractor shall repair any damage(s) to the slab, beams and diaphragms caused by his operation as directed by the Engineer at no additional cost to the Department.
9. The Contractor shall provide a Protective Shield under the deck for Full Deck Slab repairs as per direction of the Engineer and as shown on the plans.
10. The Contractor may have to remove the Name Plate(s) that interfere with the parapet removal for joint reconstruction. The Contractor shall reinstall the Name Plate(s) as directed by the Engineer. The cost of removal and reinstallation of Name Plate(s) shall be included in the cost for "Concrete Removal" and "Concrete Superstructure."
11. Protective coat shall be applied only to the new concrete provided for the reconstruction of the joints (top of deck slab, top and traffic face of parapet).
12. The Engineer shall determine extent, location and type of substructure and deck slab repairs in the field.
13. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

    As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that can not be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
14. Field welding of construction accessories will not be permitted to beams or girders.
15. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach pavement.
16. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
17. 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(b) 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.
18. Protective shielding shall be installed to insure that all electrical appurtenances below the bridge deck are adequately protected.
19. 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 $\frac{1}{8}$ inch adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. (1)

Typ. Lap Splice	
Bar Size	Min. Lap
#4	1'-8"
#5	2'-2"
#5*	3'-0"*
#6	2'-7"
#6*	3'-7"*
#7	3'-5"
#8	4'-6"

* Top Horizontal Bar

ABBREVIATION LIST

Abut.	Abutment	F/	Face of	R or Rad.	Radius
Alt.	Alternate	Ft.	Foot or Feet	RR	Railroad
		Ftg.	Footing	Req'd	Required
Bk.	Back			Rt.	Right
Brg.	Bearing	Gr.	Grade		
Btwn.	Between			Sht.	Sheet
B/	Bottom of	Jt.	Joint	Spa.	Spaces or Spacing
Bot.	Bottom			Sq.	Square
		L	Angle	S.S.	Stainless Steel
CIP	Cast in Place	Lt.	Left	Std.	Standard
CL	Centerline	Lg.	Long	Sta.	Station
Cts.	Centers			Stl.	Steel
Cl.	Clear	Max.	Maximum	St.	Street
Conc.	Concrete	Min.	Minimum	Sym.	Symmetrical
CJ	Construction Joint				
Const(r).	Construction	Nom.	Nominal	Temp.	Temporary
		N.T.S.	Not to Scale	Thk.	Thick
Dia.	Diameter	No(s).	Number(s)	T.B.D.	To be determined
				T/	Top of
Ea.	Each	Opp.	Opposite	Typ.	Typical
E	East				
E/	Edge of	Pavt.	Pavement	UNO	Unless Noted Otherwise
El. or Elev.	Elevation	PL	Plate		
Exist.	Existing	P.C.	Precast	VIF	Verify in Field
Exp.	Expansion	P.J.F.	Preformed Joint Filler		
Expy.	Expressway	P.J.S.	Preformed Joint Sealer	W	West
		PGL	Profile Grade Line	W/	With
		Prop.	Proposed		

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	EF
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

STRUCTURAL NOTES
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER CICERO AVE.
COOK COUNTY
STATION 29+14.49
STRUCTURE NO. 016-0108

(1) Revised 07/13/2007

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	123b
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

TOTAL BILL OF MATERIAL

	Item	Unit	Super.	Sub.	Total
	Concrete Removal	Cu. Yd.	62.7		62.7
	Protective Shield	Sq. Yd.	1,800		1,800
	Concrete Superstructure	Cu. Yd.	70.9		70.9
	Bridge Deck Grooving	Sq. Yd.	3,315		3,315
	Protective Coat	Sq. Yd.	146		146
	Adjust and Reposition Bearings	Each	1		1
	Reinforcement Bars, Epoxy Coated	Pound	6,840		6,840
	Bar Splicers	Each	52		52
	Preformed Joint Strip Seal	Foot	388		388
1	Bridge Deck Microsilica Concrete Overlay, 2½"	Sq. Yd.	3,361		3,361
	Bridge Deck Hydro-Scarification, ¼"	Sq. Yd.	3,361		3,361
	Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	17		17
	Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	153		153
	Drainage System	L. Sum	1		1
	Silicone Bridge Joint Sealer, 2"	Foot	296		296
*	Adjusting Drainage Scuppers, Type A	Each	6		6
1	Elastomeric Bearing Assembly, Type II	Each	1		1
	Jack and Remove Existing Bearings	Each	1		1
	Anchor Bolt, 1"	Each	2		2

* Requires Special Provision

INDEX OF SHEETS

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	EF
CHECKED -	DWH

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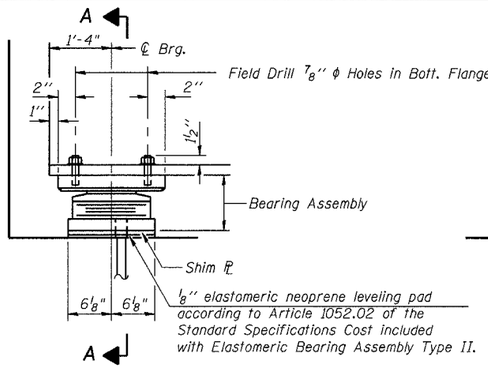
TOTAL BILL OF MATERIAL
AND INDEX OF SHEETS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER CICERO AVE.
COOK COUNTY
STATION 29+14.49
STRUCTURE NO. 016-0108

1 Revised 07/13/2007

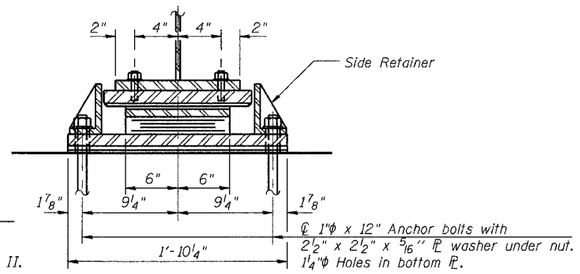
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	130a
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract # 62747

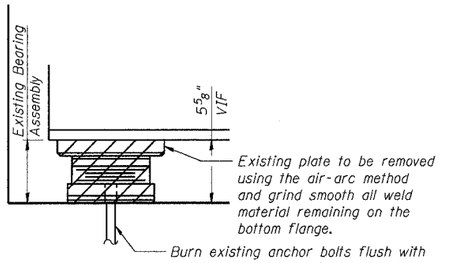


ELEVATION AT ABUT.

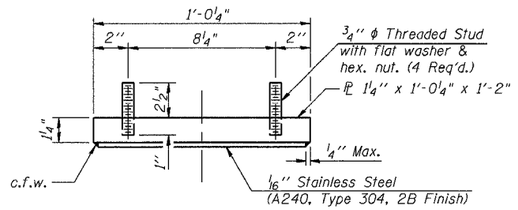


SECTION A-A

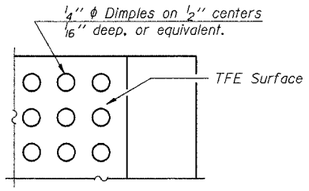
TYPE II ELASTOMERIC EXP. BRG.



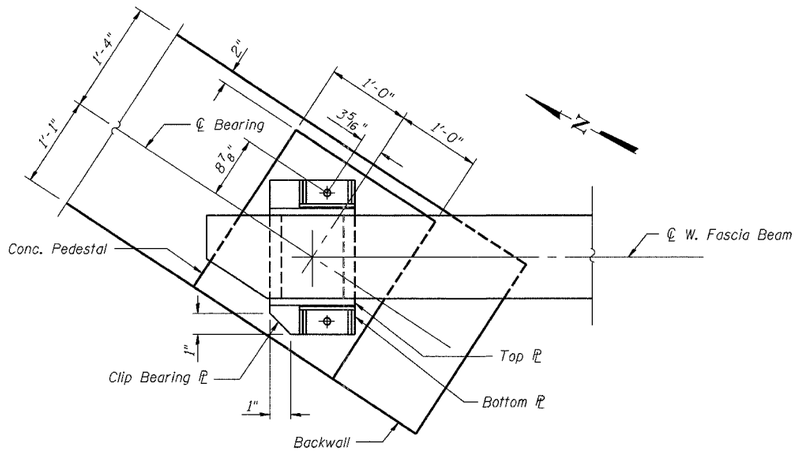
EXISTING BEARING REMOVAL DETAIL



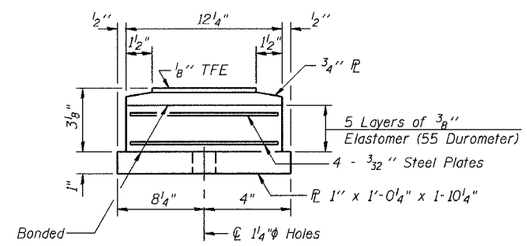
TOP BEARING ASSEMBLY



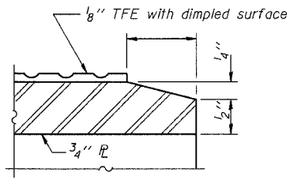
PLAN-TFE SURFACE



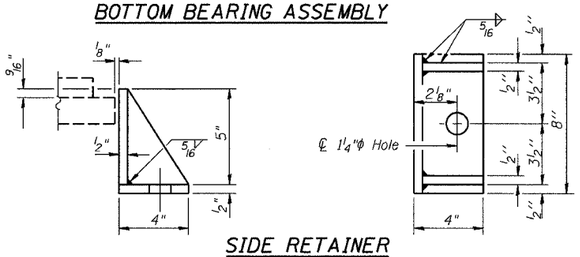
PLAN



SECTION THRU TFE



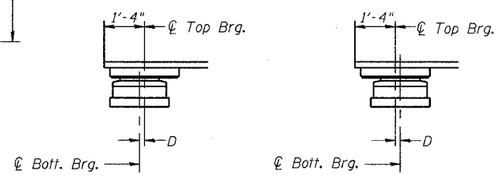
BOTTOM BEARING ASSEMBLY



SIDE RETAINER

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

Notes:
The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100° of expansion for every 15° temp. change from the normal temp. of 50°F.

REACTION TABLE

		Abutment
R_{DL}	(k)	32.9
R_{LL}	(k)	40.2
Imp	(k)	10.1
R_{Total}	(k)	83.2

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	1
Elastomeric Bearing Assembly Type II	Each	1
Anchor Bolt, 1"	Each	2

DESIGNED -	LJL
CHECKED -	DWH
DRAWN -	LJL
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

BEARING REPLACEMENT DETAILS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER CICERO AVE.
COOK COUNTY
STATION 29+14.49
STRUCTURE NO. 016-0108

⚠1 Added Sht. 07/13/2007

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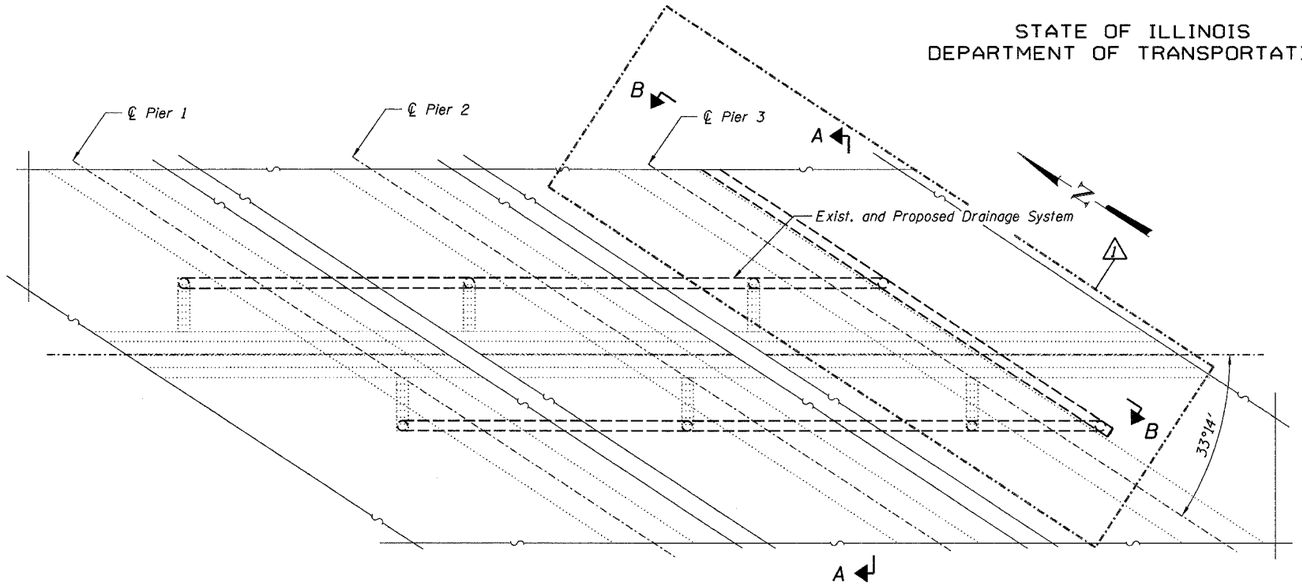
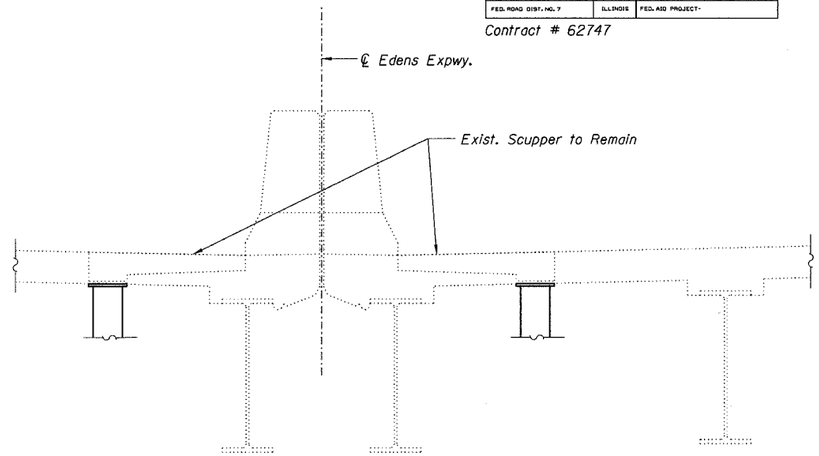
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	131
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

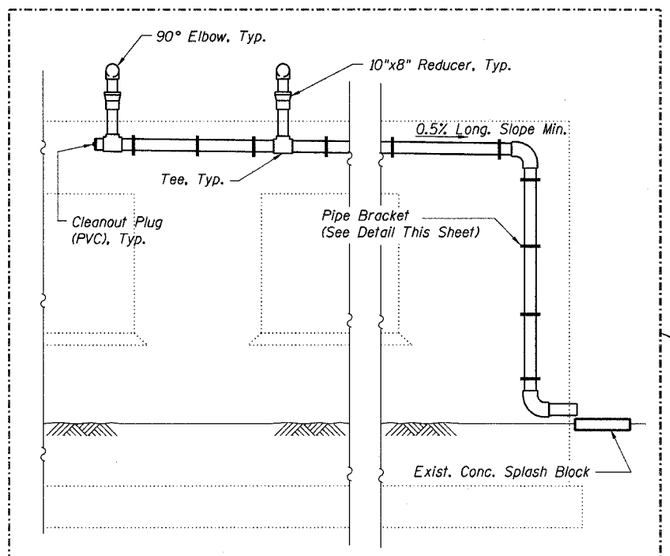
Contract # 62747



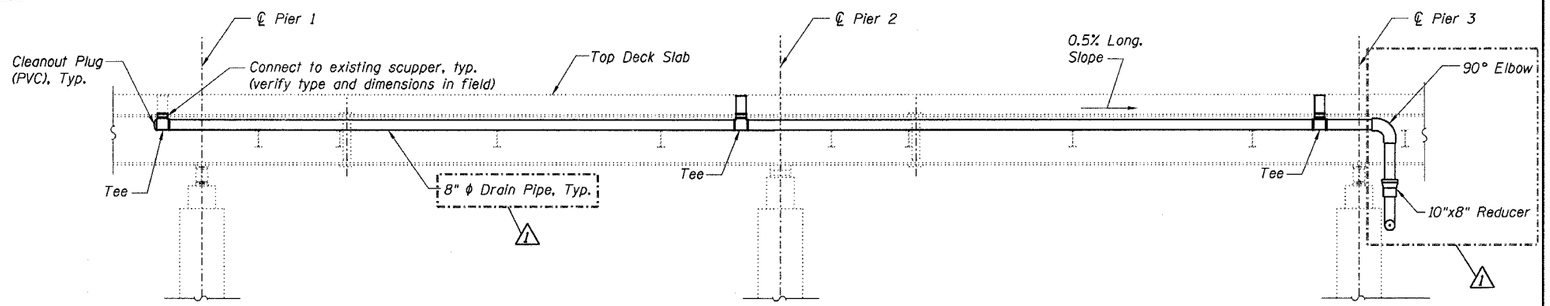
PLAN



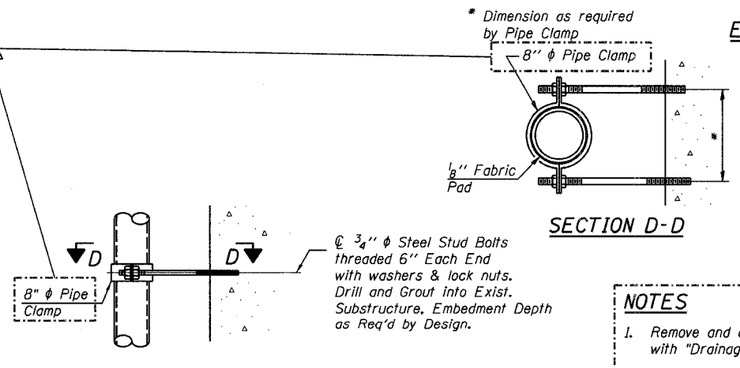
SECTION A-A



SECTION B-B



ELEVATION



SECTION D-D

PIPE BRACKET DETAIL

BILL OF MATERIAL

Item	Unit	Total
Drainage System	L. Sum	1

NOTES

1. Remove and dispose of existing Drainage System, cost included with "Drainage System".
2.
3. Provide structural support from existing conc. structure for drain pipe per manufacturer's recommendation not to exceed 6' ctrs., cost included with "Drainage System".

DRAINAGE SYSTEM DETAILS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER CICERO AVE.
COOK COUNTY
STATION 29+14.49
STRUCTURE NO. 016-0108

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	JW
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

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1 Revised 07/13/2007

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

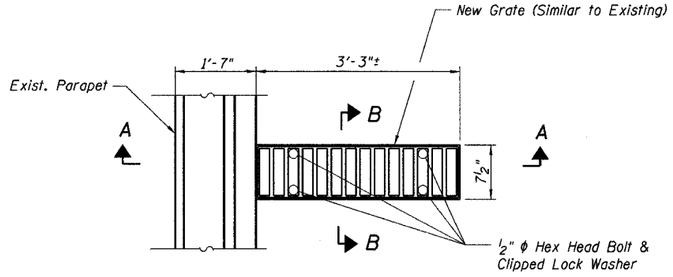
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	2006-043 RS	COOK	135	133
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract # 62747

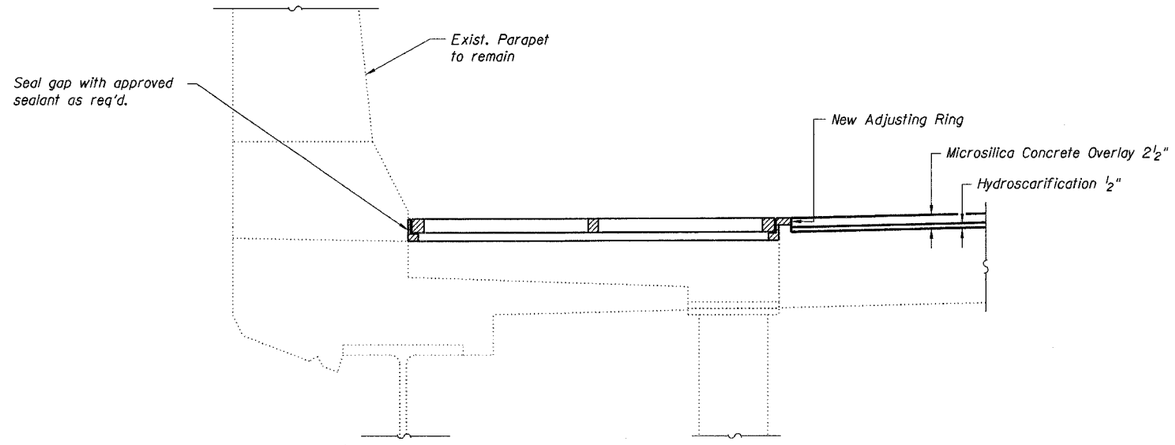
BILL OF MATERIAL

Item	Unit	Total
Adjusting Drainage Scuppers, Type A	Each	6

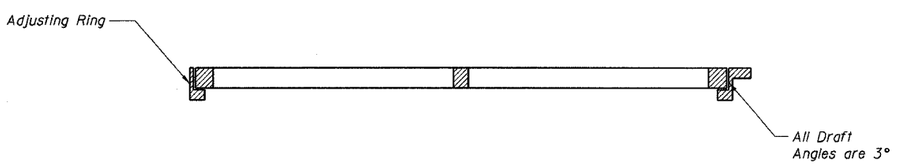
1



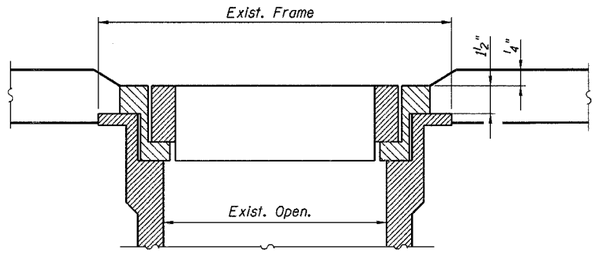
PROPOSED PLAN AT SCUPPER



SECTION THRU SCUPPER



SECTION A-A



SECTION B-B

NOTES

1. The contractor shall verify the exact location, type and dimensions of the existing scuppers before ordering the materials, the cost of which is included in the cost of Adjusting Drainage Scuppers.
2. For scupper locations, see General Plan & Elevation sheets.
3. For additional notes and Bill of Material, see Sheet 123a and 123b
4. All cast iron parts shall be grey iron conforming to the requirements of AASHTO M 105, Class 35B.
5. Bolts, anchor studs, washers and nuts shall confrom to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
6. Cast iron parts shall be unfinished.
7. The Contractor shall take appropriate measures to assure the Protective Coat is not applied to the scuppers.
8. Adjusting ring and grates shall be from Neenah or approved equal. Structural steel weldments or equal sections and of the same configuration may be substitued for cast iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
9. Provide an ⅛" fillet weld arround perimeter of new adjusting ring to secure to existing scuper. Electrode shall be compatible with the existing scupper housing material.

DESIGNED -	JSD
CHECKED -	DWH
DRAWN -	JW
CHECKED -	DWH

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

DRAINAGE SCUPPER DETAILS

DRAINAGE SCUPPER ADJUSTMENT DETAILS
F.A.I. 94/ (EDENS EXPRESSWAY)
OVER CICERO AVE.
COOK COUNTY
STATION 29+14.49
STRUCTURE NO. 016-0108

1 Revised 07/13/2007

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