

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

F.A.I. ROUTE 290 / F.A.P. ROUTE 342 I-290 / ILL 53
US 12 (RAND RD.) TO ILL 72 (HIGGINS RD.)
SECTION: (531-3.1, 0305-302 K) RS-5
RESURFACING, BRIDGE DECK REPAIR, JOINT REPAIR

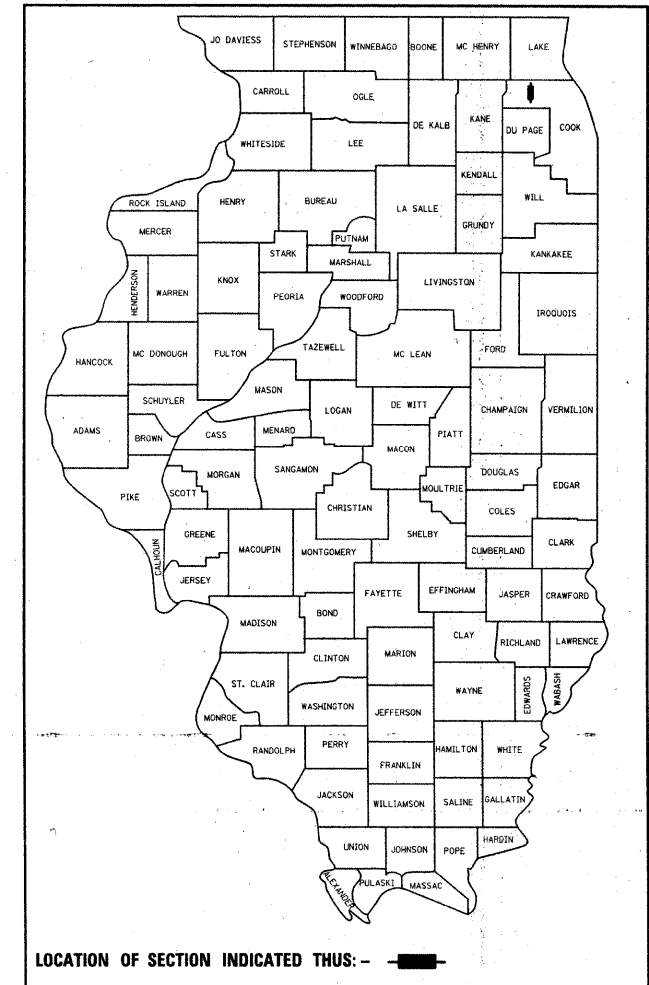
PROJECT: --
COOK COUNTY
C-91-033-10

FOR INDEX OF SHEETS, SEE SHEET NO. 2

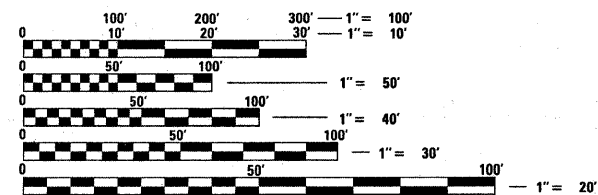
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1, 0305-302)RS-5	COOK	314	1
FED. ROAD DIST. NO. 1	ILLINOIS		CONTRACT NO. 60138	

*314+2=316

D-91-033-10



PROJECT IS LOCATED IN THE CITY OF ROLLING MEADOWS AND THE VILLAGES OF ARLINGTON HEIGHTS, PALATINE, & SCHAUMBURG



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.

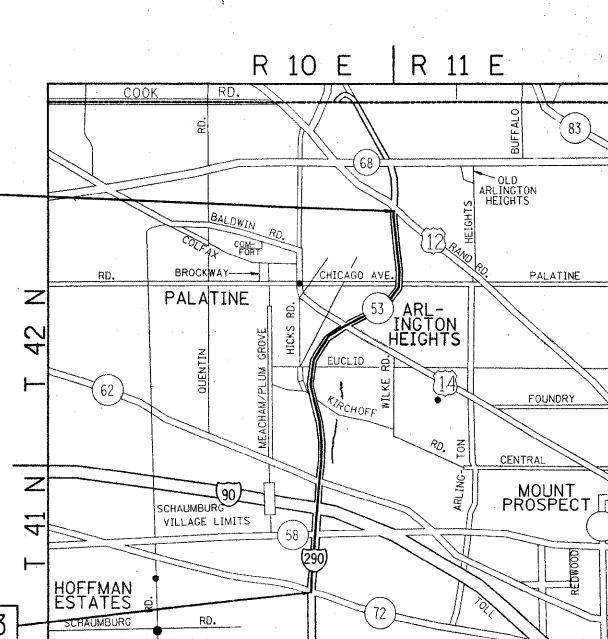
J.U.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENDS STA. 436+00

RESURFACING OMISSIONS:

- STA. 81+05 TO STA. 82+71
- STA. 109+80 TO STA. 112+01
- STA. 133+91 TO STA. 137+47
- STA. 153+26 TO STA. 154+74
- STA. 173+87 TO STA. 178+97
- STA. 224+22 TO STA. 230+98
- STA. 274+37 TO STA. 280+65
- STA. 298+84 TO STA. 308+60
- STA. 360+26 TO STA. 366+78
- STA. 383+64 TO STA. 389+05
- STA. 433+68 TO STA. 436+00

PROJECT BEGINS STA. 58+43



PALATINE, SCHAUMBURG & ELK GROVE TOWNSHIPS

TRAFFIC DATA (MAINLINE)
SPEED LIMIT: 55 MPH
2007 ADT: 194,100

PROJECT ENGINEER: DAN WILGREEN (847) 705-4240
PROJECT MANAGER: KEN ENG

CONTRACT NO. 60138

GROSS LENGTH OF PROJECT = 37,757 FEET (7.2 MILES)
NET LENGTH OF PROJECT = 32,651 FEET (6.2 MILES)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED FEBRUARY 3, 2010

Diana M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 19, 2010
Scott E. Stott, PE
Acting ENGINEER OF DESIGN AND ENVIRONMENT

March 19, 2010
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES
3-5	SUMMARY OF QUANTITIES
6-10	SUGGESTED SEQUENCE OF OPERATIONS FOR ROADWAY WORK (TYPICAL & NOTES)
11-13	TYPICAL SECTIONS
14-46	ROADWAY & PAVEMENT MARKING PLANS
46A, 46B	TRAFFIC PLAN DETAILS
47-137	MAINTANENCE OF TRAFFIC PLANS FOR BRIDGE REPAIRS
138-263	BRIDGE JOINT REPAIR PLANS
264-269	FRONTAGE ROAD DRAINAGE PLANS
270-274	DETECTOR LOOP REPLACEMENT PLANS
275-297	INDUCTION LOOP PLANS
298	DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER (BD-07)
299	PAVEMENT PATCHING FOR HOT-MIX ASPHALT SURFACED PAVEMENT (BD-22)
300	BUTT JOINT AND HOT-MIX ASPHALT TAPER DETAILS (BD-32)
301	FREEWAY ENTRANCE AND EXIIT RAMP CLOSURE DETAILS (TC-08)
303	FREEWAY SINGLE AND MULTI-LANE WEAVE (TC-09)
304	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW PLOW RESISTANT) (TC-11)
305	MULTI-LANE FREEWAY PAVEMENT MARKING (TC-12)
306	DISTRICT ONE TYPICAL PAVEMENT MARKINGS (TC-13)
307	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) (TC-14)
308	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING (TC-16)
309	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES (TC-17)
310	SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS (TC-18)
311	TRAFFIC CONTROL DETAILS FOR FREEWAY CENTER LANE CLOSURE SHOULDER LANE (TC-25)
312	DISTRICT 1 DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING (TS-07)
313-314	TOLLWAY SIGNING

STATE STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
442201-03	CLASS C AND D PATCHES
482011-03	HMA SHLD. STRIPS/SHLDS. WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
602001-01	CATCH BASIN TYPE A
604036-02	GRATE TYPE 8
606401-01	PAVED DITCH
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
642001-01	SHOULDER RUMBLE STRIPS
664001-02	CHAIN LINK FENCE
701101-02	OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M) AWAY
701400-04	APPROACH TO LANE CLOSURE, FREEWAY/ EXPRESSWAY
701401-05	LANE CLOSURE FREEWAY/ EXPRESSWAY
701411-06	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS ≥ 45 MPH
701426-03	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATION, FOR SPEEDS ≥ 45 MPH
701446-01	TWO LANE CLOSURE FREEWAY/ EXPRESSWAY
701601-06	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701701-06	URBAN LANE CLOSURE MULTILANE INTERSECTION
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER
720011-01	METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPES A AND B METAL POSTS (FOR SIGNS AND MARKERS)

GENERAL NOTES:

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES. (48 HOUR NOTIFICATION IS REQUIRED)

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, THE CITY OF ROLLING MEADOWS, AND THE VILLAGES OF ARLINGTON HEIGHTS, PALATINE, & SCHAUMBURG.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

ALL HOT-MIX ASPHALT PAVEMENT PATCHING SHALL BE CLASS D.

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND HMA TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES (40MM) WHERE THE SPEED LIMIT IS 45 MPH (80KM/H) OR LESS AND 1 INCH (25 MM) WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (80 KM/H), WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 MM) MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 (V:H).

10 FEET (3 METER) TRANSITION SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER TO EXISTING CURB AND GUTTERS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED.

THE RESIDENT ENGINEER SHALL VERIFY THE LOCATIONS OF ALL EXISTING PAVEMENT MARKINGS PRIOR TO MILLING OR RESURFACING.

ALL PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE IMPROVEMENT ACCORDING TO DISTRICT 1 TYPICAL PAVEMENT MARKING.

TWO WEEKS PRIOR TO PLACING PERMANENT PAVEMENT MARKINGS, CONTACT WALLY CZARNY, AREA TRAFFIC FIELD ENGINEER AT (773) 685-4342.

RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED THROUGHOUT THE IMPROVEMENT ACCORDING TO THE DISTRICT STANDARDS AS NOTED IN THE DETAIL.

THE UNIT WEIGHT (CONVERSION FACTOR) QUOTED IS FOR THE ESTIMATING PLAN QUANTITIES ONLY. ACTUAL QUANTITIES TO FULFILL CONTRACT REQUIREMENTS WILL BE DETERMINED BASED ON UNIT WEIGHT OF APPROVED MIX DESIGN, PLAN DIMENSIONS, AND DENSITY LIMITATIONS. MAXIMUM PAYMENT WILL BE COMPUTED BASED ON WEIGHT AVERAGE DENSITIES OF THE IN-PLACE MIXTURE.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.

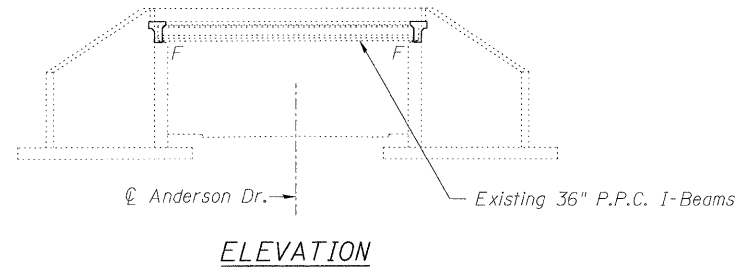
FILE NAME =	USER NAME = abreuah	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	I-290 / ILL 53 FROM US 12 TO ILL 72 INDEX OF SHEETS STATE STANDARDS AND GENERAL NOTES	F.A.T. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ct:\pwork\PWIDOT\ABREUAH\0166688\010310\shp-plan.dgn	10-shp-plan.dgn	DRAWN -	REVISED -			290	(531-3.1, 0305-302 K) RS-5	COOK	314	2	
PLOT SCALE = 50,0000 ' / IN.		CHECKED -	REVISED -			SCALE: 1" = 50'		SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO. 60138	
PLOT DATE = 2/11/2018		DATE -	REVISED -			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

Existing Structure: S.N. 016-0372 built in 1965 as F.A Route 61, Section 531-3HB-1 at Station 351+81.46. Structure consists of single span precast prestressed concrete beam bridge on closed abutments with 52'-2" back-to-back abutments, 122'-0" out-to-out deck width. In 1991 a new overlay was added, and expansion joints, longitudinal joint, and barriers were reconstructed. Traffic is to be maintained utilizing stage construction.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCOPE OF WORK

1. Remove existing concrete slab at abutments.
2. Repair deck slab.
3. Repair substructure concrete.
4. Replace concrete slab and provide concrete end diaphragm at abutments.



INDEX OF SHEETS

1. General Plan and Elevation
2. General Notes and Total Bill of Material
3. Temporary Concrete Barrier for Stage Construction
4. Deck Slab Repair
5. Abutment Concrete Repair
6. Concrete Removal Details
7. Abutment Modifications - 1
8. Abutment Modifications - 2
9. Bar Splicer Assembly and Mechanical Splicer Details

DESIGN STRESSES

FIELD UNITS (New Const.)

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

FIELD UNITS (Existing)

$f_c = 1,400$ psi (Superstructure)
 $f_c = 1,000$ psi (Substructure)
 $f_s = 20,000$ psi (Reinforcement and Structural Steel)

PRECAST PRESTRESSED UNITS (Existing)

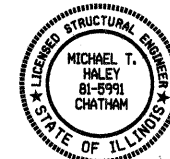
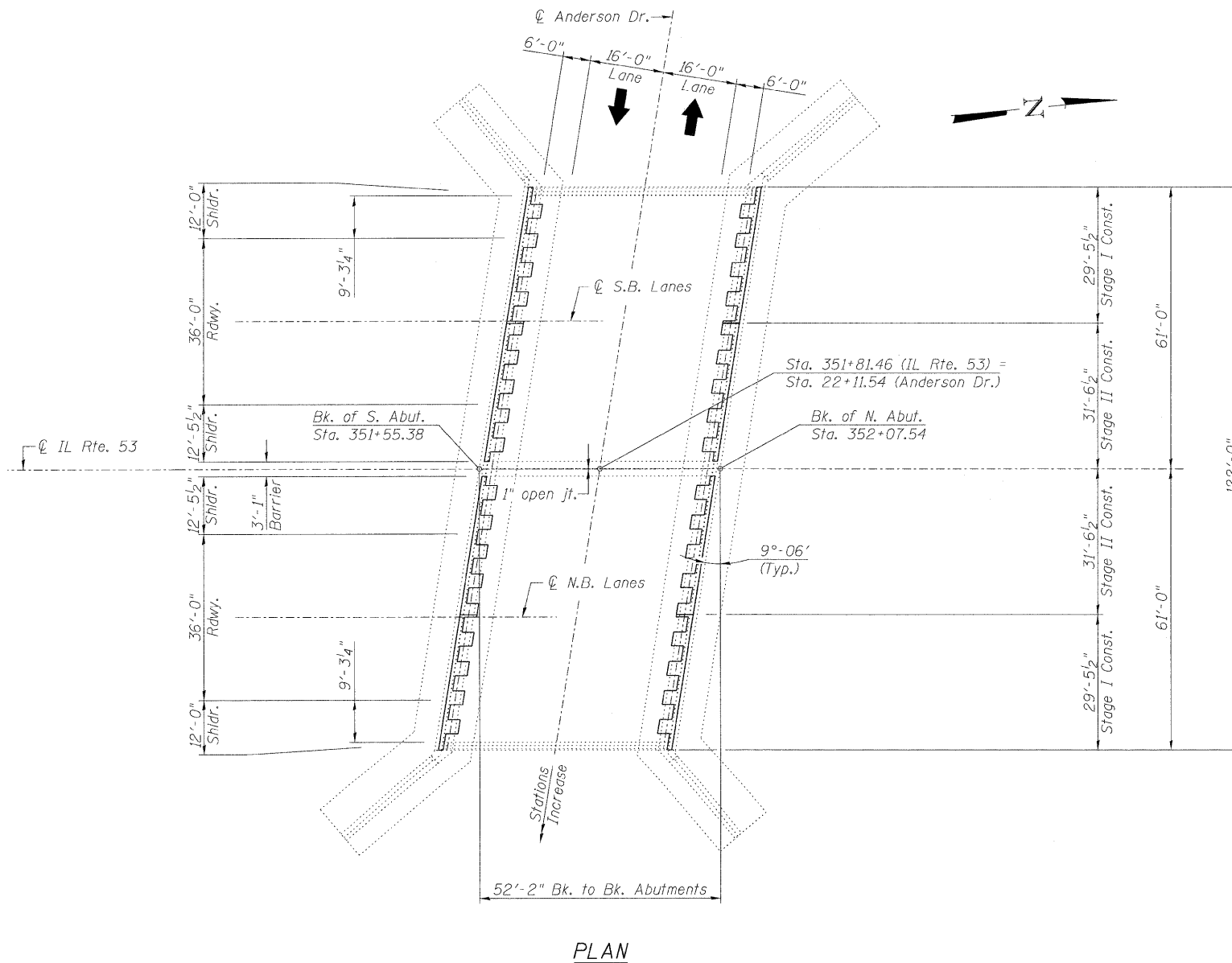
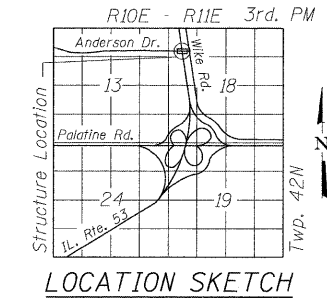
$f'_c = 5,000$ psi
 $f'_{cl} = 4,000$ psi
 $f'_s = 248,000$ psi (Strands)
 $f_{si} = 173,600$ psi (Strands)

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges" 17th Edition

LOADING HS-20

(Existing Construction)



Michael J. Haley 2/8/10
Michael T. Haley Date
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010

GENERAL PLAN AND ELEVATION
IL ROUTE 53 OVER ANDERSON DR.
F.A.I. 290-SEC (531-3.1,0305-302K)RS-5
COOK COUNTY
STATION 351+81.46
STRUCTURE NO. 016-0372

	SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	100
Designed By: ADB Date: 12/2009		Checked By: MTH File: 016-0372.sgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

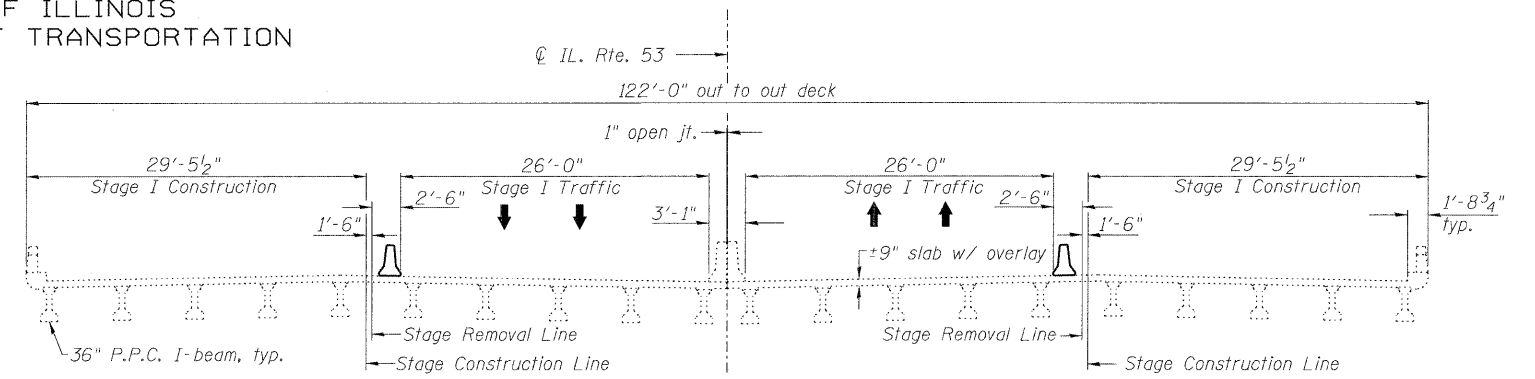
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

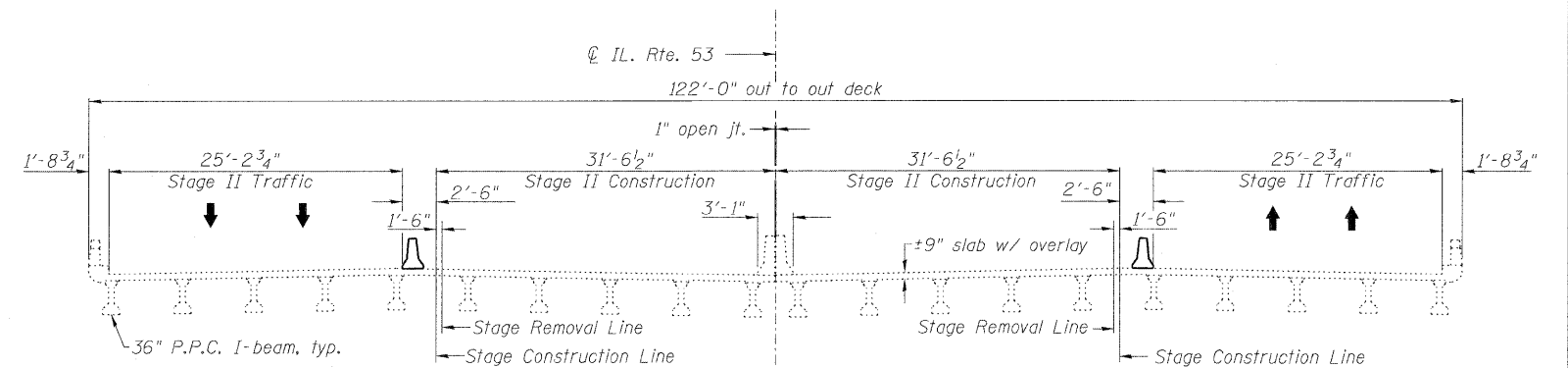
Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.



STAGE I REMOVAL & CONSTRUCTION

(Looking North)



STAGE II REMOVAL & CONSTRUCTION

(Looking North)

TOTAL BILL OF MATERIAL

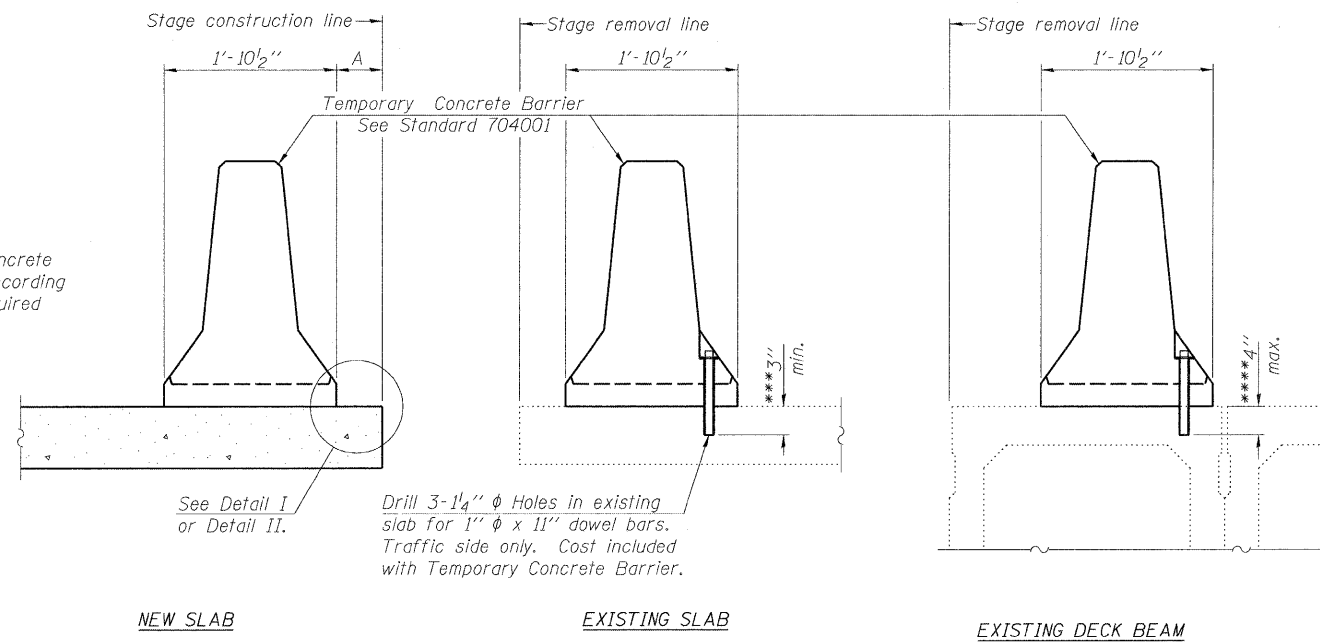
Item	Unit	Super	Sub	Total
Concrete Removal	Cu. Yd.	29.6	-	29.6
Protective Shield	Sq. Yd.	623	-	623
Concrete Superstructure	Cu. Yd.	54.4	-	54.4
Reinforcement Bars, Epoxy Coated	Pound	6720	-	6720
Bar Splicers	Each	40	-	40
Concrete Sealer	Sq. Ft.	6992	-	6992
Structural Repair of Concrete (Depth greater than 5 in.)	Sq. Ft.	-	58	58
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	-	365	365
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	62.7	-	62.7
Approach Slab Repair (Partial Depth)	Sq. Yd.	12.0	-	12.0

**GENERAL NOTES AND
TOTAL BILL OF MATERIAL
STRUCTURE NO. 016-0372**

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	161
Designed By: ADB Date: 12/2015		Checked By: MTH File: 016-0372.dgn		Drawn By: ADB		CONTRACT NO. 60138
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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



Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

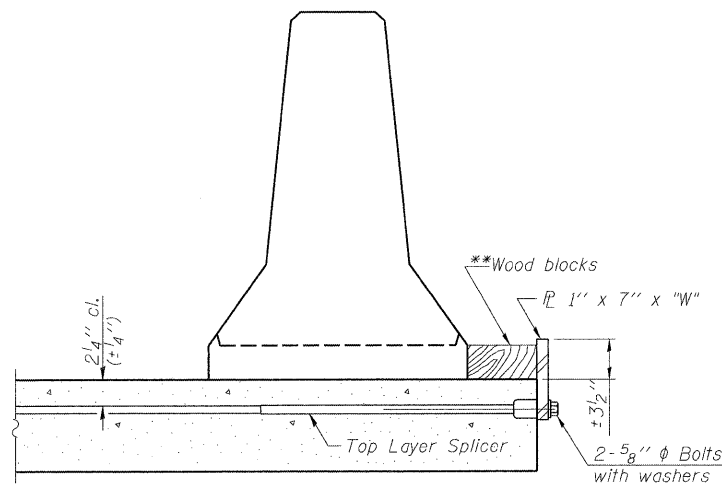
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

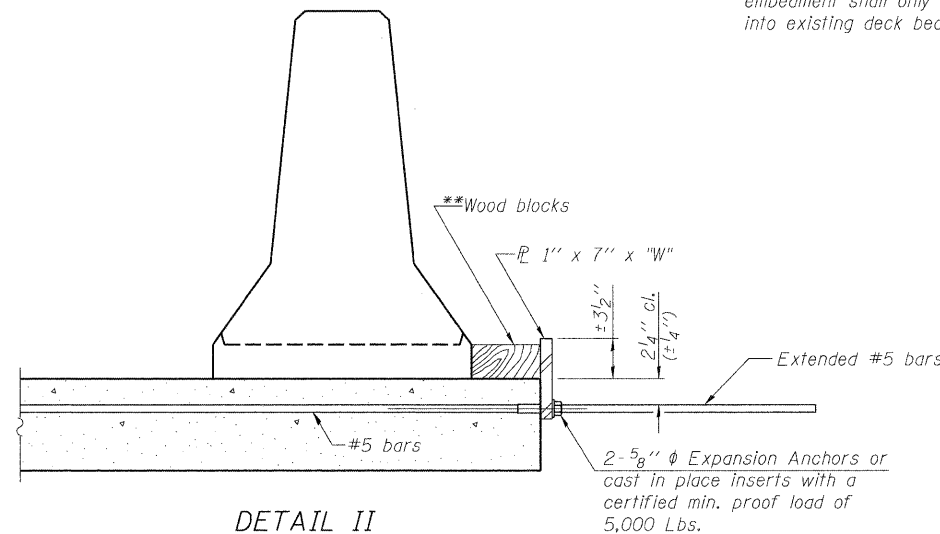
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

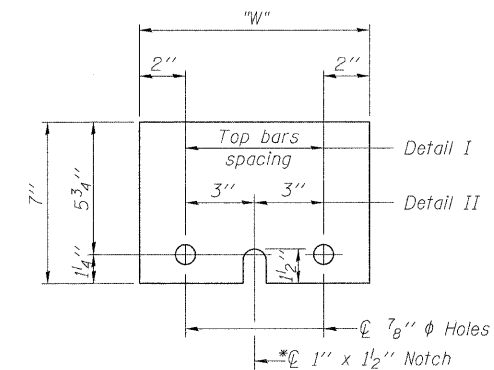
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x 10"

* Required only with Detail II

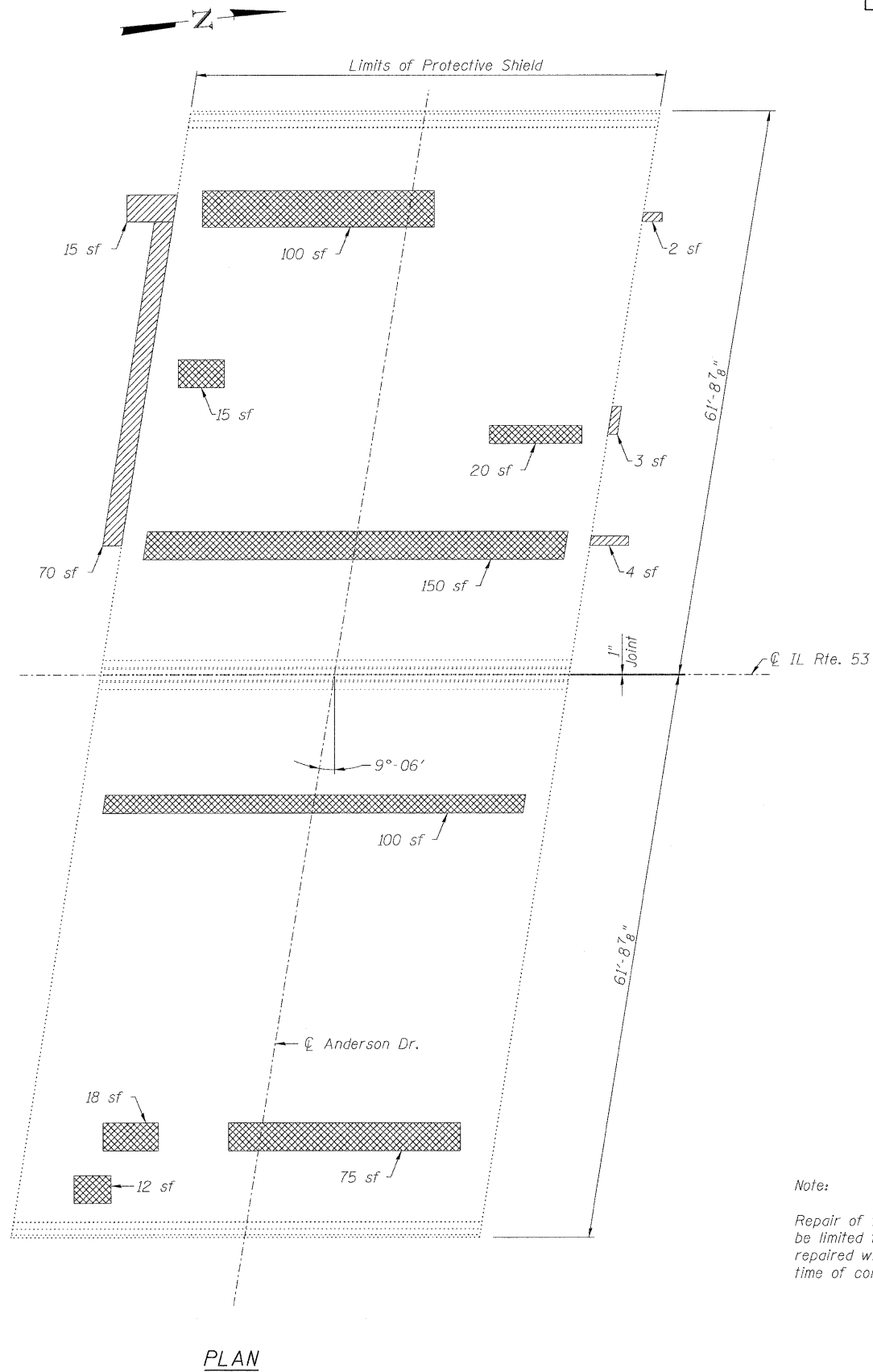
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-0372

<p>LIN ENGINEERING, LTD. Consulting Engineers Channah, Illinois</p>	SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	9 SHEETS	290	(531-3.1,0305-302)RS-5	COOK	314	162	
		CONTRACT NO. 60138					
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

LEGEND

- Deck Slab Repair (Full Depth, Type II)
- Approach Slab Repair (Partial Depth)
- sf Square Feet

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	62.7
Approach Slab Repair (Partial Depth)	Sq. Yd.	12.0
Protective Shield	Sq. Yd.	623

See Sheet 6 of 9 for concrete removal quantity and details.

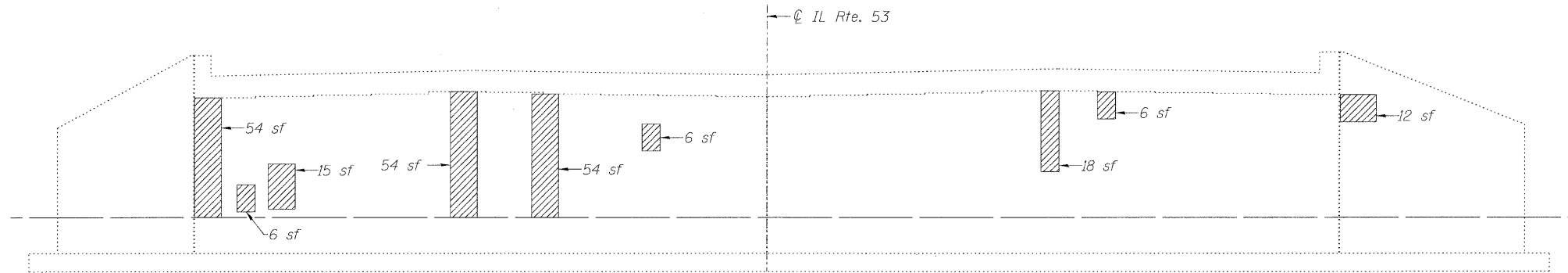
Note:

Repair of the existing deck shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

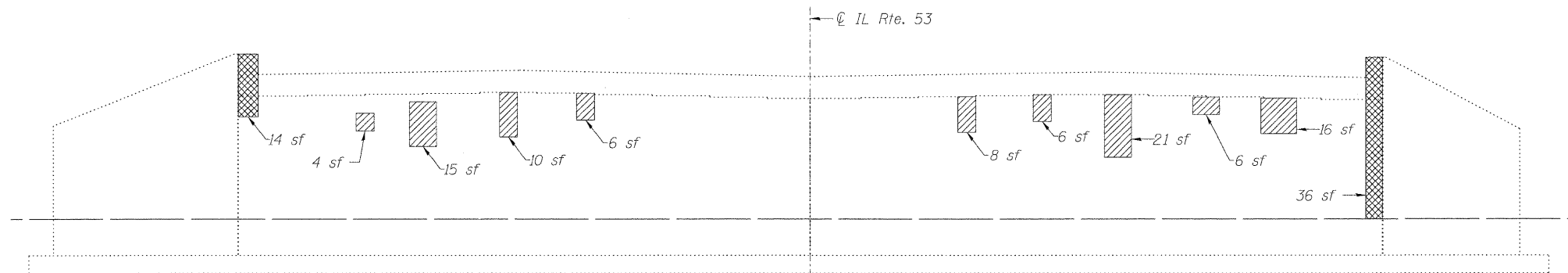
**DECK SLAB REPAIR
STRUCTURE NO. 016-0372**

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	163
Designed By: ADB Date: 12/2005		Checked By: MTH File: 016-0372.dgn		Drawn By: ADB		CONTRACT NO. 60138
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NORTH ABUTMENT ELEVATION
(Looking North)



SOUTH ABUTMENT ELEVATION
(Looking South)

Note:

Repair of the existing abutments shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth greater than 5 in.)
- Structural Repair of Concrete (Depth equal to or less than 5 in.)
- sf Square Feet

BILL OF MATERIAL

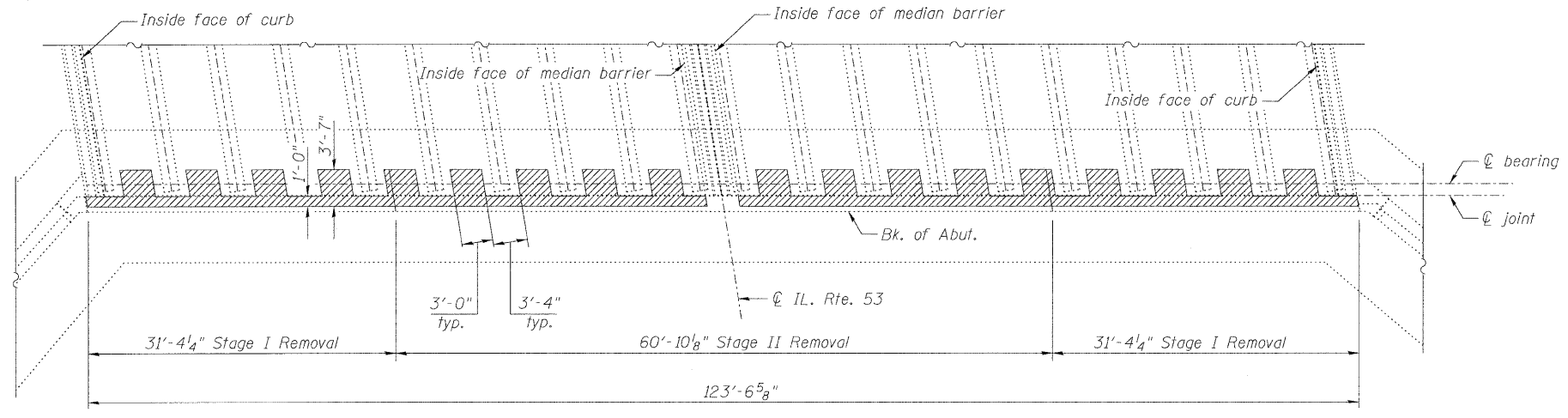
Item	Unit	Total
Structural Repair of Concrete (Depth greater than 5 in.)	Sq. Ft.	58
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	365

ABUTMENT CONCRETE REPAIR
STRUCTURE NO. 016-0372

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	164	
		CONTRACT NO. 60138					
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

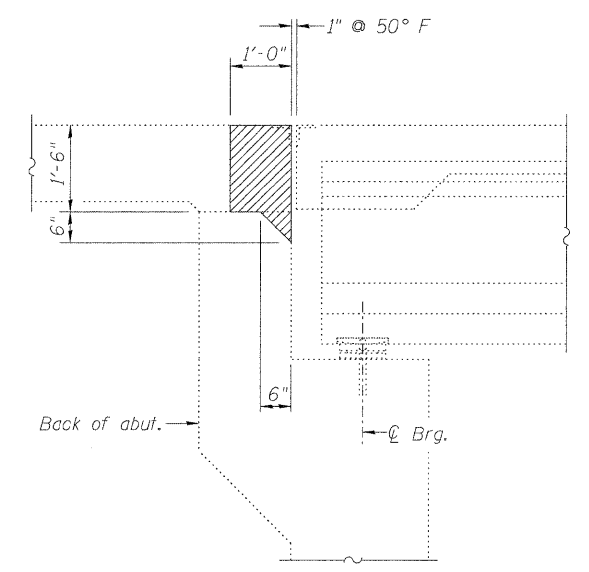
Designed By: ADB
Date: 12/2009
Checked By: MTH
File: 016-0372.dgn
Drawn By: ADB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

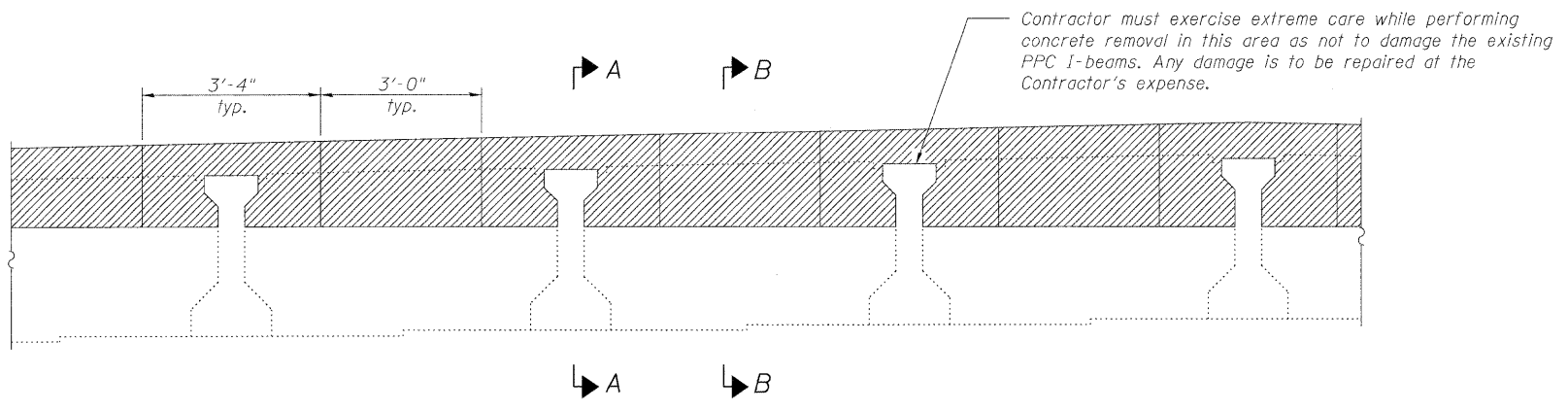
(South abutment shown, north abutment similar)



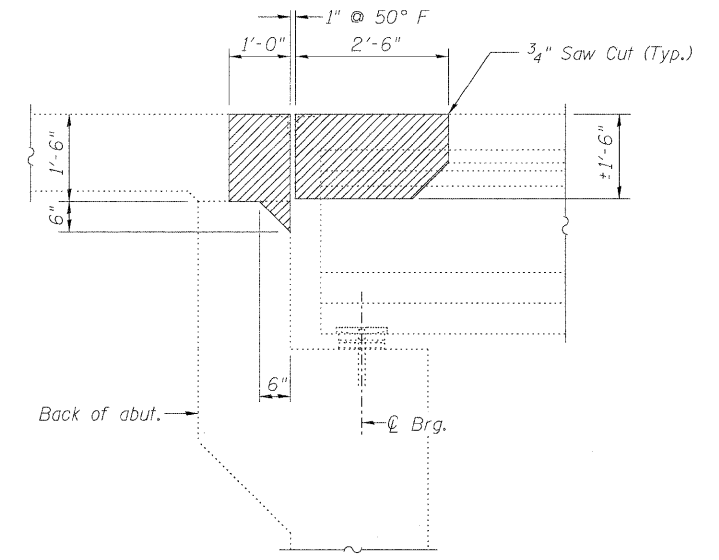
SECTION A-A

Dimensions at right angles to abutment.

Notes:
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
Hatched area indicates limits of concrete removal.



ELEVATION



SECTION B-B

Dimensions at right angles to abutment.

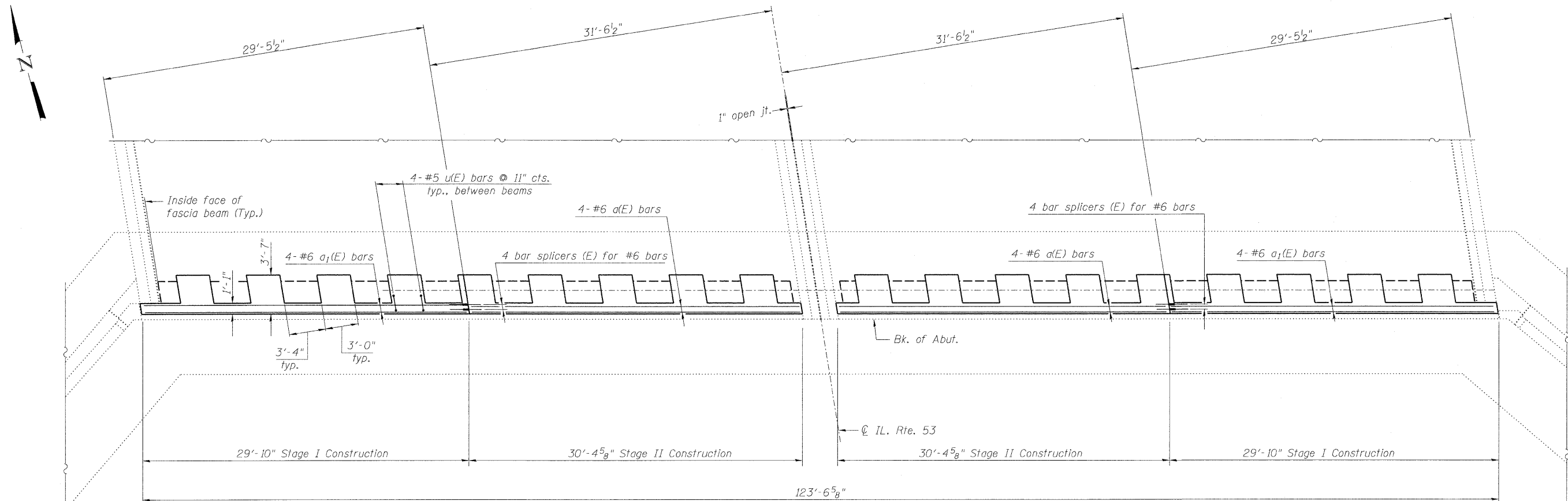
BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	29.6

CONCRETE REMOVAL DETAILS
STRUCTURE NO. 016-0372

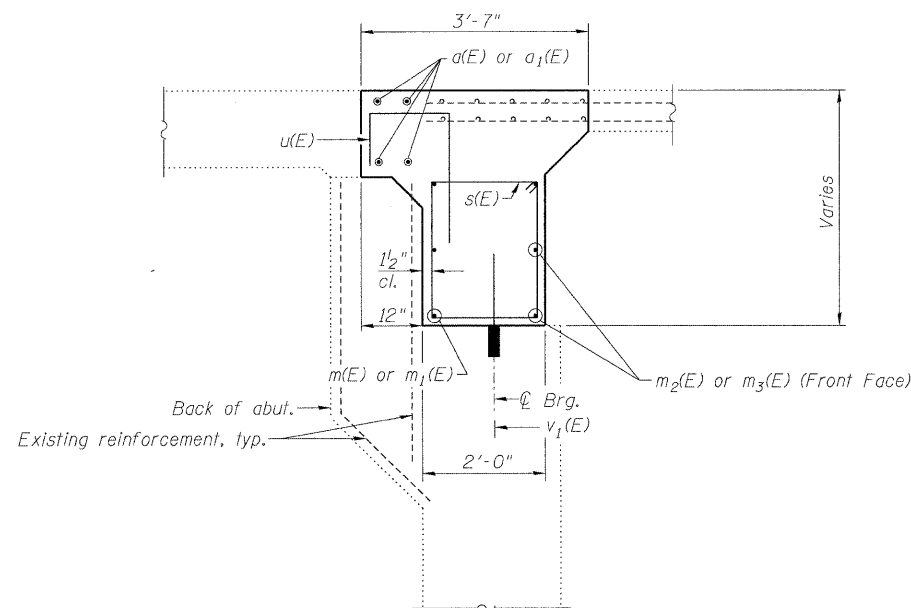
<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	165
<p>Designed By: ADB Date: 12/2003</p>		<p>Checked By: MTH File: 016-0372.dgn</p>		<p>CONTRACT NO. 60138</p>		
<p>FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT</p>						

STATE OF ILLINOIS
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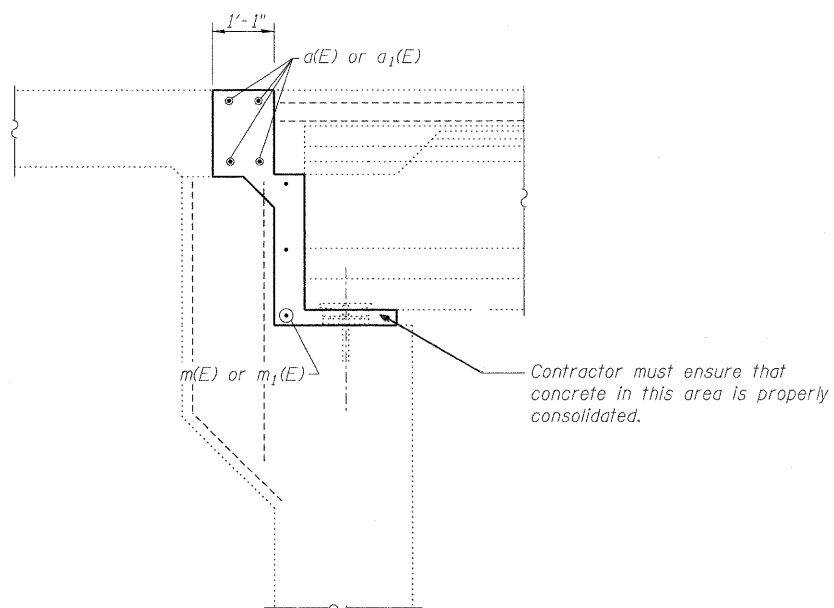
PLAN

(South abutment shown, north abutment similar)



SECTION BETWEEN BEAMS

Dimensions at right angles to abutment.



SECTION AT BEAMS

Dimensions at right angles to abutment.

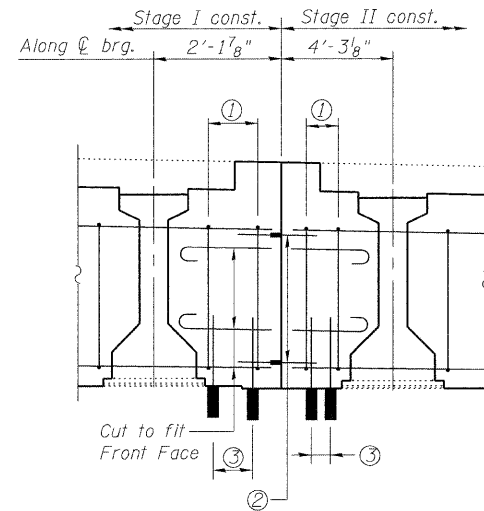
Notes:

Existing reinforcement extending from concrete which is to remain in place shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
For Bar details, bill of material, and barrier details see Sheet 8 of 9.

ABUTMENT MODIFICATIONS - 1
STRUCTURE NO. 016-0372

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	166
Designed By: ADB Checked By: MTH Date: 12/2008		Crown By: ADB File: 016-0372.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

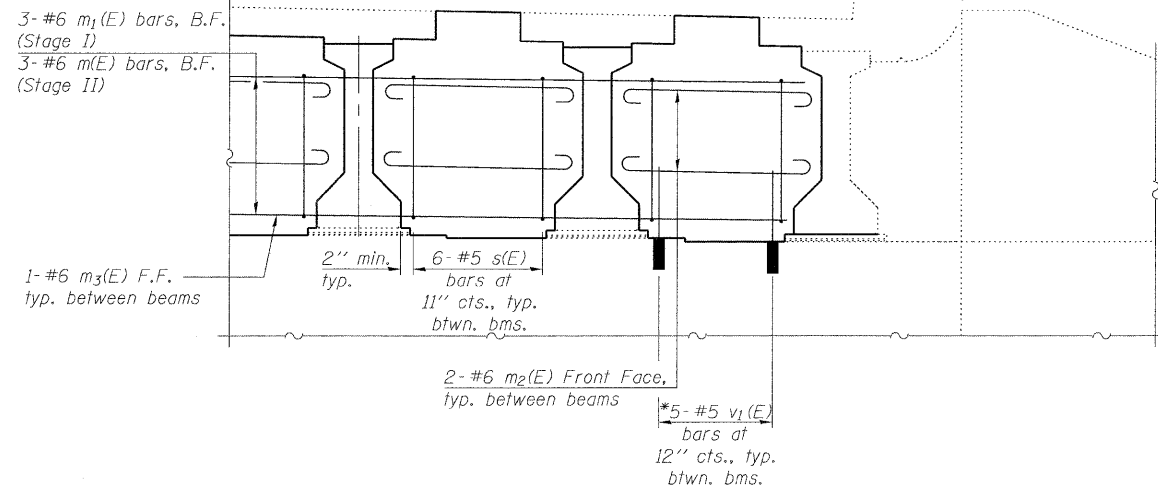
STATE OF ILLINOIS
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DIAPHRAGM ELEVATION NEAR STAGE LINE

(NB South abutment shown, looking south, north abutment similar)

- ① 2-#5 s(E) bars Stage I, 4-#5 s(E) bars Stage II
- ② 6 Bar Splicers (E) for #6 bars
- ③ 2-#5 v₁(E) bars Stage I, 4-#5 v₁(E) bars Stage II



DIAPHRAGM ELEVATION AT ABUTMENT

*v₁(E) bars to be epoxy grouted in accordance with Article 584 of the Standard Specs.

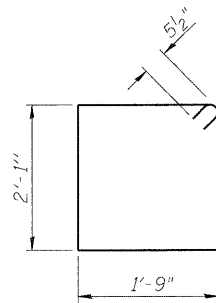
BILL OF MATERIAL

(2 Abutments)

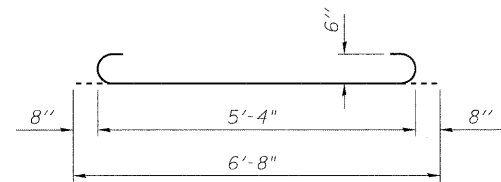
Bar	No.	Size	Length	Shape
a(E)	16	#6	30'-0"	—
a ₁ (E)	16	#6	29'-6"	—
m(E)	12	#6	29'-5"	—
m ₁ (E)	12	#6	27'-3"	—
m ₂ (E)	72	#6	6'-8"	U
m ₃ (E)	36	#6	4'-6"	—
s(E)	216	#5	8'-7"	□
u(E)	144	#5	5'-4"	└
v ₁ (E)	184	#5	2'-11"	—
Reinforcement Bars, Epoxy Coated			Pound	6720
Concrete Superstructure			Cu. Yd.	54.4

Notes:

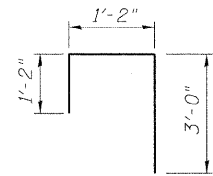
Concrete in diaphragm is included with Concrete Superstructure.
The s(E) bars shall be placed parallel to the beams.
Spacing for these bars shall be at right angles to the beams.
Drill and epoxy grout v₁(E) bars a minimum of 9" into existing concrete.
Cost included with Reinforcement Bars, Epoxy Coated.



BAR s(E)



BAR m₂(E)



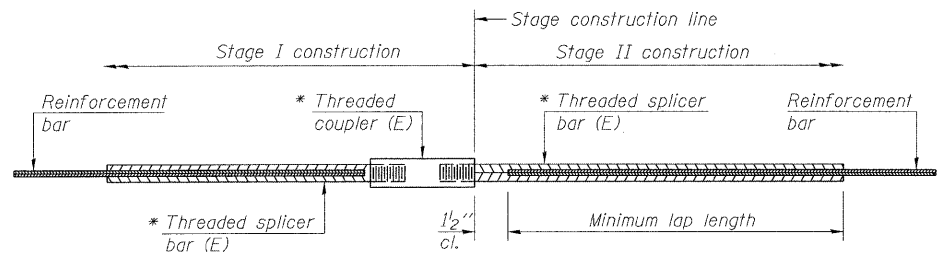
BAR u(E)

ABUTMENT MODIFICATIONS - 2

STRUCTURE NO. 016-0372

<p>LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 8	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	107	
<p>Designed By: ADB Date: 12/2009</p> <p>Checked By: MTH Date: 05/03/12.dgn</p> <p>Drawn By: ADB</p>		CONTRACT NO. 60I38				FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

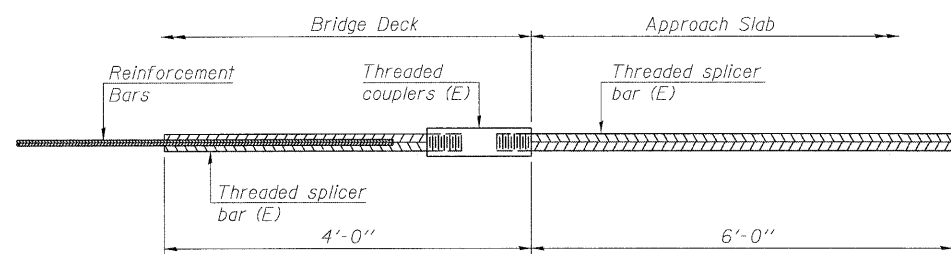
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

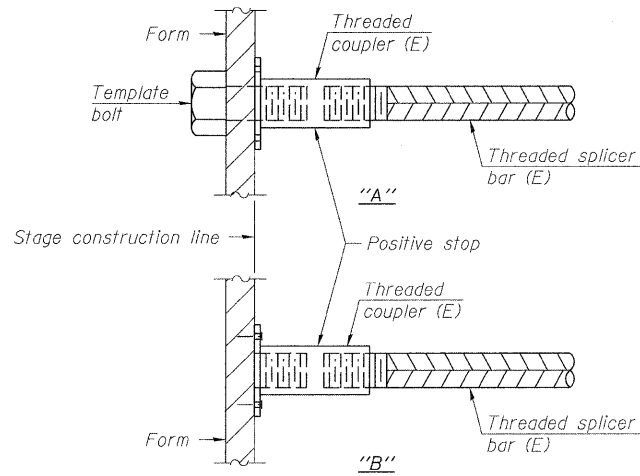
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Slab	#6	16	Table 3
Abutment diaphragm	#6	24	Table 3



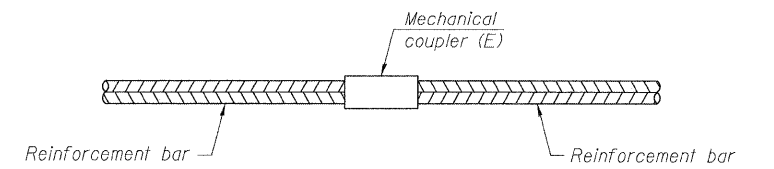
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



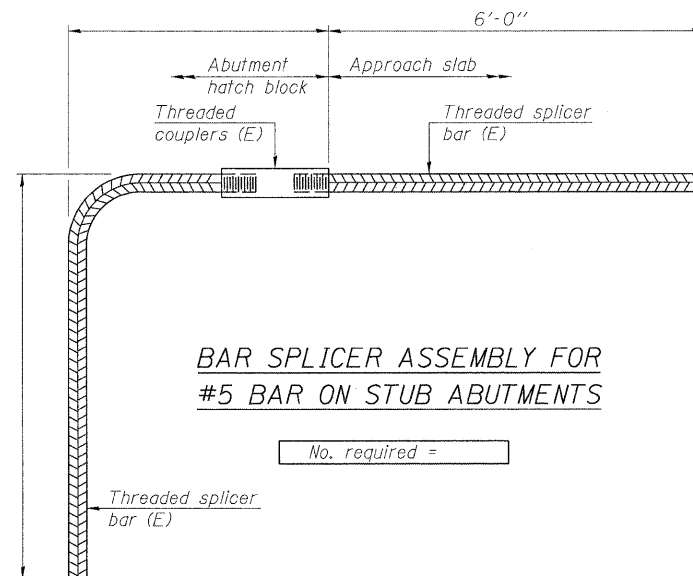
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0372

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 9 9 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	168
DESIGNED BY: ADB CHECKED BY: MTH DATE: 12/2009		DRAWN BY: ADB FILE: 08-0372.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						