F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 Deck Repair 2013-3	OGLE	18	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 64H95		

INDEX OF SHEETS: 03-08-13 LETTING ITEM 084

HIGHWAY STANDARDS:

701101-03 OFF–RD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701400-06 APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-07 LANE CLOSURE FREEWAY/EXPRESSWAY
701402-09 LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701411-08 LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS > 45 MPH
701426-05 LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS >45 MPH
701901-07 TRAFFIC CONTROL DEVICES
704001-07 TEMPORARY CONCRETE BARRIER
720011-01 METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
728001-01 TELESCOPING STEEL SIGN SUPPORT
729001-01 APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)

DISTRICT STANDARDS:

39.2 INFORMATIONAL WARNING SIGNS (FOR NARROW TRAVEL LANES)
41.1 TYPICAL PAVEMENT MARKINGS

PROJECT LOCATION

SN: 071– 0048
SN: 071– 0049

0 100' 200' 300' — 1"= 100'
0 10' 20' 30' — 1"= 10'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

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.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1–800–892–0123
OR 811

PROJECT ENGINEER: Mahmoud Etemadi (815)–284–5393

MONROE TOWNSHIP, SECTION 20

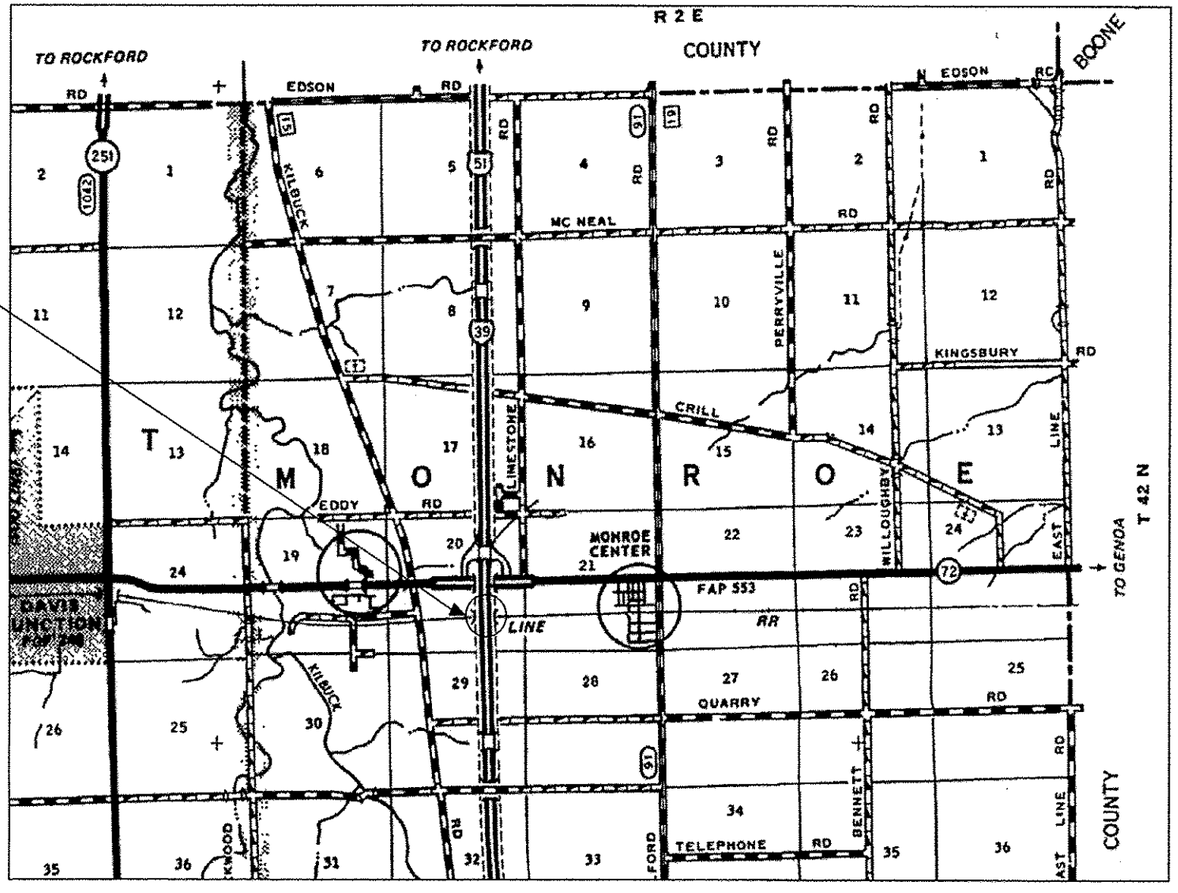
CONTRACT NO. 64H95

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

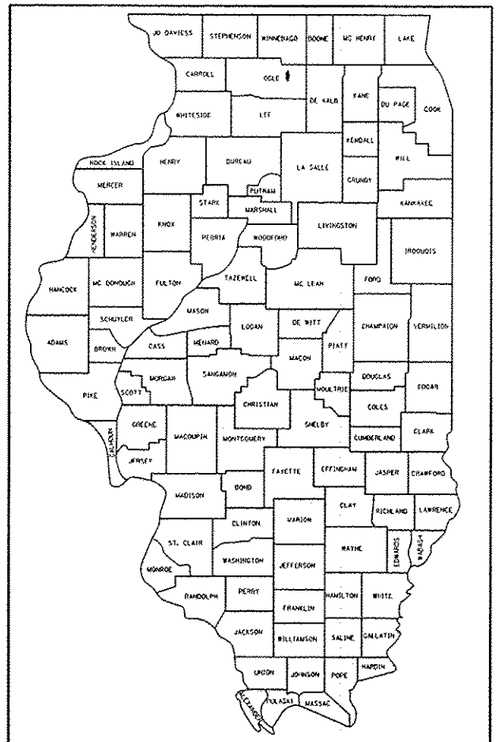
FAI ROUTE 39 (I–39)
SECTION D2 Deck Repair 2013–3
OGLE COUNTY
C–92–006–13

R 2E



N

D–92–078–12



LOCATION OF SECTION INDICATED THUS:–

T 42N

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 1-28 20 13
Paul Loetscher
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
Feb 1 20 13
John D. Baranzelli P.E. for
acting ENGINEER OF DESIGN AND ENVIRONMENT
Feb 1 20 13
Omer Osman P.E. BI
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES

			0014
Paycode	Description	Units	State Funds
42001300	PROTECTIVE COAT	SQ YD	34.4
50102400	CONCRETE REMOVAL	CU YD	8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	8
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1,100
50800515	BAR SPLICERS	EACH	16
52000110	PREFORMED JOINT STRIP SEAL	FOOT	164
60900240	TYPE C INLET BOX, STANDARD 609006	EACH	2
60900315	TYPE D INLET BOX, STANDARD 609006	EACH	4
67100100	MOBILIZATION	L SUM	1
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	1
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1
70300100	SHORT TERM PAVEMENT MARKING	FOOT	500
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	7,505
70400100	TEMPORARY CONCRETE BARRIER	FOOT	887
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	887
* 78007130	PERMANENT PAVEMENT MARKING - LINE 6"	FOOT	3,786
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1,893
X0322194	POLYMER MODIFIED PORTLAND CEMENT MORTAR	SQ FT	67.5
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	38.5
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2

22

GENERAL NOTES

All Borrow/Waste/Use sites must be approved by the Department prior to removing any material from the project or initiating any earthmoving activities, including temporary stockpiling outside the limits of construction.

Temporary Impact Attenuators will be measured as each for each attenuator supplied on the job as specified in the plans, and shall include the cost of renting/owning the attenuator for the time required on the job plus hauling to and from the project site, as well as one placement and removal from the roadway. This shall be paid for at the contract unit price per Each for IMPACT ATTENUATORS, TEMPORARY of the type specified.

Relocate Temporary Impact Attenuators will be paid for as Each and will be paid for each time the attenuator is required by staging to be picked up and moved to a different location on the project, whether it is to another location on the roadway or to a storage/staging location for the project. This shall be paid for at the contract unit price per Each for IMPACT ATTENUATORS, RELOCATE of the type specified.

This work shall be done in accordance with Section 704 of the Standard Specifications. Temporary Concrete Barrier will be measured in feet along the centerline of the barrier and shall include the cost of renting/owning the barrier for the time required on the job plus hauling to and from the project site, as well as one placement and removal from the roadway in accordance with Section 704 of the Standard Specification. This shall be paid for at the contract unit price per Foot for TEMPORARY CONCRETE BARRIER.

Relocate Temporary Concrete Barrier will be paid for in Feet along the centerline of the barrier, and will be paid for each time the barrier is required by staging to be picked up and moved to a different location on the project, whether it is to another location on the roadway or to a storage/staging location for the project. This shall be paid for at the contract unit price per Foot for RELOCATE TEMPORARY CONCRETE BARRIER.

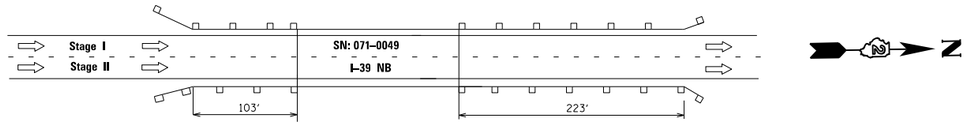
The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123.

*Specialty Items

USER NAME = bperkins	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	Summary of Quantities
PLOT SCALE = 143.1865 ' / in.	CHECKED -	REVISED -	
PLOT DATE = Mon Dec 03 07:50:36 2012	DATE -	REVISED -	

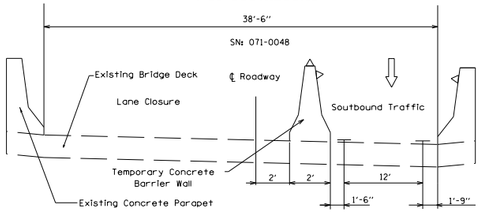
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-39	02 Deck Repair 2013-3	OGLE	18	2
	ILLINOIS	CONTRACT NO. 64H95		

Traffic Control Plan



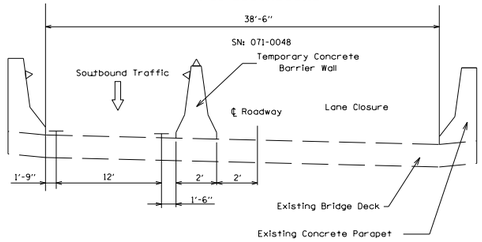
STAGE I

I–39 SOUTHBOUND



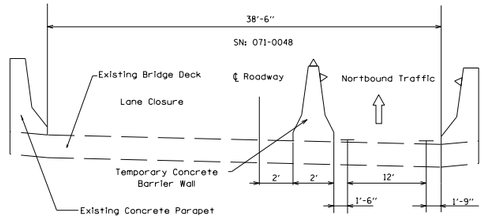
STAGE II

I–39 SOUTHBOUND



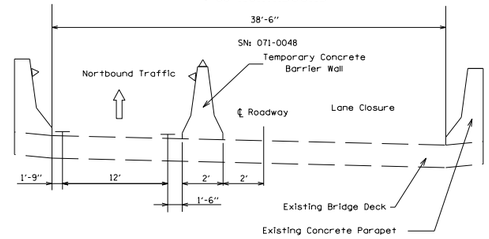
STAGE I

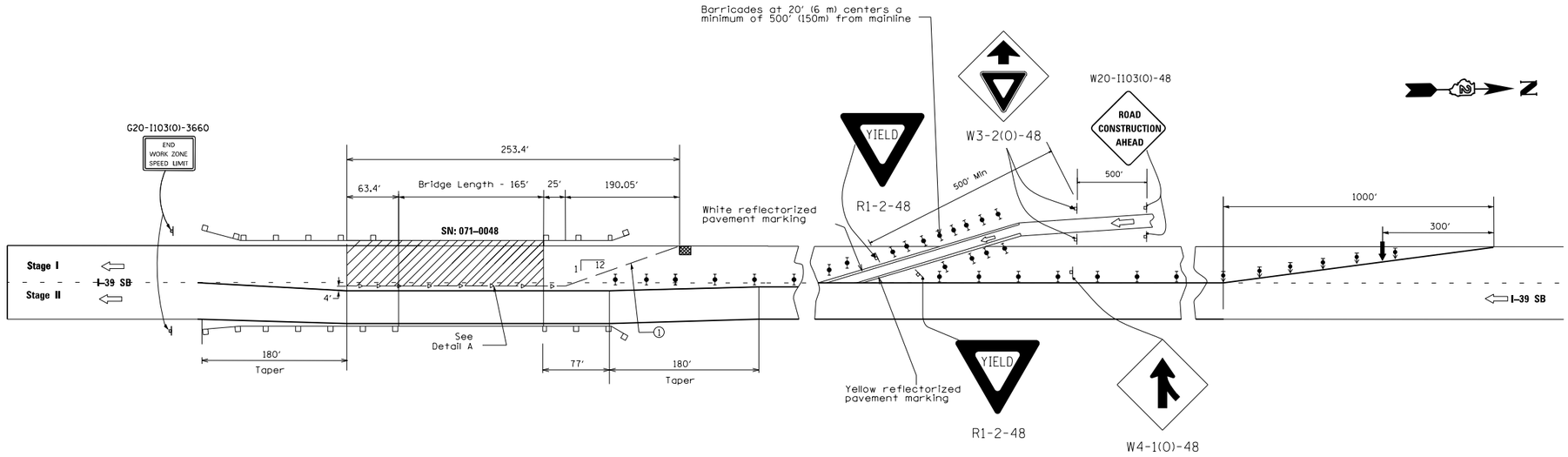
I–39 NORTHBOUND



STAGE II

I–39 NORTHBOUND





SYMBOLS

- Arrow board
- Work area
- Sign. See symbols details in Standard 701411-08
- Direction indicator barricade with steady burn monodirectional light
- Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Temporary concrete barrier
- Type C Monodirectional reflector
- Impact attenuator
- Sand Module Impact attenuator

NOTES:

① Temporary pavement marking-Line 4" shall be placed throughout the tapers and along of the lines closures. Line should be white on the right side and yellow on the left side of the moving traffic.

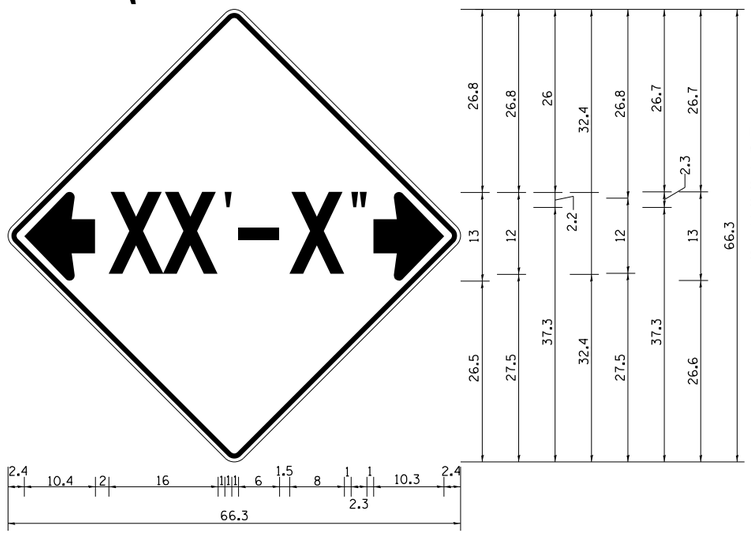
② On SN: 071-0048 for stage II construction and for SN: 071-0049 stages I, II construction use traffic control standard 701402

③ See Traffic Control Standards 701400 and 701402 for additional signs, devices and other items

DESIGNED -	DATE -	**STATE OF ILLINOIS**	
CHECKED -		**DEPARTMENT OF TRANSPORTATION**	
DRAWN -	REVISED		
CHECKED -	REVISED		

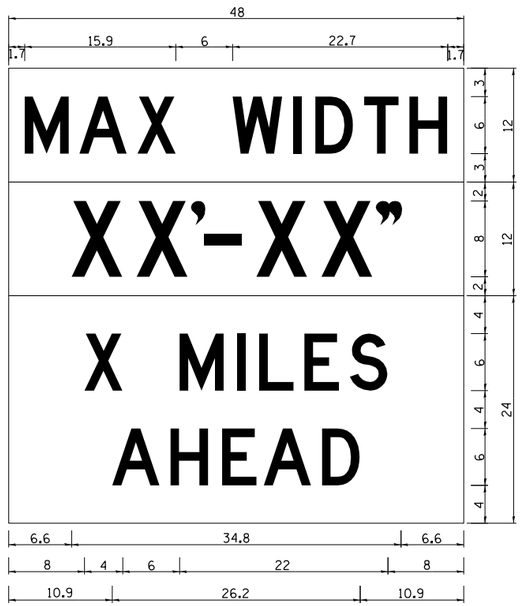
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-39	D2 Deck Repair 2013-3	OGLE	18	3
		CONTRACT NO. 64H95		
	ILLINOIS			

INFORMATIONAL WARNING SIGN (FOR NARROW TRAVEL LANES)



NOTES

W12-2 - Horizontal Clearance Sign 48.0" across sides, 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange; Standard Arrow Custom 10.4" X 8.1" 180° Black 11 Inch D Series Lettering; Standard Arrow Custom 10.4" X 8.1" 0°



W12-I103 (Width is 8D);
No border, Black on White;
[MAX WIDTH] D;

No border, Black on Orange;
[XX'-XX"] D;

No border, Black on White;
[X MILES] D; [AHEAD] D;

All work to furnish and install these signs shall be included in the cost of the Traffic Control Standards and shall not be paid for separately.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

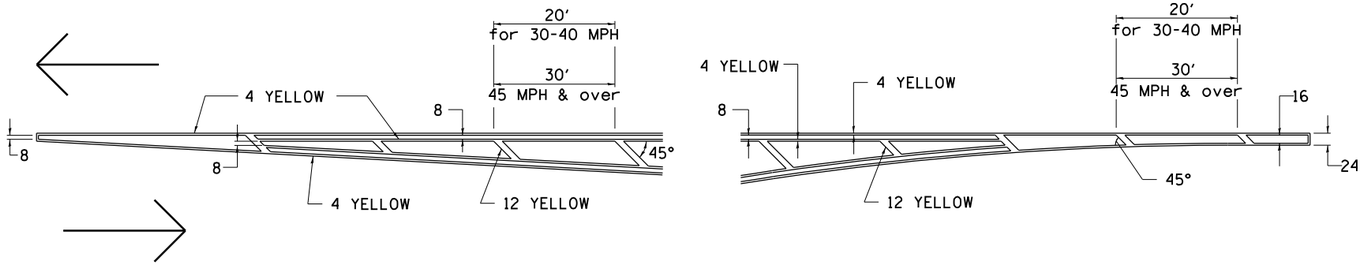
REVISED - 5-15-09

INFORMATIONAL WARNING SIGNS (FOR NARROW TRAVEL LANES) 39.2

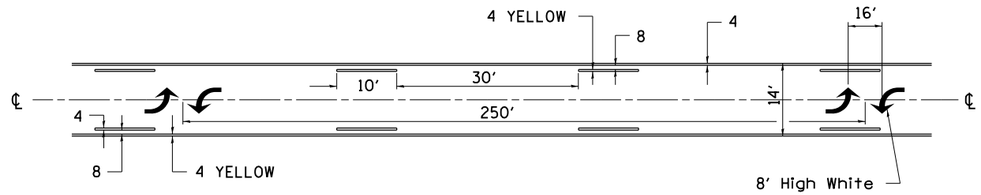
DESIGNED -	DATE -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED -				I-39	D2 Deck Repair 2013-3	OGLE	18	4
DRAWN -	REVISED					CONTRACT NO. 64H95		
CHECKED -	REVISED					ILLINOIS		

TYPICAL PAVEMENT MARKINGS

TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN AT LEFT TURN LANE

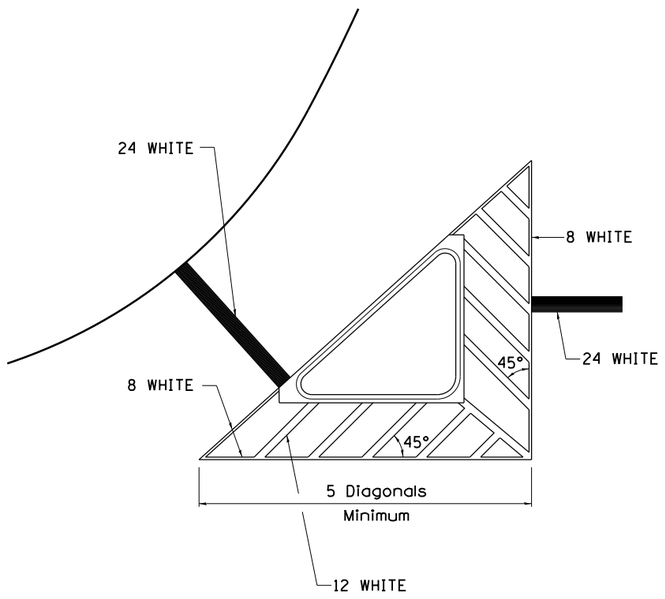


MEDIAN PAVEMENT MARKING

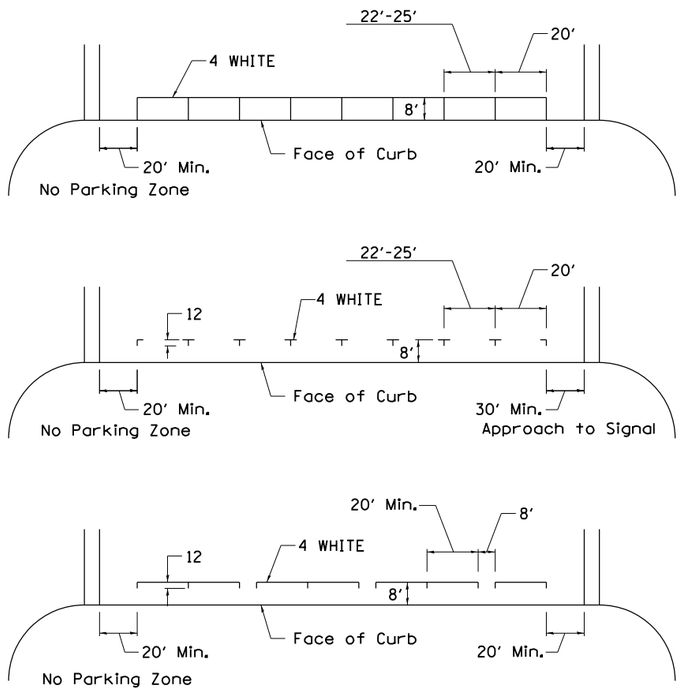


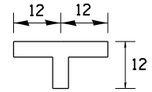
•• ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

TYPICAL ISLAND OFFSET SHOULDER WIDTH



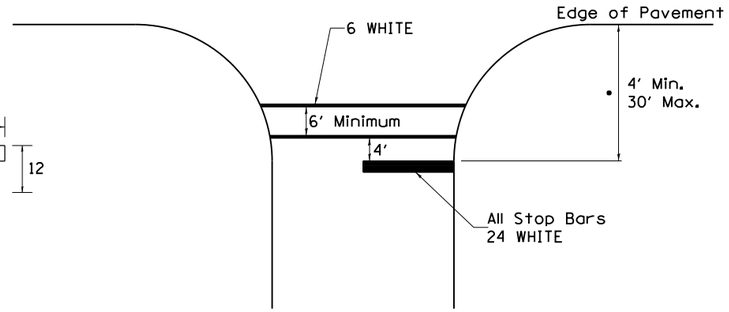
TYPICAL PARKING SPACING





STANDARD CROSSWALK MARKING

See Schedules for Locations



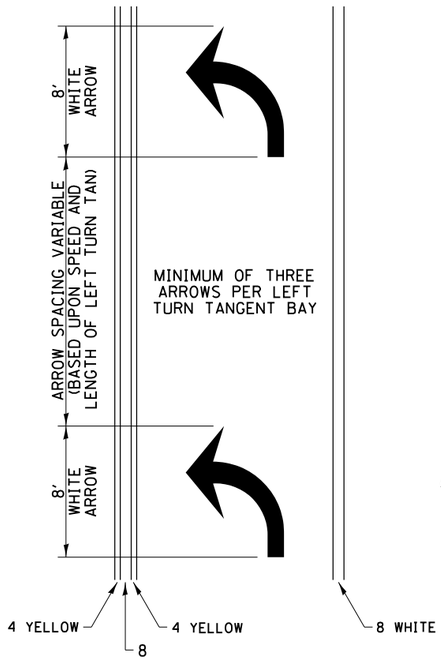
• Distance to the nearest edge of the intersecting roadway in the absence of a marked crosswalk.

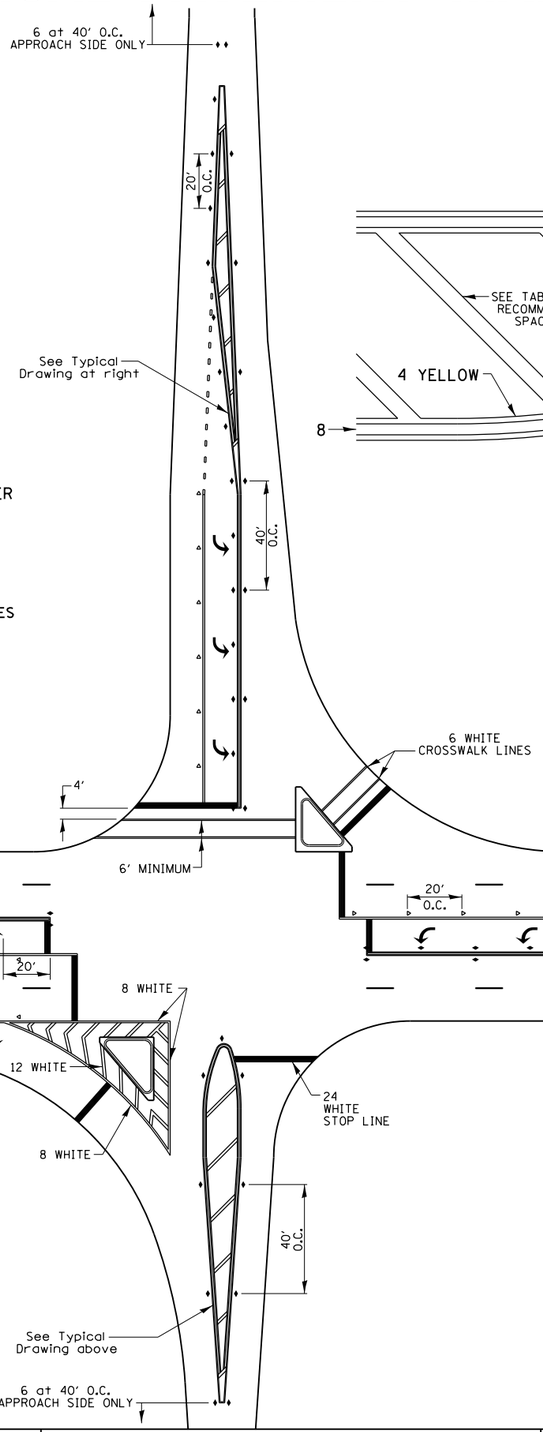
TYPICAL PAVEMENT MARKINGS SHEET 1 OF 3 41.1

USER NAME = bortesc	DESIGNED -	REVISED - 3-5-12	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			I-39	D2 Deck Repair 2013-3	OGLE	18	5
PLOT SCALE = 12000.024 ' / in.	CHECKED -	REVISED -					CONTRACT NO.64H98		
PLOT DATE = Wed Nov 14 12:05:11 2012	DATE -	REVISED -					ILLINOIS		

TYPICAL PAVEMENT MARKINGS

ARROW LAYOUT





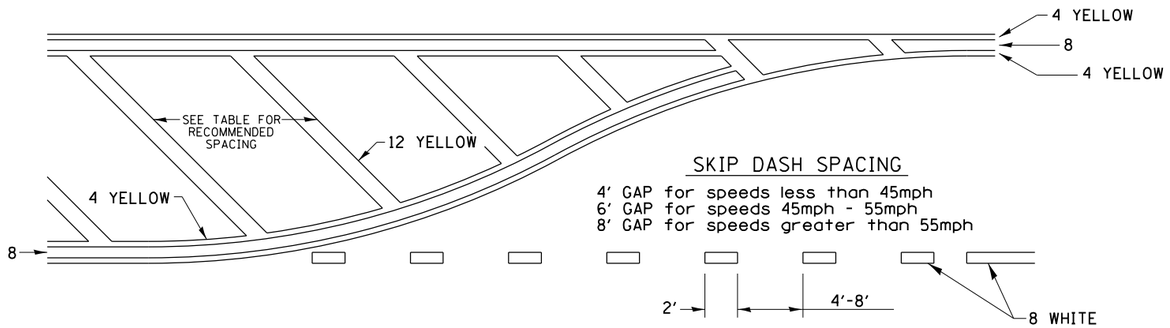
◀ ONE-WAY AMBER MARKER

◁ ONE-WAY CRYSTAL MARKER

◆ TWO-WAY AMBER MARKER

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

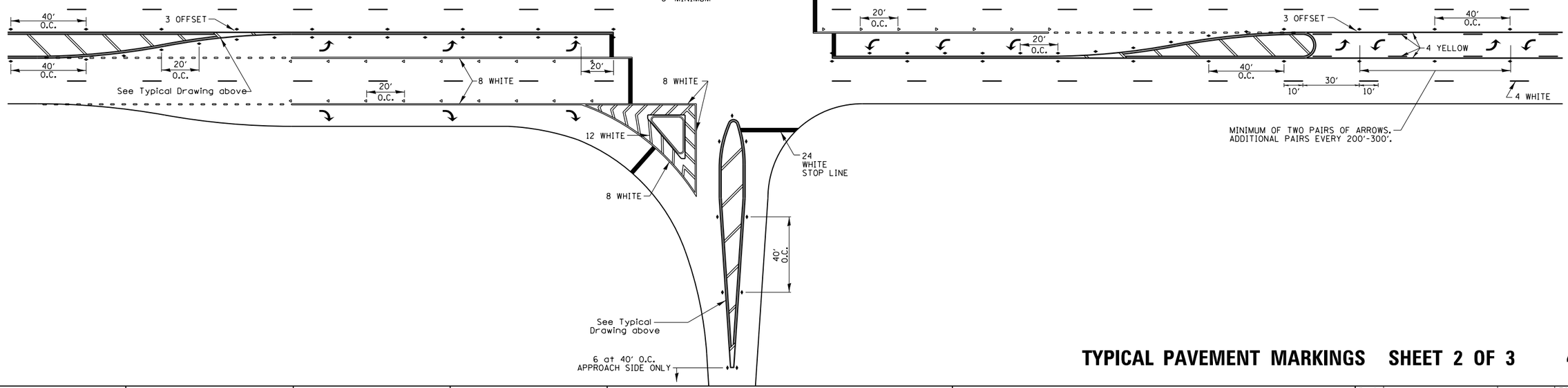
TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN



RECOMMENDED SPACING BETWEEN DIAGONALS (IN FEET)

Speed Limit Range	Continuous Median Area	Intersection Channelization	Objects (Islands)
less than 30MPH	50'	15'	10'
30-40MPH	75'	20'	15'
45MPH & over	75'	30'	20'

NOTE: if the spacing recommended in the Table does not permit at least five diagonal lines in the area being marked, the spacing from the next lowest speed range should be used. The recommended spacing is measured parallel to the pavement center line.

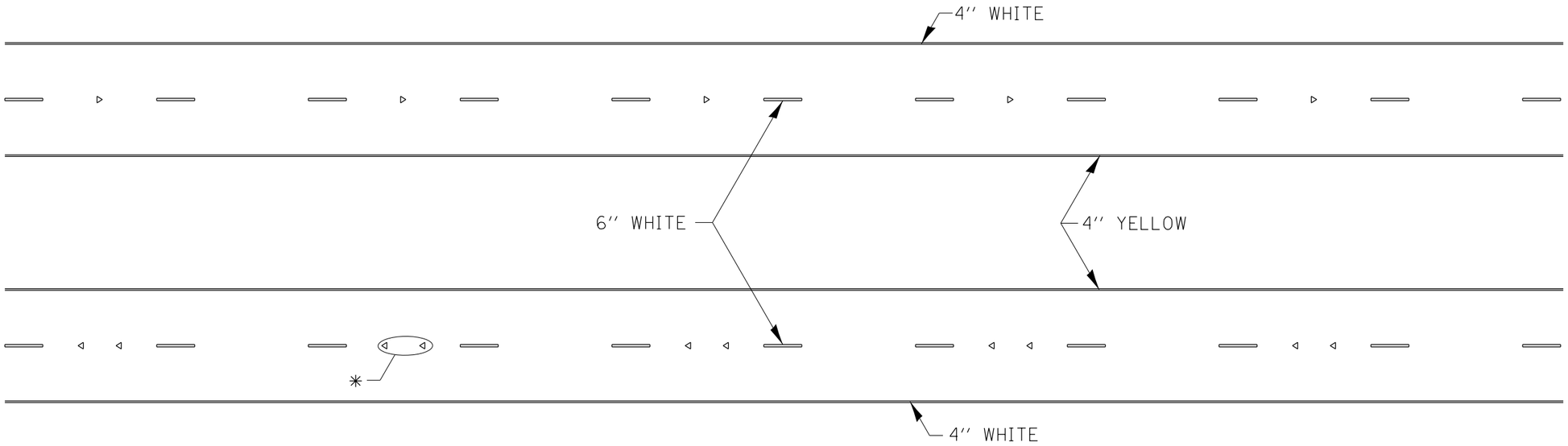


TYPICAL PAVEMENT MARKINGS SHEET 2 OF 3 41.1

USER NAME = bortesc	DESIGNED -	REVISED - 3-5-12	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	
	DRAWN -	REVISED -			
PLOT SCALE = 12000.024 ' / in.	CHECKED -	REVISED -			
PLOT DATE = Wed Nov 14 12:05:55 2012	DATE -	REVISED -			

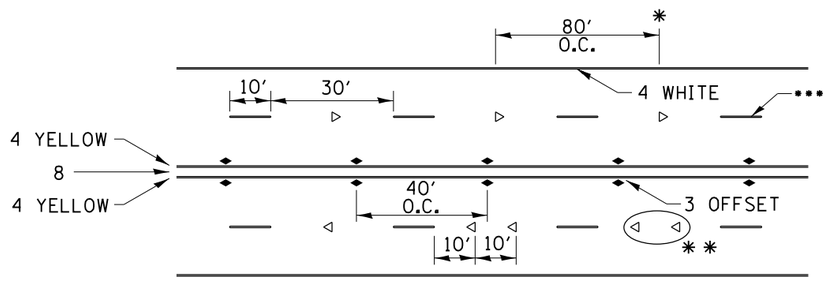
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-39	D2 Deck Repair 2013-3	OGLE	18	6
		CONTRACT NO.64H98		
	ILLINOIS			

TYPICAL PAVEMENT MARKINGS



✳ SEE HIGHWAY STANDARD 781001 FOR SPACING DETAILS.
USE DOUBLE MARKERS WHEN ADT ≥ 20,000.

MULTI–LANE / DIVIDED



SYMBOLS

• REDUCE TO 40' O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH LOWER THAN POSTED SPEEDS.

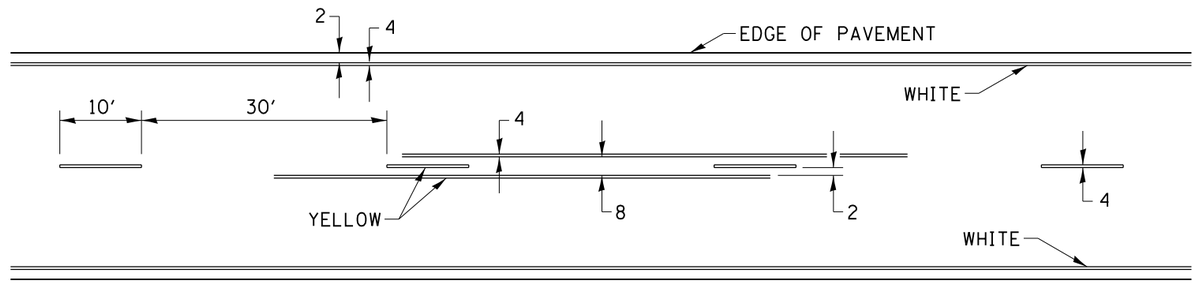
•• USE DOUBLE MARKERS WHEN ADT ≥ 20,000

••• CENTERLINE SKIP DASH PAVEMENT MARKING SPEED LIMIT LESS THAN 40 MPH USE 4'' LINE SPEED LIMIT 40 MPH AND OVER USE 6'' LINE

MULTI–LANE / UNDIVIDED & ONE WAY

(FOR MULTI-LANE UNDIVIDED HIGHWAYS USE THIS DETAIL NOT HIGHWAY STANDARD 781001)

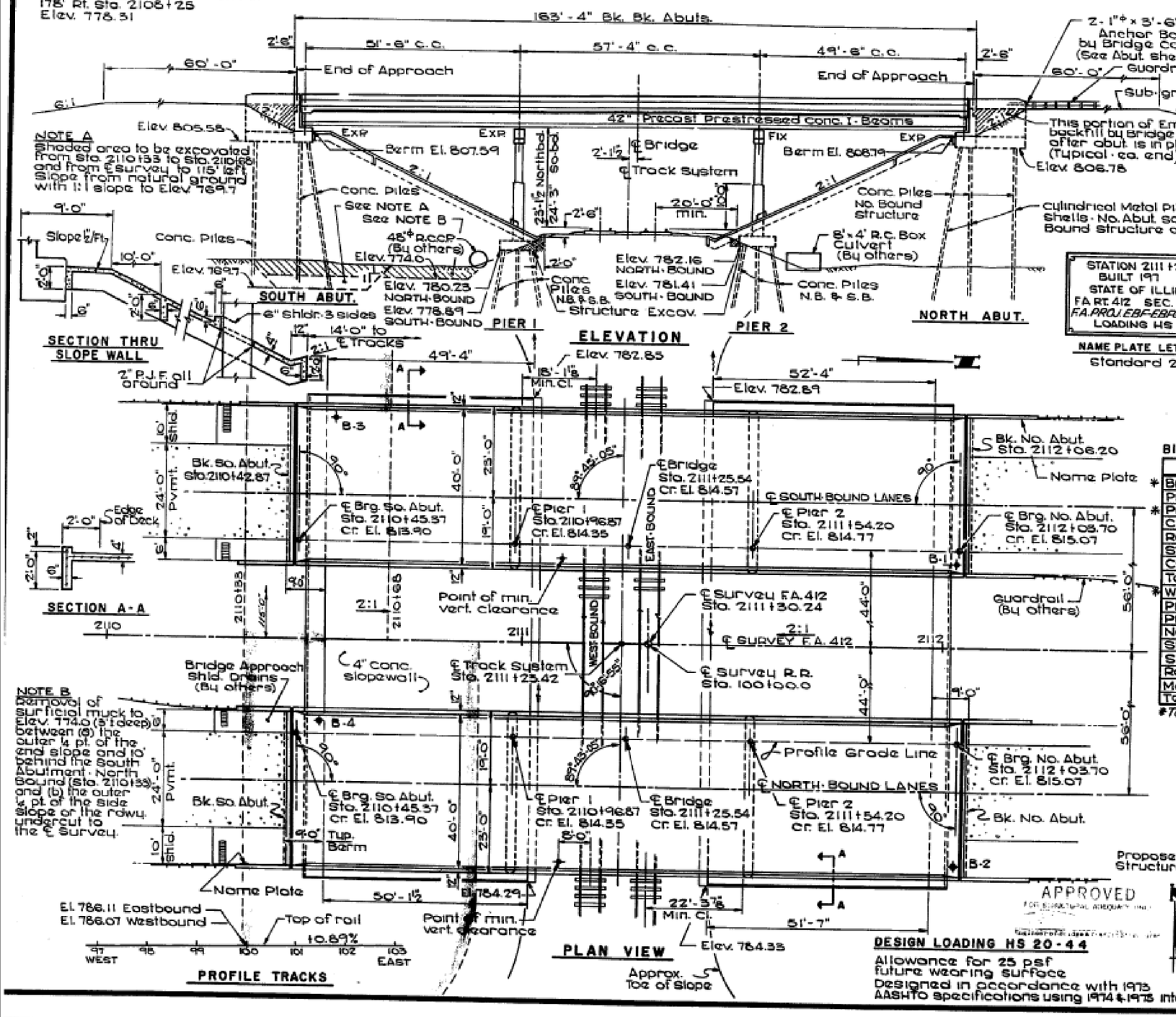
TYPICAL PAVEMENT MARKING FOR TWO LANE SECTION – NO PASSING ZONES



TYPICAL PAVEMENT MARKINGS SHEET 3 OF 3 41.1

USER NAME = bortesc	DESIGNED -	REVISED - 3-5-12	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			1-39	D2 Deck Repair 2013-3	OGLE	18	7
PLOT SCALE = 12000.024 ' / in.	CHECKED -	REVISED -					CONTRACT NO. 64H98		
PLOT DATE = Fri Nov 30 07:55:22 2012	DATE -	REVISED -					ILLINOIS		

BENCH MARK Top ¾" Iron Pin
178' Rt. Sta. 2108+25
Elev. 778.51



PROFILE FA 412

GENERAL NOTES

All structural steel shall be shop painted with two coats of basic lead silico chromate paint.

Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, weighing 58 lbs. per 100 sq. ft.

The Contractor shall drive one Test Pile (as specified in a permanent location at each Abutment and each Pier as directed by the Engineer before ordering the remainder of piles.

Concrete piles at abutments shall be driven in holes precored through the embankment in accordance with Article 513.09 (c) of the Standard Specifications.

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

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of class X concrete, except the aggregates shall conform to the requirements of Handrail concrete.

Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

For Boring Data see Special Provisions.

Above elevation 771.9, coat Pile Shells at N. Abut. - So. Bound with 1 millimeter asphalt cement or M.C. or S.C. asphalt.

All deck reinforcement bars shall conform to the requirements of AASHTO M 31 or M 53 Grade 60.

BILL OF MATERIAL - 2 STRUCTURES

	ITEM	UNIT	SUB.	SUPER.	TOTAL
*	Bituminous Conc. Surf. Course, Mixture D, Class I	Tons		114	114
	Precast Prestressed Concrete I Bms. 42"	Lin. Ft.		1908	1908
*	Protective Coat	Sq. Yds.		304	304
	Class X Concrete	Cu. Yds.	528.1	451.0	979.1
	Reinforcement Bars	Lbs.	55,310	104,640	159,950
	Structural Steel	Lbs.		10440	10440
	Concrete Piles	Lin. Ft.	4778		4778
	Test Piles - Concrete	Each	7		7
	Waterproofing Membrane System	Sq. Yds.		1365	1365
	Preformed Joint Sealer - 4"	Lin. Ft.		54	54
	Preformed Joint Sealer - 2½	Lin. Ft.		54	54
	Name Plates	Each	2		2
	Slope Wall - 4"	Sq. Yds.	2437		2437
	Structure Excavation	Cu. Yds.	60		60
	Railroad Protective Services				
	Metal Pile Shells	Lin. Ft.	720		720
	Test Piles - Metal Shell	Ea.	1		1

**To be constructed under the paving contract.*

DESIGN STRESSES

FIELD UNITS

fc = 1,400 psi Except as follows
f'c = 1,000 psi Abutment
fs = 20,000 psi Struct. Steel
fs = 20,000 psi Reinforcement (Sub)
Vc = 56 psi Footings
n = 10

PRESTRESSED UNITS

f'c = 5,000 psi
f'ci = 4,000 psi
f's = 270,000 psi
f'si = 189,000 psi

DECK SLAB - LOAD FACTOR DESIGN

f'c = 3500 psi
fy = 60,000 psi
n = 8.5

DESIGN LOADING HS 20-44
Allowance for 25 psf future wearing surface
Designed in accordance with 1973 AASHTO specifications using 1974 & 1975 interims

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Proposed Structures
R. 2 E. of 3rd P.M.
T. 42 N.
FA 412
ILL. RT. 72
C.M.St.P.&P.R.
MONROE CENTER
20
21
29
28
LOCATION MAP

GENERAL PLAN AND ELEVATION
FA RTE. 412 SECTION 141-3VB
OVER C. M. ST. P. & P. R. R.
- OGLE COUNTY
STATION 2111+25.54

LAYOUT BY: D.J. PHOENIX DATE DEC. 1975
DRAWN BY: B. THOMPSON DATE NOV. 1975
CHECKED BY: D.E. HUFFMAN DATE DEC. 1975
APPROVED BY: DATE 6-24-76

PREPARED BY
WILLETT, HOFFMANN & ASSOCIATES INC.
CONSULTING ENGINEERS
DIXON, ILLINOIS

Revised 4-28-76

F.A. RTE. NO.	SECTION 141-3 A, VB, VB, VB-1	TOTAL SHEETS	SHEET NO.
412	COUNTY OGLE	306	58
ILLINOIS PROJECT			

DESIGNED -		DATE -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED -				I-39	D2 Deck Repair 2013-3	OGLE	18	8
DRAWN -		REVISED						
CHECKED -		REVISED				CONTRACT NO. 64H95		
						ILLINOIS		

F.A. RTE. NO.	SECTION 141-3 & VB, VB, 4B, 4B-1	TOTAL SHEETS	SHEET NO.
412	COUNTY OGLE	508	162
ILLINOIS PROJECT			

159'-11½" c to c Deck

160 - #4 d bars @ 12" cts. Outside Face

4-#5 d2 @ 12" ctr

152 - #5 d1 bars @ 12" cts. Inside Face

2-#8 b4 2 lengths each side

2-#8 b7

2-#8 b8

2-#5 b10 2 lengths each side

2-#5 b9

2-#5 b14

2-#5 b11 2 lengths each side

2-#8 b5 2 lengths each side

2-#8 b8

2-#8 b9

2-#8 b6 2 lengths each side

1½ø Drain Holes (See Note)

2-#5 b15 2-#5 b12 2 lengths each side

116 - #6 a1 @ 16" cts. lap to 116 - #6 a & Alt with a5 bars

℄ PIER 2-STA. 2111+54.20

℄ NORTH-BOUND LANES

115 - #6 a5 @ 16" cts. TOP

115 - #6 a5 @ 16" cts. BOTT.

a3 or a4 See opposite end

1½"x4"x4" Armor Angle

℄ BRG. N. ABUT. STA. 2112+08.70

42'-0"

3'-3"

1'-10"

2¼"

BAR d

1¾ @ 50°

1½"x4"x6" Armor Angle

℄ BRG. S. ABUT. STA. 2110+45.37

℄ BRG.

18'-0"

22'-0"

65 - #6 X bars @ 6" cts. between beams See Sheet 6

2'-6"

6"

2¾" @ 50°

a

6-#7 a3 bars @ 6" cts. Top

5-#6 a4 bars @ 6" cts.

See "Section At Abutment" Sheet 6

℄ PIER 1-STA. 2110+96.57

30°

38-#6 b1 @ 12" Top between b bars

30-#6 b2 Bott. Space as shown in Cross-Section 5 lengths-min. lap 1'-9"

39-#5 b @ 12" cts. Top 6 lengths-min. lap 1'-5"

38-#6 b2 @ 12" cts. Top between b bars

12'-9"

14'-0"

13'-8"

12'-6"

116 - #6 a2 bar @ 16" Top each side

6'-5"

7'-2"

2-#6 b1 Top each side

2-#6 b2 Top. ea. side

7'-2"

6'-2"

Construction joints in curb to top of slab (⅛" Aluminum sheets)

52'-3¼"

57'-4"

50'-4¼"

3-#5 b Top-ea. side (6 lengths)

PLAN VIEW

NOTE

Shown below are the min. lops for curb bars.
#5 bars 1'-5"
#6 bars 1'-9"
#8 bars 4'-2"

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a	116	#6	22'-1"	
a1	116	#6	21'-3"	
a2	232	#6	4'-0"	
a3	12	#7	40'-0"	
a4	50	#6	6'-4"	
a5	230	#6	40'-0"	
b	306	#5	27'-9"	
b1	42	#6	28'-9"	
b2	42	#6	28'-2"	
b3	150	#6	35'-3"	
b4	8	#8	24'-10"	
b5	8	#8	25'-5"	
b6	8	#8	24'-0"	
b7	4	#8	6'-2"	
b8	8	#8	6'-11"	
b9	4	#8	5'-11"	
b10	8	#5	23'-6"	
b11	8	#5	22'-1"	
b12	8	#5	22'-8"	
b13	4	#5	6'-2"	
b14	8	#5	6'-11"	
b15	4	#5	5'-11"	
d	320	#4	5'-1"	
d1	304	#5	4'-0"	
d2	16	#5	4'-9"	
m	40	#4	6'-3"	*
m2	20	#6	5'-0"	*
s	50	#4	10'-4"	*
x	130	#6	8'-0"	*
Class X Concrete Cu Yds.			212.9	
Reinforcement Bars Lbs.			51060	

*Bars shown on sheet 6

56'-0" to ℄ Survey FA 412

42'-0" o. to o. Deck

40'-0" face to face Parapet

12" 9" 5'-3" slope ¼"/ft. 12'-0" slope 3/16"/ft. 12'-0" slope 3/16"/ft. 9'-3" slope ¼"/ft. 9" 12"

2" 7" 3" 7" 2"

TOTAL DROP = 3 9/16"

TOTAL DROP = 4 9/16"

℄ NORTH-BOUND LANES

Grade Reference Point

1½ Bituminous conc. Surf. Course, Class I and waterproofing Membrane System

7½ Slab

b7 b8 or b9

b13 b14 or b15

b1 or b2

b or b1 or b2

a1

a5

a

a2

d1 d

c thru e5

b4 b5 b6

b10 b11 or b12

b

6-#6 b3 @ 12" Typical

1 2 3 4 5 6

2'-11¾" 5 Spaces @ 7'-2½" = 36'-0½" 2'-11¾"

NEAR PIER

CROSS SECTION LOOKING NORTH

MID SPAN

NOTE

For placement of bars a thru a5 see sheet 7

All edges shall have ¾" chamfers

1½ø Drain Holes See Note below a2

¾ Drip Notch Full length

1'-9" 9" 3" 7" 2"

2'-11" 1'-5" 1'-1" d1 d 1½" 1½"

PARAPET 1'-5" 1'-4½" 9" 2" 2½"

3'-3"

Bonded Constr. Jt. (Optional)

⅛ Aluminum Sheet ASTM: B 209 alloy 3003-H14 (cast incidental

Bonded Constr. Jt. (Mandatory)

2'-11¾"

CURB SECTION

4'-6" 2'-3" 1'-3"

BAR X

20'-7⅞" 3'-8½" 4 2'-11" 4 3'-7½" 4 2'-11" 4 3'-7½" 4 2'-2"

BAR a1

BAR a 10° 3'-0" 4 3'-7½" 4 2'-11" 4 3'-7½" 4 2'-11" 4 3'-8½" 4 21'-5¾"

BAR d1

2½ 3" 12" 1'-6" 2'-0" 6" 1'-3"

BAR d2 2'-0" 1'-6"

2'-6" 1'-6"

BAR a2

NOTE

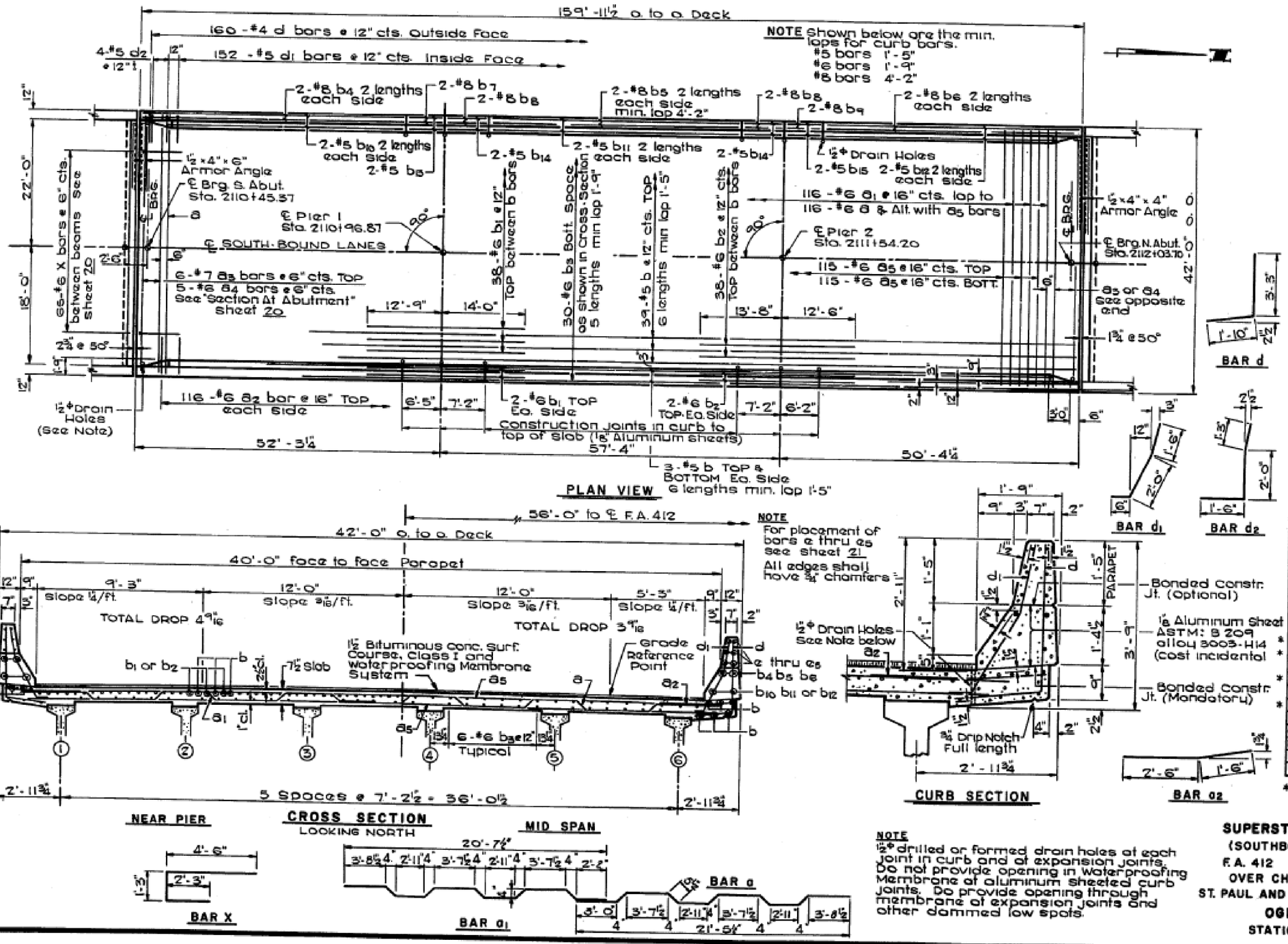
½ø drilled or formed drain holes at each joint in curb and at expansion joints. Do not provide opening in waterproofing Membrane at aluminum sheeted curb joints. Do provide opening through membrane at expansion joints and other dammed low spots.

SUPERSTRUCTURE DETAILS
(NORTHBOUND STRUCTURE)
F. A. 412 SECTION 141-3VB
OVER CHICAGO, MILWAUKEE ST. PAUL AND PACIFIC RAILROAD CO.
OGLE COUNTY
STATION 2111+25.54

DESIGNED -		DATE -			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED -					I-39	D2 Deck Repair 2013-3	OGLE	18	9
DRAWN -		REVISED						CONTRACT NO. 64H95	
CHECKED -		REVISED					ILLINOIS		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. RTE. NO.	SECTION 141-3 A, VB, HB, HB-1	TOTAL SHEETS	SHEET NO.
412	COUNTY OGLE	306	76
ILLINOIS PROJECT			



NOTE
For placement of bars a thru a5 see sheet 21
All edges shall have ¾" chamfers

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a	116	#6	22'-1"	
a1	116	#6	21'-3"	
a2	232	#6	4'-0"	
a3	12	#7	40'-0"	
a4	50	#6	6'-4"	
a5	230	#6	40'-0"	
b	306	#5	27'-9"	
b1	42	#6	26'-9"	
b2	42	#6	26'-2"	
b3	150	#6	39'-8"	
b4	8	#8	24'-10"	
b5	8	#8	23'-5"	
b6	8	#8	24'-0"	
b7	4	#8	6'-2"	
b8	8	#8	6'-11"	
b9	4	#8	5'-11"	
b10	8	#5	23'-6"	
b11	8	#5	22'-1"	
b12	8	#5	22'-8"	
b13	4	#5	6'-2"	
b14	8	#5	6'-11"	
b15	4	#5	5'-11"	
d	320	#4	5'-1"	
d1	304	#5	4'-0"	
d2	16	#5	4'-9"	
m	40	#4	6'-3"	—
m2	20	#6	5'-0"	—
s	50	#4	10'-4"	
X	150	#6	8'-0"	
Class X Concrete Cu Yds.				212.9
Reinforcement Bars Lbs.				51060

*Bars shown on sheet 20

NOTE
½"ϕ drilled or formed drain holes at each joint in curb and at expansion joints. Do not provide opening in waterproofing Membrane at aluminum sheeted curb joints. Do provide opening through membrane at expansion joints and other dammed low spots.

SUPERSTRUCTURE DETAILS
(SOUTHBOUND STRUCTURE)
F. A. 412 SECTION 141-3VB
OVER CHICAGO, MILWAUKEE ST. PAUL AND PACIFIC RAILROAD CO.
OGLE COUNTY
STATION 2111+25.54

DESIGNED -		DATE -			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED -					I-39	D2 Deck Repair 2013-3	OGLE	18	10
DRAWN -		REVISED					CONTRACT NO. 64H95		
CHECKED -		REVISED					ILLINOIS		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

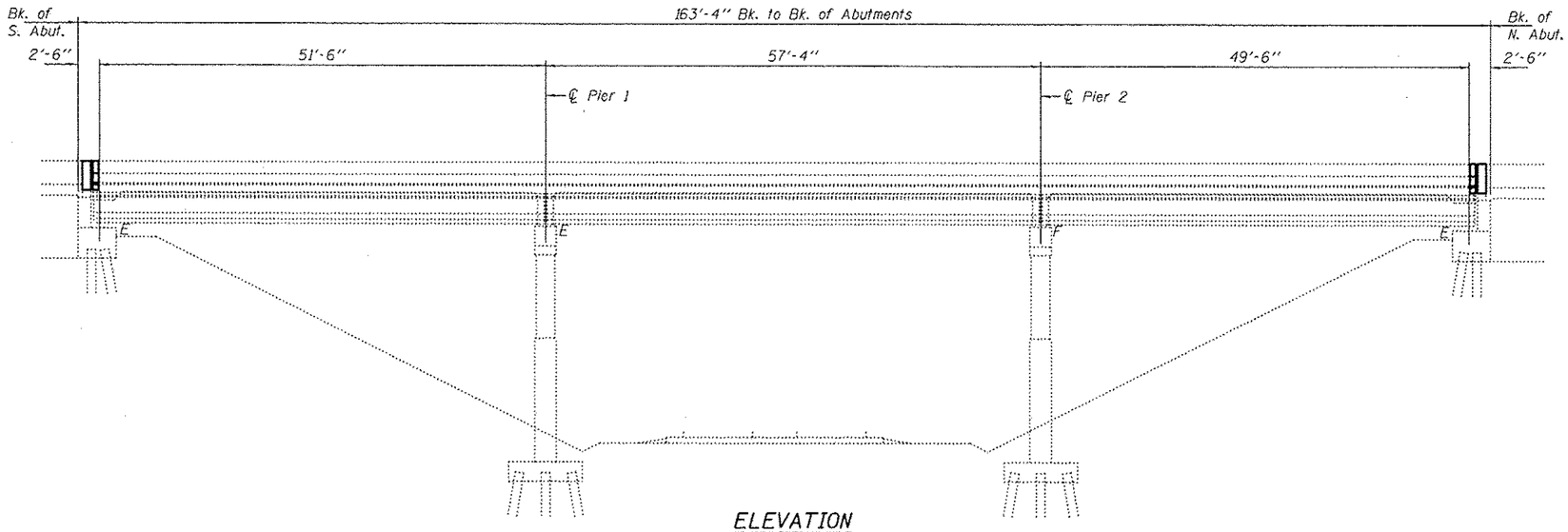
Reinforcement bars designated (E) shall be epoxy coated.

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.

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.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructures.



ELEVATION

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
Prestressed Concrete
f'c = 5,000 psi

TOTAL BILL OF MATERIAL

	ITEM	UNIT	QUANTITY
	Concrete Removal	Cu. Yd.	8.0
	Concrete Superstructure	Cu. Yd.	8.0
	Preformed Joint Strip Seal	Foot	164
	Reinforcement Bars, Epoxy Coated	Pound	1100
	Bar Splicers	Each	16
*	Protective Coat	Sq. Yd.	34.4
	Structural Repair of Concrete ≤ 5 inches	Sq. Ft.	38.5
	Polymer Modified Portland Cement Mortar	Sq. Ft.	67.5

* New Concrete Only

LICENSED STRUCTURAL ENGINEER
DAVID CARL PUZEY
081-005470
SPRINGFIELD ILLINOIS
STATE OF ILLINOIS

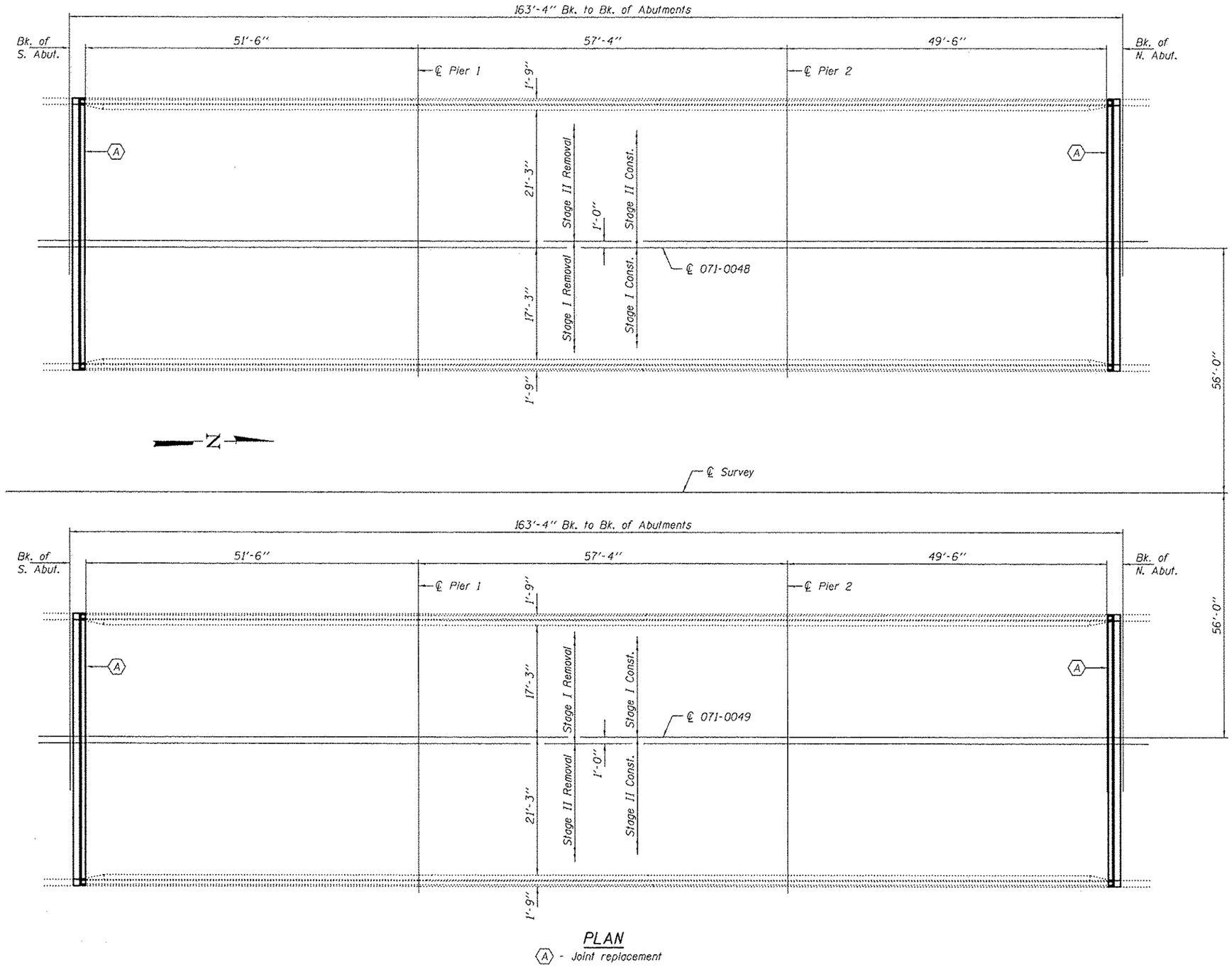
EXPIRES 11-30-2014

DESIGNED	Irwin Lopez JHJ	EXAMINED	Timothy A. Sombrecht PE, ACTING ENGINEER OF STRUCTURAL SERVICES	DATE	JANUARY 28, 2013
CHECKED		PASSED	D. Carl Puzey, ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
DRAWN	Daliva			REVISED	
CHECKED	JHJ				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELEVATION
FAI 39 OVER SOO LINE RR
SN 071-0048 & 0049
SHEET NO. 1 OF 8 SHEETS

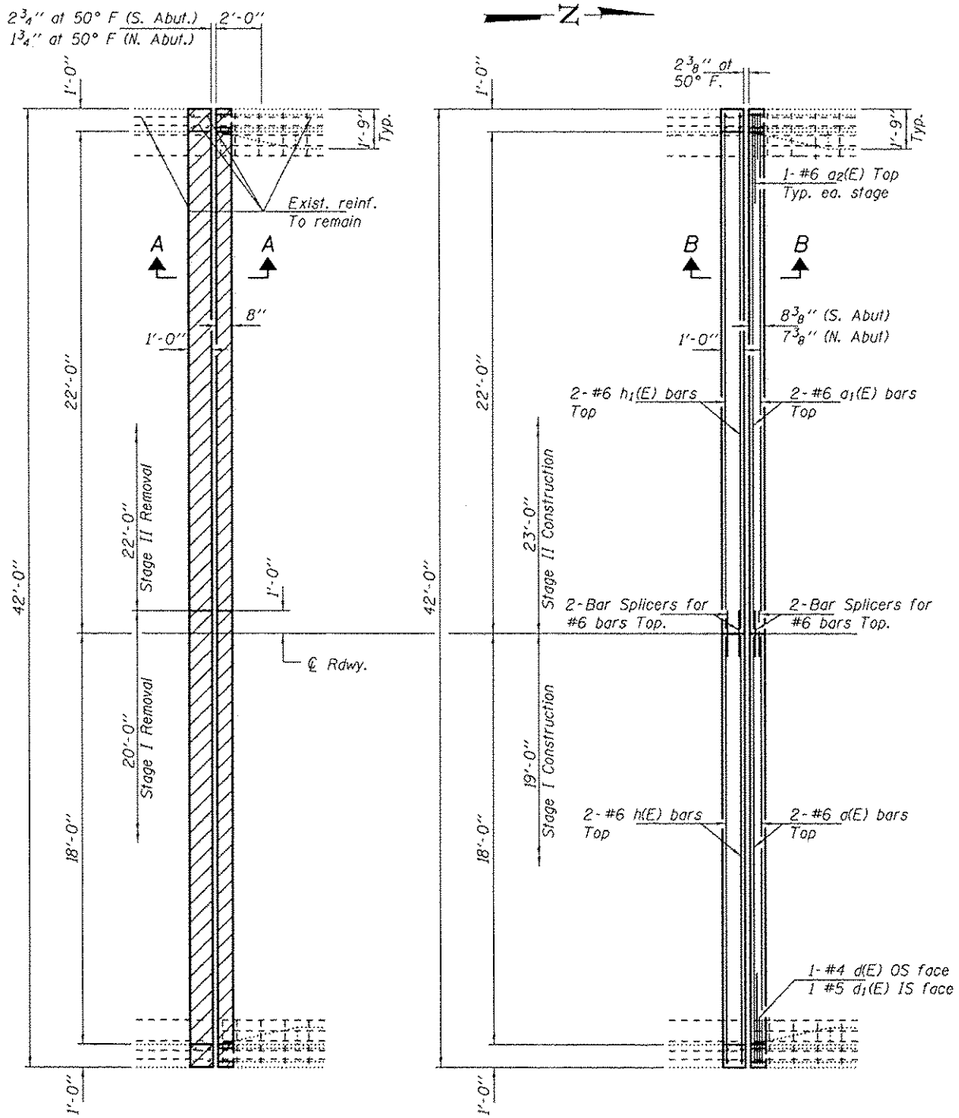
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	02 DECK REPAIR 2013-3	OGLE	18	11
		CONTRACT NO. 64H95		
	ILLINOIS FED. AID PROJECT			



PLAN

(A) - Joint replacement

DESIGNED IJL	EXAMINED	Timothy A. Anderson	DATE JANUARY 28, 2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN SN 071-0048 & 0049	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED MKC		ACTING ENGINEER OF STRUCTURAL SERVICES				39	02 DECK REPAIR 2013-3	OGLE	18	12
DRAWN baliva	PASSED	A. Carl Long	REVISED						CONTRACT NO. 64H95	
CHECKED IJL MKC		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 2 OF 8 SHEETS			ILLINOIS	FED. AID PROJECT	

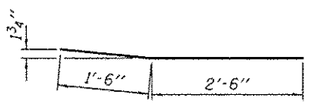


PARTIAL REMOVAL PLAN

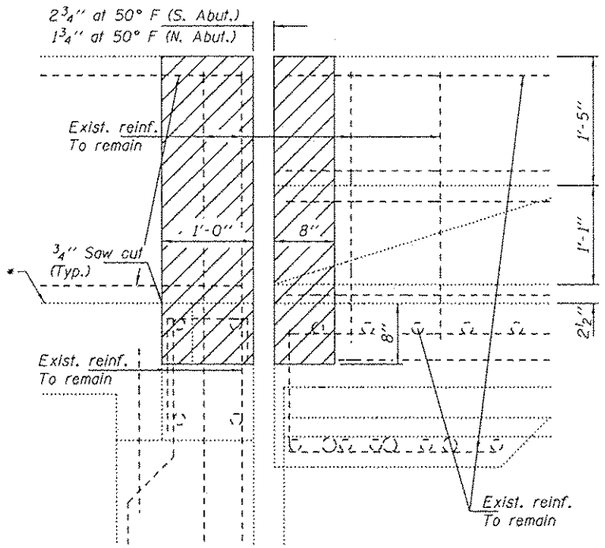
Hatched areas indicate removal.

PARTIAL REPLACEMENT PLAN

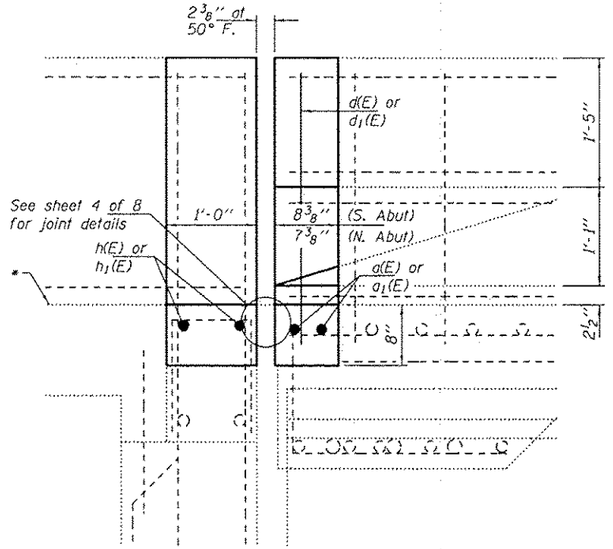
Note:
071-0048 shown.
071-0049 similar by rotation.



BAR $a_2(E)$

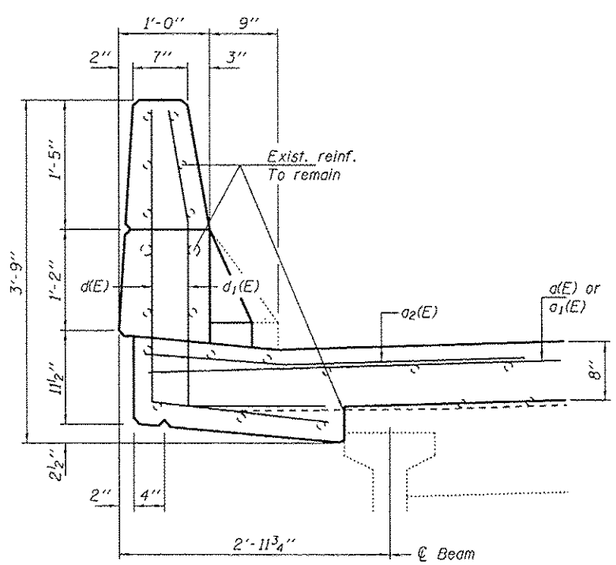


SECTION A-A

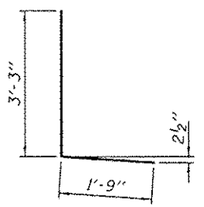


SECTION B-B

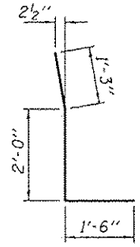
* The District will provide details for HMA removal and replacement at this location.



SECTION THRU CURB



BAR d(E)



BAR $d_1(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	8	#6	18'-8"	——
$a_1(E)$	8	#6	22'-8"	——
$a_2(E)$	8	#6	4'-0"	~
d(E)	8	#4	5'-0"	L
$d_1(E)$	8	#5	4'-9"	L
h(E)	8	#6	18'-8"	——
$h_1(E)$	8	#6	22'-8"	——
Concrete Removal			Cu. Yd.	8.0
Concrete Superstructure			Cu. Yd.	8.0
Reinforcement Bars, Epoxy Coated			Pounds	1100

DESIGNED	IJL	EXAMINED	Timothy A. Bradt
CHECKED	MKC	PASSED	A. Carl Peugy
DRAWN	baliva	DATE	JANUARY 28, 2013
CHECKED	IJL MKC	REVISED	
		REVISED	

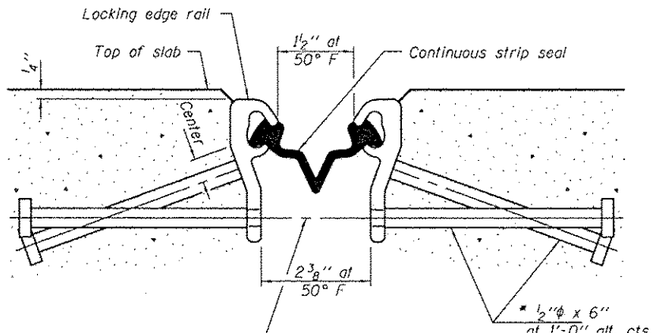
ACTING ENGINEER OF STRUCTURAL SERVICES
ACTING ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

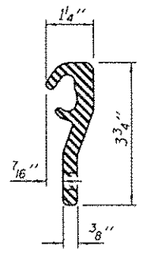
JOINT REPLACEMENT DETAILS
SN 071-0048 & 0049
SHEET NO. 3 OF 8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	02 DECK REPAIR 2013-3	OGLE	18	13
		CONTRACT NO. 64H95		
	ILLINOIS FED. AID PROJECT			

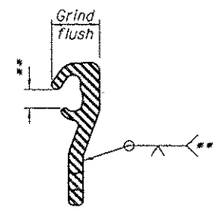
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SECTION THRU SHALLOW STRIP SEAL JOINT AT PIER 4

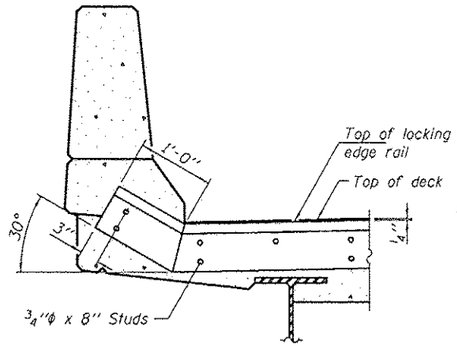


LOCKING EDGE RAIL

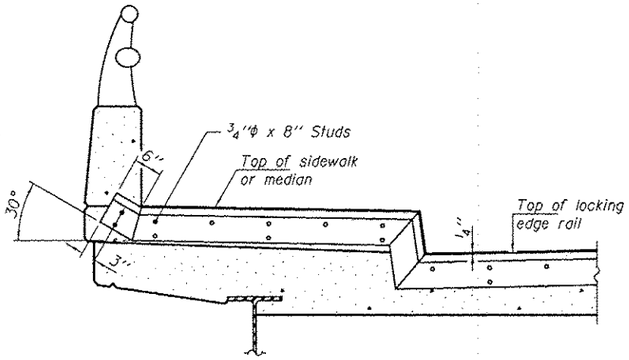


LOCKING EDGE RAIL SPLICE

** Omit weld at seat opening.

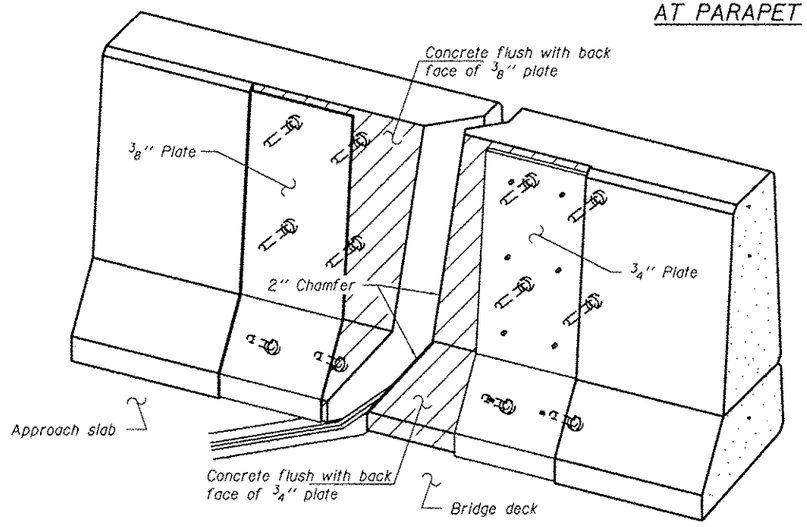


AT PARAPET

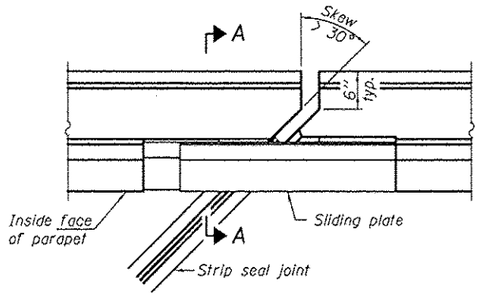


AT SIDEWALK OR MEDIAN

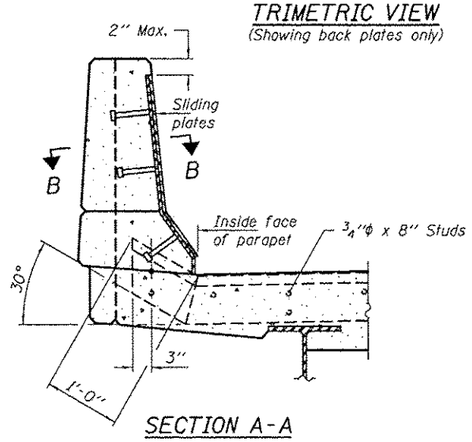
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



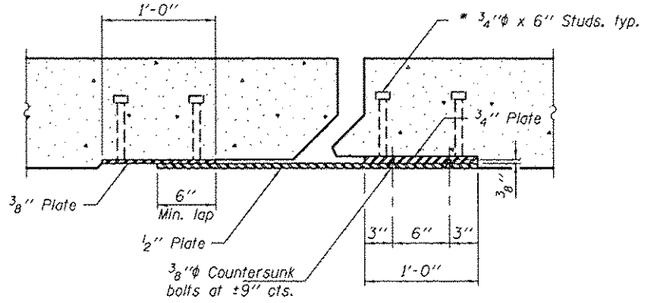
TRIMETRIC VIEW
(Showing back plates only)



PLAN



SECTION A-A



SECTION B-B

POINT BLOCK DETAILS
(for skews > 30°)

TYPICAL END TREATMENTS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

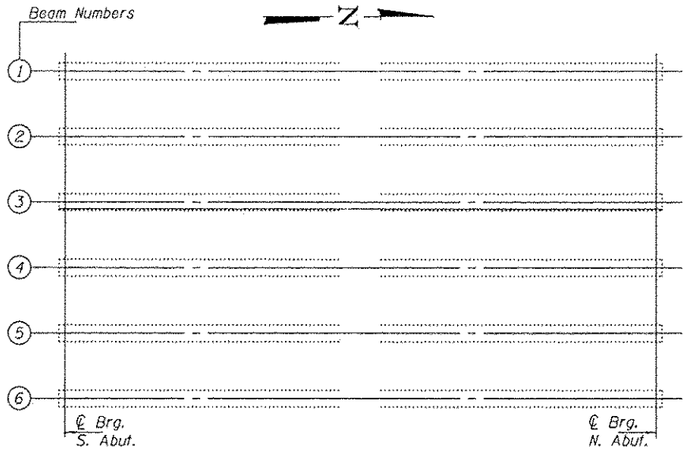
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

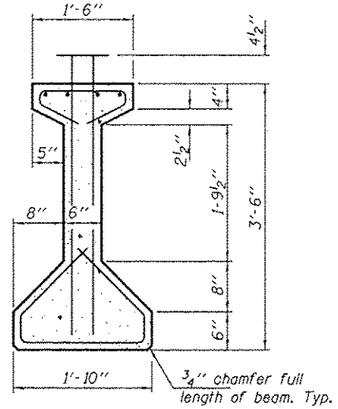
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	164

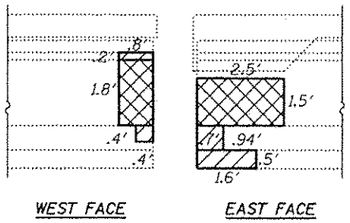
DESIGNED IJL	EXAMINED	Timothy A. Bridges ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 28, 2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PREFORMED JOINT STRIP SEAL SN 071-0048 & 0049	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED MKC	PASSED	J. Carl Tharp ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			39	02 DECK REPAIR 2013-3	OGLE	18	14
DRAWN baliva			REVISED						CONTRACT NO. 64H95	
CHECKED IJL MKC					SHEET NO. 4 OF 8 SHEETS			ILLINOIS FED. AID PROJECT		



PARTIAL FRAMING PLAN



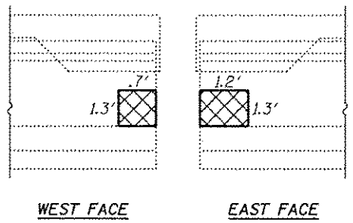
BEAM DIMENSIONS



WEST FACE

EAST FACE

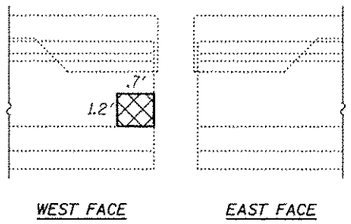
BEAM 1 - N. ABUT.



WEST FACE

EAST FACE

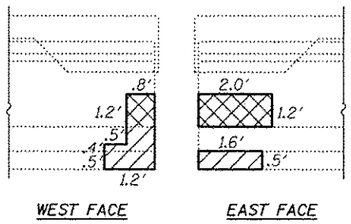
BEAM 2 - N. ABUT.



WEST FACE

EAST FACE

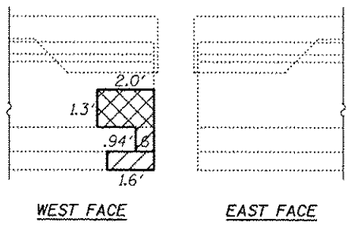
BEAM 3 - N. ABUT.



WEST FACE

EAST FACE

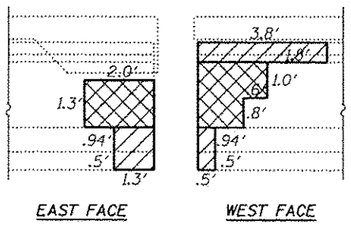
BEAM 4 - N. ABUT.



WEST FACE

EAST FACE

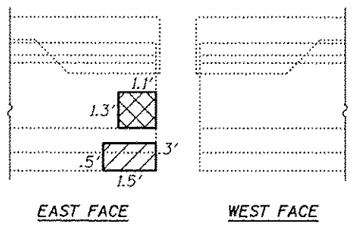
BEAM 5 - N. ABUT.



EAST FACE

WEST FACE

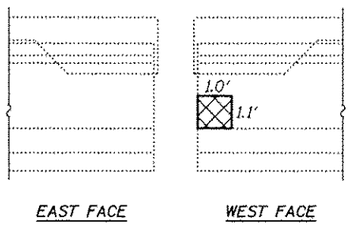
BEAM 1 - S. ABUT.



EAST FACE

WEST FACE

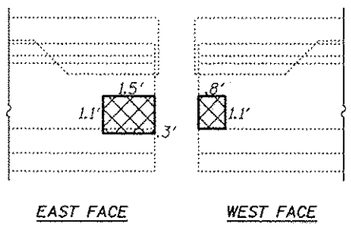
BEAM 2 - S. ABUT.



EAST FACE

WEST FACE

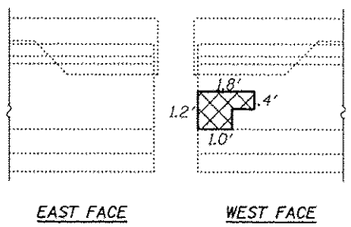
BEAM 3 - S. ABUT.



EAST FACE

WEST FACE

BEAM 4 - S. ABUT.



EAST FACE

WEST FACE

BEAM 5 - S. ABUT.

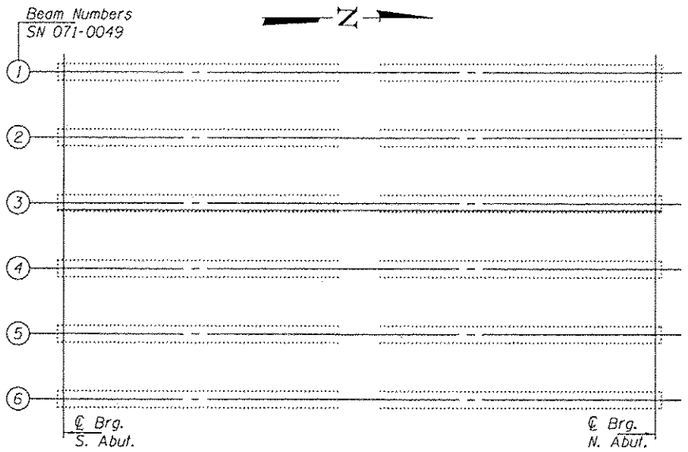
- Polymer Modified Portland Cement Mortar

- Structural Repair of Concrete ≤ 5 inches

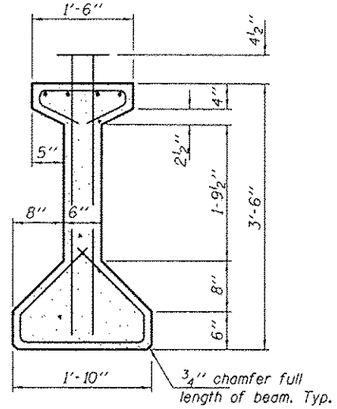
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete ≤ 5 inches	Sq. Ft.	12.9
Polymer Modified Portland Cement Mortar	Sq. Ft.	26.6

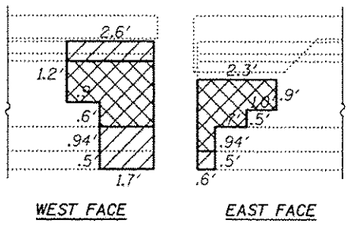
DESIGNED IJL	EXAMINED	Timothy A. Sheehy ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 28, 2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REPAIR DETAILS SN 071-0048	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED MKC	PASSED	Carl Tang ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			39	02 DECK REPAIR 2013-3	OGLE	18	15
DRAWN baliva			REVISED		SHEET NO. 5 OF 8 SHEETS			CONTRACT NO. 64H95		
CHECKED IJL MKC								ILLINOIS FED. AID PROJECT		



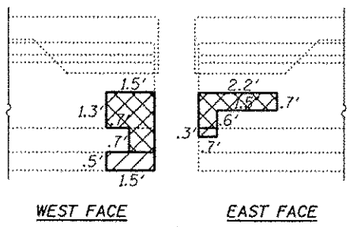
PARTIAL FRAMING PLAN



BEAM DIMENSIONS



BEAM 1 - N. ABUT.



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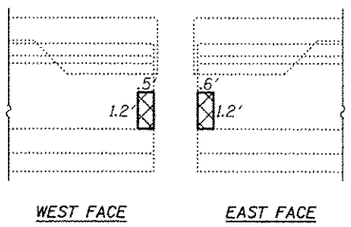

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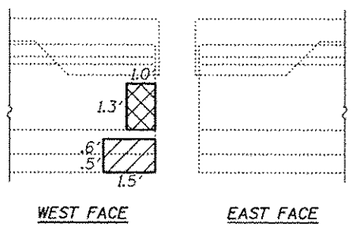

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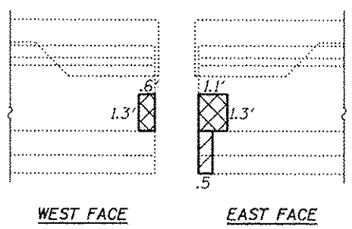

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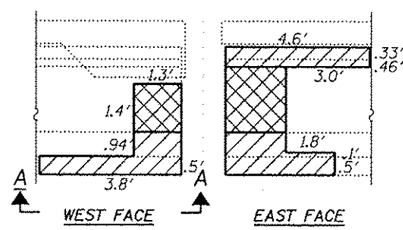

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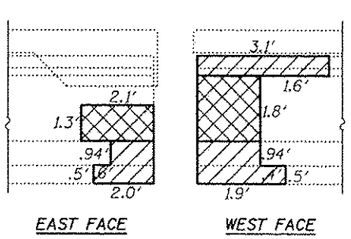
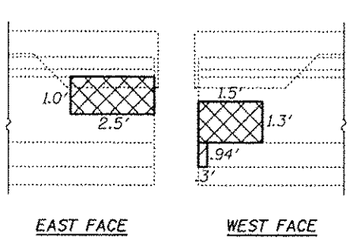


BEAM 1 - S. ABUT.



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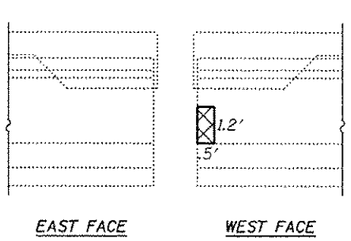

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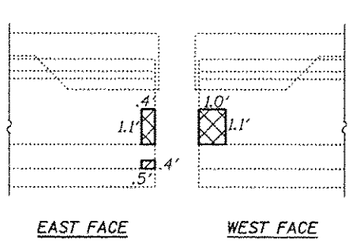

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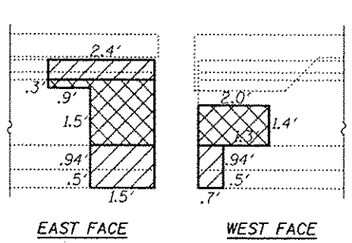

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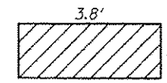


VIEW A-A

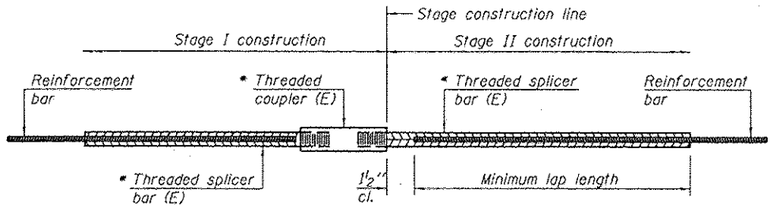
- Polymer Modified Portland Cement Mortar
- Structural Repair of Concrete ≤ 5 inches

BILL OF MATERIAL SN 071-0049

ITEM	UNIT	QUANTITY
Structural Repair of Concrete ≤ 5 inches	Sq. Ft.	25.6
Polymer Modified Portland Cement Mortar	Sq. Ft.	40.9

DESIGNED IJL	EXAMINED	DATE JANUARY 28, 2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED MKC	PASSED	REVISED	
DRAWN baliva	ACTING ENGINEER OF STRUCTURAL SERVICES	REVISED	REPAIR DETAILS 071-0049
CHECKED IJL MKC	ACTING ENGINEER OF BRIDGES AND STRUCTURES		SHEET NO. 6 OF 8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	02 DECK REPAIR 2013-3	OGLE	18	16
		CONTRACT NO. 64H95		
		ILLINOIS FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

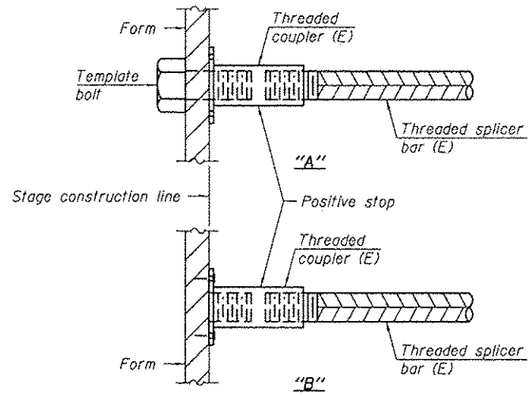
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

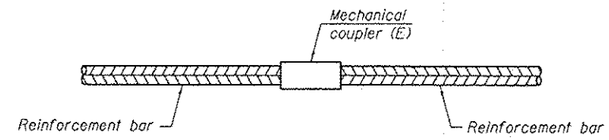
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
S. Abut. SN 071-0048	#6	4	3
N. Abut. SN 071-0048	#6	4	3
S. Abut. SN 071-0049	#6	4	3
N. Abut. SN 071-0049	#6	4	3



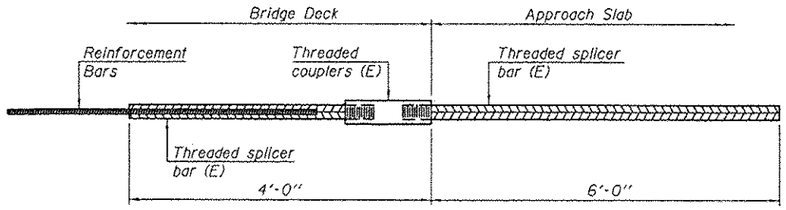
INSTALLATION AND SETTING METHODS

"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.



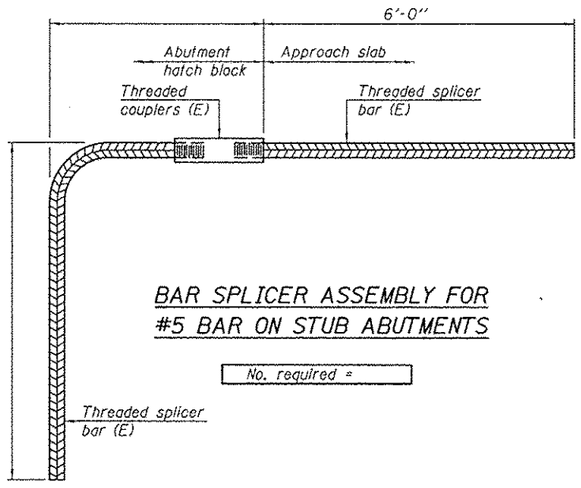
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. 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.

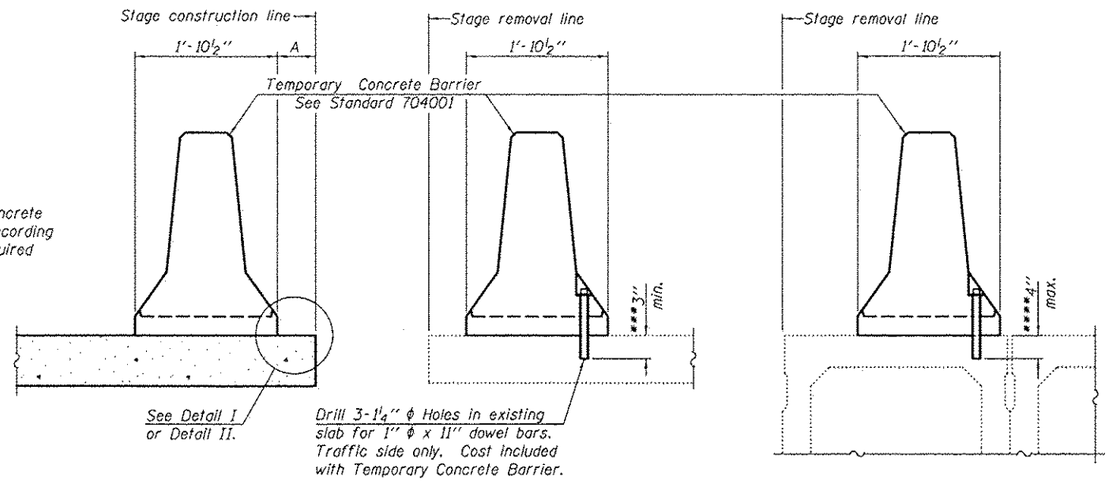
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 7-1-10

DESIGNED IJL	EXAMINED	Timothy A. Bollinger	DATE JANUARY 28, 2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS SN 071-0048 & 0049
CHECKED MKC	PASSED	ACTING ENGINEER OF STRUCTURAL SERVICES	REVISED		SHEET NO. 7 OF 8 SHEETS
DRAWN baliva		A. Carl Peugh	REVISED		
CHECKED IJL MKC		ACTING ENGINEER OF BRIDGES AND STRUCTURES			

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 DECK REPAIR 2013-3	OGLE	18	17
		CONTRACT NO. 64H95		
	ILLINOIS FED. AID PROJECT			

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".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

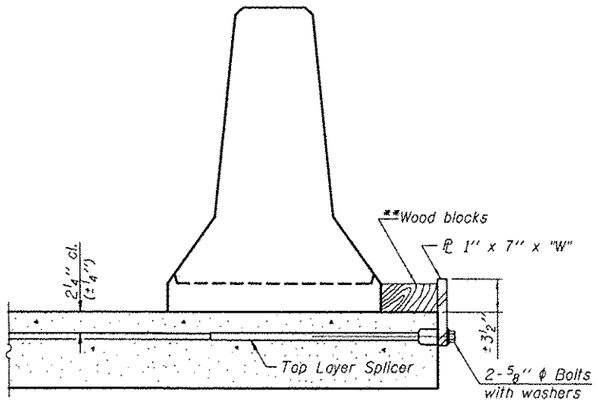
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.

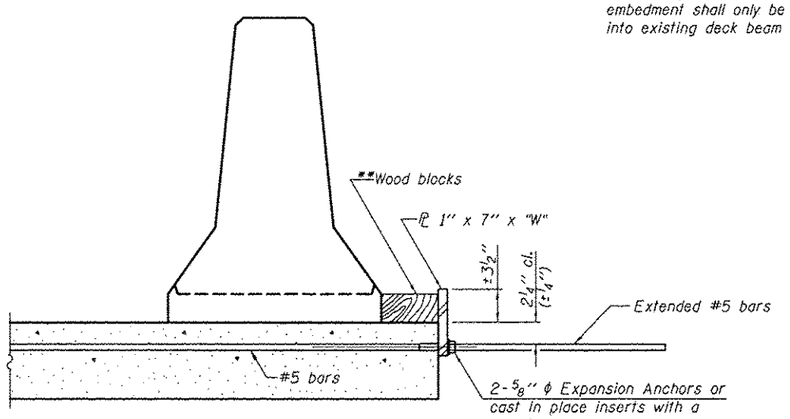
The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** 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.



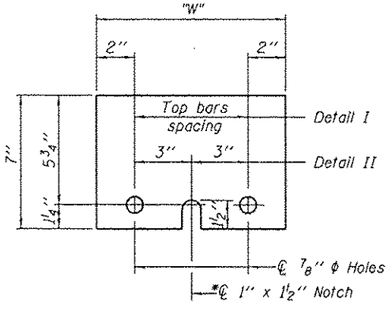
DETAIL I



DETAIL II

** 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"



STEEL RETAINER ℙ 1" x 7" x "W"

* Required only with Detail II

R-27 7-1-10

DESIGNED IJL	EXAMINED	Timothy A. Bradley, ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 28, 2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION SN 071-0048 & 0049	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED MKC	PASSED	A. Carl Tunsy, ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			39	D2 DECK REPAIR 2013-3	OGLE	18	18
DRAWN baliva			REVISED		SHEET NO. 8 OF 8 SHEETS			CONTRACT NO. 64H95		
CHECKED IJL MKC							ILLINOIS FED. AID PROJECT			