

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

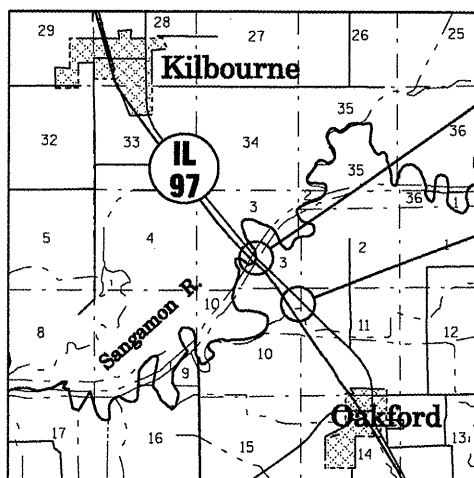
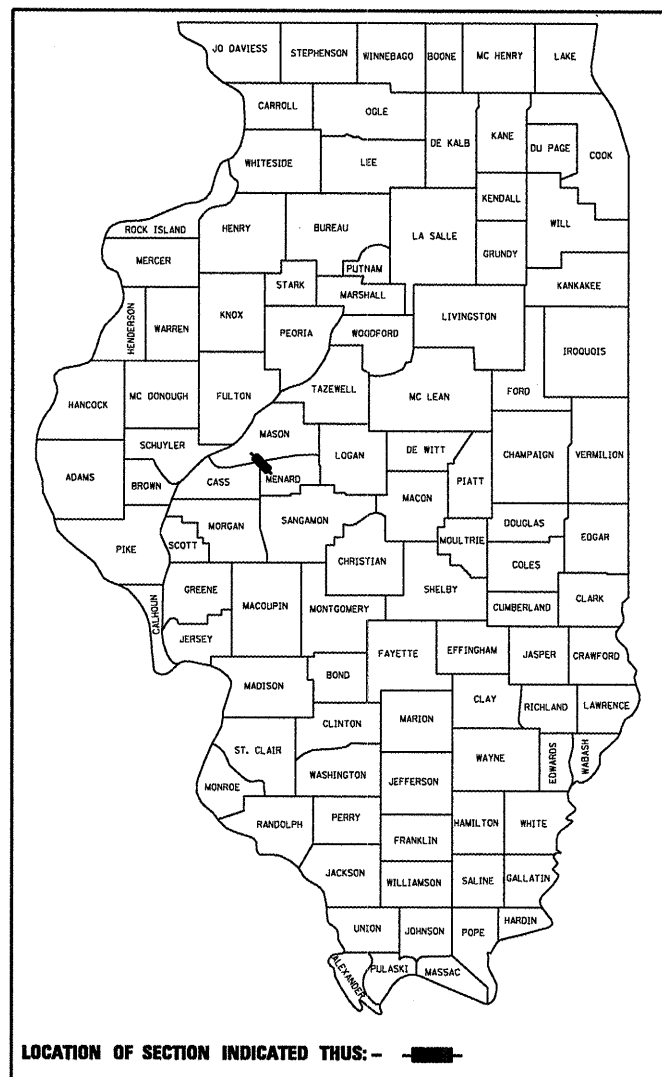
**PROPOSED
 HIGHWAY PLANS**

FAP ROUTE 34 (IL 97)
 SECTION (2) BRIDGE REHAB
 PROJECT: ACF-0034(02B)
**EXPANSION JOINTS & MICROSILICA OVERLAY
 MENARD COUNTY**

C-96-063-09

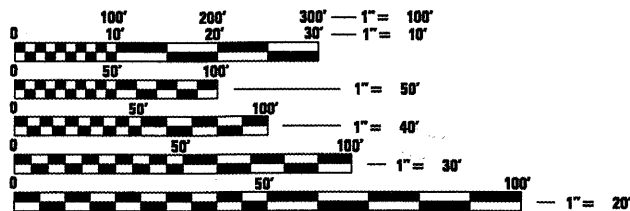
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BRIDGE REHAB	MENARD	29	1
FED. ROAD DIST. NO. 6		ILLINOIS	CONTRACT NO. 72C71	

FOR INDEX OF SHEETS, SEE SHEET NO. 2



SN 065-0002

SN 065-0003



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

BRIDGE MAINTENANCE ENGINEER: STEVE BERAN
 BRIDGE INSPECTION ENGINEER: DAVE COPENBARGER

NET LTH OF SEC 729 FT=0.14 MILE

CONTRACT NO. 72C71

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED February 6, 20 09
 Roger E. Dinkall
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 4, 2009
 Charles G. Ingersoll
 ENGINEER OF DESIGN AND ENVIRONMENT

December 4, 20 09
 Christine M. Reed
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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INDEX OF SHEETS

1 COVER SHEET
2 INDEX, STANDARDS, SIGNATURES, AND GENERAL NOTES
3-5 QUANTITIES
6-8 TYPICAL SECTIONS
9 SCHEDULES
10 ROADWAY PLAN
11 TRAFFIC STAGING DETAIL
12 WIDTH RESTRICTION SIGNING DETAIL
13-29 BRIDGE DETAILS

STANDARDS

609001-05
701001-02
701006-03
701201-03
701301-03
701321-10
701901-01
704001-00

GENERAL NOTES:

ALL STRUCTURAL STEEL SHALL BE AASHTO M-270 GRADE 36

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 706 GRADE 60. SEE SPECIAL PROVISIONS.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

PRIOR TO POURING THE NEW CONCRETE DECK, ALL HEAVY OR 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 CONCRETE REMOVAL.

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 THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

CONCRETE SEALER SHALL BE APPLIED TO THE ENTIRE CONCRETE DECK AFTER MICROSILICA HAS BEEN PLACED. NON-FILM FORMING SEALERS SHALL BE USED.

EXISTING REINFORCEMENT SHALL BE CLEANED AND INCORPORATED INTO THE NEW CONSTRUCTION. 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.

ADVANCED CONSTRUCTION WARNING SIGNS ASSOCIATED WITH STANDARD 701321-10 SHALL BE MODIFIED IN BETWEEN THE STRUCTURES. THE "ROAD CONSTRUCTION AHEAD" AND MAX WIDTH SIGNS SHALL NOT BE INSTALLED BETWEEN THE STRUCTURES.

MIXTURE USE(S)	HMA BASE CSE WIDENING	HMA SURFACE CSE
AC/PG	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50
MIX COMPOSITION (GRADATION MIXTURE)	IL 19.0	IL 9.5 OR 12.5
FRICITION AGGREGATE	N/A	MIX "C"

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6**

EXAMINED Feb 5 2009
Louis J. Hoasi
ENGINEER OF OPERATIONS

EXAMINED Feb 5 2009
Louis J. Hoasi
ENGINEER OF PROGRAM IMPLEMENTATION

EXAMINED Feb 6 2009
Regan E. Dunbar
ENGINEER OF PROGRAM DEVELOPMENT

INDEX, STDS, & GENERAL NOTES
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

S U M M A R Y O F Q U A N T I T I E S

CODE NO.	ITEM	UNIT	80%Fed/20%St
			SFTY-2A
			TOTAL QTY
20200500	EARTH EXCAVATION (WIDENING)	CU YD	206
35600712	HOT-MIX ASPHALT BASE COURSE WIDENING, 9"	SQ YD	823
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	1.0
40600300	AGGREGATE (PRIME COAT)	TON	4.1
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	712
40600990	TEMPORARY RAMP	SQ YD	171
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	201
48101200	AGGREGATE SHOULDERS, TYPE B	TON	122
50102400	CONCRETE REMOVAL	CU YD	41.4
50300255	CONCRETE SUPERSTRUCTURE	CU YD	46.4
50300260	BRIDGE DECK GROOVING	SQ YD	5087
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	1210
50501110	STRUCTURAL STEEL REMOVAL	POUND	1790
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6346
50800515	BAR SPLICERS	EACH	114

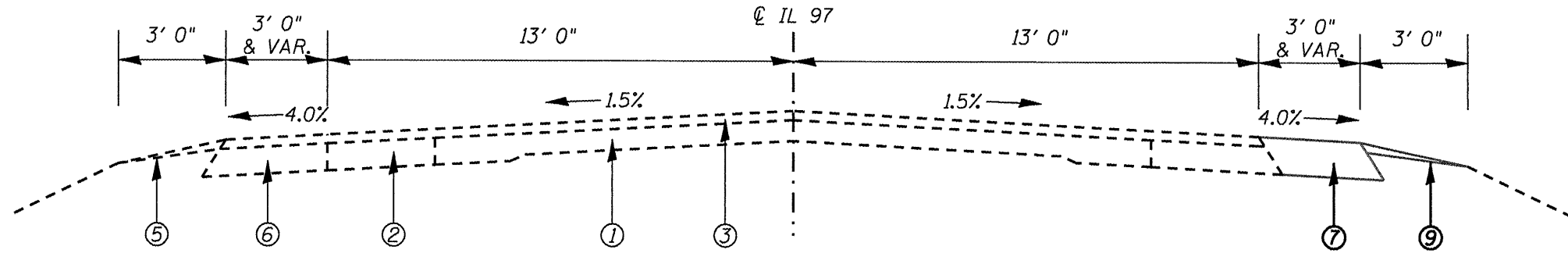
QUANTITIES
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

S U M M A R Y O F Q U A N T I T I E S

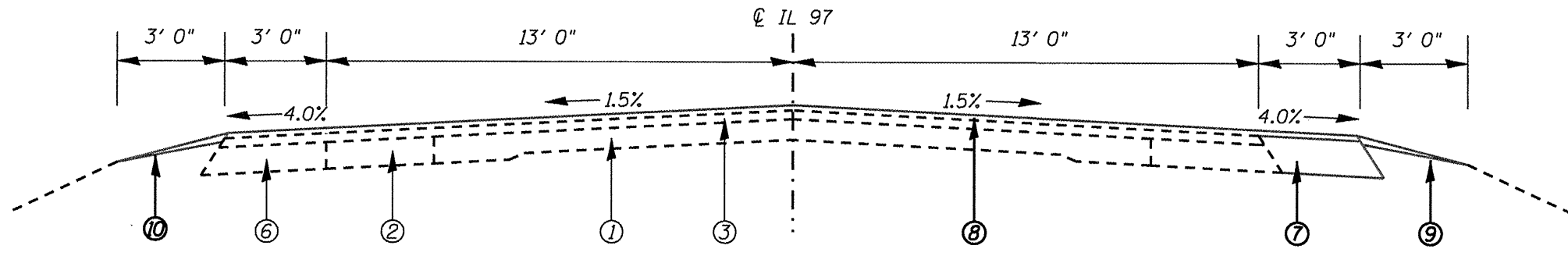
CODE NO.	ITEM	UNIT	80%Fed/20%St
			SFTY-2A
			TOTAL QTY
52000110	PREFORMED JOINT STRIP SEAL	FOOT	186
X5200212	FINGER PLATE EXPANSION JOINT, 4 1/2"	FOOT	64
52000600	FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	74
58700300	CONCRETE SEALER	SQ FT	45780
60260100	INLETS TO BE ADJUSTED	EACH	4
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	4
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2
70400100	TEMPORARY CONCRETE BARRIER	FOOT	2175
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	2175
○ 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	9608
78300105	PAVEMENT MARKING REMOVAL	FOOT	2200
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	8

○ SPECIALITY ITEM

QUANTITIES
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

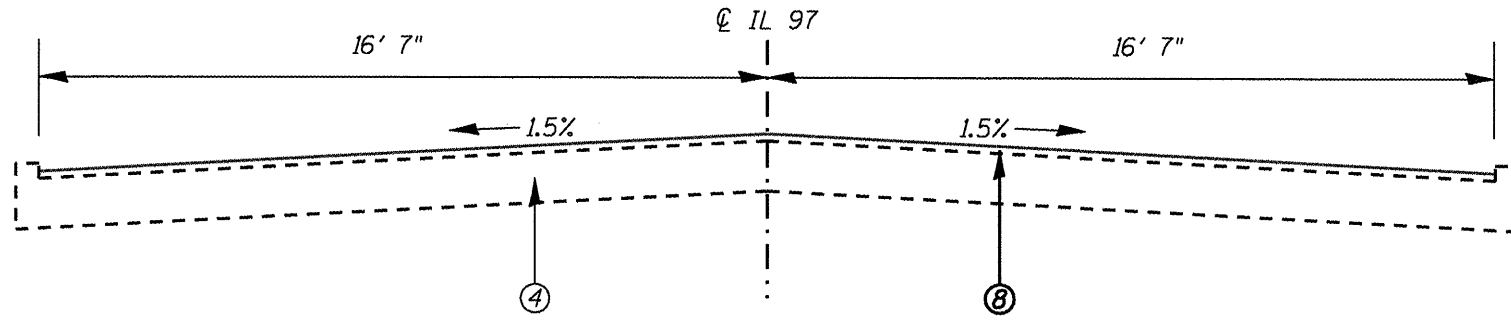


STA 747+62 TO STA 750+50
STA 761+50 TO STA 765+70



STA 750+50 TO STA 751+81.50
STA 760+18.50 TO STA 761+50

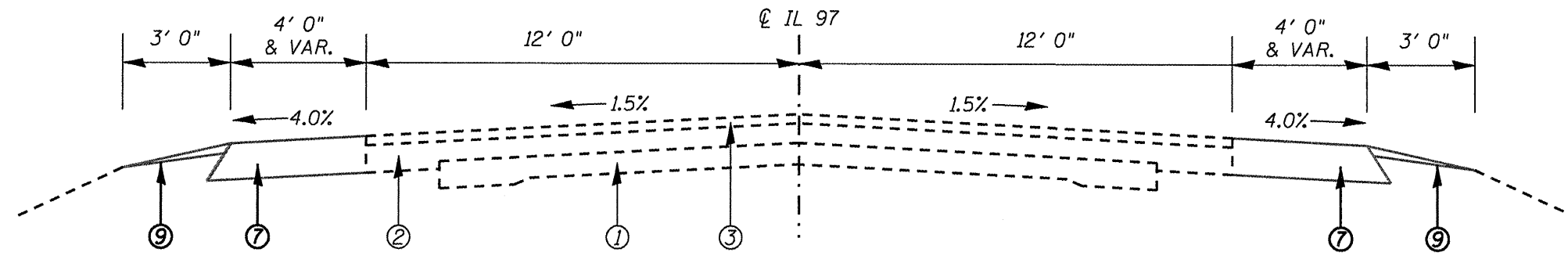
STA 726+76.24 TO STA 734+05.21 = SN 065-0002
STA 737+80 TO STA 747+62 = OMISSION
STA 752+01.50 TO STA 759+98.50 = SN 065-0003



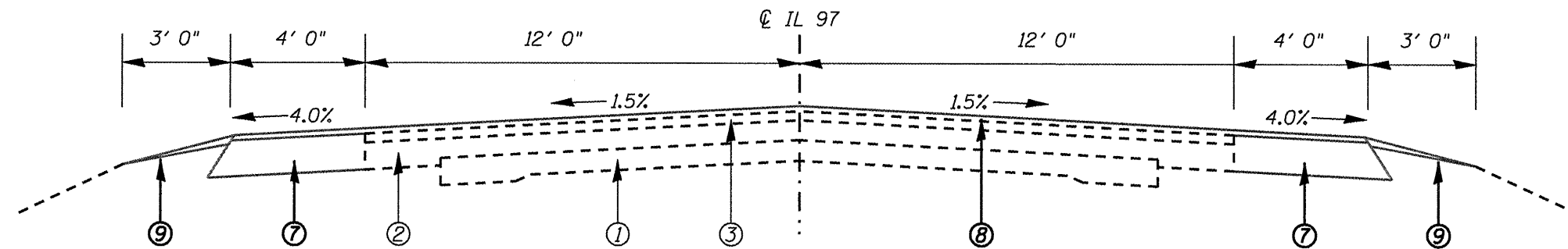
STA 751+81.50 TO STA 752+01.50
STA 759+98.50 TO STA 760+18.50

- ① EXISTING PCC PAVEMENT (9-7-9)
- ② EXISTING HMA BASE COURSE (VARIABLE DEPTH)
- ③ EXISTING HMA BINDER & SURFACE OVERLAY (VARIABLE DEPTH)
- ④ EXISTING PCC BRIDGE APPROACH PAVEMENT (13")
- ⑤ EXISTING AGGREGATE SHOULDER
- ⑥ EXISTING HMA SHOULDER (VARIABLE DEPTH)
- ⑦ PROPOSED HMA BASE COURSE WIDENING (9")
- ⑧ PROPOSED HMA SURFACE COURSE (1-3/4")
- ⑨ PROPOSED AGGREGATE SHOULDER, TY B

ROADWAY CROSS SECTIONS
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

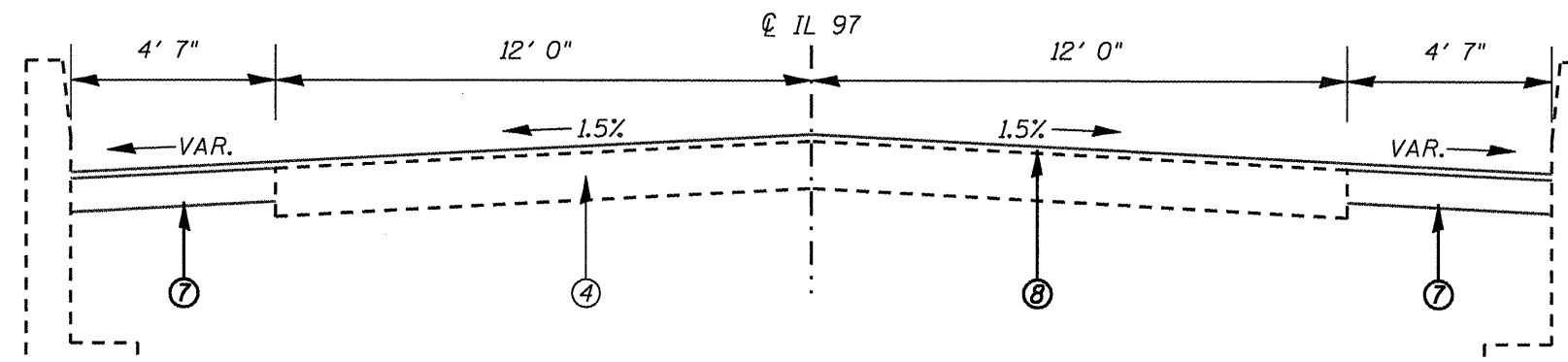


STA 723+00 TO STA 725+25
STA 735+55 TO STA 737+80



STA 725+25 TO STA 726+56.24
STA 734+25.21 TO STA 735+55

STA 726+76.24 TO STA 734+05.21 = SN 065-0002
STA 737+80 TO STA 747+62 = OMISSION
STA 752+01.50 TO STA 759+98.50 = SN 065-0003

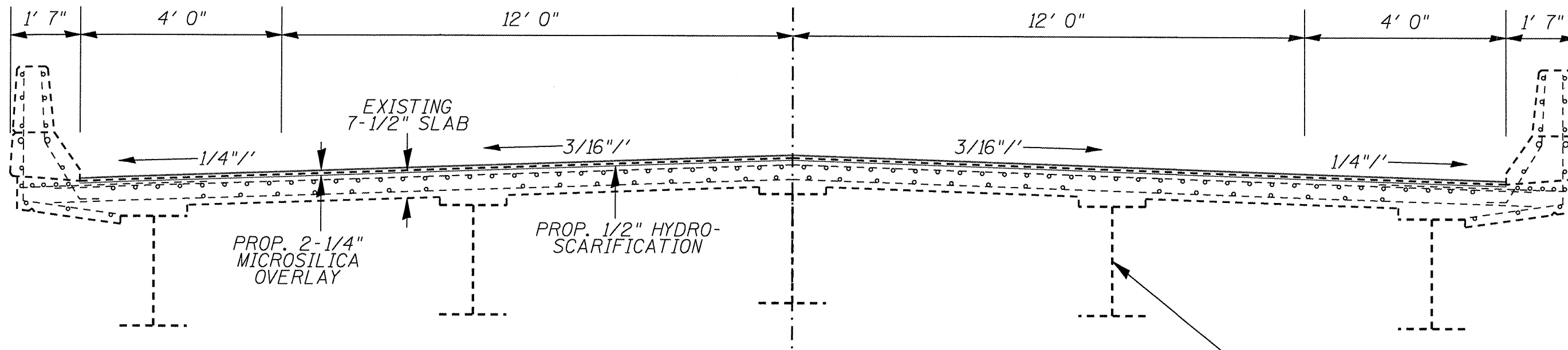


STA 726+56.24 TO STA 726+76.24
STA 734+05.21 TO STA 734+25.21

- ① EXISTING PCC PAVEMENT (9-7-9)
- ② EXISTING HMA BASE COURSE (VARIABLE DEPTH)
- ③ EXISTING HMA BINDER & SURFACE OVERLAY (VARIABLE DEPTH)
- ④ EXISTING PCC BRIDGE APPROACH PAVEMENT (13")
- ⑤ EXISTING AGGREGATE SHOULDER
- ⑥ EXISTING HMA SHOULDER (VARIABLE DEPTH)
- ⑦ PROPOSED HMA BASE COURSE WIDENING (9")
- ⑧ PROPOSED HMA SURFACE COURSE (1-3/4")
- ⑨ PROPOSED AGGREGATE SHOULDER, TY B

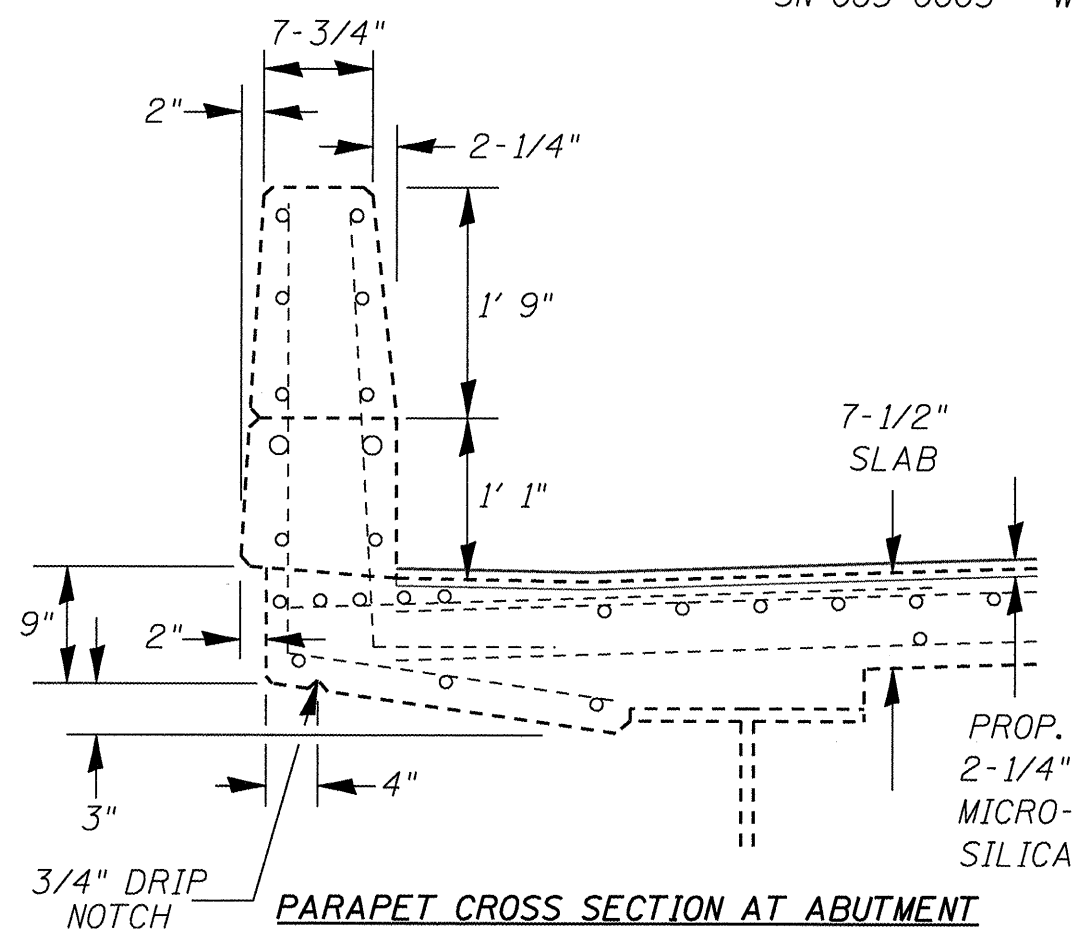
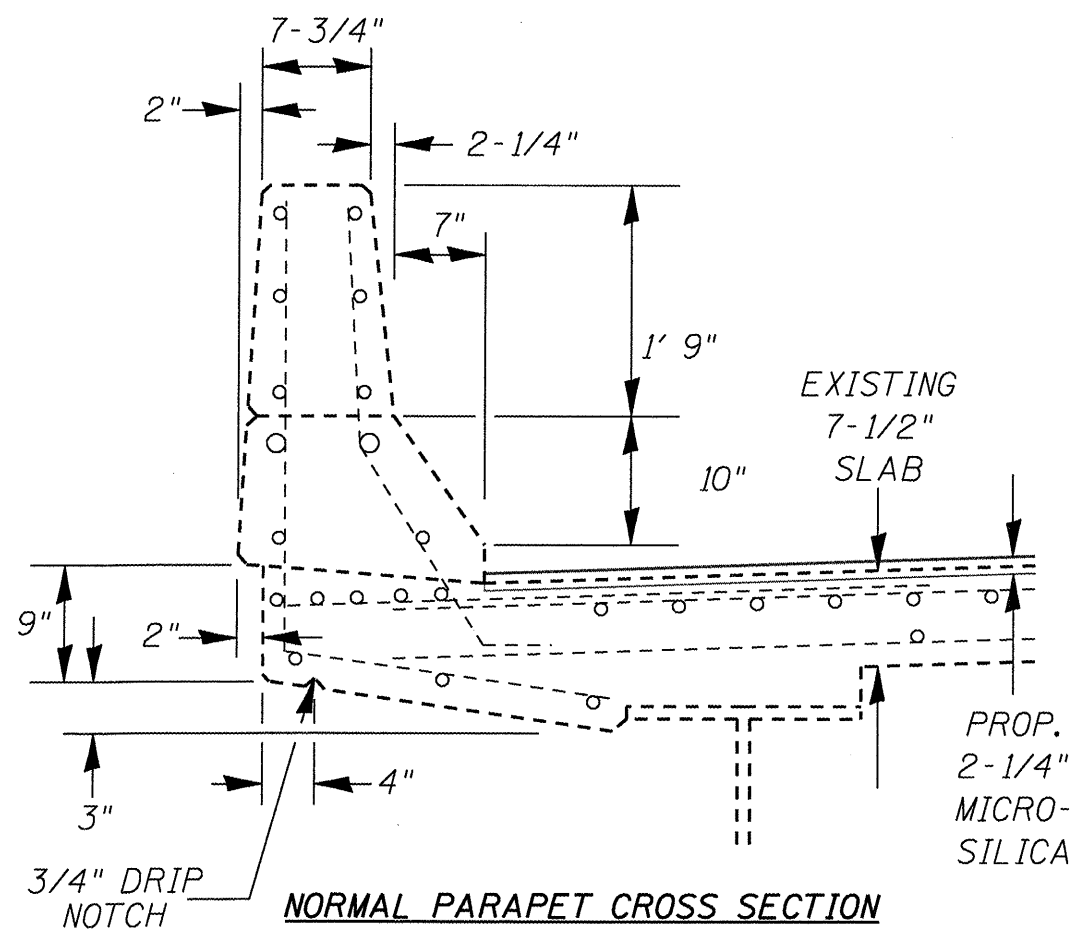
ROADWAY CROSS SECTIONS
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

CL IL 97



EXISTING CROSS SECTION

SN 065-0002 - W30x99 OR W30x116 (TYP.) SPANS 1-6
50" WEB PLATE GIRDER (TYP.) SPANS 7-9
SN 065-0003 - W30x116 OR W30x173 (TYP.)



NOT TO SCALE

EXISTING BRIDGE X-SECTIONS
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

BRIDGE JOINT SCHEDULE

BRIDGE	JOINT	REINFORCEMENT BARS - EPOXY CTD. (POUND)	CONCRETE REMOVAL (CU YD)	CONCRETE SUPERSTRUCTURE (CU YD)	BAR SPLICERS (EACH)	PREFORM JT. STRIP SEAL (FOOT)	MECHANICAL SPLICE (EACH)	STRUCTURAL STEEL REM. (POUND)	FURNISH & ERECT STRUCTURAL STEEL (POUND)	FINGER PLATE EXPANSION JT., 3" (FOOT)	FABRIC REINFORCED ELASTOMERIC TROUGH (FOOT)
065-0002	N. ABUT.	571.2	4.4	4.9	11	37.2					
065-0002	BENT 4	856.6	4.6	5.6	16	37.2					
065-0002	PIER 7	856.6	4.6	5.6	16	37.2					
065-0002	S. ABUT	571.2	4.4	4.9	11	37.2					
065-0003	PIER 3	1317.1	9.4	9.9	22		70	895	605	32	37
065-0003	PIER 6	856.6	4.6	5.6	16	37.2					
065-0003	PIER 9	1317.1	9.4	9.9	22		70	895	605	32	37
	TOTALS	6346	41.4	46.4	114	186	140	1790	1210	64	74

MISCELLANEOUS BRIDGE ITEM SCHEDULE

BRIDGE	BRIDGE DECK GROOVING (SQ YD)	CONCRETE SEALER (SQ FT)	INLETS TO BE ADJUSTED (EACH)	TEMP. CONC. BARRIER (FOOT)	POLYMER CONCRETE (CU FT)	BD MICROSILICA CONC. OVERLAY (SQ YD)	BD HYDRO-SCARIFICATION (SQ YD)	DECK SLAB REPAIR (FD, TY2) (SQ YD)	DRAINAGE SCUPPERS TO BE ADJUSTED (EACH)
065-0002	2430	21870	0	1050	0	2592	2592	5.4	0
065-0003	2657	23910	4	1125	2.9	2834	2834	47.6	16
TOTALS	5087	45780	4	2175	2.9	5426	5426	53	16

AGGREGATE SHOULDER SCHEDULE

STA	TO	STA	RIGHT SIDE AGGREGATE SHLDR. TY B (TON)	LEFT SIDE AGGREGATE SHLDR. TY B (TON)
723+00		726+56	8.1	8.1
734+25		751+81	40.0	40.0
760+18		765+70	12.6	12.6
		TOTALS	60.7	60.7

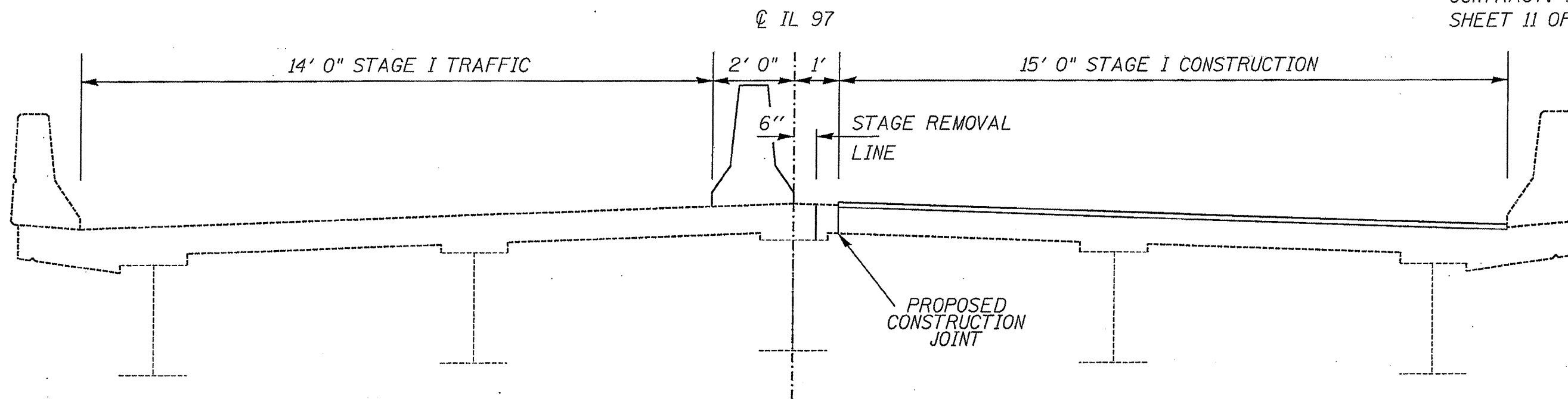
HMA BASE COURSE WIDENING SCHEDULE

STA	TO	STA	RIGHT SIDE		LEFT SIDE	
			WIDTH	HMA BASE CSE WIDENING 9" (SQ YD)	WIDTH	HMA BASE CSE WIDENING 9" (SQ YD)
723+00		724+50	1' TO 4'	41.7	1' TO 4'	41.7
724+50		726+76	4'	91.7	4'	91.7
734+05		736+30	4'	91.0	4'	91.0
736+30		737+80	4' TO 1'	41.7	4' TO 1'	41.7
747+62		749+12	1' TO 3'	33.3		
749+12		751+81	3'	89.9		
760+18		764+20	3'	133.8		
764+20		765+70	3' TO 1'	33.3		
		TOTALS		556.3		266.1

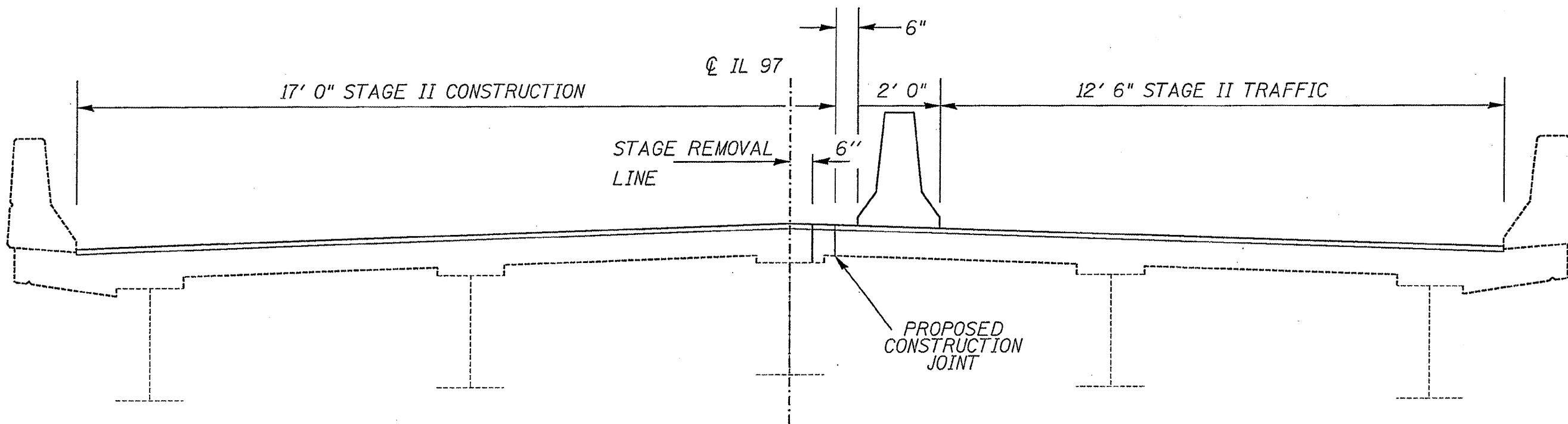
PAVEMENT MARKING SCHEDULE

STA	TO	STA	LOCATION	TYPE	COLOR	PAINT PAVT. MARK.-LINE 5" (FOOT)
723+00		765+70	LEFT EDGE	SOLID	WHITE	4270
723+00		765+70	RIGHT EDGE	SOLID	WHITE	4270
723+00		765+70	CENTERLINE	SKIP DASH	YELLOW	1068
		TOTAL				9608

SCHEDULES OF QUANTITIES
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

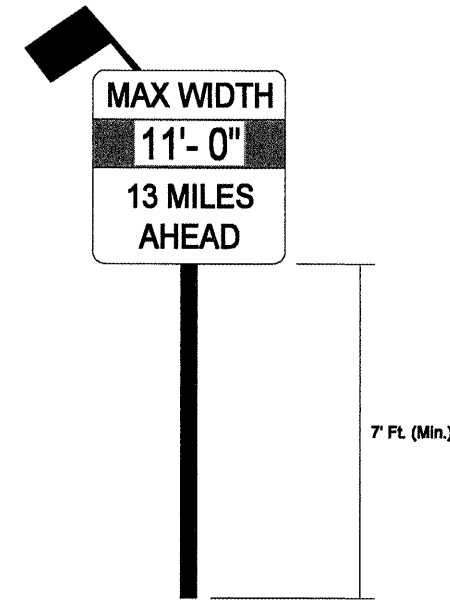
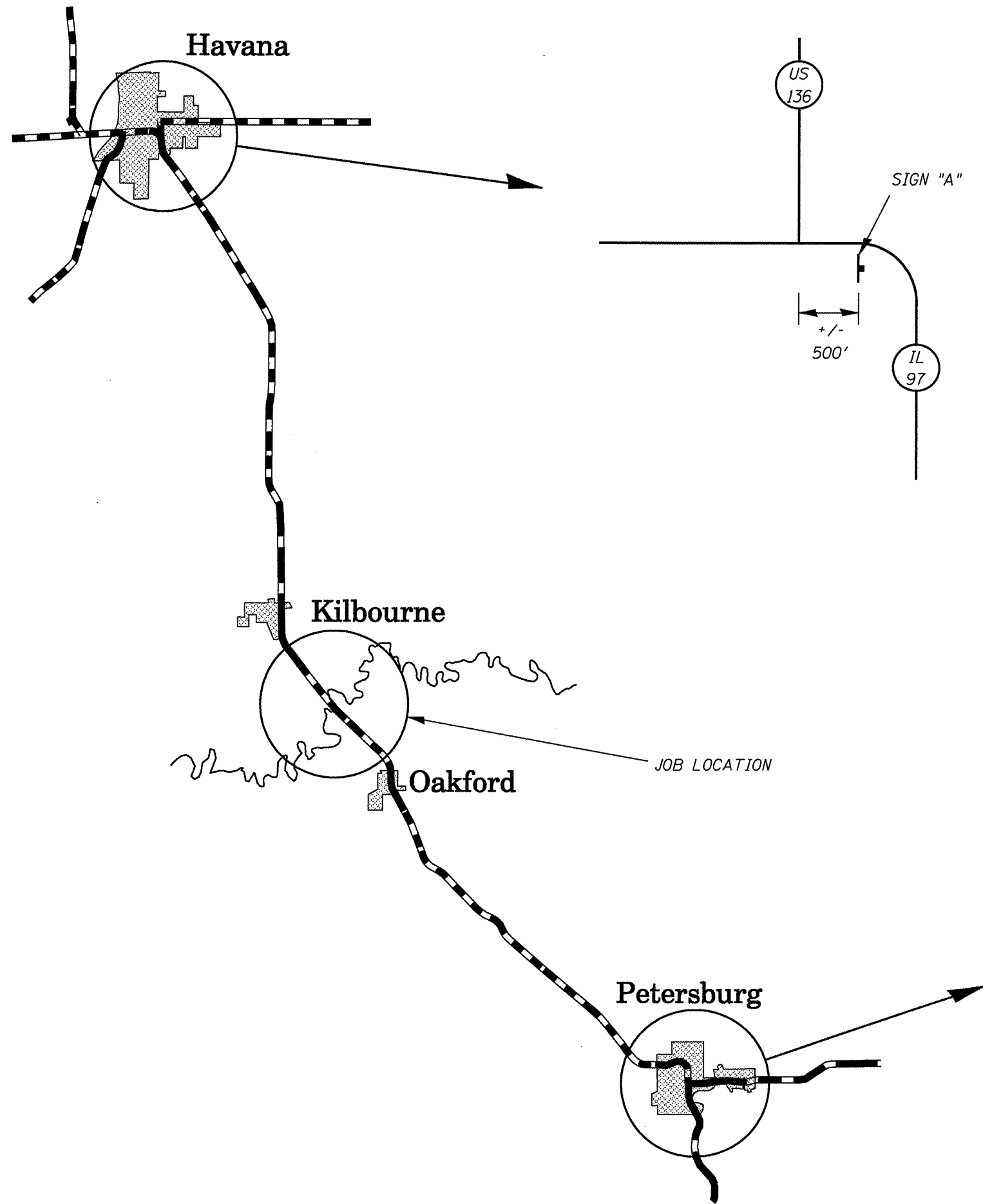


STAGE I CROSS SECTION (LOOKING NORTH)

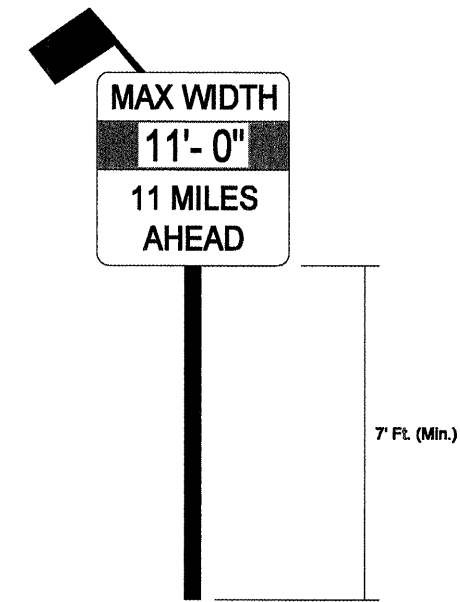


STAGE II CROSS SECTION (LOOKING NORTH)

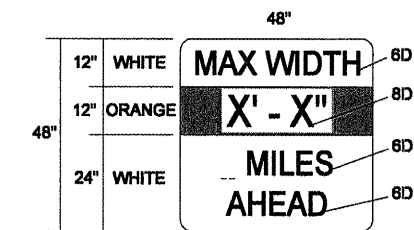
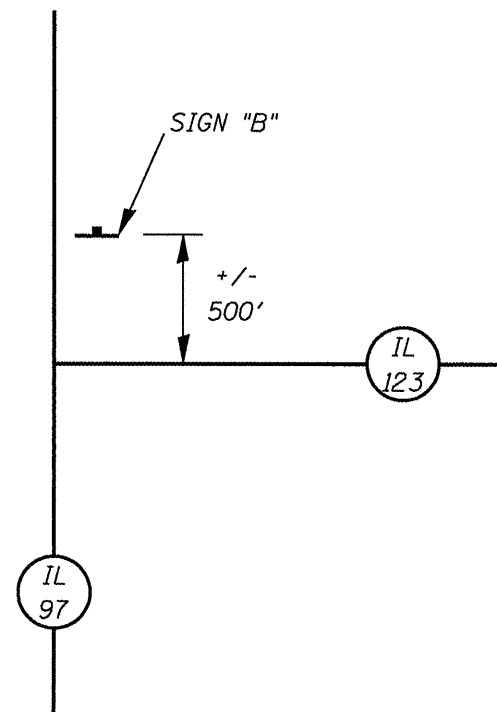
NOT TO SCALE
STAGING DETAIL
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY



SIGN "A"

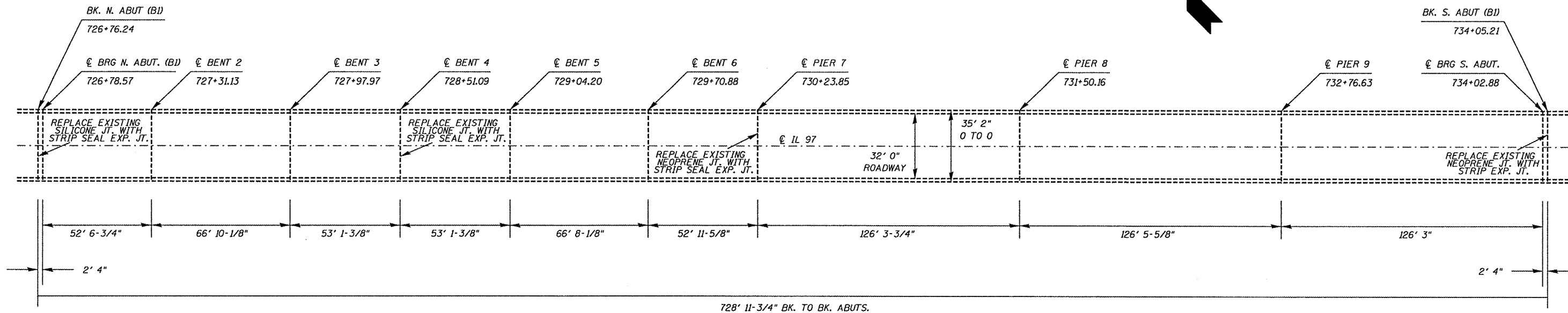
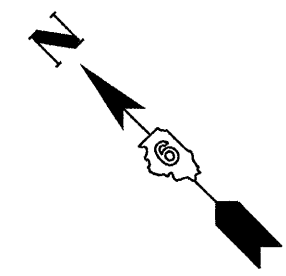


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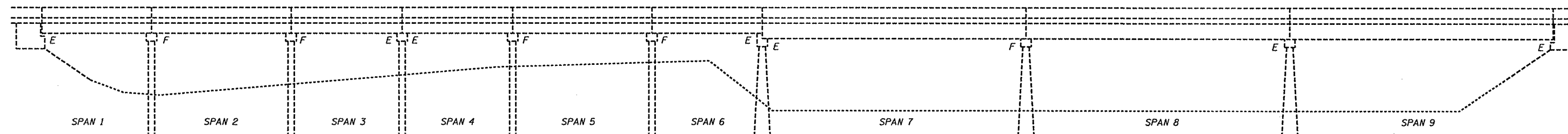


W12-1 103 (48)

WIDTH RESTRICTION SIGNING
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY



PLAN



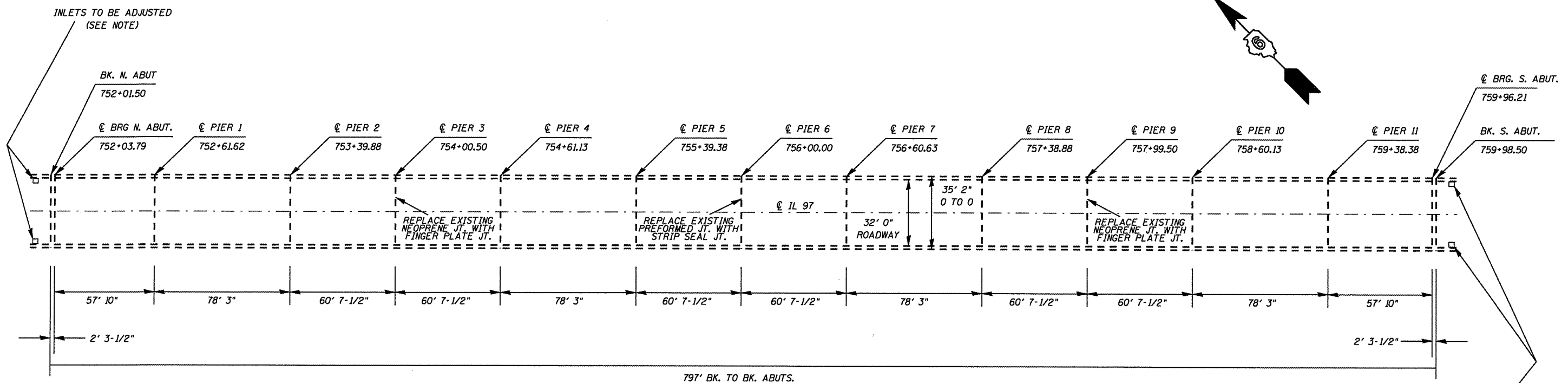
ELEVATION



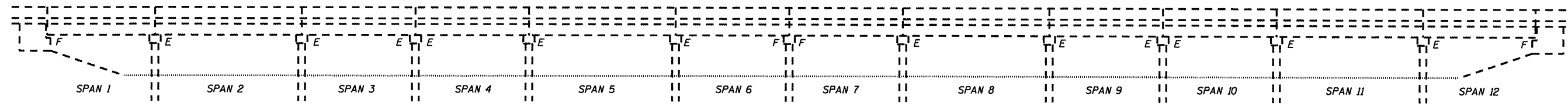
Ralph E. Anderson

EXPIRES 11-30-2010

SN 065-0002 PLAN & ELEV.
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY



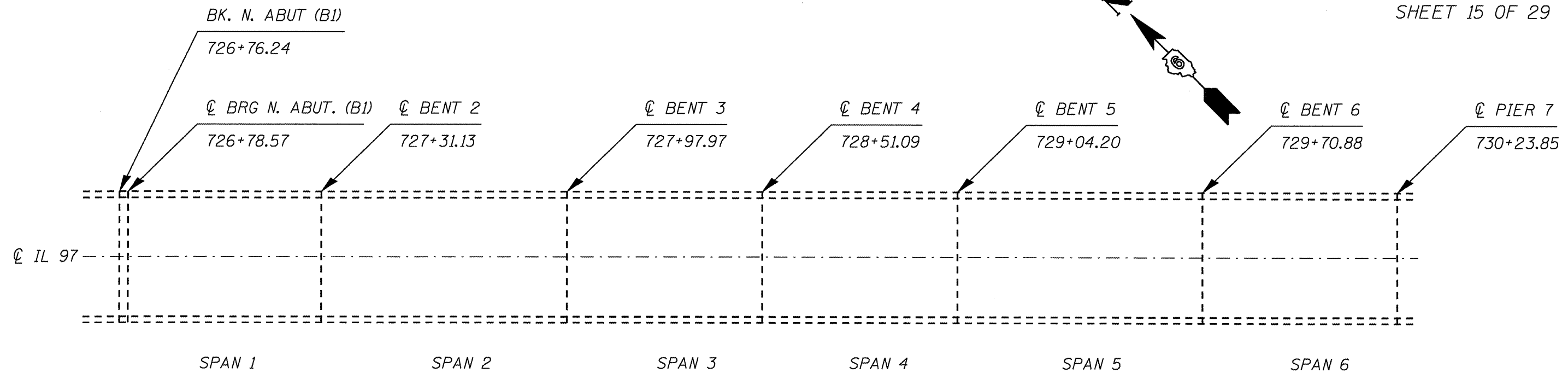
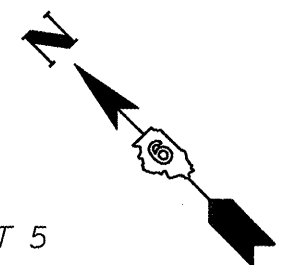
PLAN



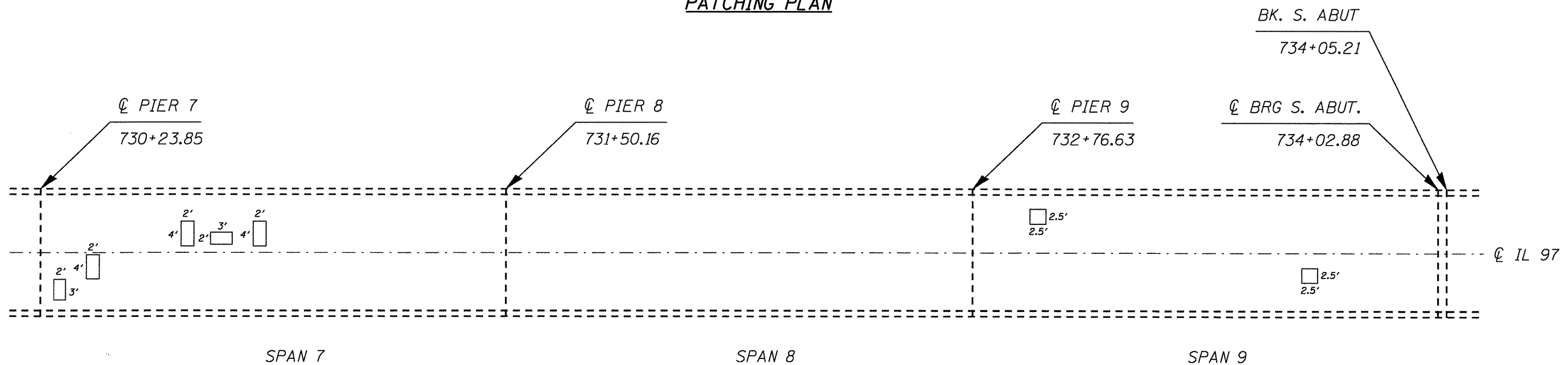
ELEVATION

NOTE: EXISTING INLETS CONFORM TO STANDARD 609001. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING INLET DIMENSIONS IN THE FIELD AND FABRICATING A SUITABLE FRAME FOR RAISING THE EXISTING GRATE TO FINISH GRADE. THE ENGINEER SHALL APPROVE THE CONTRACTOR'S FRAME AND INSTALLATION METHOD PRIOR TO INSTALLATION.

SN 065-0003 PLAN & ELEV.
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY



PATCHING PLAN



PATCHING PLAN

065-0002

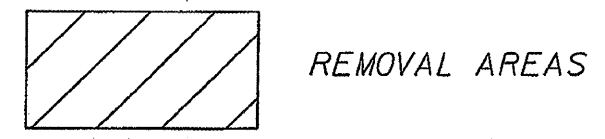
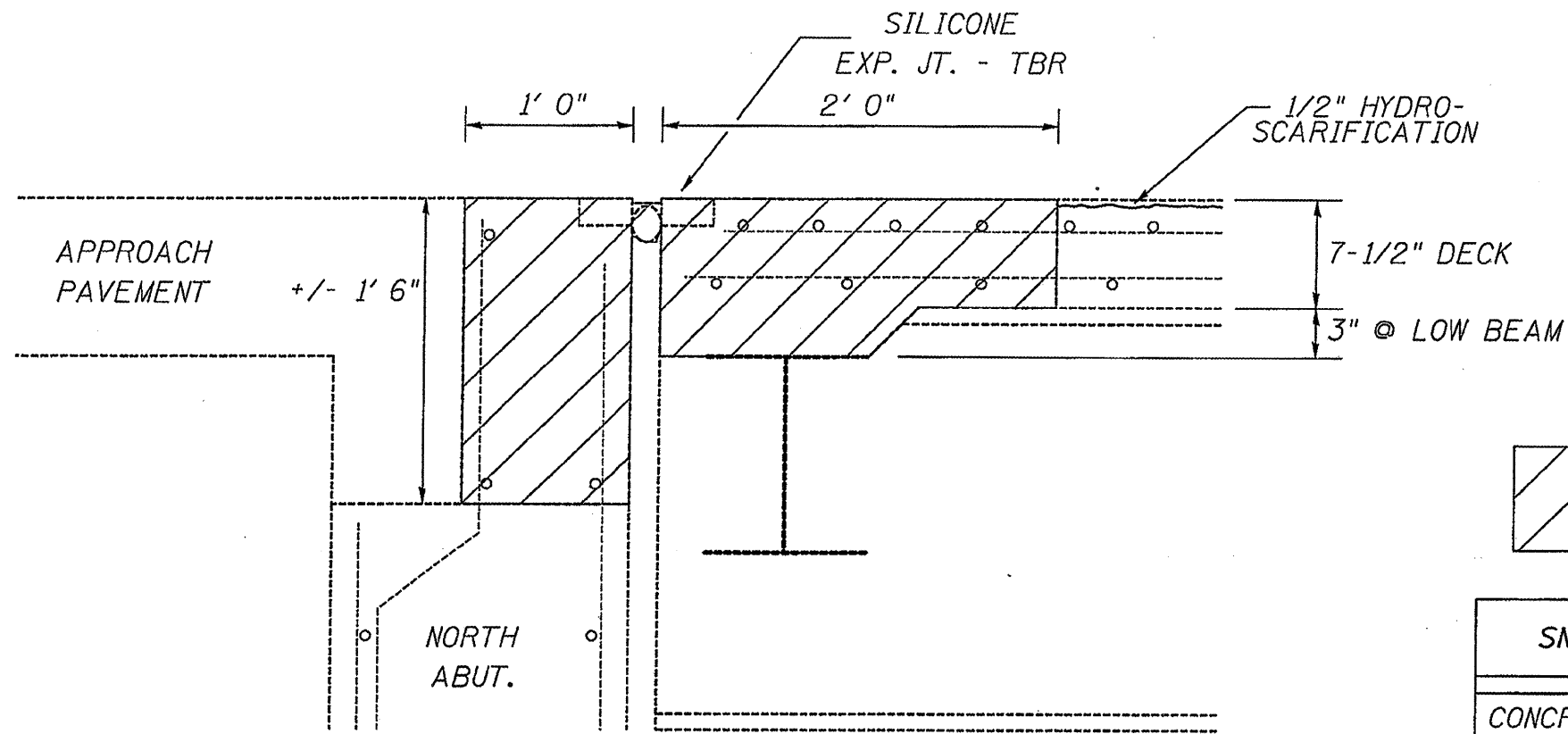
DATE OF SURVEY 9/25/07

DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 5.4 SQ YD

THE ENGINEER SHALL RECORD THE ACTUAL DECK SLAB REPAIR AREAS IN THE AS BUILT PLANS

NOTE: PATCHES SHOWN ARE TAKEN FROM EXISTING INSPECTION REPORTS. FULL DEPTH PATCHES SHALL ONLY BE USED IN AREAS WHERE HYDRO-SCARIFICATION REVEALS OR PRODUCES UNSOUND CONCRETE AS DETERMINED BY THE ENGINEER.

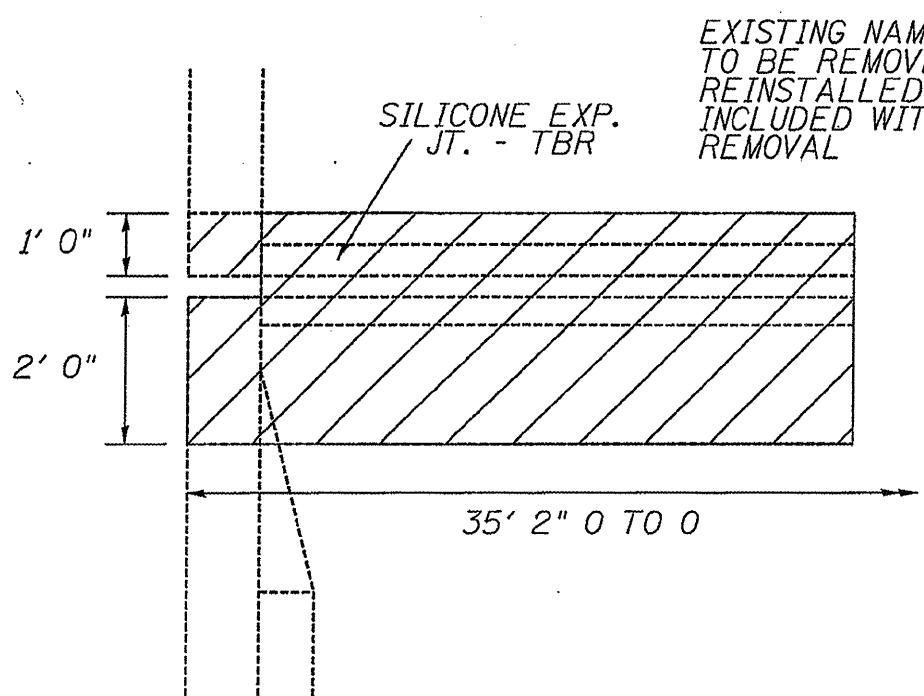
SN 065-0002 PATCHING PLAN
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY



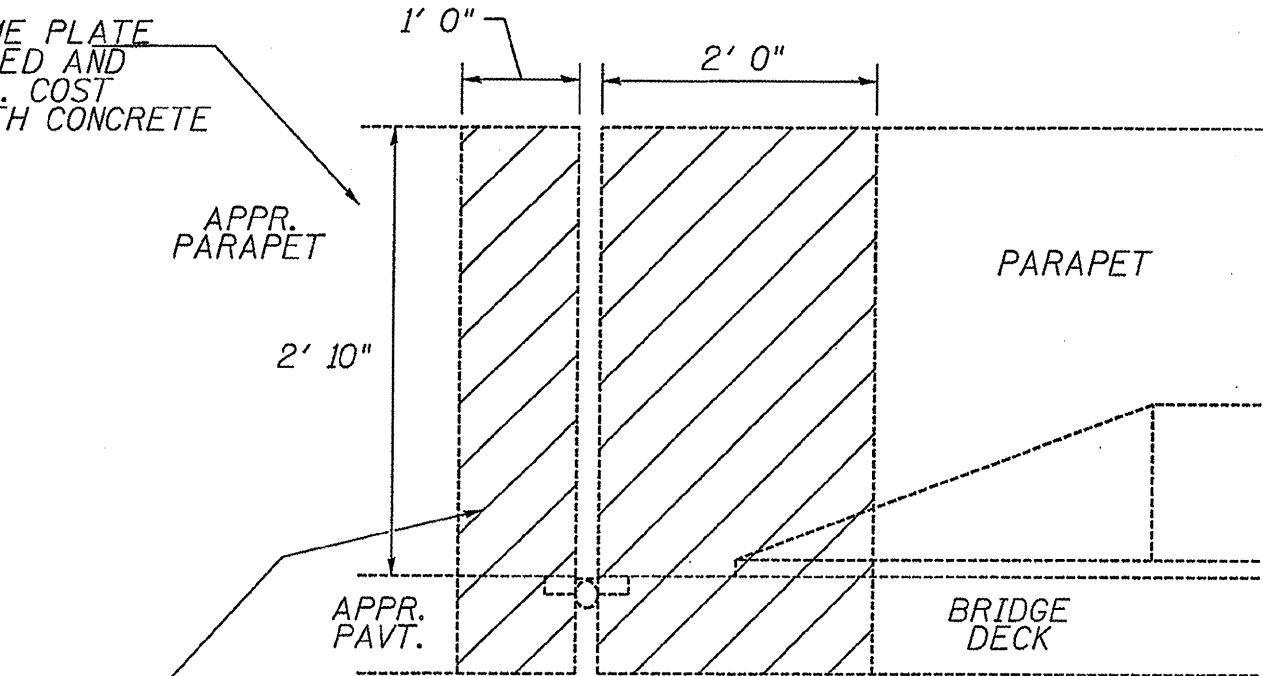
SN 065-0002 N & S ABUT. JTS.	
CONCRETE REMOVAL	8.8 CU YD

JOINT CROSS SECTION

NOTE: THE COST OF JOINT REMOVAL AND DISPOSAL SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE FOR CONCRETE REMOVAL.



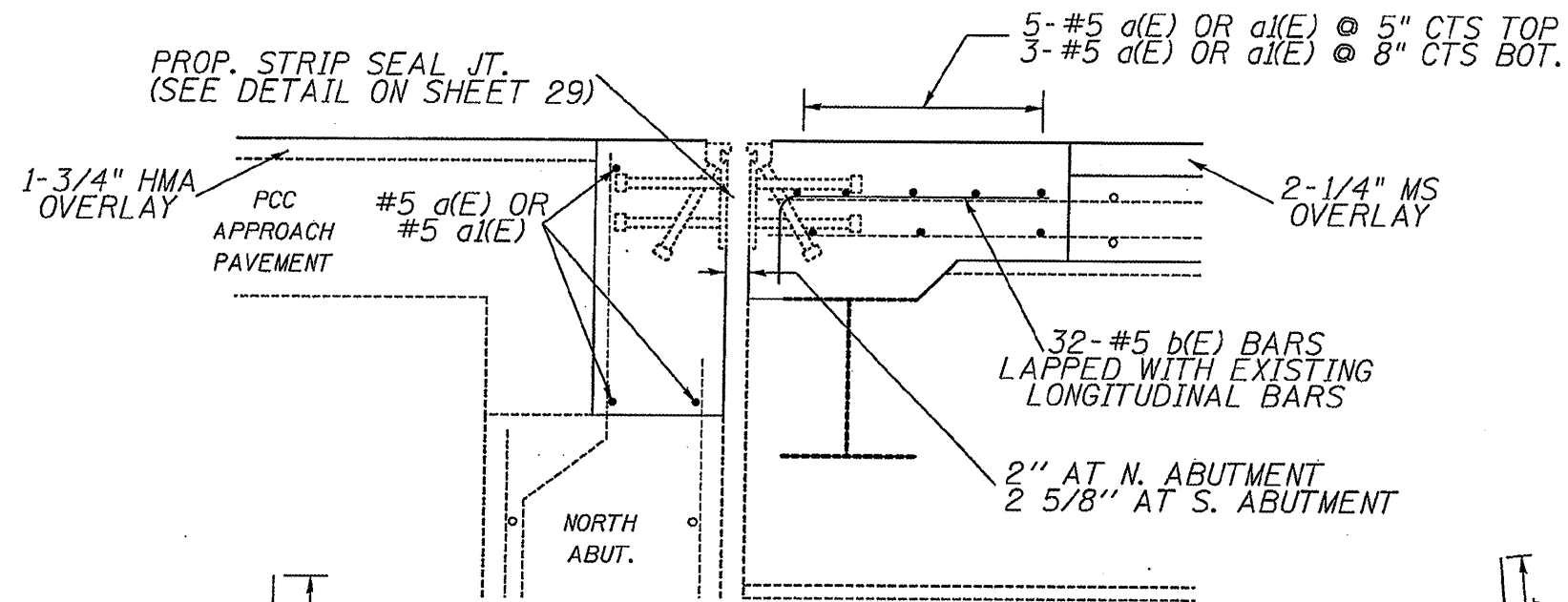
PARTIAL PLAN VIEW



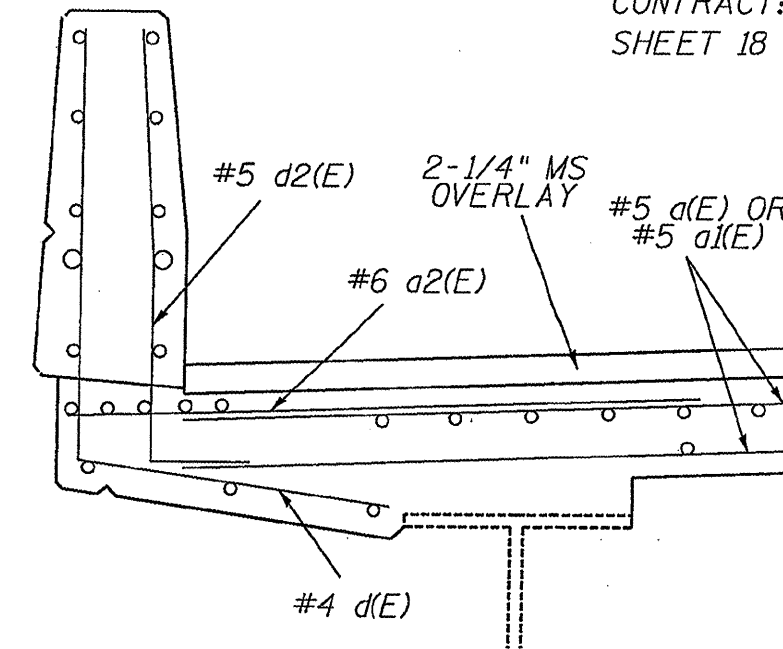
ELEVATION VIEW, INSIDE PARAPET FACE

CUT EXISTING VERTICAL BARS AS NEEDED TO INSTALL JOINT

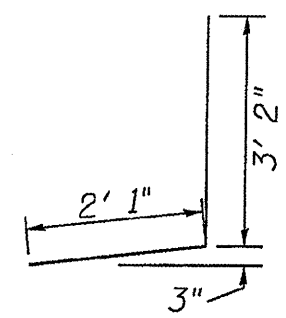
NOT TO SCALE
CONCRETE REMOVAL DETAILS
SN 065-0002 N & S ABUT. JTS.
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY



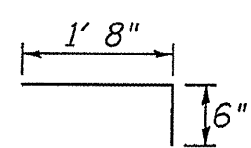
JOINT CROSS SECTION



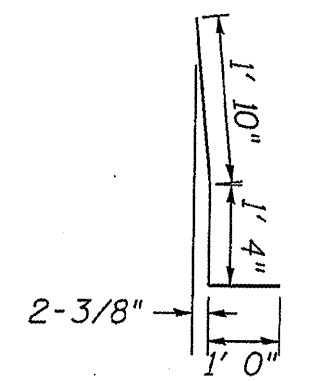
TYPICAL PARAPET CROSS SECTION



d(E) BAR



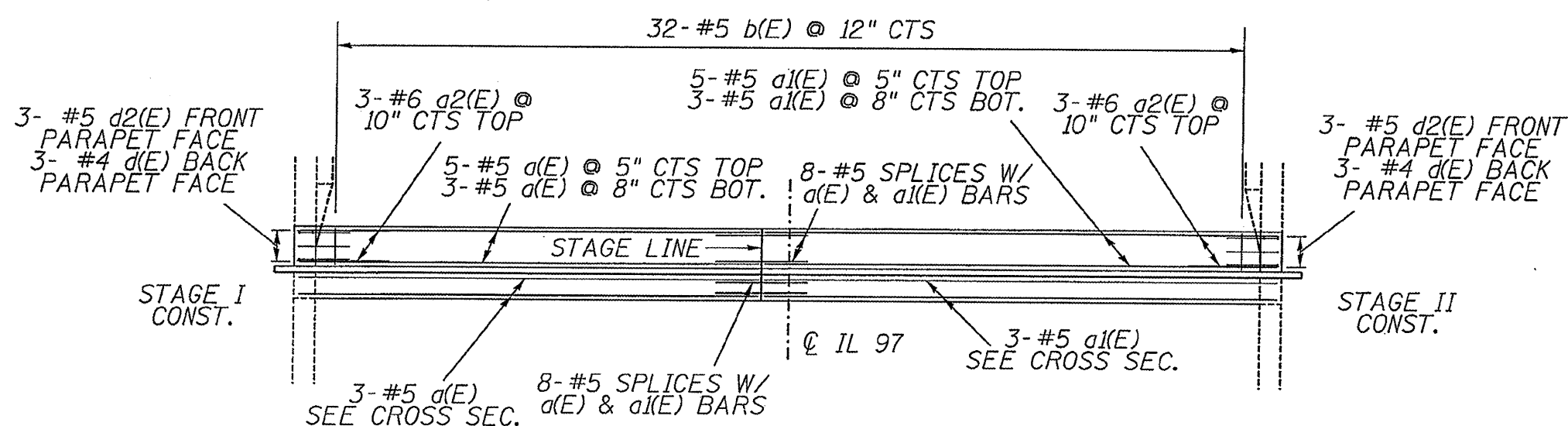
b(E) BAR



d2(E) BAR

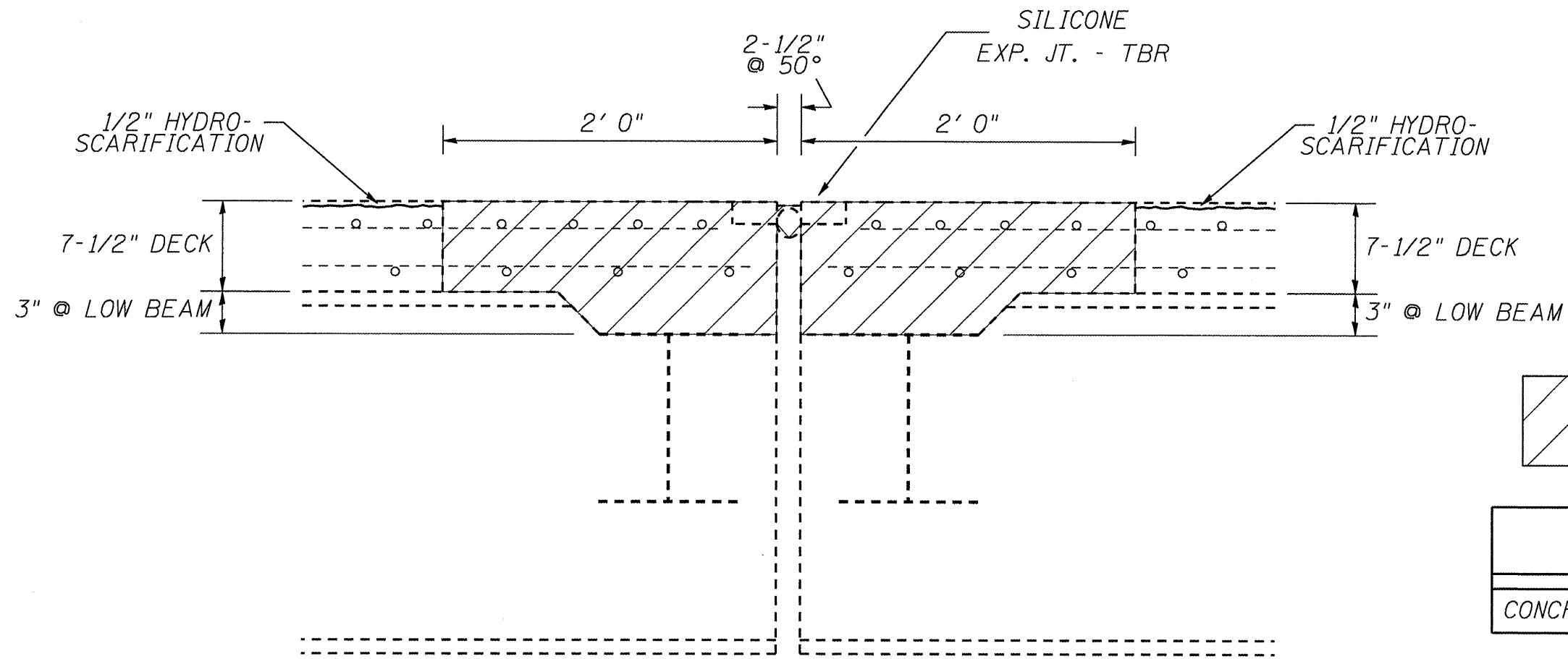
**SN 065-0002 N & S ABUT. JTS.
BILL OF MATERIAL**

BAR	#	SIZE	LENGTH	SHAPE
a(E)	22	5	16' 4"	—
ai(E)	22	5	18' 4"	—
a2(E)	12	6	6' 0"	—
b(E)	64	5	2' 2"	┌
d(E)	12	4	5' 3"	└
d2(E)	12	5	4' 2"	└
REINFORCEMENT BARS - EPOXY COATED				1143 LB
BAR SPLICERS				22 EACH
CONCRETE SUPERSTRUCTURE				9.8 CU YD



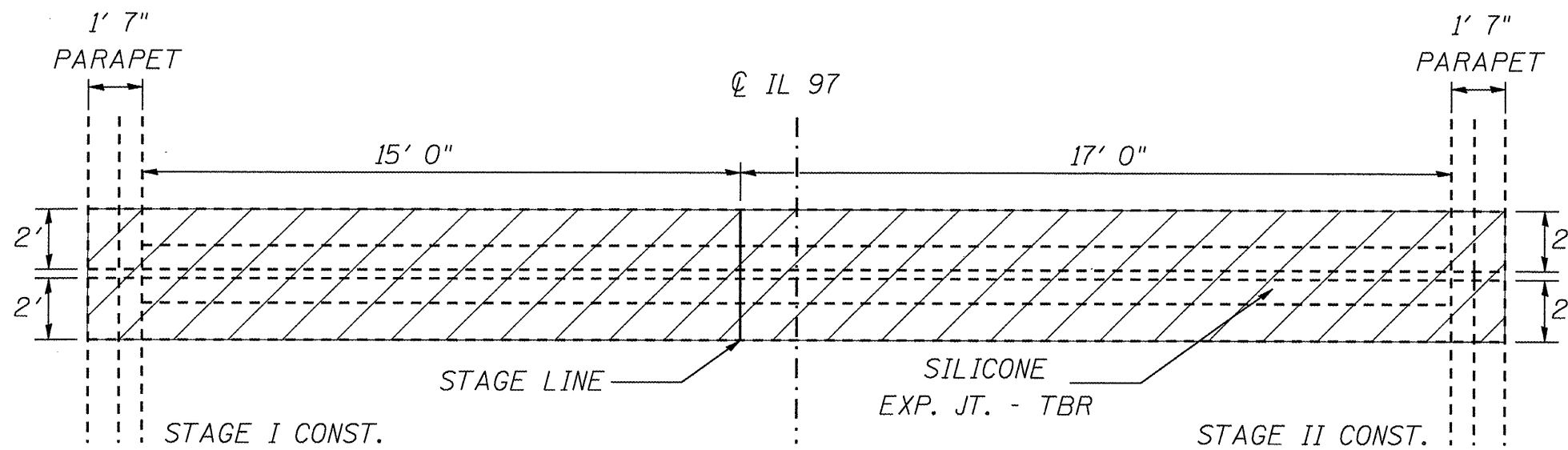
JOINT PLAN

NOT TO SCALE
JOINT REPLACEMENT DETAILS
SN 065-0002 N & S ABUT. JTS.
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY



JOINT CROSS SECTION

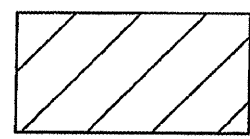
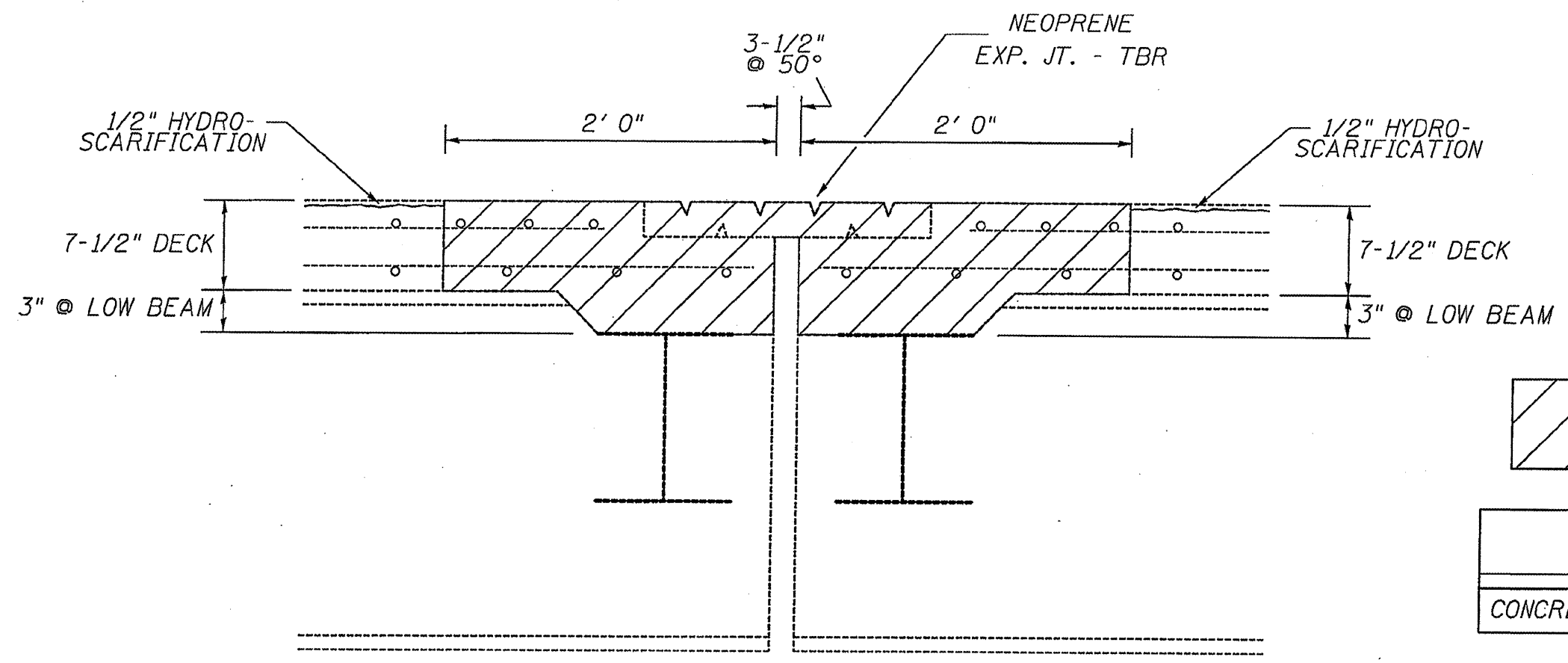
NOTE: THE COST OF JOINT REMOVAL AND DISPOSAL SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE FOR CONCRETE REMOVAL.



JOINT PLAN

NOT TO SCALE

CONCRETE REMOVAL DETAILS
SN 065-0002 BENT 4 JT.
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

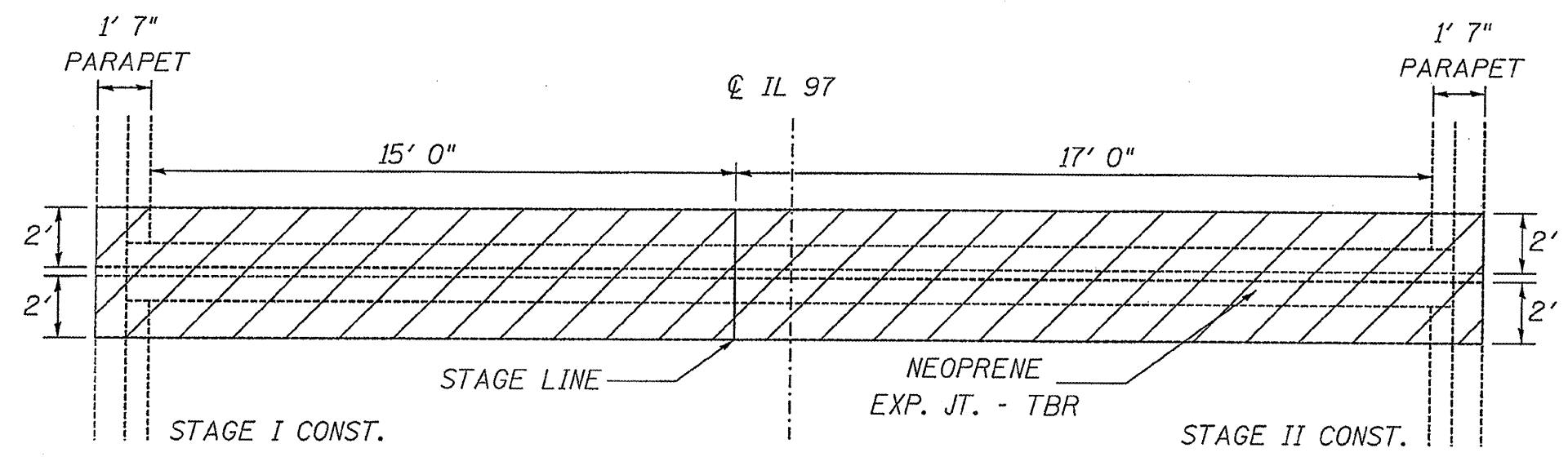


REMOVAL AREAS

SN 065-0002 PIER 7 JT.	
CONCRETE REMOVAL	4.6 CU YD

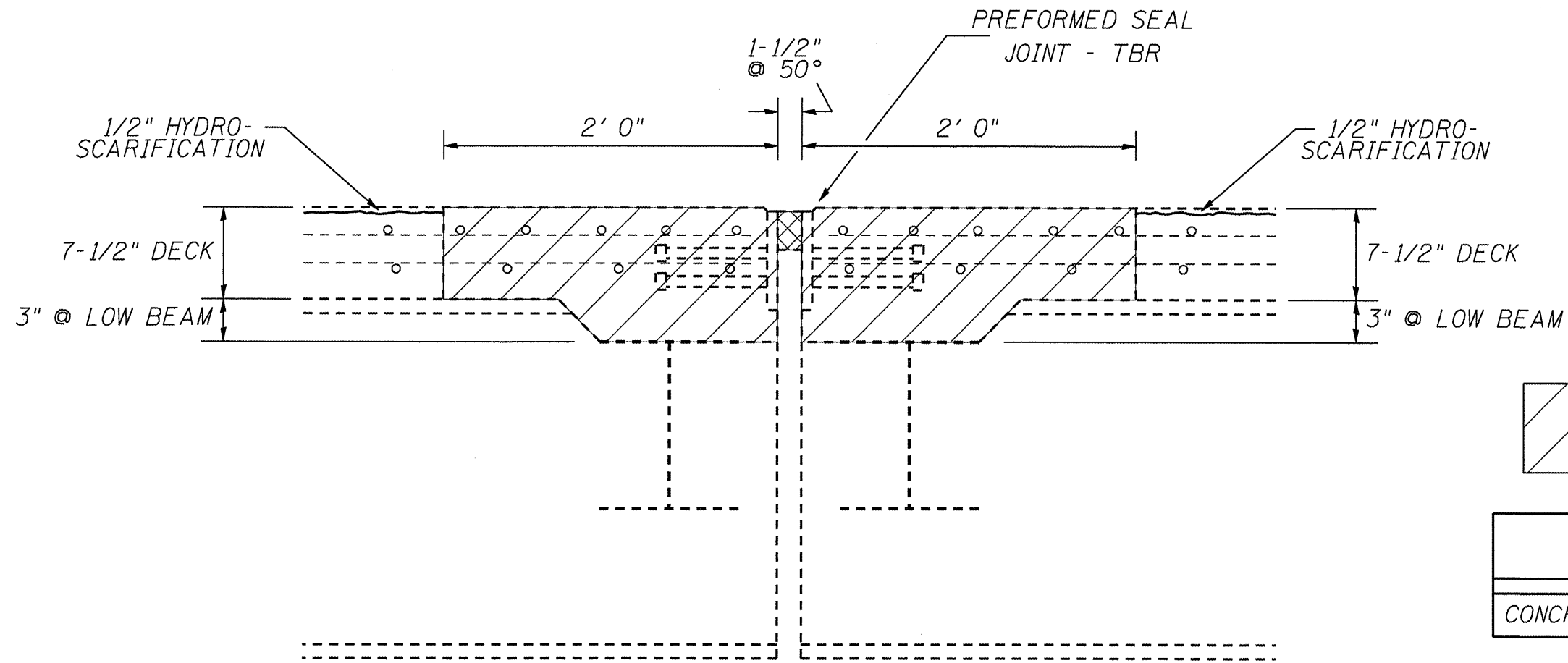
JOINT CROSS SECTION

NOTE: THE COST OF JOINT REMOVAL AND DISPOSAL SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE FOR CONCRETE REMOVAL.



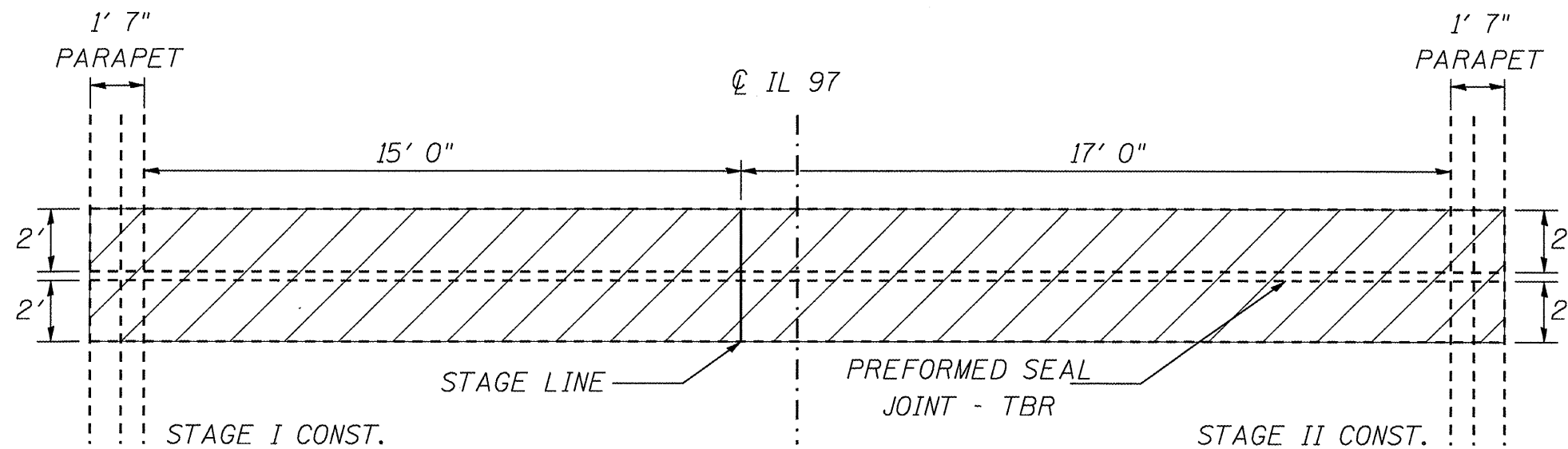
JOINT PLAN

NOT TO SCALE
CONCRETE REMOVAL DETAILS
SN 065-0002 PIER 7 JT.
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY



JOINT CROSS SECTION

NOTE: THE COST OF JOINT REMOVAL AND DISPOSAL SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE FOR CONCRETE REMOVAL.

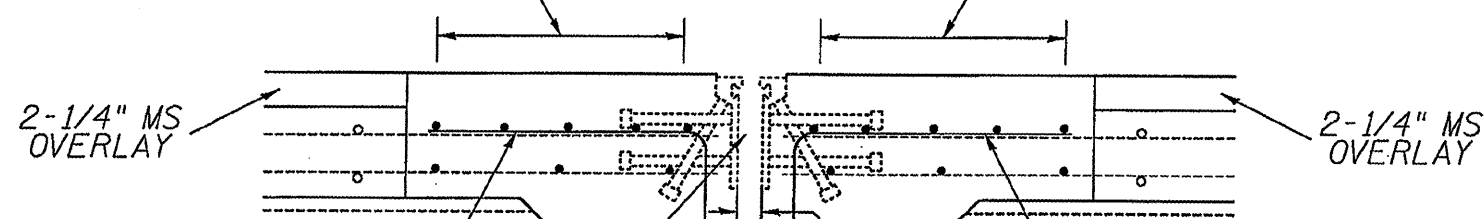


JOINT PLAN

NOT TO SCALE

CONCRETE REMOVAL DETAILS
SN 065-0003 PIER 6 JT.
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

5-#5 a(E) OR a1(E) @ 5" CTS TOP
3-#5 a(E) OR a1(E) @ 8" CTS BOT.

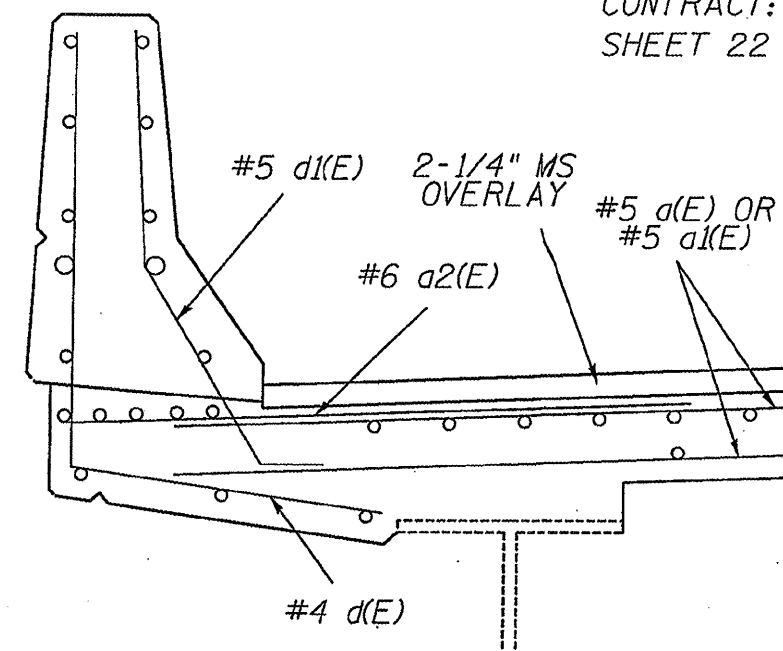


32-#5 b(E) BARS
LAPPED WITH EXISTING
LONGITUDINAL BARS

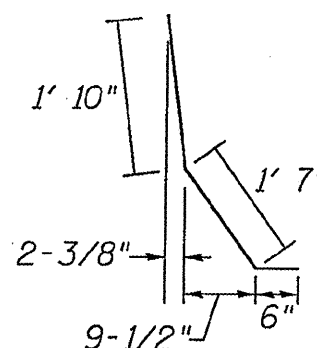
PROP. STRIP SEAL JT.
(SEE DETAIL ON SHEET 29)

SN 065-0002:
2" AT BENT 4
2 5/8" AT PIER 7
SN 065-0003:
2 5/8" AT PIER 6

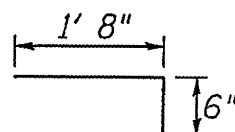
JOINT CROSS SECTION



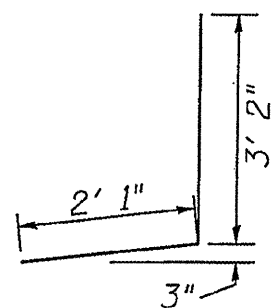
TYPICAL PARAPET CROSS SECTION



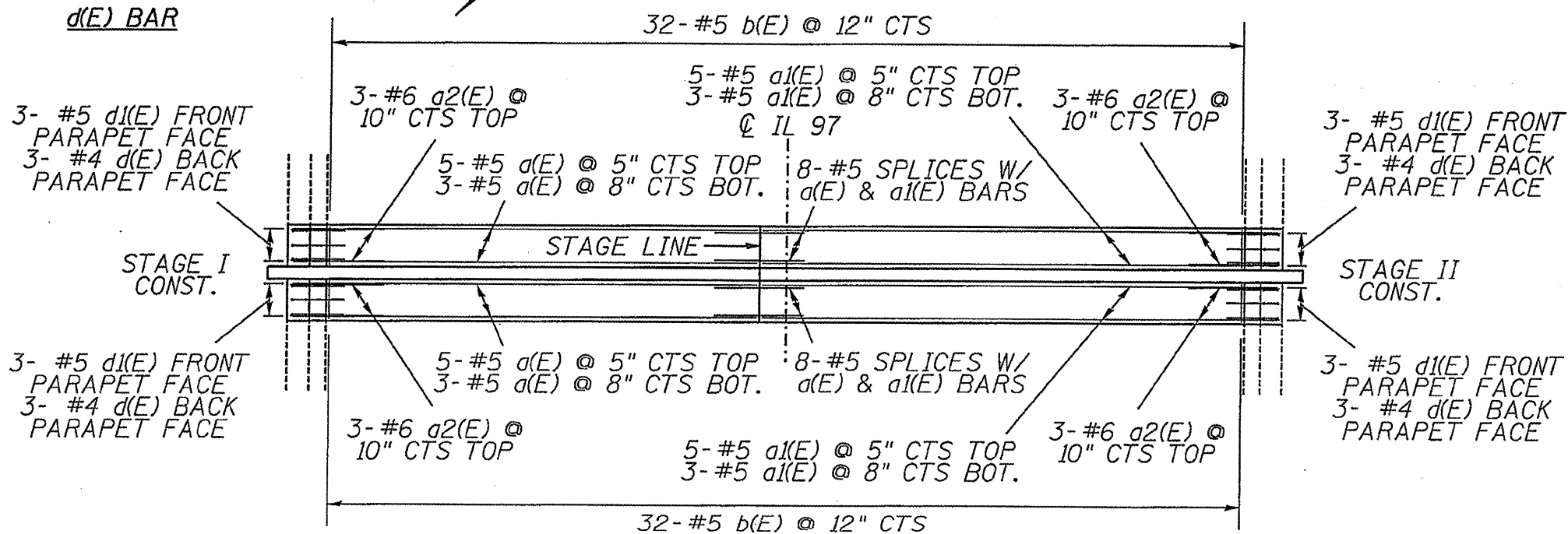
d1(E) BAR



b(E) BAR



d(E) BAR



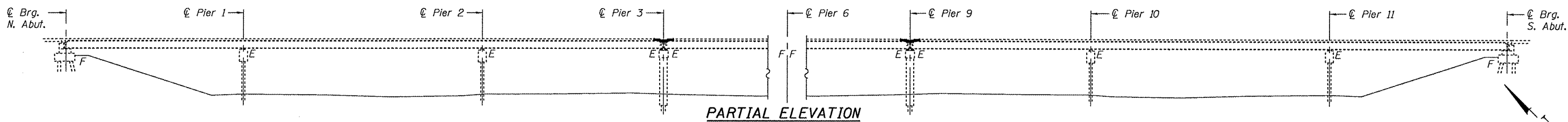
JOINT PLAN

SN 065-0002 - BENT 4 & PIER 7 SN 065-0003 - PIER 6 TOTAL BILL OF MATERIAL				
BAR	#	SIZE	LENGTH	SHAPE
d(E)	48	5	16' 4"	—
a1(E)	48	5	18' 4"	—
a2(E)	36	6	6' 0"	—
b(E)	192	5	2' 2"	┌
d(E)	36	4	5' 3"	└
d1(E)	36	5	3' 11"	└
REINFORCEMENT BARS -		2570 LB		
EPOXY COATED				
BAR SPLICERS		48 EACH		
CONCRETE SUPERSTRUCTURE		16.8 CU YD		

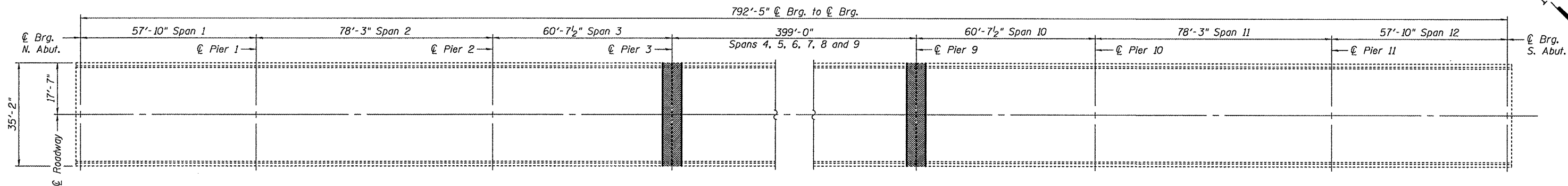
NOT TO SCALE

JOINT REPLACEMENT DETAILS
065-0002 B4, 065-0003 P3, P6, & P9
FAP 34 (IL 97)
SECTION (2) BRIDGE REHAB
MENARD COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL ELEVATION



PARTIAL PLAN

Remove existing Neoprene Expansion Joint at Piers 3 and 9 and replace with Finger Plate Joint.

NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 50, unless otherwise noted.

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{13}{16}$ " ϕ , unless otherwise noted.

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.

Finger Plate Expansion Joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

Tapered shims shall be added under the stools, as required by the Engineer, to make a smooth finger joint. Cost shall be included with Finger Plate Expansion Joint.

The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.

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

Diaphragm connection holes shall be $\frac{13}{16}$ " ϕ for $\frac{3}{4}$ " ϕ bolts. Two hardened washers shall be required at diaphragm connections.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Finger Plate Expansion Joint, $4\frac{1}{2}$ " or Furnishing and Erecting Structural Steel.

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.

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

Calculated weight of new structural steel = 22,250 lbs. The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.

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

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.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	18.7
Concrete Superstructure	Cu. Yd.	19.8
Reinforcement Bars, Epoxy Coated	Pound	2,630
Finger Plate Expansion Joint, $4\frac{1}{2}$ "	Foot	64
Fabric Reinforced Elastomeric Trough	Foot	74
Bar Splicers	Each	44
Mechanical Splice	Each	140
Structural Steel Removal	Pound	1,790
Furnishing and Erecting Structural Steel	Pound	1,210

DESIGN STRESSES

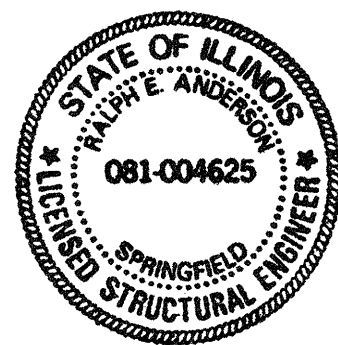
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50)

PLAN AND ELEVATION

SN 065-0003

DESIGNED	<i>[Signature]</i>
CHECKED	<i>Victor H. Velaz</i>
DRAWN	<i>[Signature]</i>
CHECKED	<i>AJB VHV</i>

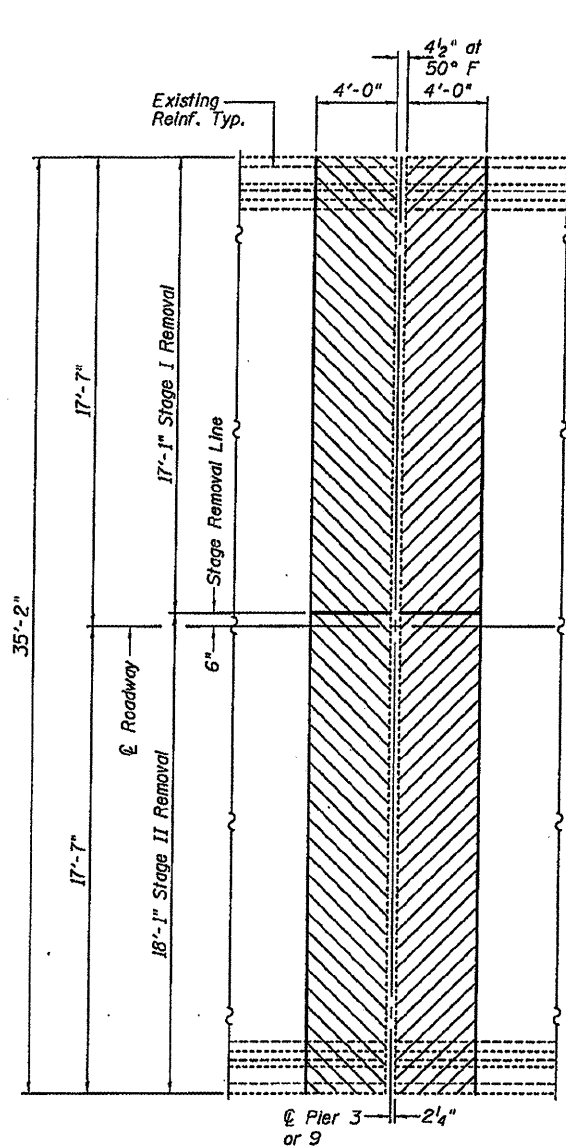
EXAMINED	<i>[Signature]</i>	February 27, 2009
PASSED	<i>Ralph E. Anderson</i>	ENGINEER OF BRIDGES AND STRUCTURES



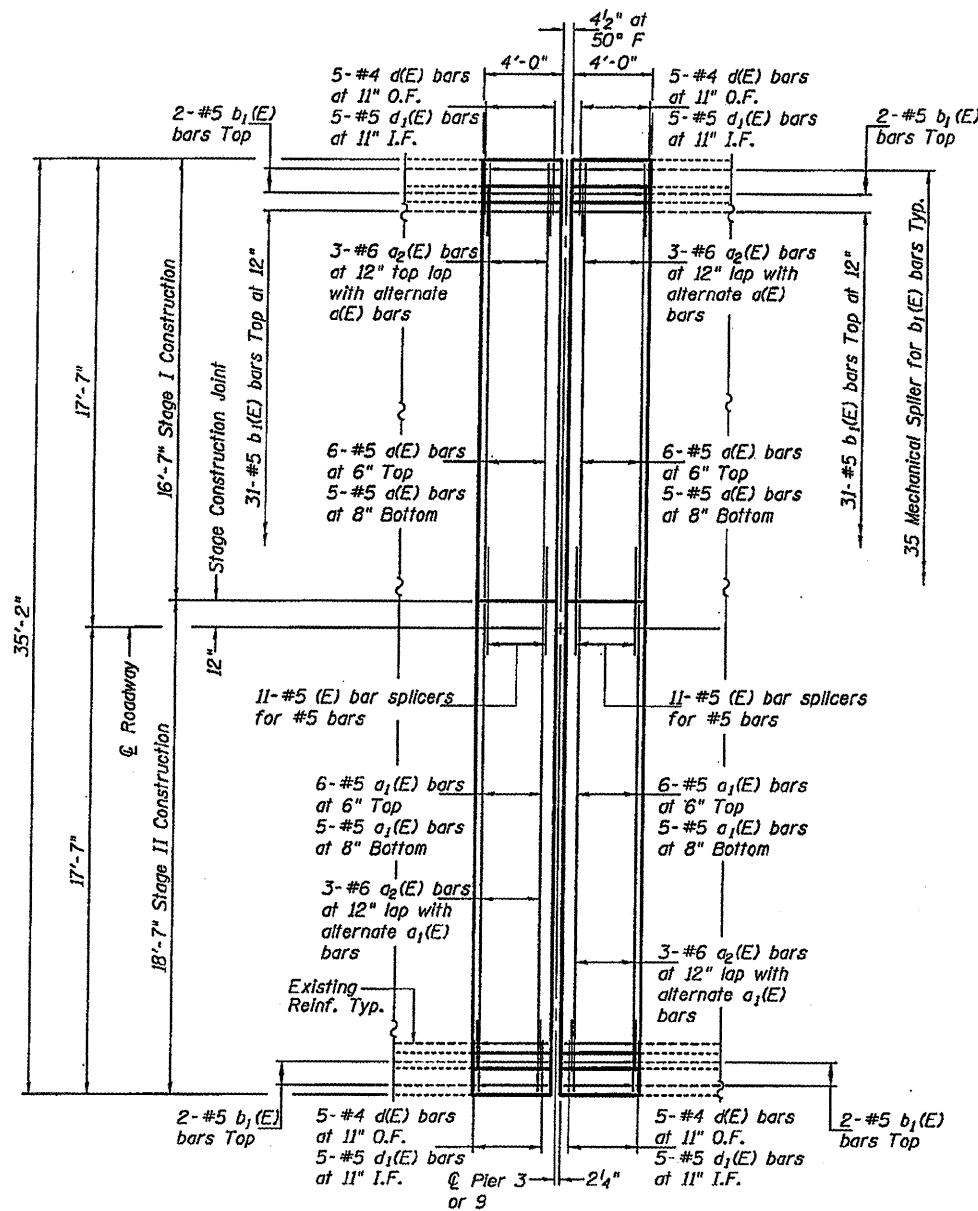
Expires: November 30, 2010

SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	34	(2) Bridge Rehab	Menard	29	23
5 SHEETS	CONTRACT NO. 72C71		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

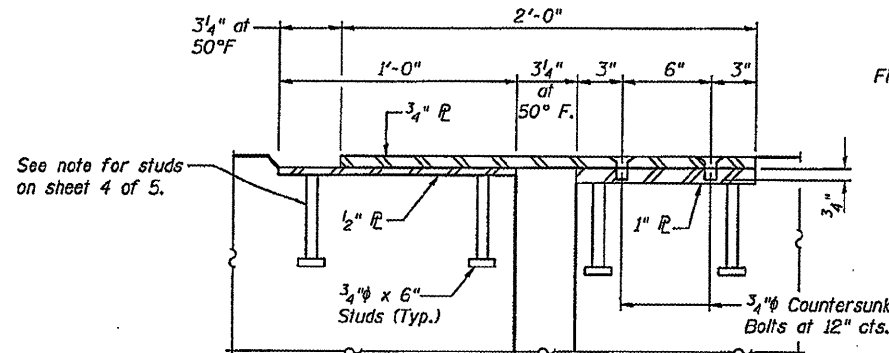
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



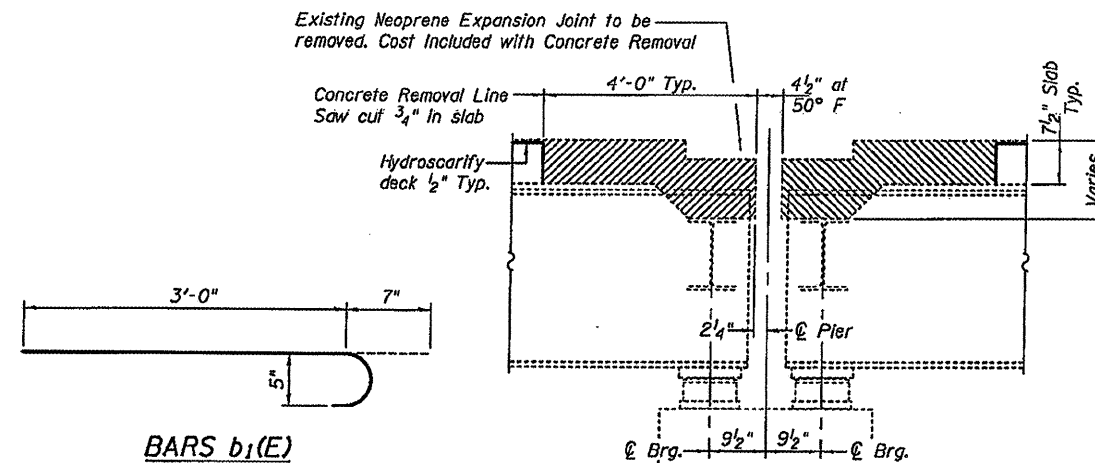
PARTIAL REMOVAL PLAN



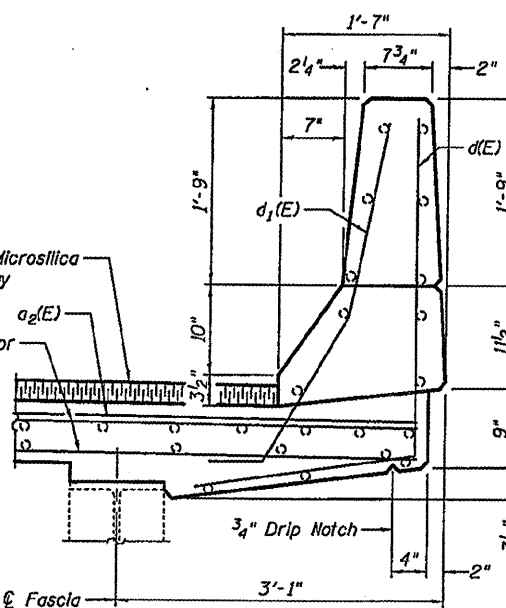
PARTIAL PLAN



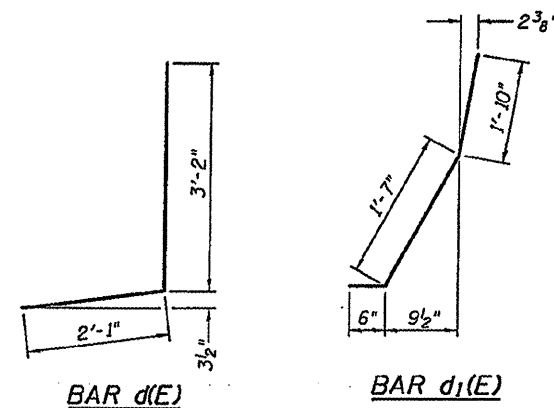
SECTION C-C



TYPICAL REMOVAL SECTION



TYPICAL SECTION THRU PARAPET

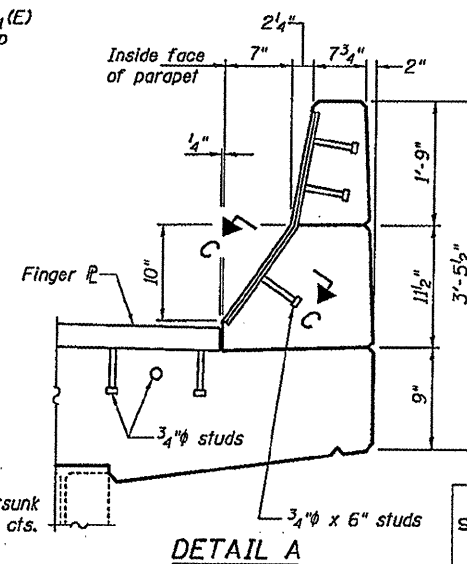


BAR d(E)

BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	44	#5	16'-4"	—
a1(E)	44	#5	18'-4"	—
a2(E)	24	#6	6'-0"	—
b1(E)	140	#5	3'-7"	—
d(E)	40	#4	5'-3"	—
d1(E)	40	#5	3'-11"	—
Concrete Removal			Cu. Yd.	18.7
Concrete Superstructure			Cu. Yd.	19.8
Reinforcement Bars, Epoxy Coated			Pound	2,630
Bar Splicers			Each	44
Mechanical Splice			Each	140



DETAIL A

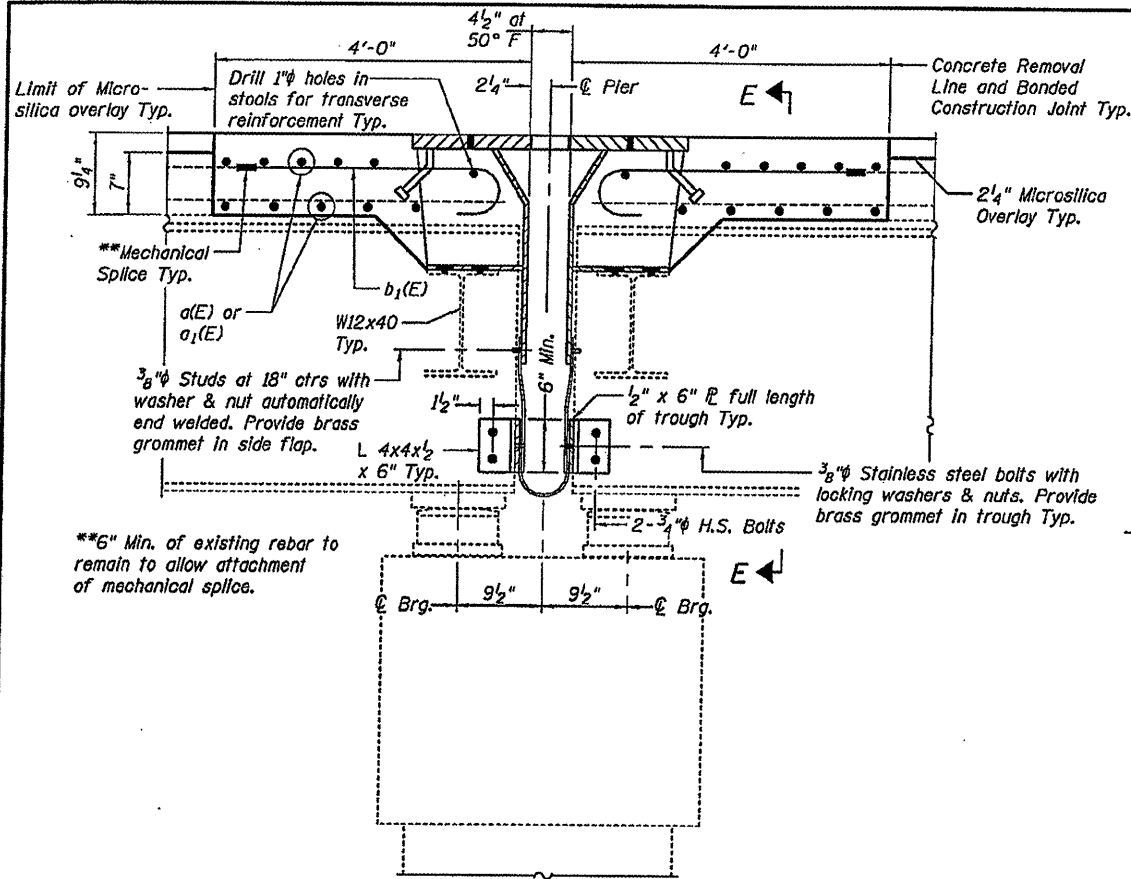
DECK AND JOINT DETAILS
SN 065-0003

DESIGNED	A.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	A.J.B., V.H.V.

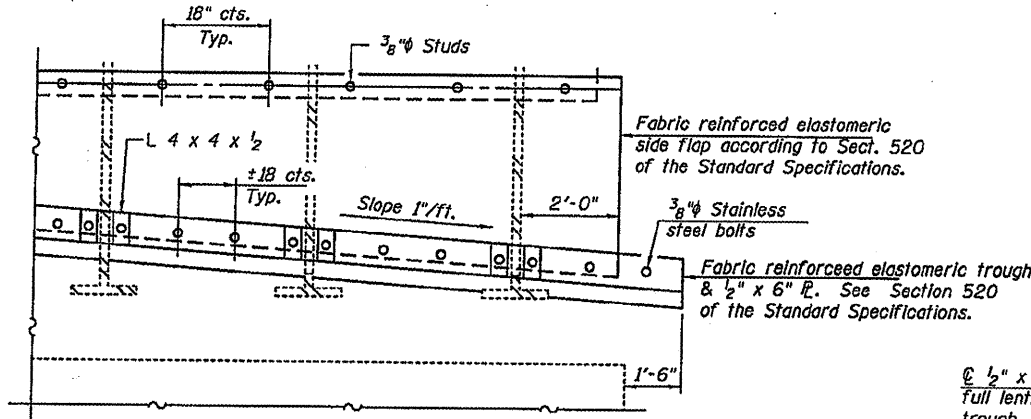
February 27, 2009
EXAMINED <i>Carl Prosser</i>
PASSED <i>Ralph E. Anderson</i>
ENGINEER OF STRUCTURAL SERVICES
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 2	F.A.P. RTE. 34	SECTION (2) Bridge Rehab	COUNTY Menard	TOTAL SHEETS 29	SHEET NO. 24
5 SHEETS	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 72C71	

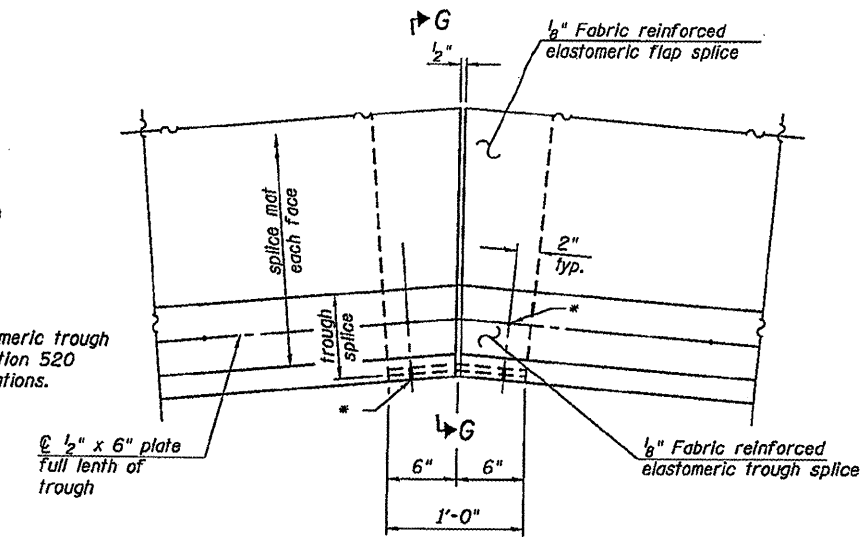
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



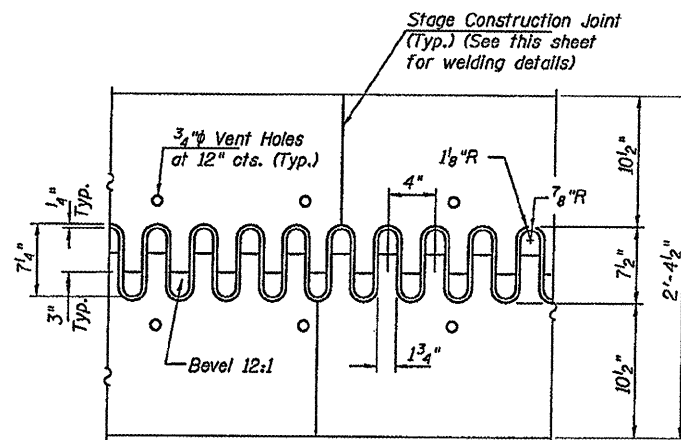
TYPICAL JOINT SECTION



SECTION E-E

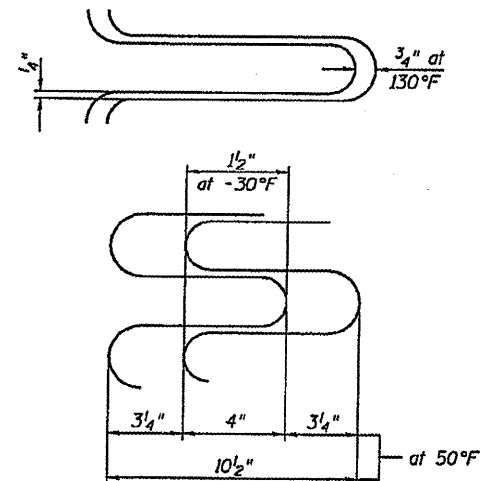


TROUGH SPLICE DETAIL

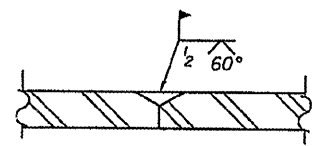


FLAME CUTTING DIAGRAM

Cut from
1/2" x 2'-4 1/2" x 31'-11 1/2" (NTR)

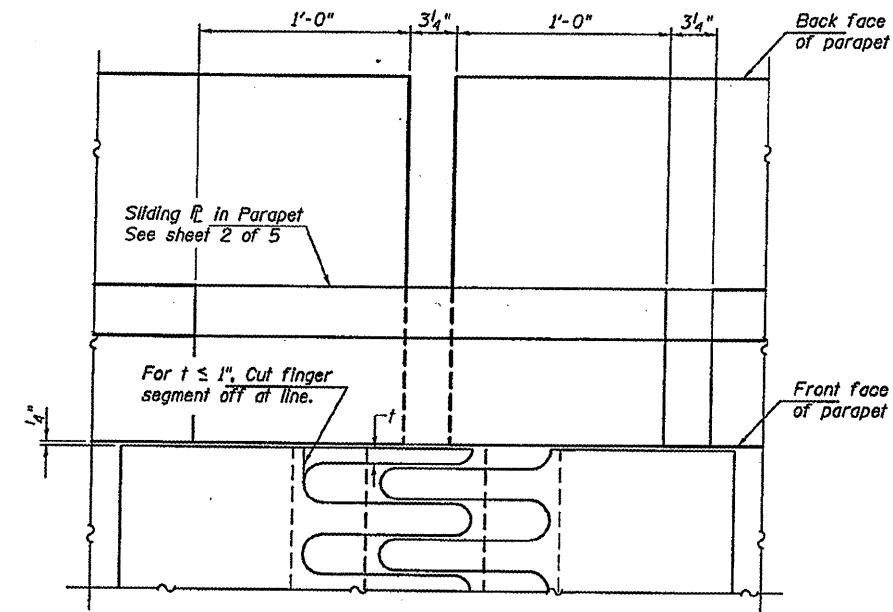


FINGER DETAIL

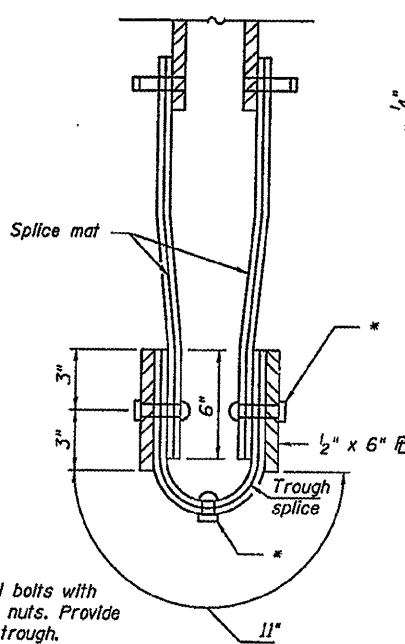


WELDING DETAIL AT
STAGE CONSTRUCTION LINE

* 3/8" Stainless Steel bolts with locking washers & nuts. Provide brass grommet in trough.



ENLARGED PARTIAL PARAPET PLAN



SECTION G-G

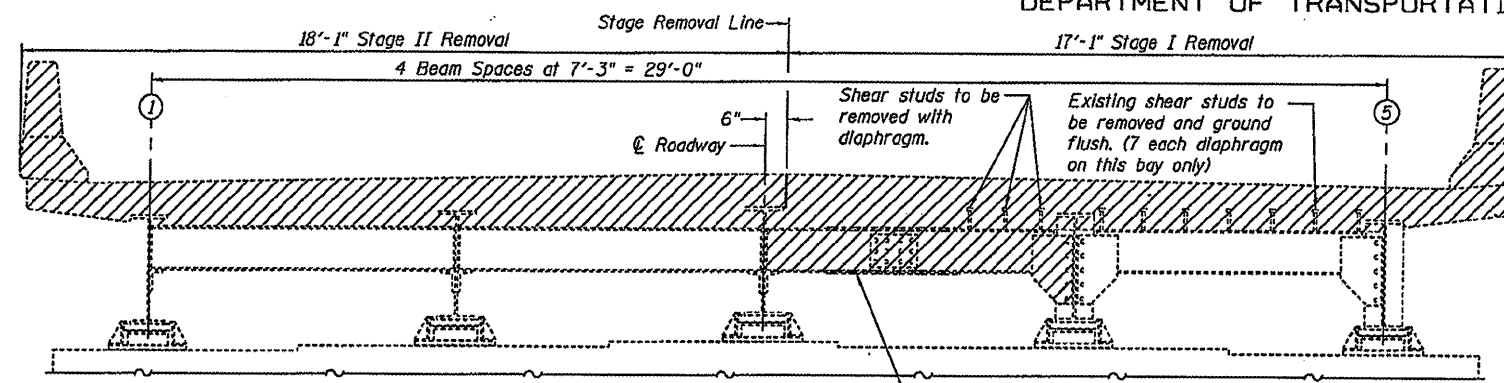
DECK AND JOINT DETAILS
SN 065-0003

DESIGNED	A.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	A.J.B. V.H.V.

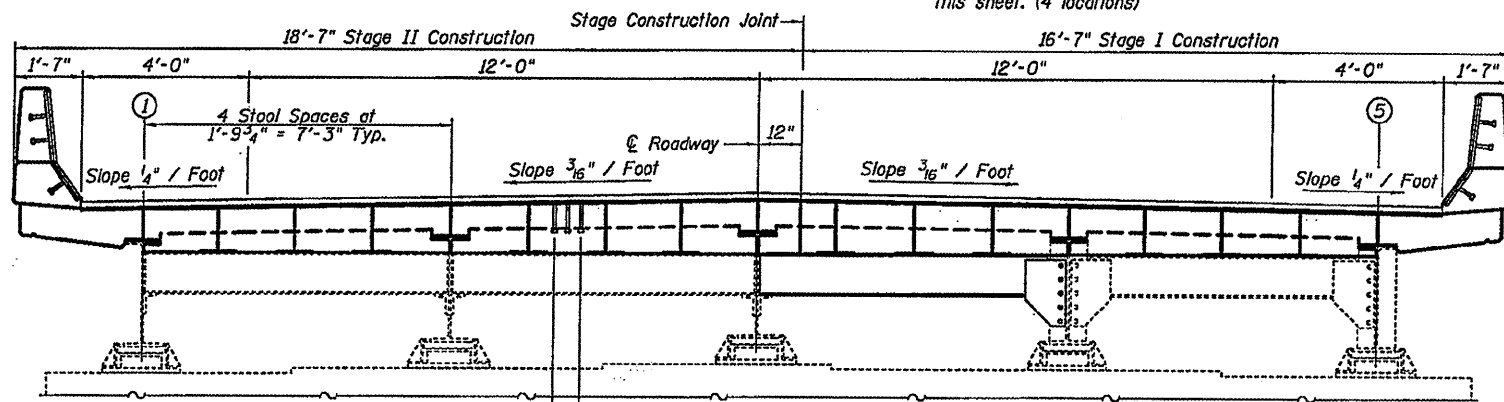
EXAMINED	February 27, 2009
PASSED	Carl Proyer ENGINEER OF STRUCTURAL SERVICES
	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 3	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	34	(2) Bridge Rehab	Menard	29	25
5 SHEETS	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
			CONTRACT NO. 72C71		

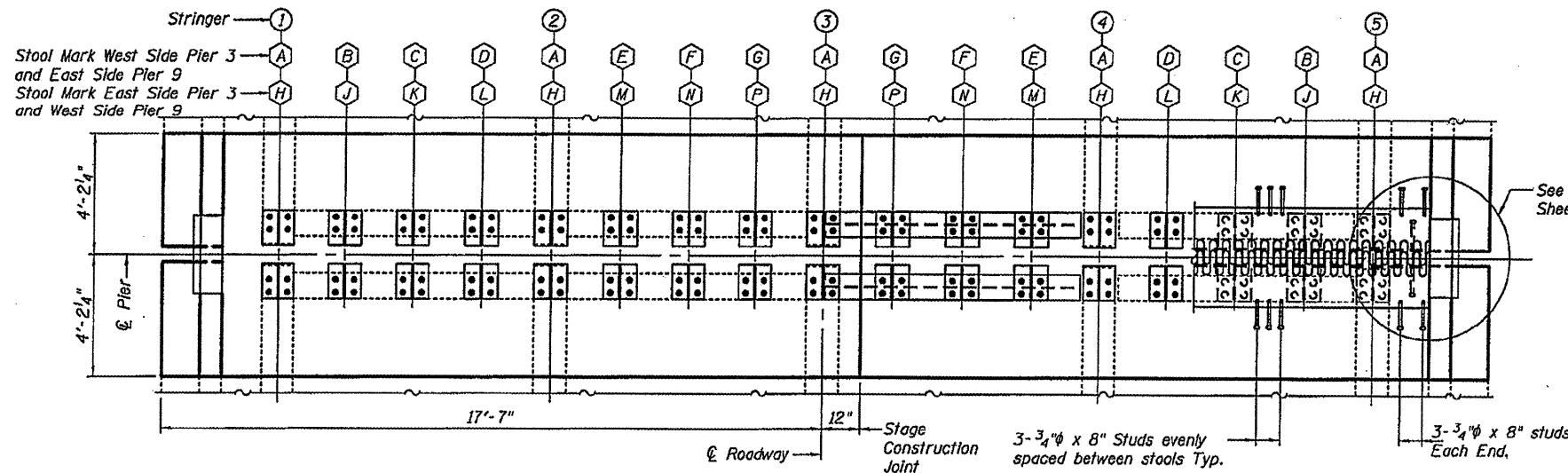
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TYPICAL EXISTING JOINT ELEVATION
(Looking West)



TYPICAL JOINT ELEVATION
(Looking West)

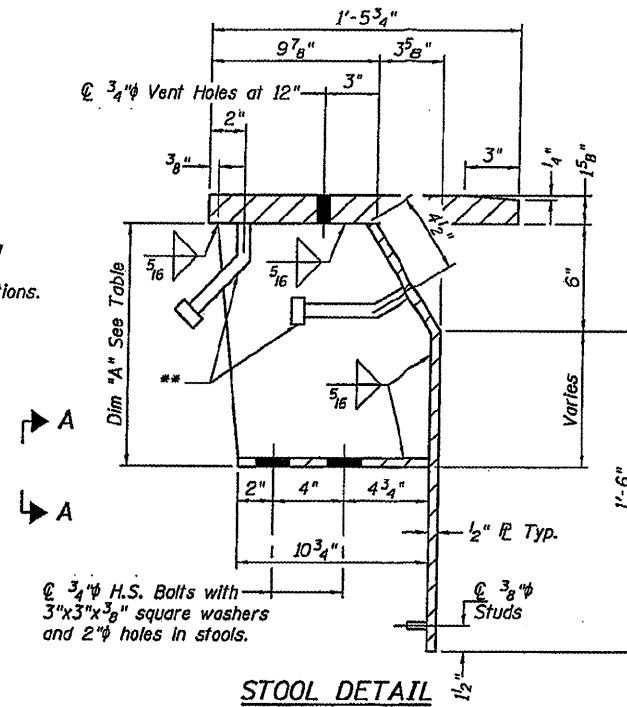


TYPICAL JOINT PLAN

DESIGNED A.J.B.
CHECKED V.H.V.
DRAWN Drew Christopher
CHECKED A.J.B. V.H.V.

February 27, 2009
EXAMINED *A. Carl Perry*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

**3/4" x 8" granular or solid flux filled headed studs conforming to Article 1006.32 of the Standards Specifications.



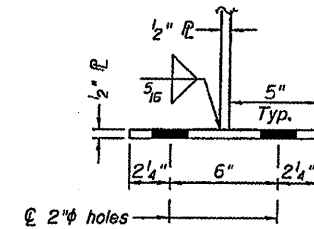
STOOL DETAIL

TABLE FOR DIMENSION "A"
W SIDE P 3 AND E SIDE P 9

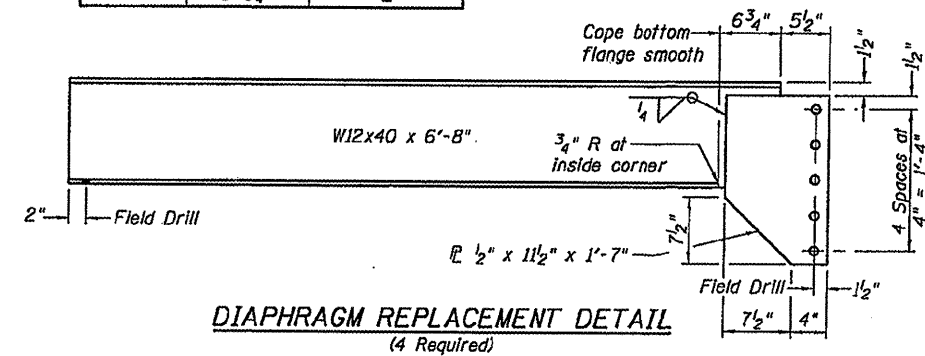
Stool Mark	Dim "A"	# Stools Req'd
A	9 7/8"	5
B	1'-0 1/2"	2
C	1'-0 7/8"	2
D	1'-1 1/4"	2
E	1'-2"	2
F	1'-2 3/8"	2
G	1'-2 3/4"	2

TABLE FOR DIMENSION "A"
E SIDE P 3 AND W SIDE P 9

Stool Mark	Dim "A"	# Stools Req'd
H	7 3/4"	5
J	11 1/8"	2
K	11 1/2"	2
L	11 7/8"	2
M	1'-0 5/8"	2
N	1'-0 7/8"	2
P	1'-1 1/4"	2



SECTION A-A



DIAPHRAGM REPLACEMENT DETAIL
(4 Required)

DECK AND JOINT DETAILS
SN 065-0003

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	34	(2) Bridge Rehab	Menard	29	26
			CONTRACT NO. 72C71		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

The diameter of this part is equal or larger than the diameter of bar spliced.

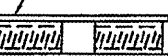
The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



** ONE PIECE

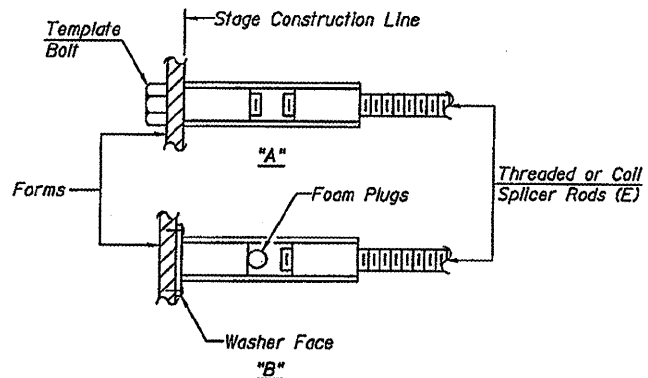
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

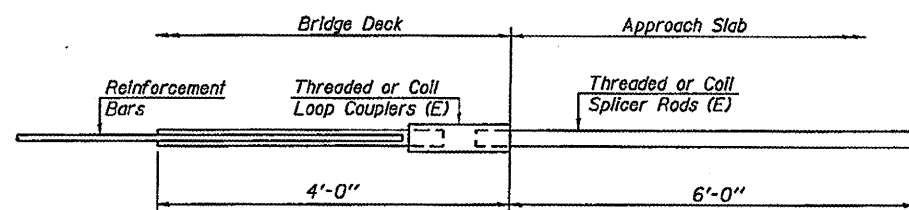
NOTES

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

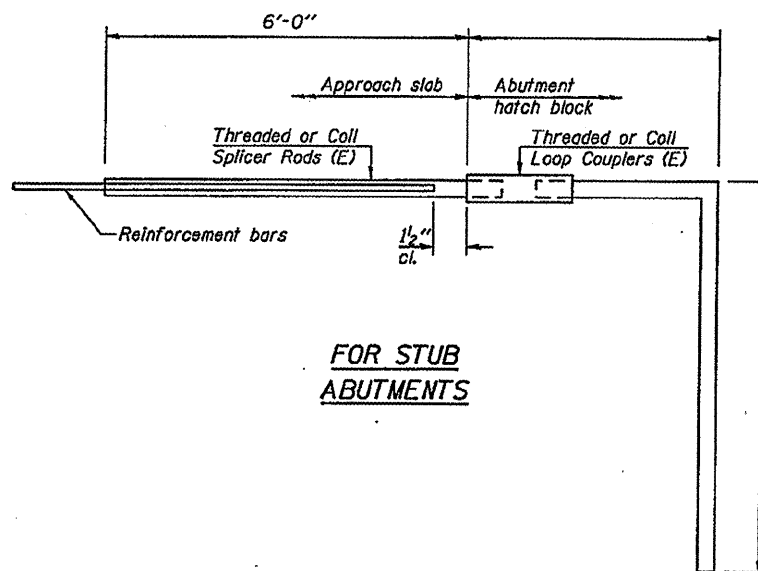
- ① Minimum Capacity = $1.25 \times f_y \times A_1$
(Tension in kips)
 - ② Minimum "Full-out Strength" = $0.66 \times f_y \times A_1$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_1 = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES

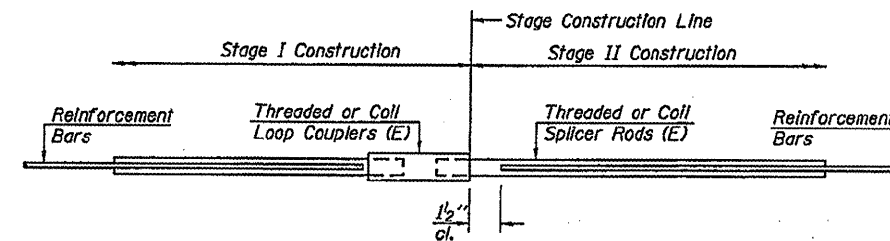
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS



FOR STUB ABUTMENTS



STANDARD

Bar Size	No. Assemblies Required	Location
#5	44	Piers 3 and 9

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	12.3 kips - tension
No. Required =	

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	12.3 kips - tension
No. Required =	

DESIGNED A.J.B.
CHECKED V.H.V.
DRAWN Drew Christopher
CHECKED A.J.B. V.H.V.

February 27, 2009
EXAMINED *Carl Poyner*
PASSED *Ralph E. Anderson*
ENGINEER OF STRUCTURAL SERVICES
ENGINEER OF BRIDGES AND STRUCTURES

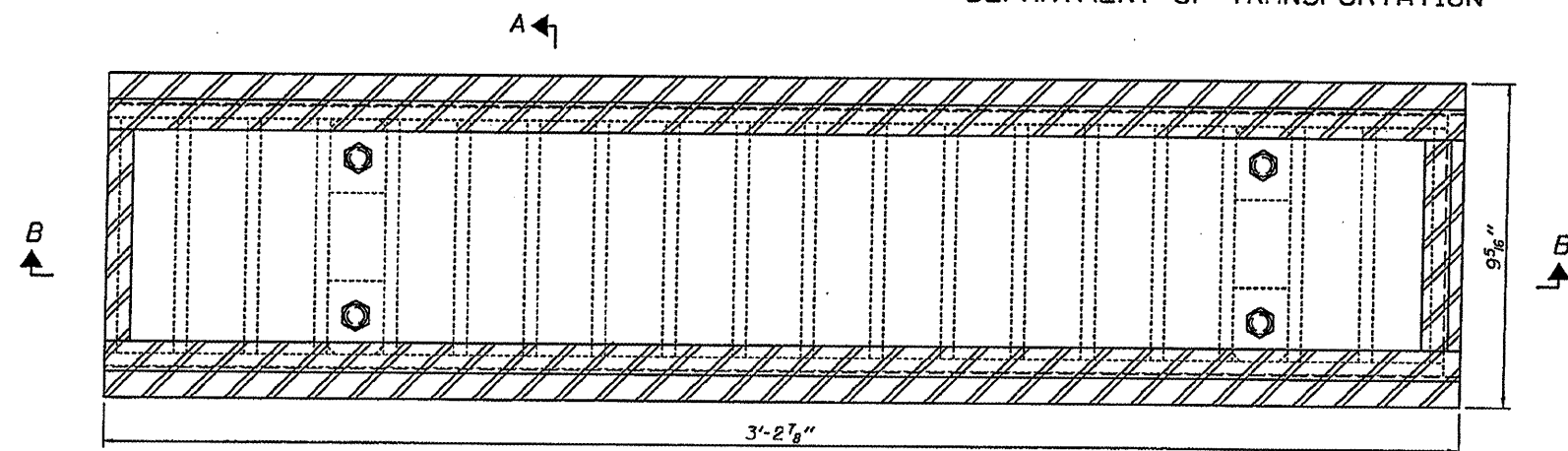
BSD-1 10-1-08

SLT-96-001-09

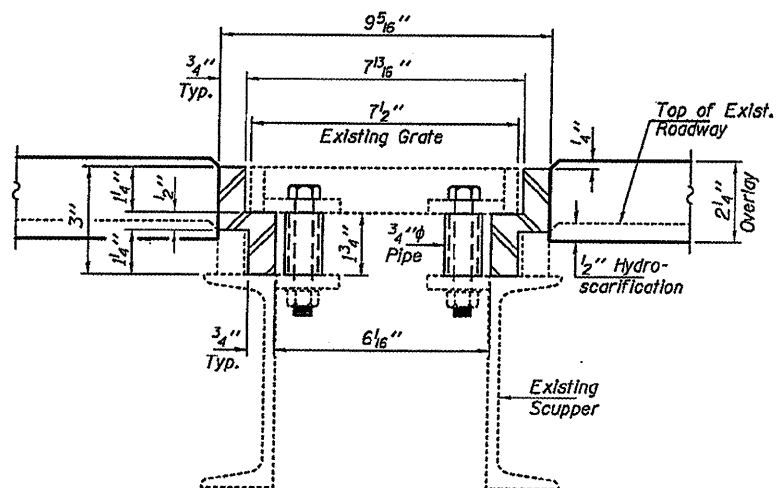
BAR SPLICER DETAILS
SN 065-0003

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5	34	(2) Bridge Rehab	Menard	29	27
5 SHEETS		CONTRACT NO.		72C71	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

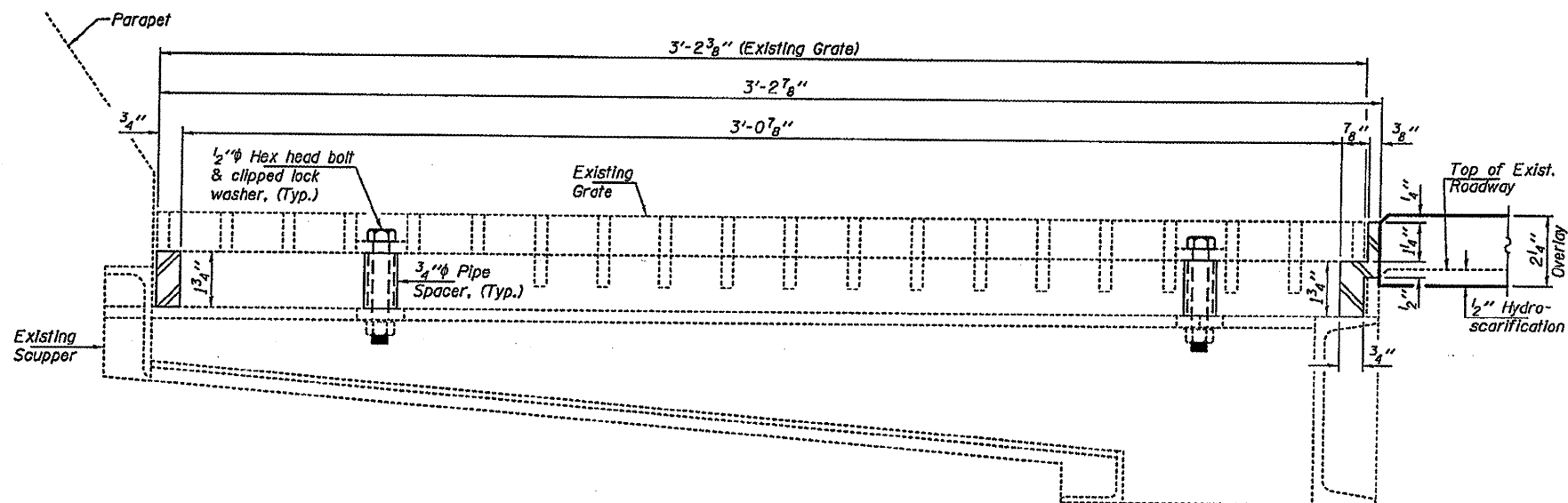
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



SECTION A-A



SECTION B-B

- Adjusting Scupper Ring

NOTES

See sheet of for scupper locations.
All structural steel shall be AASHTO M270 Grade 36. The adjusting scupper ring and 3/4" pipe sleeve spacers shall be galvanized.
Bolts shall be 1/2" AASHTO M164 Type 1, mechanically galvanized.
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 based at the unit price bid for the work.
Shop plans for proposed adjusting scupper ring shall be submitted for approval prior to fabrication.
Contractor shall ensure that no damage is done to existing grates to be reused.
Cost of all labor and materials necessary to remove existing grates, clean existing scuppers, install adjusting scupper rings and reinstalling grates is included in the cost per unit each for Adjusting Drainage Scupper, Type A.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Adjusting Drainage Scupper, Type A	Each	16

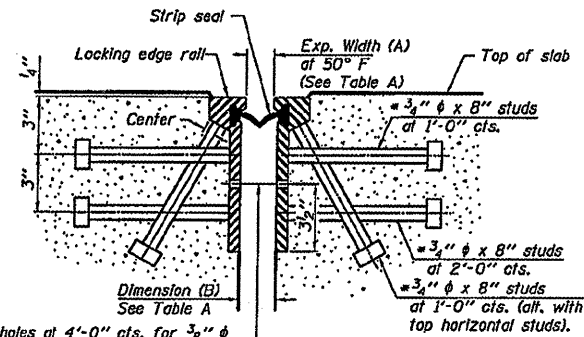
DESIGNED	VHV
CHECKED	DAB
DRAWN	Kyle M. Steffen
CHECKED	VHV DAB

February 27, 2009
EXAMINED *Carl Perry*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

ADJUSTING DRAINAGE
SCUPPER RING DETAILS
SN 065-0003

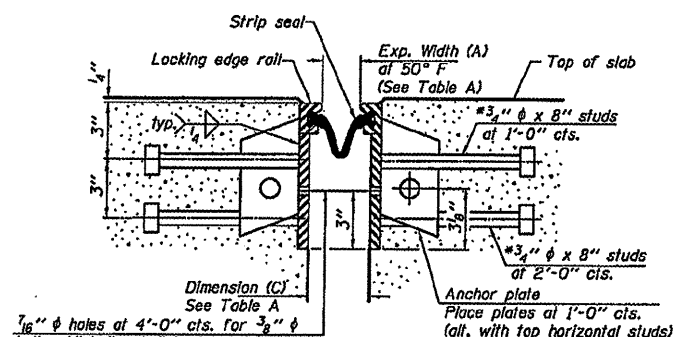
SHEET NO. 5A	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	34	(2) Bridge Rehab	Menard	29	28
5 SHEETS	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 72C71

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



3/8" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT



7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

TABLE A

SN 065-0002	A	B	C
N. Abutment	1 1/2"	2"	2 3/4"
Bent 4	1 1/2"	2"	2 3/4"
Pier 7	2 1/2"	2 5/8"	3 3/8"
S. Abutment	2 1/2"	2 5/8"	3 3/8"
SN 065-0003			
Pier 6	2 1/2"	2 5/8"	3 3/8"

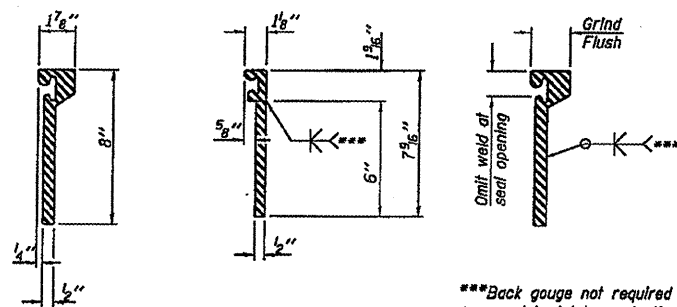
Notes:

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 height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a 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.

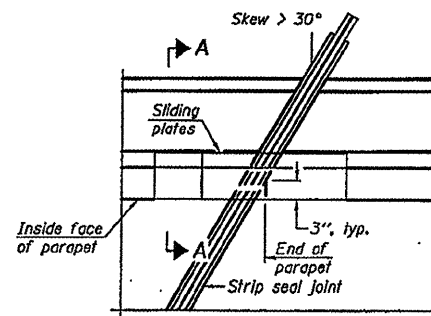


ROLLED EXTRUDED RAIL WELDED RAIL

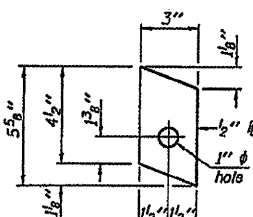
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

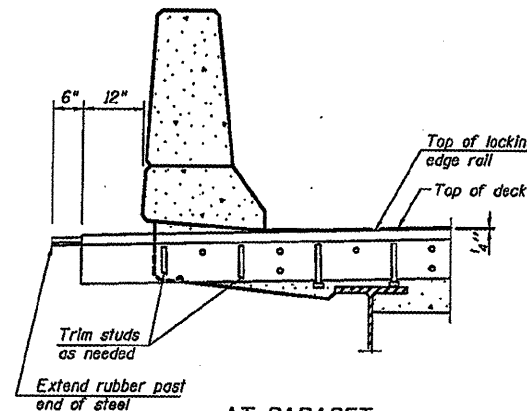
LOCKING EDGE RAILS



PLAN

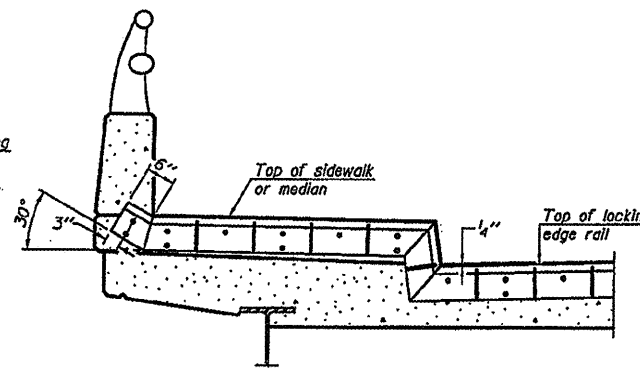


ANCHOR PLATE
(for welded rail)



AT PARAPET

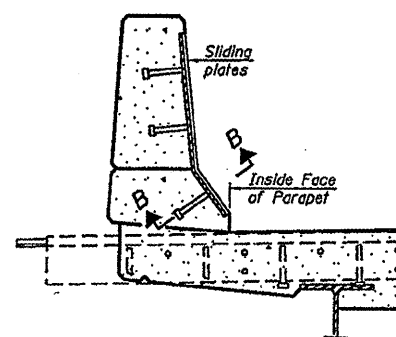
The pay limits for Preformed Joint Strip Seal shall be to the end of the steel plate. The 6" of rubber extending past the end of steel shall be considered incidental and shall not be measured for payment.



AT SIDEWALK OR MEDIAN

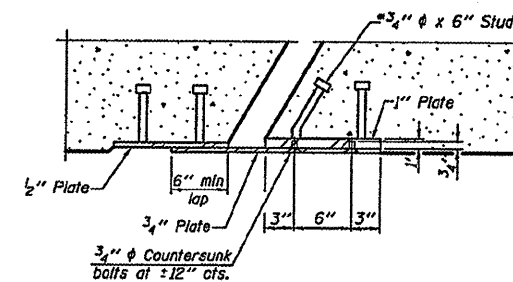
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	186

STRIP SEAL JOINT DETAILS

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5B	34	(2) Bridge Rehab	Menard	29	29
5 SHEETS			CONTRACT NO. 72C71		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					