

FAU ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	1

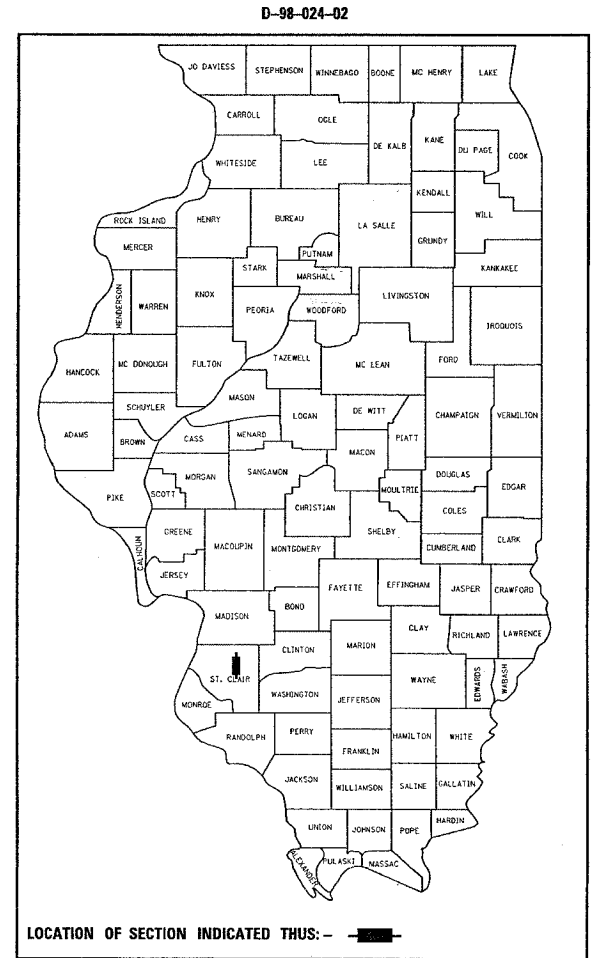
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

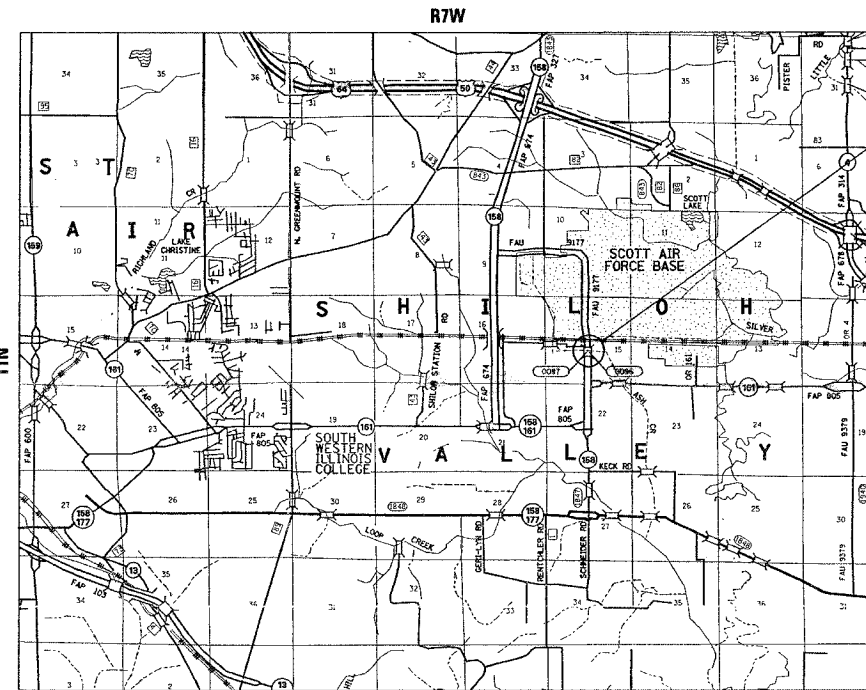
FAU ROUTE 9177 (SCOTT ROAD)
SECTION 44-1BR
PROJECT: BHM-9177(003)
SUPERSTRUCTURE REPLACEMENT
ST. CLAIR COUNTY

C-98-026-02

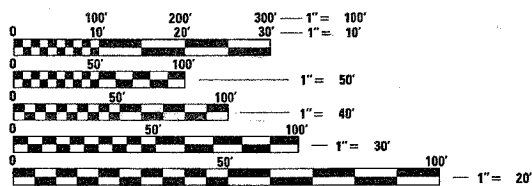
FOR INDEX OF SHEETS, SEE SHEET NO. 2



SINGLE SPAN T-BEAM SUPERSTRUCTURES
TO BE REPLACED WITH PPC DECK BEAMS
OVER ASH CREEK
SN 082-0096
BEGIN STA 98+50
END STA 101+06.8
SN 082-0097
BEGIN STA 198+50
END STA 201+10.6



MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE
ON THE FOLLOWING SHEETS



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

DESIGN DESIGNATION

NA

	082-0096	082-0097
ADT =	5450 (2006)	5450 (2006)
ADT =	6900 (2026)	6900 (2026)
SU =	4.7%	4.7%
MU =	1.5%	1.5%



LAT = 38.53255
LONG = 89.86442

	082-0096	082-0097
GROSS LENGTH	0.006 MI	0.006 MI
NET LENGTH	0.006 MI	0.006 MI

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *October 18, 2006*

Mary Jamie
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

December 8, 2006
Eric E. Hann
ENGINEER OF DESIGN AND ENVIRONMENT

December 8, 2006
Milton R. See, P.E.
DIRECTOR, DIVISION OF HIGHWAYS

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

PROJECT ENGINEER: PATTI LEBEAU (618) 346-3179
SQUAD CONTACT: ARTHUR MUEHLFELD (618) 346-3209

CONTRACT NO. 76566

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES & COMMITMENTS
- 3 SUMMARY OF QUANTITIES
- 4 TYPICAL SECTIONS
- 5 SCHEDULES
- 6 TIE POINTS & BENCHMARKS
- 7 REMOVAL PLAN
- 8-9 PLAN & PROFILES
- 10-12 OMITTED
- 13 PAVEMENT MARKING
- 14-15 MISCELLANEOUS DETAILS
- 16-27 BRIDGE PLANS (SHEET 18 OMITTED)
- 28-29 CHANNEL CROSS SECTIONS

HIGHWAY STANDARDS

000001-04	631032-03	701311-02
420401-05	635006-02	702001-06
515001-02	635011-01	780001-01
630001-07	701011-01	781001-02
631011-03	701301-02	BLR 21-6

GENERAL NOTES:

1. THE STANDARDS AND REVISION NUMBERS SHALL APPLY TO THIS PROJECT.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
3. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO UTILITIES WITHIN THE PROJECT AREA BEFORE DIGGING BY CALLING J.U.L.I.E. AND BY NOTIFYING NON-J.U.L.I.E. MEMBERS INDIVIDUALLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:
 - SCOTT AIR FORCE BASE (COMMUNICATIONS)
 - SBC (COMMUNICATIONS)
 - VERIZON NORTH, INC (COMMUNICATIONS)
 - BI-STATE DEVELOPMENT AGENCY (ELECTRIC)
 - ILLINOIS AMERICAN WATER CO.
 - AMEREN IP (GAS & ELECTRIC)
 - CITY OF BELLEVILLE (SANITARY SEWER)
 MEMBERS OF J.U.L.I.E. (800) 892-0123 ARE INDICATED BY *. NON-MEMBERS MUST BE NOTIFIED INDIVIDUALLY.
4. ANY REFERENCE TO "BITUMINOUS CONCRETE" SHALL BE CONSTRUED TO DENOTE "HOT-MIX ASPHALT".
5. THE WIDTHS OF BITUMINOUS SURFACE REMOVAL SHOWN ON THE PLANS ARE THE NOMINAL WIDTHS. IRREGULARITIES IN THE SURFACE WIDTH MAY OCCUR THROUGHOUT THE LENGTH OF THE SECTION. BITUMINOUS SURFACE REMOVAL WILL BE PAID FOR IN SQUARE METERS BASED UPON THE NOMINAL WIDTHS INDICATED.
6. ALL SIGNS THAT INTERFERE WITH CONSTRUCTION OPERATIONS SHALL BE REMOVED, STORED AND RE-ERECTED ACCORDING TO ARTICLE 107.25 OF THE STANDARD SPECIFICATIONS. ANY DAMAGE TO SIGNS CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
7. EXISTING RIPRAP AND CONCRETE "WASH-OUT" LOCATED IN THE CHANNEL SHALL BE REMOVED DURING CHANNEL EXCAVATION. THE COST FOR THIS REMOVAL SHALL BE INCLUDED IN THE COST OF "CHANNEL EXCAVATION" AND NO OTHER COMPENSATION WILL BE PERMITTED.
8. EXISTING PLANS ARE NOT INCLUDED DUE TO THEIR POOR CLARITY. A COPY WILL REMAIN IN THE DESIGN FILE FOR REFERENCE.

EROSION CONTROL PLAN

ANY AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES SHALL BE SEEDED (TEMPORARY AND PERMANENT) AT THE CONTRACTOR'S EXPENSE AND NO OTHER COMPENSATION WILL BE PERMITTED.

ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN. PRIOR TO THE APPROVAL AND USE OF THE PRODUCT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTARIZED CERTIFICATION BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE MANUFACTURER RECOMMENDED INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.

TEMPORARY SEEDING SHALL BE COMPLETED ON A WEEKLY BASIS ON EXPOSED GROUND AND SHALL BE IN ACCORDANCE WITH SECTION 280 OF THE STANDARD SPECIFICATIONS. TEMPORARY EROSION CONTROL SEEDING SHALL BE APPLIED AT A RATE OF 100 LBS/ACRE.

EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN DAYS.

FINAL SEEDING SHALL BE PERFORMED AS SOON AS POSSIBLE.

COMMITMENTS

A COMMITMENT HAS BEEN MADE TO SCOTT AIR FORCE BASE THAT ALL WORK REQUIRING LANE RESTRICTIONS WILL BE COMPLETE AND THE STRUCTURE RE-OPENED WITHOUT RESTRICTION BY JUNE 15, 2007. FURTHERMORE, THE CONTRACTOR WILL ONLY BE PERMITTED TO CONSECUTIVE CALENDAR DAYS OF CLOSURE IN ORDER TO COMPLETE THE WORK.

THE SCOTT AIR FORCE BASE BELLEVILLE GATE WILL BE RE-OPENED PRIOR TO THE SCOTT AIR FORCE BASE AIR SHOW WHICH WILL BE HELD ON JULY 6-7, 2007.

THE VETERANS OF FOREIGN WARS POST 4183 HAS AGREED TO TEMPORARY CLOSURE OF THIER NORTH ENTRANCE, LOCATED AT STA 98+98.05 (RT), IF NECESSARY. THE SOUTH ENTRANCE LOCATED AT STA 98+13.54 (RT) MUST REMAIN OPEN AT ALL TIMES.

SCOTT AIR FORCE BASE AND THE VFW HALL SHALL BE INFORMED 2 WEEKS PRIOR TO CLOSURE.

SCOTT AIR FORCE BASE CONTACT:
MR. DOUG BRIGGS 618-256-2639
OR
MAJOR RANDY C.A. WHITECOTTON 618-256-4823

VETERANS OF FOREIGN WARS POST 4183 CONTACT:
MR. J.C. GRANTHAM 618-746-9801

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**INDEX OF SHEETS, HIGHWAY
STANDARDS, GENERAL NOTES
AND COMMITMENTS**
FAU ROUTE 9177
SECTION 44-1BR
ST. CLAIR COUNTY

SUMMARY OF QUANTITIES

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	3
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

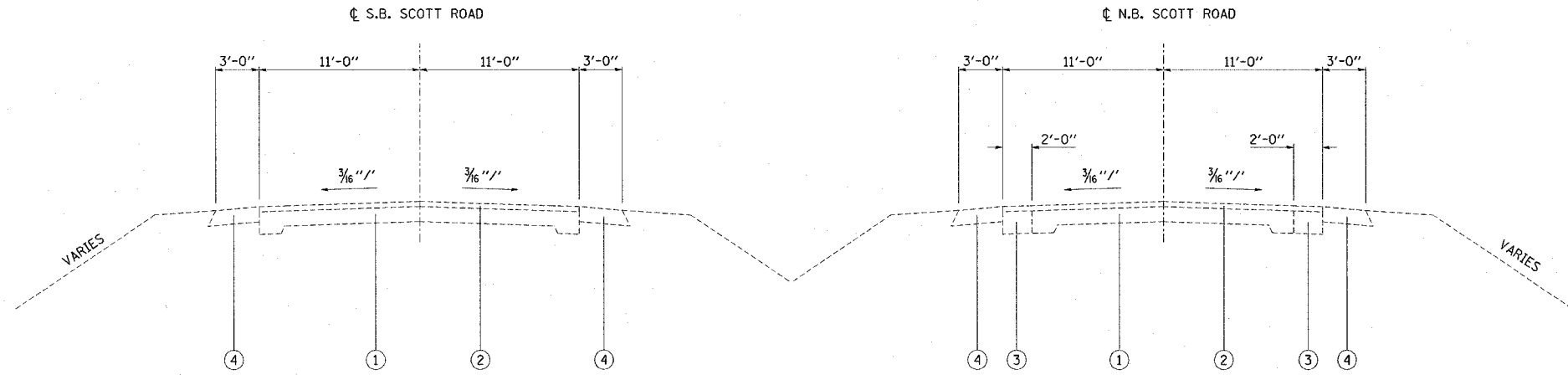
SUMMARY OF QUANTITIES			URBAN 80% FED. 20% STATE		CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	X080-2A	-SFTY-3N-	
XZ029997	REMOVE EXISTING ATTENUATOR BASE	SQ YD	92	92		
20200500	EARTH EXCAVATION (WIDENING)	CU YD	90	90		
20300100	CHANNEL EXCAVATION	CU YD	150	150		
35501320	HOT-MIX ASPHALT BASE COURSE 9"	SQ YD	728	728		
35800100	PREPARATION OF BASE	SA YD	243	243		
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.4	0.4		
40600300	AGGREGATE (PRIME COAT)	TON	2	2		
40600980	TEMPORARY RAMP	SQ YD	130	130		
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	85	85		
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	41	41		
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	587	587		
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	118	118		
44000100	PAVEMENT REMOVAL	SQ YD	653	653		
44000157	HOT-MIX ASPHALT SURFACE REMOVAL 2"	SQ YD	757	757		
44004250	PAVED SHOULDER REMOVAL	SQ YD	368	368		
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	2	2		
50102400	CONCRETE REMOVAL	CU YD	8.9	8.9		
50200100	STRUCTURE EXCAVATION	CU YD	10.4	10.4		
50300225	CONCRETE STRUCTURES	CU YD	18.1	18.1		
50300260	BRIDGE DECK GROOVING	SQ YD	302	302		
50300300	PROTECTIVE COAT	SQ YD	309	309		
50301200	CONCRETE WEARING SURFACE	SQ YD	309	309		
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2776	2776		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	7600	7600		
50800515	BAR SPLICERS	EACH	98	98		
50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	63	63		
51500100	NAME PLATES	EACH	2	2		
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	25	25		
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3	3		
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4		
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	1	1		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6		
67100100	MOBILIZATION	L SUM	1	1		
70101030	TRAFFIC CONTROL AND PROTECTION, STANDARD BAR 21	L SUM	1	1		
70104000	CHANGEABLE MESSAGE SIGN	CAL MO	1	1		
70102672	TRAFFIC CONTROL AND PROTECTION, STANDARD 701602, SPECIAL	L SUM	1	1		
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	96	96		

SUMMARY OF QUANTITIES			URBAN 80% FED. 20% STATE		CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	X080-2A	-SFTY-3N-	
70300210	TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	306	306		
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	4571	4571		
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	530	530		
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	104	104		
70301000	WORK-ZONE PAVEMENT MARKING REMOVAL	SQ FT	2070	2070		
70400500	TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	270	270		
70400600	RELOCATE TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	260	260		
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	894	894		
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	44	44		
* 78008200	POLYUREA PAVEMENT MARKING TYPE I - LETTERS & SYMBOLS	SQ FT	122	122		
* 78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	592	592		
* 78008270	POLYUREA PAVEMENT MARKING TYPE I - LINE 24"	FOOT	22	22		
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	3	3		
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	3	3		
* 78100300	REPLACEMENT REFLECTOR	EACH	8	8		
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	8	8		
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	1	1		
78300100	PAVEMENT MARKING REMOVAL	SQ FT	360	360		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	6	6		
X0323992	HELICAL GROUND ANCHORS	EACH	4	4		
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	42	42		
Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2		
Z0030255	IMPACT ATTENUATORS, TEMPORARY (FULLY-REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	1	1		
Z0030340	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2		
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1		
Z0073700	TEMPORARY WALL BRACING SYSTEM	L SUM	1	1		

* SPECIALTY ITEMS

Rev.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



EXISTING TYPICAL SECTION

STA 198+50 TO STA 199+84
STA 200+16 TO STA 201+10.6

STA 98+50 TO STA 99+84
STA 100+16 TO STA 101+06.8

LEGEND

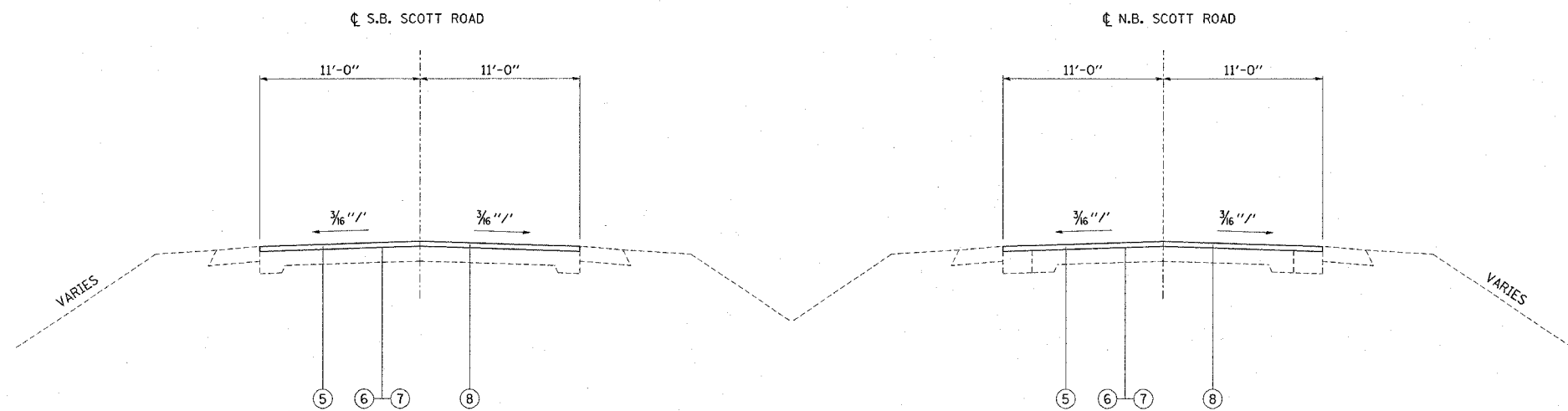
- ① EXISTING PCC PAVEMENT - 9'-6"-9"
- ② EXISTING RESURFACING
- ③ EXISTING PCC BASE COURSE WIDENING - 9"
- ④ EXISTING BITUMINOUS SHOULDER
- ⑤ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL - 2"
- ⑥ PROPOSED BITUMINOUS MATERIALS (PRIME COAT)
- ⑦ PROPOSED AGGREGATE (PRIME COAT)
- ⑧ PROPOSED HOT-MIX ASPHALT SURFACE COURSE - 2"

MIXTURE CHART

MIXTURE USE	SURFACE
AC/PG	PG 64-22
RAP % (MAX)	10%
DESIGN AIR VOIDS	4.0% @ Ndes=70
MIX COMPOSITION (GRADATION MIXTURE)	
FRICTION AGG	MIXTURE "D"

PLAN QUANTITIES FOR HOT-MIX ASPHALT SURFACE COURSE ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LB/SQ YD/IN.

NOTE: BINDER SPECIFICATIONS LISTED IN CHART ABOVE SHALL APPLY TO "HOT-MIX ASPHALT BASE COURSE - 9 INCH" AS SHOWN IN THE TYPICAL SECTIONS.



PROPOSED TYPICAL SECTION

STA 198+50 TO STA 199+84
STA 200+16 TO STA 201+10.6

STA 98+50 TO STA 99+84
STA 100+16 TO STA 101+06.8

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION

FAU ROUTE 9177
SECTION 44-1BR
ST. CLAIR COUNTY

PLOT DATE = 12/15/2006
C:\p1\proj\9177\44-1BR\9177_44-1BR_02.dwg
PLOT SCALE = 1/8" = 1'-0"
REFERENCE = MREF 8

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

EARTHWORK SCHEDULE

LOCATION	CHANNEL EXCAVATION
STATION TO STATION	CU YD
CHANNEL	
STA 0+20 TO STA 0+40	16
STA 0+40 TO STA 0+60	30
STA 0+60 TO STA 0+80	26
STA 0+80 TO STA 1+00	27
STA 1+00 TO STA 1+20	33
STA 1+20 TO STA 1+40	18
SUBTOTAL	150

GUARDRAIL SCHEDULE

LOCATION	STEEL PLATE BEAM GUARDRAIL TYPE A	TRAFFIC BARRIER TERMINAL, TYPE 6A	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL, TYPE 2	TERMINAL MARKER - DIRECT APPLIED	GUARDRAIL MARKERS, TYPE A
	FOOT	EACH	EACH	EACH	EACH	EACH
NW QUADRANT	25	1		1		2
NE QUADRANT		1		1		2
SW QUADRANT		1		1		2
SE QUADRANT		1	1		1	2
TOTAL	25	4	1	3	1	8

RESURFACING SCHEDULE

LOCATION	BITUMINOUS MATERIALS (PRIME COAT)	AGGREGATE (PRIME COAT)	HOT-MIX ASPHALT SURFACE COURSE	PREPARATION OF BASE	INCIDENTAL HOT-MIX ASPHALT SURFACING
STATION TO STATION	TON	TON	TON	SQ YD	TON
SN 082-0096					
STA 98+50 TO STA 99+48	0.08	0.4	26.8		
BRIDGE OMISSION					
STA 100+52 TO STA 101+07	0.05	0.3	15.2		
CROSSOVERS					
STA 99+08 TO STA 99+48	0.06	0.3		128.0	21.6
STA 100+52 TO STA 100+85	0.06	0.3		115.0	19.4
SN 082-0097					
STA 198+50 TO STA 199+48	0.09	0.4	26.8		
BRIDGE OMISSION					
STA 200+52 TO STA 201+11	0.06	0.3	16.2		
TOTAL	0.4	2	85	243	41

RAISED REFLECTIVE PAVEMENT MARKERS SCHEDULE

LOCATION	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)
STATION TO STATION	EACH	ONE-WAY OPAQUE	ONE-WAY OPAQUE
SN 082-0096			
STA 98+50 TO STA 99+54	1	1	
STA 99+54 TO STA 100+46	1		1
STA 100+46 TO STA 101+07	1		1
SN 082-0097			
STA 198+50 TO STA 199+54	1	1	
STA 199+54 TO STA 200+46	1		1
STA 200+46 TO STA 201+11	1	1	
TOTAL	6	3	3

PAVEMENT MARKING SCHEDULE

LOCATION	POLYUREA PAVEMENT MARKING LETTERS & SYMBOLS	POLYUREA PAVEMENT MARKING - 4"			POLYUREA PAVEMENT MARKING LINE - 24"	THERMOPLASTIC PAVEMENT MARKING - 4"			THERMOPLASTIC PAVEMENT MARKING LINE - 24"
		SKIP-DASH CENTERLINE	EDGE LINE			SKIP-DASH CENTERLINE	EDGE LINE		
			WHITE	YELLOW			WHITE	YELLOW	
STATION TO STATION	SQ FT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	
SN 082-0096									
STA 98+50 TO STA 99+54					30	136	104		
STA 99+54 TO STA 100+46	122	20	184	92	22				
STA 100+46 TO STA 101+07					20	83	61	44	
SN 082-0097									
STA 198+50 TO STA 199+54					30	134	104		
STA 199+54 TO STA 200+46		20	184	92					
STA 200+46 TO STA 201+11					20	87	65		
SUB-TOTAL		40	368	184	100	440	334		
TOTAL	122		592		22	874		44	

REVISIONS	
NAME	DATE

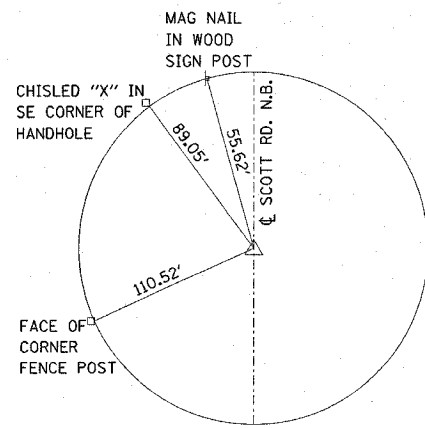
ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

FAU ROUTE 9177
SECTION 44-1BR
ST. CLAIR COUNTY

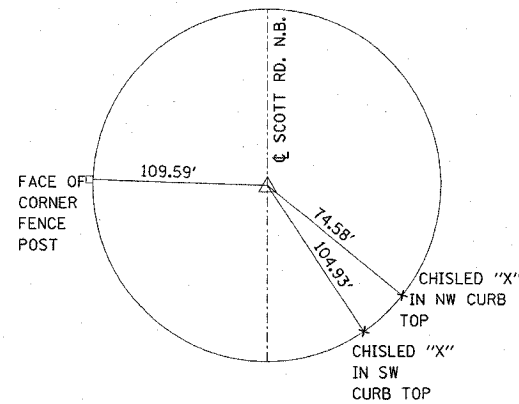
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PLOT SCALE = 1"=50'
REFERENCE = 888#

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



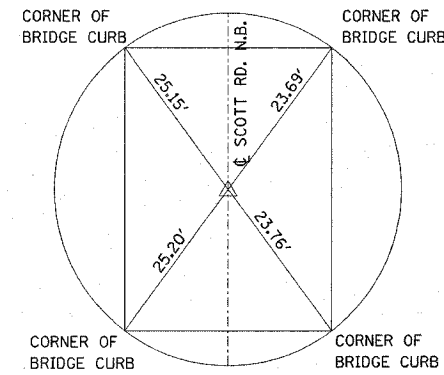
TIE POINT

MAG NAIL
STA. 95+00



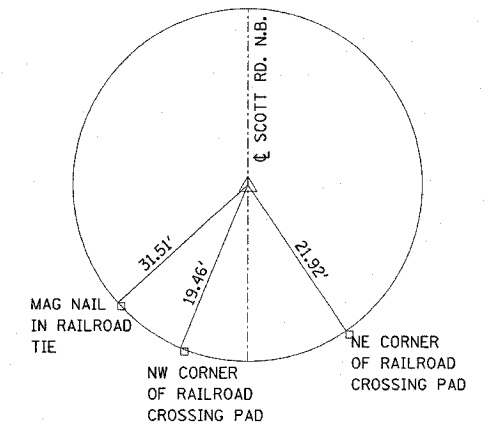
TIE POINT

MAG NAIL
P.C. 99+37.52



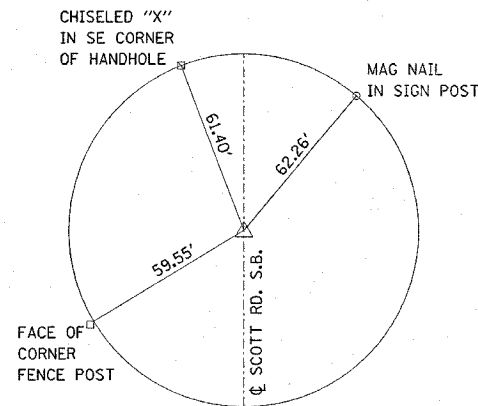
TIE POINT

MAG NAIL
STA. 100+00



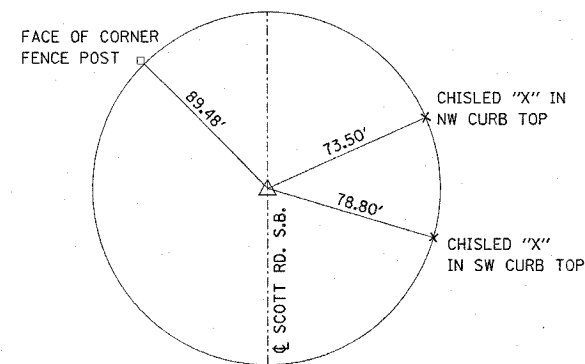
TIE POINT

MAG NAIL
P.T. 101+33.76



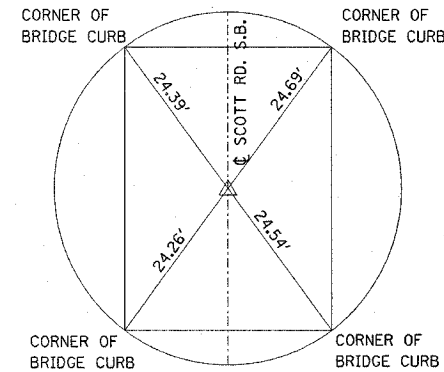
TIE POINT

MAG NAIL
STA. 195+00



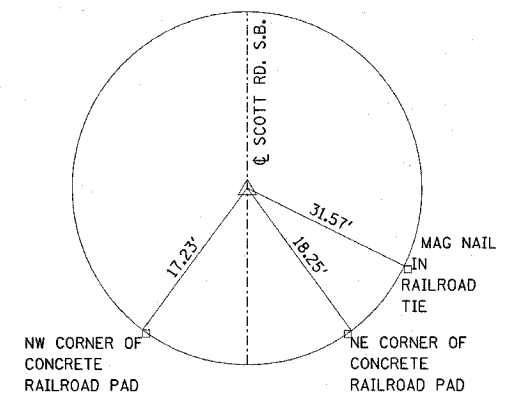
TIE POINT

MAG NAIL
STA. 198+66.30



TIE POINT

MAG NAIL
STA. 200+00



TIE POINT

MAG NAIL
P.T. 201+33.93

BENCHMARK: CUT "□" ON NORTH HEADWALL IN MIDDLE OF 2 STRUCTURES. ELEV = 440.710

PLOT DATE * DATE *
PLOT SCALE * SCALE *
REFERENCE * REF *

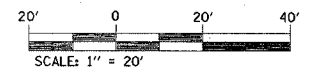
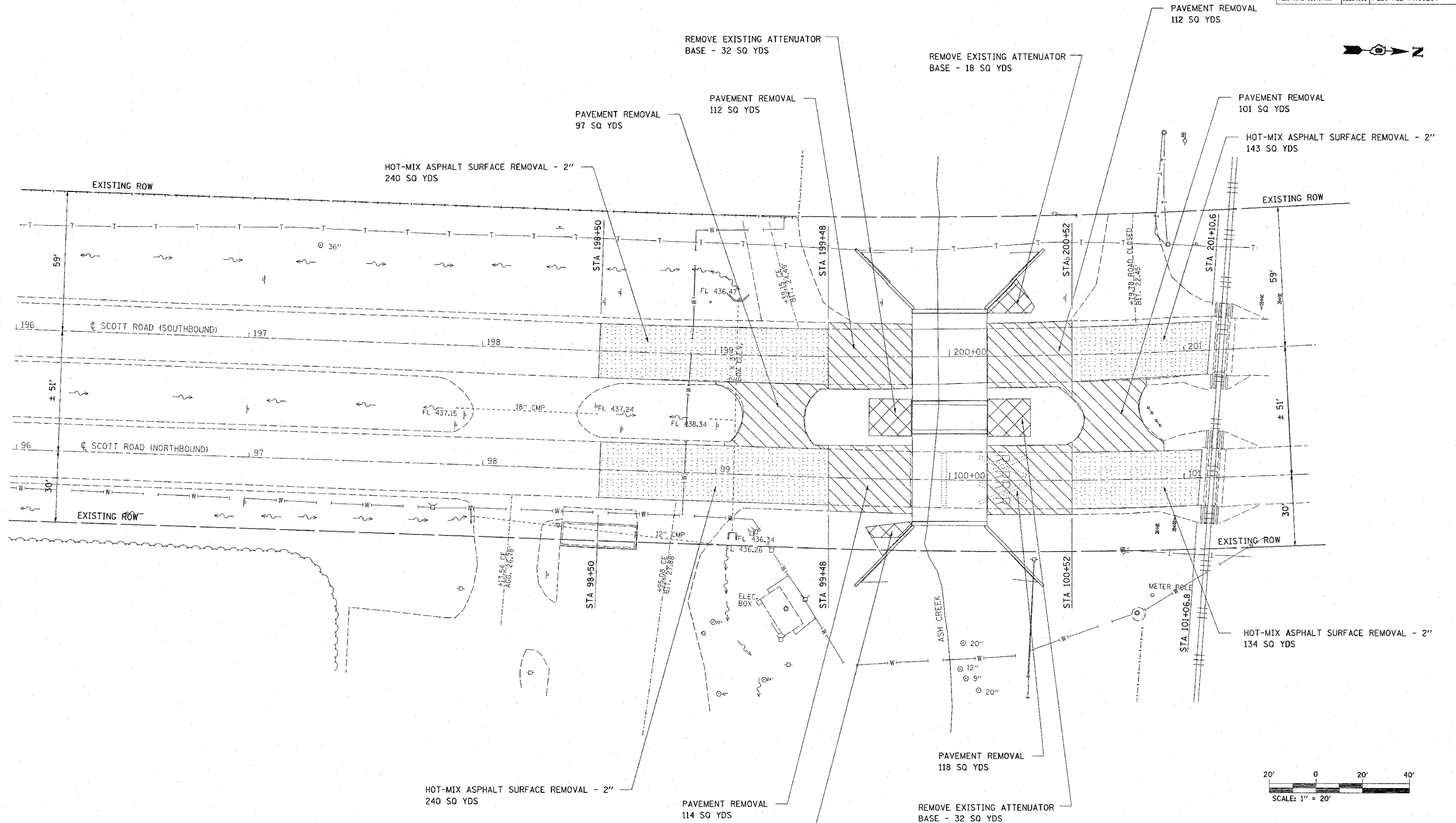
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TIE POINTS AND BENCHMARKS

FAU ROUTE 9177
SECTION 44-1BR
ST. CLAIR COUNTY

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	7
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

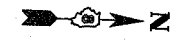
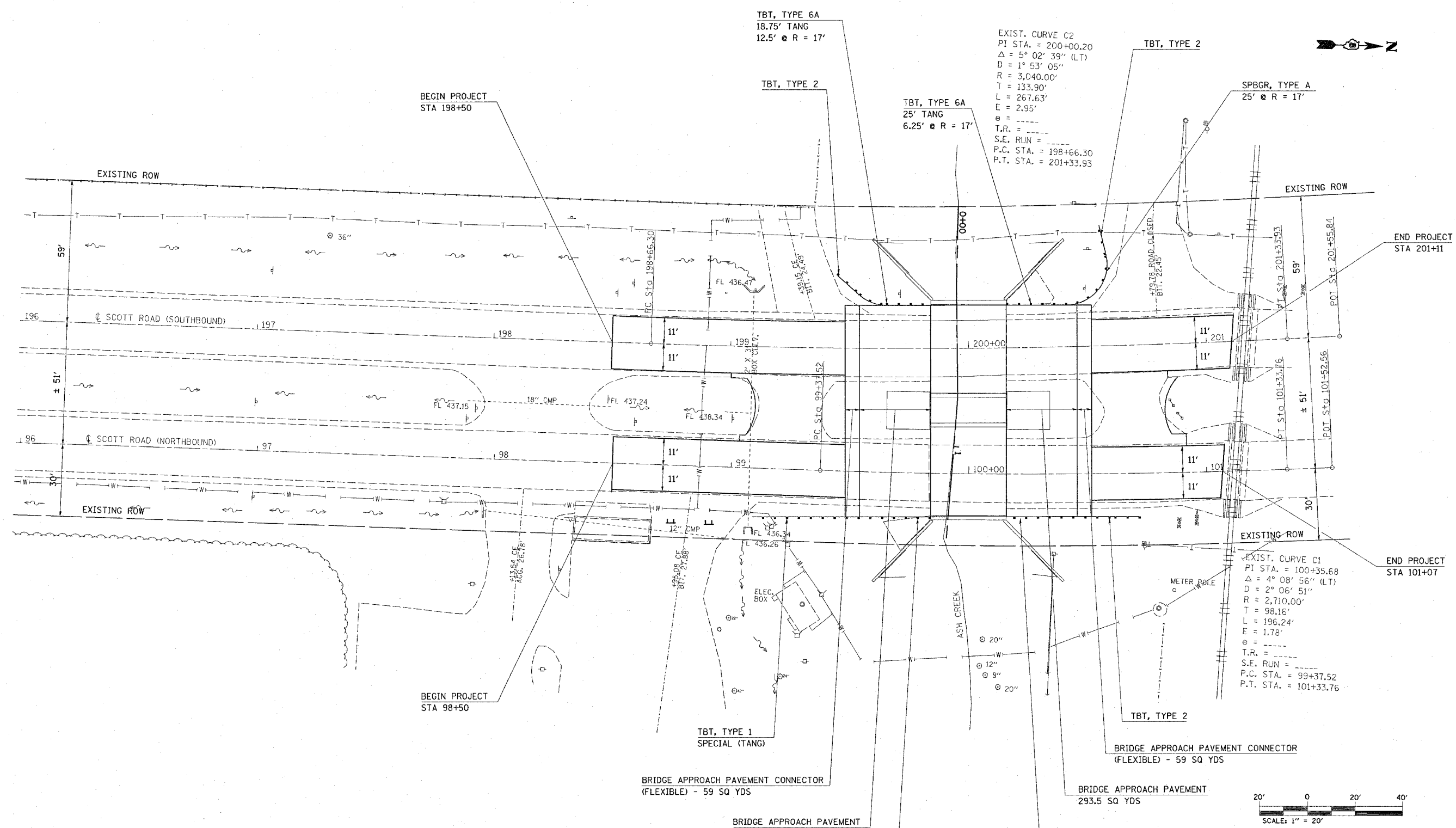


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
REMOVAL PLAN
 FAU ROUTE 9177
 SECTION 44-1BR
 ST. CLAIR COUNTY

PLOT DATE = 12/15/2006
 FILE NAME = c:\projects\ed02402\plan\plan02402a.rwdgn
 PLOT SCALE = 20.000 / 1"
 REFERENCE = #REF#

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

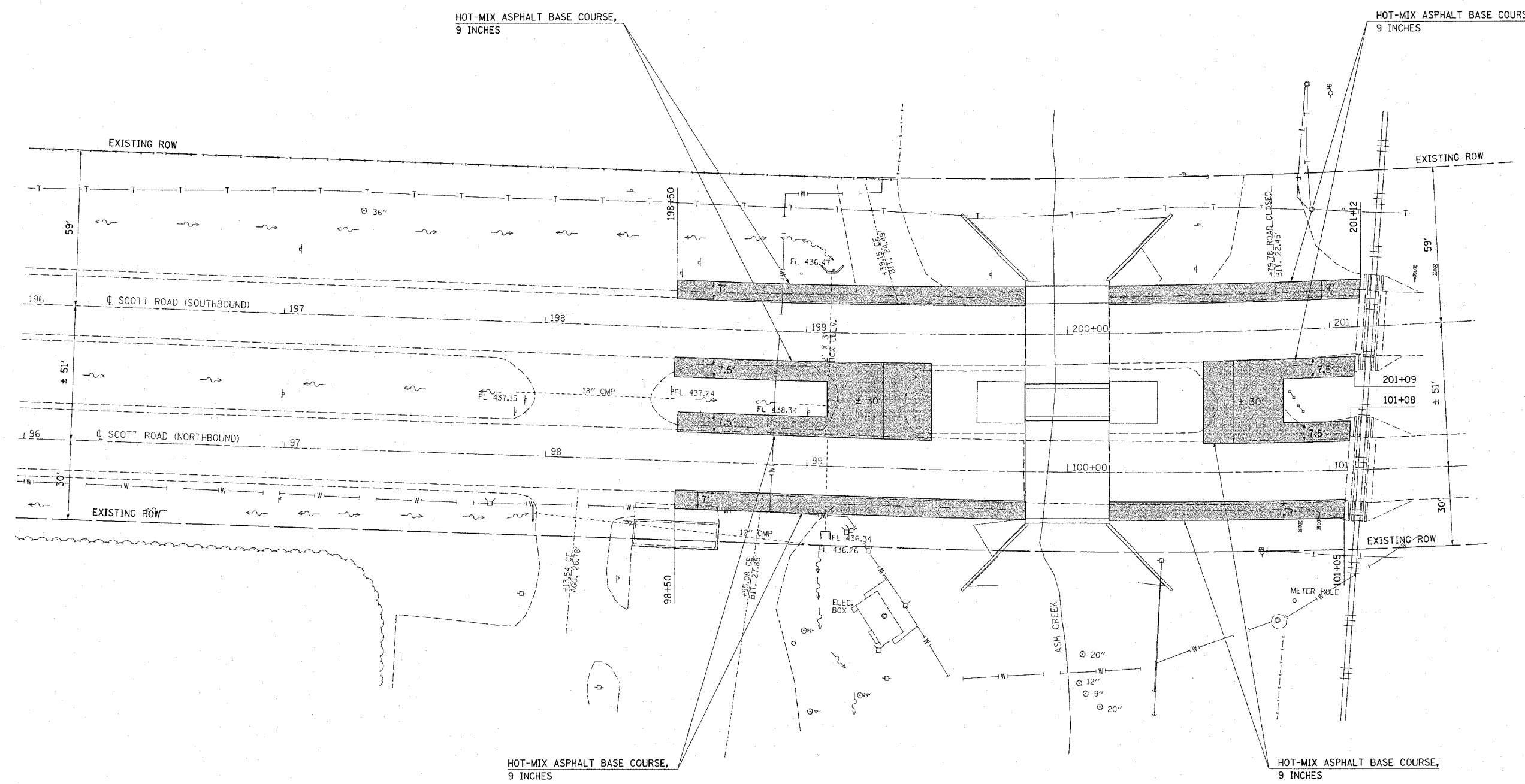
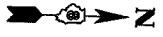


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PLAN VIEW
 FAU ROUTE 9177
 SECTION 44-1BR
 ST. CLAIR COUNTY
 SN 082-0096 & 0097
 DRAWN BY:

PLOT DATE = 12/15/2006
 FILE NAME = c:\projects\ed2402\plan\pr02402a_rev.dgn
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 USER NAME = gerryj

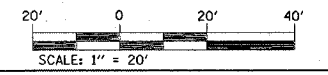
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SEQUENCE OF CONSTRUCTION - PRE-STAGE I:

"HOT-MIX ASPHALT BASE COURSE, 9 INCHES" SHALL BE CONSTRUCTED TO ALLOW FOR TRAFFIC IN STAGE I AND II.

SEE REMOVAL PLAN FOR REMOVAL ITEMS.



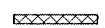
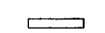




REVISIONS	
NAME	DATE

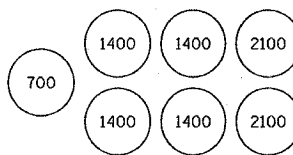
ILLINOIS DEPARTMENT OF TRANSPORTATION
PRE-STAGE I CONSTRUCTION
 FAU ROUTE 9177
 SECTION 44-1BR
 ST. CLAIR COUNTY

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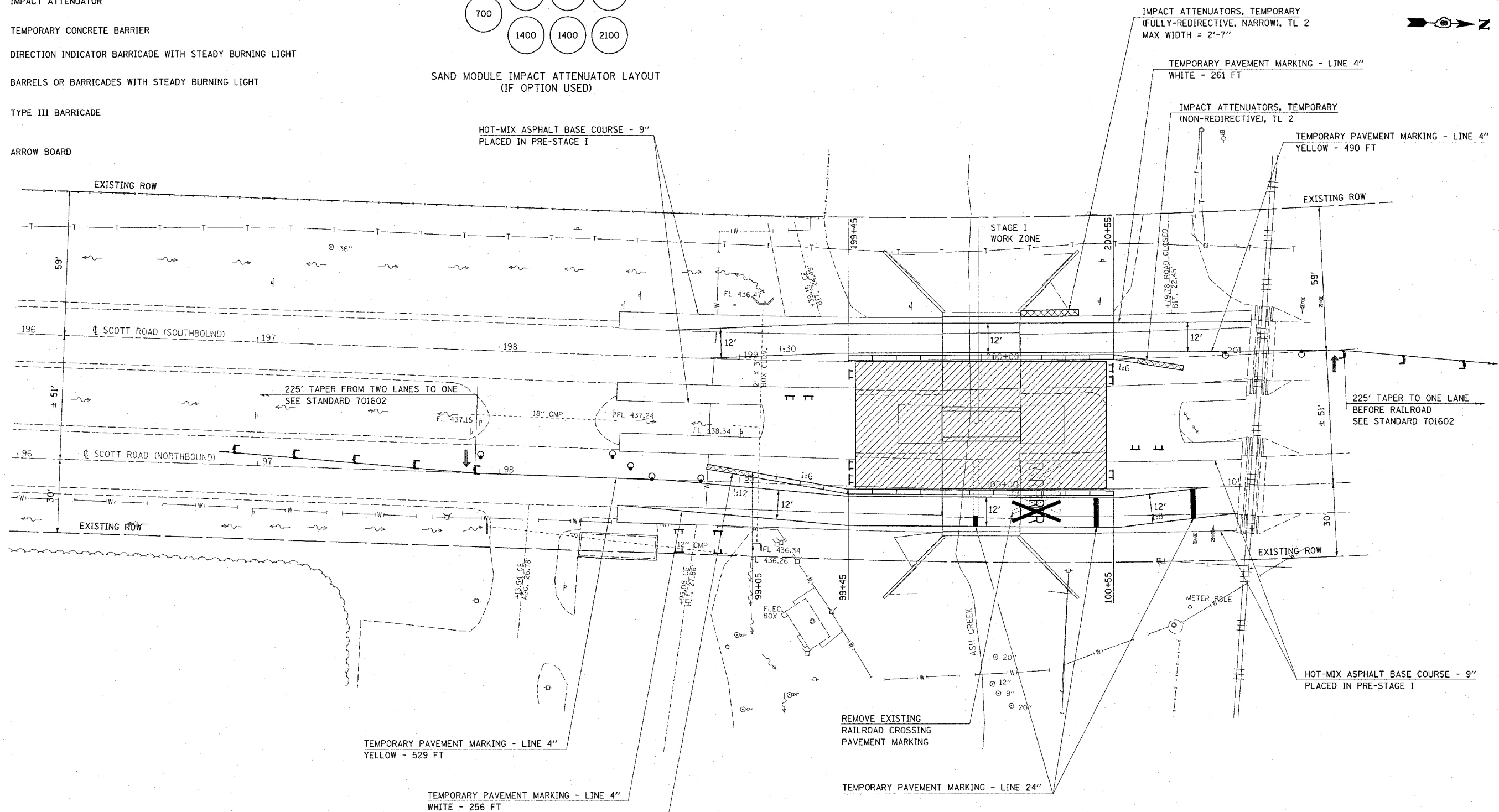
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9177	44-1BR	ST. CLAIR	29	11
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

LEGEND

-  IMPACT ATTENUATOR
-  TEMPORARY CONCRETE BARRIER
-  DIRECTION INDICATOR BARRICADE WITH STEADY BURNING LIGHT
-  BARRELS OR BARRICADES WITH STEADY BURNING LIGHT
-  TYPE III BARRICADE
-  ARROW BOARD



SAND MODULE IMPACT ATTENUATOR LAYOUT (IF OPTION USED)



SEQUENCE OF CONSTRUCTION - STAGE I:

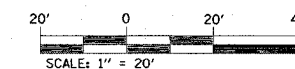
REMOVE CONFLICTING SKIP-DASH, SOLID EDGE AND RAILROAD PAVEMENT MARKINGS.

PLACE TEMPORARY PAVEMENT MARKINGS.

PLACE 275 FT TEMPORARY CONCRETE BARRIER, 2 EACH IMPACT ATTENUATORS, TEMPORARY, (NON-REDIRECTIVE), AND 1 EACH IMPACT ATTENUATOR, TEMPORARY (FULLY-REDIRECTIVE, NARROW).

SEE STANDARD 701321 FOR TEMPORARY CONCRETE BARRIER DETAILS AND SEE STANDARD 701602 FOR TAPER AND SIGN DETAILS NOT SHOWN ON PLANS.

IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TL 2



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION







STAGE I CONSTRUCTION

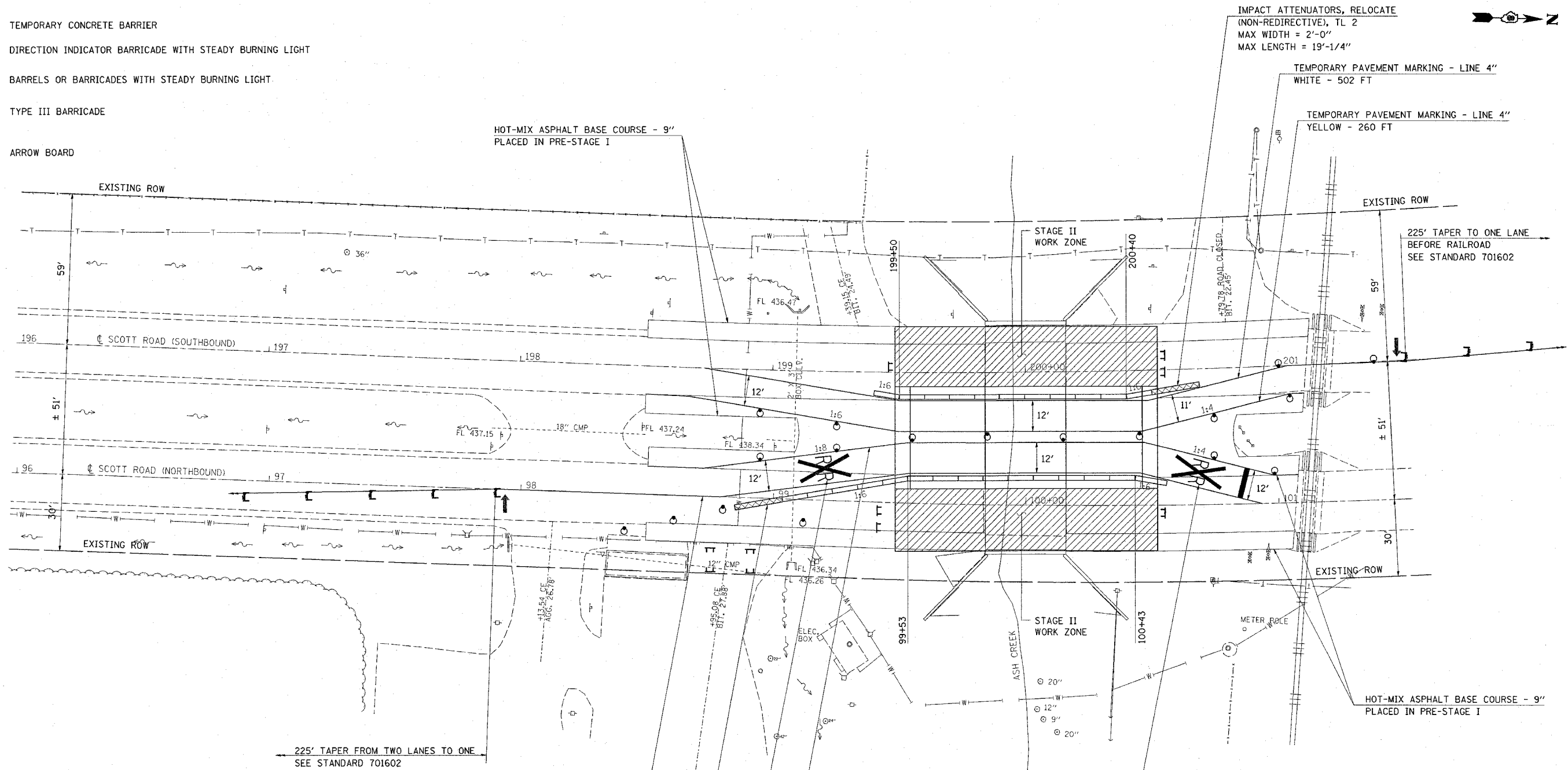
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SECTION 44-1BR
ST. CLAIR COUNTY

PLOT DATE = 10/19/2006
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 USER NAME = cveembj

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	12
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

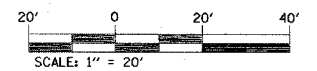
LEGEND

-  IMPACT ATTENUATOR
-  TEMPORARY CONCRETE BARRIER
-  DIRECTION INDICATOR BARRICADE WITH STEADY BURNING LIGHT
-  BARRELS OR BARRICADES WITH STEADY BURNING LIGHT
-  TYPE III BARRICADE
-  ARROW BOARD



SEQUENCE OF CONSTRUCTION - STAGE II:

- REMOVE 12.5 FT AND RELOCATE 262.5 FT OF TEMPORARY CONCRETE BARRIER.
- REMOVE 1 EACH IMPACT ATTENUATORS, TEMPORARY, (FULLY-REDIRECTIVE, NARROW) PLACED IN STAGE I AND RELOCATE 2 EACH IMPACT ATTENUATORS, (NON-REDIRECTIVE).
- SEE STANDARD 701321 FOR TEMPORARY CONCRETE BARRIER DETAILS AND SEE STANDARD 701602 FOR TAPER AND SIGN DETAILS NOT SHOWN ON PLANS.

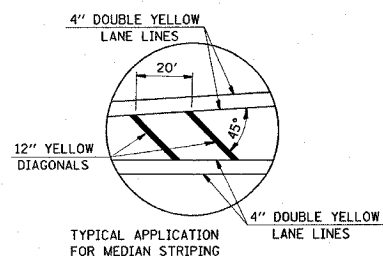
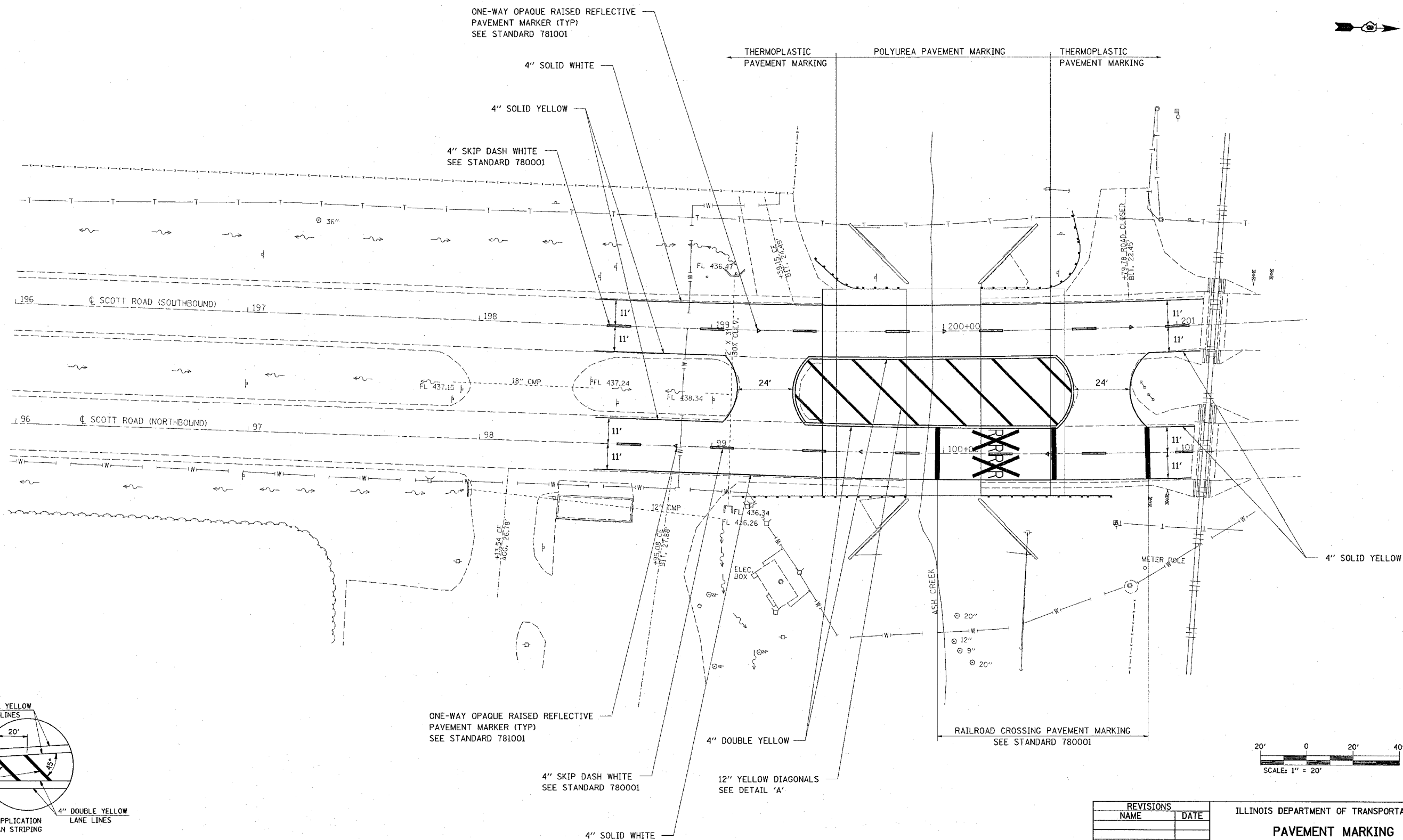


REVISIONS	
NAME	DATE

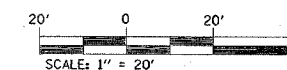
ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGE II CONSTRUCTION
FAU ROUTE 9177
SECTION 44-1BR
ST. CLAIR COUNTY

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 USER NAME = overb.j

CONTRACT NO. 76566				
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	13
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



DETAIL 'A'
NOT TO SCALE



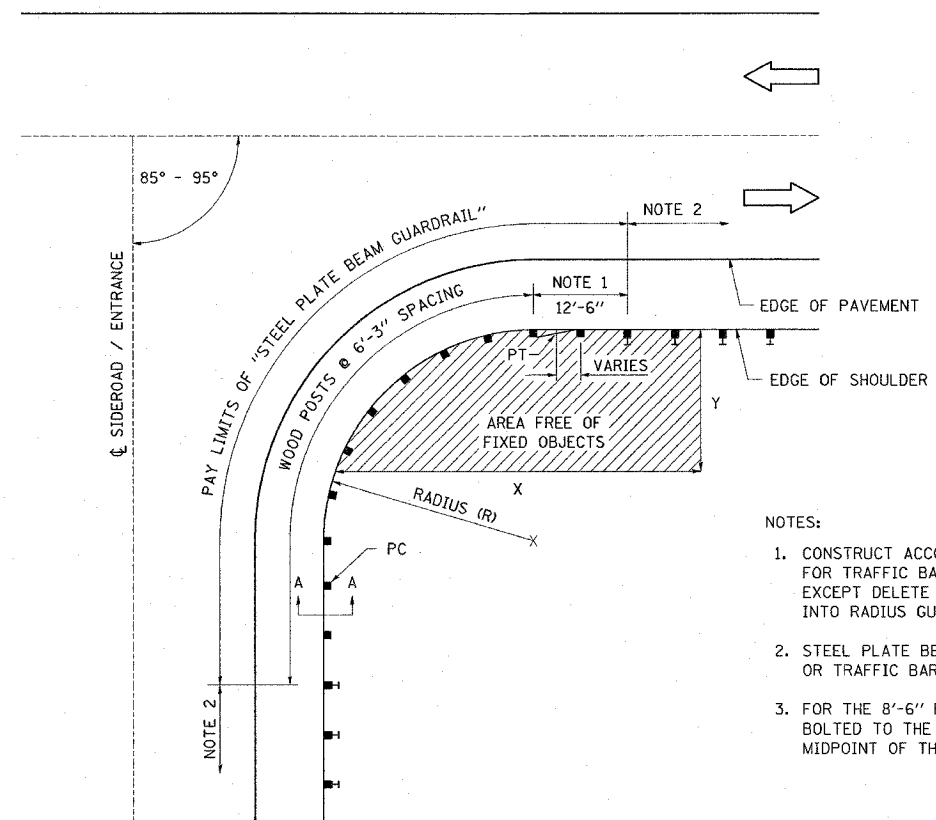
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKING

FAU ROUTE 9177
SECTION 44-1BR
ST. CLAIR COUNTY

PLOT DATE = 12/15/2006
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PLOT SCALE = 28.800' / 1" IN.
REFERENCE = #182482

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STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

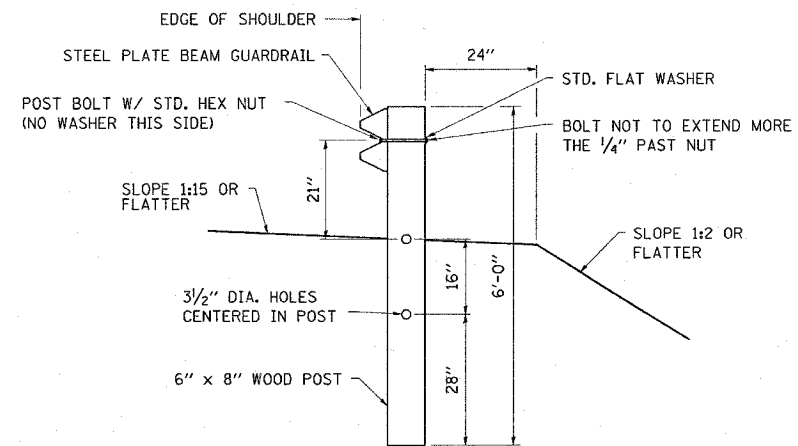


NOTES:

1. CONSTRUCT ACCORDING TO STANDARD 631011 FOR TRAFFIC BARRIER TERMINAL TYPE 2, EXCEPT DELETE END SECTION AND SPLICE INTO RADIUS GUARDRAIL.
2. STEEL PLATE BEAM GUARDRAIL TYPE A, TYPE B, OR TRAFFIC BARRIER TERMINAL AS SPECIFIED.
3. FOR THE 8'-6" RADIUS, THE RAIL IS NOT BOLTED TO THE POST LOCATED AT THE MIDPOINT OF THE CURVE.

PLAN VIEW SHORT RADIUS GUARDRAIL DETAIL

NOT TO SCALE



SECTION A-A

NOT TO SCALE

R	NO. OF WOOD POSTS	X	Y
8'-6"	5 (NOTE 3)	25'	15'
17'-0"	6	30'	15'
25'-6"	8	40'	20'
35'-0"	11	50'	20'

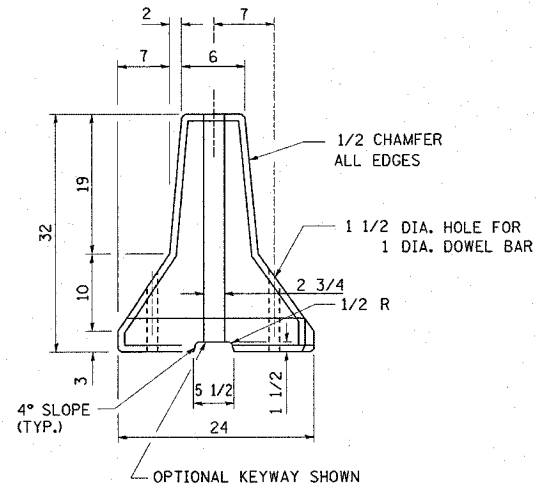
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

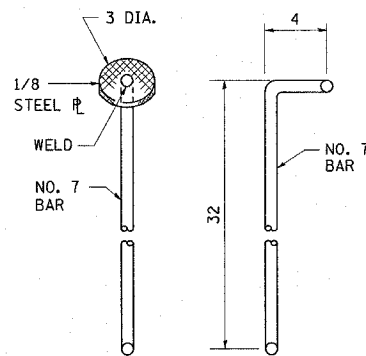
MISCELLANEOUS DETAILS

FAU ROUTE 9177
SECTION 44-1BR
ST. CLAIR COUNTY

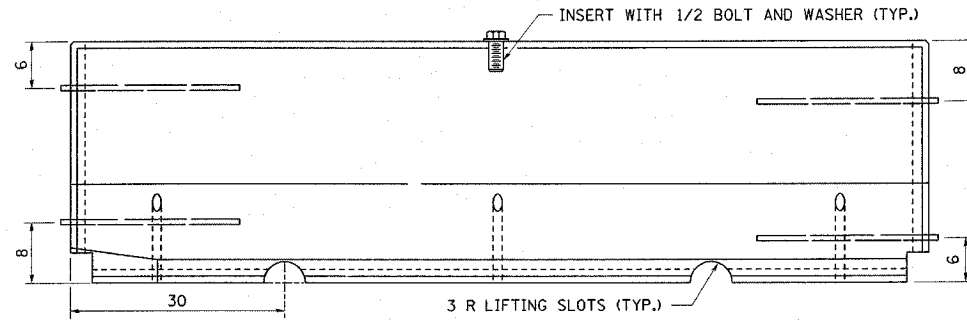
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



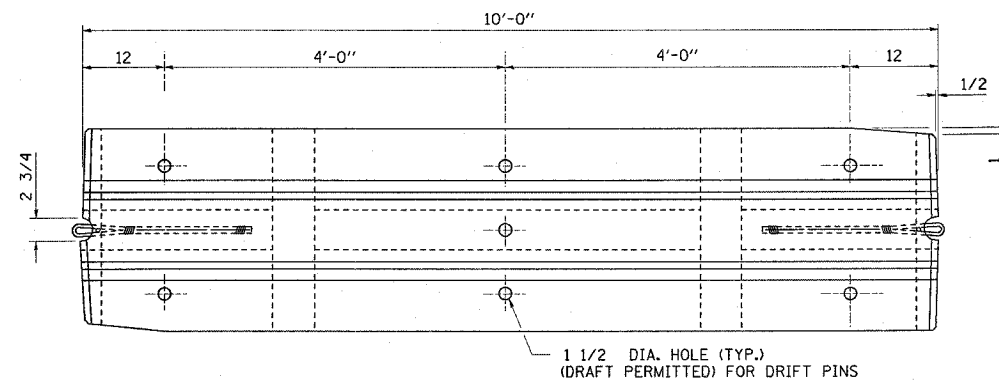
END VIEW
 (WITHOUT WIRE ROPE LOOPS)



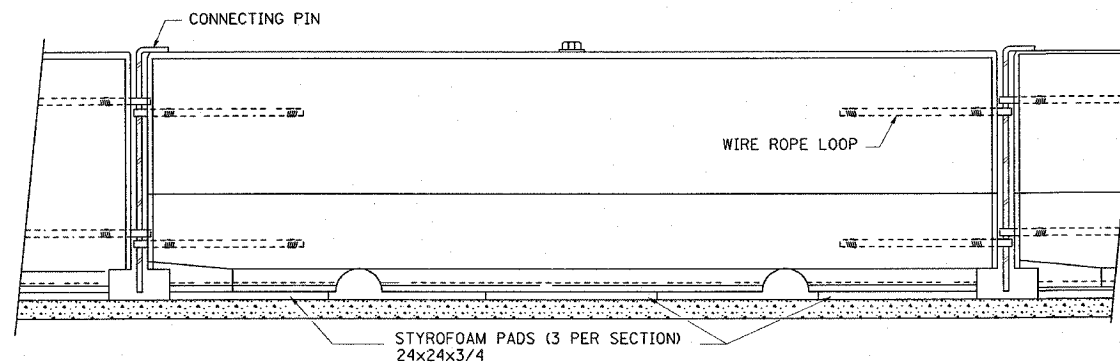
ALTERNATE CONNECTING PINS



ELEVATION

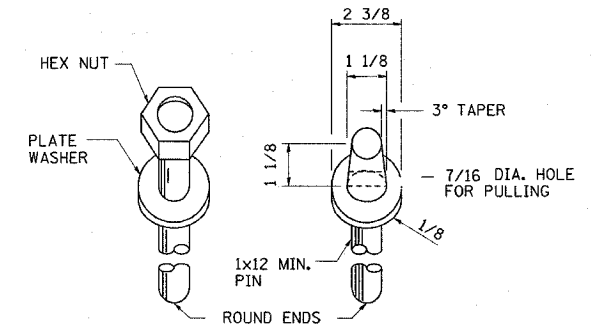


PLAN



TYPICAL INSTALLATION WITH STYROFOAM PADS

TEMPORARY CONCRETE BARRIER
 NJ SHAPE DESIGN



DOWEL BARS

NOTES:
 NEW JERSEY (NJ) SHAPE BARRIER SHALL NOT BE PRODUCED AFTER OCTOBER 1, 2002. HOWEVER, NEW JERSEY SHAPE BARRIER PRODUCED PRIOR TO OCTOBER 1, 2002 MAY BE USED UNTIL JANUARY 1, 2008.

THE NJ SHAPE BARRIER UNITS SHALL BE SEATED ON STYROFOAM PADS EXCEPT WHEN THEY ARE ANCHORED.

NJ SHAPE DOWEL BARS SHALL BE EMBEDDED AT LEAST 8 INCHES INTO THE PAVEMENT, AND SHALL NOT PROJECT ABOVE THE OUTER SURFACE OF THE BARRIER. THE CONNECTING PIN FOR THE NJ SHAPE PIN AND LOOP CONNECTION, MAY BE EITHER A PLAIN 7/8 INCH DIAMETER OR A DEFORMED NO. 7 BAR MEETING THE REQUIREMENTS OF ARTICLE 1006.10(b) EXCEPT GRADE 60 BARS SHALL BE USED.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS

FAU ROUTE 9177
 SECTION 44-1BR
 ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

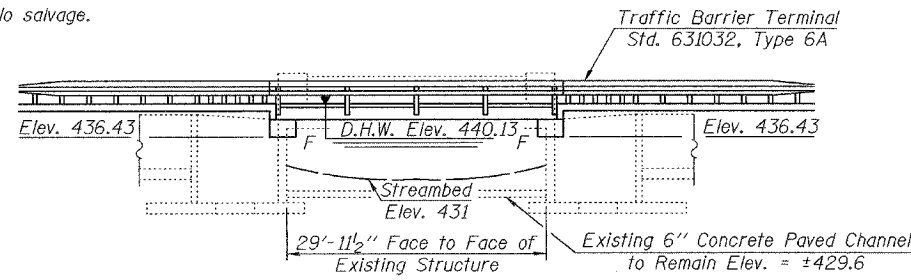
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 1
F.A.U. 9177	44-IBR	St. Clair	29	16	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #76566

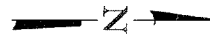
Bench Mark: Cut square on north headwall in middle of 2 bridges. Elevation 440.71.

Existing Structure: S.N. 082-0096 & 082-0097, 1-span reinforced concrete T-beams. Built in 1952 at Station 7+62.8 by Corps of Engineers, U.S. Army. Closed abutments supported on spread footings. The existing superstructure is to be removed and replaced. Traffic to be maintained utilizing stage construction.

No salvage.



ELEVATION

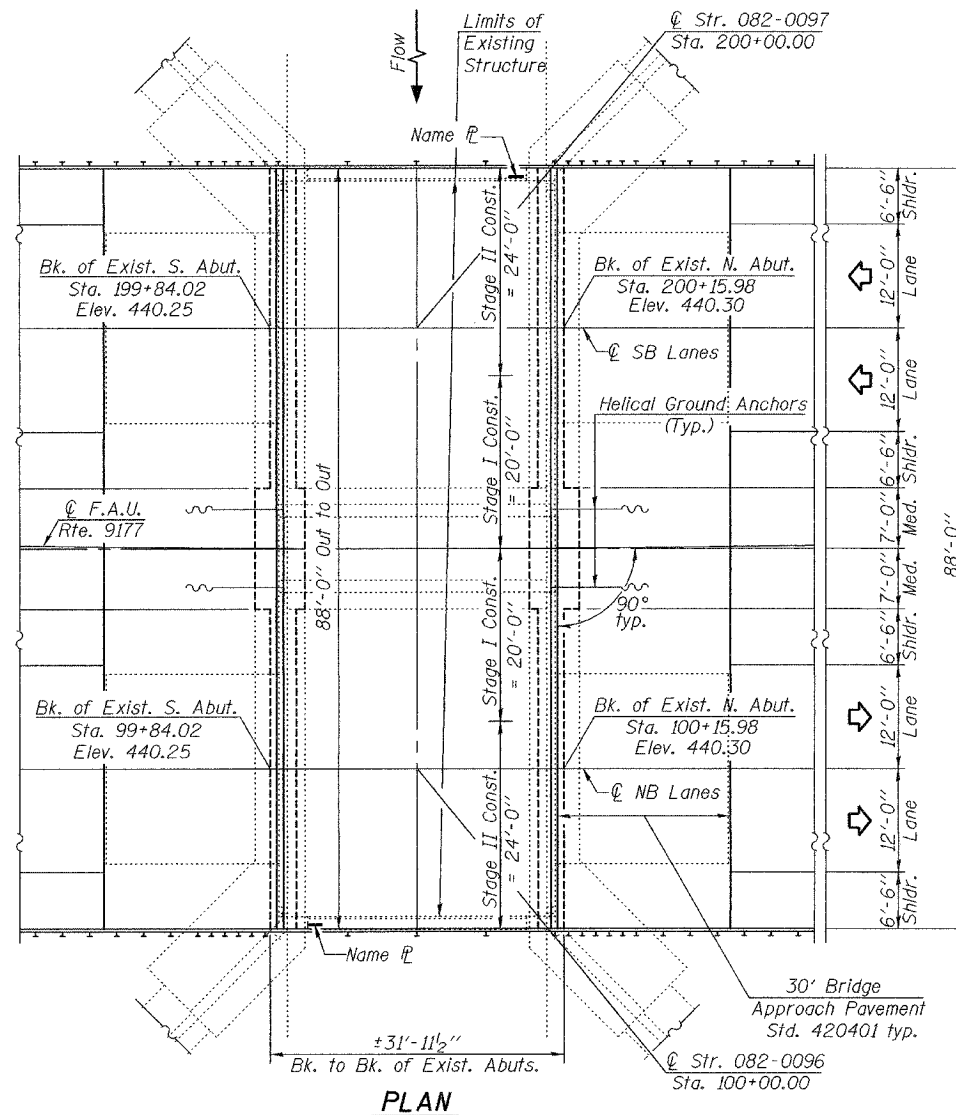


INDEX OF SHEETS

1. General Plan & Details
2. Stage Construction
3. Temporary Concrete Barrier
4. Temporary Wall Bracing System
5. Superstructure
6. Superstructure Details
7. Type SM Railing
8. Concrete Removal Details
9. & 10. Abutments
11. Wall Anchor System Details
12. Bar Splicer Assembly Details

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A706 Gr. 60 (II Modified). See Special Provisions.
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.
The back face of closed abutment (New Concrete only) shall be waterproofed according to Article 503.18 of the Standard Specifications.
Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4080 lbs., and 3/4" ϕ x 12" hooked bolts.
Reinforcement bars designated (E) shall be epoxy coated.



PLAN

STATION 100+00.00 (NB)
REBUILT 200 BY
STATE OF ILLINOIS
F.A.U. RTE. 9177 - SEC. 44-IBR
LOADING HS20
STR. NO. 082-0096 (NB)

NAME PLATE
See Std. 515001

STATION 200+00.00 (SB)
REBUILT 200 BY
STATE OF ILLINOIS
F.A.U. RTE. 9177 - SEC. 44-IBR
LOADING HS20
STR. NO. 082-0097 (SB)

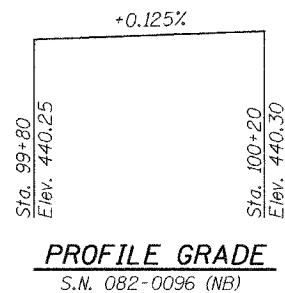
NAME PLATE
See Std. 515001

EXISTING CURVE DATA (NB)

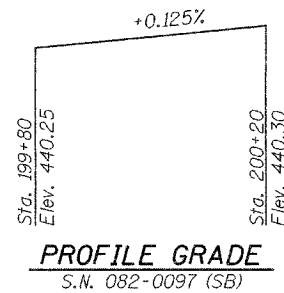
PI Sta. = 100+35.68
 Δ = 4°-08'-56" (LT)
D = 2°-06'-51"
R = 2,710.00'
T = 98.16'
L = 196.24'
E = 1.78'
e = Normal Crown
P.C. Sta. = 99+37.52
P.T. Sta. = 101+33.76

EXISTING CURVE DATA (SB)

PI Sta. = 200+00.20
 Δ = 5°-02'-39" (LT)
D = 1°-53'-05"
R = 3,040.00'
T = 133.90'
L = 267.63'
E = 2.95'
e = Normal Crown
P.C. Sta. = 198+66.30
P.T. Sta. = 201+33.93



PROFILE GRADE
S.N. 082-0096 (NB)



PROFILE GRADE
S.N. 082-0097 (SB)

Note: Proposed grade is the same as existing grade at this bridge site (per field survey).

LOADING HS20-44

No future wearing surface allowed

DESIGN SPECIFICATIONS

2002 AASHTO
Seismic Retrofitting Manual for Highway Bridges
FHWA-RD-94-052 May 1995

DESIGN STRESSES

PRECAST PRESTRESSED UNITS

f'_c = 5,000 psi
 f'_{ci} = 4,000 psi
 f'_s = 270,000 psi
 f_s = 201,960 psi (1/2" low lax strands)

FIELD UNITS

f'_c = 3,500 psi
 f_y = 60,000 psi (reinforcement)
 f_y = 36,000 psi (structural steel)

EXISTING UNITS

f'_c = 1,200 psi
 f_s = 20,000 psi (reinforcement)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	2		2
Concrete Structures	Cu. Yd.		18.1	18.1
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2776		2776
Reinforcement Bars, Epoxy Coated	Pound	3840	3760	7600
Bridge Deck Grooving	Sq. Yd.	302		302
Name Plates	Each	2		2
Structure Excavation	Cu. Yd.		10.4	10.4
Steel Bridge Rail Type SM	Foot	63		63
Helical Ground Anchors	Each		4	4
Concrete Wearing Surface	Sq. Yd.	309		309
Concrete Removal	Cu. Yd.		8.9	8.9
Protective Coat	Sq. Yd.	309		309
Temporary Wall Bracing System	L. Sum		1	1
Structural Repair of Concrete (Depth equal or less than 5")	Sq. Ft.		42	42
Bar Splicers	Each	66	32	98

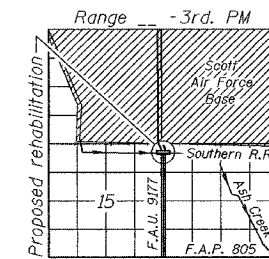
WATERWAY INFORMATION

Drainage Area = 2.08 sq. mi. Low Grade Elev. 440.19 @ Sta. 99+75

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	1,604	132	132	440.13	2.13	2.13	442.26	442.26
Base	100	1,866	132	132	440.54	2.35	2.35	442.89	442.89
Overtopping	11	1,040	132	132	439.30	0.89	0.89	440.19	440.19
Scour	10	1,002	132	132	439.21	0.78	0.78	439.99	439.99

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.11g
Site Coefficient (S) = 1.5



LOCATION SKETCH

GENERAL PLAN
SCOTT ROAD OVER ASH CREEK
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

DESIGNED: *A. R. Bunt*
CHECKED: *A. H. ...*
DRAWN: *R. Sommer*
CHECKED: *NRB / GEA*

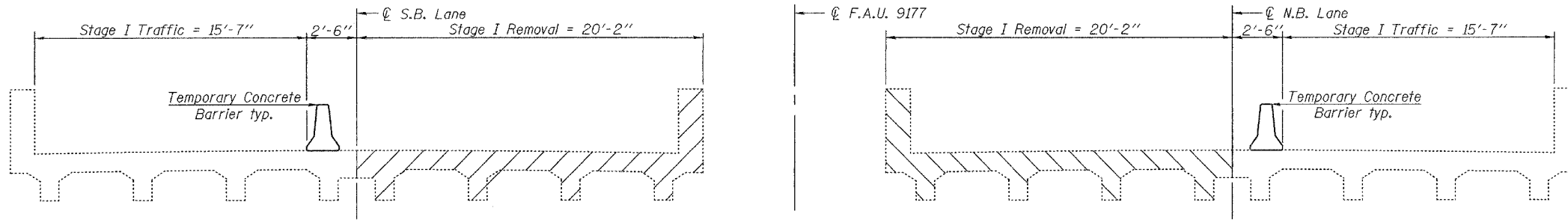
EXAMINED: *Thomas ...*
PASSED: *Ralph ...*



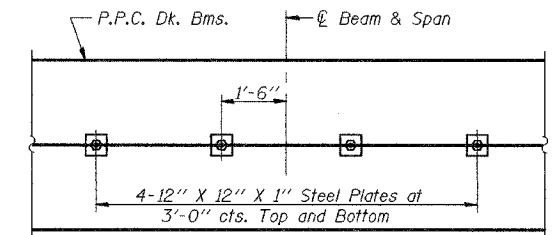
EXPIRES 11-30-2008

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

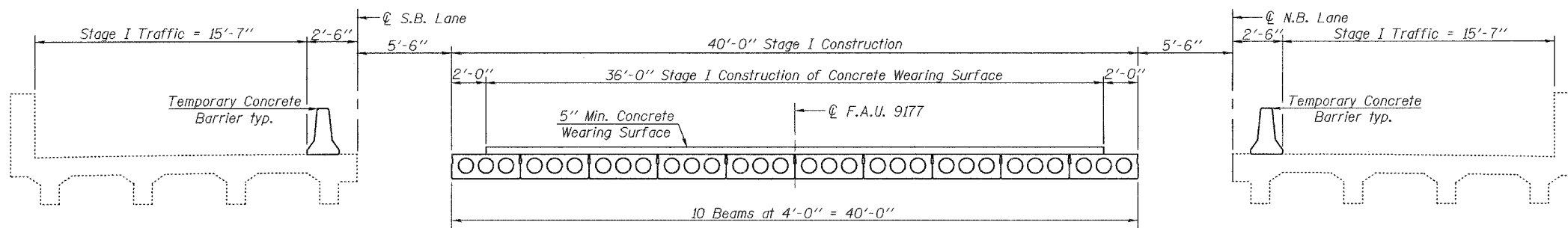
ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO. 2
F.A.U. 9177	44-1BR	St. Clair	29	17	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract #76566		



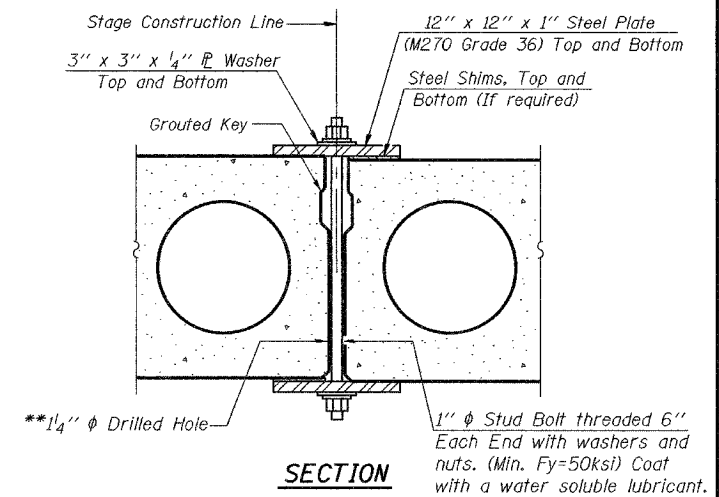
STAGE I REMOVAL & STAGE I TRAFFIC



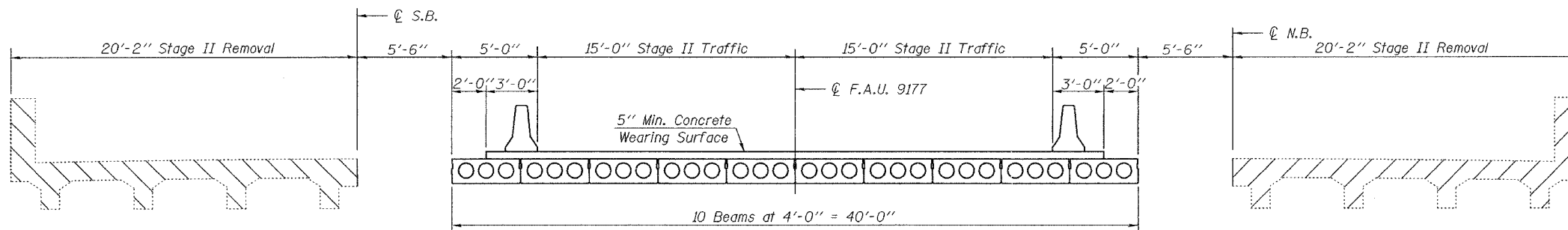
PLAN



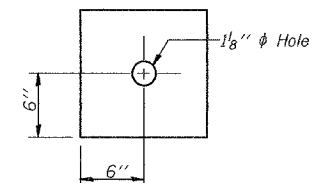
STAGE I CONSTRUCTION & STAGE I TRAFFIC



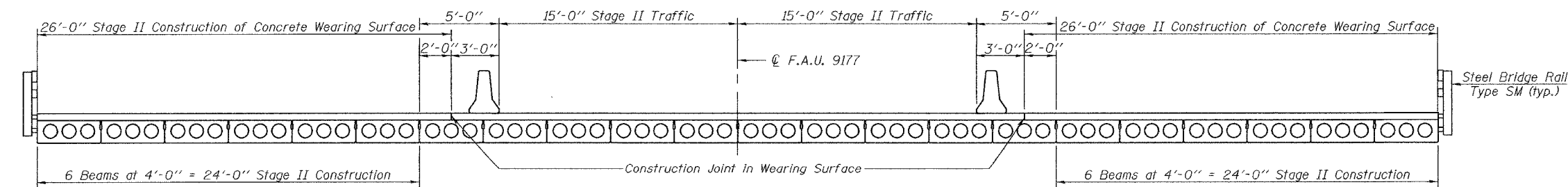
SECTION



STAGE II REMOVAL & STAGE II TRAFFIC



CLAMPING PLATE



STAGE II CONSTRUCTION & STAGE II TRAFFIC

SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.

Stage Construction of Precast Prestressed Concrete Deck Beams shall be according to Article 504.06 (d) of Standard Specifications. **As an alternate to the drilled holes, the Contractor may request the fabricator to cast 2" diameter semi-circular recesses in the sides of each beam adjacent to the Stage Construction Line. These recesses should align to form a hole at the appropriate locations for the clamping device bolts. If the Contractor elects to use this alternate, the details shall be identified on the shop drawings. See Stage Construction Details for traffic lanes.

DESIGNED	Nicholas Barnett
CHECKED	Ray Ahanchi
DRAWN	R. Sommer
CHECKED	NRB/GRA

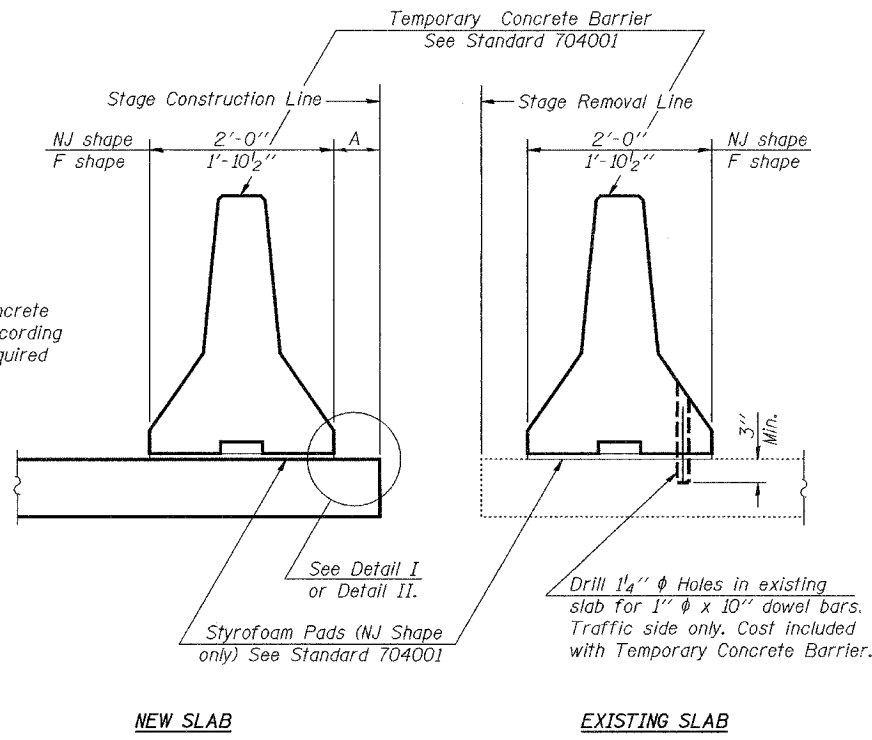
EXAMINED	Thomas J. Domagalaki	November 2, 2006
PASSED	Ralph E. Anderson	

Notes: All Staging Cross Section are looking North.
Hatch areas indicate removal of Existing Superstructure.
Stage I Beam Construction shall start at centerline of F.A.U. 9177.
Stage II Beam Construction shall start at the end of Stage I Beam Construction.

STAGE CONSTRUCTION
F.A.U. ROUTE 9177-SECTION 44-1BR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

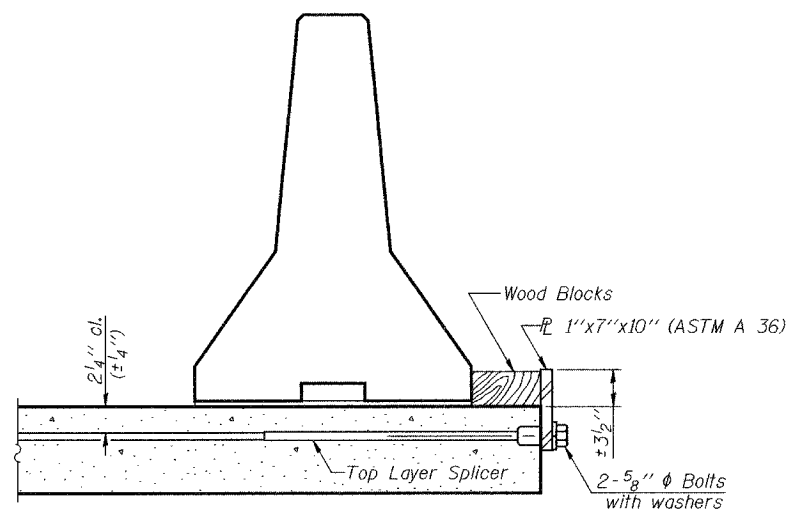
ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO. 3 12 SHEETS
F.A.U. 9177	44-IBR	St. Clair	29	18	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract #76566		



SECTION THRU SLAB

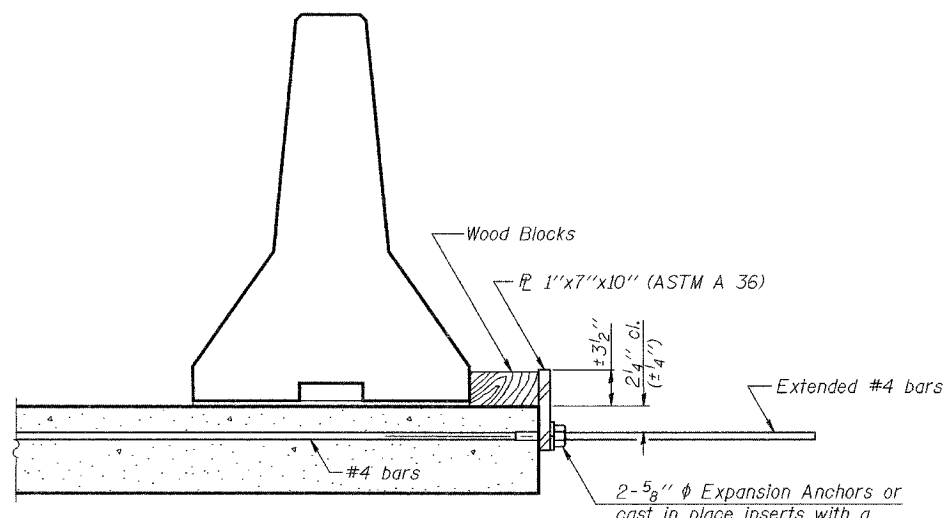
NOTES

- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{r} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{c} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{r} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{c} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier.



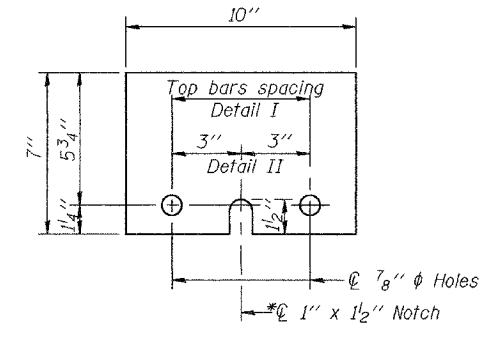
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" 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.



1"x7"x10"

*Required only with Detail II

DESIGNED	Nicholas Barnett
CHECKED	Ray Ahanchi
DRAWN	R. Sommer
CHECKED	NRB/GRA

EXAMINED	Thomas J. Domagala ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

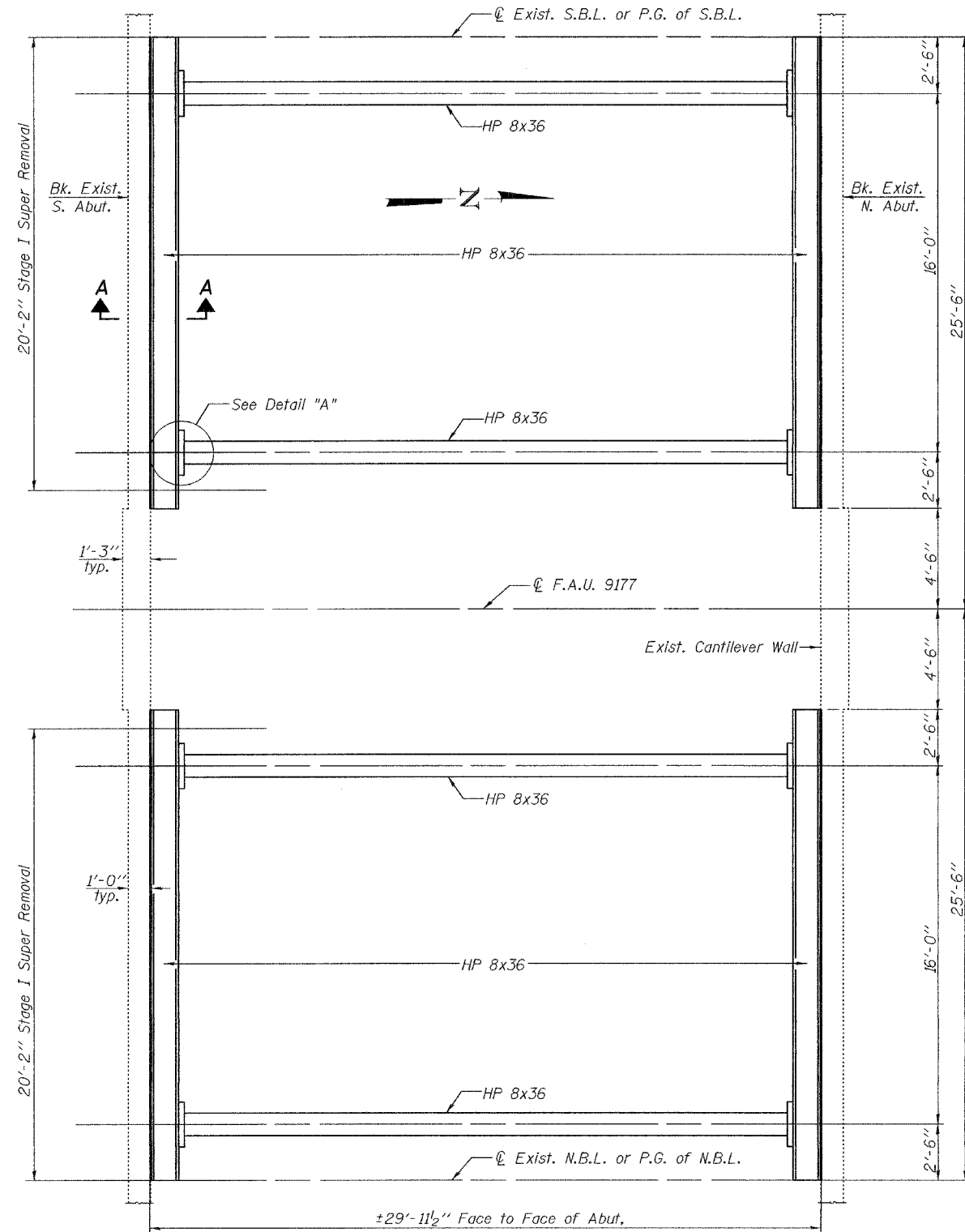
R-27 10-22-04

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

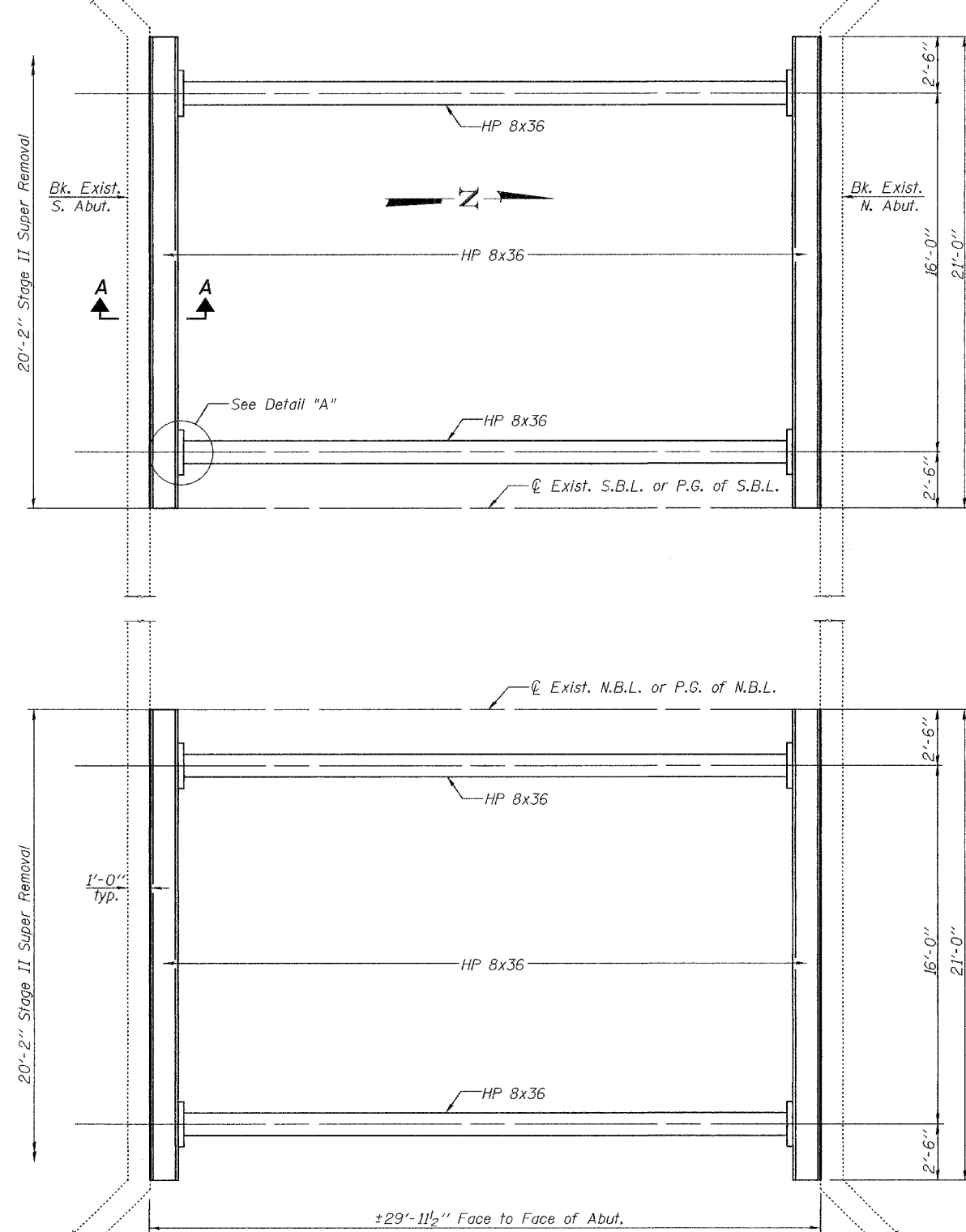
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO. 4
F.A.U. 9177	44-IBR	St. Clair	29	19	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

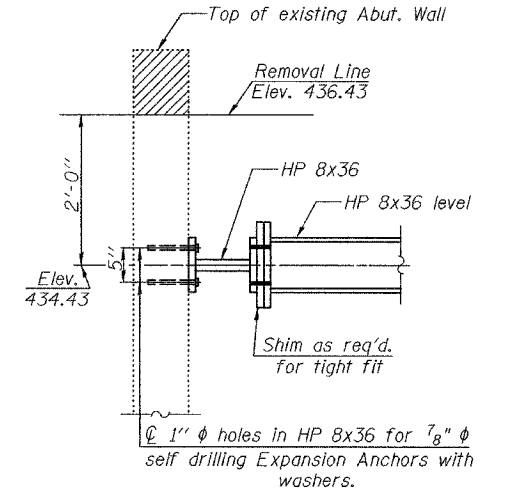
Contract #76566



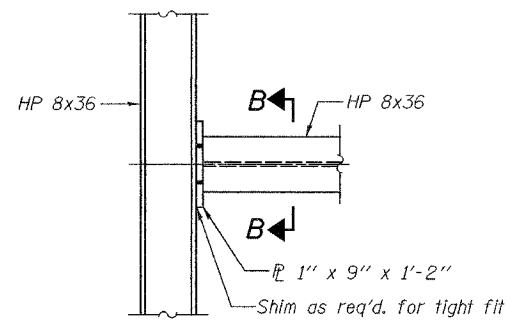
TEMPORARY WALL BRACING SYSTEM PLAN
(Stage I Removal & Construction)



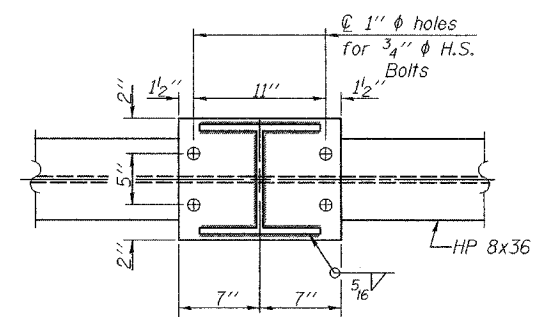
TEMPORARY WALL BRACING SYSTEM PLAN
(Stage II Removal & Construction)



SECTION A-A



DETAIL "A"



SECTION B-B

TEMPORARY WALL BRACING SYSTEM DETAIL

F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

DESIGNED	Nicholas Barnett
CHECKED	Ray Ahanchi
DRAWN	R. Sommer
CHECKED	NRB/GRA

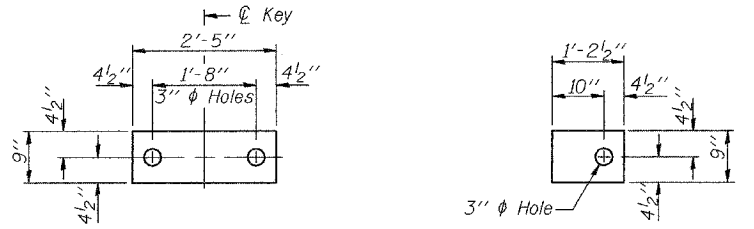
EXAMINED	Thomas J. Domagalaki ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

Notes: Temporary Wall Bracing System shall be in place before Stage I Removal. Before Stage II Removal, the Temporary Wall Bracing System shall be moved as shown. Cost of moving system shall be included in the Cost of "Temporary Wall Bracing System".
No Paint is required.
Two hardened washers shall be required over all 1 5/16" diameter holes.
Estimated weight of Structural Steel for Temporary Wall Bracing System not including HP 8x36 Sections = 320 pounds.
Cost of 7/8" diameter self drilling expansion anchors and shims is included in the Cost of "Temporary Wall Bracing System".
All structural steel shall be AASHTO M270 Grade 36.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 5 12 SHEETS
F.A.U. 9177	44-IBR	St. Clair	29	20	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

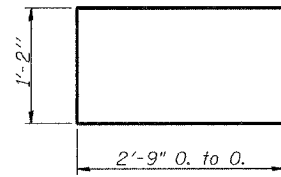
Contract #76566



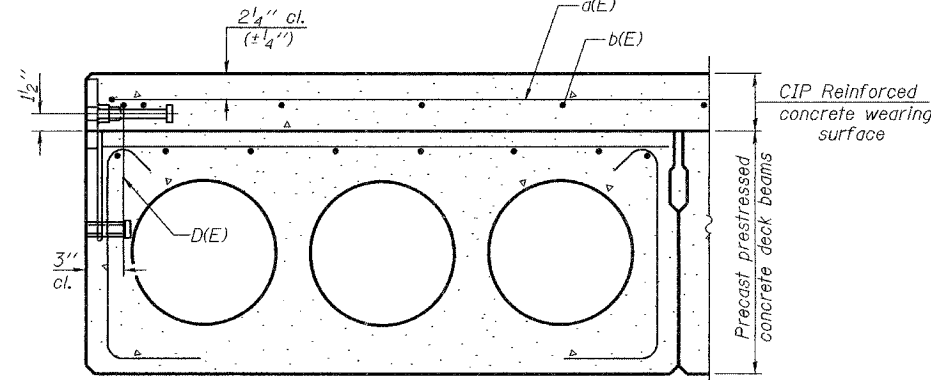
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

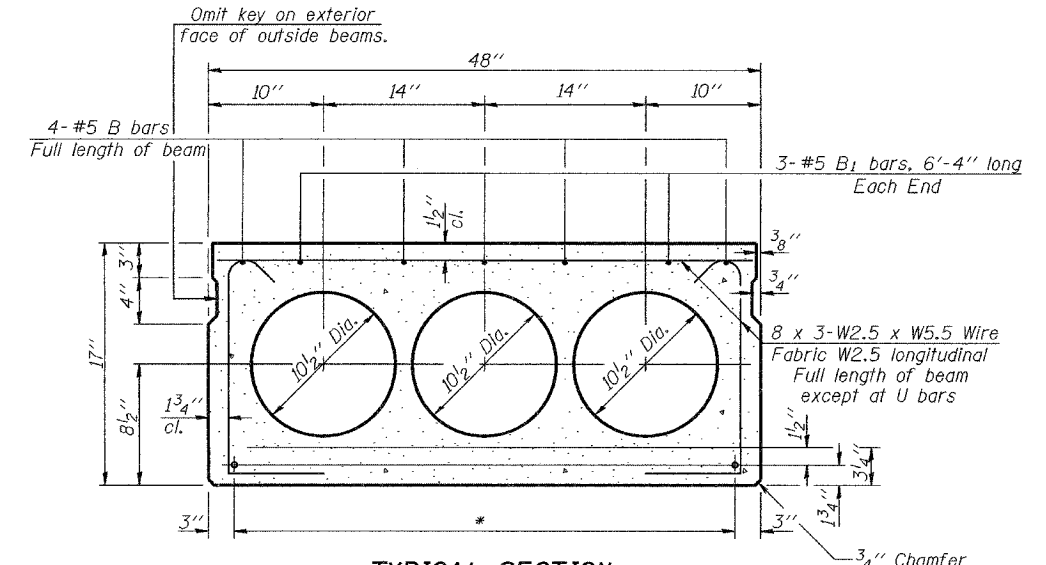
FIXED



BAR U

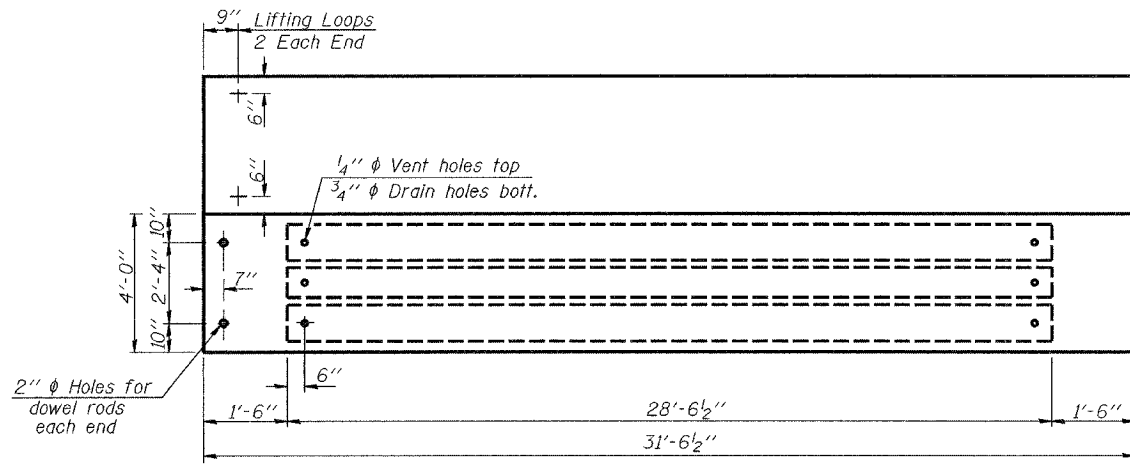


CROSS SECTION

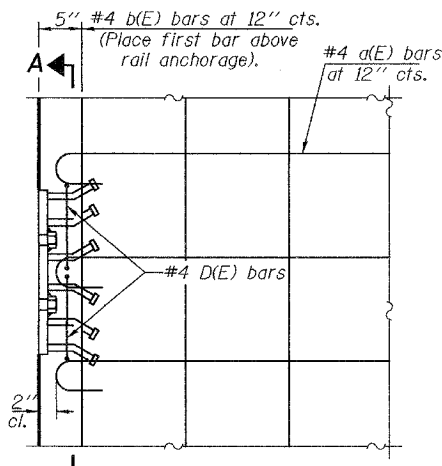


TYPICAL SECTION

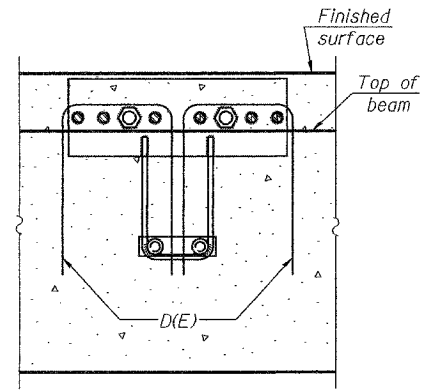
1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
9-Strands 1 3/4" up,



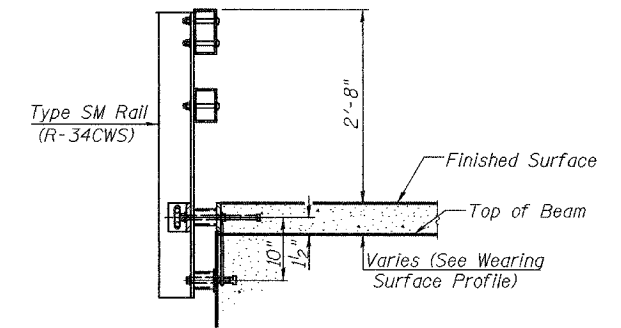
PLAN



PLAN



SECTION A-A



SECTION AT RAIL POST

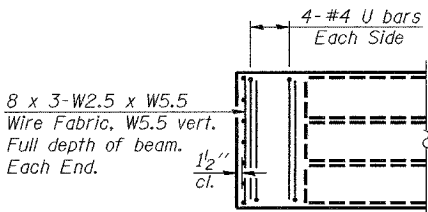
***TRANSVERSE STRAND PLACEMENT GUIDELINES**

1. Place strands symmetrically about centerline of beam.
2. The minimum distance from center to center of strands in all directions shall be 2".
3. The minimum clearance from strand to dowel hole shall be 1/2".
4. The minimum clearance from strand to void shall be 1 1/2".

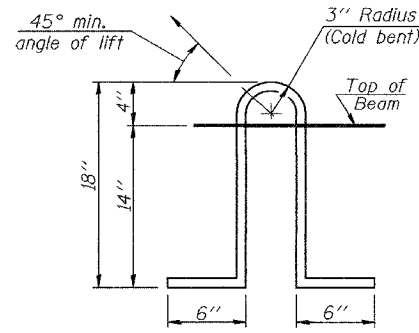
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

NOTES

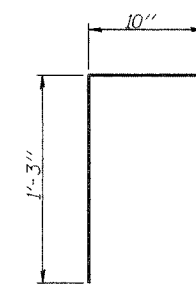
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2" ϕ -270 ksi strands, as shown. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion inhibitor shall be used in the Concrete for Precast Prestressed Concrete Deck Beam. See Article 1021.06 of Standard Specifications. Required Release Strength, f'ci, shall be 4000 p.s.i. The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted. For Cross Section see sht. 6 of 12.



END PLAN



LIFTING LOOP DETAIL



BAR D(E)

BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Conc. Deck Beams 17"	Sq. Ft.	2776

SUPERSTRUCTURE
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

DESIGNED	Nicholas Barnett
CHECKED	Ray Ahanchi
DRAWN	R. Sommer
CHECKED	NRB/GRA

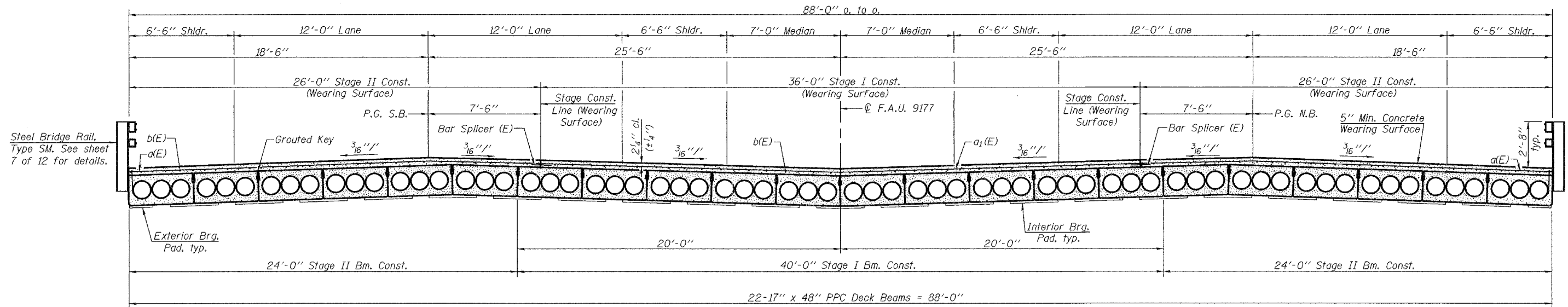
EXAMINED	Thomas J. Demagalicki ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

November 2, 2006

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

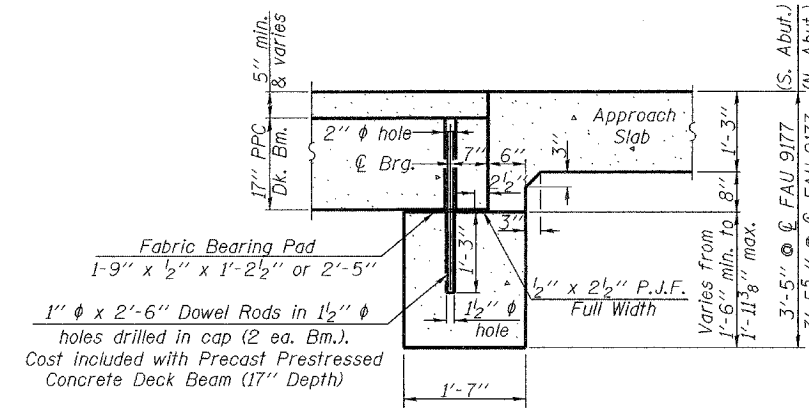
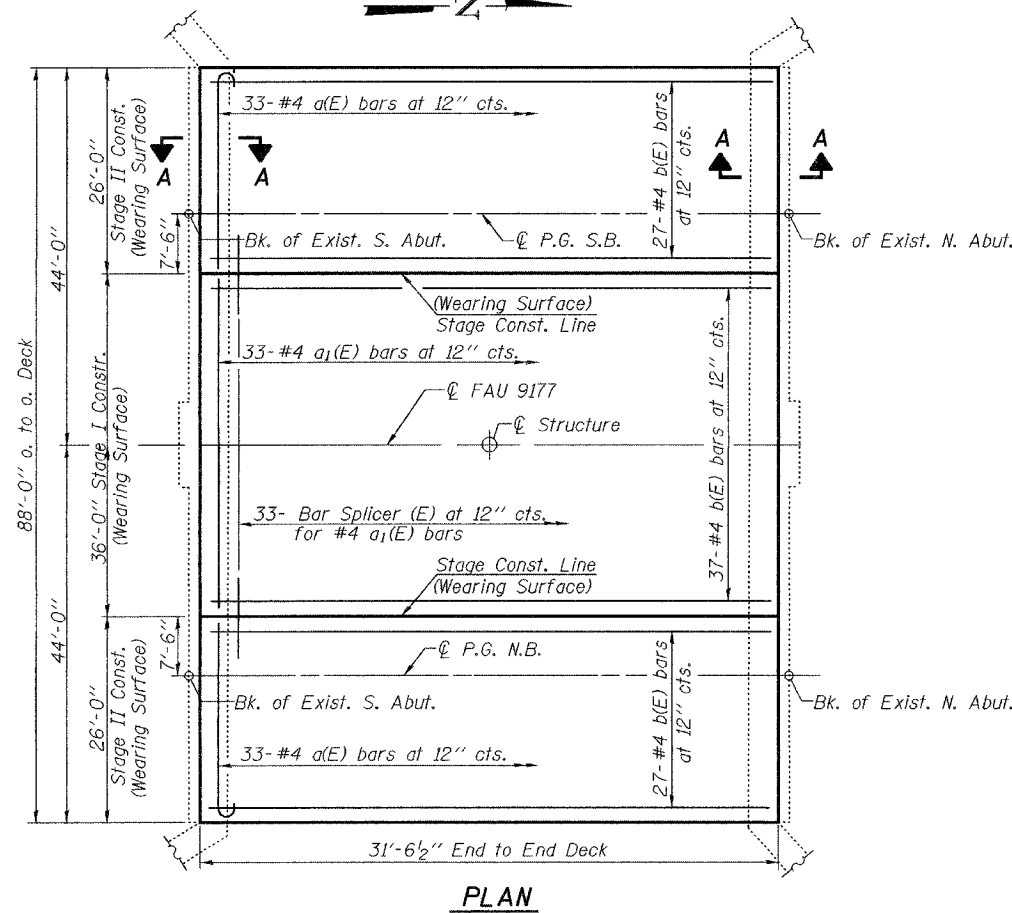
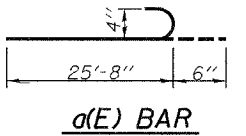
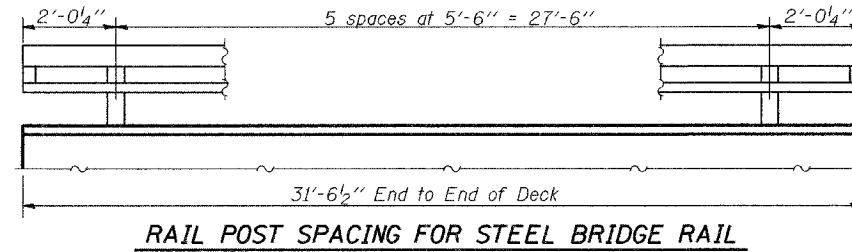
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F.A.U. 9177	44-IBR	St. Clair	29	21	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #76566



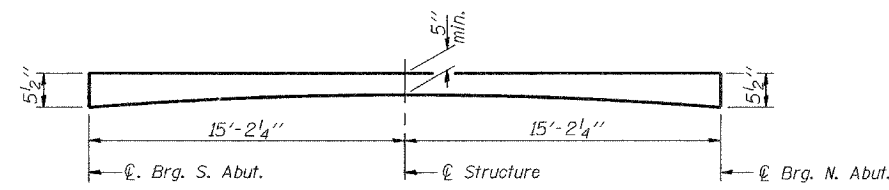
Note: Bend a(E) or a1(E) bars in field to maintain 2 1/4" (+1/4") clearance to Top Surface of Concrete Wearing Surface. Also tilt hook of a(E) and a1(E) bars for 2 1/4" (+1/4") clearance.

CROSS SECTION
(Looking North)



CONCRETE WEARING SURFACE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	66	#4	26'-2"	┌	
a1(E)	33	#4	35'-8"	—	
b(E)	91	#4	31'-3"	—	
Reinforcement Bars, Epoxy Coated				Pound	3840
Concrete Wearing Surface				Sq. Yd.	309



Vary thickness of reinforced concrete wearing surface to compensate for expected camber.

SUPERSTRUCTURE DETAILS
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

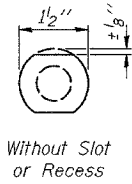
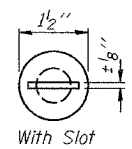
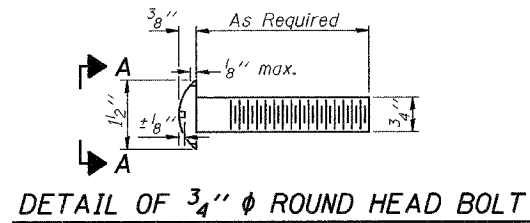
DESIGNED	Nicholas Barnett
CHECKED	Ray Ahanchi
DRAWN	R. Sommer
CHECKED	NRB/GRA

EXAMINED	November 2 2006	Thomas J. Demagabki
PASSED	Ralph E. Anderson	ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

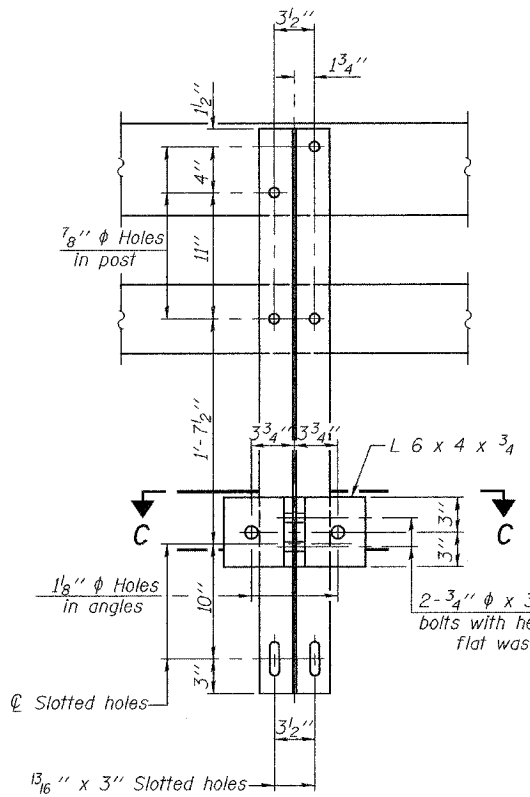
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7
F.A.U. 9177	44-IBR	St. Clair	29	22	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #76566

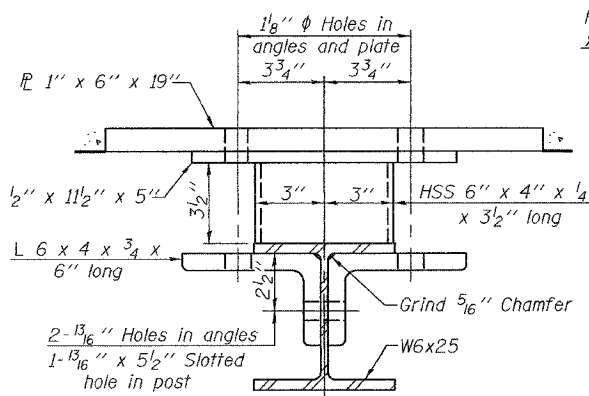


VIEW A-A

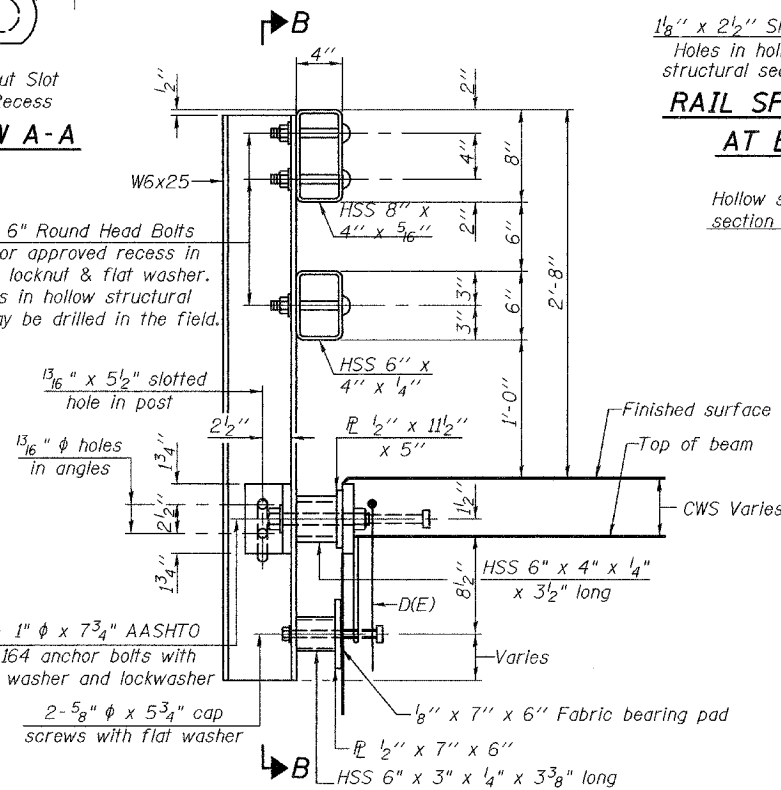
4-3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



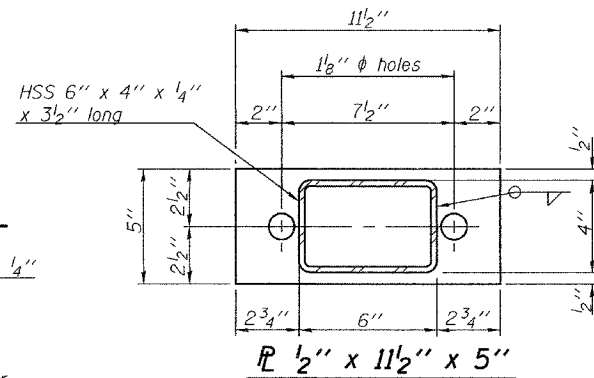
SECTION B-B



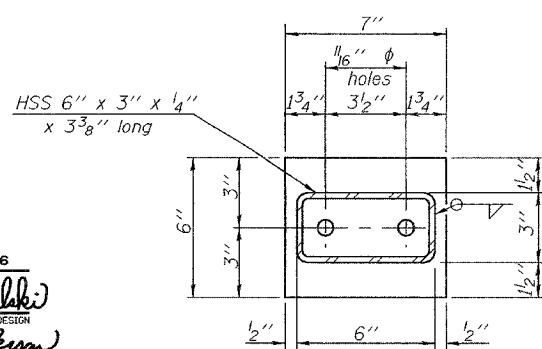
SECTION C-C



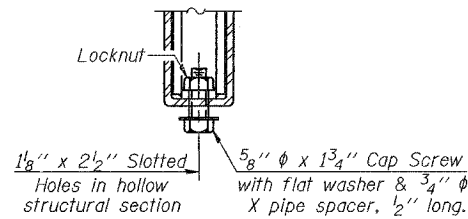
SECTION AT RAIL POST



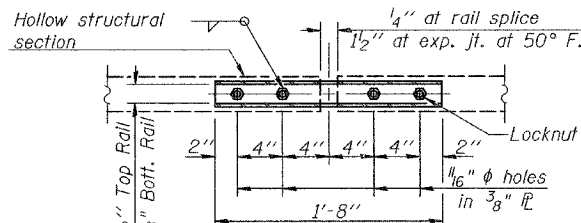
\angle 1/2" x 11 1/2" x 5"



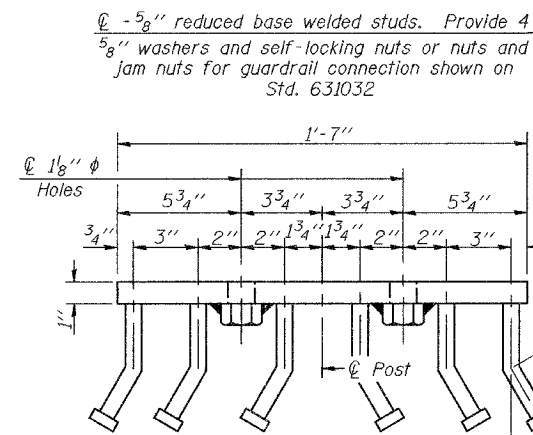
\angle 1/2" x 7" x 6"



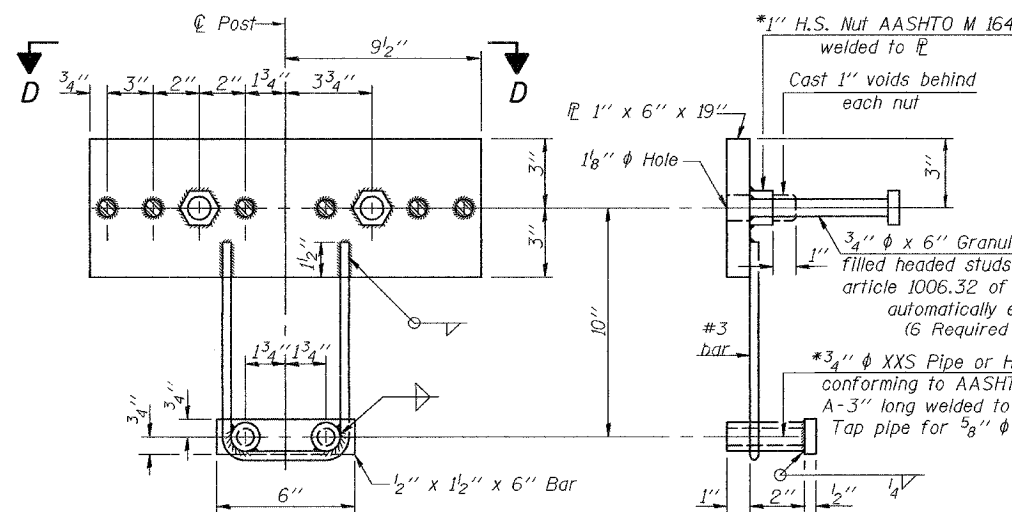
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE P TYPICAL

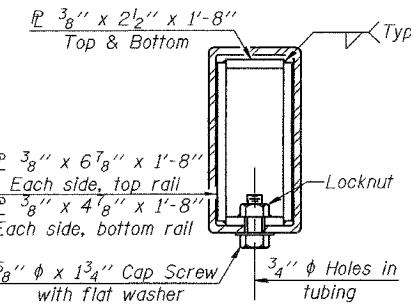


VIEW D-D

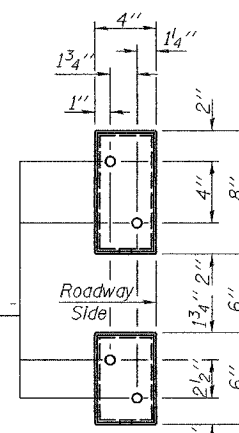


ANCHOR DEVICE

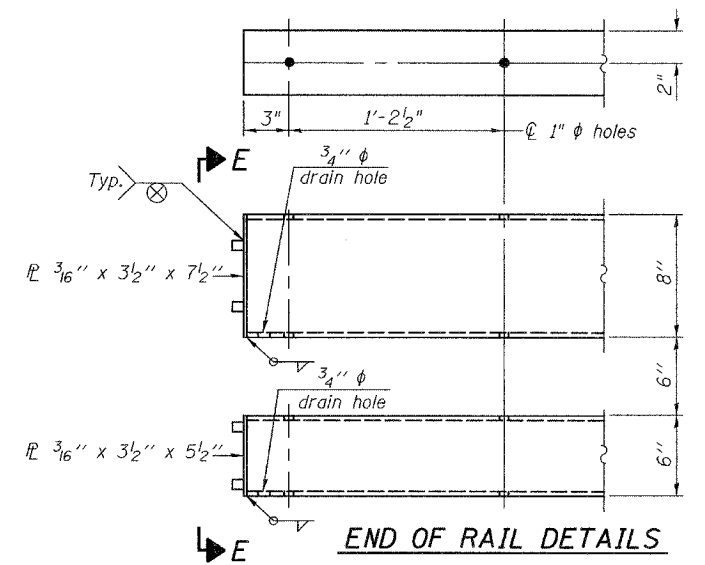
*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.



SECTION AT RAIL SPLICE



VIEW E-E



END OF RAIL DETAILS

NOTES

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F. All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50. Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164. All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232. All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted. Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM. All field drilled holes shall be coated with an approved zinc rich paint before erection. For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(F)(2) of the Standard Specifications. The 1" ϕ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" ϕ cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	63

TYPE SM

STEEL BRIDGE RAIL SIDE MOUNTED WITH CONCRETE WEARING SURFACE
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

DESIGNED	Nicholas Barnett
CHECKED	Ray Ahanchi
DRAWN	R. Sommer
CHECKED	NRB/GRA

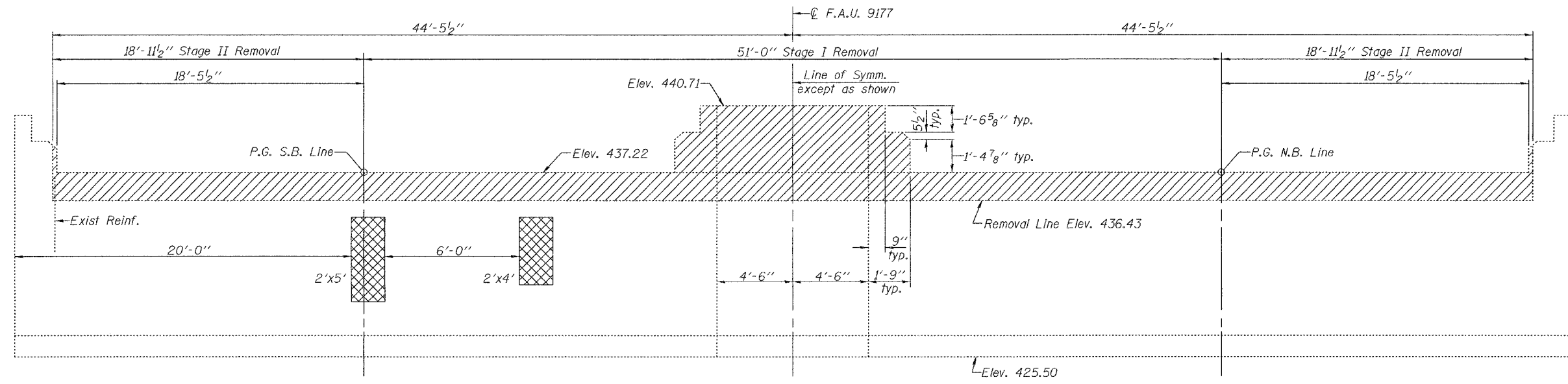
EXAMINED	Thomas J. Domagalaki	November 2, 2006
PASSED	Ralph E. Anderson	

(6'-3" Maximum Post Spacing) (5" minimum to 7/8" maximum CWS thickness)

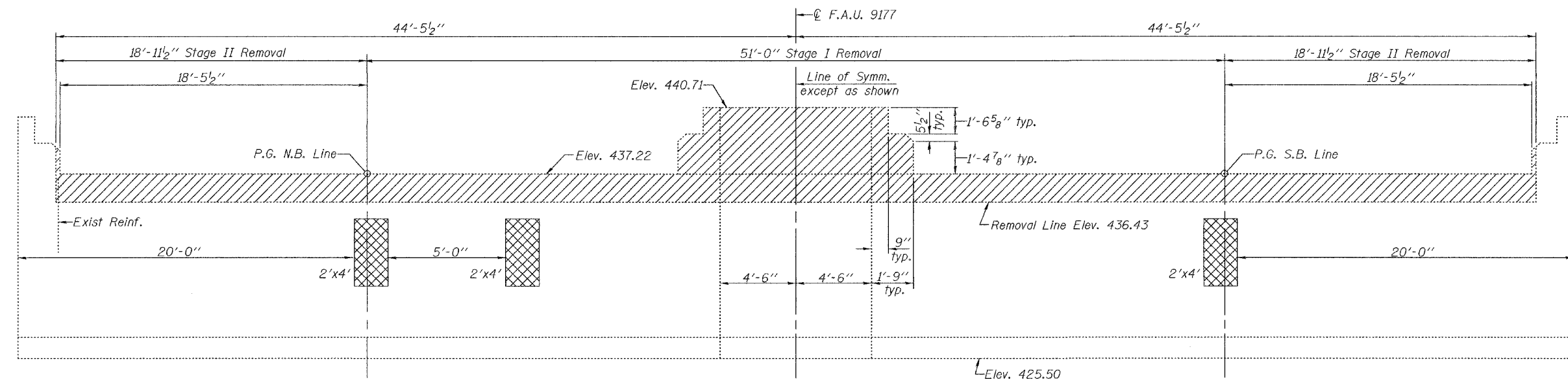
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 12 SHEETS
F.A.U. 9177	44-IBR	St. Clair	29	23	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			


Contract #76566




ELEVATION
(North Abutment, Looking North)



ELEVATION
(South Abutment, Looking South)

 Hatched areas indicate Concrete Removal.

 Crosshatched areas indicate Structural Repair of Concrete (Depth equal or less than 5').

Note: Existing vertical reinforcement bars extending into the New Construction shall be cleaned, straightened and incorporated into the New Construction. Cost included with Concrete Removal.

DESIGNED	Nicholas Barnett
CHECKED	Ray Ahanchi
DRAWN	R. Sommer
CHECKED	NRB/GRA

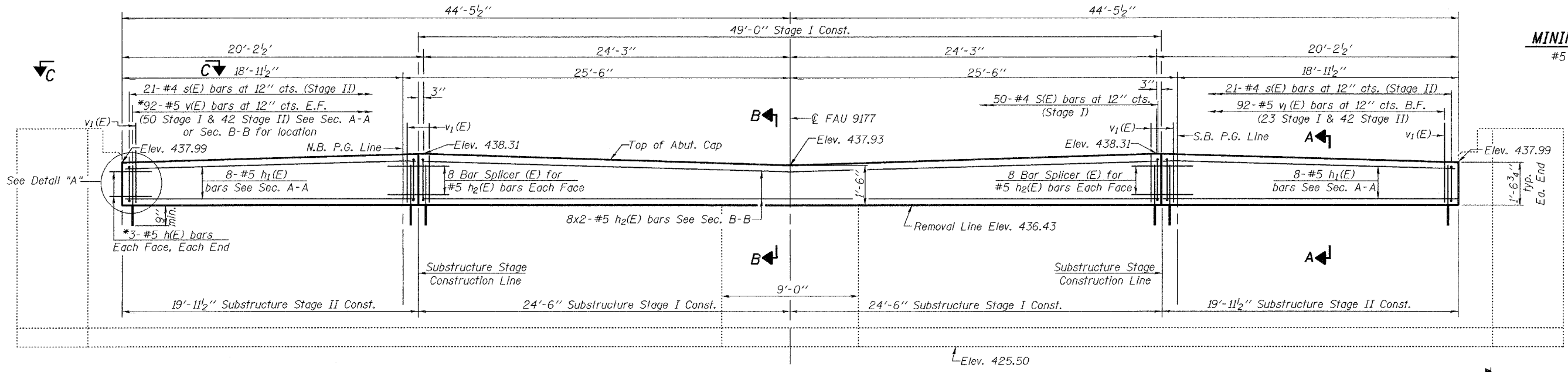
EXAMINED	November 2, 2006	<i>Thomas J. Demagalki</i>
PASSED		<i>Ralph E. Anderson</i>

CONCRETE REMOVAL & REPAIR DETAILS
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

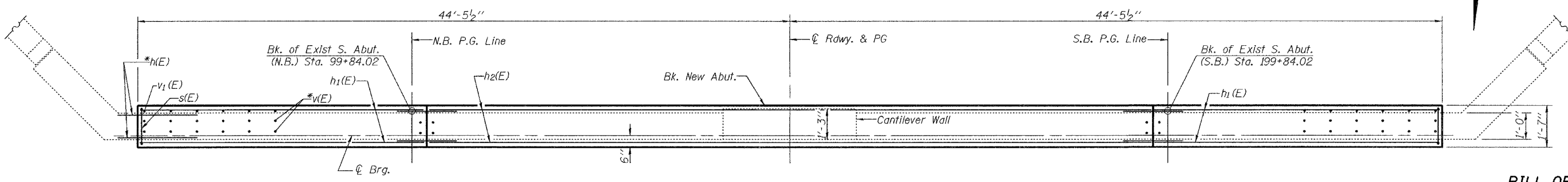
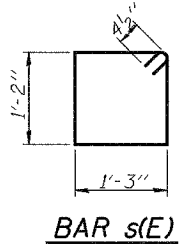
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F.A.U. 9177	44-IBR	St. Clair	29	24	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #76566



MINIMUM BAR LAP
#5 bar - 1'-8"

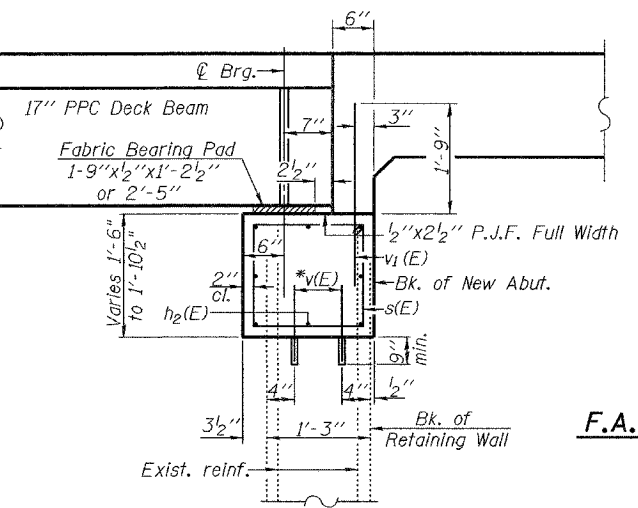
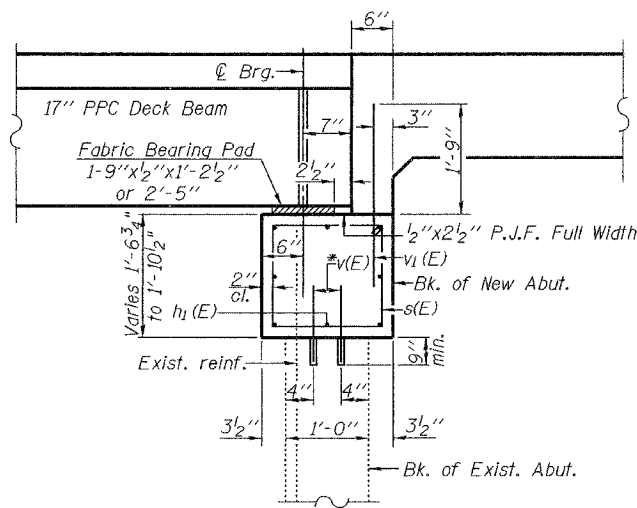
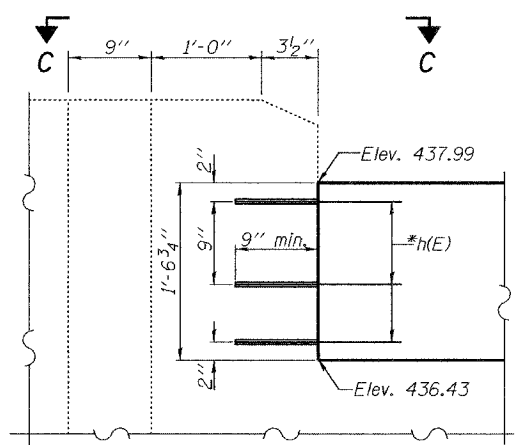
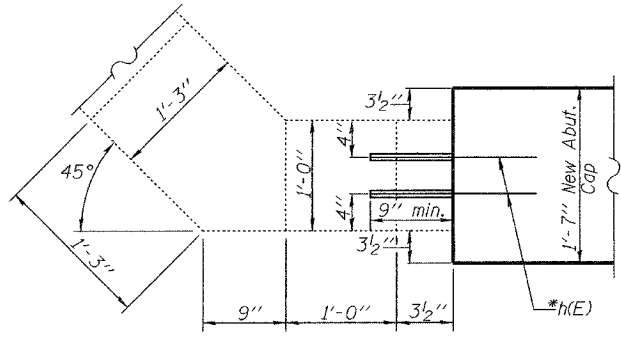
*Epoxy grout h(E) and v(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	12	#5	2'-1"	—
h1(E)	16	#5	19'-8"	—
h2(E)	16	#5	25'-4"	—
s(E)	92	#4	5'-7"	□
v(E)	184	#5	2'-5"	—
v1(E)	92	#5	3'-1"	—
Concrete Structures			Cu. Yd.	8.9
Reinforcement Bars, Epoxy Coated			Pound	1880

Bars indicated thus 8 x 2-#5 etc. Indicates 8 lines of bars with 2 lengths per line.



SOUTH ABUTMENT
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

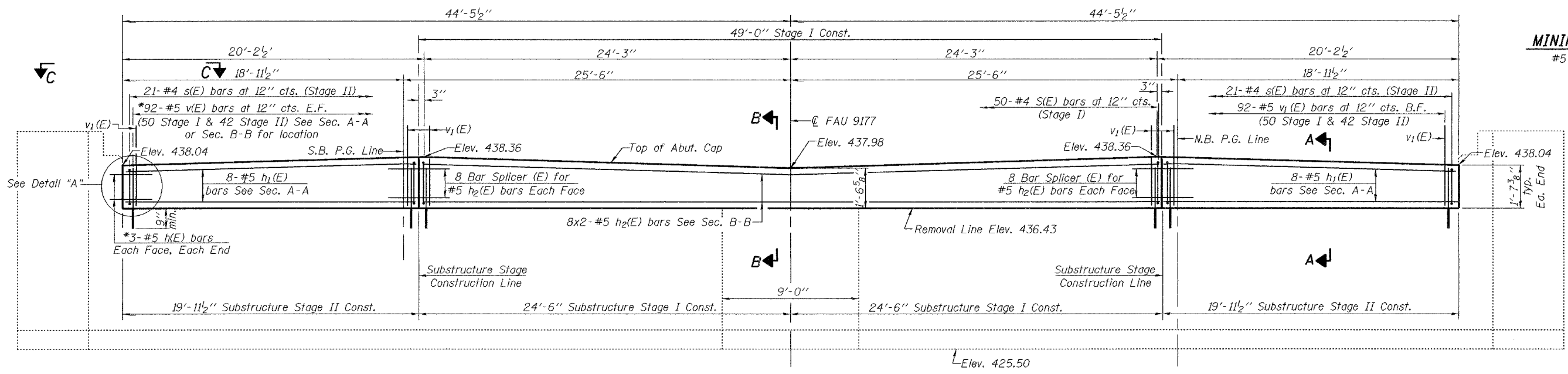
DESIGNED Nicholas Barnett
CHECKED Ray Ahanchi
DRAWN R. Sommer
CHECKED NRB/GRA

November 2, 2006
EXAMINED Thomas J. Domagalaki
PASSED Ralph E. Anderson

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET NO.	SHEET NO. 10
F.A.U. 9177	44-IBR	St. Clair	29	25	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

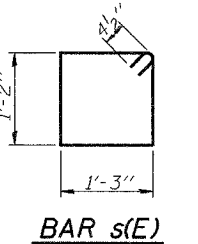
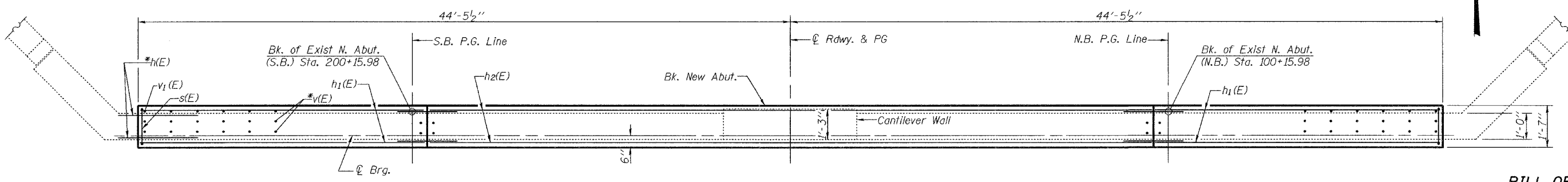
Contract #76566



MINIMUM BAR LAP
#5 bar - 1'-8"

*Epoxy grout h(E) and v(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.

ELEVATION
(Looking North)

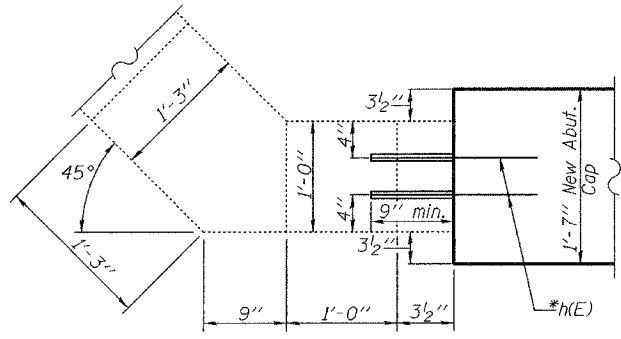


PLAN

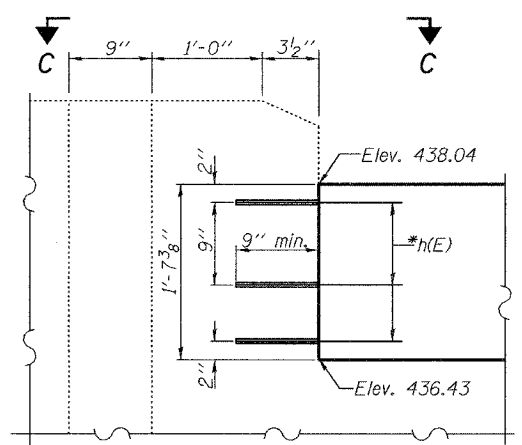
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	12	#5	2'-1"	—
h1(E)	16	#5	19'-8"	—
h2(E)	16	#5	25'-4"	—
s(E)	92	#4	5'-7"	□
v(E)	184	#5	2'-5"	—
v1(E)	92	#5	3'-1"	—
Concrete Structures			Cu. Yd.	9.2
Reinforcement Bars, Epoxy Coated			Pound	1880

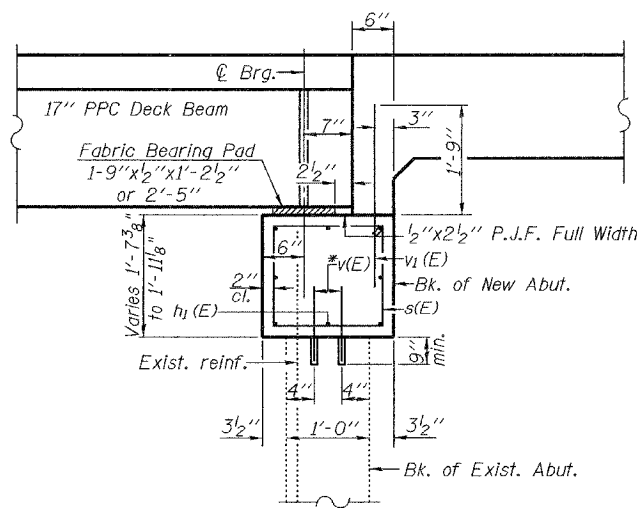
Bars indicated thus 8 x 2-#5 etc. indicates 8 lines of bars with 2 lengths per line.



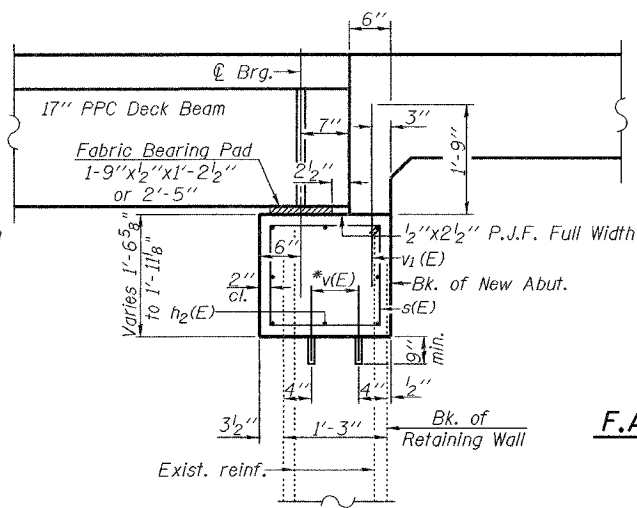
VIEW C-C



DETAIL "A"



SECTION A-A



SECTION B-B

DESIGNED Nicholas Barnett
CHECKED Ray Ahanchi
DRAWN R. Sommer
CHECKED NRB/GRA

November 2, 2006
EXAMINED Thomas J. Domagalaki
PASSED Ralph E. Anderson

NORTH ABUTMENT
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 9177	44-IBR	St. Clair	29	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

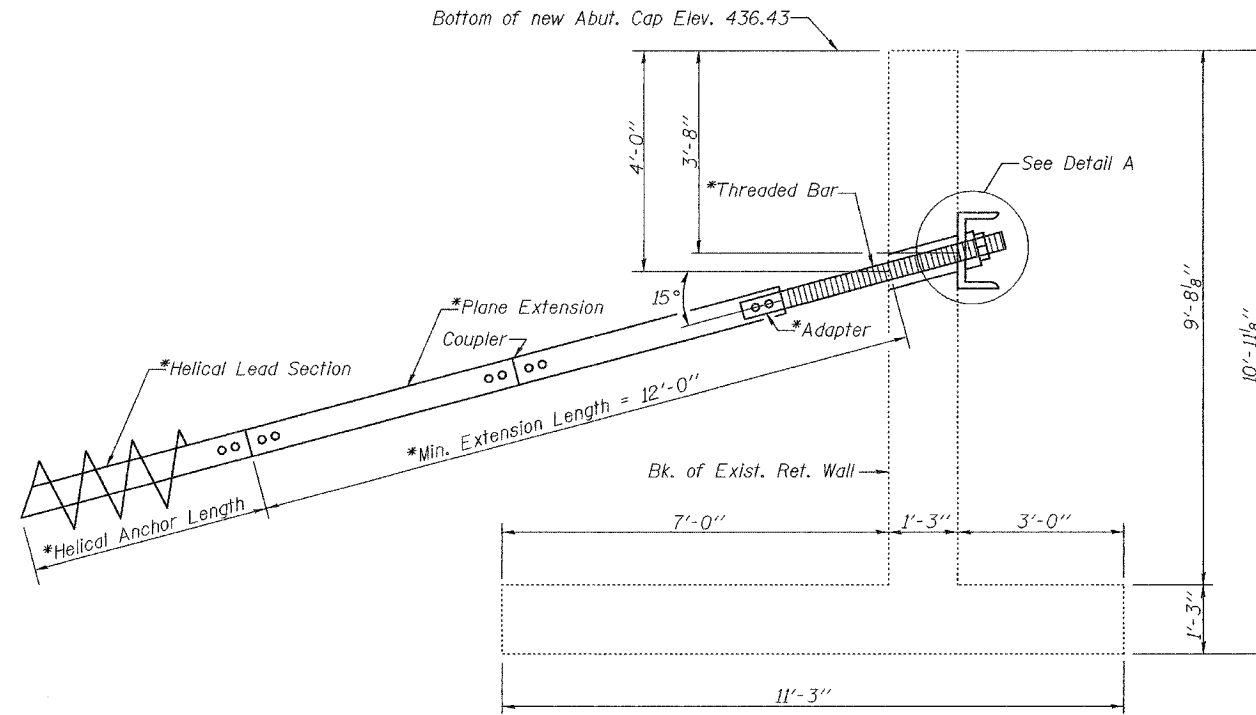
SHEET NO. 11
12 SHEETS

Contract #76566

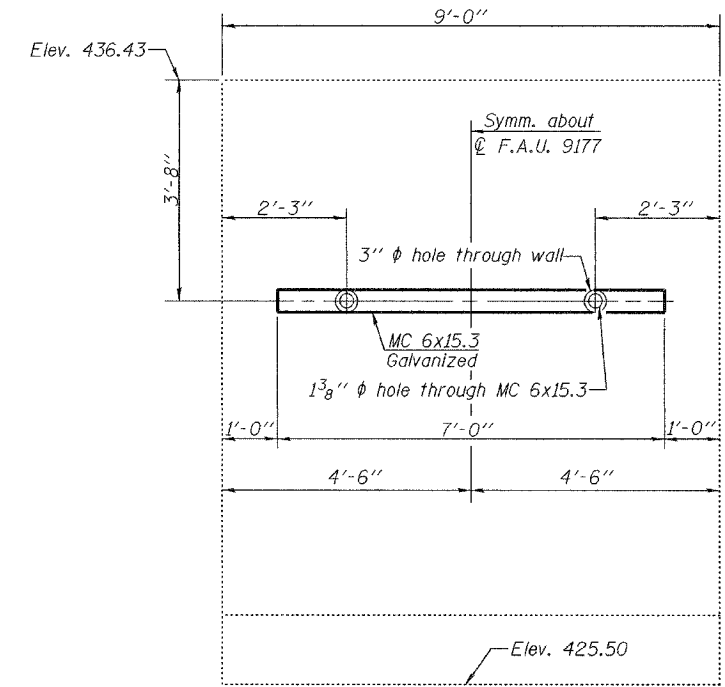
*See Helical Anchor supplier shop drawing for design and details of Anchor

NOTES

1. Helical Anchor shall be designed by manufacturer. (See Special Provisions).
2. The Contractor shall submit design calculations and shop drawing for the proposed Helical Ground Anchor to the Engineer for review and approval.
3. Helical Anchor design load = 5 K/Anchor.
4. Cost of channel MC 6x15.3, washers and nuts included in the cost of Helical Ground Anchors.
5. Installation of the Helical Ground Anchors shall be done prior to Stage I Construction



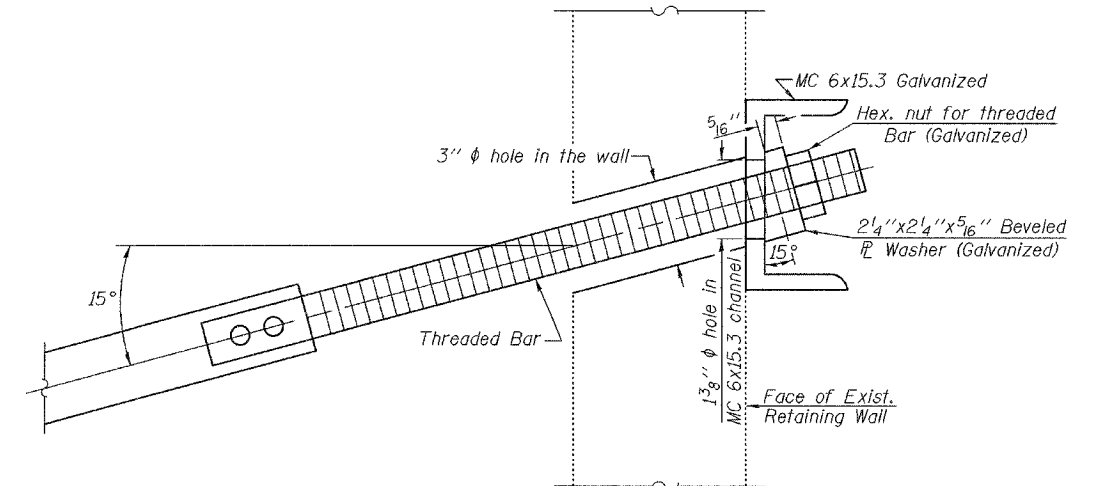
CROSS SECTION



ELEVATION
(South Abutment Looking South)

CONSTRUCTION SEQUENCE

1. Drill holes in existing retaining wall at the location shown in the plans.
2. Excavate behind the retaining wall to approximate elevation of the holes. The excavation shall be limited to only that which is necessary for installation of the helical ground anchor. Cost included with Helical Anchors.
3. Install the first plane extension thru holes and connect to helical lead section placed behind the wall.
4. Rotate the plane extension to install helical lead section until the first extension approaches to the front face of the wall.
5. Attach second plane extension and repeat step #4 until the the number of plane extensions reach beyond the min. extension length of 12'-0" as shown on the plans.
6. Place thread bar adapter, thread bar and connect to plane extension. Connect channel, washers and nut.
7. Backfill and compact soil behind the wall to the ground surface. Cost included with Helical Anchors.
8. Test the anchors. (See Special Provisions).



DETAIL A

HELICAL GROUND ANCHOR DETAILS
F.A.U. ROUTE 9177-SECTION 44-IBR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

DESIGNED	Nicholas Barnett
CHECKED	Ray Ahanchi
DRAWN	R. Sommer
CHECKED	NRB/GRA

EXAMINED	November 2 2006 Thomas J. Domagala ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET NO.
F.A.U. 9177	44-1BR	St. Clair	29	27
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Contract #76566

SHEET NO. 12
12 SHEETS

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 = $1.25 \times f_y \times A_t$
(Tension in kips)
 - ② Minimum *Pull-out Strength = $1.25 \times f_{s,allow} \times A_t$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s,allow}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = 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	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

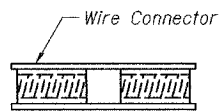
The diameter of this part is the same as the diameter of the bar spliced.

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

ROLLED THREAD DOWEL BAR



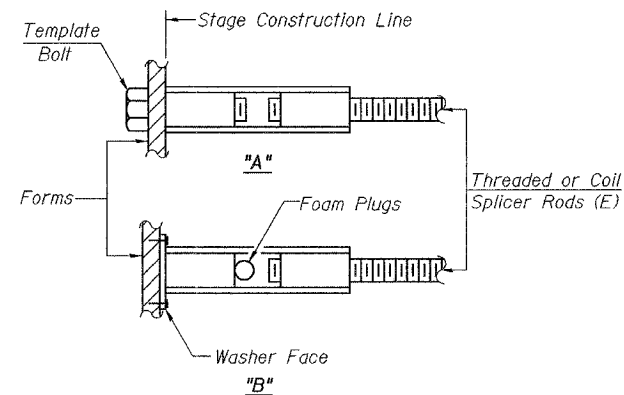
****ONE PIECE**



WELDED SECTIONS

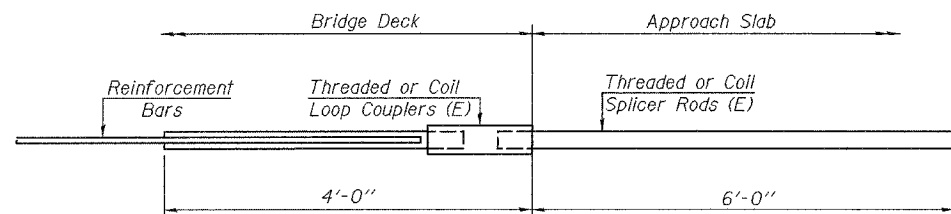
BAR SPLICER ASSEMBLY ALTERNATIVES

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



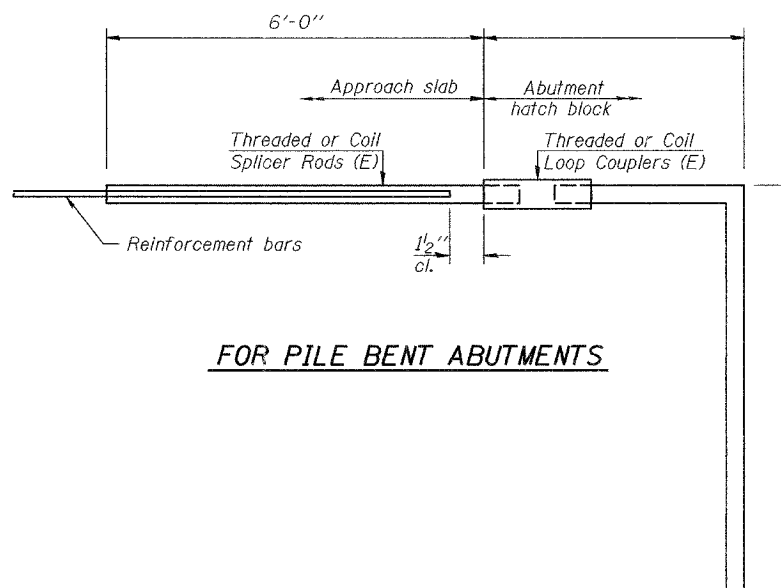
INSTALLATION AND SETTING METHODS

"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.



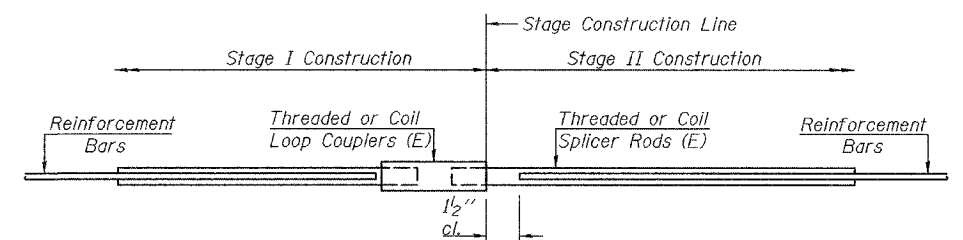
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#4	66	Superstructure
#5	16	S. Abut.
#5	16	N. Abut.

BAR SPLICER ASSEMBLY DETAILS
F.A.U. ROUTE 9177-SECTION 44-1BR
ST. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

DESIGNED Nicholas Barnett
CHECKED Ray Ahanchi
DRAWN R. Sommer
CHECKED NRB/GRA
BSD-1 10-22-04

November 2 2006
EXAMINED Thomas J. Domagalaki
PASSED Ralph E. Anderson

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9177	44-1BR	ST. CLAIR	29	29
STA. 1+00		TO STA. 1+40		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

FINAL SURVEYED BY DATE
 SERVICE PLOTTED
 NOTE BOOK NO. DATE
 AREAS CHECKED

ORIGINAL SURVEYED BY DATE
 SERVICE PLOTTED
 NOTE BOOK NO. DATE
 AREAS CHECKED

PLOT DATE = 10/18/2006
 FILE NAME = \\s\work\44-1BR\44-1BR-29-1.dwg
 PLOT SCALE = 1/8"=1'-0"
 USER NAME = chmhlj

