3-9-07 Letting, Item 106

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	1

CONTRACT NO. 76129

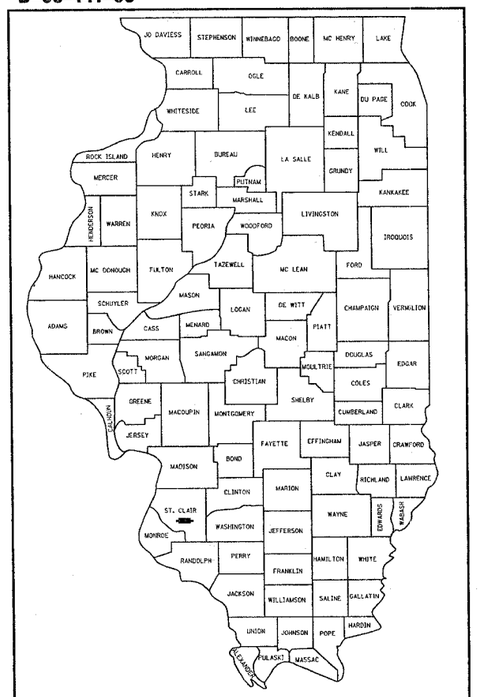
+1 / 62 total sheets

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

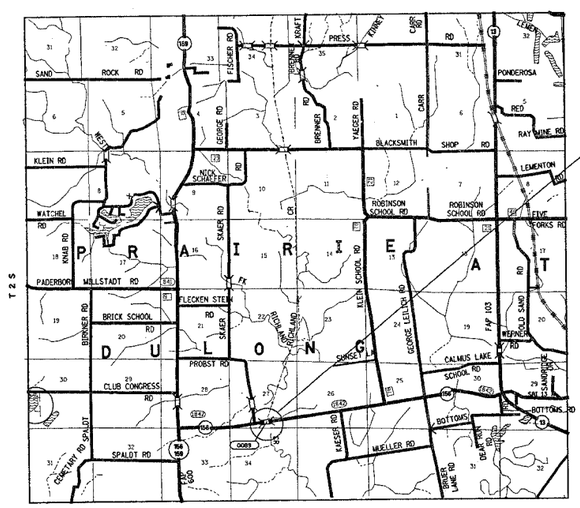
PROPOSED HIGHWAY PLANS

FAS ROUTE 1842 (IL 156)
SECTION 106 BR
PROJECT: ACBRS-1842 (101)
STRUCTURE REPLACEMENT
OVER RICHLAND CREEK
ST CLAIR COUNTY
C-98-105-03

D-98-141-98



LOCATION OF SECTION INDICATED THUS:- -▬-



PROJECT LOCATION
IL 156 OVER RICHLAND CREEK
STA 665+15.00
SN 082-0089 (E)
SN 082-0387 (P)

LAYOUT
0 MI 1 MI 2 MI 3 MI
1" = 1 MILE

GROSS LENGTH = 900.0 FT = 0.170 MILES
NET LENGTH = 900.0 FT = 0.170 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED December 12 20 06
Mary C. Jamie
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER
February 2, 20 07
Eric E. Harm P.E.
Interim ENGINEER OF DESIGN AND ENVIRONMENT
February 2, 20 07
Milton R. Seo, P.E.
DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

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

FOR INDEX OF SHEETS, SEE SHEET NO. 2

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

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

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

TRAFFIC DATA:

	2007	2027
ADT:	2800	4000
SU:	4.9%	4.9%
MU:	4.1%	4.1%

LATITUDE: 38.32382 LONGITUDE: -89.9706

CONTRACT NO. 76129

ST CLAIR COUNTY SECTION 106BR FAS ROUTE 1842

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	2
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 76129

INDEX OF SHEETS

HIGHWAY STANDARDS

000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-01	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH OF A FOOT
420401-05	BRIDGE APPROACH PAVEMENT
482011-02	HMA SHLD. STRIPS/SHOULDERS WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
515001-02	NAME PLATE FOR BRIDGES
630001-07	STEEL PLATE BEAM GUARDRAIL
630301-04	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-06	TRAFFIC CONTROL BARRIER TERMINAL, TYPE 6
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
666001	RIGHT OF WAY MARKERS
667101	PERMANENT SURVEY MARKERS
701006-02	OFF-ROAD OPERATIONS, 2L, 2W, 4.5m (15') TO 600m (24") FROM PAVEMENT EDGE
701011-01	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701311-02	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-08	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-02	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS >= 45 MPH
702001-06	TRAFFIC CONTROL DEVICES
704001-03	TEMPORARY CONCRETE BARRIER
780001-01	TYPICAL PAVEMENT MARKINGS
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

GENERAL NOTES

1. THE STANDARDS AND REVISION NUMBERS SHALL APPLY TO THIS PROJECT.

2. ANY REFERENCE TO "BITUMINOUS CONCRETE" SHALL BE CONSTRUED TO DENOTE "HOT-MIX ASPHALT".

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

4. THE AGGREGATE SHOULDER WILL BE CONSTRUCTED AS SHOWN ON THE TYPICAL SECTION AS 6 INCH THICK AND ACCORDING TO SECTION 481 OF THE STANDARD SPECIFICATIONS. THE AGGREGATE SHOULDER TYPE B IS MEASURED FOR PAYMENT IN SQUARE YARDS WITH A MEASURED TOP SURFACE WIDTH OF 3 FEET. THE CONSTRUCTION OF THE AGGREGATE WEDGE BEYOND THE 3 FOOT WIDTH NECESSARY TO TIE INTO THE SIDE SLOPE WILL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF AGGREGATE SHOULDER, TYPE B, 6 INCH.

5. A QUANTITY OF 2290 FEET OF "TEMPORARY PAVEMENT MARKING - LINE 6" WHITE HAS BEEN INCLUDED IN THE PLANS FOR PAINTING THE BOTTOM 6" OF THE TEMPORARY CONCRETE BARRIER.

6. AN ADDITIONAL QUANTITY OF 32 SQ YD OF AGGREGATE BASE COURSE, TYPE B HAS BEEN INCLUDED IN THE PLANS FOR THE PURPOSE OF MAINTAINING ACCESS TO ENTRANCES DURING THEIR RECONSTRUCTION.

7. THE REMOVAL OF THE BRIDGE APPROACH PAVEMENT IS INCLUDED IN THE COST OF PAVEMENT REMOVAL.

8. 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:

   - AT&T ILLINOIS
   - AMEREN IP
   - MONROE CO. ELECTRIC COOPERATIVE, INC.
   - VERIZON NORTH, INC.

   MEMBERS OF J.U.L.I.E (800) 892-0123 ARE INDICATED BY *. NON-MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

9. NEW JERSEY (NJ) SHAPE BARRIER WILL BE ALLOWED ON THIS PROJECT. INSTALLATION SHALL BE AS DETAILED ON PAGE 21 OF THE PLANS.

GENERAL NOTES CONT'D

10. IF ANY SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED OR RESURFACED OVER. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING, FERTILIZING, AND MULCHING ANY AREAS DISTURBED OUTSIDE THE LIMITS OF CONSTRUCTION. THE SEEDING SHALL BE CLASS 2. THE APPLICATION OF THE SEEDING, FERTILIZER, AND MULCH SHALL BE TO THE SATISFACTION OF THE ENGINEER. FINAL SEEDING SHALL BE PERFORMED AS SOON AS POSSIBLE.

12. IF THE CONTRACTOR REMOVES TREES WITHIN THE RIGHT-OF-WAY LIMITS FOR HIS CONSTRUCTION ACTIVITY, I.E. IN ORDER TO GAIN ACCESS TO THE PROJECT SITE, IT WILL BE HIS RESPONSIBILITY TO REPLACE THE TREES AT A 1:1 RATIO. THE TREES WILL BE REPLACED WITH A 1 GALLON NATIVE ILLINOIS TREE SPECIES AND SHALL BE APPROVED BY THE ENGINEER. THE TREE REMOVAL AND TREE REPLACEMENT WILL BE AT THE CONTRACTOR'S EXPENSE, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

13. EXCAVATION ADJACENT TO THE EDGE OF PAVEMENT SHALL BE PROTECTED WITH EXTENDED LEG BARRICADES AND APPROPRIATE STEADY BURN LIGHTS.

14. RIGHT OF WAY MARKERS SHALL BE SET SO THE BACK OF THE POST IS TWELVE INCHES (12") INSIDE THE RIGHT OF WAY BOUNDARY. RIGHT OF WAY PROPERTY CORNERS ARE MARKED BY A 5/8" IRON ROD WITH IDOT ALUMINUM CAP AND SHALL NOT BE REMOVED OR DAMAGED WHEN SETTING THE RIGHT OF WAY MARKERS.

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN. PRIOR TO 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.

2. STRAW BALES, HAY BALES, PERIMETER EROSION BARRIER, AND SILT FENCES WILL NOT BE PERMITTED FOR TEMPORARY OR PERMANENT DITCH CHECKS. DITCH CHECKS SHALL BE COMPOSED OF AGGREGATE, SILT PANELS, ROLLED EXCELSIOR, URETHANE FOAM/GEOTEXTILE (SILT WEDGES), EARTH MEDIAN AND/OR OTHER MATERIAL APPROVED BY THE EROSION AND SEDIMENT CONTROL COORDINATOR.

3. TEMPORARY DITCH CHECK, GEOTEXTILES, ROLLED EXCELSIOR, SILT WEDGES, PANELS SHALL BE LOCATED AT EVERY 1.5 FT FALL/RISE IN DITCH GRADE.

4. TEMPORARY DITCH CHECKS, AGGREGATE USES GRADING NO. 3 - REMOVE AT END OF CONSTRUCTION.

5. TEMPORARY SEEDING SHALL BE COMPLETED ON A WEEKLY BASIS ON EXPOSED GROUND AND SHALL BE PAID FOR AS "TEMPORARY EROSION CONTROL SEEDING" AND NO OTHER PAYMENT WILL BE PERMITTED. FOR CALCULATION PURPOSES, THREE APPLICATIONS OF TEMPORARY SEEDING WAS ASSUMED.

6. ALL AREAS DISTURBED FOR ANY REASON SHALL BE SEEDED WITH CLASS 2 SEEDING AS DIRECTED BY THE ENGINEER.

7. CLASS 2 SEEDING AND EROSION CONTROL BLANKET IS TO BE PLACED AS SOON AS EARTHWORK IS COMPLETED.

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

9. FINAL SEEDING SHALL BE PERFORMED AS SOON AS POSSIBLE.

COMMITMENTS

1. THE EXISTING EARTHEN BERM ELEVATION SOUTH OF THE BRIDGE AND ON THE EAST SIDE OF THE CREEK SHALL BE MAINTAINED DURING AND AFTER CONSTRUCTION.

2. TREE FELLING SHOULD BE RESTRICTED TO THE DATES BETWEEN SEPTEMBER 30 AND APRIL 1 OF ANY YEAR, WHEN THE INDIANA BATS ARE NOT BREEDING (I.E. NOT OCCUPYING NURSERY TREES).

3. THE CONTRACTOR SHALL PROTECT THE WETLAND AND RESEED ALL DISTURB AREAS WITH RED TOP AT 10 LBS/ACRE.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS/GENERAL NOTES/ & HIGHWAY STANDARDS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT.
HORIZ.
DATE

DRAWN BY
CHECKED BY

PLOT DATE = 12/6/2006
FILE NAME = c:\projects\edi198\plan\prof1e141198edf.dgn
PLOT SCALE = 49.9998 ' / IN.
REFERENCE = #REF#

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	3
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 76129

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	URBAN 80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE I000-2A	X071-2A	SFTY-3N
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	84	84		
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	148	148		
20200100	EARTH EXCAVATION	CU YD	255	255		
20200500	EARTH EXCAVATION (WIDENING)	CU YD	205	205		
20400800	FURNISHED EXCAVATION	CU YD	1605	1605		
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	156		156	
25000200	SEEDING, CLASS 2	ACRE	0.65	0.65		
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	56.5	56.5		
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	56.5	56.5		
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	56.5	56.5		
25100105	MULCH, METHOD 1	ACRE	0.65	0.65		
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	113	113		
28000300	TEMPORARY DITCH CHECKS	EACH	6	6		
28000400	PERIMETER EROSION BARRIER	FOOT	620	620		
28000500	INLET AND PIPE PROTECTION	EACH	2	2		
28000700	MULCH, METHOD 1	ACRE	1.25	1.25		
28100109	STONE RIPRAP, CLASS A5	SQ YD	1933	273	1660	
28200200	FILTER FABRIC	SQ YD	1933	273	1660	
31100300	SUB-BASE GRANULAR MATERIAL, TYPE A 4"	SQ YD	441	441		
35102000	AGGREGATE BASE COURSE, TYPE B 8"	SQ YD	118	118		
35600712	HOT-MIX ASPHALT BASE COURSE WIDENING, 9"	SQ YD	378	378		
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.6	0.6		
40600300	AGGREGATE (PRIME COAT)	TON	3	3		
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	301	301		
40600990	TEMPORARY RAMP	SQ YD	174	174		
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	1122	1122		
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	128	128		
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	240		240	
44000100	PAVEMENT REMOVAL	SQ YD	359	359		
44300200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	FOOT	1134	1134		
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	378	378		
48203003	HOT-MIX ASPHALT SHOULDERS, 1 1/2"	SQ YD	504	504		
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1	
50105220	PIPE CULVERT REMOVAL	FOOT	44.5	44.5		
50200100	STRUCTURE EXCAVATION	CU YD	208		208	

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	URBAN 80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE I000-2A	X071-2A	SFTY-3N
50300100	FLOOR DRAINS	EACH	32		32	
50300225	CONCRETE STRUCTURES	CU YD	147.4		147.4	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	348.5		348.5	
50300260	BRIDGE DECK GROOVING	SQ YD	1031		1031	
50300300	PROTECTIVE COAT	SQ YD	1321		1321	
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		1	
50500505	STUD SHEAR CONNECTORS	EACH	3618		3618	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	156360		156360	
50800515	BAR SPLICERS	EACH	992		992	
51201600	FURNISHING STEEL PILES HP12X53	FOOT	425		425	
51202305	DRIVING PILES	FOOT	425		425	
51203600	TEST PILE STEEL HP12X53	EACH	2		2	
51205200	TEMPORARY SHEET PILING	SQ FT	1155		1155	
51500100	NAME PLATES	EACH	1		1	
* 51603000	DRILLED SHAFT IN SOIL	CU YD	83.8		83.8	
52100520	ANCHOR BOLTS 1" DIA.	EACH	24		24	
* 51604000	DRILLED SHAFT IN ROCK	CU YD	28.3		28.3	
52100540	ANCHOR BOLTS 1½" DIA.	EACH	24		24	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12		12	
54213459	END SECTIONS 24"	EACH	4	4		
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	41	41		
542D1069	PIPE CULVERTS, CLASS D, TYPE 2 24"	FOOT	44.5	44.5		
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	73		73	
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	149		149	
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	562.5	562.5		
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4		
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4		
63200305	STEEL PLATE BEAM GUARD RAIL REMOVAL	FOOT	487.5	487.5		
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	8	8		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	9	9		
67100100	MOBILIZATION	L SUM	1	1		
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1		
70101205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)	EACH	1	1		
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	2	2		
70106600	TEMPORARY BRIDGE TRAFFIC SIGNALS (STATE FURNISHED CONTROLLER)	EACH	1	1		
70106700	TEMPORARY RUMBLE STRIP	EACH	6	6		

* SPECIALTY ITEMS

Rev.

PLOT DATE = 12/15/2006
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REFERENCE = #REF#

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	4
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 76129

SUMMARY OF QUANTITIES			URBAN 80% FED. 20% STATE TOTAL	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	QUANTITIES	1000-2A	X071-2A	SFTY-3N
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	7	7		
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	3688	2600	1088	
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	2290	1624	666	
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	26	26		
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1238	1238		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1100	1100		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1100	1100		
72000100	SIGN PANEL - TYPE 1	SQ FT	10	10		
72800100	TELESCOPING STEEL SIGN SUPPORT	FOOT	24	24		
78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	1419	1419		
78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	750		750	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	14	14		
78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	4		4	
78200305	PRISMATIC BARRIER REFLECTOR	EACH	8		8	
78200410	GUARDRAIL MARKERS, TYPE A	EACH	10	10		
78200530	BARRIER WALL MARKERS, TYPE C	EACH	28	28		
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4		
78300100	PAVEMENT MARKING REMOVAL	SQ FT	46	46		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	14	14		
* 81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	182	182		
* X0321781	MECHANICAL SPLICE	EACH	88	88		
X0323988	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	137		137	
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1		1	
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1		1	
X7200200	WIDE LOAD SIGNING	L SUM	1	1		
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2			2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2			2
X0325672	RELOCATE EXISTING GAGE HOUSE	LSUM	1	1		
Z0030260	IMPACT ATTENUATORS, TEMPORARY (FULLY-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2			2
⊛ Z0076600	TRAINEES	HOUR	2000	2000		
Z0001900	ABBESTOS BEARING PAD REMOVAL	EACH	32		32	

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT				

*SPECIALTY ITEMS

Rev.

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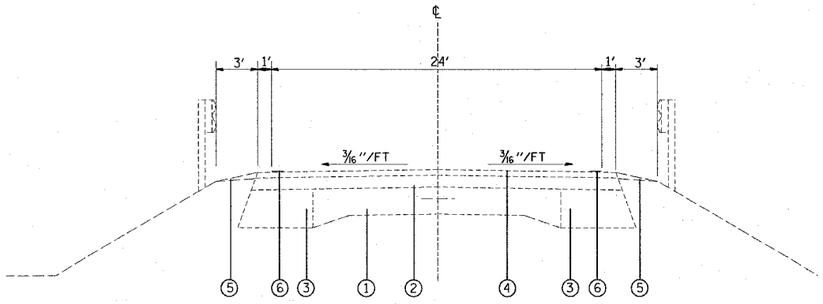
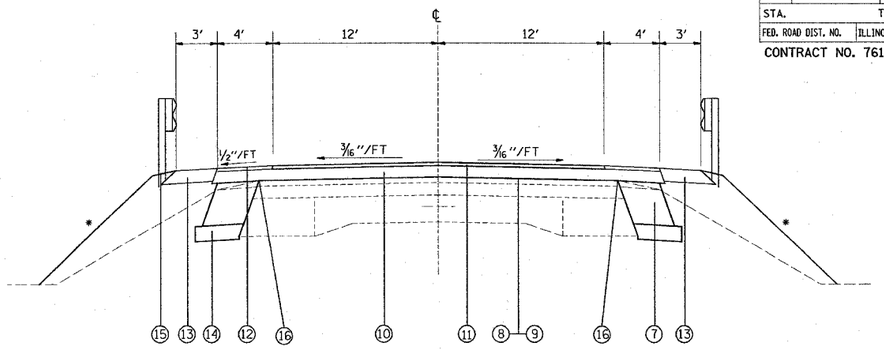
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	54BR-1	ST CLAIR	61	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 76129



EXISTING TYPICAL SECTION

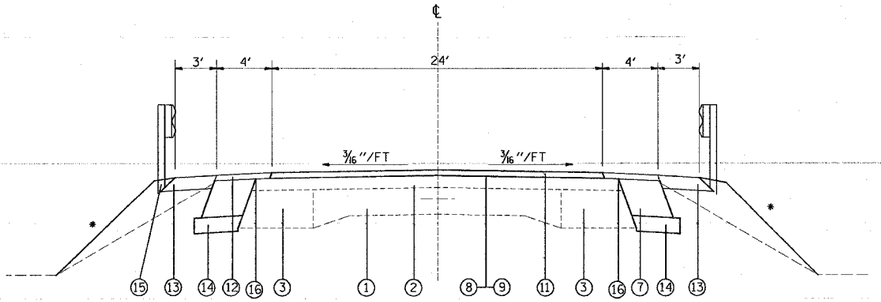
STA. 664+15.50 TO STA. 667+99.00
STA. 671+32.00 TO STA. 674+15.50



* SLOPE VARIES SEE CROSS SECTIONS

PROPOSED TYPICAL SECTION

STA. 665+75.00 TO STA. 667+99.00
STA. 671+32.00 TO STA. 674+15.50



* SLOPE VARIES SEE CROSS SECTIONS

PROPOSED TYPICAL SECTION

STA. 665+15.50 TO STA. 665+75.00
STA. 673+75.00 TO STA. 674+15.50

LEGEND

1. EXISTING P.C.C. PAVEMENT
2. EXISTING BITUMINOUS OVERLAY 3″
3. EXISTING BASE COURSE WIDENING 9″
4. EXISTING BITUMINOUS CONCRETE SURFACE COURSE, 1½″
5. EXISTING AGGREGATE SHOULDERS, TYPE B
6. EXISTING PAINT PAVEMENT MARKING LINE 4″
7. PROPOSED HOT-MIX ASPHALT BASE COURSE WIDENING, 9″
8. PROPOSED BITUMINOUS MATERIALS (PRIME COAT)
9. PROPOSED AGGREGATE (PRIME COAT)
10. PROPOSED HOT-MIX ASPHALT BINDER COURSE, (VARIES 6½″ TO 10½″)
11. PROPOSED HOT-MIX ASPHALT SURFACE COURSE, 1½″
12. PROPOSED HOT-MIX ASPHALT SHOULDER, 1½″
13. PROPOSED AGGREGATE SHOULDER, TYPE B 6″
14. PROPOSED SUBGRADE GRANULAR MATERIAL TYPE A 4″
15. PROPOSED GUARDRAIL
16. PROPOSED STRIP REFLECTIVE CRACK CONTROL

MIXTURE REQUIREMENTS

MIXTURE USE	SURFACE	BINDER	BSE CSE WIDENING	SHOULDERS
AC/PG	PG 64-22	PG 64-22	PG 58-22	PG 58-22
RAP % (MAX)	10%	15%	30%	30%
DESIGN AIR VOIDS	4.0% @ Ndes= 70	4.0% @ Ndes= 70	4.0% @ Ndes= 50	2.0% @ Ndes=30
MIX COMPOSITION				
(GRADATION MIXTURE)		IL 19.0		
FRICTION AGG	MIXTURE "C"	MIXTURE "B"	BSE CSE	BAM

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
MIXTURE REQUIREMENTS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ.
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PLOT DATE = 12/11/2006
FILE NAME = c:\projects\1498\plan\profile1498a4.dgn
PLOT SCALE = 50.0000 ' / IN.
REFERENCE = REF

CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

RESURFACING SCHEDULE

STATION		HMA BS COURSE WIDENING (SQ YD)	AGGREGATE PRIME COAT (TON)	BITUMINOUS MATERIAL PRIME COAT (TON)	HMA BINDER COURSE (TON)	HMA SURF. CSE, SUPER., MIX "C", N70 (TON)	HMA SHLD 1½" (SQ YD)	AGG. SHLD TYPE B 6" (SQ YD)	AGG. BSE CSE TYPE B 8" (SQ YD)	SUB-BASE GR. MAT'L TYPE A 4" (SQ YD)	TEMP. RAMP (SQ YD)	BRIDGE APPROACH PVM'T (SQ YD)	STRIP REFL CRACK CTRL TREATMENT (FT)
665+15.50	RT/LT										86.67		
665+15.50 TO 667+99.00	RT/LT	189.00	1.22	0.26	596.15	63.51	252.00	189.00		220.5			567.00
666+03.00 FE	RT								85.46				
667+99.00 TO 668+29.00	RT/LT											120.00	
671+02.00 TO 671+32.00	RT/LT											120.00	
671+32.00 TO 674+15.50	RT/LT	189.00	1.23	0.26	525.76	63.51	252.00	189.00		220.5			567.00
674+15.50	RT/LT										86.67		
TOTAL		378.00	2.45	0.52	1121.91	127.02	504.00	378.00	85.46	441.0	173.34	240.00	1134.00

PAVEMENT MARKING SCHEDULE

STATION				PAVEMENT			BRIDGE		
				4" WHITE LINE (FT)	YELLOW SKIP DASH LINE 4" (FT)	DOUBLE AMBER RSD REFL PMK MKR (EA)	4" WHITE LINE (FT)	YELLOW SKIP DASH LINE 4" (FT)	DOUBLE AMBER RSD REFL PMK MKR (EA)
662+38.50	TO	667+99.00	CL		140.13	7			
665+15.50	TO	667+99.00	RT/LT	567.00					
667+99.00	TO	671+32.00	CL					83.25	4
667+99.00	TO	671+32.00	RT/LT				666.00		
671+32.00	TO	676+87.00	CL		138.75	7			
671+32.00	TO	674+18.50	RT/LT	573.00					
SUB-TOTAL				1140.00	278.88	14	666.00	83.25	4
TOTAL				1418.88		14	749.25		4

TEMPORARY PAVEMENT MARKING SCHEDULE

STATION					PAVEMENT MARKING					WORK ZONE PVMT MKNG REMOVAL (SQ FT)	PVMT MRKG REMOVAL (SQ FT)	BARRIER WALL MKRS, TYPE C (EA)
					4" LINE PAVEMENT (FT)	4" LINE BRIDGE (FT)	6" LINE PAVEMENT (FT)	6" LINE BRIDGE (FT)	24" LINE PAVEMENT (FT)			
662+38.50			RT	STOP BAR					13	4.3		
662+38.50	TO	664+00.00	CL	STAGE I	40.38					13.5		
664+14.89	TO	675+16.98	LT	STAGE I			823	333				
662+38.50	TO	665+15.50	CL								23.1	
665+15.50	TO	674+15.50	RT/LT	STAGE I	1378.00	422.00				600.0		
665+15.00	TO	675+17.00		STAGE I&II								28
674+15.50	TO	676+87.00	CL								22.6	
675+00.00	TO	676+87.00	CL	STAGE I	46.8					15.6		
676+87.00			LT	STOP BAR					13.0	4.3		
664+08.42	TO	674+88.49	RT	STAGE II			801.0	333.0				
665+15.50	TO	674+15.50	RT/LT	STAGE II	1134.0	666.0				600.0		
TOTAL					2599.1	1088.0	1624.0	666.0	26.0	1237.7	45.7	28
					3687.1		2290.0					

REMOVAL SCHEDULE

LOCATION				PVMT REMOVAL (SQ YD)	HMA SURF. REM. BUTT JOINT (SQ YD)	SPBGR REMOVAL (FT)	PIPE CULV. REMOVAL 15" (FT)	RAISED REFL PVMT MKRS REMOVAL (EA)
662+38.50	TO	667+99.00	℄					7
665+15.50	TO	665+71.00			160.33			
667+50.86		FE	RT				44.50	
667+54.06	TO	668+79.06	LT			125.00		
667+66.56	TO	668+79.06	RT			112.50		
667+99.00	TO	668+79.06		235.82				
670+90.94	TO	671+32.00		123.17				
670+90.94	TO	672+15.94	LT			125.00		
670+90.94	TO	672+15.94	RT			125.00		
671+32.00	TO	676+87.00	℄					7
673+67.00	TO	674+15.50			140.11			
TOTAL				358.99	300.44	487.50	44.50	14

ROW MARKERS SCHEDULE

STA	OFFSET	RT/LT	ROW MKRS (EA)
667+00.00	40	RT	1
667+00.00	75	RT	1
667+02.34	40	LT	1
667+02.34	75	LT	1
672+50.00	40	RT	1
672+50.00	75	RT	1
672+50.00	40	LT	1
672+50.00	75	RT	1
TOTAL			8

ROW MARKER TO BE SET AT 1' OFFSET TO ROW/PROPERTY CORNER

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ. DRAWN BY
DATE CHECKED BY

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PLOT DATE = 12/15/2006
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CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	7
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TREE REMOVAL SCHEDULE

STATION	OFFSET	RT/LT	6 TO 15 UNITS					OVER 15 UNITS			
669+08.10	99.15	RT		8							
669+08.99	100.43	RT	6								
669+09.10	100.4	RT	6								
669+09.18	83.7	RT						16			
669+11.48	90.76	RT	6								
669+11.71	102.24	RT				12					
669+12.50	93.18	RT					14				
669+15.01	96.96	RT			10						
669+15.24	77.88	RT								34	
669+18.93	119.81	RT									48
669+31.55	124.96	RT				12					
669+41.12	98.99	RT			10						
670+60.53	43.8	LT						16			
670+97.99	44.0	LT							18		
671+05.40	46.0	LT						16			
SUB-TOTAL			18	8	20	24	14	48	18	34	48
TOTAL			84					148			

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU YD)	EARTH EXCAVATION ADJTD FOR SHRINKAGE (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)
STA. 665+00.00 TO STA. 668+25.00	222.2	166.6	507.3	-340.7
STA. 671+10.00 TO STA. 674.50.00	30.7	23.1	823.2	-800.2
STA. 665+15.50 TO STA. 668+79.06	103.8	77.8	0.0	77.8
STA. 670+90.94 TO STA. 674+15.50	97.9	73.4	0.0	73.4
STA. 0+35.00 TO STA. 1+75.00	0.0	0.0	613.7	-613.7
TOTAL	454.6	340.9	1944.2	-1603.4

EARTHWORK SCHEDULE (WIDENING)

LOCATION	EARTH EXCAVATION (CU YD)	EARTH EXCAVATION ADJTD FOR SHRINKAGE (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)
STA. 665+15.50 TO STA. 668+79.06	103.8	77.8	0.0	77.8
STA. 670+90.94 TO STA. 674+15.50	97.9	73.4	0.0	73.4
TOTAL	201.7	151.2	0.0	151.2

SEEDING SCHEDULE

STATION		SEEDING CL 2 (ACRE)	NITROGEN FERT. NUTR (POUND)	PHOSPHORUS FERT. NUTR (POUND)	POTASSIUM FERT. NUTR (POUND)	MULCH METHOD 1 (ACRE)
665+15.50 TO 674+15.50	LT	0.330	29.68	29.68	29.684	0.33
665+15.50 TO 674+15.50	RT	0.294	26.42	26.42	26.421	0.29
TOTAL		0.62	56.11	56.11	56.11	0.62

TEMPORARY EROSION CONTROL SCHEDULE

LOCATION	RT/LT	TEMPORARY EROSION CONTROL SEEDING (POUND)	MULCH METHOD 1 (ACRE)	PERIMETERR EROSION BARRIER (FOOT)	TEMP DITCH CHECK (EACH)	INLET & PIPE PROTECTION (EACH)
665+15.50 TO 668+29.00	RT/LT				6	
665+15.50 TO 674+15.50	LT	59.40	0.66			
667+50.86 FE	RT					2
671+10.00 TO 674+20.00	RT/LT			620		
665+15.50 TO 674+15.50	RT	52.92	0.58			
TOTAL		112.32	1.24	620.00	6	2

GUARDRAIL SCHEDULE

STATION				SPBGR (FT)	TBT-TI (SPECIAL) (EA)	TBT-T6 (EA)	GUARDRAIL MRKS TYPE A (EA)	PRISMATIC BARRIER REFLEC. (EA)
666+35.25	TO	668+29.00	RT	150.00	1	1	3	
666+85.25	TO	668+29.00	LT	100.00	1	1	2	
668+29.00	TO	671+02.00	RT					4.0
668+29.00	TO	671+02.00	LT					4.0
671+02.00	TO	673+33.25	LT	187.50	1	1	3	
671+02.00	TO	672+70.74	RT	125.00	1	1	2	
TOTAL				562.50	4	4	10	8.0

CULVERT SCHEDULE

LOCATION					CLASS D		END
					TYPE 1 24 INCH (FT)	TYPE 2 24 INCH (FT)	SECT. 24 INCH (FT)
FROM	OFFSET	TO	OFFSET	RT/LT			
665+31.60	30.4	665+72.60	30.4	RT	41		2
668+28.14	41.90	668+72.36	36.9	RT		44.5	2
TOTAL					41	44.5	4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ.
DATE
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PLOT DATE = 12/15/2006
FILE NAME = c:\projects\ed4198\plan\profile4198e4.dgn
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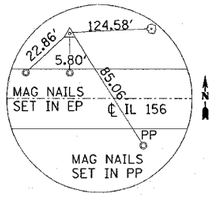
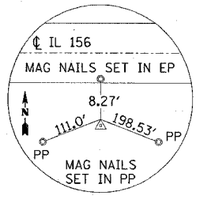
CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	8
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



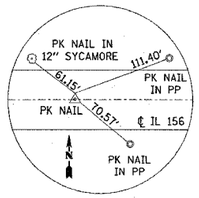
TIE POINT #1

I.P. W/IDOT CAP



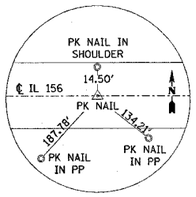
TIE POINT #2

I.P. W/IDOT CAP
IN FIELD ENTRANCE



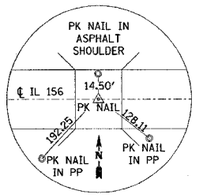
TIE POINT #3

TIES P.O.T.
STA. 660+00



TIE POINT #5

TIES P.O.T.
EAST OF BRIDGE
STA. 679+00.



TIE POINT #4

CENTER OF BRIDGE
STA. 669+84.84

BENCHMARKS

ELEV.	DESCRIPTION
416.65	A CHISELED "□" N.W. CORNER CONCRETE SLAB FOR GAGING STATION.

NOTE: ALL TIES PULLED DIRECT

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TIES & BENCHMARKS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT.
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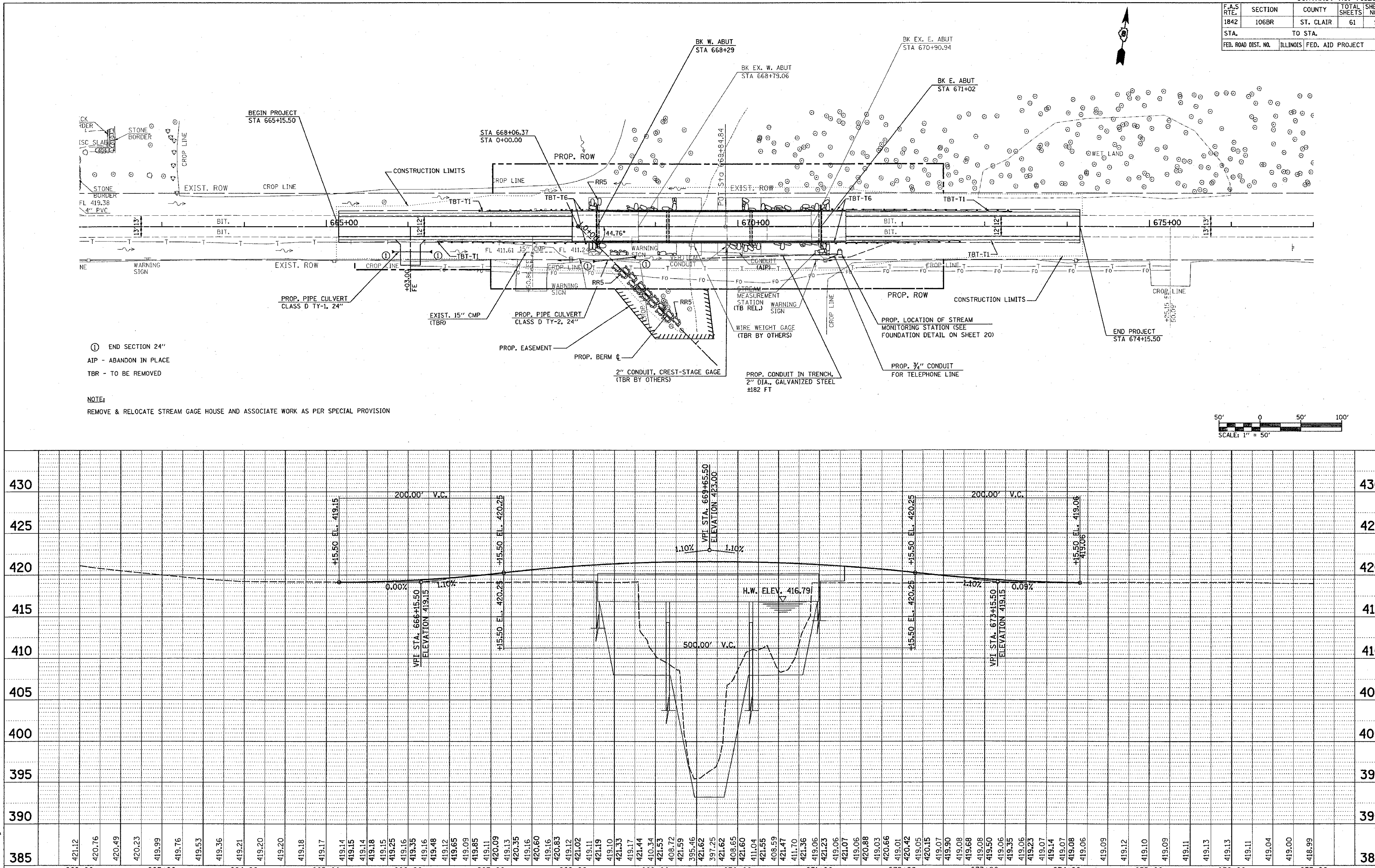
CONTRACT NO. 76129

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST. CLAIR	61	9
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



① END SECTION 24"

AIP - ABANDON IN PLACE

TBR - TO BE REMOVED

NOTE:

REMOVE & RELOCATE STREAM GAGE HOUSE AND ASSOCIATE WORK AS PER SPECIAL PROVISION

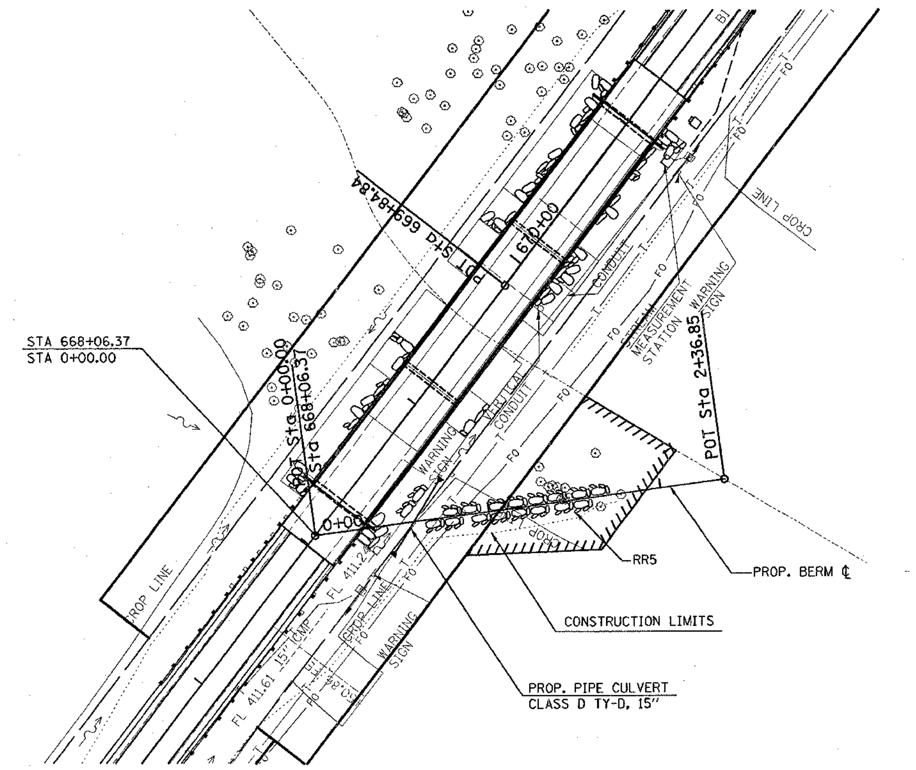
PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, R.O.W. CHECKED, CADD FILE NAME, NOTE BOOK NO.

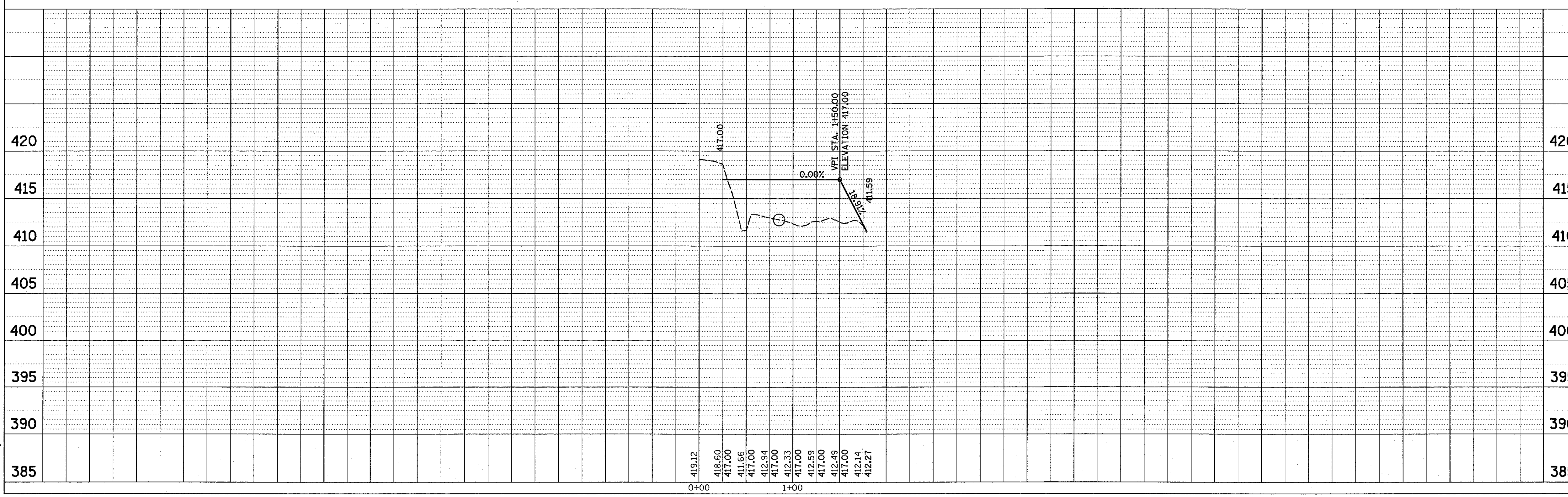
PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, PLAN NOTES, STRUCTURE NOTATIONS CHKD, NOTE BOOK NO.

PLOT DATE = 12/15/2006
PLOT SCALE = 50.0000 ' / IN.
USER NAME = gelinh

CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	9a
STA. 0+00.00	TO STA.1+75.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





PLAN
NOTE BOOK NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME

BY	DATE

PROFILE
NOTE BOOK NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHKD

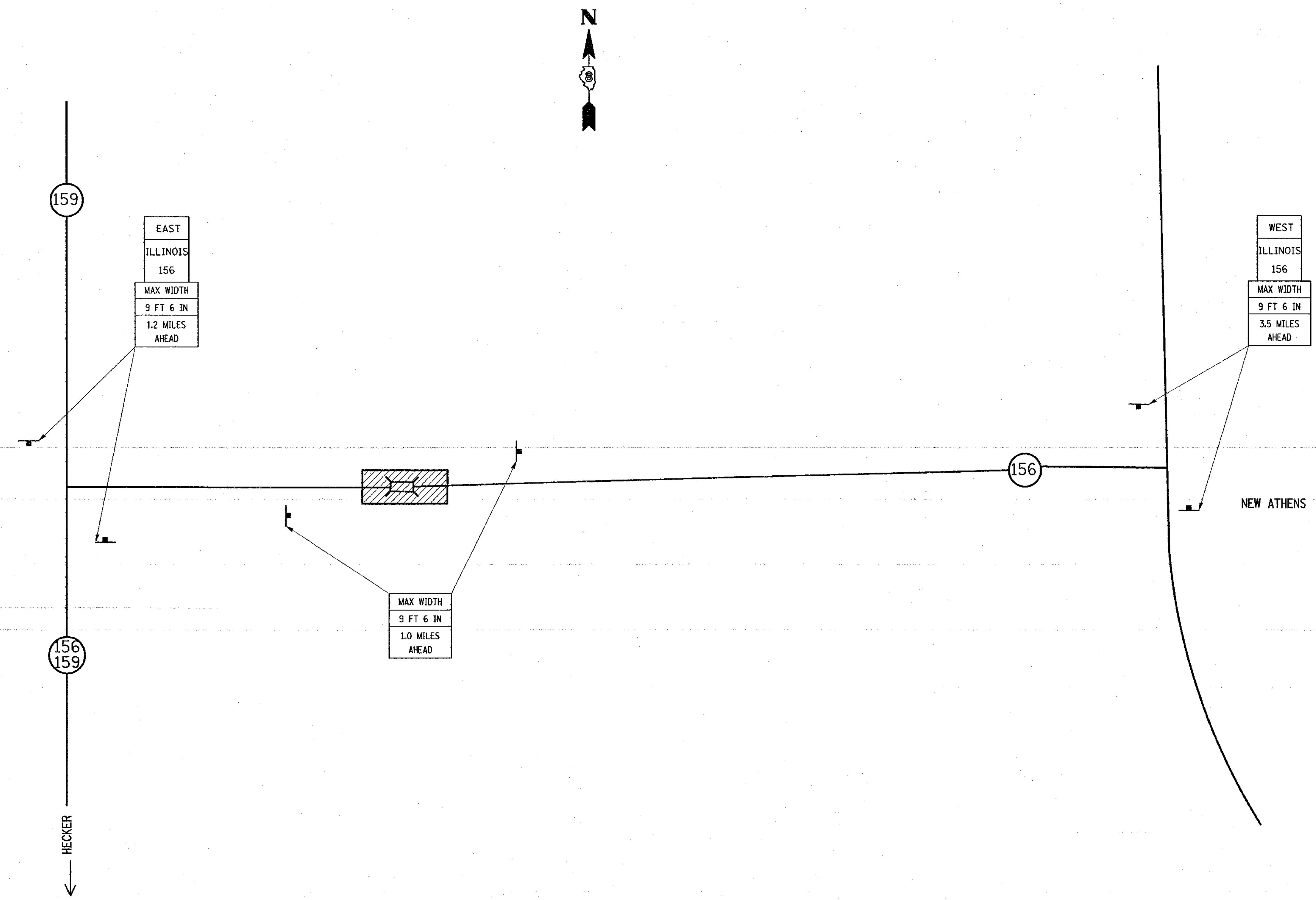
BY	DATE

PLOT DATE = 12/15/2006
FILE NAME = o:\projects\ed14198\plan\profile14198a4.dgn
PLOT SCALE = 50.0000 ' / IN.
USER NAME = gelinh

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	10
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOTES

1. ALL SIGNS REQUIRED WILL BE SUPPLIED TO THE CONTRACTOR BY I.D.O.T.
2. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT SIGNS AT THE LOCATIONS SHOWN ON THIS SHEET, AS DIRECTED BY THE RE/RT. THE POSTS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL GIVE ILLINOIS DEPARTMENT OF TRANSPORTATION, BUREAU OF OPERATIONS TWO WEEKS NOTICE FOR SIGNS. THE CONTRACTOR SHALL PICK UP THE SIGNS AT THE T.M. BUILDING IN FAIRVIEW HEIGHTS, AND RETURN THEM UPON COMPLETION OF THE CONTRACT. CONTACT JEAN SLAPE @ (618) 346-3289.
4. THE ABOVE NOTED WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE, LUMP SUM, FOR WIDE LOAD SIGNING AND NO OTHER COMPENSATION WILL BE ALLOWED.
5. SIGN SPACING WILL BE 400' OR TO FIT FIELD CONDITIONS.
6. THE HEIGHT TO THE BOTTOM OF THE LOWEST SIGN SHALL NOT BE LESS THAN 6'.



SIGNS REQUIRED

Sign	Qty	Sign	Qty
MAX WIDTH / 9 FT 6 IN / 1.0 MILES AHEAD	(2)	EAST	(2)
MAX WIDTH / 9 FT 6 IN / 1.2 MILES AHEAD	(2)	WEST	(2)
MAX WIDTH / 9 FT 6 IN / 3.5 MILES AHEAD	(2)	ILLINOIS / 156	(4)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

WIDE LOAD SIGNING

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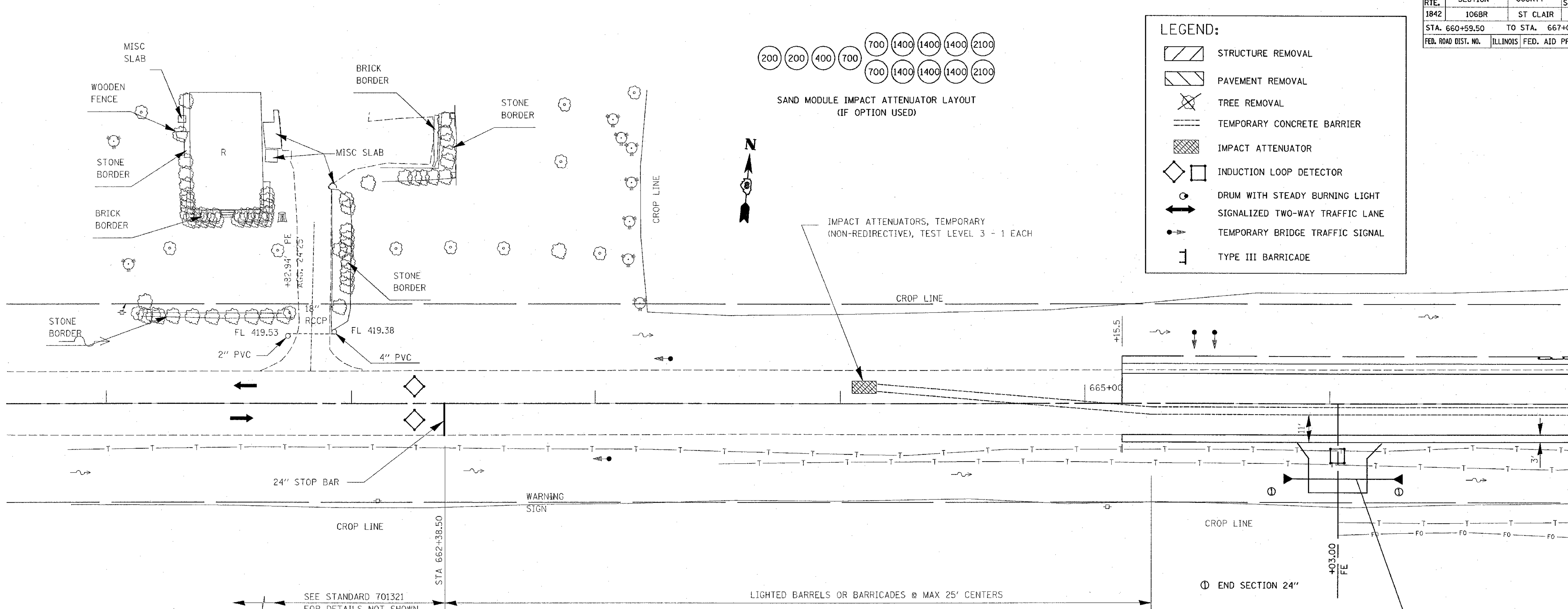
CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	11
STA. 660+59.50	TO STA. 667+00.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PRE-STAGE I CONSTRUCTION:

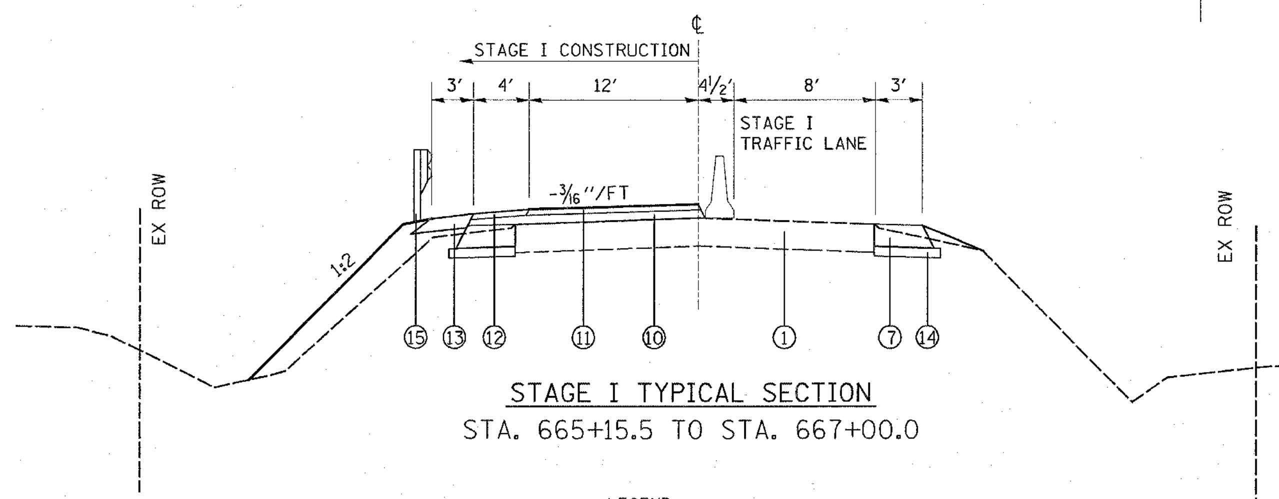
1. PRE-STAGE I CONSTRUCTION SHALL CONSIST OF THE CONSTRUCTION OF THE 3' PAVEMENT WIDENING ON THE SOUTHWEST AND SOUTHEAST CORNERS OF THE STRUCTURE AND THE FIELD ENTRANCE AT STATION 665+50.00 (RT). TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION, STANDARD 701326.

STAGE I CONSTRUCTION:

1. STAGE I CONSTRUCTION SHALL CONSIST OF STAGE I REMOVAL OF THE EXISTING STRUCTURE, AND STAGE I CONSTRUCTION OF THE REPLACEMENT STRUCTURE, PAVEMENT WIDENING ON THE LEFT, GRADING, RESURFACING THE LEFT SIDE PAVEMENT EAST AND WEST OF THE STRUCTURE, GUARDRAIL, RIPRAP, ETC. STAGE I CONSTRUCTION SHALL BE DONE ACCORDING TO STAGE CONSTRUCTION AS DETAILED IN THE BRIDGE PLANS. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STANDARD 701321 AND AS DETAILED IN THE STAGE CONSTRUCTION PLANS. THIS TRAFFIC CONTROL SHALL BE PAID FOR AS TRAFFIC CONTROL AND PROTECTION 701321 (SPECIAL).

NOTES:

1. THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE AND FIELD ENTRANCES LOCATED WITHIN THE LIMITS OF THE PROJECT.
2. TRAFFIC CONTROL & PROTECTION, STANDARD 701321 (SPECIAL) INCLUDES BOTH STAGE I & II AND ANY ADDITIONAL SIGNING OR TRAFFIC CONTROL DEVICES SHOWN ON THE STAGE CONSTRUCTION PLANS.
3. ALL ADDITIONAL TRAFFIC SIGNAL HEADS, LOOP DETECTORS AND ASSOCIATED EQUIPMENT REQUIRED TO MAINTAIN ACCESS AT THE FIELD AND DRIVEWAY ENTRANCES SHALL BE INCLUDED IN THE COST OF "TEMPORARY BRIDGE TRAFFIC SIGNALS"



STAGE I TYPICAL SECTION

STA. 665+15.5 TO STA. 667+00.0

LEGEND

① EXISTING PAVEMENT
⑦ PROPOSED HOT-MIX ASPHALT BASE COURSE WIDENING 9"
⑩ PROPOSED HOT-MIX ASPHALT BINDER COURSE (VARIES 0.75" TO 10½")
⑪ PROPOSED HOT-MIX ASPHALT SURFACE COURSE 1½"
⑫ PROPOSED HOT-MIX ASPHALT SHOULDERS, 1½"
⑬ PROPOSED AGGREGATE SHOULDER 6"
⑭ PROPOSED SUBGRADE GRANULAR MATERIAL TYPE A, 4"
⑮ PROPOSED GUARDRAIL

20' 0 20' 40'
SCALE: 1" = 20'

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUGGESTED STAGE I CONSTRUCTION

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ.
DATE
DRAWN BY
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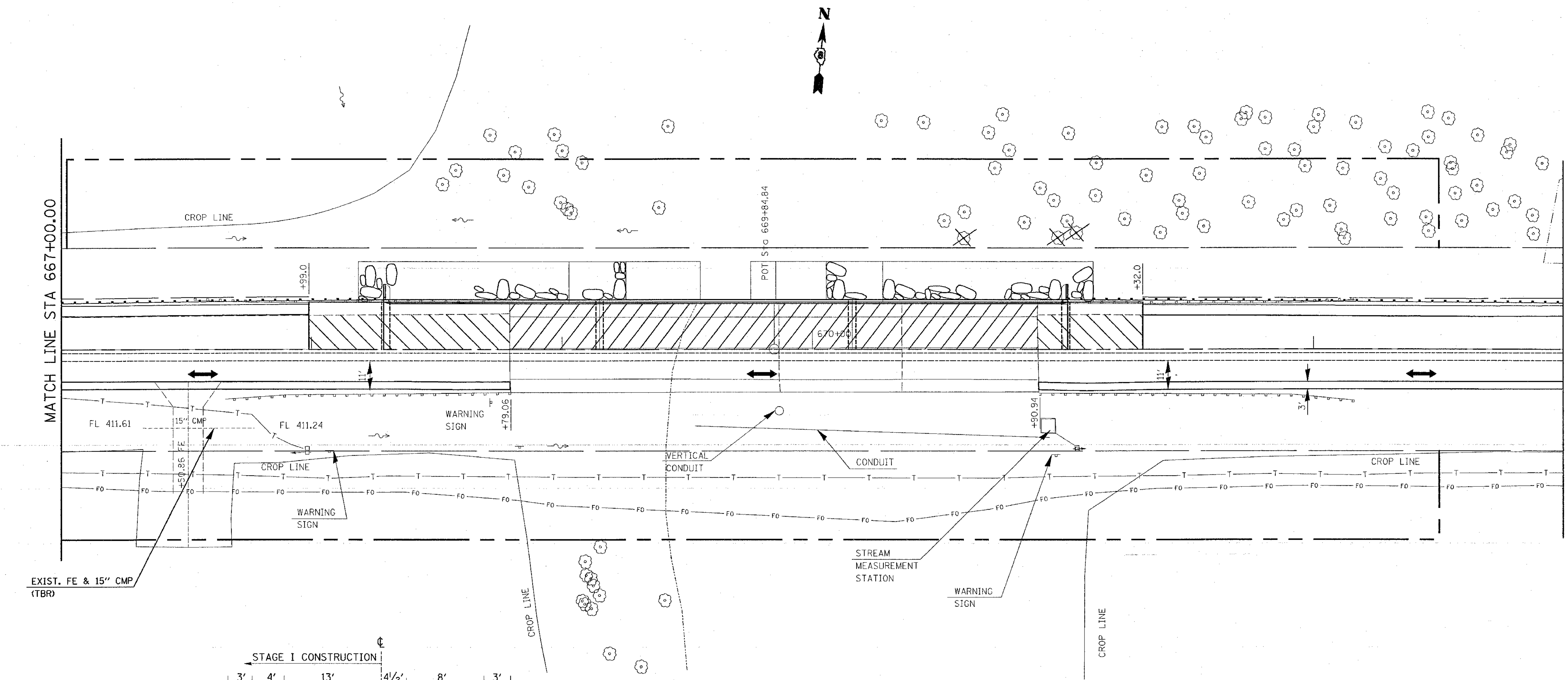
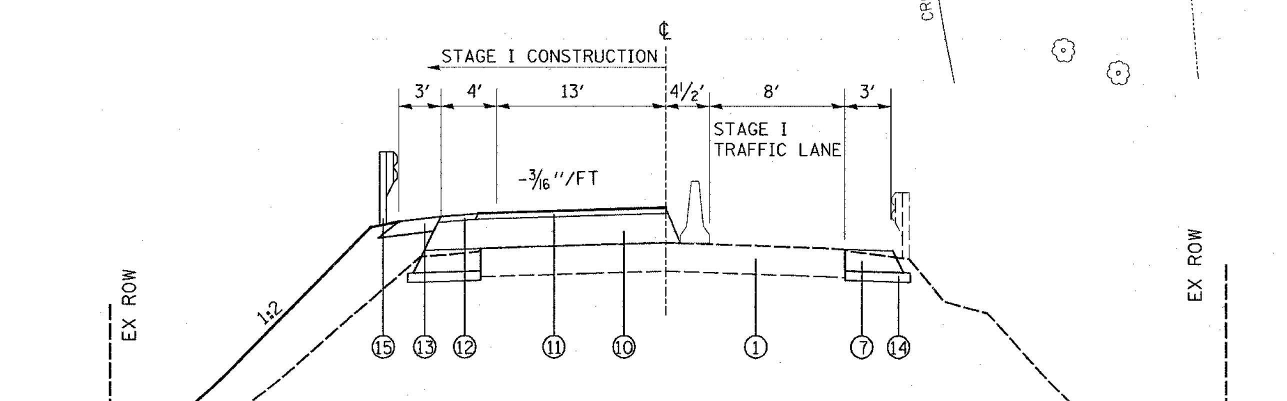
CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	12
STA. 667+00.00	TO STA. 673+00.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





STAGE I TYPICAL SECTION

STA. 667+00.0 TO STA. 667+99.0
STA. 671+32.0 TO STA. 673+00.0

LEGEND

1. EXISTING PAVEMENT
7. PROPOSED HOT-MIX ASPHALT BASE COURSE WIDENING 9"
10. PROPOSED HOT-MIX ASPHALT BINDER COURSE (VARIES 10½" TO 21")
11. PROPOSED HOT-MIX ASPHALT SURFACE COURSE 1½"
12. PROPOSED HOT-MIX ASPHALT SHOULDERS, 1½"
13. PROPOSED AGGREGATE SHOULDER 6"
14. PROPOSED SUBGRADE GRANULAR MATERIAL TYPE A, 4"
15. PROPOSED GUARDRAIL

20' 0 20' 40'
SCALE: 1" = 20'

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUGGESTED STAGE I CONSTRUCTION

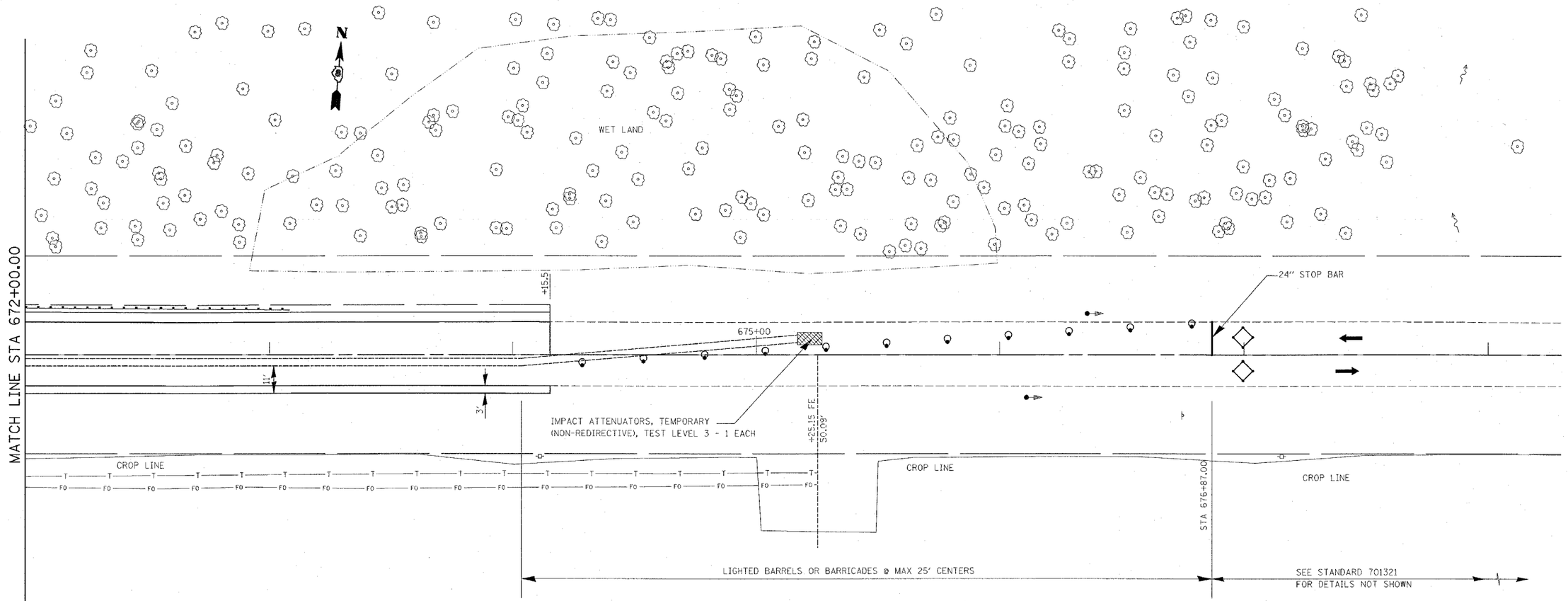
FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

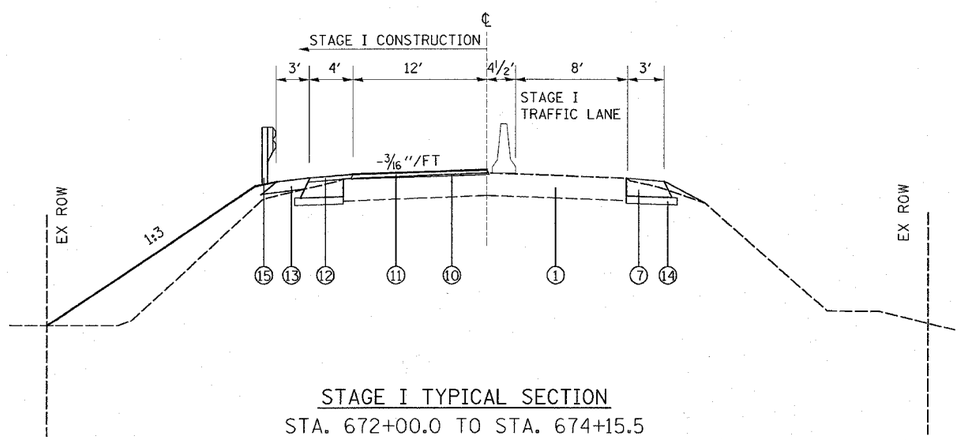
SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

PLOT DATE 12/11/2006
PLOT SCALE 20.0000 ' / IN.

CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	13
STA. 672+00.00		TO STA. 678+30.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





STAGE I TYPICAL SECTION
STA. 672+00.0 TO STA. 674+15.5

LEGEND

(1) EXISTING PAVEMENT
(7) PROPOSED HOT-MIX ASPHALT BASE COURSE WIDENING 9"
(10) PROPOSED HOT-MIX ASPHALT BINDER COURSE (VARIES 0.75" TO 15")
(11) PROPOSED HOT-MIX ASPHALT SURFACE COURSE 1½"
(12) PROPOSED HOT-MIX ASPHALT SHOULDERS, 1½"
(13) PROPOSED AGGREGATE SHOULDER 6"
(14) PROPOSED SUBGRADE GRANULAR MATERIAL TYPE A, 4"
(15) PROPOSED GUARDRAIL

20' 0 20' 40'
SCALE: 1" = 20'

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUGGESTED STAGE I CONSTRUCTION

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

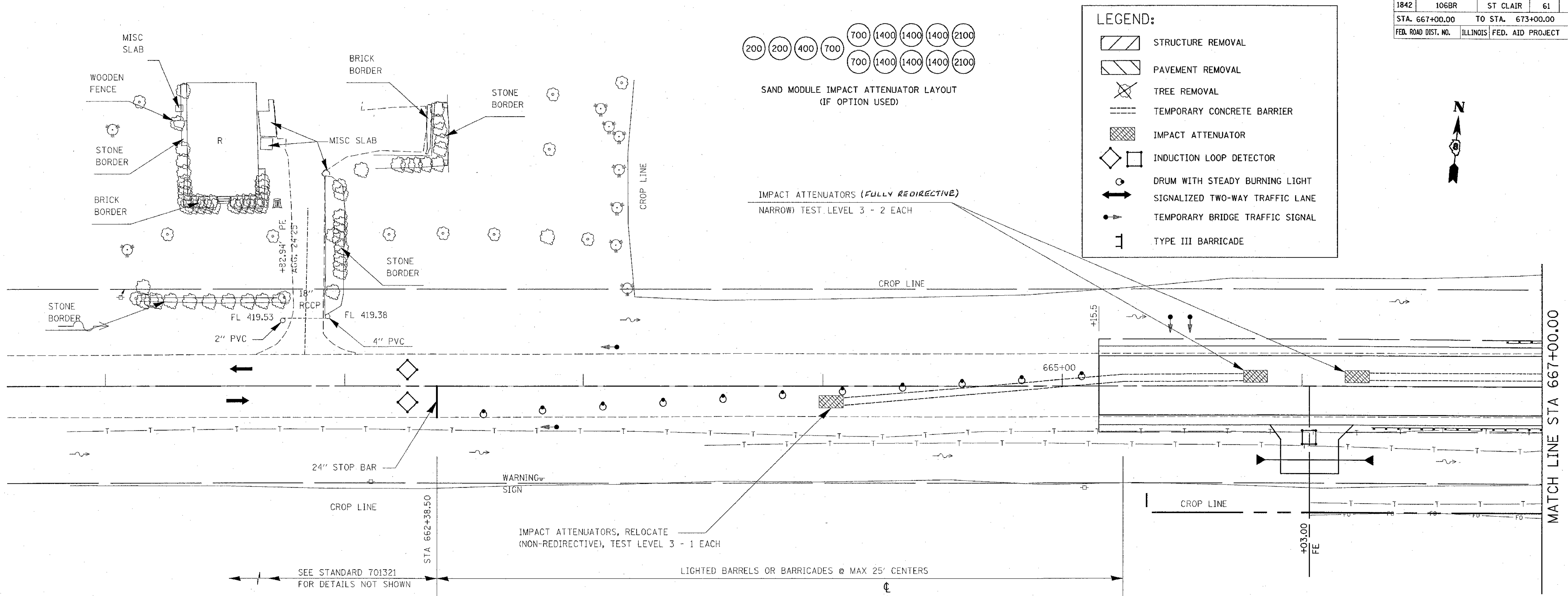
SCALE: VERT.
HORIZ.
DATE

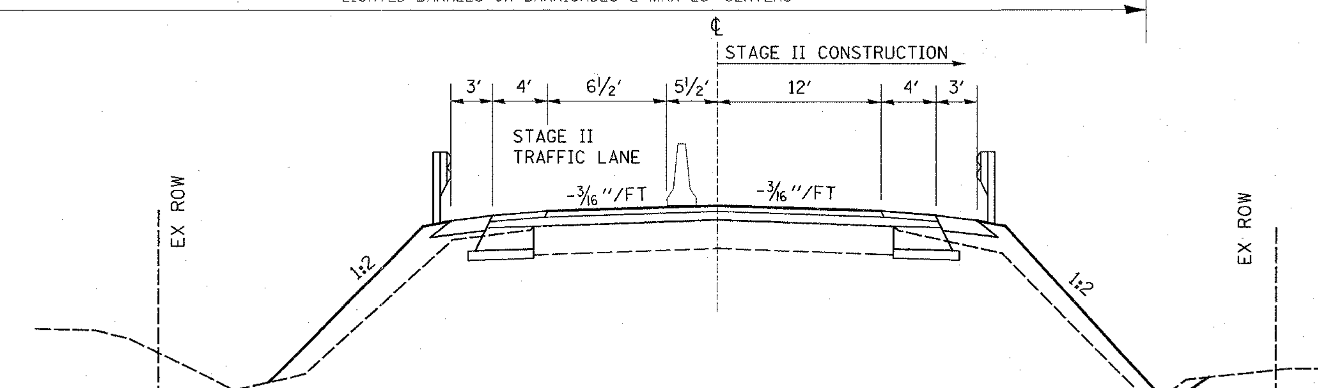
DRAWN BY
CHECKED BY

PLOT DATE = 12/11/2006
FILE NAME = c:\projects\ed14198\plan\plnd008a.dgn
PLOT SCALE = 20.000 ' / IN
REFERENCE = #REF#

CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	14
STA. 667+00.00	TO STA. 673+00.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





STAGE II TYPICAL SECTION

STA. 665+15.5 TO STA. 667+00.0

STAGE II CONSTRUCTION:

1. STAGE II CONSTRUCTION SHALL CONSIST OF STAGE II REMOVAL OF THE EXISTING STRUCTURE, AND STAGE II CONSTRUCTION OF THE REPLACEMENT STRUCTURE, GRADING, RESURFACING THE RIGHT SIDE PAVEMENT EAST AND WEST OF THE STRUCTURE, GUARDRAIL, RIPRAP, ETC. STAGE II CONSTRUCTION SHALL BE DONE ACCORDING TO STAGE CONSTRUCTION AS DETAILED IN THE BRIDGE PLANS. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STANDARD 701321 AND AS DETAILED IN THE STAGE CONSTRUCTION PLANS. THIS TRAFFIC CONTROL SHALL BE PAID FOR AS TRAFFIC CONTROL AND PROTECTION 701321 (SPECIAL).

NOTES:

1. THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE AND FIELD ENTRANCES LOCATED WITHIN THE LIMITS OF THE PROJECT.
2. TRAFFIC CONTROL & PROTECTION, STANDARD 701321 (SPECIAL) INCLUDES BOTH STAGE I & II AND ANY ADDITIONAL SIGNING OR TRAFFIC CONTROL DEVICES SHOWN ON THE STAGE CONSTRUCTION PLANS.
3. ALL ADDITIONAL TRAFFIC SIGNAL HEADS, LOOP DETECTORS AND ASSOCIATED EQUIPMENT REQUIRED TO MAINTAIN ACCESS AT THE FIELD AND DRIVEWAY ENTRANCES SHALL BE INCLUDED IN THE COST OF "TEMPORARY BRIDGE TRAFFIC SIGNALS"

LEGEND

(1) EXISTING PAVEMENT
(7) PROPOSED HOT-MIX ASPHALT BASE COURSE WIDENING 9"
(10) PROPOSED HOT-MIX ASPHALT BINDER COURSE (VARIES 0.75" TO 10½")
(11) PROPOSED HOT-MIX ASPHALT SURFACE COURSE 1½"
(12) PROPOSED HOT-MIX ASPHALT SHOULDERS, 1½"
(13) PROPOSED AGGREGATE SHOULDER 6"
(14) PROPOSED SUBGRADE GRANULAR MATERIAL TYPE A, 4"
(15) PROPOSED GUARDRAIL

20' 0 20' 40'
SCALE: 1" = 20'

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUGGESTED STAGE II CONSTRUCTION

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

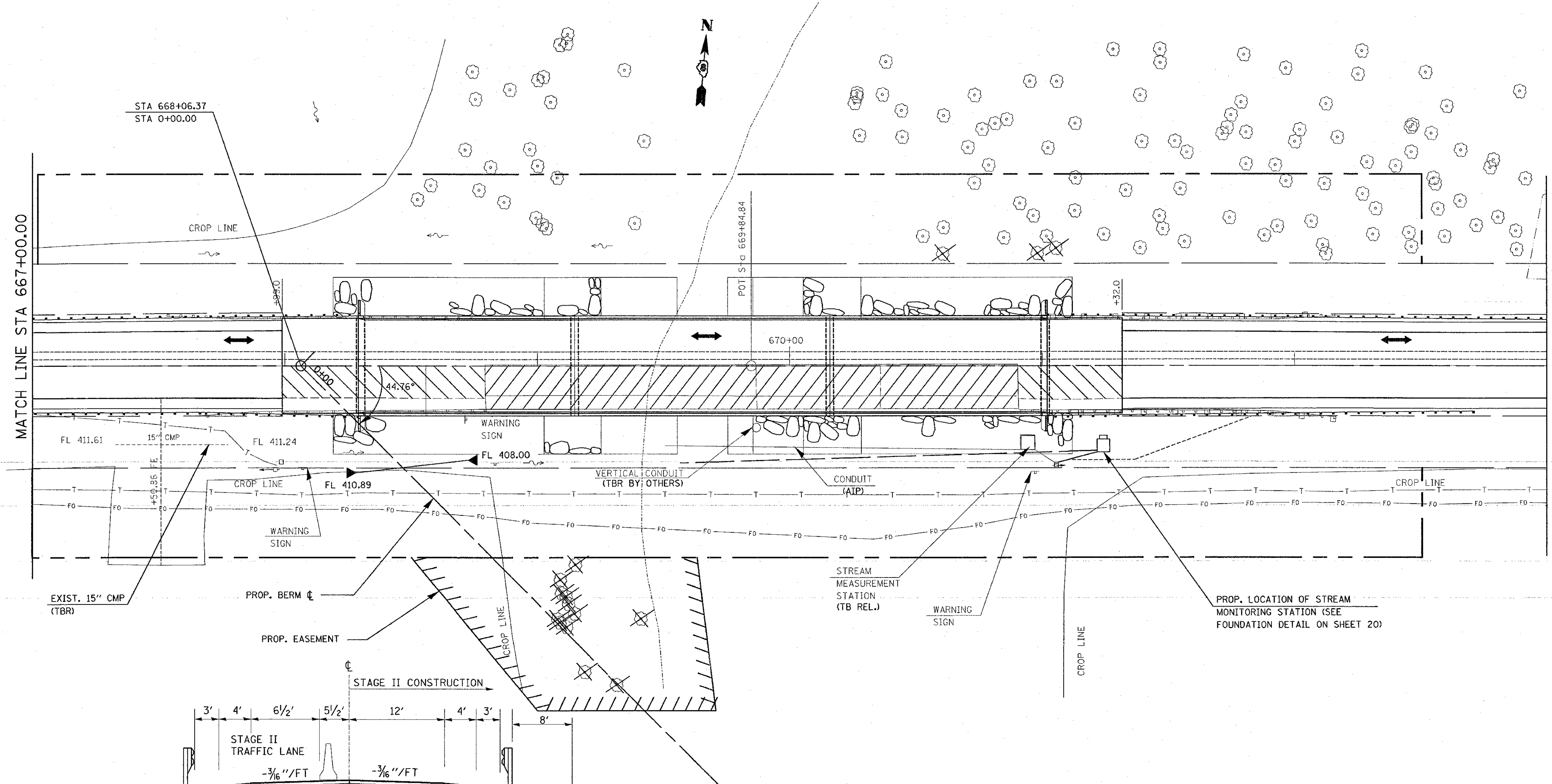
SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

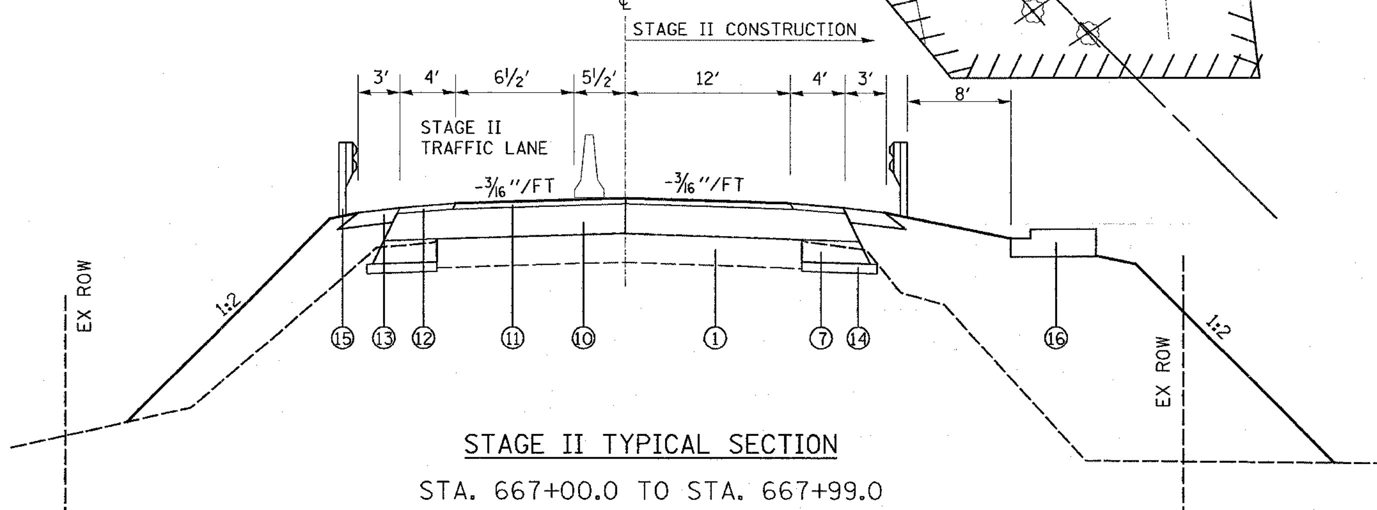
PLOT DATE = 12/15/2005
FILE NAME = c:\projects\...\plan\pln008.dgn
PLOT SCALE = 20.0000 ' / IN.
REFERENCE = #REF#

Rev.

CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	15
STA. 667+00.00	TO STA. 673+00.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





STAGE II TYPICAL SECTION

STA. 667+00.0 TO STA. 667+99.0
STA. 671+32.0 TO STA. 673+00.0

LEGEND

1. EXISTING PAVEMENT
7. PROPOSED HOT-MIX ASPHALT BASE COURSE WIDENING 9"
10. PROPOSED HOT-MIX ASPHALT BINDER COURSE (VARIES 10" TO 21")
11. PROPOSED HOT-MIX ASPHALT SURFACE COURSE 1½"
12. PROPOSED HOT-MIX ASPHALT SHOULDERS, 1½"
13. PROPOSED AGGREGATE SHOULDER 6"
14. PROPOSED SUBGRADE GANULAR MATERIAL TYPE A, 4"
15. PROPOSED GRUARDRAIL
16. PROPOSED CONCRETE PAD (STREAM MEASUREMENT STATION)

20' 0 20' 40'
SCALE: 1" = 20'

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUGGESTED STAGE II CONSTRUCTION

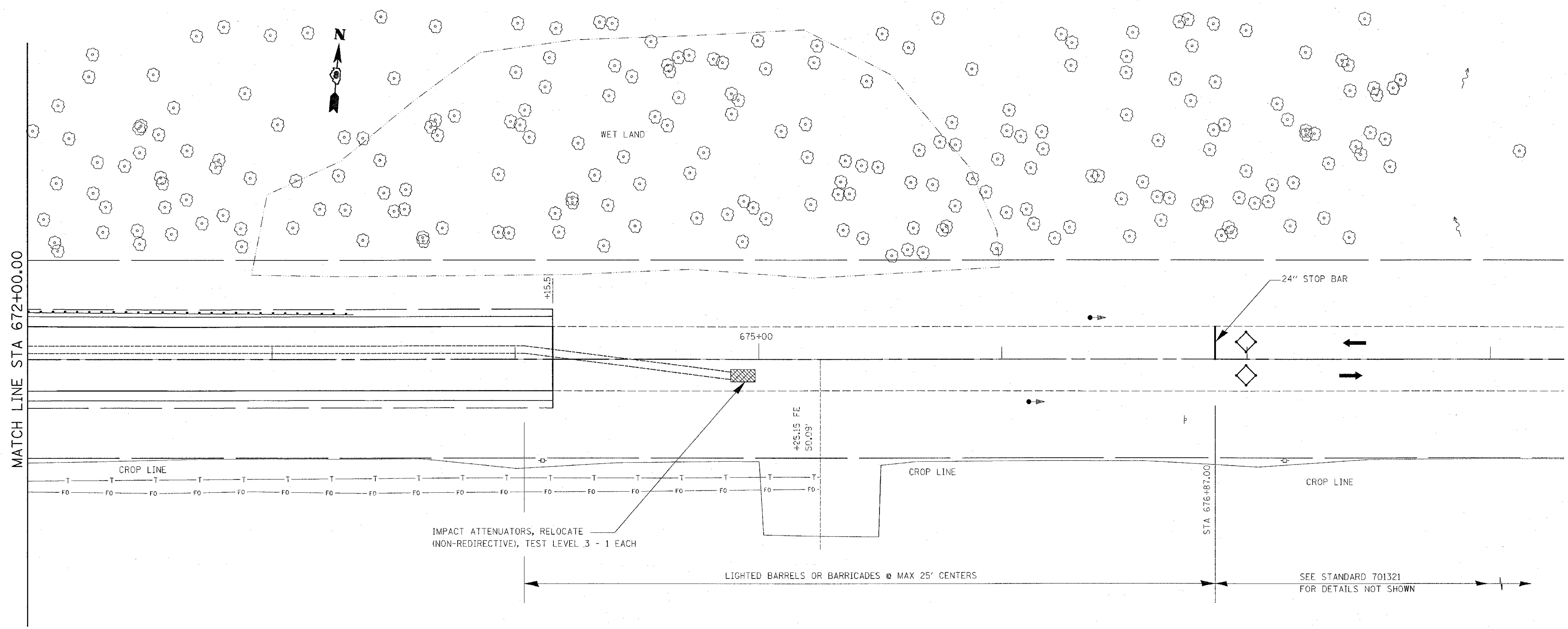
FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

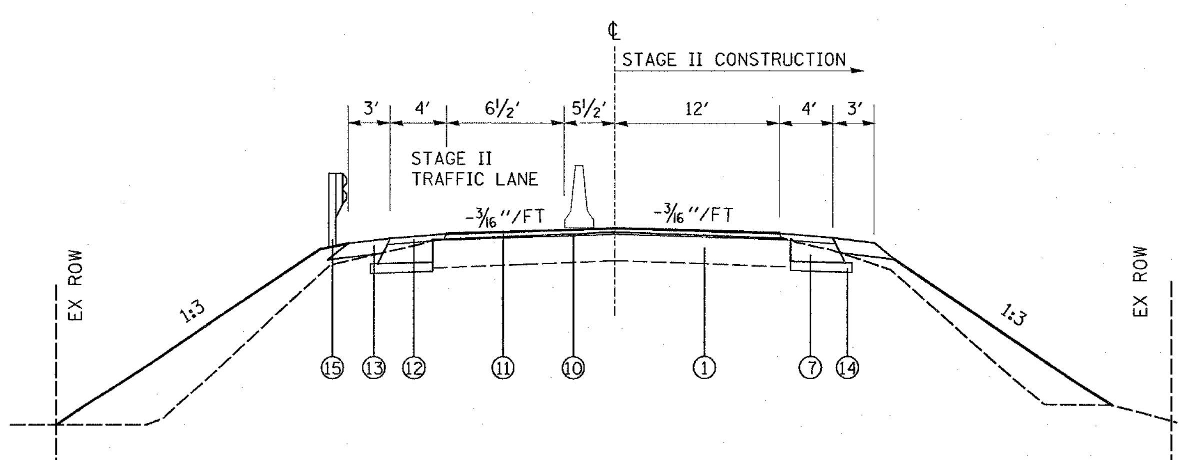
SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

PLOT DATE 12/11/2006
PLOT SCALE 20.000 '/ IN.
REFERENCE #REF#

CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	16
STA. 667+00.00	TO STA. 673+00.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





STAGE II TYPICAL SECTION

STA. 672+00.0 TO STA. 674+15.5

LEGEND

(1) EXISTING PAVEMENT
(7) PROPOSED HOT-MIX ASPHALT BASE COURSE WIDENING 9"
(10) PROPOSED HOT-MIX ASPHALT BINDER COURSE (VARIES 0.75" TO 15")
(11) PROPOSED HOT-MIX ASPHALT SURFACE COURSE 1½"
(12) PROPOSED HOT-MIX ASPHALT SHOULDERS, 1½"
(13) PROPOSED AGGREGATE SHOULDER 6"
(14) PROPOSED SUBGRADE GRANULAR MATERIAL TYPE A, 4"
(15) PROPOSED GUARDRAIL

20' 0 20' 40'
SCALE: 1" = 20'

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUGGESTED STAGE II CONSTRUCTION

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

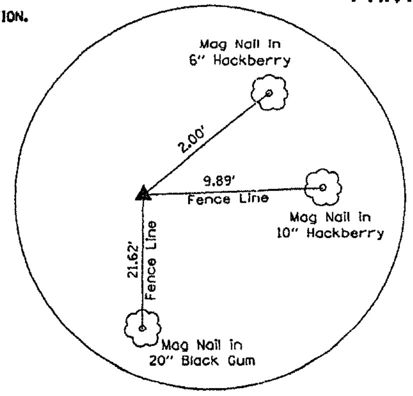
PLOT DATE = 12/11/2006
FILE NAME = c:\projects\ed14198\plan\pln008a.dgn
PLOT SCALE = 20.000 ' / IN.
REFERENCE = REF

PART OF LOTS 10A & 10B AND 25B & 25D OF US SURVEY 607, CLAIM 2209, T2S, R8W, OF THE 3RD PM, ST. CLAIR COUNTY, ILLINOIS

COORDINATES SHOWN HEREON ARE BASED ON SURVEY CONTROL DATA AS PROVIDED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

COORDINATE TABLE			
STATION	OFFSET	NORTH	EAST
667+00.00	40.00' Rt	603,391.8893	352,485.4426
667+00.00	75.00' Rt	603,357.2098	352,490.1681
667+02.34	40.00' Lt	603,471.4724	352,476.9578
667+02.34	75.00' Lt	603,506.1519	352,472.2323
669+67.21	75.00' LT	603,541.9140	352,734.6840
669+57.80	40.00' Lt	603,505.9638	352,730.0825
669+57.80	75.00' Rt	603,392.1055	352746.2601
672+50.00	75.00' Lt	603580.0944	353,014.8799
672+50.00	40.00' Lt	603,545.4148	353,019.6054
672+50.00	40.00' Rt	603,466.1473	353,030.4066
672+50.00	75.00' Rt	603,431.4678	353,035.1321
658+86.54	40.05' Rt	603,282.0145	351,679.4325
658+86.94	40.00' Lt	603,361.3818	351,669.0260
675+39.79	40.00' Rt	603,505.2730	353,317.5470
BEGIN PROJECT 665+15.50		603,406.6128	352,297.2314
END PROJECT 674+15.50		603,528.1260	353,188.9906
NW Cor N Pt Survey 607		612,389.0720	350,485.3360
*		603,040.4110	351,711.1110
CONTROL POINT *1		603,416.2400	352,229.2000
CONTROL POINT *2		603,521.7878	353,294.9125

* Stone at Intersection of N. Line of Section 34 and W. Line of Survey 607

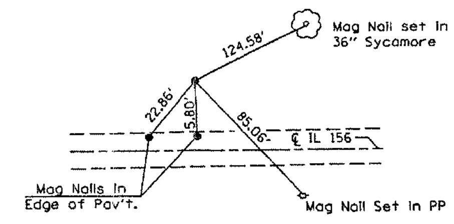


Detail "A"

BEARINGS SHOWN HEREON ARE BASED ON SURVEY CONTROL DATA AS PROVIDED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	106 BR	ST. CLAIR		17

* FAS-1842



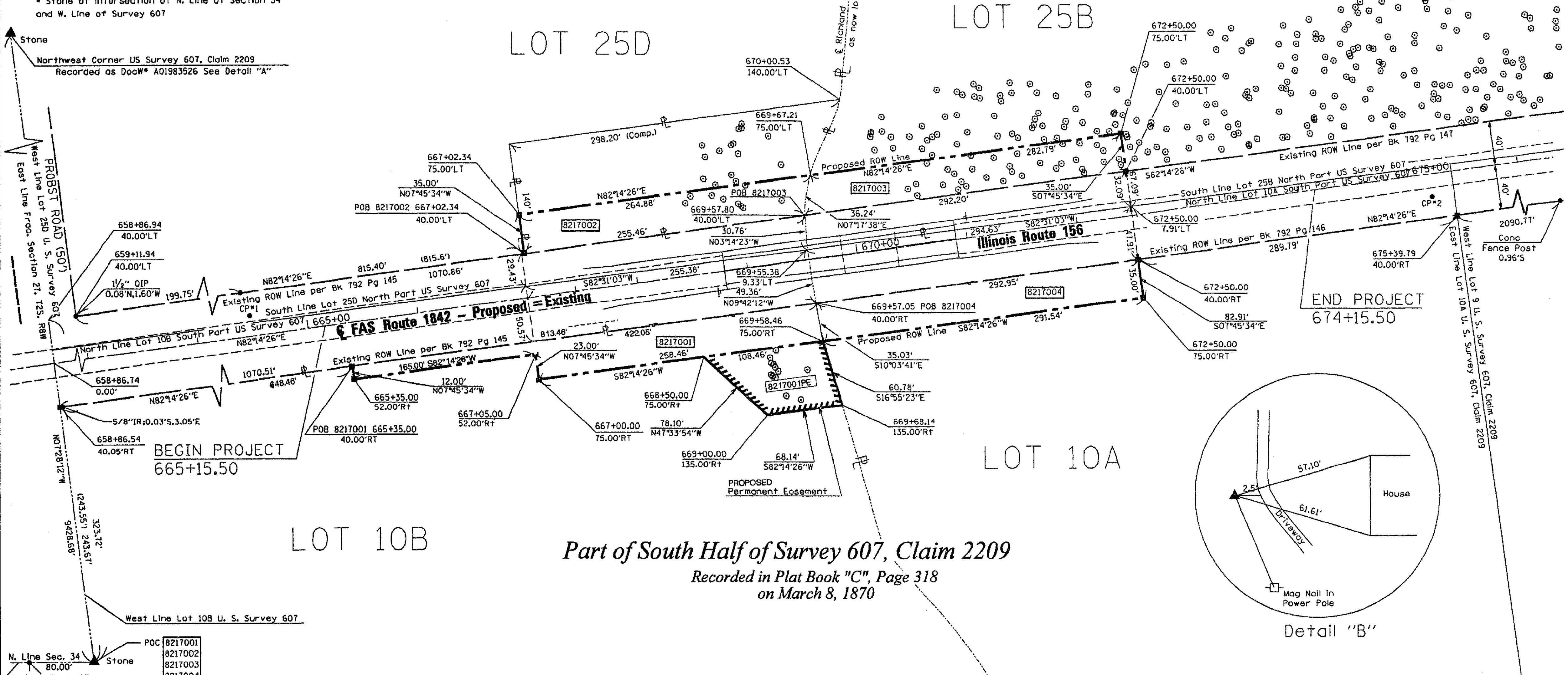
Control Point *1
536'+/- West of center of Bridge
(IP w/IDOT Cap)
Sta. 664+49.39, 18.72' LT

LEGEND

- SECTION CORNER
- QUARTER SECTION CORNER
- EXISTING CENTERLINE
- EXISTING RIGHT OF WAY LINE
- EXISTING EASEMENT LINE
- PROPOSED CENTERLINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED TEMPORARY EASEMENT LINE
- PROPOSED PERMANENT EASEMENT LINE
- SECTION LINE
- QUARTER SECTION LINE
- QUARTER QUARTER SECTION LINE
- ℄ PROPERTY (DEED) LINE
- APL APPARENT PROPERTY LINE
- 121.45 MEASURED DIMENSION
- 123.45 (COMP) COMPUTED DIMENSION
- (123.45) RECORDED DIMENSION
- ● FOUND IRON PIPE OR IRON ROD AT CORNER UNLESS OTHERWISE NOTED
- ○ SET ⅝ INCH IRON ROD AT CORNER UNLESS OTHERWISE NOTED
- PERMANENT SURVEY MONUMENT, I.D.O.T. STD. 667101 (TO BE SET BY OTHERS)
- CUT CROSS FOUND OR SET
- SAME OWNERSHIP
- EXISTING BUILDING

■ STAKING OF PROPOSED RIGHT OF WAY. SET ⅝ INCH METAL ROD WITH DIVISION OF HIGHWAY SURVEY MARKER TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS REGISTRATION NUMBER.

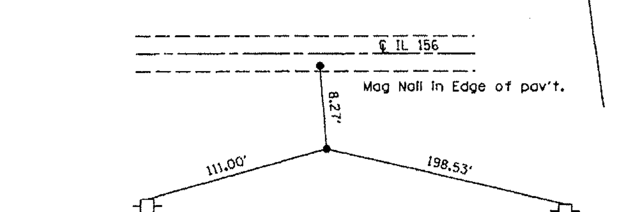
■M STAKING OF PROPOSED RIGHT OF WAY IN CULTIVATED AREAS. SET ⅝ INCH METAL ROD WITH DIVISION OF HIGHWAY SURVEY MARKER 20 INCHES BELOW GROUND SURFACE TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS REGISTRATION NUMBER.



Detail "B"

See Sheet 3 for Total Holding Sketch

N. Line Sec. 34
S. Line Sect. 27
⅝"IR Recorded as Doc* A01983527 See Detail "B" for Ties



Control Point *2
536'+/- East of Center of Bridge
(IP w/IDOT Cap)
Sta. 675+19.60, 20.58' RT

STATE OF ILLINOIS)
) SS
COUNTY OF ST. CLAIR)

I, TERRY J. FELDMANN, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, CERTIFY THAT I HAVE SURVEYED THE PLAT OF HIGHWAY SHOWN HEREON AND THAT THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY FOR THE PROPOSED PARCELS TO BE ACQUIRED BY THE STATE OF ILLINOIS, DEPARTMENT OF TRANSPORTATION, SHOWN HEREON.

DATED ____________

TERRY J FELDMANN, PLS NO. 2973
LICENSE EXPIRATION DATE: 11/30/2006

RECEIVED
DEC 27 2006
PLATS & PLANS

Note: Total Holding Area for Parcel 8217001 taken from Tax Maps

PARCEL NO.	OWNER	TOTAL HOLDING	FEE SIMPLE ACQUISITION: GROSS		PREVIOULSY DEDICATED		NET		REMAINDER	EASEMENTS: PE = PERMANENT		EASEMENT PURPOSE	PERMANENT TAX NUMBER	PROPERTY ACQUIRED BY
		ACRES	ACRES	SQ. FT.	ACRES	SQ. FT.	ACRES	SQ. FT.	ACRES	ACRES	SQ. FT.			
8217001	Hugh S. Wacker & Kay R. Wacker, husband and wife, as tenants by the entirety Title Report SC-5005.0	97.22	0.2526	11,001	N/A	N/A	0.2526	11,001	96.9674	0.1216	5,298	Drainage construction and maintenance	17-34-0-200-010	
8217002	Clarence Rausch, Rollin Rausch and Marie Kunz each as to an undivided ¼ interest and Roselle Neff and Jeroldine Rausch Dashner each as to an undivided ⅛ interest SC-5112.0	0.6355	0.2090	9,106	N/A	N/A	0.2090	9,106	0.4265	0.00	0.00		17-27-0-400-015(pt)	
8217003	Ethel M. Kreher, Trustee of the Ethel M. Kreher Trust & Bertram C. Kreher, Trustee of the Bertram C. Kreher Trust Title Report SC-5004.0	151.58	0.4424	19,270	0.2114	9,208	0.2310	10,062	151.1376	0.00	0.00		17-27-0-400-016(pt)	
8217004	Lawrence Schaefer ,Theresia Schaefer, and Theresia Schaefer Lawrence Schaefer and Paul Schaefer Co-Trustees Title Report SC-5006.0	164.0	0.5627	24,512	0.3279	14,283	0.2348	10,229	163.4373	0.00	0.00		17-34-0-200-009(pt)	

COMPLETION DATE OF FIELD WORK PERFORMED
LAND SURVEY: FEB. 7, 2006
RIGHT OF WAY STAKING: MARCH 15, 2006

LTR LAND SURVEYING, INC.
850 VANDALIA, SUITE 200
COLLINSVILLE, IL 62234
618-345-1170
PROFESSIONAL DESIGN FIRM # 184-003109

ILLINOIS DEPARTMENT OF TRANSPORTATION
PLAT OF HIGHWAYS

FAS ROUTE 1842 (IL 156)
SECTION 106 BR
ST. CLAIR COUNTY
JOB NO. R-98-017-02

STATION 665+00 TO STATION 675+00

SCALE: 1" = 50'

SHEET 2 OF 3

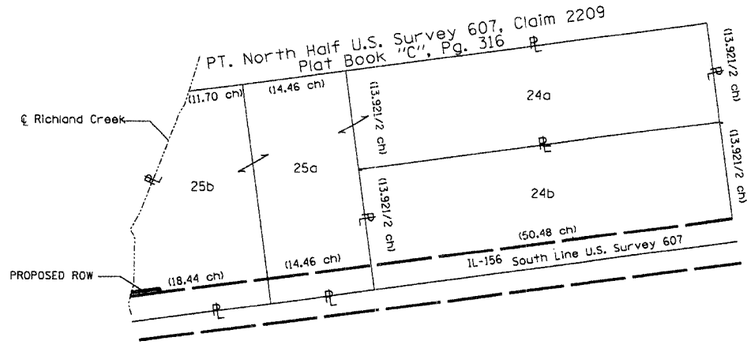
ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS/DISTRICT 8
1102 EASTPORT PLAZA DRIVE
COLLINSVILLE, ILLINOIS 62234-6198

SHEET 1 IS A COVER SHEET

PLOT DATE: *DATE-TIME*

TOTAL HOLDING SKETCHES

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS-1842		ST. CLAIR		18
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TOTAL HOLDING SKETCH
PARCEL 8217003

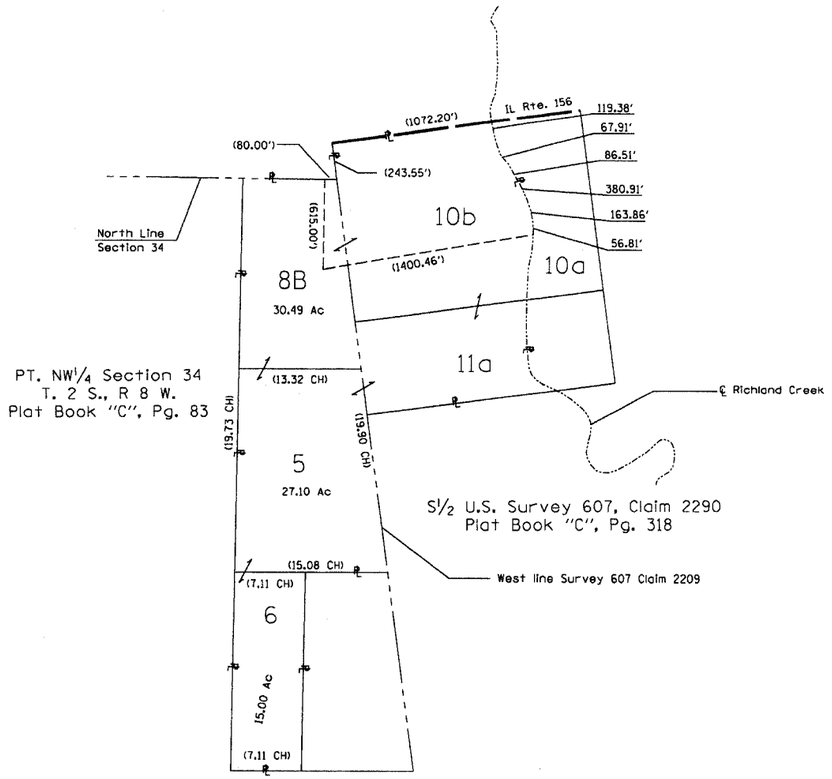
N

LEGEND

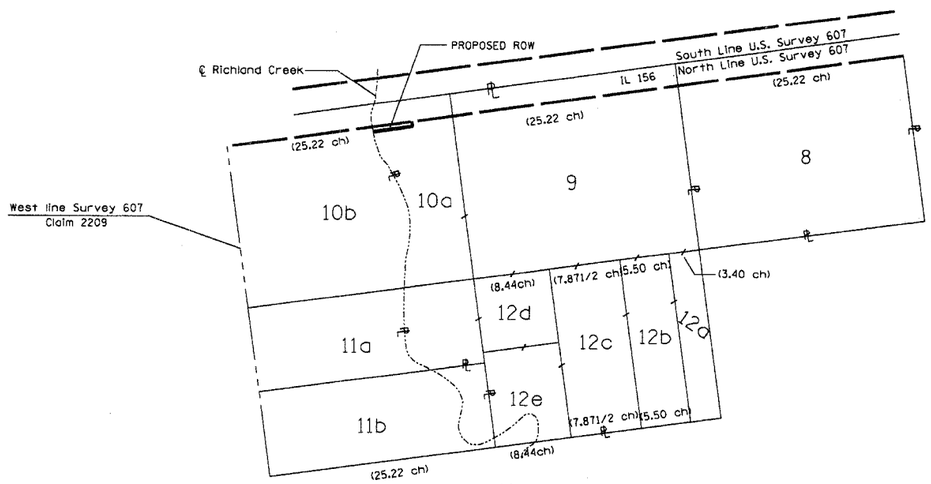
SECTION CORNER

QUARTER SECTION CORNER

- EXISTING CENTERLINE
- EXISTING RIGHT OF WAY LINE
- EXISTING EASEMENT LINE
- PROPOSED CENTERLINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED TEMPORARY EASEMENT LINE
- PROPOSED PERMANENT EASEMENT LINE
- SECTION LINE
- QUARTER SECTION LINE
- QUARTER QUARTER SECTION LINE
- PROPERTY (DEED) LINE
- APPARENT PROPERTY LINE
- 121.45 MEASURED DIMENSION
- 123.45 (COMP) COMPUTED DIMENSION
- (123.45) RECORDED DIMENSION
- FOUND IRON PIPE OR IRON ROD AT CORNER UNLESS OTHERWISE NOTED
- SET ⅝ INCH IRON ROD AT CORNER UNLESS OTHERWISE NOTED
- PERMANENT SURVEY MONUMENT, I.D.O.T. STD. 667101 (TO BE SET BY OTHERS)
- CUT CROSS FOUND OR SET
- SAME OWNERSHIP



TOTAL HOLDING SKETCH
PARCEL 8217001



PT. S½ U.S. Survey 607, Claim 2290

TOTAL HOLDING SKETCH
PARCEL 8217004

ILLINOIS DEPARTMENT OF TRANSPORTATION

PLAT OF HIGHWAYS

FAS ROUTE 1842 (IL156)
SECTION 106 BR
ST. CLAIR COUNTY
JOB NO. R-98-017-02

TOTAL HOLDING SKETCHES

50' 0 50' 100'
SCALE 1" = 50'

SHEET 3 OF 3

ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS/DISTRICT 8
1102 EASTPORT PLAZA DRIVE
COLLINSVILLE, ILLINOIS 62234-6198

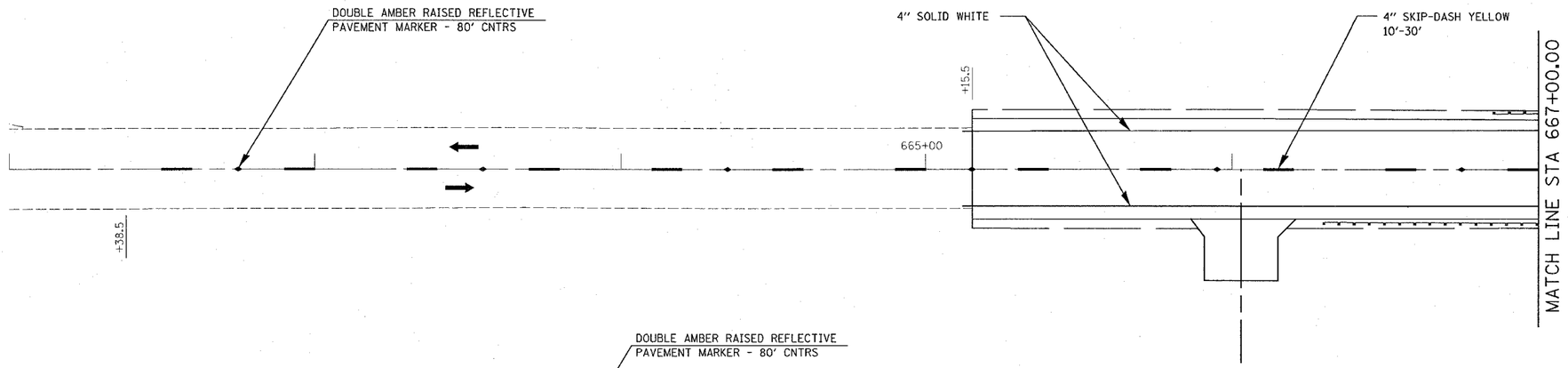
NO.	DATE	DESCRIPTION	BY

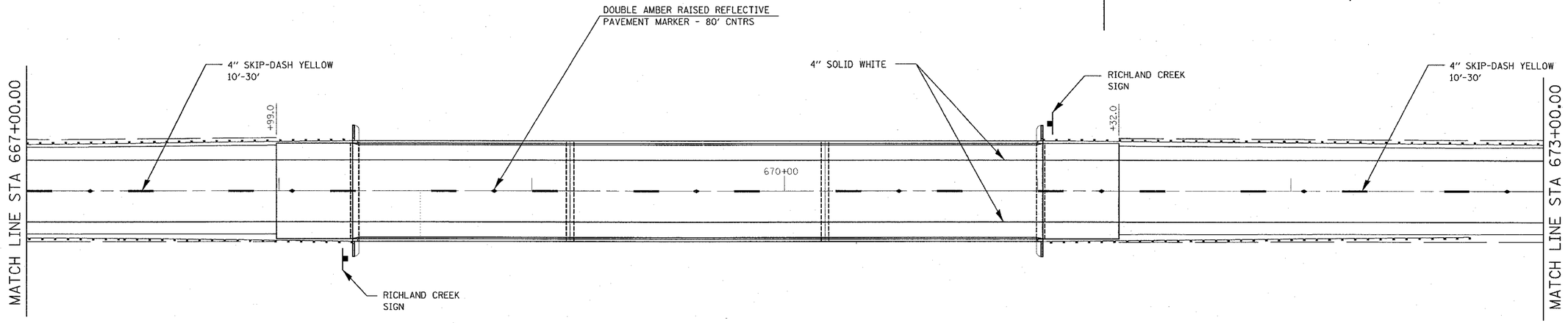
PLOT DATE: *DATE-TIME*

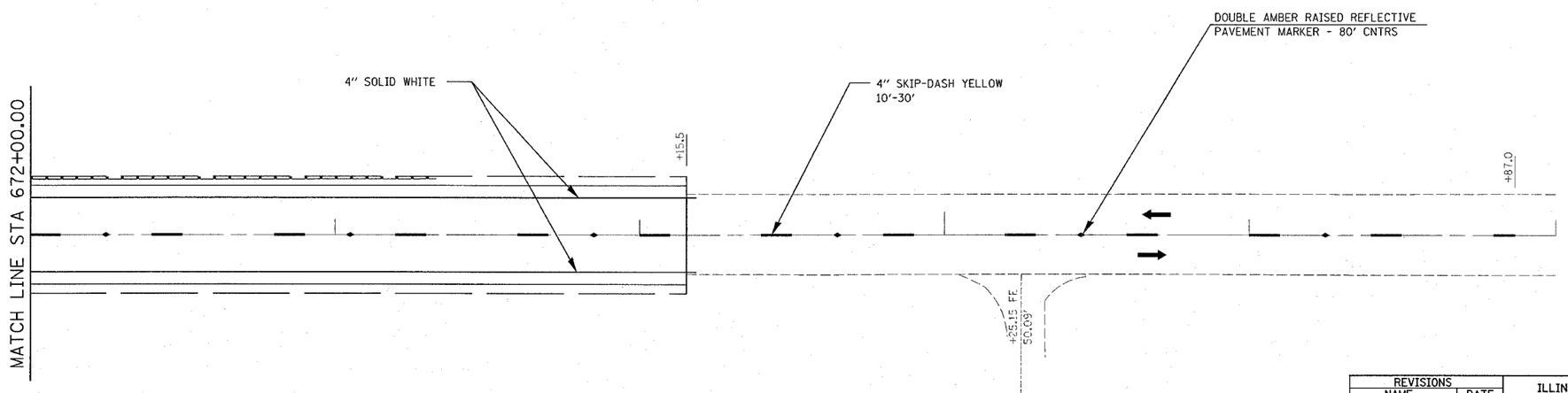
GEN-SPEC
*REF-
*REF-
*REF-
*REF-

CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	19
STA. 662+00.00	TO STA. 675+00.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		







20' 0 20' 40'
SCALE: 1" = 20'

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING DETAILS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT.
HORIZ.
DATE

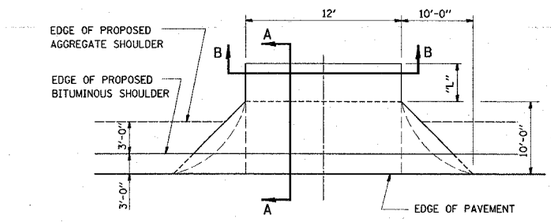
DRAWN BY
CHECKED BY

PLOT DATE = 12/15/2006
FILE NAME = c:\projects\edi4198\plan\pl-008a.dgn
PLOT SCALE = 20.000 ' / IN.
REFERENCE = REF

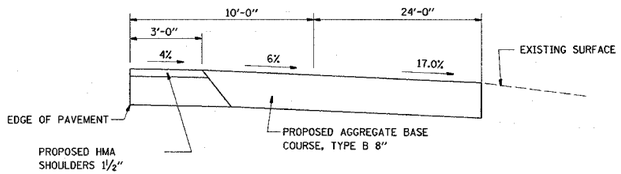
CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	20
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

DETAIL OF FIELD ENTRANCES
W/ BITUMINOUS SHOULDERS

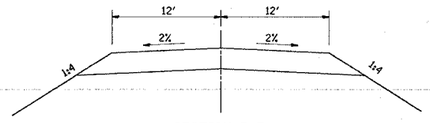


PLAN



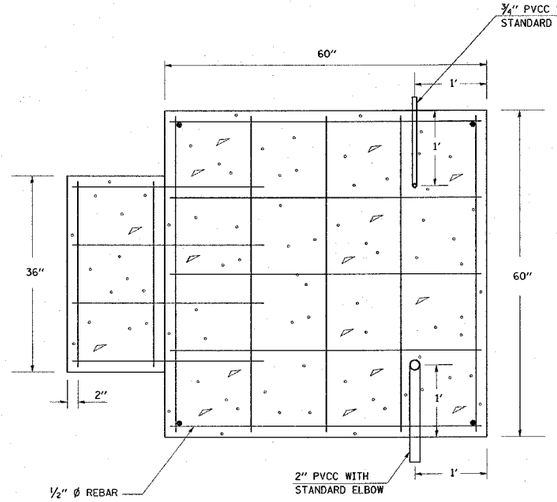
SECTION A-A WITH NEGATIVE GRADE

@STA 289+34.62 FE

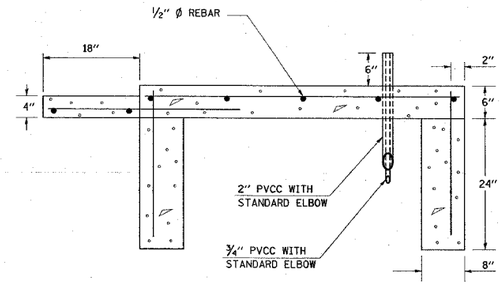


SECTION B-B

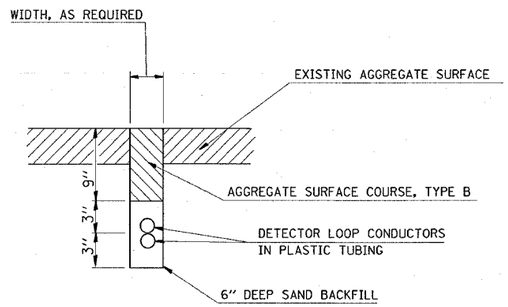
CONCRETE PAD FOR STREAM MEASUREMENT STATION (AS PROVIDED BY USGS)



PLAN



PROFILE



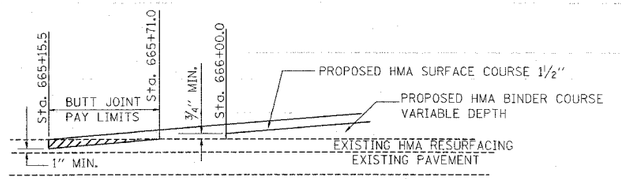
DETAIL
DETECTOR LOOP INSTALLED IN TRENCH

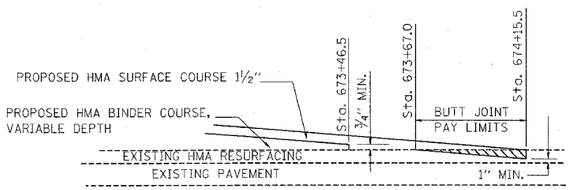
INSTALLATION IS TO BE DONE IN CONFORMANCE WITH THE REQUIREMENTS OF THE PLANS AND SECTION 886 OF THE STANDARD SPECIFICATIONS WITH THE FOLLOWING EXCEPTIONS:

1. SLOTS ARE TO BE TRENCHED INSTEAD OF SAWED.

2. THIS WORK SHALL NOT BE PAID FOR SEPERATELY BUT SHALL BE INCLUDED IN THE COST OF TEMPORARY BRIDGE TRAFFIC SIGNALS - 1 EACH.

BUTT JOINT DETAILS





REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAILS SHEET

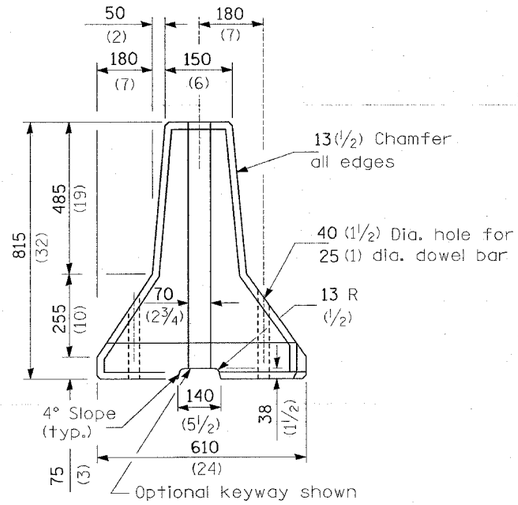
FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

PLOT DATE = 12/11/2008
FILE NAME = c:\projects\std4198\plan\profile4198a4.dgn
PLOT SCALE = 50.0000 '/ IN.
REFERENCE = REF

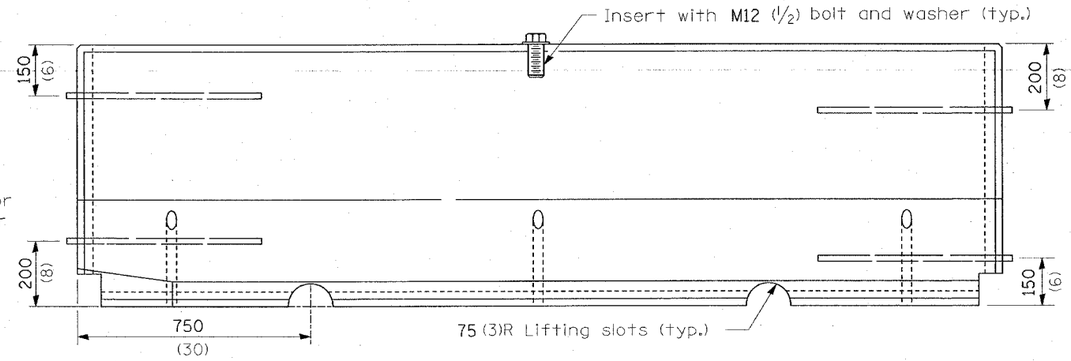
CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	21
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

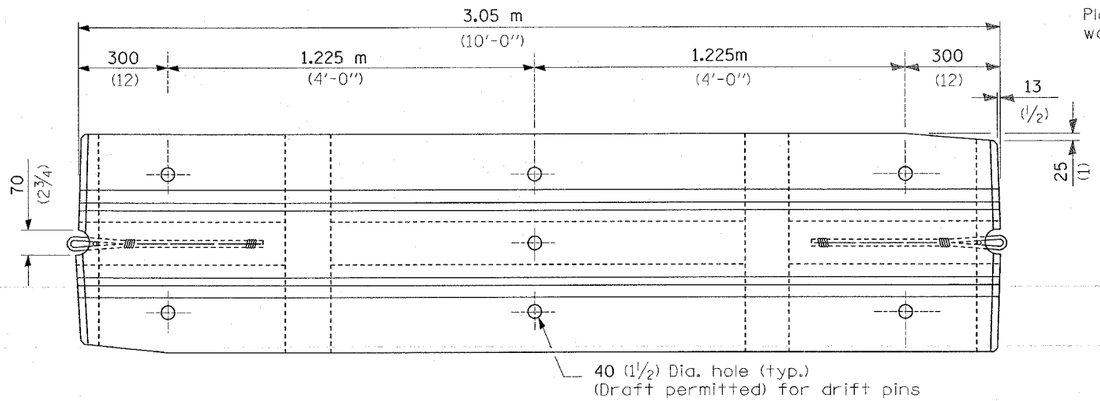


END VIEW

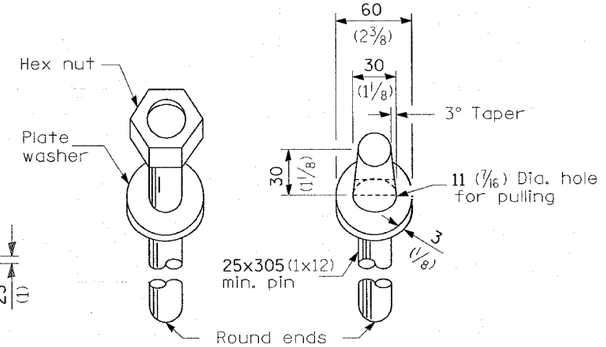
(without wire rope loops)



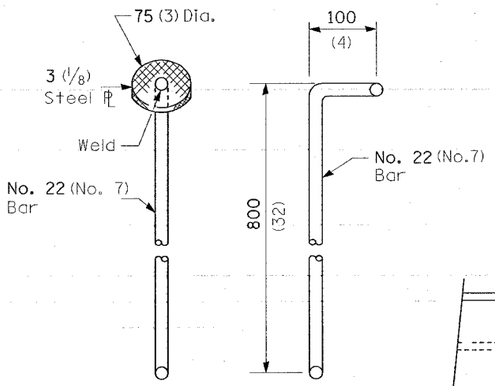
ELEVATION



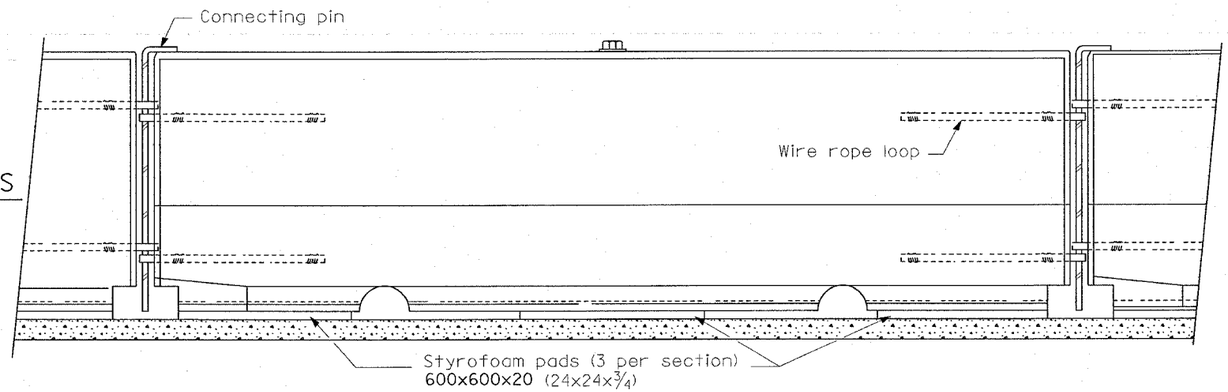
PLAN



DOWEL BARS



ALTERNATE CONNECTING PINS



TYPICAL INSTALLATION WITH STYROFOAM PADS

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 200 (8) 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 22 (7/8) diameter or a deformed No. 22 (No. 7) bar meeting the requirements of Article 1006.10(b) except Grade 400 (Grade 60) bars shall be used.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER

NJ SHAPE DESIGN

FAS ROUTE 1842

SECTION 106BR

ST CLAIR COUNTY

SCALE: VERT. HORIZ.

DRAWN BY

DATE

CHECKED BY

PLOT DATE = 12/1/2006
FILE NAME = c:\projects\ed4198\plan\profile4198s4.dgn
PLOT SCALE = 60.0000 ' / IN.
REFERENCE = REF

Bench Mark: Chiseled "□" N.W. corner of concrete slab for gaging station, Elev. 416.656

Existing Structure: S.N. 082-0089; Built in 1933 as S.B.I. Route 156, Section 106-B. Existing structure is a 4-span reinforced concrete T-beam superstructure on closed abutments and solid wall piers keyed into bedrock. The structure is 211'-10⅝" Bk. to Bk. abuts. The structure was widened in 1971 with 2 additional PPC-deck beams on each side to its current width of 35'-0" O. to O. of deck. Traffic to be maintained utilizing stage construction.

No salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

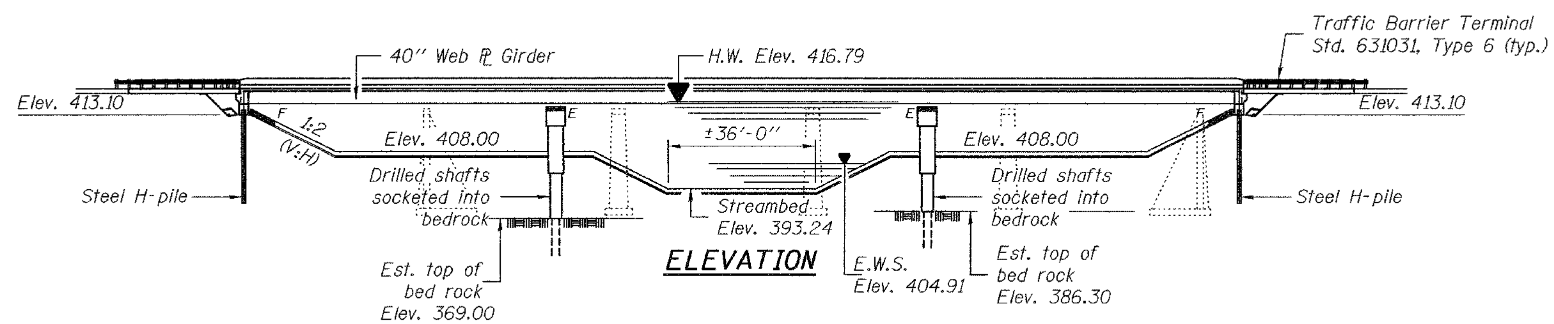
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	22
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
22 SHEETS

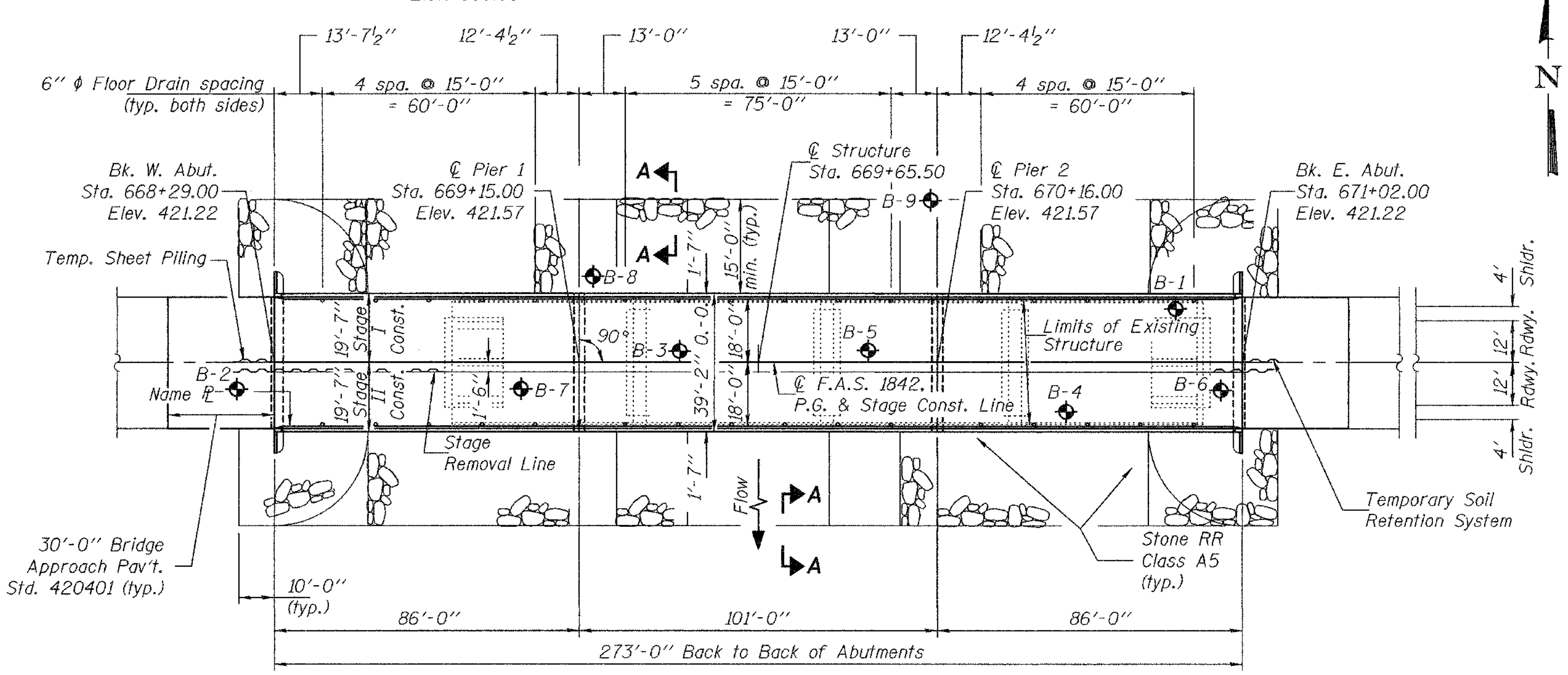
Contract No. 76129

STATION 669+65.50
BUILT 20 BY
STATE OF ILLINOIS
F.A.S. RTE 1842 SEC. 106BR
LOADING HS20
STR. NO. 082-0387

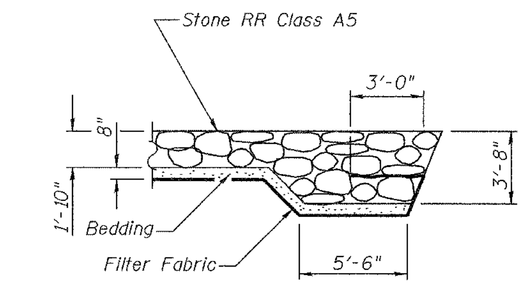
NAME PLATE
See Std. 515001



ELEVATION



PLAN

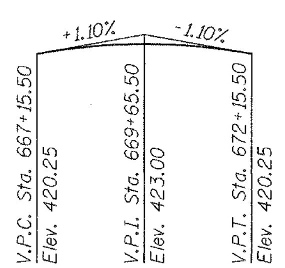


SECTION A-A

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structure	Each			1
Concrete Superstructure	Cu. Yd.	348.5		348.5
Concrete Structures	Cu. Yd.		147.4	147.4
Reinforcement Bars, Epoxy Coated	Pound	81,790	74,570	156,360
Furnishing and Erecting Structural Steel	L. Sum			1
Name Plates	Each	1		1
Bar Splicers	Each	922	70	992
Stud Shear Connectors	Each	3618		3618
Drilled Shaft in Soil	Cu. Yd.		83.8	83.8
Drilled Shaft in Rock	Cu. Yd.		28.3	28.3
Elastomeric Bearing Assembly Type I	Each	12		12
Temporary Sheet Piling	Sq. Ft.		1155	1155
Structure Excavation	Cu. Yd.		208	208
Porous Granular Embankment (Special)	Cu. Yd.		156	156
Bridge Deck Grooving	Sq. Yd.	1031		1031
Protective Coat	Sq. Yd.	1321		1321
Floor Drains	Each	32		32
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1
Stone Riprap, Class A5	Sq. Yd.		1660	1660
Filter Fabric	Sq. Yd.		1660	1660
Furnishing Steel Piles HP12x53	Foot		425	425
Driving Piles	Foot		425	425
Temporary Soil Retention System	Sq. Ft.		137	137
Pipe Underdrains for Structures, 4"	Foot		149	149
Geocomposite Wall Drain	Sq. Yd.		73	73
Test Pile Steel HP12x53	Each		2	2
Mechanical Splice	Each		88	88
Asbestos Bearing Pad Removal	Each	32		32
Anchor Bolts, 1" ϕ	Each	24		24
Anchor Bolts, 1½" ϕ	Each	24		24

INDEX OF SHEETS



PROFILE GRADE

LOADING HS20-44
Allow 50#/sq. ft. for future wearing surface.

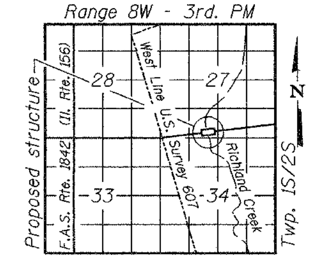
DESIGN SPECIFICATIONS
1996 AASHTO with 1997, 1998, 1999, 2000 & 2002 Interims

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (AASHTO M270 Grade 50)
f_y = 36,000 psi (AASHTO M270 Grade 36)

SEISMIC DATA
Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 12.0%g
Site Coefficient (S) = 1.5



LOCATION SKETCH

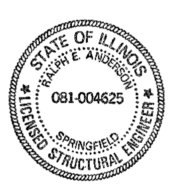
Existing Low Grade Elev. 419 ft. @ Sta. 676+84

Drainage Area = 129.4 sq. mi Proposed Low Grade Elev. 419 ft. @ Sta. 676+84									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	10900	1733	2623	417.2	1.4	0.3	418.6	417.5
Design	50	15800	1733	2831	418.0	2.6	0.9	420.6	418.9
Base	100	17800	1733	2831	418.4	2.9	1.1	421.3	419.5
Ex. Overtop	15	11600	1733	-	417.3	1.7	-	419.0	-
Pr. Overtop	55	16000	-	2779	417.8	-	1.2	-	419.0

10 year velocity through Exist. Bridge = 6.3 fps 10 year velocity through Prop. Bridge = 4.2 fps

DESIGNED
CHECKED
DRAWN BMC AMBER SEIBER
CHECKED

January 24, 2007
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2008

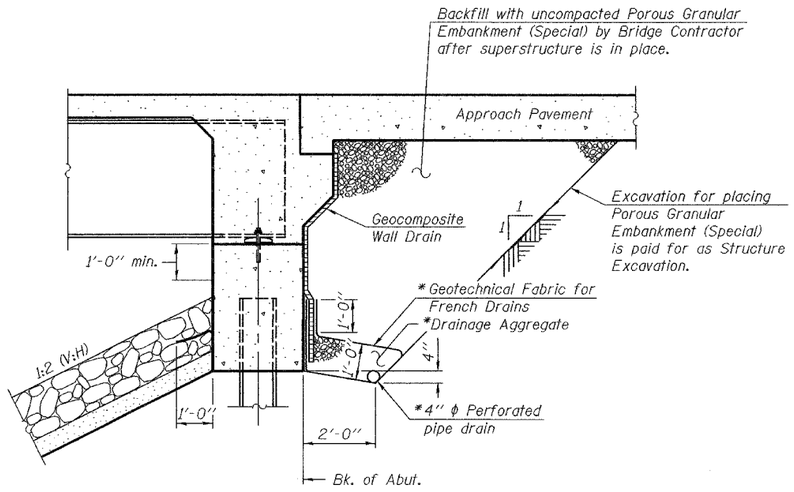
GENERAL PLAN
ILLINOIS ROUTE 156 OVER RICHLAND CREEK
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
22 SHEETS

Contract No. 76129



SECTION THRU INTEGRAL ABUTMENT

* Included in the cost of Pipe Underdrains for Structures, 4".

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

GENERAL NOTES

Fasteners shall be AASHTO M164 high strength bolts. Bolts $\frac{7}{8}$" ϕ, open holes $\frac{15}{16}$" ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 268,830 pounds (AASHTO M270 Gr. 50)
= 24,430 pounds (AASHTO M270 Gr. 36)

Reinforcement bars shall conform to the requirements of IL Modified ASTM A706 Grade 60.

No field welding is permitted except as specified in the contract documents.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$" (0.01 ft). Adjustment shall be made either by grinding the surface or by shimming the bearings.

The inorganic zinc rich primer/Acrylic/Acrylic Paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Gray, Munsell No. 5B 7/1. See Special Provisions for "Cleaning and Painting New Metal Structures".

The Structural Steel Bearing Plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.

Reinforcement bars designated (E) shall be epoxy coated.

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

In addition to all other requirements of Section 512 of the Standard Specifications, splices for HP12x53 piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL DATA
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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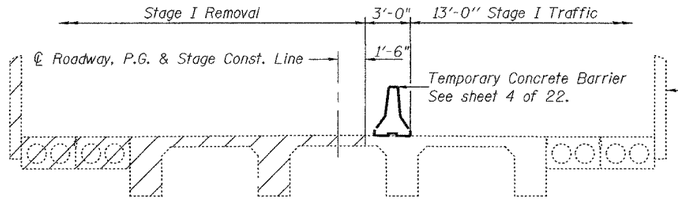
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

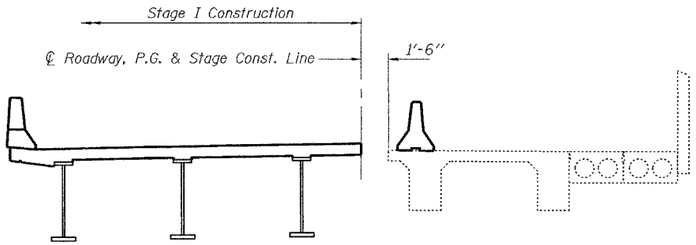
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3
22 SHEETS

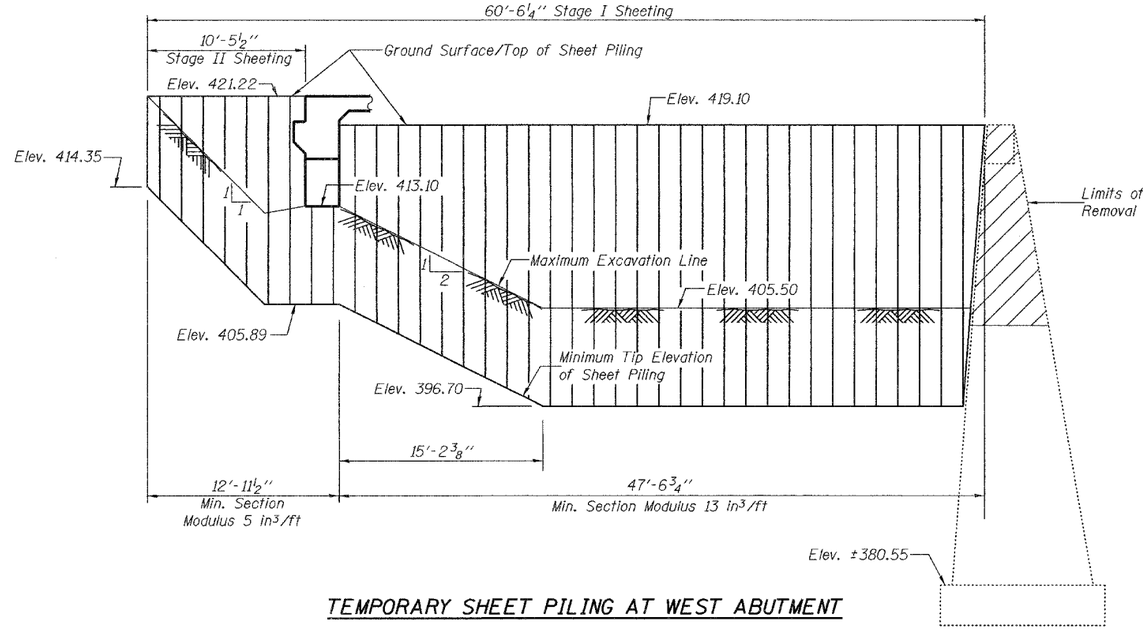
Contract No. 76129



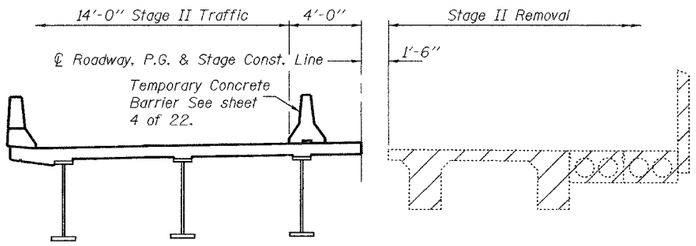
STAGE I REMOVAL



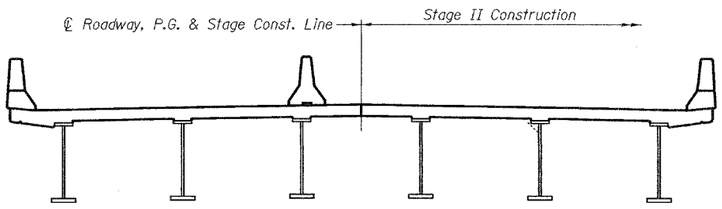
STAGE I CONSTRUCTION



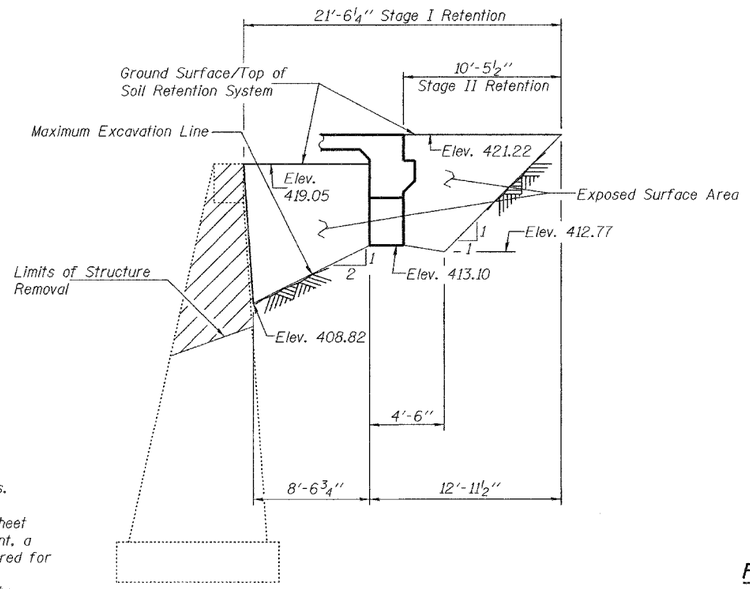
TEMPORARY SHEET PILING AT WEST ABUTMENT



STAGE II REMOVAL



STAGE II CONSTRUCTION



TEMPORARY SOIL RETENTION SYSTEM AT EAST ABUTMENT

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Notes:
Hatched area indicates Removal of Existing Structures.
For quantity of Temporary Concrete Barriers, see Roadway Plans.
All staging sections are looking East.
If the Contractor chooses to alter the Temporary Cantilevered Sheet Piling design requirements shown on the plans at the West Abutment, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
A Cantilevered Sheet Piling design does not appear feasible at the East Abutment and additional members or other retention systems may be necessary. The Contractor shall submit a Temporary Soil Retention System design including plan details and calculations for review and acceptance by the Engineer.

STAGE CONSTRUCTION DETAILS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

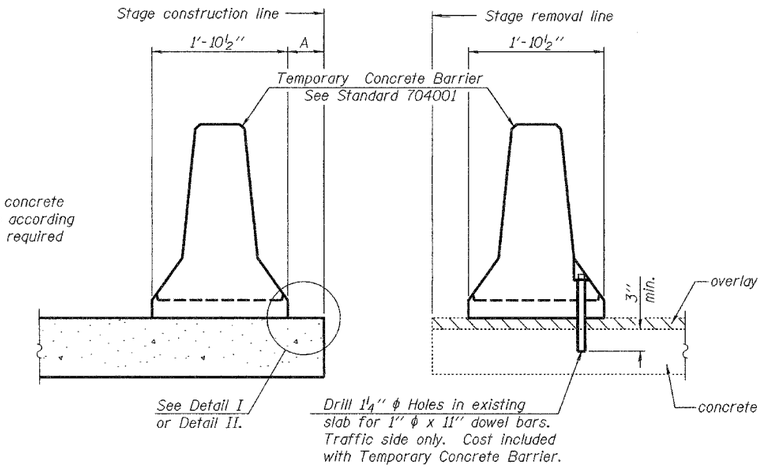
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
22 SHEETS

Contract No. 76129

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



NEW SLAB EXISTING SLAB

SECTIONS THRU SLAB

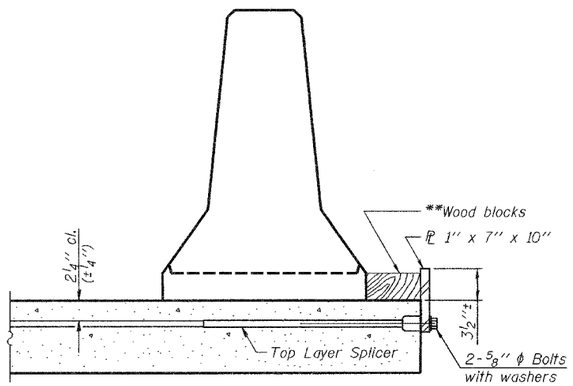
NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

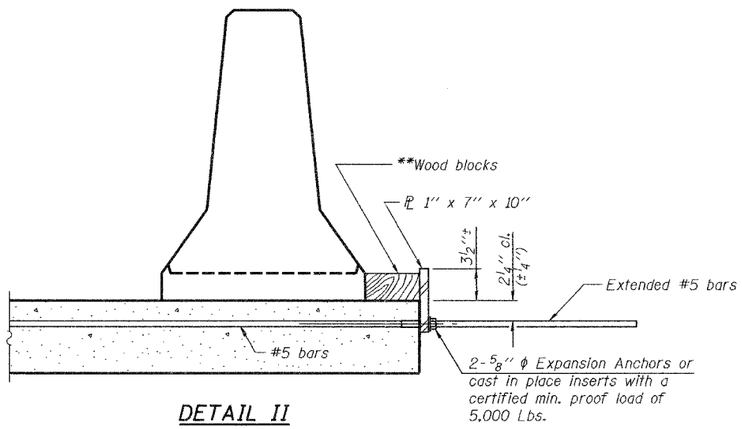
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel ℙ to the concrete slab with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.

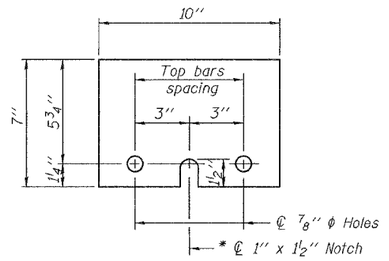
The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



DETAIL I



DETAIL II



STEEL RETAINER ℙ 1" x 7" x 10"

* Required only with Detail II

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

DESIGNED	JEK
CHECKED	RLM
DRAWN	ØMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

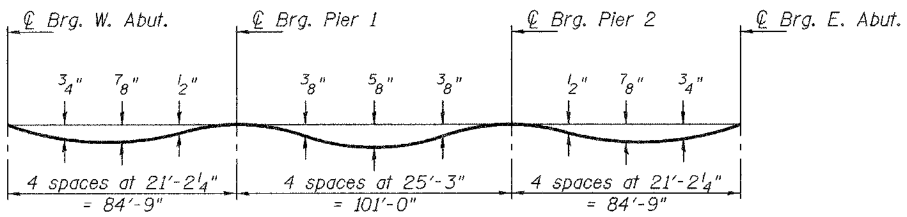
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
F.A.S. ROUTE 1842 - SEC. 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	26

SHEET NO. 5
22 SHEETS

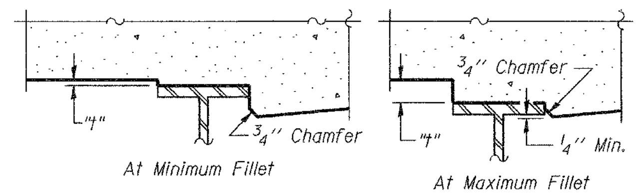
Contract No. 76129



DEAD LOAD DEFLECTION DIAGRAM

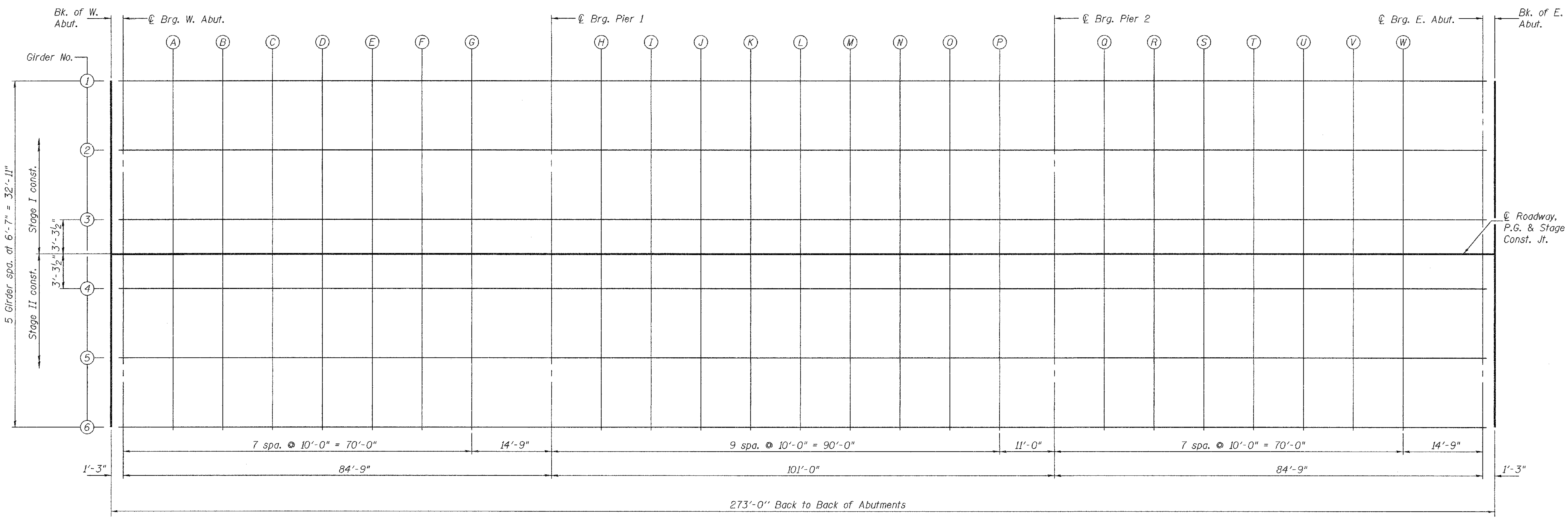
(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 6 of 22.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 6 of 22, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
22 SHEETS

Contract No. 76129

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	66829.000	-16.458	420.935	420.935
℄ Brg. W. Abut	66830.250	-16.458	420.942	420.942
A	66840.250	-16.458	421.000	421.031
B	66850.250	-16.458	421.053	421.115
C	66860.250	-16.458	421.101	421.171
D	66870.250	-16.458	421.145	421.221
E	66880.250	-16.458	421.185	421.247
F	66890.250	-16.458	421.220	421.264
G	66900.250	-16.458	421.251	421.277
℄ Brg. Pier 1	66915.000	-16.458	421.289	421.289
H	66925.000	-16.458	421.309	421.319
I	66935.000	-16.458	421.324	421.345
J	66945.000	-16.458	421.336	421.367
K	66955.000	-16.458	421.342	421.385
L	66965.000	-16.458	421.345	421.398
M	66975.000	-16.458	421.343	421.386
N	66985.000	-16.458	421.336	421.369
O	66995.000	-16.458	421.326	421.348
P	67005.000	-16.458	421.310	421.322
℄ Brg. Pier 2	67016.000	-16.458	421.289	421.289
Q	67026.000	-16.458	421.264	421.282
R	67036.000	-16.458	421.235	421.270
S	67046.000	-16.458	421.202	421.256
T	67056.000	-16.458	421.165	421.237
U	67066.000	-16.458	421.123	421.195
V	67076.000	-16.458	421.076	421.144
W	67086.000	-16.458	421.025	421.071
℄ Brg. E. Abut	67100.750	-16.458	420.942	420.942
BK. E. Abut	67102.000	-16.458	420.935	420.935

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	66829.000	-9.875	421.061	421.061
℄ Brg. W. Abut	66830.250	-9.875	421.068	421.068
A	66840.250	-9.875	421.126	421.157
B	66850.250	-9.875	421.178	421.241
C	66860.250	-9.875	421.227	421.297
D	66870.250	-9.875	421.271	421.347
E	66880.250	-9.875	421.311	421.373
F	66890.250	-9.875	421.346	421.390
G	66900.250	-9.875	421.377	421.403
℄ Brg. Pier 1	66915.000	-9.875	421.415	421.415
H	66925.000	-9.875	421.435	421.445
I	66935.000	-9.875	421.450	421.471
J	66945.000	-9.875	421.461	421.493
K	66955.000	-9.875	421.468	421.511
L	66965.000	-9.875	421.471	421.524
M	66975.000	-9.875	421.469	421.512
N	66985.000	-9.875	421.462	421.495
O	66995.000	-9.875	421.452	421.474
P	67005.000	-9.875	421.436	421.448
℄ Brg. Pier 2	67016.000	-9.875	421.415	421.415
Q	67026.000	-9.875	421.390	421.407
R	67036.000	-9.875	421.361	421.396
S	67046.000	-9.875	421.328	421.381
T	67056.000	-9.875	421.291	421.363
U	67066.000	-9.875	421.248	421.321
V	67076.000	-9.875	421.202	421.270
W	67086.000	-9.875	421.151	421.197
℄ Brg. E. Abut	67100.750	-9.875	421.068	421.068
BK. E. Abut	67102.000	-9.875	421.061	421.061

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	66829.000	-3.292	421.164	421.164
℄ Brg. W. Abut	66830.250	-3.292	421.171	421.171
A	66840.250	-3.292	421.228	421.260
B	66850.250	-3.292	421.281	421.343
C	66860.250	-3.292	421.330	421.400
D	66870.250	-3.292	421.374	421.449
E	66880.250	-3.292	421.414	421.476
F	66890.250	-3.292	421.449	421.492
G	66900.250	-3.292	421.480	421.505
℄ Brg. Pier 1	66915.000	-3.292	421.517	421.517
H	66925.000	-3.292	421.537	421.548
I	66935.000	-3.292	421.553	421.574
J	66945.000	-3.292	421.564	421.596
K	66955.000	-3.292	421.571	421.613
L	66965.000	-3.292	421.574	421.626
M	66975.000	-3.292	421.572	421.615
N	66985.000	-3.292	421.565	421.598
O	66995.000	-3.292	421.554	421.577
P	67005.000	-3.292	421.539	421.551
℄ Brg. Pier 2	67016.000	-3.292	421.517	421.517
Q	67026.000	-3.292	421.493	421.510
R	67036.000	-3.292	421.464	421.499
S	67046.000	-3.292	421.431	421.484
T	67056.000	-3.292	421.393	421.466
U	67066.000	-3.292	421.351	421.424
V	67076.000	-3.292	421.305	421.373
W	67086.000	-3.292	421.254	421.300
℄ Brg. E. Abut	67100.750	-3.292	421.171	421.171
BK. E. Abut	67102.000	-3.292	421.164	421.164

℄ ROADWAY, P.G. & STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	66829.000	0.000	421.215	421.215
℄ Brg. W. Abut	66830.250	0.000	421.223	421.223
A	66840.250	0.000	421.280	421.311
B	66850.250	0.000	421.333	421.395
C	66860.250	0.000	421.381	421.452
D	66870.250	0.000	421.425	421.501
E	66880.250	0.000	421.465	421.527
F	66890.250	0.000	421.500	421.544
G	66900.250	0.000	421.531	421.557
℄ Brg. Pier 1	66915.000	0.000	421.569	421.569
H	66925.000	0.000	421.589	421.599
I	66935.000	0.000	421.605	421.626
J	66945.000	0.000	421.616	421.647
K	66955.000	0.000	421.623	421.665
L	66965.000	0.000	421.625	421.678
M	66975.000	0.000	421.623	421.666
N	66985.000	0.000	421.617	421.649
O	66995.000	0.000	421.606	421.628
P	67005.000	0.000	421.591	421.602
℄ Brg. Pier 2	67016.000	0.000	421.569	421.569
Q	67026.000	0.000	421.544	421.562
R	67036.000	0.000	421.516	421.550
S	67046.000	0.000	421.482	421.536
T	67056.000	0.000	421.445	421.517
U	67066.000	0.000	421.403	421.476
V	67076.000	0.000	421.356	421.424
W	67086.000	0.000	421.306	421.351
℄ Brg. E. Abut	67100.750	0.000	421.223	421.223
BK. E. Abut	67102.000	0.000	421.215	421.215

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	66829.000	3.292	421.164	421.164
℄ Brg. W. Abut	66830.250	3.292	421.171	421.171
A	66840.250	3.292	421.228	421.260
B	66850.250	3.292	421.281	421.343
C	66860.250	3.292	421.330	421.400
D	66870.250	3.292	421.374	421.449
E	66880.250	3.292	421.414	421.476
F	66890.250	3.292	421.449	421.492
G	66900.250	3.292	421.480	421.505
℄ Brg. Pier 1	66915.000	3.292	421.517	421.517
H	66925.000	3.292	421.537	421.548
I	66935.000	3.292	421.553	421.574
J	66945.000	3.292	421.564	421.596
K	66955.000	3.292	421.571	421.613
L	66965.000	3.292	421.574	421.626
M	66975.000	3.292	421.572	421.615
N	66985.000	3.292	421.565	421.598
O	66995.000	3.292	421.554	421.577
P	67005.000	3.292	421.539	421.551
℄ Brg. Pier 2	67016.000	3.292	421.517	421.517
Q	67026.000	3.292	421.493	421.510
R	67036.000	3.292	421.464	421.499
S	67046.000	3.292	421.431	421.484
T	67056.000	3.292	421.393	421.466
U	67066.000	3.292	421.351	421.424
V	67076.000	3.292	421.305	421.373
W	67086.000	3.292	421.254	421.300
℄ Brg. E. Abut	67100.750	3.292	421.171	421.171
BK. E. Abut	67102.000	3.292	421.164	421.164

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	66829.000	9.875	421.061	421.061
℄ Brg. W. Abut	66830.250	9.875	421.068	421.068
A	66840.250	9.875	421.126	421.157
B	66850.250	9.875	421.178	421.241
C	66860.250	9.875	421.227	421.297
D	66870.250	9.875	421.271	421.347
E	66880.250	9.875	421.311	421.373
F	66890.250	9.875	421.346	421.390
G	66900.250	9.875	421.377	421.403
℄ Brg. Pier 1	66915.000	9.875	421.415	421.415
H	66925.000	9.875	421.435	421.445
I	66935.000	9.875	421.450	421.471
J	66945.000	9.875	421.461	421.493
K	66955.000	9.875	421.468	421.511
L	66965.000	9.875	421.471	421.524
M	66975.000	9.875	421.469	421.512
N	66985.000	9.875	421.462	421.495
O	66995.000	9.875	421.452	421.474
P	67005.000	9.875	421.436	421.448
℄ Brg. Pier 2	67016.000	9.875	421.415	421.415
Q	67026.000	9.875	421.390	421.407
R	67036.000	9.875	421.361	421.396
S	67046.000	9.875	421.328	421.381
T	67056.000	9.875	421.291	421.363
U	67066.000	9.875	421.248	421.321
V	67076.000	9.875	421.202	421.270
W	67086.000	9.875	421.151	421.197
℄ Brg. E. Abut	67100.750	9.875	421.068	421.068
BK. E. Abut	67102.000	9.875	421.061	421.061

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	66829.000	16.458	420.935	420.935
℄ Brg. W. Abut	66830.250	16.458	420.942	420.942
A	66840.250	16.458	421.000	421.031
B	66850.250	16.458	421.053	421.115
C	66860.250	16.458	421.101	421.171
D	66870.250	16.458	421.145	421.221
E	66880.250	16.458	421.185	421.247
F	66890.250	16.458	421.220	421.264
G	66900.250	16.458	421.251	421.277
℄ Brg. Pier 1	66915.000	16.458	421.289	421.289
H	66925.000	16.458	421.309	421.319
I	66935.000	16.458	421.324	421.345
J	66945.000	16.458	421.336	421.367
K	66955.000	16.458	421.342	421.385
L	66965.000	16.458	421.345	421.398
M	66975.000	16.458	421.343	421.386
N	66985.000	16.458	421.336	421.369
O	66995.000	16.458	421.326	421.348
P	67005.000	16.458	421.310	421.322
℄ Brg. Pier 2	67016.000	16.458	421.289	421.289
Q	67026.000	16.458	421.264	421.282
R	67036.000	16.458	421.235	421.270
S	67046.000	16.458	421.202	421.256
T	67056.000	16.458	421.165	421.237
U	67066.000	16.458	421.123	421.195
V	67076.000	16.458	421.076	421.144
W	67086.000	16.458	421.025	421.071
℄ Brg. E. Abut	67100.750	16.458	420.942	420.942
BK. E. Abut	67102.000	16.458	420.935	420.935

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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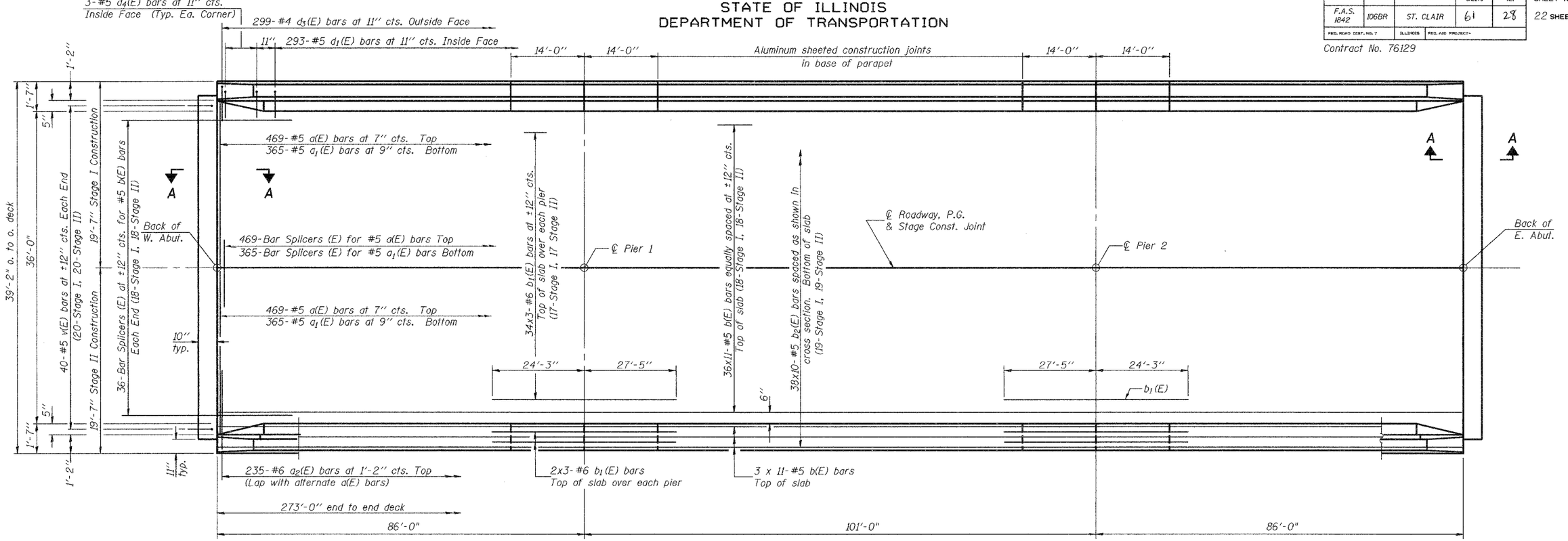
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

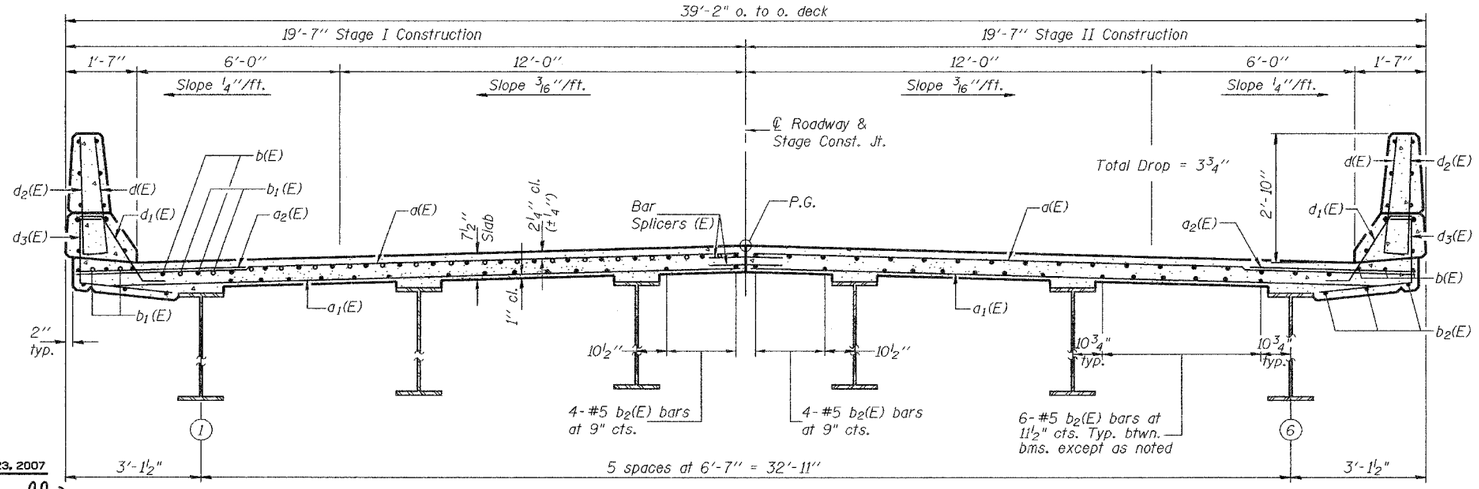
SHEET NO. 7
22 SHEETS

Contract No. 76129

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



NEAR PIER NEAR MIDSPAN

CROSS SECTION
(Looking East)

N

Notes:
See Sheet 8 of 22 for superstructure details, parapet reinforcement and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 18 of 22 for Bar Splicer details.
See sheet 9 of 22 for Section A-A and diaphragm details.

MIN. BAR LAP

#5 bar = 2'-2"
#6 bar = 2'-7"

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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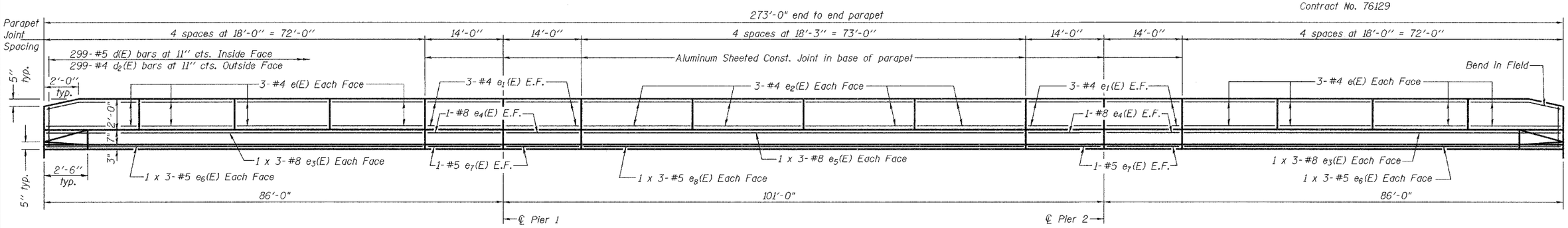
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

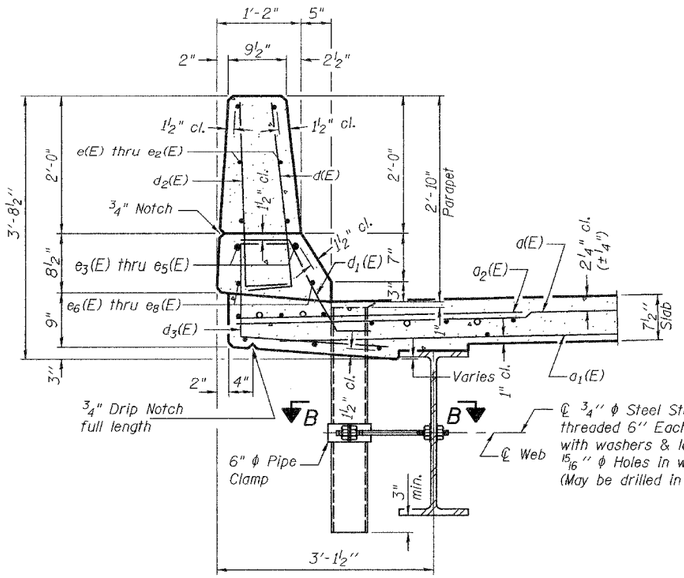
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	29
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
22 SHEETS

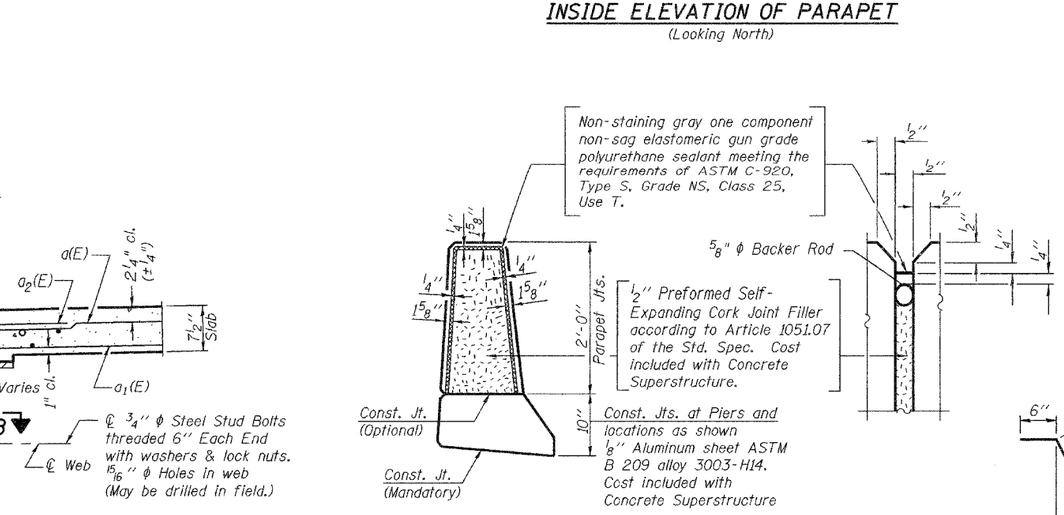
Contract No. 76129



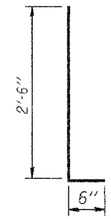
INSIDE ELEVATION OF PARAPET
(Looking North)



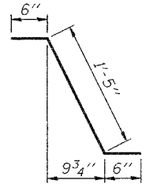
SECTION THRU PARAPET



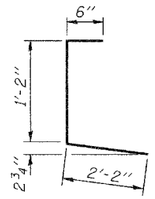
PARAPET JOINT DETAILS



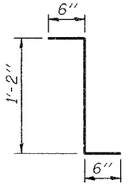
BARS d(E) & d2(E)



BAR d1(E)

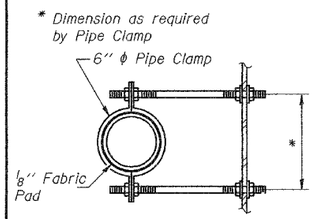


BAR d3(E)

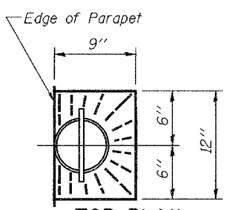


BAR d4(E)

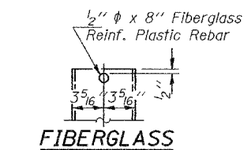
Notes:
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Steel Structures Painting Council's Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.



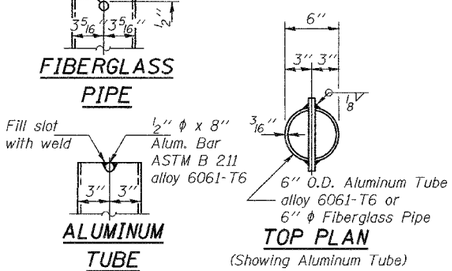
SECTION B-B



TOP PLAN



FIBERGLASS PIPE

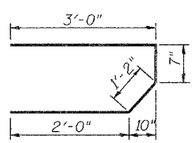


ALUMINUM TUBE

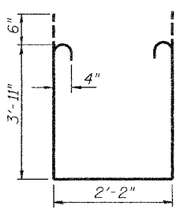
TOP PLAN
(Showing Aluminum Tube)

MIN. BAR LAPS

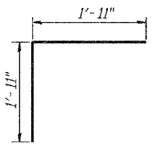
#5 bars = 1'-8"
#8 bars = 3'-5"



BAR s(E)



BAR s1(E)



BAR v(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	938	#5	19'-1"	——
a1(E)	730	#5	18'-3"	——
a2(E)	470	#6	4'-6"	——
b(E)	462	#5	26'-10"	——
b1(E)	228	#6	19'-0"	——
b2(E)	380	#5	29'-3"	——
d(E)	598	#5	3'-0"	⌟
d1(E)	586	#5	2'-5"	⌝
d2(E)	598	#4	3'-0"	⌟
d3(E)	598	#4	3'-10"	⌞
d4(E)	12	#5	2'-2"	⌝
e(E)	96	#4	17'-8"	——
e1(E)	48	#4	13'-8"	——
e2(E)	48	#4	17'-11"	——
e3(E)	24	#8	26'-2"	——
e4(E)	16	#8	13'-8"	——
e5(E)	12	#8	26'-6"	——
e6(E)	24	#5	25'-0"	——
e7(E)	16	#5	13'-8"	——
e8(E)	12	#5	25'-4"	——
m(E)	8	#6	18'-6"	——
m1(E)	12	#6	19'-3"	——
m2(E)	24	#6	9'-4"	——
m3(E)	8	#6	6'-3"	——
m4(E)	4	#6	2'-10"	——
m5(E)	4	#6	3'-0"	——
s(E)	84	#5	6'-9"	⊐
s1(E)	76	#4	11'-0"	⊔
v(E)	80	#5	3'-10"	⌜
Reinforcement Bars, Epoxy Coated			Pound	81790
Concrete Superstructure			Cu. Yds.	348.5

Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.

DESIGNED	JEK
CHECKED	RLM
DRAWN	DMG AMBER SEIBER
CHECKED	RLM

EXAMINED January 23, 2007
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

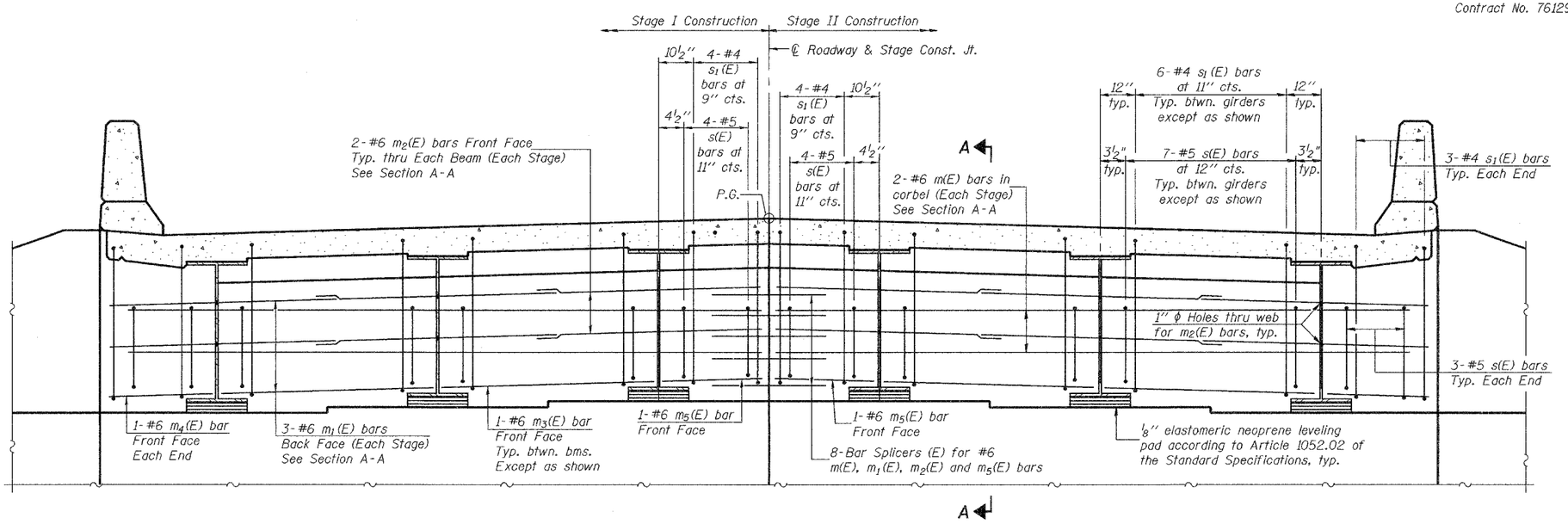
SUPERSTRUCTURE DETAILS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

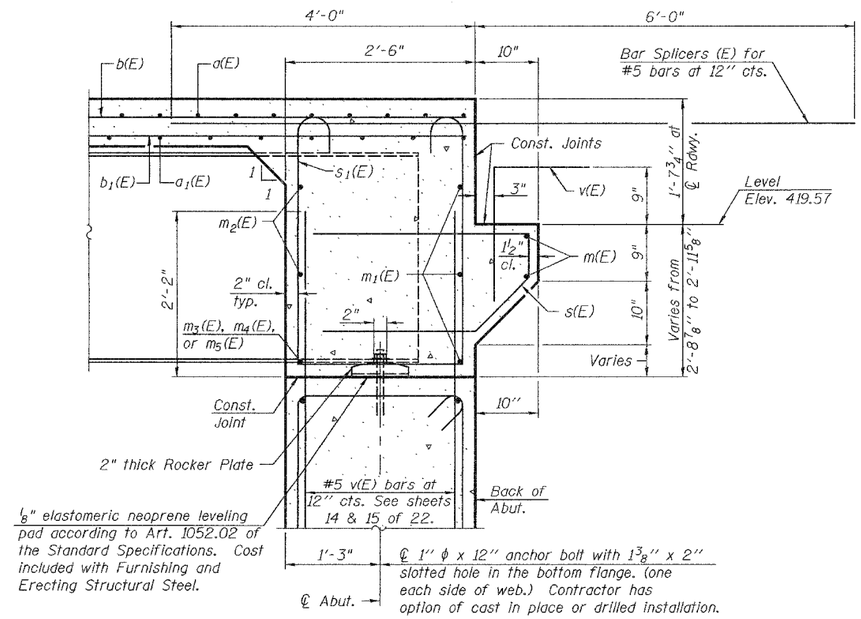
SHEET NO. 9
22 SHEETS

Contract No. 76129

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DIAPHRAGM ELEVATION AT ABUTMENT
(Looking East)



SECTION A-A

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 22.
Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 22.
For details of bars s(E) & s_1(E) see sheet 8 of 22.
See sheet 12 of 22 for holes thru web for m_2(E) bars.
For anchor bolt details see sheet 13 of 22.
For Bar Splicer (E) details see sheet 18 of 22.

MIN. BAR LAP
#6 bar = 2'-9"

DESIGNED	JEK
CHECKED	RLM
DRAWN	ØMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

DIAPHRAGM DETAILS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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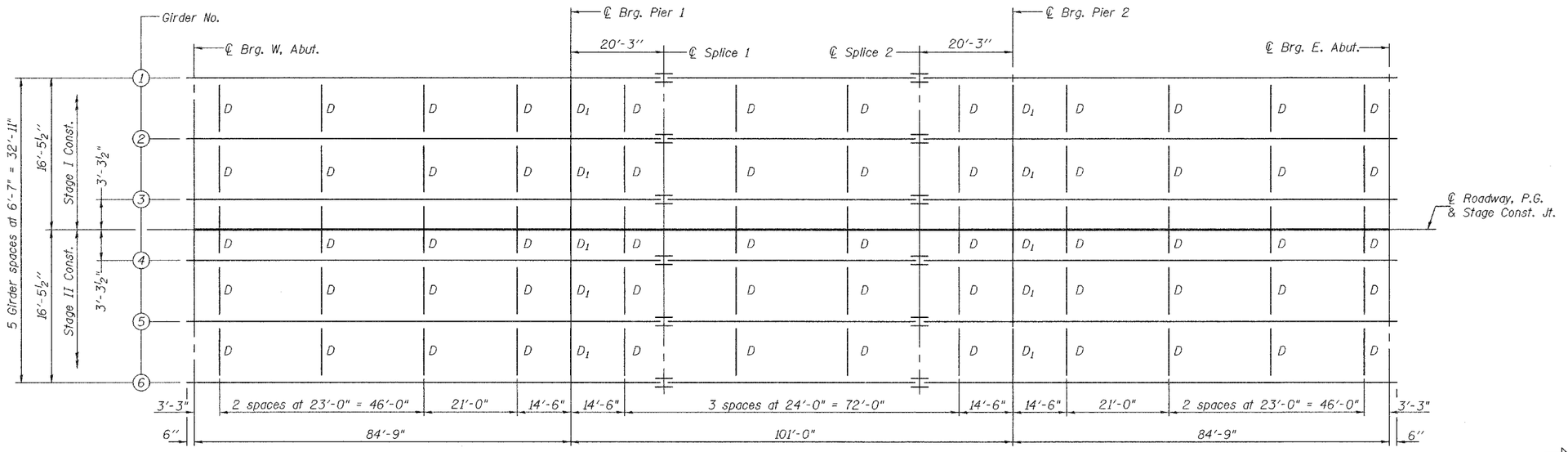
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

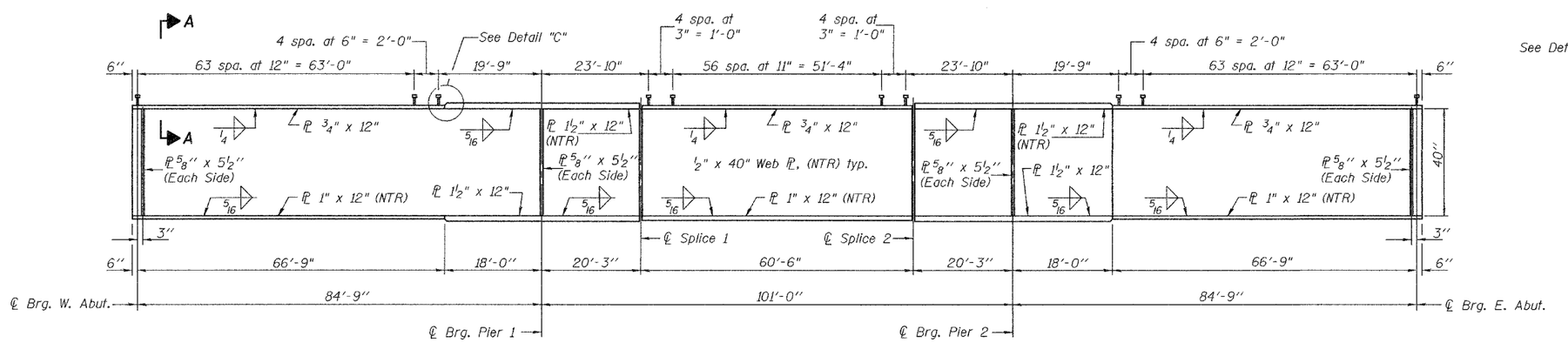
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	31
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 10
22 SHEETS

Contract No. 76129

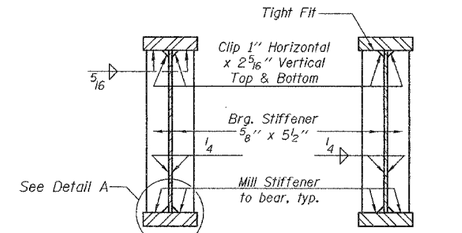


PLAN



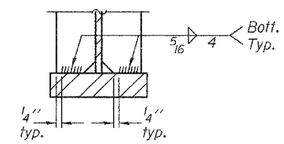
GIRDER ELEVATION

All plates of the girder, including bearing stiffeners, shall be AASHTO M270 Grade 50.



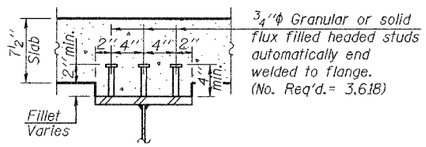
SECTION AT PIER

SECTION AT ABUTMENT



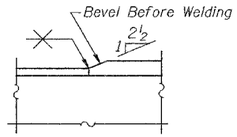
DETAIL A

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



¾"ϕ Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.= 3,618)

SECTION A-A



DETAIL "C"

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMG AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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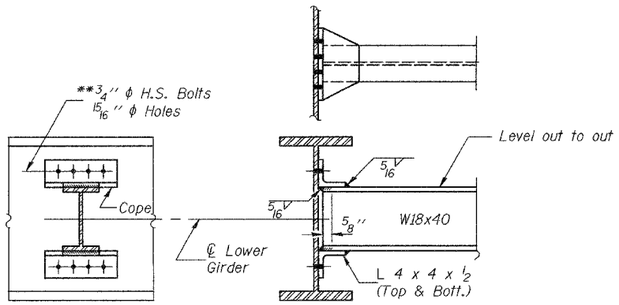
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

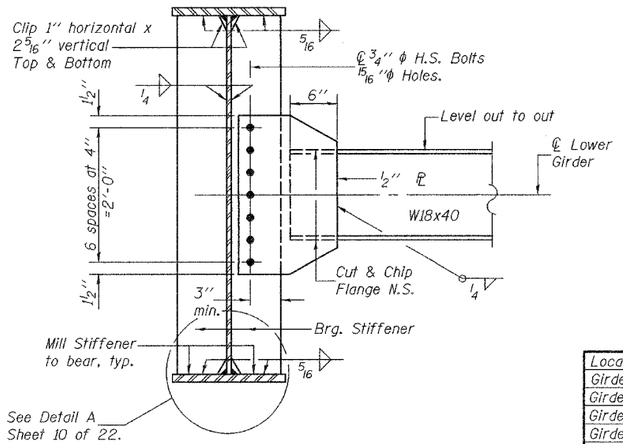
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
22 SHEETS

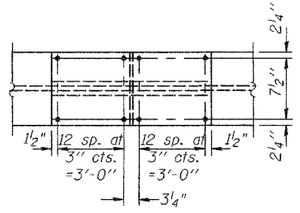
Contract No. 76129



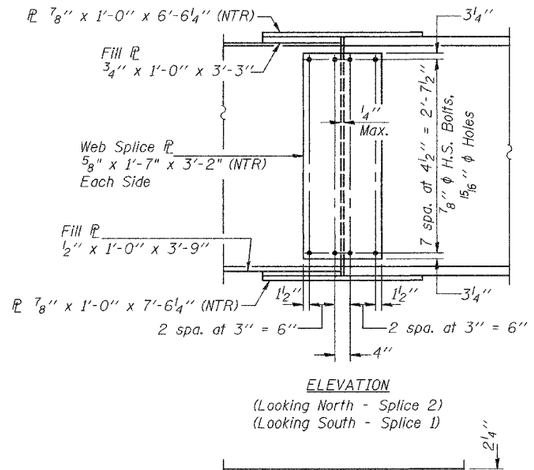
DIAPHRAGM D
60 Required



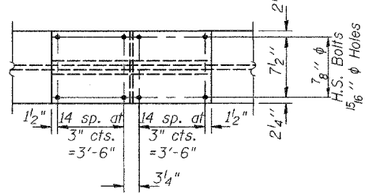
DIAPHRAGM D_1
(10 Required)



PLAN-TOP FLANGE



ELEVATION
(Looking North - Splice 2)
(Looking South - Splice 1)



PLAN-BOTTOM FLANGE

SPLICE DETAIL
(12 Required)

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
Is	(in⁴)	11352	18174	11352
Ic (n)	(in⁴)	29813		29813
Ic (3n)	(in⁴)	21762		21762
Ss	(in³)	583	845	583
Sc (n)	(in³)	827		827
Sc (3n)	(in³)	754		754
℄	(k/ft.)	0.793	1.334	0.793
MℓQ	('k)	379	1139	253
sℓ	(k/ft.)	0.479		0.479
MsℓQ	('k)	266		242
Mℓℓ	('k)	626	481	634
M (Imp)	('k)	149	111	140
$5/3[M\ell\ell+M(Imp)]$	('k)	1292	987	1290
Ma	('k)	2518	2764	2321
Mu	('k)	3206	3521	3278
fsℓ non-comp	(k.s.i.)	7.8	16.2	5.2
fsℓ (comp)	(k.s.i.)	4.2		3.9
$fs5/3(\ell+Imp)$	(k.s.i.)	18.7	14.0	18.7
fs (Overload)	(k.s.i.)	30.7	30.2	27.8
fs (Total)	(k.s.i.)		39.4	
VR	(k)	50.9		43.8

INTERIOR GIRDER REACTION TABLE			
		Abuts.	Piers
Rℓ	(k)	40.6	133.8
Rℓ	(k)	37.4	56.7
Imp.	(k)	8.9	13.0
R (Total)	(k)	86.9	203.5

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

Ma (Applied Moment)=1.3[MQ + MsQ + 5/3(Mℓ + M(Imp))].

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

fs (Overload) is the sum of the stresses due to MQ + MsQ + 5/3(Mℓ + M(Imp)).

fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[MQ + MsQ + 5/3(Mℓ + M(Imp))].

MQ - Moment due to dead loads on non-composite section.

MsQ - Moment due to dead loads on composite section.

Mℓ - Moment due to live load on non-composite or composite section.

M(Imp.) - Moment due to live load impact on non-composite or composite section.

*TOP OF WEB ELEVATIONS

Location	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Splice 1	℄ Splice 2	℄ Brg. Pier 2	℄ Brg. E. Abut.
Girder 1	420.192	420.472	420.461	420.461	420.472	420.192
Girder 2	420.318	420.598	420.586	420.586	420.598	420.318
Girder 3	420.421	420.700	420.689	420.689	420.700	420.421
Girder 4	420.421	420.700	420.689	420.689	420.700	420.421
Girder 5	420.318	420.598	420.586	420.586	420.598	420.318
Girder 6	420.192	420.472	420.461	420.461	420.472	420.192

*For fabrication only

**Use 13/16" x 1 1/2" vertical slotted holes in top and bottom angles of Diaphragm D at North side of Girder 4 only. Provide 5/16" plate washers for slotted holes. The bolts for slotted holes shall be finger tightened prior to the deck pour for Stage II Construction and then fully tightened after completion of the deck pour for Stage II Construction.

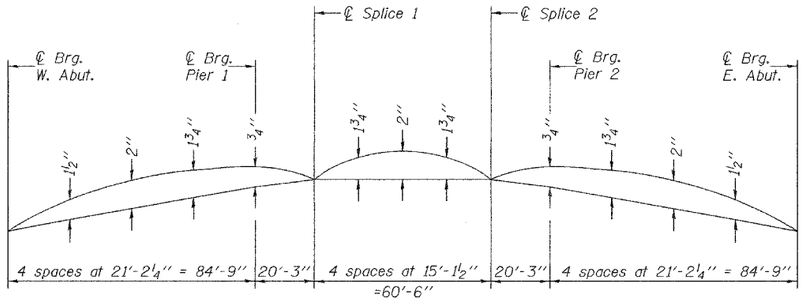
Notes:

All Splice plates shall be AASHTO M270, Grade 50, except fill plates.

Two hardened washers shall be required over all oversize holes for diaphragms.

All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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



CAMBER DIAGRAM

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

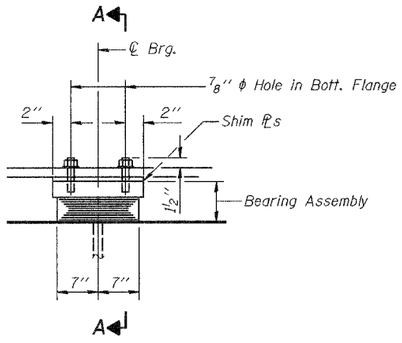
STRUCTURAL STEEL DETAILS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

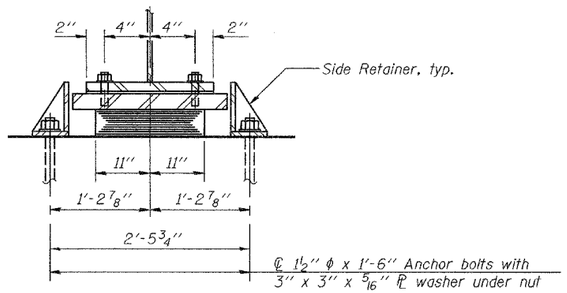
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
22 SHEETS

Contract No. 76129



ELEVATION AT PIERS

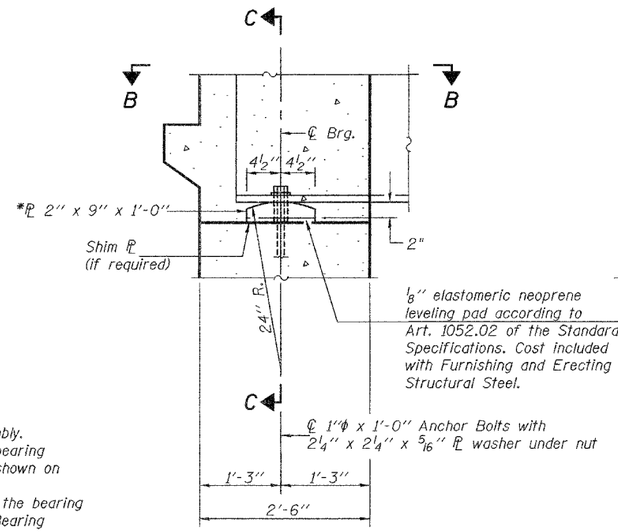


SECTION A-A

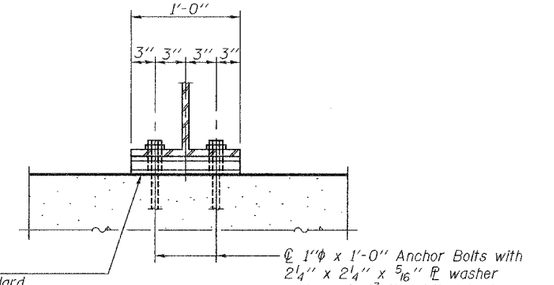
TYPE I ELASTOMERIC EXP. BRG.

* All bearing plates shall be AASHTO M270, Grade 50.

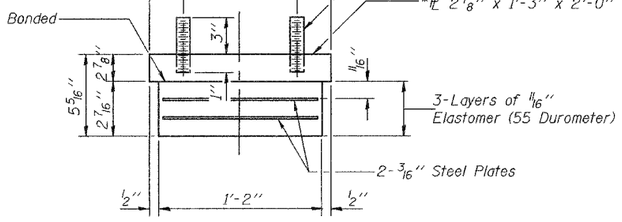
Notes:
See sheet 13 of 22 for Anchor Bolt installation.
Shim plates shall not be placed under Bearing Assembly.
Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.



ELEVATION AT ABUTMENTS



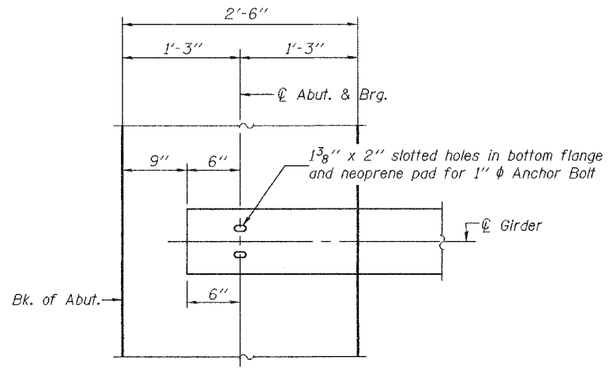
SECTION C-C



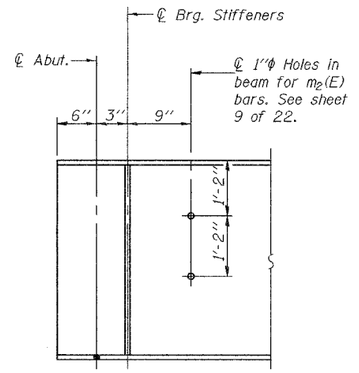
BEARING ASSEMBLY

ABUTMENT BEARING

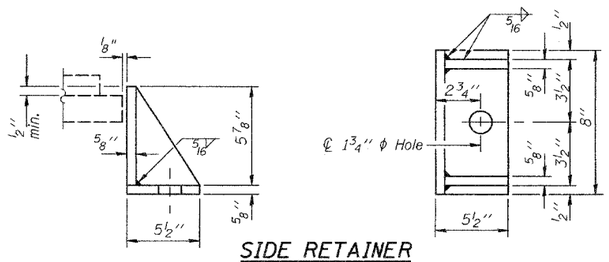
(12 Required)



SECTION B-B



END OF GIRDER
ELEVATION



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BEARING DETAILS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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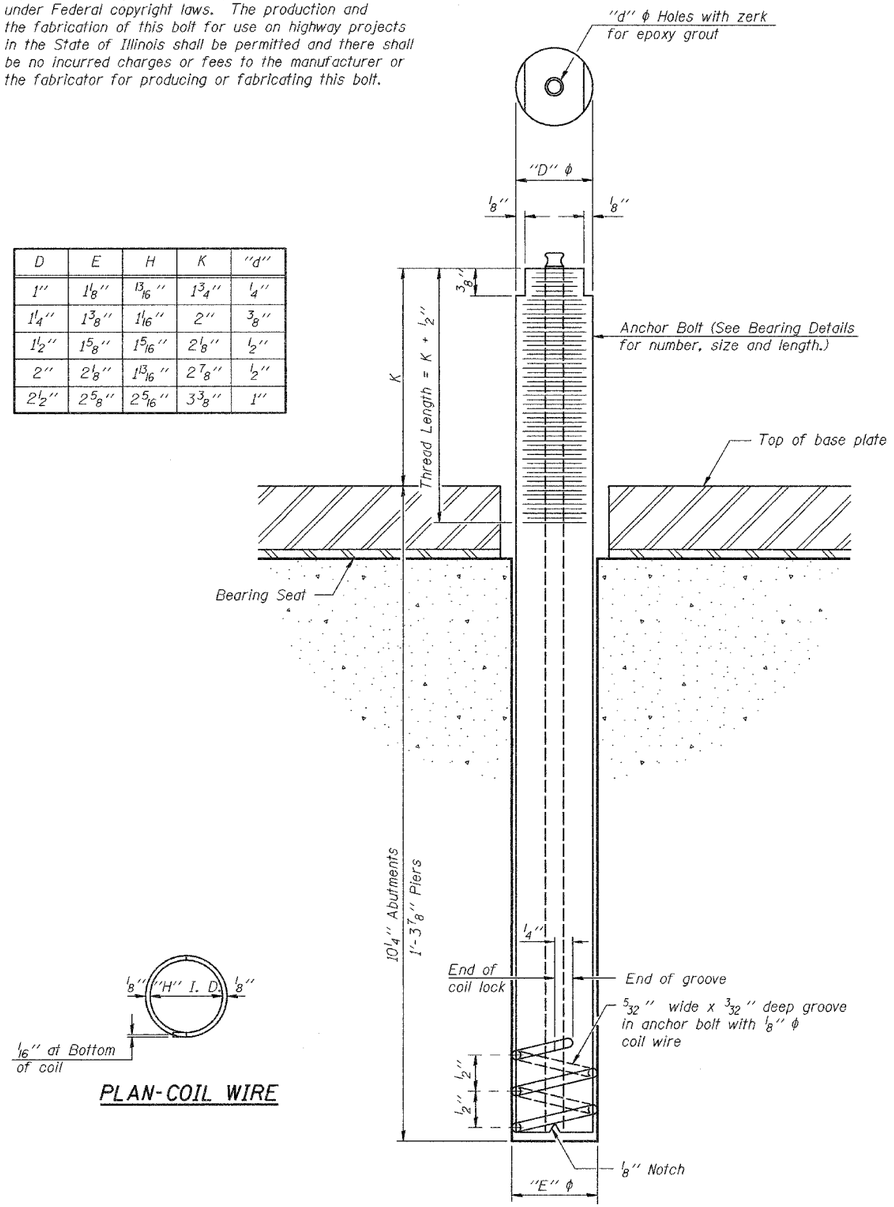
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
22 SHEETS

Contract No. 76129



D	E	H	K	"d"
1"	1 1/8"	13/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"

PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abuts.	A325
Piers	A325

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall be paid for as anchor bolts with diameter specified in the table below.

BILL OF MATERIAL

Item	Unit	Quantity
Anchor Bolts, 1" ϕ	Each	24
Anchor Bolts, 1 1/2" ϕ	Each	24

DESIGNED	JEK
CHECKED	RLM
DRAWN	ØMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

ABB-1 10-22-04

ANCHOR BOLT DETAILS
FOR BEARINGS
F.A.S. ROUTE 1842 - SEC. 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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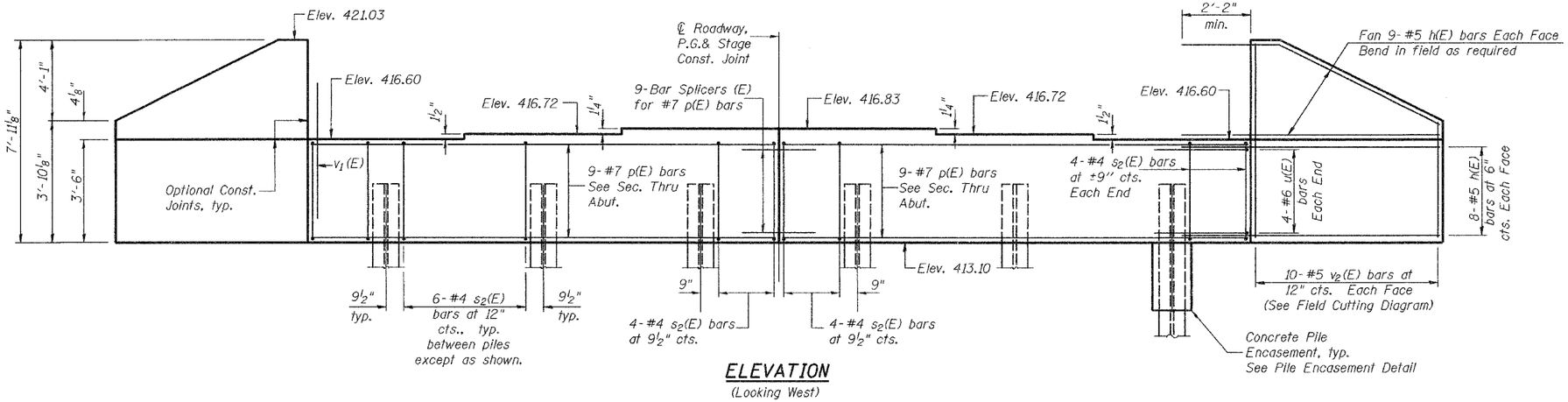
Notes:
Pour steps monolithically with cap.
For anchor bolt installation details see sheet 13 of 22.
For bar splicer assembly details see sheet 18 of 22.
The steel H-piles shall be according to AASHTO M270 Grade 50.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

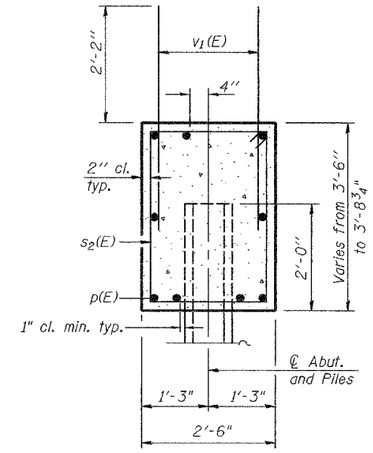
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
22 SHEETS

Contract No. 76129



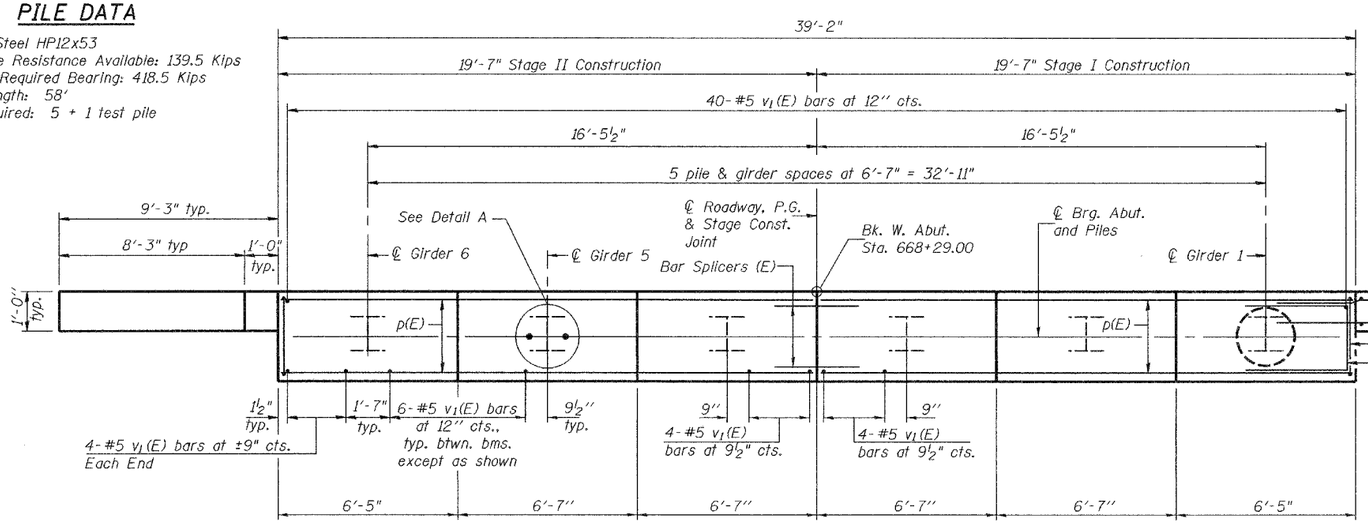
ELEVATION
(Looking West)



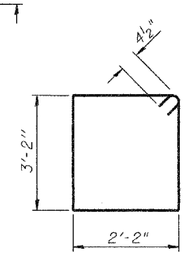
SEC. THRU ABUT.

PILE DATA

Type: Steel HP12x53
Allowable Resistance Available: 139.5 Kips
Nominal Required Bearing: 418.5 Kips
Est. Length: 58'
No. Required: 5 + 1 test pile



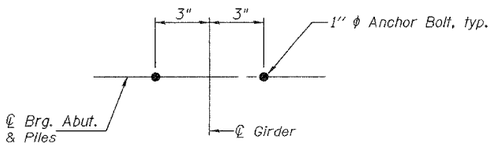
PLAN



BAR s2(E)

BILL OF MATERIAL

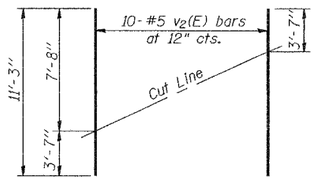
Bar	No.	Size	Length	Shape
h(E)	68	#5	12'-5"	———
p(E)	18	#7	19'-3"	———
s2(E)	40	#4	11'-5"	□
u(E)	8	#6	8'-1"	▭
v1(E)	80	#5	4'-4"	———
v2(E)	20	#5	11'-3"	———
Concrete Structures		Cu. Yd.	17.3	
Reinforcement Bars, Epoxy Coated		Pound	2590	
Structure Excavation		Cu. Yd.	92	
Furnishing Steel Piles HP12x53		Foot	290	
Driving Piles		Foot	290	
Test Pile Steel HP12x53		Each	1	



DETAIL A

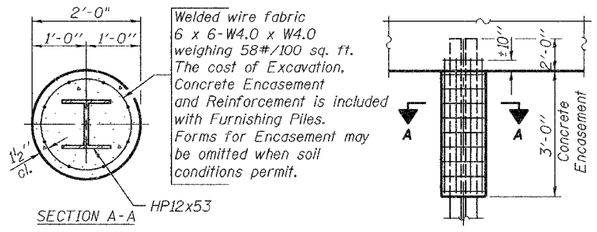
DESIGNED	JEK
CHECKED	RLM
DRAWN	ØMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

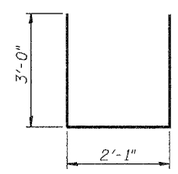


FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



PILE ENCASEMENT DETAIL



BAR u(E)

WEST ABUTMENT
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

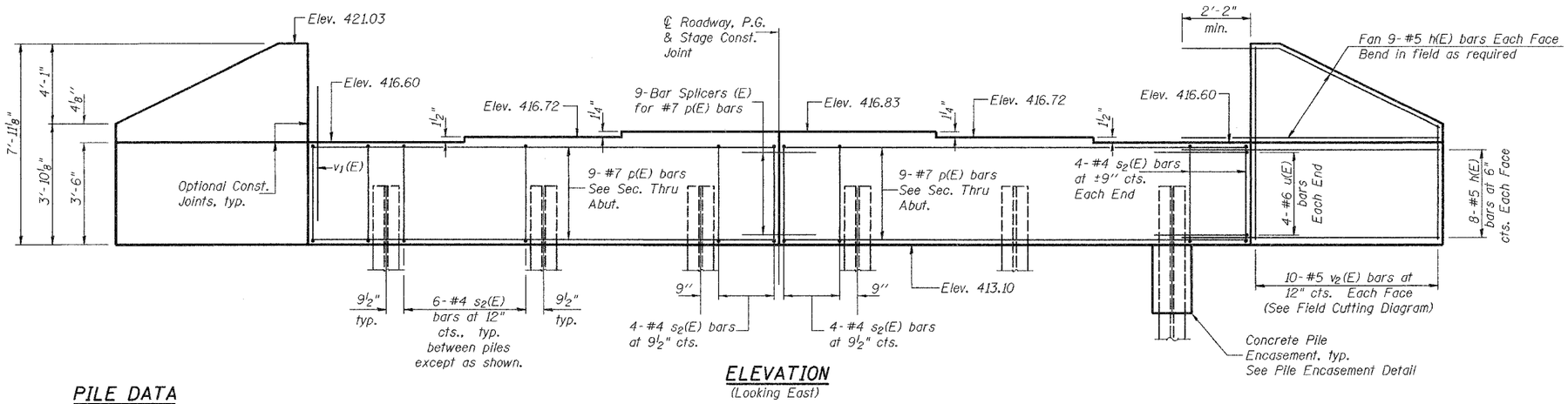
Notes:
Pour steps monolithically with cap.
For anchor bolt installation details see sheet 13 of 22.
For bar splicer assembly details see sheet 18 of 22.
The steel H-piles shall be according to AASHTO M270, Grade 50.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

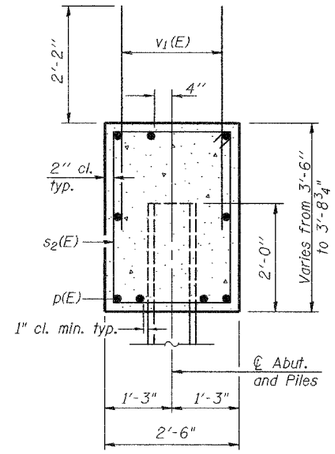
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	36
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15
22 SHEETS

Contract No. 76129



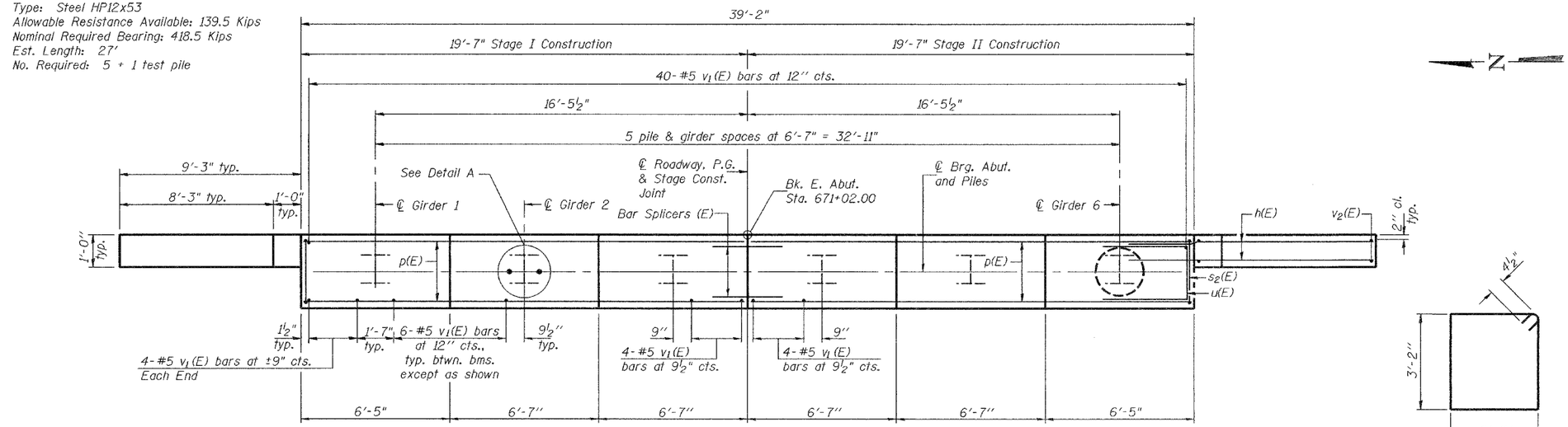
ELEVATION
(Looking East)



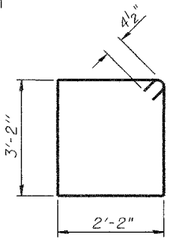
SEC. THRU ABUT.

PILE DATA

Type: Steel HP12x53
Allowable Resistance Available: 139.5 Kips
Nominal Required Bearing: 418.5 Kips
Est. Length: 27'
No. Required: 5 + 1 test pile



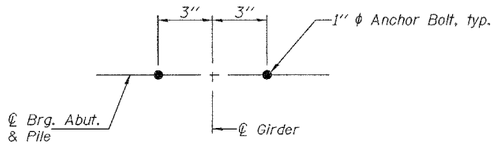
PLAN



BAR s2(E)

BILL OF MATERIAL

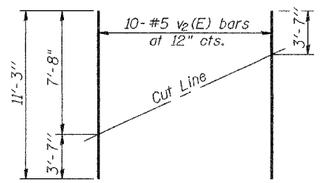
Bar	No.	Size	Length	Shape
h(E)	68	#5	12'-5"	
p(E)	18	#7	19'-3"	
s2(E)	40	#4	11'-5"	
u(E)	8	#6	8'-1"	
v1(E)	80	#5	4'-4"	
v2(E)	20	#5	11'-3"	
Concrete Structures		Cu. Yd.	17.3	
Reinforcement Bars, Epoxy Coated		Pound	2590	
Structure Excavation		Cu. Yd.	92	
Furnishing Steel Piles HP12x53		Foot	135	
Driving Piles		Foot	135	
Test Pile Steel HP12x53		Each	1	



DETAIL A

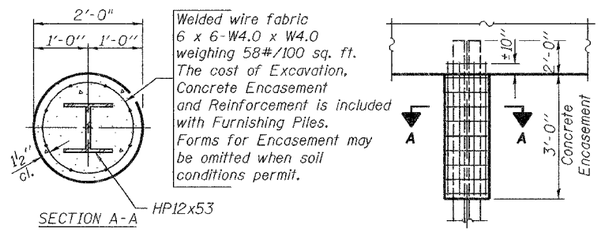
DESIGNED	JEK
CHECKED	RLM
DRAWN	ØMG AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

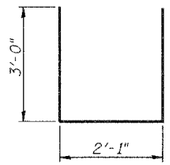


FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



PILE ENCASEMENT DETAIL



BAR u(E)

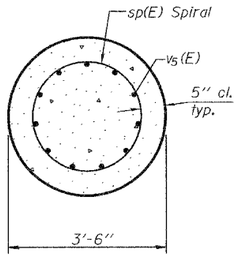
EAST ABUTMENT
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

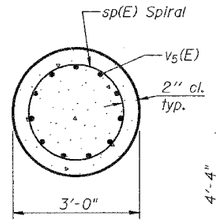
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	37
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 16
22 SHEETS

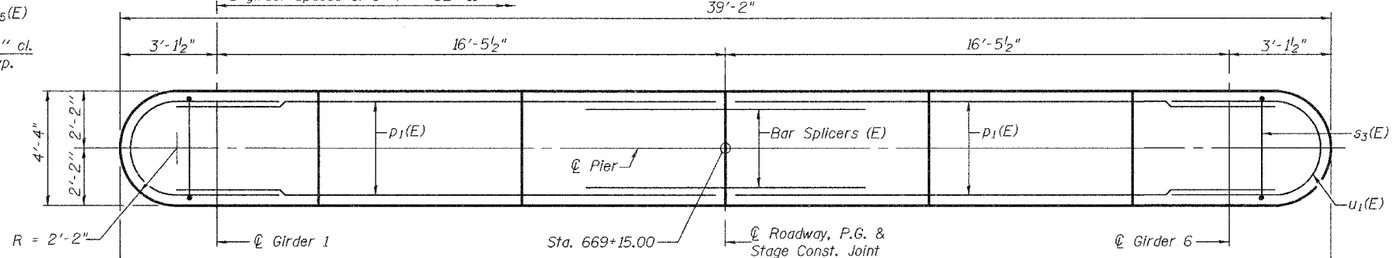
Contract No. 76129



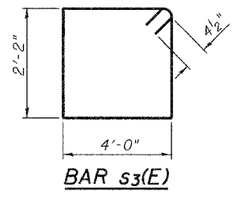
SECTION B-B



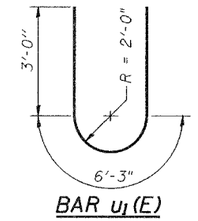
SECTION D-D



TOP PLAN



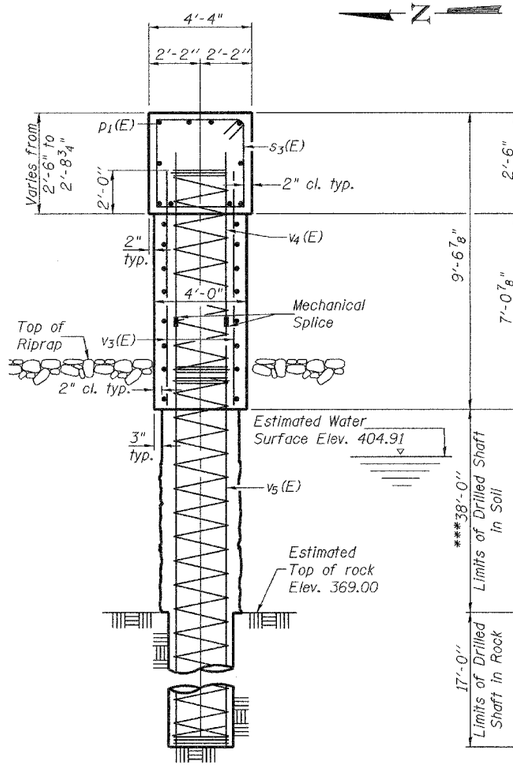
BAR s3(E)



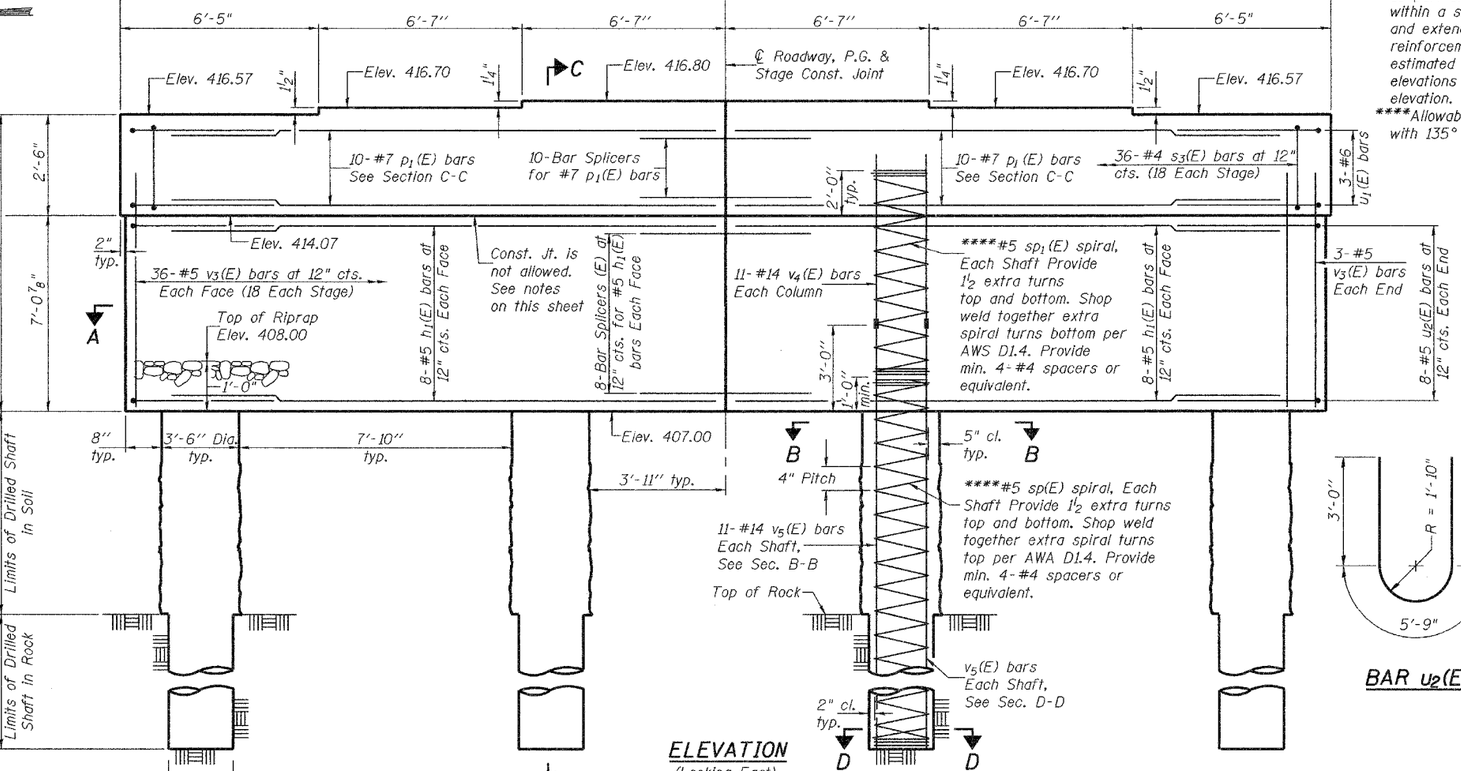
BAR u1(E)

***If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

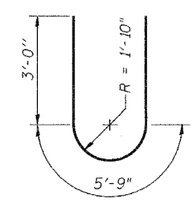
****Allowable Substitution: Provide 1½ extra turns top and bottom with 135° standard hook into core at ends of spiral.



SECTION C-C



ELEVATION
(Looking East)



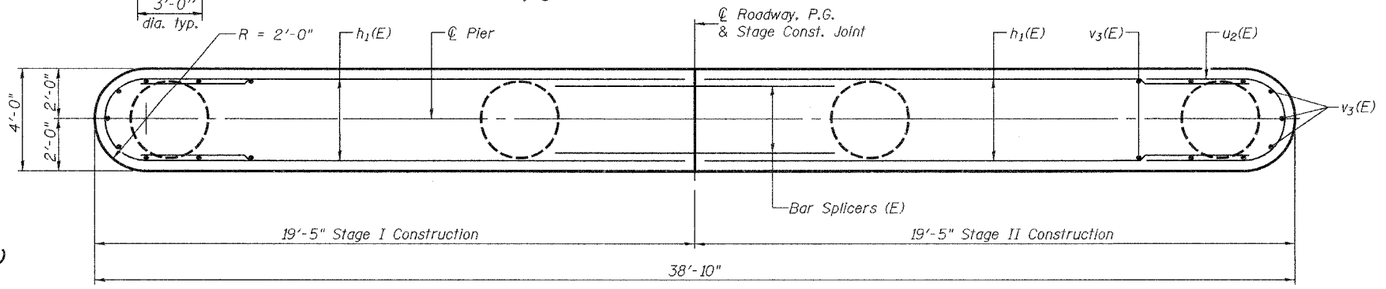
BAR u2(E)

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h1(E)	32	#5	17'-3"	
	p1(E)	20	#7	17'-3"	
	s3(E)	36	#4	13'-1"	
*	sp(E)	4	#5	56'-0"	
*	sp1(E)	4	#5	8'-1"	
	u1(E)	6	#6	12'-3"	
	u2(E)	16	#5	11'-9"	
	v3(E)	78	#5	8'-11"	
	v4(E)	44	#14	6'-4"	
	v5(E)	44	#14	58'-0"	
	Concrete Structures			Cu. Yd.	56.4
**	Reinforcement Bars, Epoxy Coated			Pound	41420
	Underwater Structure Excavation Protection, Location 1			Each	1
	Drilled Shaft in Soil			Cu. Yd.	54.2
	Drilled Shaft in Rock			Cu. Yd.	17.8
	Structure Excavation			Cu. Yd.	12
	Mechanical Splice			Each	44

*Length is height of spirals.
**Weight includes spacers for spirals.

Notes:
Top of rock is estimated and may vary along the length of the pier.
Pour cap monolithically with pier wall.



SECTION A-A

DESIGNED	AMJ
CHECKED	RLM
DRAWN	ØMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

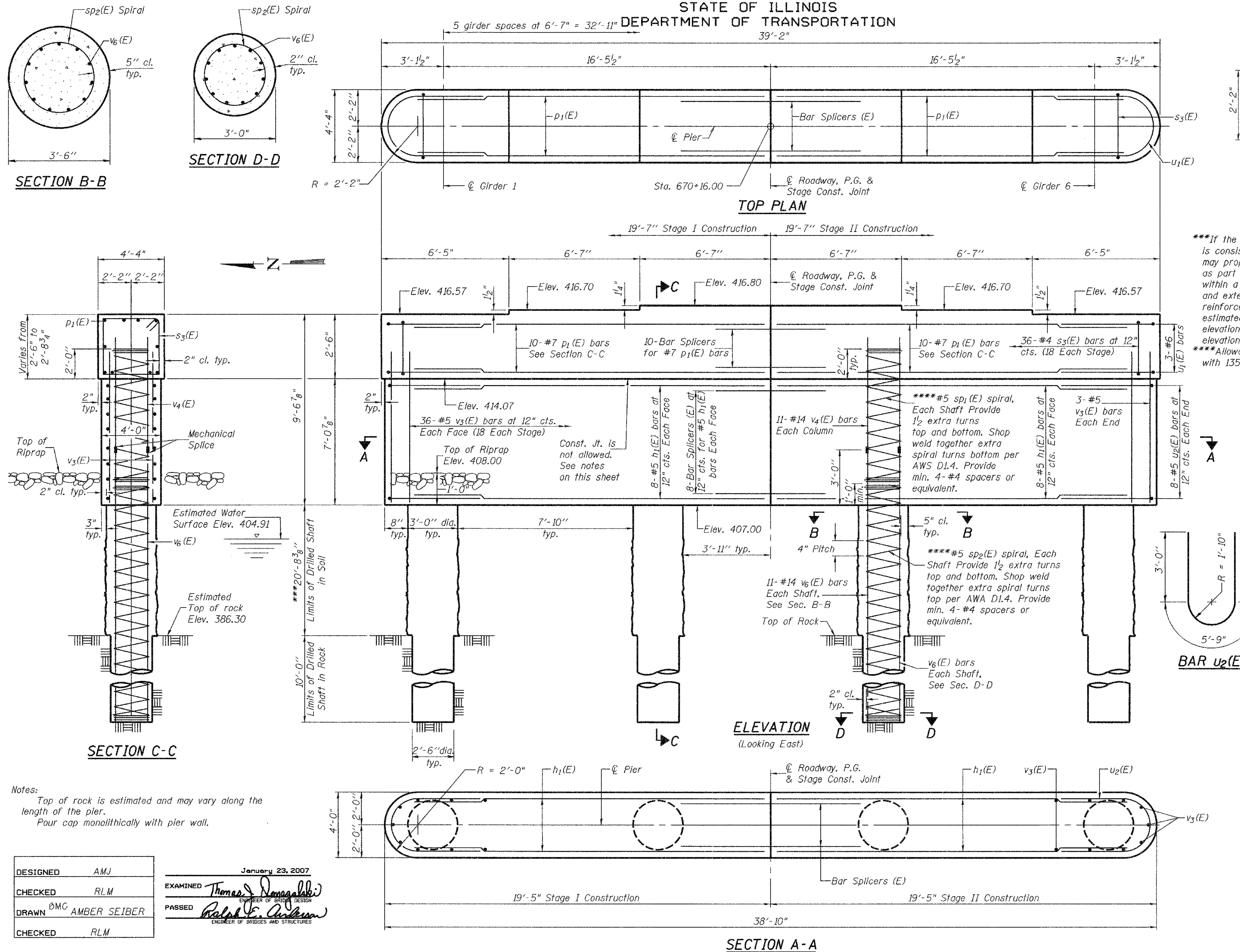
PIER 1
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

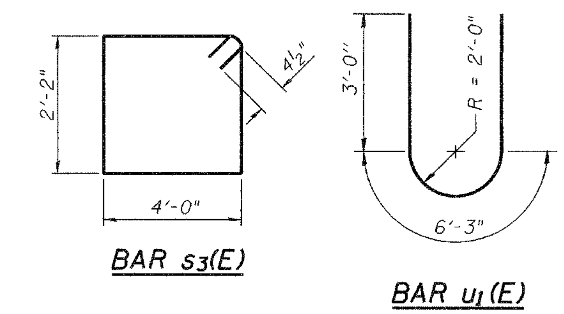
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 17
22 SHEETS

Contract No. 76129

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





***If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

****Allowable Substitution: Provide 1½ extra turns top and bottom with 135° standard hook into core at ends of spiral.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	32	#5	17'-3"	straight
p1(E)	20	#7	17'-3"	straight
s3(E)	36	#4	13'-1"	closed stirrup
* sp1(E)	4	#5	8'-1"	spiral
* sp2(E)	4	#5	32'-0"	spiral
u1(E)	6	#6	12'-3"	U-bar
u2(E)	16	#5	11'-9"	U-bar
v3(E)	78	#5	8'-11"	straight
v4(E)	44	#14	6'-4"	straight
v6(E)	44	#14	33'-8"	straight
Concrete Structures			Cu. Yd.	56.4
** Reinforcement Bars, Epoxy Coated			Pound	27970
Underwater Structure Excavation Protection, Location 2			Each	1
Drilled Shaft in Soil			Cu. Yd.	29.6
Drilled Shaft in Rock			Cu. Yd.	10.5
Structure Excavation			Cu. Yd.	12
Mechanical Splice			Each	44

*Length is height of spirals.
**Weight includes spacers for spirals.

Notes:
Top of rock is estimated and may vary along the length of the pier.
Pour cap monolithically with pier wall.

DESIGNED	AMJ
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES

PIER 2
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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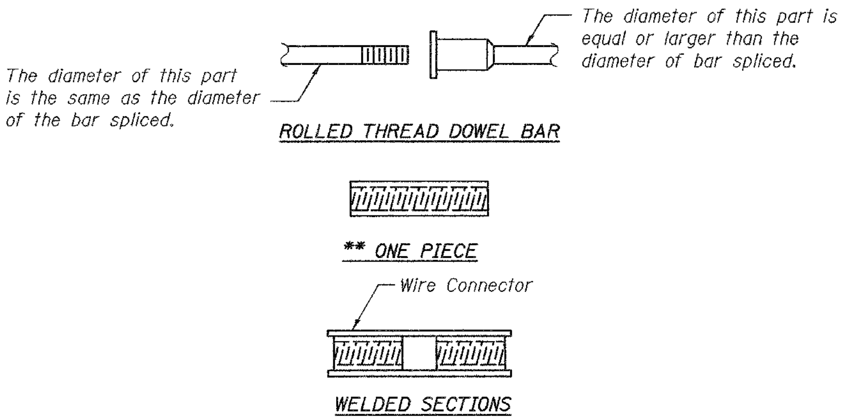
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	39
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 18
22 SHEETS

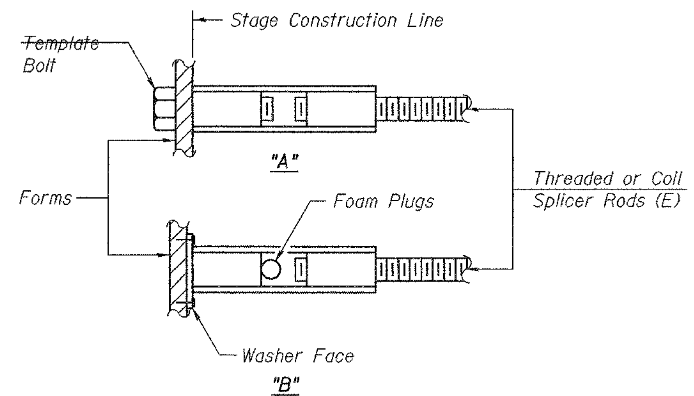
Contract No. 76129

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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.

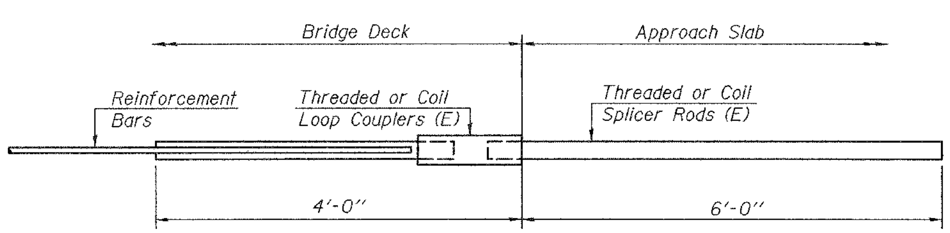
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) $= 1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) $= 0.66 \times fy \times A_t$

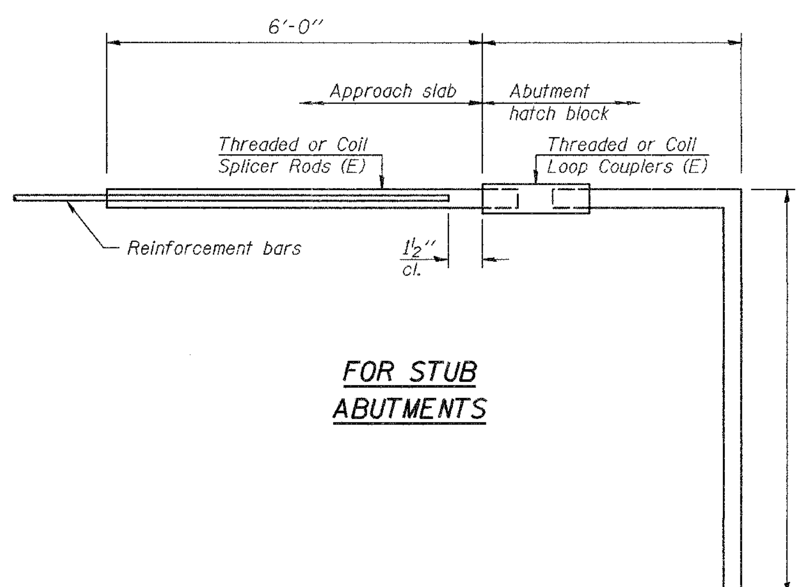
Where fy = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

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	7.9
#5	2'-0"	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



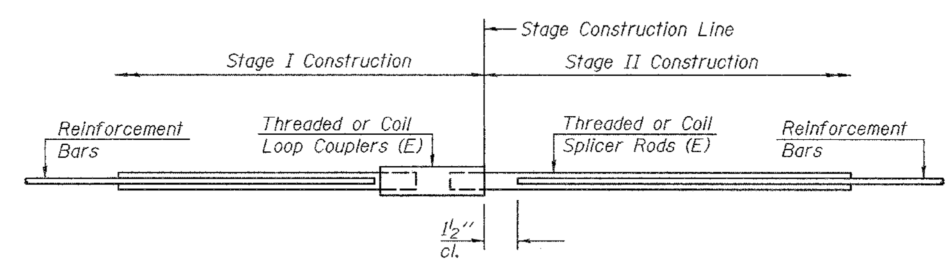
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 72



FOR STUB ABUTMENTS

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



STANDARD

Bar Size	No. Assemblies Required	Location
#5	834	Deck
#6	16	Diaphragm
#7	9	W. Abut.
#7	9	E. Abut.
#5	16	Pier 1 Wall
#7	10	Pier 1 Cap
#5	16	Pier 2 Wall
#7	10	Pier 2 Cap

DESIGNED	JEK
CHECKED	RLM
DRAWN	BMC AMBER SEIBER
CHECKED	RLM

January 23, 2007
EXAMINED Thomas J. Domagalski ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 11-1-06

BAR SPLICER ASSEMBLY DETAILS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 19
22 SHEETS

Contract No. 76129

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2
Date 12/3/01

ROUTE FAS 1842 DESCRIPTION IL 156 o/Richland Creek LOGGED BY Larry Ford
SECTION 106BR LOCATION , SEC. , TWP. , RNG. , PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Auger and Rock Core HAMMER TYPE 140 #

STRUCT. NO. ex.082-0089
Station
BORING NO. #1 EABUT
Station 670+95
Offset 13.00ft Lt
Ground Surface Elev. 418.4 ft

Surface Water Elev. 419.1 ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter ft
Upon Completion 401.4 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown Silty CLAY w/Concrete and Rock			
415.9			
Brown and Gray Silty Clay LOAM			
-5	2		
	2	0.4	
	3	S/10	23
408.4			
-10	3		
	2	1.0	
	2	S/10	24
Gray & Brown Silty CLAY w/broken Limestone Gravel			
406.4	12	0.6	
	3	S/10	25
	1		
Gray Silty CLAY	2	0.5	
	2	S/10	30
-15	2		
	2	0.8	
	3	S/20	27
▽	1		
	2	1.2	
	3	B	27
-20			

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Silty CLAY (continued)	0	0.5	
	0	S/15	29
	0		
	1		
	3	1.7	
394.4	4	S/15	19
Brown Sandy LOAM			
-25	2		
	3	0.7	
392.4	7	S/20	18
Brown SAND			
	20		
390.4	18	NC	14
Br & Gr weathered SHALE w/Limestone Gravel		2.4	15
	22	S/10	
388.4 -30	505"	—	—
Borehole continued with rock coring.			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

ROCK CORE LOG

Page 2 of 2
Date 12/3/01

ROUTE FAS 1842 DESCRIPTION IL 156 o/Richland Creek LOGGED BY Larry Ford
SECTION 106BR LOCATION , SEC. , TWP. , RNG. , PM
COUNTY St. Clair CORING METHOD

STRUCT. NO. ex.082-0089
Station
BORING NO. #1 EABUT
Station 670+95
Offset 13.00ft Lt
Ground Surface Elev. 418.4 ft

CORING BARREL TYPE & SIZE
Core Diameter in
Top of Rock Elev. ft
Begin Core Elev. 388.40 ft 387.40

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
388.40					
Slightly weathered, laminated (bottom only), gray, fine, strong, shaley LIMESTONE	1			2	
				2	
				2	
383.90				2	
-35 Moderately weathered, gray, fine, very weak, SHALE					
382.90				2	
Slightly weathered, yellowish to gray, fine to crystalline, strong, micaceous LIMESTONE				3	
Moderately weathered SHALE seam				3	
379.40		95	33	3	
End of Boring and Rock Core					
-40					
-45					
-50					

Color pictures of the cores
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2
Date 2/5/01

ROUTE FAS 1842 DESCRIPTION IL 156 o/Richland Creek LOGGED BY Larry Ford
SECTION 106BR LOCATION , SEC. , TWP. , RNG. , PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140#

STRUCT. NO. ex.082-0089
Station
BORING NO. #2 WABUT
Station 688+23
Offset 16.00ft Rt
Ground Surface Elev. 418.6 ft

Surface Water Elev. 419.1 ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter ft
Upon Completion 407.1 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray & Brown Silty CLAY			
-5	2		
	2	1.1	
	2	S/10	27
409.6			
-10	2		
	2	1.8	
	4	S/15	25
Gray Silty Clay LOAM			
	3		
	3	1.0	
	4	S/10	29
407.1 ▽			
Gray Silty CLAY	2		
	5	1.7	
	6	S/10	25
-15	3		
	4	1.6	
	5	B	28
	4		
	6	2.2	
	8	S/15	27
-20			

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Silty CLAY (continued)	4	1.8	
	5	S/10	37
	7		
	4		
	4	1.5	
	5	S/10	40
-25	3		
	4	2.2	
	6	S/10	40
	4		
	6	2.4	
	8	S/10	40
-30	3		
	4	2.2	
	5	S/10	32
-35	0		
	0	0.8	
	2	S/10	50
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 2
Date 2/5/01

ROUTE FAS 1842 DESCRIPTION IL 156 o/Richland Creek LOGGED BY Larry Ford
SECTION 106BR LOCATION , SEC. , TWP. , RNG. , PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140#

STRUCT. NO. ex.082-0089
Station
BORING NO. #2 WABUT
Station 688+23
Offset 16.00ft Rt
Ground Surface Elev. 418.6 ft

Surface Water Elev. 419.1 ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter ft
Upon Completion 407.1 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Silty CLAY (continued)	0	0.5	
	0	S/10	56
	2		
-45	2		
	4	0.6	
372.6	6	S/10	47
Gray Silty Sandy GRAVEL			16
370.6			
Gray SHALE wharf layer			
-50	14		
	27	3.1	
	50	S/5	19
Hard Formation			
366.1			
Reddish Gray weathered SHALE			
-55	18		
	38	4.8	
	505"	S/5	17
361.1			
Hard Shelves 360.8			
Gray SHALE			
-60	41		

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray SHALE (continued)	505"	3.7	16
		S/5	
End of Boring			
-65			
-70			
-75			
-80			

The Unconfinsd Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

BORING LOGS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 20
22 SHEETS

Contract No. 76129

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 3/3/75

ROUTE FAS 1842 DESCRIPTION IL 156 o'Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP., RNG., PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140#

STRUCT. NO. ex.082-0089
Station
BORING NO. #3 Exist. Pier1
Station 669+32
Offset 6.00ft Lt
Ground Surface Elev. 418.6 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encountar ft
Upon Completion 399.6 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
			—
	2		
397.1			
	1	<0.1	49
		B	
-5			
-25			
	3	<0.1	32
		B	
	1	—	37
-10			
-30			
	3	0.1	29
386.1			
	100+	—	—
-15			
-35			
383.6			
379.1			
-20			
-40			

Bridge Deck Elevation
Cased Augers
Ground Surface 401.6
Brown SILT
damp, very soft
Brown SILT (continued)
wet, very soft
Dark Gray Silty CLAY
wet, very soft
wet, very soft
wet, very soft
wet, very soft
Tan Sandy Broken LIMESTONE (drilled)
dry, hard
GrayGreen LIMESTONE (drilled)
End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 3/3/75

ROUTE FAS 1842 DESCRIPTION IL 156 o'Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP., RNG., PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140#

STRUCT. NO. ex.082-0089
Station
BORING NO. #4
Station 670+43
Offset 16.00ft Rt
Ground Surface Elev. 410.6 ft

Surface Water Elev. 419.3 ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encountar ft
Upon Completion 404.6 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	13	1.0	22
		S	
-5			
	2	0.3	31
		B	
	4	0.6	30
		B	
401.1			
-10			
	3	0.5	29
		B	
398.6			
	3	0.5	30
		B	
-15			
	3	0.6	28
		B	
393.6			
	3	NC	—
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
			NC
	7		
388.6			
	100+	—	—
-25			
	100+	—	—
-30			
-35			
-40			

Brown & Gray SILT
damp, medium
wet, soft
wet, medium
Gray Silty CLAY
wet, soft
wet, soft
Gray & Brown Silty CLAY
wet, medium
wet, very loose
Gray Organic Medium SAND
Gray Organic Medium SAND (continued)
wet, loose
dry, hard
Gray Green LIMESTONE
dry, hard
End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 3/3/75

ROUTE FAS 1842 DESCRIPTION IL 156 o'Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP., RNG., PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140#

STRUCT. NO. ex.082-0089
Station
BORING NO. #5 Exist. Pier2
Station 669+88
Offset 5.50ft Lt
Ground Surface Elev. 418.4 ft

Surface Water Elev. 419.3 ft
Stream Bed Elev. 402.9 ft
Groundwater Elev.:
First Encountar ft
Upon Completion 394.4 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
			—
	3	0.5	28
		S	
	4	0.3	27
		S	
394.4			
-25			
	6	NC	—
	5	NC	—
388.4			
-30			
	100+	NC	—
-35			
382.4			
-40			

Bridge Deck Elevation
Cased Augers
Ground Surface 402.9
Gray SILT (organics)
damp, soft
Gray SILT (organics) (continued)
damp, soft
damp, soft
wet, loose
Gray SAND & GRAVEL
wet, loose
dry, hard
GrayGreen LIMESTONE (hard)
(drilled)
End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 3/3/75

ROUTE FAS 1842 DESCRIPTION IL 156 over Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP. 2S, RNG. 8W, 3 PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. ex. 082-0089
669+65.50
Station 671+00
Offset 11.50ft Rt
Ground Surface Elev. 418.4 ft

Surface Water Elev. 419.3 ft
Stream Bed Elev. 402.9 ft
Groundwater Elev.:
First Encountar ft
Upon Completion 394.2 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	11	0.26	18
		S	
393.9			
-5			
	8	0.29	20
		S	
	11	0.16	22
		S	
408.9			
-10			
	11	0.16	20
		B	
406.4			
	4	0.14	30
		B	
-15			
	4	0.20	25
		B	
	6	0.36	26
		B	
398.9			
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	7	0.81	31
		B	
	10	0.85	18
		B	
-25			
	32		
			NC
	100+		
			NC
-30			
	100+		
387.4			NC
-35			
382.4			
-40			

Brown SILT
Brown and Gray Sandy Silty CLAY
Brown Medium SAND
(Fragments of Brown Sandstone and Green Crinoidal Limestone)
Gray and Brown Clayey SILT (with Rock Fragements)
Gray Clayey SILT
Gray Green Fossiliferous (Crinoidal) LIMESTONE
(Upper 4 ft Thinly Bedded)
(Cored – Recovery = 100%)
End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

BORING LOGS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	42
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 21
22 SHEETS

Contract No. 76129

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2

Date 3/3/75

ROUTE FAS 1842 DESCRIPTION IL 156 over Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP. 2S, RNG. 8W, 3 PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. ex. 082-0089
Station 669+65.50

BORING NO. #7 W. Abut
Station 668+69.08
Offset 10.00ft Rt
Ground Surface Elev. 418.6 ft

Surface Water Elev. 419.3 ft
Stream Bed Elev. 402.9 ft

Groundwater Elev.:
First Encountered ft
Upon Completion 387.8 ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown and Gray Clayey SILT			
	15	1.04 S	21
-5	14	0.72 B	25
411.6			
Gray Clayey SILT	11	0.81 B	23
-10	6	0.65 B	20
	4	0.43 B	29
404.1			
Gray CLAY	4	0.39 B	34
	5	0.49 B	32
399.1			
Tan and Brown CLAY			
-20			
Tan and Brown CLAY (continued)	8	0.82 S	38
	9	0.97 S	42
-25	11	1.96 S	29
391.6			
Gray Sandy Silty CLAY (with Gravel)	11	1.50 S	19
-30	9	0.59 S	41
	5	0.33 S	33
383.6 -35			
Gray Coarse SAND	9	NC	
	25	NC	
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 2

Date 3/3/75

ROUTE FAS 1842 DESCRIPTION IL 156 over Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP. 2S, RNG. 8W, 3 PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. ex. 082-0089
Station 669+65.50

BORING NO. #7 W. Abut
Station 668+69.08
Offset 10.00ft Rt
Ground Surface Elev. 418.6 ft

Surface Water Elev. 419.3 ft
Stream Bed Elev. 402.9 ft

Groundwater Elev.:
First Encountered ft
Upon Completion 387.8 ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Coarse SAND (continued)	35	NC	
376.6			
Broken Sand and LIMESTONE	50		
-45	100+		
373.1			
Hard Gray Green Fossiferous (Crinoidal) LIMESTONE			
(Cored - Recovery = 100%)			
368.6 -50			
End of Boring			
-55			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 3

Date 7/1102

ROUTE FAS 1842 DESCRIPTION IL 156 over Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP. 2S, RNG. 8W, 3 PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. ex. 082-0089
Station 669+65.50

BORING NO. #8
Station 669+15
Offset 26.50ft Lt
Ground Surface Elev. 410.1 ft

Surface Water Elev. 407.7 ft
Stream Bed Elev. 393.1 ft

Groundwater Elev.:
First Encountered ft
Upon Completion 400.6 ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown Silty Clay LOAM	2		
	2	0.9	
	2	S/10	17
405.1 -5	3		
Concrete Rubble 404.6	43	1.2	
	14	S/10	22
Gray Silty CLAY	0		
	1	0.4	
	3	S/5	34
-10	2		
	4	1.3	
	6	S/10	31
	2		
	4	1.6	
	7	S/5	39
-15	3		
	3	1.9	
	5	S/5	40
	3		
	3	1.6	
391.1	6	S/5	34
Brown Clay LOAM			
-20	2		
Brown Clay LOAM (continued) 389.6	3	1.0	21
	5	S/5	30
Gray CLAY with Sand Lenses		0.6	
	1	S/5	
387.1	1	1.0	42
	2	S/5	33
Gray Sandy CLAY		NC	
-25	2		
383.6	4	0.6	
	5	S/5	30
Gray SAND with Clay Lenses	2		
382.1	4		23
	3	NC	21
Gray Silty CLAY		0.7	
		S/10	
-30	4		
	6	1.0	
378.1	8	S/10	23
Gray SAND with Clay Lenses See Gradation @ 35.5 ft			
-35	0		
	0		
370.6	2	NC	18
-40	12		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 3

Date 7/1102

ROUTE FAS 1842 DESCRIPTION IL 156 over Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP. 2S, RNG. 8W, 3 PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. ex. 082-0089
Station 669+65.50

BORING NO. #8
Station 669+15
Offset 26.50ft Lt
Ground Surface Elev. 410.1 ft

Surface Water Elev. 407.7 ft
Stream Bed Elev. 393.1 ft

Groundwater Elev.:
First Encountered ft
Upon Completion 400.6 ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray SHALE with Embedded Limestone Gravel (continued) 389.1	60/2"	GR	10
Borehole continued with rock coring.			
-45			
-50			
-55			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

BORING LOGS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	43
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 22
22 SHEETS

Contract No. 76129

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

ROCK CORE LOG

Page 3 of 3

Date 7/1/02

ROUTE FAS 1842 DESCRIPTION IL 156 over Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP, 2S, RNG, 8W, 3 PM

COUNTY St. Clair CORING METHOD Tri-Cone Roller Bit

STRUCT. NO. ex. 082-0089 Station 669+65.50 CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 369.10 ft
Begin Core Elev. 369.10 ft

BORING NO. #8 Station 669+15 Offset 28.50ft Lt Ground Surface Elev. 410.1 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Gray LIMESTONE	369.10			50	4	
	368.10					
Gray SHALE with Calcareous Seams					3	
	367.10					
Gray SHALE with Sandstone Seams			22	25	6	
	-15		22	25	6	
			22	25	6	
			22	25	7	
			22	25	10	
			22	25	8	
			22	25	7	
	360.10 -50					
End of Core and Boring						
	-55					
	-60					

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2

Date 7/12/02

ROUTE FAS 1842 DESCRIPTION IL 156 over Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP, 2S, RNG, 8W, 3 PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. ex. 082-0089 Station 669+65.50

BORING NO. #9 E. Pier Station 670+16 Offset 27.00ft Lt Ground Surface Elev. 409.8 ft

Surface Water Elev. 407.7 ft
Stream Bed Elev. _____ ft
Groundwater Elev.:
First Encounter _____ ft
Upon Completion 400.8 ft ▽
After _____ Hrs. _____ ft

	DEPTH (ft)	BLOWS	UCS Qu (tsf)	MOIST (%)
Brown Silty Clay LOAM		2		
		2	0.7	
		3	S/10	25
	-5	2		
	403.8	3	0.8	
		4	S/10	28
Gray Silty CLAY with some Organics and Concrete Rubble		7		
		8	1.1	
	400.8 ▽	4	S/15	97
Gray Sandy CLAY	-10	0		
		0		
	398.8	5	NC	34
Gray Silty CLAY		0		
		0	0.3	
		0	S/10	33
	-15	0		
		0	0.4	
	393.3	3	B	30
Gray Silty CLAY with Organics Cru & Sample Before = 50.941 g Cru & Sample After = 49.331 g Cru Wt = 27.980 % Organics = 7.0 %		0		
		0	0.7	
		2	S/10	39
	389.8 -20	0		

	DEPTH (ft)	BLOWS	UCS Qu (tsf)	MOIST (%)
		2		
Gray Silty CLAY		2	0.5	25
			S/10	
Gray Clayey SAND	388.3	15		23
Gray Limestone GRAVEL (weathered)	387.3	50/2"	NC	
Borehole continued with rock coring.	386.9			
	-25			
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

ROCK CORE LOG

Page 2 of 2

Date 7/12/02

ROUTE FAS 1842 DESCRIPTION IL 156 over Richland Creek LOGGED BY Larry Ford

SECTION 106BR LOCATION , SEC., TWP, 2S, RNG, 8W, 3 PM

COUNTY St. Clair CORING METHOD Tri-Cone Roller Bit

STRUCT. NO. ex. 082-0089 Station 669+65.50 CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 386.30 ft
Begin Core Elev. 386.30 ft

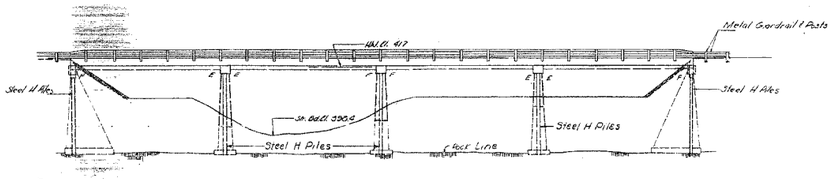
BORING NO. #9 E. Pier Station 670+16 Offset 27.00ft Lt Ground Surface Elev. 409.8 ft

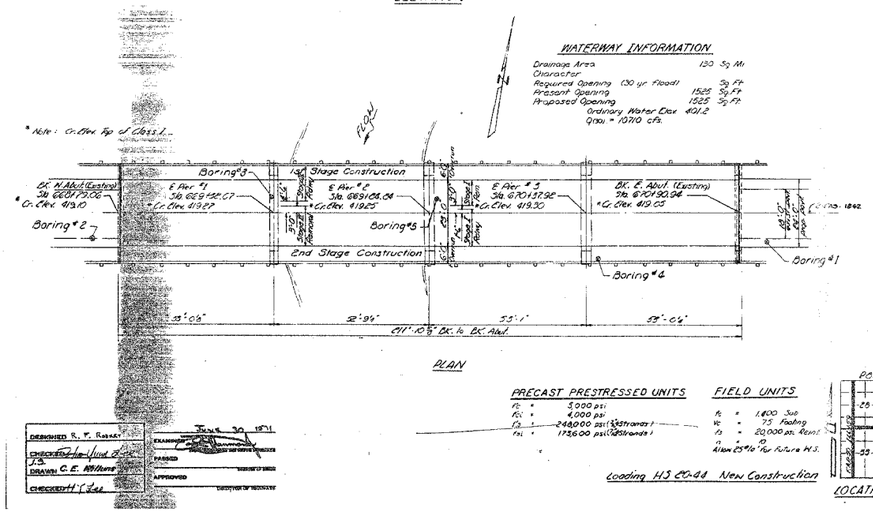
	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Gray LIMESTONE with numerous weathered joints	386.30		67	38	4	
	-25		67	38	4	
			67	38	7.5	
			67	38	4.5	
			67	38	4	
			67	38	5.5	
	-30		67	38	4	
SHALE Seam	379.30 378.80		67	38	5	
Gray LIMESTONE	377.30		67	38	2.5	
End of Core and Boring						
	-35					
	-40					

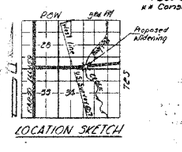
Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

BORING LOGS
F.A.S. ROUTE 1842 - SECTION 106BR
ST. CLAIR COUNTY
STATION 669+65.50
STRUCTURE NO. 082-0387







CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	44
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BM: ◻ cut in top of hubguard on bridge 12' Lt. Sta. 668+79
Elev. 419.455 (U.S. Engineers 3rd Order)
Existing Structure: Built as SBI. 156, Sec. 106 B, in 1953 @ Sta. 669.85.
Concrete deck girder 4 span with R.C. open abuts and R.C. Piers. Existing rails to be removed and structure to be widened. Existing 4" Wearing Surface to be removed and replaced. Traffic to be maintained over the structure at all times using stage constr.
No Salvage:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAS ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BY	ST. CLAIR	10	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1a
6 SHEETS

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

The Basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.

It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.

An alternate strand pattern using Extra High Strength Prestressing strand (270 ksi) is permitted.

Expansion bolts shall consist of self drilling expansion anchors and ¾"ϕ hooked bolts. Hooked bolts shall extend a minimum of 12" into new concrete unless otherwise shown.

Limits of Waterproofing Membrane System shall be back to back of abutments.

The contractor shall relocate the existing Name Plate to a new location as directed by the engineer. Cost to be incidental.

The contractor shall drive 1 Steel test pile in a permanent location at Pier 2 as directed by the Engineer before ordering the remainder of piles.

The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.

ELEVATION

WATERWAY INFORMATION

Drainage Area	130	Sq Mi
Character		
Required Opening (30 yr. flood)		Sq Ft
Present Opening	1525	Sq Ft
Proposed Opening	1525	Sq Ft

Ordinary Water Elev. 401.2
Q(30) = 10710 cfs.

* Note: Cr. Elev. Top of Class I

PLAN

TOTAL BILL OF MATERIAL

	Item	Unit	Super	Sub	Total
	Concrete Removal	Cu. Yds.	96	2	98
	Bit. Conc. Surf. Cse. Class I	Ton	97		97
*	Waterproofing Membrane Sys.	Sq. Yds	821		821
	Expansion Bolts (¾"ϕ)	Each	68	160	228
	Structure Excavation	Cu. Yds.		81	81
	Class X Concrete	Cu. Yds	69.7	62.3	132.0
	PPC Deck Beams (21")	Sq Ft	2530		2530
	Structural Steel	lbs.	4870		4870
	Reinforcement Bars	Lbs	480	3820	4300
	Steel Piles (HP 12 x 53)	Lin. Ft		283	283
	Test Piles Steel (HP 12 x 53)	Each		1	1
	Steel Railing, Type N	Lin Ft	423		423
	Temporary Guardrail	Lin. Ft	212		212
	Bridge Wearing Surface Removal	Sq Yds	531		531
	Preformed Joint Sealer 2½"	Lin Ft	70		70
*	Portland Cement Mortar Fairing Cse.	Lin. Ft	844		844
**	Temporary Support System	Ea.			3
	Bearing Repairs	Ea.			16

* See Special Provisions
** Consists of 62,720 Lbs Structural Steel.

PRECAST PRESTRESSED UNITS

f'c = 5,000 psi
f'ci = 4,000 psi
f's = 248,000 psi (⅜"ϕ Strands)
fsi = 175,600 psi (⅜"ϕ Strands)

FIELD UNITS

fc = 1,400 Sub
Vc = 75 Footing
fs = 20,000 psi Reinf.
n = 10
Allow 25#/□' for Future W.S.

Loading HS 20-44 New Construction

LOCATION SKETCH

~~AS REVISED 8-29-77~~ KFR

FA RT. 116 OVER RICHLAND CREEK
FAS RT. 1842 SEC. 106 BY
ST. CLAIR COUNTY
STATION 669+84.84

DESIGNED R. F. Robert
CHECKED John Lee
J.S.
DRAWN C. E. Wilkins
CHECKED H. Lee

June 30, 1971
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF DESIGN
APPROVED
DIRECTOR OF HIGHWAYS

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTRURE PLANS

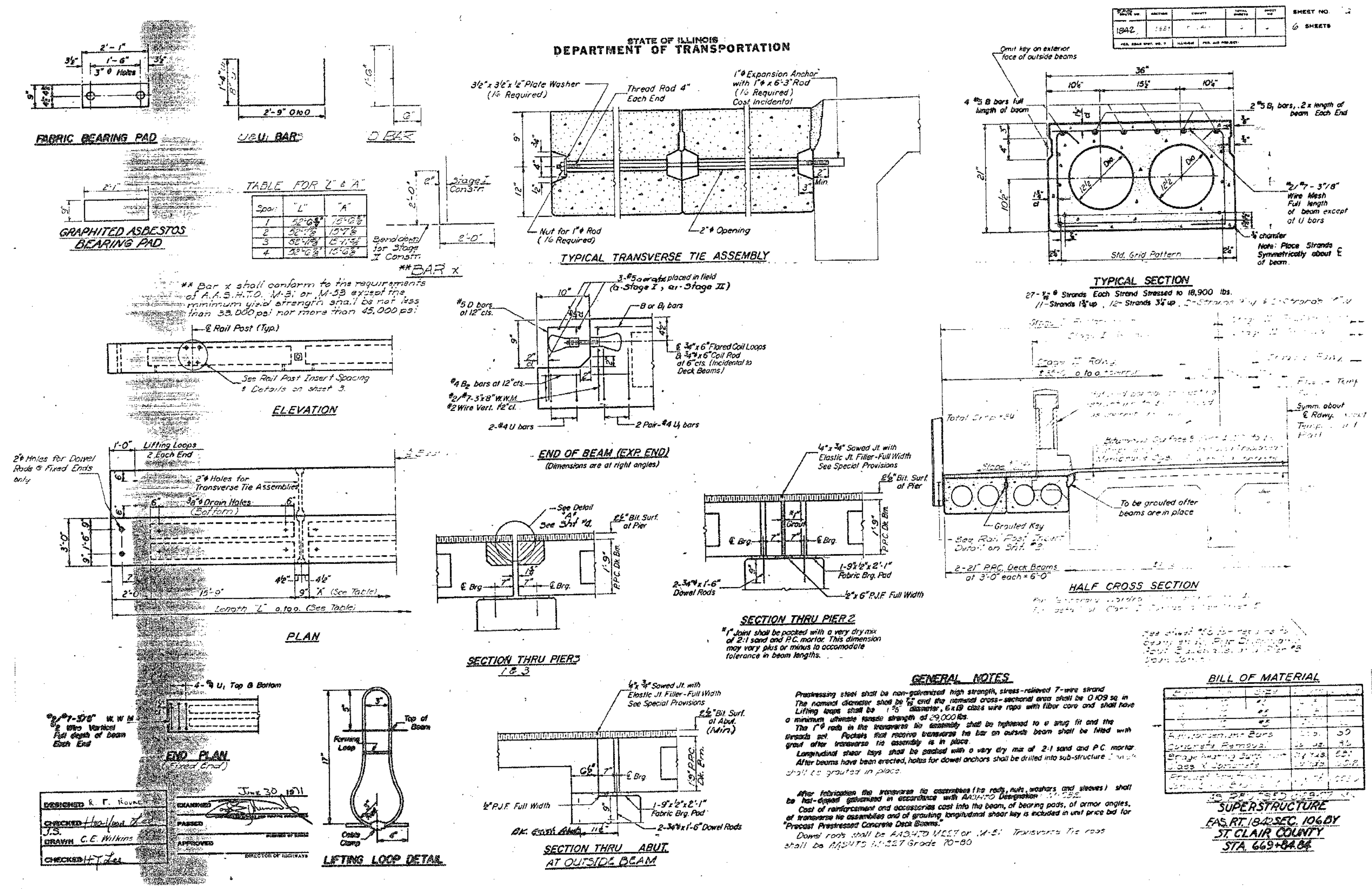
FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

PLOT DATE = 11/8/2006
FILE NAME = c:\projects\ed14198\plan\profile14198o4.dgn
PLOT SCALE = 50.0000 ' / IN.
REFERENCE = REF

CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	45
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTRURE PLANS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT.
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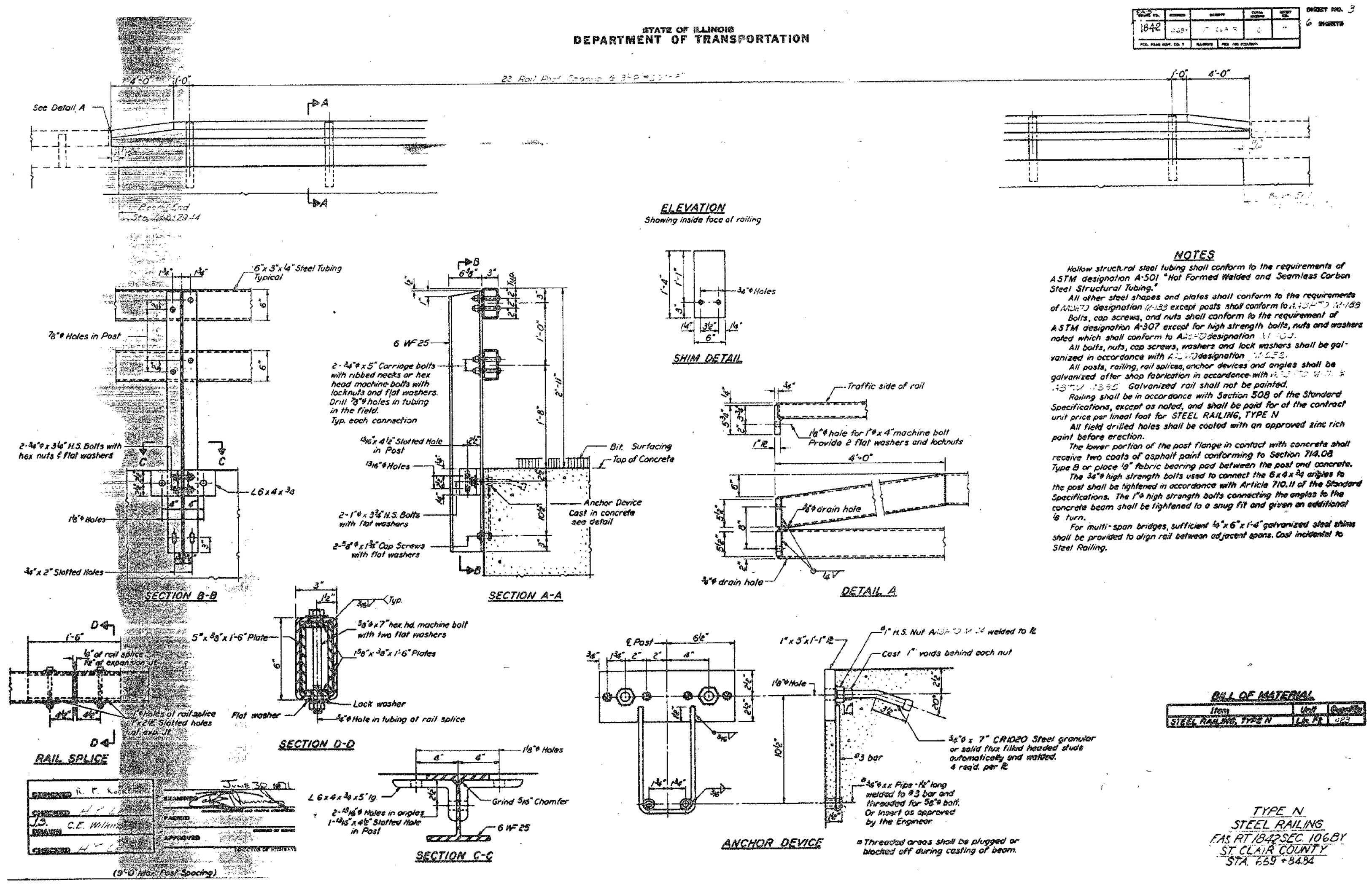
REFERENCE = REF

CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	46

STA. TO STA.

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
See Detail A
ELEVATION
Showing inside face of railing
SHIM DETAIL
SECTION B-B
SECTION A-A
DETAIL A
RAIL SPLICE
SECTION D-D
SECTION C-C
ANCHOR DEVICE
NOTES
Hollow structural steel tubing shall conform to the requirements of ASTM designation A-501 "Hot Formed Welded and Seamless Carbon Steel Structural Tubing."
All other steel shapes and plates shall conform to the requirements of AASHTO designation M-183 except posts shall conform to AASHTO M-183
Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO designation [illegible].
All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO designation [illegible].
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with [illegible]. Galvanized rail shall not be painted.
Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE N
All field drilled holes shall be coated with an approved zinc rich paint before erection.
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place 1/8" fabric bearing pad between the post and concrete.
The 3/4"ø high strength bolts used to connect the 6x4x3/4 angles to the post shall be tightened in accordance with Article 710.11 of the Standard Specifications. The 1"ø high strength bolts connecting the angles to the concrete beam shall be tightened to a snug fit and given an additional 1/8 turn.
For multi-span bridges, sufficient 1/8"x6"x1'-4" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing.
BILL OF MATERIAL
TYPE N
STEEL RAILING
FAS RT 1842 SEC 106BY
ST CLAIR COUNTY
STA. 659+84.84

Item	Unit	Quantity
STEEL RAILING, TYPE N	Lin. Ft.	[illegible]

FOR INFORMATION ONLY

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REFERENCE = #REF#

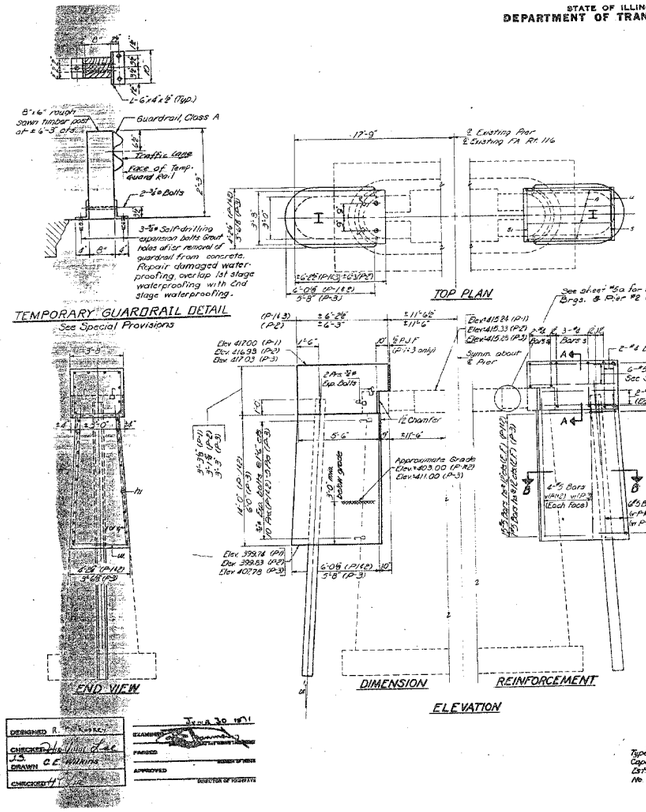
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTRURE PLANS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY



CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	47
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BY	ST. CLAIR	10	8

SHEET NO. 4a
6 SHEETS

NOTE. Dimensions are at right angles.
Hatched areas to be poured after beams have been erected and joints grouted.
Ends of beams shall be aligned at the expansion joints. Any lineal variation in the beam lengths shall be placed at the fixed joint.
See End of Beam Detail for reinforcement.

For existing Expansion Modification, See details on sheet 5

PILE DATA

Type – Steel (HP 12 x 53)
Capacity – Driven to Refusal
Est. Length – P-1=31'; P-2 & P-3 = 27'
No. Req'd – 5 plus one test pile at Pier 2

3 PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	36	#5	5'-11"	—
h1	24	#5	5'-2"	—
h2	148	#5	4'-0"	—
s	30	#4	12'-9"	▭
s1	12	#4	9'-9"	▭
u	24	#5	7'-3"	⊔
u1	148	#5	5'-1"	⊃
v	56	#5	15'-0"	—
n	28	#5	7'-0"	—

Class X Concrete	Cu. Yds.	57.0
Reinforcement Bars	Lbs.	3350
Steel Piles (HP12x53)	Lin. Ft.	143
Test Piles Steel (HP12x53)	Each	1
Expansion Bolts	Each	24

~~AS REVISED 8-23-77~~ KCK

PIERS 1, 2 & 3
F.A.S. RT. 1842 SEC. 106 BY
ST. CLAIR COUNTY
STA. 669+84.84

DESIGNED R. Kosky
CHECKED William Lee
J.S.
DRAWN C.E. Wilkins
CHECKED

June 30 1971
EXAMINED
ENGINEER OF BRIDGES
PASSED
ENGINEER OF DESIGN
APPROVED
DIRECTOR OF HIGHWAYS

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTRURE PLANS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT.
HORIZ.
DATE

DRAWN BY
CHECKED BY

PLOT DATE = 11/8/2006
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REFERENCE = REF

CONTRACT NO. 76864

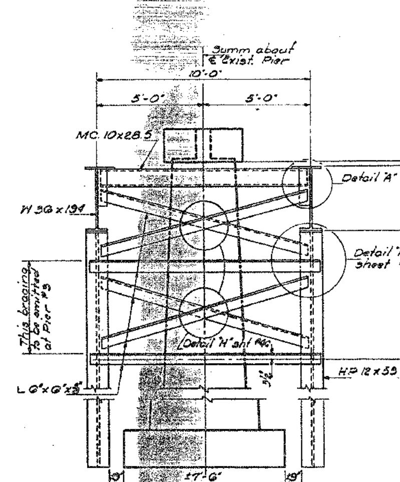
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	48
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

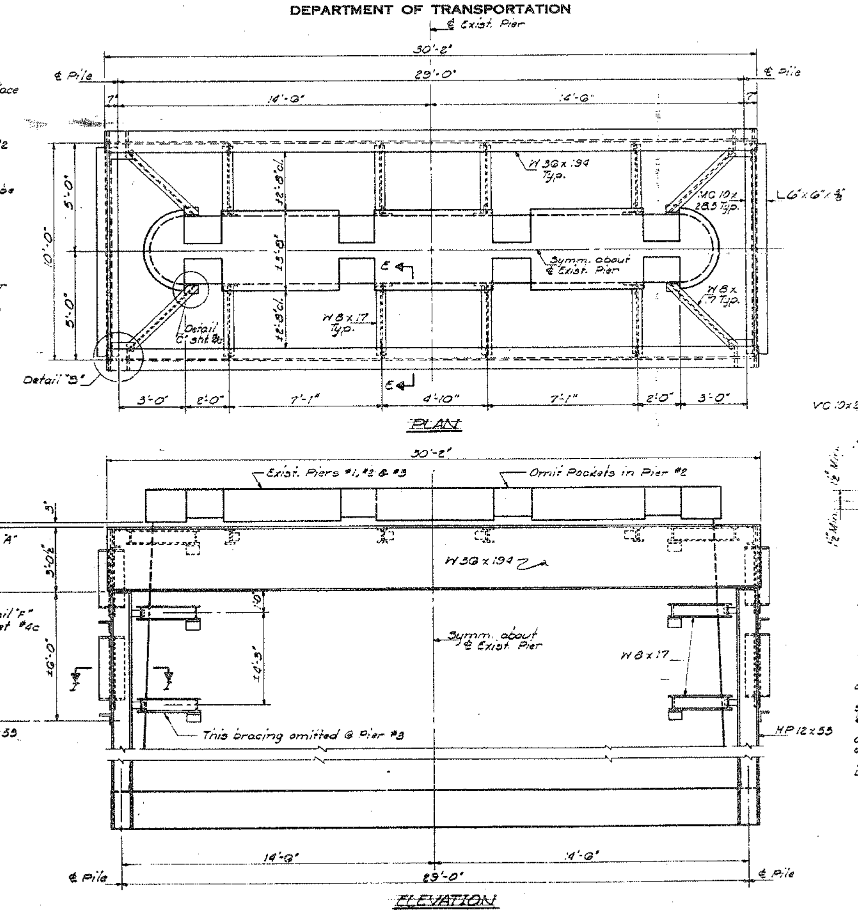
JACKING PROCEDURE

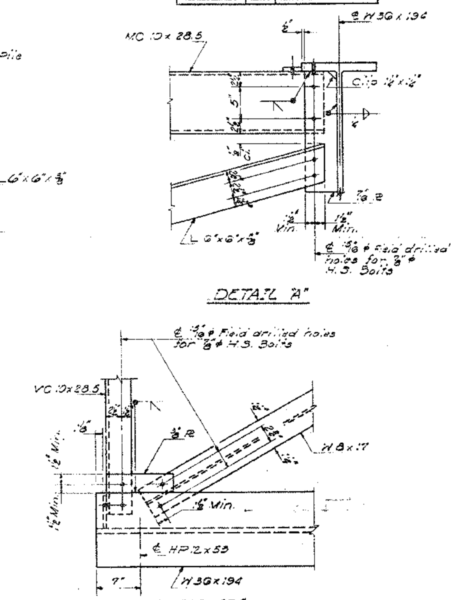
1. Place temporary barricades on ℄ Rdwy. and divert all traffic to South traffic lane.
2. Jack the two beams on the North side at Piers #1, #2 & #3. They shall be lifted only enough to be able to remove the bearings. The two beams on the South side shall remain on the bearings. Avoid excessive lifting in order to prevent slab damage.
3. Repair and reposition bearings and *remove & replace unsound concrete from beam ends. Repair Pier #2 cap as needed.
4. Place two North beams on bearings and divert all traffic to North traffic lane.
5. Jack the two beams on the South side at Piers #1, #2 & #3. Follow same procedure as above for South side beams.
6. If for some reason all four beams ends at any given location must be jacked, the bridge must be closed to traffic to avoid damage to beam overhang.
7. Jack capacity = 50 Tons (Min.) for single beam end.

* If extensive beam end removal is required so that more than 60 in² of bearing area on the existing top bearing plate at Pier #1 or #3 is lost, or less than 30 in² of bearing is remaining at Pier #2, then beam end repair must be done according to detail "Extensive Beam End Repairs" shown on sheet #5b.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION







Note:
All bolts shall be ¾"⌀ H.S. Bolts unless otherwise noted.
All edge distances for bolts shall be 1½" Min. unless otherwise noted.
A jack safety system subject to the approval of the Engineer shall be used to prevent the structure from falling more than ¼" should the jack plunger fail.
A bearing plate 1"x10"x10" shall be placed between the concrete beam surface and the jack during jacking operations.
Positive attachment of the jack to the W36x194 beam shall be provided.

PILE DATA

Type: Steel HP 12x53
Capacity: Drive to Refusal
No. Req'd: 4 Each Pier
Est. Length: 27 Ft. Pier #1
23 Ft. Piers #2 & #3
(Piles included in Temporary Support Sys.)

PIERS #1, #2 & #3 TEMPORARY SUPPORT SYSTEM
F.A.S. RT. 1842 SEC. 106 BY
ST. CLAIR COUNTY
STA. 665+64.84

DESIGNED R. F. R. — CHECKED — DRAWN J. SCHNEIDER — CHECKED — PASSED — APPROVED

FOR INFORMATION ONLY

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTRURE PLANS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ. — DRAWN BY — DATE — CHECKED BY

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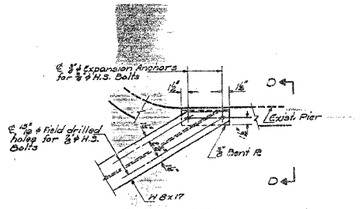

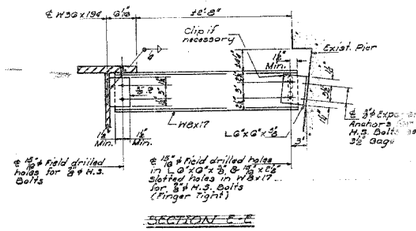

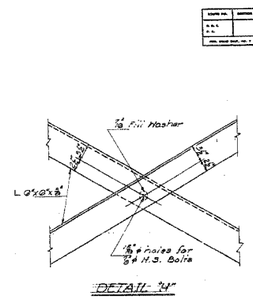

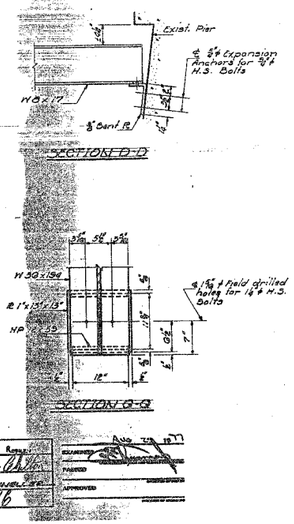

CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	49
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 4C
6 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DESIGNED R. F. Rogers
CHECKED John Chilton
DRAWN J. SCHNELLE
CHECKED DJG

EXAMINED Aug 29 1977
PASSED
APPROVED

TEMPORARY SUPPORT DETAILS
F.A.S. RT. 1842 SEC. 106BR
ST. CLAIR COUNTY
STA. 663+24.37

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTRURE PLANS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT.
HORIZ.
DATE
DRAWN BY
CHECKED BY

PLOT DATE = 11/6/2008
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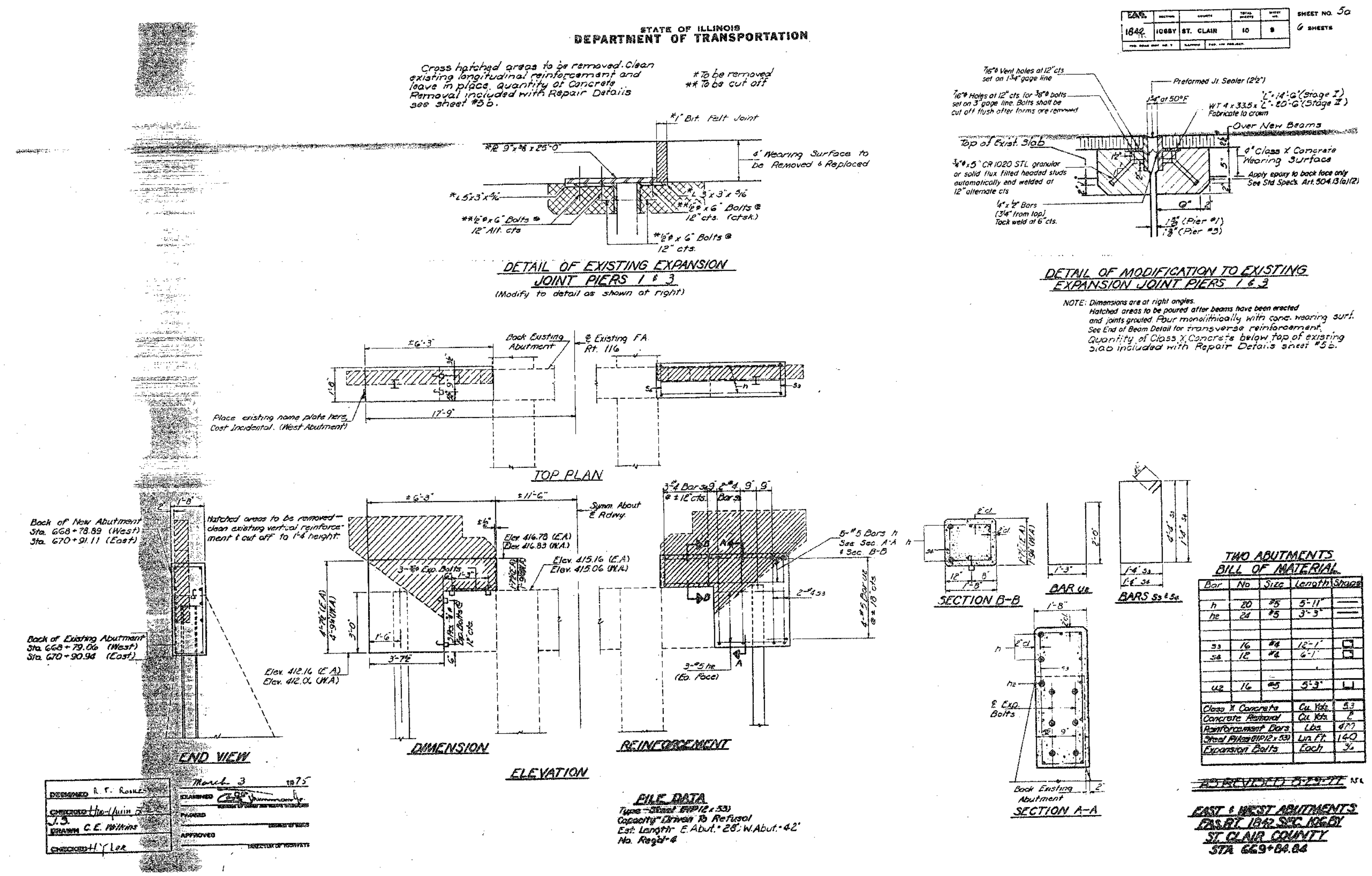
REFERENCE = REF

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	50
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
Cross hatched areas to be removed. Clean existing longitudinal reinforcement and leave in place. Quantity of Concrete Removal included with Repair Details see sheet #5b.
DETAIL OF EXISTING EXPANSION JOINT PIERS 1 & 3
(Modify to detail as shown at right)
DETAIL OF MODIFICATION TO EXISTING EXPANSION JOINT PIERS 1 & 3
TOP PLAN
END VIEW
DIMENSION
ELEVATION
REINFORCEMENT
SECTION B-B
BAR u2
BARS s3 & s4
SECTION A-A
FILE DATA
Capacity-Driven To Refusal
Est. Length- E.Abut.-28', W.Abut.-42'
AS REVISED 8-29-77
EAST & WEST ABUTMENTS
FAS RT. 1842 SEC. 106BY
ST. CLAIR COUNTY
STA 669+84.84

TWO ABUTMENTS BILL OF MATERIAL

Bar	No	Size	Length	Shape
h	20	#5	5'-11"	—
h2	24	#5	3'-3"	—
s3	16	#4	12'-1"	▭
s4	12	#4	6'-1"	▭
u2	16	#5	5'-3"	⊔
Class X Concrete			Cu. Yds.	53
Concrete Removal			Cu. Yds.	2
Reinforcement Bars			Lbs.	477
Steel Piles (HP12 x 53)			Lin. Ft.	140
Expansion Bolts			Each	36

FOR INFORMATION ONLY

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTRURE PLANS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT. HORIZ. DRAWN BY
DATE CHECKED BY

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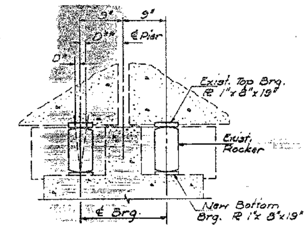
REFERENCE = REF

CONTRACT NO. 76864

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	54BR-1	MADISON	61	51
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

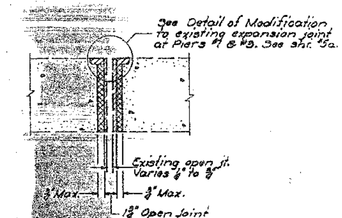
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 5b
6 SHEETS



SECTION THRU PIERS #1 & #3
(Showing Bearing Repair)

Notes:
Existing top bearing plates and rockers to be cleaned, repositioned, and painted. Existing bottom bearing plate to be replaced with new plate.
Repositioning shall be as follows:
D*(Side of brg. toward fixed brg.)
D* = ⅛ per each 100 ft. of expansion for every 15° fall below the normal temp. of 50°F.
D**(Side of brg. away from fixed brg.)
D** = ⅛ per each 100 ft. of expansion for every 15° rise above the normal temp. of 50°F.



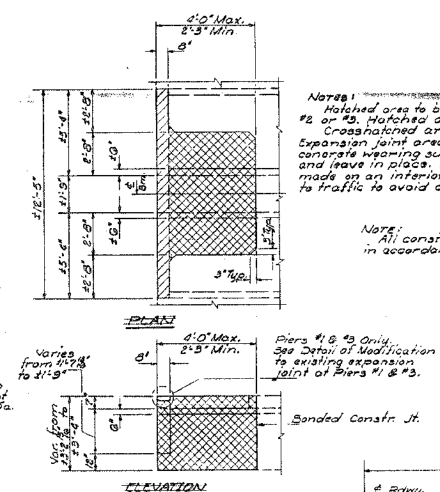
SECTION THRU BEAM ENDS AT PIER #3
(Showing increase in open joint.)

Hatched area to be removed and crosshatched area to be replaced with cement mortar at beam ends. Expansion Joint area to be poured monolithically with concrete wearing surface. Cement Mortar incidental to Class X Concrete.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yds.	10
Class X Concrete	Cu. Yds.	9.5
Expansion Bolts (¾"φ)	Ea.	68

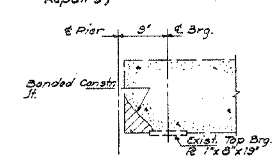
DESIGNED R. F. [illegible]
CHECKED [illegible]
DRAWN J. SCHNELLER
CHECKED [illegible]
EXAMINED Aug. 29, 1977
PASSED
APPROVED



Notes:
Hatched area to be removed as required at Piers #1, #2 or #3. Hatched area to be replaced at Pier #2.
Crosshatched area to be replaced at Piers #1 or #3. Expansion joint area to be poured monolithically with concrete wearing surface. Clean existing reinforcement and leave in place. If extensive repairs must be made on an interior beam, the Bridge must be closed to traffic to avoid damage to the slab.

Note:
All construction joints shall be bonded in accordance with Art. 504.13(a)2.

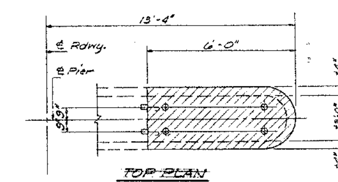
EXTENSIVE BEAM END REPAIRS
(Showing repair of beam ends requiring extensive removal) Do not use unless required as given in detail "Beam End Repairs")



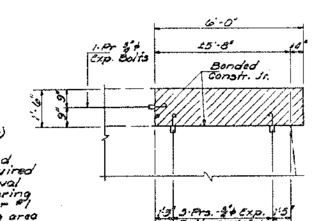
BEAM END REPAIRS
(Showing replacement of unsound concrete)

Hatched area indicates broken or unsound concrete to be removed and replaced as required with concrete. If extensive beam end removal is required so that more than 60 in² of bearing area on the existing top bearing plate at Pier #1 or #3 is lost, or less than 30 in² of bearing area is remaining at Pier #2 or the Abutments, then Beam End Repair must be done according to detail "Extensive Beam End Repairs".

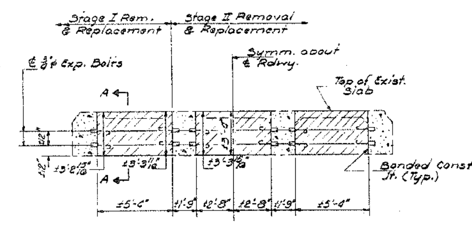
Notes: (Pier #2 & Abutments)
Additional areas of broken or unsound concrete in Pier #2 cap shall be removed and replaced as required. Cost incidental to Class X Concrete.
All cracks in sound concrete in existing Piers and Abutments shall be filled with epoxy grout. Cost incidental to Class X Concrete.



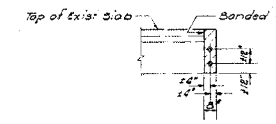
TOP PLAN



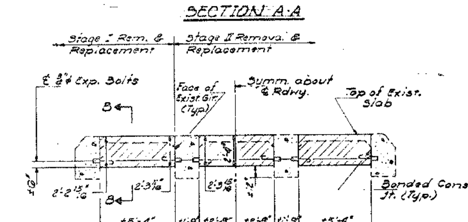
ELEVATION
PIER #2-SOUTH END
(Hatched area to be removed & replaced.)



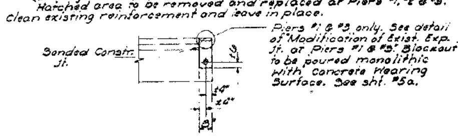
SUPERSTRUCTURE SECTION AT ABUTMENTS
(Showing replacement of Abutment backwalls)
(Looking East)
Hatched area to be removed and replaced. Clean exist. reinforcement and leave in place.



SECTION A-A



SUPERSTRUCTURE SECTION AT PIERS #1, #2 & #3
(Looking East. Showing replacement of Diaphragms)
Hatched area to be removed and replaced at Piers #1, #2 & #3. Clean existing reinforcement and leave in place.



SECTION B-B

REPAIR DETAILS
F.A.S. RT. 1842 SEC. 106 BY
ST. CLAIR COUNTY
STA. [illegible]

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTRURE PLANS

FAS ROUTE 1842
SECTION 106BR
ST CLAIR COUNTY

SCALE: VERT.
HORIZ.
DATE
DRAWN BY
CHECKED BY

PLOT DATE = 11/8/2006
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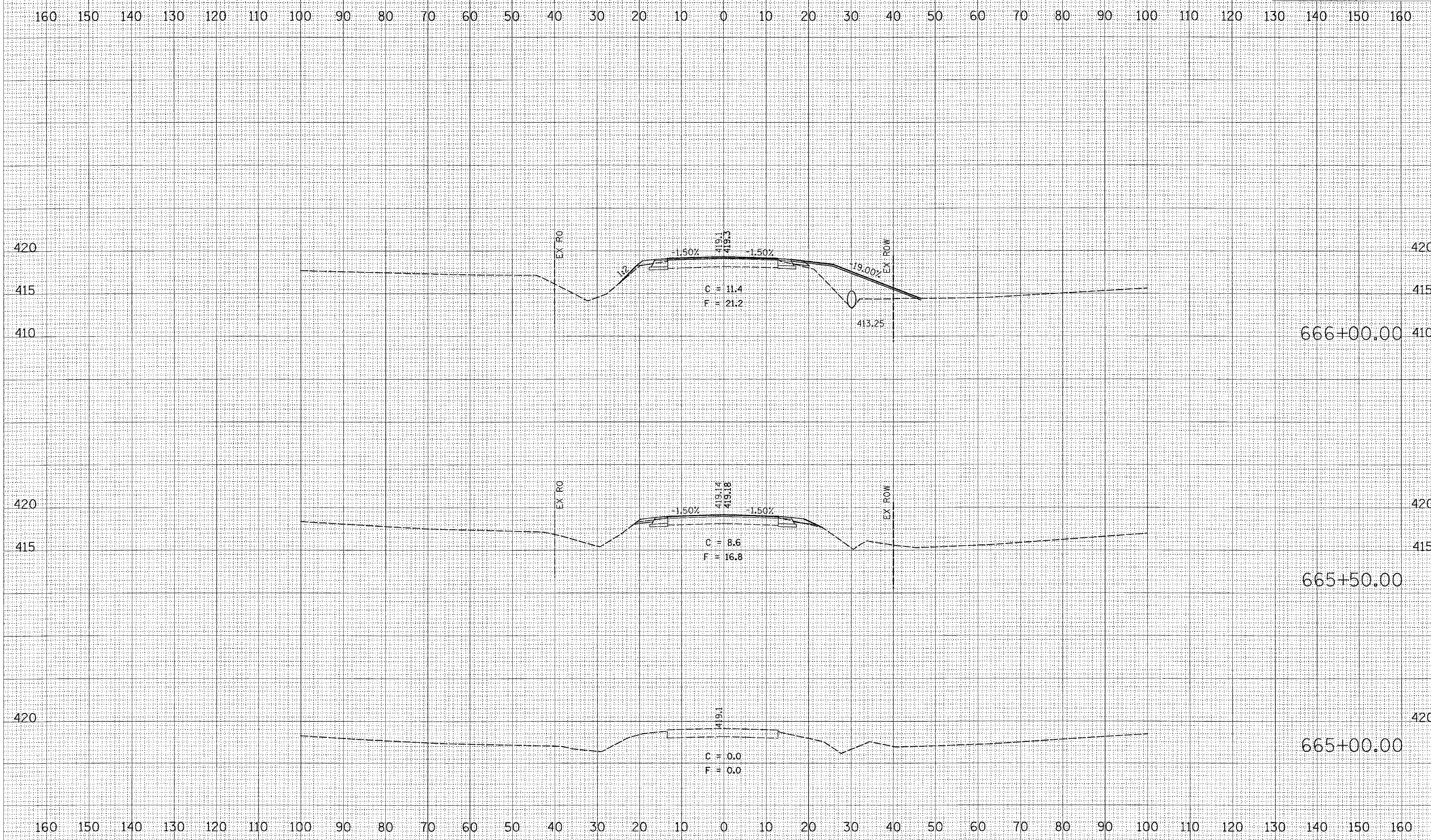
PLOT SCALE = 50.0000 / IN.
REFERENCE = #REF#

CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	52

STA. 665+00.00 TO STA. 666+00.00

FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT



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CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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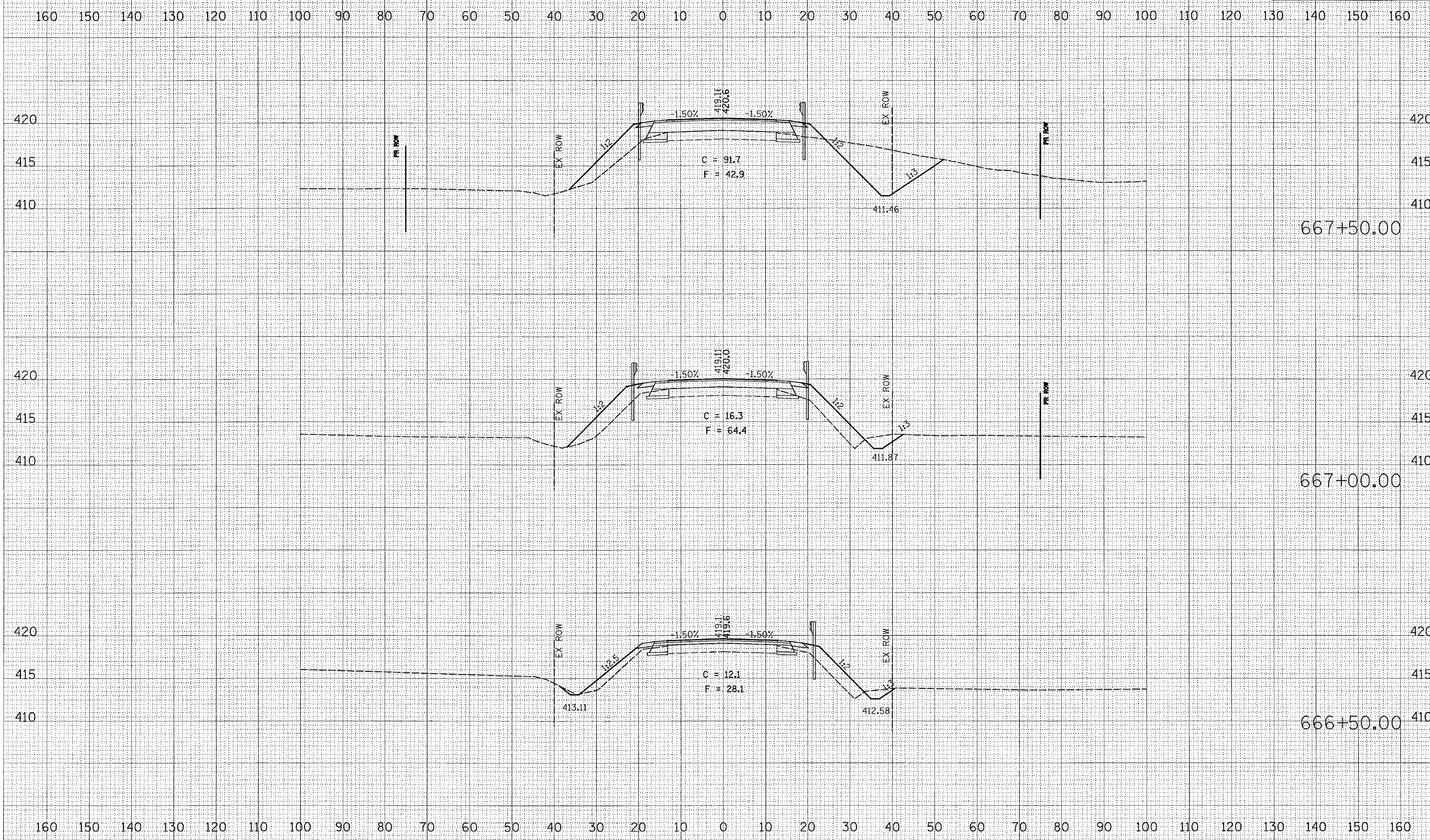
STA. 666+50.00	TO STA. 667+50.00			
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		



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CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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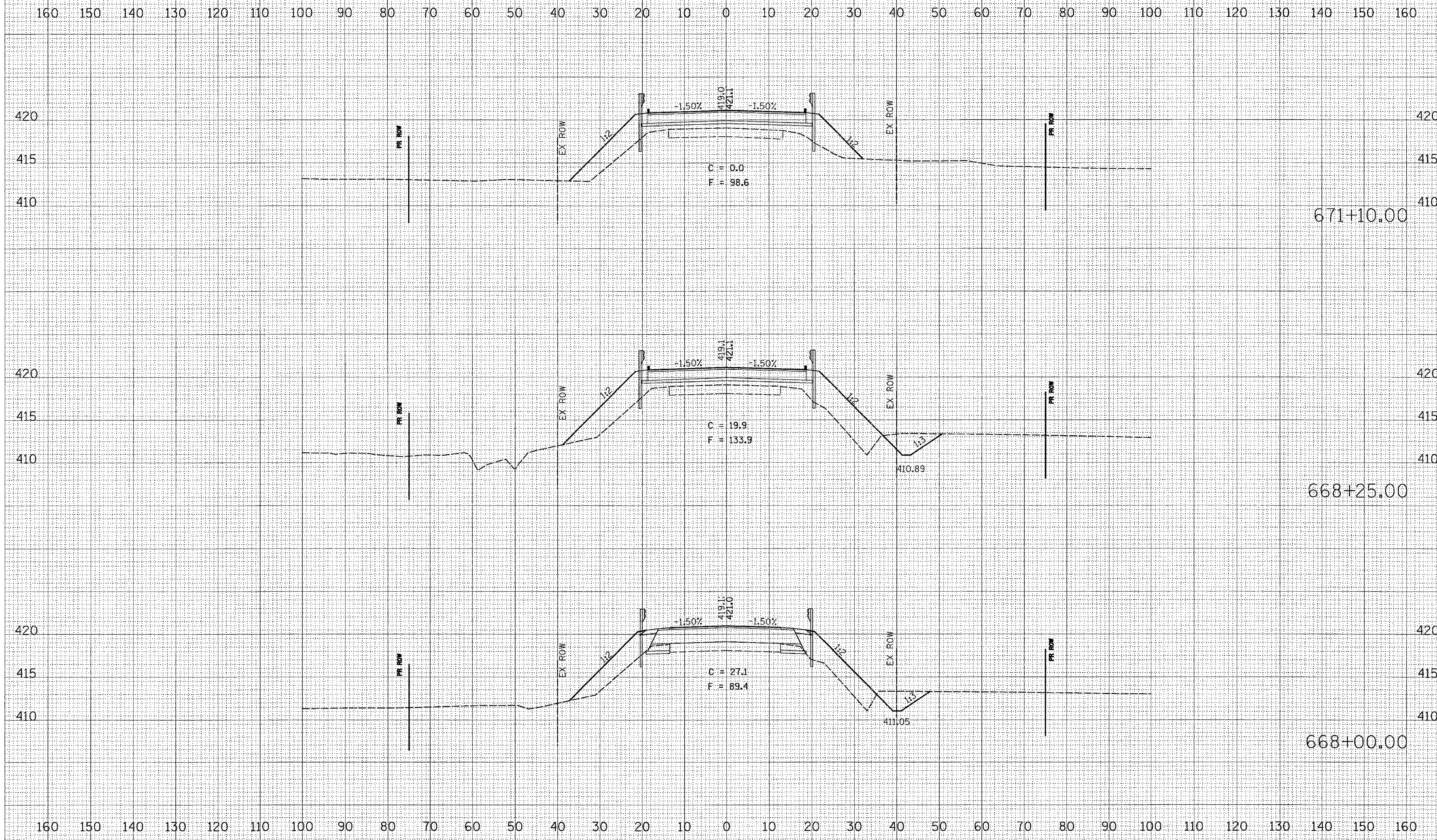
STA. 668+00.00 TO STA. 671+10.00				
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		



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CONTRACT NO. 76129

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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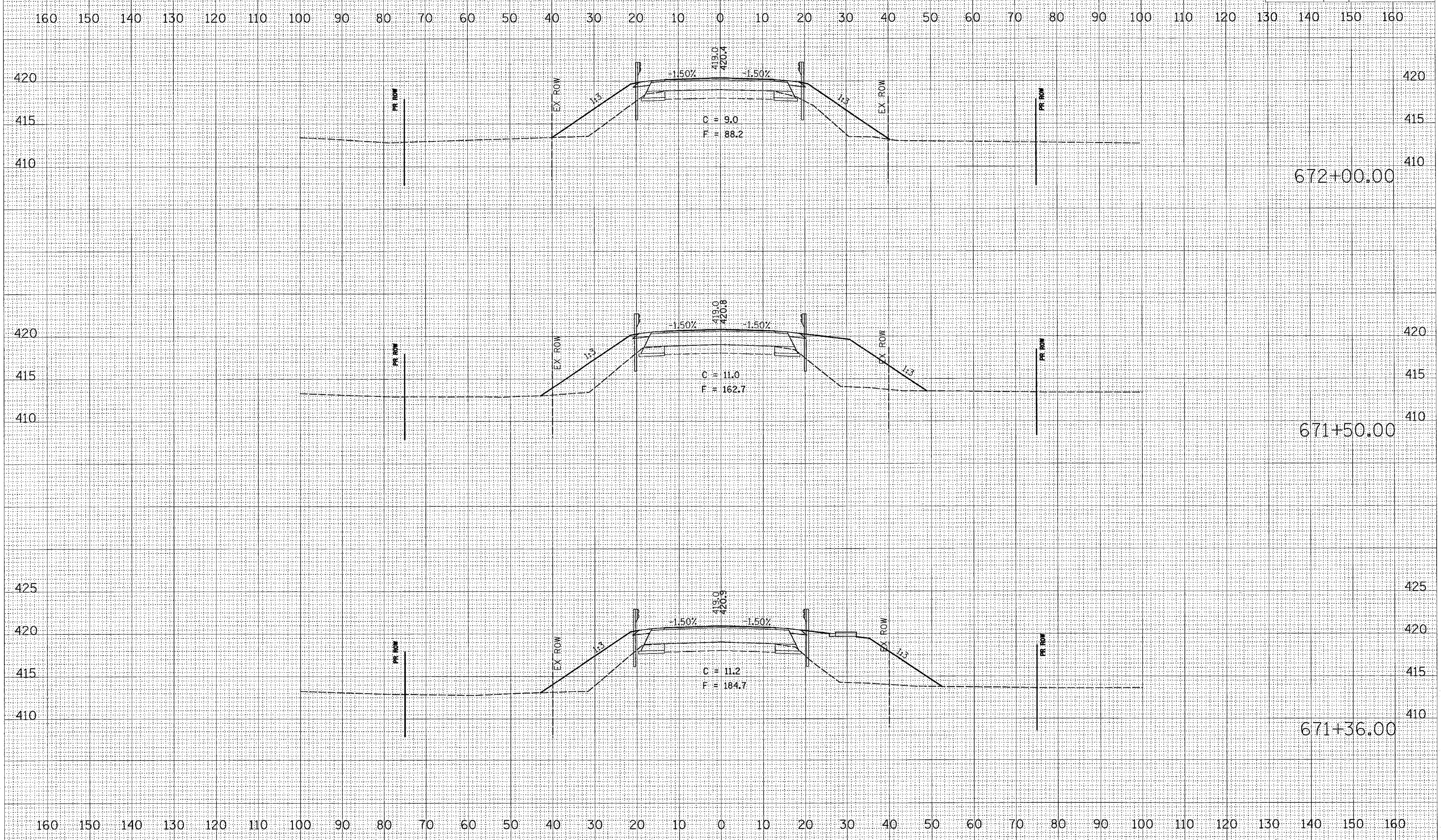
STA. 671+36.00 TO STA. 672+00.00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



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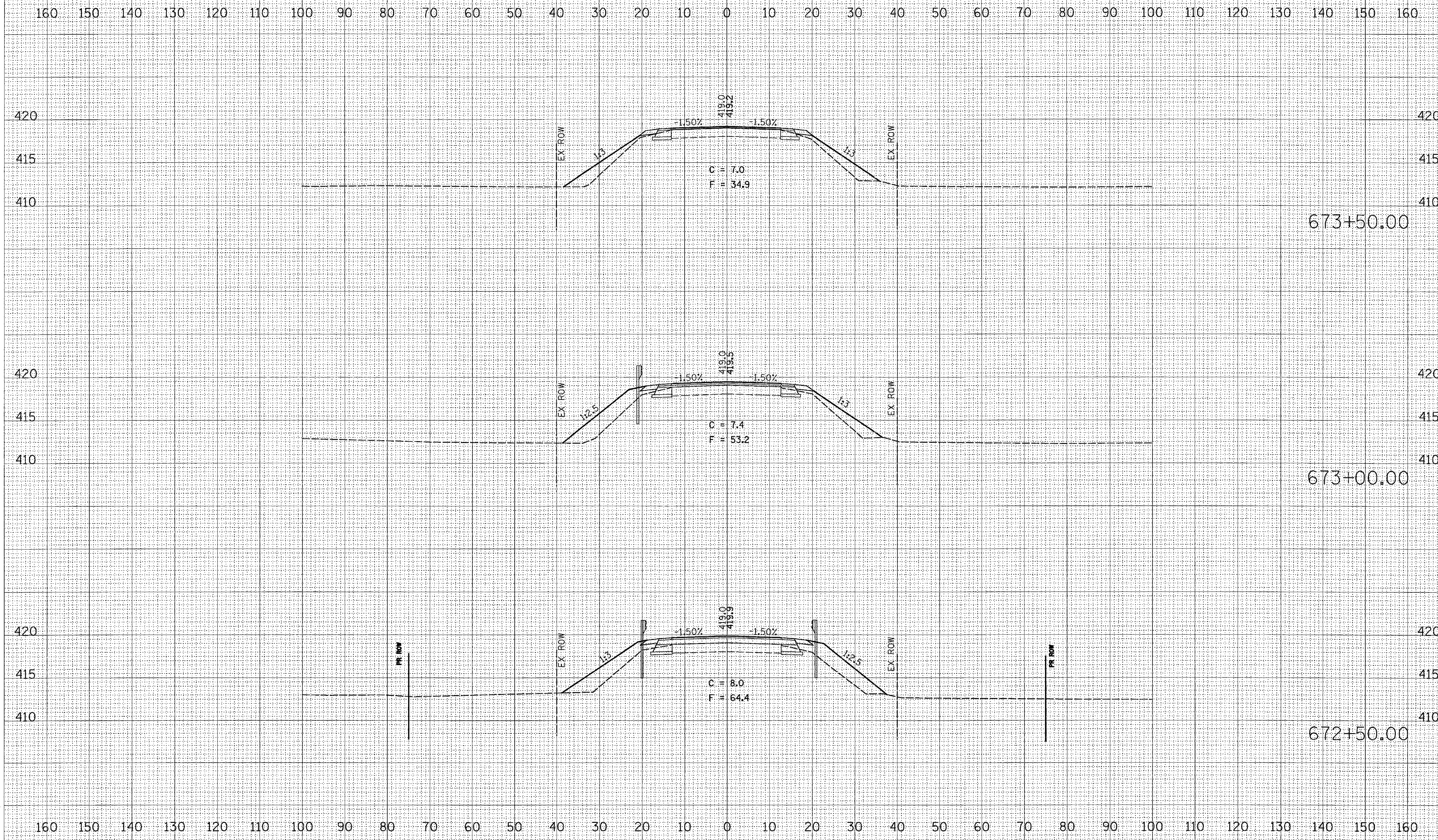
CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	56
STA. 672+50.00 TO STA. 673+50.00				
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		



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CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1842	106BR	ST CLAIR	61	57
STA. 674+00.00		TO STA. 675+00.00		
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420
415

419.1

675+00.00

420
415

419.0

C = 0.0
F = 0.0

674+50.00

420
415
410

419.0
419.0

-1.50%
-1.50%

EX. ROW
1:3
1:3
EX. ROW

C = 7.0
F = 33.2

674+00.00

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BY	DATE

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CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA. 0+00.00	TO STA. 0+50.00			
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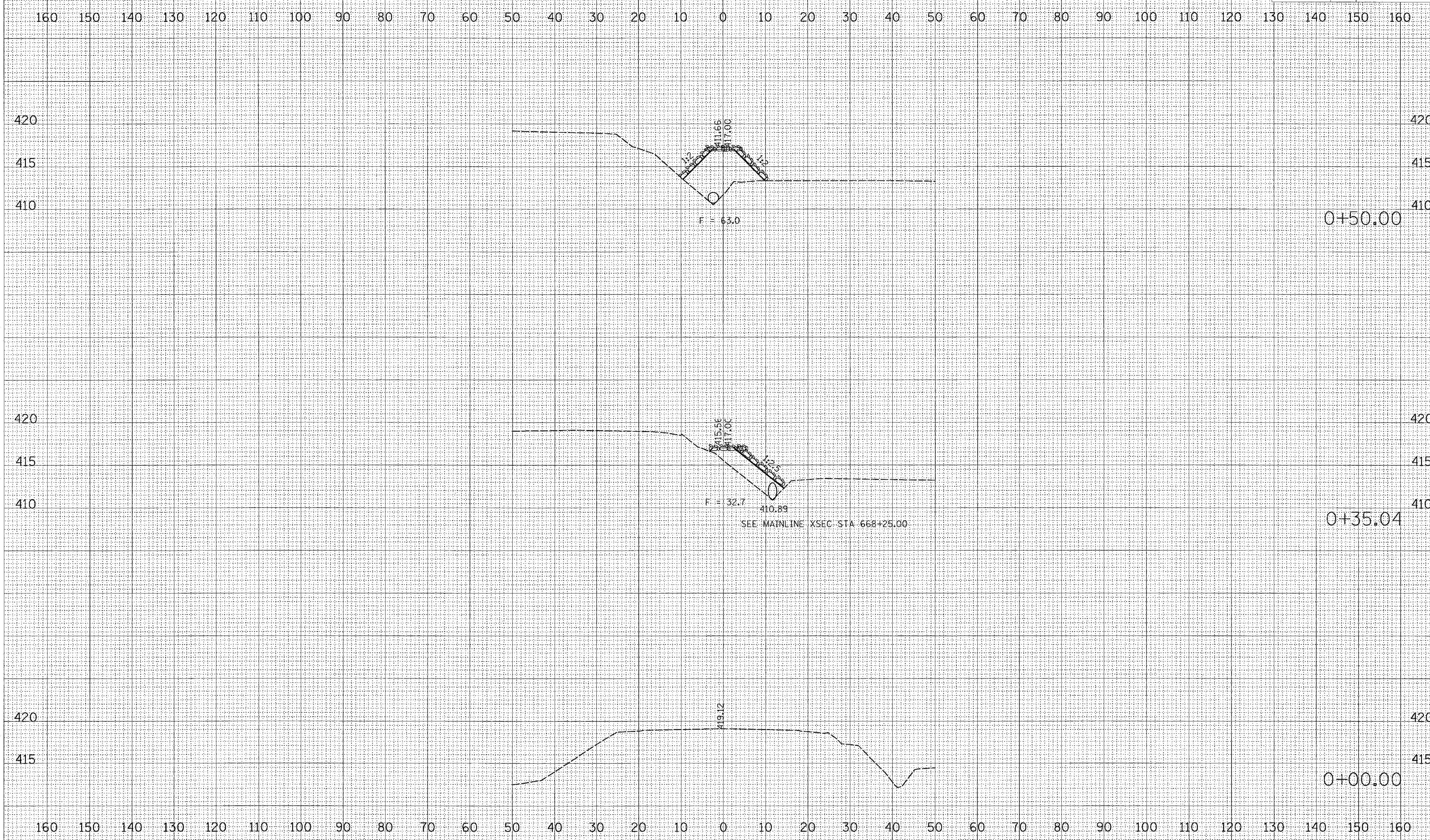

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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA. 0+75.00	TO STA. 1+00.00			
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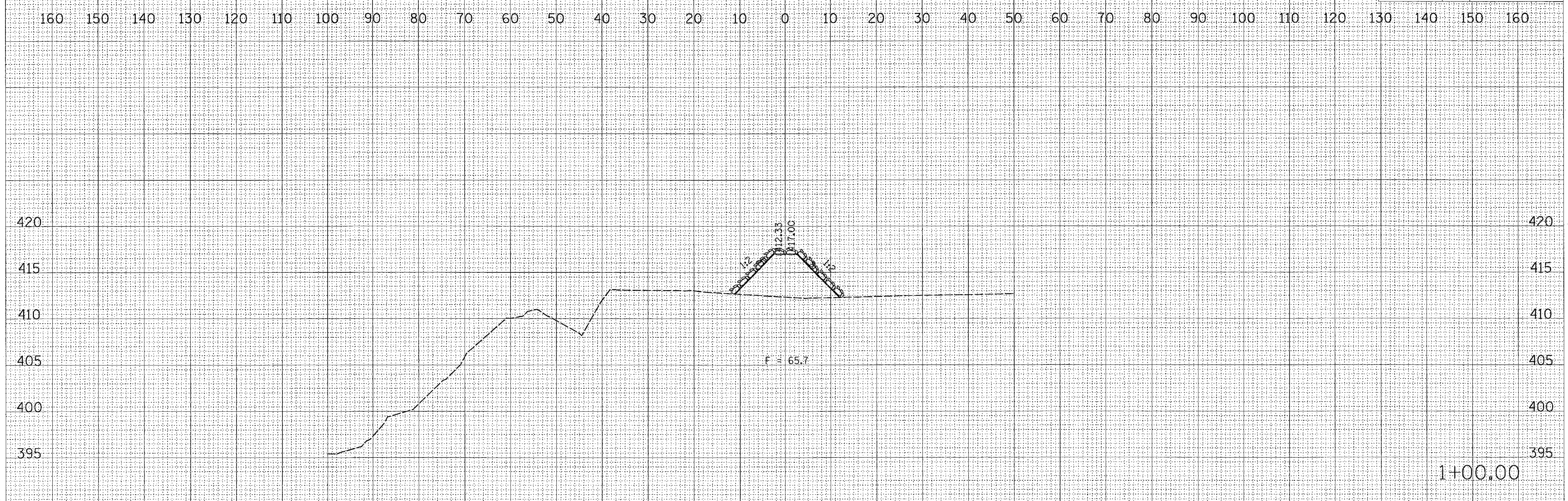

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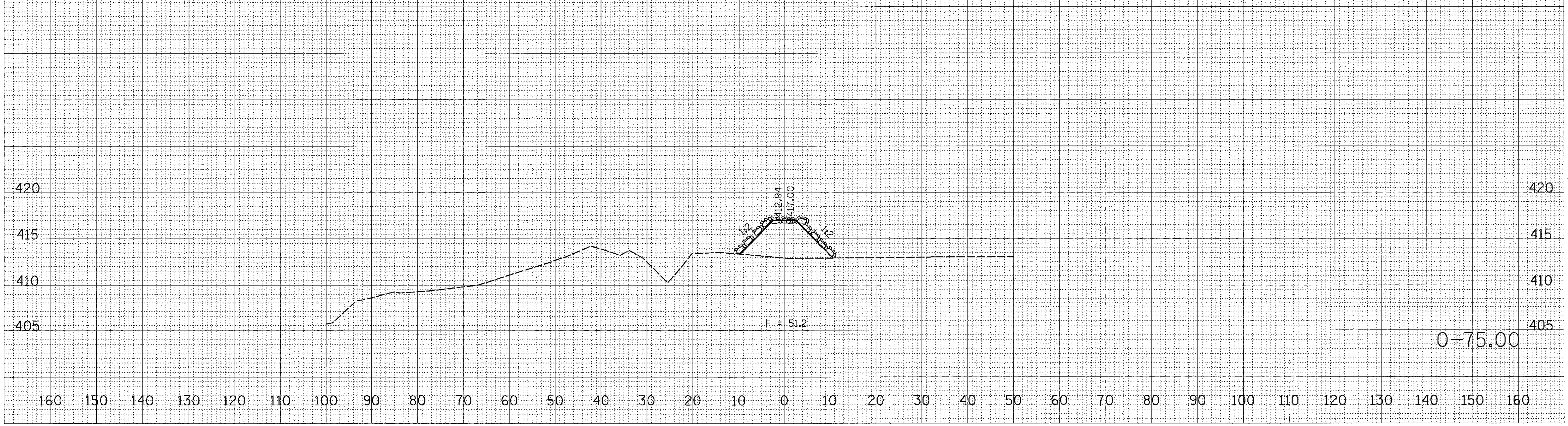

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CONTRACT NO. 76129

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA. 1+25.00	TO STA. 1+50.00			
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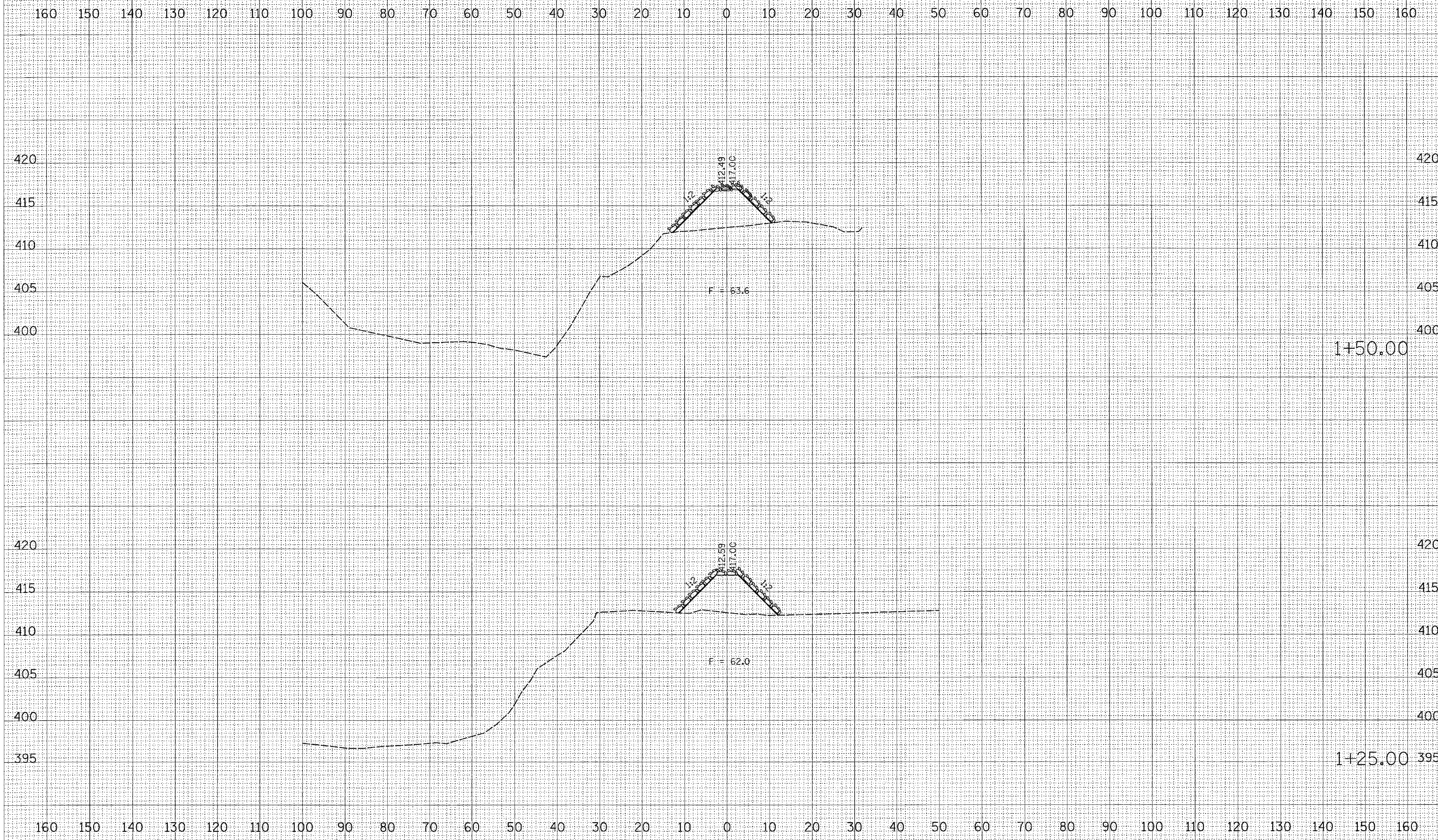

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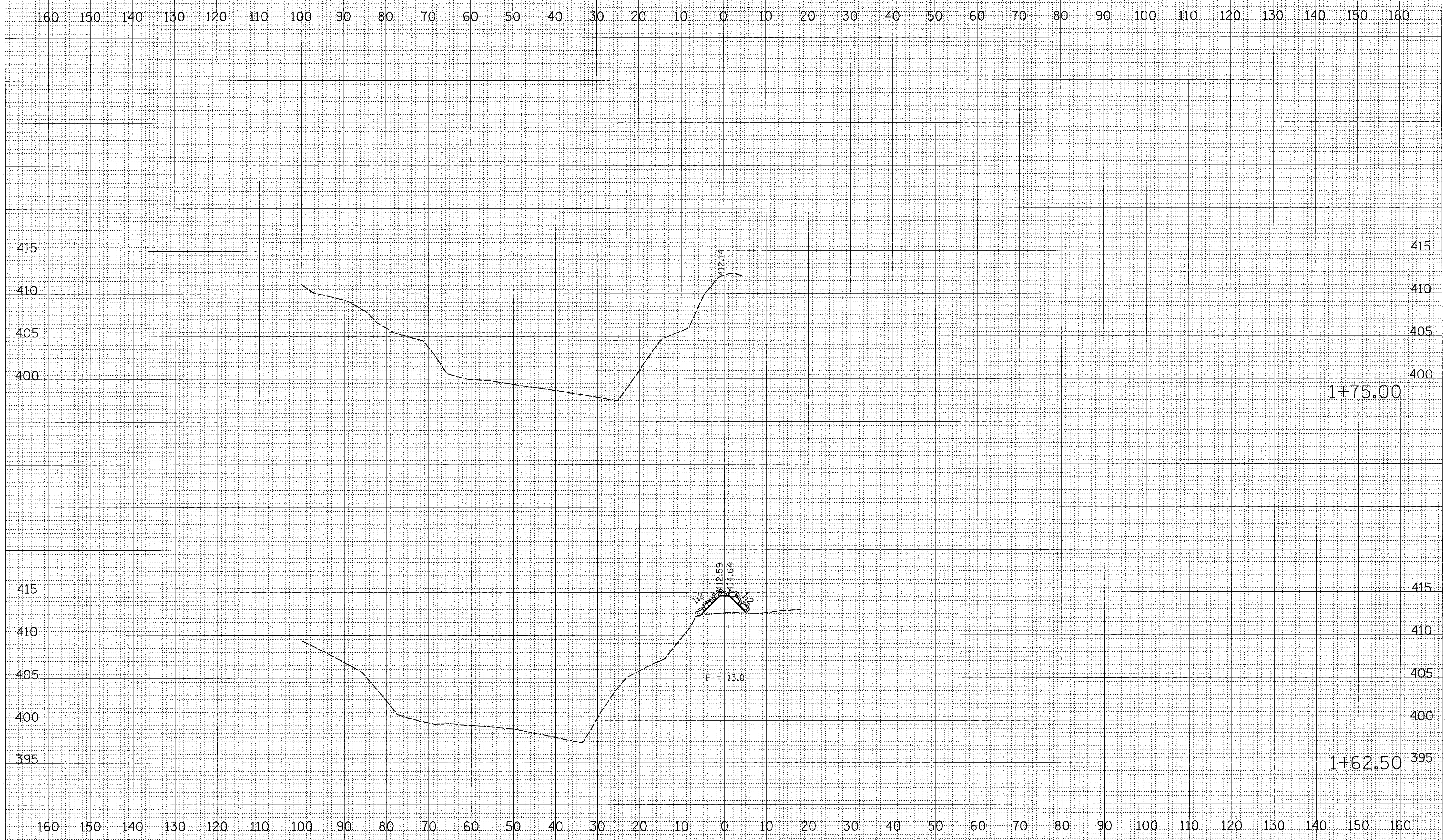

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