

PROJECT ENGINEER PATTI LEBEAU (318) 346-3179  
SQUAD CONTACT: A T MUEHLFELD (618) 346-3209

FOR INDEX OF SHEETS, SEE SHEET NO. 2

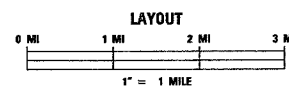
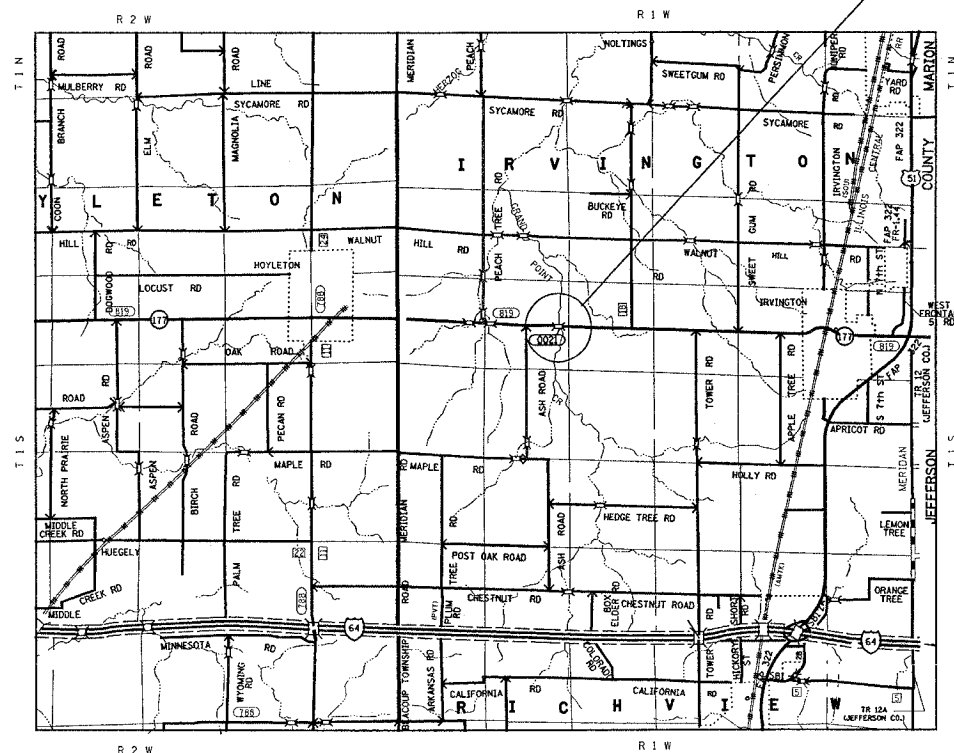
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

PROPOSED  
HIGHWAY PLANS

FAS ROUTE 819 (IL RTE 177)  
SECTION 101BR-3 PROJ. BHS-0819(131)  
SUPERSTRUCTURE REPLACEMENT  
OVER GRAND POINT CREEK  
WASHINGTON COUNTY

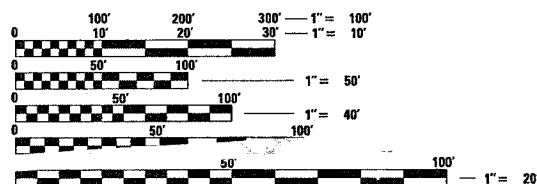
C-98-133-05

PROJECT LOCATION  
SN 095-0021  
STA 160+70.00



LATITUDE: 38.440403 LONGITUDE: 89.221492

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE \_\_\_\_\_



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  
ADT: 1925 (2006)  
ADT: 2475 (2026)  
SU: 5.3%  
MU: 2.6%

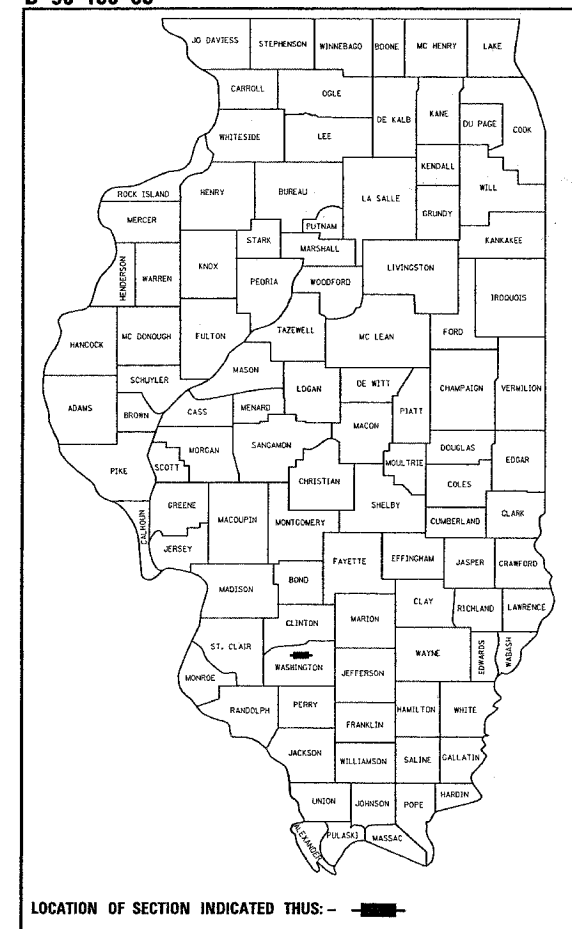
CONTRACT NO. 76964

WASHINGTON COUNTY SECTION 101BR-3 FAS ROUTE 819

76964

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	26	1

D-98-106-05



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED May 17, 2006  
Mike Hine, DEPUTY DIRECTOR OF HIGHWAYS  
REGION FIVE ENGINEER

June 30, 2006  
Mike Hine, ENGINEER OF DESIGN AND ENVIRONMENT

June 30, 2006  
Milton R. Sees, P.E., DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

GROSS LENGTH = 249.0 FT = 0.047 MILES  
NET LENGTH = 240.0 FT = 0.047 MILES

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	24	2
STA.		TO STA.		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 76964				

## INDEX OF SHEETS

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4. TYPICAL SECTIONS/MIXTURE REQUIREMENTS & MILLING DETAIL
5. SCHEDULE OF QUANTITIES
6. WIDE LOAD SIGNING
7. - 8. STAGING PLAN
9. PLAN AND PROFILE SHEET
- 10 - 24. BRIDGE PLANS
25. - 26. CROSS SECTIONS

## HIGHWAY STANDARDS

- |           |  |
|-----------|--|
| 000001-04 | STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS                             |
| 001001    | AREAS OF REINFORCEMENT BARS  |
| 001006    | DECIMAL OF AN INCH OF A FOOT   |
| 515001-02 | NAME PLATE FOR BRIDGES   |
| 630001-06 | STEEL PLATE BEAM GUARDRAIL   |
| 630301-03 | SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS               |
| 631032-02 | TRAFFIC CONTROL BARRIER TERMINAL, TYPE 6A                                |
| 635006-02 | REFLECTOR AND TERMINAL MARKER PLACEMENT                                  |
| 635011-01 | REFLECTOR MARKER AND MOUNTING DETAILS                                    |
| 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                       |
| 701316-03 | LANE CLOSURE, 2L, 2W, BRIDGE REPAIR, FOR SPEEDS >= 45 MPH                |
| 701321-08 | LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER                         |
| 702001-06 | TRAFFIC CONTROL DEVICES  |
| 704001-02 | 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. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
3. THE THICKNESS OF THE BITUMINOUS MIXTURES SHOWN ON THE PLANS IS THE NORMAL THICKNESS. DEVIATIONS MAY OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.
4. SAW CUTTING ON ALL EDGES FOR REMOVAL ITEMS SHALL BE INCLUDED IN THE COST OF THE REMOVAL ITEM AS INDICATED AND ACCORDING TO SECTION 440 OF THE STANDARD SPECIFICATIONS.
5. 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:
  - FRONTIER COMMUNICATIONS COMPANY
  - HOYLETON RURAL WATER COMPANY
  - TRI-COUNTY ELECTRIC COOPERATIVE, INC.MEMBERS OF J.U.L.I.E (800) 892-0123 ARE INDICATED BY \*. NON-MEMBERS MUST BE NOTIFIED INDIVIDUALLY.
6. 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.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING, FERTILIZING, AND MULCHING ANY AREAS DISTURBED OUTSIDE THE PROJECT LIMITS. THIS WORK WILL NOT BE MEASURED FOR PAYMENT, BUT SHALL BE INCLUDED IN THE COST OF THE CONTRACT. 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.
8. IF THE CONTRACTOR REMOVES TREES WITHIN THE RIGHT-OF-WAY LIMITS FOR HIS CONSTRUCTIONS ACTIVITY, I.e. IN ORDER TO GAIN ACCESS TO THE PROJECT SITE, IT WILL BE THE CONTRACTOR RESPONSIBILITY TO REPLACE 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.

## COMMITMENTS

NONE

[illegible]

ILLINOIS DEPARTMENT OF TRANSPORTATION  
INDEX OF SHEETS/GENERAL NOTES  
& HIGHWAY STANDARDS

FAS ROUTE 819  
SECTION 101BR-3  
WASHINGTON COUNTY

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE \_\_\_\_\_

SUMMARY OF QUANTITIES

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	1018R-3	WASHINGTON	24	3
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		

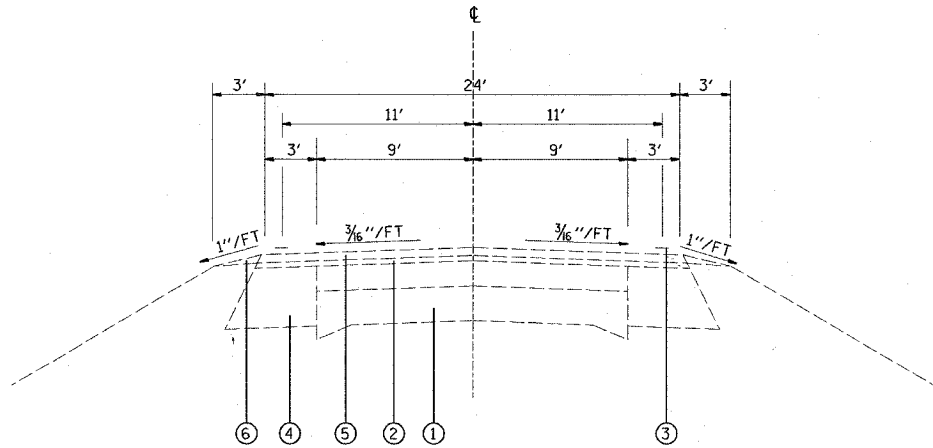
SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		X080-2A	SFTY-3N
20200500	EARTH EXCAVATION (WIDENING)	CU YD	16	16	
20400800	FURNISHED EXCAVATION	CU YD	67	67	
25000210	SEEDING, CLASS 2A	ACRE	0.25	0.25	
25100105	MULCH, METHOD 1	ACRE	0.25	0.25	
28100109	STONE RIPRAP, CLASS A5	SQ YD	754	754	
28200200	FILTER FABRIC	SQ YD	754	754	
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.2	0.2	
40600300	AGGREGATE (PRIME COAT)	TON	0.8	0.8	
40600990	TEMPORARY RAMP	SQ YD	167	167	
44000030	BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)	SQ YD	400	400	
44300200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	FOOT	580	580	
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	1	
50102400	CONCRETE REMOVAL	CU YD	3.5	3.5	
50300225	CONCRETE STRUCTURES	CU YD	4.9	4.9	
50400105	PRECAST CONCRETE BRIDGE SLAB	SQ FT	359	359	
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	3074	3074	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	470	470	
50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	300	300	
51500100	NAME PLATES	EACH	1	1	
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	349	349	
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	893	893	
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4	
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4	
63200305	STEEL PLATE BEAM GUARD RAIL REMOVAL	FOOT	326	326	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	
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	40	40	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	498	498	
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	700	700	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	166	166	

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		X080-2A	SFTY-3N
70400500	TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	350	350	
70400600	RELOCATE TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	350	350	
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	675	675	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	2	2	
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	2	2	
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	10	10	
* 78200530	BARRIER WALL MARKERS, TYPE C	EACH	10	10	
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
78300100	PAVEMENT MARKING REMOVAL	SQ FT	72	72	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	2	2	
X0322379	CONCRETE SEALER	SQ YD	39	39	
<del>X0323557</del>	<del>BRIDGE JOINT SYSTEM (EXPANSION), 1"</del>	<del>FOOT</del>	<del>62</del>	<del>62</del>	
X0324744	REMOVAL OF EXISTING PRECAST CONCRETE UNITS	SQ FT	359	359	
X0325214	PREFORMED JOINT STRIP SEAL, 4"	FOOT	62	62	
X0325303	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	4	4	
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	41	41	
X3560130	BITUMINOUS CONCRETE BASE COURSE WIDENING, SUPERPAVE 9 INCH	SQ YD	66	66	
X4066416	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70	TON	86	86	
X4066770	LEVELING BINDER (MACHINE METHOD), SUPERPAVE N70	TON	21	21	
X7200200	WIDE LOAD SIGNING	L SUM	1	1	
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	22	22	
Z0002600	BAR SPLICERS	EACH	12	12	
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		2
X0325294	PREFORMED JOINT STRIP SEAL	FOOT	62	62	

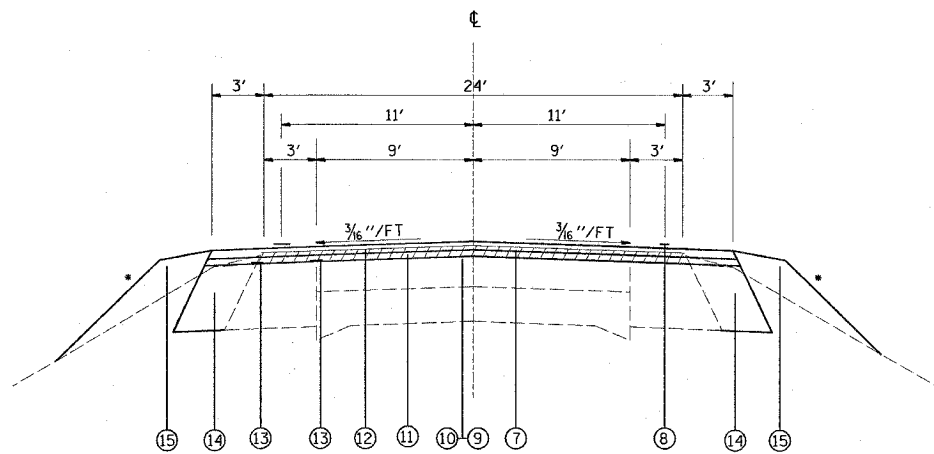
\*SPECIALTY ITEMS

Rev.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	24	4
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 76964				



EXISTING TYPICAL SECTION  
STA. 159+45.46 TO STA. 160+18.39  
STA. 161+21.61 TO STA. 161+94.46

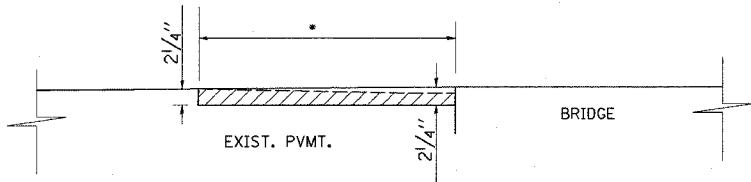


PROPOSED TYPICAL SECTION  
STA. 159+45.46 TO STA. 160+18.39  
STA. 161+21.61 TO STA. 161+94.46

• SEE CROSS SECTIONS FOR SIDE SLOPE

LEGEND

- ① EXISTING PAVEMENT 9-6-9
- ② EXISTING BITUMINOUS LEVEL BINDER, 3/4"
- ③ EXISTING PAVEMENT MARKING
- ④ EXISTING BITUMINOUS WIDENING, 9"
- ⑤ EXISTING BITUMINOUS SURFACE COURSE, 1 1/2"
- ⑥ EXISTING AGGREGATE SHOULDER
- ⑦ PROPOSED MILLING
- ⑧ PROPOSED PAVEMENT MARKING
- ⑨ PROPOSED BITUMINOUS MATERIAL (PRIME COAT)
- ⑩ PROPOSED AGGREGATE (PRIME COAT)
- ⑪ LEVELING BINDER (MACHINE METHOD), 3/4"
- ⑫ PROPOSED BITUMINOUS CONCRETE SURFACE COURSE, 1 1/2"
- ⑬ PROPOSED STRIP REFLECTIVE CRACK CONTROL
- ⑭ PROPOSED BITUMINOUS WIDENING 9"
- ⑮ PROPOSED EARTH SHOULDER



•SEE PLAN & PROFILE FOR BEGINNING AND END STATION OF RESURFACING

MILLING DETAIL

MIXTURE REQUIREMENTS

MIXTURE USE	SURFACE	LEVEL BINDER	BSE CSE
AC/PG	PG 64-22	PG 64-22	PG 64-22
RAP % (MAX)	10%	15%	15%
DESIGN AIR VOIDS	4% Ndes=70	4% Ndes=70	4% Ndes=70
MIX COMPOSITION			
(GRADATION MIXTURE)			
FRICTION AGGREGATE	MIXTURE "C"	MIXTURE "B"	MIXTURE "B"

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
TYPICAL SECTIONS & MIXTURE  
REQUIREMENTS  
FAS ROUTE 819  
SECTION 101BR-3  
WASHINGTON COUNTY

SCALE: VERT.      DRAWN BY  
HORIZ.              CHECKED BY  
DATE

PLOT DATE = 5/15/2006  
FILE NAME = c:\projects\101br3\plan\p101br3.dgn  
PLOT SCALE = 56.0000' / IN.  
REFERENCE = #REFs

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	24	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 76964				

PAVING SCHEDULE

STATION	BIT. MAT'L PRIME COAT (TON)	AGG. PRIME COAT (TON)	LEVELING BINDER MIX "B" (TON)	BIT. CONC. SURF. CSE., SUPER., MIX "C", N70 (TON)	BIT. SURF. REMOVAL (SQ YD)	STRIP REFL CRACK CTL TREATMENT ( FT)	BIT. BSE CSE WIDENING SUPER. (SQ YD)
159+46.00 TO 160+18.39	0.078	0.4	10.49	20.98	197.60	289.6	32.06
160+18.39 TO 161+21.61				44.00			
161+21.61 TO 161+94.00	0.078	0.4	10.42	20.83	202.33	289.6	33.26
TOTAL	0.156	0.8	20.91	85.81	399.93	579.2	65.32

THERMOPLASTIC PAVEMENT MARKING SCHEDULE

STATION		PAVEMENT			BRIDGE		
		4" WHITE LINE (FT)	YELLOW SKIP DASH LINE 4" (FT)	RAISED REFL PVMT MKR (EA)	4" WHITE LINE (FT)	YELLOW SKIP DASH LINE 4" (FT)	RAISED REFL PVMT MKR (EA)
157+25.00 TO 159+44.00	¢		54.8				
159+44.00 TO 160+18.39	RT/LT	148.8					
159+45.46 TO 160+18.39	¢		18.6	1			
160+18.39 TO 161+21.61	RT/LT				206.4		2
160+18.39 TO 161+21.61	¢					25.8	
161+21.61 TO 161+96.00	RT/LT	148.8					
161+21.61 TO 161+96.00	¢		18.6	1			
161+96.00 TO 164+05.00	¢		52.3				
SUB-TOTAL		297.6	144.3		206.4	25.8	
TOTAL			441.9	2		232.2	2

TEMPORARY PAVEMENT MARKING SCHEDULE

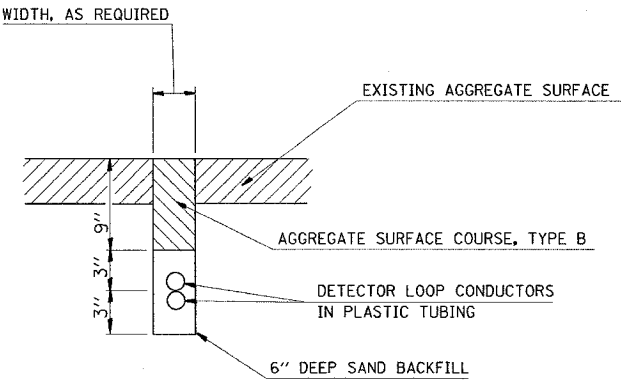
STATION		PMNT MRKG REMOVAL (SQ FT)	PAVEMENT	BRIDGE	PAVEMENT	BRIDGE	WORK ZONE PVT MC REM (SQ FT)
			TEMP PVMT MRKG- LINE 4" (FT)	TEMP PVMT MRKG- LINE 4" (FT)	TEMP PVMT MRKG- LINE 6" (FT)	TEMP PVMT MRKG- LINE 6" (FT)	
157+25.00 TO 159+44.00	¢-STG II	36.5					
159+45.46 TO 161+94.46	¢		145.5	103.5			83.0
158+95.24 TO 162+45.27	WALL				246.5	103.5	
159+45.46 TO 161+94.46	¢		145.5	103.5			83.0
158+95.24 TO 162+45.27	WALL				246.5	103.5	
161+94.00 TO 164+05.00	¢-STG I	35.2					
SUB-TOTAL			291.0	207.0	493.0	207.0	
TOTAL		71.7		498.0		700.0	166.0

EARTHWORK SCHEDULE

LOCATION	CUT (SQ FT)	FILL (SQ FT)	EARTH EXCAV. (CU YD)	EARTH EXC. ADJTD FOR SHRINK. (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BAL WASTE (+) SHORTAGE (-) (CU YD)
STA. 159+25.0	0.0	0.0				
			2.5	1.9	1.8	0.1
STA. 159+50.0	5.4	3.9	4.4	3.3	7.9	-4.6
			2.0	1.5	25.2	-23.7
STA. 159+75.0	4.1	13.2				
STA. 160+00.0	0.3	41.2	0.1	0.1	13.7	-13.7
STA. 160+18.0	0.0	0.0				
STA. 161+45.0	0.0	0.0				
			0.4	0.3	2.2	-1.9
STA. 161+50.0	4.1	23.4	3.8	2.8	18.8	-16.0
			1.9	1.4	8.0	-6.6
STA. 161+75.0	4.1	17.3				
STA. 162+00.0	0.0	0.0				
			15.1	11.3	77.7	-66.3

GUARDRAIL SCHEDULE

STATION			SPBGR REMOVAL (FT)	TBT - T1 (SPECIAL) (EA)	TBT - T6A (EA)	GUARDRAIL MKR TY A (EA)
158+27.48	TO	158+77.48	50.0	1		1
158+27.48	TO	158+77.48	50.0	1		1
159+86.89	TO	160+18.39	31.5		1	1
159+86.89	TO	160+18.39	31.5		1	1
161+21.61	TO	161+53.11	31.5		1	1
161+21.61	TO	161+53.11	31.5		1	1
163+28.18	TO	163+78.18	50.0	1		1
163+28.18	TO	163+78.18	50.0	1		1
BRIDGE						2
TOTAL			326.0	4	4	10



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.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**SCHEDULE OF QUANTITIES**  
FAS ROUTE 819  
SECTION 101BR-3  
WASHINGTON COUNTY

SCALE: VERT.  
DATE:     HORIZ.

DRAWN BY  
CHECKED BY

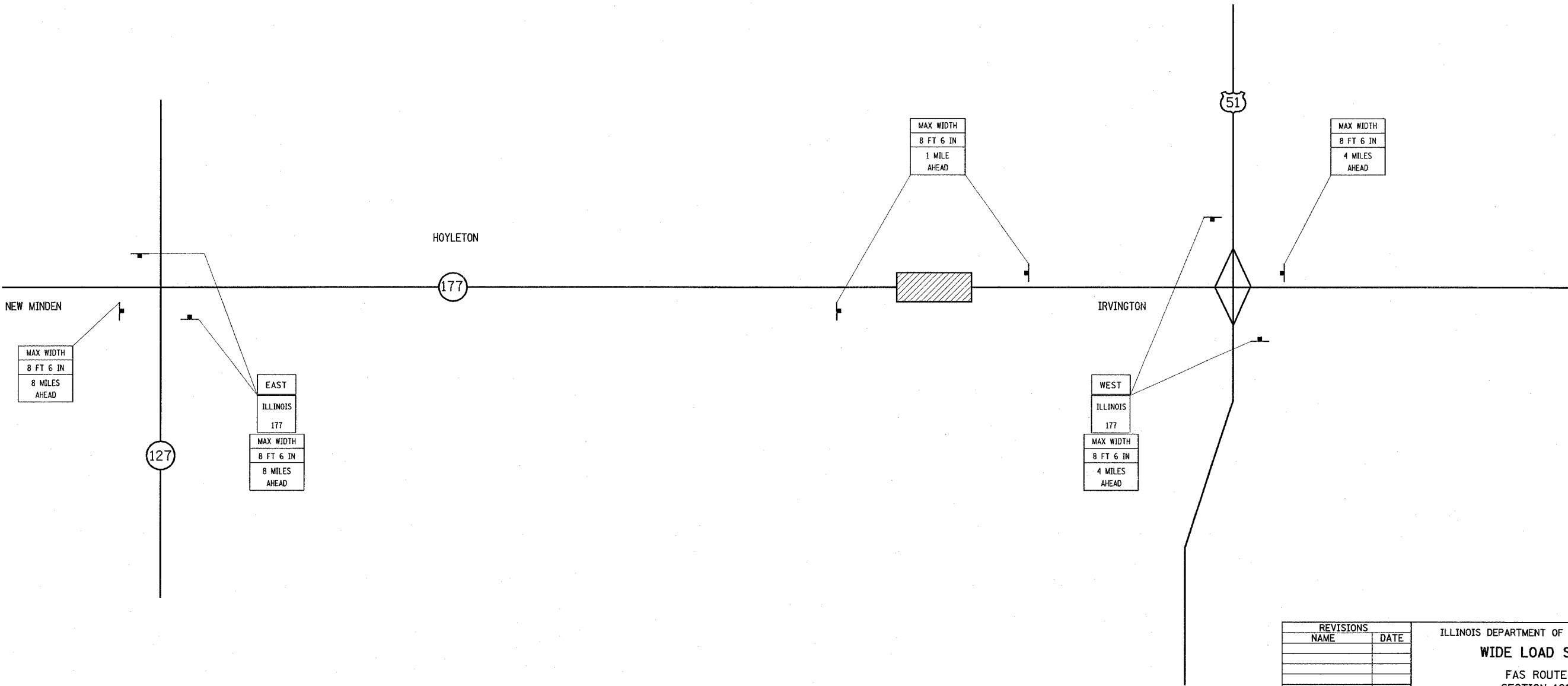
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	24	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 76964				

NOTES

- ALL SIGNS REQUIRED WILL BE SUPPLIED TO THE CONTRACTOR BY I.D.O.T. CONTACT JEAN SLAPE @ (618) 346-3289
- 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.
- 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. ANY SIGNS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 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.
- SIGN SPACING WILL BE 400' OR TO FIT FIELD CONDITIONS.
- THE HEIGHT TO THE BOTTOM OF THE LOWEST SIGN SHALL NOT BE LESS THAN 6'.

SIGNS REQUIRED

MAX WIDTH 8 FT 6 IN 1 MILE AHEAD	(2)	EAST	(2)
		WEST	(2)
MAX WIDTH 8 FT 6 IN 4 MILES AHEAD	(3)	ILLINOIS 177	(4)
MAX WIDTH 8 FT 6 IN 8 MILES AHEAD	(3)		

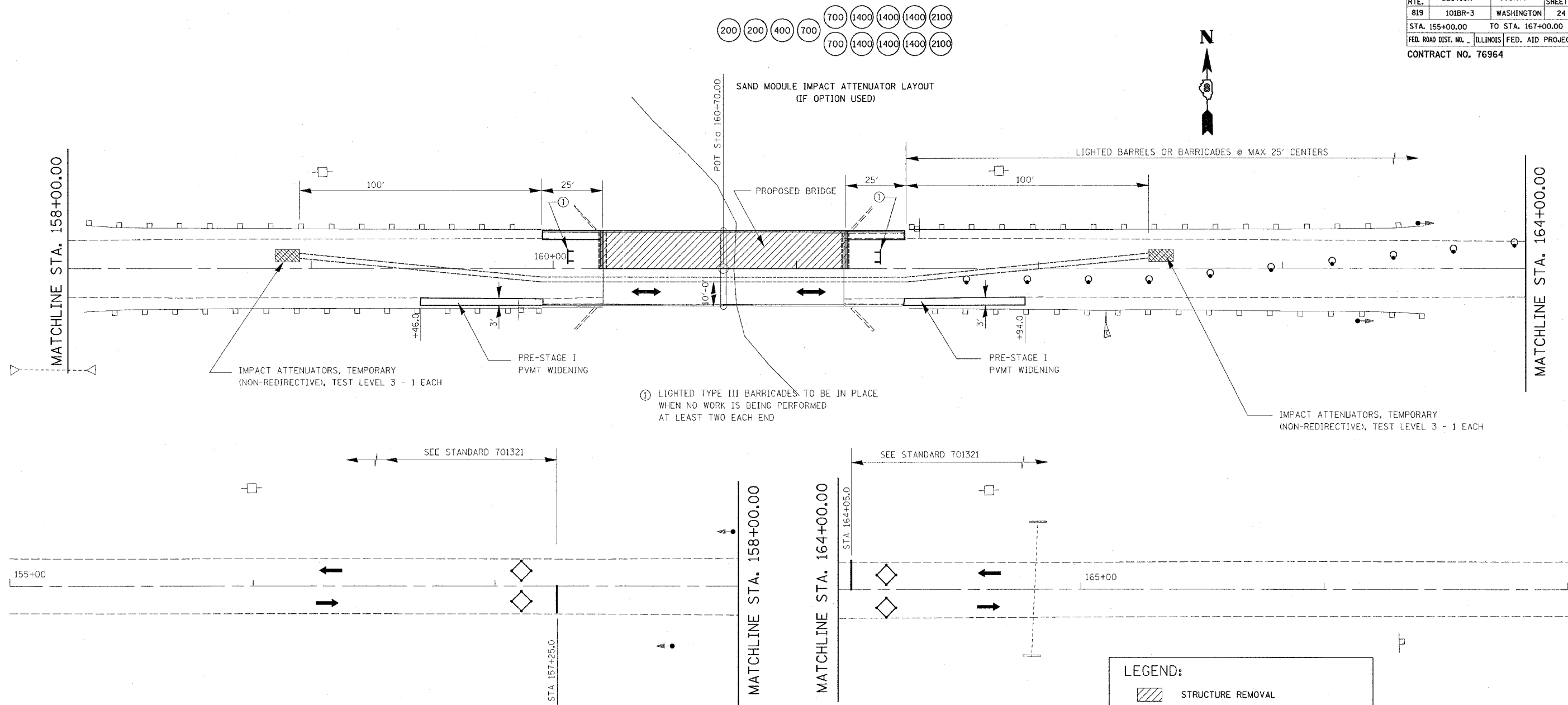


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
WIDE LOAD SIGNING  
FAS ROUTE 819  
SECTION 101BR-3  
WASHINGTON COUNTY

SCALE: VERT.      DRAWN BY  
HORIZ.              CHECKED BY  
DATE

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	24	7
STA. 155+00.00		TO STA. 167+00.00		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 76964				



PRE-STAGE I CONSTRUCTION:

- PRE-STAGE I CONSTRUCTION SHALL CONSIST OF THE REMOVAL AND REPLACEMENT OF EXISTING GUARDRAILS TERMINALS AND CONSTRUCTION OF THE 3' PAVEMENT WIDENING ON THE SOUTHEAST AND SOUTHWEST CORNERS OF THE STRUCTURE. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION, STANDARD 701326.

STAGE I CONSTRUCTION:

- STAGE I CONSTRUCTION SHALL CONSIST OF STAGE I REMOVAL OF THE EXISTING SUPERSTRUCTURE, AND STAGE I CONSTRUCTION OF THE REPLACEMENT STRUCTURE. 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:

- THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE AND FIELD ENTRANCES LOCATED WITHIN THE LIMITS OF THE PROJECT.
- 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.
- THE FINAL BITUMINOUS WEARING SURFACE MUST BE IN PLACE ON THE STRUCTURE PRIOR TO OPENING A LANE TO TRAFFIC.
- REFER TO PLAN AND PROFILE SHEET TO DETERMINE LIMITS OF MILLING AND RESURFACING AREA.
- 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"
- THERE IS AT LEAST ONE FIELD ENTRANCE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR SHOULD KEEP IT OPEN DURING STAGE CONSTRUCTION.

LEGEND:

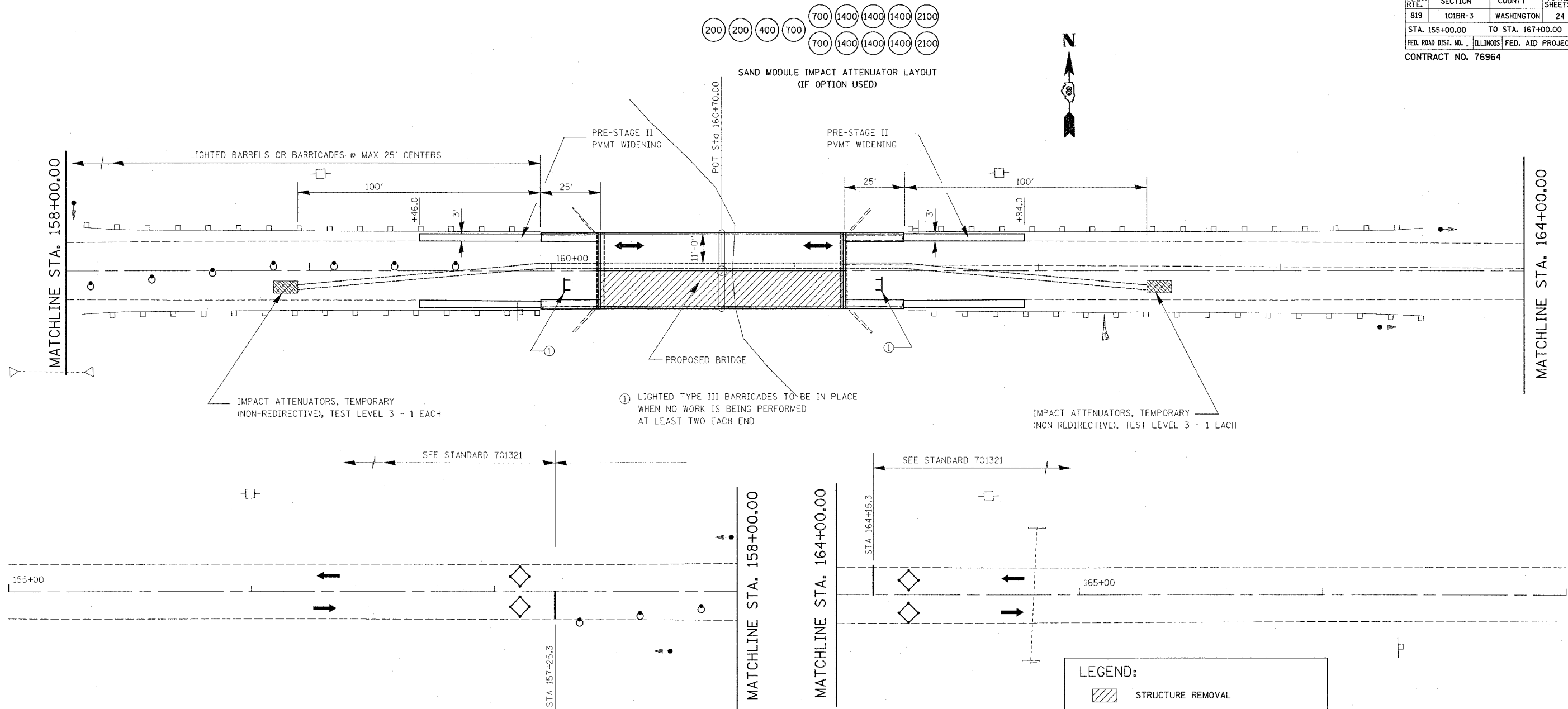
	STRUCTURE REMOVAL
	TEMPORARY CONCRETE BARRIER
	IMPACT ATTENUATOR
	INDUCTION LOOP DETECTOR
	DRUM WITH STEADY BURNING LIGHT
	SIGNALIZED TWO-WAY TRAFFIC LANE
	TEMPORARY BRIDGE TRAFFIC SIGNAL
	TYPE III BARRICADE



REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE		
		<b>STAGE I CONSTRUCTION</b> FAP ROUTE 819 SECTION 101BR-3 WASHINGTON COUNTY	
SCALE: VERT. 1" = 20'		DRAWN BY	
DATE		CHECKED BY	

PLOT DATE = 5/15/2006  
PLOT SCALE = 20.0000" / 1"  
REFERENCE = #REF#

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	24	8
STA. 155+00.00		TO STA. 167+00.00		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 76964				



#### PRE-STAGE II CONSTRUCTION:

- PRE-STAGE II CONSTRUCTION SHALL CONSIST OF THE REMOVAL AND REPLACEMENT OF EXISTING GUARDRAILS TERMINALS AND CONSTRUCTION OF THE 3' PAVEMENT WIDENING ON THE NORTHEAST AND NORTHWEST CORNERS OF THE STRUCTURE. PRE-STAGE II SHOULD BE CONSTRUCTED AT THE END OF STAGE I CONSTRUCTION AND BEFORE THE REMOVAL OF THE TEMPORARY CONCRETE BARRIERS.

#### STAGE II CONSTRUCTION:

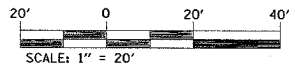
- STAGE II CONSTRUCTION SHALL CONSIST OF STAGE II REMOVAL OF THE EXISTING SUPERSTRUCTURE, AND STAGE II CONSTRUCTION OF THE REPLACEMENT STRUCTURE. STAGE II CONSTRUCTION SHALL BE DONE ACCORDING TO STAGE CONSTRUCTION AS DETAILED IN THE BRIDGE PLANS. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE APPLICABLE 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:

- THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE AND FIELD ENTRANCES LOCATED WITHIN THE LIMITS OF THE PROJECT.
- 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.
- THE FINAL BITUMINOUS WEARING SURFACE MUST BE IN PLACE ON THE STRUCTURE PRIOR TO OPENING A LANE TO TRAFFIC.
- REFER TO PLAN AND PROFILE SHEET TO DETERMINE LIMITS OF MILLING AND RESURFACING AREA.
- 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"
- THERE IS AT LEAST ONE FIELD ENTRANCE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACT SHOULD KEEP IT OPEN DURING STAGE CONSTRUCTION.

#### LEGEND:

- STRUCTURE REMOVAL
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR
- INDUCTION LOOP DETECTOR
- DRUM WITH STEADY BURNING LIGHT
- SIGNALIZED TWO-WAY TRAFFIC LANE
- TEMPORARY BRIDGE TRAFFIC SIGNAL
- TYPE III BARRICADE



REVISIONS	
NAME	DATE

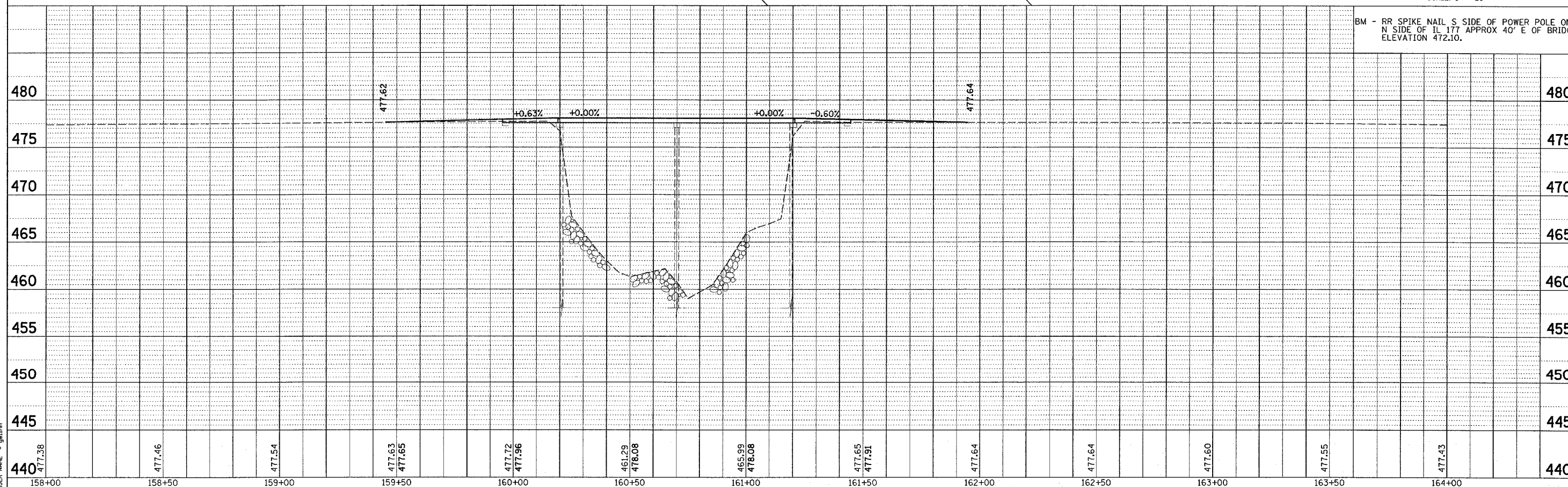
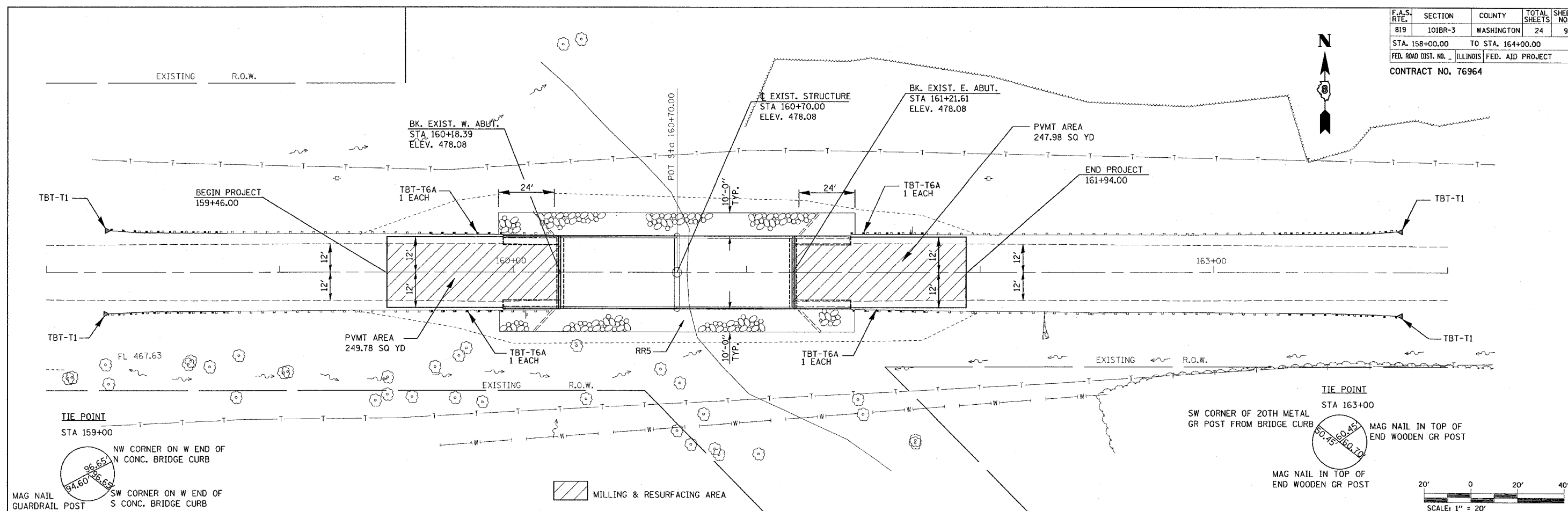
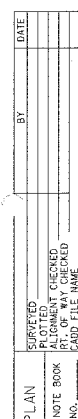
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**STAGE II CONSTRUCTION**  
 FAS ROUTE 819  
 SECTION 101BR-3  
 WASHINGTON COUNTY

SCALE: VERT.  
 HORIZ.  
 DATE

DRAWN BY  
 CHECKED BY



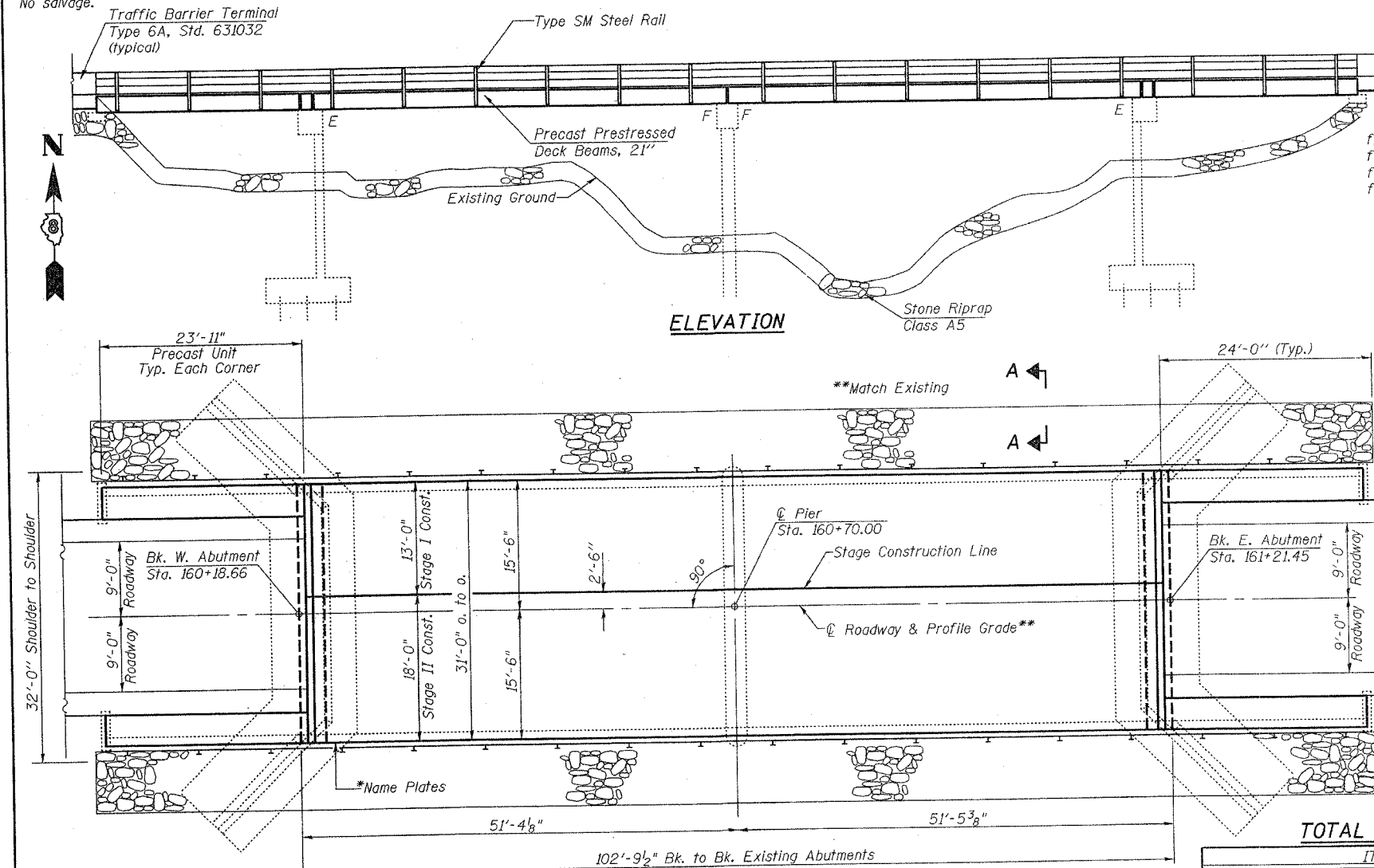
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	24	9
STA. 158+00.00		TO STA. 164+00.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 76964				



Bench Mark: RR Spike approximate 1' above ground in S. side of power pole on N. side of Il. Route 177 approximate 40' E. of bridge SN 095-0021 Elev. 472.10

Existing Structure: SN 095-0021 originally built in 1928 as S.B.I. Route 153, Sec. 101 B. The original single span truss was removed in 1978 and replaced with a two span PPC Deck beam superstructure. The superstructure is supported by closed abutments on untreated timber piles with cantilevered caps and a pile bent pier supported by steel piles added at the center of the original structure. The existing 21" PPC deck beams are to be removed and replaced with new deck beams and Class I wearing surface. The structure is 31'-0" out to out of deck and 102'-9 1/2" back to back of abutments. Staged construction will be utilized allowing one lane of traffic during construction.

No salvage.



STATION 160+70.00  
RE-BUILT 20\_\_ BY  
STATE OF ILLINOIS  
FAS RTE 819 SEC. 101BR-1  
LOADING HS20  
STR. NO. 095-0021

NAME PLATE  
See Std. 515001

#### WATERWAY INFORMATION

Drainage Area = 13.4 Sq. Mi. Low Grade Elev. 477.44 @ Sta. 156+00									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.	
Design	50	4,219	786	786	473.97	2.27	2.27	476.24	476.24
Base	100	4,868	815	815	474.28	2.78	2.78	477.06	477.06
Overlapping	120	5,145	826	826	474.40	3.04	3.04	477.44	477.44
Max. Calc.	500								

#### ELEVATION

#### PLAN

#### INDEX OF SHEETS

- 1) General Plan
- 2) Staged Construction
- 3) Temporary Concrete Barrier For Stage Construction
- 4) Approach Beam Details
- 5) Superstructure
- 6) Superstructure Details
- 7) 21"x36" PPC Deck Beam Details
- 8) 21"x48" PPC Deck Beam Details
- 9) Type SM Steel Bridge Rail Side Mounted
- 10) Expansion Joint Details
- 11) Abutments
- 12) Pier
- 13) Abutment Concrete Removal and Repair Details
- 14) Pier Repair Details
- 15) Bar Splicer Assembly Details

#### LOADING HS20-44

No Allowance for Future Wearing Surface

#### DESIGN SPECIFICATIONS

2002 AASHTO

#### DESIGN STRESSES

##### FIELD UNITS

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

##### PRECAST PRESTRESSED UNITS

$f'_c = 5,000$  psi  
 $f'_{ci} = 4,000$  psi  
 $f'_s = 270,000$  psi (1/2"  $\phi$  Low Relaxation Strands)  
 $f_{si} = 201,960$  psi (1/2"  $\phi$  Low Relaxation Strands)

##### PRECAST UNITS

$f'_c = 4,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

#### GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.

All construction joints shall be bonded. Expansion guards which are not cast in the precast unit shall be fabricated and erected according to Article 503.10 (C) of the Standard Specifications.

The top surface of the beams shall be finished according to Article 504.06 of the Standard Specification except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners and the top edge of keys shall be rounded or chamfered a minimum of 1/4".

Layout of Slope Protection System may be varied in the field to suit ground conditions as directed by the Engineer.

Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing Superstructures.

The minimum thickness of the Bituminous overlay shall be 1 1/2" and varies as required to adjust for the new profile grade and actual beam camber.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of the fascia beams. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

Repair of the pier caps shall be completed prior to placement of the new deck beams.

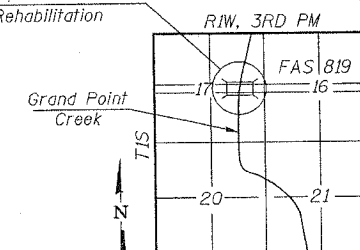
The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

If the Contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on new beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of the beams.

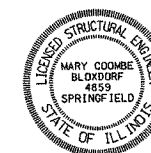
#### TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER
Removal of Existing Superstructures	Each	1
Concrete Removal	Cu. Yd.	3.5
Concrete Structures	Cu. Yd.	4.9
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	3074
Reinforcement Bars, Epoxy Coated	Pound	470
Steel Bridge Rail, Type SM	Foot	300
Bituminous Concrete Surface Course Superpave, Mix "C", N70	Ton	44
Waterproofing Membrane System	Sq. Yd.	349
Preformed Joint Strip Seal	Foot	62
Name Plates	Each	1
Bar Splicers	Each	12
Precast Concrete Bridge Slab	Sq. Ft.	359
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	41
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	4
Removal of Existing Precast Concrete Unit	Sq. Ft.	359
Stone Riprap Class A5	Sq. Yd.	754
Filter Fabric	Sq. Yd.	754
Portland Cement Mortar Fairing Course	Foot	893
Asbestos Bearing Pad Removal	Each	22

Proposed Structure  
Rehabilitation

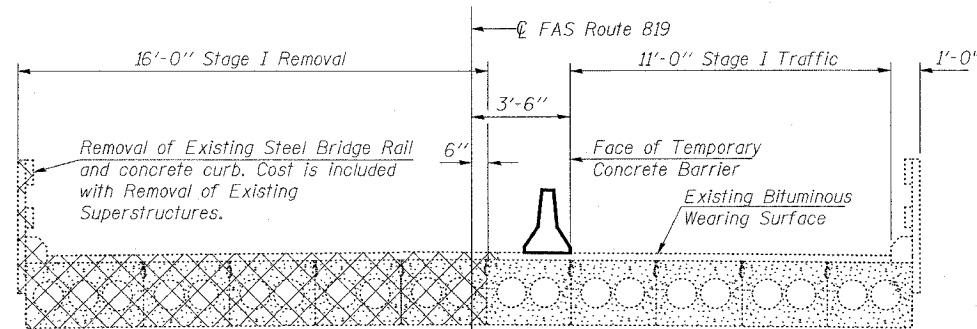


#### LOCATION SKETCH

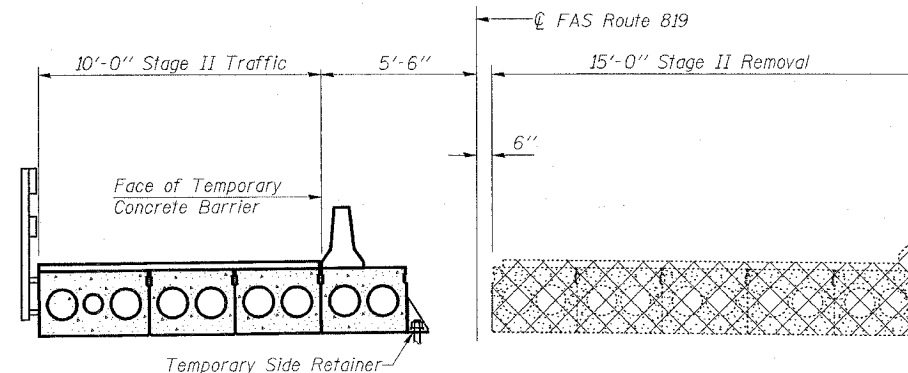


ILLINOIS STRUCTURAL NO. 4859  
EXPIRES: 11/30/06  
DATE: 5-9-06

ILLINOIS DEPARTMENT OF TRANSPORTATION	
GENERAL PLAN & ELEVATION	
PROJECT: IL RTE 177 OVER GRAND POINT CRK FAS ROUTE 819 SECTION 101BR-3 WASHINGTON COUNTY STATION 160+70.00 STRUCTURE NUMBER 095-0021	PROJECT NO: 095028-4 DATE: 05/09/06 DRAWN BY: TFG CHECKED BY: MCB
COOMBE-BLOXDORF P.C. Engineers / Land Surveyors Springfield, Illinois Design Firm License No. 184-002703	1 OF 15 SHTS

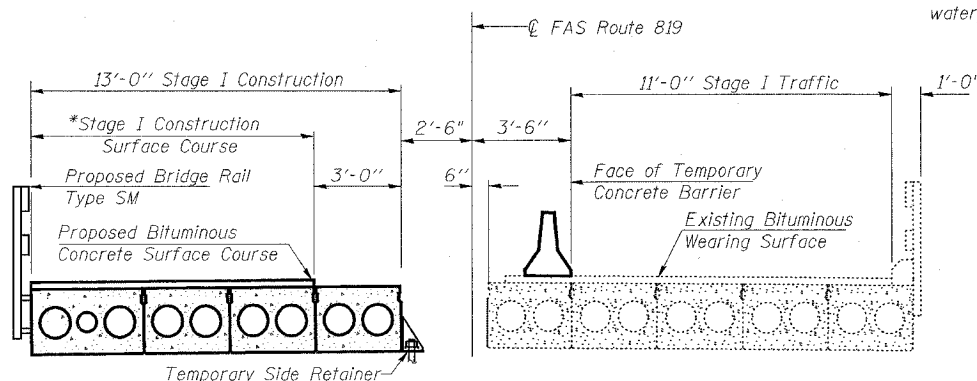


**STAGE I REMOVAL**  
(Looking East)

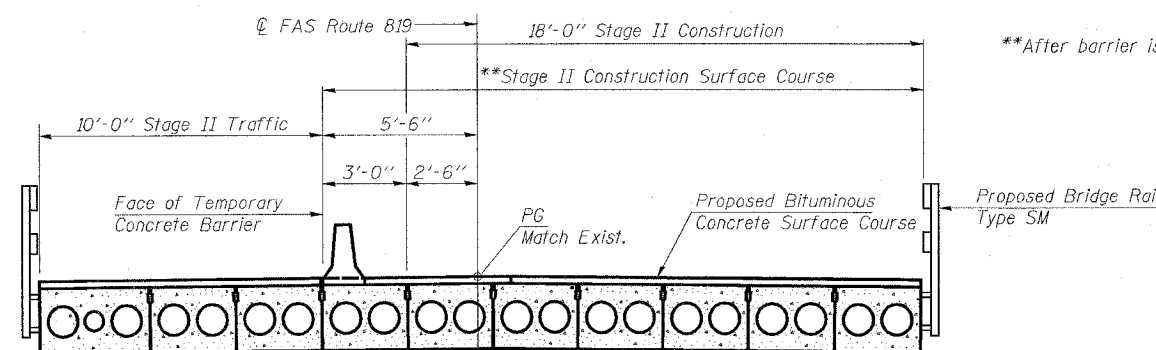


**STAGE II REMOVAL**  
(Looking East)

Removal of Existing Steel Bridge Rail and concrete curb. Cost is included with Removal of Existing Superstructures.

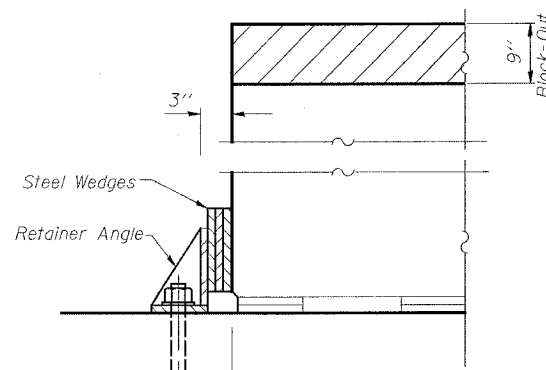


**STAGE I CONSTRUCTION**  
(Looking East)

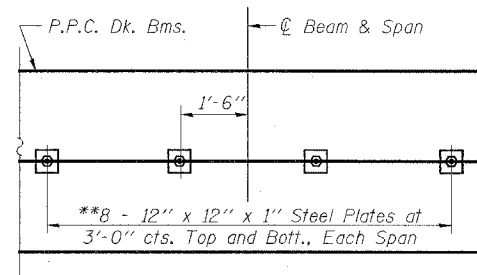


**STAGE II CONSTRUCTION**  
(Looking East)

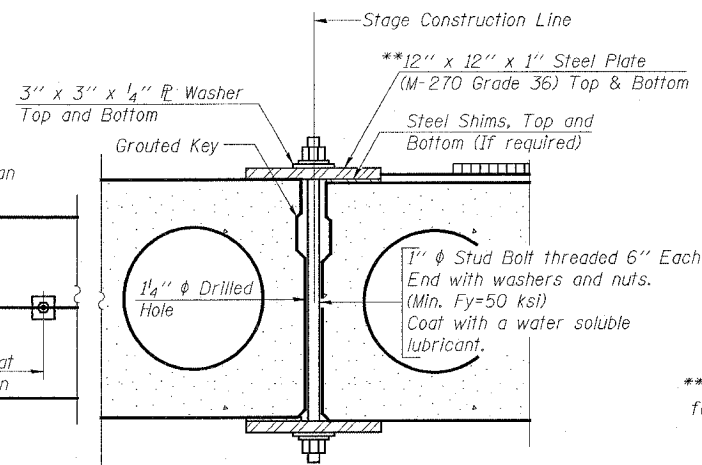
\*\*After barrier is removed.



**SECTION B-B**



**PLAN**



**SECTION**

**SHEAR KEY CLAMPING DETAILS AT STAGE CONSTRUCTION JOINT**

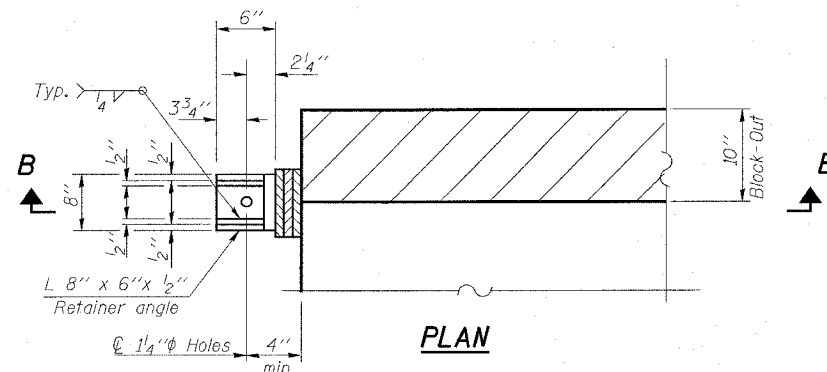
See Special Provisions for Stage Construction of Precast Prestressed Concrete Deck Beams. Cost of clamping device included in Precast Prestressed Concrete Deck Beams.

\*\*\*Anchor bolts shall be approved threaded rods placed in drilled holes and grouted in place. Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams (21" Depth).

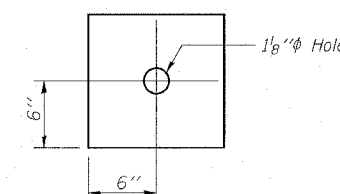
**NOTES**

Cross Hatched areas indicate Removal of Existing Superstructures. See Roadway plans for quantity of Temporary Concrete Barrier. Temporary Side Retainers to be placed with beams at abutments only. Remove and grind anchor bolt flush with cap after Blockout at Stage I Construction has cured and prior to placement of deck beam at the centerline of roadway. Cost included with Precast Prestressed Concrete Deck Beams (21" Depth).

\*\*Space plates to miss wood blocks for Temporary Concrete Barrier.

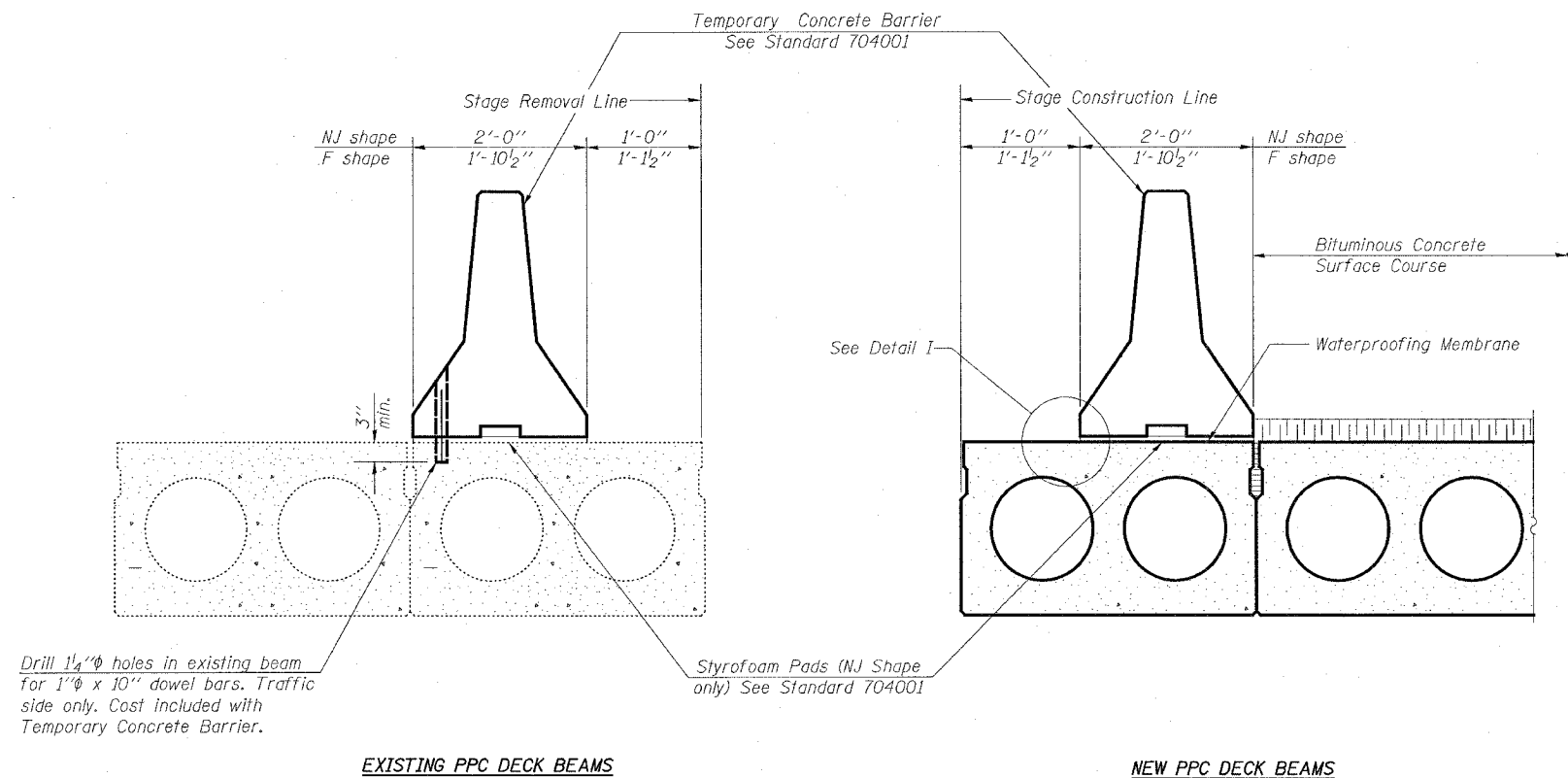


**TEMPORARY SIDE RETAINER**

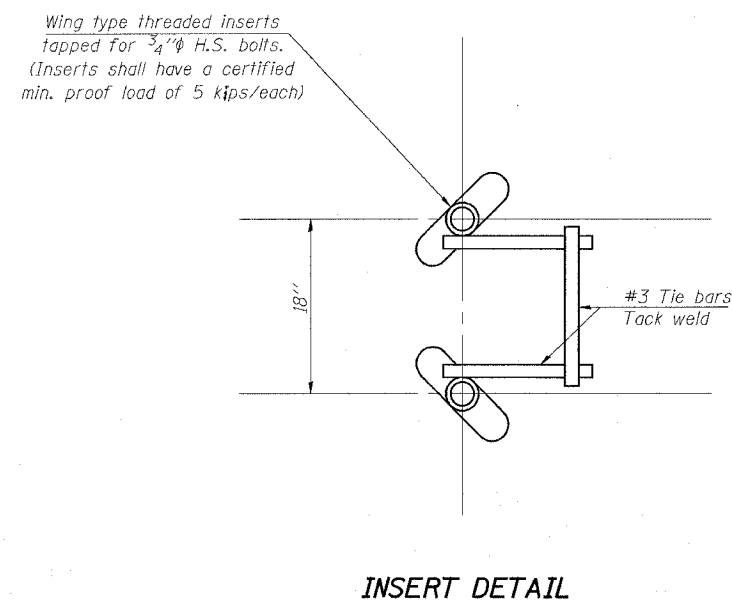


**CLAMPING PLATE**

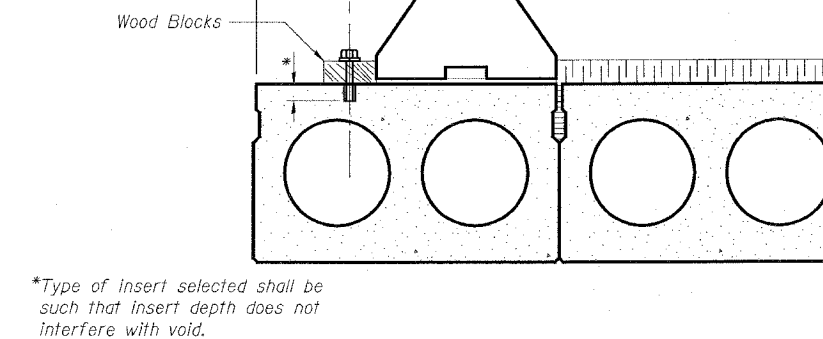
ILLINOIS DEPARTMENT OF TRANSPORTATION			
STAGED CONSTRUCTION			
PROJECT	IL RTE 177 OVER GRAND POINT CRK	PROJECT NO.	05028-4
FAS ROUTE 819 SECTION 101BR-3		DATE	05/09/06
WASHINGTON COUNTY		DRAWN BY	TEG
STATION 160+70.00		CHECKED BY	CME/MCB
STRUCTURE NUMBER 095-0021		DRAWING NO.	
COOMBE-BLOXDORF P.C.		2	
Engineers/Land Surveyors		OF 15 SHTS	
Springfield, Illinois			
Design Firm License No. 184-002708			



### SECTIONS THRU PPC DECK BEAMS



2-Wing type threaded inserts  
for 3/4"  $\phi$  H.S. bolts with  
flat hardened washer.  
Grout holes after removal.



### DETAIL I

The Temporary Concrete Barrier and wood blocks shall not be removed until Stage II Construction PPC Deck Beams have been placed and shear keys grouted.

### NOTES

The 3/4"  $\phi$  high strength bolts used to connect the wood blocks shall be tightened to a snug fit without crushing the wood block. The wing type threaded insert assembly shall be spaced 6'-0" longitudinally.

The Waterproofing Membrane shall extend under the Temporary Concrete Barrier without the asphalt sand seal protection layer. Once the Temporary Concrete Barrier has been removed and the penetrating primer, coal tar emulsion, coal tar emulsion and fiber-glass fabric and coal tar emulsion slurry layers of the Waterproofing Membrane is lapped 6", the asphalt sand seal protection layer shall be applied according to Article 581 of the Standard Specifications.

The cost for H.S. bolts, flat headed washers and wood block is included with Temporary Concrete Barrier.

The cost for wing type threaded inserts is included with Precast Prestressed Concrete Deck Beams (21" Depth).

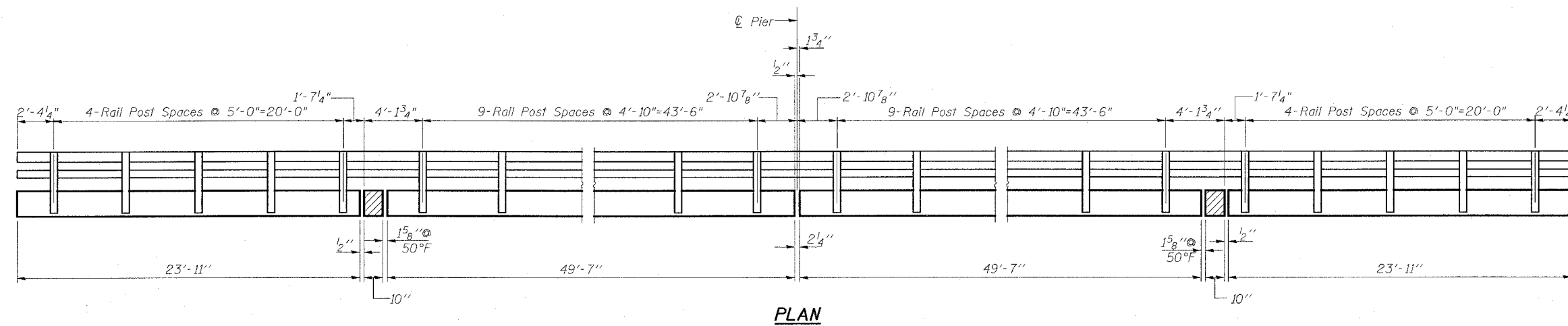
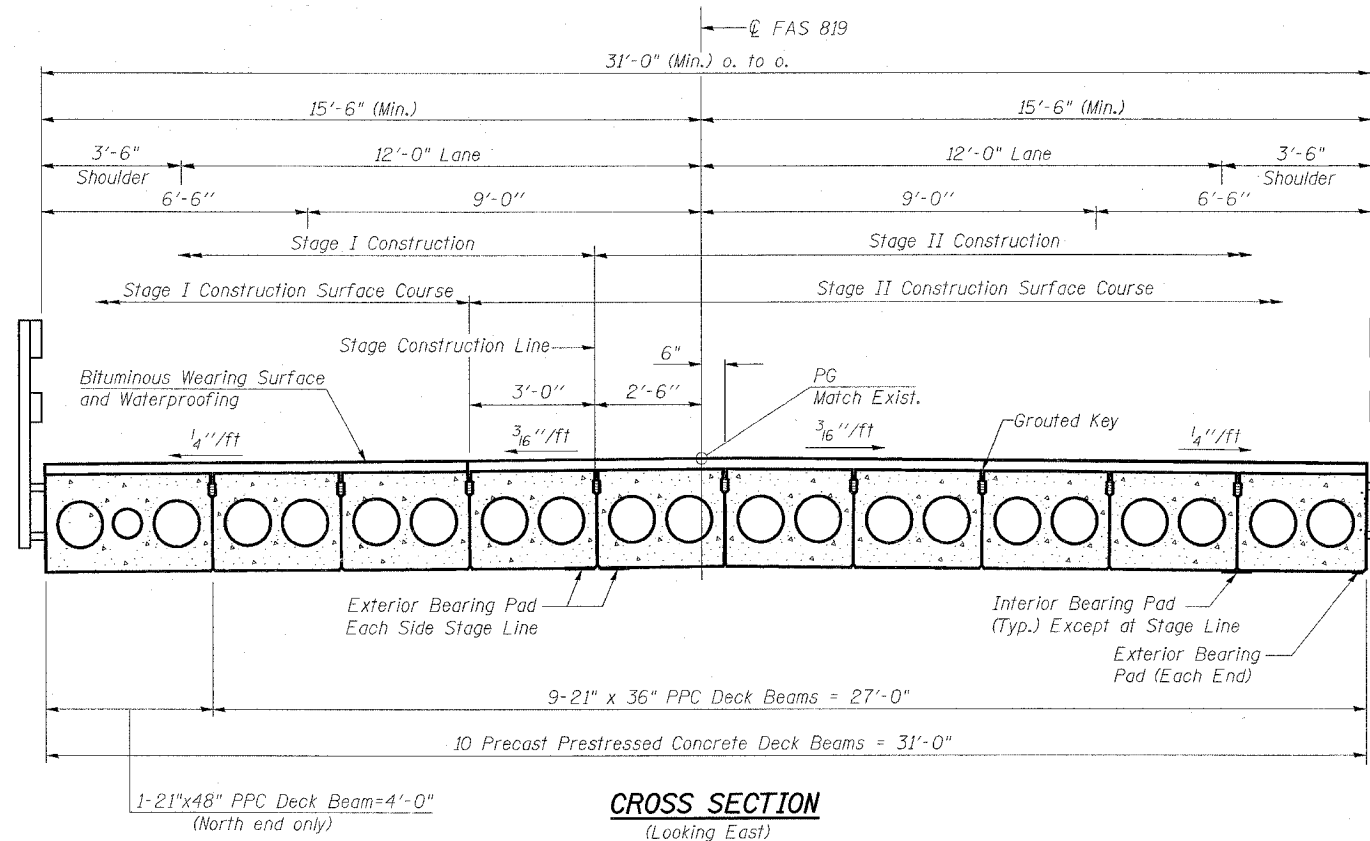


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 819	101BR-3	WASHINGTON		14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

CONTRACT NO. 76964

SHEET NO. 5

15 SHEETS

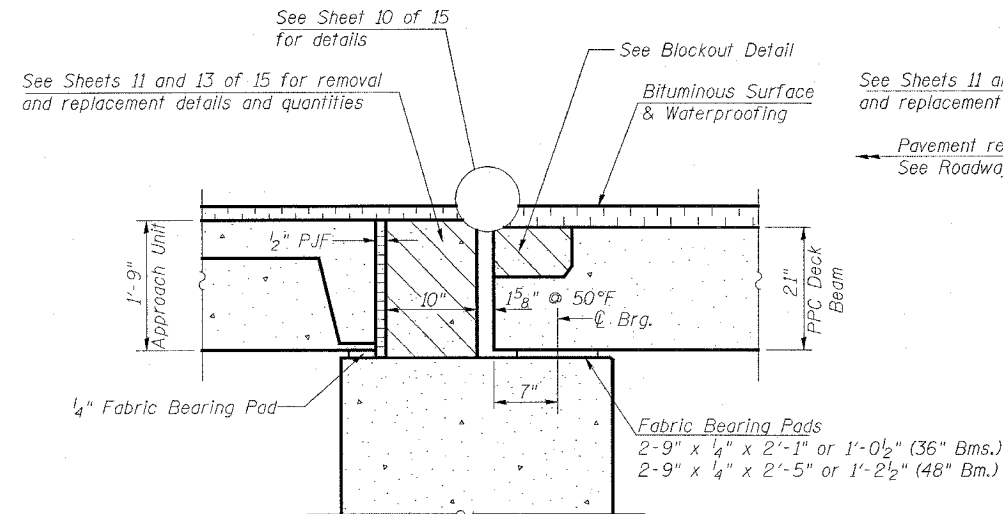


ILLINOIS DEPARTMENT OF TRANSPORTATION	
SHEET TITLE	
SUPERSTRUCTURE	
PROJECT	PROPERTY NO. C0528-4
IL RTE 177 OVER GRAND POINT CRK FAS ROUTE 819 SECTION 101BR-3 WASHINGTON COUNTY STATION 160+70.00 STRUCTURE NUMBER 095-0021	SCALE  DATE 05/09/06 BY TFG CHECKED BY CNE/MCB DRAWING NO.
COOMBE-BLOXDORF P.C.	
Engineers / Land Surveyors Springfield, Illinois	
Design Firm License No. 184-002708	
OF 15 SHEETS	

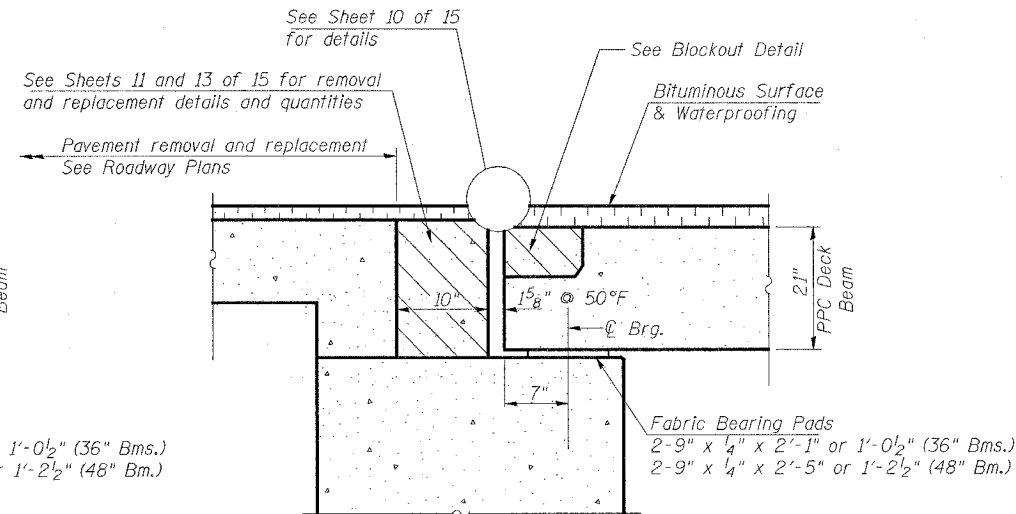
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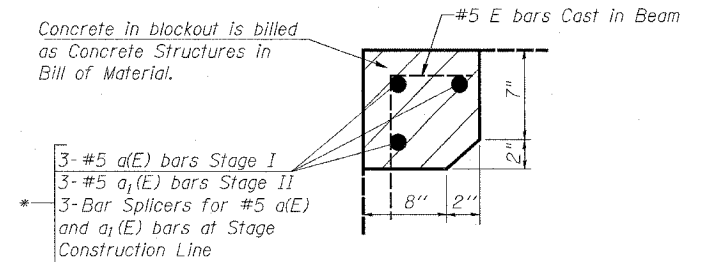
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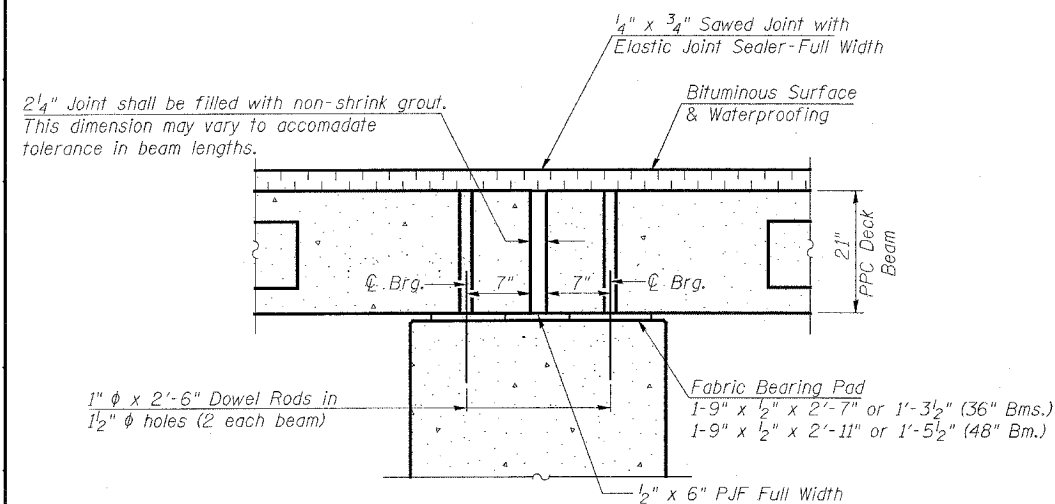
SECTION THRU ABUTMENTS  
(At outside beams)



SECTION THRU ABUTMENTS  
(At  $\text{C}$  Roadway)



**BLOCKOUT DETAIL**  
\*At Each Abutment



SECTION THRU PIER

NOTES

Hatched areas to be poured after beams have been erected and joints are grouted.

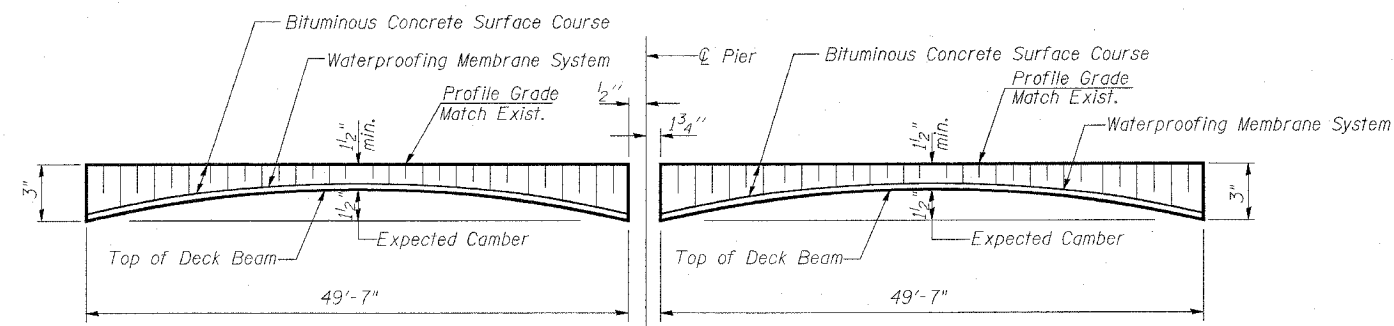
Existing bearing pads at Abutments are made of graphited asbestos. The contractor shall take appropriate precautions during the removal and disposal of these bearing pads.

After beams have been erected, holes for dowel rods shall be drilled into substructure and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure minimum 24 hours prior to grouting the shear keys.

Reinforcement bars designated (E) shall be epoxy coated. See Sheet 5 of 15 for Cross Section and Railing Elevation.

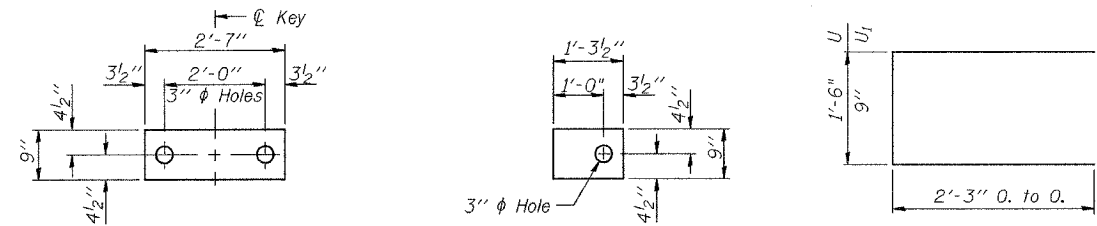
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	6	#5	12'-9"	_____
a <sub>1</sub> (E)	6	#5	17'-9"	_____
Reinforcement Bars (Epoxy Coated)			Lb.	190
Concrete Structures			Cu. Yd.	1.4
Bar Splicers			Each	6



CAMBER DIAGRAM

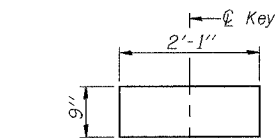




**FABRIC BEARING PAD**  
(Interior-14 required)

**FABRIC BEARING PAD**  
(Exterior-6 required)

**FIXED**

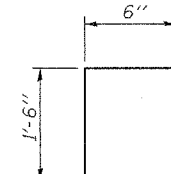


**FABRIC BEARING PAD**  
(Interior-14 required)

**FABRIC BEARING PAD**  
(Exterior-6 required)

**EXPANSION**

**BARS U and U1**



**BAR E**

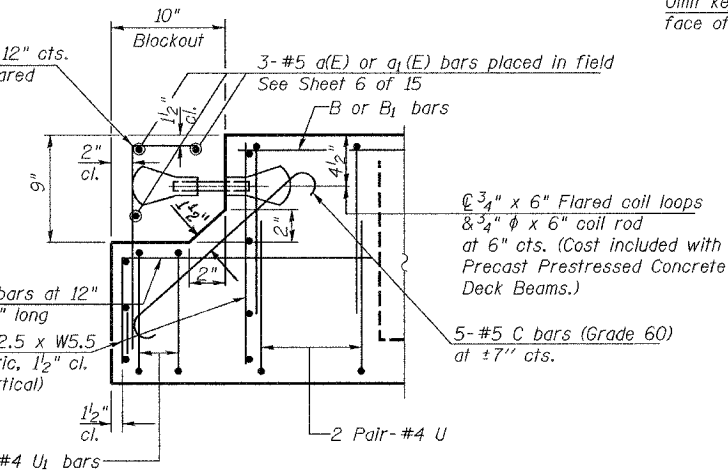
4-#5 E bars at 12" cts.  
Space to miss Flared  
Coil Loops

3-#5 a(E) or a1(E) bars placed in field  
See Sheet 6 of 15  
B or B1 bars

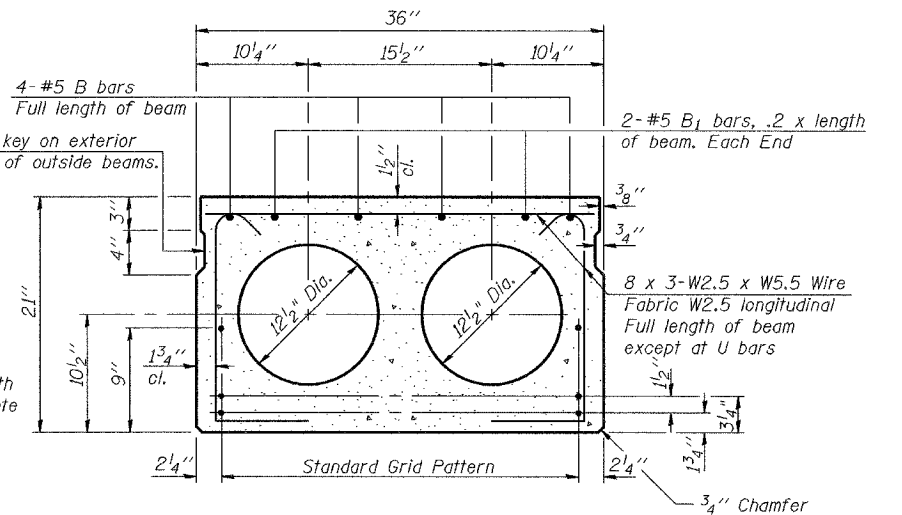
4-#4 B2 bars at 12"  
cts. 2'-0" long  
8 x 3-W2.5 x W5.5  
Wire Fabric, 1 1/2" cl.  
(W5.5 vertical)

2 Pair-#4 U1 bars

**END ELEVATION AT WEST ABUTMENT**



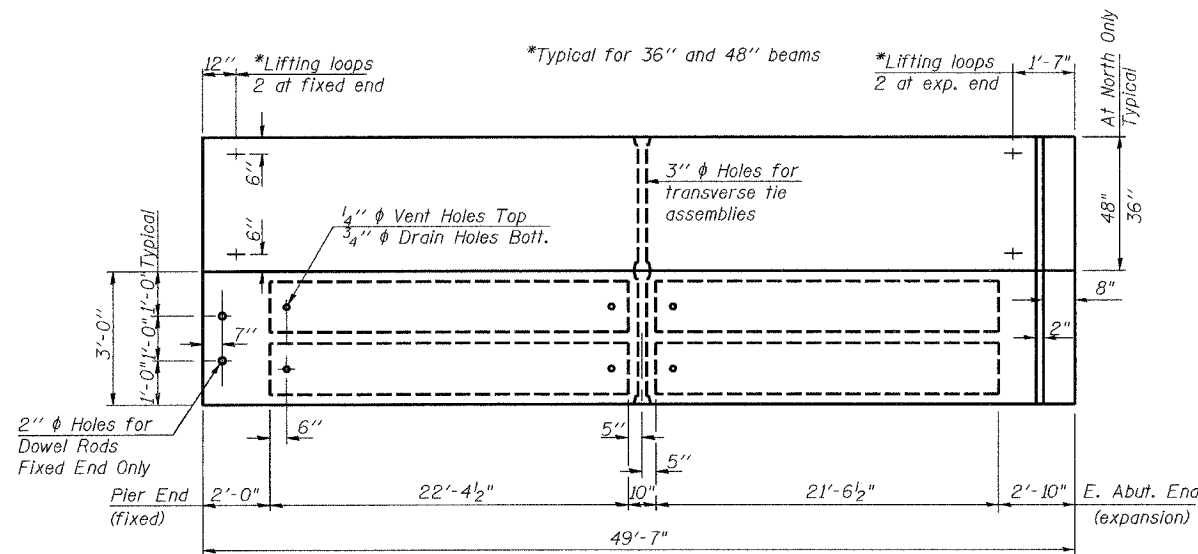
4-#5 B bars  
Full length of beam  
Omit key on exterior  
face of outside beams.



**TYPICAL SECTION**

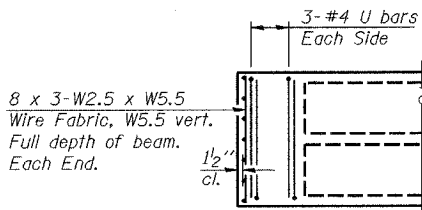
1/2" Strands, Each Strand Stressed to 30,900 Lbs.  
6-Strands 1 3/4" up, 8-Strands 3/4" up, 2-Strands 9" up

Note:  
Place strands symmetrically  
about center of beam.

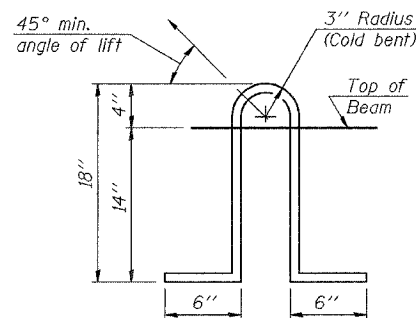


**PLAN-SPAN 2**

Span 1 similar by opposite hand

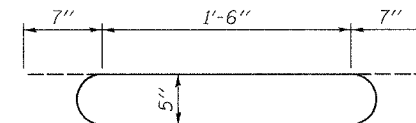


**END PLAN AT PIER**



**LIFTING LOOP DETAIL**

**BAR C**



## NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2"  $\phi$  270 ksi strands, as shown. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4000 p.s.i. See Sheet 8 of 15 for 21" x 48" PPC Deck Beam details and Transverse Tie Assembly Detail. See Sheet 5 of 15 for Cross Section. Bridge Rail inserts shall be cast into precast beams. See sheet 5 of 15 for spacing and sheet 9 of 15 for rail details. Cost included with Precast Prestressed Concrete Deck Beams, (21" Depth).

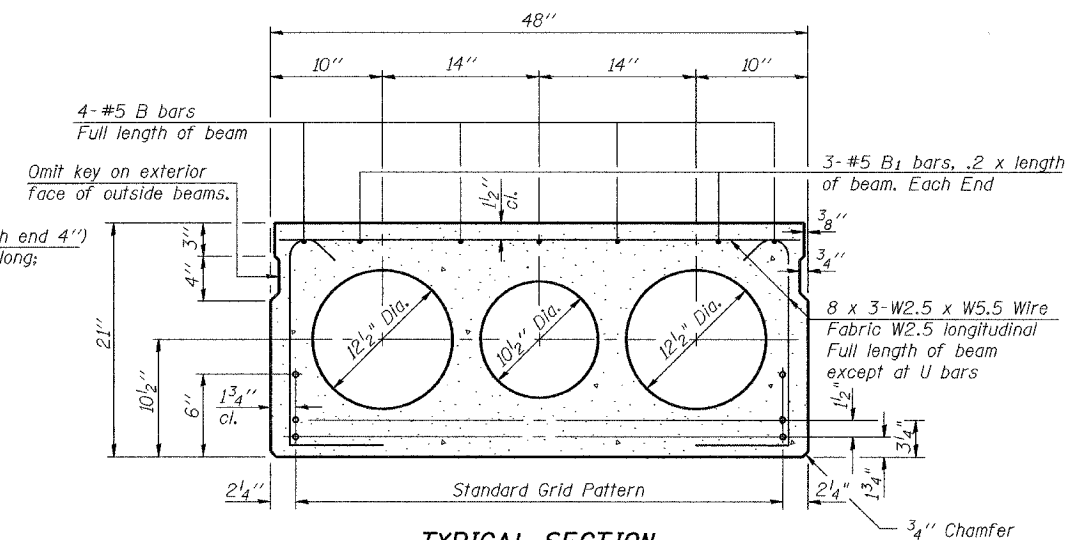
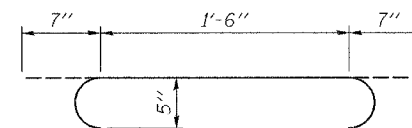
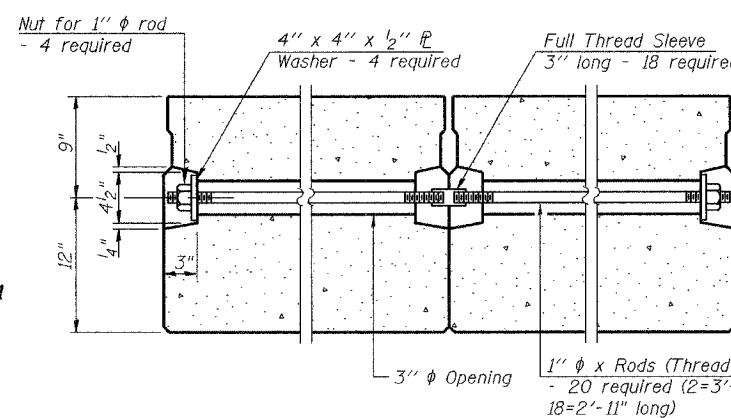
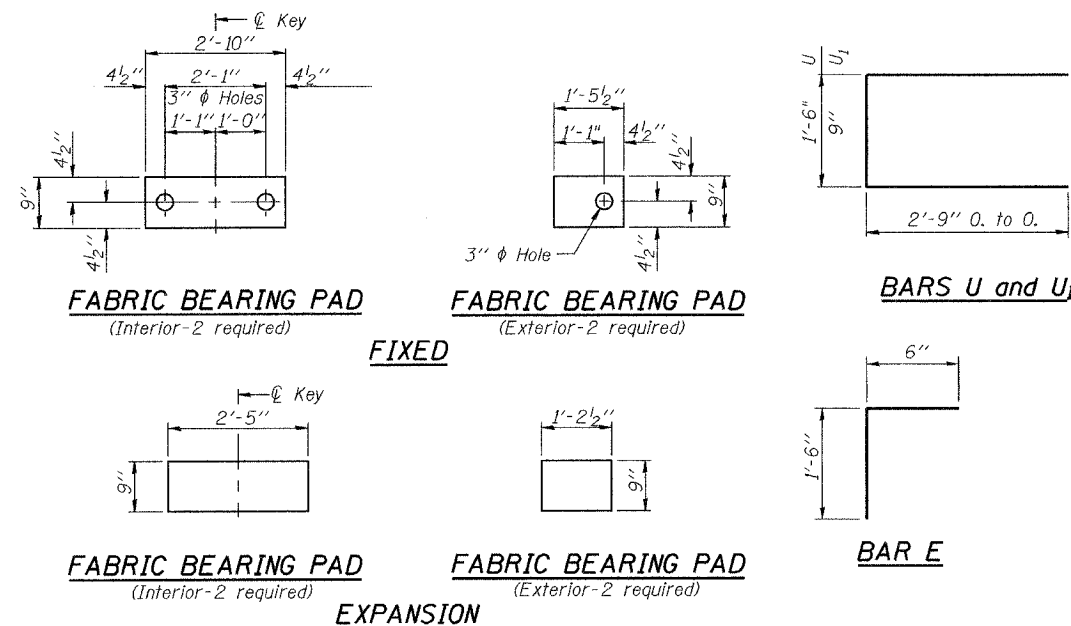
## BILL OF MATERIAL

Item	Unit	Total
* Precast Prestressed Conc. Deck Bms. 21"	Sq. Ft.	2677

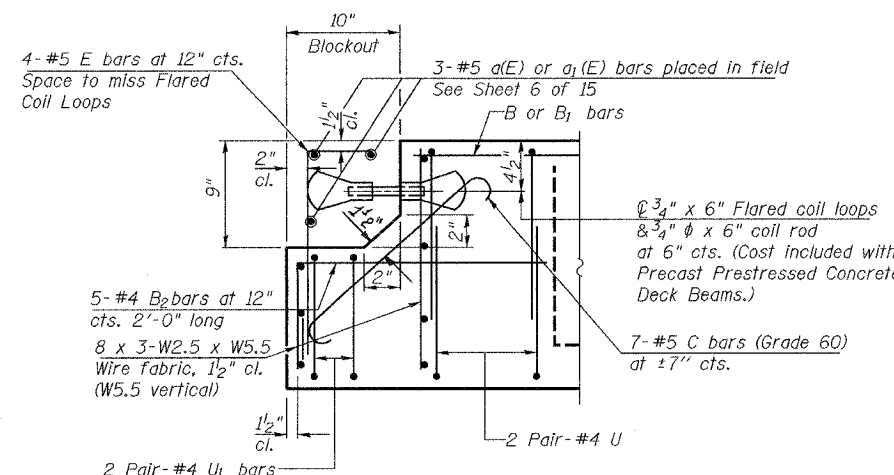
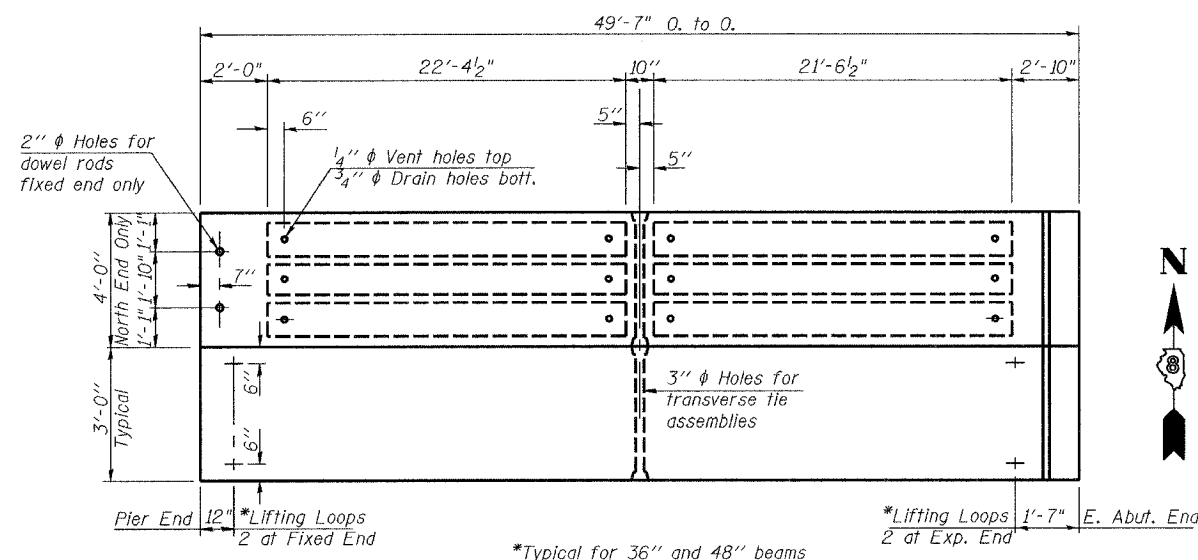
\*Width = 36"

ILLINOIS DEPARTMENT OF TRANSPORTATION			
SHEET TITLE			
21"x36" PPC DECK BEAM DETAILS			
PROJECT	IL RTE 177 OVER GRAND POINT CRK	PROJECT NO.	05028-4
FAS ROUTE 819 SECTION 101BR-3		DATE	06/01/06
WASHINGTON COUNTY		DESIGNED BY	TFG
STATION 160+70.00		CHECKED BY	CME/MCB
STRUCTURE NUMBER 095-0021		DRAWING NO.	
COOMBE-BLOXDORF P.C.		7	
Engineers / Land Surveyors			
Springfield, Illinois			
Design Firm License No. 184-002703		OF 15 SHEETS	





Note:  
Place strands symmetrically about  $\bar{C}$  of beam.



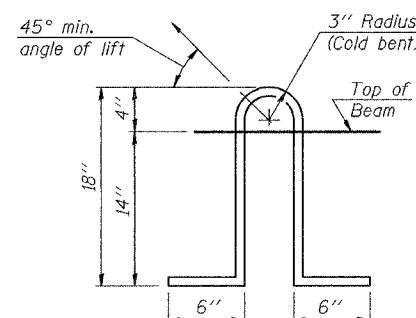
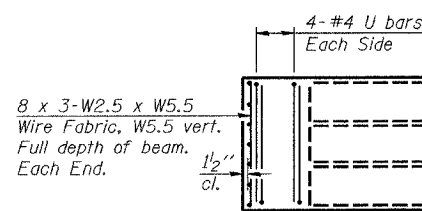
# BILL OF MATERIAL

Item	Unit	Total
* Precast Prestressed Conc. Deck Bms. 21"	Sq. Ft.	397

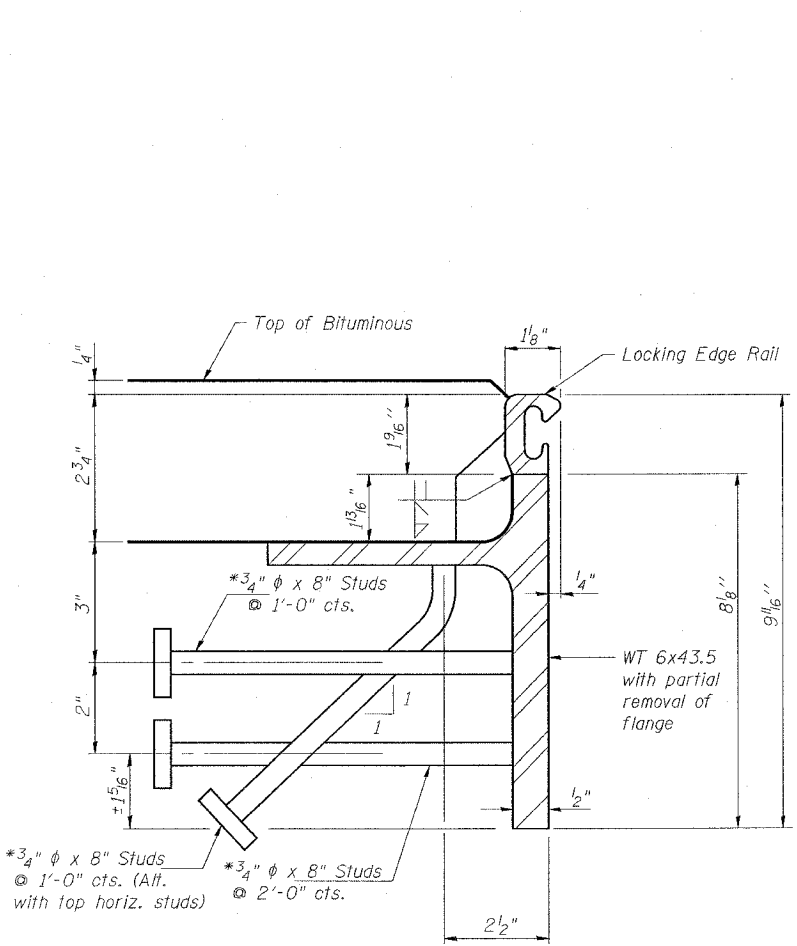
\*Width = 48"

# NOTES

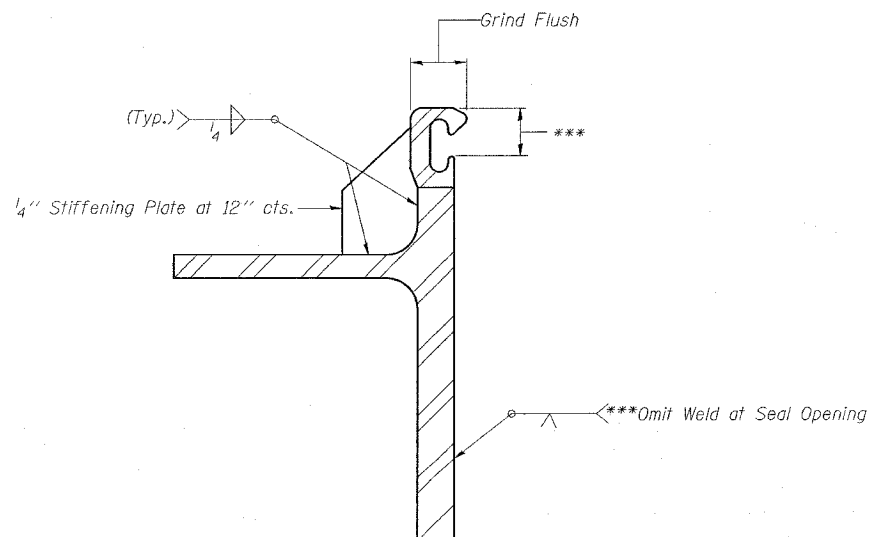
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be  $\frac{1}{2}$ " and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2- $\frac{1}{2}$ "  $\phi$ -270 ksi strands, as shown. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two  $\frac{1}{8}$ " fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4000 p.s.i. See Sheet 7 of 15 for 21" x 36" PPC Deck Beam details. See Sheet 5 of 15 for Cross Section. Bridge Rail Inserts shall be cast into precast beams. See Sheet 5 of 15 for spacing and sheet 9 of 15 for rail details. Cost included with Precast Prestressed Concrete Deck Beams, (21" Depth).







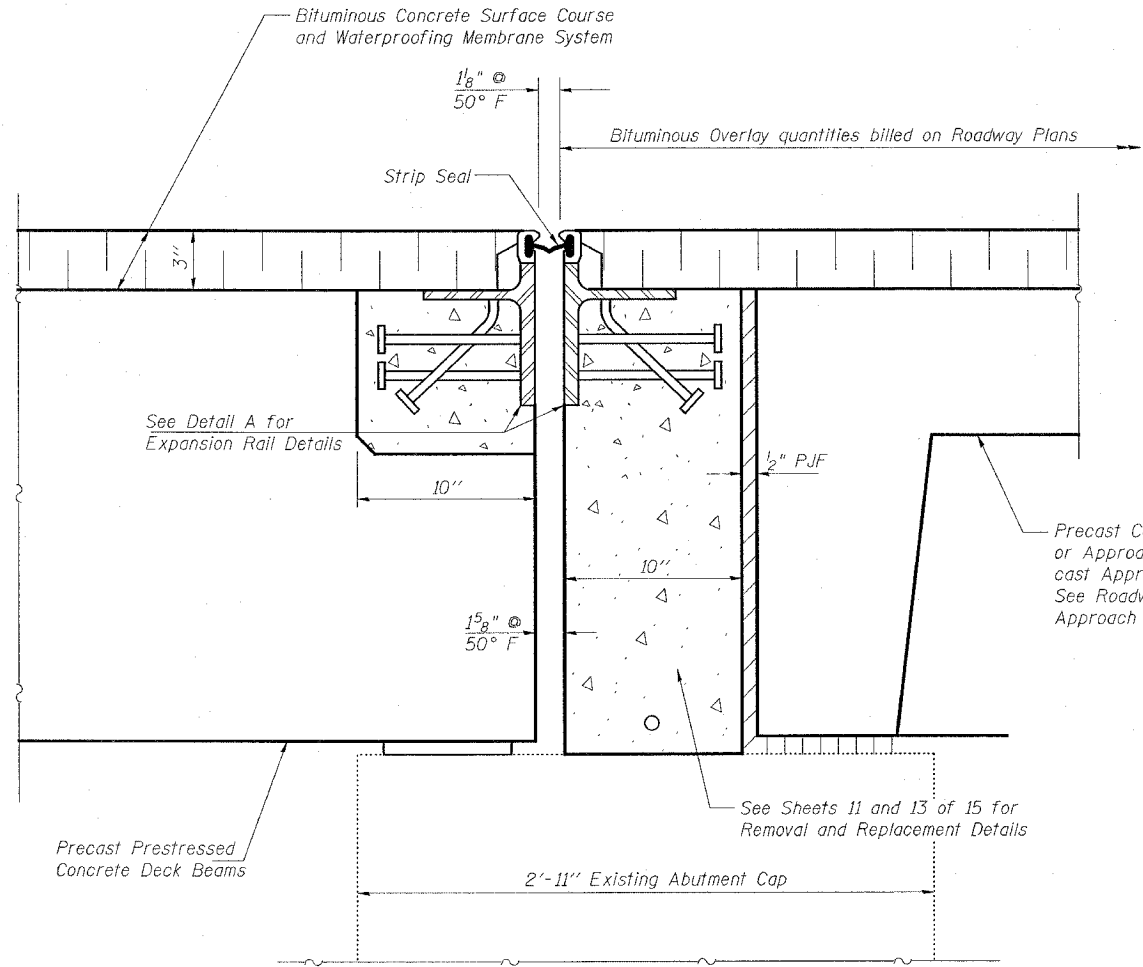
**DETAIL A**  
(308 Studs Required)



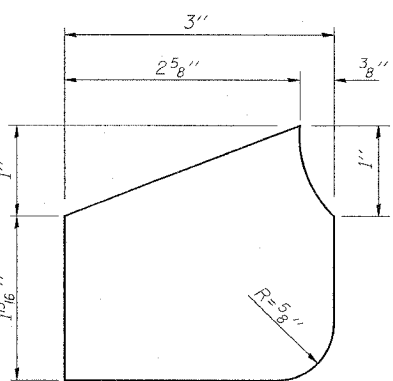
**LOCKING EDGE RAIL SPLICE**

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

\*Granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded.



**SECTION THRU ABUTMENT**



**STIFFENING PLATE**

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	62

**GENERAL NOTES**

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints. The manufacturer's recommended installation methods shall be followed. Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the blockouts are poured at an ambient temperature other than 50° F.

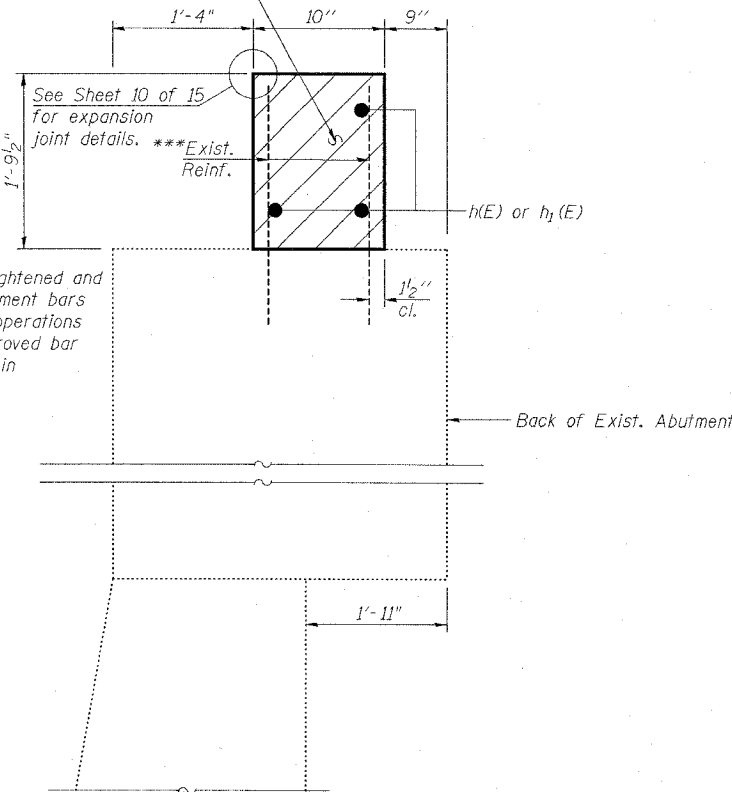
ILLINOIS DEPARTMENT OF TRANSPORTATION			
EXPANSION JOINT DETAILS			
PROJECT	IL RTE 177 OVER GRAND POINT CRK	PROJECT NO.	05028-4
FAS ROUTE 819 SECTION 101BR-3		DATE	05/09/06
WASHINGTON COUNTY		DESIGNED BY	TFG
STATION 160+70.00		CHECKED BY	CME/MCB
STRUCTURE NUMBER 095-0021		DRAWN BY	
COOMBE-BLOXDORF P.C.			10
Engineers / Land Surveyors			
Springfield, Illinois			
Design Firm License No. 164-002703			OF 15 SHTS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 819	101BR-3	WASHINGTON	20	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11  
15 SHEETS

CONTRACT NO. 75964

Hatched block is to be poured after beams have been erected and joints grouted. Ends of beams shall be aligned at the Abutments, any lineal variations in the beam lengths shall be placed at the Pier.



SECTION A-A

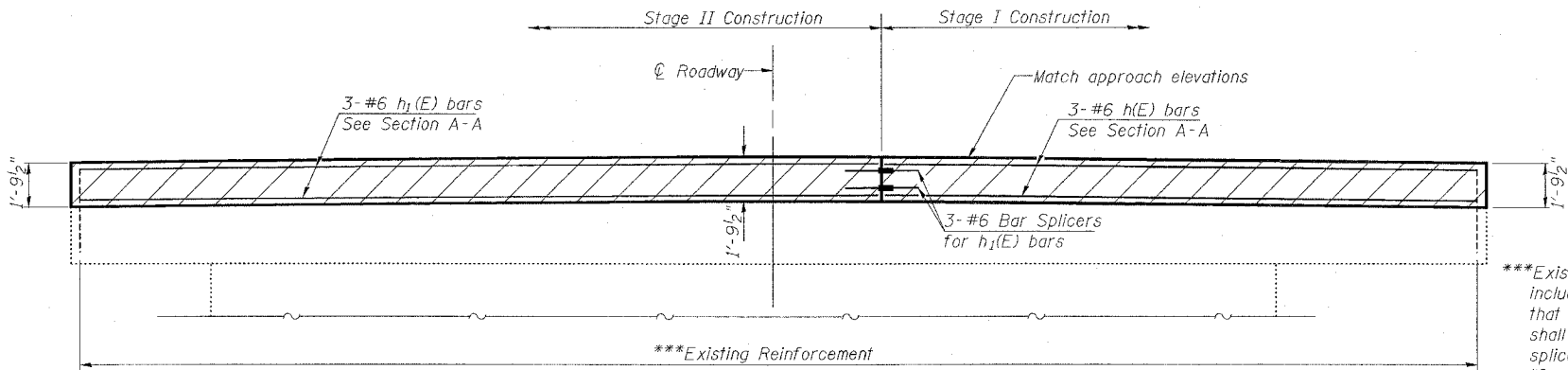
BILL OF MATERIAL-TWO ABUTMENTS

Bar	No.	Size	Length (ft)	Shape
h(E)	6	#6	13'-0"	—
h1(E)	6	#6	18'-0"	—
Reinforcement Bars, Epoxy Coated			Pound	280
Bar Splicers			Each	6
Concrete Structures			Cu. Yd.	3.5

NOTES

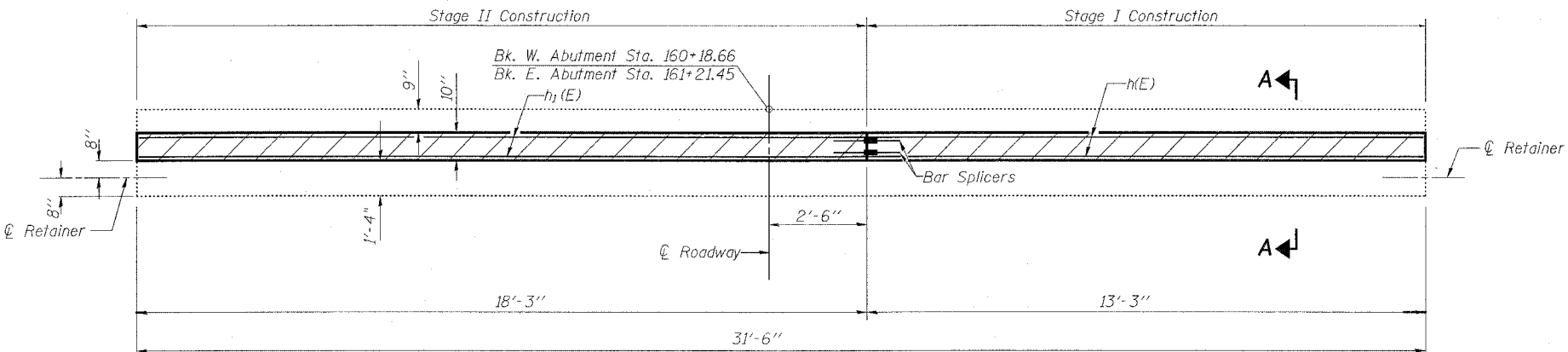
Install side retainer at end of abutment in each stage before grouting the beam shear keys. After the block out has cured the side retainer shall be removed. Anchor bolts may be left in place.  
The side retainers shall be galvanized after shop fabrication according to AASHTO M111 and ASTM 385.  
Reinforcement bars designated (E) shall be epoxy coated.

ILLINOIS DEPARTMENT OF TRANSPORTATION			
ABUTMENTS			
PROJECT	IL RTE 177 OVER GRAND POINT CRK	PROJECT NO.	05028-4
FAS ROUTE 819 SECTION 101BR-3		DATE	05/09/06
WASHINGTON COUNTY		DESIGNED BY	TFC
STATION 160+70.00		CHECKED BY	CME/MCB
STRUCTURE NUMBER 095-0021		DESIGNED BY	
COOMBE-BLOXDORF P.C.		11	
Engineers/Land Surveyors		OF 15 SHTS	
Springfield, Illinois			
Design Firm License No. 184-002703			

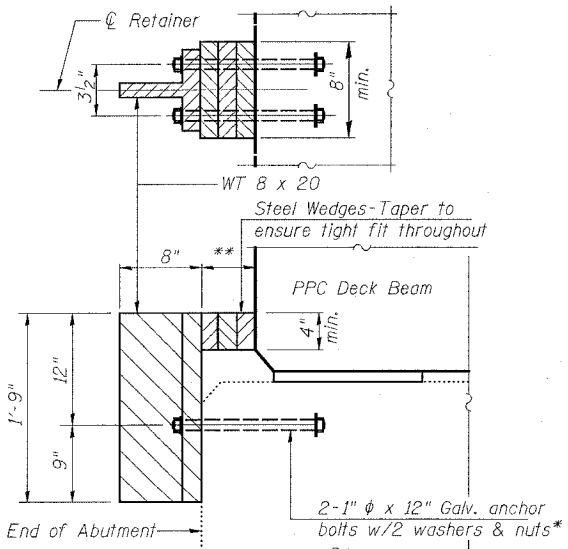


ELEVATION

Looking West at West Abutment  
East Abutment Similar by opposite hand



PLAN



RETAINER DETAILS

\*\*Dimensions = 3" without consideration of tolerance in beam widths

\*Anchor bolts shall be approved threaded rods placed in drilled holes and grouted in place. Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.

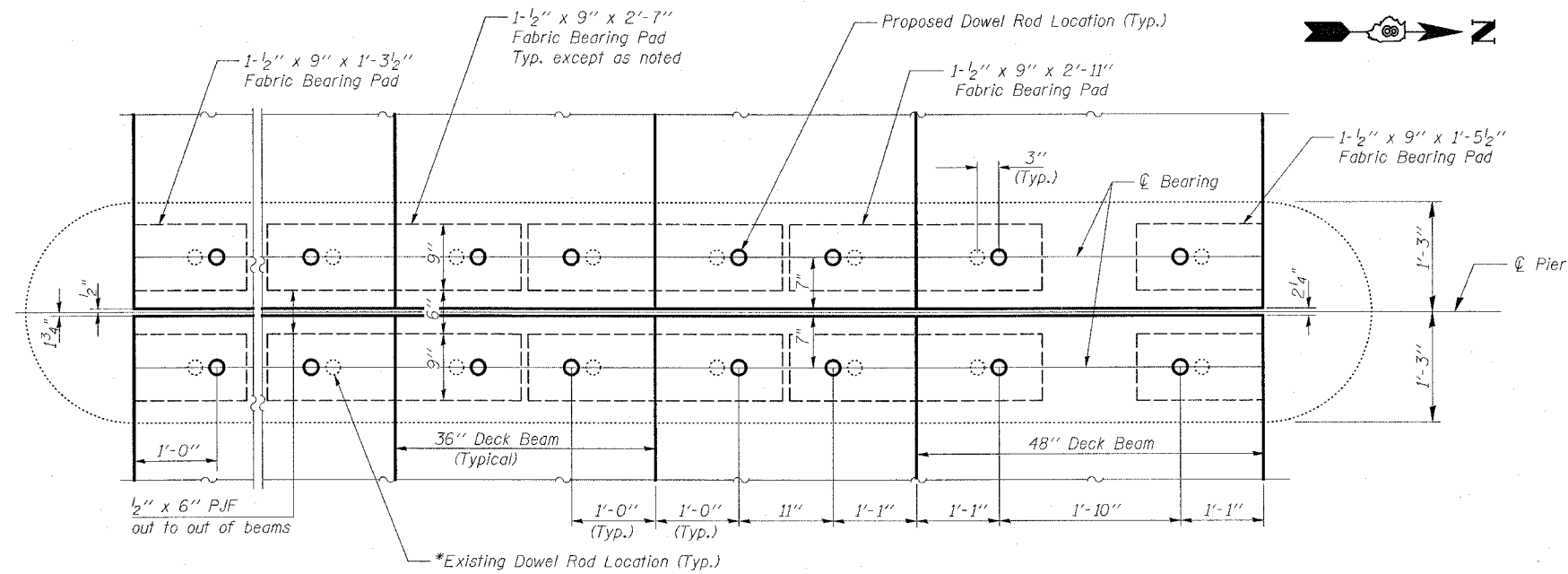
PLOT DATE = 5/15/2006  
FILE NAME = D:\88-095-0021-SHT-11-ABUT.dgn  
PLOT SCALE = 0.03125" = 1' / IN.  
USER NAME = JWH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 819	101BR-3	WASHINGTON		21
FED. ROAD DIST. NO. 7	BILLING		FED. AID PROJECT -	

CONTRACT NO. 76964

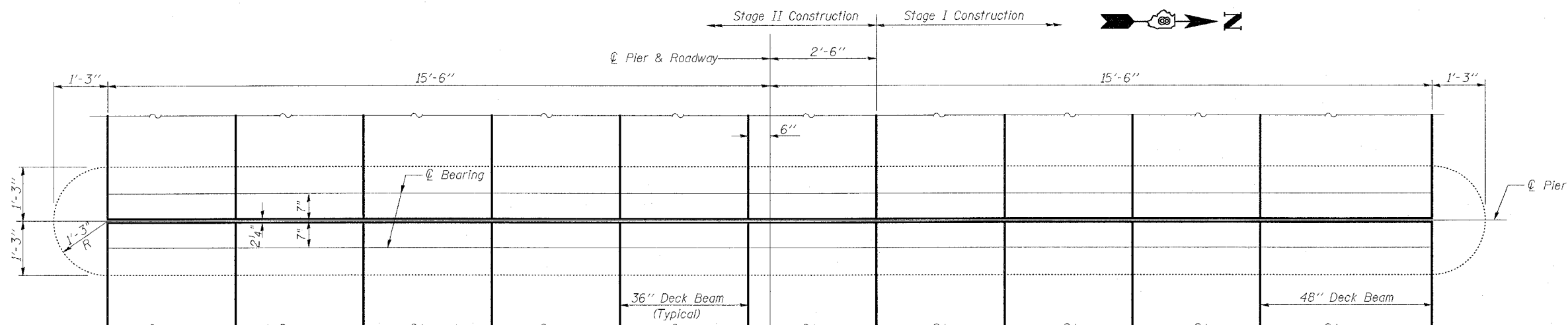
SHEET NO. 12

15 SHEETS



**PARTIAL PIER PLAN**  
(Showing Dowel Rod Locations)  
(Looking West)

\*Burn existing dowel rods flush with existing pier surface. Grind existing dowel rods smooth and seal with epoxy. Cost is included with Removal of Existing Superstructure.



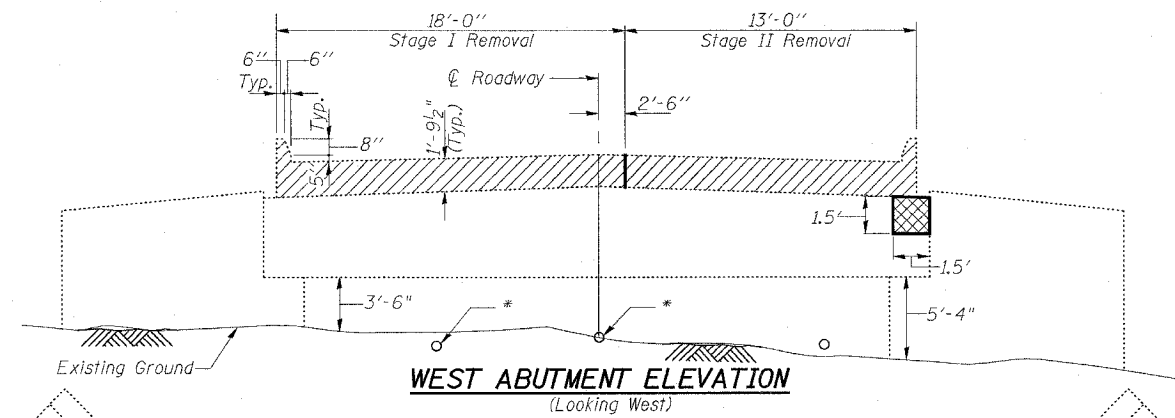
**PIER PLAN**  
(Showing Beam Locations)

ILLINOIS DEPARTMENT OF TRANSPORTATION	
SHEET TITLE	
PIER	
PROJECT	PROJECT NO.
IL RTE 177 OVER GRAND POINT CRK	05072-4
FAS ROUTE 819 SECTION 101B-3	SHEET
WASHINGTON COUNTY	DATE
STATION 160+70.00	05/09/06
STRUCTURE NUMBER 095-0021	ISSUED BY
	TFC
	DESIGNED BY
	CME/MCB
DRAWING NO.	
COOMBE-BLOXDORF P.C.	12
Engineers/Land Surveyors	
Springfield, Illinois	
Design Firm License No. 184-002703	OF 15 SHEETS

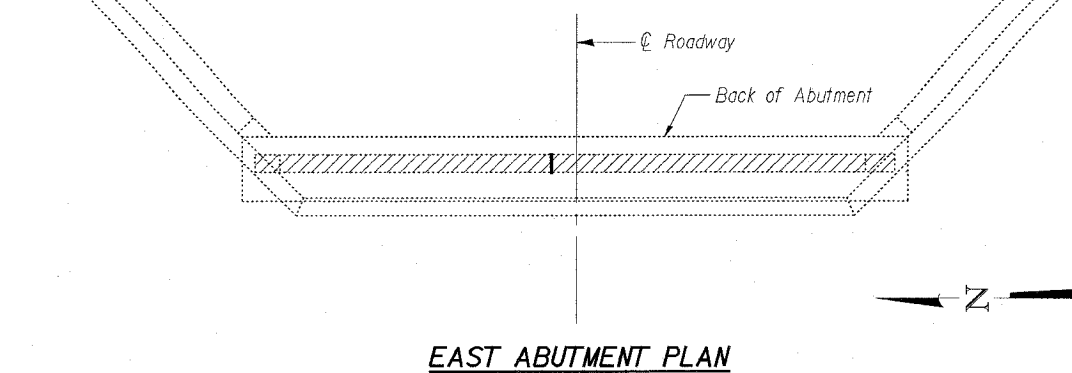
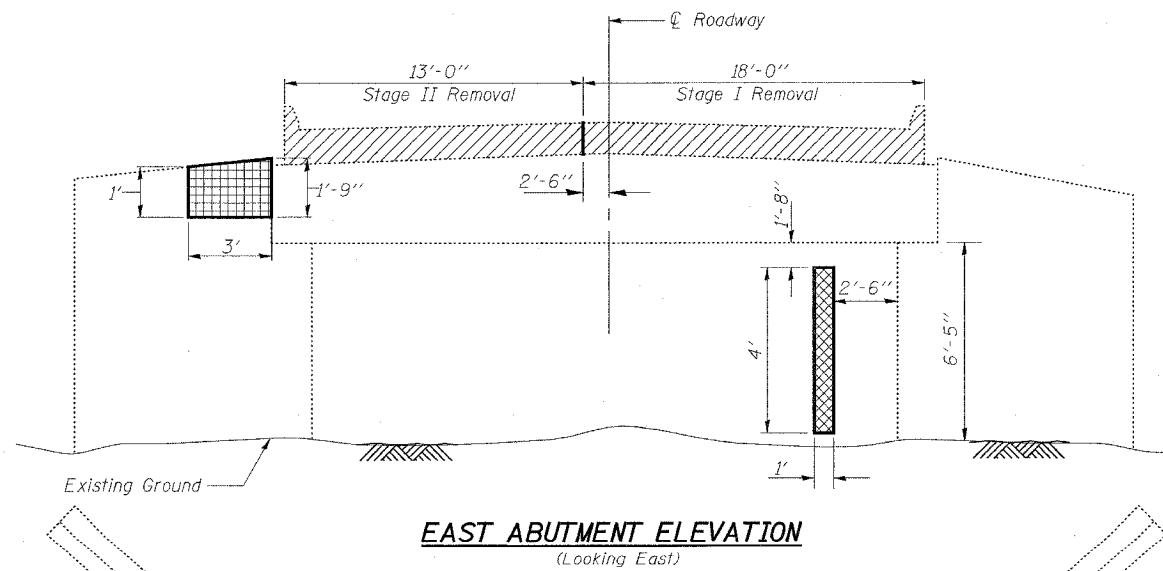
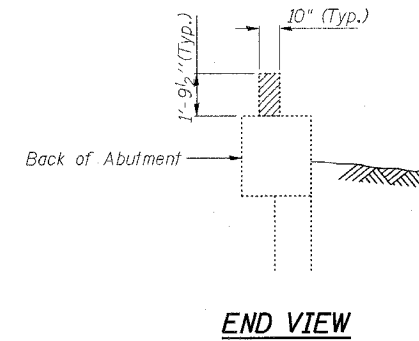
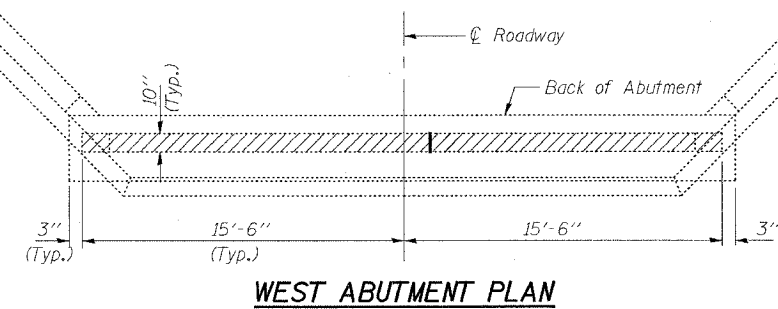
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


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PLOT SCALE   = 0.9722 " / IN.
USER NAME    = gellnh

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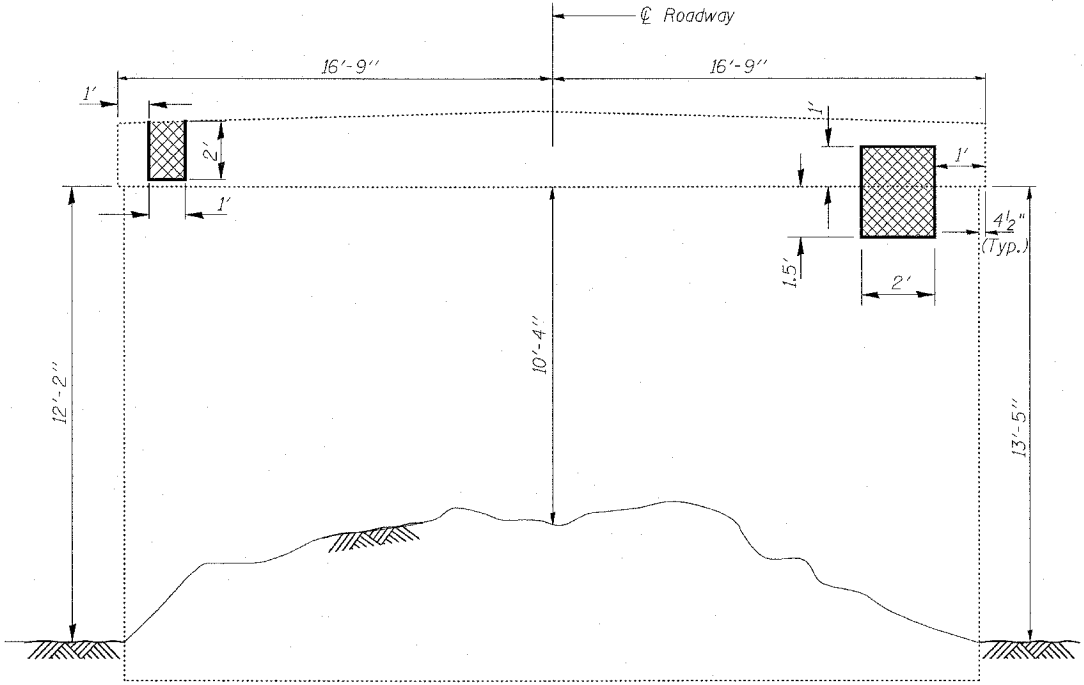
\*Existing drain holes to be unplugged.  
Cost included with Concrete Removal.



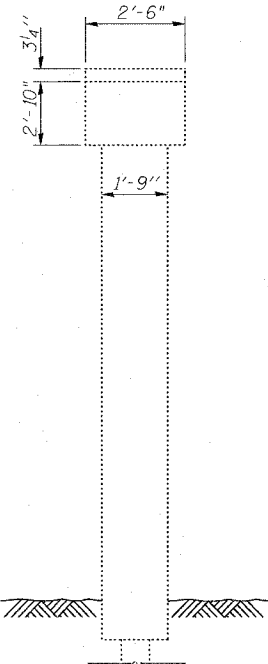
-  Denotes Concrete Removal
-  Denotes Structural Repair of Concrete (Depth Equal to or Less Than 5")
-  Denotes Structural Repair of Concrete (Depth Greater Than 5")

### BILL OF MATERIAL-TWO ABUTMENTS

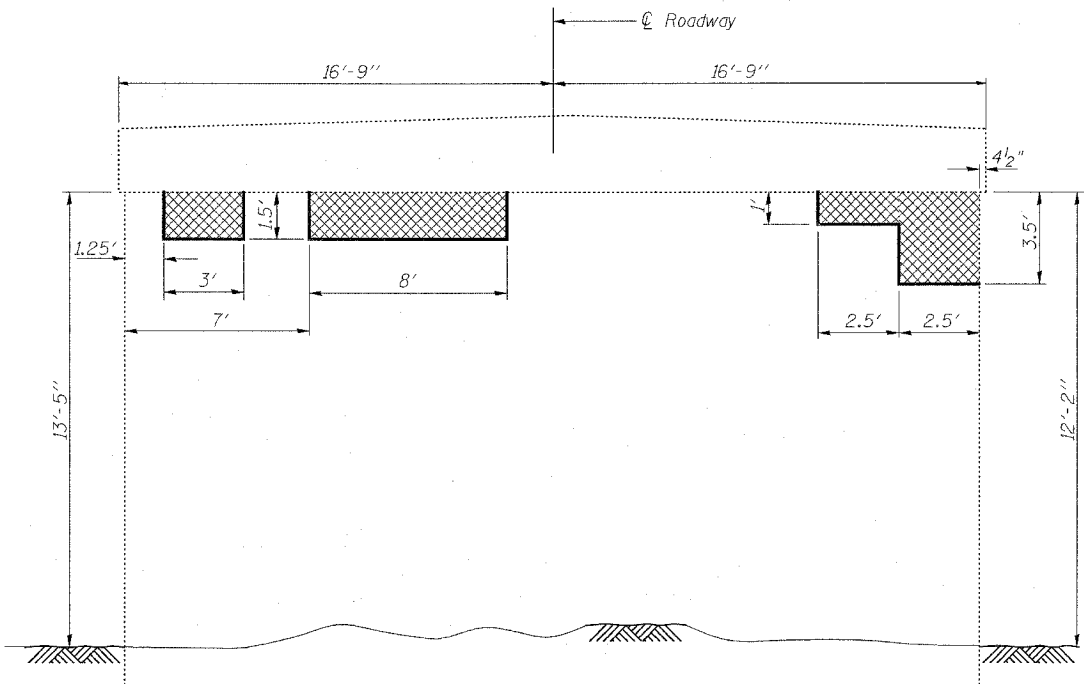
ITEM	UNIT	QTY
Concrete Removal	Cu. Yd.	3.5
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	6
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	4



**WEST PIER ELEVATION**  
(Looking East)



**END ELEVATION**



**EAST PIER ELEVATION**  
(Looking West)

Denotes Structural Repair of Concrete  
(Depth Equal to or Less Than 5")

**BILL OF MATERIAL**

ITEM	UNIT	QTY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	35

### NOTES

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

- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
- ② Minimum \*Pull-out Strength =  $1.25 \times f_{s_{allow}} \times A_t$   
(Tension in kips)

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{s_{allow}}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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

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

#### ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

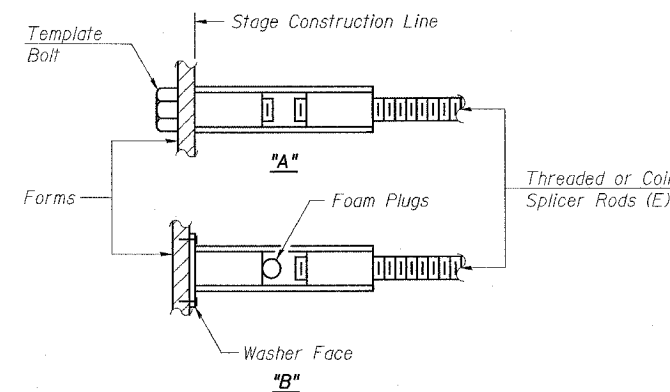
Wire Connector



WELDED SECTIONS

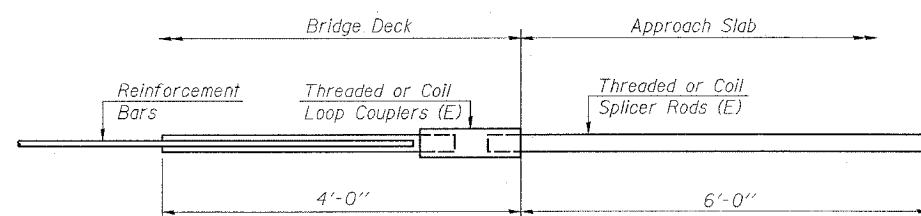
### BAR SPLICER ASSEMBLY ALTERNATIVES

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



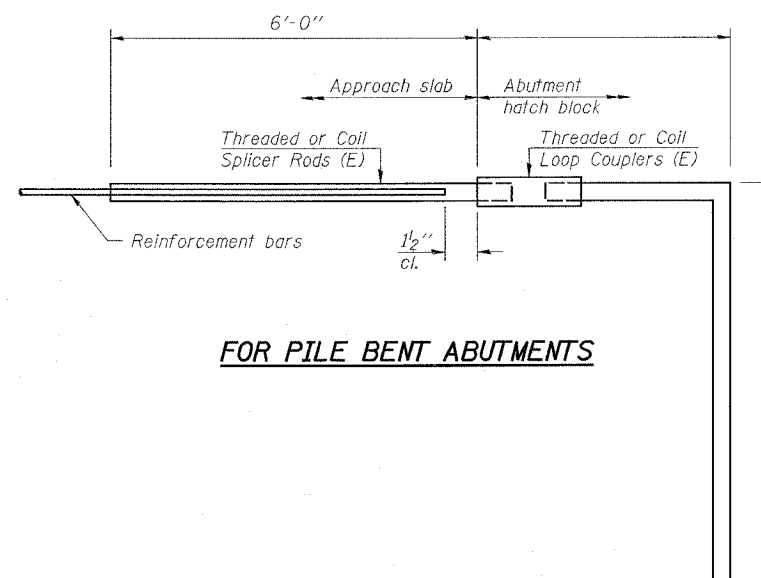
### INSTALLATION AND SETTING METHODS

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



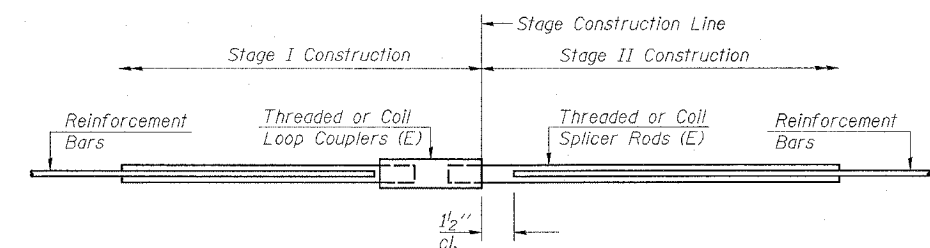
### FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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



### FOR PILE BENT ABUTMENTS

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



### STANDARD

Bar Size	No. Assemblies Required	Location
#5	6	Blockouts
#6	6	Abutments

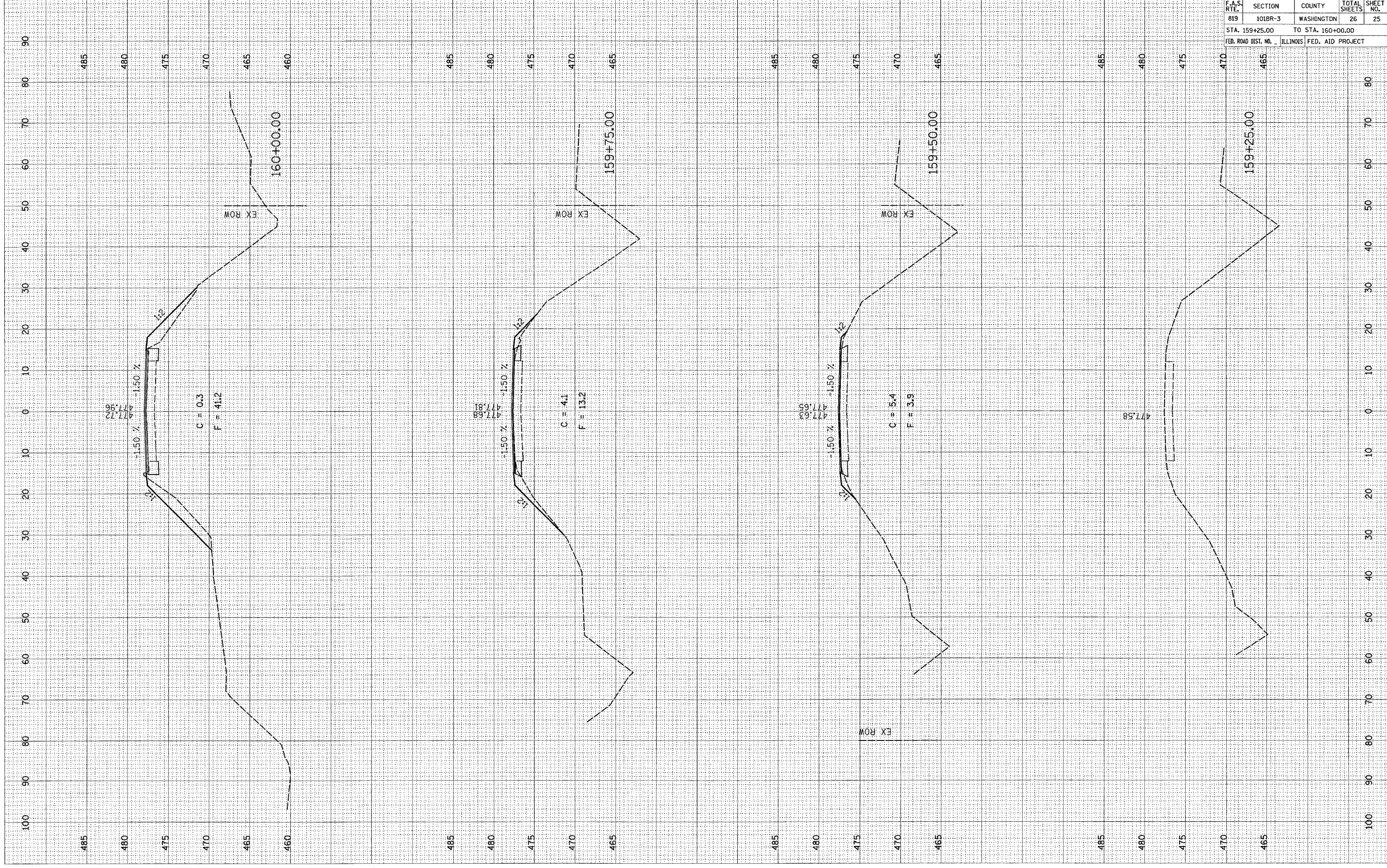
ILLINOIS DEPARTMENT OF TRANSPORTATION			
BAR SPLICER ASSEMBLY DETAILS			
PROJECT	IL RTE 177 OVER GRAND POINT CRK	PROJECT NO.	05028-4
FAS ROUTE 819 SECTION 101BR-3		SCALE	
WASHINGTON COUNTY		DATE	05/09/06
STATION 160+70.00		DESIGNED BY	TFG
STRUCTURE NUMBER 095-0021		CHECKED BY	CME/MCB
COOMBE-BLOXDORF P.C.			15
Engineers/Land Surveyors			
Springfield, Illinois			
Design Firm License No. 034-002703			OF 15 SHTS



PLOT DATE = 5/15/2006  
PLOT SCALE = 1/4" = 100'  
USER NAME = galish

ORIGINAL SURVEY  
PLOT DATE  
PLOT SCALE  
USER NAME

FINAL SURVEY  
PLOT DATE  
PLOT SCALE  
USER NAME



CONTRACT NO. 76964				
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
819	101BR-3	WASHINGTON	26	25
STA. 159+25.00 TO STA. 160+00.00				
FED. ROAD DIST. NO. 1			ILLINOIS FED. AID PROJECT	



ORIGINAL SURVEY	SURVEYED BY DATE
<b>606-28900K</b>	NOTED _____
	TEMPERATURE _____
	AREAS _____
NO.	AREAS CHECKED _____

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

