

CONSTRUCTION PROJECT MANAGER: RICK ANDERSON (309) 693-7615

PROJECT ENGINEER: TOM ROMAN (217) 342-8320  
 SQUAD LEADER: JENNIFER WENTHE (217) 342-8361

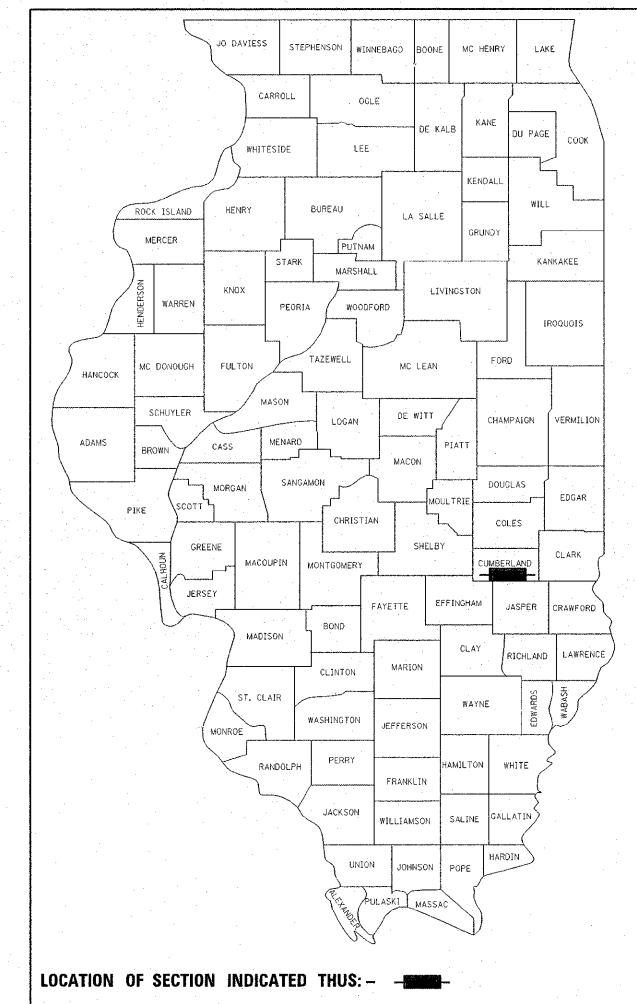
FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
**PROPOSED  
 HIGHWAY PLANS**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(108BR-3, 109B)B-1	CUMBERLAND	96	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO.	74237	

\* 96 + 4 = 100

D-97-025-07



**LIST OF STANDARDS**

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-04 TEMPORARY EROSION CONTROL SYSTEMS
- 406201-01 MAILBOX TURNOUT
- 420001-07 PAVEMENT JOINTS
- ~~420401-06 BRIDGE APPROACH PAVEMENT~~
- 482011-03 HMA SHOULDER STRIP/SHOULDERS WITH RESURFACING OR WIDENING & RESURFACING PROJECTS
- 515001-03 NAME PLATE FOR BRIDGE
- 606201-02 TYPE B GUTTER INLET, OUTLET & ENTRANCE
- 609001-04 BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
- 630001-06 STEEL PLATE BEAM GUARDRAIL
- 630301-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 631031-01 TRAFFIC BARRIER TERMINAL, TYPE 6
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-02 REFLECTOR MARKER AND MOUNTING DETAILS
- 667101-01 PERMANENT SURVEY MARKERS
- 701001-02 OFF-RD OPERATIONS, 2L, 2W, MORE THAN 4.5m (15') AWAY
- 701006-03 OFF-RD OPERATIONS, 2L, SW, 4.5m (15') TO 600mm (24") FROM PAVEMENT EDGE
- 701201-03 LANE CLOSURE, 2L, 2W, DAY ONLY FOR SPEEDS ≥ 45 MPH
- 701306-02 LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS ≥ 45 MPH
- 701311-03 LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY
- 701321-10 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701326-03 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥ 45 MPH
- 701901-01 TRAFFIC CONTROL DEVICES
- 704001-05 TEMPORARY CONCRETE BARRIER
- 780001-03 TYPICAL PAVEMENT MARKINGS
- 781001-03 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT
- 601101-01
- 701011-02
- 701301-03

FAP ROUTE 773 (IL 121)  
 SECTION (108BR 3, 109B)B-1  
 PROJECT: BRF-0773(009)  
 CUMBERLAND COUNTY

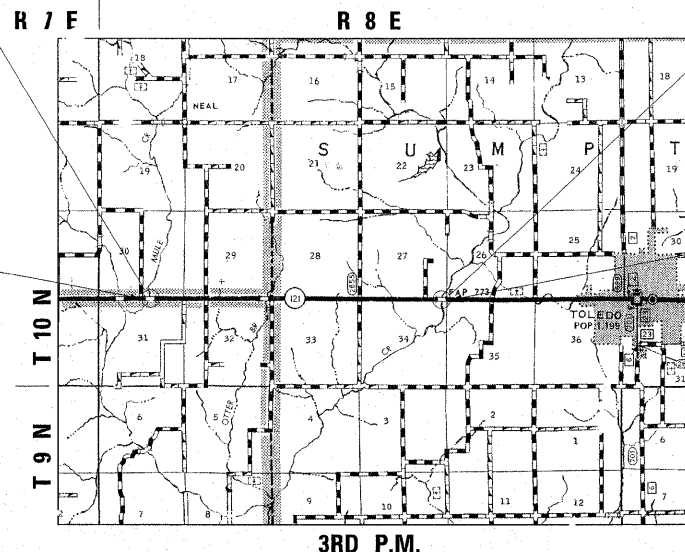
C-97-039-07

PROJECT LOCATION:  
 SECTION (108BR-3)B-1  
 REMOVE AND REPLACE  
 BRIDGE CARRYING IL 121  
 OVER MULE CREEK  
 EX. S.N. 018-0029  
 PR. S.N. 018-0062  
 STATION 399 + 34.00

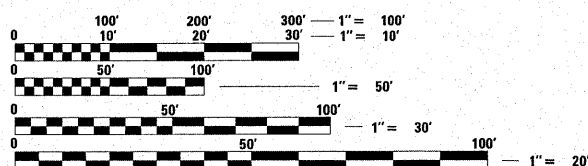
IMPROVEMENT BEGINS  
 STATION 394 + 00

PROJECT LOCATION:  
 SECTION (109B)B-1  
 REMOVE AND REPLACE  
 BRIDGE CARRYING IL 121  
 OVER BIG MUDDY CREEK  
 EX. S.N. 018-0030  
 PR. S.N. 018-0063  
 STATION 574 + 84.00

IMPROVEMENT ENDS  
 STATION 578 + 50



LOCATION MAP



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

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

PREPARED BY:



761' NORTH HARKER DRIVE  
 PEORIA, ILLINOIS 61615  
 TEL 309-693-7615  
 FAX 309-693-7616

MULE CREEK  
 2005 ADT=1750

BIG MUDDY CREEK  
 2005 ADT=2250

TOTAL LENGTH OF SECTION & PROJECT = 18,300 FT. = 3.5 MILES  
 NET LENGTH OF SECTION & PROJECT = 1750 FT. = 0.33 MILES

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED January 22 2009

Roger L. Anderson  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8, 20 09  
Charles J. Ingersoll  
 ENGINEER OF DESIGN AND ENVIRONMENT

May 8, 20 09  
Christine M. Reed  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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 OF THE STATE OF ILLINOIS

INDEX OF SHEETS

GENERAL NOTES

SHEET NO	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3-4	SUMMARY OF QUANTITIES
5	IL 121 OVER MULE CREEK EXISTING TYPICAL SECTIONS
6	IL 121 OVER BIG MUDDY CREEK EXISTING TYPICAL SECTIONS
7-10	IL 121 OVER MULE CREEK PROPOSED TYPICAL SECTIONS
11-13	IL 121 OVER BIG MUDDY CREEK PROPOSED TYPICAL SECTIONS
14	ALIGNMENT, TIES & BENCHMARKS
15-18	SCHEDULE OF QUANTITIES
19	IL 121 OVER MULE CREEK REMOVAL PLAN
20	IL 121 OVER BIG MUDDY CREEK REMOVAL PLAN
21-22	IL 121 OVER MULE CREEK PLAN & PROFILE
23-24	IL 121 OVER BIG MUDDY CREEK PLAN & PROFILE
25-26	IL 121 OVER MULE CREEK STAGING PLAN
27-28	IL 121 OVER BIG MUDDY CREEK STAGING PLAN
29	IL 121 OVER MULE AND BIG MUDDY CREEK STAGING PLAN DETAILS
30	IL 121 OVER MULE CREEK EROSION AND SEDIMENT CONTROL PLAN
31	IL 121 OVER BIG MUDDY CREEK EROSION AND SEDIMENT CONTROL PLAN
32	DETAILS OF PRECAST CONCRETE BOX CULVERT END SECTION
33-34	DETAIL OF PRECAST CONCRETE BOX CULVERT SECTION
35	CONCRETE COLLAR DETAIL FOR BOX CULVERT EXTENSIONS
36-57	MULE CREEK STRUCTURE PLANS
58-82	BIG MUDDY CREEK STRUCTURE PLANS
* 83-84	BRIDGE APPROACH PAVEMENT CONNECTOR DRAIN DETAIL
85	IL 121 OVER BIG MUDDY CREEK DITCH GRADING DETAIL
86	RIP RAP DETAIL
87-92	CROSS SECTIONS MULE CREEK
93-96	CROSS SECTIONS BIG MUDDY CREEK

\* Added B4A. - B4D. Approach Pavt. Details

- THESE SECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS; THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS"; AND THE SPECIAL PROVISIONS INCLUDED IN THESE PLANS.
- THE WORK IN SECTION, (108BR-3)B-1 CONSISTS OF THE COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE WITH A TWO SPAN 42" PRECAST PRESTRESSED CONCRETE I BEAM BRIDGE ON INTEGRAL ABUTMENTS, APPROACH PAVEMENTS, EARTHWORK, HOT-MIX ASPHALT RESURFACING, HOT-MIX ASPHALT SHOULDERS, GUARDRAIL, AND ANY OTHER WORK NECESSARY TO COMPLETE THE SECTION. THE WORK IN SECTION (109B)B-1 CONSISTS OF THE COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE WITH A THREE SPAN 42" PRECAST PRESTRESSED CONCRETE I BEAM BRIDGE ON INTEGRAL ABUTMENTS, APPROACH PAVEMENTS, EARTH WORK, HOT-MIX ASPHALT RESURFACING, HOT-MIX ASPHALT SHOULDERS, GUARDRAIL, AND ANY OTHER WORK NECESSARY TO COMPLETE THE SECTION. THIS WORK SHALL BE COMPLETED UTILIZING STAGE CONSTRUCTION AND TRAFFIC SIGNALS.
- PAINT PAVEMENT MARKING-LINE 4" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS, AS SHOWN ON THE TYPICAL SECTIONS AND AS DETERMINED BY THE ENGINEER. THE TOTAL QUANTITY CALCULATED CONSISTS OF 4100 FEET OF WHITE AND 1913 FEET OF YELLOW.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES ON SITE PRIOR TO ANY CONSTRUCTION AND WILL BE HELD RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THEIR FACILITIES. THE CONTRACTOR, ON SITE, SHALL DETERMINE THE EXACT LOCATIONS OF THE UTILITIES. THE CONTRACTOR SHALL CALL J.U.L.I.E. @ 1-800-892-0123 FOR UTILITY LOCATIONS
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO ANY UTILITY LINES AND EXISTING IMPROVEMENTS TO REMAIN THAT ARE DAMAGED AS A RESULT OF THE WORK.
- ADJUSTMENTS OF PROPOSED GRADES TO MATCH EXISTING ENTRANCES OR OTHER FIELD CONDITIONS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
- ACCESS SHALL BE MAINTAINED TO ALL PROPERTIES DURING ALL STAGES OF CONSTRUCTION
- THE WORK AREA SHALL BE POSITIVELY DRAINED DURING CONSTRUCTION. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION, AND TRAFFIC.
- WHERE PROPOSED CONSTRUCTION ABUTS EXISTING APPURTENANCES, A SAWCUT SHALL BE MADE TO ACHIEVE A NEAT BUTT JOINT. THE SAWCUT IS TO BE INCLUDED IN THE COST OF THE HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- IN ADDITION TO SURVEYS, SOME OF THE PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING CONDITIONS HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
- THE PROPOSED PARAPET WALLS SHALL NOT BE CONSTRUCTED BY SLIP FORMING
- THE BASE COURSE WIDENING SHALL, AT THE CONTRACTOR'S OPTION, BE CONSTRUCTED OF EITHER PORTLAND CEMENT CONCRETE 8" THICK, OR HOT-MIX ASPHALT 10" THICK. ANY EXCAVATION AND PAVED SHOULDER REMOVAL REQUIRED FOR PLACEMENT OF THE BASE COURSE WIDENING SHALL BE INCLUDED IN THE COST OF BASE COURSE WIDENING.
- THE CONTRACTOR SHALL PROVIDE INTERNET ACCESSIBILITY TO THE BITUMINOUS PLANT QUALITY CONTROL LAB SO THAT THE BITUMINOUS PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF ALL BITUMINOUS ITEMS.

- THE CONTRACTOR SHALL USE EITHER RC-70 OR AN EMULSIFIED POLYMER PRIME SS-IHP FOR THE PAY ITEM BITUMINOUS MATERIAL (PRIME COAT).
- THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE:	SURFACE COURSE	BINDER COURSE
APPLICATION:	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70
PG GRADE:	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70	4.0% @ NDESIGN = 70
MIXTURE COMPOSITION:	IL-9.5	IL-19.0
FRICTION		
AGGREGATE:	MIXTURE C	N/A
MIXTURE USE:	BASE COURSE WIDENING	HOT-MIX ASPHALT SHOULDERS
APPLICATION:	HOT-MIX ASPHALT BASE COURSE WIDENING	HOT-MIX ASPHALT SHOULDERS
PG GRADE:	PG 64-22	PG 58-22
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70	4.0% @ NDESIGN = 30
MIXTURE COMPOSITION:	IL-19.0	IL-19.0
FRICTION		
AGGREGATE:	N/A	N/A
- THE PAY ITEM TEMPORARY RAMP HAS BEEN INCLUDED FOR THE CONSTRUCTION OF TEMPORARY RAMPS IN ACCORDANCE WITH ARTICLE 406.08 OF THE STANDARD SPECIFICATION. THE COST SHALL INCLUDE BOTH THE INSTALLATION AND REMOVAL OF THE TEMPORARY RAMPS.
- THE FOLLOWING UTILITIES ARE INVOLVED IN THIS PROJECT:

NAME/ADDRESS	UTILITY CO	TYPE	LOCATION	EST DATE OF RELOCATION
VERIZON NORTH, INC 212 E GROVE STREET RANTOUL, IL 61866		PHONE	PROJECT LIMITS	11/07/2008
CLEAR WATER SERVICE CORP		WATER	PROJECT LIMITS	NOT APPLICABLE
VILLAGE OF GREENUP		NATURAL GAS	PROJECT LIMITS	NOT APPLICABLE
- THE AREAS OF GUARD RAIL STABILIZATION, THE EXCAVATION OF THE MATERIAL FOR THE STABILIZATION AREAS ARE INCLUDED IN THE PAY ITEM OF HOT-MIX ASPHALT SHOULDERS.
- THE TREES LISTED IN THE TREE SCHEDULE SHALL BE APPROVED AND HAND PLANTED AT LOCATIONS AS DIRECTED BY THE ROADSIDE MAINTENANCE TECHNICIAN, PHIL NOSBISCH (217) 342-8249. THE CONTRACTOR SHALL BE REQUIRED TO GIVE TWO WEEKS NOTICE TO SCHEDULE A TIME FOR THE LOCATIONS TO BE STAKED AND ON THE SAME DAY THE TREES SHALL BE DELIVERED TO THE JOB SITE FOR ACCEPTANCE OF THE PLANTING MATERIAL BY THE ROADSIDE MAINTENANCE TECHNICIAN.
- THE EXISTING PIPE AND BOX CULVERTS WITHIN THE PROJECT LIMITS SHALL BE CLEANED OF ALL DEBRIS AND SILT TO THE SATISFACTION OF THE ENGINEER. ALL DEBRIS AND SILT REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR OUTSIDE OF THE PROJECT LIMITS. THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR CLEANING CULVERTS WHICH PRICE SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND TRAFFIC CONTROL, REQUIRED TO COMPLETE THE WORK INCLUDING THE SATISFACTORY DISPOSAL OF SILT AND DEBRIS.
- SHORT TERM PAVEMENT MARKING SHALL BE APPLIED TO THE MILLED SURFACE, BITUMINOUS MATERIALS (PRIME COAT), AND HOT-MIX ASPHALT SURFACE COURSE AS SPECIFIED IN SECTION 703 OF THE STANDARD SPECIFICATIONS. TEMPORARY TAPE SHALL BE USED ON THE SURFACE COURSE AND PAINT SHALL BE USED ON THE MILLED SURFACES.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

BITUMINOUS MATERIALS (PRIME COAT):	0.10 GAL/SQ YD (MILLED SURFACE)
BITUMINOUS MATERIALS (PRIME COAT):	0.50 GAL/SQ YD (GRAVEL SURFACE)
BITUMINOUS MATERIALS (PRIME COAT):	0.05 GAL/SQ YD EXISTING PAVEMENT)
HOT-MIX ASPHALT:	112 LBS/SQ YD/INCH
- A TYPE II CAST IN PLACE PERMANENT SURVEY MARKER SHALL BE PLACED AT EACH STRUCTURE. THE LOCATION OF THE SURVEY MARKERS SHALL BE DETERMINED BY THE ENGINEER OR THE CHIEF OF SURVEYS.
- ALL WORK NECESSARY TO ATTACH THE PIPE DRAIN 4" TO THE ABUTMENT DRAIN PIPE, TRENCHING IN THE PIPE DRAINS, AND INSTALLING THE PIPE INTO THE CONCRETE HEADWALLS IS INCLUDED IN THE CONTRACT UNIT PRICE PER FOOT FOR PIPE DRAIN 4".



FILE NAME =	USER NAME = #USER#	DESIGNED - JDS 02/07/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
*FILE#		DRAWN - JDS 05/09/08	REVISED -			773	(108BR-3, 109B)B-1	CUMBERLAND	96	2	
	PLOT SCALE = #SCALE#	CHECKED - RJA 09/07/08	REVISED -			CONTRACT NO. 74237					
	PLOT DATE = #DATE#	DATE - 09/26/08	REVISED -			ILLINOIS FED. AID PROJECT					
						SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	

Rev.



SUMMARY OF QUANTITIES		UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE		
CODE NO.	ITEM			80% FED/20% STATE		
				ROADWAY 1000	BRIDGE X081-2A S.N. 018-0062	BRIDGE X081-2A S.N. 018-0063
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	104	104		
20200100	EARTH EXCAVATION	CU YD	848	848		
20400800	FURNISHED EXCAVATION	CU YD	3982	3982		
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	206		90	116
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1.6	1.6		
* 28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	1760	1760		
28000300	TEMPORARY DITCH CHECKS	EACH	3	3		
28000400	PERIMETER EROSION BARRIER	FOOT	2988	2988		
28100107	STONE RIPRAP, CLASS A4	SQ YD	996	144	852	
28100109	STONE RIPRAP, CLASS A5	SQ YD	1722			1722
28200200	FILTER FABRIC	SQ YD	2718	144	852	1722
31101000	SUB-BASE GRANULAR MATERIAL, TYPE B	TON	876	876		
35650700	BASE COURSE WIDENING	SQ YD	1019	1019		
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	54	54		
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	451	451		
40600300	AGGREGATE (PRIME COAT)	TON	938	938		
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	13	13		
40600990	TEMPORARY RAMP	SQ YD	330	330		
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	659	659		
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	1688	1688		
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	448	448		
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	158	158		
44000100	PAVEMENT REMOVAL	SQ YD	1063	1063		
44000198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	2843	2843		
44000400	GUTTER REMOVAL	FOOT	1781	1781		
44002600	GUTTER OUTLET REMOVAL	FOOT	146	146		
44004300	PAVEMENT BREAKING	SQ YD	1046	1046		
48203100	HOT-MIX ASPHALT SHOULDERS	TON	436	436		
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1		1	
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1			1
50200100	STRUCTURE EXCAVATION	CU YD	508		168	340
50300225	CONCRETE STRUCTURES	CU YD	268.7		89.7	179.0
50300255	CONCRETE SUPERSTRUCTURE	CU YD	441.6		183.4	258.2

SUMMARY OF QUANTITIES		UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE		
CODE NO.	ITEM			80% FED/20% STATE		
				ROADWAY 1000	BRIDGE X081-2A S.N. 018-0062	BRIDGE X081-2A S.N. 018-0063
50300260	BRIDGE DECK GROOVING	SQ YD	1497		657	840
50300280	CONCRETE ENCASUREMENT	CU YD	12.6		7.0	5.6
50300300	PROTECTIVE COAT	SQ YD	1445		602	843
50400905	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 42 IN.	FOOT	1949		812	1137
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	122800		50300	72500
50800515	BAR SPLICERS	EACH	1235		515	720
51201610	FURNISHING STEEL PILES HP12X63	FOOT	1370		639	731
51202305	DRIVING PILES	FOOT	570		335	235
51203610	TEST PILE STEEL HP12X63	EACH	4		2	2
51500100	NAME PLATES	EACH	2		1	1
54001000	BOX CULVERT END SECTIONS	EACH	2	2		
54010303	PRECAST CONCRETE BOX CULVERT 3'x3'	FOOT	62	62		
54200427	PIPE CULVERTS, TYPE 1 RCCP 12"	FOOT	30	30		
54215547	METAL END SECTIONS 12"	EACH	1	1		
54248510	CONCRETE COLLAR	CU YD	9	9		
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	153		72	81
60100905	PIPE DRAINS 4"	FOOT	127	127		
60100945	PIPE DRAINS 12"	FOOT	33	33		
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	303		146	157
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	17	17		
60602800	CONCRETE GUTTER, TYPE B	FOOT	1696	1696		
60900130	TYPE B INLET BOX, STANDARD 609001 (SPECIAL)	EACH	2	2		
60900515	CONCRETE THRUST BLOCKS	EACH	1	1		
* 63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	838	838		
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2	2		
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	7	7		
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	6	6		
63200310	GUARDRAIL REMOVAL	FOOT	1273	1273		
63300575	REMOVE AND RE-ERECT RAIL ELEMENT OF EXISTING GUARD RAIL	FOOT	250	250		
* 63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	50	50		
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	22	22		
66700305	PERMANENT SURVEY MARKERS, TYPE II	EACH	2	2		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6		

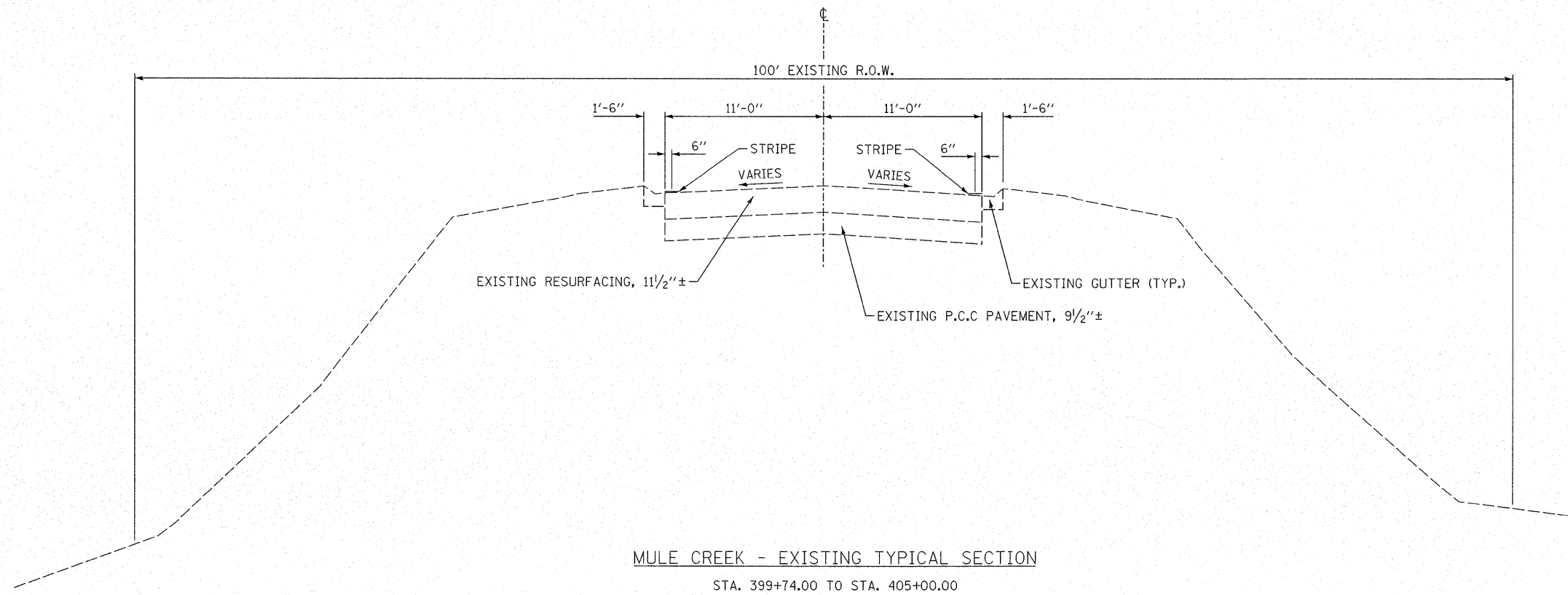
\* Specialty Items



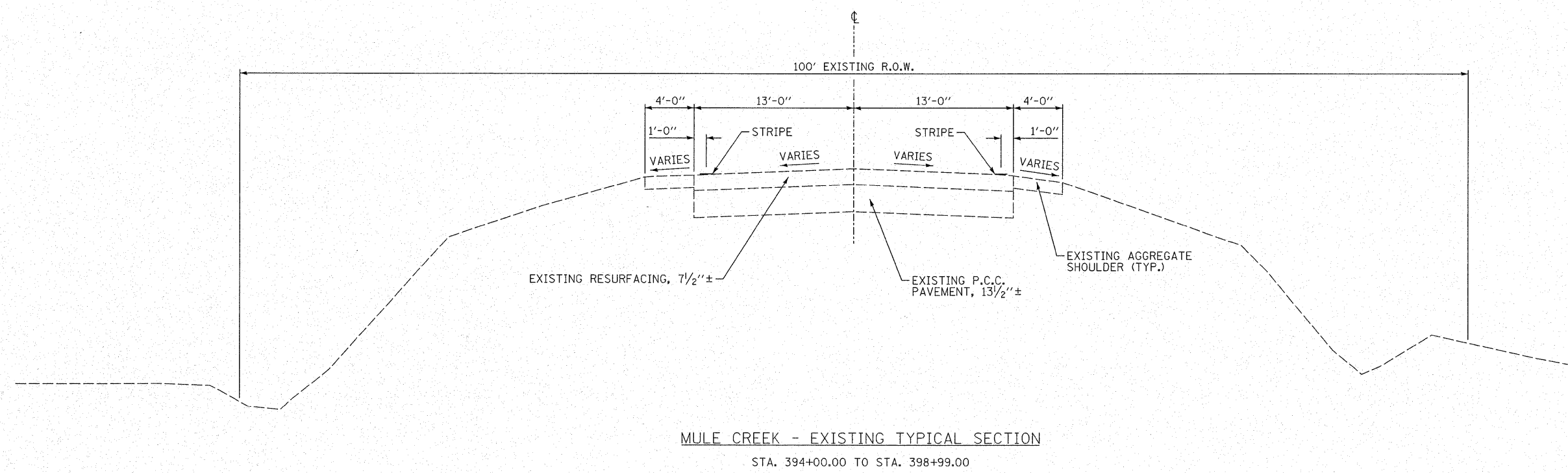
SUMMARY OF QUANTITIES		UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE		
				80% FED/20% STATE		
CODE NO.	ITEM			ROADWAY 1000	BRIDGE X081-2A S.N. 018-0062	BRIDGE X081-2A S.N. 018-0063
67100100	MOBILIZATION	L SUM	1	1		
<b>35650450</b>	BASE COURSE WIDENING REMOVAL	SQ YD	280	280		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1		
70101205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)	EACH	2		1	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	10	10		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	2		
70106700	TEMPORARY RUMBLE STRIP	EACH	12	12		
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	1230	1230		
70300200	TEMPORARY PAVEMENT MARKING	FOOT	6013	6013		
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	68	68		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1538	1538		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1425	1425		
* 78001110	PAINT PAVEMENT MARKING-LINE 4"	FOOT	6013	6013		
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	26	26		
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	33	33		
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	6	6		
78300100	PAVEMENT MARKING REMOVAL	SQ FT	758	758		
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	88		44	44
NP Z001C500	CLEANING CULVERTS	L SUM	1	1		
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	6	6		
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	4		
* Z0065000	SETTING PILES IN ROCK	EACH	24		8	16
X0323830	DRAINAGE SCUPPERS, DS-11	EACH	2			2
X0323988	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	1714		748	966
X4021000	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EACH	2	2		
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOCATION 1	EACH	1		1	
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOCATION 2	EACH	1			1
X5020503	UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOCATION 3	EACH	1			1
* X6310187	TRAFFIC BARRIER TERMINAL, TYPE 6 (MODIFIED)	EACH	1	1		
* A2002416	TREE, BETULA NIGRA HERITAGE (HERITAGE RIVER BIRCH), 2" CALIPER, BALLED AND BURLAPPED	EACH	5	5		
* B2001116	TREE, CERCIS CANADENSIS (EASTERN REDBUD), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED	EACH	5	5		

NP= Non-participating  
\* Specialty Items

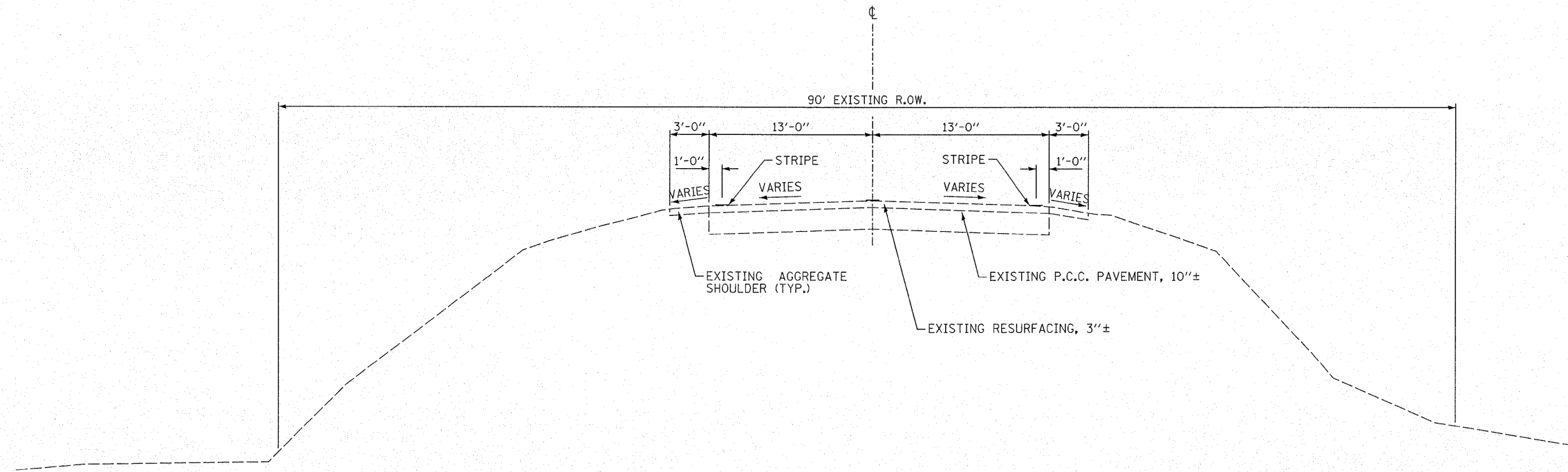




BRIDGE OMISSION  
STA. 398+99.00 TO STA. 399+74.00



FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED - SEM 03/26/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER MULE CREEK EXISTING TYPICAL SECTIONS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - WLL 09/23/08	REVISED -			773	(108BR-3, 109BIB-1)	CUMBERLAND	96	5	
		CHECKED - RJA 09/17/08	REVISED -			CONTRACT NO. 74237					
		DATE - 09/26/08	REVISED -			SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.

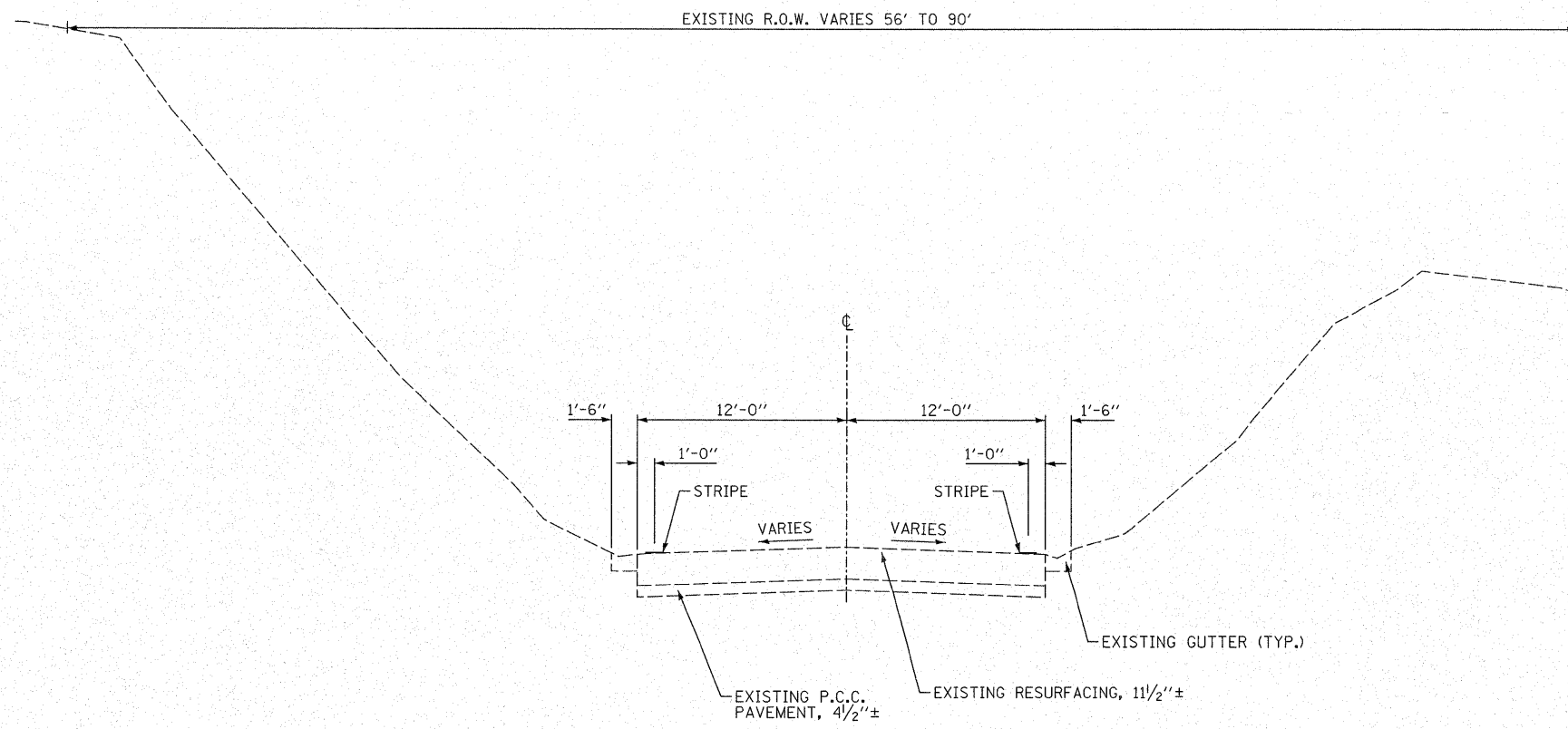


**BIG MUDDY CREEK - EXISTING TYPICAL SECTION**

STA. 575+49.00 TO STA. 578+50.00

**BRIDGE OMISSION**

STA. 574+19.00 TO STA. 575+49.00



**BIG MUDDY CREEK - EXISTING TYPICAL SECTION**

STA. 569+00.00 TO STA. 574+19.00

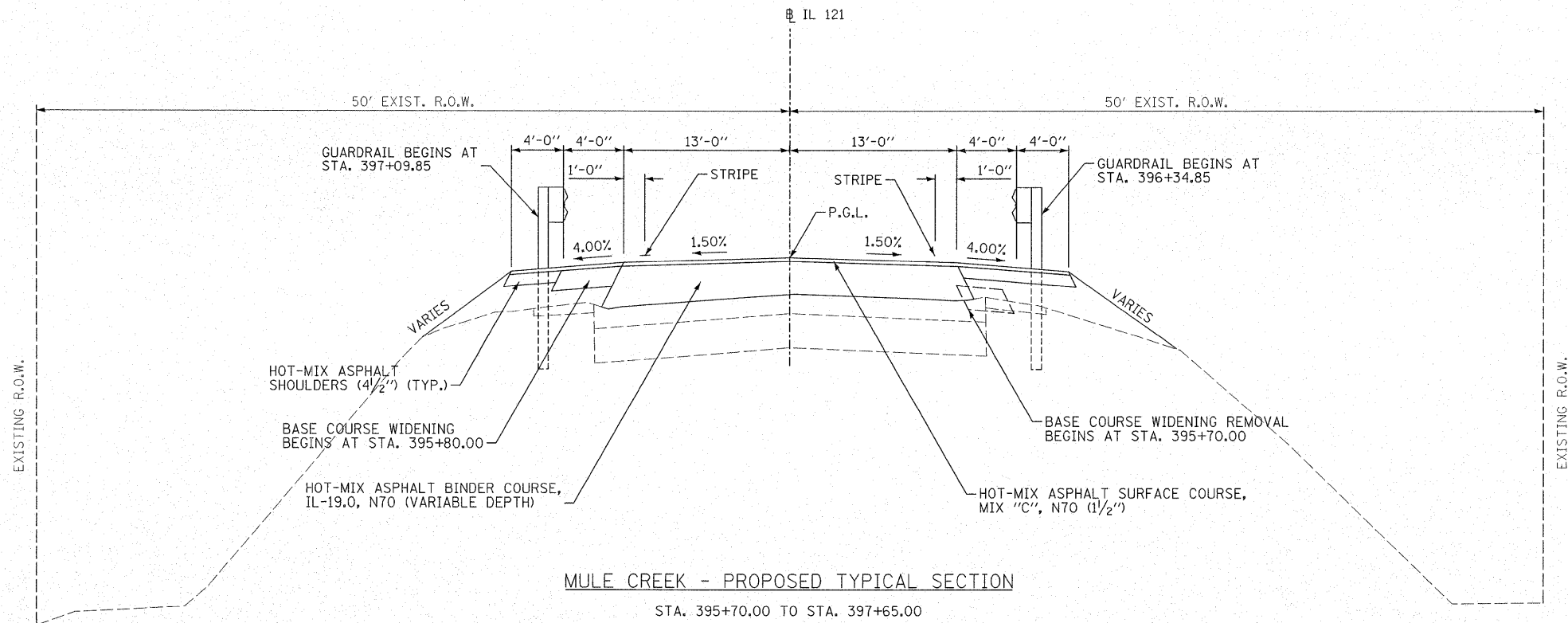
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*FILEL*		DRAWN - WLS 09/27/08	REVISED -
		CHECKED - RJA 09/17/08	REVISED -
		DATE - 09/26/08	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL 121 OVER BIG MUDDY CREEK  
EXISTING TYPICAL SECTIONS**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(108BR-3, 109BIB-1)	CUMBERLAND	96	6
CONTRACT NO. 74237				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

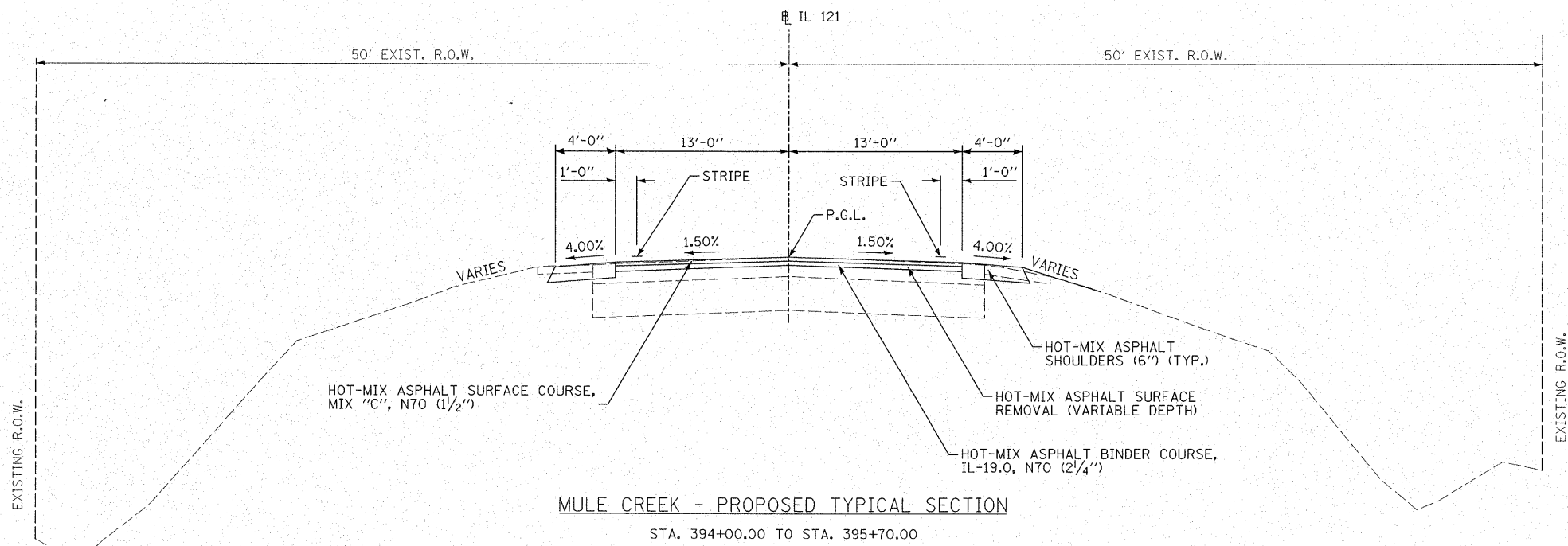


MULE CREEK - PROPOSED TYPICAL SECTION

STA. 395+70.00 TO STA. 397+65.00

NOTES:

1. SEE CROSS SECTIONS FOR GRADING INFORMATION FROM SHOULDERS.
2. SEE SHEET NO. 10 FOR BENCHING DETAIL.

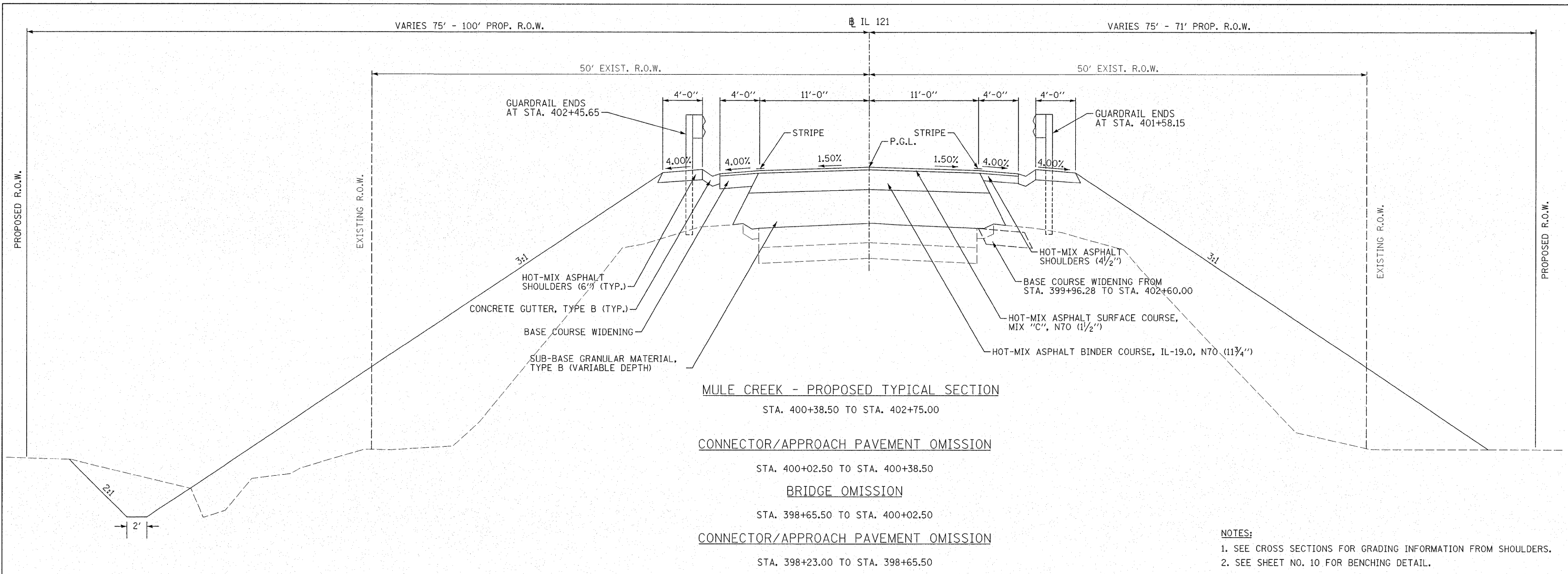


MULE CREEK - PROPOSED TYPICAL SECTION

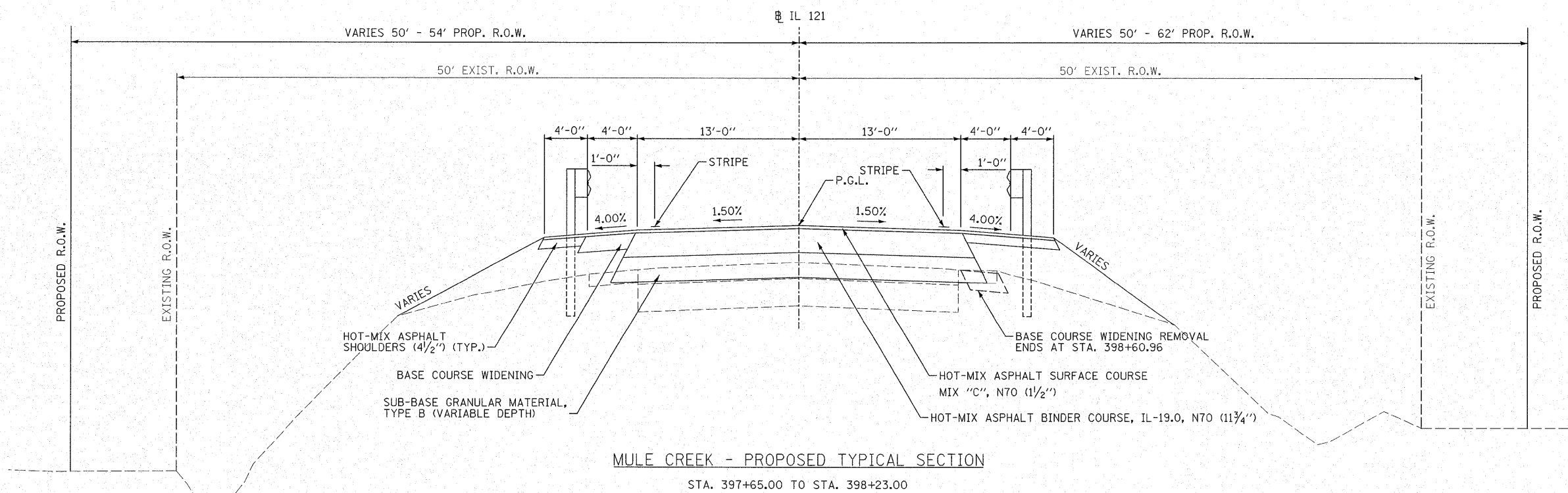
STA. 394+00.00 TO STA. 395+70.00



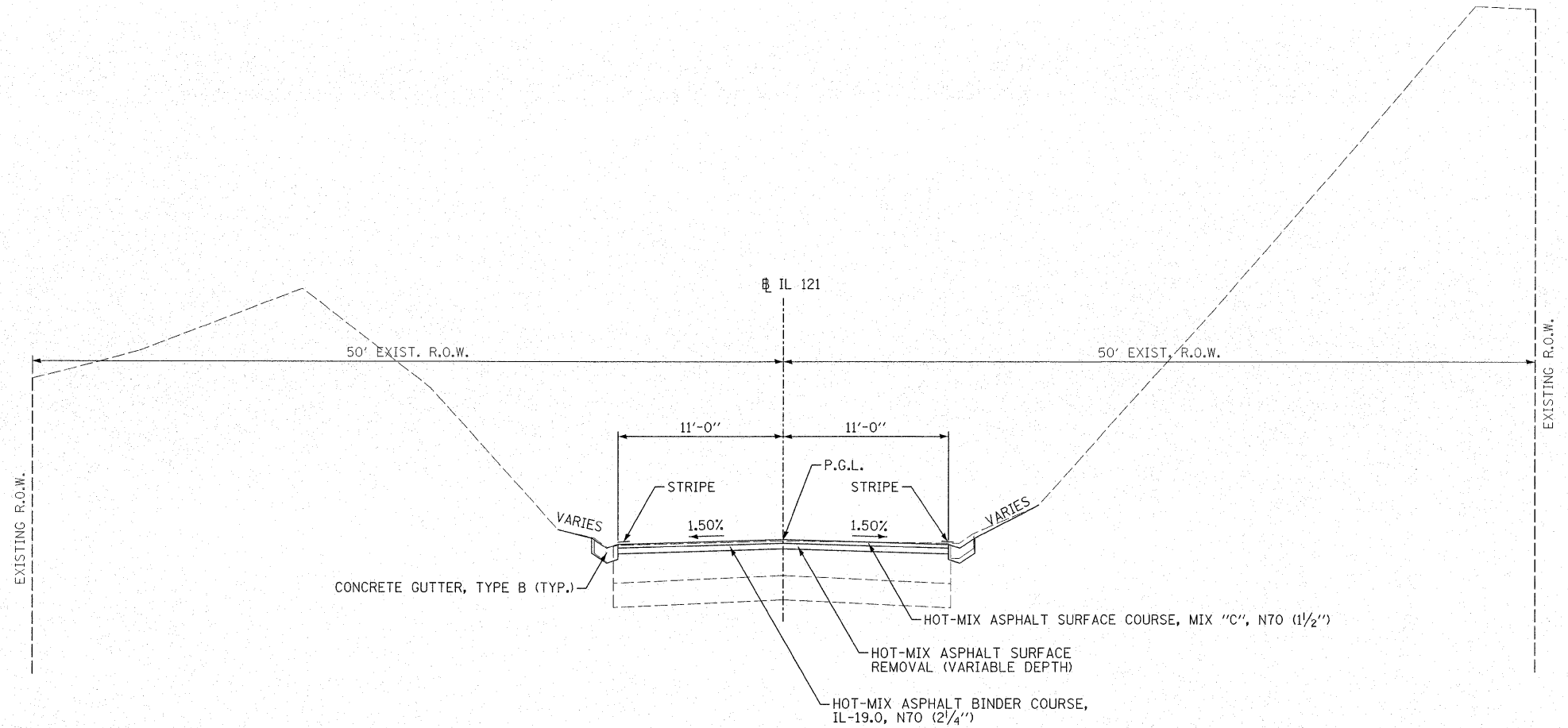
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#FILE#		DRAWN - JDS 05/09/08	REVISED -		773	(108BR-3, 109BIB-1)	CUMBERLAND	96	7				
PLOT SCALE = #SCALE#		CHECKED - RJA 09/17/08	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.				CONTRACT NO. 74237				
PLOT DATE = #DATE#		DATE - 09/26/08	REVISED -						ILLINOIS FED. AID PROJECT				



**NOTES:**  
1. SEE CROSS SECTIONS FOR GRADING INFORMATION FROM SHOULDERS.  
2. SEE SHEET NO. 10 FOR BENCHING DETAIL.



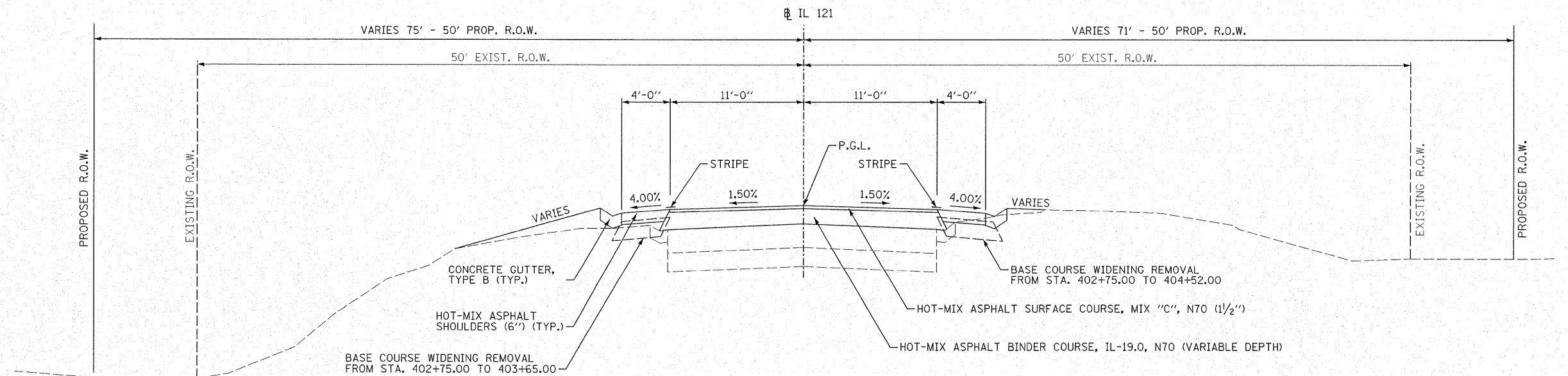
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PLOT SCALE = #SCALE*	CHECKED - RJA 09/17/08	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO. 74237				
PLOT DATE = #DATE*	DATE - 09/26/08	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT									



**MULE CREEK - PROPOSED TYPICAL SECTION**  
STA. 404+70.00 TO STA. 405+00.00

**NOTES:**


1. SEE CROSS SECTIONS FOR GRADING INFORMATION FROM SHOULDERS.
2. SEE SHEET NO. 10 FOR BENCHING DETAIL.

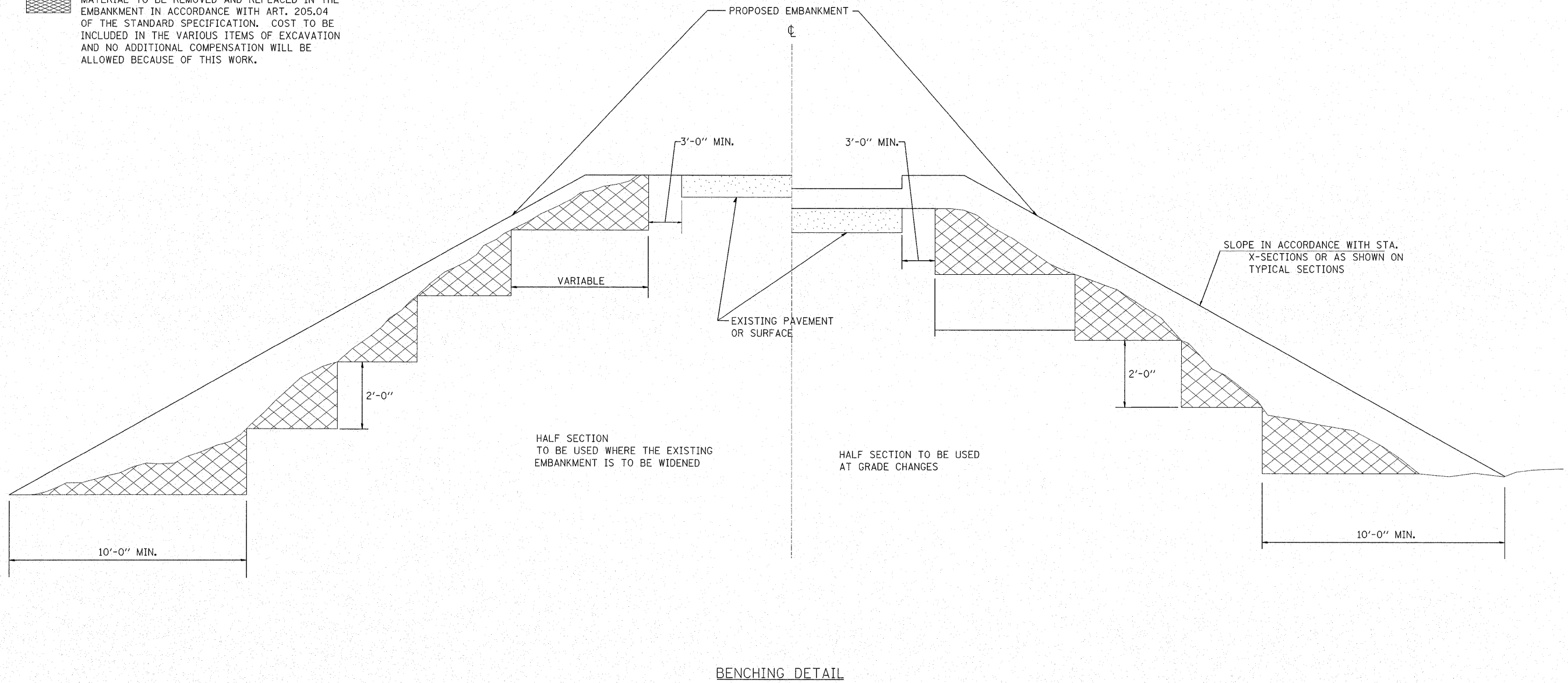


**MULE CREEK - PROPOSED TYPICAL SECTION**  
STA. 402+75.00 TO STA. 404+70.00

FILE NAME =	USER NAME = *USER*	DESIGNED - SEM 03/26/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER MULE CREEK PROPOSED TYPICAL SECTIONS</b>	F.A.P. RTE. 773	SECTION (108BR-3, 109B)B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 9	
*FILEL*	PLOT SCALE = *SCALE*	DRAWN - WLL 09/23/08	REVISED -			CONTRACT NO. 74237					
	PLOT DATE = *DATE*	CHECKED - RJA 09/17/08	REVISED -			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	
		DATE - 09/26/08	REVISED -								



 MATERIAL TO BE REMOVED AND REPLACED IN THE EMBANKMENT IN ACCORDANCE WITH ART. 205.04 OF THE STANDARD SPECIFICATION. COST TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED BECAUSE OF THIS WORK.



HALF SECTION  
 TO BE USED WHERE THE EXISTING  
 EMBANKMENT IS TO BE WIDENED

HALF SECTION TO BE USED  
 AT GRADE CHANGES

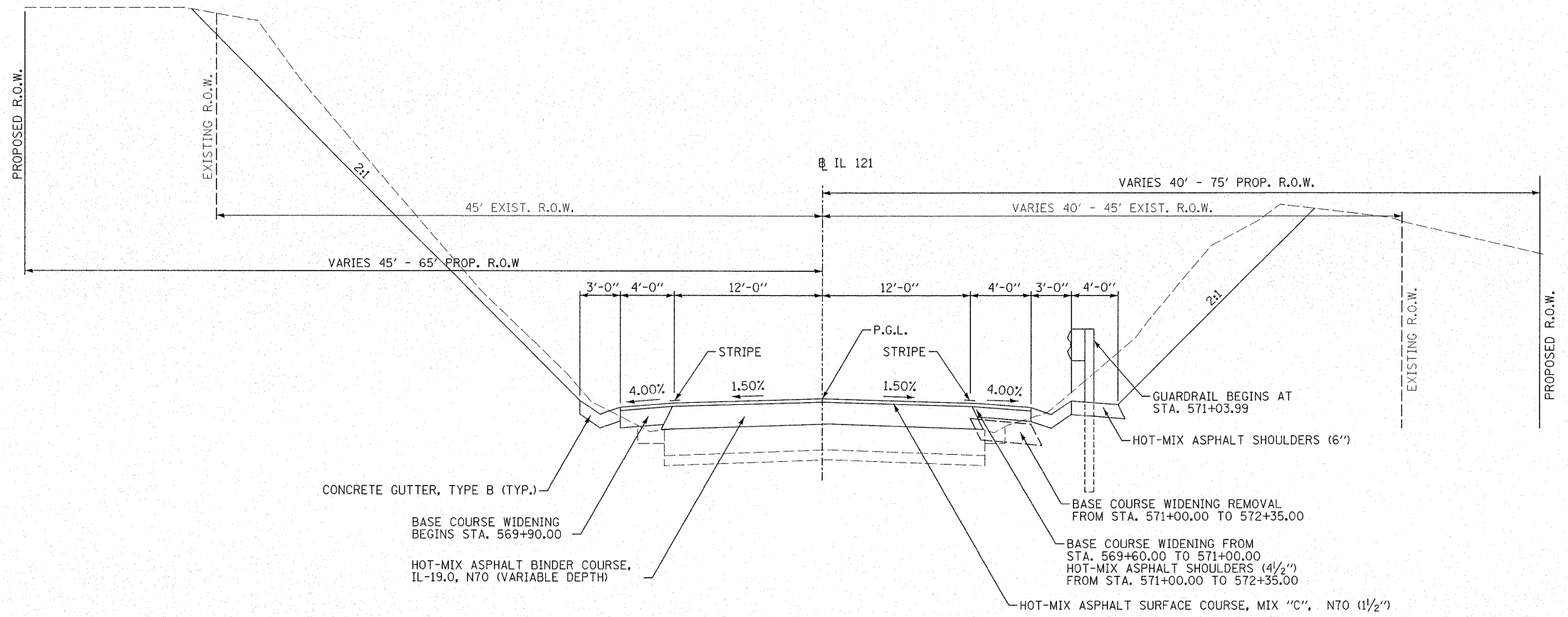
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	PLOT DATE = #DATE#	DATE - 09/26/08	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**IL 121 OVER MULE CREEK**  
**PROPOSED TYPICAL SECTIONS**

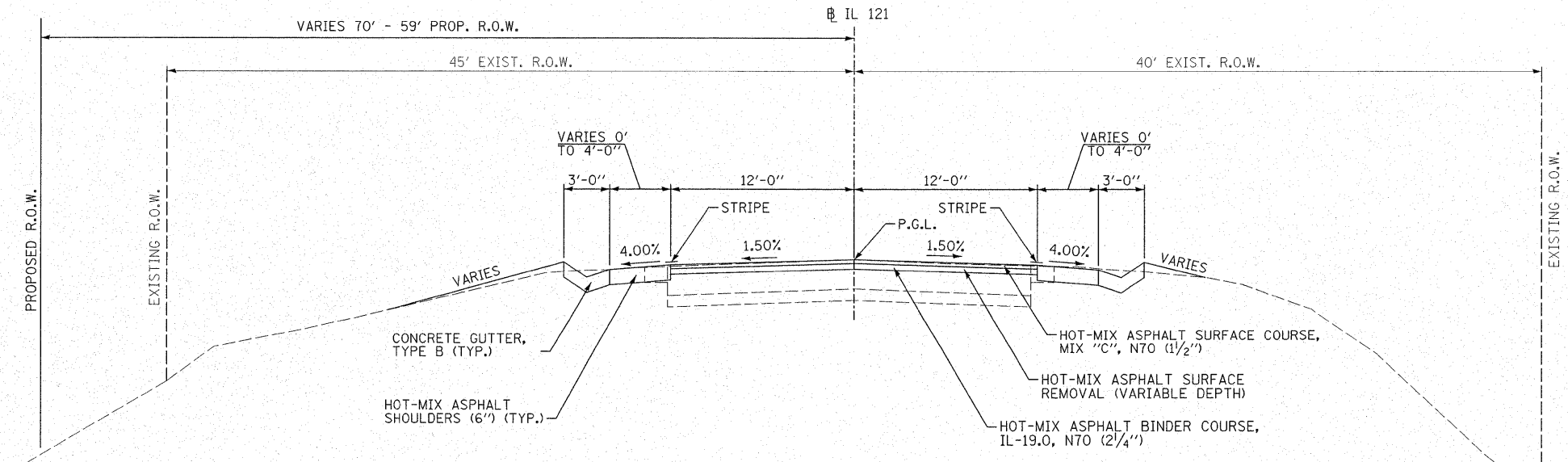
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(108BR-3, 109BIB-1)	CUMBERLAND	96	10
CONTRACT NO. 74237				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SCALE: SHEET NO. OF SHEETS STA. TO STA.



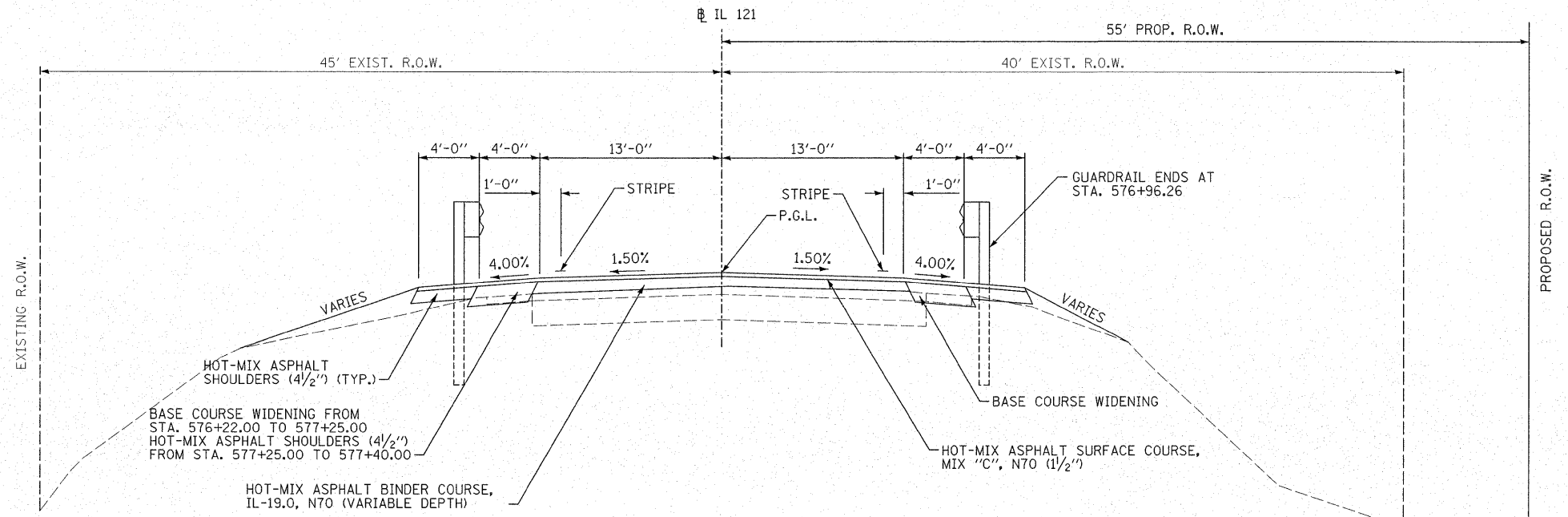
**BIG MUDDY CREEK - PROPOSED TYPICAL SECTION**  
STA. 569+60.00 TO STA. 572+35.00

- NOTES:**
1. SEE CROSS SECTIONS FOR GRADING INFORMATION FROM SHOULDERS.
  2. SEE SHEET NO. 10 FOR BENCHING DETAIL.



**BIG MUDDY CREEK - PROPOSED TYPICAL SECTION**  
STA. 569+00.00 TO STA. 569+60.00

FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED - SEM 03/26/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER BIG MUDDY CREEK PROPOSED TYPICAL SECTIONS</b>	F.A.P. RTE. 773	SECTION (108BR-3, 109B)B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 11	
PLOT SCALE = #SCALE#	CHECKED - RJA 09/17/08	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO. 74237			
PLOT DATE = #DATE#	DATE - 09/26/08	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT								



**BIG MUDDY CREEK- PROPOSED TYPICAL SECTION**

STA. 576+22.00 TO STA. 577+40.00

**CONNECTOR/APPROACH PAVEMENT OMISSION**

STA. 575+80.00 TO STA. 576+22.00

**BRIDGE OMISSION**

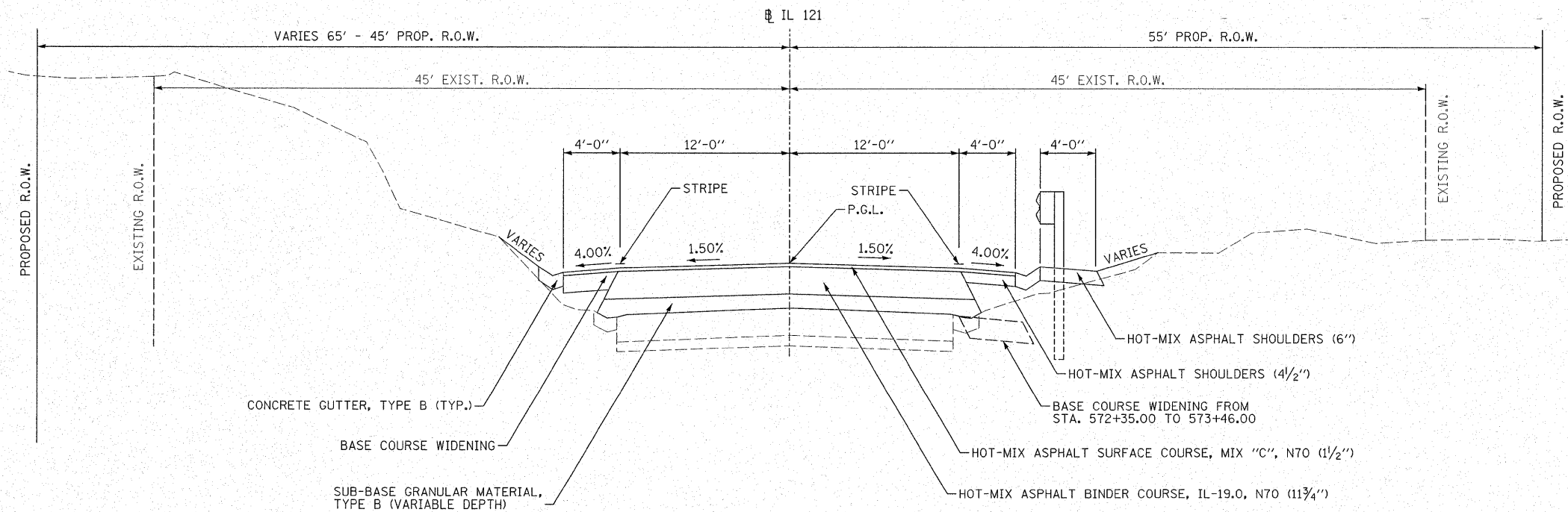
STA. 573+88.00 TO STA. 575+80.00

**CONNECTOR/APPROACH PAVEMENT OMISSION**

STA. 573+46.00 TO STA. 573+88.00

**NOTES:**

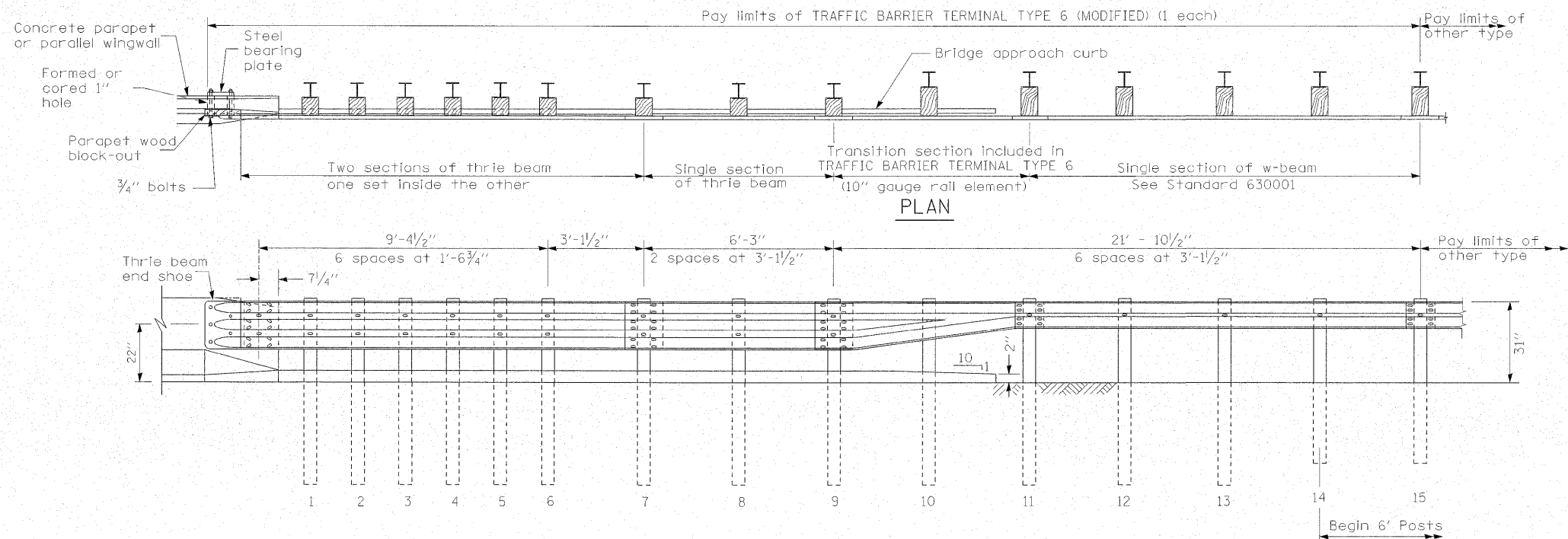
1. SEE CROSS SECTIONS FOR GRADING INFORMATION FROM SHOULDERS.
2. SEE SHEET NO. 10 FOR BENCHING DETAIL.



**BIG MUDDY CREEK- PROPOSED TYPICAL SECTION**

STA. 572+35.00 TO STA. 573+46.00

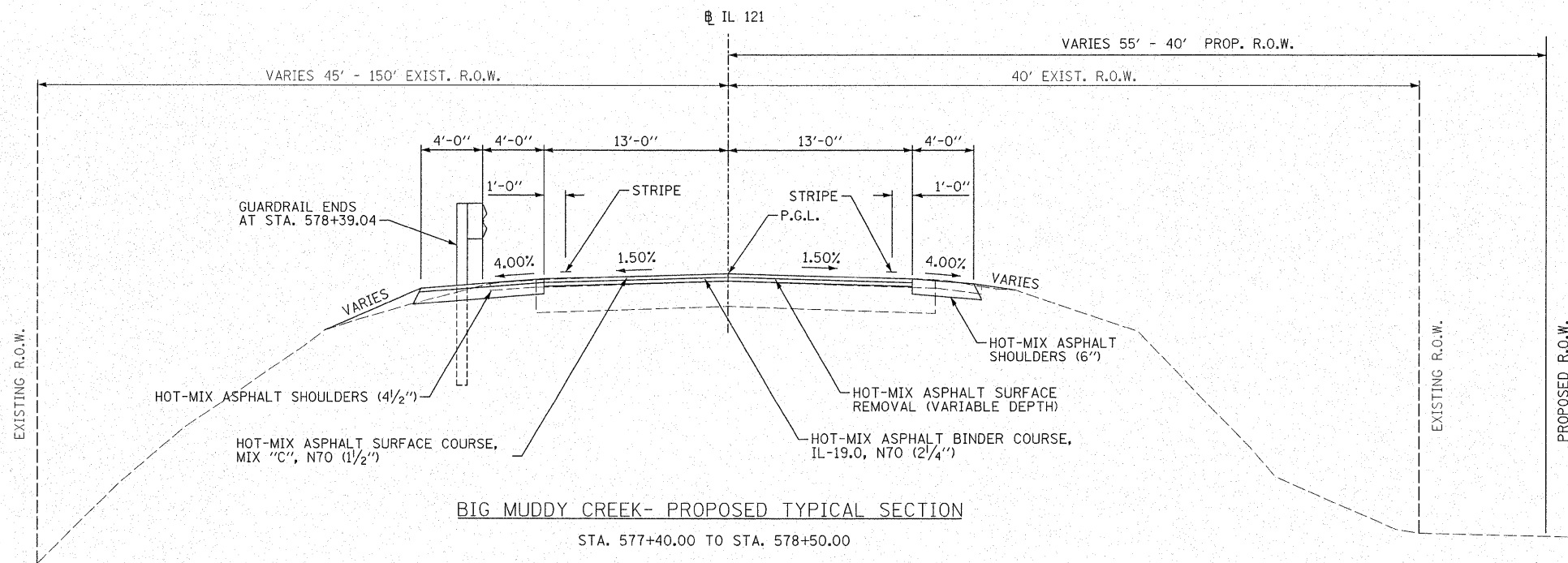
FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - SEM 03/26/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER BIG MUDDY CREEK PROPOSED TYPICAL SECTIONS</b>	F.A.P. RTE. 773	SECTION (108BR-3, 109BIB-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 12
	PLOT SCALE = #SCALE#	DRAWN - WLL 09/23/08	REVISED -			CONTRACT NO. 74237				
	PLOT DATE = #DATE#	CHECKED - RJA 09/17/08	REVISED -			ILLINOIS FED. AID PROJECT				
		DATE - 09/26/08	REVISED -			SCALE:	SHEET NO. OF SHEETS STA. TO STA.			



TRAFFIC BARRIER TERMINAL, TYPE 6 (MODIFIED) DETAIL  
(SEE SHEET 23 FOR LOCATION)

NOTES:

1. SEE CROSS SECTIONS FOR GRADING INFORMATION FROM SHOULDERS.
2. SEE SHEET NO. 10 FOR BENCHING DETAIL.



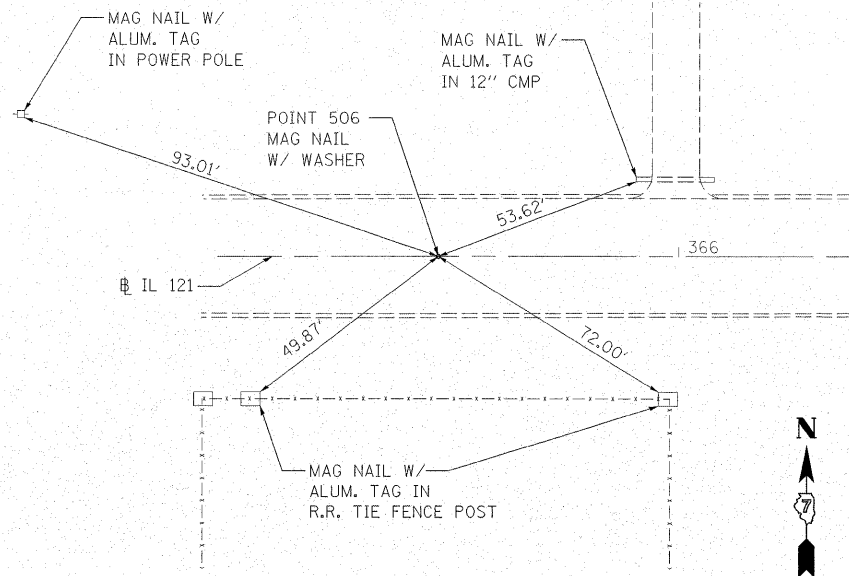
BIG MUDDY CREEK - PROPOSED TYPICAL SECTION  
STA. 577+40.00 TO STA. 578+50.00



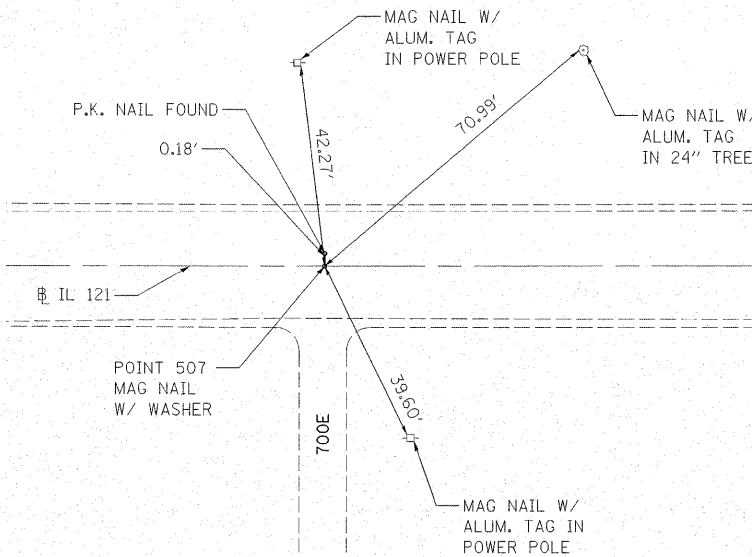
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	PLOT SCALE = #SCALE#	CHECKED - RJA 09/17/08	REVISED -			CONTRACT NO. 74237				
	PLOT DATE = #DATE#	DATE - 09/26/08	REVISED -			ILLINOIS FED. AID PROJECT				
						SCALE:	SHEET NO. OF SHEETS STA. TO STA.			



**MULE CREEK**  
**P.O.T. STA. 365 + 49.14**



**MULE CREEK**  
**P.O.T. STA. 419 + 86.09**



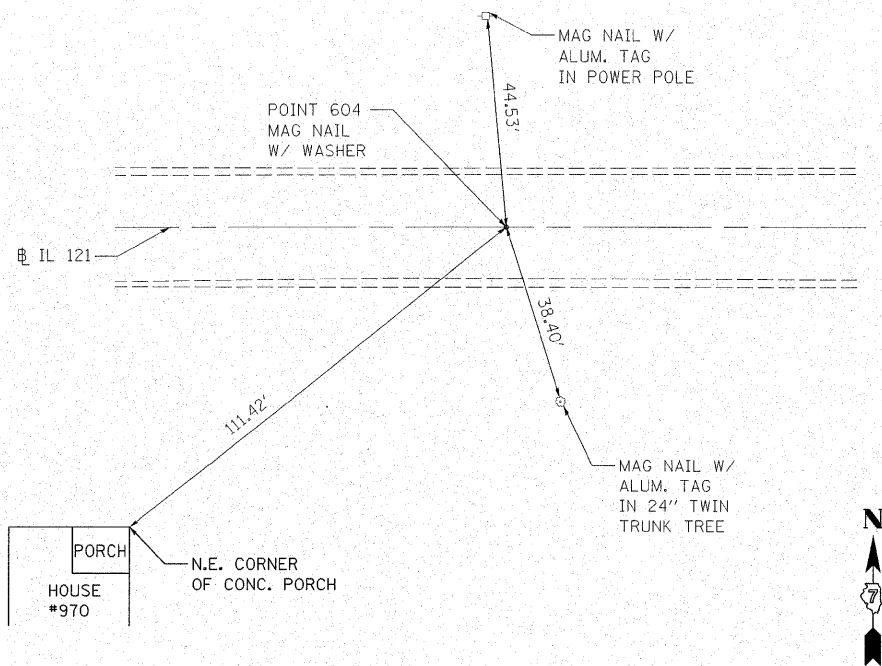
**MULE CREEK**

**BENCHMARK 317**  
STA. 411+55 49' LT.  
RAILROAD SPIKE IN A POWER POLE  
49' NORTH OF THE CENTERLINE OF  
IL 121 800' WEST OF CR700E  
ELEV. 616.869

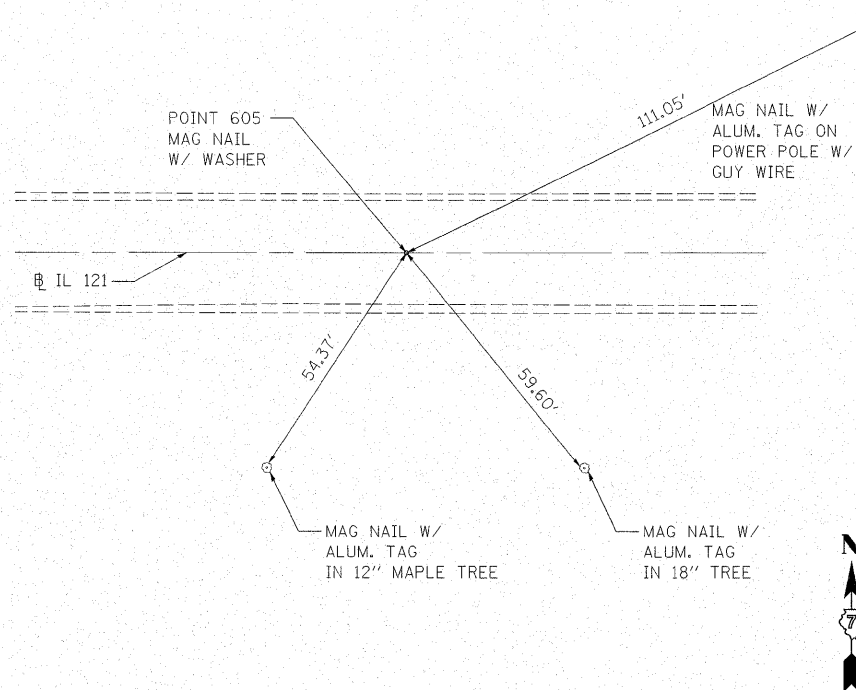
**BENCHMARK 318**  
STA. 399+00 17' RT.  
BRASS DISK FOUND IN THE TOP OF A CONC. CURB  
ON THE SOUTHWEST CORNER OF A BRIDGE STR#018-0029  
OVER MULE CREEK STAMPED 570.42  
ELEV. 570.56

ALIGNMENT DATA			
POINT	NORTHING	EASTING	STATION
506	948,985.77	976,568.31	365+49.14
507	948,989.40	982,005.26	419+86.09

**BIG MUDDY CREEK**  
**P.O.T. STA. 562 + 32.89**



**BIG MUDDY CREEK**  
**P.O.T. STA. 593 + 76.40**



**BIG MUDDY CREEK**

**BENCHMARK 305**  
STA. 574+10 16' RT.  
BRASS DISK FOUND IN THE TOP OF A CONC. CURB  
ON THE SOUTHWEST CORNER OF A BRIDGE STR#018-0030  
OVER BIG MUDDY CREEK STAMPED 563.56  
ELEV. 563.637

**BENCHMARK 306**  
STA. 573+00 17' LT.  
CUT SQUARE IN THE NORTHWEST OF A CONC. PRIVATE ENTRANCE  
NORTHWEST OF THE BIG MUDDY BRIDGE  
ELEV. 565.318

ALIGNMENT DATA			
POINT	NORTHING	EASTING	STATION
604	949,000.29	996,231.58	562+32.89
605	949,004.48	999,375.09	593+76.40

FILE NAME =	USER NAME = *USER*	DESIGNED - SGM 02/21/08	REVISED -
\$FILEL\$		DRAWN - JDS 05/09/08	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - RJA 09/17/08	REVISED -
	PLOT DATE = *DATE*	DATE - 09/26/08	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**ALIGNMENT, TIES, & BENCHMARKS**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(108BR-3, 109BIB-1)	CUMBERLAND	96	14
CONTRACT NO. 74237				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				





RESURFACING SCHEDULE

STATION LOCATION	31101000 SUB-BASE GRANULAR MATERIAL, TYPE B TON	40200800 AGGREGATE SURFACE COURSE, TYPE B TON	40600100 BITUMINOUS MATERIALS (PRIME COAT) GALLON	40600300 AGGREGATE (PRIME COAT) TON	40600982 HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT SQ YD	40600990 TEMPORARY RAMP SQ YD	40603085 HOT-MIX ASPHALT BINDER COURSE, IL-19-O, NTO TON	40603315 HOT-MIX ASPHALT SURFACE COURSE, MIX "C", NTO TON	44000100 PAVEMENT REMOVAL SQ YD	44000198 HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH SQ YD	44004300 PAVEMENT BREAKING SQ YD	48203100 HOT-MIX ASPHALT SHOULDERS SQ YD
MULE CREEK												
403+59.71, RT		16.3										
404+15.84, LT		8.7										
394+00.00 TO 398+23.00			231.6				306.1	132.3				123.3
400+38.50 TO 405+00.00			362.4				740.7	113.1				134.8
394+00.00 TO 398+23.00 (NEW BINDER)				1.2								
400+38.50 TO 405+00.00 (NEW BINDER)				1.1								
394+00.00 TO 398+23.00 (MILLED SURFACE)				2.4								
400+38.50 TO 405+00.00 (MILLED SURFACE)				2.3								
394+00.00 TO 394+30.00					86.7							
404+70.00 TO 405+00.00					74.6							
394+00.00 TO 394+30.00 (PRE-STAGE I)						86.7						
397+65.00 TO 397+85.00 (PRE-STAGE I)						57.8						
402+55.00 TO 402+75.00 (PRE-STAGE I)						48.9						
404+70.00 TO 405+00.00 (PRE-STAGE I)						73.3						
398+18.00 TO 398+23.00, LT						9.4						
400+38.50 TO 400+43.50, LT						8.3						
402+75.00 TO 402+82.50, LT						12.5						
398+18.00 TO 398+23.00, RT						9.4						
400+38.50 TO 400+43.50, RT						8.3						
402+75.00 TO 402+82.50, RT						12.5						
397+65.00 TO 398+98.86								409.9				
399+74.03 TO 400+38.50								185.6				
394+30.00 TO 397+65.00									967.8			
402+75.00 TO 404+70.00									478.6			
400+38.50 TO 402+75.00										698.9		
397+65.00 TO 398+23.00	87.9											
400+38.50 TO 402+60.00	681.9											
BIG MUDDY CREEK												
573+34.49, LT		20.9										
577+20.46, RT		8.1										
569+00.00 TO 573+46.00			251.1				546.1	126.7				82.1
576+22.00 TO 578+50.00			92.7				95.1	78.9				95.5
569+00.00 TO 573+46.00 (NEW BINDER)				1.2								
576+22.00 TO 578+50.00 (NEW BINDER)				0.7								
569+00.00 TO 573+46.00 (MILLED SURFACE)				2.4								
576+22.00 TO 578+50.00 (MILLED SURFACE)				1.3								
569+00.00 TO 569+30.00					81.7							
578+20.00 TO 578+50.00					86.7							
569+00.00 TO 569+30.00 (PRE-STAGE I)						80.0						
572+35.00 TO 572+55.00 (PRE-STAGE I)						53.3						
576+02.00 TO 576+22.00 (PRE-STAGE I)						57.8						
578+20.00 TO 578+50.00 (PRE-STAGE I)						86.7						
570+95.00 TO 571+00.00, LT						8.9						
573+41.00 TO 573+46.00, LT						8.9						
576+22.00 TO 576+27.00, LT						9.4						
570+95.00 TO 571+00.00, RT						8.9						
573+41.00 TO 573+46.00, RT						8.9						
576+22.00 TO 576+27.00, RT						9.4						
573+46.00 TO 574+20.04								227.1				
575+47.77 TO 576+22.00								240.2				
569+30.00 TO 572+35.00									824.4			
576+22.00 TO 578+20.00									572.0			
572+35.00 TO 573+46.00										347.2		
572+35.00 TO 573+46.00	105.9											
TOTALS	875.6	54.0	937.8	12.6	329.6	659.4	1687.9	451.1	1062.8	2842.8	1046.1	435.7

BRIDGE APPROACH PAVEMENT SCHEDULE

STATION LOCATION	42001165 BRIDGE APPROACH PAVEMENT SQ YD	42001430 BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE) SQ YD
MULE CREEK		
398+35.50 TO 398+65.50	112.0	
400+02.50 TO 400+32.50	112.0	
398+23.00 TO 398+35.50		46.3
400+32.50 TO 400+38.50		22.2
BIG MUDDY CREEK		
573+58.00 TO 573+88.00	112.0	
575+80.00 TO 576+10.00	112.0	
573+46.00 TO 573+58.00		44.9
576+10.00 TO 576+22.00		44.9
TOTALS	447.8	158.3

BASE COURSE WIDENING SCHEDULE

STATION LOCATION	35650700 BASE COURSE WIDENING SQ YD	#7000599 BASE COURSE WIDENING REMOVAL SQ YD
MULE CREEK		
395+80.00 TO 398+23.00, LT	111.1	
395+70.00 TO 398+60.96, RT	84.0	
399+96.28 TO 404+52.00, RT	233.0	
400+38.50 TO 403+75.00, LT	146.4	
397+65.00 TO 398+60.96, RT		29.0
399+96.28 TO 400+38.50, RT		21.6
402+60.00 TO 404+52.00, RT*		96.7
402+75.00 TO 403+75.00, LT*		43.8
BIG MUDDY CREEK		
569+60.00 TO 573+91.64, RT	179.4	
569+90.00 TO 573+46.00, LT	153.8	
576+22.00 TO 577+25.00, LT	49.9	
575+90.67 TO 577+40.00, RT	60.8	
571+00.00 TO 572+35.00, RT*		59.9
573+46.00 TO 573+91.64, RT		16.4
575+90.67 TO 576+22.00, RT		13.0
TOTALS	1018.5	280.3

\* REMOVAL TO AVOID CONFLICT WITH PROPOSED HOT-MIX ASPHALT SHOULDERS.

FILE NAME =	USER NAME = #USER#	DESIGNED - JDS 02/07/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SCHEDULE OF QUANTITIES</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILES#		DRAWN - JDS 09/24/08	REVISED -			773	(108BR-3, 109B)B-1	CUMBERLAND	96	15	
		CHECKED - RJA 09/17/08	REVISED -			CONTRACT NO. 74237					
		DATE - 09/26/08	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET NO. OF SHEETS		STA. TO STA.			



GUARDRAIL SCHEDULE

STATION LOCATION	63000000 STEEL PLATE BEAM GUARDRAIL, TYPE A	63100045 TRAFFIC BARRIER TERMINAL, TYPE 2	63100085 TRAFFIC BARRIER TERMINAL, TYPE 6	63100167 TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	63200310 GUARDRAIL REMOVAL	63300575 REMOVE AND RE-ERECT RAIL ELEMENT OF EXISTING GUARDRAIL	63300725 STEEL PLATE BEAM GUARD- RAIL (SHORT RADIUS)	78200410 GUARDRAIL MARKERS, TYPE A	78201000 TERMINAL MARKER-DIRECT APPLIED	X6310187 TRAFFIC BARRIER TERMINAL, TYPE 6 (MODIFIED)
	FOOT	EACH	EACH	EACH	FOOT	FOOT	FOOT	EACH	EACH	EACH
MULE CREEK										
397+24.88 TO 402+10.24, LT					409.8					
396+62.59 TO 401+47.67, RT					409.5					
398+22.35 TO 398+65.50, LT			1							
398+22.35 TO 398+65.50, RT			1							
400+02.50 TO 400+45.65, LT			1							
400+02.50 TO 400+45.65, RT			1							
397+09.85 TO 397+59.85, LT				1					1	
396+34.85 TO 396+84.85, RT				1					1	
401+95.65 TO 402+45.65, LT				1					1	
401+08.15 TO 401+58.15, RT				1					1	
397+09.25 TO 402+46.25, LT								8		
396+34.25 TO 401+58.75, RT								8		
397+59.85 TO 398+22.35, LT	62.5									
396+84.85 TO 398+22.35, RT	137.5									
400+45.65 TO 401+95.65, LT	150.0									
400+45.65 TO 401+08.15, RT	62.5									
398+11.00 TO 398+61.00, RT						50.0				
399+96.00 TO 400+46.00, RT						50.0				
BIG MUDDY CREEK										
573+53.27 TO 577+90.29, LT					245.2					
573+02.55 TO 577+02.77, RT					208.4					
573+39.03 TO 573+82.18, RT			1							
575+85.82 TO 576+28.97, LT			1							
575+74.18 TO 576+17.33, RT			1							
571+01.53 TO 571+51.53, RT				1					1	
577+91.47 TO 578+41.47, LT				1					1	
573+53.80 TO 573+93.82, LT										1
573+46.01, LT		1					25.0			
576+96.26, RT		1					25.0			
573+47.05 TO 578+39.64, LT								8		
571+03.39 TO 577+02.95, RT								9		
571+51.53 TO 573+39.03, RT	187.5									
576+28.97 TO 577+91.47, LT	162.5									
576+17.33 TO 576+92.33, RT	75.0									
573+17.00 TO 573+67.00, RT						75.0				
575+90.50 TO 576+65.50, RT						75.0				
TOTALS	837.5	2	7	6	1272.9	250.0	50.0	33	6	1

DRAIN DETAIL SCHEDULE

STATION LOCATION	54200427 PIPE CULVERTS, TYPE 1, RCCP 12"	54215547 METAL END SECTION, 12"	60100945 PIPE DRAINS, 12"	60900130 TYPE B INLET BOX, STANDARD 609001 (SPECIAL)	60900515 CONCRETE THRUST BLOCKS
	FOOT	EACH	FOOT	EACH	EACH
MULE CREEK					
398+28.00, C.L.	30.0				
398+28.00, 41.7' RT		1			
398+28.00, 16.4' RT			33.0	1	
398+28.00, 16.4' LT				1	
398+28.00, 37.9' RT					1
TOTALS	30.0	1	33.0	2	1

CULVERT SCHEDULE

STATION LOCATION	54001000 BOX CULVERT END SECTIONS	54010303 PRECAST CONCRETE BOX CULVERT, 3'X3'	54248510 CONCRETE COLLAR	Z0010500 CLEANING CULVERTS
	EACH	FOOT	CU YD	EACH
BIG MUDDY CREEK				
570+33.76, 64.7' RT	1			
569+21.43, 58.9' LT	1			
570+11.62, 37.2' RT		29.3		
569+50.90, 33.9' LT		32.7		
570+12.78, 38.6' RT			3.4	
569+49.02, 35.4' LT			5.6	
569+80.21, C.L.				1
TOTALS	2	62.0	9.0	1



PAVEMENT MARKING SCHEDULE

STATION LOCATION	70300100 SHORT-TERM PAVEMENT MARKING FOOT	70300200 TEMPORARY PAVEMENT MARKING FOOT	70301000 WORK ZONE PAVEMENT MARKING REMOVAL SQ FT	78001110 PAINT PAVEMENT MARKING-LINE 4" FOOT	78100100 RAISED REFLECTIVE PAVEMENT MARKER EACH	78300100 PAVEMENT MARKING REMOVAL SQ FT
MULE CREEK						
MILLED PAVEMENT APPLICATION	110.0					
PRIME COAT APPLICATION (2 APPLICATIONS)	220.0					
BINDER COURSE APPLICATION (2 LIFTS)	220.0					
LIFT SURFACE COURSE APPLICATION	110.0		36.7			
394+00.00 TO 405+00.00, LT EDGE		1100.0		1100.0		
394+00.00 TO 405+00.00, RT EDGE		1100.0		1100.0		
394+00.00 TO 398+00.00, C.L. SKIP-DASH		100.0		100.0		
398+00.00 TO 405+00.00, C.L. SOLID-DASH		875.0		875.0		
394+00.00 TO 405+00.00					14	
395+70.00 TO 404+52.00, RT (SOLID) STAGE I						294.0
394+14.00 TO 395+91.46, C.L. (SKIP-DASH) STAGE I						14.7
403+63.46 TO 405+75.50, C.L. (SKIP-DASH) STAGE I						17.7
395+80.00 TO 396+99.25, LT (SOLID) STAGE II						40.0
402+75.00 TO 403+75.00, LT (SOLID) STAGE II						33.3
BIG MUDDY CREEK						
MILLED PAVEMENT APPLICATION	95.0					
PRIME COAT APPLICATION (2 APPLICATIONS)	190.0					
BINDER COURSE APPLICATION (2 LIFTS)	190.0					
LIFT SURFACE COURSE APPLICATION	95.0		31.7			
569+00.00 TO 578+50.00, LT EDGE		950.0		950.0		
569+00.00 TO 578+50.00, RT EDGE		950.0		950.0		
569+00.00 TO 576+00.00, C.L. SOLID-DASH		875.0		875.0		
576+00.00 TO 578+50.00, C.L. SKIP-DASH		62.5		62.5		
569+00.00 TO 578+50.00					12	
569+60.00 TO 577+40.00, RT (SOLID) STAGE I						260.0
568+07.00 TO 569+68.40, C.L. (SKIP-DASH) STAGE I						13.3
577+51.38 TO 579+15.00, C.L. (SKIP-DASH) STAGE I						13.7
569+90.00 TO 571+00.00, LT (SOLID) STAGE II						36.7
576+22.00 TO 577+25.00, LT (SOLID) STAGE II						34.3
TOTALS	1230.0	6012.5	68.3	6012.5	26	757.7

EARTHWORK SCHEDULE

STATION LOCATION	20200100 EARTH EXCAVATION CU YD	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%) CU YD	EMBANKMENT CU YD	20400800 FURNISHED EXCAVATION WASTE (+) OR SHORTAGE (-) CU YD
MULE CREEK				
394+00.00 TO 398+98.86	48.5	36.4	361.6	-325.2
399+74.03 TO 405+00.00	87.4	65.6	3573.4	-3507.9
BIG MUDDY CREEK				
569+00.00 TO 574+20.04	621.1	465.8	617.2	-151.3
575+47.77 TO 578+50.00	53.8	40.3	65.7	-25.3
CULVERT EXTENSION-DITCH	37.2	27.9	0.0	27.9
TOTALS	848.0	636.0	4617.9	-3981.9

TEMPORARY ACCESS

STATION LOCATION	X4021000 TEMPORARY ACCESS (PRIVATE ENTRANCE) EACH
MULE CREEK	
403+59.71, RT	1
404+50.00, LT	1
TOTALS	2

STAGE CONSTRUCTION SCHEDULE

STATION LOCATION	70106500 TEMPORARY BRIDGE TRAFFIC SIGNALS EACH	70106700 TEMPORARY RUMBLE STRIPS EACH	70400100 TEMPORARY CONCRETE BARRIER FOOT	70400200 RELOCATE TEMPORARY CONCRETE BARRIER FOOT	70030250 IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3 EACH	70030350 IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3 EACH
MULE CREEK						
STAGE CONSTRUCTION (I & II)	1	6				
STAGE I CONSTRUCTION			850.0			
STAGE II CONSTRUCTION				750.0		
395+78.10, 4.9' LT (STAGE I)					1	
403+77.41, 4.7' LT (STAGE I)					1	
396+03.00, 4.2' RT (STAGE II)						1
403+52.50, 4.3' RT (STAGE II)						1
BIG MUDDY CREEK						
STAGE CONSTRUCTION (I & II)	1	6				
STAGE I CONSTRUCTION			687.5			
STAGE II CONSTRUCTION				675.0		
569+72.00, 4.9' LT (STAGE I)					1	
572+84.00, 3.5' RT (STAGE I)					1	
573+71.50, 3.5' RT (STAGE I)					1	
577+46.15, 4.7' LT (STAGE I)					1	
570+21.75, 4.1' RT (STAGE II)						1
577+96.23, 4.3' RT (STAGE II)						1
TOTALS	2	12	1537.5	1425.0	6	4

FILE NAME =	USER NAME = #USER#	DESIGNED - JDS 02/07/08	REVISED -
#FILEL#		DRAWN - JDS 09/24/08	REVISED -
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	PLOT DATE = #DATE#	DATE - 09/26/08	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(108BR-3, 109BIB-1)	CUMBERLAND	96	17
CONTRACT NO. 74237				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

EROSION CONTROL SCHEDULE

STATION LOCATION	28000250 TEMPORARY EROSION CONTROL SEEDING POUND	28000300 TEMPORARY DITCH CHECKS EACH	28000400 PERIMETER EROSION BARRIER FOOT	28100107 STONE RIPRAP, CLASS A4 SQ YD	28200200 FILTER FABRIC SQ YD	60100905 PIPE DRAINS 4" FOOT
MULE CREEK						
STA. 398+24.98 TO STA. 398+30.98, RT				4.0	4.0	
STA. 400+12.63 TO STA. 400+33.20, RT				33.3	33.3	
STA. 400+12.98 TO STA. 400+32.22, LT				38.3	38.3	
398+29.50, LT		1				
398+29.50, RT		1				
400+38.50, LT		1				
394+00.00 TO 398+55.50, LT			455.5			
394+00.00 TO 398+55.50, RT			459.6			
400+12.50 TO 403+43.17, RT			344.0			
403+59.43 TO 405+00.00, RT			144.4			
402+12.50 TO 404+12.00, LT			432.0			
398+63.50, 39.8' LT						9.1
398+63.50, 31.7' RT						5.1
400+04.50, 45.6' LT						15.6
400+04.50, 39.6' RT						8.9
BIG MUDDY CREEK						
STA. 573+55.28 TO STA. 573+68.58, RT				26.7	26.7	
STA. 573+67.01 TO STA. 573+87.63, LT				17.3	17.3	
STA. 575+98.94 TO STA. 576+03.94, RT				13.6	13.6	
STA. 576+11.06 TO STA. 576+16.06, RT				10.8	10.8	
569+00.00, LT			61.3			
569+05.00 TO 571+00.00, LT			210.4			
569+36.00 TO 570+38.48, RT			147.3			
570+45.53 TO 571+00.00, RT			102.1			
573+00.00 TO 573+34.85, LT			44.0			
573+00.00 TO 573+75.00, RT			78.8			
573+46.96 TO 573+75.00, LT			31.0			
576+00.00 TO 578+50.00, LT			250.0			
576+00.00 TO 576+94.11, RT			104.0			
577+26.63 TO 578+50.00, RT			123.5			
574+00.23, 39.4' LT						11.8
573+74.22, 32.0' RT						5.1
575+52.02, 42.4' LT TO 575+92.24, 27.8' LT						42.8
575+45.13, 41.8' RT TO 575+71.38, 29.5' RT						29.0
ENTIRE PROJECT	1760.0					
TOTALS	1760.0	3	2987.9	144.1	144.1	127.4

CLASS SI CONCRETE (OUTLET) SCHEDULE

STATION LOCATION	A-A TO D-D* FOOT	D-D TO E-E* FOOT	E-E TO OUTLET* FOOT	60600095 QUANTITY PER OUTLET CU YD
MULE CREEK				
400+47.11 TO 400+89.11, LT	42.0	4.0	17.3	4.5
400+47.50 TO 400+89.50, RT	42.0	4.0	17.3	4.5
BIG MUDDY CREEK				
573+12.48 TO 573+48.48, LT	36.0	4.0	17.3	4.1
573+01.33 TO 573+37.33, RT	36.0	4.0	17.3	4.1
TOTALS				17.2

\*SEE STANDARD 606201-01

GUTTER SCHEDULE

STATION LOCATION	44000400 GUTTER REMOVAL FOOT	44002600 GUTTER OUTLET REMOVAL FOOT	60602800 CONCRETE GUTTER, TYPE B FOOT
MULE CREEK			
400+42.29 TO 405+00.00, RT	457.7		
400+46.94 TO 405+00.00, LT	453.1		
400+71.11 TO 405+00.00, LT			429.1
400+71.50 TO 405+00.00, RT			428.7
400+16.43 TO 400+46.94, LT		33.4	
399+99.55 TO 400+42.29, RT		53.4	
BIG MUDDY CREEK			
569+00.00 TO 573+34.12, LT	434.1		
569+00.00 TO 573+35.68, RT	435.7		
569+00.00 TO 573+24.48, LT			424.7
569+00.00 TO 573+13.33, RT			413.5
573+34.12 TO 573+62.74, LT		30.4	
573+35.68 TO 573+63.61, RT		29.2	
TOTALS	1780.6	146.4	1695.9

SEEDING SCHEDULE

STATION LOCATION	25000210 SEEDING, CLASS 2 (SPECIAL) ACRE
MULE CREEK	
394+00.00 TO 398+55.50, LT	0.16
394+00.00 TO 398+23.00, RT	0.20
400+38.50 TO 405+00.00, LT	0.48
400+38.50 TO 405+00.00, RT	0.27
BIG MUDDY CREEK	
569+00.00 TO 573+94.13, LT	0.27
569+00.00 TO 573+81.87, RT	0.19
575+73.87 TO 578+50.00, RT	0.05
575+86.13 TO 578+50.00, LT	0.05
TOTALS	1.6

RIGHT-OF-WAY SCHEDULE

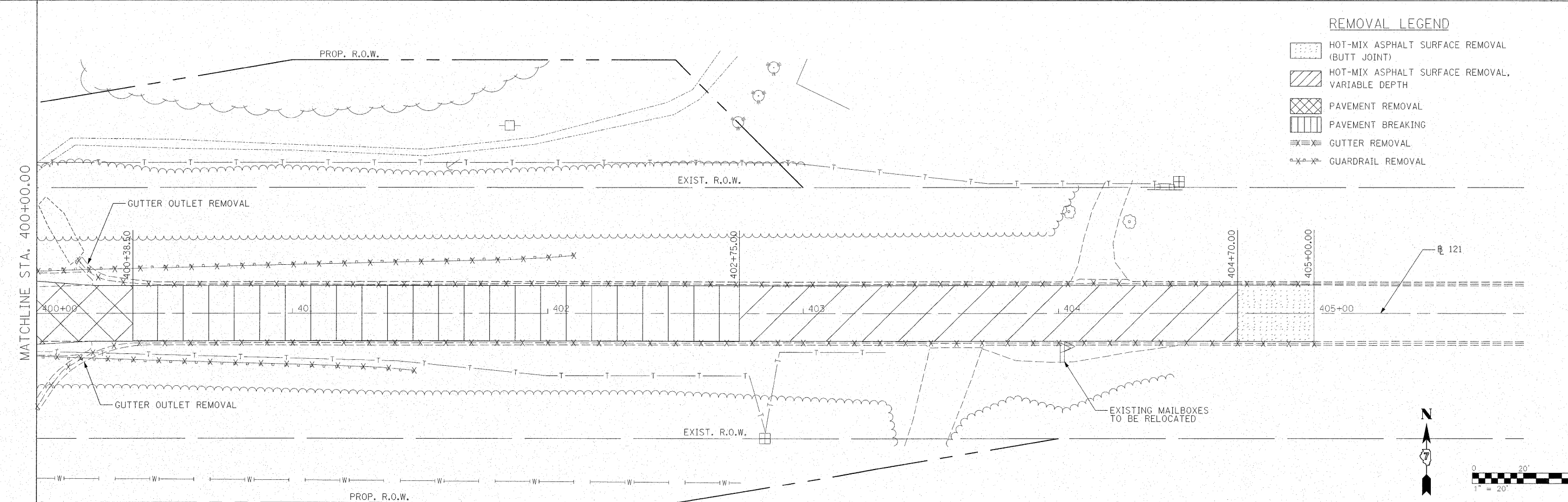
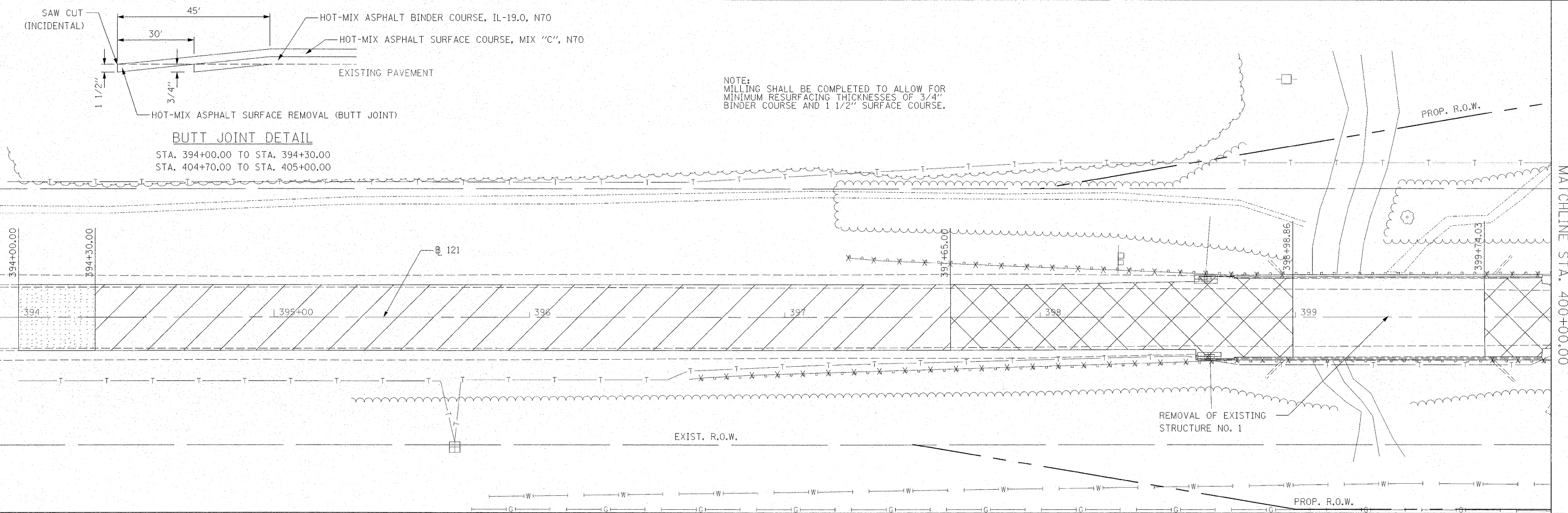
STATION LOCATION	66600105 FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS EACH	66700305 PERMANENT SURVEY MARKERS, TYPE II EACH
MULE CREEK		
397+50.03, 49.8' RT	1	
398+00.00, 50.0' LT	1	
399+00.00, 75.0' RT	1	
401+00.00, 100.0' LT	1	
402+50.00, 100.0' RT	1	
402+50.00, 75.0' RT	1	
403+00.00, 50.0' LT	1	
404+00.00, 50.0' RT	1	
TO BE DETERMINED		1
BIG MUDDY CREEK		
568+65.00, 45.0' LT	1	
569+00.00, 70.0' LT	1	
569+45.00, 70.0' LT	1	
569+60.00, 40.0' RT	1	
569+80.00, 45.0' LT	1	
570+10.00, 70.0' RT	1	
570+50.00, 70.0' RT	1	
571+00.00, 45.0' LT	1	
571+50.00, 55.0' RT	1	
571+75.00, 65.0' LT	1	
572+50.00, 65.0' LT	1	
573+00.00, 45.0' LT	1	
577+67.35, 55.0' RT	1	
577+67.35, 40.0' RT	1	
TO BE DETERMINED		1
TOTALS	22	2

TREE REMOVAL SCHEDULE

STATION LOCATION	20100110 TREE REMOVAL (6-15 UNITS DIAMETER) UNIT
BIG MUDDY CREEK	
570+10.00, 81.0' RT	10
570+15.00, 70.0' RT	9
570+30.0, 78.0' RT	12
570+34.00, 95.0' RT	12
570+31.00, 81.0' RT	6
570+48.00, 100.0' RT	9
570+48.00, 94.0' RT	13
569+50.00, 53.0' LT	14
569+50.00, 53.0' LT	6
569+50.00, 53.0' LT	13
TOTALS	104

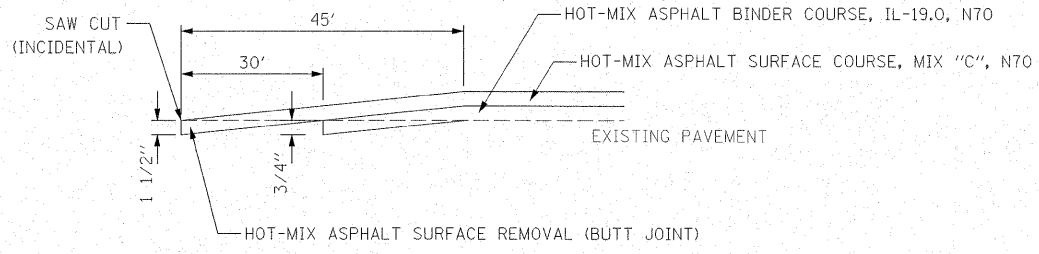






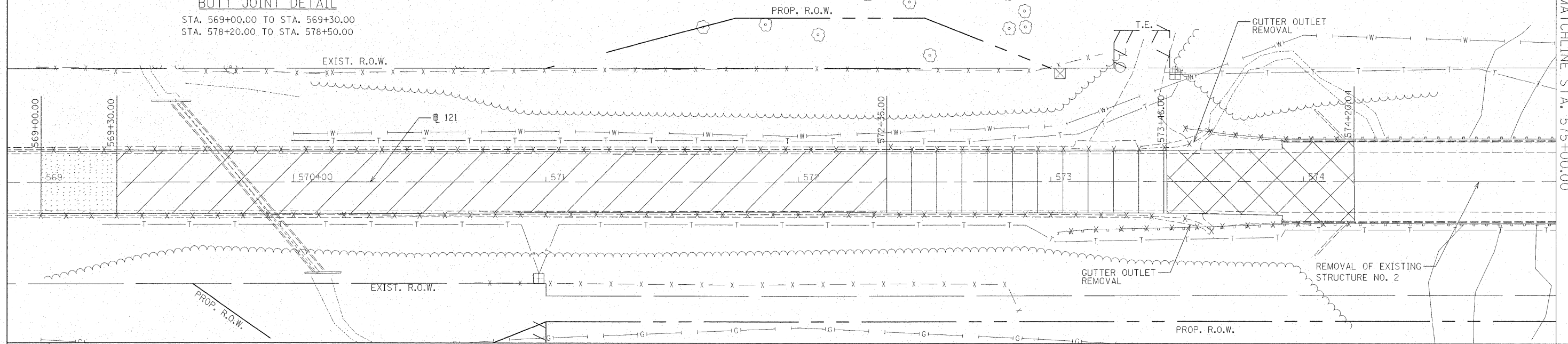
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	PLOT SCALE = \$SCALE\$	DRAWN - SEM 04/23/08	REVISED -			SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. 394+00.00 TO STA. 405+00.00	CONTRACT NO. 74237			
	PLOT DATE = \$DATE\$	CHECKED - RJA 09/17/08	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT						
		DATE - 09/26/08	REVISED -									





NOTE:  
MILLING SHALL BE COMPLETED TO ALLOW FOR  
MINIMUM RESURFACING THICKNESSES OF 3/4"  
BINDER COURSE AND 1 1/2" SURFACE COURSE.

**BUTT JOINT DETAIL**  
STA. 569+00.00 TO STA. 569+30.00  
STA. 578+20.00 TO STA. 578+50.00

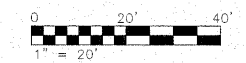
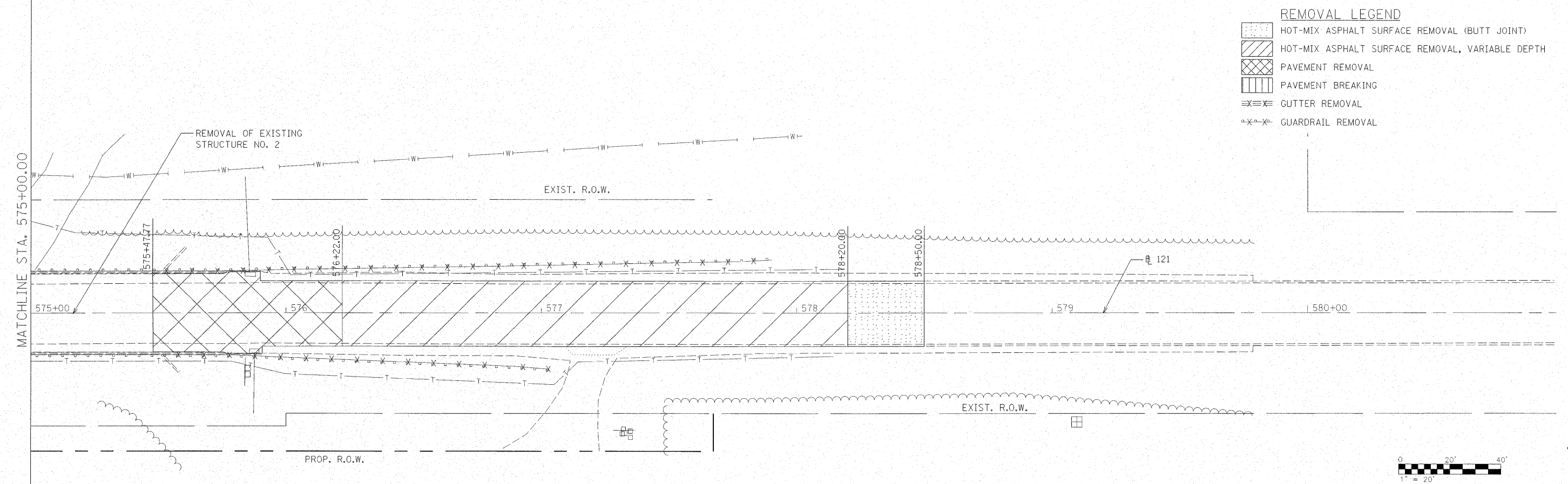


MATCHLINE STA. 575+00.00

**MAURER & STUTZ, INC.**  
ENGINEERS SURVEYORS

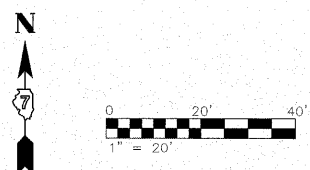
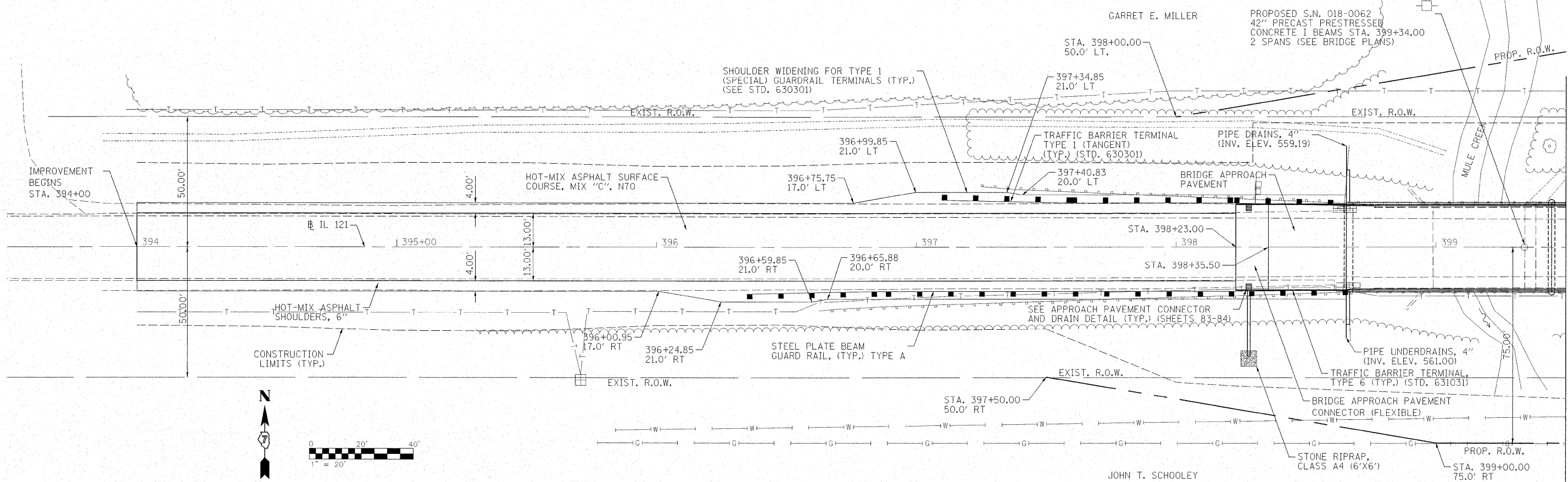
**REMOVAL LEGEND**

	HOT-MIX ASPHALT SURFACE REMOVAL (BUTT JOINT)
	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
	PAVEMENT REMOVAL
	PAVEMENT BREAKING
	GUTTER REMOVAL
	GUARDRAIL REMOVAL



FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED - JDS 04/23/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER BIG MUDDY CREEK REMOVAL PLAN</b>	F.A.P. RTE. 773	SECTION (108BR3, 109BIB-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 20		
	PLOT SCALE = #SCALE#	DRAWN - SEM 04/23/08	REVISED -			SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. 569+00.00 TO STA. 578+50.00	CONTRACT NO. 74237			
	PLOT DATE = #DATE#	CHECKED - RJA 09/17/08	REVISED -						FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			
		DATE - 09/26/08	REVISED -									

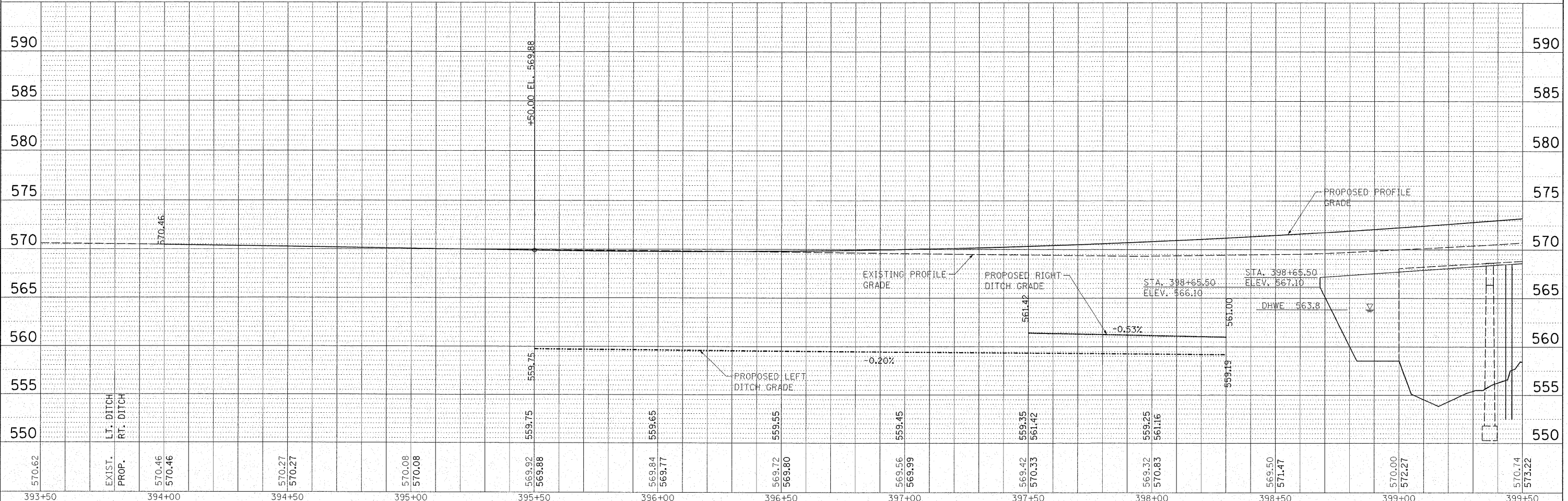
S. SEC. 30, N. SEC. 31, T. 10 N., R. 8 E., 3RD PM



PLAN  
 SURVEYED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PLOTTED BY: \_\_\_\_\_  
 ALIGNED CHECKED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 CAD FILE NAME: \_\_\_\_\_

MAURER & STUTZ, INC.  
 ENGINEERS  
 SURVEYORS

PROFILE  
 SURVEYED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PLOTTED BY: \_\_\_\_\_  
 GRADES CHECKED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 STRUCTURE NOTATION: CHFD



FILE NAME =	USER NAME = #USER#	DESIGNED - JDS 02/07/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER MULE CREEK STA. 399 + 34.00</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - JDS 02/07/08	REVISED -			773	(108BR-3, 109BIB-1)	CUMBERLAND	96	21	
		CHECKED - RJA 09/17/08	REVISED -			CONTRACT NO. 74237					
		DATE - 09/26/08	REVISED -			ILLINOIS FED. AID PROJECT					

SCALE: 1"=20' SHEET NO. OF SHEETS STA. 399+50.00 TO STA. 399+50.00

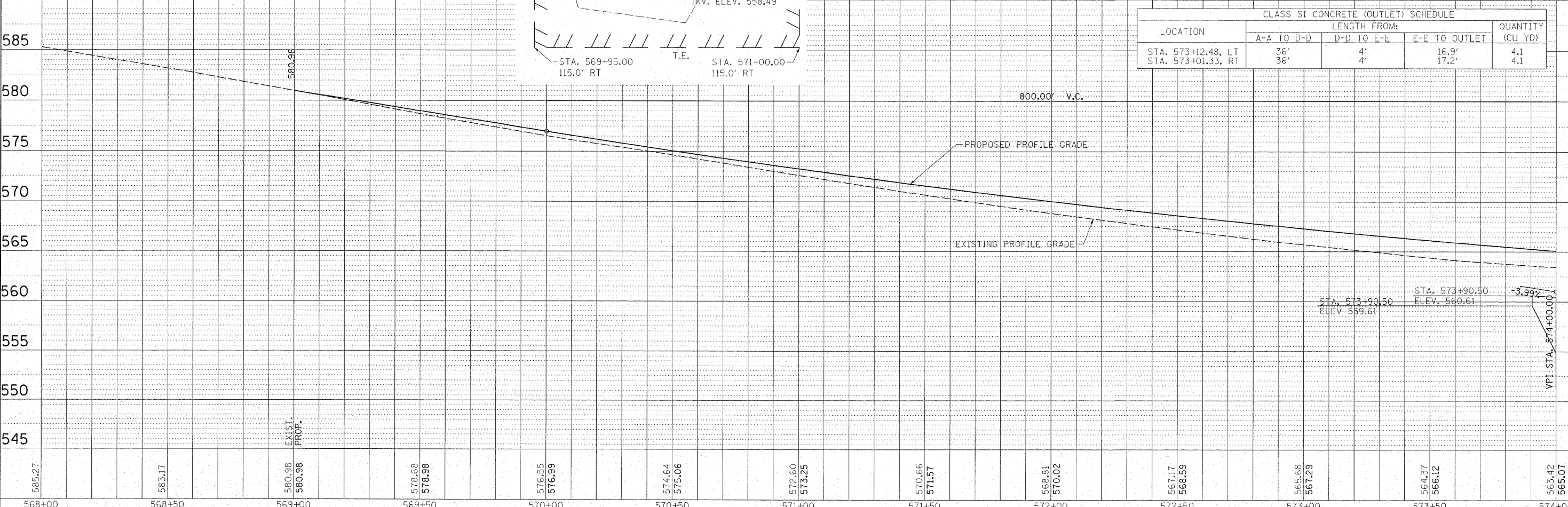
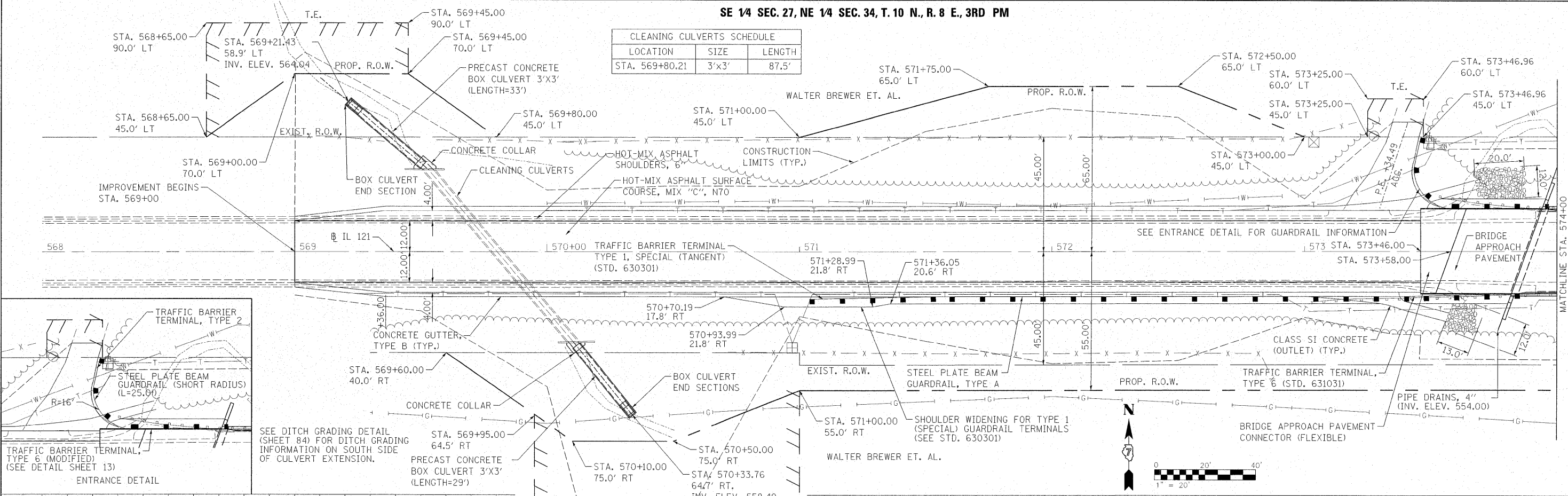




SE 1/4 SEC. 27, NE 1/4 SEC. 34, T. 10 N., R. 8 E., 3RD PM

LOCATION	SIZE	LENGTH
STA. 569+80.21	3'x3'	87.5'

LOCATION	LENGTH FROM:			QUANTITY (CU YD)
	A-A TO D-D	D-D TO E-E	E-E TO OUTLET	
STA. 573+12.48, LT	36'	4'	16.9'	4.1
STA. 573+01.33, RT	36'	4'	17.2'	4.1



DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
 SURVEYED \_\_\_\_\_ PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_ ALIGNMENT CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_ CARD FILE NAME \_\_\_\_\_

**MAURER & STUTZ, INC.**  
 ENGINEERS  
 SURVEYORS

DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
 PROFILE SURVEYED \_\_\_\_\_ PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_ GRADES CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_ STRUCTURE NOTATIONS OK'D \_\_\_\_\_

FILE NAME =	USER NAME = #USER#	DESIGNED - JDS 02/07/08	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER BIG MUDDY CREEK STA. 574 + 84.00</b>	F.A.P. RTE. 773	SECTION (108BR-3, 109BB-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 23	
#FILE#	PLOT SCALE = #SCALE#	CHECKED - RJA 09/17/08	REVISED -			SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. 569+00 TO STA. 574+00	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	CONTRACT NO. 74237	
	PLOT DATE = #DATE#	DATE - 09/26/08	REVISED -								

SE 1/4 SEC. 27, NE 1/4 SEC. 34, T. 10 N., R. 8 E., 3RD PM

LUCRETIA BREWER  
BORROW PIT AGREEMENT

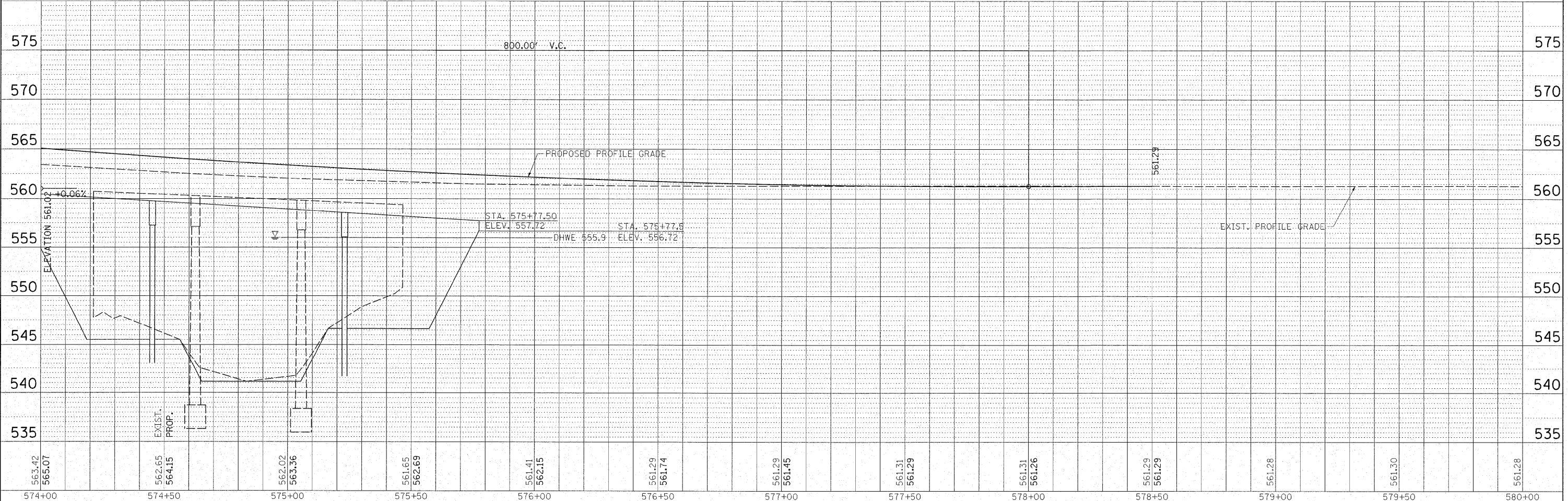
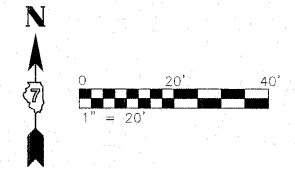
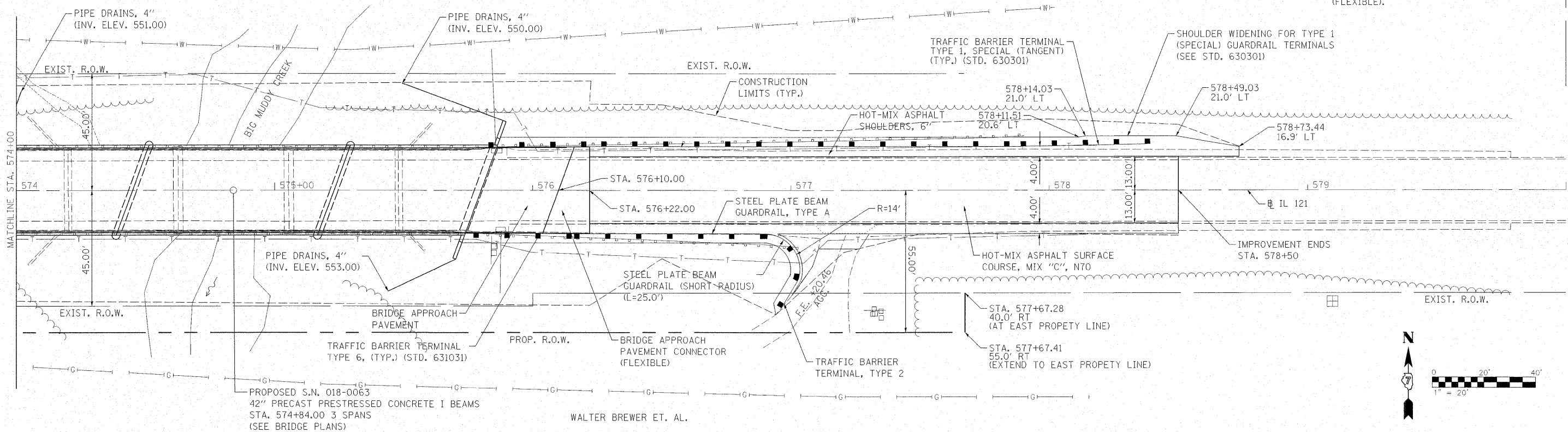
BREWER BEIRS

NOTE:  
SEE IL 121 OVER BIG MUDDY CREEK RIPRAP  
DETAIL (SHEET 86) FOR RIPRAP INFORMATION  
AT BRIDGE APPROACH PAVEMENT CONNECTOR  
(FLEXIBLE).

DATE	
BY	
PLAN	
NO.	
DATE	
BY	
PROFILE	
NO.	

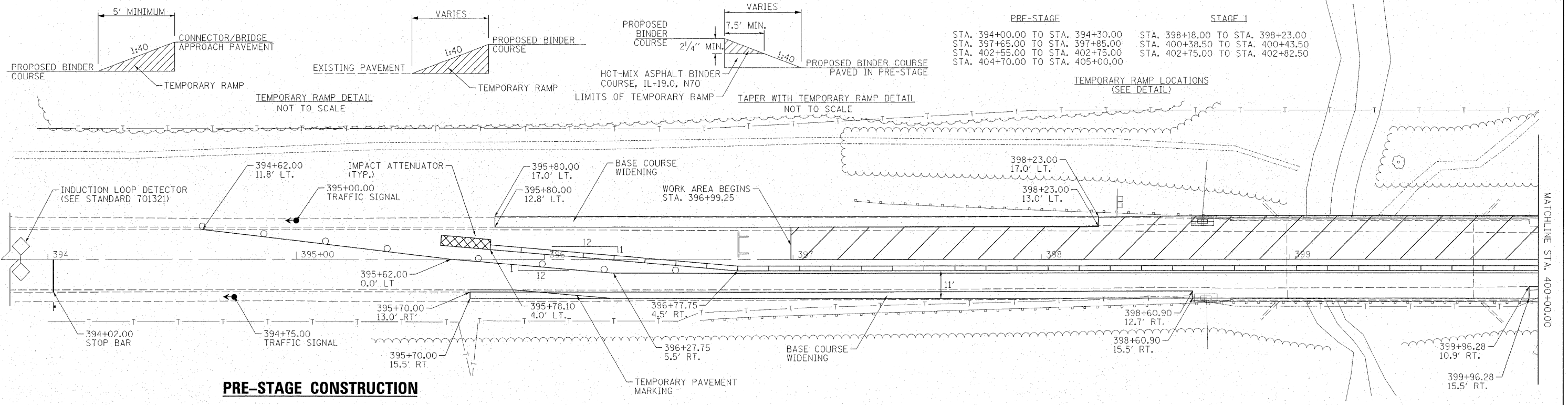


DATE	
BY	
PROFILE	
NO.	



FILE NAME =	USER NAME = #USER#	DESIGNED - JDS 02/07/08	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER BIG MUDDY CREEK STA. 574 + 84.00</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - JDS 02/07/08	REVISED -			773	(108BR-3, 109BIB-1)	CUMBERLAND	96	24	
PLOT SCALE = #SCALE#		CHECKED - RJA 09/17/08	REVISED -			CONTRACT NO. 74237					
PLOT DATE = #DATE#		DATE - 09/26/08	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					





**PRE-STAGE CONSTRUCTION**

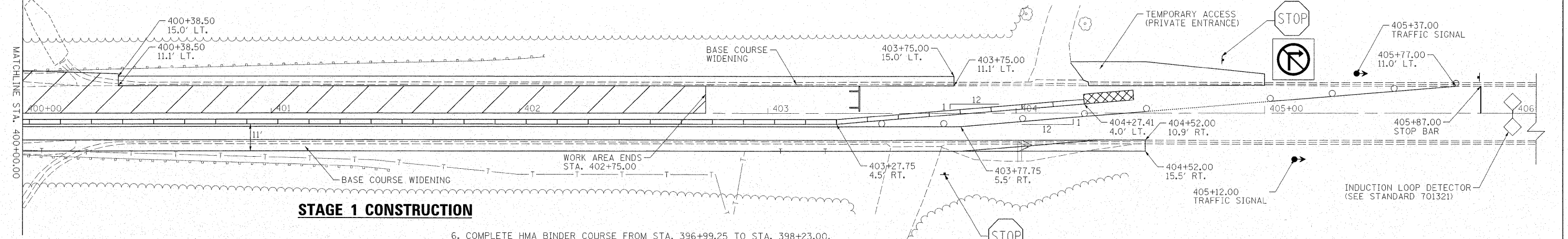
1. USE STANDARD 701326 FOR ALL PRE-STAGE WORK.
2. COMPLETE HMA SURFACE REMOVAL (VARIABLE DEPTH) OVER LENGTH OF PROJECT INCLUDING BUTT JOINTS.
3. CONSTRUCT UP TO 6" OF HMA BINDER COURSE FROM STA. 394+30.00 TO STA. 397+65.00 AND STA. 402+75.00 TO STA. 404+70.00.
4. CONSTRUCT TEMPORARY RAMPS FROM STA. 394+00.00 TO STA. 394+30.00, STA. 397+65.00 TO STA. 397+85.00, STA. 402+55.00 TO STA. 402+75.00, AND STA. 404+70.00 TO STA. 405+00.00.
5. CONSTRUCT BASE COURSE WIDENING FROM STA. 395+70.00 TO STA. 398+60.90, RT. AND STA. 399+96.28 TO STA. 404+52.00, RT. USING STANDARD 701326.

**STAGING LEGEND**

- TEMPORARY RUMBLE STRIPS
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TEMPORARY CONCRETE BARRIER
- BARRICADE, OR DRUM WITH STEADY BURNING LIGHTS
- WORK ZONE
- TRAFFIC SIGNAL
- INDUCTION LOOP DETECTOR
- SIGN

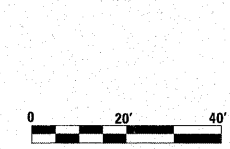
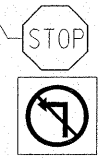
5 X 5		6 X 6		6 X 15		6 X 30		6 X 35		6 X 40		6 X 50		LOOP SIZE
FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	
0	681	0	546	0	574	0	491	0	559	0	627	0	764	2 TURNS
682	954	546	819	574	818	491	982	559	1118	627	1255	764	1527	3 TURNS
955	1272	819	1146	818	1433	982	1636	1118	1864	1256	2091	1528	2545	4 TURNS
1273	1636	1146	1527	1433	2006	1637	2455	1865	2795	2092	3136	2546	3818	5 TURNS
1637	2045	1528	1964	2006	2673	2456	3436	2796	3914					6 TURNS
2046	2499	1965	2455	2674	3436									7 TURNS
		2455	3000											8 TURNS
														9 TURNS
														10 TURNS

THE NUMBERS IN THE TABLE REPRESENT THE DISTANCE FROM THE CABINET TO THE DETECTOR LOOP IN FEET



**STAGE 1 CONSTRUCTION**

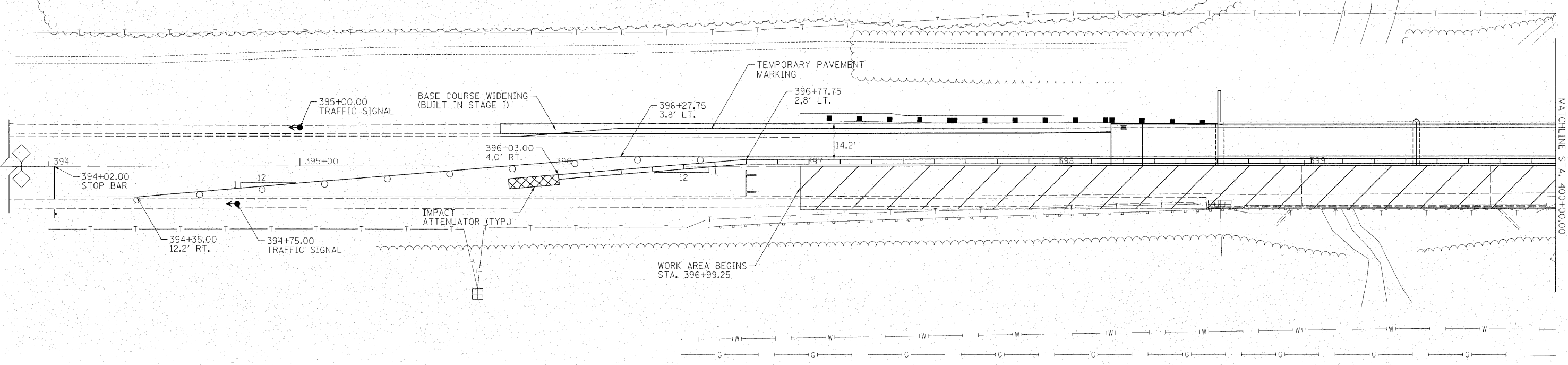
1. USE STANDARD 701321 FOR BRIDGE WORK.
2. REMOVE STAGE 1 PORTION OF THE EXISTING STRUCTURE, GUARDRAIL, AND PAVEMENT.
3. CONSTRUCT STAGE 1 PORTION OF THE PROPOSED BRIDGE INCLUDING APPROACH PAVEMENTS, RIPRAP, AND EARTHWORK.
4. COMPLETE PAVEMENT BREAKING FROM STA. 400+38.50 TO STA. 402+75.00, LT.
5. CONSTRUCT SUB-BASE GRANULAR MATERIAL AND UP TO 6" OF HMA BINDER COURSE FROM STA. 397+65.00 TO STA. 398+23.00, LT. AND STA. 400+38.50 TO STA. 402+75.00, LT.
6. COMPLETE HMA BINDER COURSE FROM STA. 396+99.25 TO STA. 398+23.00, LT. AND STA. 400+38.50 TO STA. 402+75.00, LT.
7. CONSTRUCT BASE COURSE WIDENING FROM STA. 395+80.00 TO STA. 398+23.00, LT AND STA. 400+38.50 TO STA. 403+75.00, LT.
8. CONSTRUCT HMA SHOULDERS, GUARDRAIL, AND ANY NECESSARY EARTHWORK FROM STA. 396+99.25 TO STA. 398+65.50 AND STA. 400+02.50 TO STA. 402+75.00
9. CONSTRUCT TEMPORARY RAMPS FROM STA. 398+18.00 TO STA. 398+23.00, STA. 400+38.50 TO STA. 400+43.50, AND TAPER WITH TEMPORARY RAMP FROM STA. 402+75.00 TO STA. 402+82.50.



NOTE:  
1. SEE STANDARD 701321 FOR INDUCTION LOOP DETECTOR AND TEMPORARY RUMBLE STRIPS LOCATIONS.  
2. SEE SHEET 29 FOR STAGING TYPICAL SECTIONS.

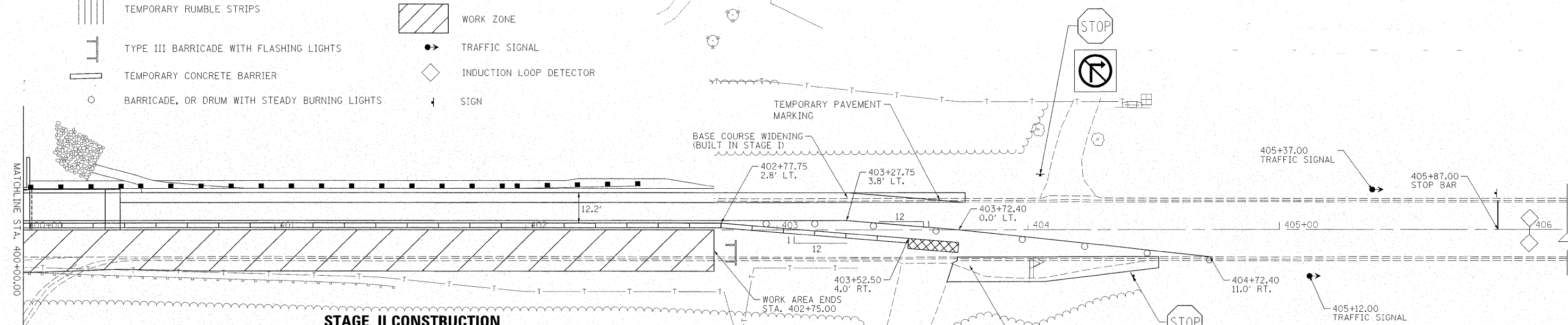
**MAURER & STUTZ, INC.**  
ENGINEERS SURVEYORS

TEMPORARY RAMP LOCATIONS  
(SEE DETAIL SHEET 24)  
STA. 398+18.00 TO STA. 398+23.00  
STA. 400+38.50 TO STA. 400+43.50  
STA. 402+75.00 TO STA. 402+82.50



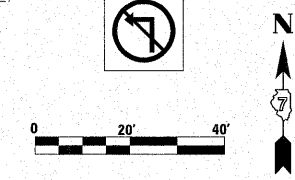
**STAGING LEGEND**

- TEMPORARY RUMBLE STRIPS
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TEMPORARY CONCRETE BARRIER
- BARRICADE, OR DRUM WITH STEADY BURNING LIGHTS
- WORK ZONE
- TRAFFIC SIGNAL
- INDUCTION LOOP DETECTOR
- SIGN



**STAGE II CONSTRUCTION**

1. RELOCATE TEMPORARY CONCRETE BARRIER, SIGNS, IMPACT ATTENUATORS, ETC. ACCORDING TO STANDARD 701321.
2. USE STANDARD 701321 FOR BRIDGE WORK.
3. REMOVE STAGE 2 PORTION OF THE EXISTING BRIDGE, PAVEMENT, AND GUARDRAIL, INCLUDING BASE COURSE WIDENING FROM STA. 397+65.00 TO STA. 398+60.96 RT, STA. 399+96.28 TO STA 400+38.50 RT, AND STA. 402+60.00 TO STA. 404+52.00 RT.
4. CONSTRUCT STAGE 2 PORTION OF THE PROPOSED BRIDGE INCLUDING APPROACH PAVEMENT, RIP-RAP, AND EARTHWORK.
5. COMPLETE PAVEMENT BRAKING FROM STA. 400+38.50 TO STA. 402+75.00, RT.
6. CONSTRUCT SUB-BASE GRANULAR MATERIAL AND UP TO 6" OF HMA BINDER COURSE FROM STA. 397+65.00 TO STA. 398+23.00, RT. AND STA. 400+38.50 TO STA. 402+75.00, RT.
7. COMPLETE HMA BINDER COURSE FROM STA. 396+99.25 TO STA. 398+23.00, RT. AND STA. 400+38.50 TO STA. 402+75.00, RT.
8. CONSTRUCT HMA SHOULDERS, GUARDRAIL AND ANY NECESSARY EARTHWORK FROM STA. 396+99.25 TO STA. 398+65.00 AND STA. 400+02.50 TO STA. 402+75.00, RT.
9. CONSTRUCT TEMPORARY RAMPS FROM STA. 398+18.00 TO STA. 398+23.00 AND STA. 400+38.50 TO STA. 400+43.50, RT.
10. REMOVE TEMPORARY CONCRETE BARRIER AND CONSTRUCT TAPER WITH TEMPORARY RAMP FROM STA. 402+75.00 TO STA. 402+82.50, RT.
11. REMOVE BARRELS, SIGNALS, SIGNS, ETC.
12. USE STANDARD 701306 TO REMOVE BASE COURSE WIDENING FROM STA. 402+75.00 TO STA. 403+65.00, LT.
13. CONSTRUCT REMAINING HMA BINDER COURSE, REMAINING HMA SHOULDERS, AND ALL HMA SURFACE COURSE USING STANDARD 701306.



NOTE:  
1. SEE STANDARD 701321 FOR INDUCTION LOOP DETECTOR AND TEMPORARY RUMBLE STRIP LOCATIONS.  
2. SEE SHEET 29 FOR STAGING TYPICAL SECTIONS.

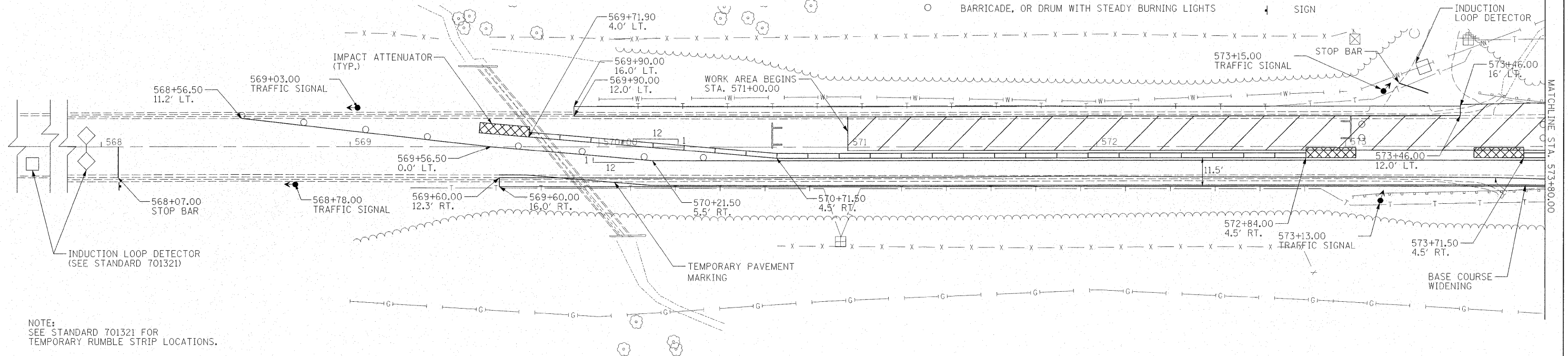
FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED - JDS 04/08/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER MULE CREEK STAGING PLAN - STAGE 2 CONSTRUCTION</b>		F.A.P. RTE. 773	SECTION 108BR3, 109B1B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 26
		DRAWN - WLL 09/23/08	REVISED -		SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO. 74237		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
		CHECKED - RJA 09/17/08	REVISED -								
		DATE - 09/26/08	REVISED -								

**PRE-STAGE CONSTRUCTION**

1. USE STANDARD 701326 FOR ALL PRE-STAGE WORK.
2. COMPLETE HMA SURFACE REMOVAL (VARIABLE DEPTH) OVER LENGTH OF PROJECT INCLUDING BUTT JOINTS.
3. CONSTRUCT UP TO 6" OF HMA BINDER COURSE FROM STA. 569+30.00 TO STA. 572+35.00 AND STA. 576+22.00 TO STA. 578+20.00.
4. CONSTRUCT TEMPORARY RAMPS FROM STA. 569+00.00 TO STA. 569+30.00, STA. 572+35.00 TO STA. 572+55.00, STA. 576+02.00 TO STA. 576+22.00, AND STA. 578+20.00 TO STA. 578+50.00.
5. CONSTRUCT BASE COURSE WIDENING FROM STA. 569+60.00 TO STA. 573+91.64, RT. AND STA. 575+90.67 TO STA. 577+40.00, RT. USING STANDARD 701326.

**STAGING LEGEND**

- TEMPORARY RUMBLE STRIPS
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TEMPORARY CONCRETE BARRIER
- BARRICADE, OR DRUM WITH STEADY BURNING LIGHTS
- WORK ZONE
- TRAFFIC SIGNAL
- INDUCTION LOOP DETECTOR
- SIGN



NOTE:  
SEE STANDARD 701321 FOR  
TEMPORARY RUMBLE STRIP LOCATIONS.

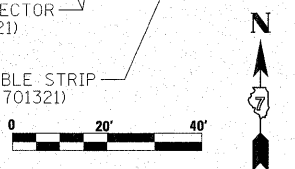
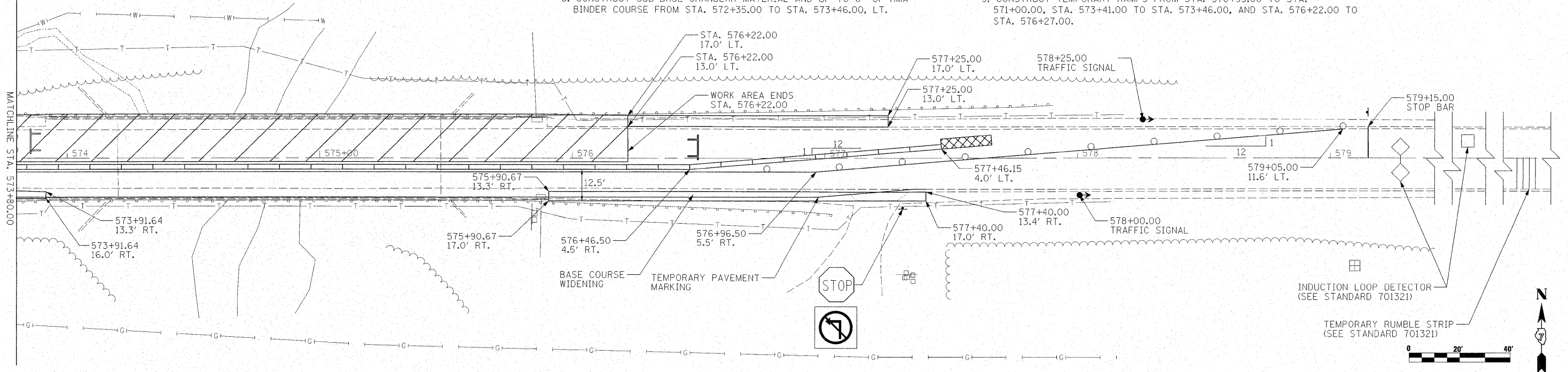
MAURER & STUTZ, INC. ENGINEERS SURVEYORS

**STAGE 1 CONSTRUCTION**

**TEMPORARY RAMP LOCATIONS**  
(SEE DETAIL SHEET 24)









PRE-STAGE	STAGE 1
STA. 569+00.00 TO STA. 569+30.00	STA. 570+95.00 TO STA. 571+00.00
STA. 572+35.00 TO STA. 572+55.00	STA. 573+41.00 TO STA. 573+46.00
STA. 576+02.00 TO STA. 576+22.00	STA. 576+22.00 TO STA. 576+27.00
STA. 578+20.00 TO STA. 578+50.00	

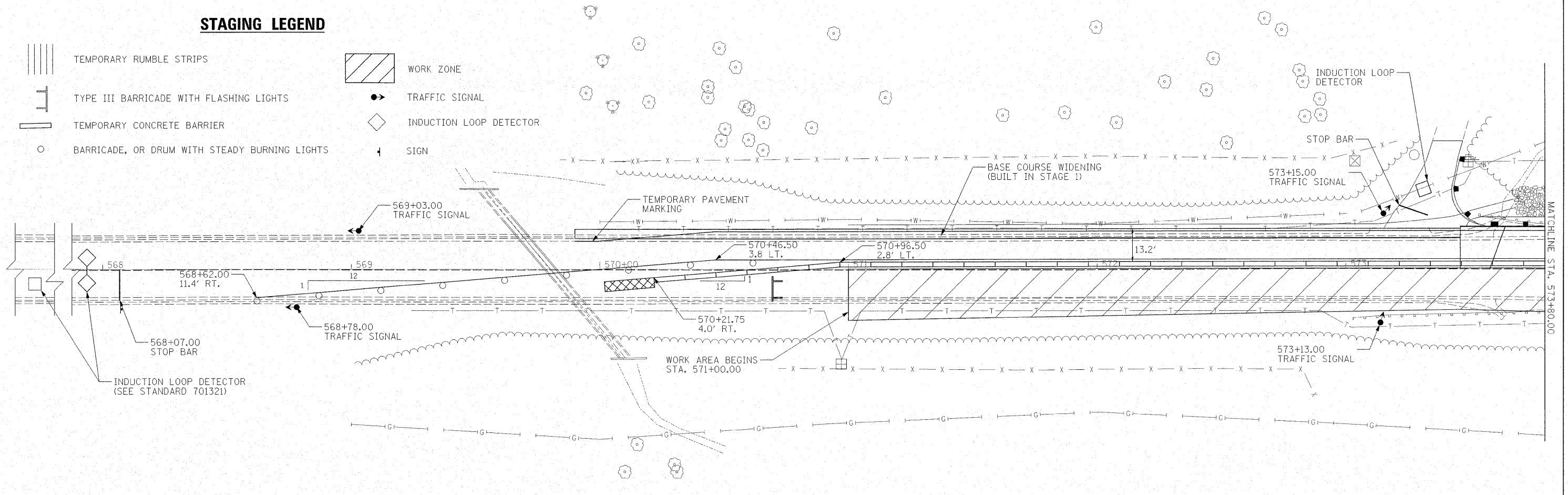
1. USE STANDARD 701321 FOR BRIDGE WORK.
2. REMOVE STAGE 1 PORTION OF THE EXISTING STRUCTURE, GUARDRAIL, AND PAVEMENT.
3. CONSTRUCT STAGE 1 PORTION OF THE PROPOSED BRIDGE INCLUDING APPROACH PAVEMENTS, RIPRAP, AND EARTHWORK.
4. COMPLETE PAVEMENT BREAKING FROM STA. 572+35.00 TO STA. 573+46.00, LT.
5. CONSTRUCT SUB-BASE GRANULAR MATERIAL AND UP TO 6" OF HMA BINDER COURSE FROM STA. 572+35.00 TO STA. 573+46.00, LT.
6. COMPLETE HMA BINDER COURSE FROM STA. 571+00.00 TO STA. 573+46.00, LT.
7. CONSTRUCT BASE COURSE WIDENING FROM STA. 569+90.00 TO STA. 573+46.00, LT AND STA. 576+22.00 TO STA. 577+25.00, LT.
8. CONSTRUCT HMA SHOULDERS, GUARDRAIL, AND ANY NECESSARY EARTHWORK FROM STA. 573+34.50 TO STA. 573+88.00, LT AND STA. 575+80.00 TO STA. 578+50.00, LT.
9. CONSTRUCT TEMPORARY RAMPS FROM STA. 570+95.00 TO STA. 571+00.00, STA. 573+41.00 TO STA. 573+46.00, AND STA. 576+22.00 TO STA. 576+27.00.



FILE NAME =	USER NAME = #USER#	DESIGNED - JDS 04/08/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER BIG MUDDY CREEK STAGING PLAN - STAGE 1 CONSTRUCTION</b>	F.A.P. RTE. 773	SECTION (108BR3, 109B)B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 27
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	PLOT DATE = #DATE#	CHECKED - RJA 09/17/08	REVISED -							
		DATE - 09/26/08	REVISED -							

**STAGING LEGEND**

-  TEMPORARY RUMBLE STRIPS
-  TYPE III BARRICADE WITH FLASHING LIGHTS
-  TEMPORARY CONCRETE BARRIER
-  BARRICADE, OR DRUM WITH STEADY BURNING LIGHTS
-  WORK ZONE
-  TRAFFIC SIGNAL
-  INDUCTION LOOP DETECTOR
-  SIGN

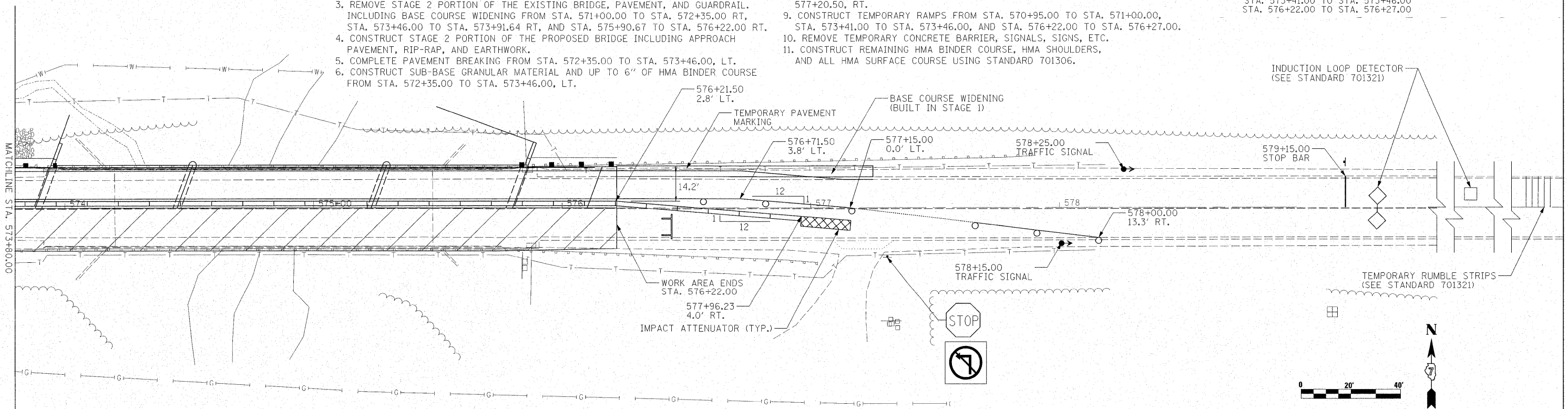


**STAGE II CONSTRUCTION**

1. RELOCATE TEMPORARY CONCRETE BARRIER, SIGNS, IMPACT ATTENUATORS, ETC. ACCORDING TO STANDARD 701321.
2. USE STANDARD 701321 FOR BRIDGE WORK.
3. REMOVE STAGE 2 PORTION OF THE EXISTING BRIDGE, PAVEMENT, AND GUARDRAIL INCLUDING BASE COURSE WIDENING FROM STA. 571+00.00 TO STA. 572+35.00 RT, STA. 573+46.00 TO STA. 573+91.64 RT, AND STA. 575+90.67 TO STA. 576+22.00 RT.
4. CONSTRUCT STAGE 2 PORTION OF THE PROPOSED BRIDGE INCLUDING APPROACH PAVEMENT, RIP-RAP, AND EARTHWORK.
5. COMPLETE PAVEMENT BREAKING FROM STA. 572+35.00 TO STA. 573+46.00, LT.
6. CONSTRUCT SUB-BASE GRANULAR MATERIAL AND UP TO 6" OF HMA BINDER COURSE FROM STA. 572+35.00 TO STA. 573+46.00, LT.
7. COMPLETE HMA BINDER COURSE FROM STA. 571+00.00 TO STA. 573+46.00, LT.
8. CONSTRUCT HMA SHOULDERS, GUARDRAIL AND ANY NECESSARY EARTHWORK FROM STA. 571+00.00 TO STA. 573+88.00, RT AND STA. 575+80.00 TO STA. 577+20.50, RT.
9. CONSTRUCT TEMPORARY RAMPS FROM STA. 570+95.00 TO STA. 571+00.00, STA. 573+41.00 TO STA. 573+46.00, AND STA. 576+22.00 TO STA. 576+27.00.
10. REMOVE TEMPORARY CONCRETE BARRIER, SIGNALS, SIGNS, ETC.
11. CONSTRUCT REMAINING HMA BINDER COURSE, HMA SHOULDERS, AND ALL HMA SURFACE COURSE USING STANDARD 701306.

**TEMPORARY RAMP LOCATIONS**  
(SEE DETAIL SHEET 24)

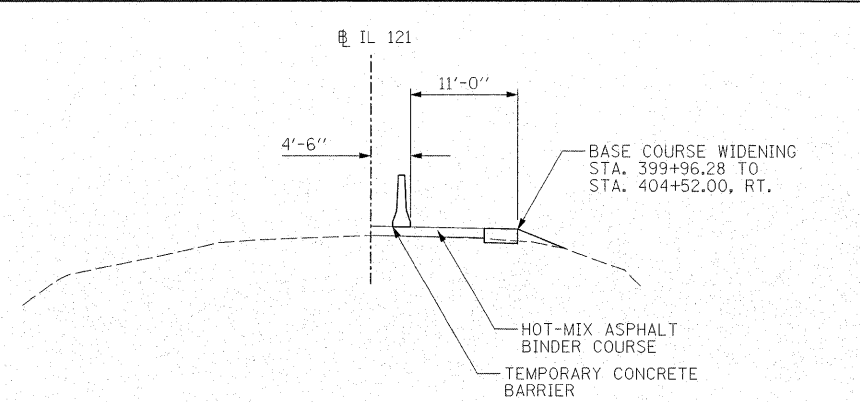
STA. 570+95.00 TO STA. 571+00.00  
STA. 573+41.00 TO STA. 573+46.00  
STA. 576+22.00 TO STA. 576+27.00



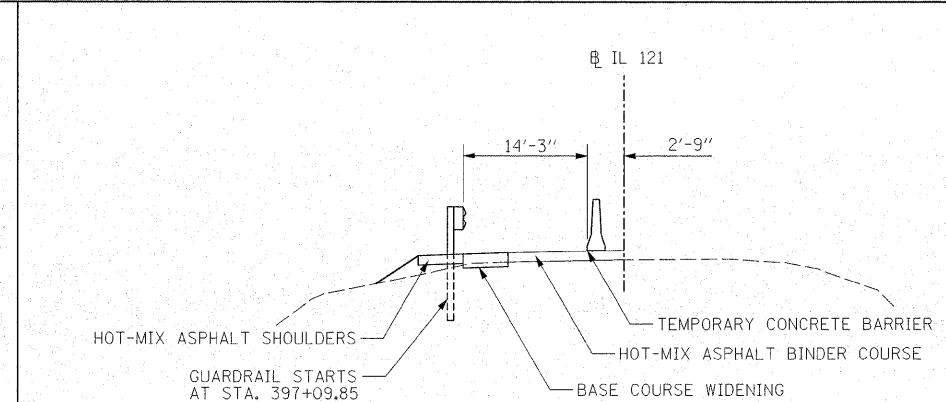
MAURER & STUTZ, INC. ENGINEERS SURVEYORS

FILE NAME =	USER NAME = #USER#	DESIGNED - JDS 04/08/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER BIG MUDDY CREEK STAGING PLAN - STAGE 2 CONSTRUCTION</b>	F.A.P. RTE. 773	SECTION (108BR3, 109B/B-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 28	
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PLOT DATE = #DATE#		DATE - 09/26/08	REVISED -								

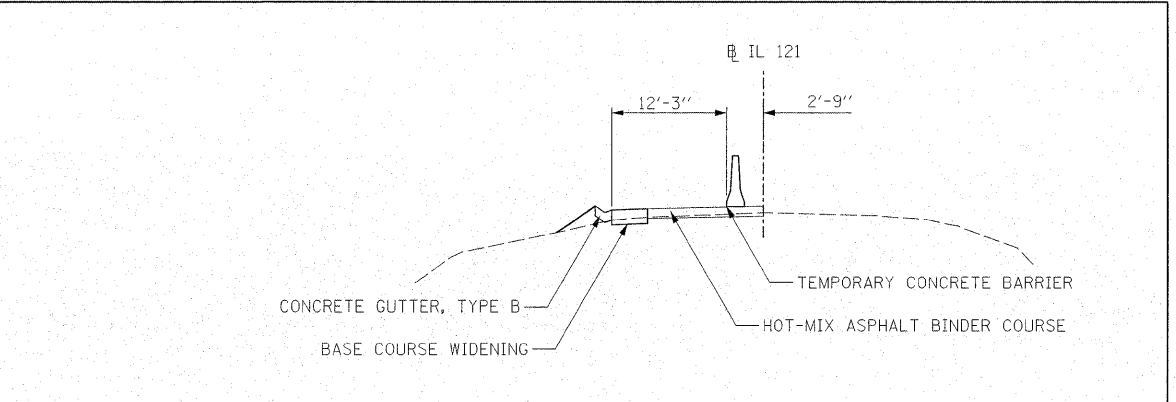




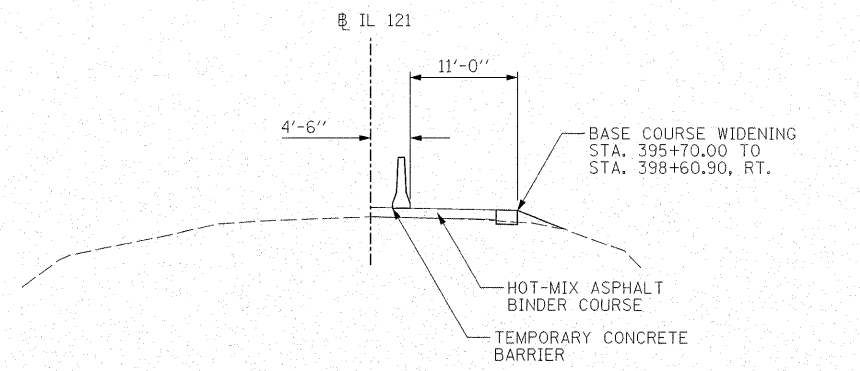
MULE CREEK  
STAGE I CONSTRUCTION-EAST END



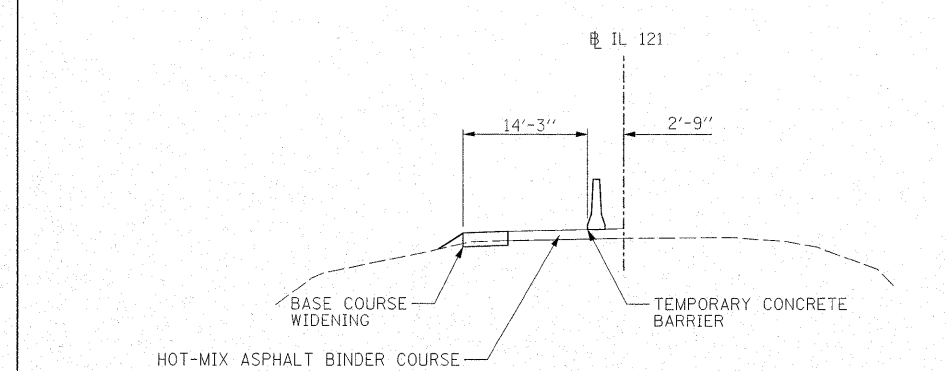
MULE CREEK  
STAGE II CONSTRUCTION-WEST END  
STA. 396+99.25 TO STA. 398+23.00



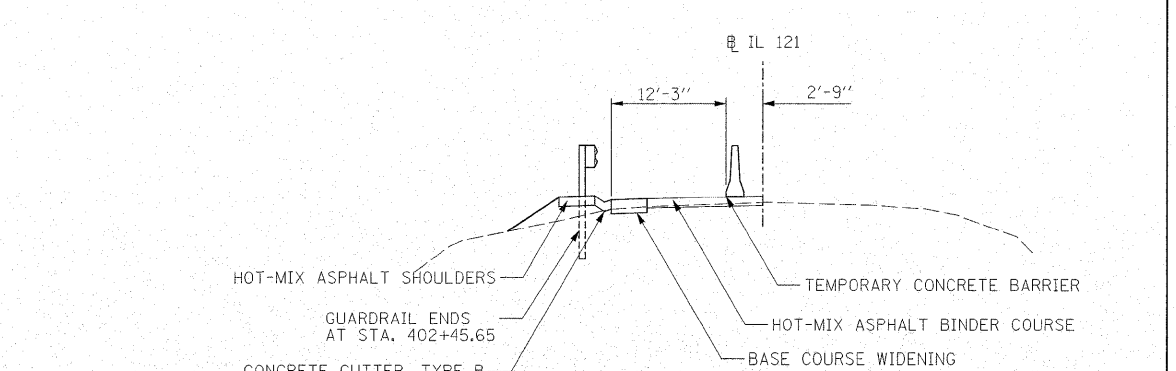
MULE CREEK  
STAGE II CONSTRUCTION-EAST END  
STA. 402+75.00 TO STA. 403+65.00



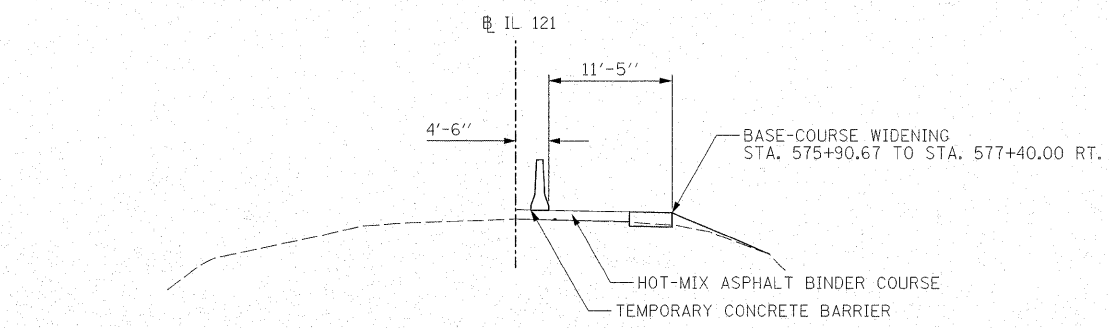
MULE CREEK  
STAGE I CONSTRUCTION-WEST END



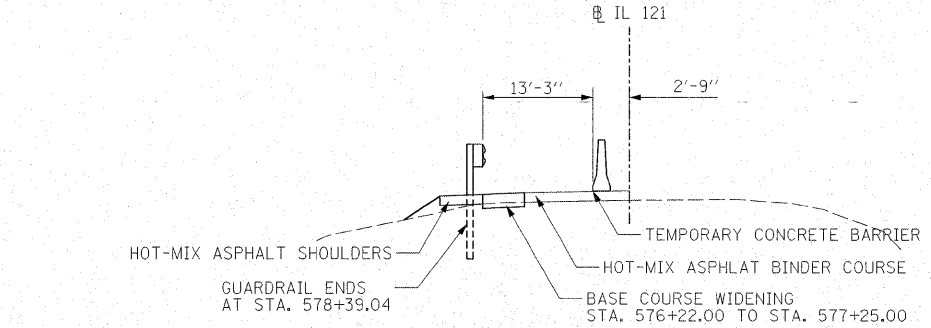
MULE CREEK  
STAGE II CONSTRUCTION-WEST END  
STA. 395+80.00 TO STA. 396+99.25



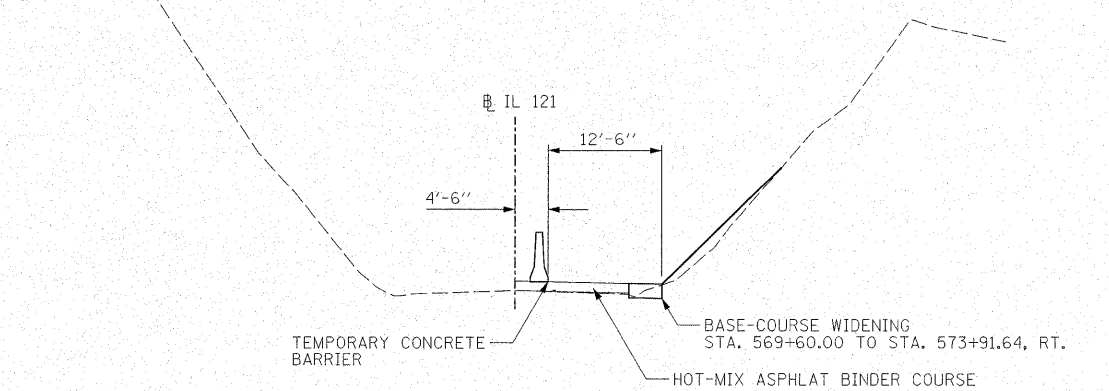
MULE CREEK  
STAGE II CONSTRUCTION-EAST END  
STA. 400+38.50 TO STA. 402+75.00



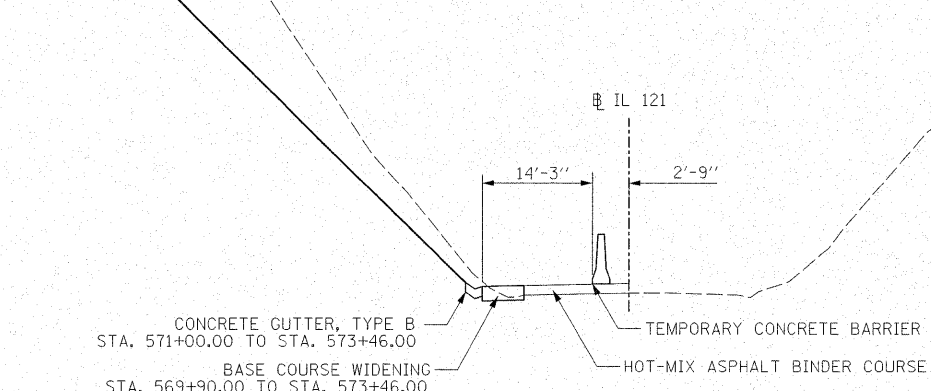
BIG MUDDY CREEK  
STAGE I CONSTRUCTION - EAST END



BIG MUDDY CREEK  
STAGE II CONSTRUCTION - EAST END



BIG MUDDY CREEK  
STAGE I CONSTRUCTION - WEST END



BIG MUDDY CREEK  
STAGE II CONSTRUCTION - WEST END

FILE NAME =	USER NAME = *USER*	DESIGNED - JDS 06/26/08	REVISED -
*FILEL*		DRAWN - SEM 07/07/08	REVISED -
		CHECKED - RJA 09/17/08	REVISED -
		DATE - 09/26/08	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

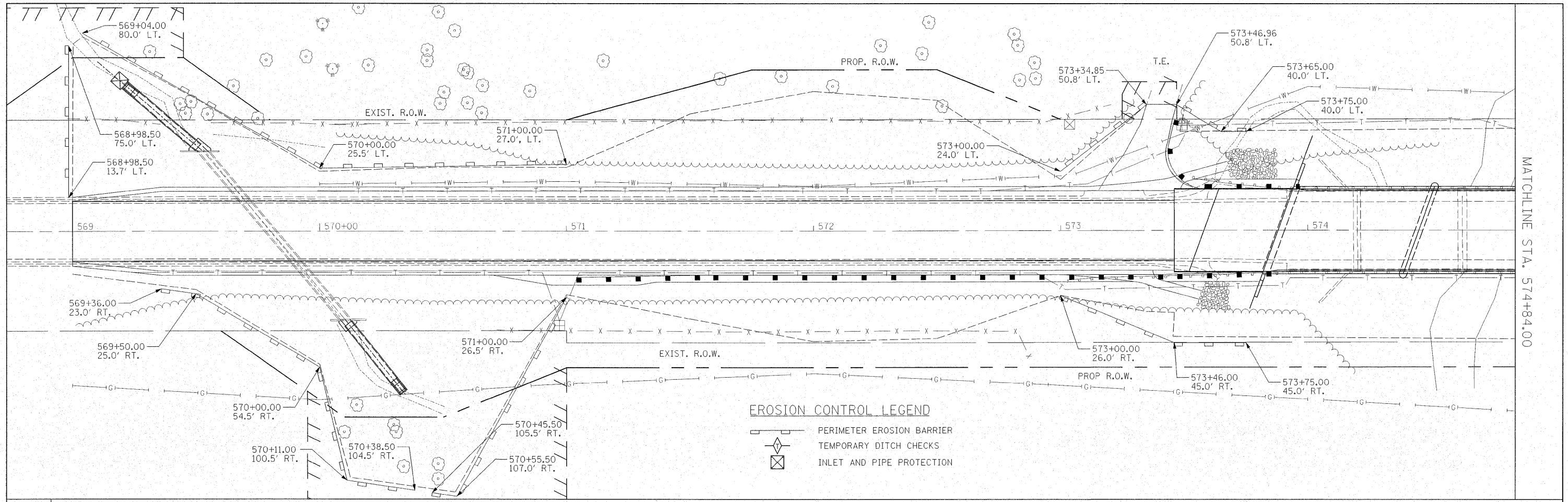
**IL 121 OVER MULE AND BIG MUDDY CREEK**  
**STAGING PLAN DETAILS**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(108BR-3, 109BIB-1)	CUMBERLAND	96	29
CONTRACT NO. 74237				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. OF SHEETS STA. TO STA.







MATCHLINE STA. 574+84.00

**EROSION CONTROL LEGEND**

- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECKS
- INLET AND PIPE PROTECTION

**EROSION CONTROL NOTES**

EROSION CONTROL MEASURES AT THE START OF CONSTRUCTION:

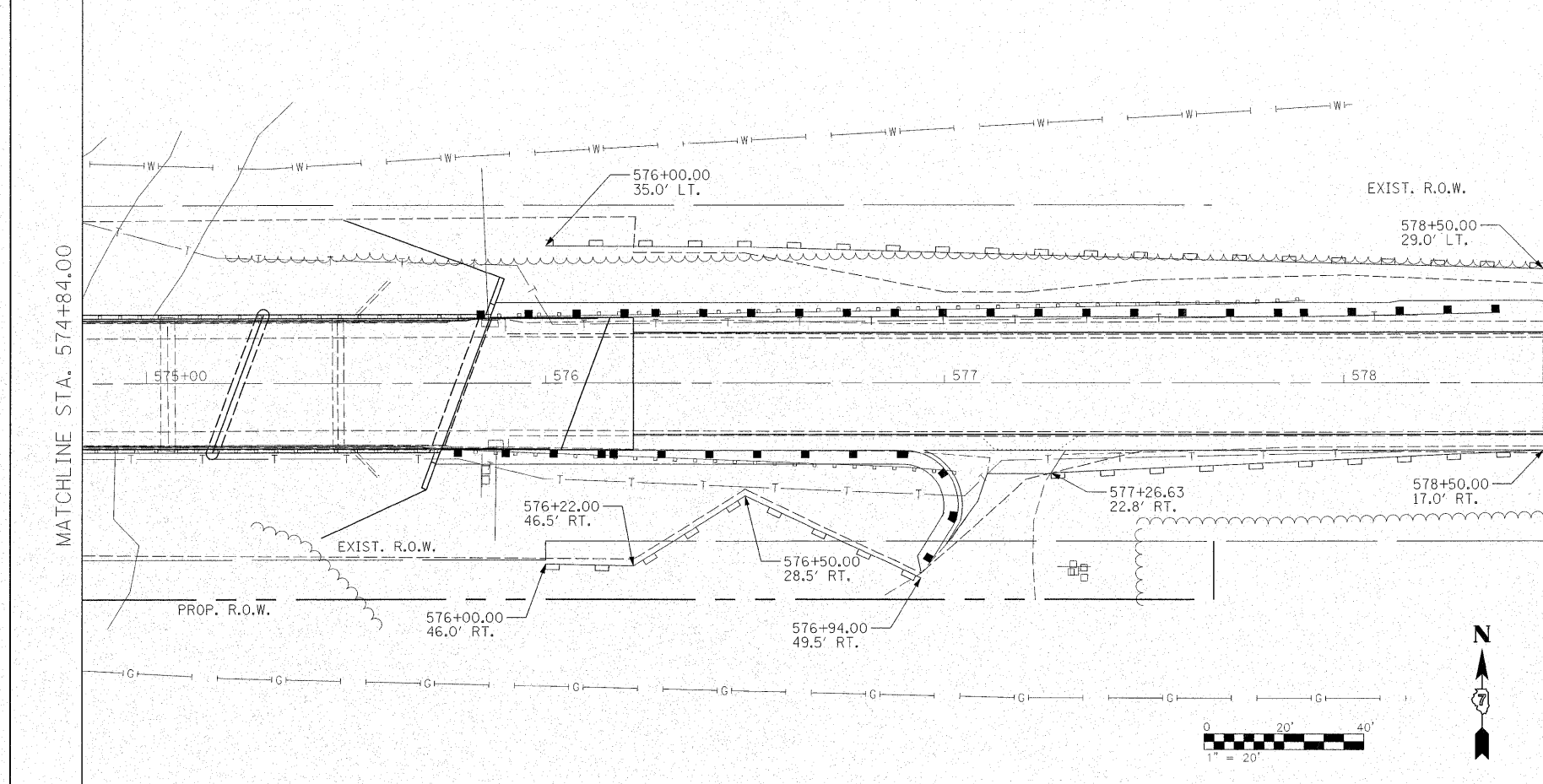
1. THE AREAS OF EXCAVATION AND EMBANKMENT PLACEMENT SHALL BE MANAGED FOR THE PURPOSES OF CONTROLLING EROSION WITHIN THE IMPROVEMENT AREA, REDUCING WATER FLOW BY TEMPORARY DIVERSION, MINIMIZING SILTATION AT THE RIGHT-OF-WAY LINE, AND ESTABLISHING VEGETATIVE COVER WHICH WILL BECOME PERMANENT VEGETATION AND ACT AS AN EROSION CONTROL BARRIER. WORK AT THE START OF CONSTRUCTION SHALL CONSIST OF THE FOLLOWING:
  - (a) AREAS OF EXISTING VEGETATION (WOODS AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM MOWING, BRUSH CUTTING, TREE REMOVAL, AND OTHER ACTIVITIES THAT WOULD BE DETRIMENTAL TO THEIR MAINTENANCE AND DEVELOPMENT.
  - (b) DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. ANY REMOVAL OF DEAD, DISEASED, OR UNSUITABLE VEGETATION WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION.
  - (c) BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE START OF CONSTRUCTION WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN CALENDAR DAYS.

EROSION CONTROL MEASURES DURING CONSTRUCTION:

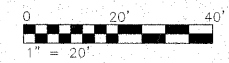
1. DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED FROM DAMAGING EFFECTS OF CONSTRUCTION. THE CONTRACTOR SHALL NOT USE THIS AREA FOR PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.
  - (a) WITHIN THE CONSTRUCTION ZONE, CRITICAL AREAS WHICH HAVE A HIGH FLOW OF WATER, AS DETERMINED BY THE ENGINEER, SHALL REMAIN UNDISTURBED UNTIL CONTINUOUS OPERATIONS CAN ENSURE TIMELY COMPLETION OF WORK IN THESE AREAS TO MINIMIZE SOIL EROSION.
  - (b) EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN CALENDAR DAYS.

EROSION CONTROL MEASURES AFTER FINAL GRADING:

1. EXCAVATION AND EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADE. EROSION CONTROL BLANKET SHALL BE PLACED ON ALL DISTURBED AREAS.
  - (a) TEMPORARY EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY WITH ALL PROPOSED TURF AREAS SEEDED AND A PROPER STAND ESTABLISHED.



MATCHLINE STA. 574+84.00



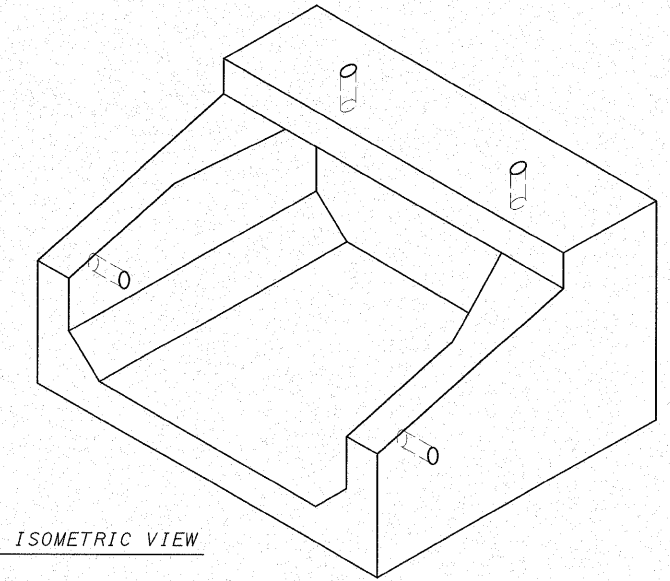
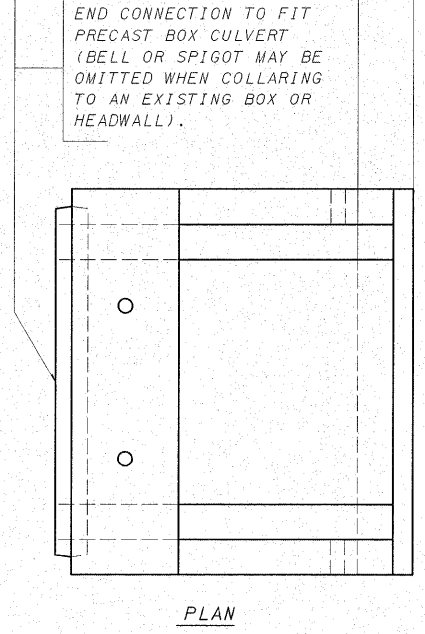
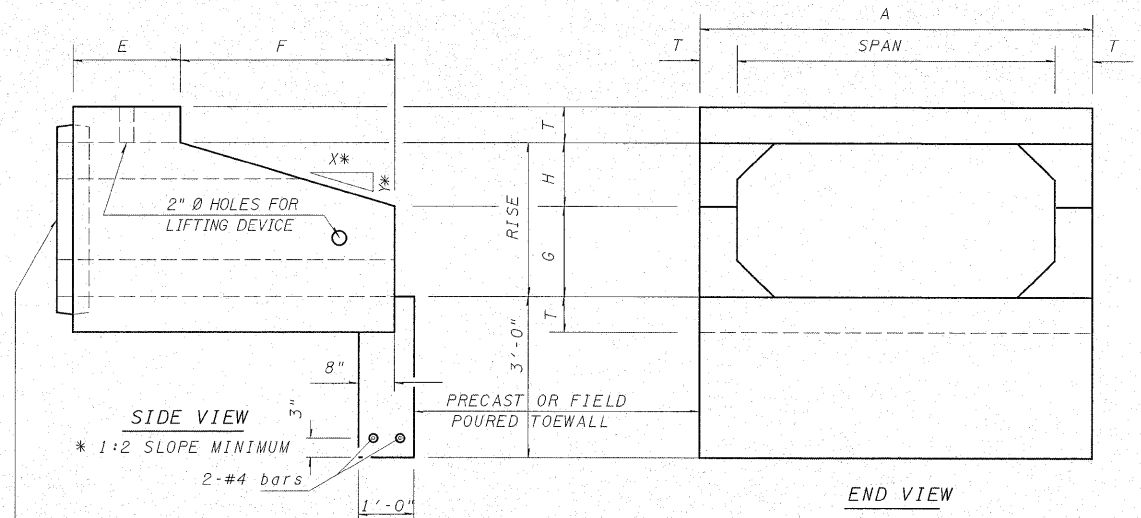
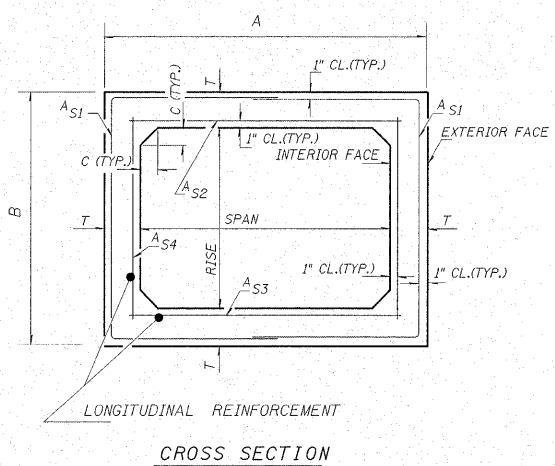
FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED - JDS 05/05/08	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 121 OVER BIG MUDDY CREEK STA. 574+84.00 EROSION AND SEDIMENT CONTROL PLAN</b>	F.A.P. RTE. 773	SECTION (108BR3, 109B)B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 31	
	PLOT SCALE = #SCALE#	DRAWN - SEM 05/05/08	REVISED -			SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. 569+00.00 TO STA. 578+50.00	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 74237
	PLOT DATE = #DATE#	CHECKED - RJA 09/17/08	REVISED -								
		DATE - 09/26/08	REVISED -								

1 2 3 4 5 6 7 8 9 \$\$\$DATE\$\$\$  
 10 11 12 13 14 15 16 17 18 \*DGN-SPEC\*  
 19 20 21 22 23 24 25 26 27 MMO REV: 05-28-99  
 28 29 30 31 32 33 34 35 36  
 37 38 39 40 41 42 43 44 45  
 46 47 48 49 50 51 52 53 54  
 55 56 57 58 59 60 61 62 63  
**END**

# DETAIL OF PRECAST CONCRETE BOX CULVERT END SECTION

AASHTO DESIGNATION M259M  
 (ASTM DESIGNATION C-789M)  
 DESIGN LOADING = MS18

**\*\*** NOTE: THE DIMENSIONS INDICATED ARE FOR END SECTIONS THAT ARE TO BE USED WITH PRECAST BOX CULVERT SECTIONS DESIGNED FOR 2" OR MORE OF FILL. THE DIMENSIONS MUST BE MODIFIED FOR THE END SECTION TO BE COMPATIBLE WITH PRECAST CULVERT SECTIONS DESIGNED FOR LESS THAN 2" OF FILL.



CULVERT SIZE	DIMENSIONS **									
	SPANxRISE (FOOT)	T	A	B	C	E	F	G	H	SLOPE
		INCH	FT-IN	FT-IN	INCH	FT-IN	FT-IN	FT-IN	FT-IN	Y:X
2x2	4	2-8	2-8	4	3-0	3-0	1-0	1-0	1:3	
3x2	4	3-8	2-8	4	3-0	3-0	1-0	1-0	1:3	
3x3	4	3-8	3-8	4	2-0	4-0	1-8	1-4	1:3	
4x2	5	4-10	2-10	5	3-0	3-0	1-0	1-0	1:3	
4x3	5	4-10	3-10	5	2-0	4-0	1-8	1-4	1:3	
4x4	5	4-10	4-10	5	2-0	4-0	2-0	2-0	1:2	
4x6	7	5-2	7-2	7	2-0	6-0	3-0	3-0	1:2	
5x2	5	5-10	2-10	6	3-0	3-0	1-0	1-0	1:3	
5x3	6	6-0	4-0	6	2-0	4-0	1-8	1-4	1:3	
5x4	6	6-0	5-0	6	2-0	4-0	2-0	2-0	1:2	
5x5	6	6-0	6-0	6	2-0	4-0	3-0	2-0	1:2	
6x2	7	7-2	3-2	7	3-0	3-0	1-0	1-0	1:3	
6x3	7	7-2	4-2	7	2-0	4-0	1-8	1-4	1:3	
6x4	7	7-2	5-2	7	2-0	4-0	2-0	2-0	1:2	
6x5	7	7-2	6-2	7						
6x6	7	7-2	7-2	7	2-0	6-0	3-0	3-0	1:2	
7x4	8	8-4	5-4	8	2-0	4-0	2-0	2-0	1:2	
7x5	8	8-4	6-4	8						
7x6	8	8-4	7-4	8						
7x7	8	8-4	8-4	8						
8x4	8	9-4	5-4	8	2-0	4-0	2-0	2-0	1:2	
8x5	8	9-4	6-4	8						
8x6	8	9-4	7-4	8						
8x7	8	9-4	8-4	8						
8x8	8	9-4	9-4	8						
9x5	9	10-6	6-6	9						
9x6	9	10-6	7-6	9						
9x7	9	10-6	8-6	9						
9x8	9	10-6	9-6	9						
9x9	9	10-6	10-6	9						
10x5	10	11-8	6-8	10						
10x6	10	11-8	7-8	10						
10x7	10	11-8	8-8	10						
10x8	10	11-8	9-8	10						
10x9	10	11-8	10-8	10						
10x10	10	11-8	11-8	10						
11x4	11	12-10	5-10	11						
11x6	11	12-10	7-10	11						
11x8	11	12-10	9-10	11						
11x10	11	12-10	11-10	11						
11x11	11	12-10	12-10	11						
12x4	12	14-0	6-0	12						
12x6	12	14-0	8-0	12						
12x8	12	14-0	10-0	12						
12x10	12	14-0	12-0	12						
12x12	12	14-0	14-0	12						

CULVERTS WITH RISE > 6' REQUIRE CAST-IN-PLACE END SECTIONS

**GENERAL NOTES**

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 504.04(d) OF THE STANDARD SPECIFICATIONS.  
 MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.  
 THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED WITH ACCORDANCE WITH ARTICLE 542.04(d) OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE TERMS AS1, AS2, AS3, AND AS4 DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN AASHTO M259M. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO SPECIFICATIONS M55M.  
 LIFTING HOLES SHALL BE FILLED WITH CONCRETE PLUGS AND MASTIC AFTER THE END SECTIONS ARE IN PLACE.

REVISIONS	
NAME	DATE
J.E.H.	06/01
T.G.W.	09/01

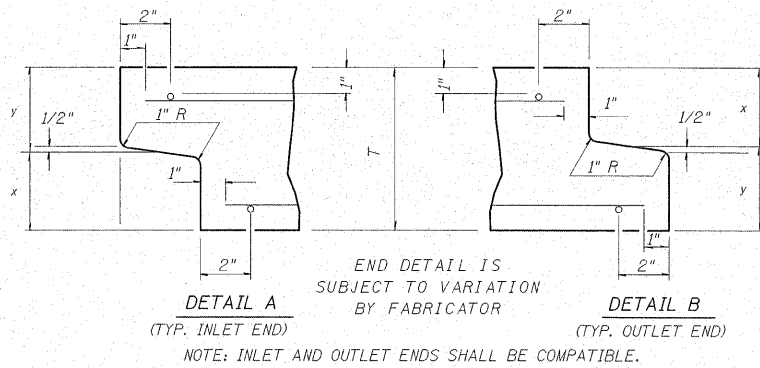
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DETAILS OF PRECAST CONCRETE BOX CULVERT END SECTION**  
 SCALE: VERT. \_\_\_\_\_ HORIZ. \_\_\_\_\_  
 DATE \_\_\_\_\_ REVISED: 05/28-99  
 DRAWN BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_

CONTRACT NO. 74237			
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS
773	108BR-3, 109B16-1	CUMBERLAND	96
STA.		TO STA.	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(108BR-3, 109B/E-1)	CUMBERLAND	96	33
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

# DETAIL OF PRECAST CONCRETE BOX CULVERT M259M

AASHTO DESIGNATION M259M  
(ASTM DESIGNATION C-789M)  
DESIGN LOADING = MS18



CULVERT SIZE	DIMENSIONS			
	T (INCHES)	A (FT-IN)	B (FT-IN)	C (INCHES)
2x2	4	2-8	2-8	4
3x2	4	3-8	2-8	4
3x3	4	3-8	3-8	4
4x2	5	4-10	2-10	5
4x3	5	4-10	3-10	5
4x4	5	4-10	4-10	5
5x2	6	6-0	3-0	6
5x3	6	6-0	4-0	6
5x4	6	6-0	5-0	6
5x5	6	6-0	6-0	6
6x2	7	7-2	3-2	7
6x3	7	7-2	4-2	7
6x4	7	7-2	5-2	7
6x5	7	7-2	6-2	7
6x6	7	7-2	7-2	7
7x4	8	8-4	5-4	8
7x5	8	8-4	6-4	8
7x6	8	8-4	7-4	8
7x7	8	8-4	8-4	8
8x4	8	9-4	5-4	8
8x5	8	9-4	6-4	8
8x6	8	9-4	7-4	8
8x7	8	9-4	8-4	8
8x8	8	9-4	9-4	8
9x5	9	10-6	6-6	9
9x6	9	10-6	7-6	9
9x7	9	10-6	8-6	9
9x8	9	10-6	9-6	9
9x9	9	10-6	10-6	9
10x5	10	11-8	6-8	10
10x6	10	11-8	7-8	10
10x7	10	11-8	8-8	10
10x8	10	11-8	9-8	10
10x9	10	11-8	10-8	10
10x10	10	11-8	11-8	10
11x4	11	12-10	5-10	11
11x6	11	12-10	7-10	11
11x8	11	12-10	9-10	11
11x10	11	12-10	11-10	11
11x11	11	12-10	12-10	11
12x4	12	14-0	6-0	12
12x6	12	14-0	8-0	12
12x8	12	14-0	10-0	12
12x10	12	14-0	12-0	12
12x12	12	14-0	14-0	12

**GENERAL NOTES**

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 504.04(a) OF THE STANDARD SPECIFICATIONS.

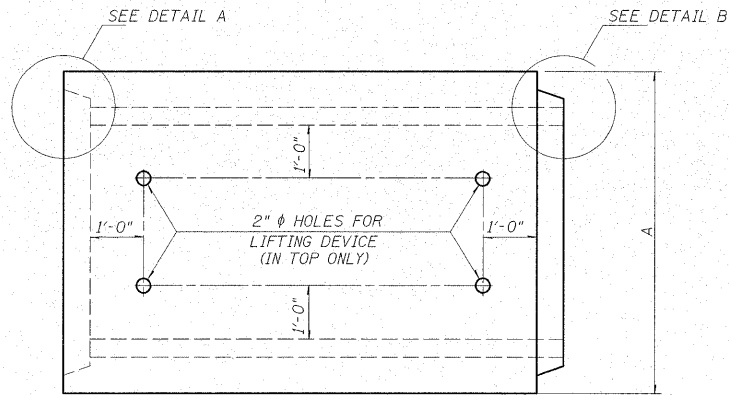
MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED IN ACCORDANCE WITH ARTICLE 542.04(c) OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE TERMS  $A_{S1}$ ,  $A_{S2}$ , AND  $A_{S4}$  DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN AASHTO M259M. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO M55M.

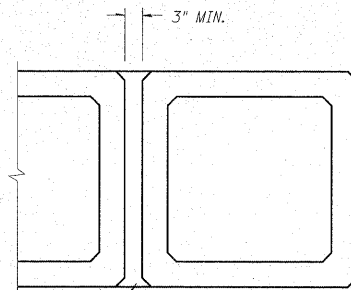
LIFTING HOLES SHALL BE FILLED WITH CONCRETE PLUGS AND MASTIC AFTER THE BOX SECTIONS ARE IN PLACE.

DRAINAGE OPENINGS SHALL BE PROVIDED IN ACCORDANCE WITH ARTICLE 503.12 OF THE STANDARD SPECIFICATIONS. LOCATION AND SPACING OF THE OPENINGS SHALL BE SHOWN ON THE SHOP DRAWINGS.



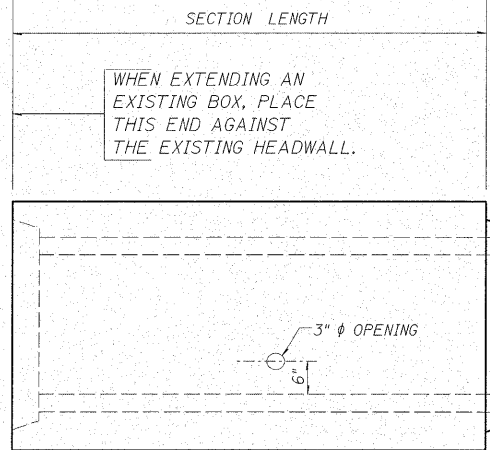
**PLAN**

LOCATION OF LIFTING HOLES MAY BE VARIED AS NEEDED TO CLEAR REINFORCEMENT.

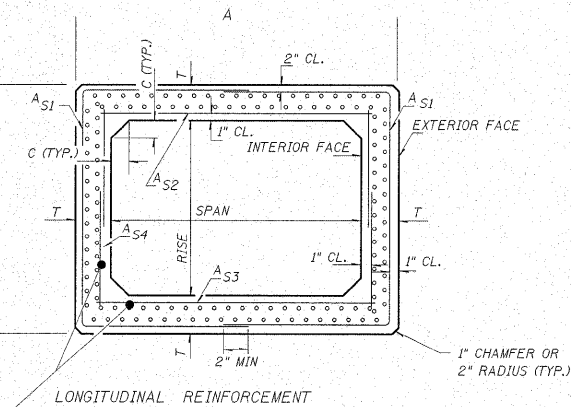


CLASS SI CONCRETE

MULTIPLE UNIT PLACEMENT



**ELEVATION**



**CROSS SECTION**

REVISIONS	
NAME	DATE
JEH	06/01

ILLINOIS DEPARTMENT OF TRANSPORTATION

## DETAIL OF PRECAST CONCRETE BOX CULVERT SECTION

SCALE: VERT. HORIZ. DATE REVISED: 05/28/99 DRAWN BY CHECKED BY

1 2 3 4 5 6 7 8 9 \$\$\$DATE\$\$\$  
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19 20 21 22 23 24 25 26 27  
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37 38 39 40 41  
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USER NAME = \$USER\$



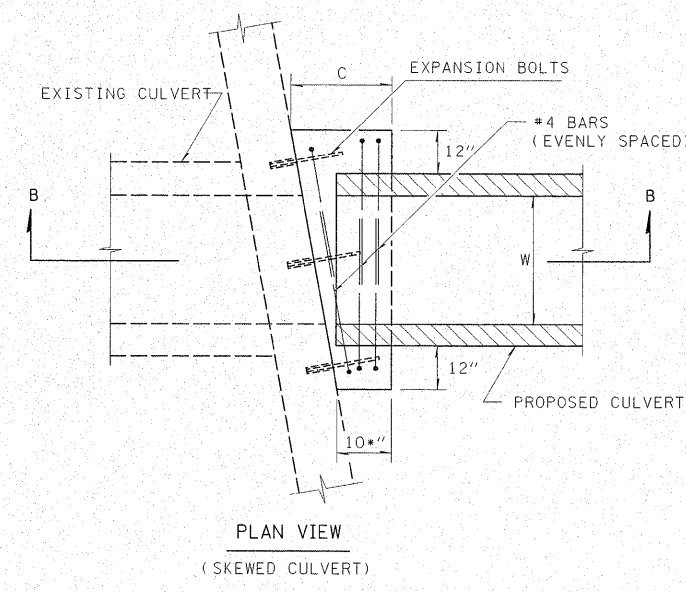
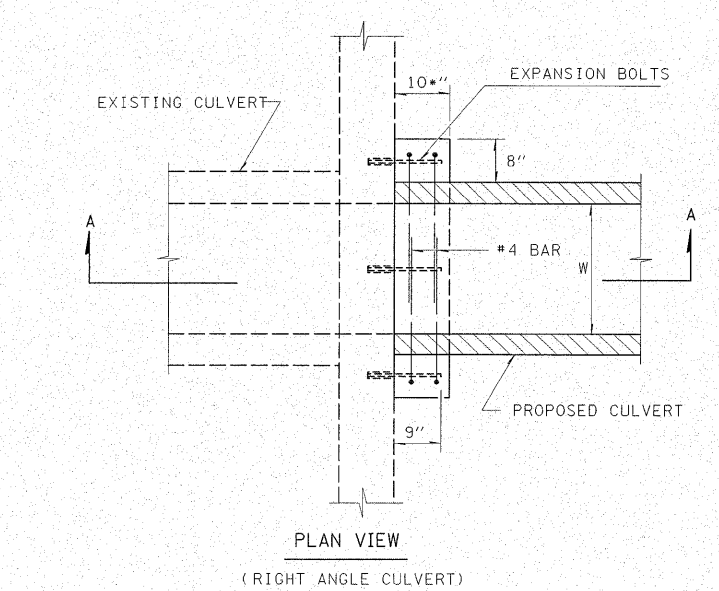




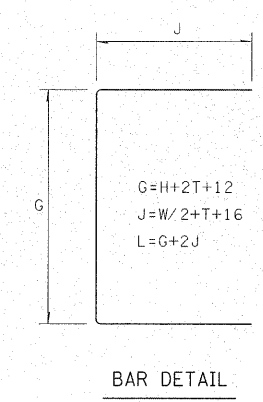
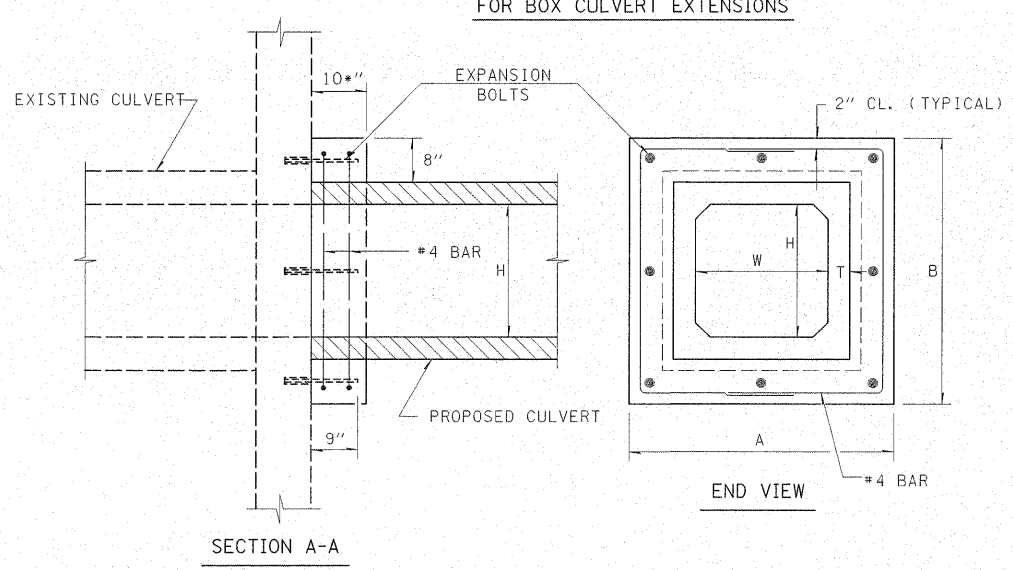
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 42 43 44 45 46 47 48 49 50  
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DATE  
 DGN-SPEC  
 INO REV: 05-03-96  
 E C C D  
 DGN-SPEC  
 DATE

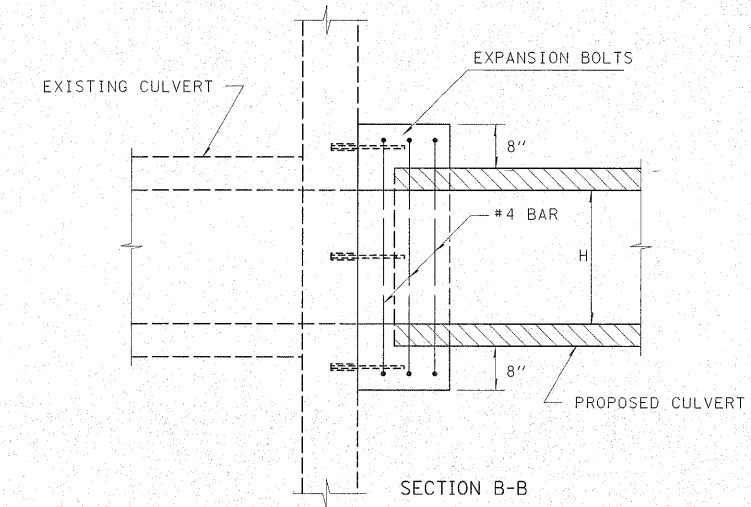
SIDE	STATION	DIMENSIONS						REINFORCEMENT BARS					POUND
		A	B	C	W	H	T	G	J	L	NUMBER BARS	EA	
LT	569+53	110	60	102	36	36	4	56	68	192	8	86	
RT	570+09	95	60	75	36	36	4	56	62	180	7	70	



DETAIL OF CONCRETE COLLAR FOR BOX CULVERT EXTENSIONS



NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF-DRILLING EXPANSION SHIELDS AND HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO THE NEW CONCRETE.



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CONCRETE COLLAR DETAIL FOR BOX CULVERT EXTENSIONS**  
 SCALE: VERT. HORIZ.  
 DATE ISSUED: 05-03-96  
 DRAWN BY  
 CHECKED BY

CONTRACT NO. 74237			
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS
773	(108BR-3, 109BR-1)	CUMBERLAND	96
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	SHEET NO. 35

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FAP 773 IL 121	(108BR-3) 31B-1	CUMBERLAND	96	36	22 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

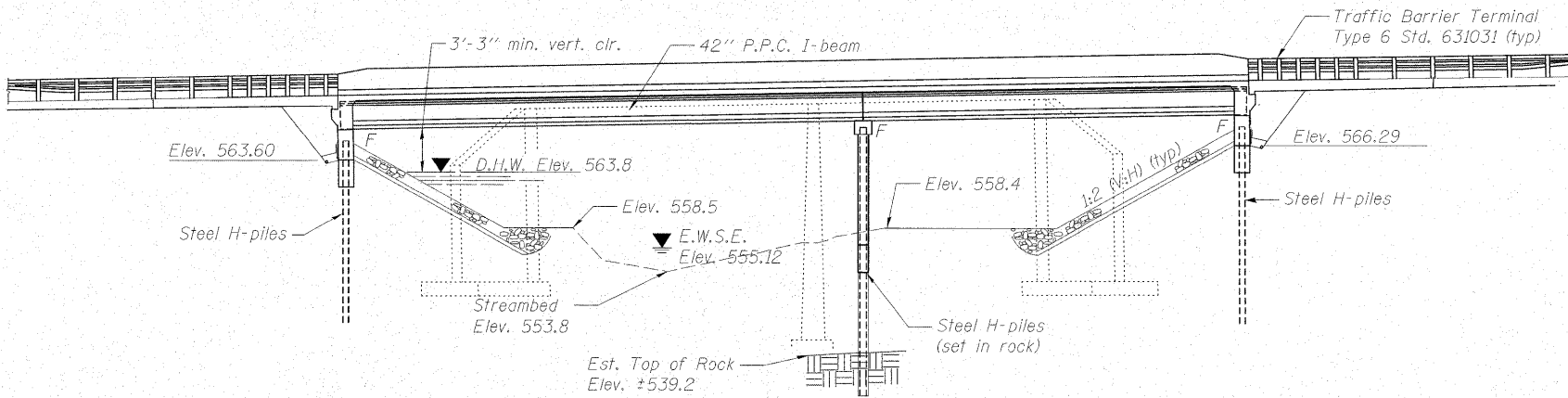
Contract # 74237

Bench Mark #318- Brass Disk in top of concrete curb in southwest corner of structure (S.N. 018-0029) station 399+00, 17' Rt., Elev. 570.56.

Existing Structure- S.N. 018-0029; Built in 1928 as S.B.1. 131 Section 108-B at Station 399+38.

Original structure is a 2-span reinforced concrete deck girder supported by closed concrete abutments and a concrete solid shaft pier on spread footings. The structure was reconstructed in 1980 as FA 773, Section 108BR-3. The substructure was partially removed and widened and the superstructure was replaced and widened using PPC deck beams, 75.54' bk. to bk. abutments, 33'-0" out to out of deck. Structure is to be removed and replaced with a 2-span 42" PPC I beam bridge on integral abutments. One lane traffic is to be maintained using stage construction.

No Salvage-



ELEVATION

STATION 399+34.00  
BUILT 200 BY  
STATE OF ILLINOIS  
F.A.P. RTE. 773 SEC. (108BR-3)B-1  
LOADING HL93  
STRUCTURE NO. 018-0062

NAME PLATE  
See Std. 515001

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Notes, Total Bill of Material
- 3 Staging Plan & Details
- 4 Temporary Concrete Barrier
- 5-6 Top of Slab Elevations
- 7-8 Top of Approach Slab Elevations
- 9 Superstructure
- 10 Superstructure Details
- 11-12 Diaphragm Details
- 13 Framing Plan
- 14-15 42" PPC I-Beam
- 16 42" PPC I-Beam Details
- 17 West Abutment
- 18 East Abutment
- 19 Pier
- 20 Steel H-Pile Details
- 21 Bar Splicer Assembly Details
- 22 Soil Borings

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications - 4th ed.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS

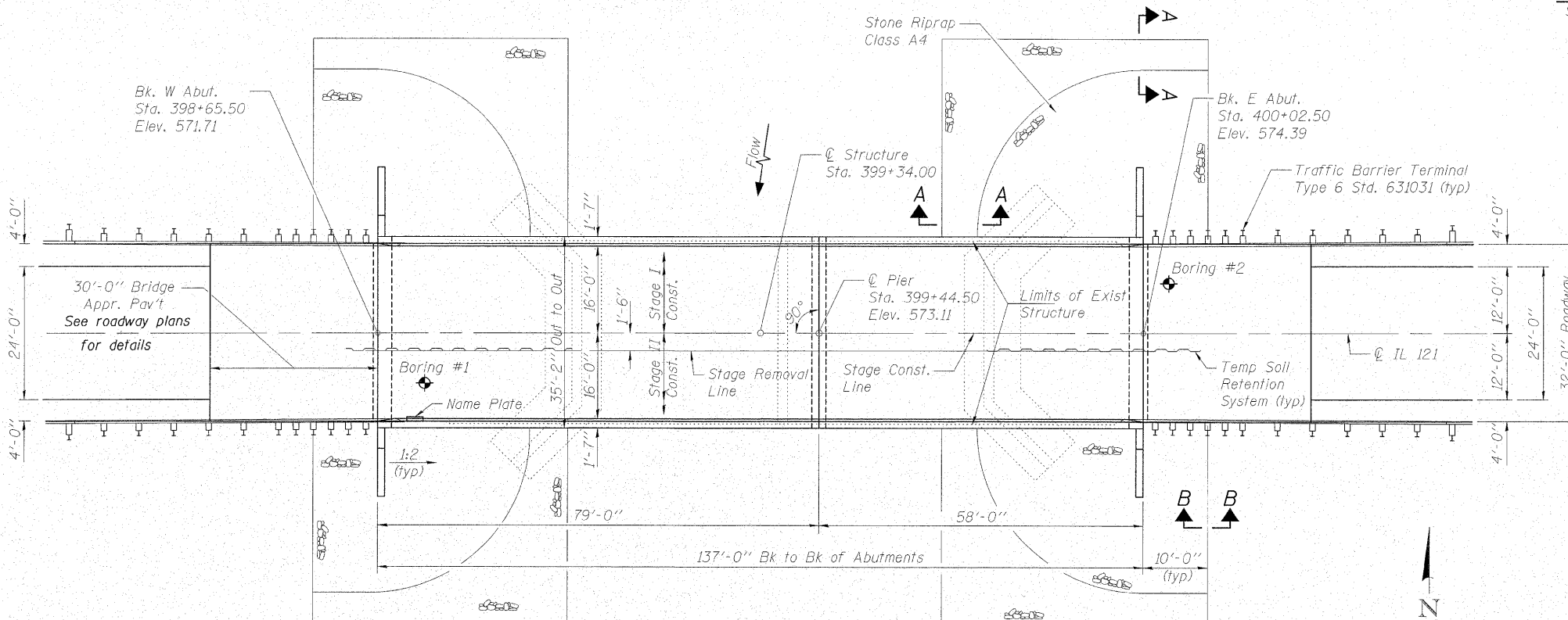
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 $f_y = 60,000$  psi (reinforcement)

PRECAST PRESTRESSED UNITS

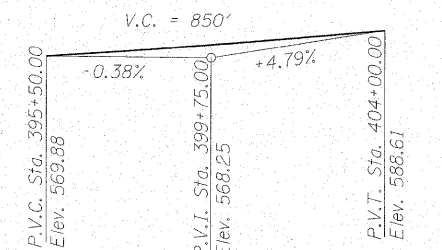
$f'_c = 7,000$  psi  
 $f'_{ci} = 6,000$  psi  
 $f'_s = 270,000$  psi (1/2"  $\phi$  low lax strands)  
 $f'_{si} = 201,960$  psi (1/2"  $\phi$  low lax strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Bedrock Acceleration Coefficient (A) = 0.067 g  
Site Coefficient (S) = 1.5



PLAN



PROFILE GRADE  
(along  $\phi$  roadway)



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA



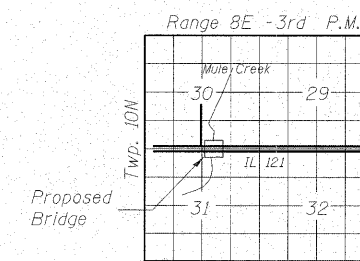
*Kristen E. Fields*  
Date Signed: 1-12-09  
Exp. Date: 11-30-10

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier	E. Abut.
	563.6	543.8	566.3

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

*Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES



LOCATION SKETCH

GENERAL PLAN & ELEVATION  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
FAP 773 IL 121	(108BR- 3)B-1	CUMBERLAND	96	37	22 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

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

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.

All embedded and separate bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 (as applicable).

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 structure. An Existing Structure Information Package is available upon request as noted in the Special Provisions.

The Contractor shall submit Structural Assessment Report(s) as required for the Contractor's means and methods of construction. See Special Provisions.

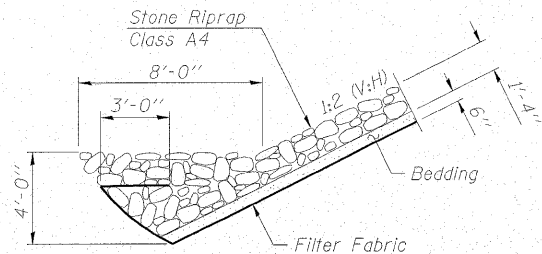
The Contractor shall retain the services of an engineering firm, prequalified in the IDOT consultant selection category of Highway Bridges-Typical for preparation of the Structural Assessment Report(s). Contractor's pre-approval shall not be applicable for this project. See Special Provision.

Current Ratings on file for Existing Structure

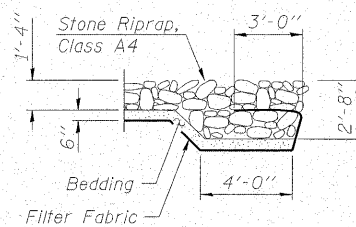
Inventory: HS 15.9  
Operating: HS 26.5  
Live Load Restrictions: No

Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

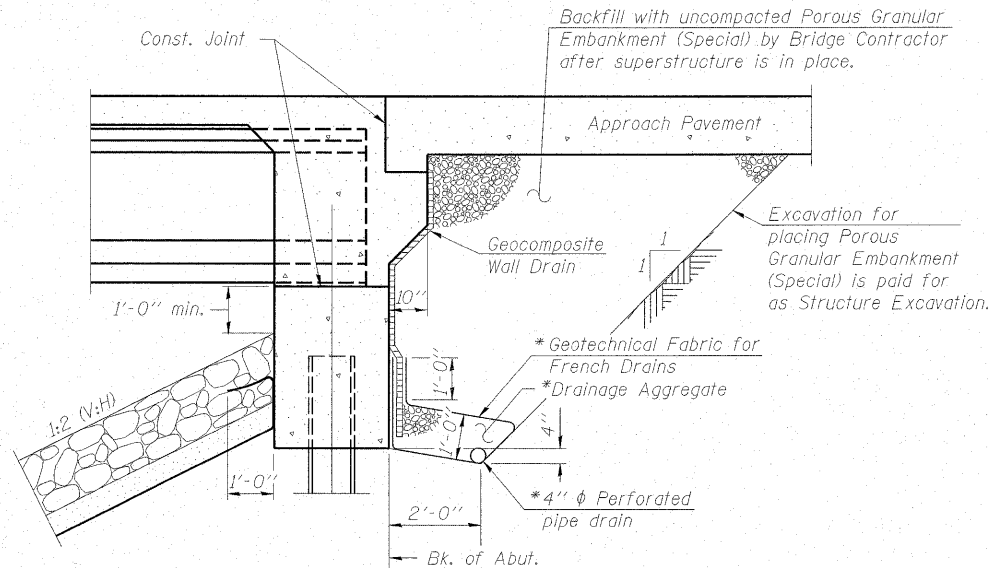
Slipforming of parapets shall not be permitted.



SECTION A-A



SECTION B-B



SECTION THRU INTEGRAL ABUTMENT

\*Included in the cost of Pipe Underdrains for Structures.

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).

A quantity for Pipe Drain 4" has been provided to extend the Pipe Underdrains for Structures, 4" from the edge of wingwalls to the toe of the proposed slope.

**WATERWAY INFORMATION**

Proposed Low Grade Elev. = 569.76 @ Sta. 396+20

Existing Low Grade Elev. = 569.32 @ Sta. 398+00

Drainage Area = 11.2 mi. <sup>2</sup>		Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.			
Flood	Freq. Yr.	Q C.F.S.	Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
10	2165	430	596	562.9	1.3	0.6	564.2	563.5	
Design	50	3510	492	698	563.8	2.0	1.3	565.8	565.1
Base	100	4118	526	756	564.3	2.2	1.5	566.5	565.8
Overtopping									
Max. Calc.	500	5617	588	864	565.2	2.7	2.0	567.9	567.2

10-Year Velocity through Existing Bridge = 4.65 fps

10-Year Velocity through Proposed Bridge = 3.21 fps



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		90	90
Stone Riprap, Class A4	Sq. Yd.		852	852
Filter Fabric	Sq. Yd.		852	852
Removal of Existing Structures No. 1	Each			1
Structure Excavation	Cu. Yd.		168	168
Concrete Structures	Cu. Yd.		89.7	89.7
Concrete Superstructure	Cu. Yd.	183.4		183.4
Bridge Deck Grooving	Sq. Yd.	657		657
Concrete Encasement	Cu. Yd.		7.0	7.0
Protective Coat	Sq. Yd.	602		602
Furnishing and Erecting Precast Prestressed Concrete I Beams, 42"	Foot	812		812
Reinforcement Bars, Epoxy Coated	Pound	41680	8620	50300
Bar Splicers	Each	457	58	515
Furnishing Steel Piles HP12x63	Foot		639	639
Driving Piles	Foot		335	335
Test Pile Steel HP12x63	Each		2	2
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		72	72
Pipe Underdrains for Structures, 4"	Foot		146	146
Temporary Soil Retention System	Sq. Ft.		748	748
Underwater Structure Excavation Protection, Location 1	Each		1	1
Asbestos Bearing Pad Removal	Each		44	44
Setting Piles in Rock	Each		8	8

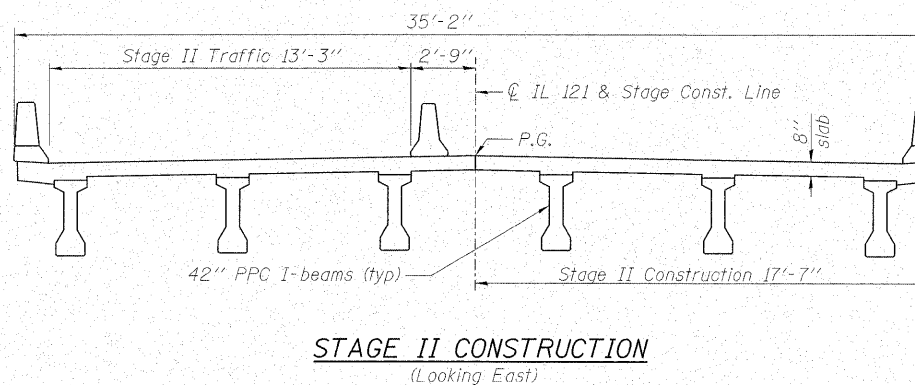
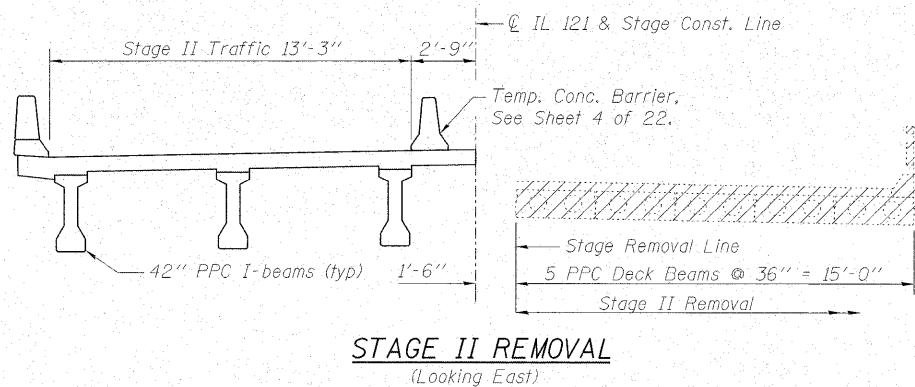
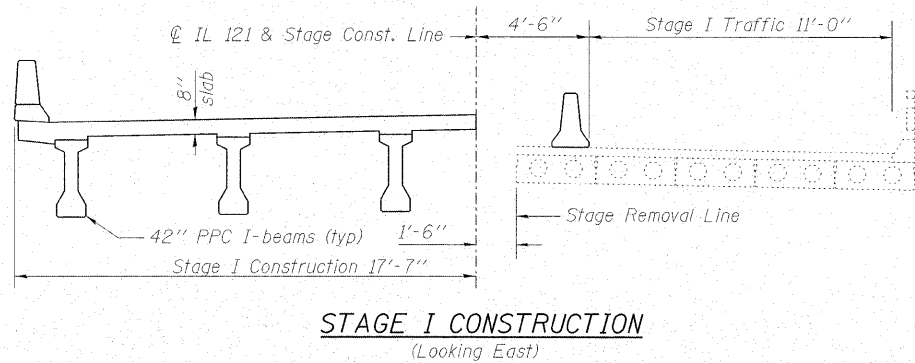
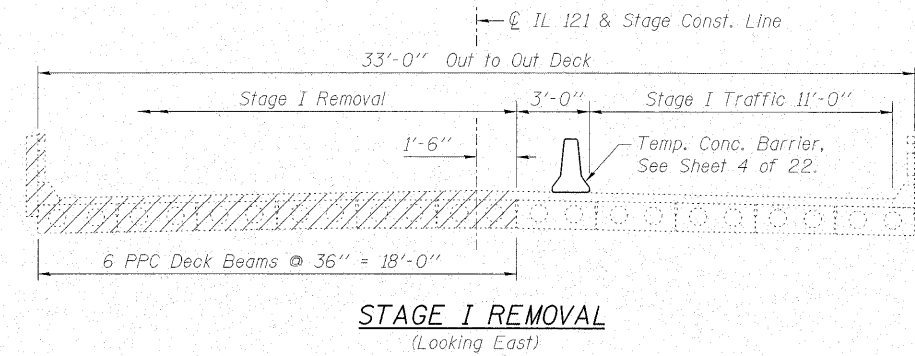
**GENERAL NOTES, TOTAL BILL OF MATERIAL**

IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3 22 SHEETS
FAP 773 IL 121	(108BR- 3)B-1	CUMBERLAND	96	38	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

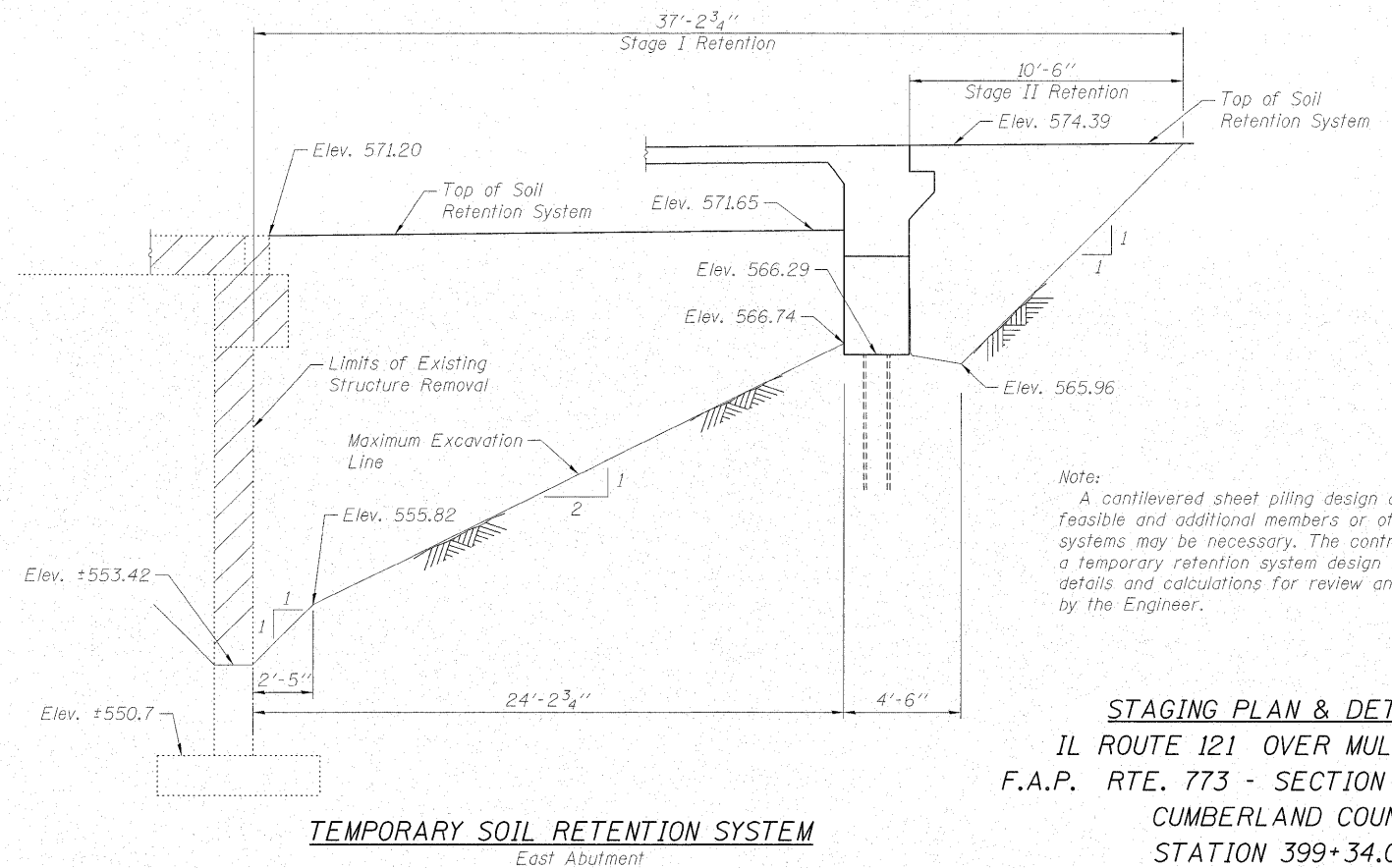
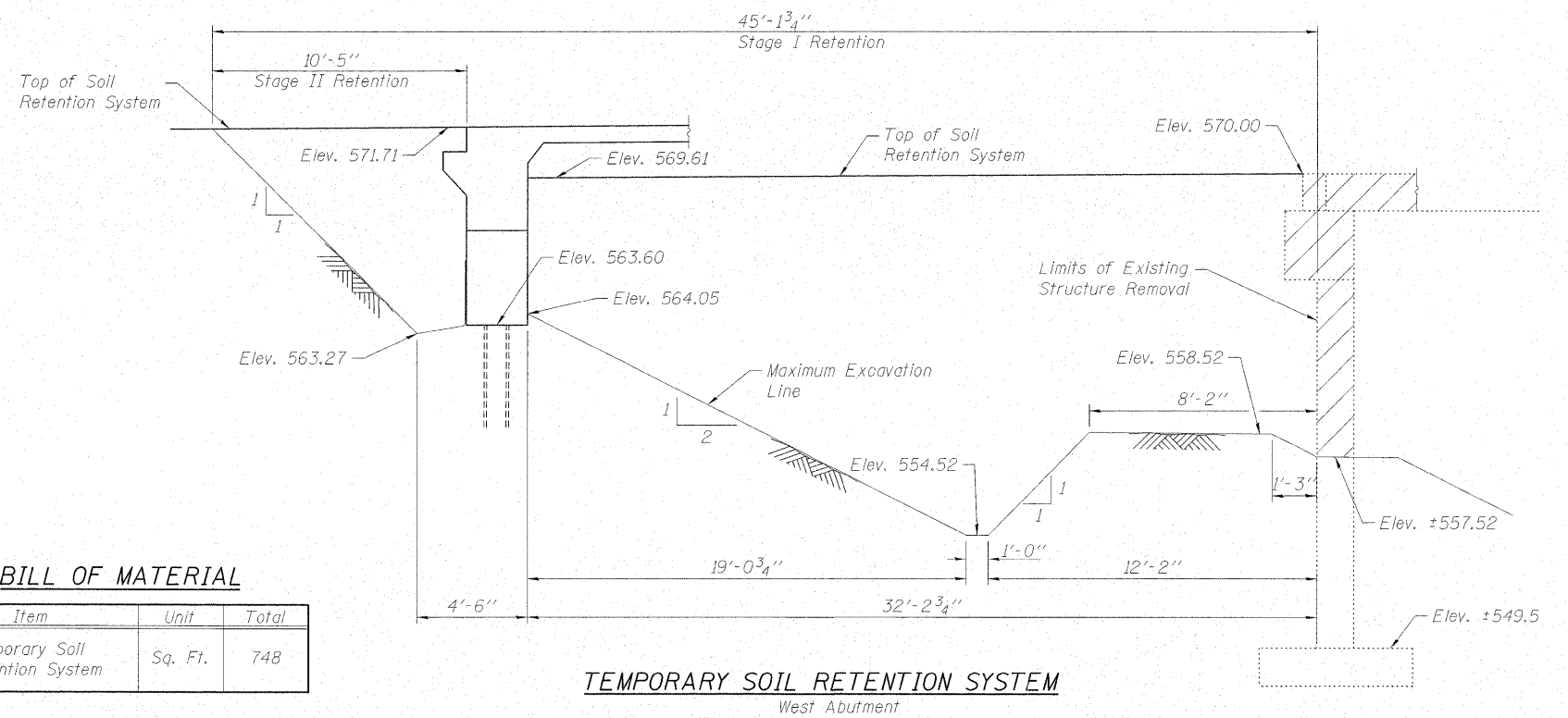


**STAGING NOTES:**

- Hatched areas indicate "Removal of Existing Structures".
- For quantities of "Temporary Concrete Barrier", see Roadway Plans.

**BILL OF MATERIAL**

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	748



Note:  
A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The contractor shall submit a temporary retention system design including plan details and calculations for review and acceptance by the Engineer.

**STAGING PLAN & DETAILS**

IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

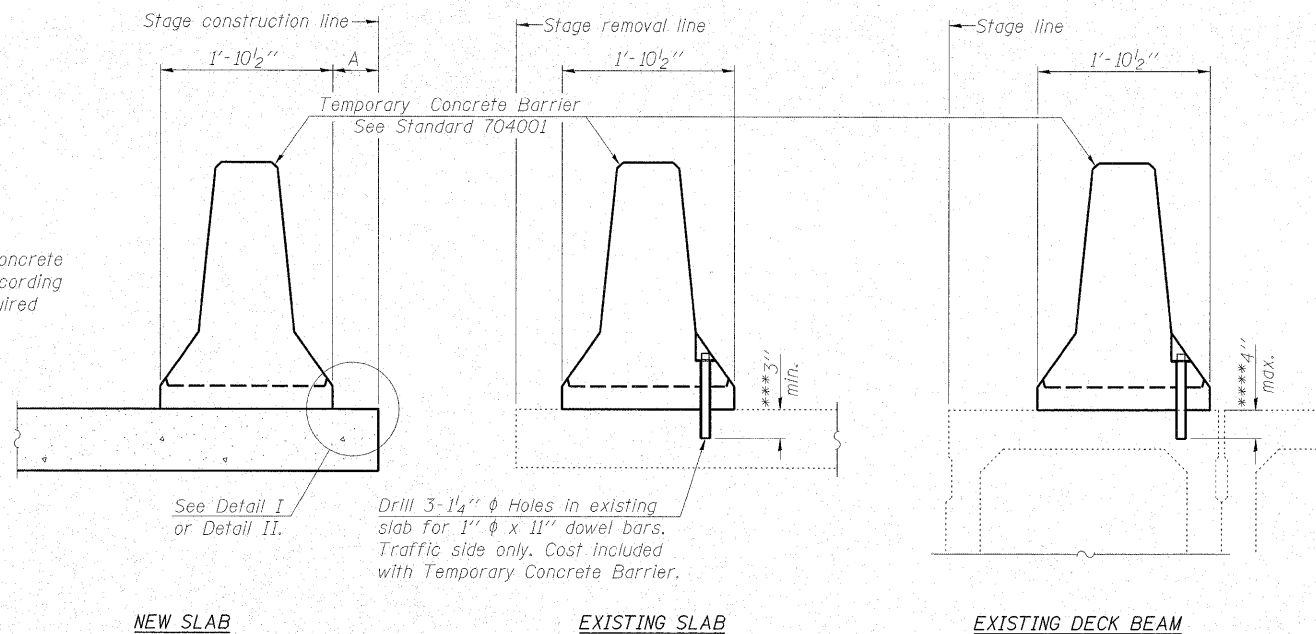
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 773 IL 121	(108BR- 31B-1	CUMBERLAND	96	39
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 4  
22 SHEETS

Contract # 74237

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



NEW SLAB

EXISTING SLAB

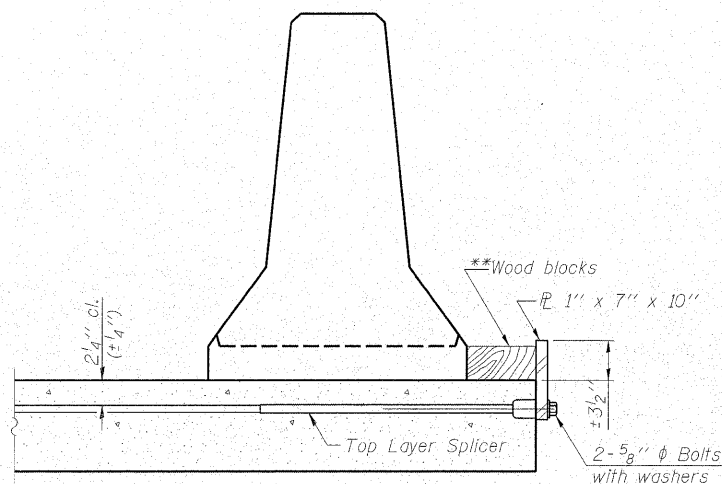
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

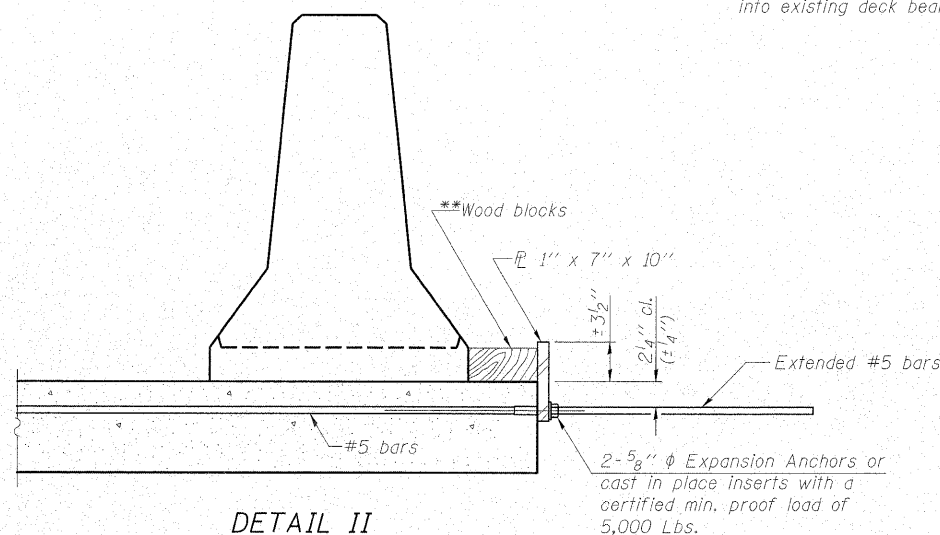
NOTES

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

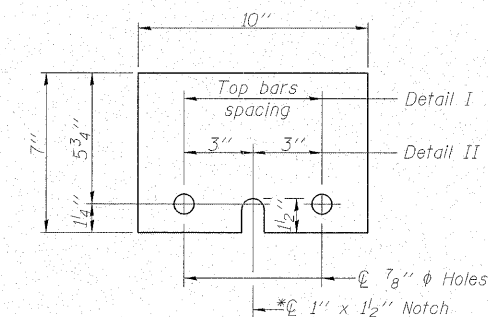
- \*\*\*Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.
- \*\*\*If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER  $\bar{r}$  1" x 7" x 10"

\*Required only with Detail II

TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062



DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

R-27

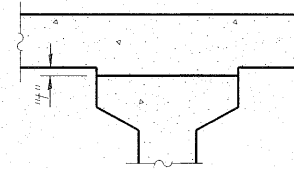
5-16-08



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

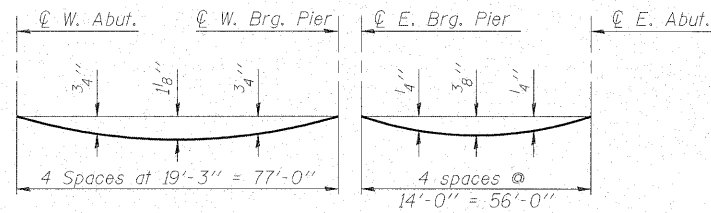
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5 22 SHEETS
FAP 773 IL 121	(108BR- 3)B-1	CUMBERLAND	96	40	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237



To determine "t": After all precast prestressed beams have 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 Deflections" shown below, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS



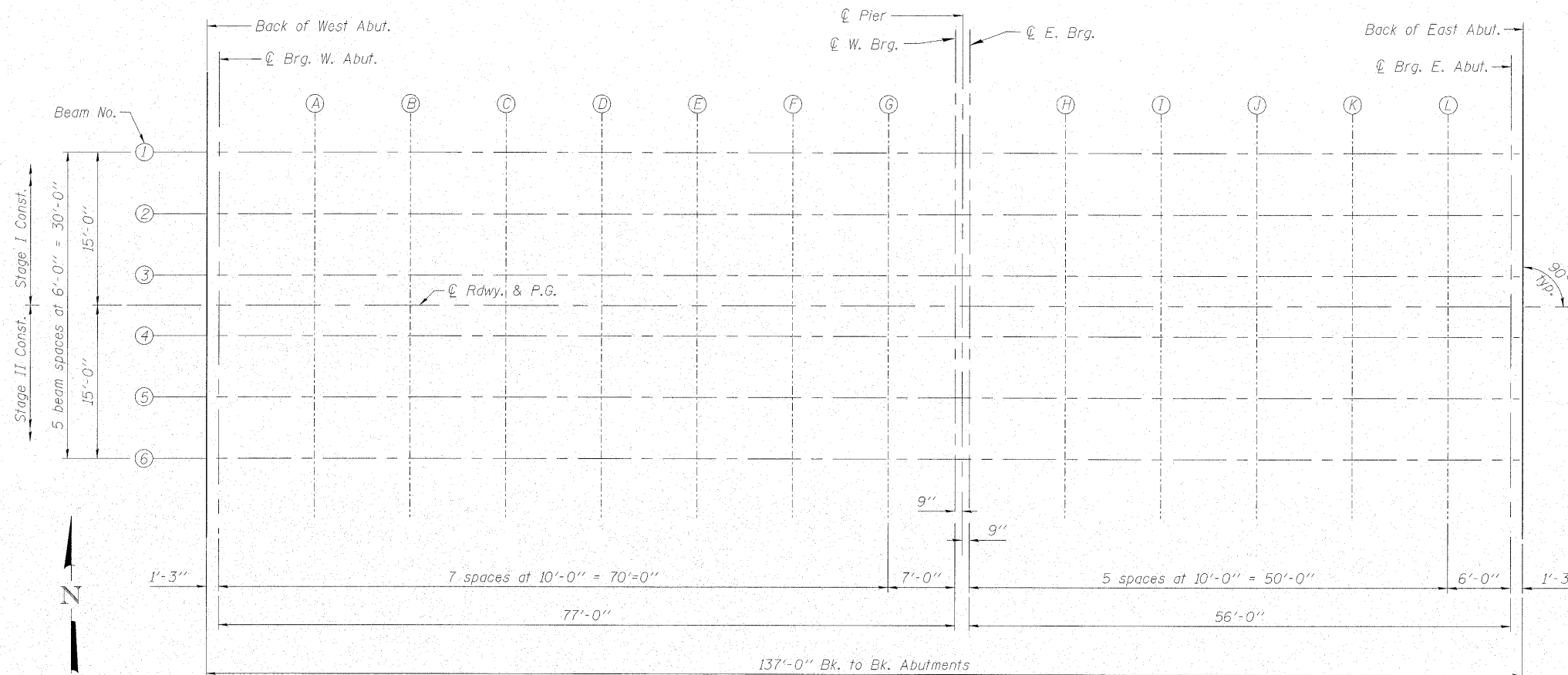
DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

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 below.

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	398+65.50	-15.00	571.46	571.46
CL Brg. W. Abut.	398+66.75	-15.00	571.48	571.48
A	398+76.75	-15.00	571.64	571.67
B	398+86.75	-15.00	571.80	571.87
C	398+96.75	-15.00	571.97	572.06
D	399+06.75	-15.00	572.14	572.24
E	399+16.75	-15.00	572.33	572.41
F	399+26.75	-15.00	572.52	572.57
G	399+36.75	-15.00	572.71	572.74
CL W. Brg. Pier	399+43.75	-15.00	572.85	572.85
CL E. Brg. Pier	399+45.25	-15.00	572.88	572.88
H	399+55.25	-15.00	573.08	573.10
I	399+65.25	-15.00	573.30	573.32
J	399+75.25	-15.00	573.51	573.54
K	399+85.25	-15.00	573.74	573.76
L	399+95.25	-15.00	573.97	573.98
CL Brg. E. Abut.	400+01.25	-15.00	574.11	574.11
Back of East Abut.	400+02.50	-15.00	574.14	574.14



DESIGNED	- BAS
CHECKED	- KEF
DRAWN	- LAD
CHECKED	- RJA

TOP OF SLAB ELEVATIONS  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 773 IL 121	108BR- 3/B-1	CUMBERLAND	96	41
FED. ROAD DIST. NO.	ALLIANCE	FED. AID PROJECT-		

SHEET NO. 6  
22 SHEETS

Contract # 74237

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	398+65.50	-9.00	571.57	571.57
CL Brg. W. Abut.	398+66.75	-9.00	571.59	571.59
A	398+76.75	-9.00	571.74	571.78
B	398+86.75	-9.00	571.91	571.98
C	398+96.75	-9.00	572.08	572.17
D	399+06.75	-9.00	572.25	572.35
E	399+16.75	-9.00	572.44	572.52
F	399+26.75	-9.00	572.62	572.68
G	399+36.75	-9.00	572.82	572.84
CL W. Brg. Pier	399+43.75	-9.00	572.96	572.96
CL E. Brg. Pier	399+45.25	-9.00	572.99	572.99
H	399+55.25	-9.00	573.19	573.21
I	399+65.25	-9.00	573.41	573.43
J	399+75.25	-9.00	573.62	573.65
K	399+85.25	-9.00	573.85	573.87
L	399+95.25	-9.00	574.08	574.08
CL Brg. E. Abut.	400+01.25	-9.00	574.22	574.22
Back of East Abut.	400+02.50	-9.00	574.25	574.25

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	398+65.50	-3.00	571.66	571.66
CL Brg. W. Abut.	398+66.75	-3.00	571.68	571.68
A	398+76.75	-3.00	571.84	571.88
B	398+86.75	-3.00	572.00	572.07
C	398+96.75	-3.00	572.17	572.26
D	399+06.75	-3.00	572.35	572.44
E	399+16.75	-3.00	572.53	572.61
F	399+26.75	-3.00	572.72	572.78
G	399+36.75	-3.00	572.91	572.94
CL W. Brg. Pier	399+43.75	-3.00	573.05	573.05
CL E. Brg. Pier	399+45.25	-3.00	573.08	573.08
H	399+55.25	-3.00	573.29	573.30
I	399+65.25	-3.00	573.50	573.52
J	399+75.25	-3.00	573.72	573.74
K	399+85.25	-3.00	573.94	573.96
L	399+95.25	-3.00	574.17	574.18
CL Brg. E. Abut.	400+01.25	-3.00	574.31	574.31
Back of East Abut.	400+02.50	-3.00	574.34	574.34

**ROADWAY, P.G. & STAGE CONST. LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	398+65.50	0.00	571.71	571.71
CL Brg. W. Abut.	398+66.75	0.00	571.73	571.73
A	398+76.75	0.00	571.89	571.93
B	398+86.75	0.00	572.05	572.12
C	398+96.75	0.00	572.22	572.31
D	399+06.75	0.00	572.39	572.48
E	399+16.75	0.00	572.58	572.66
F	399+26.75	0.00	572.77	572.83
G	399+36.75	0.00	572.96	572.99
CL W. Brg. Pier	399+43.75	0.00	573.10	573.10
CL E. Brg. Pier	399+45.25	0.00	573.13	573.13
H	399+55.25	0.00	573.33	573.34
I	399+65.25	0.00	573.55	573.57
J	399+75.25	0.00	573.76	573.79
K	399+85.25	0.00	573.99	574.01
L	399+95.25	0.00	574.22	574.23
CL Brg. E. Abut.	400+01.25	0.00	574.36	574.36
Back of East Abut.	400+02.50	0.00	574.39	574.39

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	398+65.50	3.00	571.66	571.66
CL Brg. W. Abut.	398+66.75	3.00	571.68	571.68
A	398+76.75	3.00	571.84	571.88
B	398+86.75	3.00	572.00	572.07
C	398+96.75	3.00	572.17	572.26
D	399+06.75	3.00	572.35	572.44
E	399+16.75	3.00	572.53	572.61
F	399+26.75	3.00	572.72	572.78
G	399+36.75	3.00	572.91	572.94
CL W. Brg. Pier	399+43.75	3.00	573.05	573.05
CL E. Brg. Pier	399+45.25	3.00	573.08	573.08
H	399+55.25	3.00	573.29	573.30
I	399+65.25	3.00	573.50	573.52
J	399+75.25	3.00	573.72	573.74
K	399+85.25	3.00	573.94	573.96
L	399+95.25	3.00	574.17	574.18
CL Brg. E. Abut.	400+01.25	3.00	574.31	574.31
Back of East Abut.	400+02.50	3.00	574.34	574.34

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	398+65.50	9.00	571.57	571.57
CL Brg. W. Abut.	398+66.75	9.00	571.59	571.59
A	398+76.75	9.00	571.74	571.78
B	398+86.75	9.00	571.91	571.98
C	398+96.75	9.00	572.08	572.17
D	399+06.75	9.00	572.25	572.35
E	399+16.75	9.00	572.44	572.52
F	399+26.75	9.00	572.62	572.68
G	399+36.75	9.00	572.82	572.84
CL W. Brg. Pier	399+43.75	9.00	572.96	572.96
CL E. Brg. Pier	399+45.25	9.00	572.99	572.99
H	399+55.25	9.00	573.19	573.21
I	399+65.25	9.00	573.41	573.43
J	399+75.25	9.00	573.62	573.65
K	399+85.25	9.00	573.85	573.87
L	399+95.25	9.00	574.08	574.08
CL Brg. E. Abut.	400+01.25	9.00	574.22	574.22
Back of East Abut.	400+02.50	9.00	574.25	574.25

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	398+65.50	15.00	571.46	571.46
CL Brg. W. Abut.	398+66.75	15.00	571.48	571.48
A	398+76.75	15.00	571.64	571.67
B	398+86.75	15.00	571.80	571.87
C	398+96.75	15.00	571.97	572.06
D	399+06.75	15.00	572.14	572.24
E	399+16.75	15.00	572.33	572.41
F	399+26.75	15.00	572.52	572.57
G	399+36.75	15.00	572.71	572.74
CL W. Brg. Pier	399+43.75	15.00	572.85	572.85
CL E. Brg. Pier	399+45.25	15.00	572.88	572.88
H	399+55.25	15.00	573.08	573.10
I	399+65.25	15.00	573.30	573.32
J	399+75.25	15.00	573.51	573.54
K	399+85.25	15.00	573.74	573.76
L	399+95.25	15.00	573.97	573.98
CL Brg. E. Abut.	400+01.25	15.00	574.11	574.11
Back of East Abut.	400+02.50	15.00	574.14	574.14



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

TOP OF SLAB ELEVATIONS  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 773 IL 121	(108BR-3)B-1	CUMBERLAND	96	42
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7  
22 SHEETS

Contract # 74237

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	398+35.50	-16.42	570.99
M	398+45.50	-16.42	571.13
N	398+55.50	-16.42	571.28
Back of West Abut.	398+65.50	-16.42	571.43

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	398+35.50	-12.00	571.09
M	398+45.50	-12.00	571.22
N	398+55.50	-12.00	571.37
Back of West Abut.	398+65.50	-12.00	571.52

☉ ROADWAY & P.G.

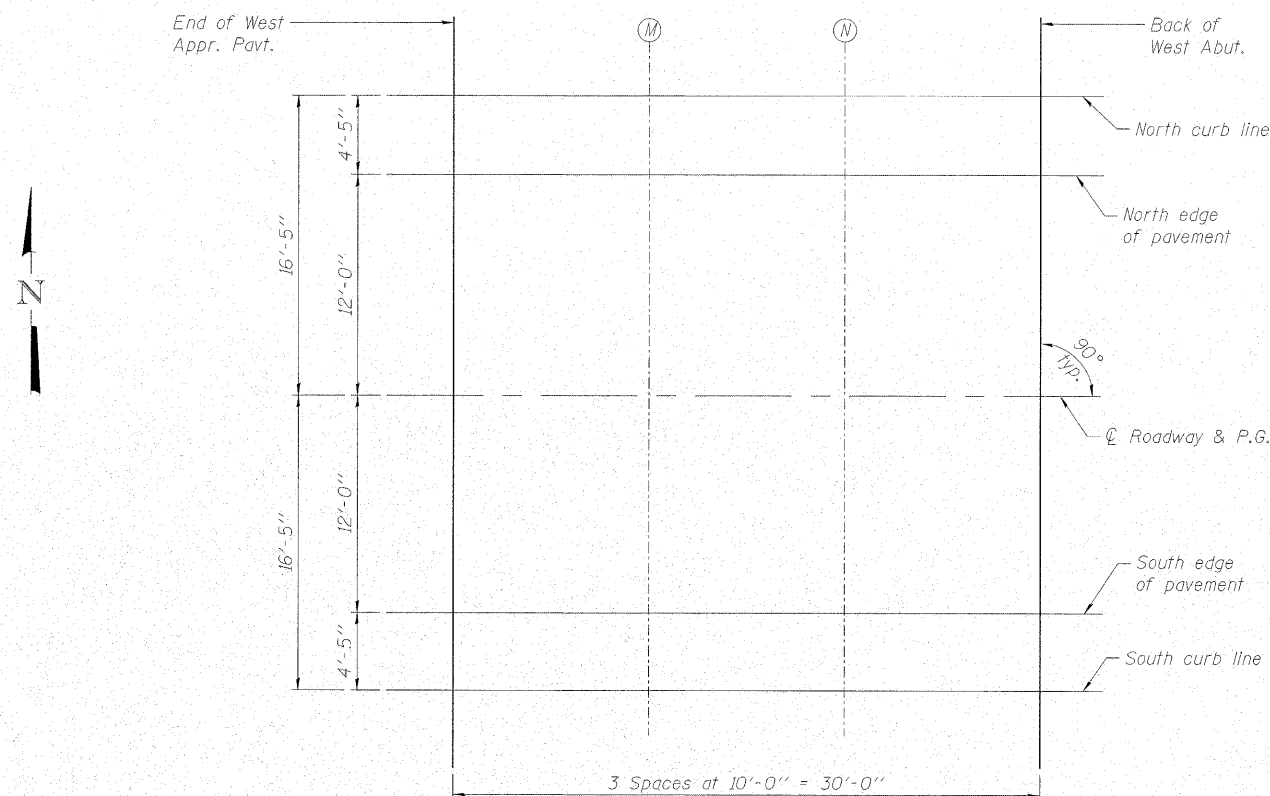
Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	398+35.50	0.00	571.27
M	398+45.50	0.00	571.41
N	398+55.50	0.00	571.56
Back of West Abut.	398+65.50	0.00	571.71

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	398+35.50	12.00	571.09
M	398+45.50	12.00	571.22
N	398+55.50	12.00	571.37
Back of West Abut.	398+65.50	12.00	571.52

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	398+35.50	16.42	570.99
M	398+45.50	16.42	571.13
N	398+55.50	16.42	571.28
Back of West Abut.	398+65.50	16.42	571.43



PLAN



DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	LAD
CHECKED -	RJA

TOP OF WEST APPROACH  
SLAB ELEVATIONS  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 22 SHEETS
FAP 773 IL 121	(108BR- 3)B-1	CUMBERLAND	96	43	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

Contract # 74237

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	400+02.50	-16.42	574.11
O	400+12.50	-16.42	574.35
P	400+22.50	-16.42	574.59
End of East Appr. Pavt.	400+32.50	-16.42	574.85

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	400+02.50	-12.00	574.20
O	400+12.50	-12.00	574.44
P	400+22.50	-12.00	574.69
End of East Appr. Pavt.	400+32.50	-12.00	574.94

☉ ROADWAY & P.G.

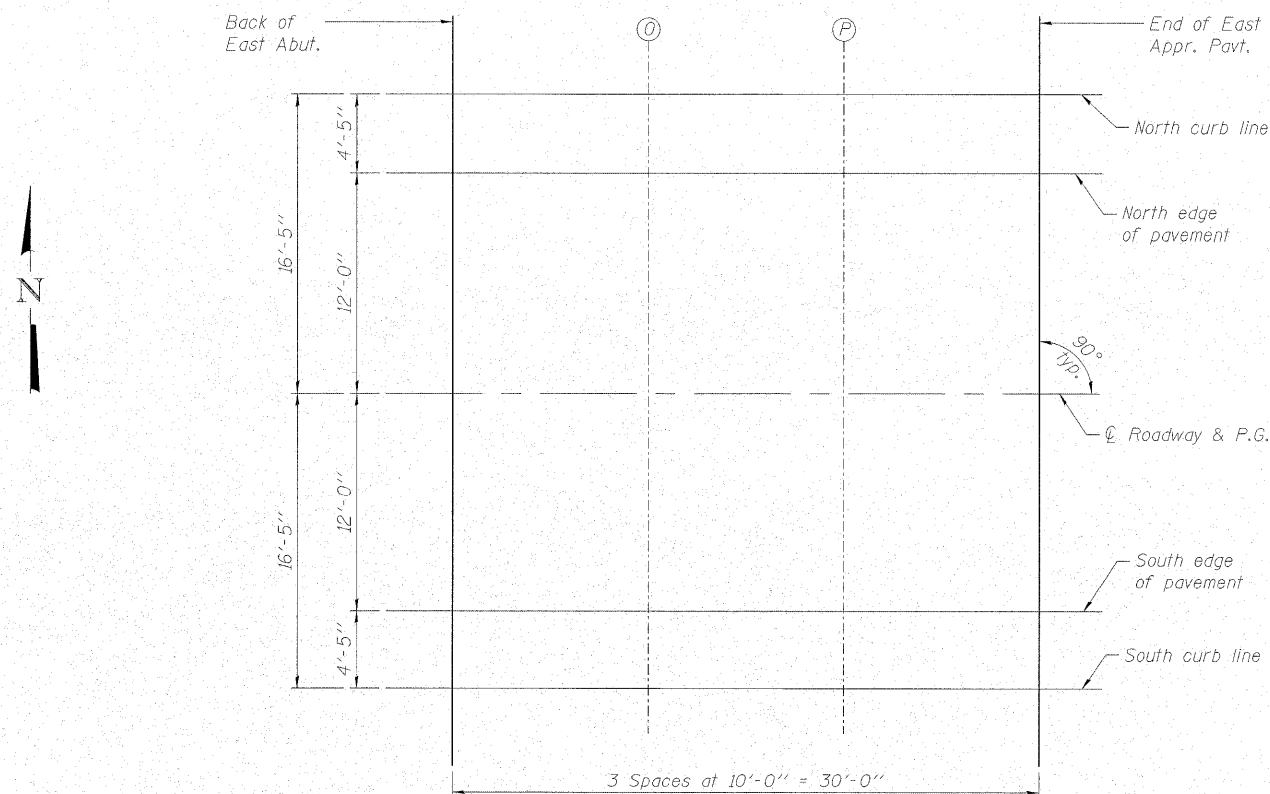
Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	400+02.50	0.00	574.39
O	400+12.50	0.00	574.63
P	400+22.50	0.00	574.87
End of East Appr. Pavt.	400+32.50	0.00	575.13

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	400+02.50	12.00	574.20
O	400+12.50	12.00	574.44
P	400+22.50	12.00	574.69
End of East Appr. Pavt.	400+32.50	12.00	574.94

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	400+02.50	16.42	574.11
O	400+12.50	16.42	574.35
P	400+22.50	16.42	574.59
End of East Appr. Pavt.	400+32.50	16.42	574.85



PLAN



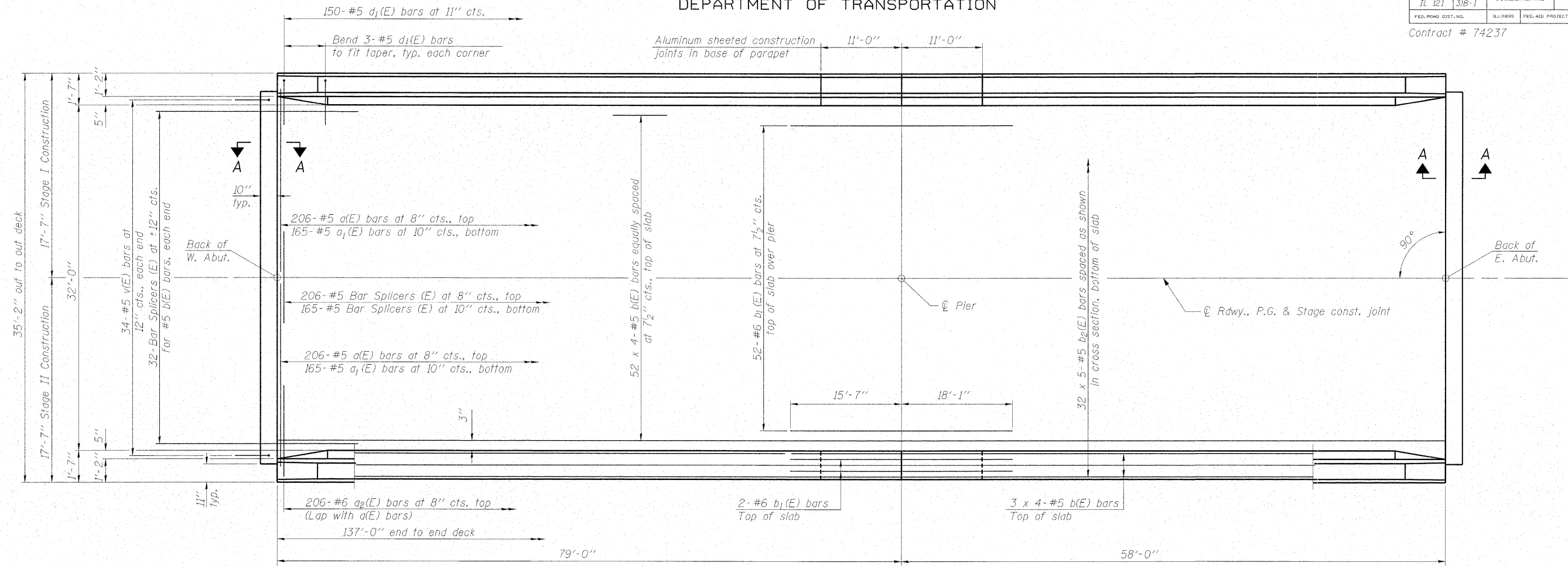
DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

TOP OF EAST APPROACH  
SLAB ELEVATIONS  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9 22 SHEETS
FAP 773 IL 121	108BR- 31B-1	CUMBERLAND	96	44	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

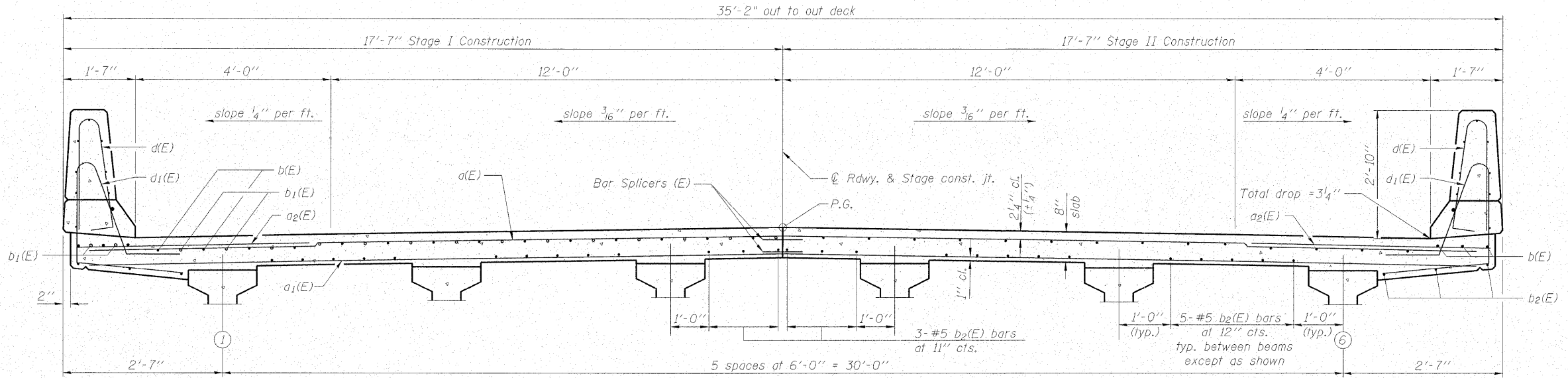
Contract # 74237



PLAN

Notes:  
See Sheet 10 of 22 for superstructure details and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See Sheet 10 of 22 for parapet reinforcement.  
For Section A-A, see Sheet 12 of 22.

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



CROSS SECTION  
(Looking East.)

SUPERSTRUCTURE  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-31B-1)  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

**MAURER STUTZ, INC.**  
ENGINEERS SURVEYORS

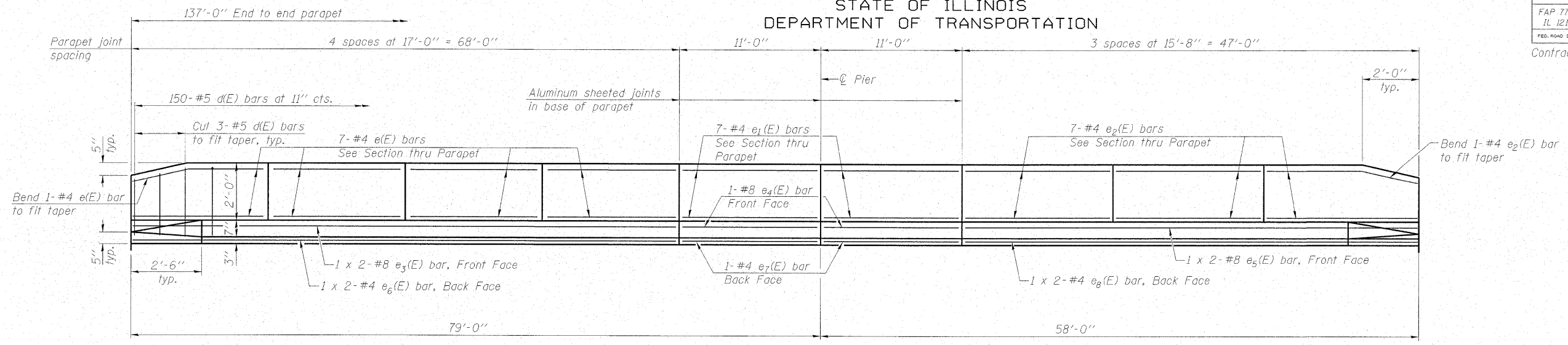
DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	LAD
CHECKED -	RJA



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

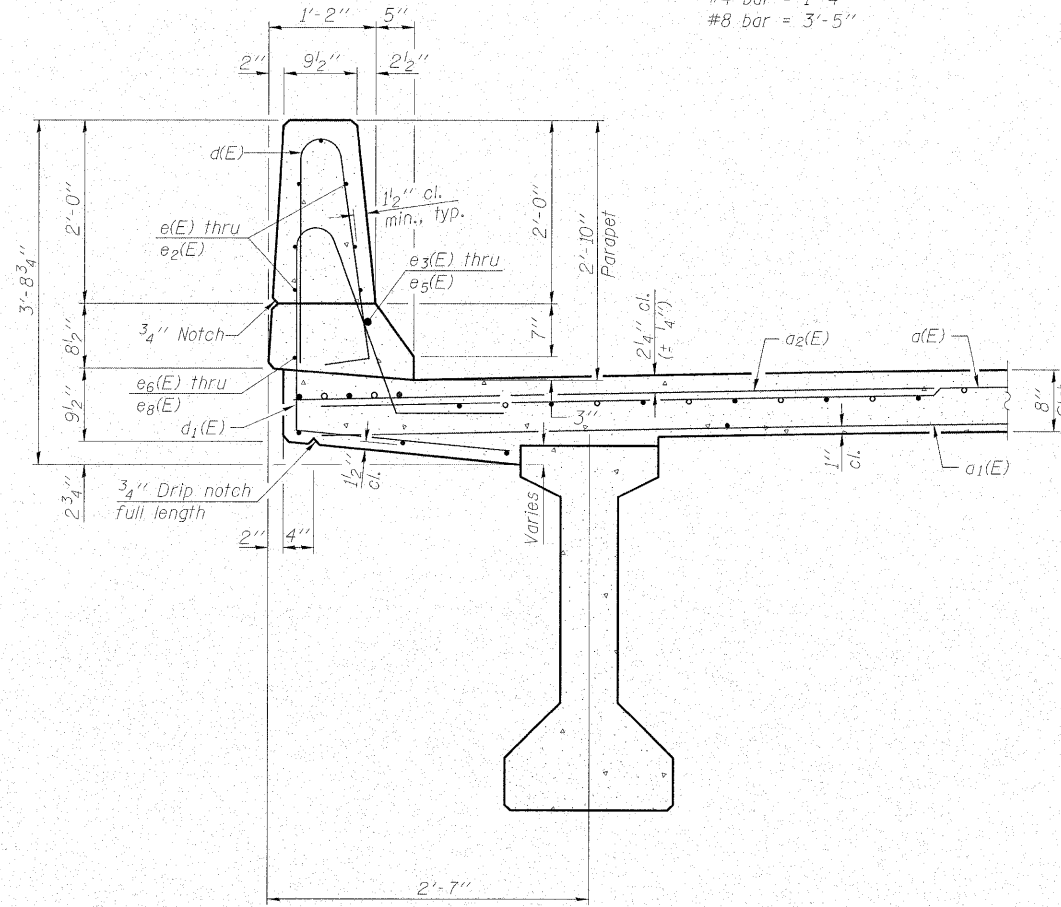
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FAP 773 IL 121	(108BR- 3)B-1	CUMBERLAND	96	45	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

Contract # 74237

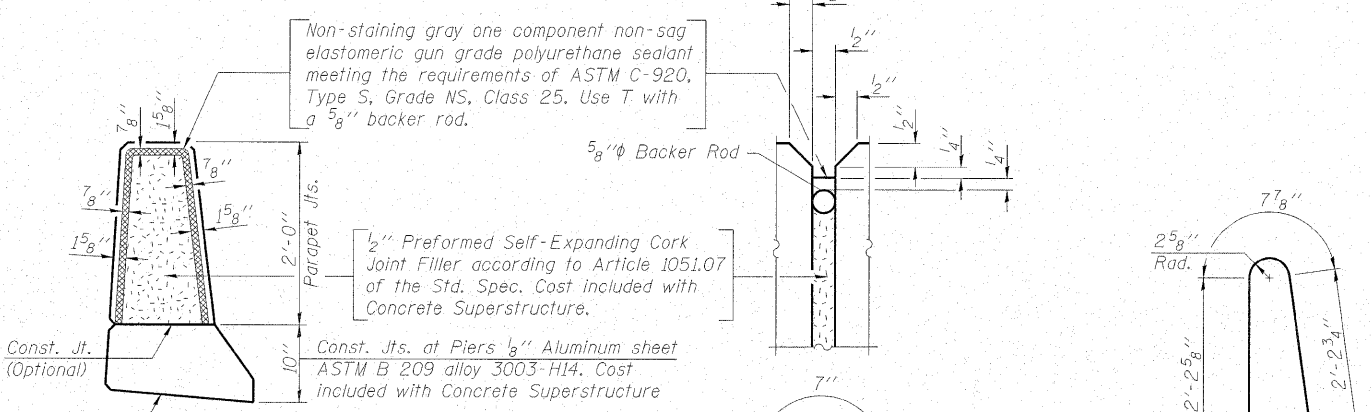


INSIDE ELEVATION OF PARAPET

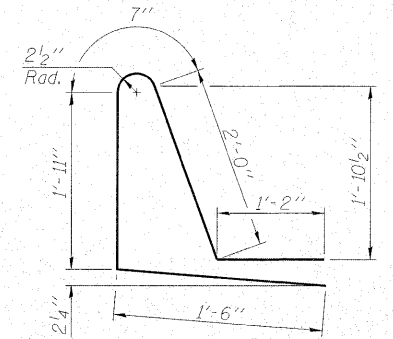
**MINIMUM BAR LAP**  
(Parapet)  
#4 bar = 1'-4"  
#8 bar = 3'-5"



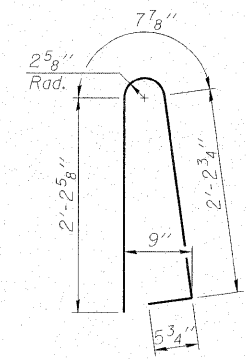
SECTION THRU PARAPET



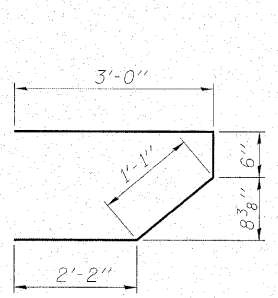
PARAPET JOINT DETAILS



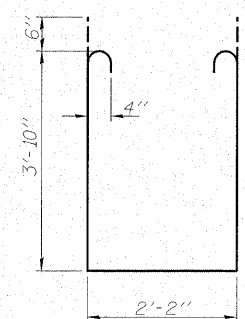
BAR d1(E)



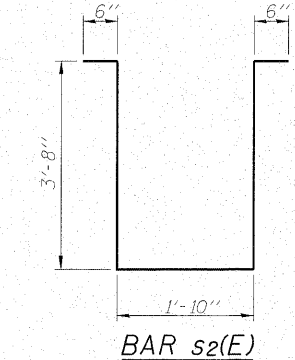
BAR d(E)



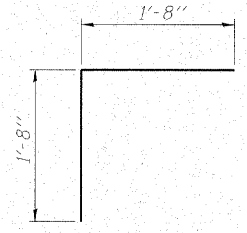
BAR s(E)



BAR s1(E)



BAR s2(E)



BAR v(E)

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	412	#5	17'-1"	—
d1(E)	330	#5	16'-9"	—
d2(E)	412	#6	6'-0"	—
b(E)	232	#5	35'-6"	—
b1(E)	56	#6	33'-8"	—
b2(E)	160	#5	28'-9"	—
d(E)	300	#5	5'-7"	—
d1(E)	300	#5	7'-2"	—
e(E)	56	#4	16'-8"	—
e1(E)	28	#4	10'-8"	—
e2(E)	42	#4	15'-4"	—
e3(E)	4	#8	35'-8"	—
e4(E)	4	#8	10'-8"	—
e5(E)	4	#8	25'-2"	—
e6(E)	4	#4	34'-7"	—
e7(E)	4	#4	10'-8"	—
e8(E)	4	#4	24'-1"	—
m(E)	8	#6	16'-4"	—
m1(E)	12	#6	17'-3"	—
m2(E)	24	#6	7'-8"	—
m3(E)	16	#6	3'-10"	—
m4(E)	4	#6	1'-4"	—
m5(E)	8	#6	1'-10"	—
m6(E)	6	#8	5'-10"	—
m7(E)	16	#4	5'-2"	—
m8(E)	8	#4	2'-5"	—
s(E)	72	#5	6'-9"	—
s1(E)	64	#4	10'-10"	—
s2(E)	26	#4	10'-2"	—
v(E)	68	#5	3'-4"	—
Reinforcement Bars, Epoxy Coated		Pound		41680
Concrete Superstructure		Cu. Yd.		183.4

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

**SUPERSTRUCTURE DETAILS**

IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

**MAURER STUTZ, INC.**  
ENGINEERS SURVEYORS

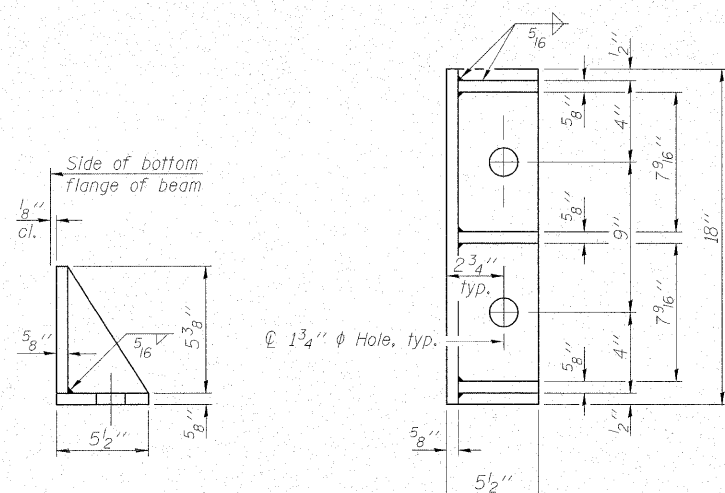
DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	LAD
CHECKED -	RJA

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 773 IL 121	(108BR-3)B-1	CUMBERLAND	96	46
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11  
22 SHEETS

Contract # 74237



**SIDE RETAINER**

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

**Notes:**

Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 22.

Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 22.

For details of bars s(E), s<sub>1</sub>(E) and s<sub>2</sub>(E) see sheet 10 of 22. The s(E), s<sub>1</sub>(E) and s<sub>2</sub>(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

See sheet 12 of 22 for Sections A-A and B-B.

Cost of 90 Lb. roofing felt is included with Concrete Superstructure.

The side retainer shall be galvanized after shop fabrication according to AASHTO M 111.

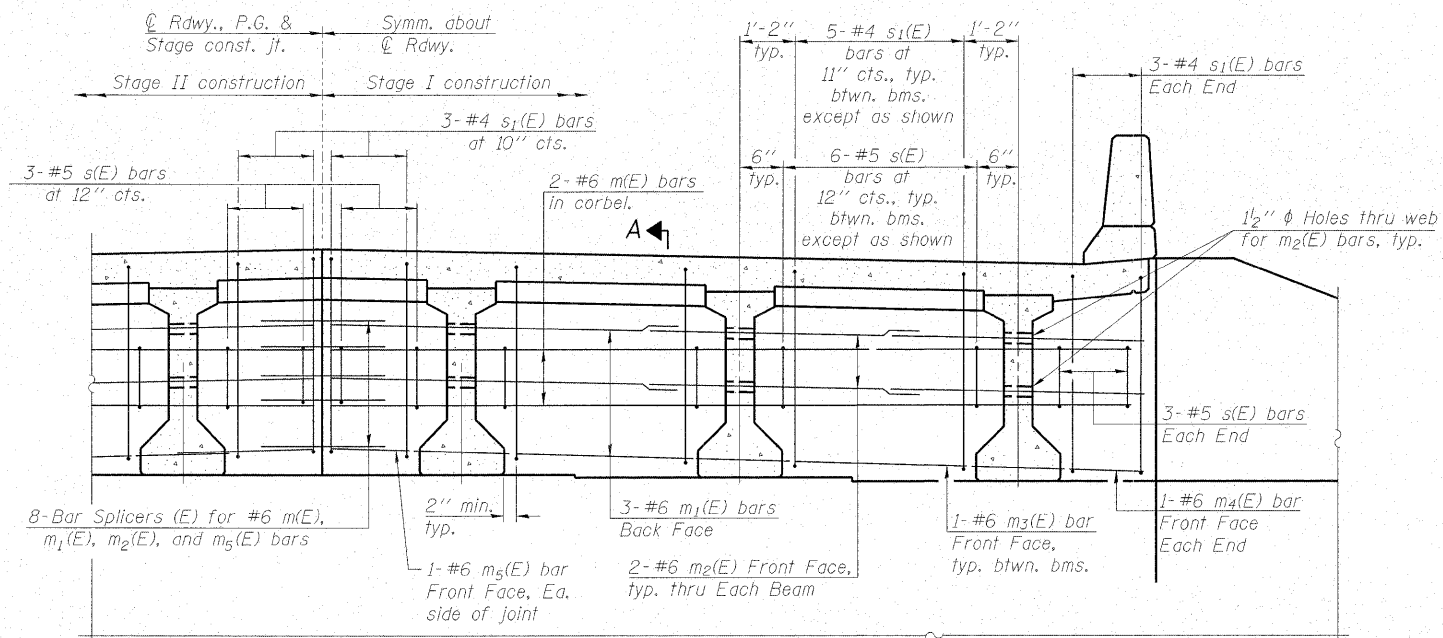
Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers may be either cast in place or installed in holes drilled after the supporting member is in place and prior to pouring the deck.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Cost of side retainer and anchor bolts shall be included with Concrete Structures.



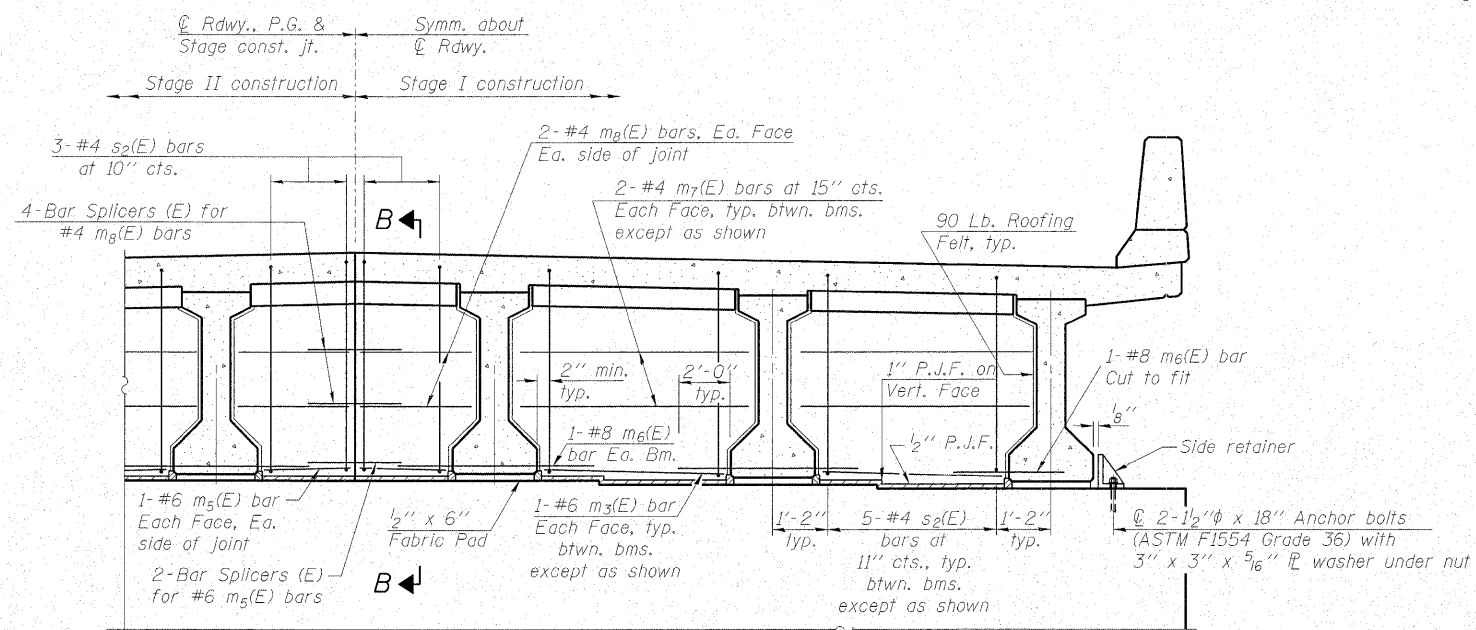
**DIAPHRAGM ELEVATION AT ABUTMENT**

(Looking West)

West abut. shown, East abut. similar

**MIN. BAR LAP**

#6 bar = 2'-9"



**DIAPHRAGM ELEVATION AT PIER**

(Looking West)



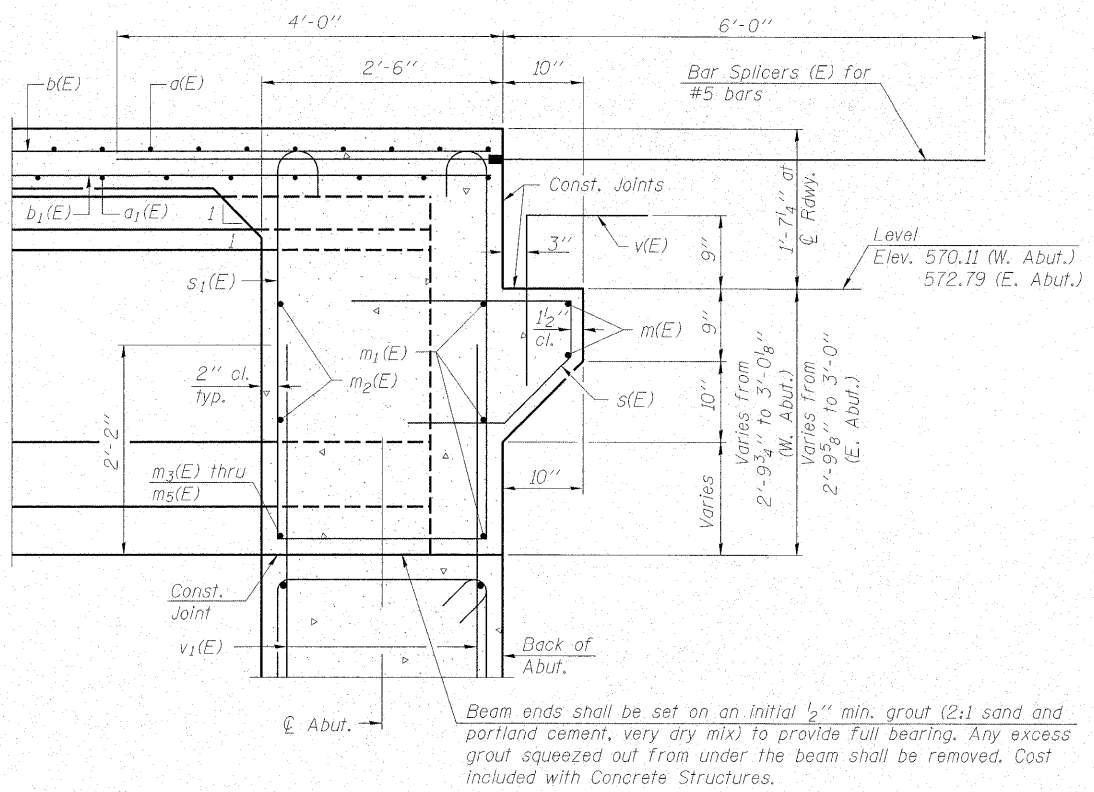
DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	LAD
CHECKED -	RJA

DIAPHRAGM DETAILS  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12
FAP 773 IL 121	108BR- 3JB-1	CUMBERLAND	96	47	22 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

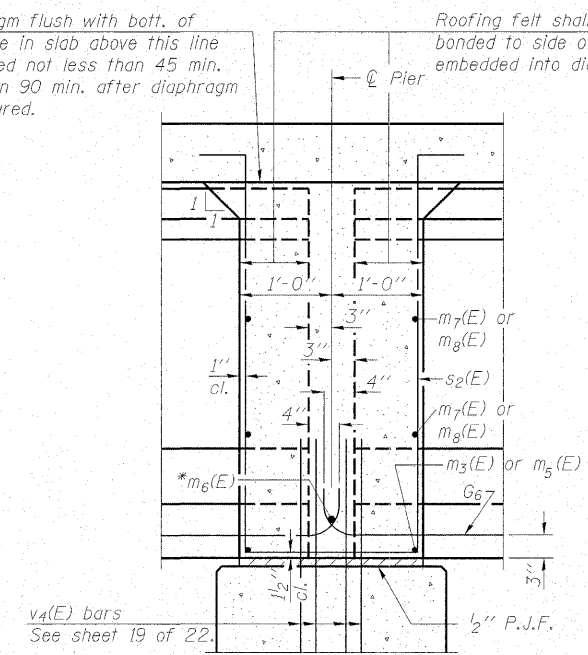
Contract # 74237



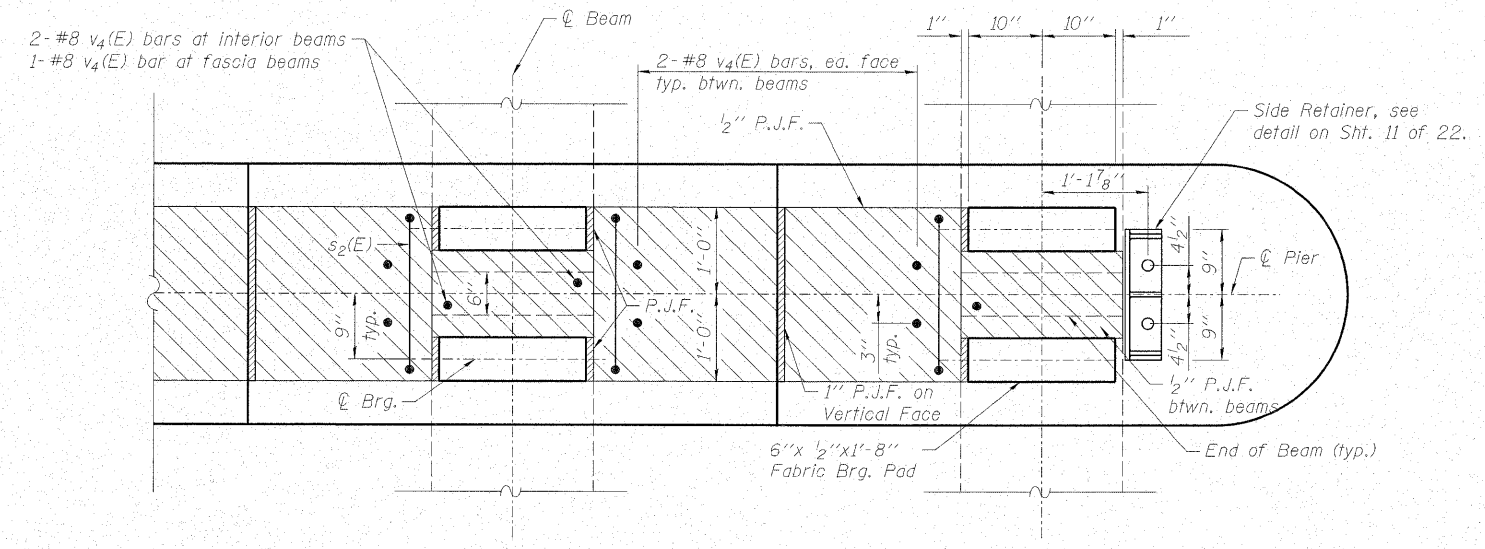
SECTION A-A

Pour diaphragm flush with bott. of slab. Concrete in slab above this line shall be placed not less than 45 min. nor more than 90 min. after diaphragm has been poured.

Roofing felt shall be bonded to side of beam embedded into diaphragm.



SECTION B-B



PLAN AT PIER  
(Showing bearing pad and P.J.F. details.)

Note:  
See sheet 11 of 22 for location of Sections A-A and B-B.

<b>MAURER &amp; STUTZ, INC.</b> ENGINEERS SURVEYORS	
DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	SGM
CHECKED -	RJA

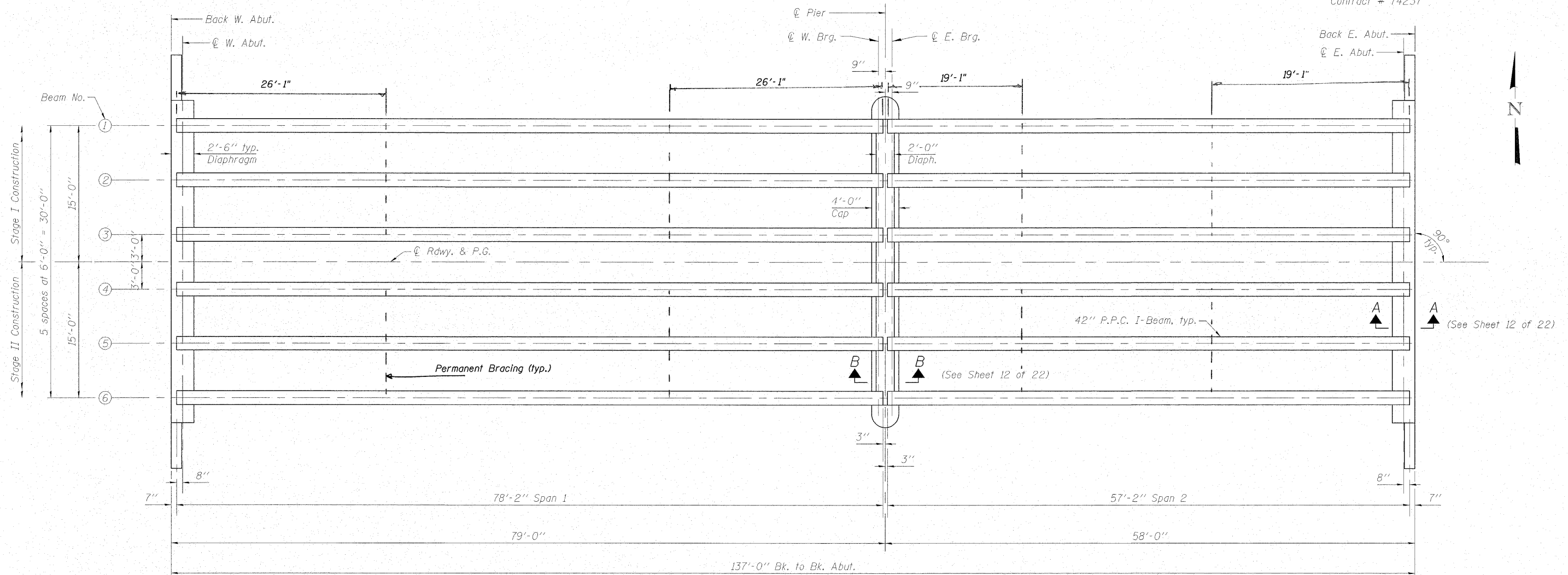
DIAPHRAGM DETAILS  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 773 IL 121	(108BR- 3)B-1	CUMBERLAND	96	48
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 13  
22 SHEETS

Contract # 74237



**FRAMING PLAN**

	0.4 Sp. 1	Pier	0.6 Sp. 2
$I$	90956	90956	90956
$I'$	267907	—	267907
$S_b$	5153	5153	5153
$S_b'$	8665	—	8665
$S_t$	3736	3736	3736
$S_t'$	24179	—	24179
$DC1$	1.102	1.102	1.102
$M_{DC1}$	799.4	—	425.9
$DC2$	0.150	0.150	0.150
$M_{DC2}$	72.4	91.0	21.6
$DW$	0.267	0.267	0.267
$M_{DW}$	128.9	162.0	38.4
$M_L + Imp$	871.6	773.3	624.8

- $I$ : Non-composite moment of inertia of beam section ( $in^4$ ).
- $I'$ : Composite moment of inertia of beam section ( $in^4$ ).
- $S_b$ : Non-composite section modulus for the bottom fiber of the prestressed beam ( $in^3$ ).
- $S_b'$ : Composite section modulus for the bottom fiber of the prestressed beam ( $in^3$ ).
- $S_t$ : Non-composite section modulus for the top fiber of the prestressed beam ( $in^3$ ).
- $S_t'$ : Composite section modulus for the top fiber of the prestressed beam ( $in^3$ ).
- $DC1$ : Un-factored non-composite dead load (kips/ft.).
- $M_{DC1}$ : Un-factored moment due to non-composite dead load (kip-ft.).
- $DC2$ : Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- $M_{DC2}$ : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- $DW$ : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- $M_{DW}$ : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_L + Imp$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

	W. Abut.	Pier		E. Abut.
		Span 1	Span 2	
$R_{DC1}$	42.8	42.8	31.3	31.3
* $R_{DC2}$	4.7	6.4	6.4	2.7
* $R_{DW}$	8.3	11.4	11.4	4.7
* $R_L + Imp$	68.7	51.0	51.0	62.6
$R_{Total}$	124.5	111.6	100.1	101.3

\* The total  $R_{DC2}$ ,  $R_{DW}$  and  $R_L + Imp$  are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span.



DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

**FRAMING PLAN**  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

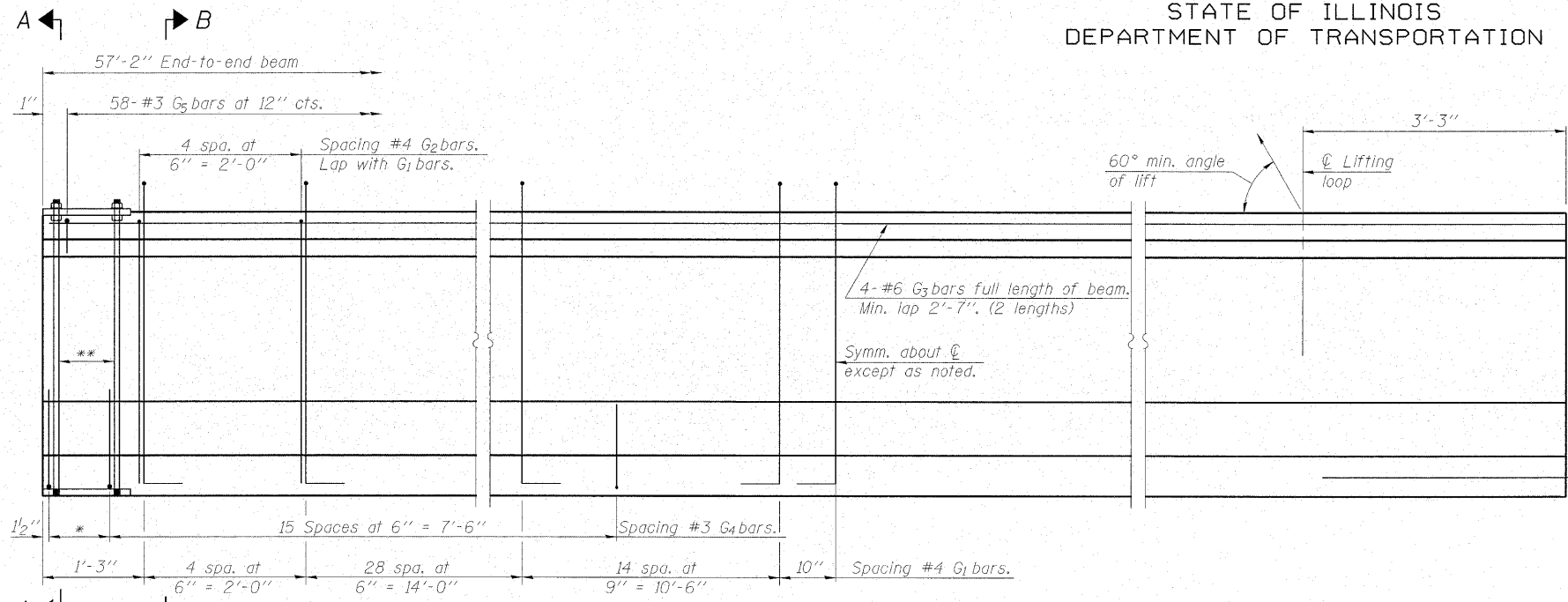




STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15
FAP 773 IL 121	(108BR-3)B-1	CUMBERLAND	96	50	22 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

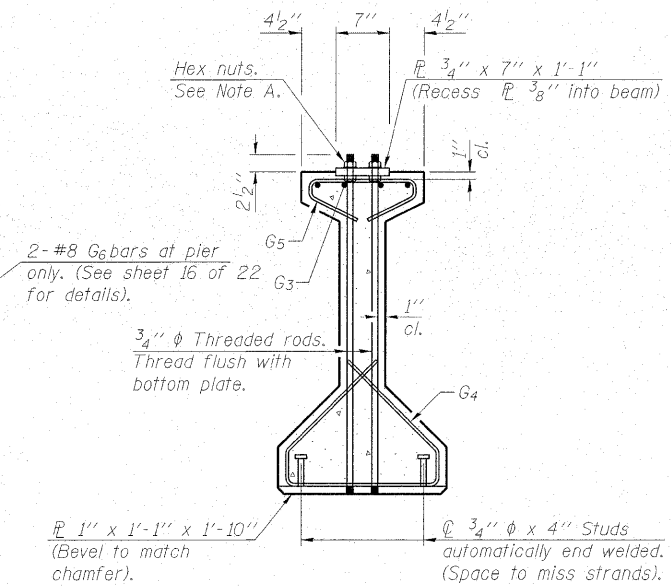
Contract # 74237



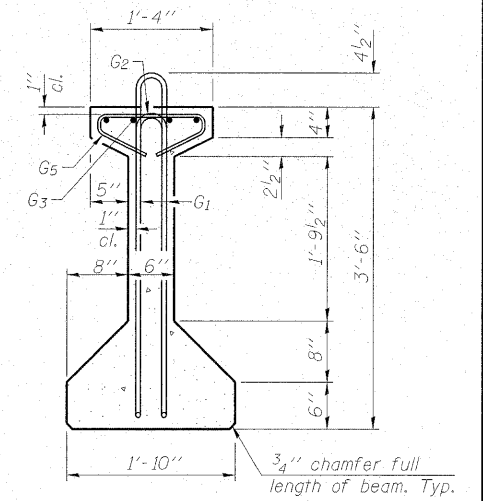
**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

\*3 spaces at 3" = 9".  
\*\*4-3/4"  $\phi$  threaded dowel rods at 3" cts., Each Face.

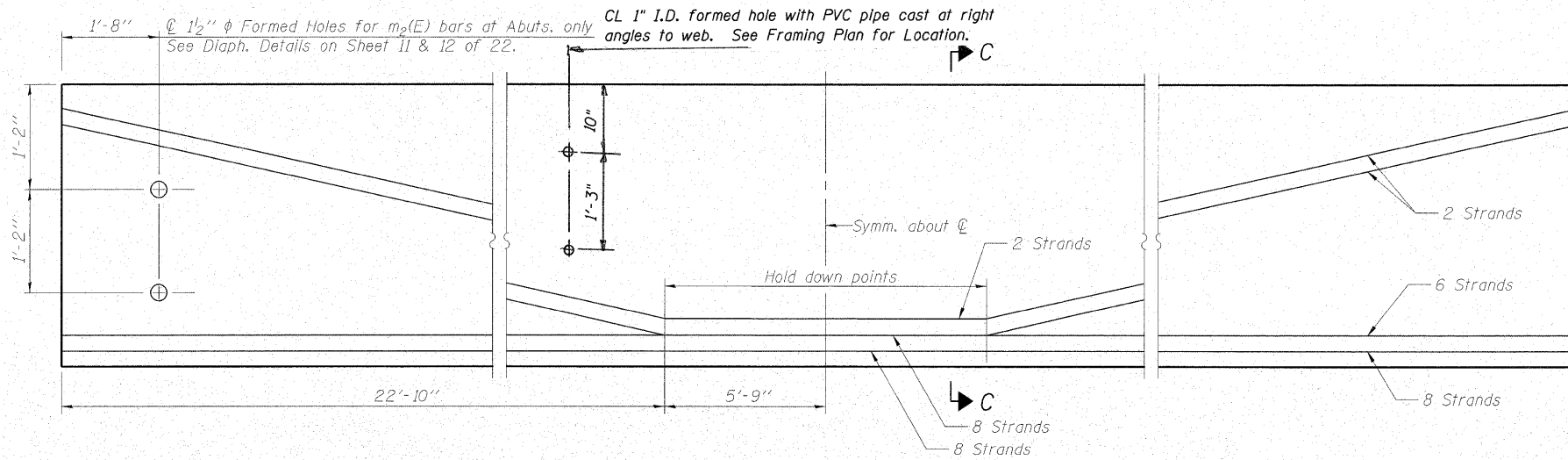
Note A:  
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



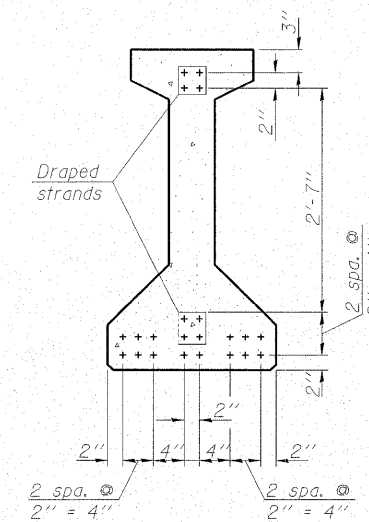
**SECTION A-A**



**SECTION B-B**



**ELEVATION OF BEAM**  
(Showing prestressing steel)



**SECTION C-C**

**\*\*\*BAR LIST  
ONE BEAM ONLY**

Bar	No.	Size	Length	Shape
G1	95	#4	8'-5"	∩ L
G2	10	#4	6'-8"	∩
G3	8	#6	29'-10"	—
G4	38	#3	4'-11"	U
G5	58	#3	2'-6"	U
G6	2	#8	3'-9"	U

\*\*\*For information only

Notes:  
See sheet 16 of 22 for additional details and Bill of Material.

Required release strength,  $f'ci$ , shall be 6000 psi.



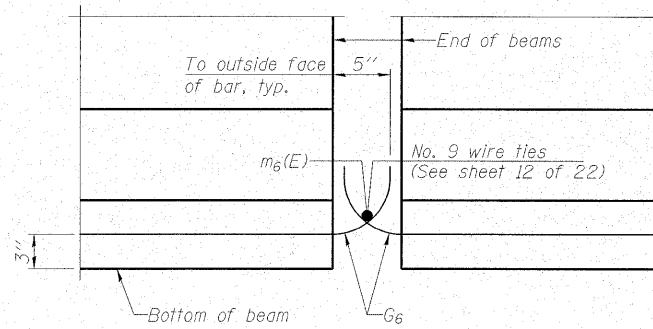
DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	SGM
CHECKED -	RJA

42" PPC I-BEAM (SPAN 2)  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062

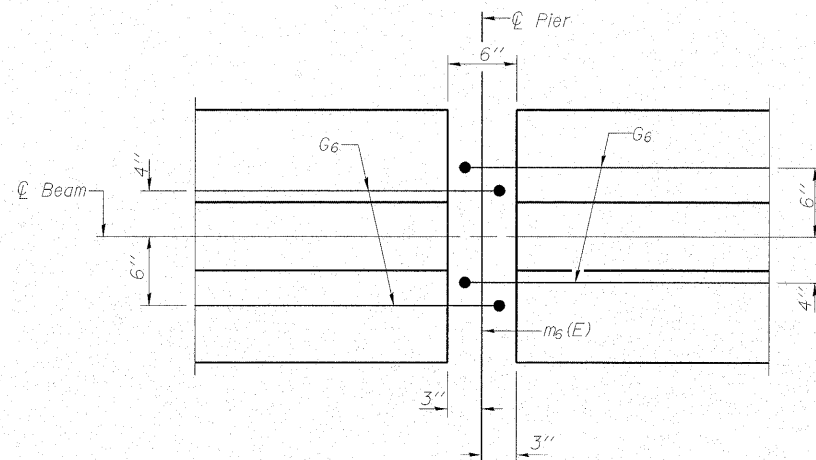
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.	SHEET NO. 16 22 SHEETS
FAP 773 IL 121	108BR- 31B-1	CUMBERLAND	96	51	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

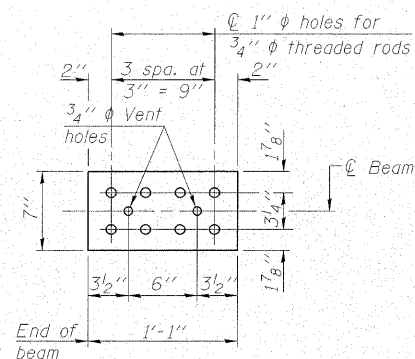
Contract # 74237



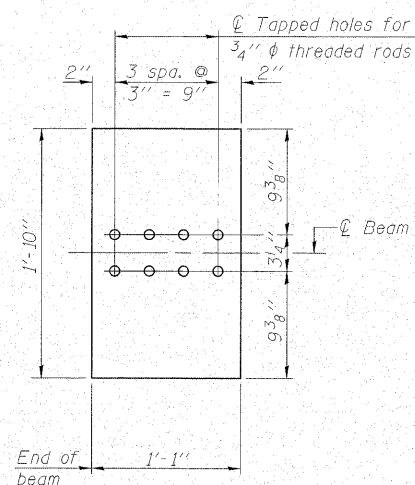
ELEVATION OF BEAM AT PIER



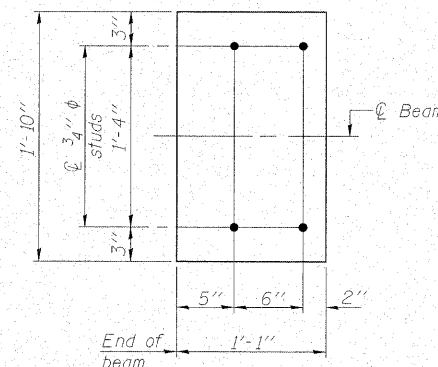
PLAN OF BEAM AT PIER



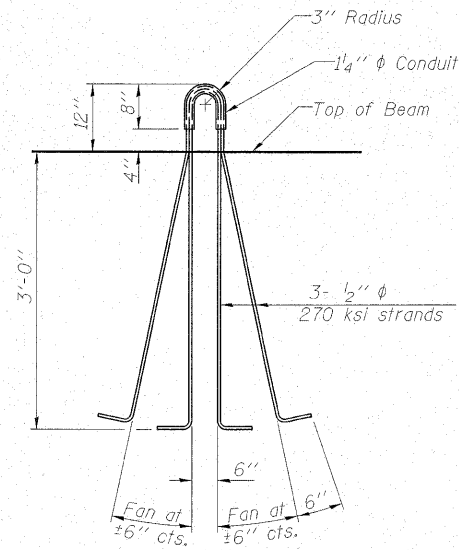
TOP PLATE



BOTTOM PLATE  
(Showing threaded rods)



BOTTOM PLATE  
(Showing studs)

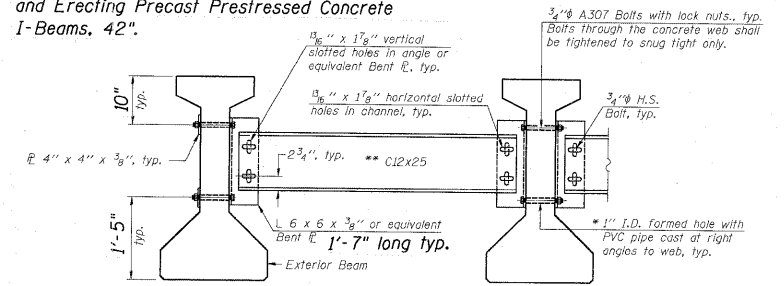


LIFTING LOOP DETAIL

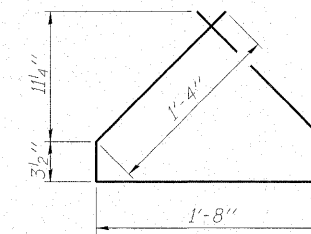
NOTES

- Inserts for 3/4"  $\phi$  threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.
- 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.
- Non-prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
- A minimum 2 1/2"  $\phi$  lifting pin shall be used to engage the lifting loops during handling.
- Cut G<sub>6</sub> bars when necessary to maintain 1 1/2" clearance.
- The top and bottom plates shall be AASHTO M270 Grade 50.
- The bottom plates and studs shall be galvanized according to AASHTO M111.
- Threaded rods shall be ASTM F 1554 Grade 55.

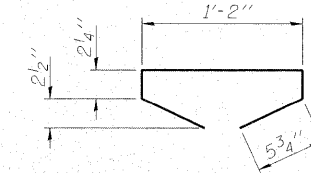
Cost of permanent bracing included with Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42".



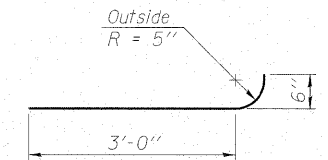
- Notes:
- All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
  - Two hardened washers are required for each set of oversized holes.
  - All holes shall be 5/8"  $\phi$  unless otherwise noted.
  - 5/8" x 3" x 3" plate washers are required over all slotted holes.
  - All bolts shall be galvanized according to AASHTO M232.
  - Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
  - Fabricator shall locate to miss strands within permissible tolerances.
  - Alternate C12x30 channels are permitted to facilitate material acquisition.
  - The alternate, if utilized, shall be provided at no extra cost to the Department.



BAR G4



BAR G5

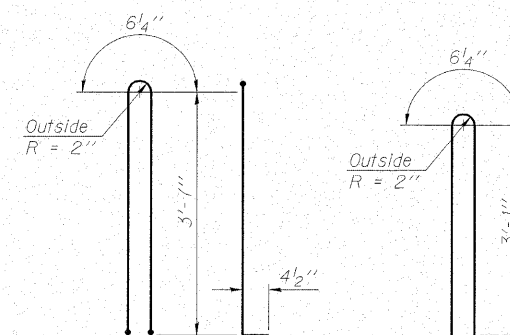


BAR G6

PERMANENT BRACING DETAILS

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42"	Ft.	812



BAR G1

BAR G2

42" PPC I-BEAM DETAILS  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062



DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

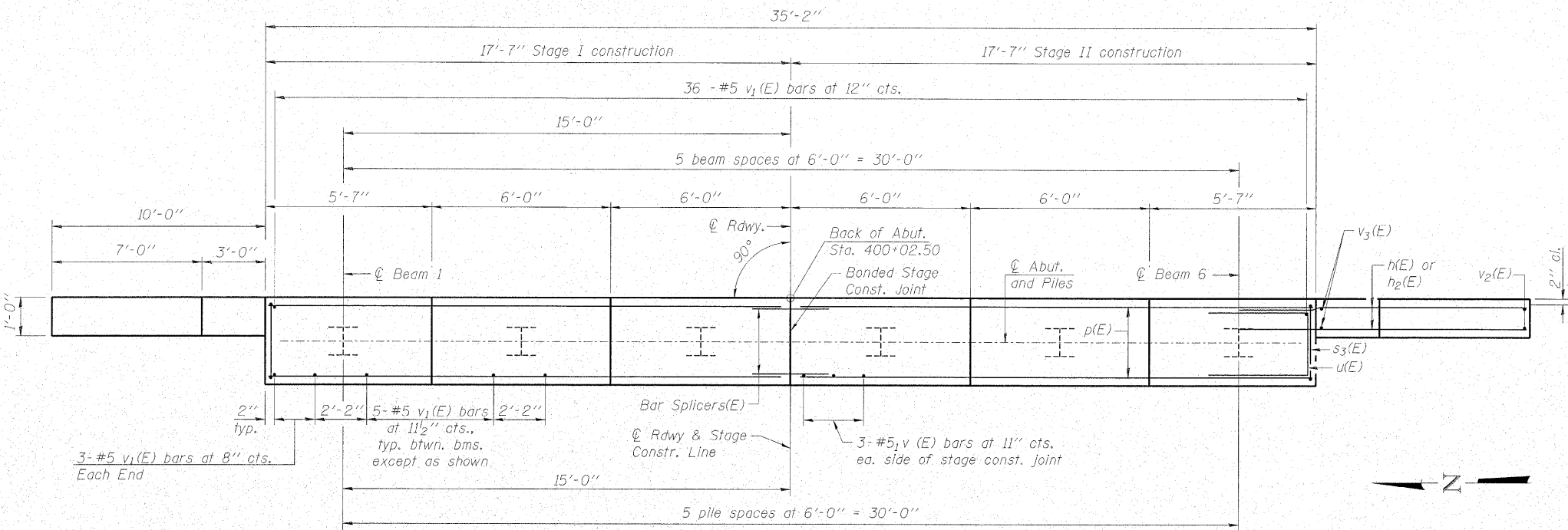
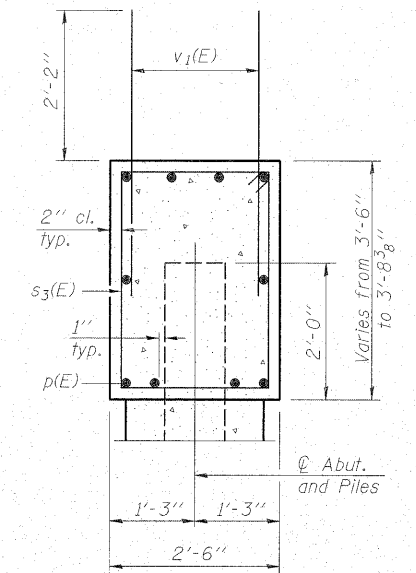
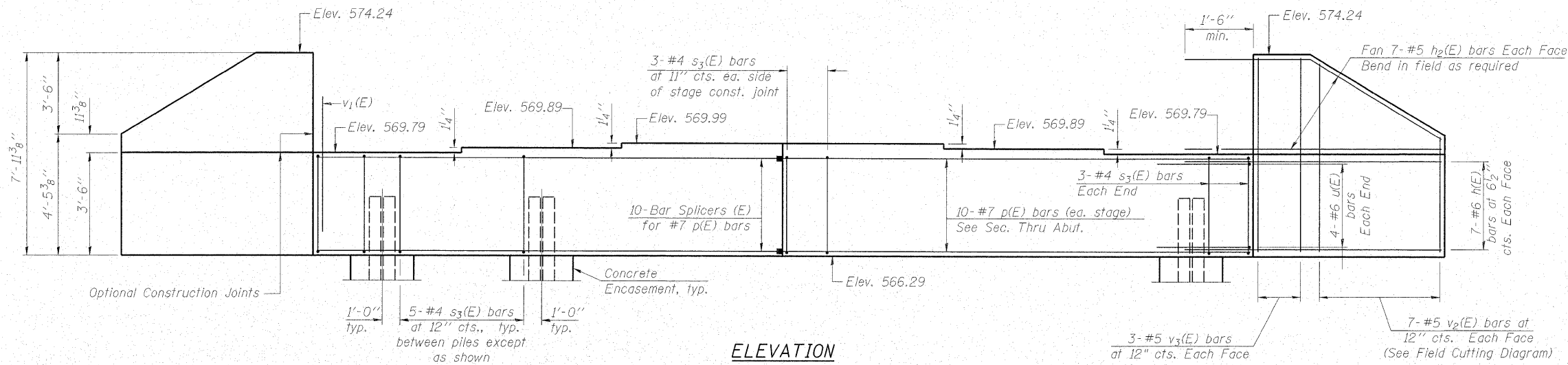


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 18 22 SHEETS
FAP 773 IL 121	(108BR- 3)B-1	CUMBERLAND	96	53	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

Notes: Four steps monolithically with cap.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	28	#6	12'-2"	—
h2(E)	28	#5	12'-2"	—
p(E)	20	#7	17'-3"	—
s3(E)	32	#4	11'-5"	□
u(E)	8	#6	7'-9"	□
v1(E)	68	#5	4'-4"	—
v2(E)	14	#5	11'-10"	—
v3(E)	12	#5	7'-8"	—
Structure Excavation		Cu. Yd.	56	
Concrete Structures		Cu. Yd.	16.7	
Concrete Encasement		Cu. Yd.	2.1	
Reinforcement Bars, Epoxy Coated		Pound	2490	
Furnishing Steel Piles HP12x63		Foot	165	
Driving Piles		Foot	165	
Test Pile Steel HP12x63		Each	1	

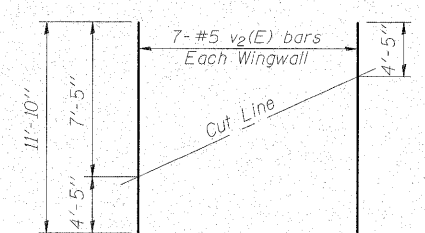
For details of Bar Splicers, see sheet 21 of 22.  
For details of piles and Concrete Encasement, see sheet 20 of 22.

**PILE DATA**

Type: Steel HP12x63  
Nominal Required Bearing: 497 kips  
Factored Resistance Available: 248 kips  
Est. Length: 33 feet  
No. Production Piles: 5  
No. Test Piles: 1

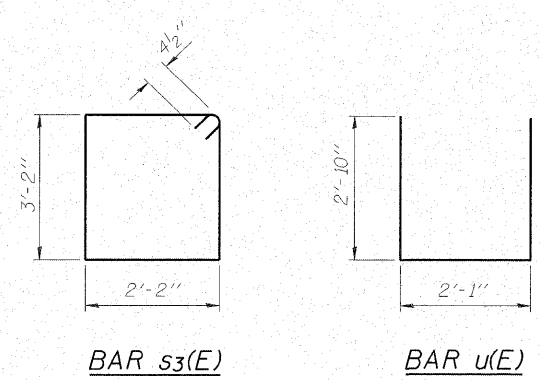


DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	LAD
CHECKED -	RJA



**FIELD CUTTING DIAGRAM**

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



**EAST ABUTMENT**  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 19 22 SHEETS
FAP 773 IL 121	(108BR- 3)B-1	CUMBERLAND	96	54	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

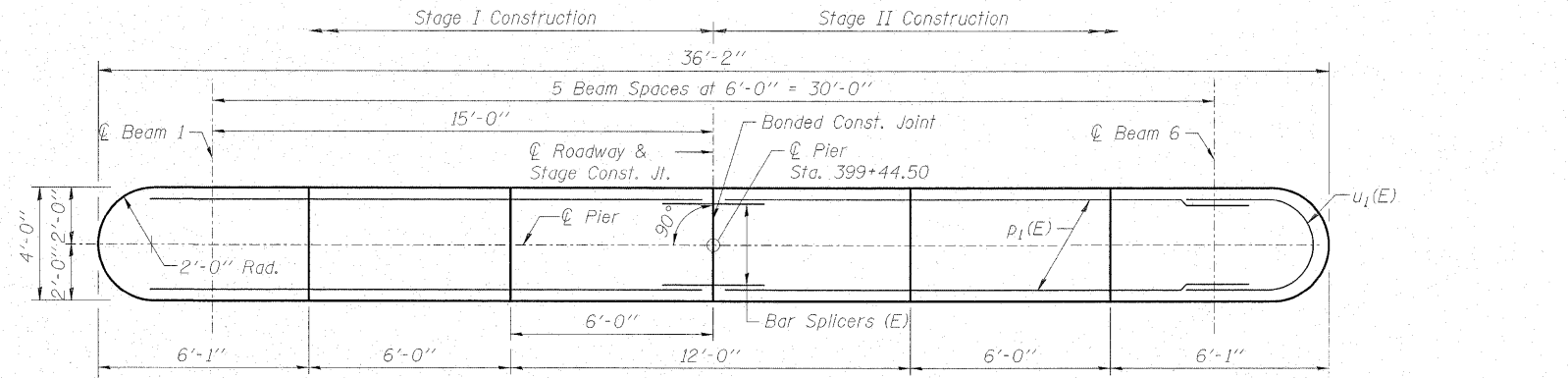
Contract # 74237

Notes:  
Four steps monolithically with cap.  
For details of piles, see sheet 20 of 22.  
For details of Bar Splicers, see sheet 21 of 22.  
Space reinforcement in cap to miss side retainer anchor bolts, see sheet 12 of 22.

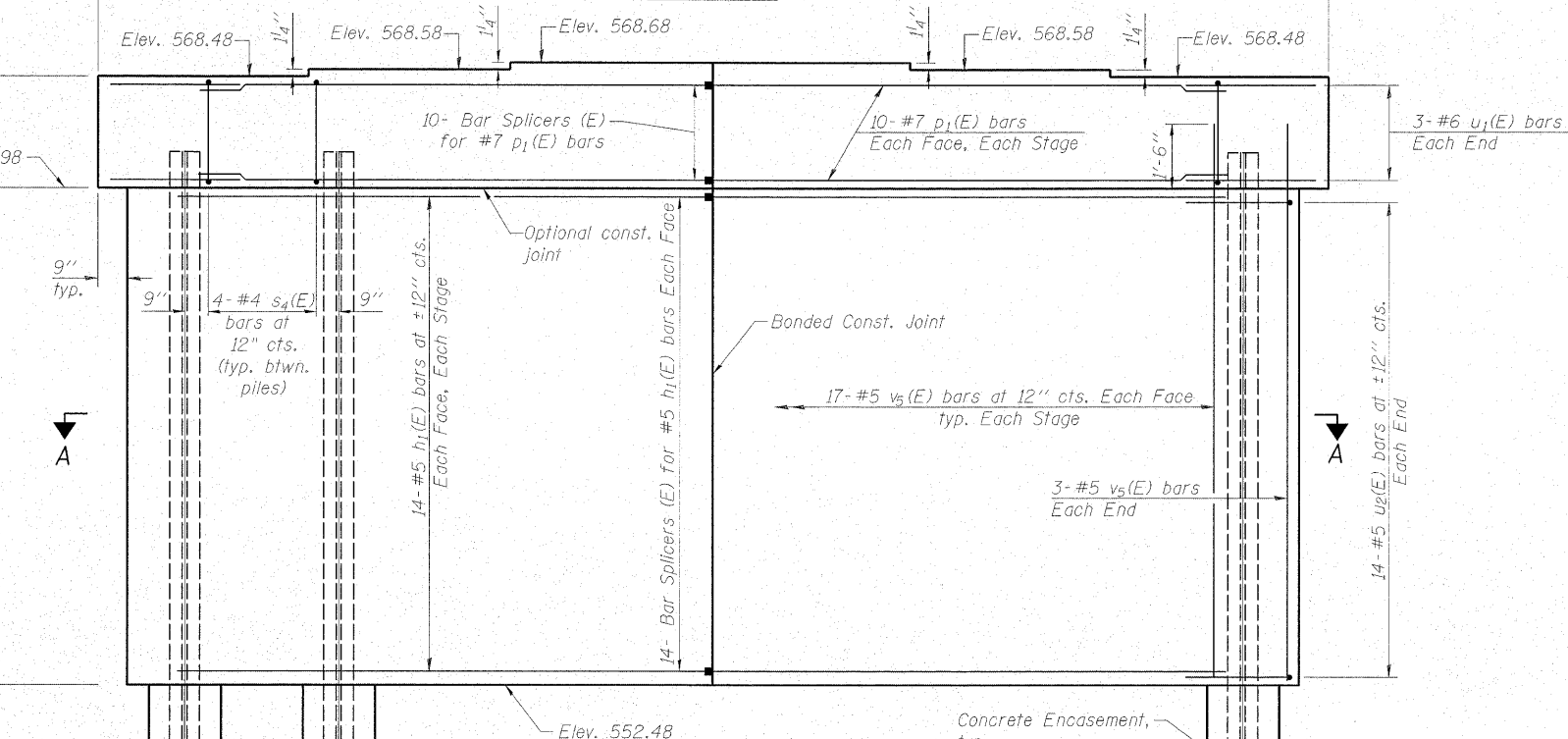
\*Estimated pile length has been increased by 2' to account for variability in rock elevation.

**PILE DATA**

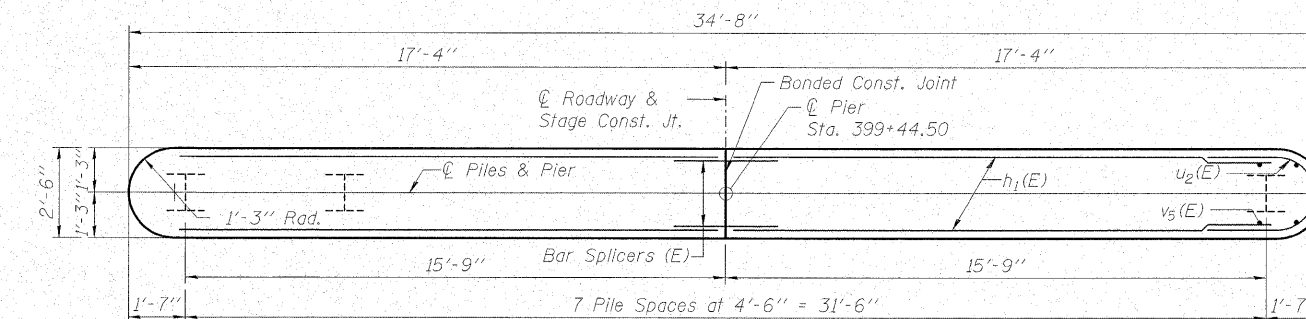
Type: Steel HP12x63  
Nominal Required Bearing: Set in Rock  
Factored Resistance Available: 216 kips  
\*Est. Length: 38 feet  
No. Production Piles: 8  
No. Test Piles: 0  
Est. Top of Rock Elev.: 539.2  
Rock Socket Depth: 8 feet  
Rock Socket Diameter: 2 feet



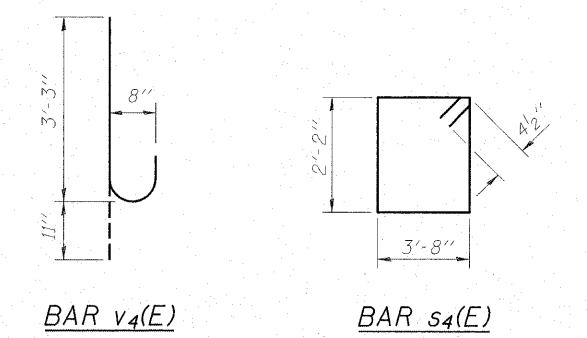
**TOP PLAN**



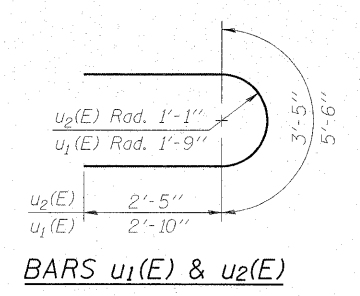
**ELEVATION**  
(Looking East)



**SECTION A-A**



**BAR v4(E)**      **BAR s4(E)**



**BARS u1(E) & u2(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1(E)	56	#5	16'-0"	—
p1(E)	20	#7	15'-11"	—
s4(E)	28	#4	12'-5"	□
u1(E)	6	#6	11'-2"	U
u2(E)	28	#5	8'-3"	U
v4(E)	30	#8	4'-2"	U
v5(E)	74	#5	14'-10"	—
Structure Excavation			Cu. Yd.	42
Concrete Structures			Cu. Yd.	56.3
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated			Pound	3640
Furnishing Steel Piles, HP12x63			Foot	304
Setting Piles in Rock			Each	8
Underwater Structure Excavation Protection, Location 1			Each	1

If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.

**PIER**

IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 21
FAP 773 IL 121	(108BR-3)B-1	CUMBERLAND	96	56	22 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

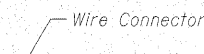
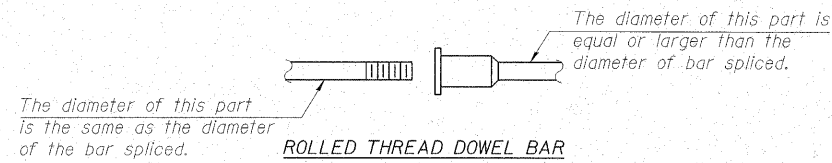
Contract # 74237

**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:

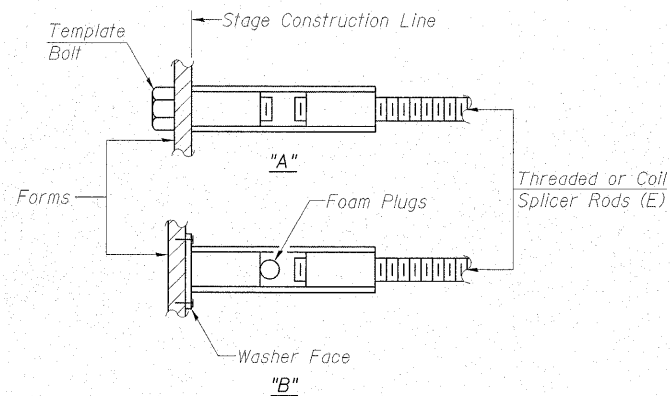
- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28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

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



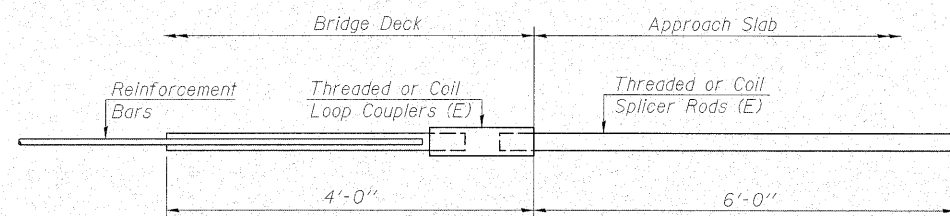
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



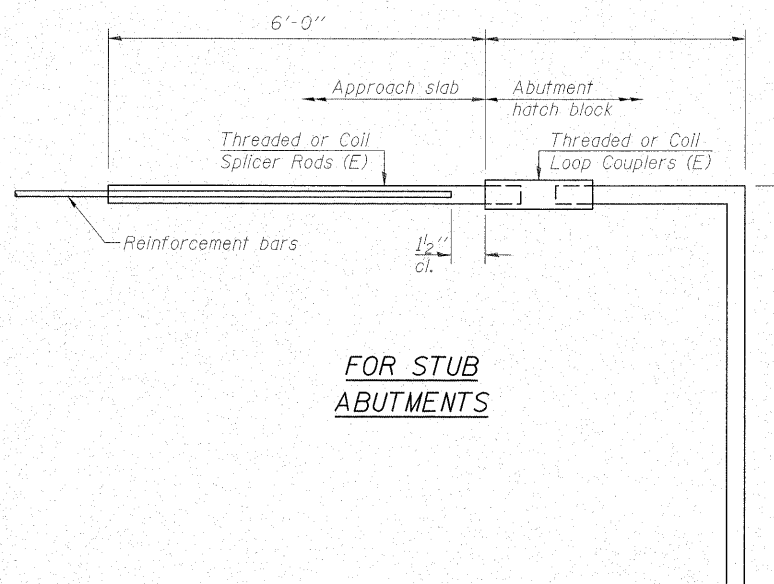
**INSTALLATION AND SETTING METHODS**

"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.



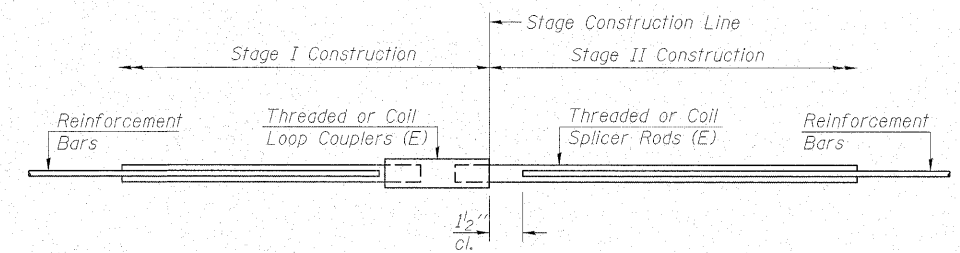
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 64



**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	371	Deck
#6	16	Abut. Diaph.
#4	4	Pier Diaph.
#6	2	Pier Diaph.
#7	20	Abutments
#7	10	Pier
#5	28	Pier

**BAR SPLICER ASSEMBLY DETAILS**  
IL ROUTE 121 OVER MULE CREEK  
F.A.P. RTE. 773 - SECTION (108BR-3)B-1  
CUMBERLAND COUNTY  
STATION 399+34.00  
STRUCTURE NO. 018-0062



DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

BSD-1 11-1-06





STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	58	25 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

Bench Mark #305- Brass Disk in top of concrete curb in southwest corner of structure (S.N. 018-0030) station 574+10; 16' Rt., Elev. 563.56.

Existing Structure- S.N. 018-0030; Built in 1928 as S.B.I. 131 Section 109-B at Station 574+84. Original structure is a 3-span reinforced concrete deck girder supported by closed concrete abutments and two concrete solid shaft piers on spread footings. The structure was reconstructed in 1981 as FA 773, Section 109B-1. The substructure was partially removed and widened and the superstructure was replaced and widened using PPC deck beams, 128'-7 1/4" bk. to bk. abutments, 33'-0" out to out of deck. Structure is to be removed and replaced with a 3-span 42" PPC I beam bridge on integral abutments. One lane traffic is to be maintained using stage construction.

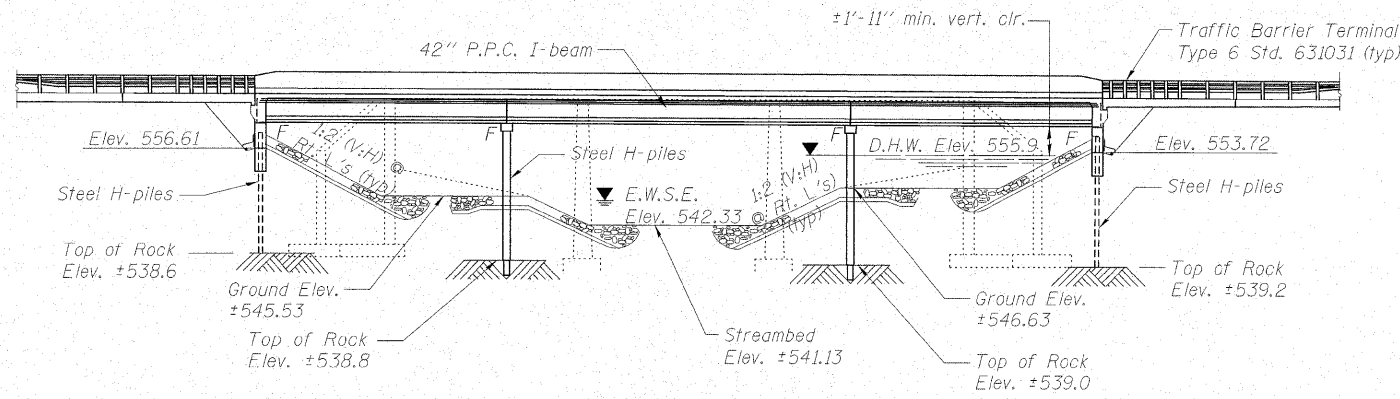
No Salvage-

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Notes, Total Bill of Material
- 3 Staging Details
- 4 Temporary Concrete Barrier
- 5-7 Top of Slab Elevations
- 8-9 Top of Approach Slab Elevations
- 10 Superstructure
- 11 Superstructure Details
- 12 Drainage Scupper, DS-II
- 13-14 Diaphragm Details
- 15 Framing Plan
- 16-17 42" PPC I-Beam
- 18 42" PPC I-Beam Details
- 19 West Abutment
- 20 East Abutment
- 21 Pier 1
- 22 Pier 2
- 23 Steel H-Pile Details
- 24 Bar Splicer Assembly Details
- 25 Soil Borings

STATION 574+84.00  
BUILT 200 BY  
STATE OF ILLINOIS  
F.A.P. RTE. 773 SEC. (109B)B-1  
LOADING HL93  
STRUCTURE NO. 018-0063

NAME PLATE  
See Std. 515001



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	556.8	537.4	537.7	553.8

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications - 4th ed.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS

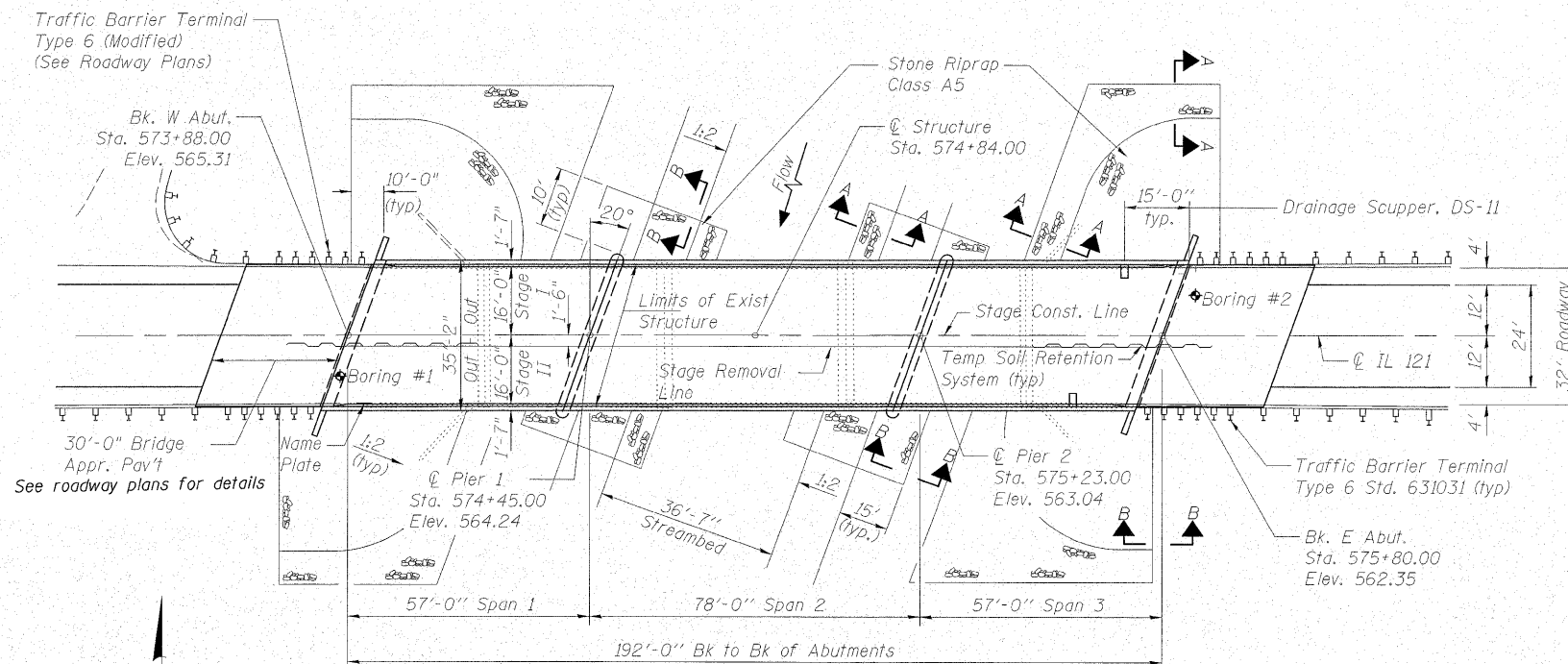
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 7,000$  psi  
 $f'_{ci} = 6,000$  psi  
 $f'_s = 270,000$  psi (1/2"  $\phi$  low lax strands)  
 $f_{si} = 201,960$  psi (1/2"  $\phi$  low lax strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Bedrock Acceleration Coefficient (A) = 0.067 g  
Site Coefficient (S) = 1.5



APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

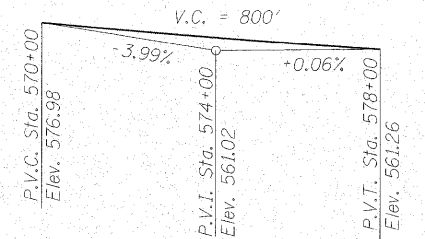
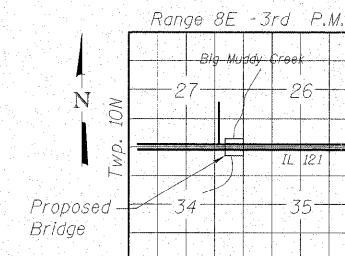
*Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

WATERWAY INFORMATION

Proposed Low Grade Elev. = 561.16 @ Sta. 581+00  
Existing Low Grade Elev. = 561.16 @ Sta. 581+00

Drainage Area = 57.8 mi. <sup>2</sup>	Flood		Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Nat. H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.		
	10	6265	769	1432	554.6	2.0	1.3	556.6	555.9	
	Design	50	9939	891	1640	555.9	3.7	2.2	559.6	558.1
	Base	100	11572	938	1722	556.4	5.1	2.5	561.5	558.9
	Overtopping									
	Max. Calc.	500	15570	1041	1904	557.5	4.6	3.5	562.1	561.0

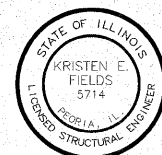
10-Year Velocity through Existing Bridge = 7.80 fps  
10-Year Velocity through Proposed Bridge = 3.87 fps



GENERAL PLAN AND ELEVATION  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA



*Kristen E. Fields*  
Date Signed: 1-12-09  
Exp. Date: 11-30-10



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	59	25 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

Contract # 74237

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

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

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.

All embedded and separate bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 (as applicable).

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 structure. An Existing Structure Information Package is available upon request as noted in the Special Provisions.

The Contractor shall submit Structural Assessment Report(s) as required for the Contractor's means and methods of construction. See Special Provisions.

The Contractor shall retain the services of an engineering firm, prequalified in the IDOT consultant selection category of Highway Bridges-Typical for preparation of the Structural Assessment Report(s). Contractor's pre-approval shall not be applicable for this project. See Special Provision.

Current Ratings on file for Existing Structure

Inventory: HS 23.8

Operating: HS 39.8

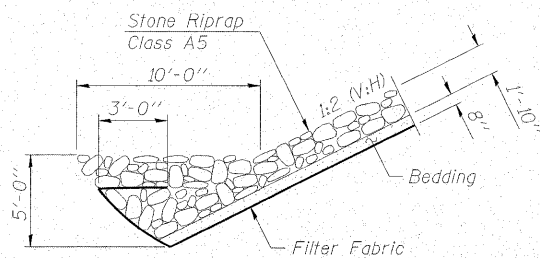
Live Load Restrictions: No

Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

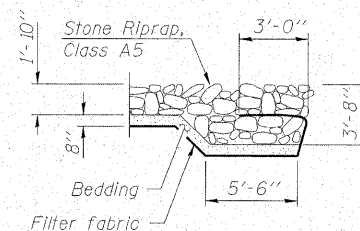
Slipforming of parapets shall not be permitted.

**TOTAL BILL OF MATERIAL**

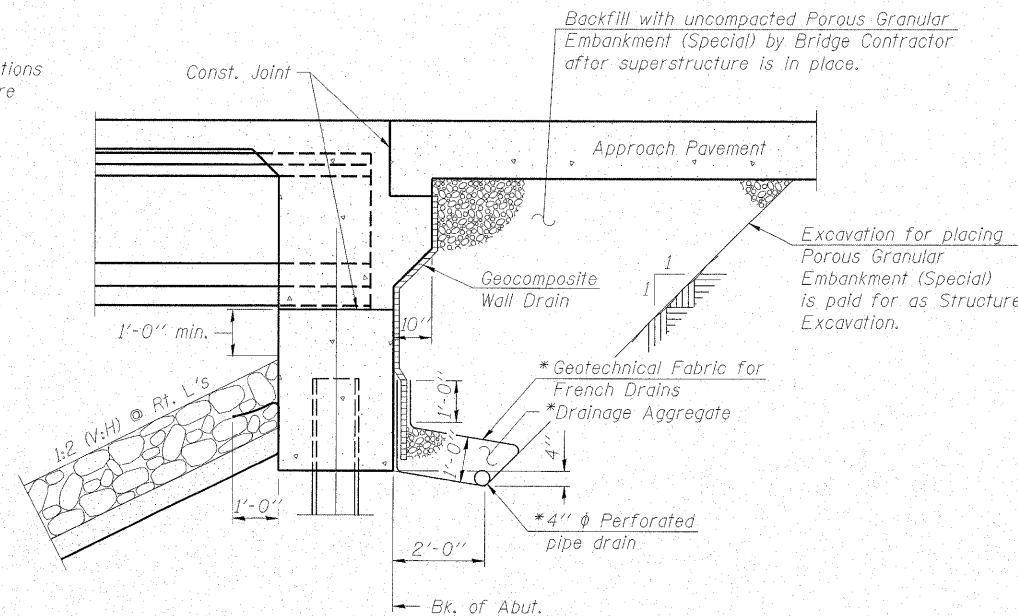
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		116	116
Stone Riprap, Class A5	Sq. Yd.		1722	1722
Filter Fabric	Sq. Yd.		1722	1722
Removal of Existing Structures No. 2	Each			1
Structure Excavation	Cu. Yd.		340	340
Concrete Structures	Cu. Yd.		179.0	179.0
Concrete Superstructure	Cu. Yd.	258.2		258.2
Bridge Deck Grooving	Sq. Yd.	840		840
Concrete Encasement	Cu. Yd.		5.6	5.6
Protective Coat	Sq. Yd.	843		843
Furnishing and Erecting Precast Prestressed Concrete I Beams, 42"	Foot	1137		1137
Reinforcement Bars, Epoxy Coated	Pound	58420	14080	72500
Bar Splicers	Each	614	106	720
Furnishing Steel Piles HP12x63	Foot		731	731
Driving Piles	Foot		235	235
Test Pile Steel HP12x63	Each		2	2
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		81	81
Pipe Underdrains for Structures, 4"	Foot		157	157
Drainage Scupper, DS-11	Each	2		2
Temporary Soil Retention System	Sq. Ft.		966	966
Underwater Structure Excavation Protection, Location 2	Each		1	1
Underwater Structure Excavation Protection, Location 3	Each		1	1
Asbestos Bearing Pad Removal	Each		44	44
Setting Piles in Rock	Each		16	16



SECTION A-A



SECTION B-B



SECTION THRU INTEGRAL ABUTMENT  
(Horiz. dim. @ Rt. L's)

\* 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).



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

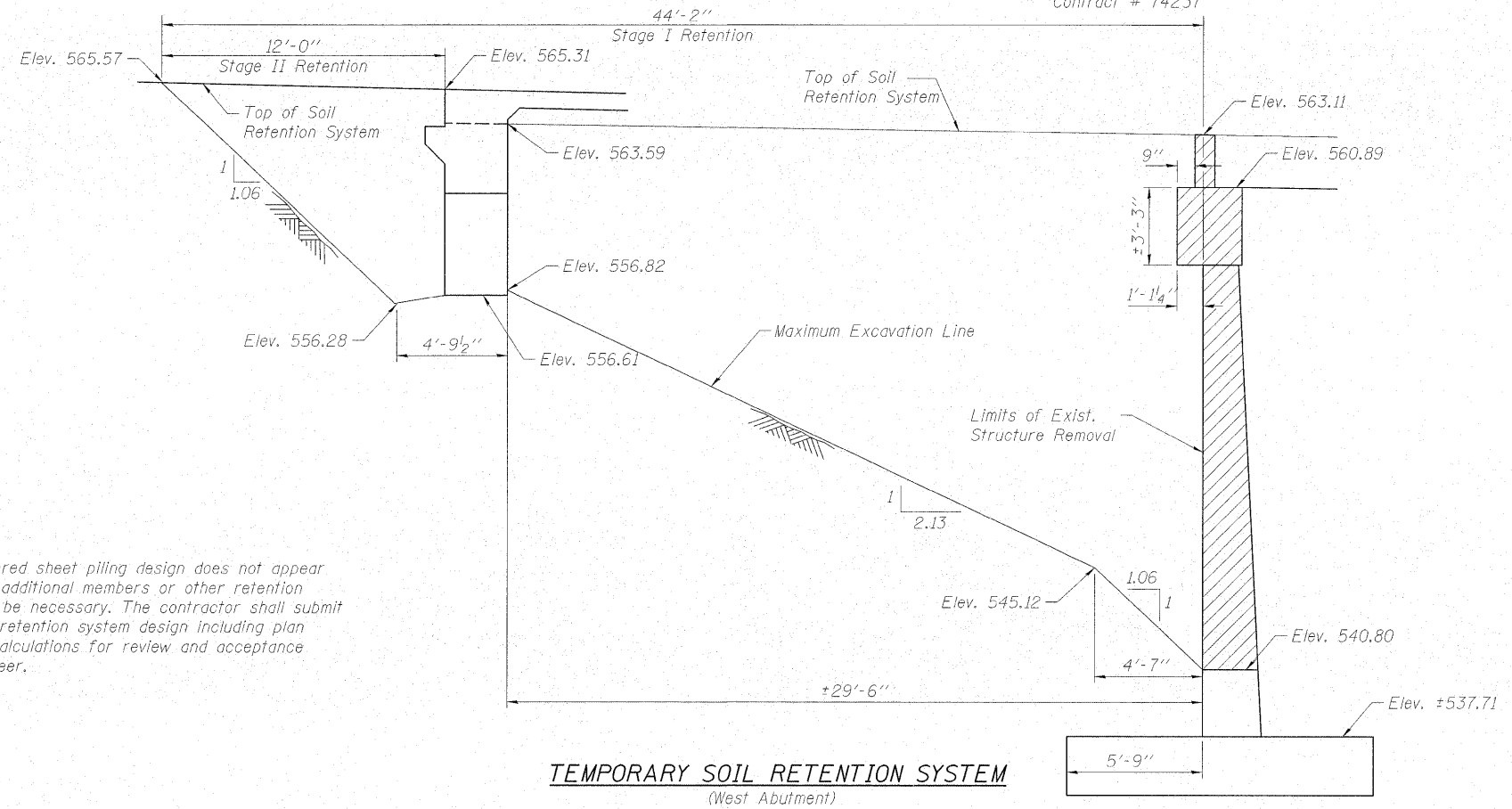
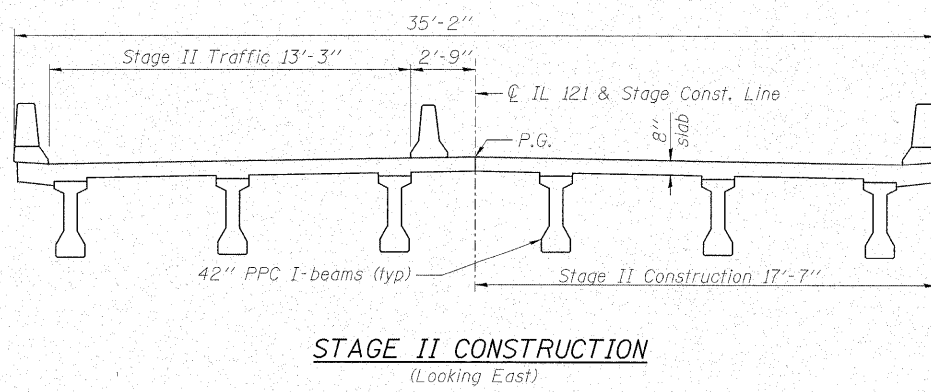
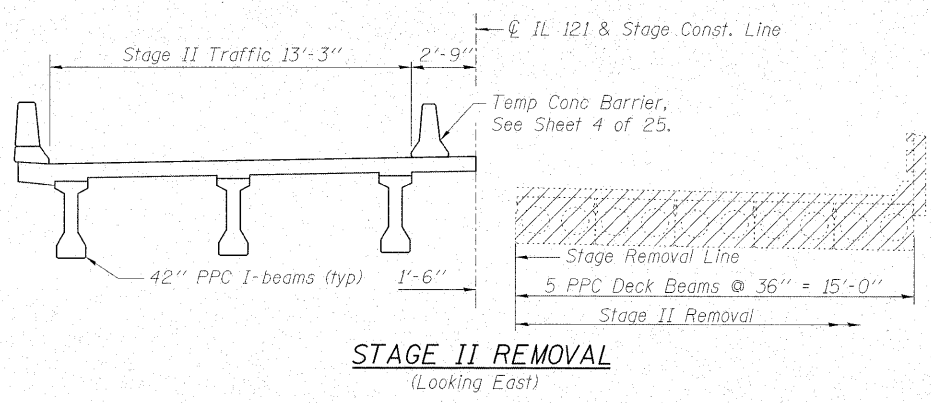
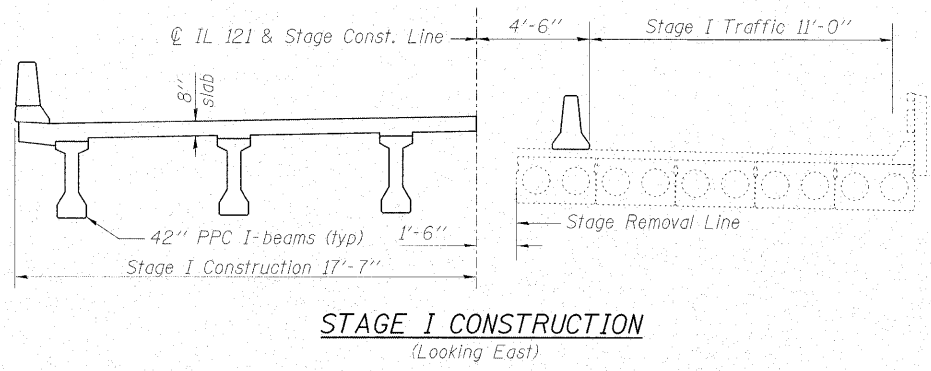
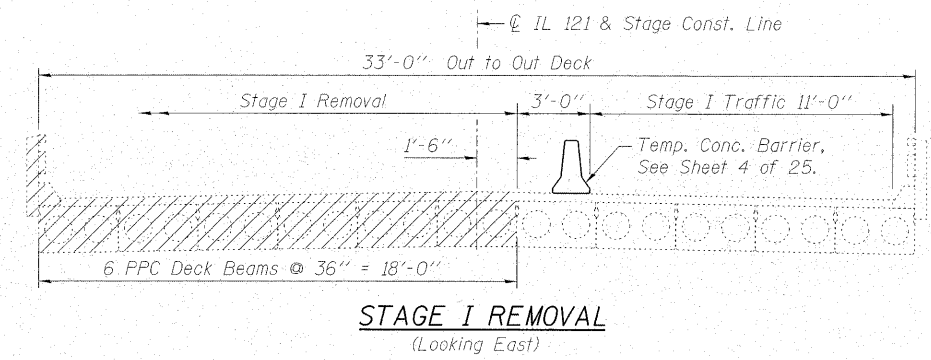
**GENERAL NOTES,**  
**TOTAL BILL OF MATERIAL**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

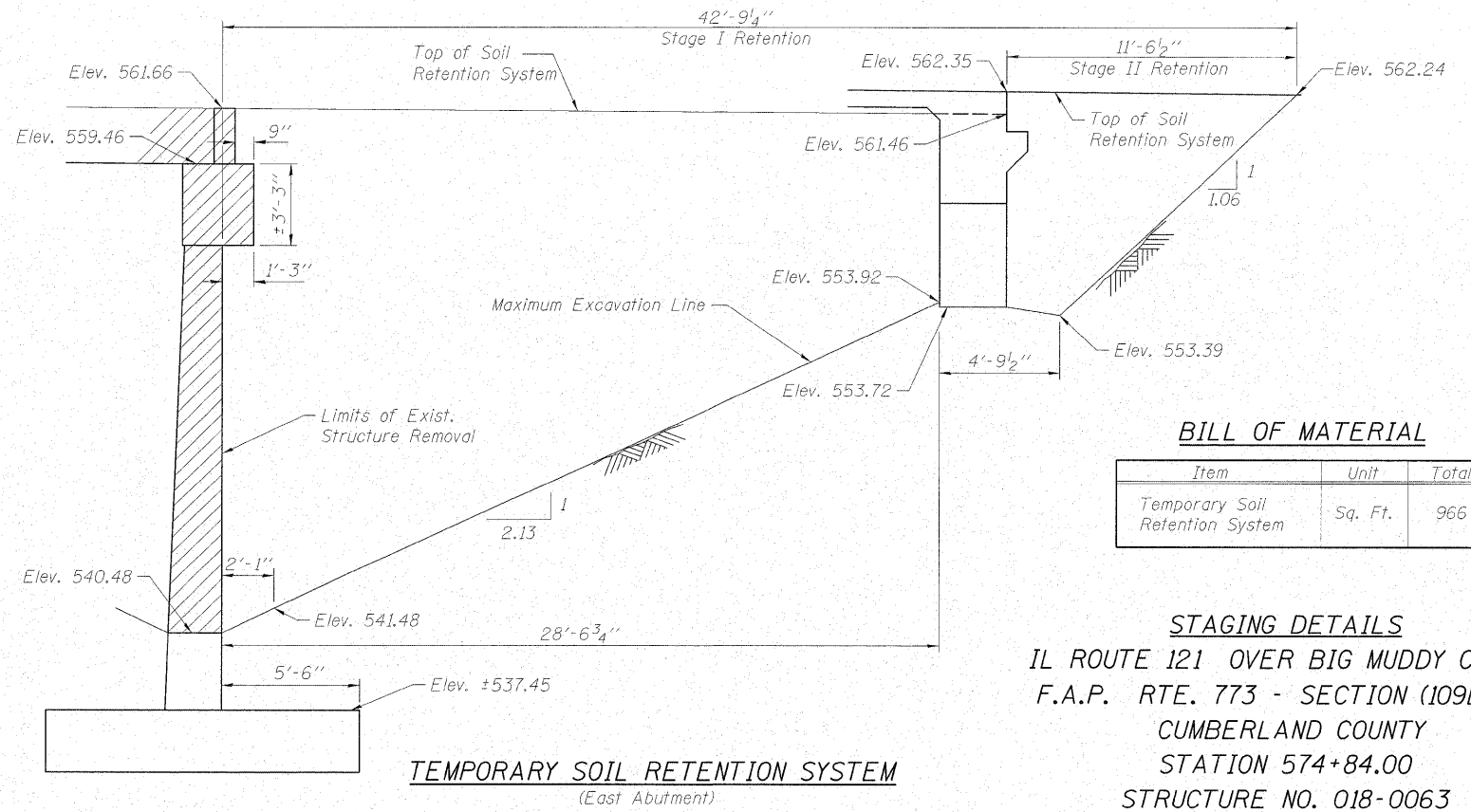
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	60
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Contract # 74237

SHEET NO. 3  
25 SHEETS



Note:  
A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The contractor shall submit a temporary retention system design including plan details and calculations for review and acceptance by the Engineer.



**BILL OF MATERIAL**

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	966

**STAGING DETAILS**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

- STAGING NOTES:**
- Hatched areas indicate "Removal of Existing Structures".
  - For quantities of "Temporary Concrete Barrier", see Roadway Plans.

**MAURER & STUTZ, INC.**  
ENGINEERS SURVEYORS

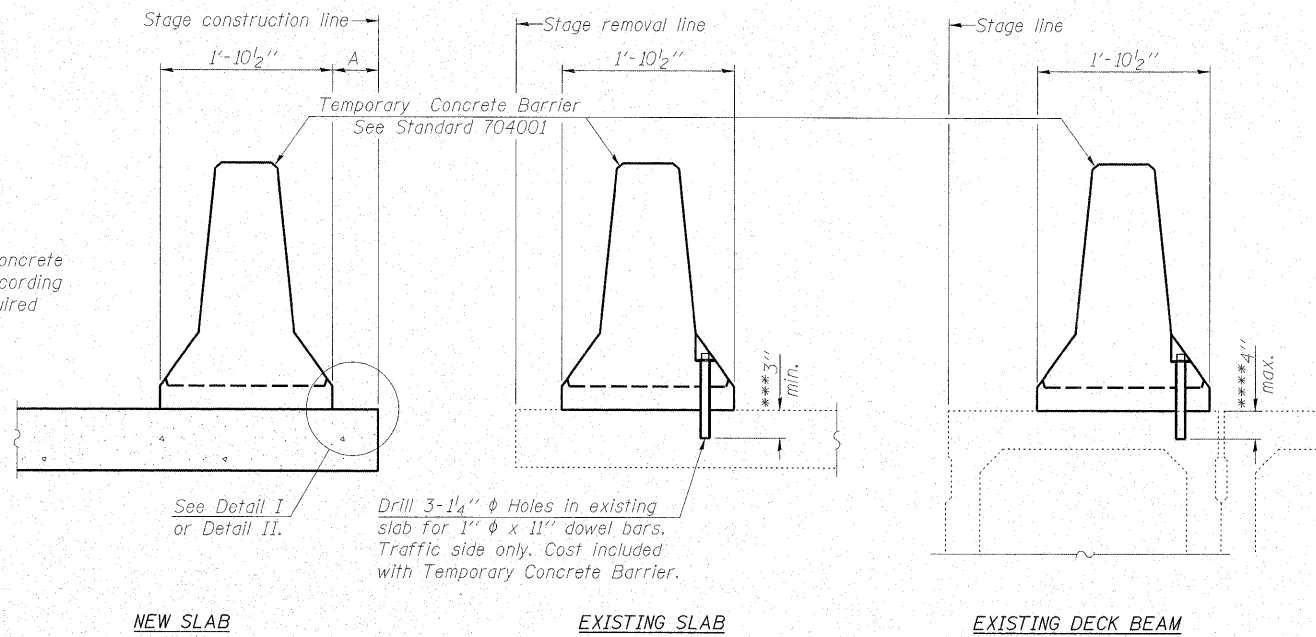
DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	61	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

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



NEW SLAB

EXISTING SLAB

EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

NOTES

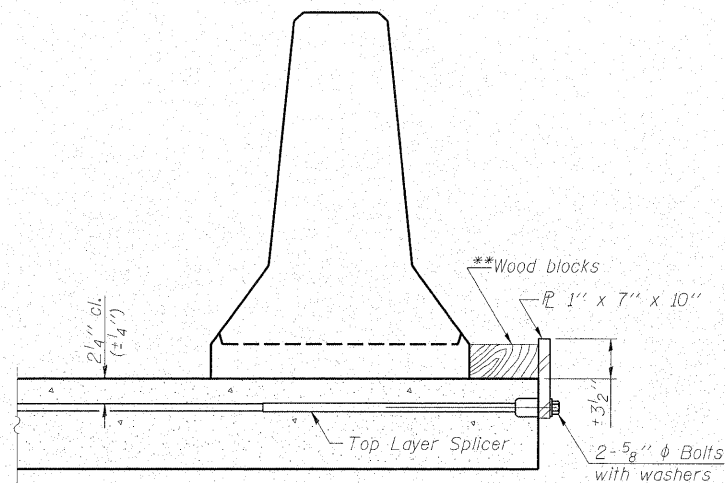
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" phi bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel PL to the concrete slab or concrete wearing surface with 2-5/8" phi Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

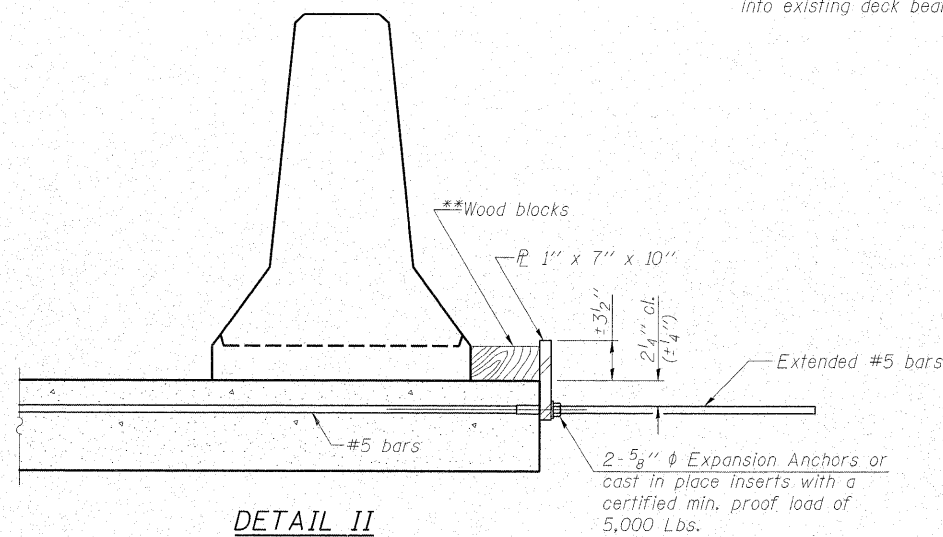
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

\*\*\*Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

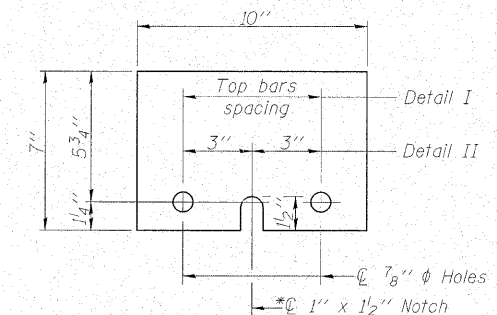
\*\*\*If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1" x 7" x 10"

\*Required only with Detail II

TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063



DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	SGM
CHECKED -	RJA

R-27

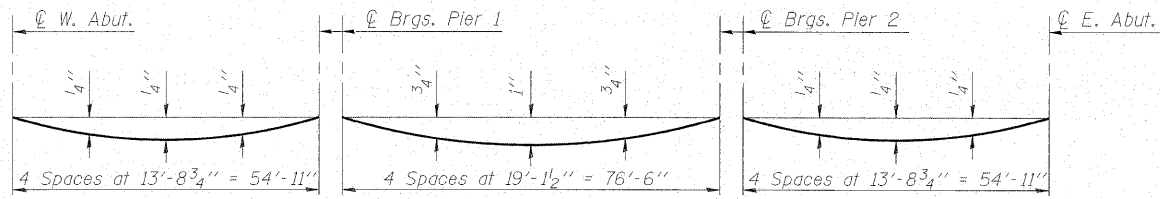
5-16-08

\*\*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.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

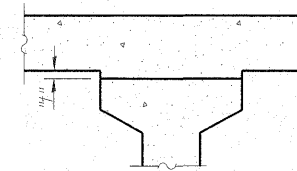
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	62	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT#			

Contract # 74237



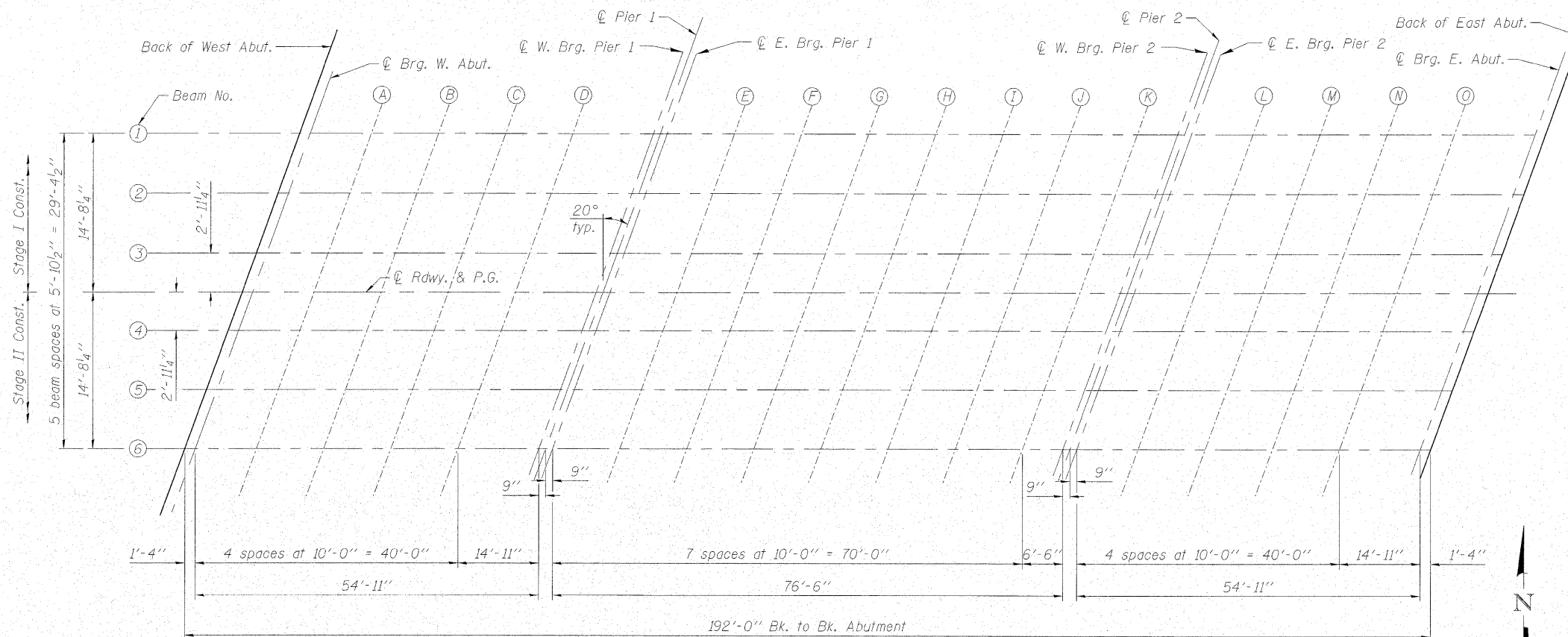
**DEAD LOAD DEFLECTION DIAGRAM**  
(Includes weight of concrete, excluding beams).

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 sheets 5 thru 7 of 25.



To determine "f": After all precast prestressed beams have 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 Deflections" shown below, minus slab thickness, equals the fillet heights "f" above top flanges of beams.

**FILLET HEIGHTS**



**PLAN**

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	573+93.35	-14.69	564.96	564.96
CL Brg. W. Abut.	573+94.68	-14.69	564.93	564.93
A	574+04.68	-14.69	564.74	564.75
B	574+14.68	-14.69	564.54	564.57
C	574+24.68	-14.69	564.36	564.38
D	574+34.68	-14.69	564.18	564.19
CL W. Brg. Pier 1	574+49.60	-14.69	563.91	563.91
CL E. Brg. Pier 1	574+51.10	-14.69	563.89	563.89
E	574+61.10	-14.69	563.72	563.76
F	574+71.10	-14.69	563.56	563.62
G	574+81.10	-14.69	563.40	563.48
H	574+91.10	-14.69	563.25	563.34
I	575+01.10	-14.69	563.10	563.18
J	575+11.10	-14.69	562.96	563.01
K	575+21.10	-14.69	562.82	562.84
CL W. Brg. Pier 2	575+27.60	-14.69	562.73	562.73
CL E. Brg. Pier 2	575+29.10	-14.69	562.71	562.71
L	575+39.10	-14.69	562.58	562.60
M	575+49.10	-14.69	562.46	562.48
N	575+59.10	-14.69	562.34	562.36
O	575+69.10	-14.69	562.23	562.25
CL Brg. E. Abut.	575+84.02	-14.69	562.07	562.07
Back of East Abut.	575+85.35	-14.69	562.05	562.05



DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	LAD
CHECKED -	RJA

**TOP OF SLAB ELEVATIONS**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	63
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

SHEET NO. 6  
25 SHEETS

Contract # 74237

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	573+91.21	-8.81	565.11	565.11
CL Brg. W. Abut.	573+92.54	-8.81	565.08	565.08
A	574+02.54	-8.81	564.88	564.90
B	574+12.54	-8.81	564.69	564.71
C	574+22.54	-8.81	564.50	564.53
D	574+32.54	-8.81	564.32	564.34
CL W. Brg. Pier 1	574+47.46	-8.81	564.06	564.06
CL E. Brg. Pier 1	574+48.96	-8.81	564.03	564.03
E	574+58.96	-8.81	563.86	563.90
F	574+68.96	-8.81	563.70	563.76
G	574+78.96	-8.81	563.54	563.62
H	574+88.96	-8.81	563.38	563.47
I	574+98.96	-8.81	563.24	563.31
J	575+08.96	-8.81	563.09	563.15
K	575+18.96	-8.81	562.95	562.98
CL W. Brg. Pier 2	575+25.46	-8.81	562.87	562.87
CL E. Brg. Pier 2	575+26.96	-8.81	562.85	562.85
L	575+36.96	-8.81	562.72	562.73
M	575+46.96	-8.81	562.59	562.61
N	575+56.96	-8.81	562.47	562.49
O	575+66.96	-8.81	562.36	562.37
CL Brg. E. Abut.	575+81.88	-8.81	562.20	562.20
Back of East Abut.	575+83.21	-8.81	562.18	562.18

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	573+89.07	-2.94	565.24	565.24
CL Brg. W. Abut.	573+90.40	-2.94	565.22	565.22
A	574+00.40	-2.94	565.02	565.03
B	574+10.40	-2.94	564.82	564.84
C	574+20.40	-2.94	564.63	564.66
D	574+30.40	-2.94	564.45	564.47
CL W. Brg. Pier 1	574+45.32	-2.94	564.19	564.19
CL E. Brg. Pier 1	574+46.82	-2.94	564.16	564.16
E	574+56.82	-2.94	563.99	564.03
F	574+66.82	-2.94	563.82	563.89
G	574+76.82	-2.94	563.66	563.75
H	574+86.82	-2.94	563.51	563.60
I	574+96.82	-2.94	563.36	563.44
J	575+06.82	-2.94	563.21	563.27
K	575+16.82	-2.94	563.07	563.10
CL W. Brg. Pier 2	575+23.32	-2.94	562.99	562.99
CL E. Brg. Pier 2	575+24.82	-2.94	562.97	562.97
L	575+34.82	-2.94	562.83	562.85
M	575+44.82	-2.94	562.71	562.73
N	575+54.82	-2.94	562.59	562.61
O	575+64.82	-2.94	562.47	562.49
CL Brg. E. Abut.	575+79.74	-2.94	562.31	562.31
Back of East Abut.	575+81.07	-2.94	562.30	562.30

**☉ ROADWAY, P.G. & STAGE CONST. LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	573+88.00	0.00	565.31	565.31
CL Brg. W. Abut.	573+89.33	0.00	565.28	565.28
A	573+99.33	0.00	565.08	565.09
B	574+09.33	0.00	564.89	564.91
C	574+19.33	0.00	564.70	564.72
D	574+29.33	0.00	564.52	564.54
CL W. Brg. Pier 1	574+44.25	0.00	564.25	564.25
CL E. Brg. Pier 1	574+45.75	0.00	564.22	564.22
E	574+55.75	0.00	564.05	564.09
F	574+65.75	0.00	563.89	563.96
G	574+75.75	0.00	563.73	563.81
H	574+85.75	0.00	563.57	563.66
I	574+95.75	0.00	563.42	563.50
J	575+05.75	0.00	563.28	563.34
K	575+15.75	0.00	563.13	563.15
CL W. Brg. Pier 2	575+22.25	0.00	563.05	563.05
CL E. Brg. Pier 2	575+23.75	0.00	563.03	563.03
L	575+33.75	0.00	562.89	562.90
M	575+43.75	0.00	562.77	562.79
N	575+53.75	0.00	562.65	562.67
O	575+63.75	0.00	562.53	562.55
CL Brg. E. Abut.	575+78.67	0.00	562.37	562.37
Back of East Abut.	575+80.00	0.00	562.35	562.35



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

TOP OF SLAB ELEVATIONS  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FA 773 IL 121	SECTION (109B) B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 64	SHEET NO. 7 25 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

Contract # 74237

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	573+86.93	2.94	565.29	565.29
CL Brg. W. Abut.	573+88.26	2.94	565.26	565.26
A	573+98.26	2.94	565.06	565.07
B	574+08.26	2.94	564.86	564.88
C	574+18.26	2.94	564.67	564.70
D	574+28.26	2.94	564.49	564.51
CL W. Brg. Pier 1	574+43.18	2.94	564.22	564.22
CL E. Brg. Pier 1	574+44.68	2.94	564.20	564.20
E	574+54.68	2.94	564.03	564.06
F	574+64.68	2.94	563.86	563.92
G	574+74.68	2.94	563.70	563.78
H	574+84.68	2.94	563.54	563.63
I	574+94.68	2.94	563.39	563.47
J	575+04.68	2.94	563.24	563.30
K	575+14.68	2.94	563.10	563.13
CL W. Brg. Pier 2	575+21.18	2.94	563.01	563.01
CL E. Brg. Pier 2	575+22.68	2.94	562.99	562.99
L	575+32.68	2.94	562.86	562.88
M	575+42.68	2.94	562.74	562.76
N	575+52.68	2.94	562.61	562.64
O	575+62.68	2.94	562.50	562.52
CL Brg. E. Abut.	575+77.60	2.94	562.33	562.33
Back of East Abut.	575+78.93	2.94	562.32	562.32

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	573+84.79	8.81	565.24	565.24
CL Brg. W. Abut.	573+86.12	8.81	565.21	565.21
A	573+96.12	8.81	565.01	565.02
B	574+06.12	8.81	564.81	564.83
C	574+16.12	8.81	564.62	564.65
D	574+26.12	8.81	564.44	564.45
CL W. Brg. Pier 1	574+41.04	8.81	564.17	564.17
CL E. Brg. Pier 1	574+42.54	8.81	564.14	564.14
E	574+52.54	8.81	563.97	564.01
F	574+62.54	8.81	563.80	563.87
G	574+72.54	8.81	563.64	563.72
H	574+82.54	8.81	563.48	563.57
I	574+92.54	8.81	563.33	563.41
J	575+02.54	8.81	563.18	563.24
K	575+12.54	8.81	563.04	563.06
CL W. Brg. Pier 2	575+19.04	8.81	562.95	562.95
CL E. Brg. Pier 2	575+20.54	8.81	562.93	562.93
L	575+30.54	8.81	562.80	562.81
M	575+40.54	8.81	562.67	562.69
N	575+50.54	8.81	562.55	562.57
O	575+60.54	8.81	562.43	562.45
CL Brg. E. Abut.	575+75.46	8.81	562.26	562.26
Back of East Abut.	575+76.79	8.81	562.25	562.25

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	573+82.65	14.69	565.18	565.18
CL Brg. W. Abut.	573+83.98	14.69	565.15	565.15
A	573+93.98	14.69	564.95	564.96
B	574+03.98	14.69	564.75	564.77
C	574+13.98	14.69	564.56	564.58
D	574+23.98	14.69	564.37	564.39
CL W. Brg. Pier 1	574+38.90	14.69	564.10	564.10
CL E. Brg. Pier 1	574+40.40	14.69	564.07	564.07
E	574+50.40	14.69	563.90	563.94
F	574+60.40	14.69	563.73	563.80
G	574+70.40	14.69	563.57	563.65
H	574+80.40	14.69	563.41	563.50
I	574+90.40	14.69	563.26	563.34
J	575+00.40	14.69	563.11	563.17
K	575+10.40	14.69	562.97	562.99
CL W. Brg. Pier 2	575+16.90	14.69	562.88	562.88
CL E. Brg. Pier 2	575+18.40	14.69	562.86	562.86
L	575+28.40	14.69	562.72	562.73
M	575+38.40	14.69	562.59	562.61
N	575+48.40	14.69	562.47	562.49
O	575+58.40	14.69	562.35	562.37
CL Brg. E. Abut.	575+73.32	14.69	562.18	562.18
Back of East Abut.	575+74.65	14.69	562.17	562.17



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

TOP OF SLAB ELEVATIONS  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	65
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8  
25 SHEETS

Contract # 74237

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	573+63.98	-16.42	565.53
P	573+73.98	-16.42	565.32
Q	573+83.98	-16.42	565.11
Back of West Abut.	573+93.98	-16.42	564.91

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	573+62.37	-12.00	565.66
P	573+72.37	-12.00	565.44
Q	573+82.37	-12.00	565.24
Back of West Abut.	573+92.37	-12.00	565.03

℄ ROADWAY & P.G.

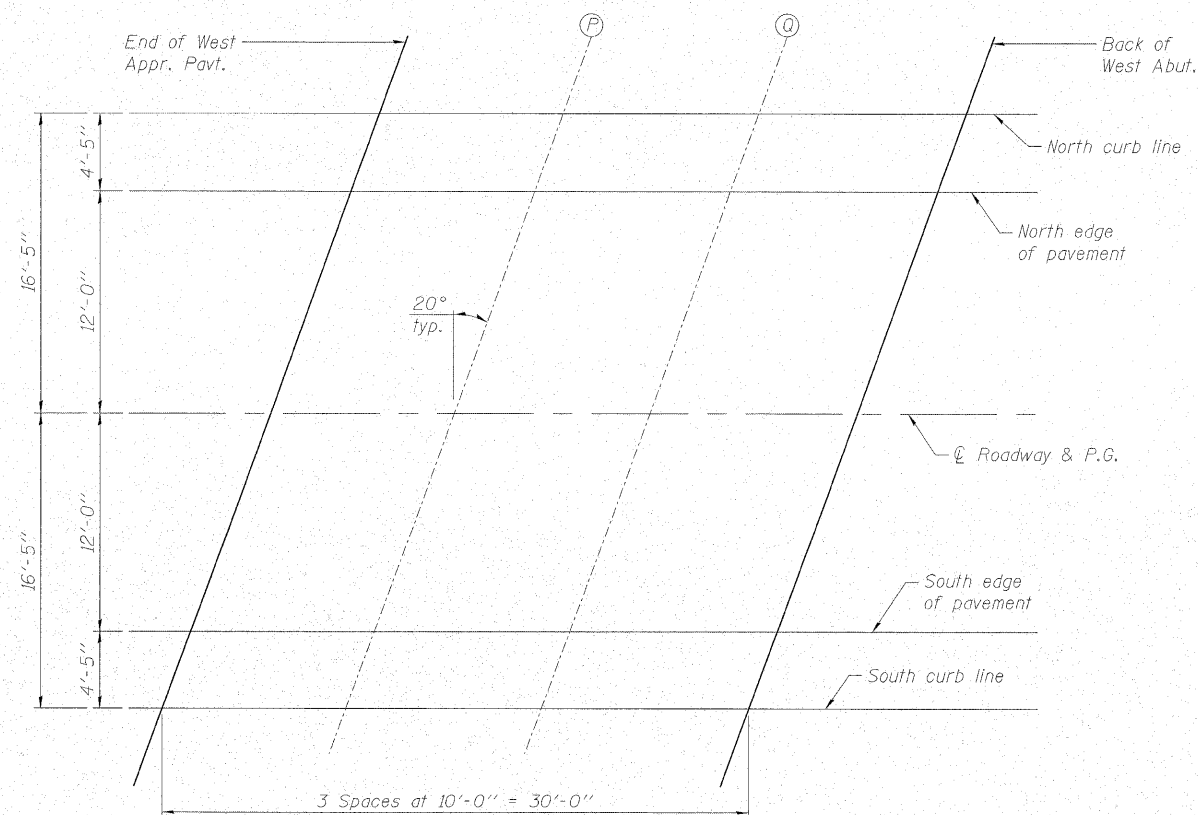
Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	573+58.00	0.00	565.94
P	573+68.00	0.00	565.72
Q	573+78.00	0.00	565.51
Back of West Abut.	573+88.00	0.00	565.31

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	573+53.63	12.00	565.85
P	573+63.63	12.00	565.63
Q	573+73.63	12.00	565.42
Back of West Abut.	573+83.63	12.00	565.21

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pavt.	573+52.02	16.42	565.79
P	573+62.02	16.42	565.57
Q	573+72.02	16.42	565.36
Back of West Abut.	573+82.02	16.42	565.15



PLAN



DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	LAD
CHECKED -	RJA

TOP OF WEST APPROACH  
SLAB ELEVATIONS  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FA 773 IL 121	SECTION (109B) B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 66	SHEET NO. 9 25 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

Contract # 74237

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	575+85.98	-16.42	562.01
R	575+95.98	-16.42	561.91
S	576+05.98	-16.42	561.82
End of East Appr. Pavt.	576+15.98	-16.42	561.73

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	575+84.37	-12.00	562.12
R	575+94.37	-12.00	562.02
S	576+04.37	-12.00	561.92
End of East Appr. Pavt.	576+14.37	-12.00	561.83

☉ ROADWAY & P.G.

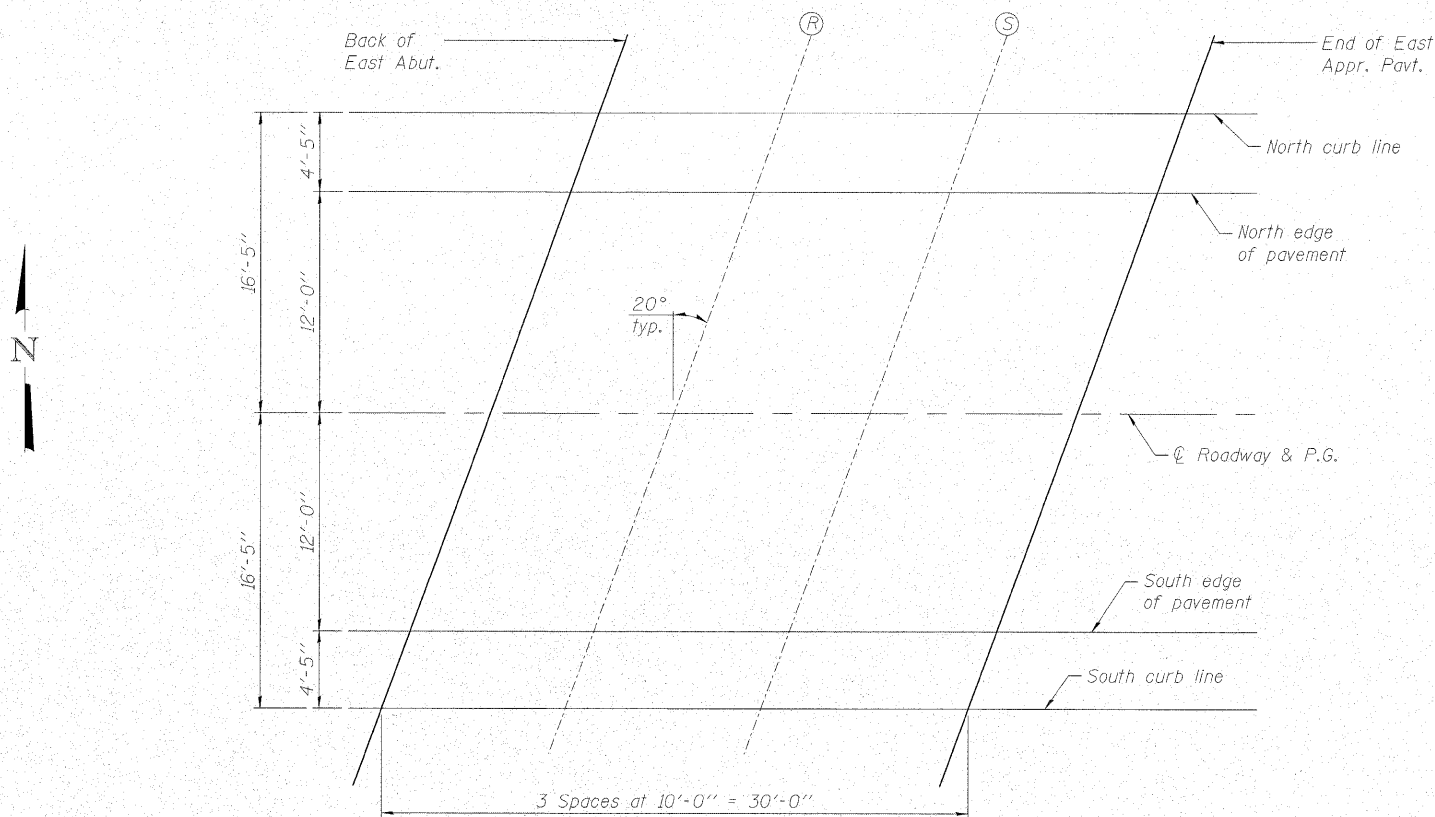
Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	575+80.00	0.00	562.35
R	575+90.00	0.00	562.25
S	576+00.00	0.00	562.15
End of East Appr. Pavt.	576+10.00	0.00	562.06

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	575+75.63	12.00	562.21
R	575+85.63	12.00	562.11
S	575+95.63	12.00	562.01
End of East Appr. Pavt.	576+05.63	12.00	561.91

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abut.	575+74.02	16.42	562.14
R	575+84.02	16.42	562.03
S	575+94.02	16.42	561.93
End of East Appr. Pavt.	576+04.02	16.42	561.83



PLAN



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

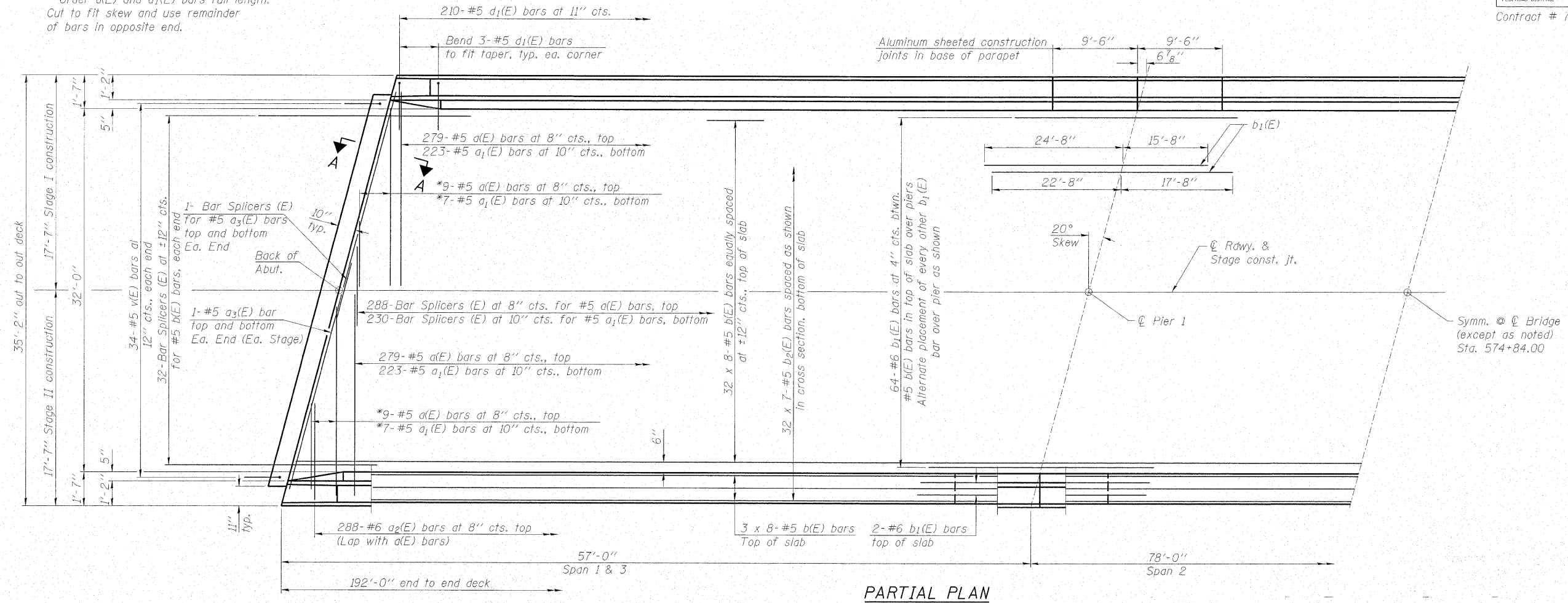
TOP OF EAST APPROACH  
SLAB ELEVATIONS  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FA 773 IL 121	SECTION (109B) B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 67	SHEET NO. 10 25 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-		

Contract # 74237

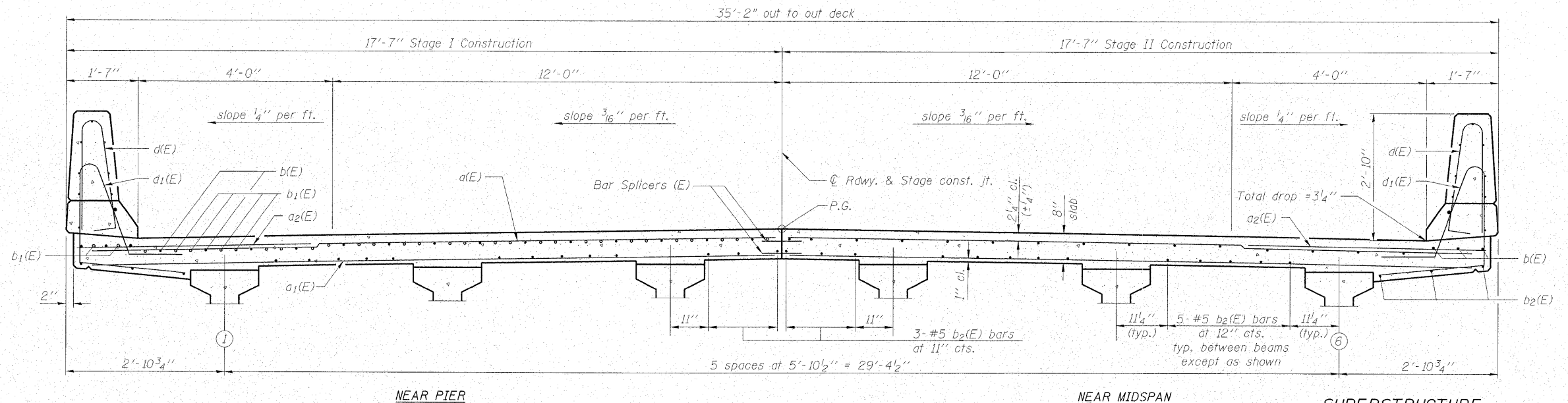
\* Order a(E) and a<sub>1</sub>(E) bars full length.  
Cut to fit skew and use remainder  
of bars in opposite end.



Notes:  
See Sheet 11 of 25 for superstructure details and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See Sheet 11 of 25 for parapet reinforcement.  
For Section A-A, see Sheet 14 of 25.

**MINIMUM BAR LAP**

#5 bar = 1'-8"



DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

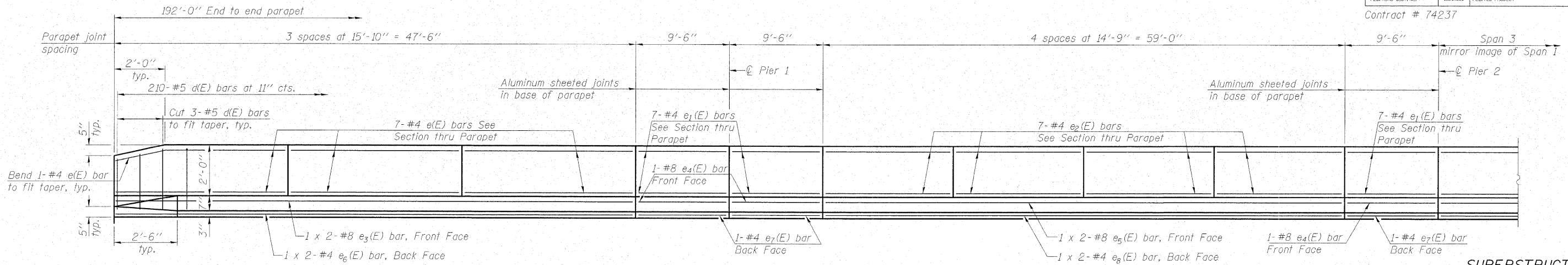
**SUPERSTRUCTURE**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	68
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11  
25 SHEETS

Contract # 74237



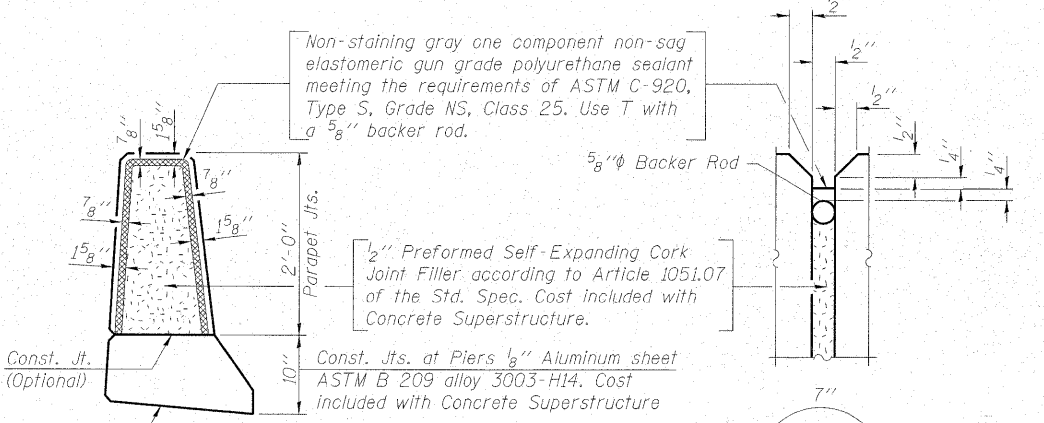
**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	576	#5	17'-1"	—
a1(E)	460	#5	16'-9"	—
a2(E)	576	#6	6'-0"	—
a3(E)	8	#5	18'-2"	—
a4(E)	16	#5	1'-6"	—
b(E)	304	#5	25'-6"	—
b1(E)	136	#6	40'-4"	—
b2(E)	224	#5	28'-10"	—
d(E)	420	#5	5'-7"	—
d1(E)	420	#5	7'-5"	—
e(E)	84	#4	15'-6"	—
e1(E)	56	#4	9'-2"	—
e2(E)	56	#4	14'-5"	—
e3(E)	8	#8	25'-5"	—
e4(E)	8	#8	9'-2"	—
e5(E)	4	#8	31'-2"	—
e6(E)	8	#4	24'-4"	—
e7(E)	8	#4	9'-2"	—
e8(E)	4	#4	30'-1"	—
m(E)	8	#6	17'-5"	—
m1(E)	12	#6	18'-5"	—
m2(E)	24	#6	8'-0"	—
m3(E)	24	#6	3'-11"	—
m4(E)	16	#6	1'-9"	—
m5(E)	12	#8	5'-10"	—
m6(E)	32	#4	5'-4"	—
m7(E)	16	#4	2'-3"	—
s(E)	72	#5	6'-9"	—
s1(E)	64	#4	11'-0"	—
s2(E)	52	#4	10'-7"	—
v(E)	68	#5	3'-4"	—
Reinforcement Bars, Epoxy Coated		Pound	58420	
Concrete Superstructure		Cu. Yds.	258.2	

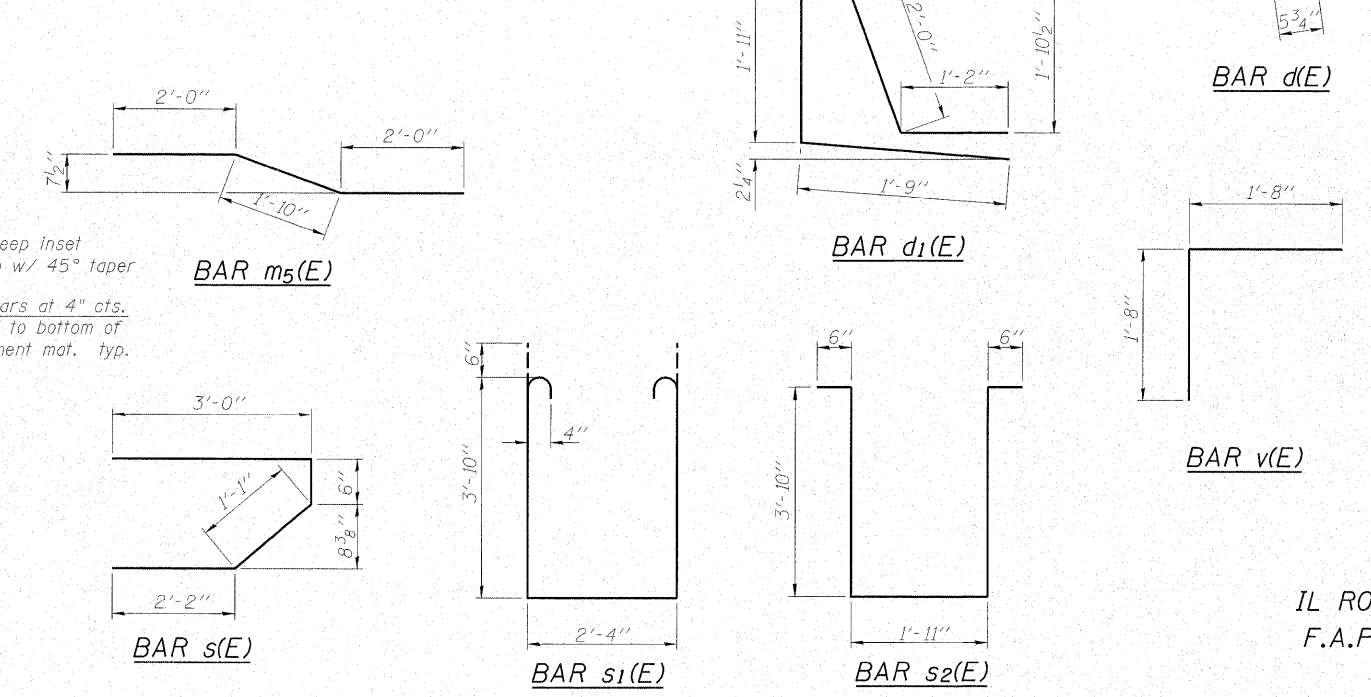
**MINIMUM BAR LAP**  
(Parapet)

#4 bar = 1'-4"  
#8 bar = 3'-5"

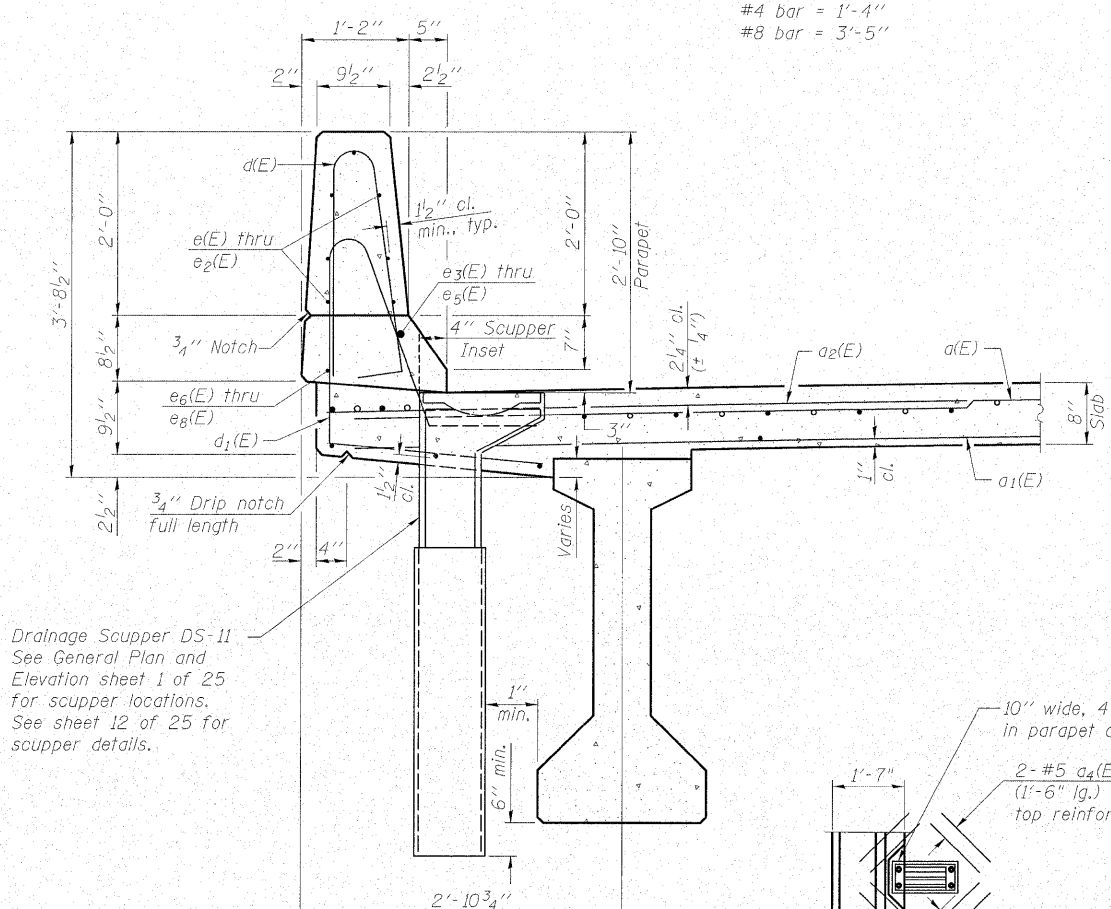
**INSIDE ELEVATION OF PARAPET**



**PARAPET JOINT DETAILS**



**SECTION THRU PARAPET**



**PLAN OF ADDITIONAL  
SLAB REINF. AT SCUPPERS**

Note:  
Cut longitudinal reinforcement to clear drainage scuppers.

<b>MAURER STUTZ, INC.</b> ENGINEERS SURVEYORS
DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

**SUPERSTRUCTURE DETAILS**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	69	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

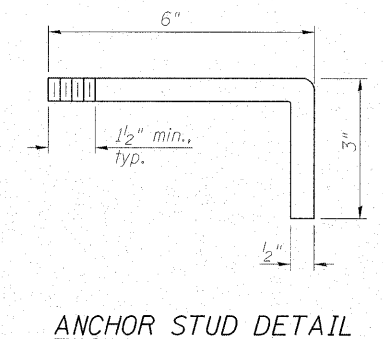
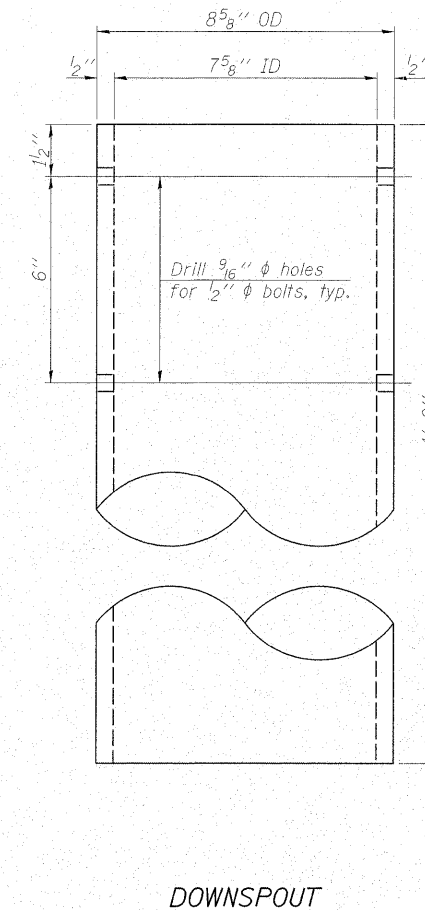
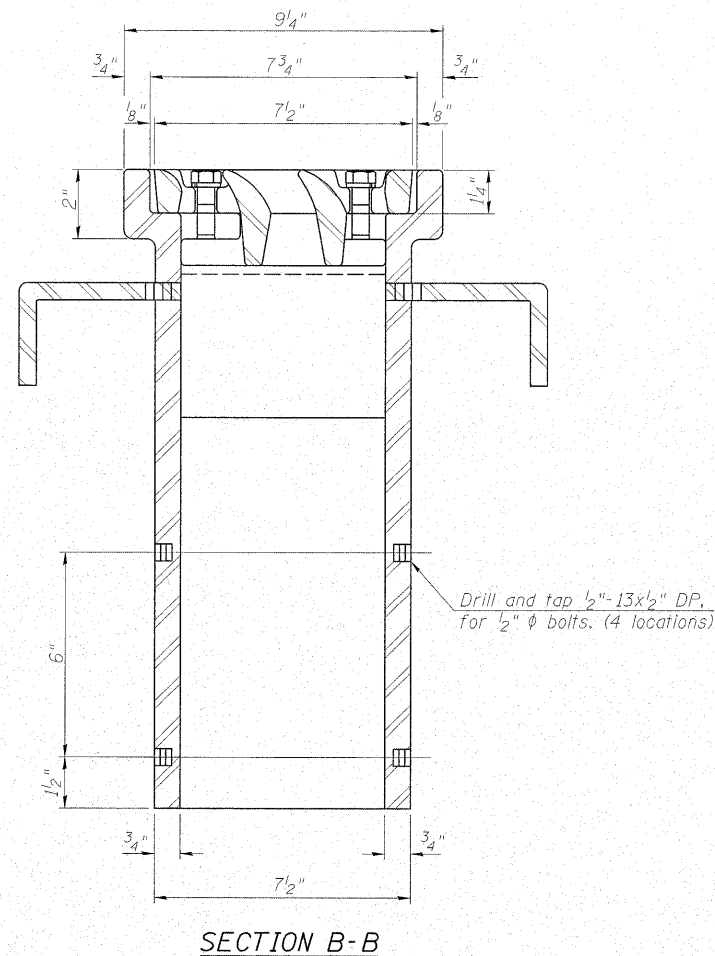
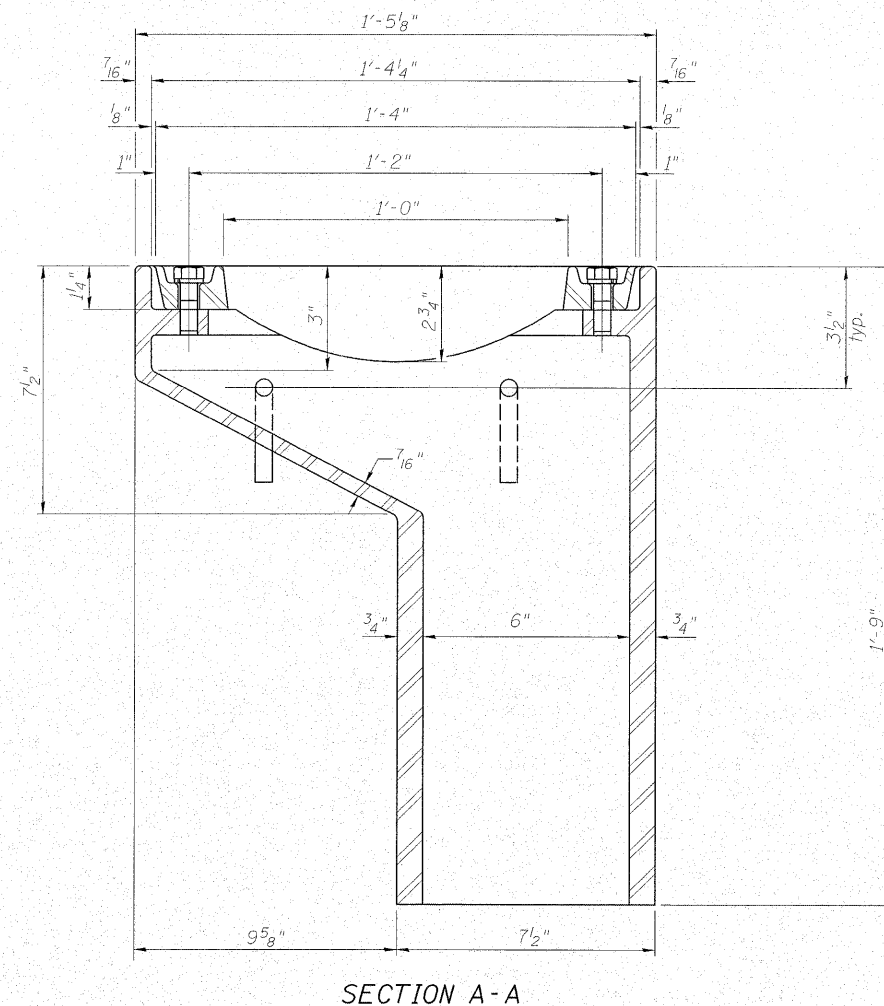
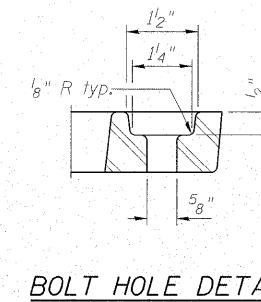
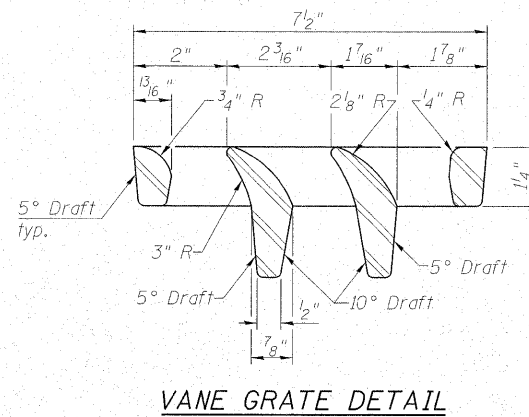
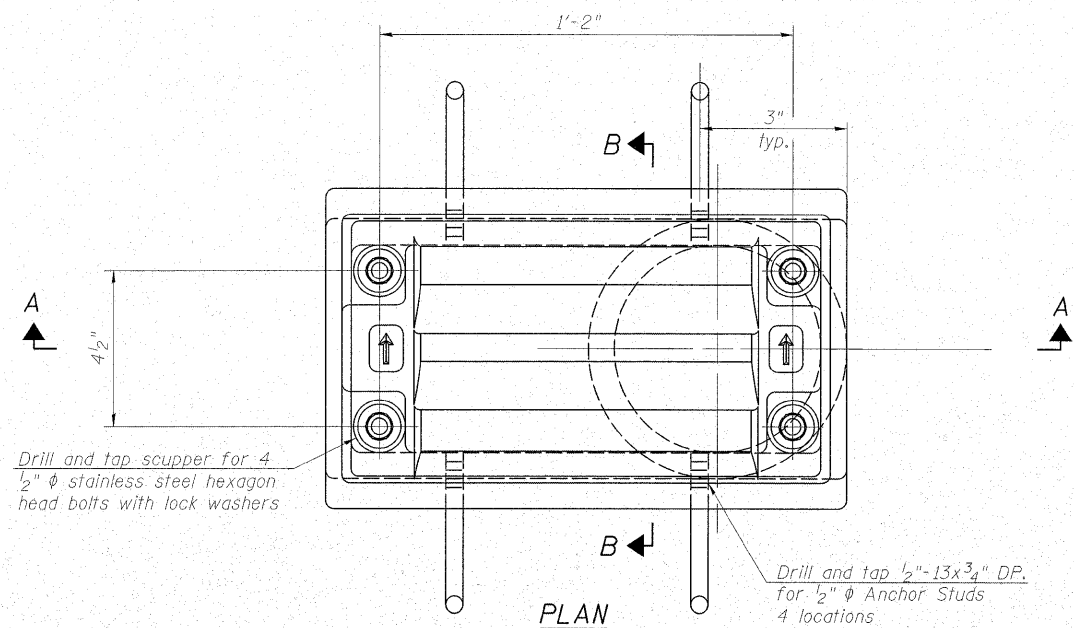
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

DRAINAGE SCUPPER, DS-11  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063



DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

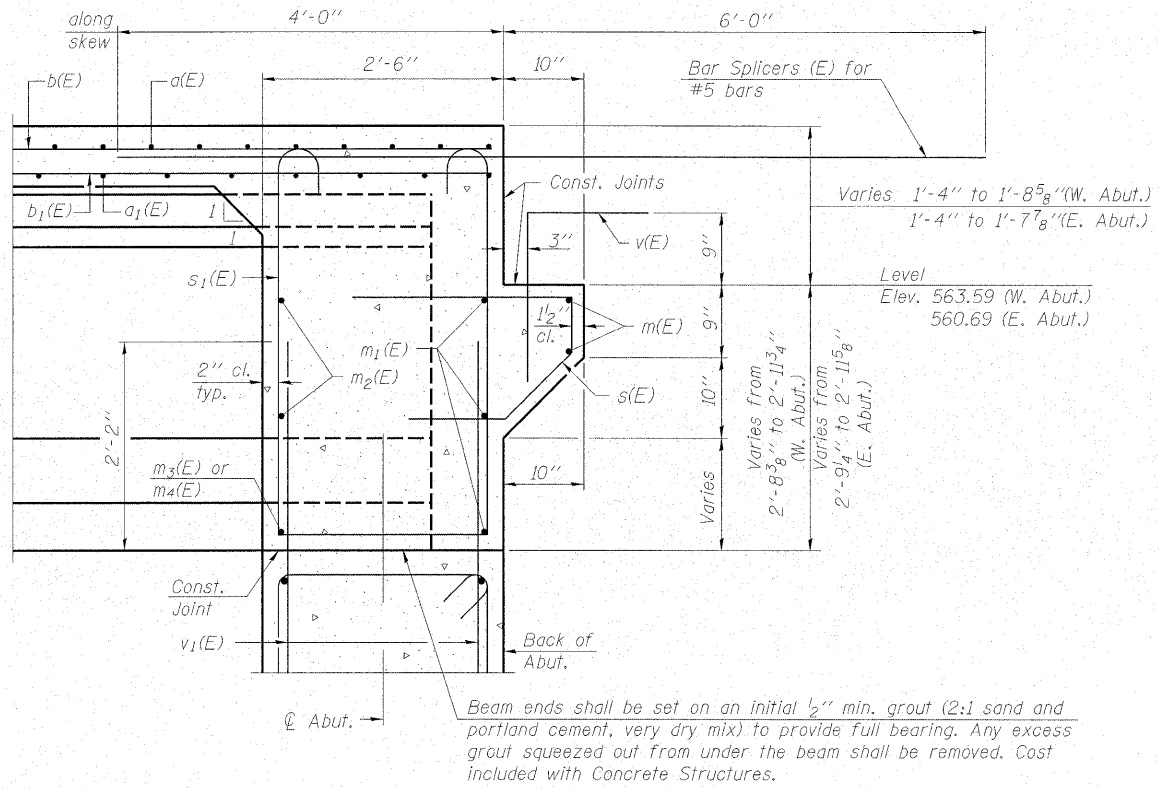
DS-11 9-3-07



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.	SHEET NO. 14 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	71	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

Contract # 74237

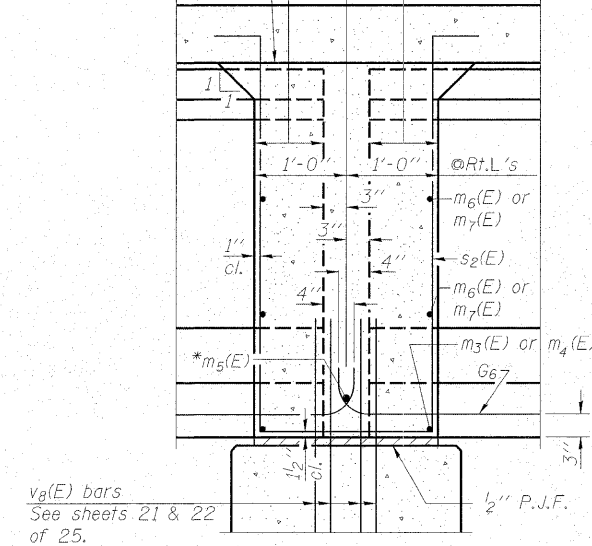


**SECTION A-A**

Dimensions at right angles to abutment, except as shown.

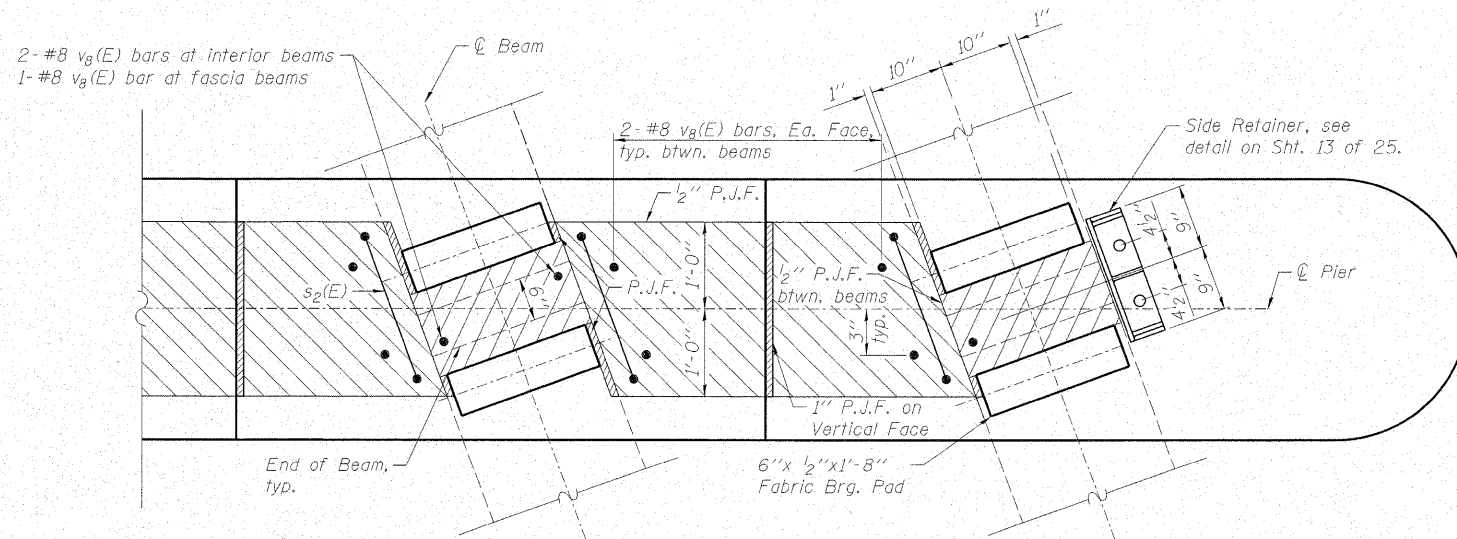
Pour diaphragm flush with bott. of slab. Concrete in slab above this line shall be placed not less than 45 min. nor more than 90 min. after diaphragm has been poured.

Roofing felt shall be bonded to side of beam embedded into diaphragm.



**SECTION B-B**

Dimensions along  $\phi$  of beam, except as shown.



**PLAN AT PIER**

(Showing bearing pad and P.J.F. details)

Note:  
See sheet 13 of 25 for location of Sections A-A and B-B.



DESIGNED -	BAS
CHECKED -	KEF
DRAWN -	SGM
CHECKED -	RJA

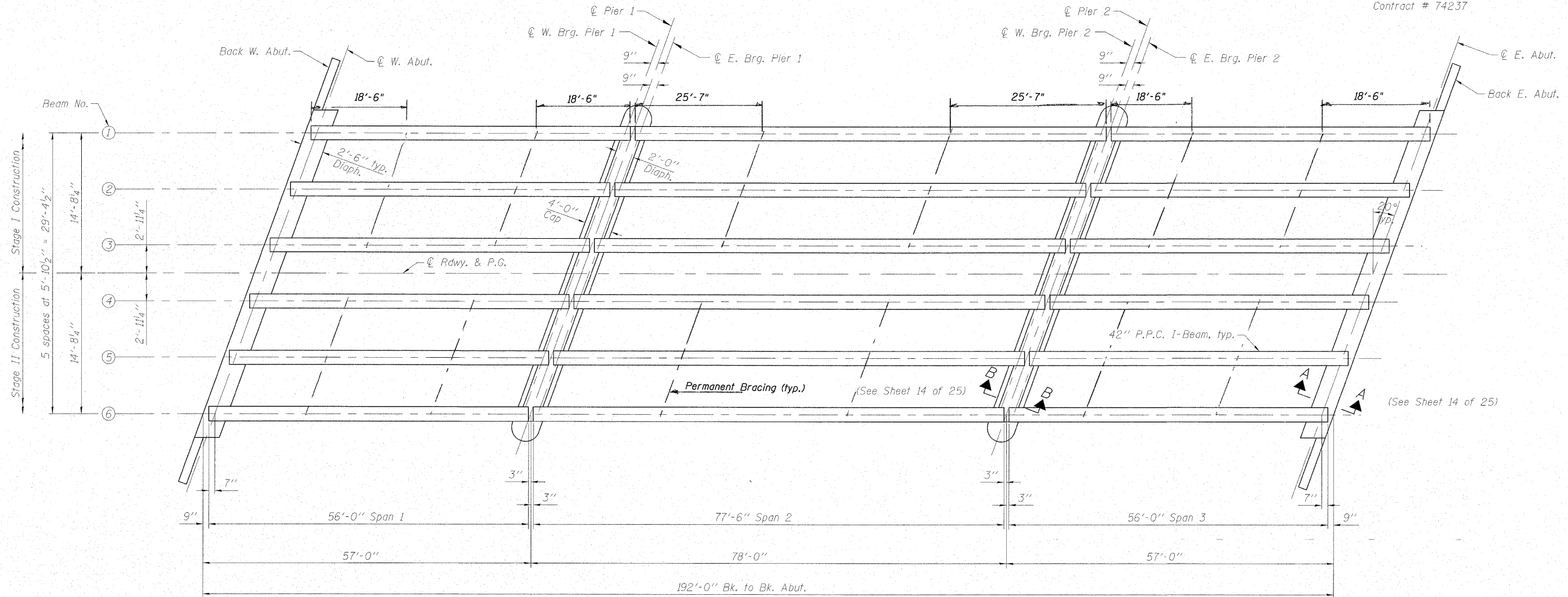
**DIAPHRAGM DETAILS**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	72
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15  
25 SHEETS

Contract # 74237



FRAMING PLAN

	0.4 Sp. 1 0.6 Sp. 2	Pier 1 or 2	0.5 Sp. 2
$I$	(in <sup>4</sup> ) 90956	90956	90956
$I'$	(in <sup>4</sup> ) 265907	—	265907
$S_b$	(in <sup>3</sup> ) 5153	5153	5153
$S_b'$	(in <sup>3</sup> ) 8639	—	8639
$S_t$	(in <sup>3</sup> ) 3736	3736	3736
$S_t'$	(in <sup>3</sup> ) 23699	—	23699
$DC1$	(k/ft) 1.089	1.089	1.089
$M_{DC1}$	(k) 406.2	—	828.2
$DC2$	(k/ft) 0.150	0.150	0.150
$M_{DC2}$	(k) 27.8	70.3	43.8
$DW$	(k/ft) 0.267	0.267	0.267
$M_{DW}$	(k) 49.5	125.2	77.9
$M_{\frac{1}{2} + Imp}$	(k) 600.1	650.5	666.1

- $I$ : Non-composite moment of inertia of beam section (in<sup>4</sup>).
- $I'$ : Composite moment of inertia of beam section (in<sup>4</sup>).
- $S_b$ : Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- $S_b'$ : Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- $S_t$ : Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- $S_t'$ : Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- $DC1$ : Un-factored non-composite dead load (kips/ft.).
- $M_{DC1}$ : Un-factored moment due to non-composite dead load (kip-ft.).
- $DC2$ : Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- $M_{DC2}$ : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- $DW$ : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- $M_{DW}$ : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_{\frac{1}{2} + Imp}$ : Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).

	Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
$R_{DC1}$	(k) 30.4	30.4	42.5
* $R_{DC2}$	(k) 2.9	5.6	5.6
* $R_{DW}$	(k) 5.2	10.1	10.1
* $R_{\frac{1}{2} + Imp}$	(k) 65.8	47.4	47.4
$R_{Total}$	(k) 104.3	93.5	105.6

\* The total  $R_{DC2}$ ,  $R_{DW}$  and  $R_{\frac{1}{2} + Imp}$  are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span.



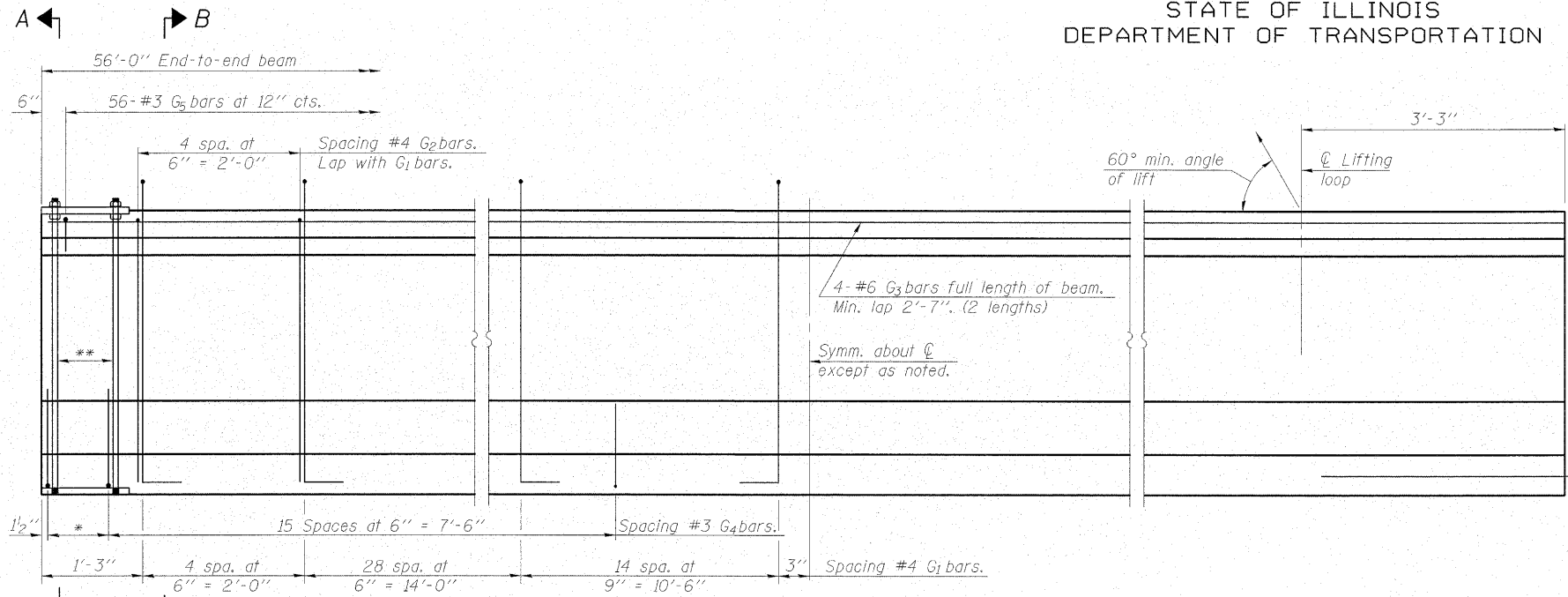
DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

FRAMING PLAN  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 16 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	73	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

Contract # 74237

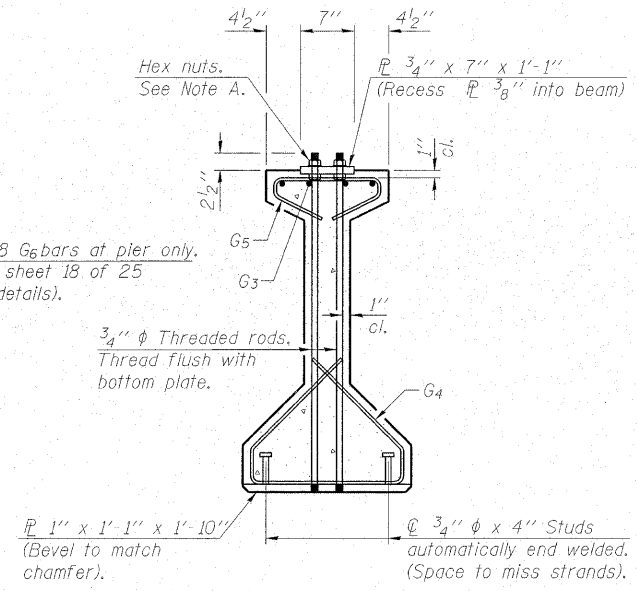


**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

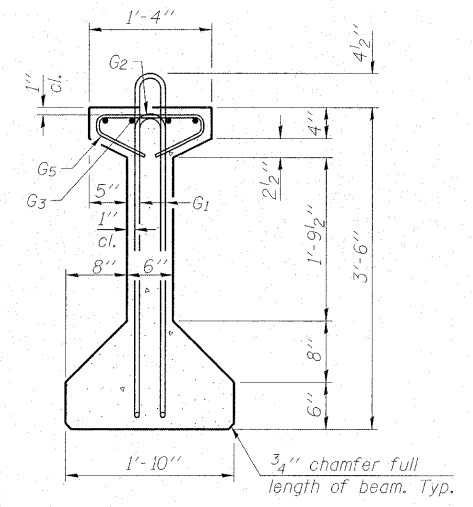
\*3 spaces at 3" = 9".  
\*\*4-3/4" φ threaded dowel rods at 3" cts., Each Face.

2-#8 G6 bars at pier only.  
(See sheet 18 of 25 for details).

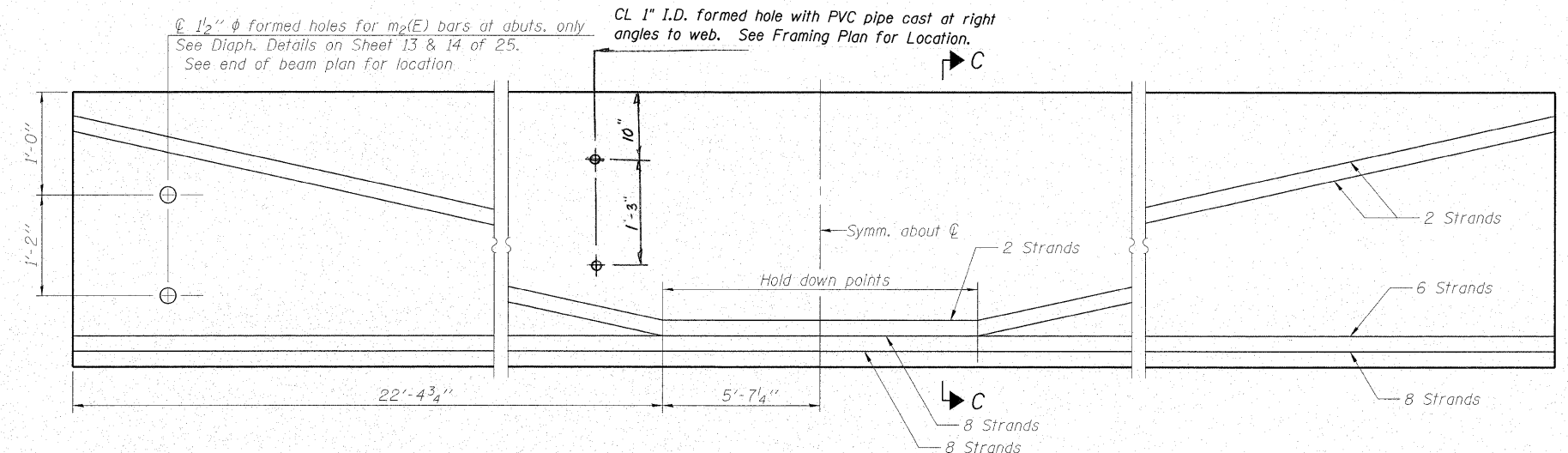
Note A:  
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



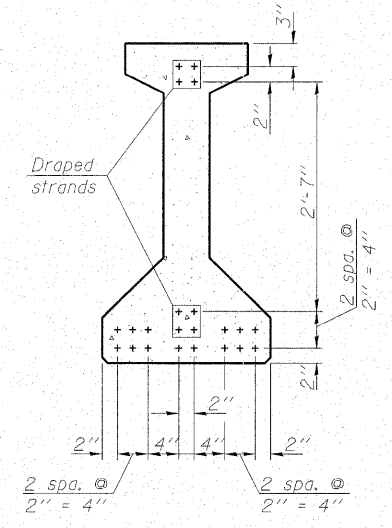
**SECTION A-A**



**SECTION B-B**



**ELEVATION OF BEAM**  
(Showing prestressing steel)

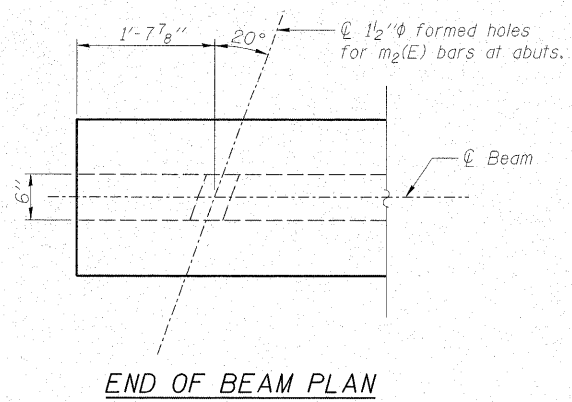


**SECTION C-C**

**\*\*\*BAR LIST  
ONE BEAM ONLY**

Bar	No.	Size	Length	Shape
G1	94	#4	8'-5"	⊔
G2	10	#4	6'-8"	⊔
G3	8	#6	29'-4"	—
G4	38	#3	4'-11"	⊔
G5	56	#3	2'-6"	⊔
G6	2	#8	3'-9"	⊔

\*\*\*For information only  
Notes:  
See sheet 18 of 25 for additional details and Bill of Material.  
Required release strength, f'ci, shall be 6000 psi.



**END OF BEAM PLAN**

MAURER & STUTZ, INC. ENGINEERS SURVEYORS
DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

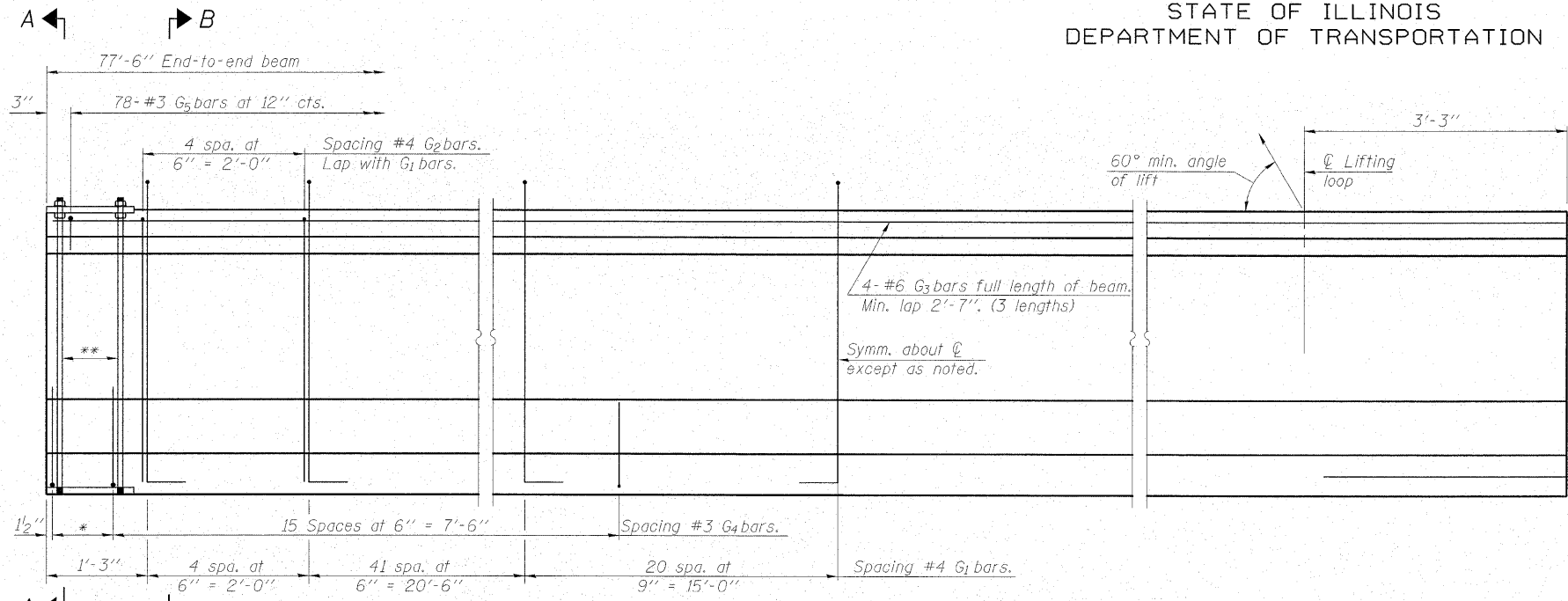
42" PPC I-BEAM (SPANS 1 & 3)  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 17 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	74	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

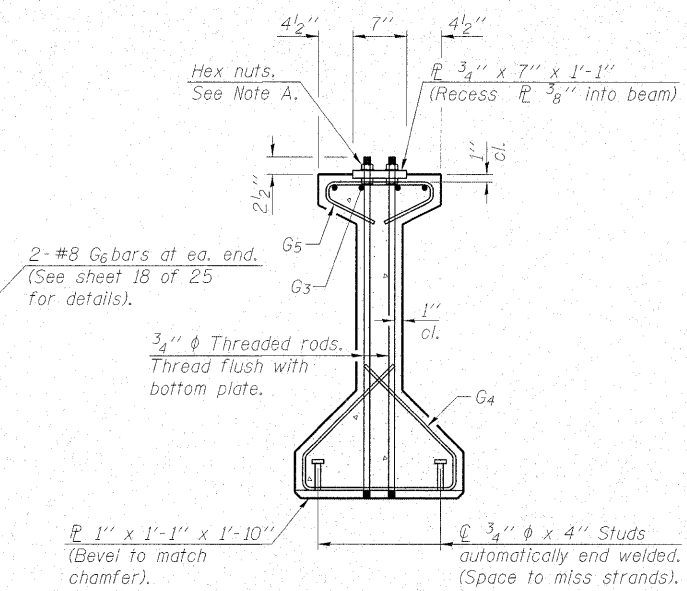
Contract # 74237



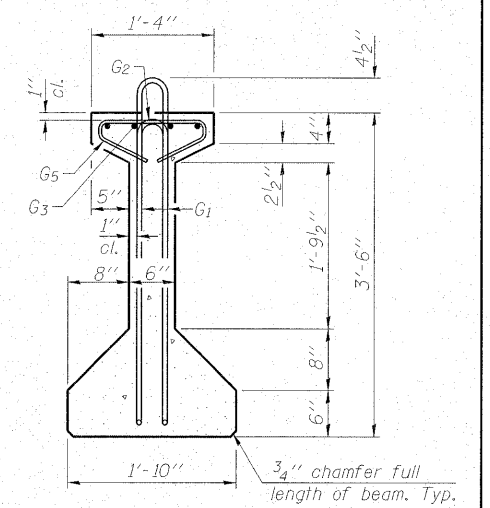
**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

\*3 spaces at 3" = 9".

\*\*4-3/4" φ threaded dowel rods at 3" cfs., Each Face.



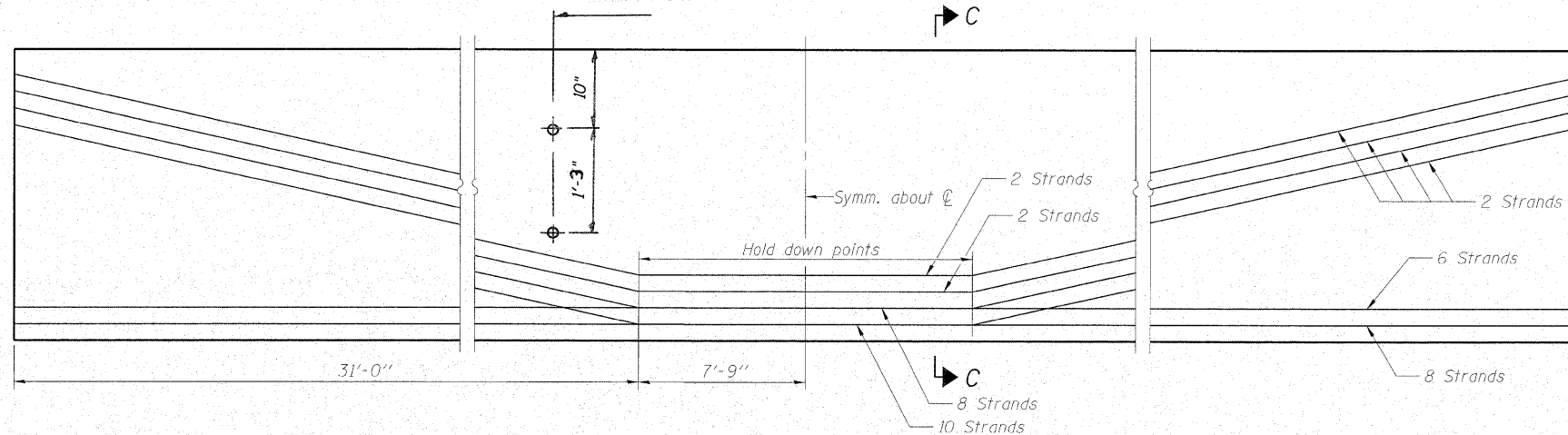
**SECTION A-A**



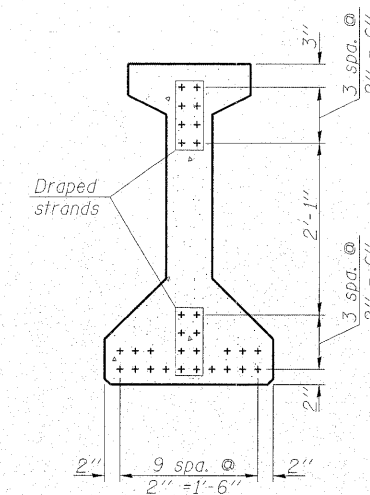
**SECTION B-B**

Note A:  
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.

CL 1" I.D. formed hole with PVC pipe cast at right angles to web. See Framing Plan for Location.



**ELEVATION OF BEAM**  
(Showing prestressing steel)



**SECTION C-C**

**\*\*\*BAR LIST  
ONE BEAM ONLY**

Bar	No.	Size	Length	Shape
G1	131	#4	8'-5"	∩
G2	10	#4	6'-8"	∩
G3	12	#6	27'-7"	—
G4	38	#3	4'-11"	∩
G5	78	#3	2'-6"	∩
G6	4	#8	3'-9"	∩

\*\*\*For Information only

Notes:  
See sheet 18 of 25 for additional details and Bill of Material.

Required release strength, f'ci, shall be 6000 psi.



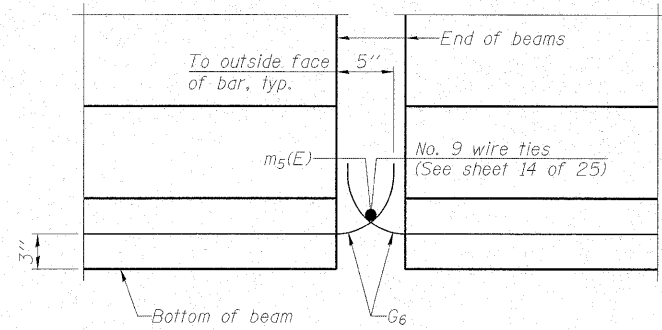
DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

42" PPC I-BEAM (SPAN 2)  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

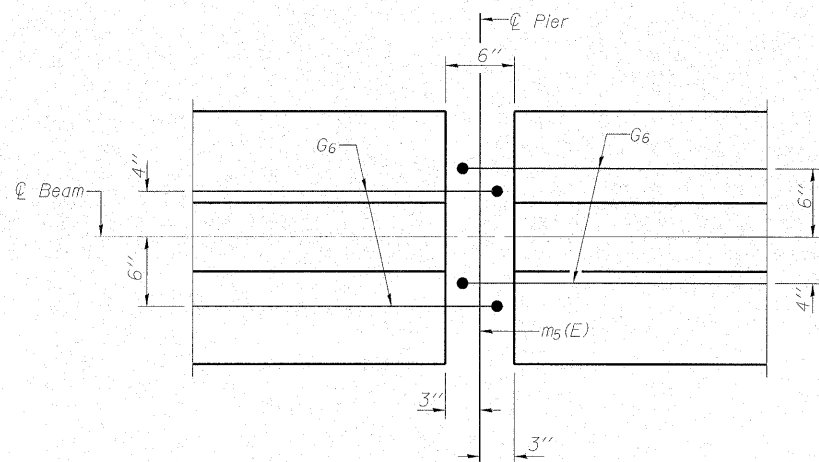
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 18 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	75	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

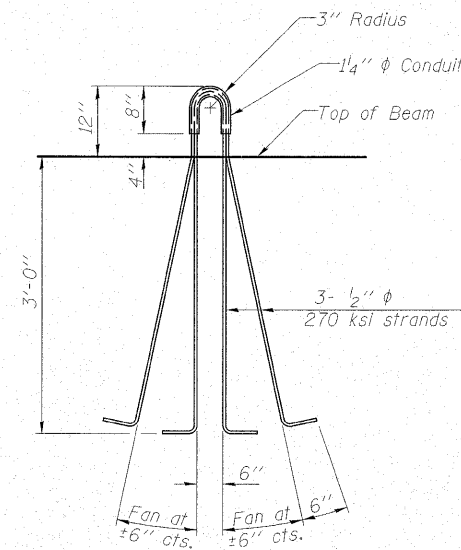
Contract # 74237



ELEVATION OF BEAM AT PIER



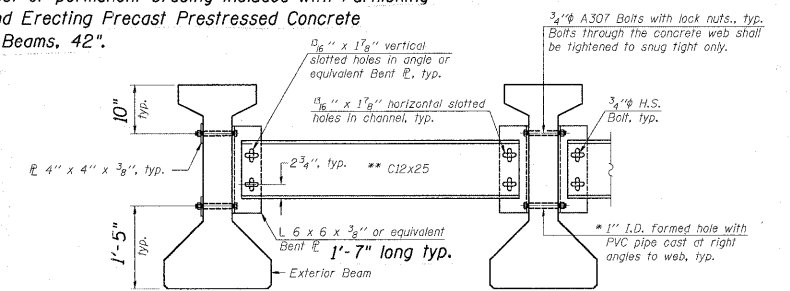
PLAN OF BEAM AT PIER



LIFTING LOOP DETAIL

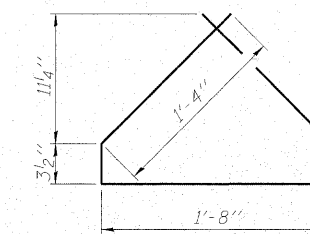
NOTES

- Inserts for  $\frac{3}{4}$ "  $\phi$  threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.
- 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.
- Non-prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
- A minimum  $2\frac{1}{2}$ "  $\phi$  lifting pin shall be used to engage the lifting loops during handling.
- Cut  $G_6$  bars when necessary to maintain  $\frac{1}{2}$ " clearance.
- The top and bottom plates shall be AASHTO M270 Grade 50.
- The bottom plates and studs shall be galvanized according to AASHTO M111.
- Threaded rods shall be ASTM F 1554 Grade 55.
- Cost of permanent bracing included with Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42".

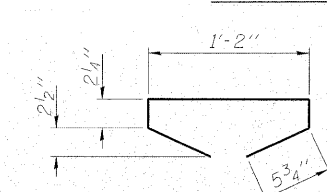


- Notes:
- All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
  - Two hardened washers are required for each set of oversized holes.
  - All holes shall be  $\frac{5}{16}$ "  $\phi$  unless otherwise noted.
  - $\frac{5}{16}$ " x 3" x 3" plate washers are required over all slotted holes.
  - All bolts shall be galvanized according to AASHTO M232.
  - Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
  - Fabricator shall locate to miss strands within permissible tolerances.
  - Alternate C12x30 channels are permitted to facilitate material acquisition.
  - The alternate, if utilized, shall be provided at no extra cost to the Department.

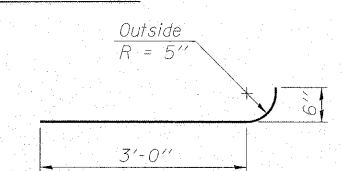
PERMANENT BRACING DETAILS



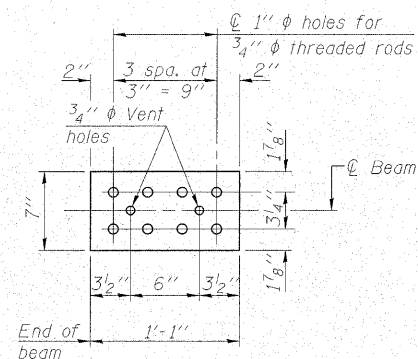
BAR G4



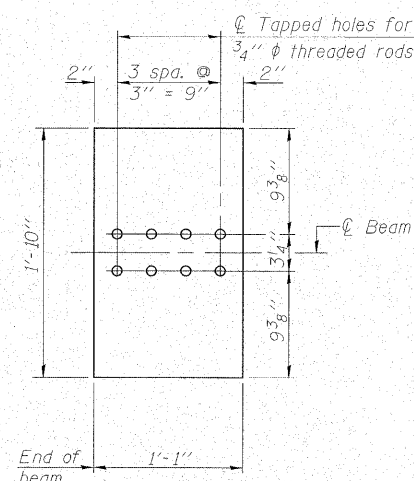
BAR G5



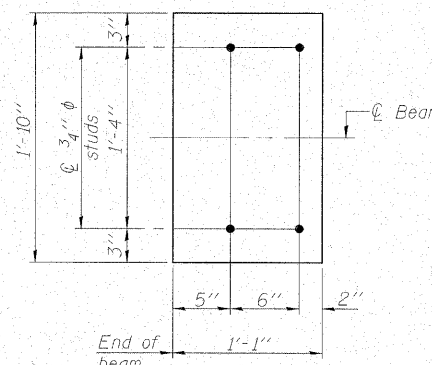
BAR G6



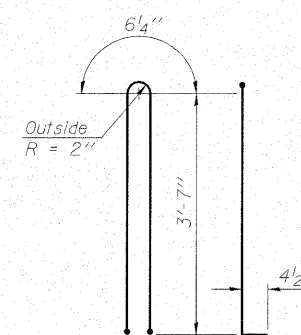
TOP PLATE



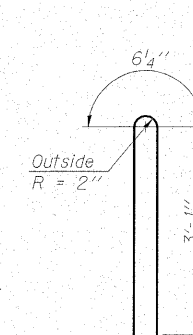
BOTTOM PLATE  
(Showing threaded rods)



BOTTOM PLATE  
(Showing studs)



BAR G1



BAR G2

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42"	Ft.	1137

42" PPC I-BEAM DETAILS  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063



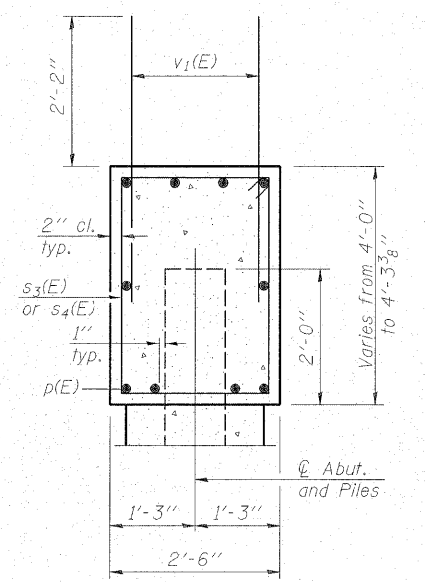
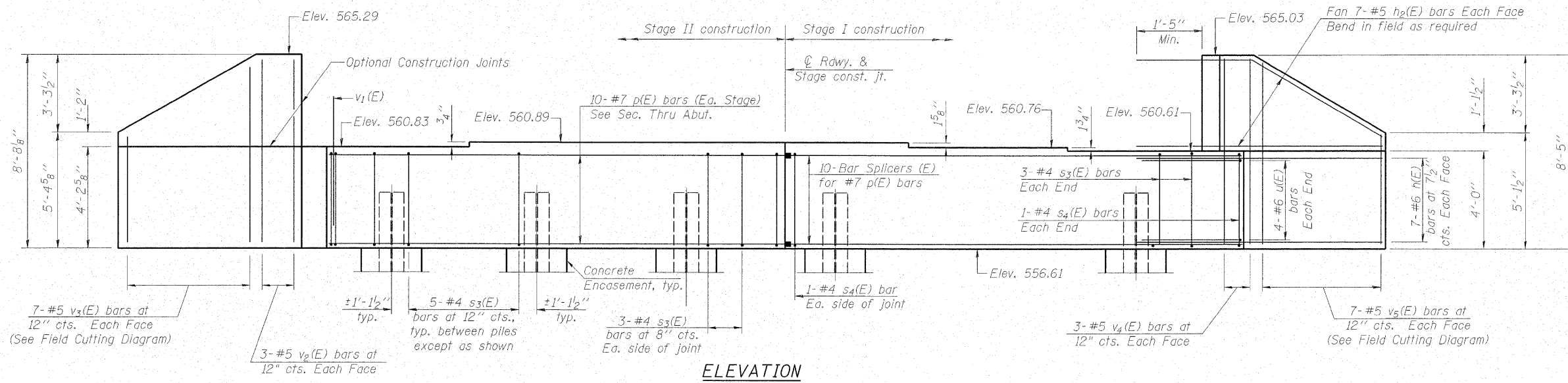
DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

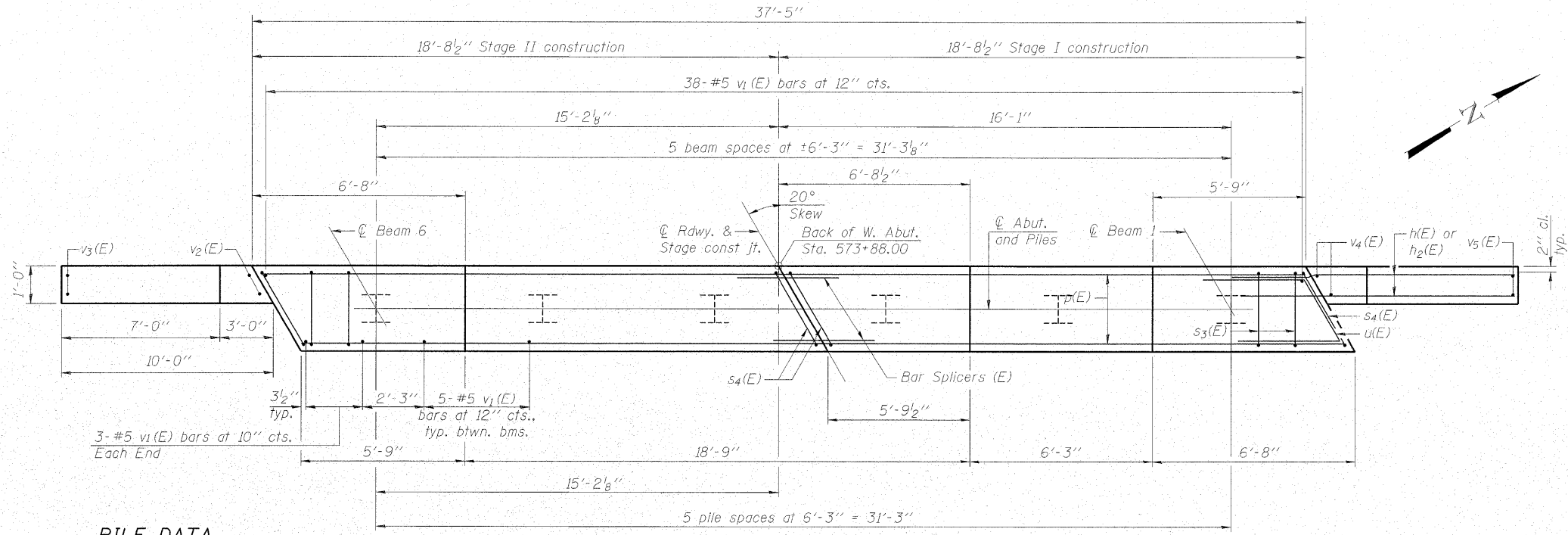
ROUTE NO. FA 773 IL 121	SECTION (109B) B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 76	SHEET NO. 19 25 SHEETS
FED. ROAD DIST. NO.		ILL. DIST. NO.	FED. AID PROJECT		

Contract # 74237

Notes: Four steps monolithically with cap.

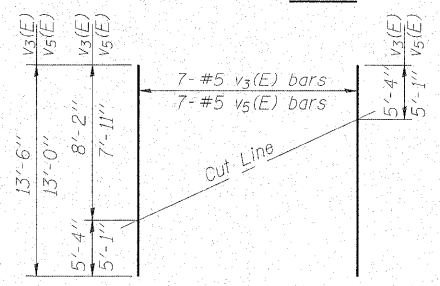


SEC. THRU ABUT.



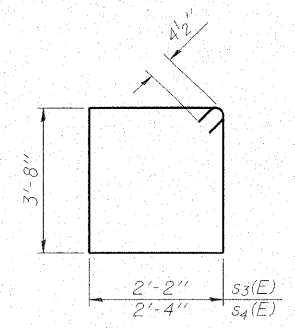
PLAN

**PILE DATA**  
Type: Steel HP12x63  
Nominal Required Bearing: 497 kips  
Factored Resistance Available: 248 kips  
Est. Length: 25'  
No. Production Piles: 5  
No. Test Piles: 1

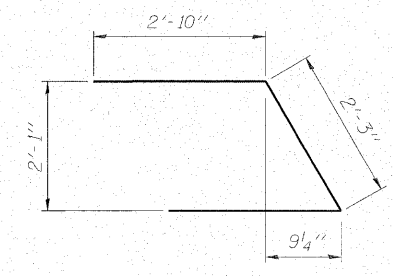


FIELD CUTTING DIAGRAM

Order v3(E) & v5(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s3(E) & s4(E)



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#6	12'-5"	—
h2(E)	28	#5	12'-0"	—
p(E)	20	#7	18'-4"	—
s3(E)	32	#4	12'-5"	□
s4(E)	4	#4	12'-9"	□
u(E)	8	#6	7'-11"	∟
v1(E)	69	#5	4'-4"	—
v2(E)	6	#5	8'-5"	—
v3(E)	7	#5	13'-6"	—
v4(E)	6	#5	8'-2"	—
v5(E)	7	#5	13'-0"	—
Structure Excavation	Cu. Yd.	96		
Concrete Structures	Cu. Yd.	19.9		
Concrete Encasement	Cu. Yd.	2.1		
Reinforcement Bars, Epoxy Coated	Pound	2630		
Furnishing Steel Piles, HP12x63	Foot	125		
Driving Piles	Foot	125		
Test Pile, Steel HP12x63	Each	1		

For details of Bar Splicers, see sheet 24 of 25.  
For details of piles and Concrete Encasement, see sheet 23 of 25.

**WEST ABUTMENT**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

**MAURER STUTZ, INC.**  
ENGINEERS SURVEYORS

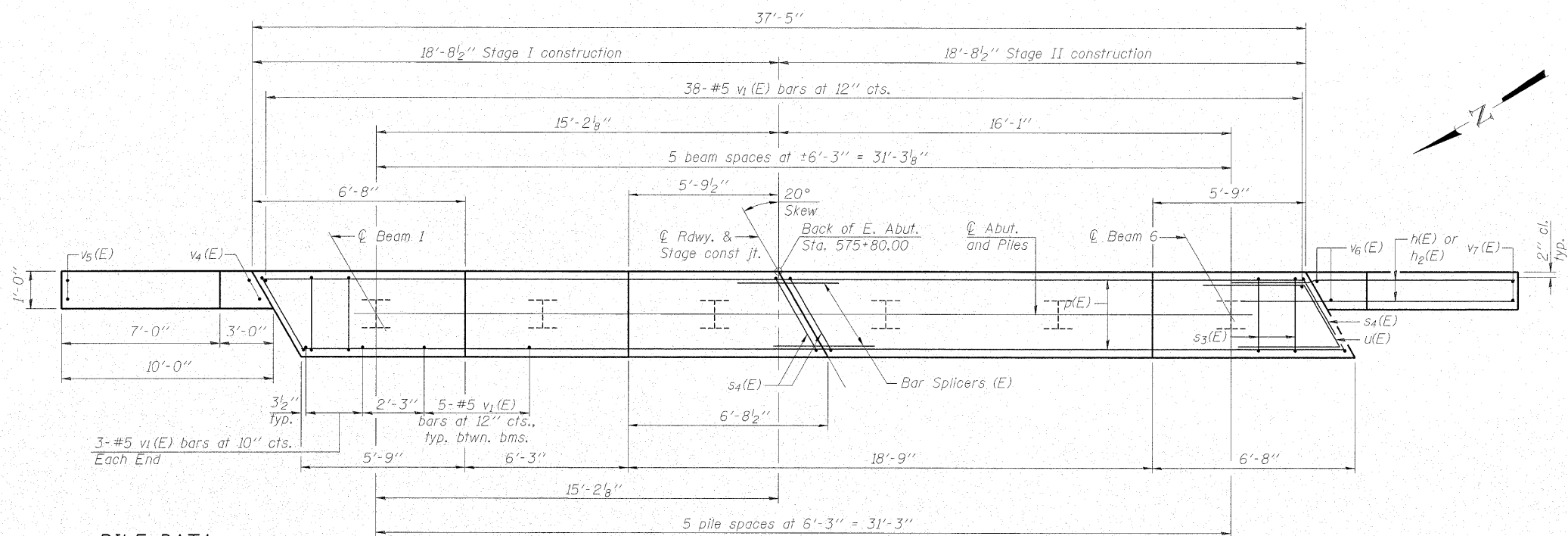
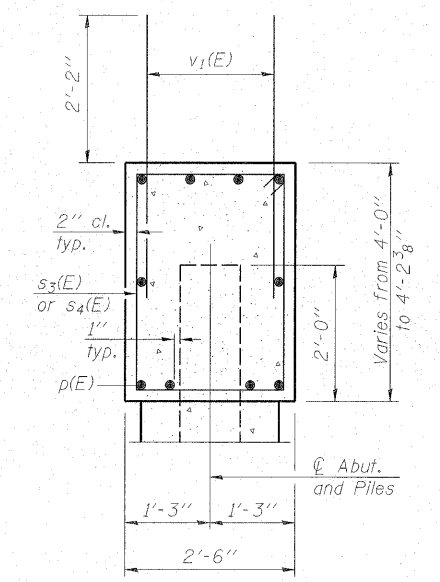
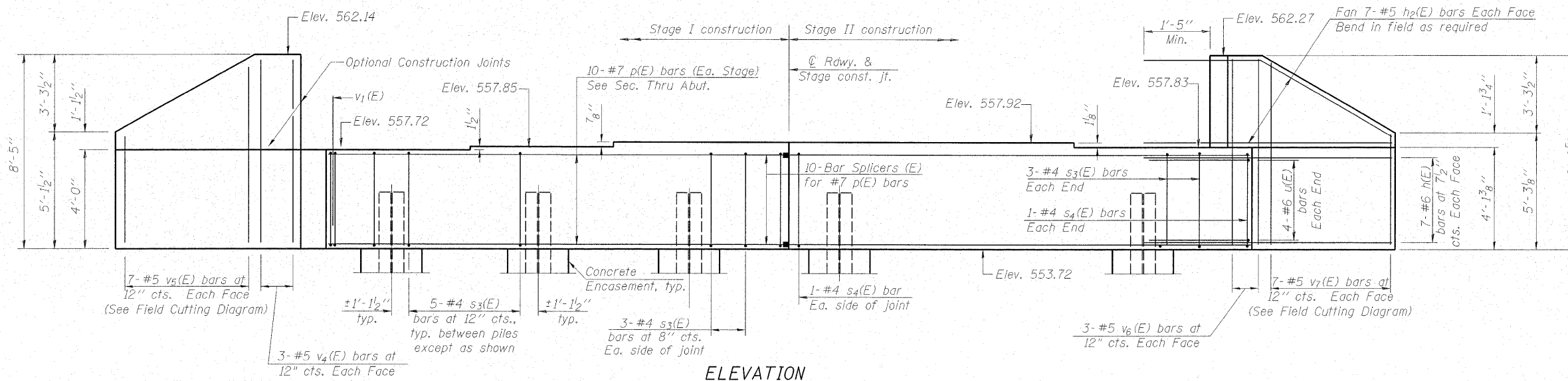
DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FA 773 IL 121	SECTION (109B) B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 77	SHEET NO. 20 25 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT#		

Contract # 74237

Notes: Pour steps monolithically with cap.



**PILE DATA**

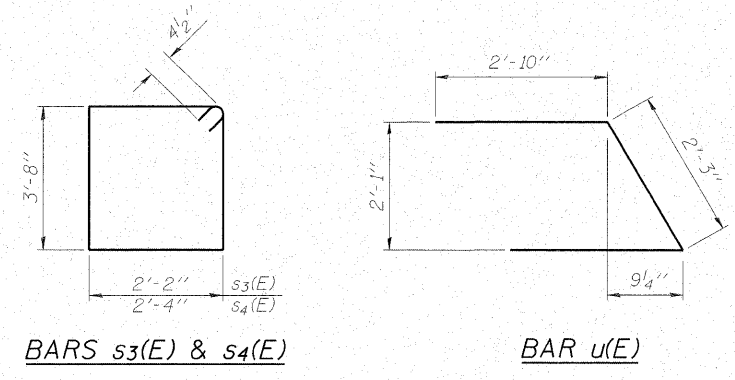
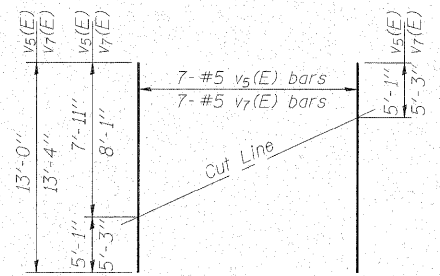
Type: Steel HP12x63  
Nominal Required Bearing: 497 kips  
Factored Resistance Available: 248 kips  
Est. Length: 22'  
No. Production Piles: 5  
No. Test Piles: 1

**BILL OF MATERIAL**

Bar No.	Size	Length	Shape
h(E)	#6	12'-5"	—
h <sub>2</sub> (E)	#5	12'-0"	—
p(E)	#7	18'-4"	—
s <sub>3</sub> (E)	#4	12'-5"	□
s <sub>4</sub> (E)	#4	12'-9"	□
u(E)	#6	7'-11"	∇
v <sub>1</sub> (E)	#5	4'-4"	—
v <sub>4</sub> (E)	#5	8'-2"	—
v <sub>5</sub> (E)	#5	13'-0"	—
v <sub>6</sub> (E)	#5	8'-3"	—
v <sub>7</sub> (E)	#5	13'-4"	—
Structure Excavation	Cu. Yd.	123	
Concrete Structures	Cu. Yd.	19.7	
Concrete Encasement	Cu. Yd.	2.1	
Reinforcement Bars, Epoxy Coated	Pound	2620	
Furnishing Steel Piles, HP12x63	Foot	110	
Driving Piles	Foot	110	
Test Pile, Steel HP12x63	Each	1	

**MAURER STUTZ, INC.**  
ENGINEERS SURVEYORS

DESIGNED - BAS  
CHECKED - KEF  
DRAWN - LAD  
CHECKED - RJA



For details of Bar Splicers, see sheet 24 of 25.  
For details of piles and Concrete Encasement, see sheet 23 of 25.

**EAST ABUTMENT**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

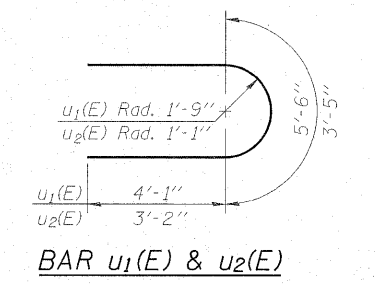
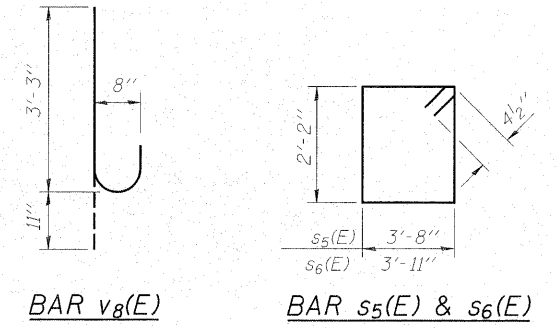
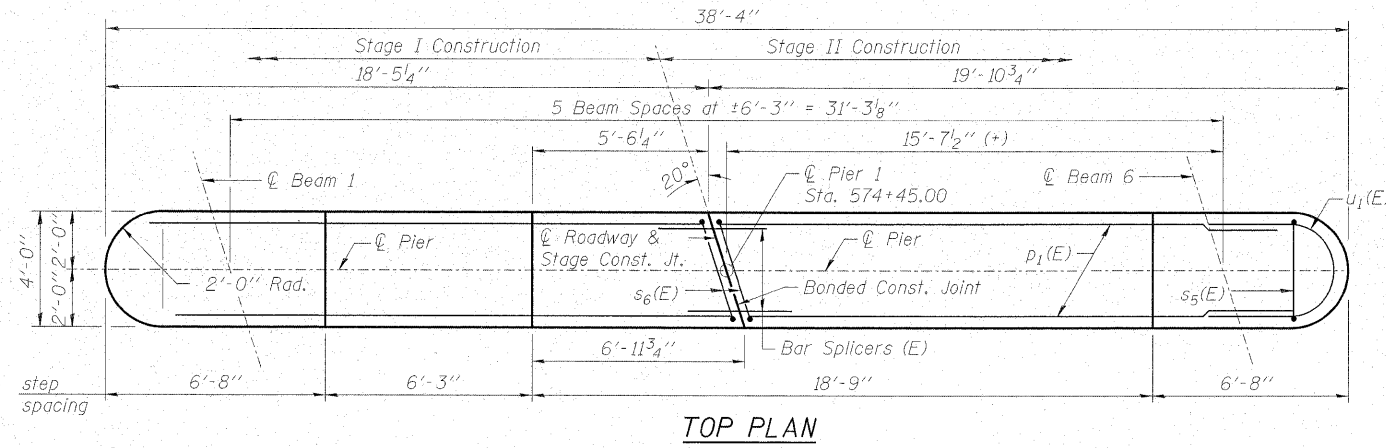
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 21 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	78	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

Notes:  
Pour steps monolithically with cap.  
For details of piles, see sheet 23 of 25.  
For details of Bar Splicers, see sheet 24 of 25.  
Space reinforcement to miss side retainer anchor bolts.  
\* Estimated pile length has been increased by 2' to account for variability in rock elevation.

**PILE DATA**

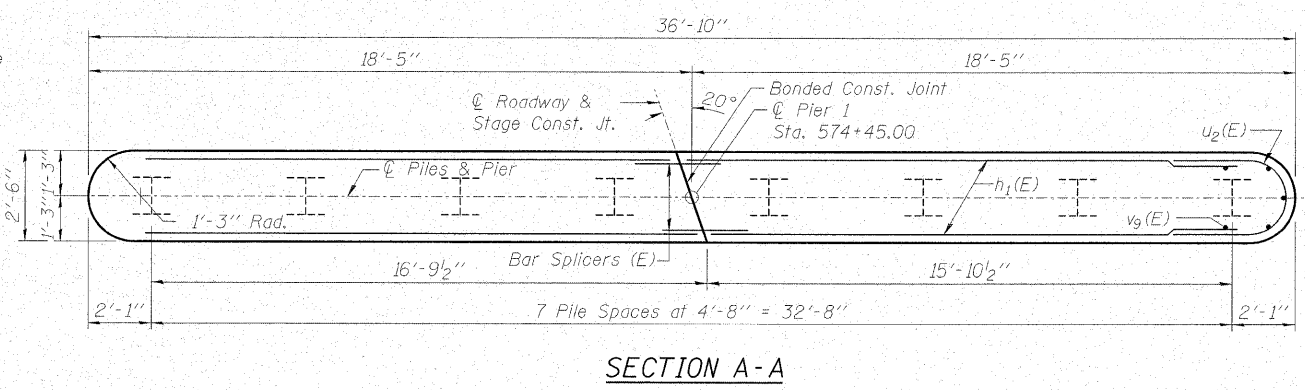
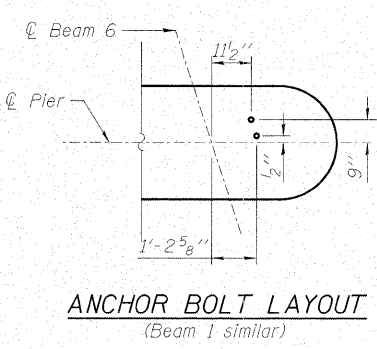
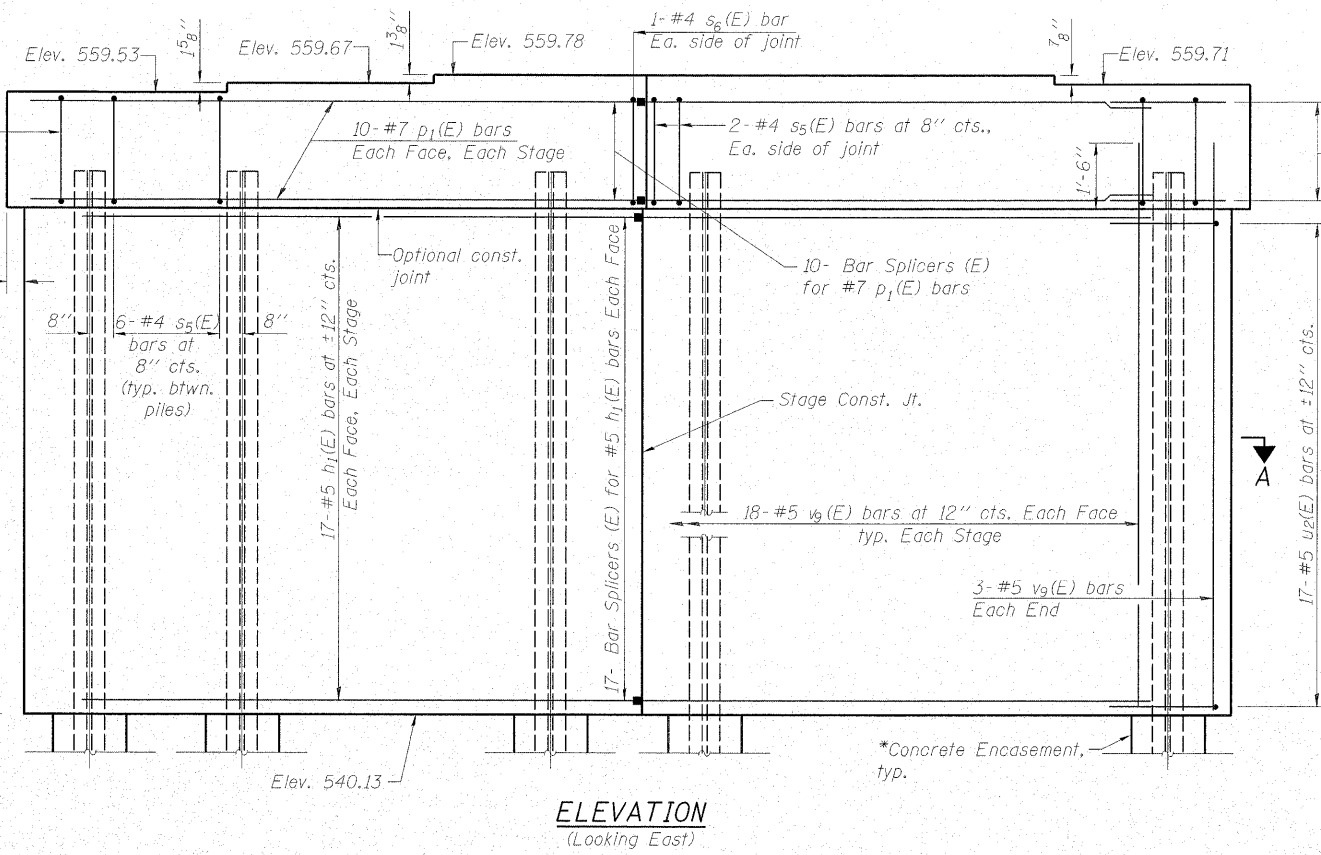
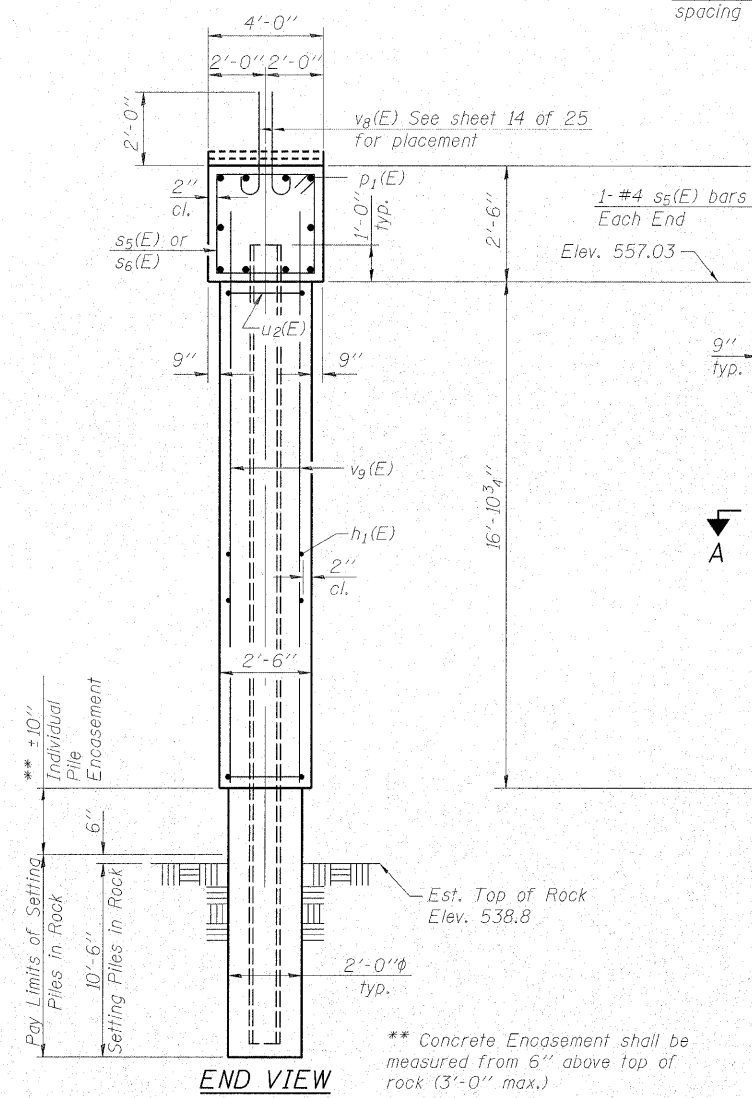
Type: Steel HP12x63  
Nominal Required Bearing: Set in Rock  
Factored Resistance Available: 248 kips  
\* Est. Length: 32'  
No. Production Piles: 8  
No. Test Piles: 0  
Est. Top of Rock Elev: 538.8  
Rock Socket Depth: 10.5 feet  
Rock Socket Diameter: 2.0 feet



If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>1</sub> (E)	68	#5	16'-8"	—
p <sub>1</sub> (E)	20	#7	16'-5"	—
s <sub>5</sub> (E)	42	#4	12'-5"	□
s <sub>6</sub> (E)	2	#4	12'-11"	□
u <sub>1</sub> (E)	6	#6	13'-8"	U
u <sub>2</sub> (E)	34	#5	9'-9"	U
v <sub>8</sub> (E)	30	#8	4'-2"	U
v <sub>9</sub> (E)	78	#5	18'-3"	—
Structure Excavation		Cu. Yd.	5.3	
Concrete Structures		Cu. Yd.	71.7	
Concrete Encasement		Cu. Yd.	0.8	
Reinforcement Bars, Epoxy Coated		Pound	4510	
Furnishing Steel Piles, HP12x63		Foot	256	
Setting Piles in Rock		Each	8	
Underwater Structure Excavation Protection, Location 2		Each	1	



**PIER 1**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

<b>MAURER STUTZ, INC.</b> ENGINEERS SURVEYORS
DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA



Notes:

Pour steps monolithically with cap.  
 For details of piles, see sheet 23 of 25.  
 For details of Bar Splicers, see sheet 24 of 25.  
 Space reinforcement to miss side retainer anchor bolts.

\* Estimated pile length has been increased by 2' to account for variability in rock elevation.

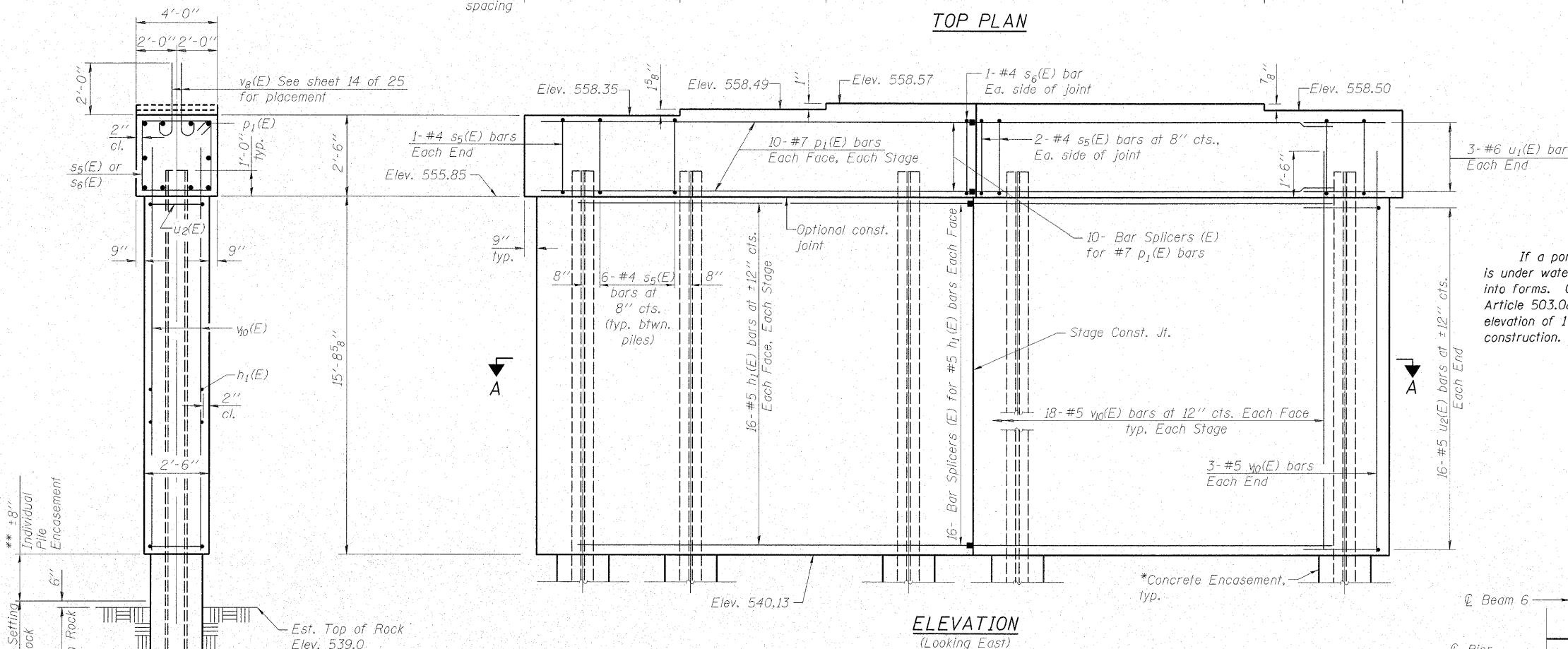
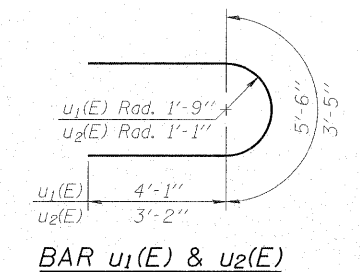
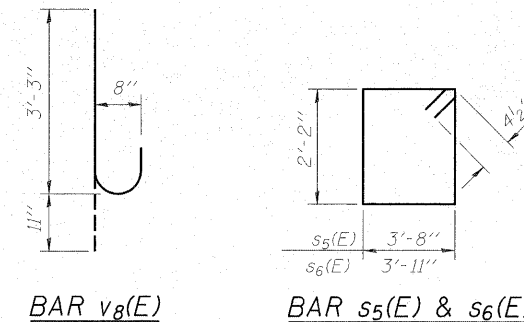
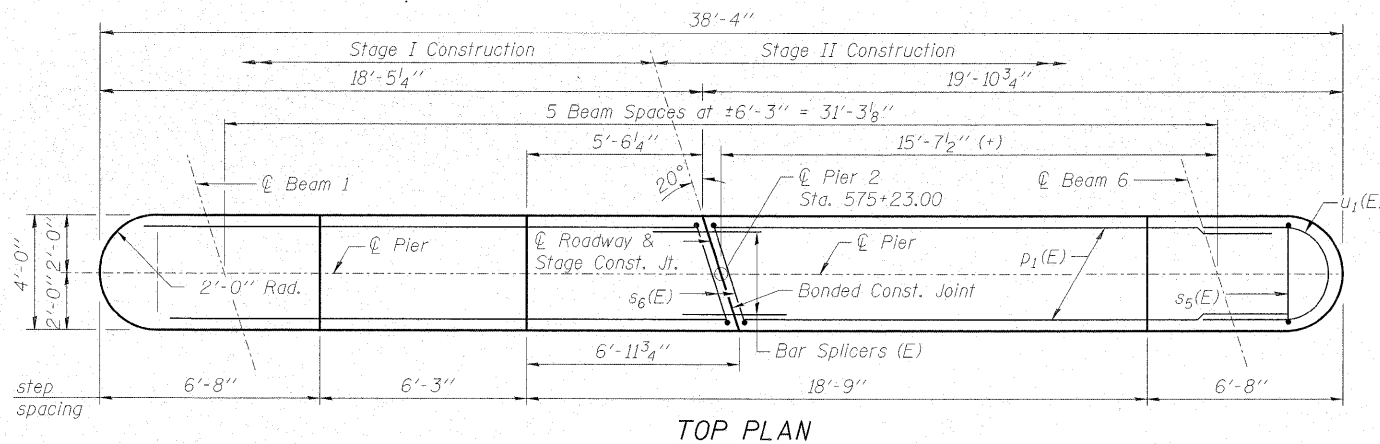
**PILE DATA**

Type: Steel HP12x63  
 Nominal Required Bearing: Set in Rock  
 Factored Resistance Available: 248 kips  
 \* Est. Length: 30'  
 No. Production Piles: 8  
 No. Test Piles: 0  
 Est. Top of Rock Elev: 539.0  
 Rock Socket Depth: 10.5 feet  
 Rock Socket Diameter: 2.0 feet

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 22
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	79	25 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

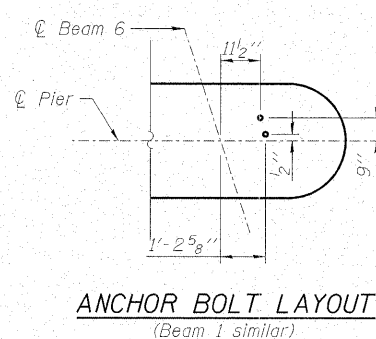
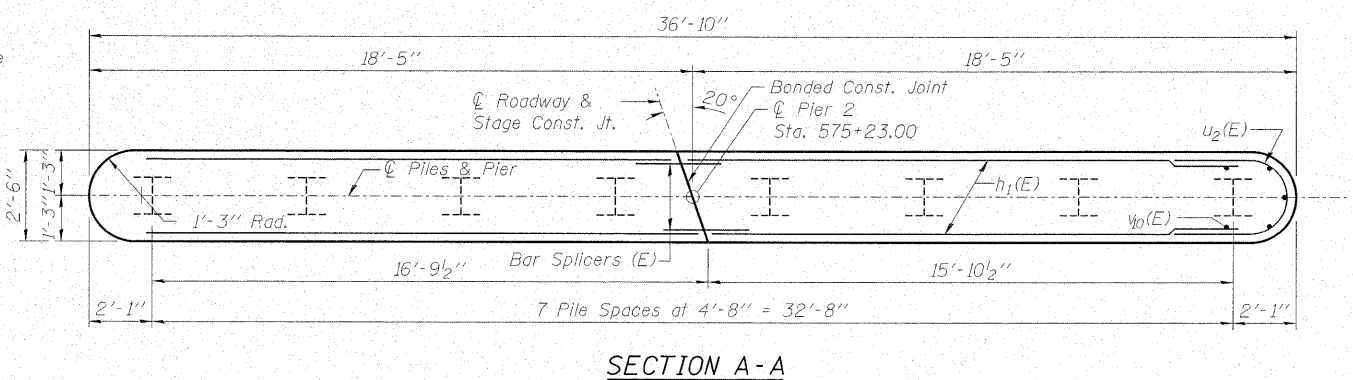
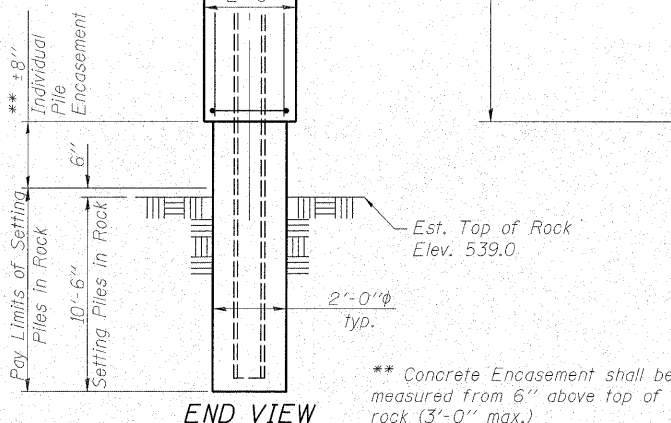
Contract # 74237



If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1(E)	64	#5	16'-8"	—
p1(E)	20	#7	16'-5"	—
s5(E)	42	#4	12'-5"	□
s6(E)	2	#4	12'-11"	□
u1(E)	6	#6	13'-8"	U
u2(E)	32	#5	9'-9"	U
v8(E)	30	#8	4'-2"	U
v0(E)	78	#5	17'-1"	—
Structure Excavation		Cu. Yd.	68	
Concrete Structures		Cu. Yd.	67.7	
Concrete Encasement		Cu. Yd.	0.6	
Reinforcement Bars, Epoxy Coated		Pound	4320	
Furnishing Steel Piles, HP12x63		Foot	240	
Setting Piles in Rock		Each	8	
Underwater Structure Excavation Protection, Location 3		Each	1	



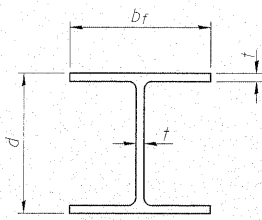
**PIER 2**  
 IL ROUTE 121 OVER BIG MUDDY CREEK  
 F.A.P. RTE. 773 - SECTION (109B)B-1  
 CUMBERLAND COUNTY  
 STATION 574+84.00  
 STRUCTURE NO. 018-0063

<b>MAURER STUTZ, INC.</b> ENGINEERS SURVEYORS
DESIGNED - BAS
CHECKED - KEF
DRAWN - LAD
CHECKED - RJA

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

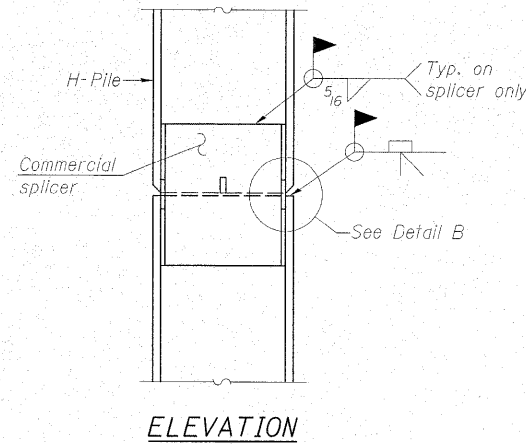
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 23 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	80	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

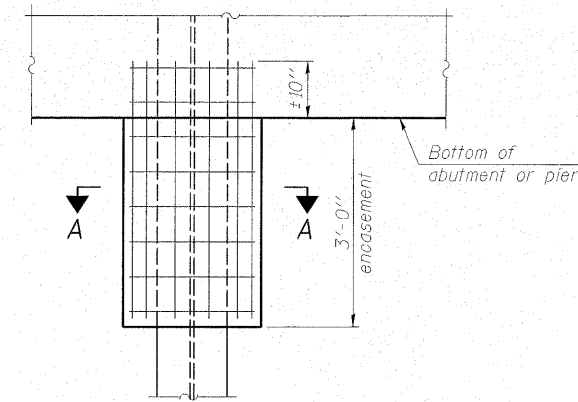


STEEL PILE TABLE

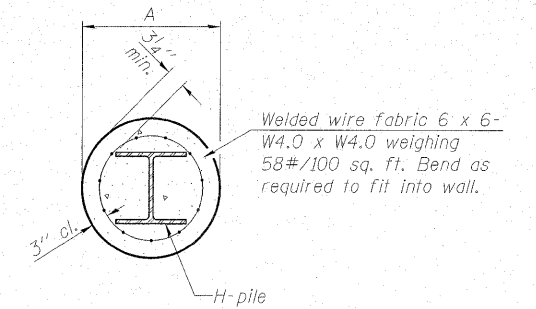
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 1/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 9/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



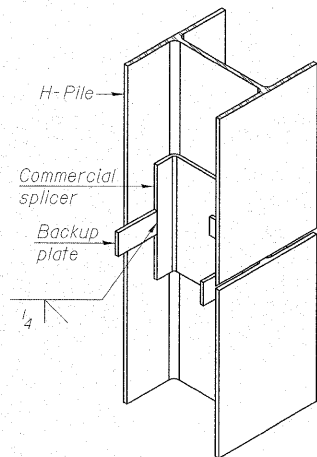
ELEVATION



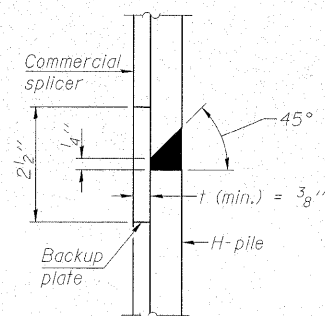
SECTION A-A

Note:  
Forms for encasement may be omitted when soil conditions permit.

PILE ENCASEMENT

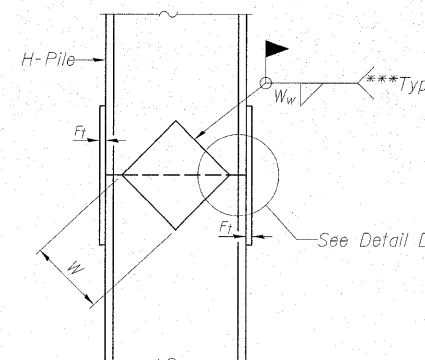


ISOMETRIC VIEW

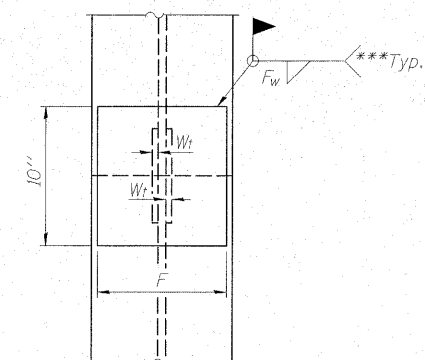


DETAIL "B"

WELDED COMMERCIAL SPLICE

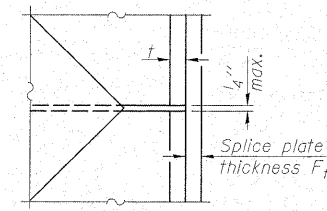


ELEVATION



END VIEW

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 8/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 8/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 8/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

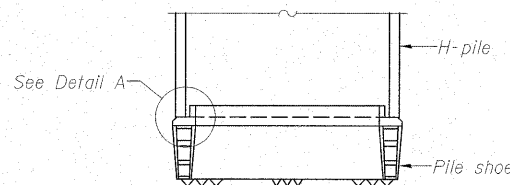


DETAIL D

WELDED PLATE FIELD SPLICE

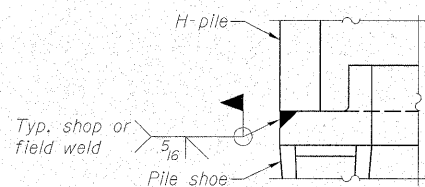
Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.

STEEL H-PILE DETAILS  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

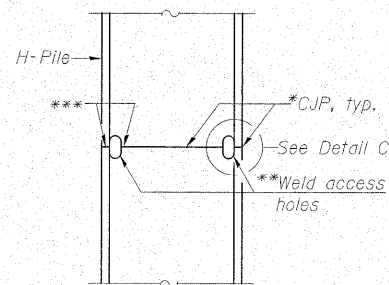


ELEVATION

H-PILE SHOE ATTACHMENT

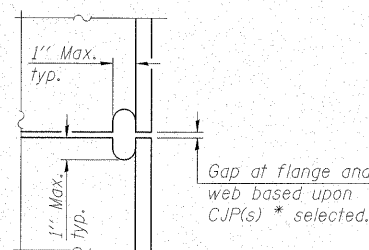


DETAIL A



ELEVATION

COMPLETE PENETRATION WELD SPLICE



DETAIL C

\*Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.  
\*\*Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.  
\*\*\*Interrupt welds 1/4" from end of each pile.



DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

F-HP 9-3-07

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

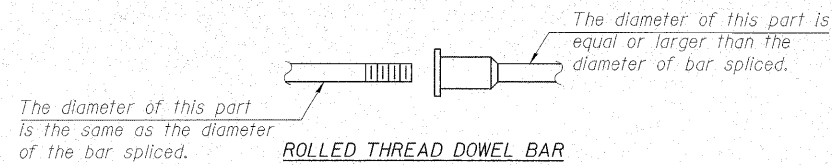
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 24
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	81	25 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

**NOTES**

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

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



ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

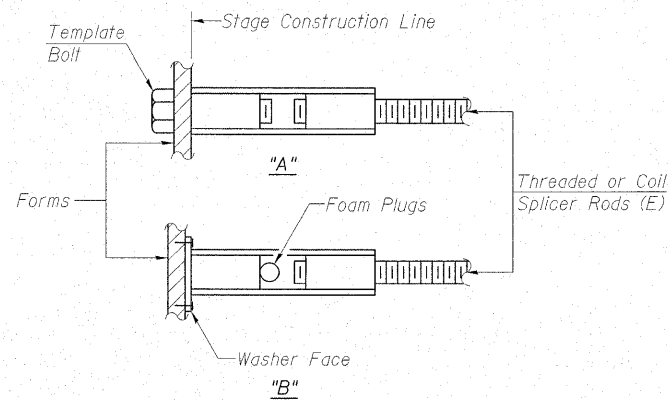
Wire Connector



WELDED SECTIONS

**BAR SPLICER ASSEMBLY ALTERNATIVES**

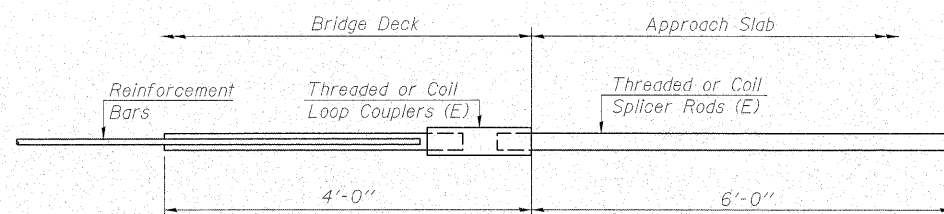
\*\*Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



**INSTALLATION AND SETTING METHODS**

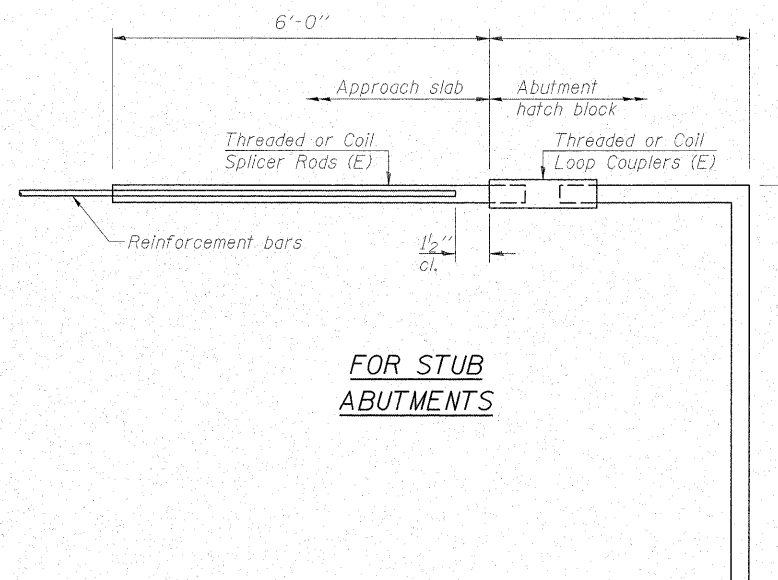
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

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



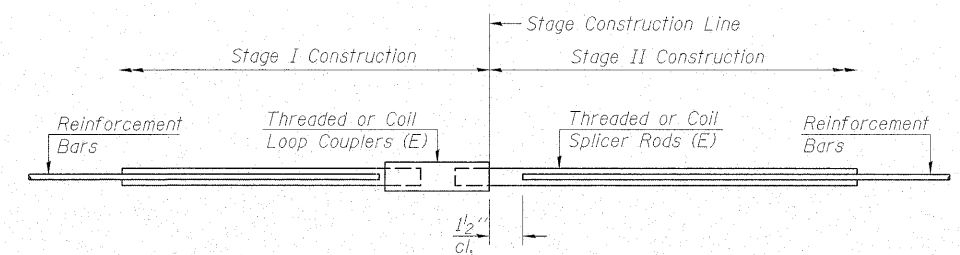
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 64



**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	522	Deck
#6	16	Abut. Diaph.
#4	8	Pier Diaph.
#6	4	Pier Diaph.
#7	20	Abutments
#7	20	Piers
#5	66	Piers

**BAR SPLICER ASSEMBLY DETAILS**  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063



DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

BSD-1

11-1-06

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 25 25 SHEETS
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	82	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

Contract # 74237

Illinois Department of Transportation  
Division of Highways  
Illinois Department of Transportation

**SOIL BORING LOG** Page 1 of 1  
Date 6/8/07

ROUTE FAP 773 (IL 121) DESCRIPTION Big Muddy Creek LOGGED BY E. Sandschafer

SECTION (108BR3.109B)B-1 LOCATION SE 1/4 - Sec 27, NE 1/4 - Sec34, SEC., TWP. 10 N, RNG. 8 E, 3 PM

COUNTY Cumberland DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 018-0030  
Station 574+84

BORING NO. 1  
Station 573+86  
Offset 9.50ft Rt  
Ground Surface Elev. 563.56 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	SPACING (ft)	TEST TYPE	TEST VALUE	TEST TYPE	TEST VALUE
0	11.5" asphalt on 4.5" concrete.						
562.26	Very soft, damp, brown, SANDY LOAM.		2				
559.06	Very soft to medium, very damp, brown to gray, SILTY LOAM w/ trace fine Gravel.		0				
538.56	Very dense, moist, gray, CLAY LOAM SHALE.		0				
536.06	Extent of exploration.		0				
544.06	Benchmark: BM 305 brass tablet cast in top of coping on SW corner of existing bridge "State of Illinois, Survey Marker, Division of Highways" = 563.56' elevation. Provided by Program Development.		0				

Surface Water Elev. 541.76 ft  
Stream Bed Elev. 540.76 ft  
Groundwater Elev.:  
First Encounter 541.6 ft  
Upon Completion Dry ft  
After 24 Hrs. Dry ft

Soil, very damp, gray, SANDY LOAM. (continued) 542.76  
Loose, wet, gray, fine grained, SAND. 9% passing #200 sieve.

3" asphalt on 10" concrete pavement. 560.10  
Very soft to stiff, damp, gray, SANDY LOAM.

Very dense, moist, gray, CLAY LOAM SHALE.

Borehole continued with rock coring.

Extent of exploration.

Benchmark: BM 305 brass tablet cast in top of coping on SW corner of existing bridge "State of Illinois, Survey Marker, Division of Highways" = 563.56' elevation. Provided by Program Development.

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 2  
Date 6/8/07

ROUTE FAP 773 (IL 121) DESCRIPTION Big Muddy Creek LOGGED BY E. Sandschafer

SECTION (108BR3.109B)B-1 LOCATION SE 1/4 - Sec 27, NE 1/4 - Sec34, SEC., TWP. 10 N, RNG. 8 E, 3 PM

COUNTY Cumberland DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 018-0030  
Station 574+84

BORING NO. 2  
Station 575+88  
Offset 9.50ft Lt  
Ground Surface Elev. 561.20 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	SPACING (ft)	TEST TYPE	TEST VALUE	TEST TYPE	TEST VALUE
0	3" asphalt on 10" concrete pavement.						
560.10	Very soft to stiff, damp, gray, SANDY LOAM. (continued)		0				
539.20	Very dense, moist, gray, CLAY LOAM SHALE.		2				
536.30	Borehole continued with rock coring.		0				
521.50	Extent of exploration.		0				

Surface Water Elev. 541.76 ft  
Stream Bed Elev. 540.76 ft  
Groundwater Elev.:  
First Encounter Dry ft  
Upon Completion Washed ft  
After 24 Hrs. 551.7 ft

Very soft to stiff, damp, gray, SANDY LOAM. (continued)

Very dense, moist, gray, CLAY LOAM SHALE.

Borehole continued with rock coring.

Extent of exploration.

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 6/8/07

ROUTE FAP 773 (IL 121) DESCRIPTION Big Muddy Creek LOGGED BY E. Sandschafer

SECTION (108BR3.109B)B-1 LOCATION SE 1/4 - Sec 27, NE 1/4 - Sec34, SEC., TWP. 10 N, RNG. 8 E, 3 PM

COUNTY Cumberland CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 018-0030  
Station 574+84

BORING NO. 2  
Station 575+88  
Offset 9.50ft Lt  
Ground Surface Elev. 561.20 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	SPACING (ft)	TEST TYPE	TEST VALUE	TEST TYPE	TEST VALUE
536.30	Gray, moderately weathered, CLAY LOAM SHALE.		2				
521.50	Extent of exploration.		0				

Rock core B2A @ 29.2' to 29.5' Qu = 80 tsf.

Rock core B2B @ 32.1' to 32.6' Qu = 87 tsf.

Rock core B2C @ 36.8' to 37.3' Qu = 127 tsf.

Benchmark: BM 305 brass tablet cast in top of coping on SW corner of existing bridge "State of Illinois, Survey Marker, Division of Highways" = 563.56' elevation. Provided by Program Development.

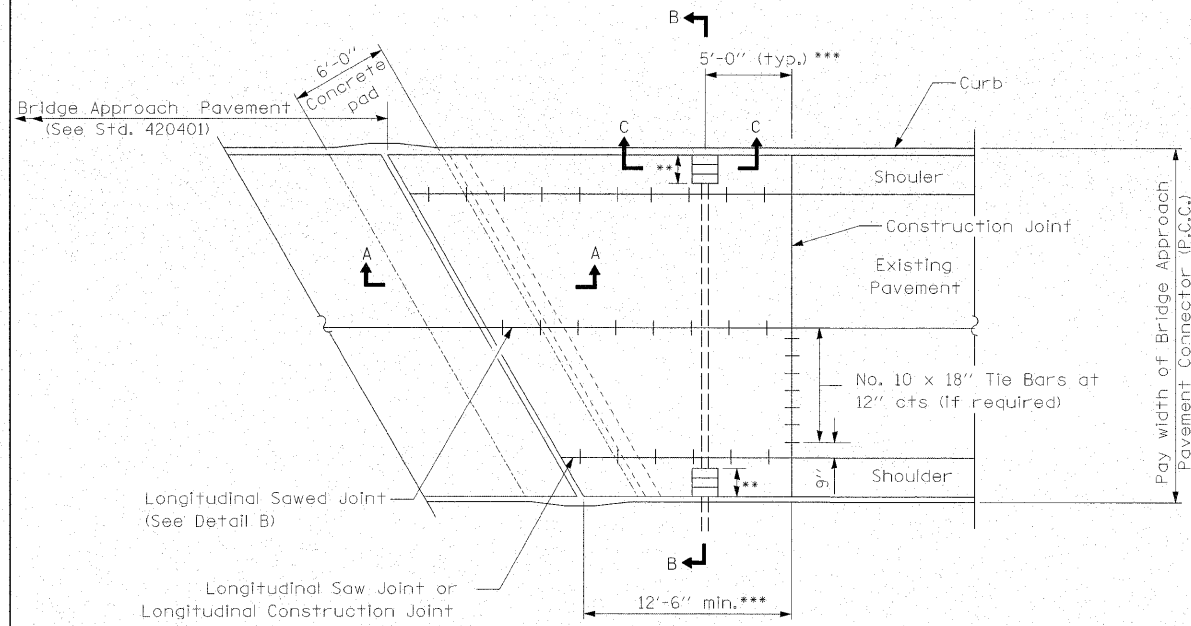
Color pictures of the cores Available on request  
Cores will be stored for examination until 06/08/08  
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

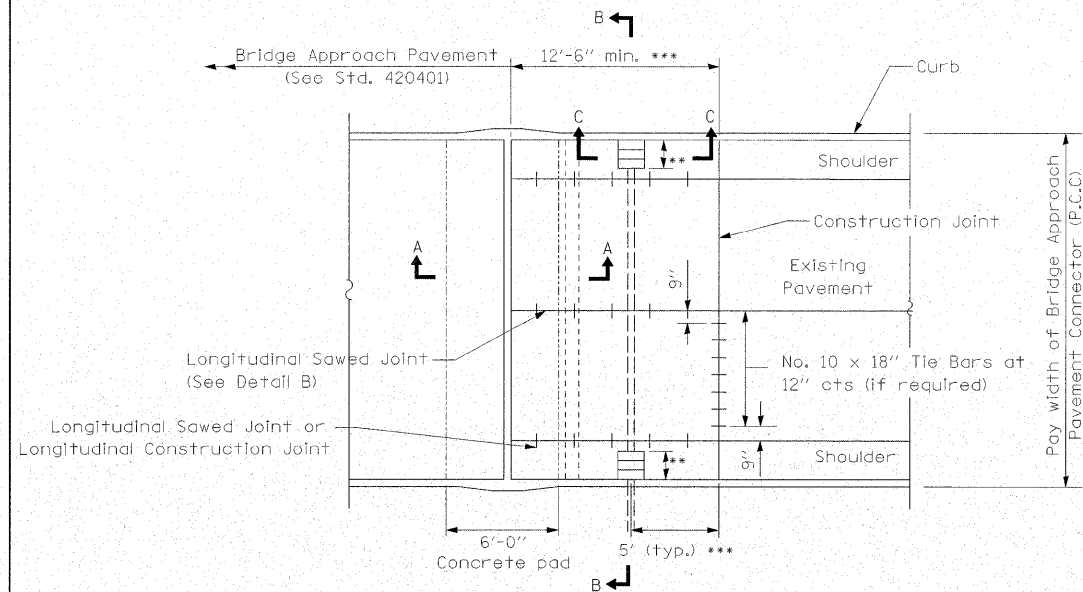


DESIGNED - BAS
CHECKED - KEF
DRAWN - SEM
CHECKED - RJA

SOIL BORINGS  
IL ROUTE 121 OVER BIG MUDDY CREEK  
F.A.P. RTE. 773 - SECTION (109B)B-1  
CUMBERLAND COUNTY  
STATION 574+84.00  
STRUCTURE NO. 018-0063

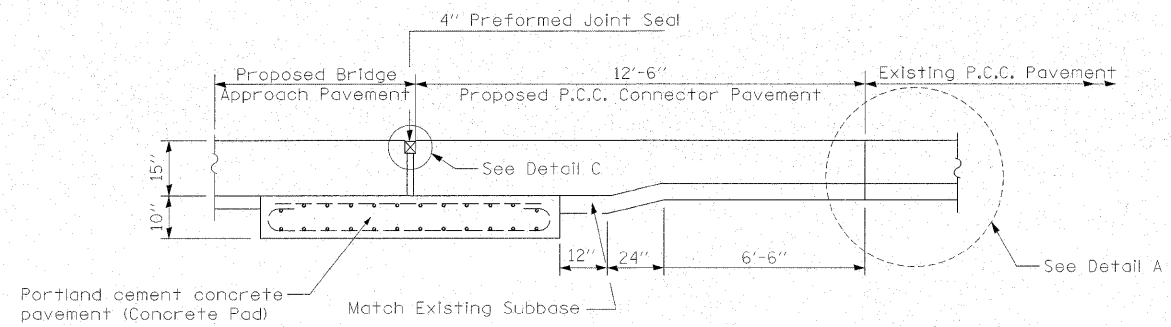


**PLAN - WITH SKEW**

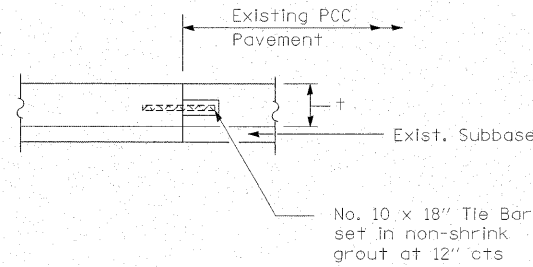


**PLAN - WITHOUT SKEW**

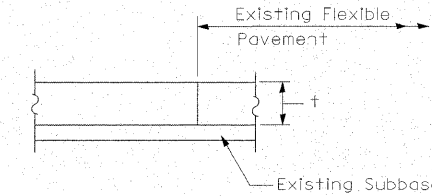
- \* Used to tie pipe to concrete collar for pipe drain only.
- \*\* Type B, C, or D inlet box (Special) as required.
- \*\*\* Increase this dimension as needed to position the inlet box and pipe drain between the proposed approach guardrail posts.



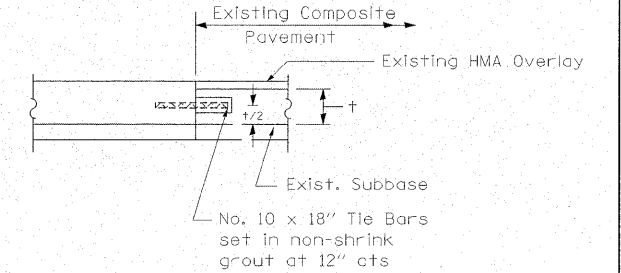
**SECTION A-A**



**DETAIL A - RIGID PAVEMENT**



**DETAIL A - FLEXIBLE PAVEMENT**



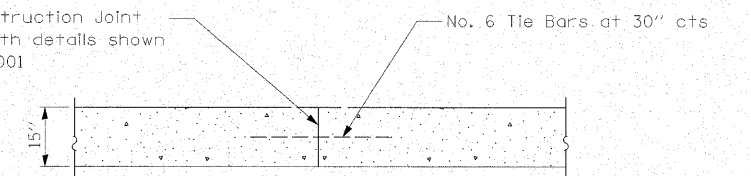
**DETAIL A - COMPOSITE PAVEMENT**



**DETAIL B**

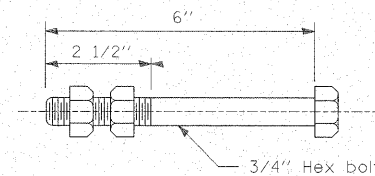
(Reinforcement Not Shown)

Longitudinal Construction Joint in accordance with details shown on Standard 420001



**OPTIONAL LONGITUDINAL CONSTRUCTION JOINT**

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.

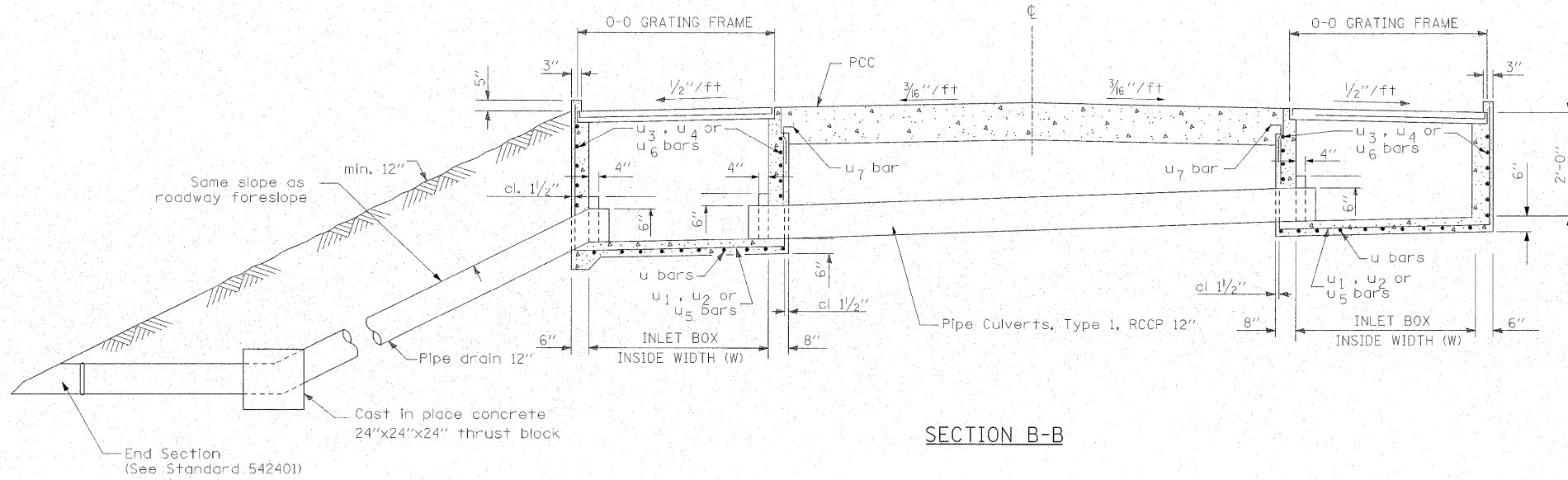


**ANCHOR BOLT**

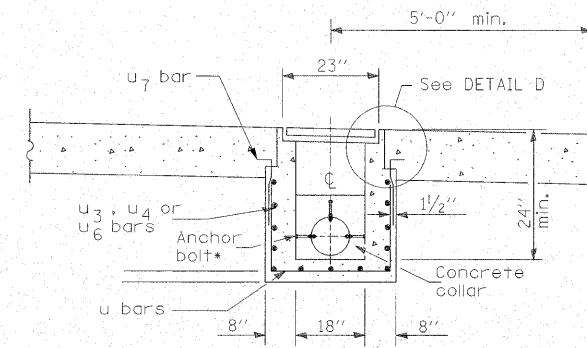
(Used to tie pipe to concrete collar for pipe drain only)

FILE NAME = #FILEL#	USER NAME = \$USER#	DESIGNED - GBM	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BRIDGE APPROACH PAVEMENT CONNECTOR DRAIN DETAIL</b>	F.A.P. RTE. 773	SECTION (108BR-3, 109BIB-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 83		
PLOT SCALE = \$SCALE#	CHECKED - RJA 09/17/08	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO. 74237				
PLOT DATE = \$DATE#	DATE - 09/26/08	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT									

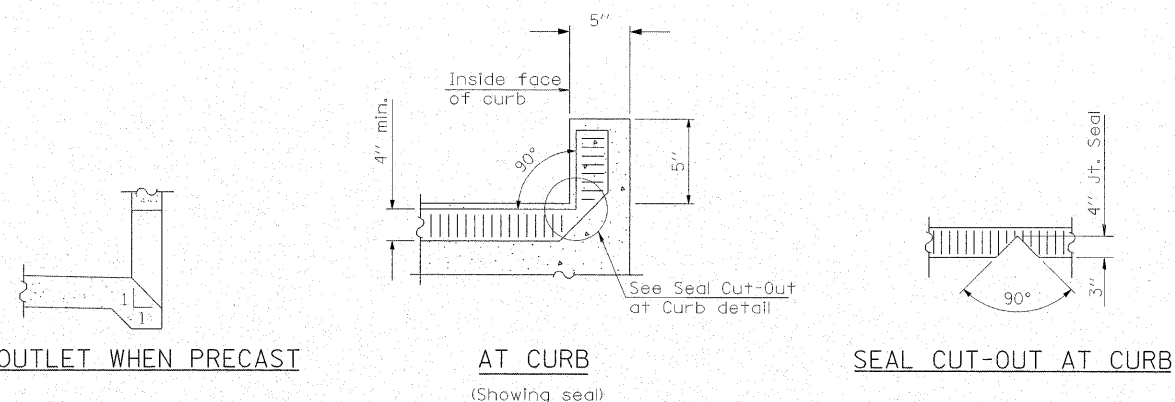




**SECTION B-B**



**SECTION C-C**

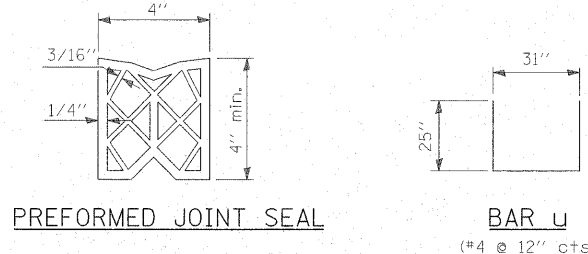


**BOX OUTLET WHEN PRECAST**

**AT CURB**

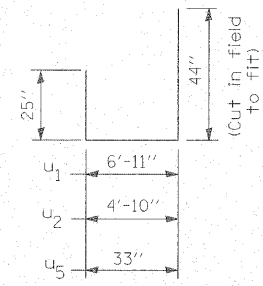
(Showing seal)

**SEAL CUT-OUT AT CURB**



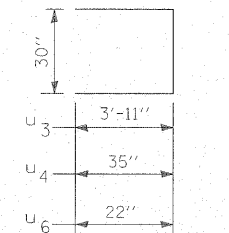
**PREFORMED JOINT SEAL**

**BAR u**  
(#4 @ 12\"/>



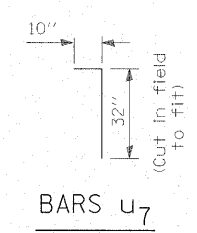
**BARS u<sub>1</sub>, u<sub>2</sub> & u<sub>5</sub>**

(3 - #4)

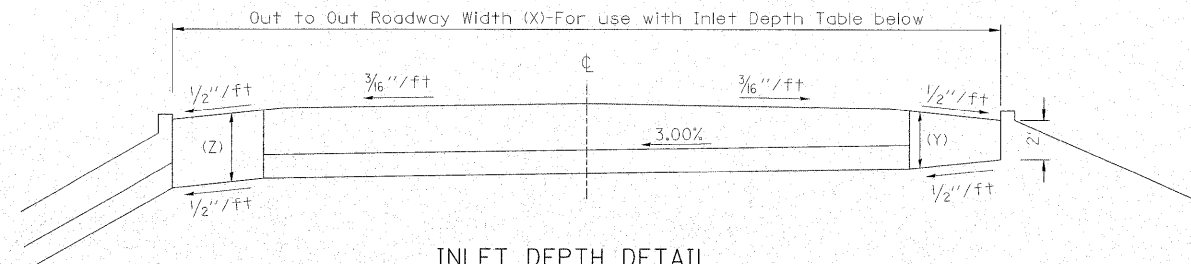


**BARS u<sub>3</sub>, u<sub>4</sub> & u<sub>6</sub>**

(#4 @ 9\"/>

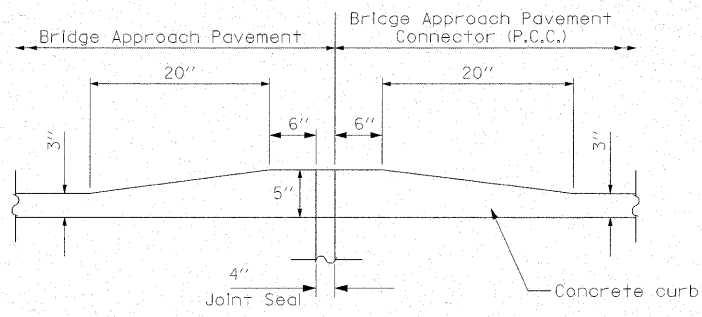


**BARS u<sub>7</sub>**

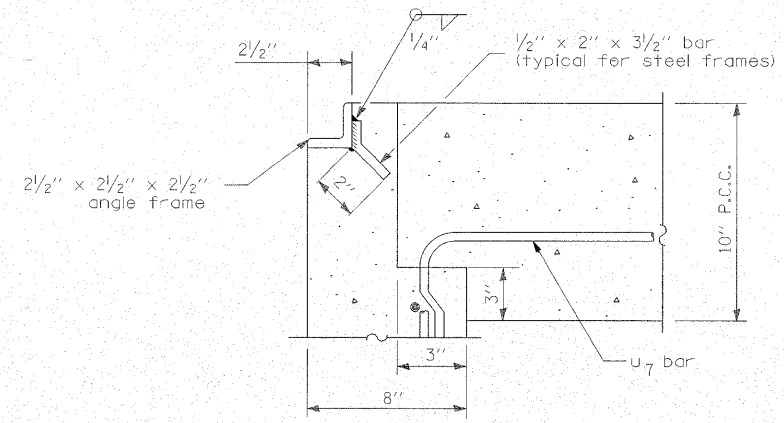


**INLET DEPTH DETAIL**

(See Inlet Depth Table Below)



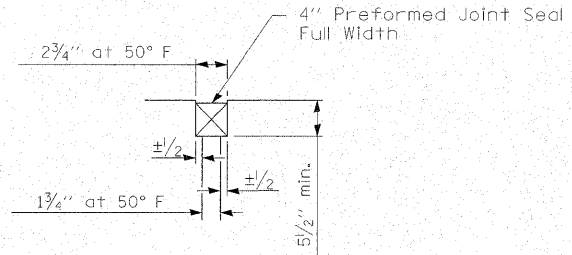
**CURB TRANSITION AT JOINT**



**DETAIL D**

INLET TYPE (Special)	SHOULDER WIDTH	0-0 GRATING FRAME	INLET BOX INSIDE WIDTH (W)	INLET BOX INSIDE LENGTH	UPSTREAM INLET DEPTH (Y)	DOWNSTREAM INLET DEPTH (Z)
Type B	Less than 5'	2' - 3'	1' - 10"	18"	2' - 2"	Z = Y + [X - 2(W + 3'')]0.03
Type C	5' - 6'	4' - 4"	3' - 11"	18"	2' - 4"	
Type D	Greater than 6'	6' - 5"	6' - 0"	18"	2' - 6"	

**INLET DEPTH TABLE**

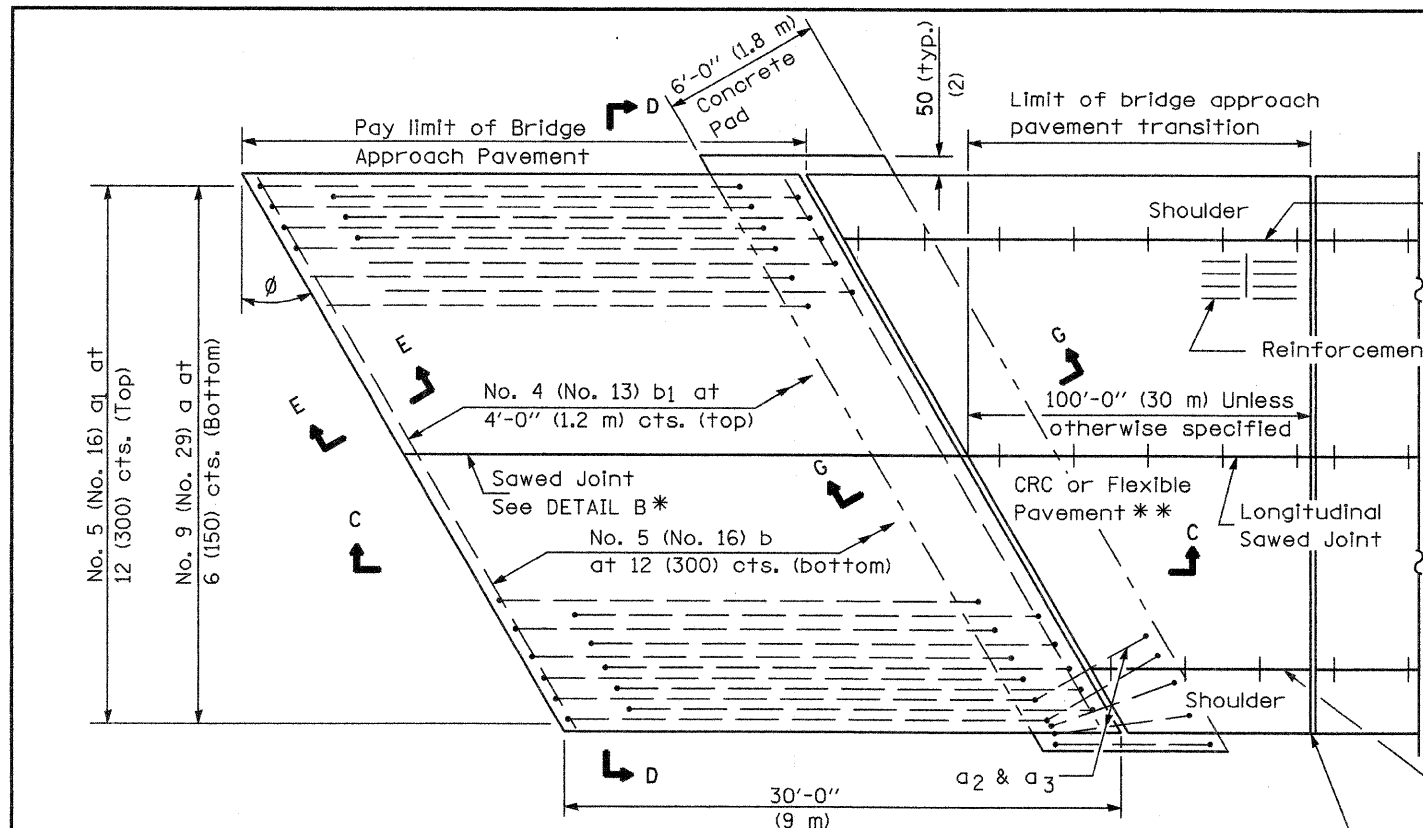


**DETAIL C**

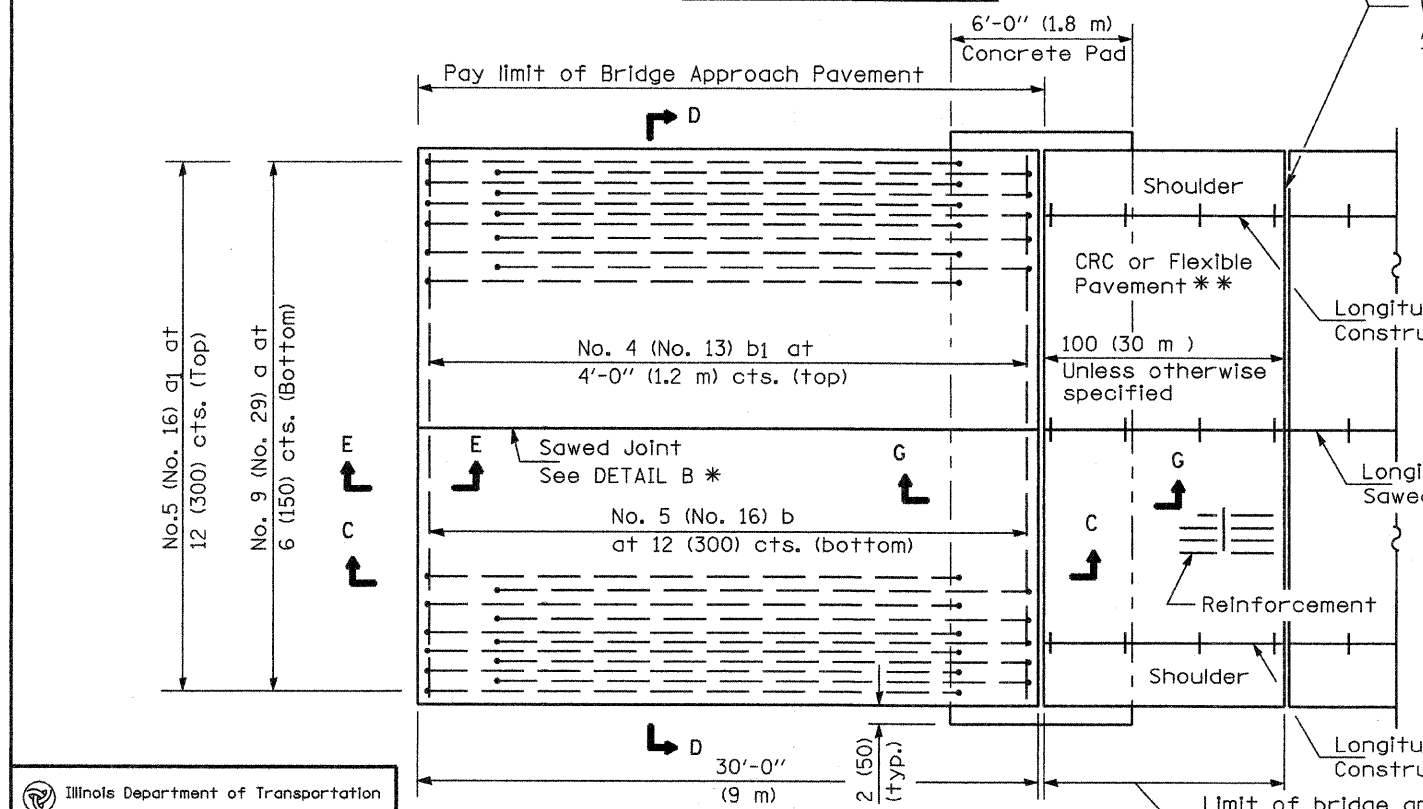
**GENERAL NOTES**

THICKNESS - "t" = thickness of existing pavement.  
All exposed edges of the inlet, except the upper perimeter, shall be beveled 3/4\"/>

All dimensions are in inches.  
See Standard 420001 for joint details not shown.  
See Standard 609001 for frame and grate details.



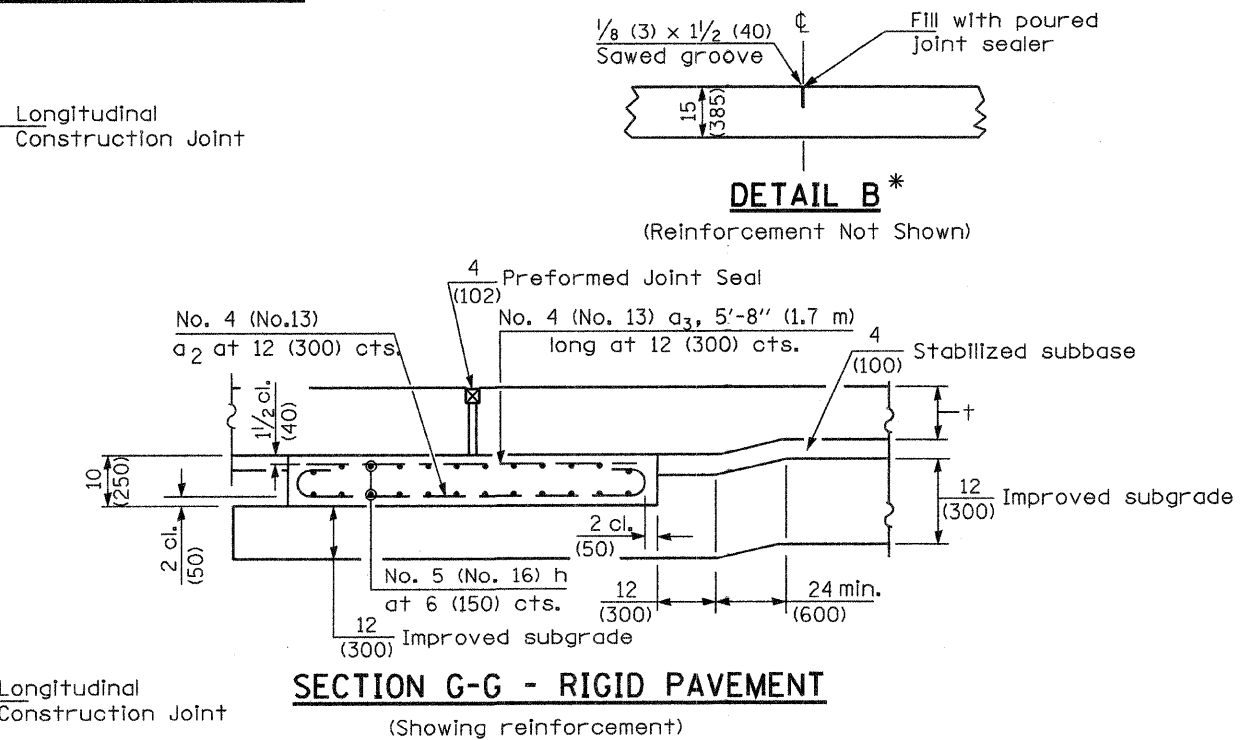
**PLAN - WITH SKEW**



**PLAN - WITHOUT SKEW**

\* Saw  $\phi$  or lane edge if poured two or more lane widths at a time.  
 \*\* Omit Reinforcement, tie bars and Long. sawed Jt. for Flexible Pavement.

**NEW CONSTRUCTION**

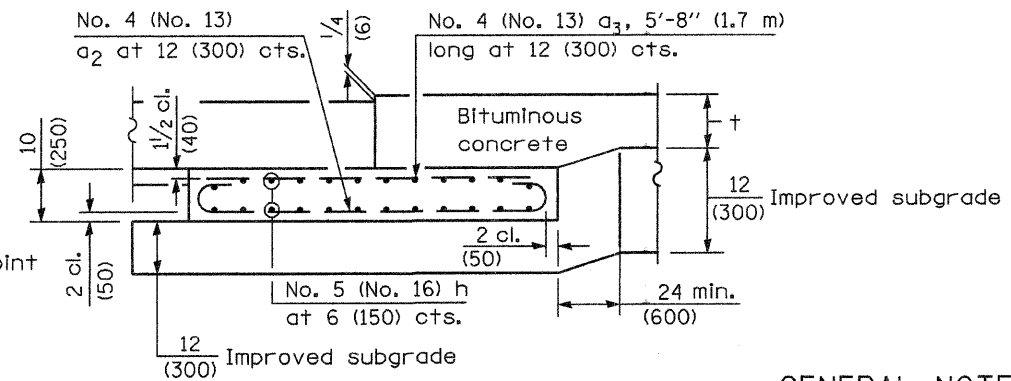


**SECTION G-G - RIGID PAVEMENT**

(Showing reinforcement)

**Rigid Pavement only:**

Wide Flange Beam Terminal Joint (See DETAIL AT BEAM - Standard 421101 or 421106) or 2 (50) Trans. Exp. Joint as detailed on Standard 420001.



**SECTION G-G - FLEXIBLE PAVEMENT**

(Showing reinforcement)

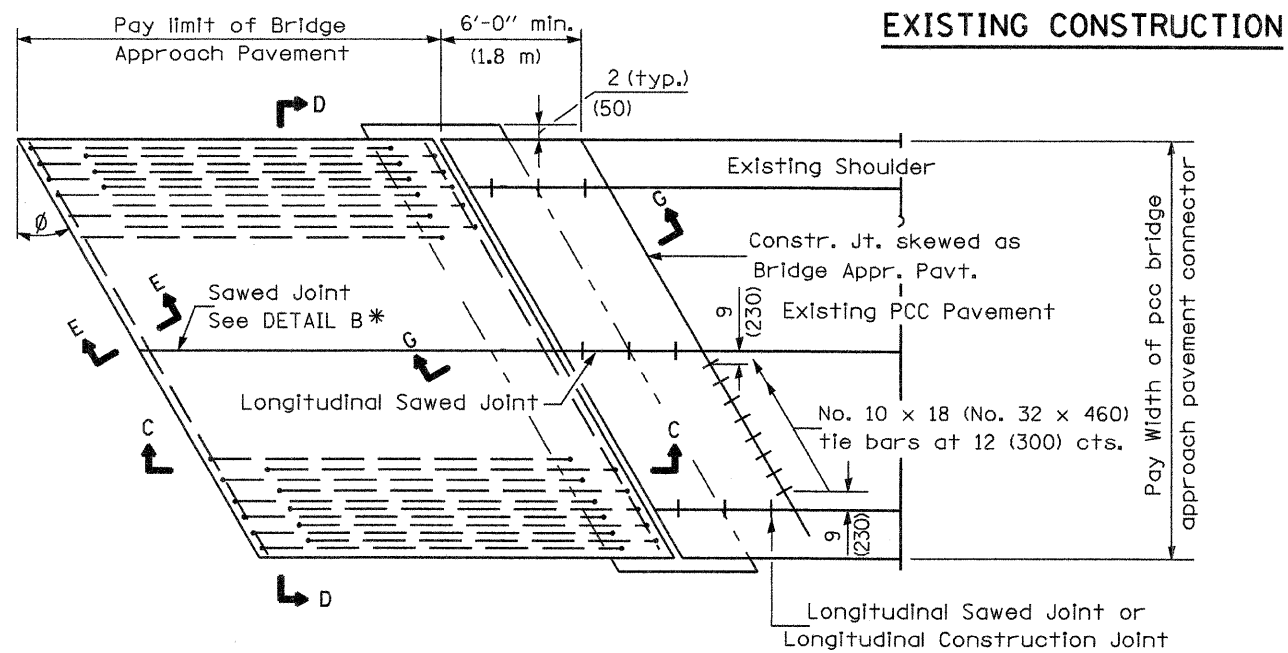
**GENERAL NOTES**

THICKNESS-"t"=Thickness of Pavement.  
 See Standard 421001 for reinforcement details not shown.  
 See Standard 420001 for joint details not shown.  
 All dimensions are in inches (millimeters) unless otherwise shown.

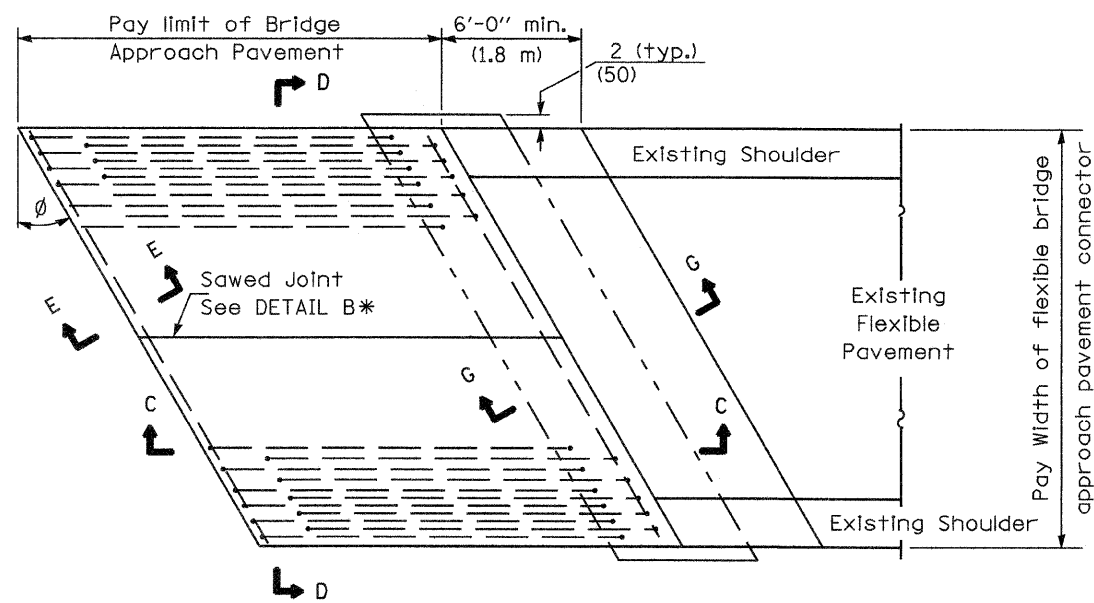
Illinois Department of Transportation  
 APPROVED January 1, 2008  
*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES  
 APPROVED January 1, 2008  
*Ken E. Han*  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-97

DATE	REVISIONS
1-1-08	Switched units to English (metric). Moved rebar epoxy coat note to Standard Spec.
1-1-04	Rev. size of Trans. Exp. Jt. and soft converted metric reinf.

**BRIDGE APPROACH PAVEMENT**  
 (Sheet 1 of 4)  
 Contract 74237  
 B4A.

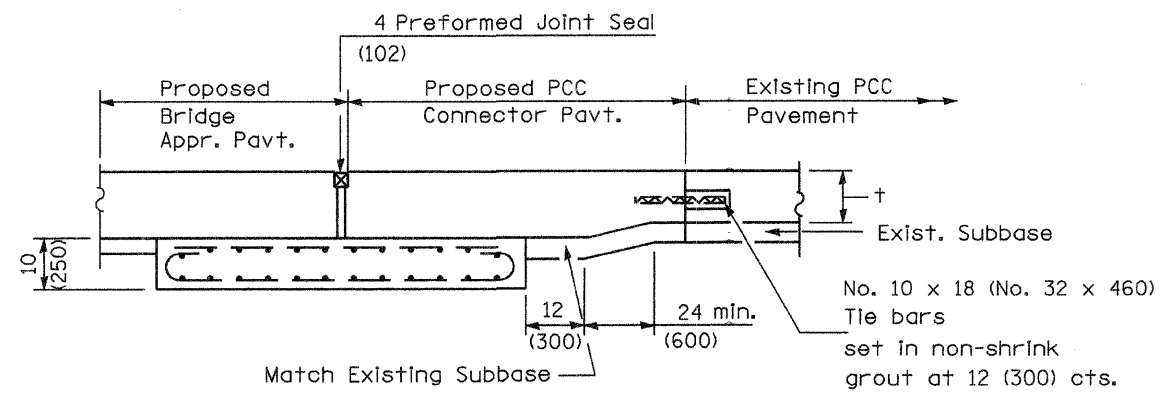


**BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)**

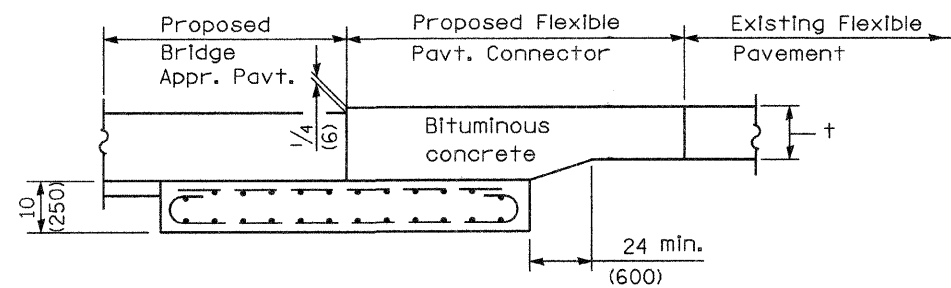


**BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)**

**EXISTING CONSTRUCTION**



**SECTION G-G - RIGID PAVEMENT**



**SECTION G-G - FLEXIBLE PAVEMENT**

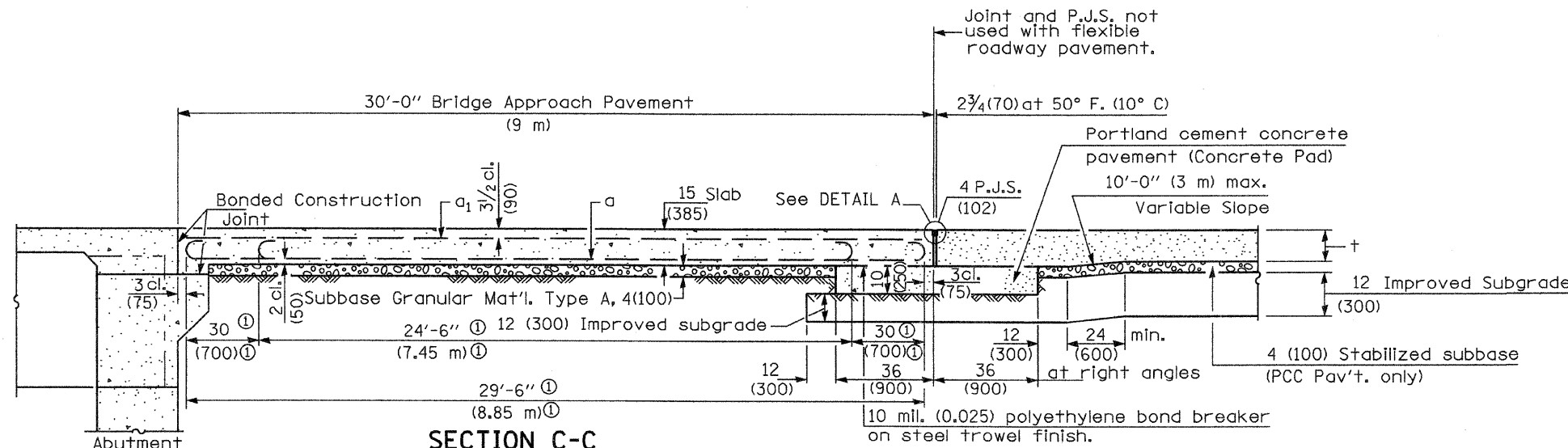
Illinois Department of Transportation  
 APPROVED January 1, 2008  
*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES  
 APPROVED January 1, 2008  
*Ken E. Han*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

**BRIDGE APPROACH PAVEMENT**

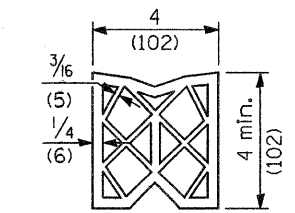
(Sheet 2 of 4)

Contract 74237 04B.

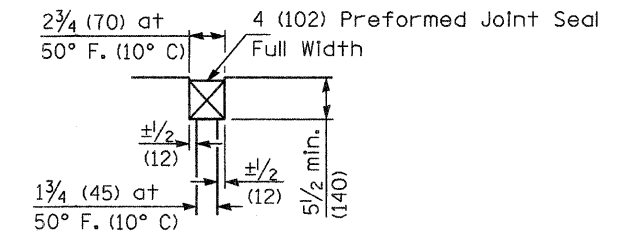


**SECTION C-C**

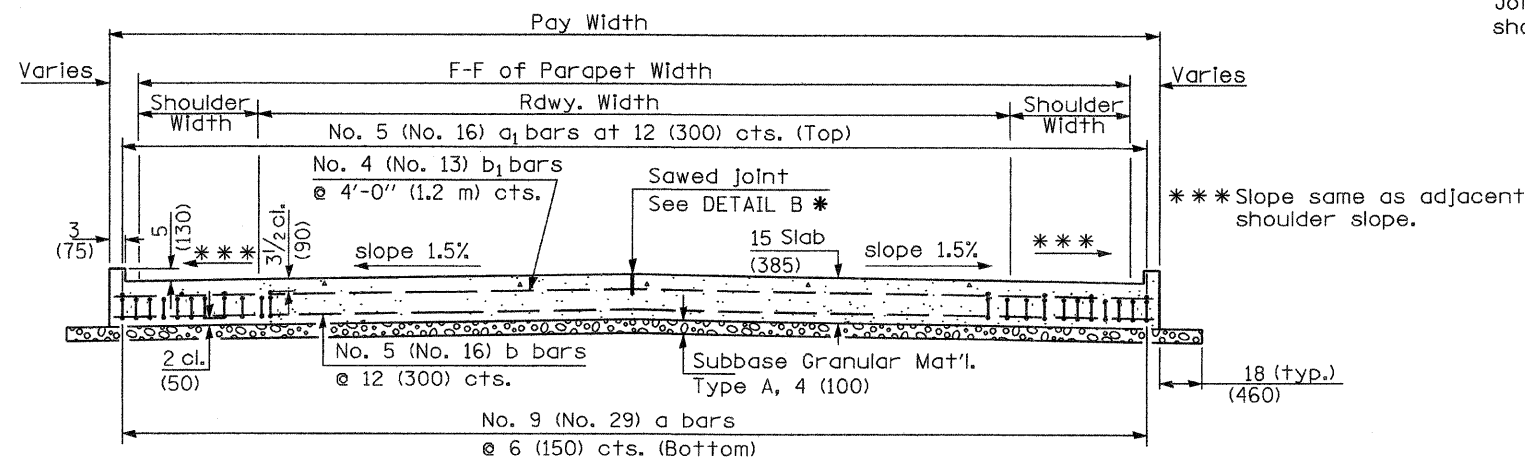
① Stagger No. 9 (No. 29) a bars as shown on plan - full width



**PREFORMED JOINT SEAL**



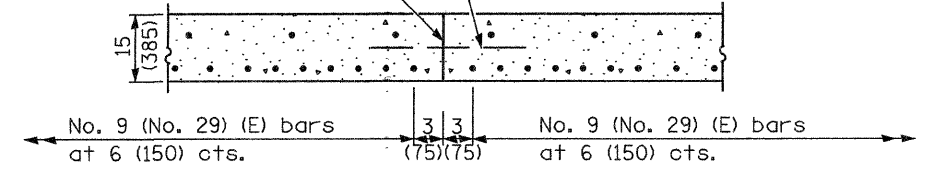
**DETAIL A**



**SECTION D-D**

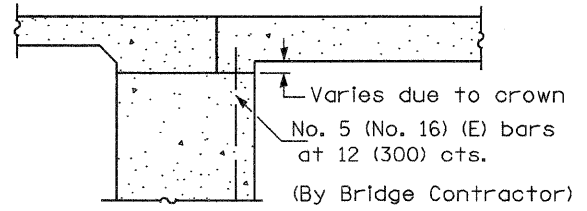
(See Plan for Dimensions not shown)

Longitudinal Construction Joint In accordance with details shown on Standard 420001.



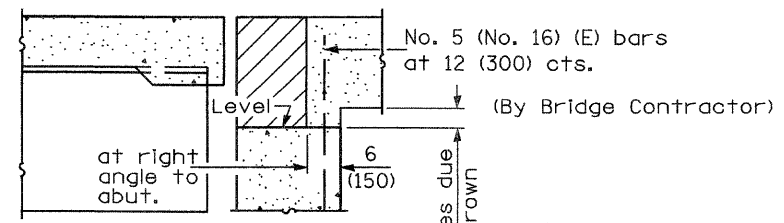
**OPTIONAL LONGITUDINAL CONSTRUCTION JOINT**

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.



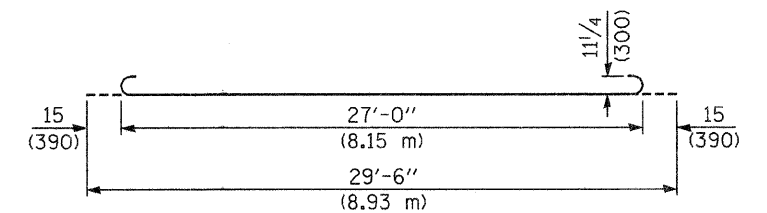
**SECTION E-E**

(Integral Abutments)

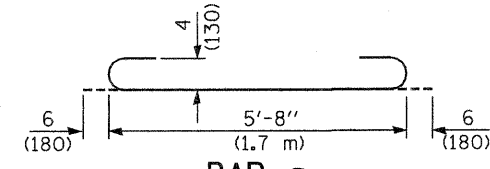


**SECTION E-E**

(Jointed Abutments)



**BAR a**



**BAR a<sub>2</sub>**

**DESIGN STRESSES**

f<sub>y</sub> = 60,000 p.s.i. (400 MPa)  
 f'c = 3,500 p.s.i. (24 MPa)  
 n = 8.5

**BRIDGE APPROACH PAVEMENT**

(Sheet 3 of 4)

Illinois Department of Transportation

APPROVED January 1, 2008

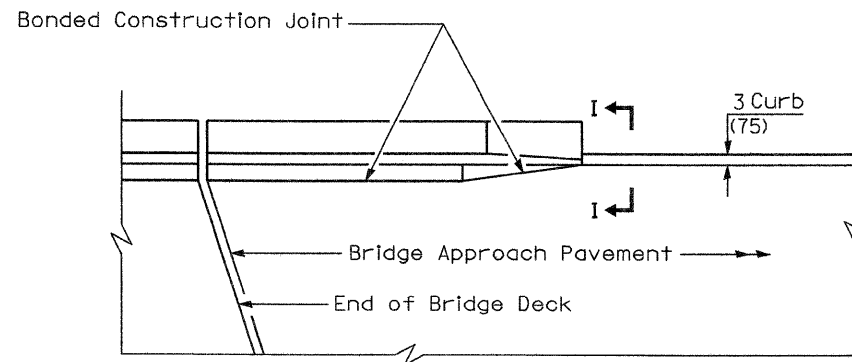
*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

APPROVED January 1, 2008

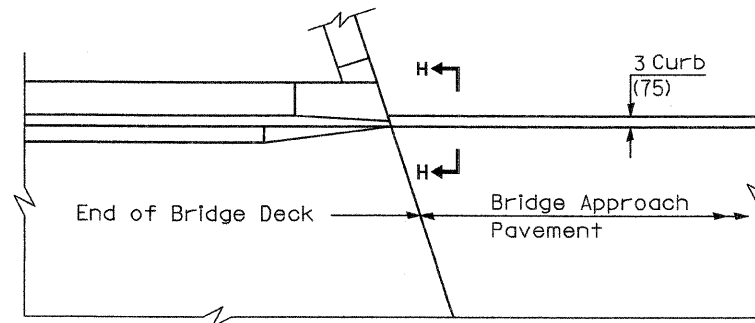
*Ken E. Han*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

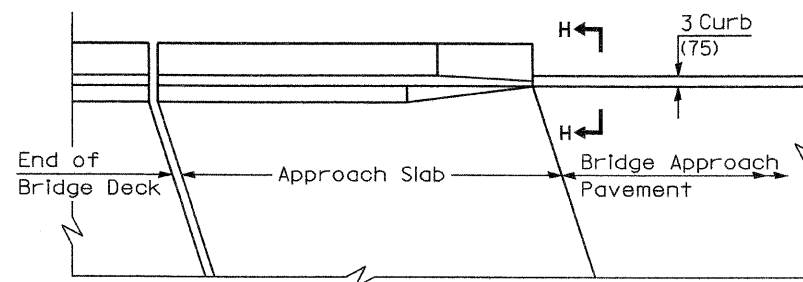
Contract 74237 84c.



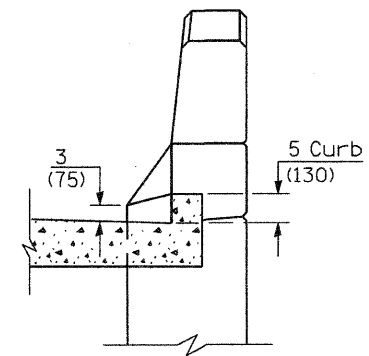
**PARAPET TO CURB TRANSITION  
PILE BENT ABUTMENT**



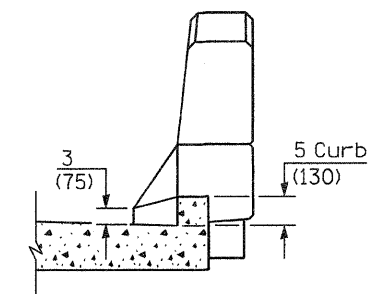
**PARAPET TO CURB TRANSITION  
INTEGRAL ABUTMENT**



**PARAPET TO CURB TRANSITION  
VAULTED ABUTMENT**



**SECTION I - I**



**SECTION H - H**

Illinois Department of Transportation  
 APPROVED January 1, 2008  
*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES  
 APPROVED January 1, 2008  
*Ken E. Han*  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-97

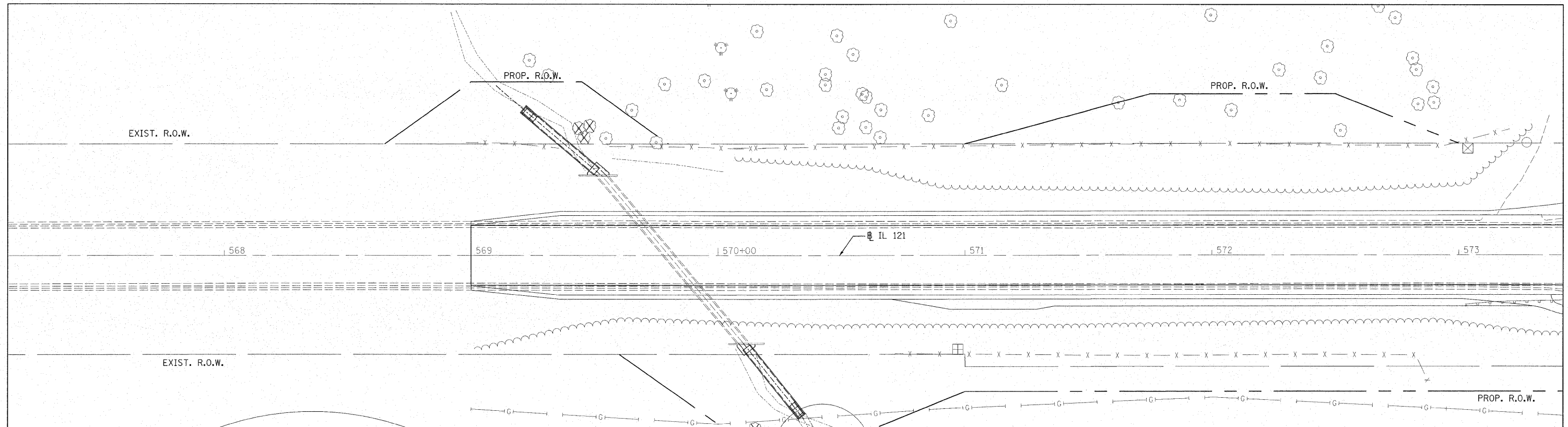
**BRIDGE APPROACH PAVEMENT**

(Sheet 4 of 4)

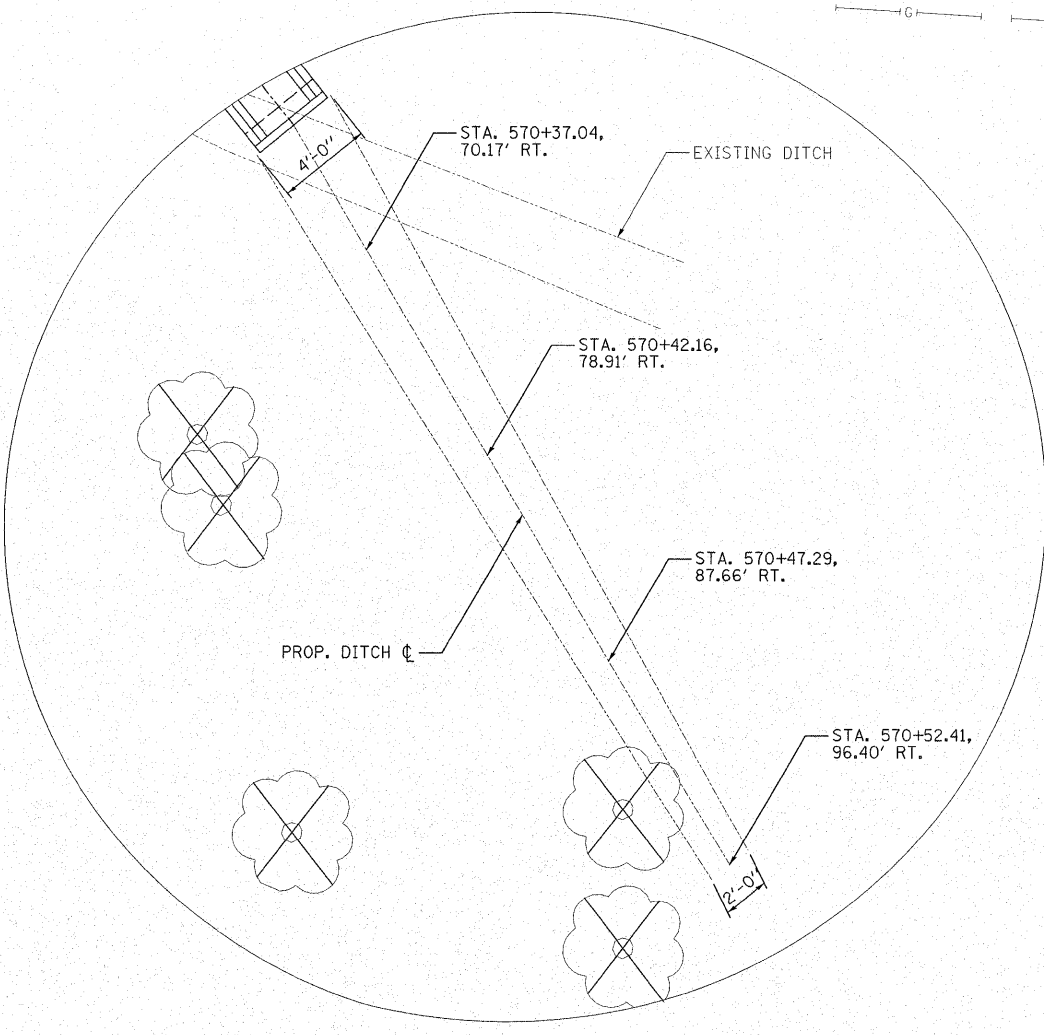
Contract 74237

840.

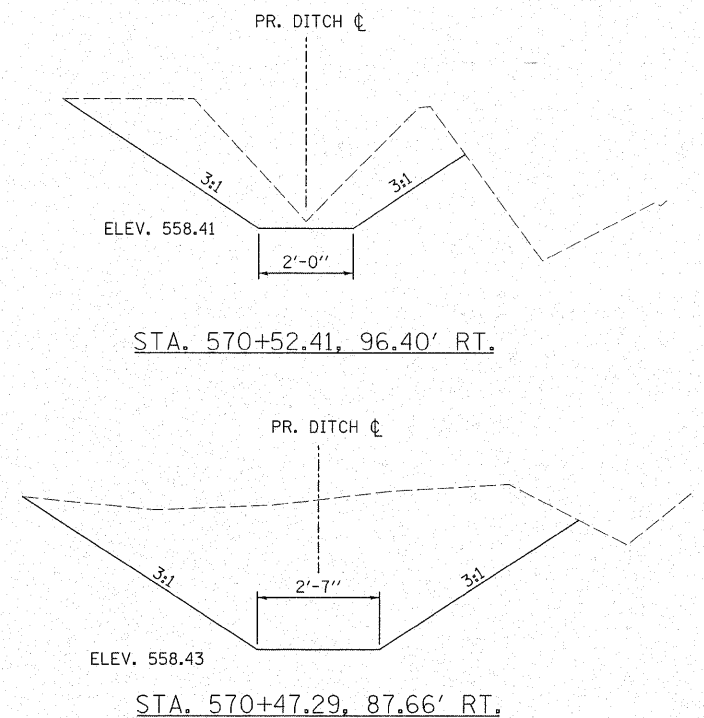
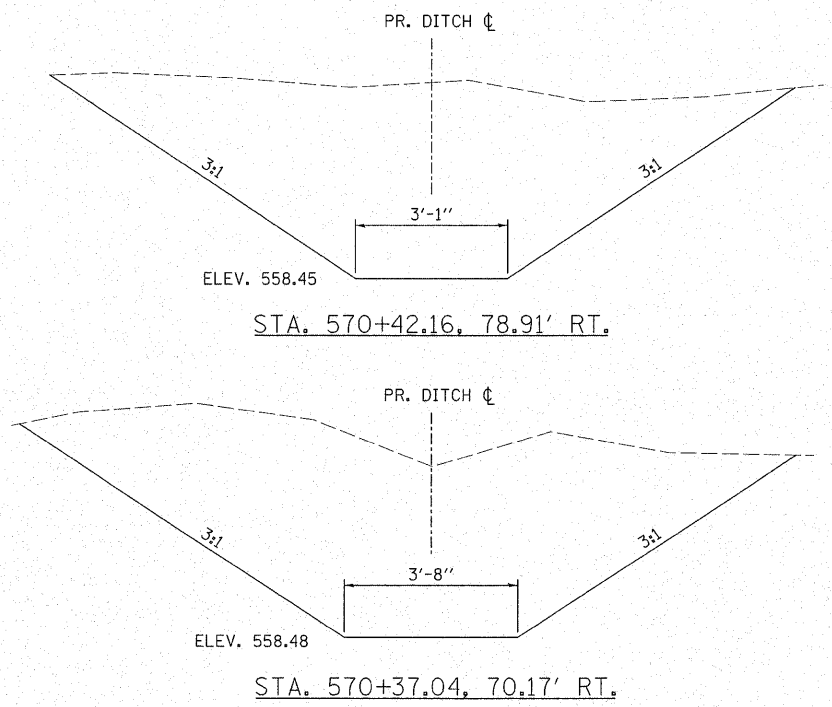




**NOTE:**  
SEE SCHEDULE OF QUANTITIES, SHEET NO. 17, FOR TREE  
REMOVAL SIZE AND LOCATION.



**DITCH DETAIL**



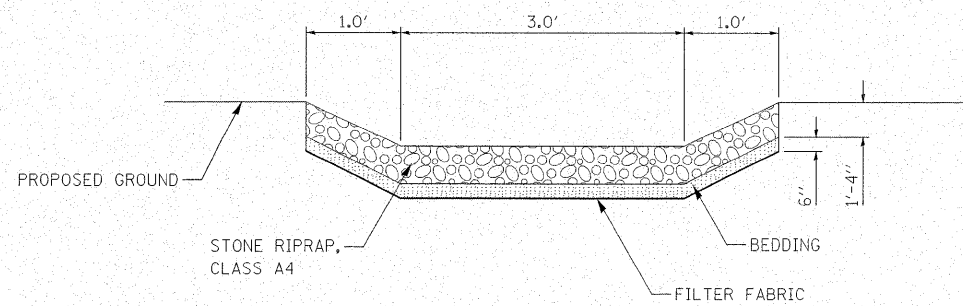
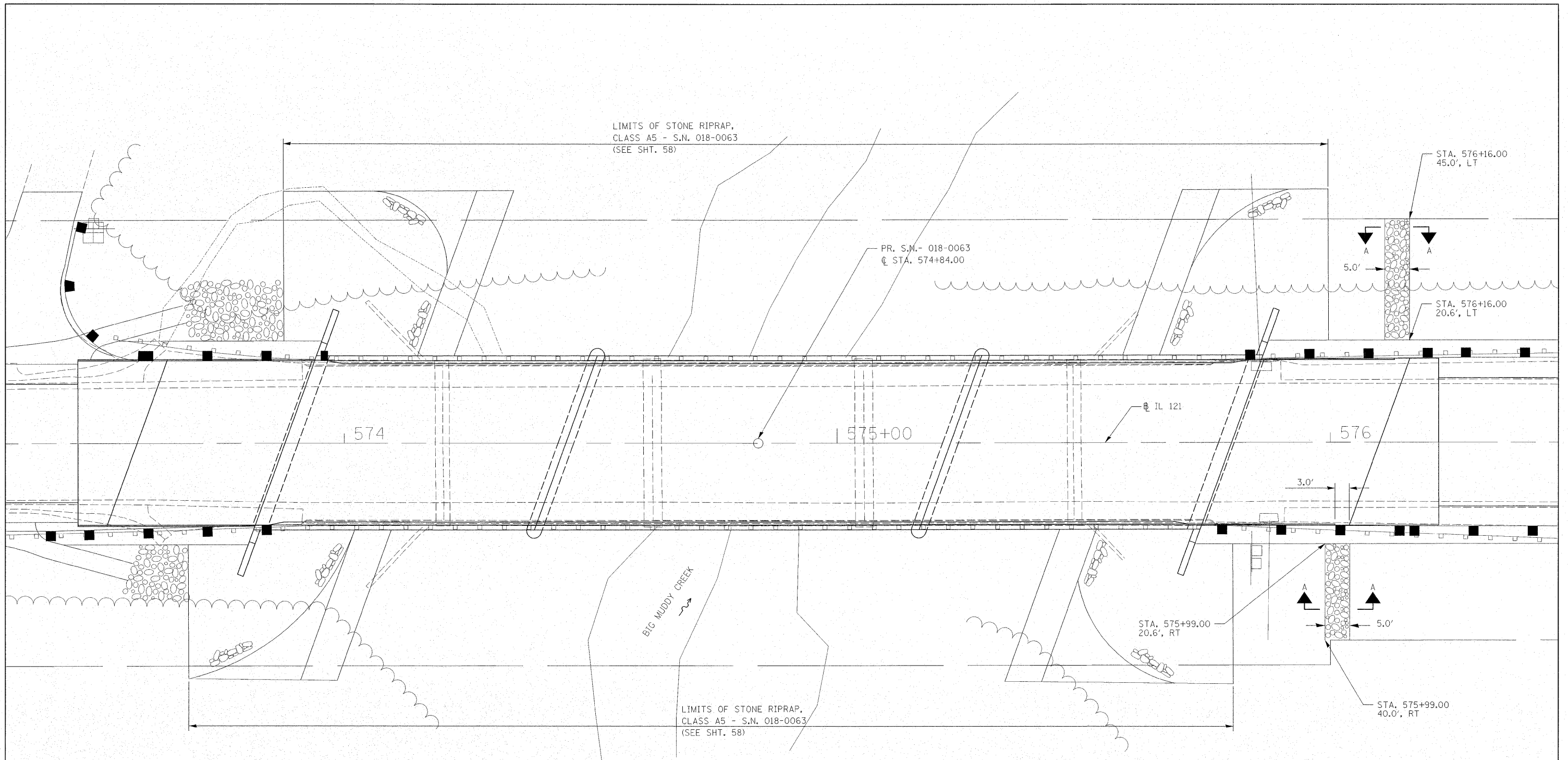
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PLOT DATE = #DATE#		DATE - 09/26/08	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL 121 OVER BIG MUDDY CREEK  
DITCH GRADING DETAIL**

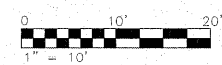
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE. 773	SECTION (108BR-3, 109B)B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 85
CONTRACT NO. 74237				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



SECTION A-A

NOTE:  
 THE EAST APPROACH PAVEMENT SHALL BE CONSTRUCTED SO AS THE CURB ENDS 3.0' FROM THE PROPOSED FLEXIBLE CONNECTOR TO ALLOW FOR DRAINAGE INTO RIPRAP.

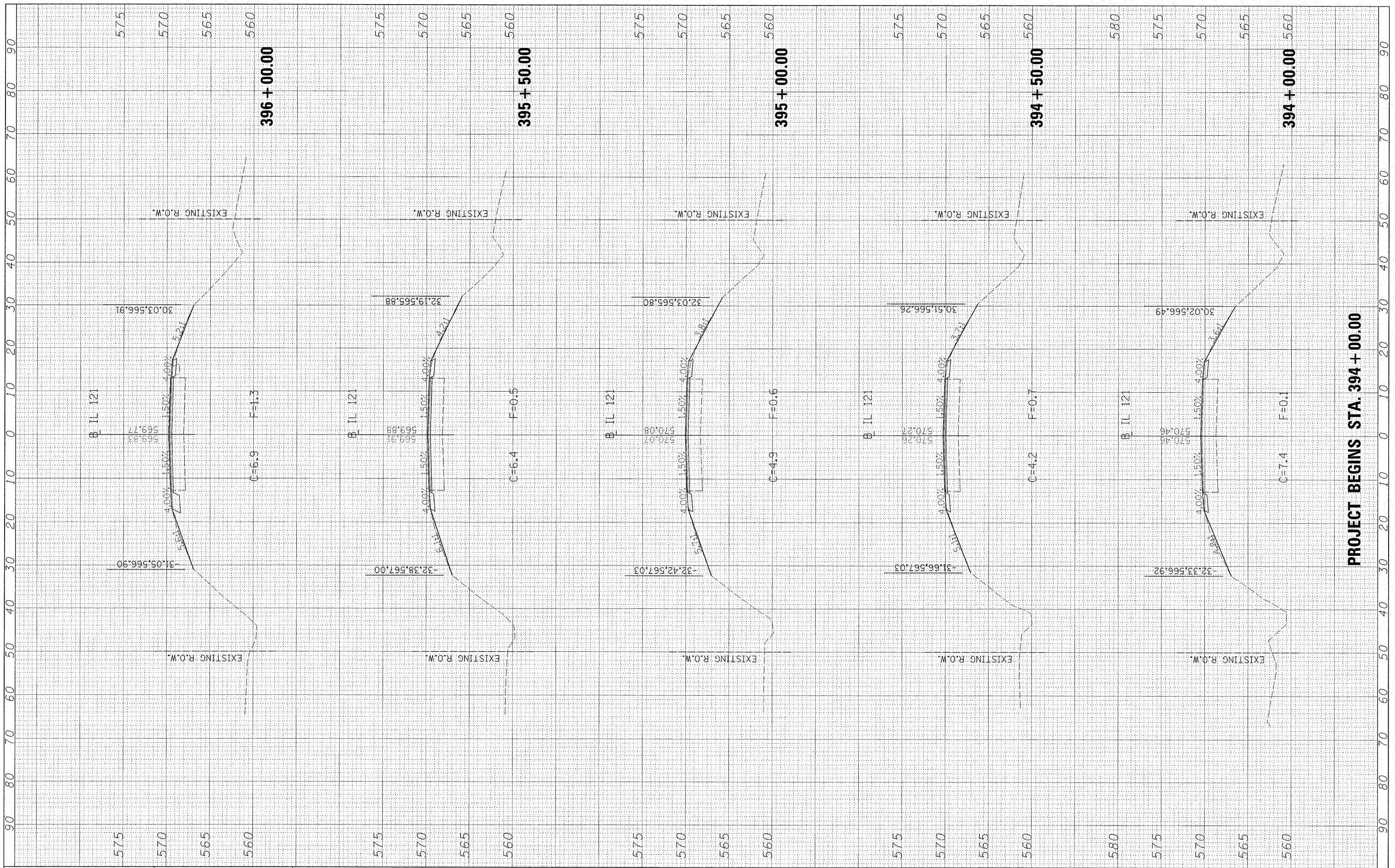


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		CHECKED - RJA 09/17/08	REVISED -			CONTRACT NO. 74237					
		DATE - 09/26/08	REVISED -			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT				
SCALE: SHEET NO. OF SHEETS STA. TO STA.											

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_



BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
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 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_



PROJECT BEGINS STA. 394 + 00.00

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 DATE - 9/26/08

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS MULE CREEK

SCALE: \_\_\_\_\_ SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ SHEETS STA. 394+00.00 TO STA. 396+00.00

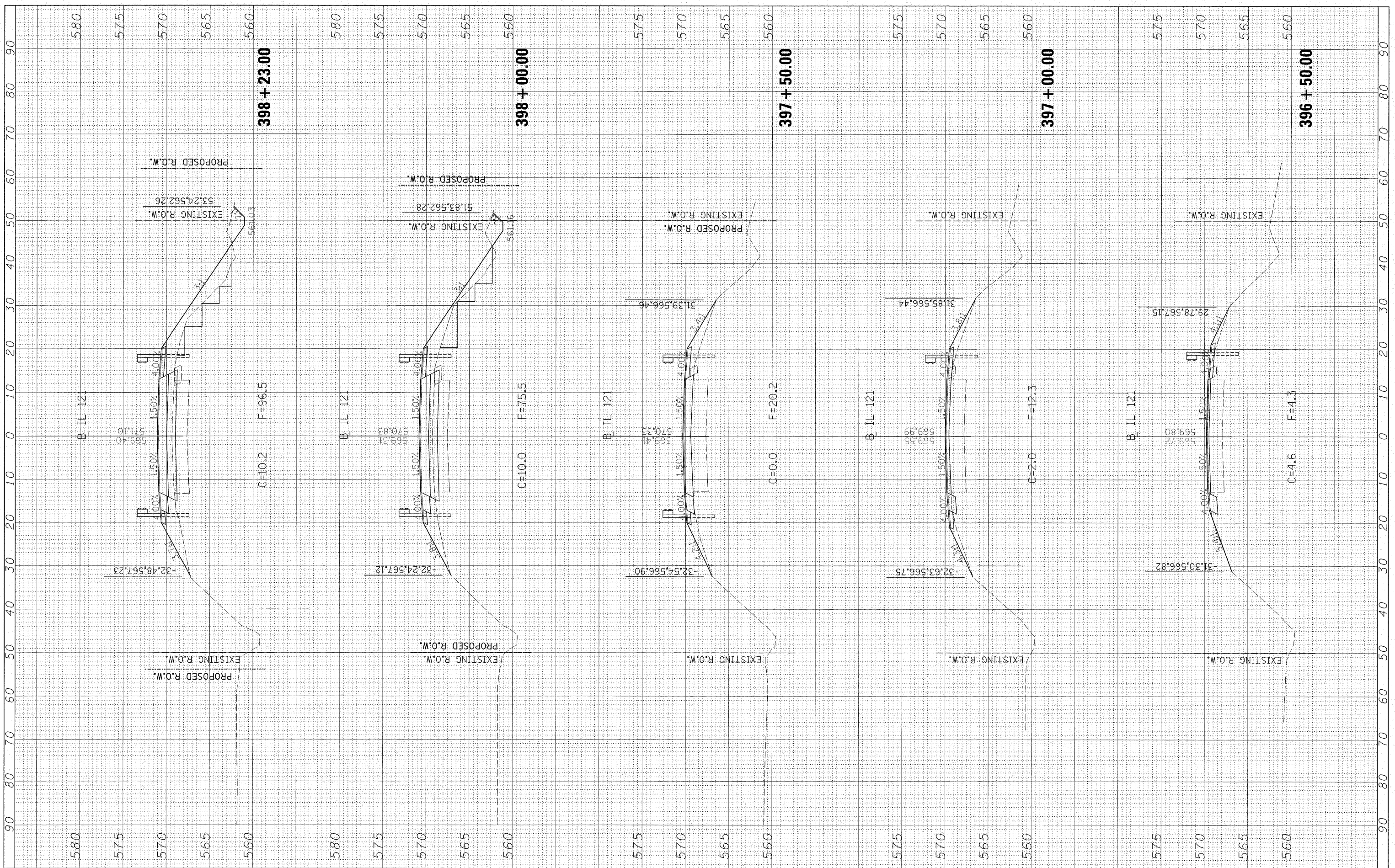
F.A.P. RTE 773	SECTION (108BR-3)B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 87
CONTRACT NO. 74237			ILLINOIS FED. AID PROJECT	



BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
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 FINN SURVEY \_\_\_\_\_  
 SURVEY \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 NO. \_\_\_\_\_



BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
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 NO. \_\_\_\_\_



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 DATE - 9/26/08

REVISED -  
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS MULE CREEK**

SCALE: \_\_\_\_\_ SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ SHEETS STA. 396+50.00 TO STA. 398+23.00

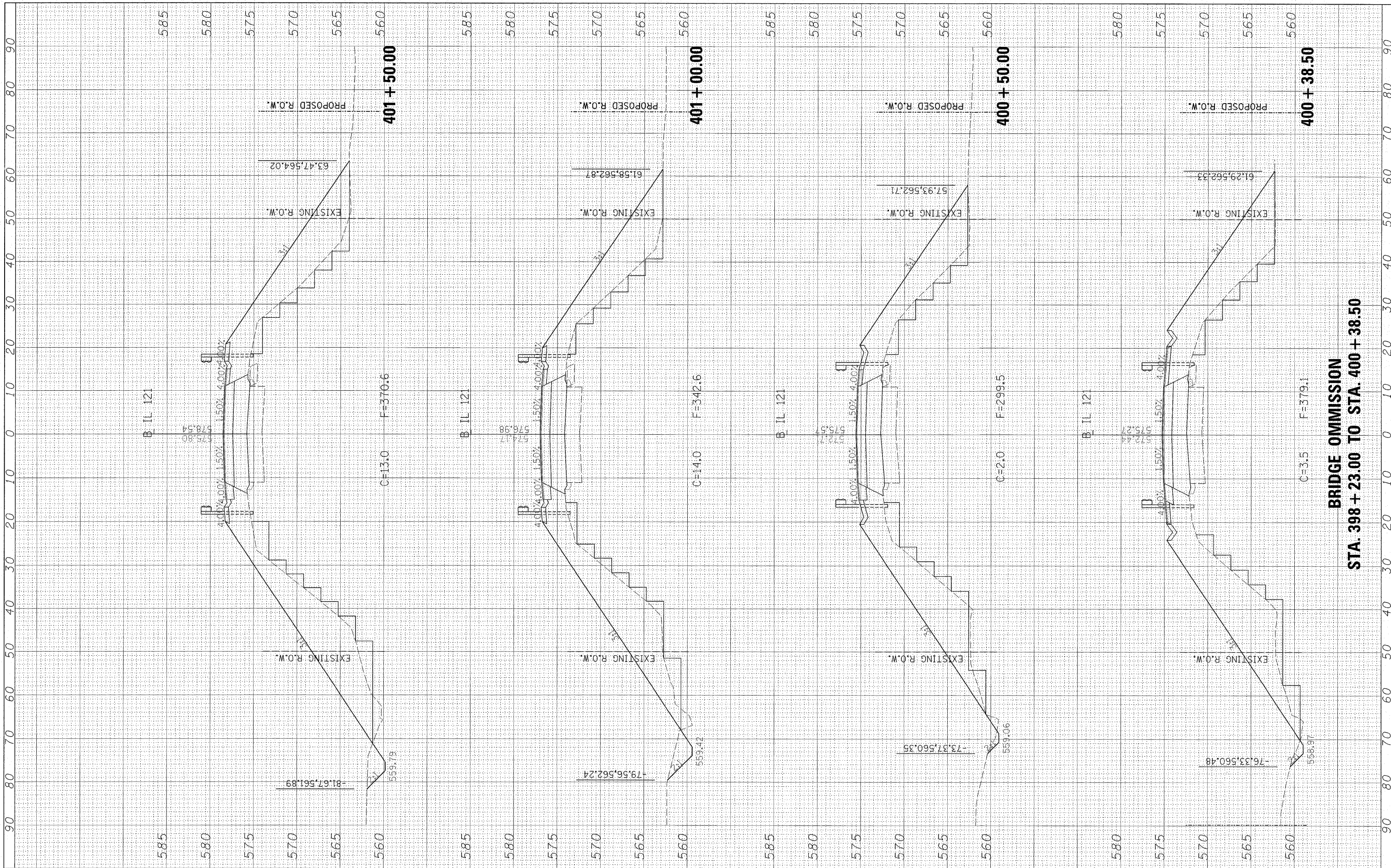
F.A.P. RTE. 773	SECTION (108BR-3B-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 88
CONTRACT NO. 74237				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				



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



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



**BRIDGE OMISSION  
STA. 398 + 23.00 TO STA. 400 + 38.50**

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	DATE - 9/26/08	REVISED -

STATE OF ILLINOIS	CROSS SECTIONS MULE CREEK
DEPARTMENT OF TRANSPORTATION	

SCALE:	SHEET NO.	OF	SHEETS	STA. 400+38.50	TO	STA. 401+50.00
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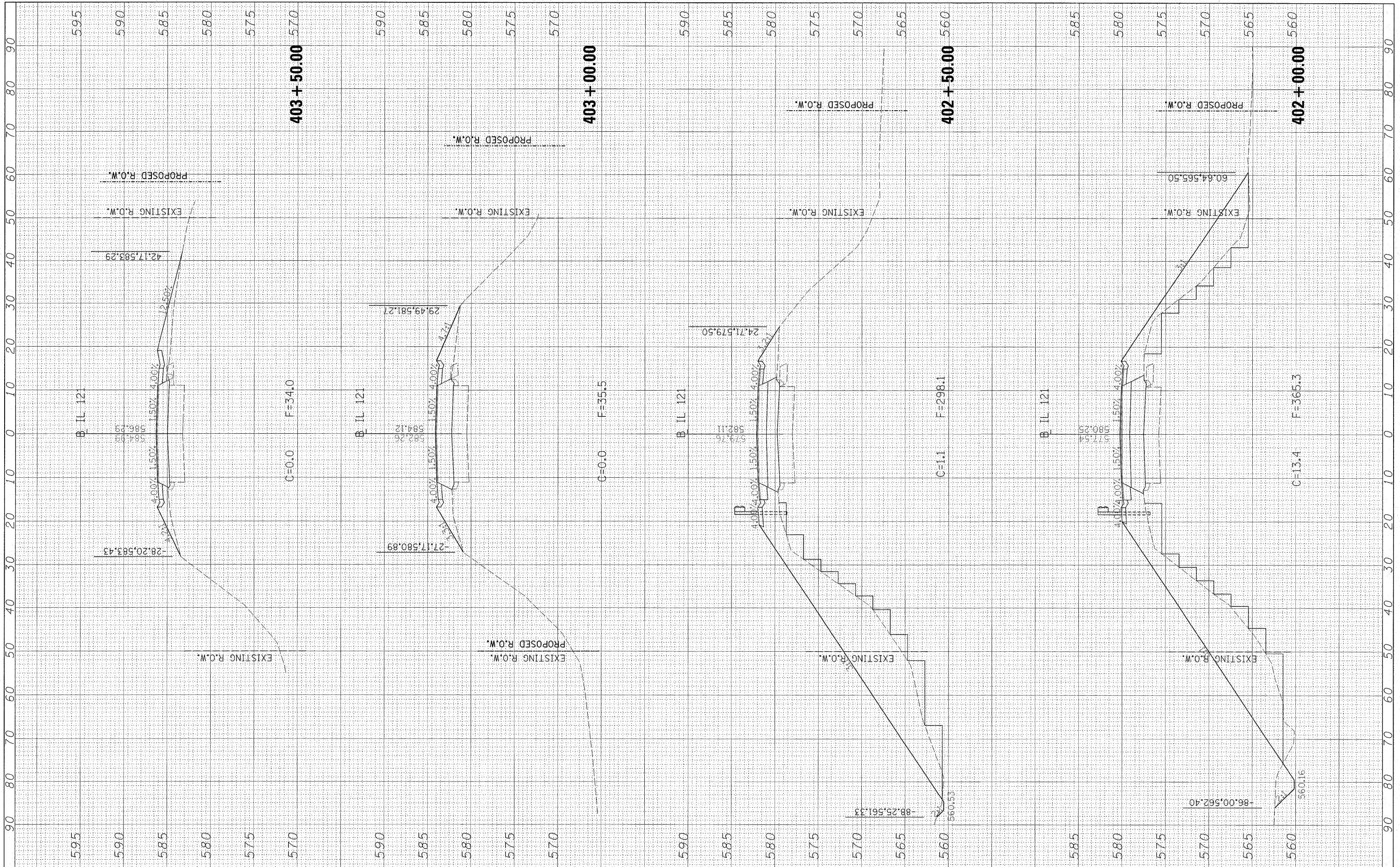
F.A.P. RTE. 773	SECTION (108BR-3/B-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 89
CONTRACT NO. 74237			ILLINOIS FED. AID PROJECT	



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



ORIGINAL SURVEY	SURVISED	BY	DATE
NOTE BOOK NO.	PLOTTED		
AREAS CHECKED	TEMPLATE		



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DATE -	REVISD -

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CHECKED -	REVISD -
DATE -	REVISD -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

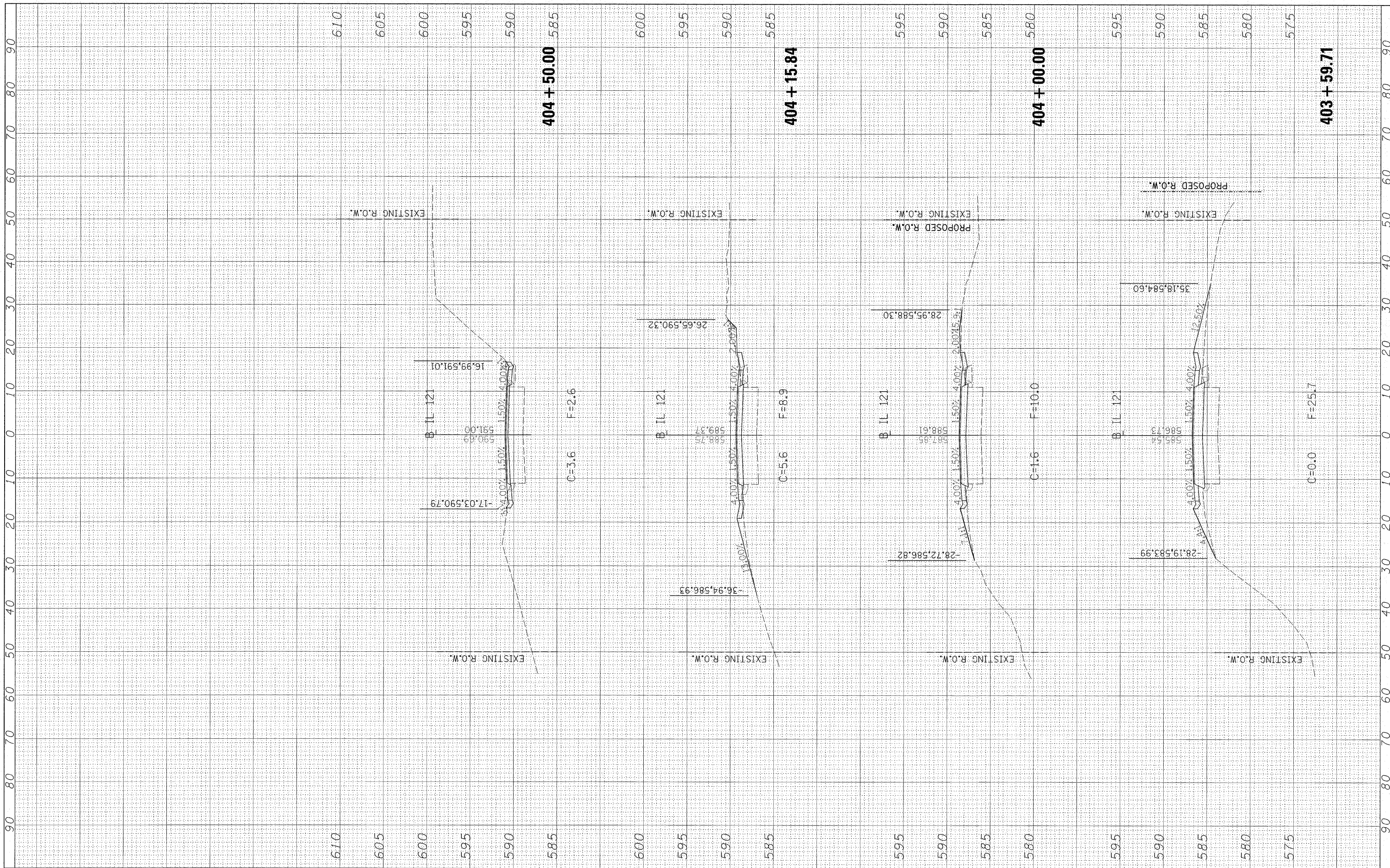
<b>CROSS SECTIONS MULE CREEK</b>			
SCALE:	SHEET NO.	OF SHEETS	STA. 402+00.00 TO STA. 403+50.00

F.A.P. RTE. 773	SECTION (108BR-31B-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 90
CONTRACT NO. 74237				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

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



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CHECKED -	RJA 9/17/08	REVISED -	
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SCALE =	SHEET NO. OF SHEETS	STA. 403+59.71 TO STA. 404+50.00
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>CROSS SECTIONS MULE CREEK</b>		
SCALE:	SHEET NO. OF SHEETS	STA. 403+59.71 TO STA. 404+50.00

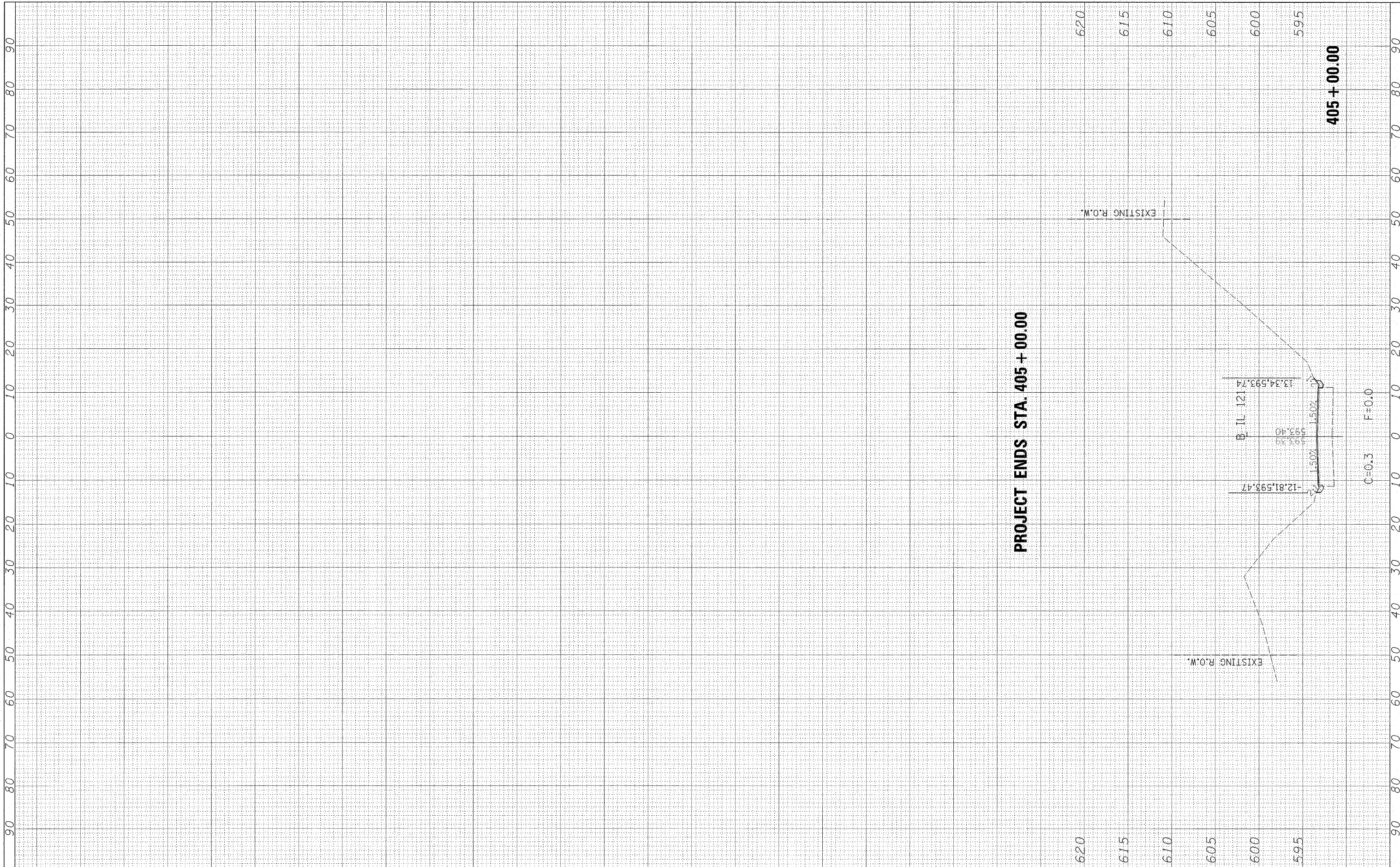
F.A.P. RTE. 773	SECTION (108BR-3/B-1)	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 91
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 74237	



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



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



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DATE -	9/26/08	REVISED -	

DESIGNED -	JDS 9/17/08	REVISED -	
DRAWN -	JDS 9/17/08	REVISED -	
CHECKED -	RJA 9/17/08	REVISED -	
DATE -	9/26/08	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS MULE CREEK**

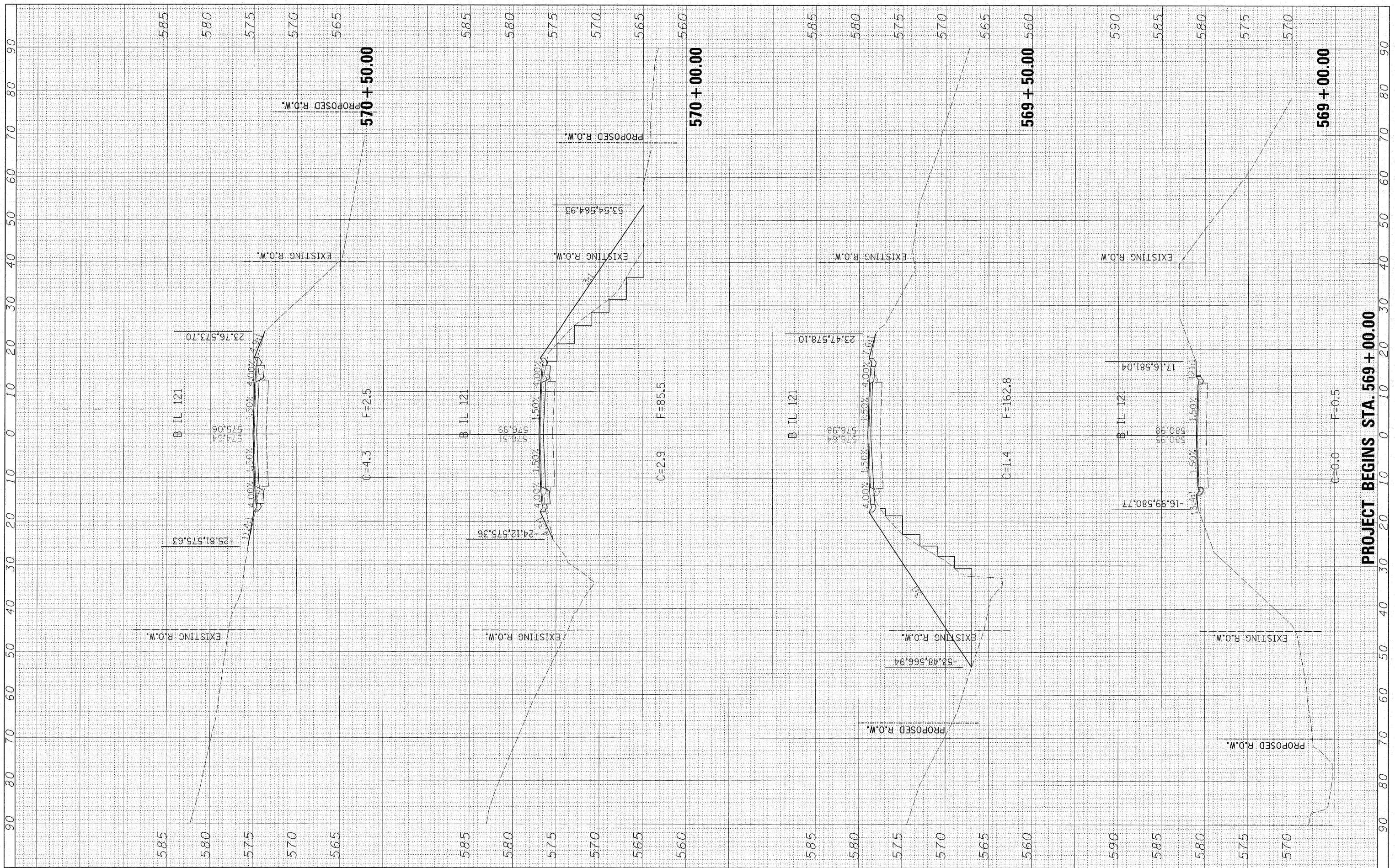
SCALE:	SHEET NO.	OF	SHEETS	STA. 405+00.00	TO	STA. 405+00.00
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F.A.P. RTE. 773	SECTION (108BR-3)B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 92
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 74237	

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



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



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DRAWN -	JDS 9/17/08
CHECKED -	RJA 9/17/08
DATE -	9/26/08

REVISED -	
REVISED -	
REVISED -	
REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS BIG MUDDY CREEK**

SCALE:	SHEET NO.	OF	SHEETS	STA. 569+00.00	TO	STA. 570+50.00
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(109B)B-1	CUMBERLAND	96	93
CONTRACT NO. 74237				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

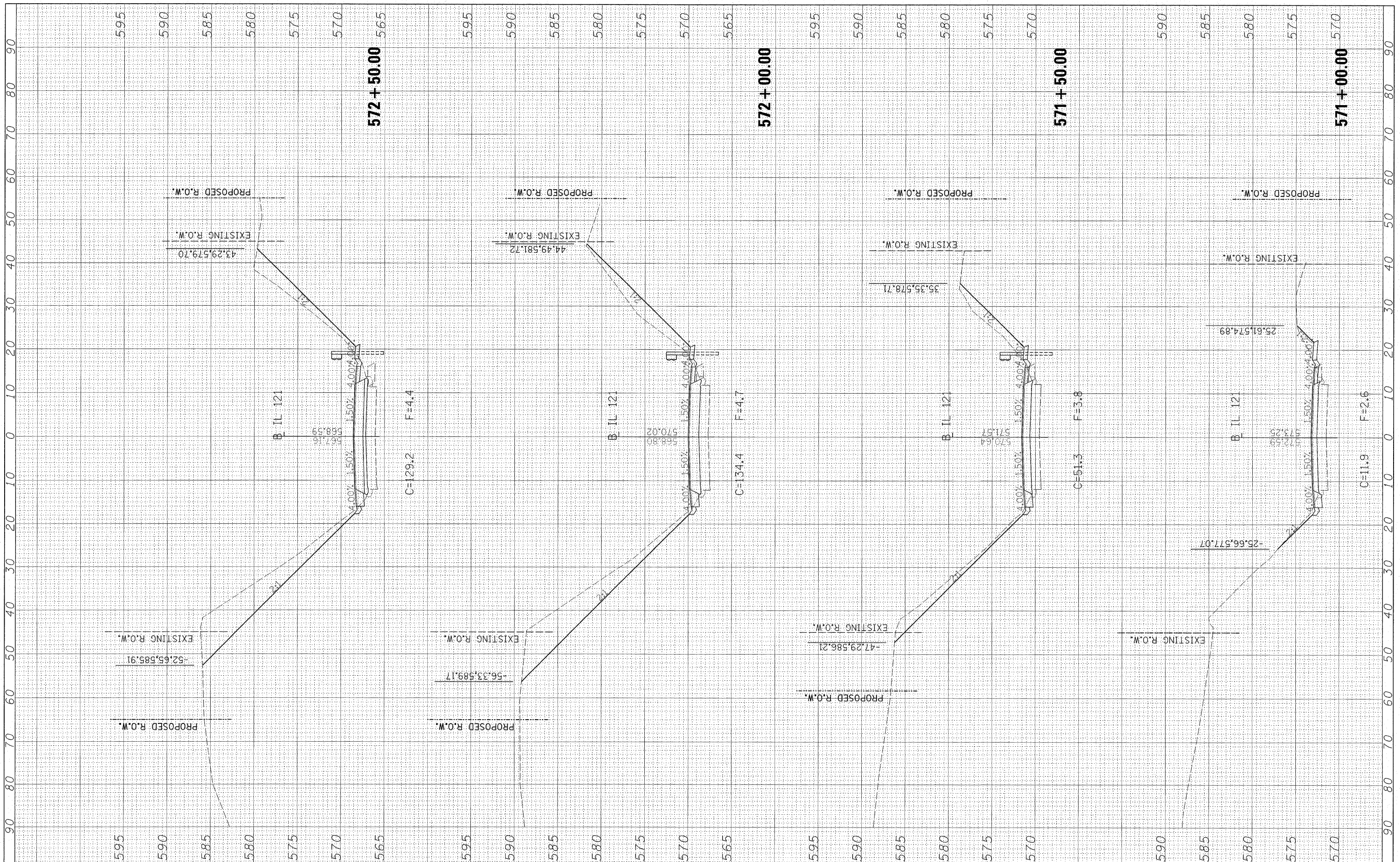
**PROJECT BEGINS STA. 569 + 00.00**



FINISH SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	TEMPLATE	
	AREAS CHECKED	



ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	TEMPLATE	
	AREAS CHECKED	



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 DATE - 9/26/08

REVISED -  
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS BIG MUDDY CREEK**

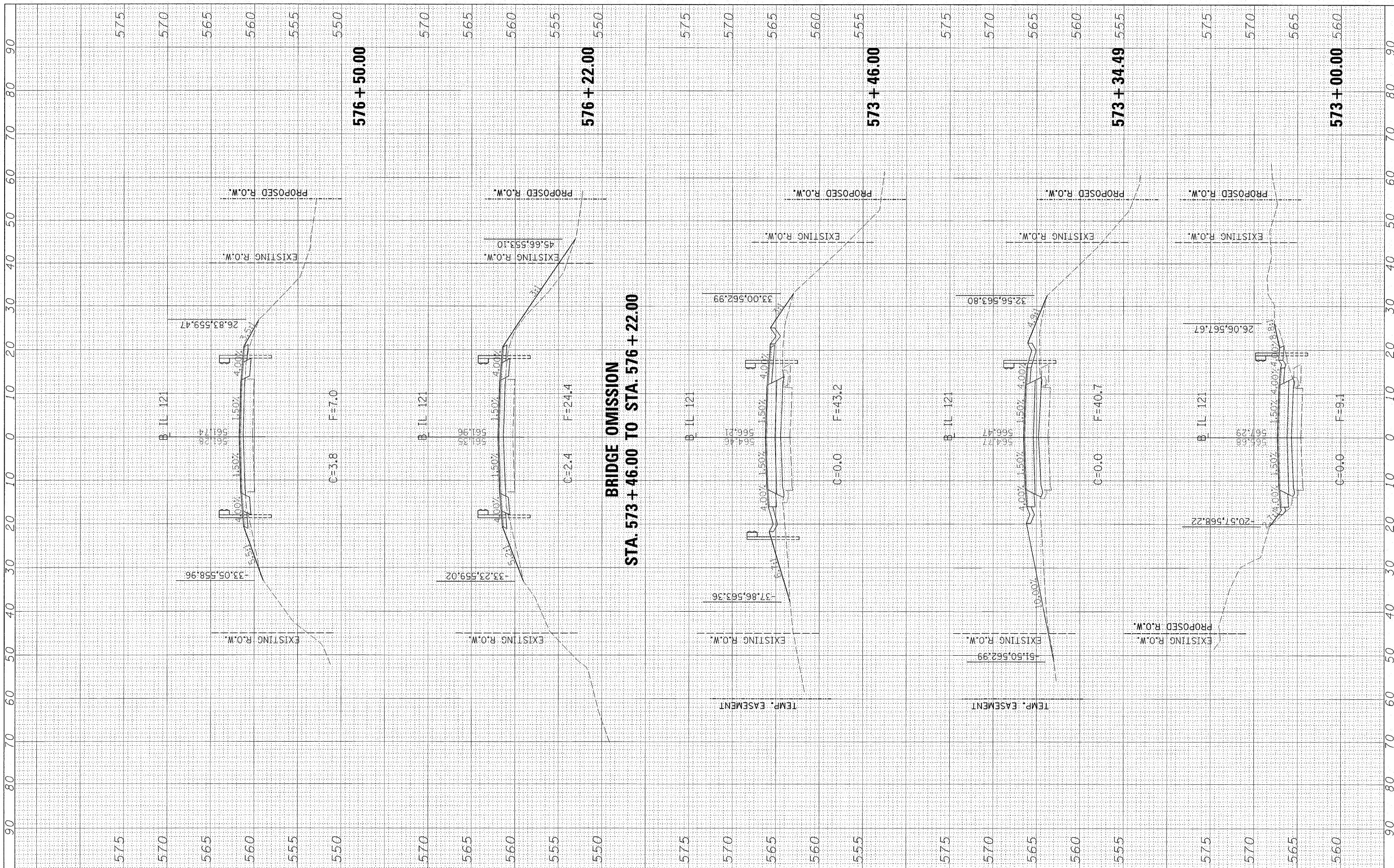
SCALE: SHEET NO. OF SHEETS STA. 571+00.00 TO STA. 572+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(109B)B-1	CUMBERLAND	96	94
CONTRACT NO. 74237				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

FINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE



ORIGINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE



**BRIDGE OMISSION  
STA. 573 + 46.00 TO STA. 576 + 22.00**

FILE NAME =	USER NAME = #USER#
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DRAWN - JDS 9/17/08	REVISED -
CHECKED - RJA 9/17/08	REVISED -
DATE - 9/26/08	REVISED -

DESIGNED - JDS 9/17/08	REVISED -
DRAWN - JDS 9/17/08	REVISED -
CHECKED - RJA 9/17/08	REVISED -
DATE - 9/26/08	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS BIG MUDDY CREEK**

SCALE:	SHEET NO. OF SHEETS	STA. 572+50.00 TO STA. 573+34.49
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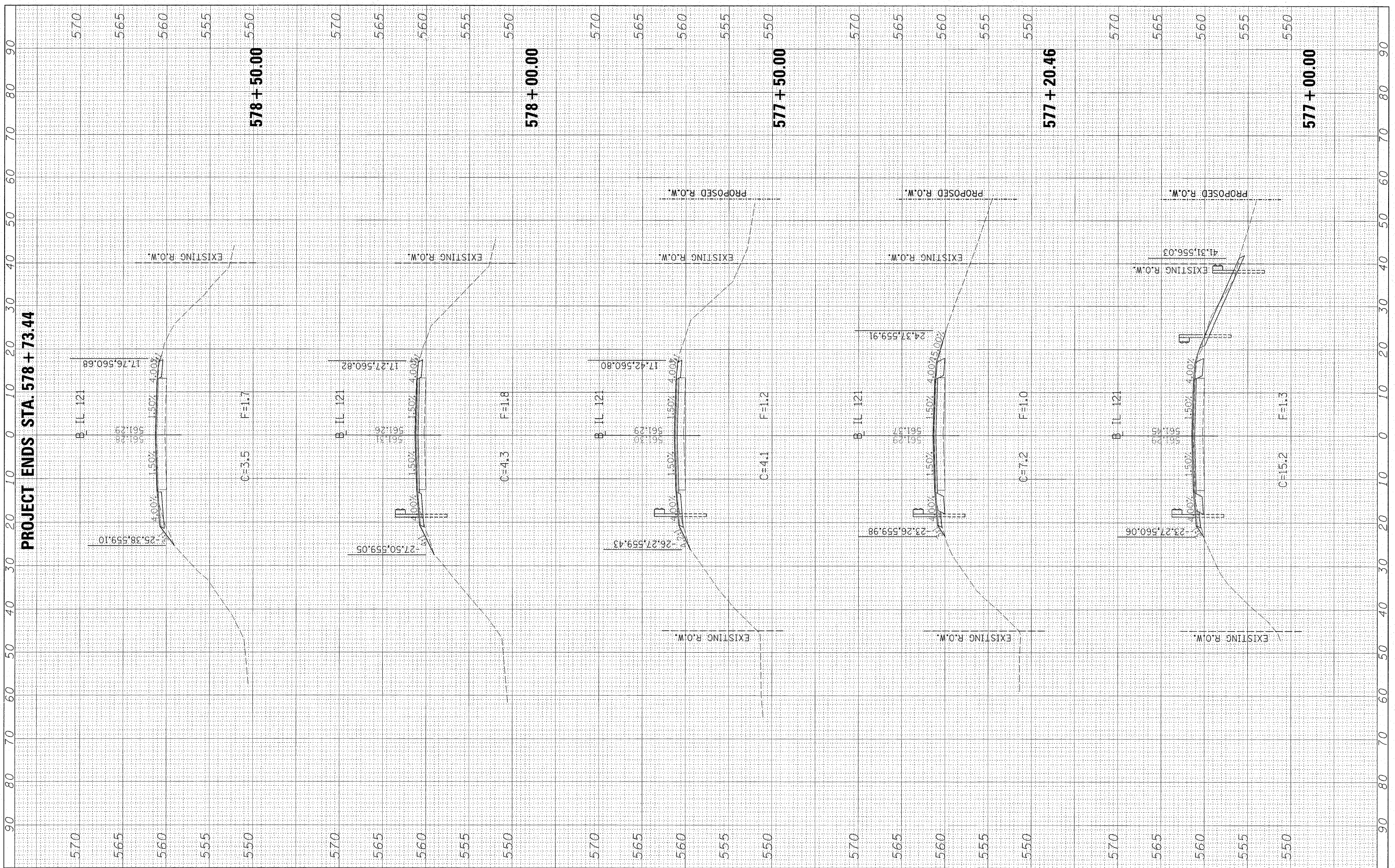
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
773	(109B)B-1	CUMBERLAND	96	95
CONTRACT NO. 74237				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SUPERVISED \_\_\_\_\_  
 SURVEY PLOTTED \_\_\_\_\_  
 NOTE BOOK TEMPLATE \_\_\_\_\_  
 NO. AREAS CHECKED \_\_\_\_\_



BY \_\_\_\_\_ DATE \_\_\_\_\_  
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 DATE - 9/26/08

REVISED -  
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS BIG MUDDY CREEK**

SCALE: SHEET NO. OF SHEETS STA. 573+46.00 TO STA. 577+00.00

F.A.P. RTE. 773	SECTION (109B)B-1	COUNTY CUMBERLAND	TOTAL SHEETS 96	SHEET NO. 96
CONTRACT NO. 74237			ILLINOIS FED. AID PROJECT	