

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAS 214	*	MERCER	16	1
STA. 68+80	TO	STA. 72+00		
FED. ROAD DIST. NO. 7	ILLINOIS			

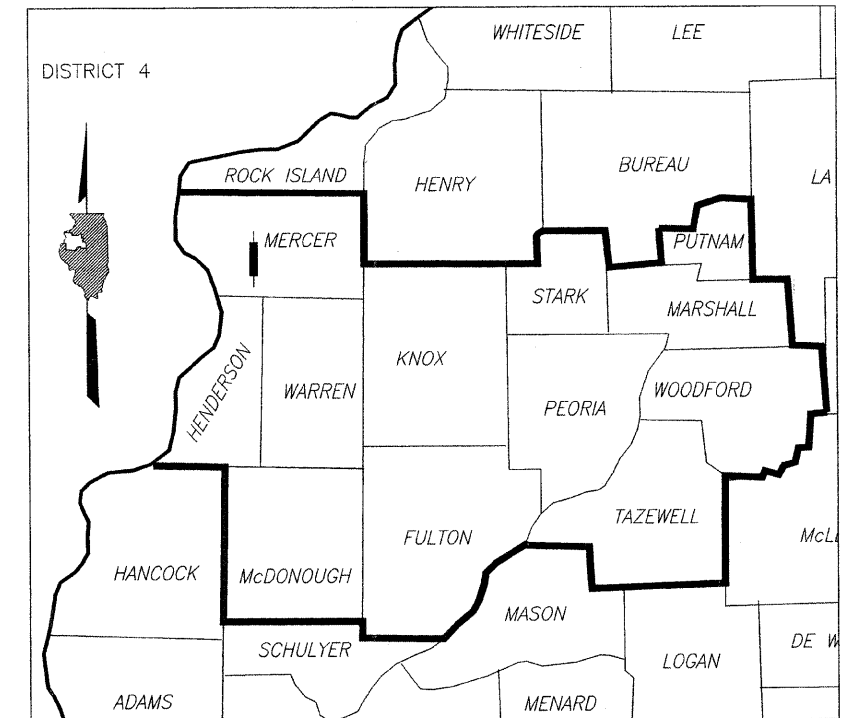
*05-00023-02-BR CONTRACT NO. 89387

PLANS FOR
PROPOSED LOCAL AGENCY IMPROVEMENT
FEDERAL-AID HBRRP PROJECT

F.A.S 214 (C.H.13)
SECTION 05-00023-02-BR MERCER COUNTY
PROJECT BHS-0214(110)
ABINGTON TOWNSHIP
JOB NO. C-94-002-06

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES, SUMMARY AND SCHEDULE OF QUANTITIES
3	TYPICAL SECTIONS AND DETAILS
4	PLAN AND PROFILE
5	ROADWAY CROSS SECTIONS
6	CHANNEL CROSS SECTIONS
7	GENERAL BRIDGE PLAN AND ELEVATION
8	DECK BEAM DETAILS (29'-6" SPAN)
9	DECK BEAM DETAILS (60'-0" SPAN)
10	ABUTMENT DETAILS
11	WALL PIER DETAILS
12	STEEL RAILING DETAILS, TYPE SM (SPECIAL)
13	STEEL RAILING DETAILS, TYPE SM (SPECIAL)
14	PILE DETAILS
15-16	SOIL BORING LOGS

PLAN	1 INCH = 20 FEET	
PROFILE HORIZONTAL	1 INCH = 20 FEET	
PROFILE VERTICAL	1 INCH = 20 FEET	
CROSS SECTION HORIZ.	1 INCH = 10 FEET	
CROSS SECTION VERT.	1 INCH = 10 FEET	



LOCATION OF SECTION INDICATED THUS:

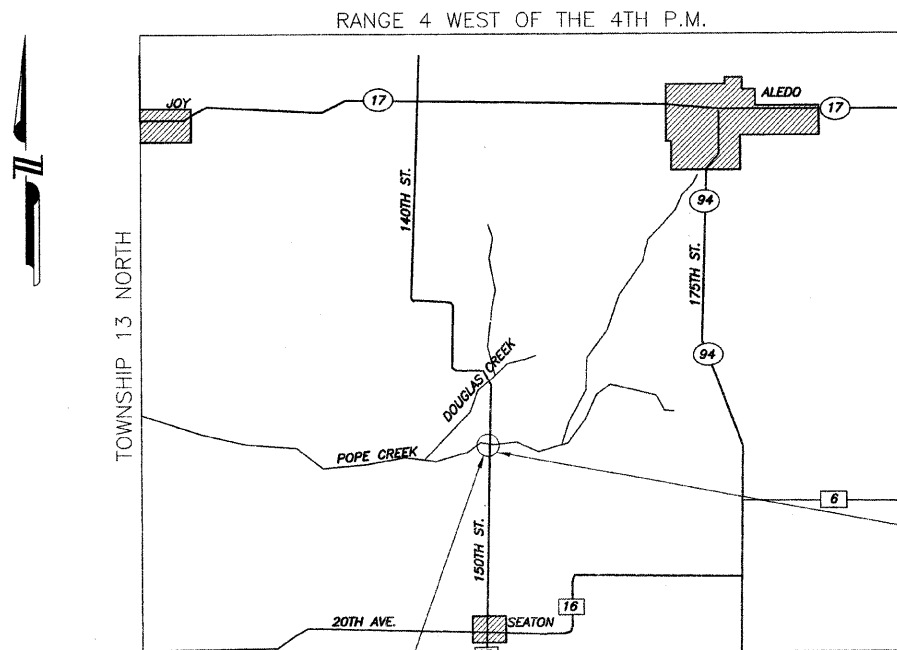
LIST OF STANDARDS

- STANDARD 280001-04 TEMPORARY EROSION CONTROL SYSTEMS
- STANDARD 515001-02 NAME PLATE
- STANDARD 701006-02 OFF - ROAD OPERATIONS, 2 - LANE, 2 - WAY, 15' TO 24" FROM PAVEMENT EDGE
- STANDARD 701301-02 LANE CLOSURE, 2 - LANE, 2 - WAY, SHORT TIME OPERATIONS
- STANDARD 701901 TRAFFIC CONTROL DEVICES
- STANDARD BLR 21-7 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- STANDARD BLR-26 STEEL PLATE BEAM GUARDRAIL
- STANDARD BLR-27 TRAFFIC BARRIER TERMINAL, TYPE 5A

CONTRACT NO. 89387

DESIGN DESIGNATION

HIGHWAY CLASS: LOCAL ROAD
DESIGN SPEED: 40 M.P.H.
ADT = 200
DESIGN GUIDELINES: RURAL
COMMITMENTS: NONE
VARIANCES GRANTED: NONE



LOCATION OF THE PROPOSED IMPROVEMENT
PROPOSED IMPROVEMENT BEGINS STA. 68+80
PROPOSED IMPROVEMENT ENDS STA. 72+00

LOCATION MAP

TOTAL LENGTH OF PROJECT = 320 FT.
NET LENGTH OF PROJECT = 320 FT. (0.061 MI.)

EXISTING STRUCTURE No. 066-3040:
THREE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE ON PILE BENT ABUTMENTS AND PIERS.
THE OVERALL STRUCTURE LENGTH FROM BACK TO BACK OF ABUTMENTS IS 136'-6".

PROPOSED STRUCTURE No. 066-3043:
THREE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAMS ON SPILL-THRU PILE BENT ABUTMENTS AND PIERS AT STA 70+40.

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ILLINOIS.

John B. Fellman 1-31-2008
JOHN B. FELLMAN DATE
LICENSE EXPIRES 11-30-2009



MSA JOB No: A05X018

WARNING



CALL BEFORE YOU DIG

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED *Jan 29* 20 08
D. Fellman
MERCER COUNTY ENGINEER

PASSED 2-8 20 08
DeWitt C. Pomeroy
DISTRICT 4 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW 2-11 20 08
J.E. Ames
DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER

SUMMARY OF QUANTITIES

X081-2A

ITEM NO.	CODE NUMBER	ITEM	UNIT	TOTAL
*	1	20200100	EARTH EXCAVATION	CU. YD. 169.2
*	2	20201300	SHOULDER SHAPING	FOOT 396
	3	20300100	CHANNEL EXCAVATION	CU. YD. 132.7
	4	25000300	SEEDING, CLASS 3	ACRE 0.38
	5	25000400	NITROGEN FERTILIZER NUTRIENT	POUND 34.2
	6	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND 34.2
	7	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND 34.2
	8	25100115	MULCH METHOD 2	ACRE 0.38
	9	20700110	POROUS GRANULAR EMBANKMENT	TON 133.6
	10	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND 200
	11	28000400	PERIMETER EROSION BARRIER	FOOT 484
	12	28100109	STONE RIPRAP, CLASS A5	SQ. YD. 693
	13	28200200	FILTER FABRIC	SQ. YD. 693
	14	35101400	AGGREGATE BASE COURSE, TYPE B	TON 261
	15	40603080	HOT-MIX ASPHALT BINDER COURSE, IL 19.0, N50	TON 66.0
	16	40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON 110.7
*	17	48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ. YD. 88.2
	18	50100100	REMOVAL OF EXISTING STRUCTURES	EACH 1
	19	50200100	STRUCTURE EXCAVATION	CU. YD. 103.4
	20	50300225	CONCRETE STRUCTURES	CU. YD. 151.5
	21	50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ. FT. 3,594
	22	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND 10,560
*	23	50901115	STEEL RAILING (SPECIAL)	FOOT 240
	24	51200959	FURNISHING METAL SHELL PILES, 14"x0.312"	FOOT 980
	25	51202305	DRIVING PILES	FOOT 980
	26	51203200	TEST PILE METAL SHELLS	EACH 4
	27	50300280	CONCRETE ENCASEMENT	CU. YD. 13.1
	28	51500100	NAME PLATES	EACH 1
	29	58100200	WATERPROOFING MEMBRANE SYSTEM	SQ. YD. 399.3
	30	58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT 1071
Δ	31	63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH 4
Δ*	32	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH 4
	33	63200310	GUARDRAIL REMOVAL	FOOT 294
	34	66500105	WOVEN WIRE FENCE, 4'	FOOT 210
*	35	66502300	WOVEN WIRE FENCE REMOVAL	FOOT 236
	36	67100100	MOBILIZATION	LSUM 1
*	37	70101700	TRAFFIC CONTROL AND PROTECTION	LSUM 1
*	38	X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH 1
*	39	X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH 1
*	40	Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH 40

* SEE THE SPECIAL PROVISIONS
 Δ SPECIALTY ITEMS

GENERAL NOTES:

- THE EXISTING ROAD SHALL REMAIN CLOSED TO THRU TRAFFIC DURING CONSTRUCTION.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS AND/OR DISPOSAL SITE(S) OUTSIDE THE RIGHT-OF-WAY AND EASEMENTS, FOR EXCESS OR UNSUITABLE MATERIAL, WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT.
- EXISTING STRUCTURES (INCLUDING FOUNDATIONS, WALLS, CISTERNS, WELLS OR OTHER UNDERGROUND STRUCTURES) WITHIN THE RIGHT-OF-WAY SHALL BE REMOVED IN ACCORDANCE WITH ARTICLES 501.02 AND 501.03 OF THE STANDARD SPECIFICATIONS, WITHOUT ADDITIONAL COMPENSATION, UNLESS OTHERWISE NOTED IN THE PLANS, SPECIAL PROVISIONS, OR APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO ITEMS NOT SPECIFIED FOR REMOVAL, RECONSTRUCTION, OR DEMOLITION. AREAS OUTSIDE THE PROJECT SCOPE OR CONSTRUCTION LIMITS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR, PER THE APPROVAL OF THE ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK.
- EXCAVATION OF EXISTING GRAVEL OR SEAL COAT AGGREGATE SURFACES SHALL BE CONSIDERED EARTH EXCAVATION, AND WILL NOT BE PAID FOR SEPARATELY.
- THE FINAL TOP SIX INCHES OF SOIL IN ANY RIGHT-OF-WAY OR EASEMENT AREA DISTURBED BY THE CONTRACTOR MUST BE A COHESIVE SOIL CAPABLE OF SUPPORTING VEGETATION.
- NO OVERHAUL HAS BEEN COMPUTED AND NONE SHALL BE PAID FOR FROM ANY SOURCE.
- PER ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS, A PERMIT SHALL BE OBTAINED FROM IEPA AND MADE AVAILABLE TO THE ENGINEER PRIOR TO OPEN BURNING OF ORGANIC WASTE (I.E. PLANT REFUSE RESULTING FROM PRUNING OR REMOVAL OF TREES OR SHRUBS) OR OTHER CONSTRUCTION OR DEMOLITION DEBRIS.
- SEE THE SPECIAL PROVISIONS REGARDING THE NATIONWIDE 404 PERMIT REQUIREMENTS FOR IN-STREAM ACCESS FILL, COFFERDAMS, CAUSEWAYS, OR CROSSINGS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE PROPER PERMITS FOR THESE ACTIVITIES.
- PLACE RIPRAP IN A TIMELY MANNER TO PREVENT EROSION, ETC.
- EXCAVATED AREAS AND EMBANKMENT SHALL BE PERMANENTLY SEEDDED IMMEDIATELY AFTER FINAL GRADING. IF NOT, THEY SHALL BE TEMPORARILY SEEDDED IF NO CONSTRUCTION ACTIVITY IN THE AREA IS PLANNED FOR 7 DAYS.

SCHEDULE OF QUANTITIES

ROADWAY EXCAVATION & EMBANKMENT
 (SEE ROADWAY CROSS SECTIONS)

STATION	AREAS		VOLUMES		CUMULATIVE VOLUMES	
	Square Feet		Cubic Yards		Cubic Yards	
	CUT	FILL	CUT	FILL	CUT	FILL
68+80	27.0	0.3				
69+00	23.1	0.5	18.6	0.3	18.6	0.3
69+50	15.8	7.1	36.0	7.0	54.6	7.3
69+71	15.8	60.7	12.3	26.4	66.9	33.7
69+79.25	0	94.4	2.4	23.7	69.3	57.4
BRIDGE	0	0	0	0	69.3	57.4
71+00.75	22.8	70.3	6.9	15.4	76.1	72.8
71+08	28.2	44.6	43.9	35.4	120.0	108.2
71+50	28.2	0.9	49.2	1.5	169.2	109.7
72+00	24.9	0.7	0	0	169.2	109.7

DOWNSTREAM
 UPSTREAM

CHANNEL EXCAVATION
 (SEE CHANNEL CROSS SECTIONS)

STATION	AREAS		VOLUMES		CUMULATIVE VOLUMES	
	Square Feet		Cubic Yards		Cubic Yards	
	CUT	FILL	CUT	FILL	CUT	FILL
38'	0	0				
30'	58.4	0	13.0	0	13.0	0
15'	61.9	0	33.4	0	46.4	0
CENTERLINE	40.8	0	28.5	0	74.9	0
15'	40.2	0	22.5	0	97.4	0
30'	56.6	0	26.9	0	124.3	0
42'	0	0	8.4	0	132.7	0
			0	0	132.7	0

CONCRETE STRUCTURES	CU. YD.
SOUTH ABUTMENT	11.1
WALL PIER (BENT #3)	64.6
WALL PIER (BENT #4)	64.6
NORTH ABUTMENT	11.1
	151.5
STONE RIPRAP, CLASS A5	SQ. YD.
SOUTH ABUTMENT	346
NORTH ABUTMENT	346
	693
AGGREGATE BASE COURSE, TYPE B	TON
STA. 68+80 TO STA. 69+79.25	130.5
STA. 71+00.75 TO STA. 72+00	130.5
	261
HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON
STA. 68+80 TO STA. 69+79.25	21.8
BRIDGE	67.1
STA. 71+00.75 TO STA. 72+00	21.8
	110.7
HOT-MIX ASPHALT BINDER, IL-19.0, N50	TON
STA. 68+80 TO STA. 69+79.25	33.0
STA. 71+00.75 TO STA. 72+00	33.0
	66.0
WOVEN WIRE FENCE REMOVAL	FOOT
STA. 68+80 TO STA. 69+98, LT	119.3
STA. 70+86 TO STA. 72+00, LT	116.2
	235.6
WOVEN WIRE FENCE, 4'	FOOT
STA. 68+80 TO STA. 69+90, LT	110
STA. 71+00 TO STA. 72+00, LT	100
	210
SEEDING, CLASS 3	ACRE
STA. 68+80 TO STA. 69+79.25, LT & RT	0.19
STA. 71+00.75 TO STA. 72+00, LT & RT	0.19
	0.38

SAFETY NOTE:

"MISSMAN, STANLEY & ASSOCIATES (MISSMAN) HAS ADOPTED SAFETY PROCEDURES FOR ITS EMPLOYEES WHO PROVIDE PROFESSIONAL ENGINEERING AND SURVEYING SERVICES. A COPY OF THESE PROCEDURES IS AVAILABLE FROM THE SAFETY OFFICER. MSA PERSONNEL ARE NOT TRAINED IN CONTRACTOR (CONSTRUCTION) SAFETY AND COMPLIANCE PROCEDURES. THE METHODS & MEANS TO COMPLY WITH CONSTRUCTION SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR."

EARTHWORK SUMMARY

	CUT	FILL
TOTAL ROADWAY EXCAVATION	169.2	109.7
TOTAL CHANNEL EXCAVATION	132.7	0
TOTAL CUT	301.9	
TOTAL FILL		109.7
DEDUCT SUITABLE EARTH EXCAVATION (25% SHRINKAGE)	226.4	
TOTAL FURNISHED EXCAVATION REQUIRED		-116.7

APPLICATION RATES:

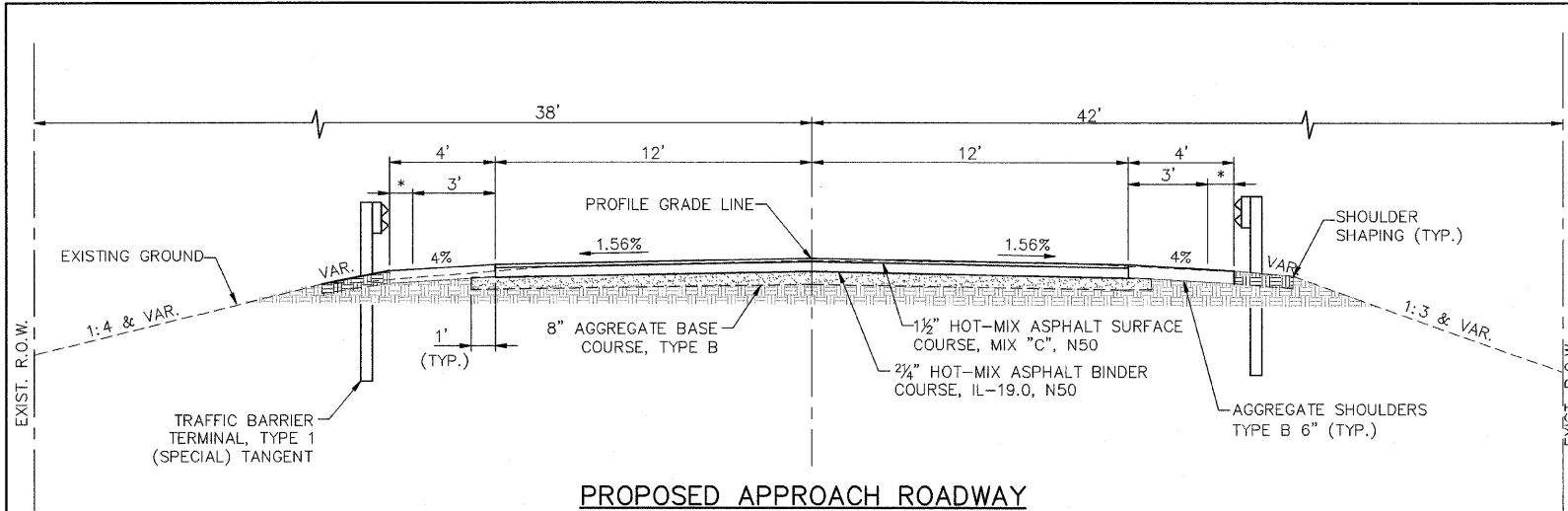
SEEDING, CLASS 3	SEE ARTICLE 250.07 OF STD. SPECS.
NITROGEN FERTILIZER NUTRIENT	90 LBS/ACRE
PHOSPHORUS FERTILIZER NUTRIENT	90 LBS/ACRE
POTASSIUM FERTILIZER NUTRIENT	90 LBS/ACRE
MULCH, METHOD 2	2 TONS/ACRE

GENERAL NOTES, SUMMARY & SCHEDULE OF QUANTITIES

SECTION 05-00023-02-BR
 F.A.S. 214, STA. 70+40
 MERCER COUNTY
 STRUCTURE NO. 066-3043

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	3
FED. ROAD DIST. NO. 7		ILLINOIS	89387	

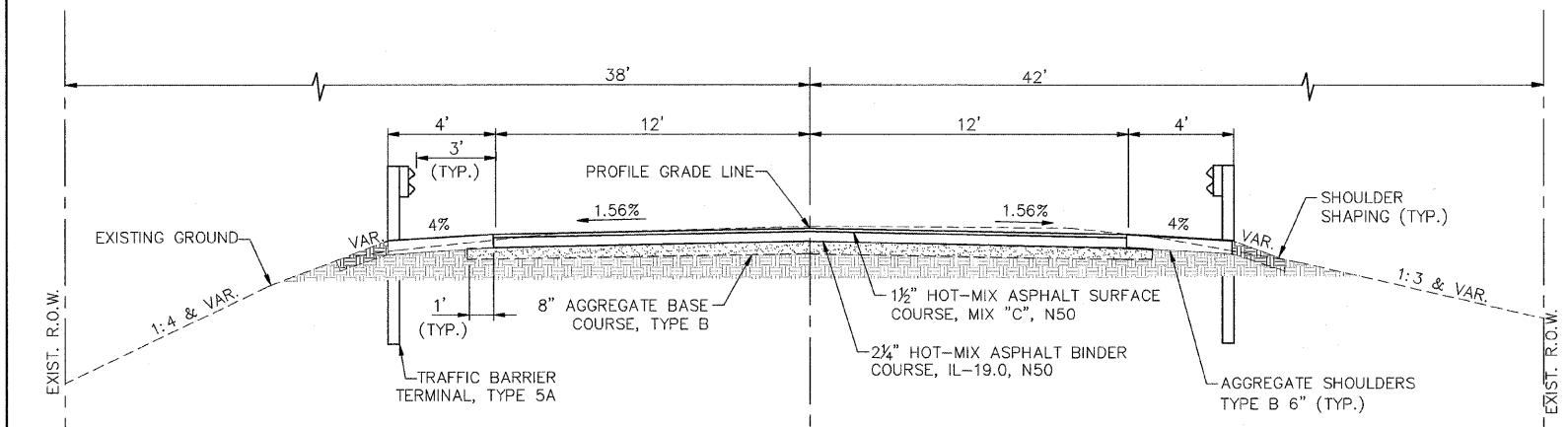
*05-00023-02-BR



PROPOSED APPROACH ROADWAY

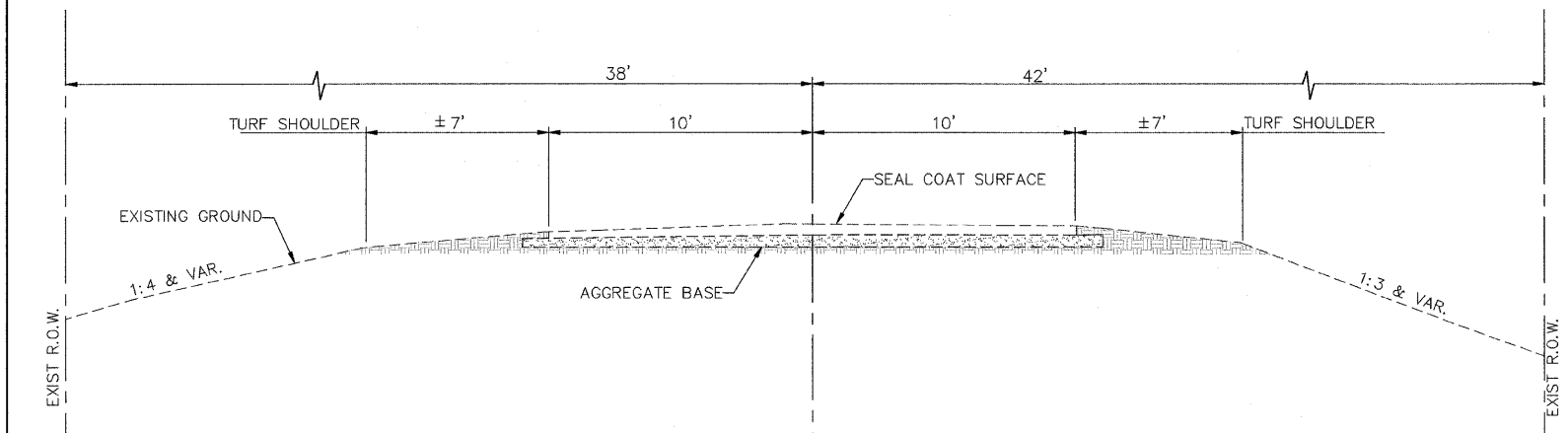
STA. 68+80 TO 69+66
STA. 71+14 TO 72+00

* VARIES FOR TRAFFIC BARRIER TERMINAL FLARE OUT

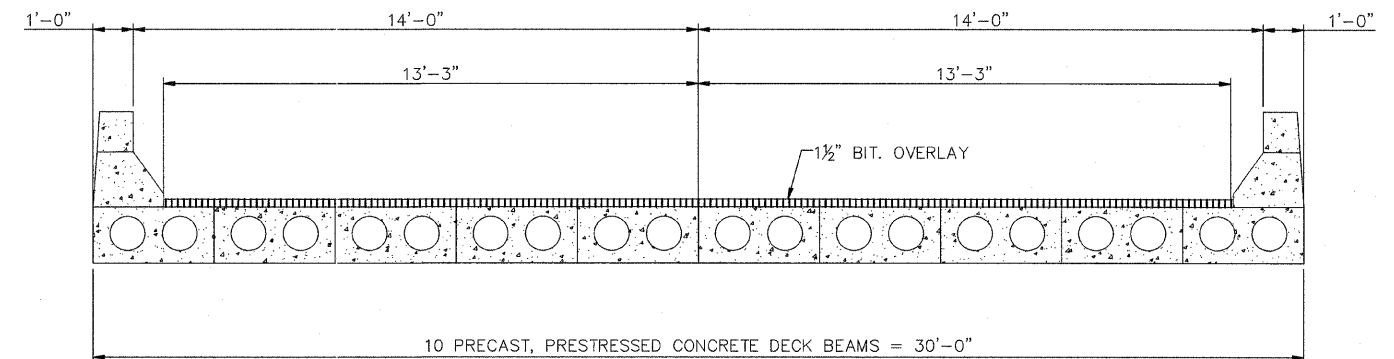


PROPOSED BRIDGE APPROACH

STA. 69+66 TO 69+79.25
STA. 71+00.75 TO 71+14

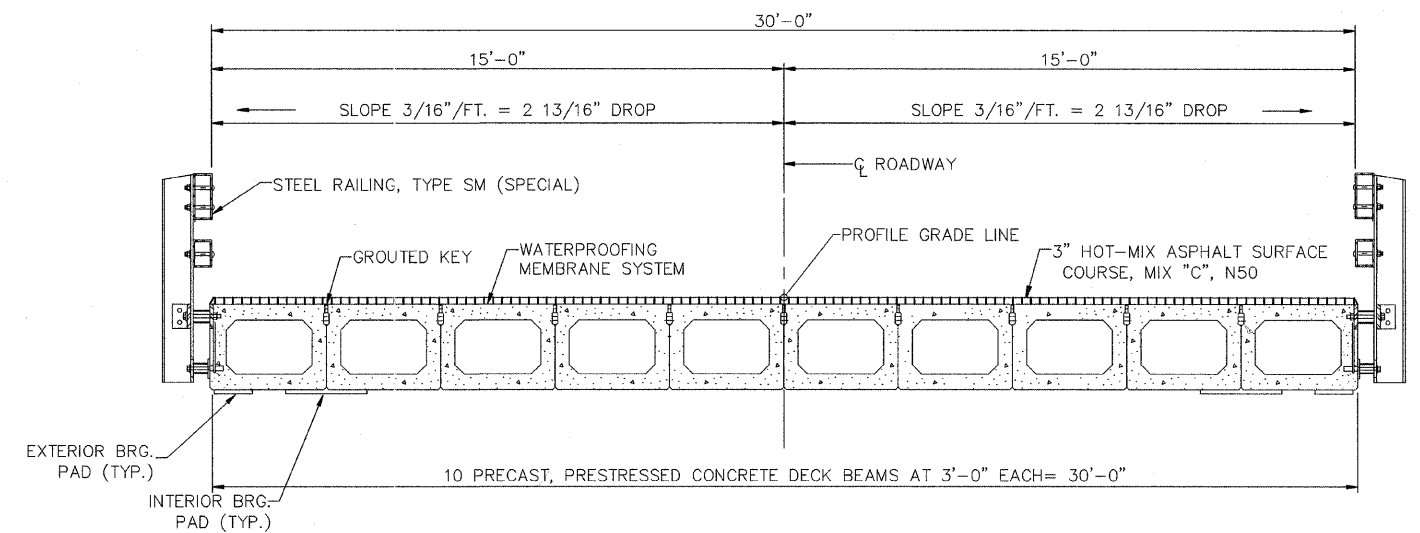


EXISTING ROADWAY



EXISTING BRIDGE SECTION

N.T.S.



PROPOSED BRIDGE SECTION

N.T.S.

BITUMINOUS MIXTURE REQUIREMENTS

MIXTURE USES:	BITUMINOUS SURFACE COURSE	BITUMINOUS CONCRETE BINDER COURSE
AC/PG:	PG 64-22	PG 64-22
RAP% (MAX)**	15%	25%
DESIGN AIR VOIDS	4% @ N DESIGN = 50	4% @ N DESIGN = 50
MOISTURE COMPOSITION (GRADATION MIXTURE)	IL 9.5 OR 12.5	IL 19.0
FRICTION AGGREGATE	MIXTURE C:	N/A

** IF > 15% RAP IS USED, THE CONTRACTOR MAY BE REQUIRED TO USE A SOFTER GRADE OF ASPHALT AS DETERMINED BY THE MATERIALS ENGINEER.

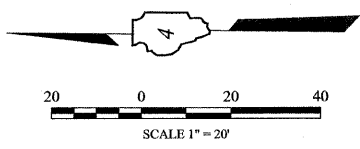
TYPICAL SECTIONS AND DETAILS

SECTION 05-00023-02-BR

F.A.S. 214, STA. 70+40

MERCER COUNTY

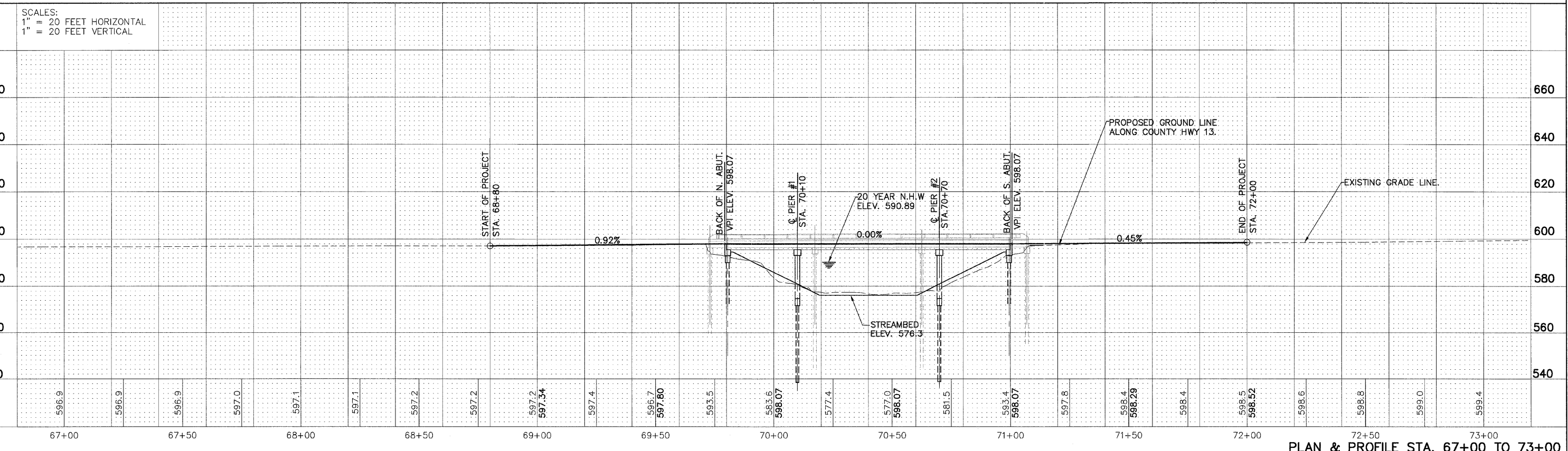
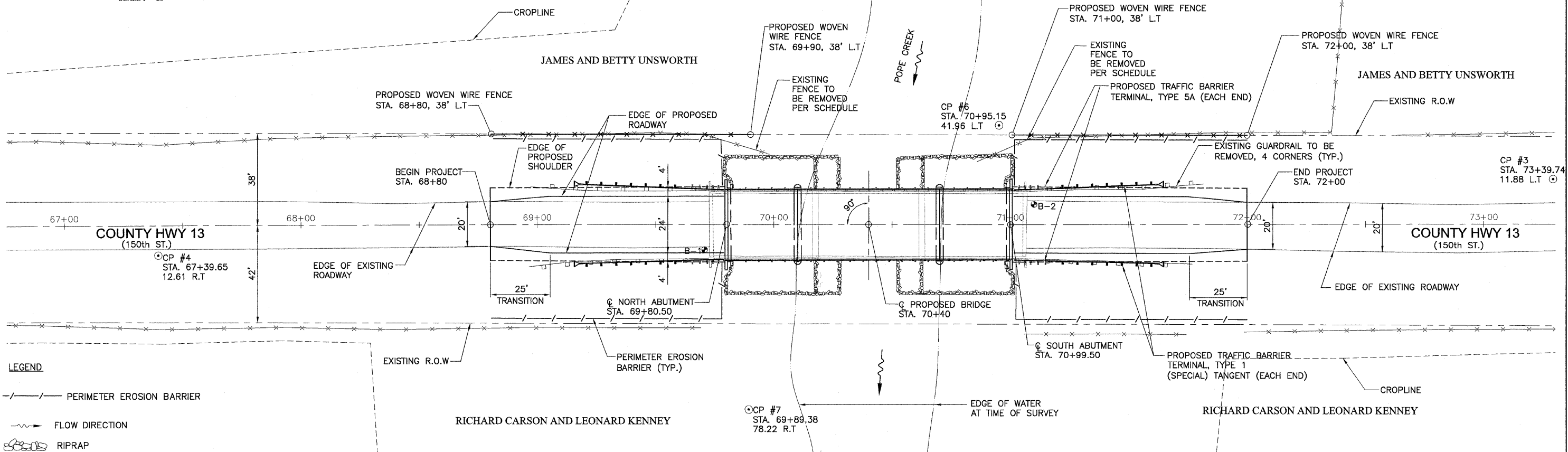
STRUCTURE NO. 066-3043



BENCHMARKS:
 B.M. ELEV. 596.90
 TBM1-NAIL SET IN E. FACE OF P. POLE
 600'+/- N. OF CENTER BRIDGE W. SIDE OF SEATON RD.
 B.M. ELEV. 594.12
 TBM2-NAIL IN FENCE POST ON N. SIDE OF FIELD ENT.
 E. SIDE OF SEATON RD. 200'+/- S. OF CENTER OF BRIDGE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	4
FED. ROAD DIST. NO. 7	ILLINOIS		89387	

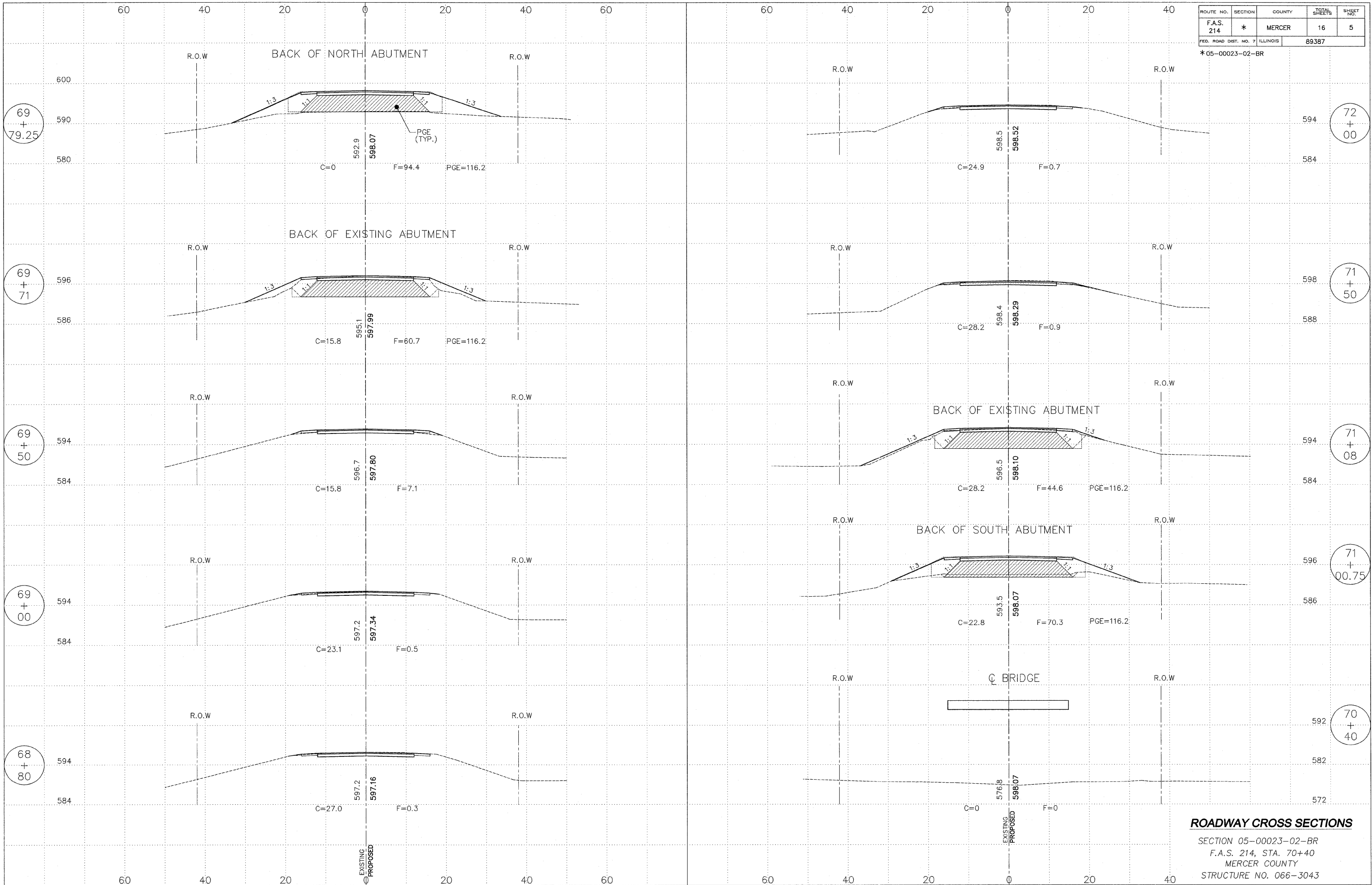
*05-00023-02-BR



PLAN & PROFILE STA. 67+00 TO 73+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	5
FED. ROAD DIST. NO. 7 ILLINOIS			89387	

*05-00023-02-BR

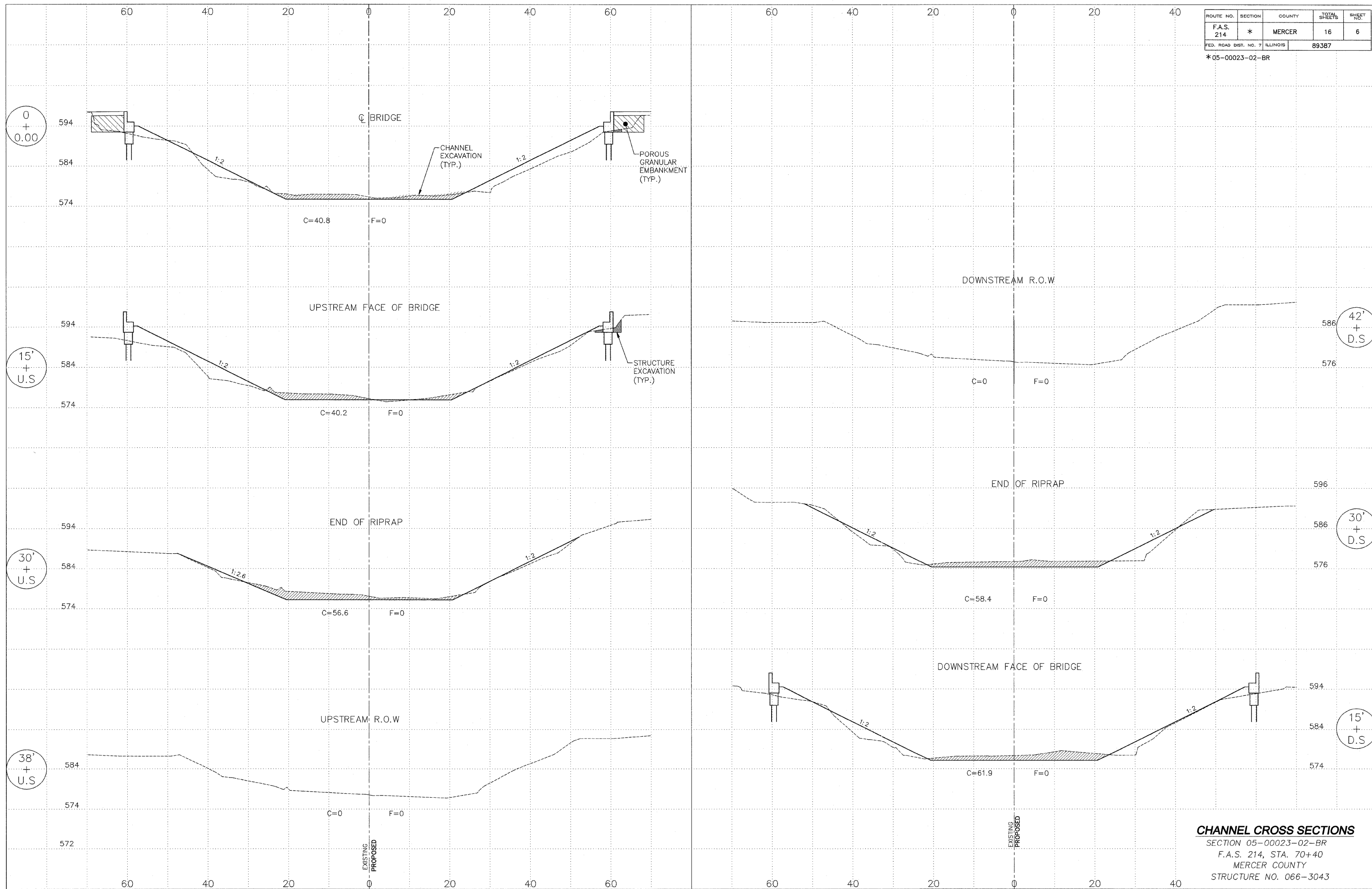


ROADWAY CROSS SECTIONS

SECTION 05-00023-02-BR
 F.A.S. 214, STA. 70+40
 MERCER COUNTY
 STRUCTURE NO. 066-3043

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	6
FED. ROAD DIST. NO. 7 ILLINOIS			89387	

*05-00023-02-BR



CHANNEL CROSS SECTIONS
 SECTION 05-00023-02-BR
 F.A.S. 214, STA. 70+40
 MERCER COUNTY
 STRUCTURE NO. 066-3043

* EXISTING STRUCTURE: 3-SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE
136'-6" B-B ABUTMENTS AND 30'-0" O-O DECK WIDTH ON PILE
BENT ABUTMENTS AND PIERS

* SALVAGE: NO SALVAGE

BENCHMARKS:

B.M. ELEV. 596.90
TBM1-NAIL SET IN E. FACE OF P. POLE
600'+/- N. OF CENTER BRIDGE W. SIDE OF
SEATON RD.
B.M. ELEV. 594.12
TBM2-NAIL IN FENCE POST ON N. SIDE OF FIELD ENT.
E. SIDE OF SEATON RD. 200'+/- S. OF CENTER OF BRIDGE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	7
FED. ROAD DIST. NO. 7 ILLINOIS			89387	

GENERAL NOTES:

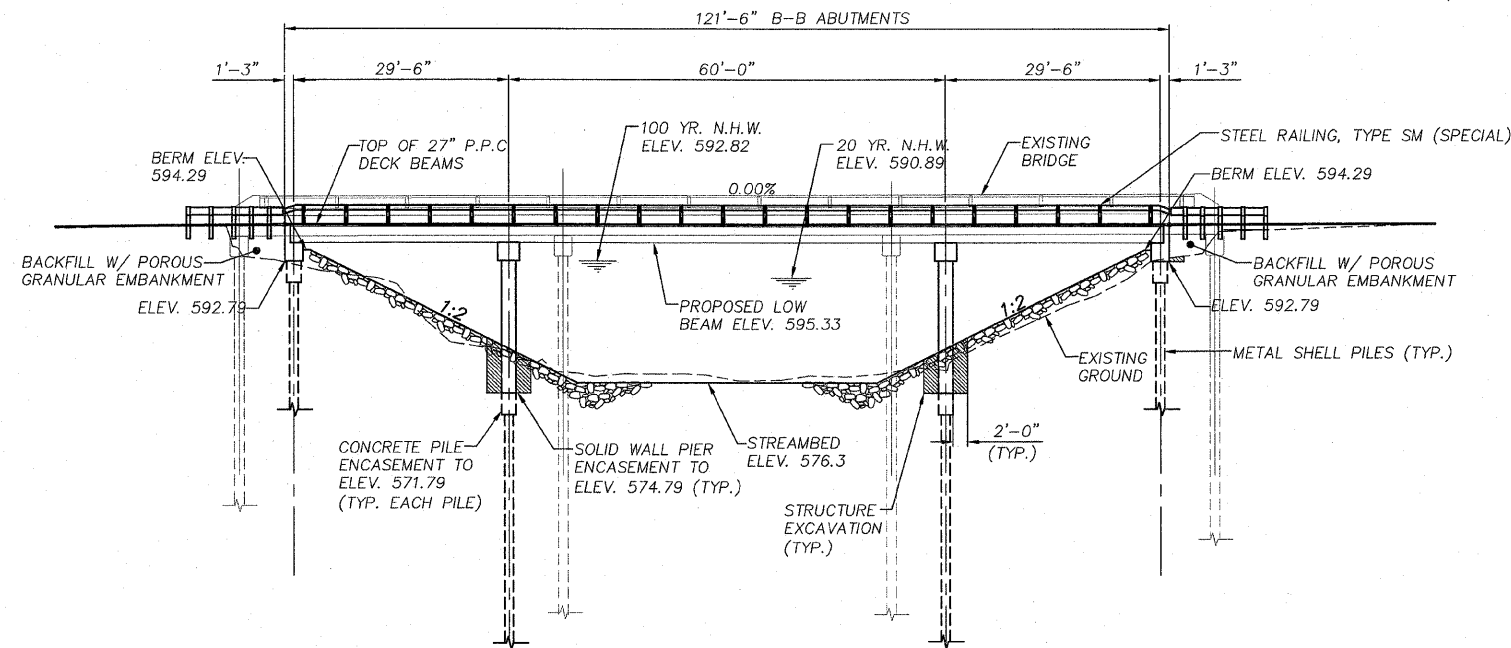
CLASS SI CONCRETE SHALL BE USED IN ALL CONCRETE STRUCTURES, EXCEPT FOR THE PRECAST, PRESTRESSED CONCRETE (P.P.C.) DECK BEAMS.

THE CONTRACTOR SHALL DRIVE 4 TEST PILE(S) AS SPECIFIED, IN A PERMANENT LOCATION AS DIRECTED BY THE ENGINEER, BEFORE ORDERING THE REMAINING PILES.

SEE SHEETS 15 AND 16 FOR BORING LOGS.

LAYOUT OF SLOPE PROTECTION SYSTEM MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

T.C.E. = TOP OF CAP ELEVATION.



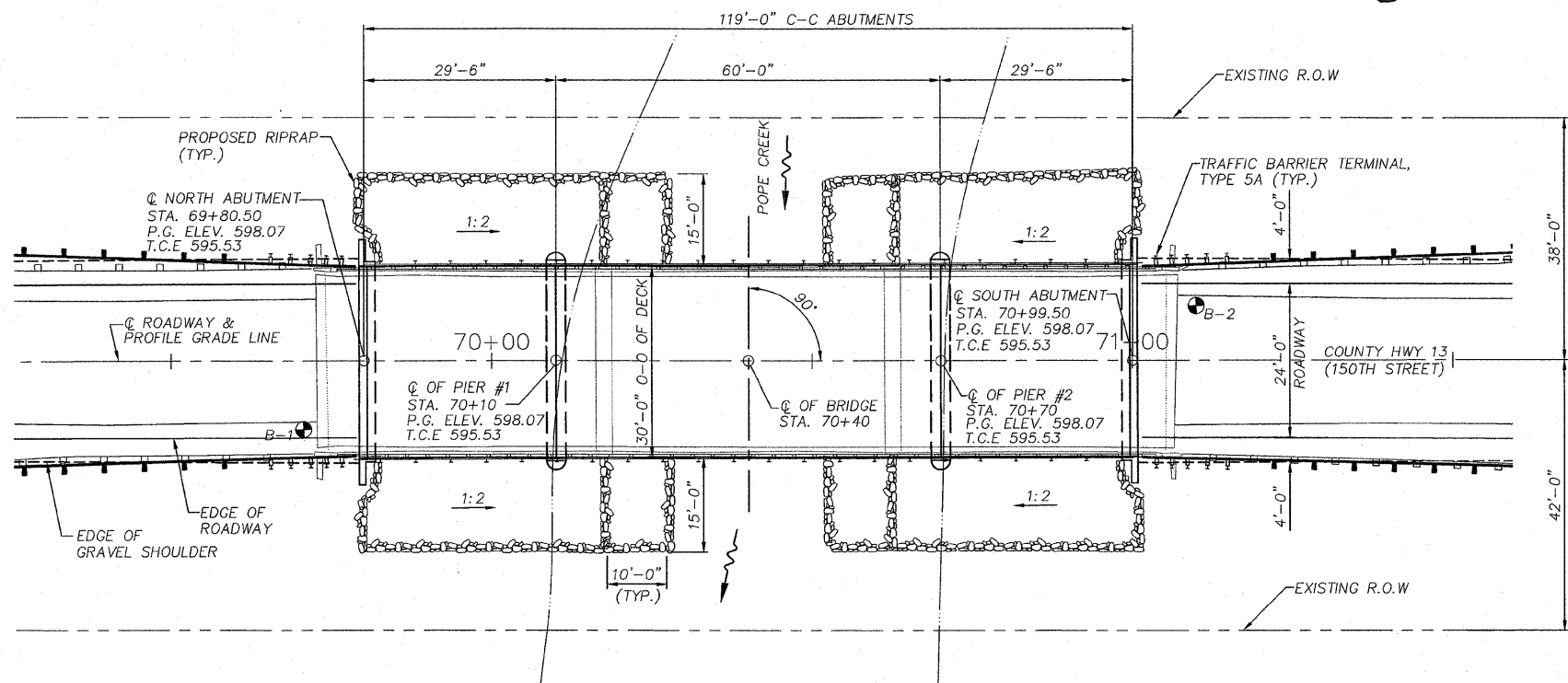
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUBSTRUCTURE		TOTAL
			PIERS	ABUTS.	
REMOVAL OF EXISTING STRUCTURES	EACH				1
CHANNEL EXCAVATION	CU.YD.				132.7
STRUCTURE EXCAVATION	CU.YD.		98.5	4.9	103.4
CONCRETE STRUCTURES	CU.YD.		129.3	22.2	151.5
P.P.C. DECK BEAMS (27" DEPTH)	SQ.FT.	3,594			3,594
STEEL RAILING, (SPECIAL)	FOOT	240			240
REINFORCEMENT BARS	POUND		7,860	2,700	10,560
FURNISHING METAL SHELL PILES, 14"x0.312"	FOOT		660	320	980
DRIVING PILES	FOOT		660	320	980
TEST PILE METAL SHELLS	EACH		2	2	4
NAME PLATES	EACH				1
STONE RIPRAP, CLASS A5	SQ.YD.				693
FILTER FABRIC	SQ.YD.				693
UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOCATION 1	EACH		1		1
UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOCATION 2	EACH		1		1
CONCRETE ENCASEMENT	CU.YD.		7.6	5.5	13.1
HOT-MIX ASPHALT SURFACE COURSE MIX "C", N50	TON	67.1			67.1
PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	1071			1071
WATERPROOFING MEMBRANE SYSTEM	SQ.YD.	399.3			399.3
ASBESTOS BEARING PAD REMOVAL	EACH				40

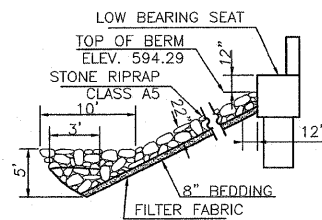
DESIGN SCOUR ELEVATION TABLE

DESIGN SCOUR ELEV. (FT), 100 YR.	N. ABUT	PIER #1	PIER #2	S. ABUT
	592.79	560.8	560.8	592.79

ELEVATION



PLAN



TOE STONE ANCHOR DETAIL

DESIGNED	MHM
CHECKED	JBF
DRAWN	MHM
CHECKED	JBF



I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLEIES WITH THE REQUIREMENTS OF THE CURRENT "AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES".

John B. Fellman
JOHN B. FELLMAN, S.E. 1-31-2008 DATE

DRAINAGE AREA = 138.95 Sq.Mi. LOW GRADE ELEV. = 597.2 @ STA. 68+80

FLOOD YEAR	FREQ.	Q C.F.S.	OPENING SQ.FT.		NATURAL H.W.E.	HEAD-FT.		HEADWATER EL.	
			EXISTING	PROPOSED		EXISTING	PROPOSED	EXISTING	PROPOSED
DESIGN	20	6,152	1061.2	1066.0	590.89	0.18	0.16	591.07	591.05
BASE	100	9,003	1314.3	1286.4	592.82	0.58	0.56	593.40	593.38
OVERTOPPING									
MAX. CALC.	500	11,716	1383.3	1359.8	593.08	1.05	1.05	594.13	594.10

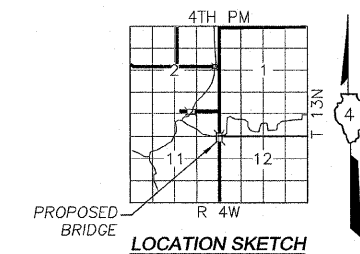
POPE CREEK
BUILT 20__ BY
MERCER COUNTY
SEC. 05-00023-02-BR
STATION 70+40.00
STR. NO. 066-3043 LOADING HS20

LETTERING FOR NAME PLATE
LOCATE NAME PLATE AT NORTHWEST CORNER OF BRIDGE
(SEE STD. 515001)

DESIGN SPECIFICATIONS
2002 AASHTO
HS20-44 LOADING. LOAD FACTOR DESIGN.
ALLOW 50#/SQ.FT. FOR FUTURE WEARING SURFACE.

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi

PRECAST UNITS
f'c = 5,000 psi
f'ci = 4,000 psi
f's = 270,000 psi (1/2" dia. strands)
f'si = 201,960 psi (1/2" dia. strands)



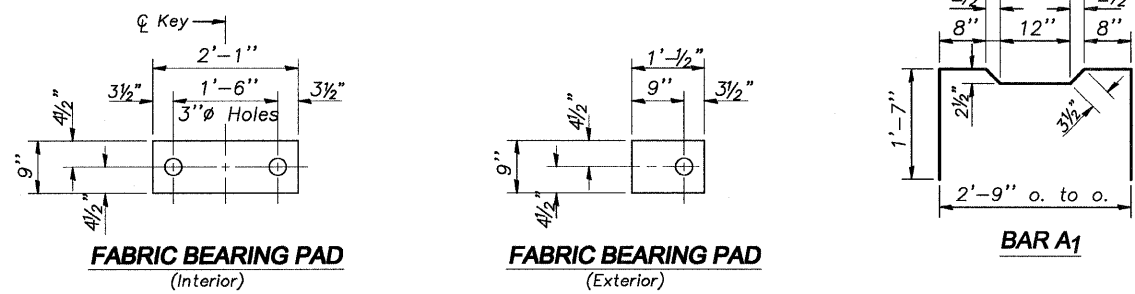
GENERAL BRIDGE PLAN & ELEVATION

SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043

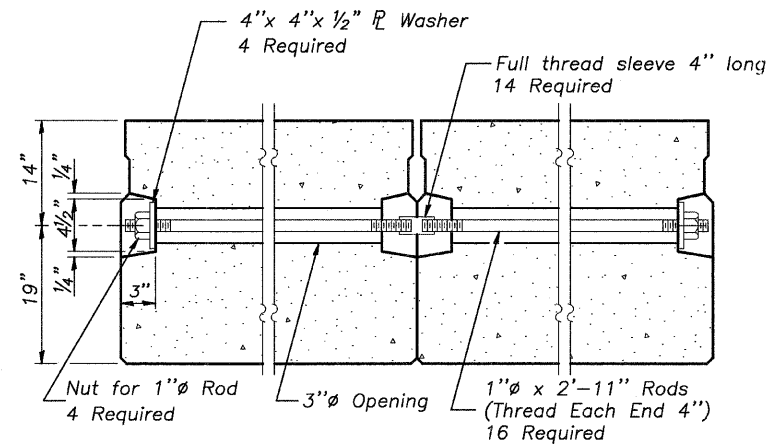
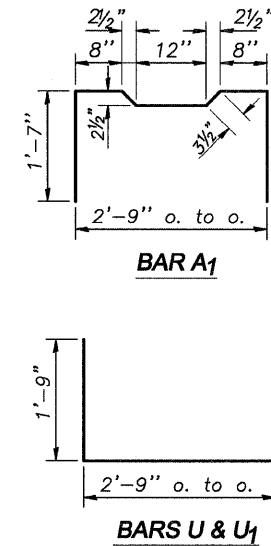
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	8
FED. ROAD DIST. NO. 7	ILLINOIS		89387	

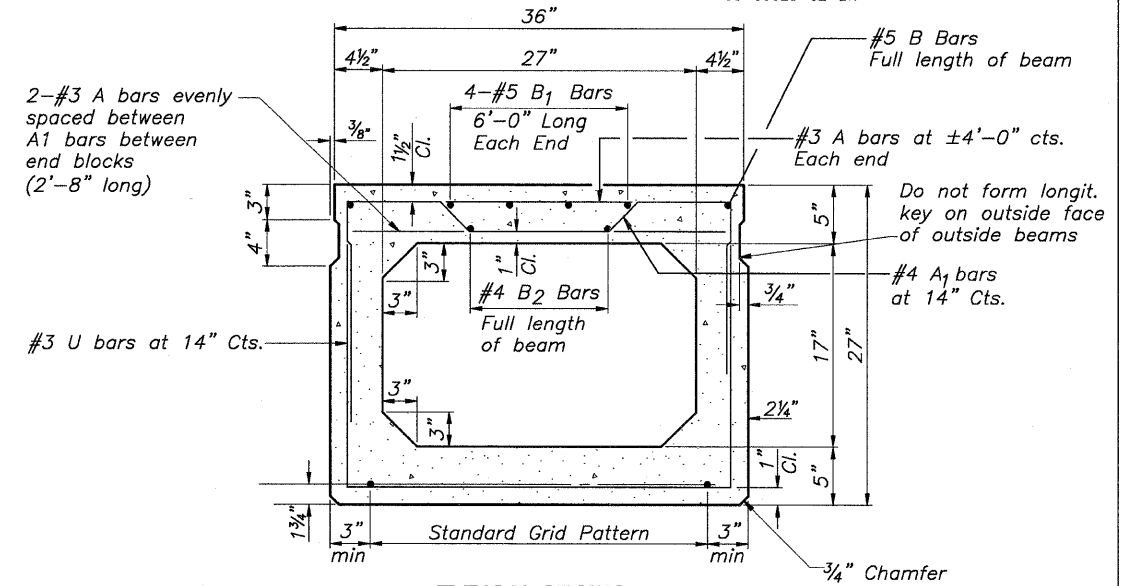
* 05-00023-02-BR



1/2" FABRIC BEARING PAD DETAILS (FIXED)

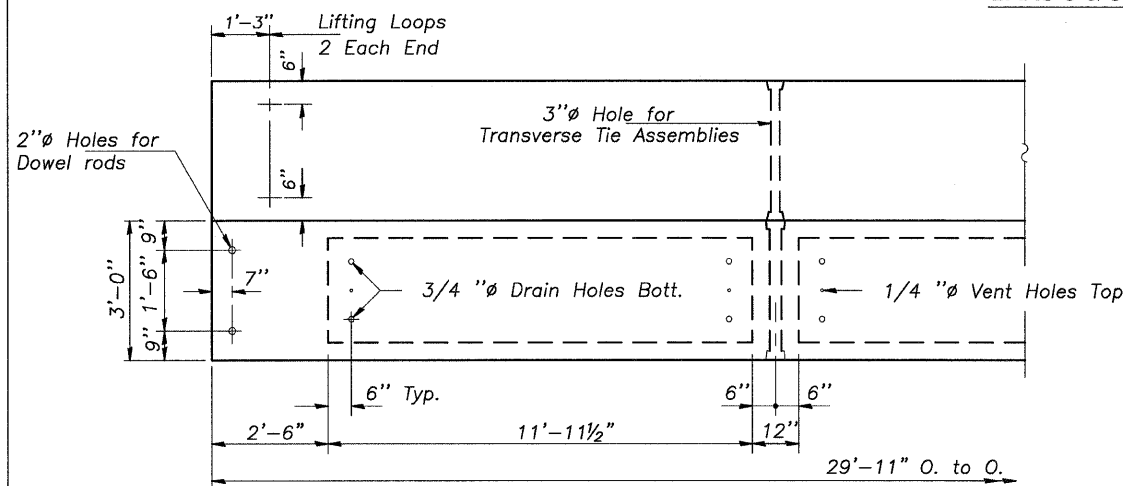


TYPICAL TRANSVERSE TIE ASSEMBLY

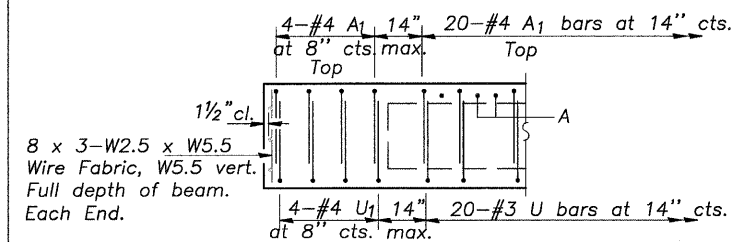


1/2" Ø Strands each Strand Stressed to 30,900 Lbs
6 Strands 1 3/4" up

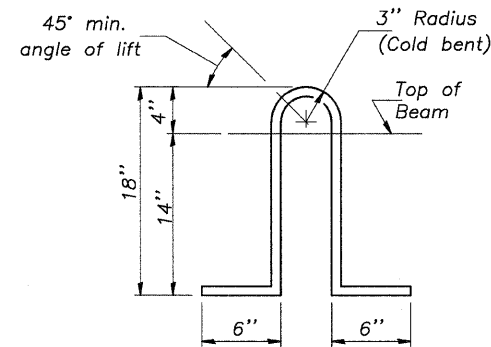
Note: Place strands symmetrically about centerline of beam



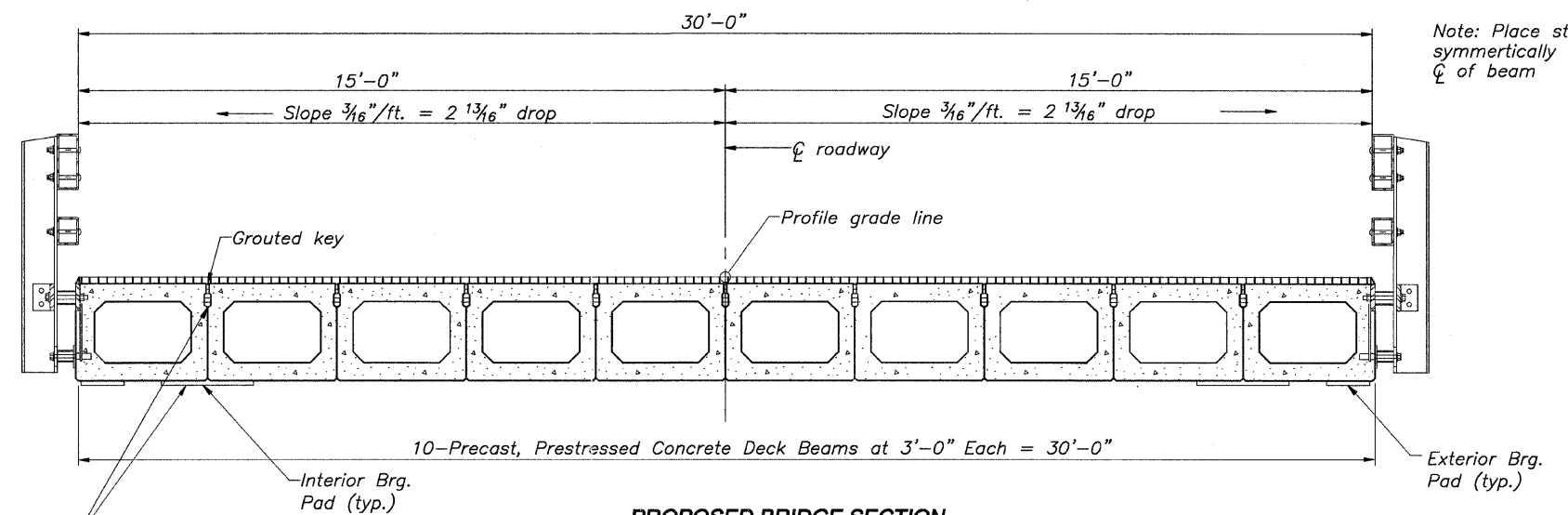
PLAN



END ELEVATION



LIFTING LOOP DETAIL



PROPOSED BRIDGE SECTION

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

NOTES

Prestressing steel shall be uncoated high strength, low-relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2" Ø - 270 ksi strands, as shown. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non Prestressing steel shall conform to ASTM A706 (IL MOD). Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i.

BILL OF MATERIAL

(2-Spans)
29'-6" Span

Bar	No.	Size	Length	Shape
A	840	#3	2'-8"	—
A1	560	#4	6'-1"	—
B	40	#5	29'-7"	—
B1	160	#5	6'-0"	—
B2	40	#4	29'-7"	—
U	400	#3	6'-3"	—
U1	160	#4	6'-3"	—
Precast Prestressed Conc. Deck Bms.			Sq. Ft.	1,796

29'-6" SPAN
DECK BEAM DETAILS

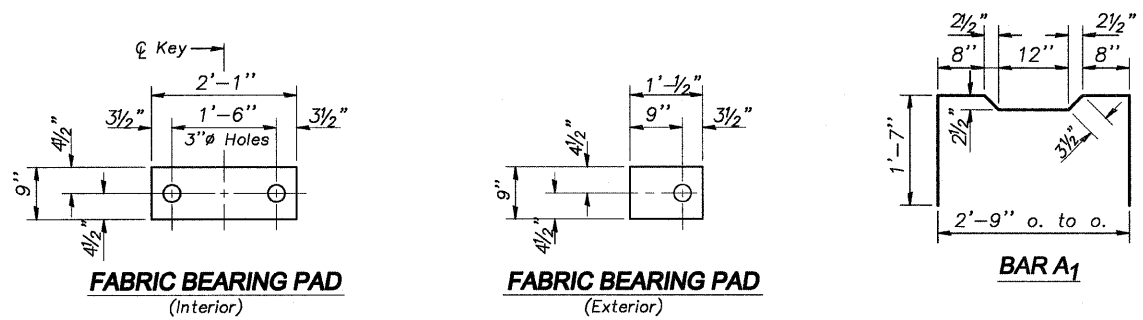
SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043

DESIGNED	MHM
CHECKED	JBF
DRAWN	RAP
CHECKED	JBF

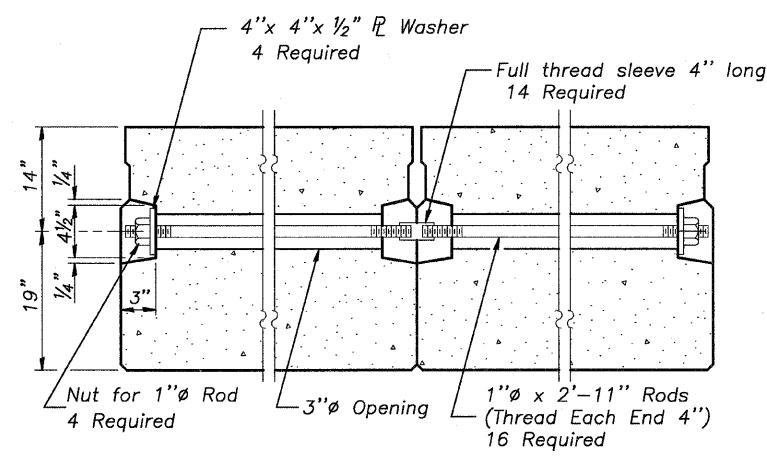
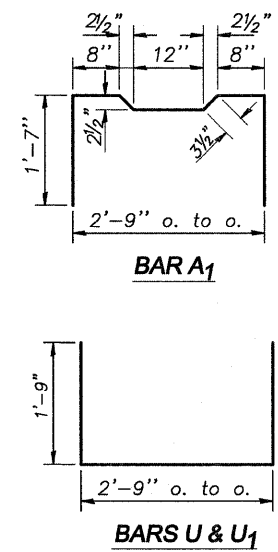
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	9
FED. ROAD DIST. NO. 7 ILLINOIS			89387	

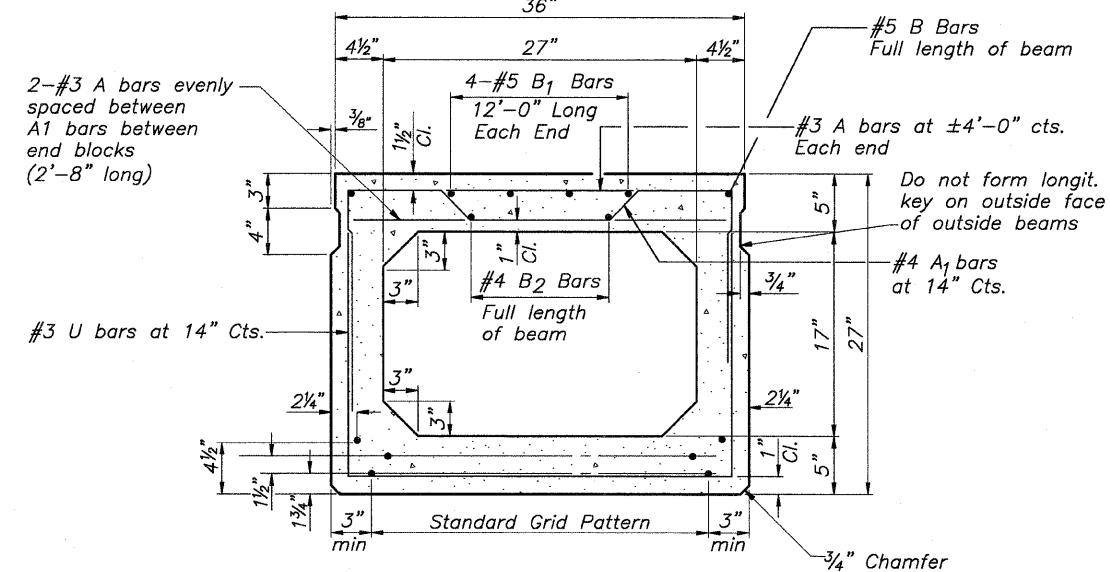
* 05-00023-02-BR



FABRIC BEARING PAD (Interior)
FABRIC BEARING PAD (Exterior)
1/2" FABRIC BEARING PAD DETAILS (FIXED)



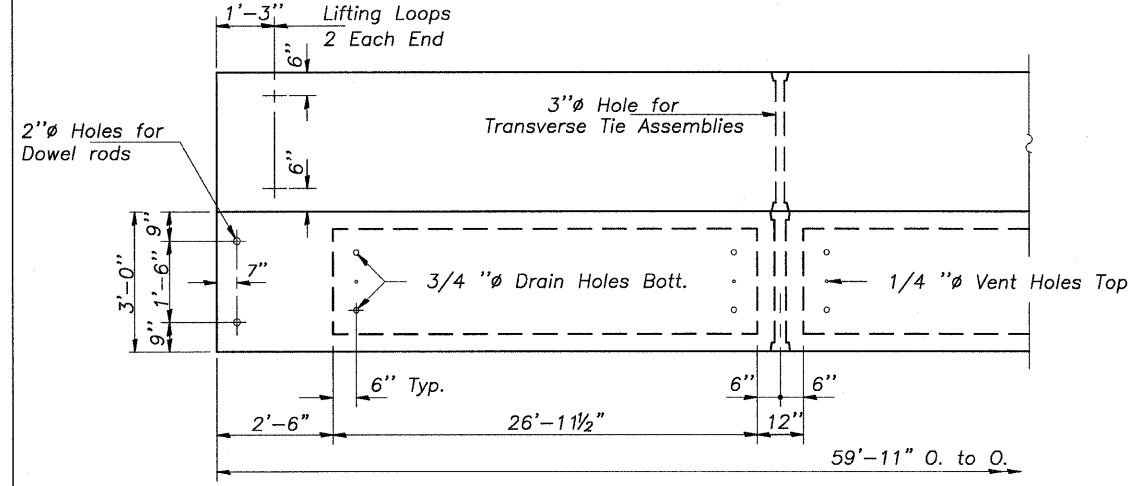
TYPICAL TRANSVERSE TIE ASSEMBLY



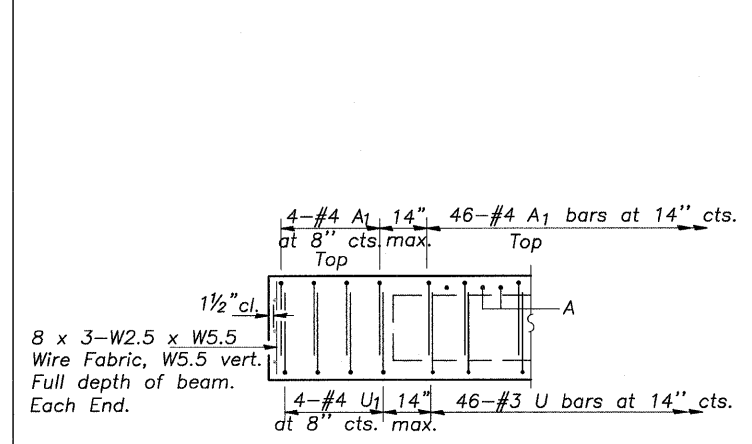
TYPICAL SECTION

1/2" Ø Strands each Strand Stressed to 30,900 Lbs
6 Strands 1 3/4" up. 6 Strands 3/4" up. 2-Strands 4/2" up.

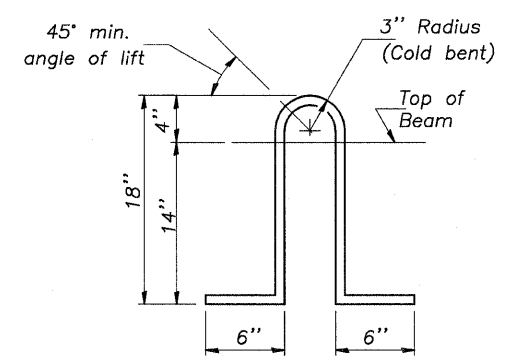
Note: Place strands symmetrically about C of beam



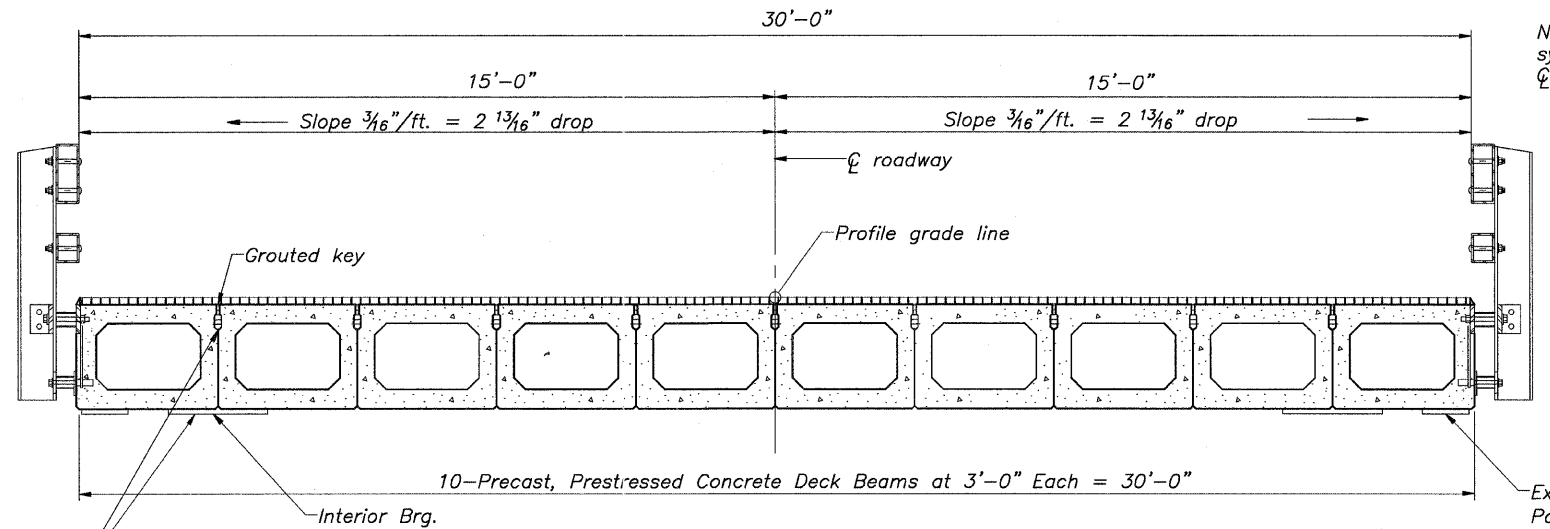
PLAN



END ELEVATION



LIFTING LOOP DETAIL



PROPOSED BRIDGE SECTION

BILL OF MATERIAL (1-Span)

60'-0" Span

Bar	No.	Size	Length	Shape
A	980	#3	2'-8"	—
A1	540	#4	6'-1"	┌┐
B	20	#5	59'-7"	—
B1	80	#5	12'-0"	—
B2	20	#4	59'-7"	—
U	460	#3	6'-3"	└└
U1	80	#4	6'-3"	└└
Precast Prestressed Conc. Deck Bms.			Sq. Ft.	1,798

NOTES

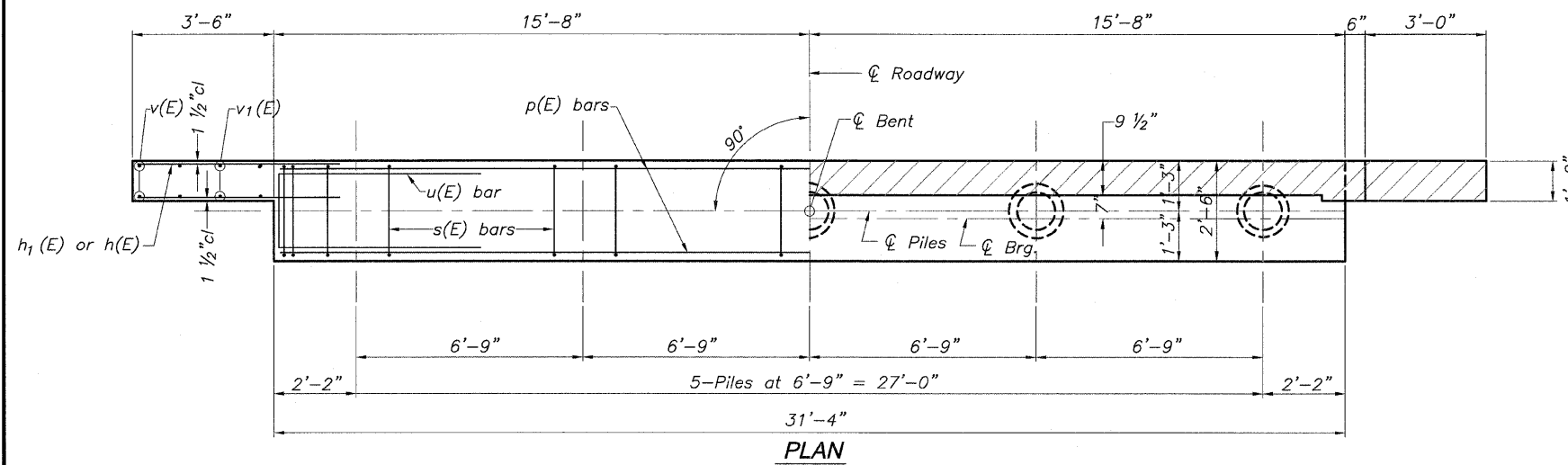
Prestressing steel shall be uncoated high strength, low-relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2" Ø-270 ksi strands, as shown. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non Prestressing steel shall conform to ASTM A706 (IL MOD). Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i.

DESIGNED	MHM
CHECKED	JBF
DRAWN	RAP
CHECKED	JBF

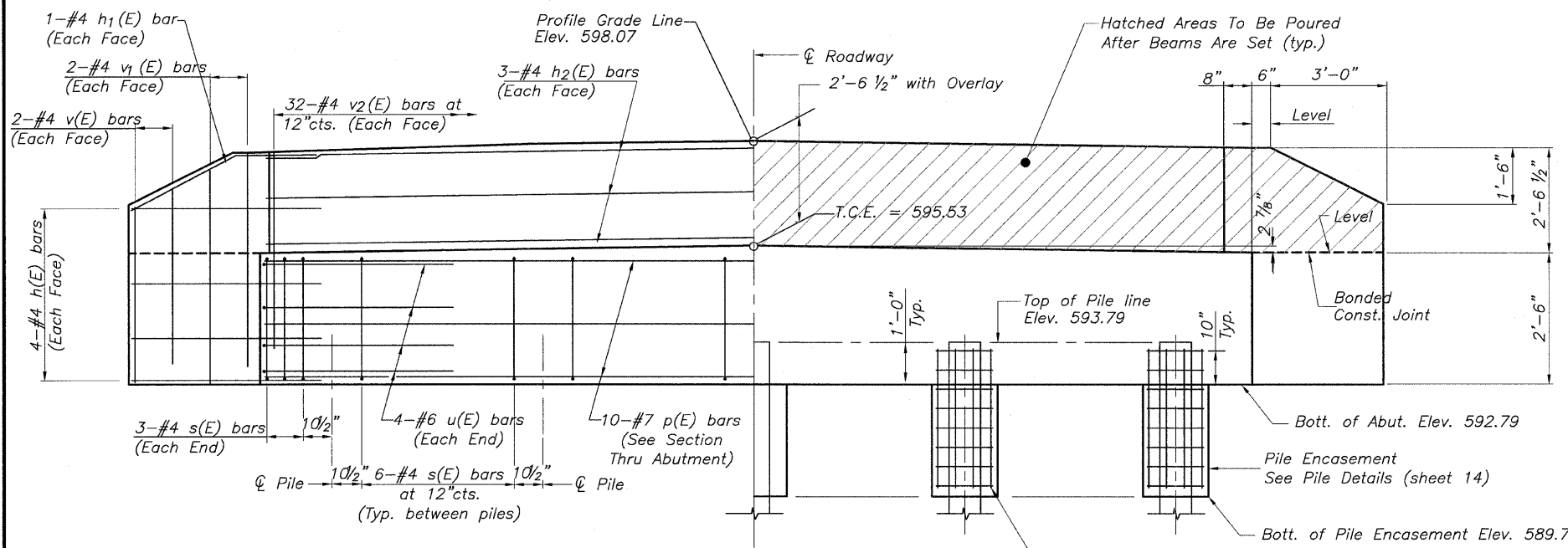
60'-0" SPAN DECK BEAM DETAILS
SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	10
FED. ROAD DIST. NO. 7 ILLINOIS			89387	

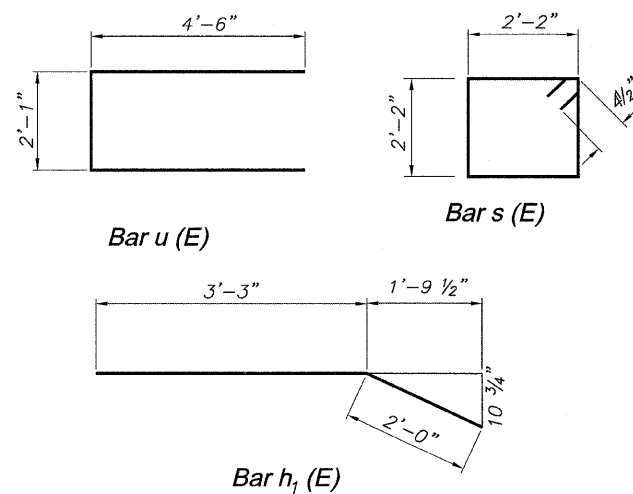
*05-00023-02-BR



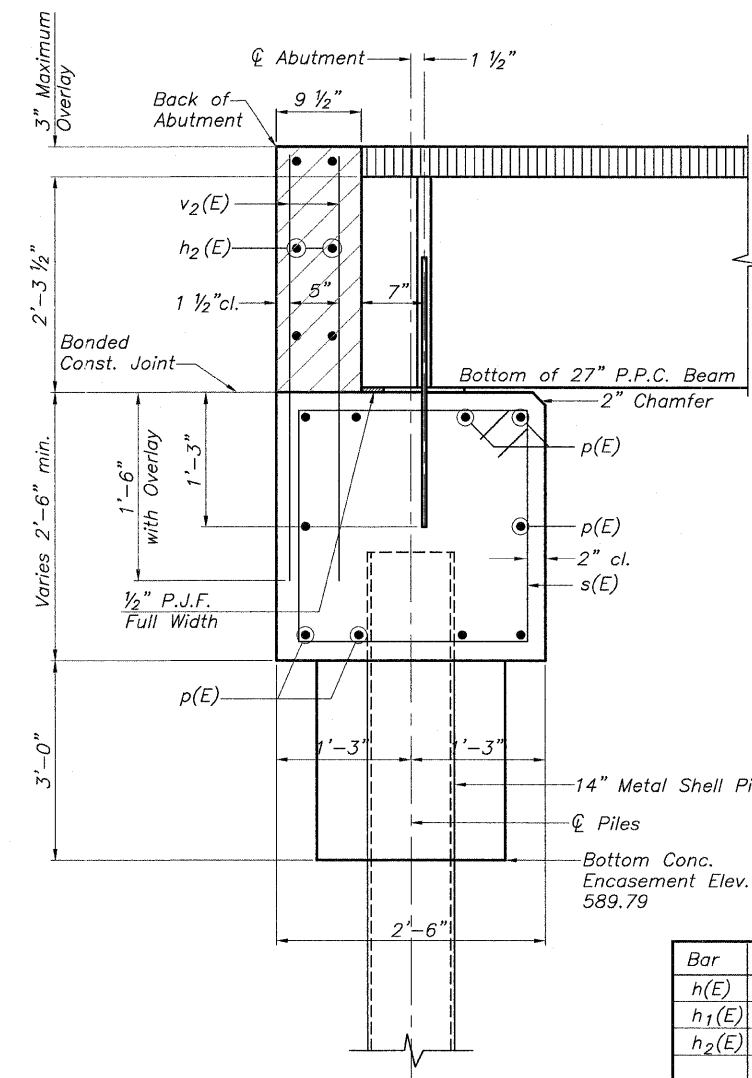
PLAN



ELEVATION



DESIGNED	MHM
CHECKED	JBF
DRAWN	MHM
CHECKED	JBF



SECTION THRU ABUTMENT

PILE DATA

Type & Size	Metal Shell-14 In. Dia. x 0.312 In. Walls
Nominal Required Bearing	270 Kips
Allowable Resistance Bearing	90 Kips
Estimated Length	40 Feet (N. Abut.) 40 Feet (S. Abut.)
Quantity	4+1 Test Pile (N. Abut.) 4+1 Test Pile (S. Abut.)

Bill of Material For Two Abutments

Bar	No.	Size	Length	Shape
h(E)	32	#4	5'-0"	—
h1(E)	8	#4	5'-3"	—
h2(E)	12	#4	31'-0"	—
p(E)	20	#7	31'-0"	—
s(E)	60	#4	9'-5"	□
u(E)	16	#6	11'-1"	C
v(E)	16	#4	3'-2"	—
v1(E)	16	#4	4'-2"	—
v2(E)	128	#4	3'-8"	—
Structure Excavation			Cu.Yd.	4.9
Concrete Structures			Cu.Yd.	22.2
Concrete Encasement			Cu.Yd.	5.5
Reinforcement Bars Epoxy Coated			Pound	2700
Furnishing Metal Shell Piles, 14"x0.312"			Feet	320
Driving Piles			Feet	320
Test Pile Metal Shells			Each	2

GENERAL NOTES:
The backwall and the portion of the wingwalls above the bonded construction joint shall be cast against the in-place beam.

Reinforcement bars shall conform to ASTM A 706 (IL MOD), Grade 60

Space reinforcement in cap to miss anchor bolts. All edges shall have standard 3/4" chamfers unless otherwise noted.

The Metal Shell Piles shall be According to ASTM A 252 Grade 3.

The Test Pile(s) shall be driven to 110 Percent of the Nominal Required Bearing Indicated in the Pile Data Information.

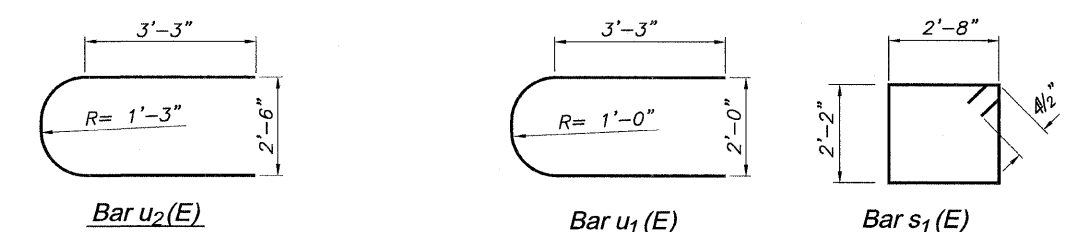
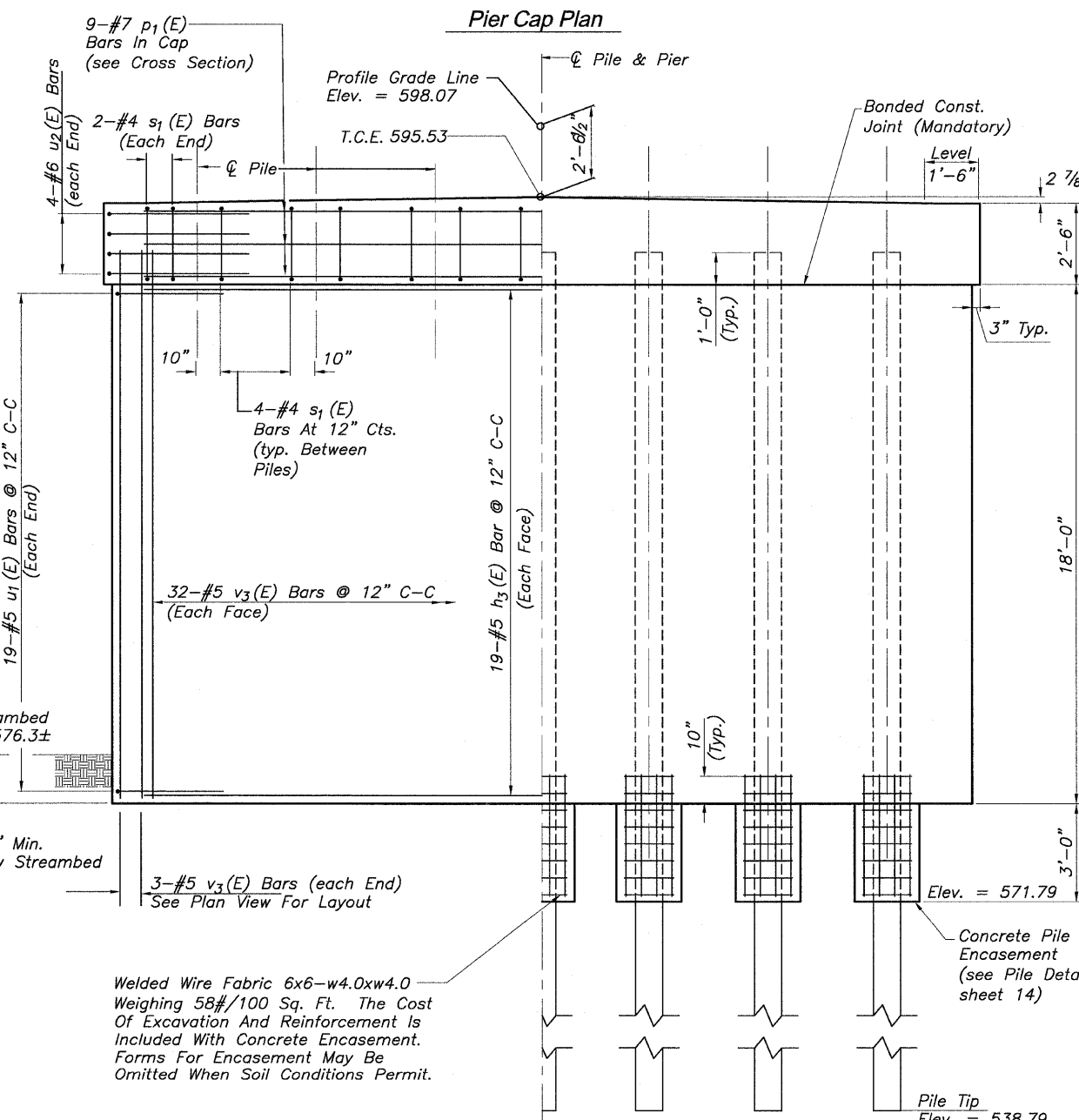
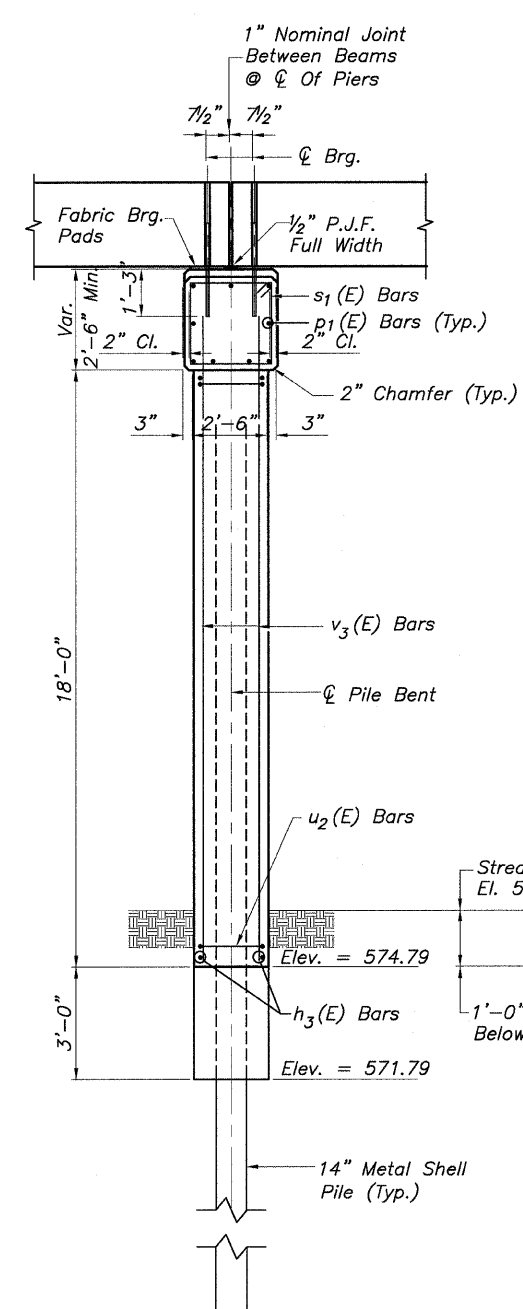
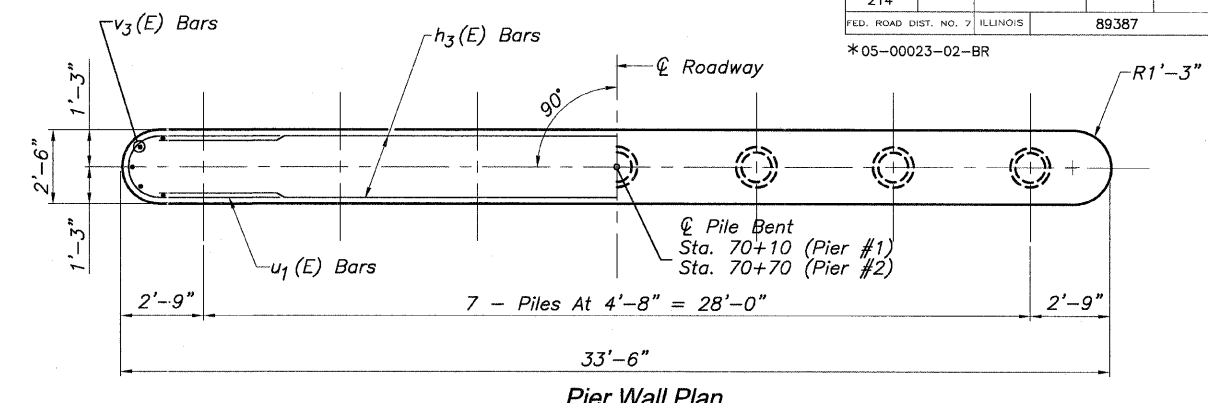
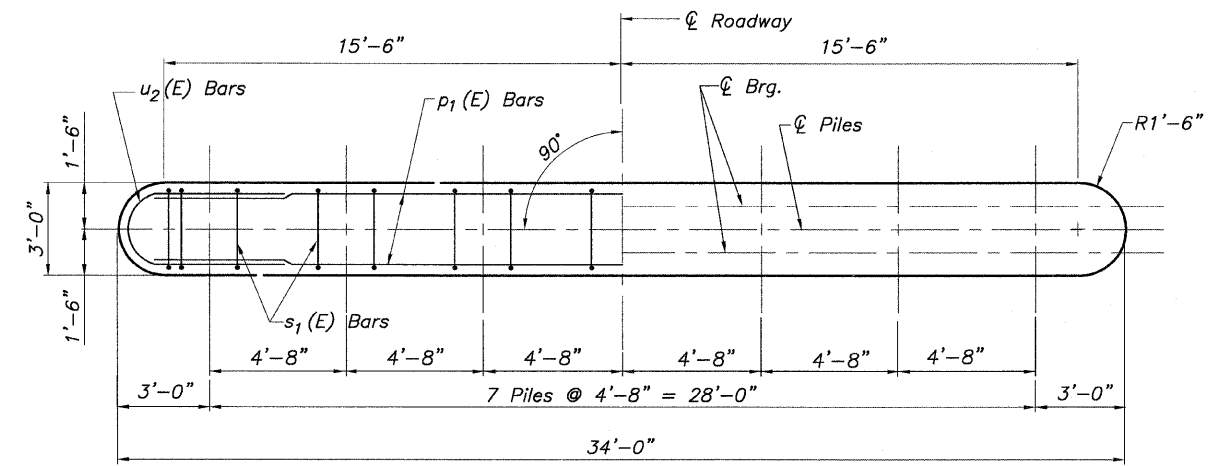
DESIGN STRESSES
fy = 60,000 psi
fc = 3,500 psi

ABUTMENT DETAILS

SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	11
FED. ROAD DIST. NO. 7	ILLINOIS		89387	

*05-00023-02-BR



Pile Data

Type & Size	Metal Shell-14 In. Dia. X 0.312 In. Walls
Nominal Required Bearing	360 Kips
Allowable Resistance Bearing	120 Kips
Estimated Length	55 Feet (Pier #1) 55 Feet (Pier #2)
Quantity	6+1 Test Pile (Pier #1) 6+1 Test Pile (Pier #2)

General Notes:

Reinforcement Bars Shall Conform To ASTM A 706 (IL MOD), Grade 60

All Reinforcement Shall Have Aminimum Clearance Of 2" Unless Noted Otherwise.

Pier Cap Top Shall Be Constructed To The Same Grade As The Proposed Roadway

The Metal Shell Piles shall be According to ASTM A 252 Grade 3.

The Test Pile(s) shall be driven to 110 Percent of the Nominal Required Bearing Indicated in the Pile Data Information.

Design Stresses

f_y = 60,000 Psi
f'_c = 3,500 Psi

Bill Of Material For Two Piers

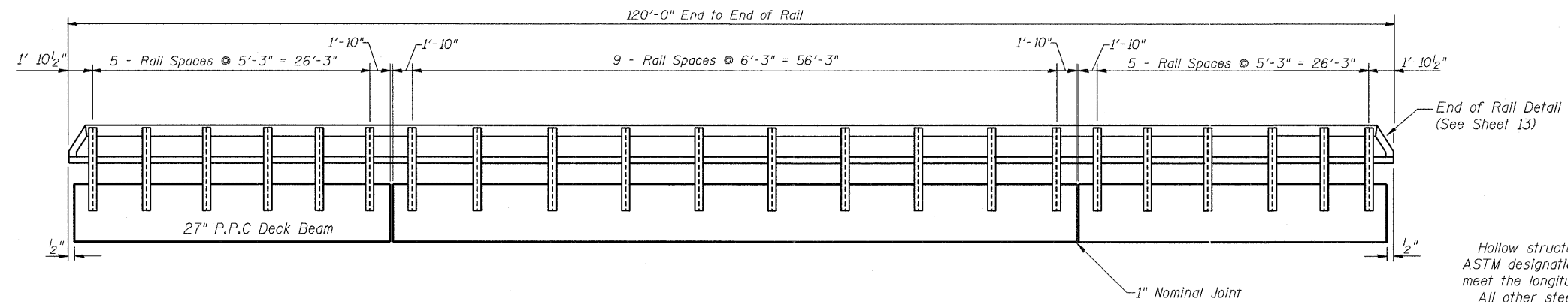
Bar	No.	Size	Length	Shape
h ₃ (E)	76	#5	31'-0"	—
p ₁ (E)	18	#7	31'-0"	—
s ₁ (E)	56	#4	10'-5"	□
u ₁ (E)	76	#5	9'-8"	C
u ₂ (E)	16	#6	10'-5"	C
v ₃ (E)	140	#5	19'-6"	—
Structure Excavation			Cu.Yd.	98.5
Concrete Structures			Cu.Yd.	129.3
Conc. Encasement			Cu.Yd.	7.6
Reinforcement Bars Epoxy Coated			Pound	7860
Furnishing Metal Shell Piles, 14"x0.312"			Feet	660
Driving Piles			Feet	660
Test Pile Metal Shells			Each	2
Underwater Structure Excavation Protection			Each	2

DESIGNED	MHM
CHECKED	JBF
DRAWN	MHM
CHECKED	JBF

WALL PIER DETAILS

SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	05-00023-02-BR	MERCER	16	12
FED. ROAD DIST. NO. 7	ILLINOIS		89387	



NOTES

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

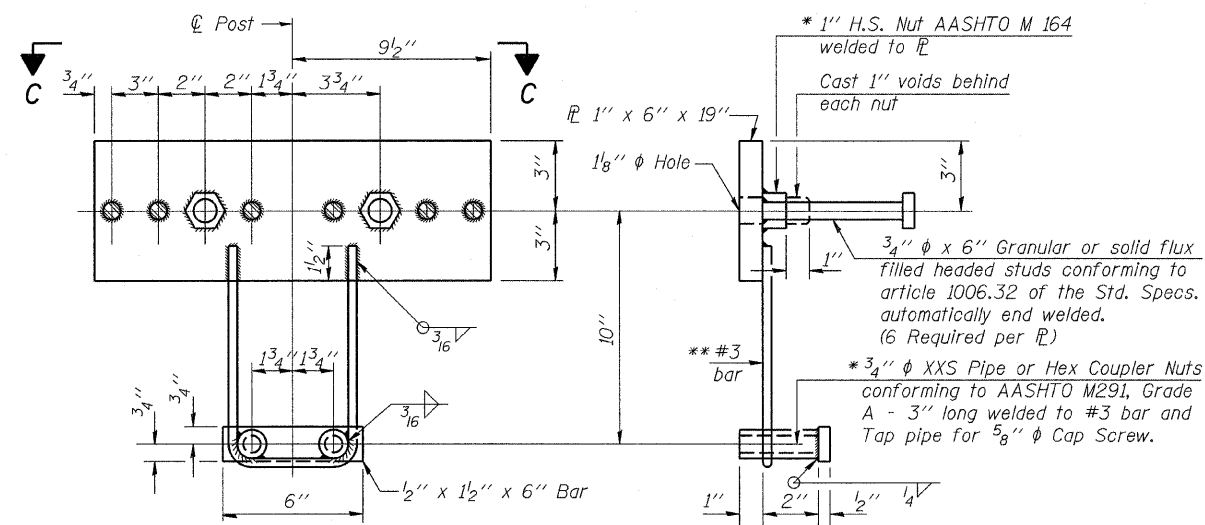
Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.

The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pads between the plates and concrete.

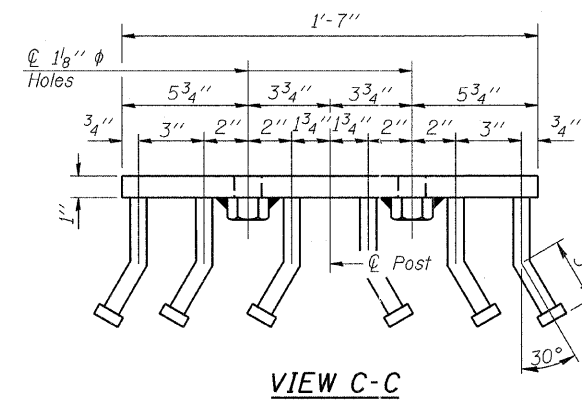
The 3/4" φ high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1" φ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" φ cap screws in bottom of posts shall be tightened to a snug fit only.



ANCHOR DEVICE

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

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



VIEW C-C

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing (Special)	Foot	240

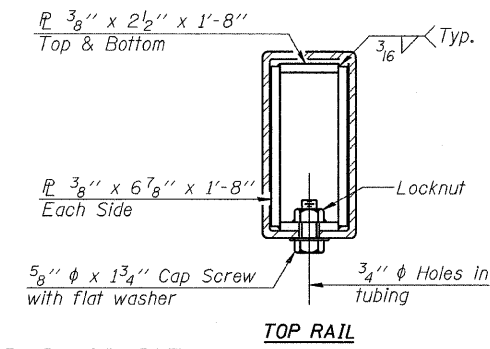
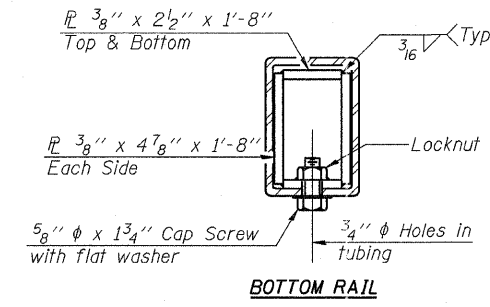
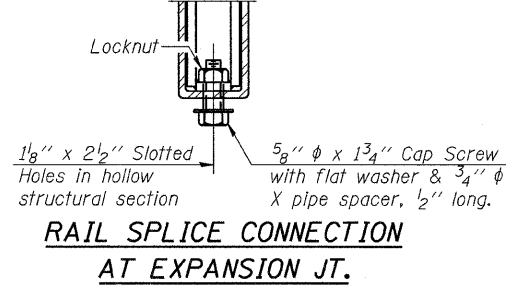
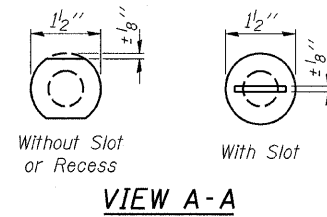
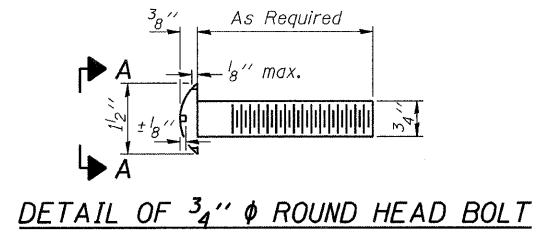
DESIGNED	JBF
CHECKED	JBF
DRAWN	RAP
CHECKED	JBF

(6'-3" Maximum Post Spacing)

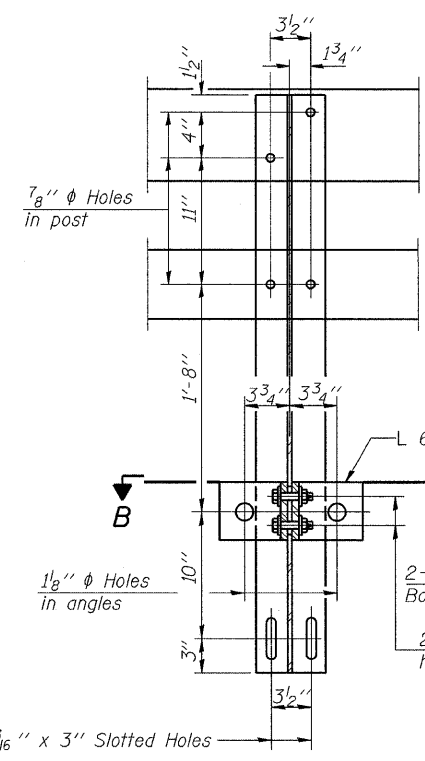
**TYPE SM (SPECIAL)
STEEL BRIDGE RAIL SIDE MOUNTED**

SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043

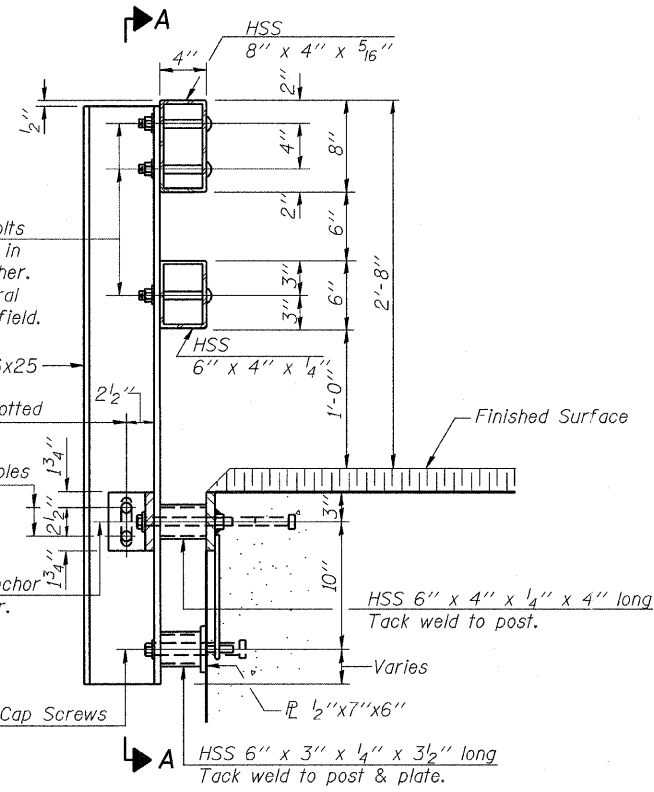
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	05-00023-02-BR	MERCER	16	13
FED. ROAD DIST. NO. 7			ILLINOIS	89387



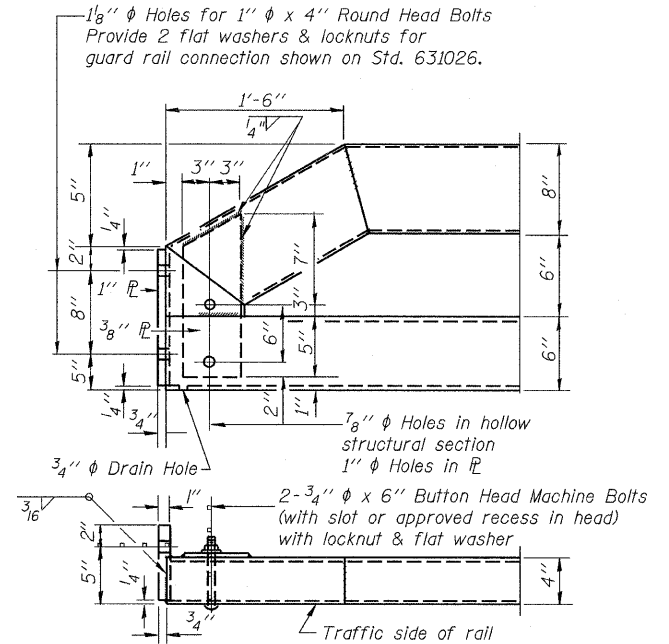
SECTIONS AT RAIL SPLICE



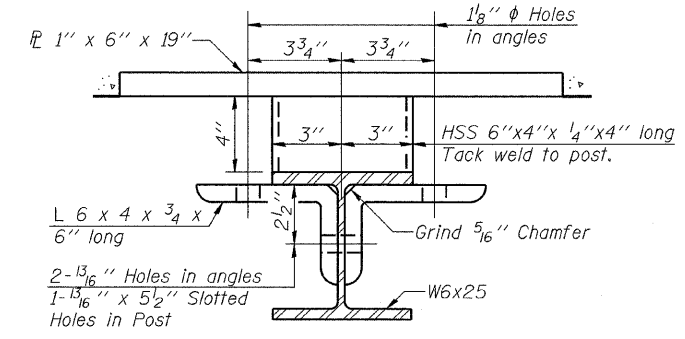
4- 3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ Holes in hollow structural section may be drilled in the field.



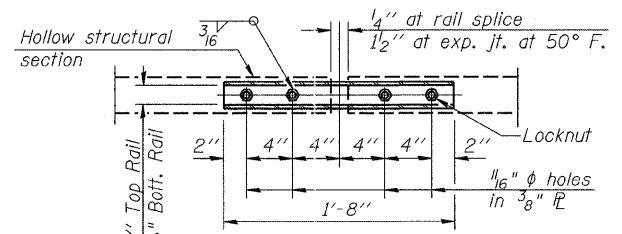
SECTION AT RAIL POST



END OF RAIL DETAILS



SECTION B-B



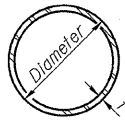
PLAN-BOTT. SPLICE R TYPICAL

DESIGNED	JBF
CHECKED	JBF
DRAWN	RAP
CHECKED	JBF

**TYPE SM (SPECIAL)
STEEL BRIDGE RAIL SIDE MOUNTED**

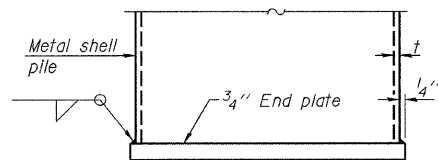
SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	05-00023-02-BR	MERCER	16	14
FED. ROAD DIST. NO. 1	ILLINOIS		89387	

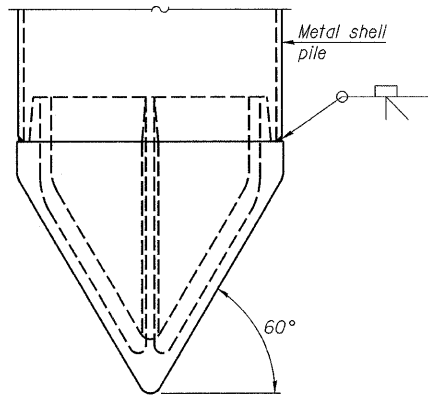


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



END PLATE ATTACHMENT



METAL SHELL PILE SHOE ATTACHMENT

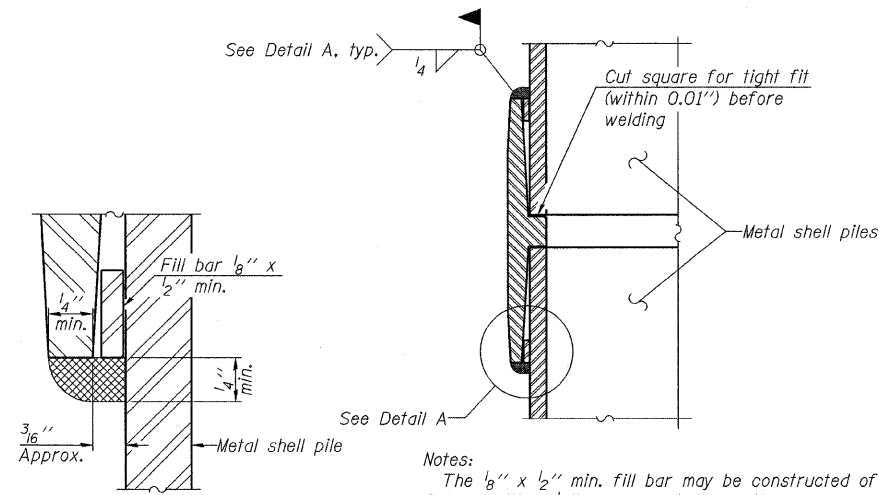
(See Note A)

Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

DESIGNED	MHM
CHECKED	JBF
DRAWN	MHM
CHECKED	JBF

F-MS

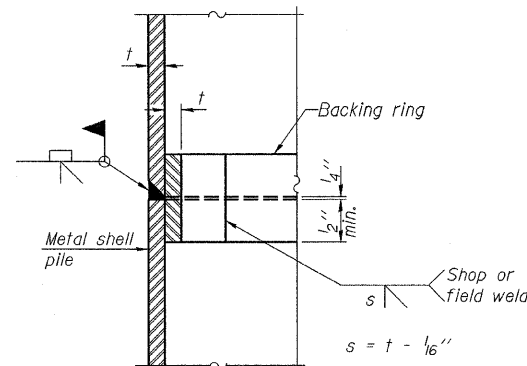
9-3-07



DETAIL A

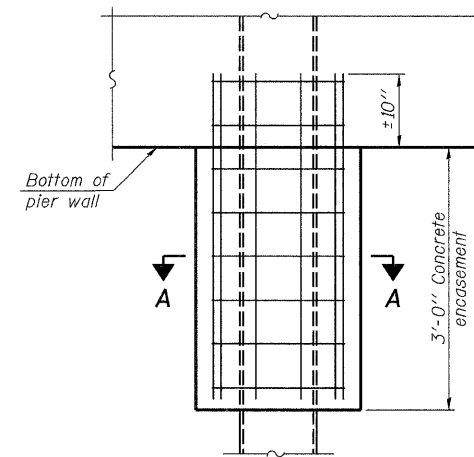
Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

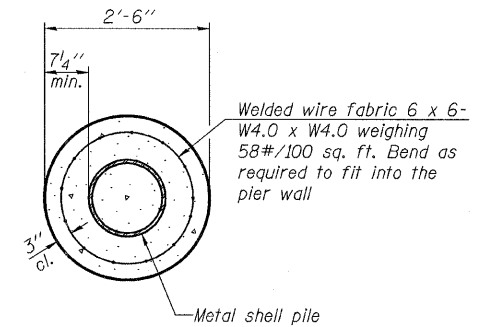


COMPLETE PENETRATION WELD SPLICE

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



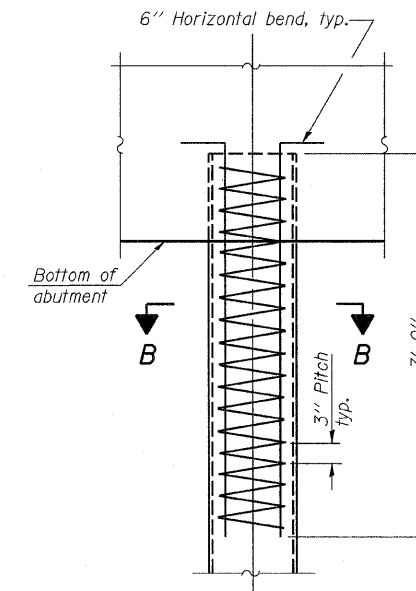
ELEVATION



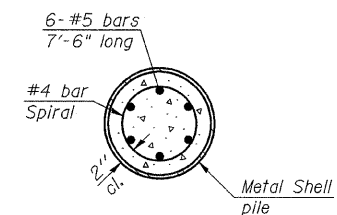
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



ELEVATION



SECTION B-B

Reinforcement Cage shall be omitted when Concrete Encasement is provided.
The cost of Reinforcement is included with the cost of Furnishing Piles.

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

PILE DETAILS

SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043

LOG OF BORING NO. 1												Page 1 of 2		
OWNER						ARCHITECT/ENGINEER								
						Missman, Stanley & Associates, P.C.								
SITE						PROJECT								
Mercer County, Illinois						Seaton Road Bridge Over Pope Creek								
GRAPHIC LOG	DEPTH (ft.)	USCS SYMBOL	SAMPLES			TESTS			DESCRIPTION					
			NUMBER	TYPE	RECOVERY	SPT-N BLOWS / FT.	MOISTURE, %	DRY DENSITY PCF				UNCONFINED STRENGTH PSF		
Approx. Surface Elev.: 597.8 ft.														
	0.2												597.5	
	1.0												596.8	
	5	CL	1	SS	10"		8	15.0						
	9.0	CL	2	SS	6"		3	18.1					588.8	
	15	ML	3	SS	18"		4	33.4						
	18.0	SP	4	SS	14"		7	20.8					579.8	
	22.5	SP	5	SS	18"		21	9.9					575.3	
	30	SP	6	SS	17"		16	15.2						
-- color change to dark gray and dark greenish gray @ about 28'														
32.0														
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES. IN-SITU, THE TRANSITION MAY BE GRADUAL.												Calibrated Hand Penetrometer*		
WATER LEVEL OBSERVATIONS						BORING STARTED						3-7-07		
WL 23' WD 10' AD						BORING COMPLETED						3-7-07		
WL						RIG						Rig 112 FOREMAN MG		
WL						APPROVED						RED JOB # 15-127		
TEAM Services, Inc.														

LOG OF BORING NO. 1												Page 2 of 2		
OWNER						ARCHITECT/ENGINEER								
						Missman, Stanley & Associates, P.C.								
SITE						PROJECT								
Mercer County, Illinois						Seaton Road Bridge Over Pope Creek								
GRAPHIC LOG	DEPTH (ft.)	USCS SYMBOL	SAMPLES			TESTS			DESCRIPTION					
			NUMBER	TYPE	RECOVERY	SPT-N BLOWS / FT.	MOISTURE, %	DRY DENSITY PCF				UNCONFINED STRENGTH PSF		
	35	SP	7	SS	20"		35	13.0					565.8	
	37.5												560.3	
	40	SML	8	SS	10"		19	17.2						
	42.0												555.8	
	45	CL	9	SS	21"		22	19.5						
	47.0												550.8	
	50	SP	10	SS	14"		12	19.7						
	55													
	55	SP	11	SS	14"		19	18.5						
	60.0	SP	12	SS	16"		18	17.0						
Bottom of Boring												537.8		
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES. IN-SITU, THE TRANSITION MAY BE GRADUAL.												Calibrated Hand Penetrometer*		
WATER LEVEL OBSERVATIONS						BORING STARTED						3-7-07		
WL 23' WD 10' AD						BORING COMPLETED						3-7-07		
WL						RIG						Rig 112 FOREMAN MG		
WL						APPROVED						RED JOB # 15-127		
TEAM Services, Inc.														

DESIGNED	MHM
CHECKED	JBF
DRAWN	MHM
CHECKED	JBF

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 214	*	MERCER	16	16
FED. ROAD DIST. NO. 7 ILLINOIS			89387	

* 05-00023-02-BR

LOG OF BORING NO. 2										Page 1 of 2	
OWNER			ARCHITECT/ENGINEER								
SITE			PROJECT								
Mercer County, Illinois			Seaton Road Bridge Over Pope Creek								
GRAPHIC LOG	DESCRIPTION	DEPTH (ft.)	SAMPLES			TESTS					
			USCS SYMBOL	NUMBER	TYPE	RECOVERY	SPT-N BLOWS / FT.	MOISTURE, %	DRY DENSITY PCF	UNCONFINED STRENGTH PSF	
	Approx. Surface Elev.: 598.0 ft.										
	0.2" ASPHALT	597.8			HS						
	1.0" Fill - crushed LIMESTONE	597.0			HS						
	Fill - lean CLAY, trace sand, dark yellowish brown, medium stiff		CL	1	SS	15"	3	25.8			
					HS						
	7.5	590.5			HS						
	Lean CLAY, trace sand and gravel, trace ferrous staining, very dark gray and dark greenish gray, medium stiff		CL	2	SS	18"	4	19.2			
					HS						
	12.0	586.0			HS						
	SILT, trace sand, very dark grayish brown, soft		ML	3	SS	15"	3	29.4			
					HS						
	-- color change to very dark gray @ about 18'		ML	4	SS	19"	2	32.8			
					HS						
	22.0	576.0			HS						
	Fine SAND, light olive brown, very loose		SP	5	SS	22"	3	16.6			
					HS						
	27.0	571.0			HS						
	Medium to coarse SAND, with gravel and clay, dark gray and dark greenish gray, medium dense		SP	6	SS	17"	9	9.9			
					HS						
	32.0				HS						
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES. IN-SITU, THE TRANSITION MAY BE GRADUAL.										Calibrated Hand Penetrometer*	
WATER LEVEL OBSERVATIONS			BORING STARTED			BORING COMPLETED			RIG		
WL	18'	AD				3-7-07			Rig 112	FOREMAN	MG
TEAM Services, Inc.			APPROVED			JOB #			15-127		

LOG OF BORING NO. 2										Page 2 of 2	
OWNER			ARCHITECT/ENGINEER								
SITE			PROJECT								
Mercer County, Illinois			Seaton Road Bridge Over Pope Creek								
GRAPHIC LOG	DESCRIPTION	DEPTH (ft.)	SAMPLES			TESTS					
			USCS SYMBOL	NUMBER	TYPE	RECOVERY	SPT-N BLOWS / FT.	MOISTURE, %	DRY DENSITY PCF	UNCONFINED STRENGTH PSF	
	Fine SAND, trace gravel and silt, dark greenish gray, medium dense	566.0	SP	7	SS	15"	13	18.5			
					HS						
	37.0	561.0			HS						
	Lean CLAY, trace sand and gravel, dark gray, very stiff		CL	8	SS	19"	16	15.8			
					HS						
	42.0	556.0			HS						
	Silty SAND, gray, dense		SM	9	SS	15"	28	18.8			
					HS						
	-- becomes medium dense @ about 48'		SM	10	SS	18"	20	17.9			
					HS						
			SM	11	SS	16"	22	19.4			
					HS						
			SM	12	SS	20"	21	16.2			
					HS						
	60.0	538.0			HS						
	Bottom of Boring				HS						
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES. IN-SITU, THE TRANSITION MAY BE GRADUAL.										Calibrated Hand Penetrometer*	
WATER LEVEL OBSERVATIONS			BORING STARTED			BORING COMPLETED			RIG		
WL	18'	AD				3-7-07			Rig 112	FOREMAN	MG
TEAM Services, Inc.			APPROVED			JOB #			15-127		

DESIGNED	MHM
CHECKED	JBF
DRAWN	RAP
CHECKED	JBF

SOIL BORING LOGS
SECTION 05-00023-02-BR
F.A.S. 214, STA. 70+40
MERCER COUNTY
STRUCTURE NO. 066-3043