

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	1
		ILLINOIS	CONTRACT NO. 89432	

INDEX OF SHEETS 04-27-12 LETTING ITEM 055

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- 6-7 = EROSION CONTROL PLAN
- 8 = GENERAL PLAN & ELEVATION
- 9 = RIPRAP & PILE LAYOUT
- 10 = 33" x 36" PPC DECK BEAM
- 11 = 33" x 36" DECK BEAM DETAILS
- 12 = WEST ABUTMENT DETAILS
- 13 = EAST ABUTMENT DETAILS
- 14 = STEEL RAILING, TYPE S1 DETAILS
- 15 = METAL SHELL PILE DETAILS
- 16-17 = BORING LOGS
- 18-20 = CROSS SECTIONS
- 21 = SLOPE STEP DETAILS

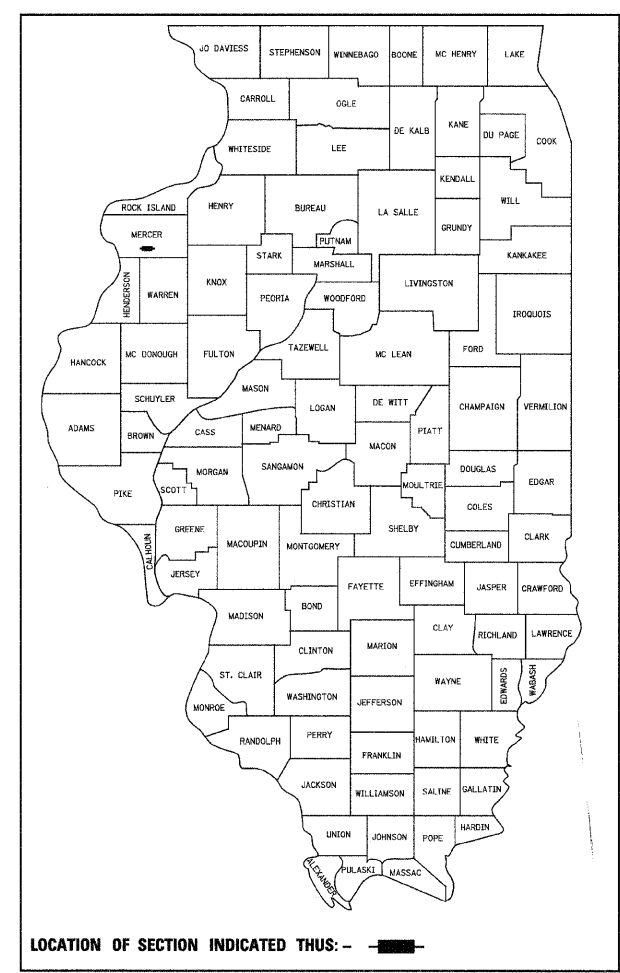
STATE OF ILLINOIS

**DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

**PLANS FOR PROPOSED
FEDERAL AID PROJECT
HIGHWAY BRIDGE PROGRAM**

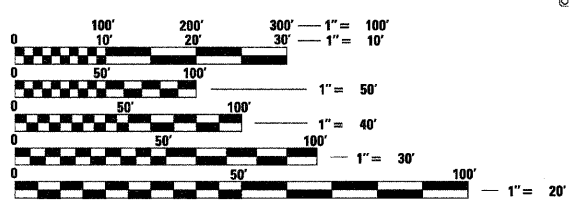
**FAS ROUTE 217 (COUNTY HIGHWAY 6)
SECTION 05-00096-00-BR
PROJECT BRS-0217(106)
STRUCTURE REPLACEMENT
MERCER COUNTY**

C-94-131-06



STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 280001-06 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 542401-01 METAL END SECTION FOR PIPE CULVERTS
- 630001-10 STEEL PLATE BEAM GUARDRAIL
- 630301-05 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-02 REFLECTOR MARKER AND MOUNTING DETAILS
- 665001-02 WOVEN WIRE FENCE
- 667101-02 PERMANENT SURVEY MARKERS
- 701901-02 TRAFFIC CONTROL DEVICES
- 720011-01 METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
- 728001-01 TELESCOPING STEEL SIGN SUPPORT
- 729001-01 APPLICATIONS OF TYPE A & B METAL POSTS (FOR SIGNS & MARKERS)
- B.L.R. 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- B.L.R. 22-7 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- B.L.R. 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A



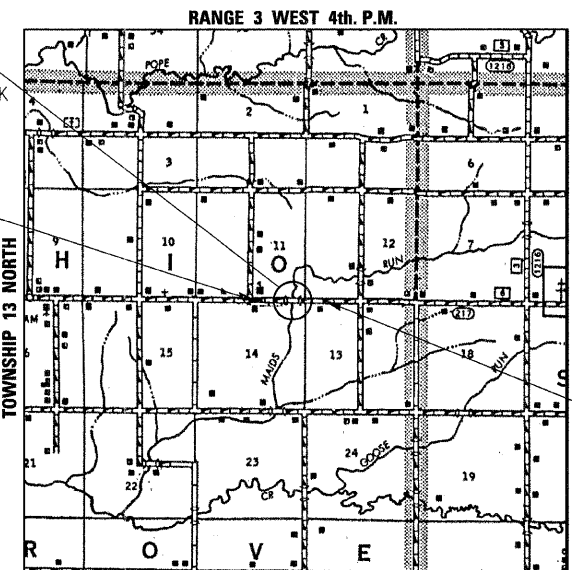
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROPOSED STRUCTURE: S.N. 066-3031
A SINGLE SPAN (1@73'-6") PRECAST PRESTRESSED DECK BEAM BRIDGE ON PILE BENT SPILL THRU ABUTMENTS @ STA. 20+05, SKEWED 0°.

UTILITIES:
FRONTIER COMMUNICATIONS
Attn: Bill Daniel
1145 South Hall
Roseville, IL 61473
402-250-1095
AMEREN IP
Attn: Martin Fuller
1050 West Boulevard
Belleville, IL 62222
618-236-6281

FUNCTIONAL CLASSIFICATION
MAJOR COLLECTOR (NON-URBAN)
DESIGN SPEED 40 MPH
2011 ADT = 275
NEW CONSTRUCTION / RECONSTRUCTION



CONSTRUCTION BEGINS STATION 17+00



CONSTRUCTION ENDS STATION 23+00

GROSS LENGTH = 600 FT. = 0.114 MILE
NET LENGTH = 600 FT. = 0.114 MILE



Bryan K. Converse
DATE: 12/15/2011
EXPIRES 11/30/2013

MERCER COUNTY HIGHWAY DEPARTMENT	
APPROVED	12/16 2011
MERCER COUNTY ENGINEER	
PASSED	12/16/2011 2012
DISTRICT 4 ENGINEER FOR ROADS & STREETS	
RELEASING FOR BID BASED ON LIMITED REVIEW	DECEMBER 16, 2011 2012
DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER	

WILLETT HOFMANN & ASSOCIATES INC.
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE: 0011

PAY CODE	QUANTITY	UNIT	ITEM
20201200	134	Cu. Yd.	Removal and Disposal of Unsuitable Material
20300100	630	Cu. Yd.	Channel Excavation
25100630	3,699	Sq. Yd.	Erosion Control Blanket
28000305	97	Foot	Temporary Ditch Checks
28000400	130	Foot	Perimeter Erosion Barrier
28000500	2	Each	Inlet and Pipe Protection
31100100	638	Ton	Subbase Granular Material, Type A
*31101000	320	Ton	Subbase Granular Material, Type B
*40200800	143	Ton	Aggregate Surface Course, Type B
*40600100	641	Gallon	Bituminous Materials (Prime Coat)
40603000	115	Ton	Hot-Mix Asphalt Binder Course, IL-12.5, N50
40603310	152	Ton	Hot-Mix Asphalt Surface Course, Mix "C", N50
48101200	149	Ton	Aggregate Shoulders, Type B
50100100	1	Each	Removal of Existing Structures
50105220	64	Foot	Pipe Culvert Removal
50200100	240	Cu. Yd.	Structure Excavation
50300225	38.0	Cu. Yd.	Concrete Structures
50400605	2,205	Sq. Ft.	Precast Prestressed Concrete Deck Beams (33" Depth)
50800205	4,600	Pound	Reinforcement Bars, Epoxy Coated
+50900205	150	Foot	Steel Railing, Type S1
51200957	448	Foot	Furnishing Metal Shell Piles 12" x 0.250"
51202305	448	Foot	Driving Piles
51203200	2	Each	Test Pile Metal Shells
51204650	10	Each	Pile Shoes
51500100	1	Each	Name Plates
54200220	94	Foot	Pipe Culverts, Class D, Type 1 15"
54213870	4	Each	Steel End Sections 15"
58100200	249.5	Sq. Yd.	Waterproofing Membrane System
58300100	662	Foot	Portland Cement Mortar Fairing Course
+63000001	75	Foot	Steel Plate Beam Guardrail, Type A, 6 Foot Posts
+63100075	4	Each	Traffic Barrier Terminal, Type 5A
+63100167	4	Each	Traffic Barrier Terminal, Type 1 (Special) Tangent
63200310	317	Foot	Guardrail Removal
66600105	8	Each	Furnishing and Erecting Right of Way Markers
66700205	1	Each	Permanent Survey Markers, Type I
67100100	1	L. Sum	Mobilization
+78200410	8	Each	Guardrail Markers, Type A
+78201000	4	Each	Terminal Marker - Direct Applied
*X2020410	1,340	Cu. Yd	Earth Excavation (Special)
*X2070302	200	Ton	Porous Granular Embankment, Special
*X2501000	0.76	Acre	Seeding, Class 2 (Special)
*X2810210	747	Ton	Stone Riprap, Class A5 (Special)
*X6650200	351	Foot	Woven Wire Fence (Special)
*X7010216	1	L. Sum	Traffic Control and Protection, (Special)
*Z0005400	273	Ton	Breaker-Run Crushed Stone
*Z0022800	437	Foot	Fence Removal

*See B.L.R. 11310 in the contract documents for Special Provisions.

+Specialty Items

FILE = S:\AS\puct\1128006\bridge Drawings\1128006\SummaryofQuantities.dgn



DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

SUMMARY OF QUANTITIES
STRUCTURE NO. 066-3031

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	2
WHA* 1128006		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-02171021				

<u>SCHEDULE OF QUANTITIES</u>			<u>HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50</u>			<u>TERMINAL MARKER - DIRECT APPLIED</u>		
<u>REMOVAL & DISPOSAL OF UNSUITABLE MATERIALS</u>			LOCATION TON REMARKS			LOCATION EACH REMARKS		
LOCATION	CU. YD.	REMARKS	STA. 17+00.00 - 17+17.71	4	1 1/2" (TAPER)	LT. STA. 18+02.84	1	
CONTINGENCY ITEM	134	AS DIRECTED BY ENGINEER	STA. 17+17.71 - 19+67.59	55	1 1/2"	RT. STA. 18+02.84	1	
TOTAL	134 CU. YD.	20201200	STA. 20+42.42 - 22+75.44	51	1 1/2"	LT. STA. 22+07.16	1	
			STA. 22+75.44 - 23+00.00	5	1 1/2" (TAPER)	RT. STA. 22+07.16	1	
			TOTAL	115 TON	40603310	TOTAL	4 EACH	78201000
<u>EROSION CONTROL BLANKET</u>			<u>AGGREGATE SHOULDERS, TYPE B</u>			<u>EARTH EXCAVATION (SPECIAL)</u>		
LOCATION	SQ. YD.	REMARKS	LOCATION	TON	REMARKS	LOCATION	CU. YD.	REMARKS
LT. STA. 17+00 - 23+00	1,948		LT. STA. 17+00.00 - 19+67.59	40	4"	STA. 17+00 - 23+00	1,340	
RT. STA. 17+00 - 23+00	1,751		RT. STA. 17+00.00 - 17+14.50	1	4"	TOTAL	1,340 CU. YD.	X2020410
TOTAL	3,699 SQ. YD.	25100630	RT. STA. 17+65.50 - 19+67.59	34	4"			
			LT. STA. 20+42.42 - 23+00.00	40	4"	<u>SEEDING, CLASS 2 (SPECIAL)</u>		
			RT. STA. 20+42.42 - 22+34.00	33	4"	LOCATION	ACRE	REMARKS
			RT. STA. 22+85.75 - 23+00.00	1	4"	LT. STA. 17+00 - 23+00	0.40	
			TOTAL	149 TON	48101200	RT. STA. 17+00 - 23+00	0.36	
						TOTAL	0.76 ACRE	X2501000
<u>TEMPORARY DITCH CHECKS</u>			<u>PIPE CULVERT REMOVAL</u>			<u>WOVEN WIRE FENCE (SPECIAL)</u>		
LOCATION	FOOT	REMARKS	LOCATION	FOOT	REMARKS	LOCATION	FOOT	REMARKS
LT. STA. 17+50	9		EX. F.E.R. STA. 19+99	44		RT. STA. 17+00.00 - 17+21.00	21	
LT. STA. 18+00	8		EX. F.E.R. STA. 22+50	20		RT. STA. 17+59.00 - 17+75.00	16	
LT. STA. 18+50	8		TOTAL	64 FOOT	50105220	RT. STA. 18+92.00 - 19+89.00	97	
RT. STA. 18+50	6					RT. STA. 20+53.00 - 22+41.00	188	
LT. STA. 19+00	7		<u>PIPE CULVERTS, CLASS D, TYPE 1 15"</u>			RT. STA. 22+79.00 - 23+00.00	29	
RT. STA. 19+00	8		LOCATION	FOOT	REMARKS	TOTAL	351 FOOT	X6650200
LT. STA. 21+00	7		F.E.R. STA. 17+40	48				
RT. STA. 21+00	6		F.E.R. STA. 22+60	46				
LT. STA. 21+50	7		TOTAL	94 FOOT	54200220			
RT. STA. 21+50	7					<u>BREAKER RUN CRUSHED STONE</u>		
LT. STA. 22+00	8		<u>STEEL END SECTIONS 15"</u>			LOCATION	TON	REMARKS
RT. STA. 22+00	8		LOCATION	EACH	REMARKS	CONTINGENCY ITEM	273	AS DIRECTED BY ENGINEER
LT. STA. 22+50	8		F.E.R. STA. 17+40	2		TOTAL	273 TON	Z0005400
RT. STA. 22+50	8		F.E.R. STA. 22+60	2				
TOTAL	97 FOOT	28000305	TOTAL	4 EACH	54213870	<u>FENCE REMOVAL</u>		
			<u>STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS</u>			LOCATION	FOOT	REMARKS
			LOCATION	FOOT	REMARKS	RT. STA. 17+00.00 - 17+75.00	75	
			LT. STA. 19+41.84 - 19+54.34	12.5		RT. STA. 19+14.28 - 19+74.00	75	
			RT. STA. 19+29.33 - 19+54.34	25.0		RT. STA. 20+24.34 - 23+00.00	287	
			LT. STA. 20+55.67 - 20+80.67	25.0		TOTAL	437 FOOT	Z0022800
			RT. STA. 20+55.67 - 20+68.17	12.5				
			TOTAL	75 FOOT	63000001	<u>GENERAL NOTES</u>		
			<u>TRAFFIC BARRIER TERMINAL, TYPE 5A</u>			All elevations shown on the plans are established from U.S.G.S. mean sea level datum.		
			LOCATION	EACH	REMARKS	Existing structures (Including foundations, walls, cisterns, wells or other underground structures) within the right of way shall be removed in accordance with Article 501.02 and 501.03 of the Standard Specifications, without additional compensation, unless otherwise noted in the Plans or Special Provisions.		
			LT. STA. 19+54.33 - 19+67.59	1		The Contractor shall seed all disturbed areas within the project limits.		
			RT. STA. 19+54.33 - 19+67.59	1		No overhaul has been computed and none shall be paid for from any source.		
			LT. STA. 20+42.42 - 20+55.67	1		The final top four inches of soil in any right of way area disturbed by the Contractor must be a cohesive soil capable of supporting vegetation complying with Section 211 of the Standard Specification for top soil.		
			RT. STA. 20+42.42 - 20+55.67	1		The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications.		
			TOTAL	4 EACH	63100075	All telephone and electric poles, gas pipes, etc. in the way of the improvements shall be moved by the utilities prior to construction and shall not be included in the contract. The Contractor shall notify the respective utilities to make the necessary adjustments prior to construction.		
			<u>TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT</u>			The location and elevation of the various underground utilities as shown on the plans are not to be taken as exact. The Contractor shall use special care when conducting construction operations near them to prevent damage.		
			LOCATION	EACH	REMARKS	The utilities located within the project limits or immediately adjacent to the project construction limits include:		
			LT. STA. 18+02.84 - 18+54.33	1		Frontier Communications Attn: Bill Daniel 1145 South Hall Roseville, IL 61473 (402) 250-1095		
			RT. STA. 18+02.84 - 18+54.33	1		Ameren IP Attn: Martin Fuller 1050 West Boulevard Belleville, IL 62222 (618) 236-6281		
			LT. STA. 21+55.67 - 22+07.16	1		A minimum of 48 hours advance notice is required for non-emergency work.		
			RT. STA. 21+55.67 - 22+07.16	1		A Nationwide 404 Permit has been issued for this project and the conditions of that Permit must be adhered to.		
			TOTAL	4 EACH	63100167	When installing right-of-way markers, care shall be taken to not disturb any existing property/right-of-way pins. If a property/right-of-way pin is found at the location of a proposed right-of-way marker, the marker shall be placed one (1) foot in front of the pin.		
			<u>GUARDRAIL REMOVAL</u>			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, monuments and right-of-way pins until the Owner, an Authorized Surveyor, or Agent has witnessed or otherwise referenced their location.		
			LOCATION	FOOT	REMARKS	Existing mail boxes, street signs and traffic signs that are within the construction limits shall be removed and reset by the Contractor. Cost of removing and resetting to be included in the contract unit price bid per Cubic Yard for Earth Excavation (Special).		
			LT. STA. 19+08.00 - 19+88.00	80				
			RT. STA. 19+10.00 - 19+88.00	79				
			LT. STA. 20+12.00 - 20+90.00	79				
			RT. STA. 20+12.00 - 20+90.00	79				
			TOTAL	317 FOOT	63200310			
			<u>FURNISHING AND ERECTING RIGHT OF WAY MARKERS</u>					
			LOCATION	EACH	REMARKS			
			LT. STA. 17+00	2	METHOD A			
			RT. STA. 17+00	2	METHOD A			
			LT. STA. 23+00	2	METHOD A			
			RT. STA. 23+00	2	METHOD A			
			TOTAL	8 EACH	66600105			
			<u>GUARDRAIL MARKERS, TYPE A</u>					
			LOCATION	EACH	REMARKS			
			LT. STA. 19+41.84 - 19+67.59	2				
			RT. STA. 19+29.34 - 19+67.59	2				
			LT. STA. 20+42.42 - 20+80.67	2				
			RT. STA. 20+42.42 - 20+68.17	2				
			TOTAL	8 EACH	78200410			
			<u>HOT-MIX ASPHALT BINDER COURSE, IL-12.5, N50</u>					
			LOCATION	TON	REMARKS			
			STA. 17+00.00 - 17+17.71	4	1 1/2" (TAPER)			
			STA. 17+17.71 - 19+67.59	55	1 1/2"			
			STA. 20+42.42 - 22+75.44	51	1 1/2"			
			STA. 22+75.44 - 23+00.00	5	1 1/2" (TAPER)			
			TOTAL	115 TON	40603000			

FILE = S:\AS\Project\1128006\Bridges\Drawings\1128006_GeneralNotes\Schedule.dgn



DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

SCHEDULES & GENERAL NOTES
STRUCTURE NO. 066-3031

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	3
WHA# 1128006		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-02111021				

PAVEMENT STRUCTURAL DESIGN - C.H. 6

Structural Design Traffic (S.D.T.) = Year 2022
 Class IV Street
 80,000# Truck Design

P.V. 242
 S.U. 25 } 275 ADT
 M.U. 7

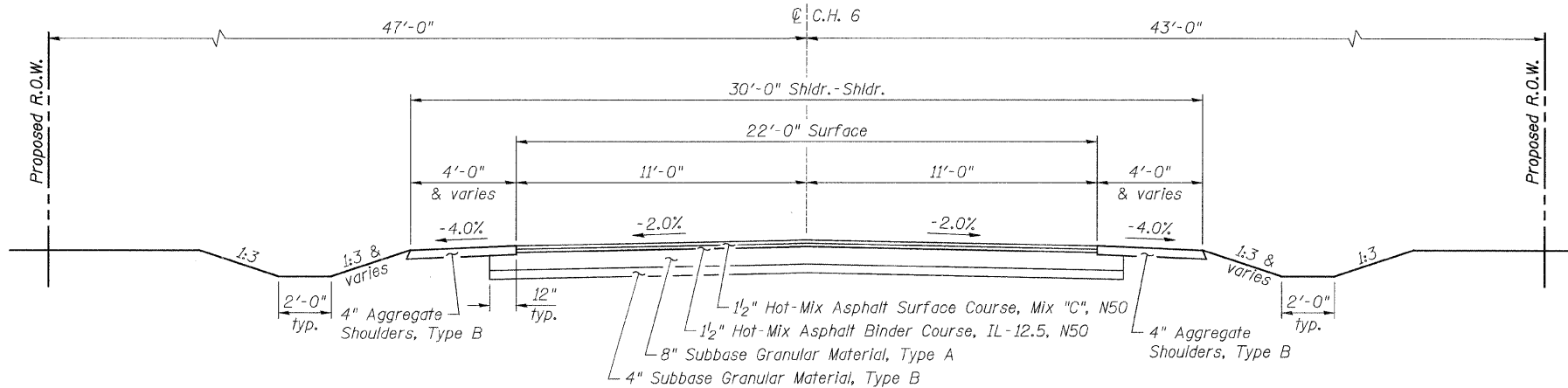
Eri : (Assumed) 2 ksi
 HCV = 33

USE
 1 1/2" - Hot-Mix Asphalt Surface Course, Mix "C", N50
 1 1/2" - Hot-Mix Asphalt Binder Course, IL-12.5, N50
 8" - Subbase Granular Material, Type A
 4" - Subbase Granular Material, Type B

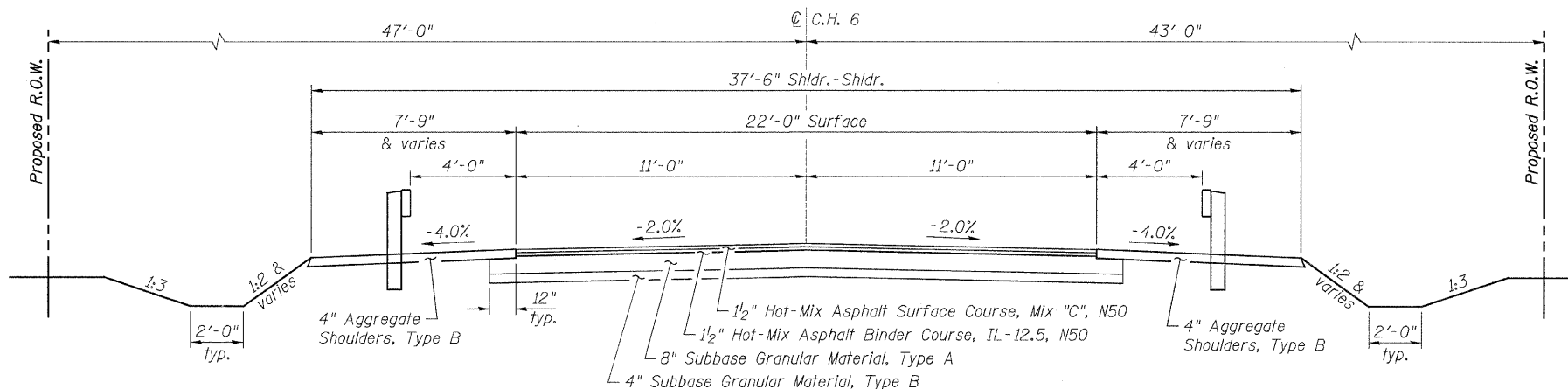
PAVEMENT MIXTURE REQUIREMENTS

Mixture Use:	Binder	Surface
RAP % (Max.):	25%	15%
PG:	PG 64-22	PG 64-22
Design Air Voids:	4.0 @ N50	4.0 @ N50
Mixture Composition: (Gradation Mixture)	IL 12.5	IL 12.5 or 9.5
Friction Aggregate:	N/A	C

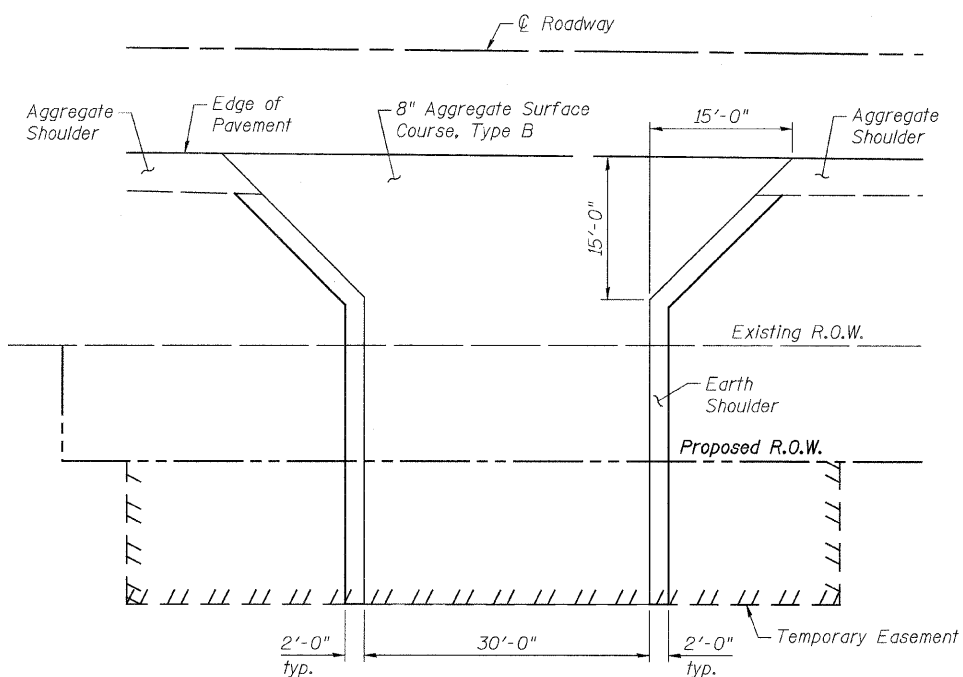
NOTE:
 Individual lift thickness of each mix type will be no less than 3 times nominal maximum aggregate size and no more than 6 times nominal maximum aggregate size.



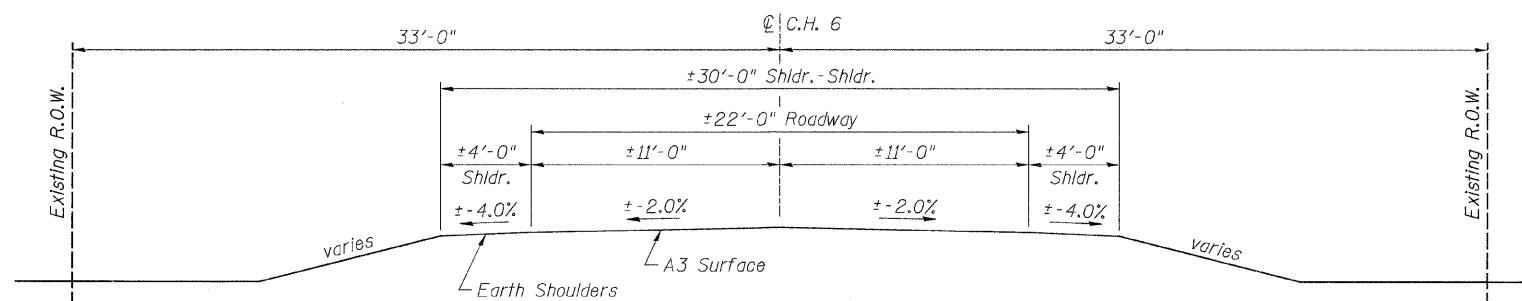
PROPOSED ROADWAY TYPICAL SECTION
 (Sta. 17+00 - 17+70 & Sta. 22+40 - 23+00)



PROPOSED ROADWAY TYPICAL SECTION
 (Sta. 17+70 - 19+67.59 & Sta. 20+42.42 - 22+40)



FIELD ENTRANCE DETAIL
 Rt. Sta. 17+40 & Rt. Sta. 22+60



EXISTING ROADWAY TYPICAL SECTION
 (Looking East)

C.H. 6 - HORIZONTAL CONTROL POINTS					
PT. #	STA.	N	E	EL.	DESCRIPTION
102	13.5' LT. 21+21.0	1624614.94	2152932.27	643.99	I.P.
103	15.7' LT. 25+33.3	1624610.13	2153344.55	654.44	I.P.
714	2.0' LT. 25+93.6	1624595.37	2153404.63	657.88	I.P. (SECTION CORNER)
2017	0.6' RT. 20+00.0	1624602.86	2152811.05	644.72	CHISELED "X"

FILE = S:\Structure\1128406\Brdge - Drawings\1128406_Typical.dgn

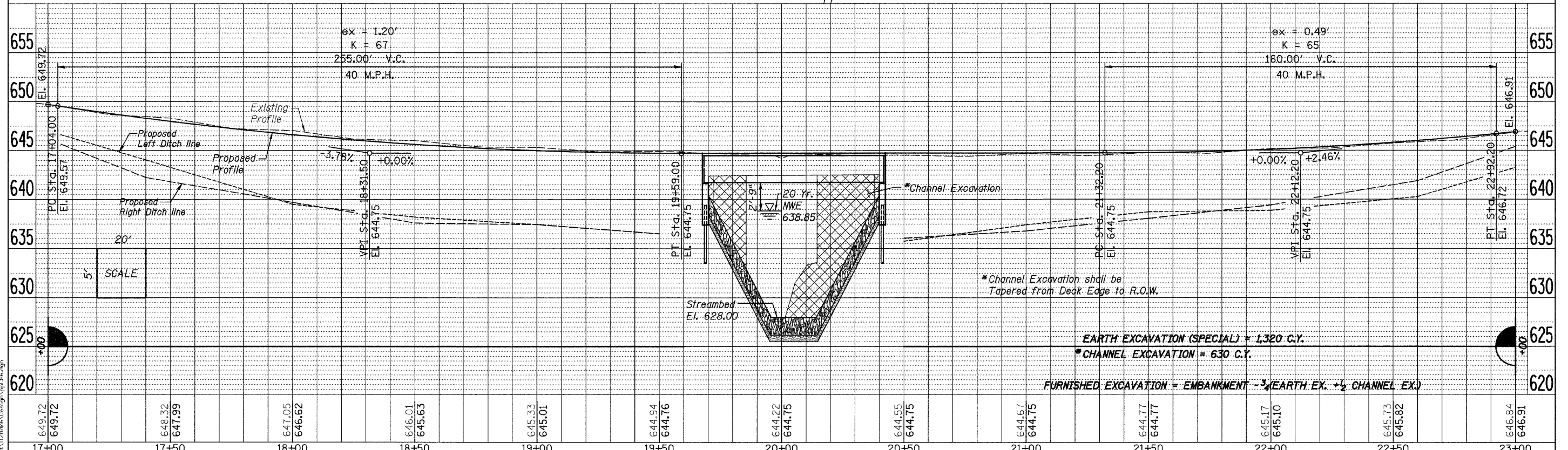
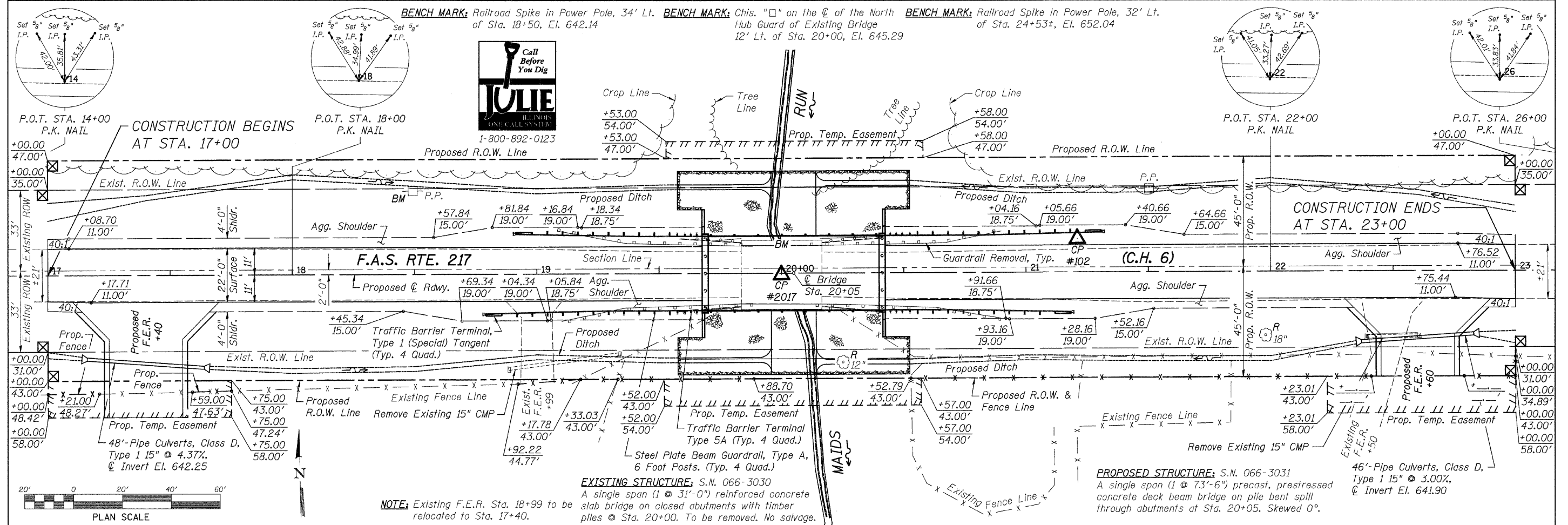


DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

TYPICAL SECTIONS
STRUCTURE NO. 066-3031

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	4
WHA* 1128006		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-0217(102)				



DATE	
BY	
PLAN	
STATIONED	
PLOTTED	
SALES CHECKED	
NOTE BOOK	
NO.	
DATE FILE NAME	

DATE	
BY	
PROFILE	
STATIONED	
PLOTTED	
SALES CHECKED	
NOTE BOOK	
NO.	
DATE FILE NAME	

649.72	649.72	648.32	647.99	647.05	646.62	646.01	645.63	645.33	645.01	644.94	644.76	644.22	644.75	644.55	644.75	644.67	644.75	644.77	644.77	645.17	645.10	645.73	645.82	646.84	646.91
17+00		17+50		18+00		18+50		19+00		19+50		20+00		20+50		21+00		21+50		22+00		22+50		23+00	

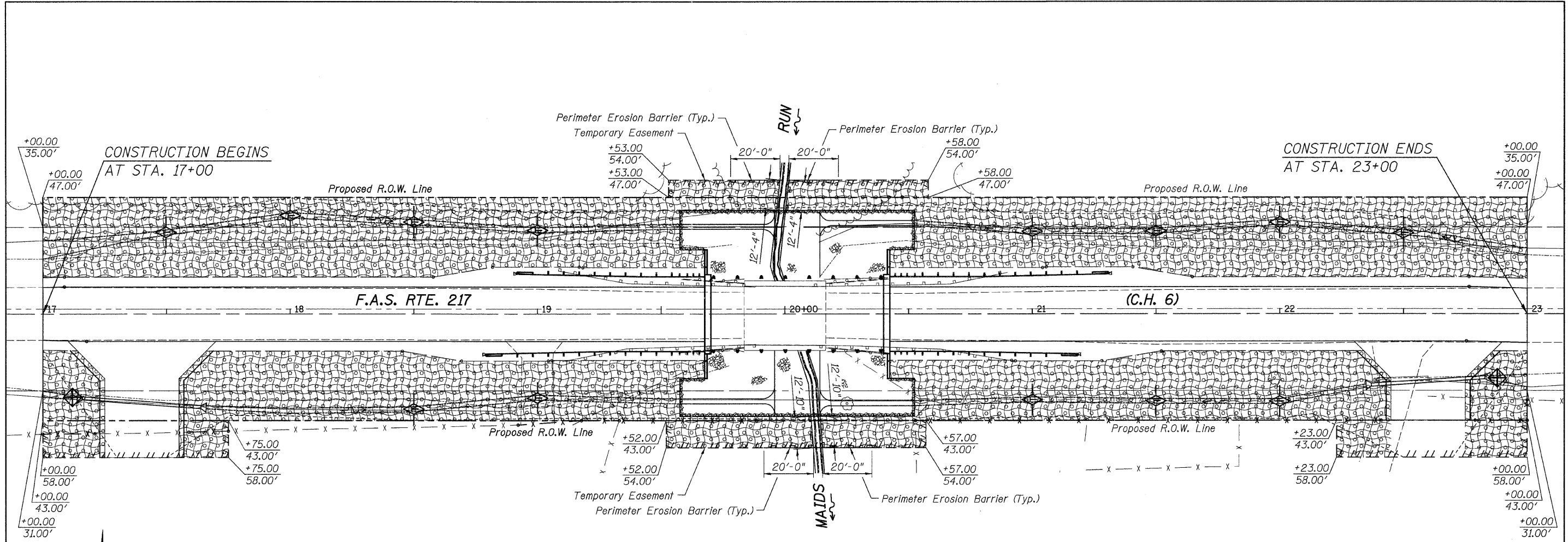
WILLET HOFMANN
 ASSOCIATES INC.
 ENGINEERING ARCHITECTURE LAND SURVEYING
 809 EAST 2ND STREET, DIXON, IL 61021-0257
 T: 815-284-3381 DESIGN FIRM: #184-009118

DESIGNED - MICHAEL WAGNER	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DATE - AUGUST 2011	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

SCALE: 1" = 20'-0"	SHEET NO. 1 OF 1 SHEETS	STA. 17+00.00 TO STA. 23+00.00
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F.A.S. RTE. 217	SECTION 05-00096-00-BR	COUNTY MERCER	TOTAL SHEETS 21	SHEET NO. 5
WHA* 1128D06			CONTRACT NO. 89432	
ILLINOIS FED. AID PROJECT BRS-0217(102)				



EROSION CONTROL NOTES

The soil erosion and sediment control practices will be inspected weekly and after 1/2" of rain or more by the individual on site in charge of soil erosion and sediment control during the construction of the project.

Perimeter erosion barrier shall comply with Section 280 of the Standard Specifications and shall be placed as shown on the Erosion Control Plan and in accordance with stations shown on the Schedule of Quantities sheet or as directed by the Engineer.

Silt fence shall be installed following the completion and stabilization of all areas adjacent to the on-site drainages. The silt fence will remain in place until the contributing area is stabilized.

For Seeding, Class 2 (Special), see Special Provisions.

Erosion control blanket shall be placed in ditches and to all disturbed areas as shown on this Erosion Control Plan sheet and in accordance with Section 251 of the Standard Specifications for Road and Bridge Construction.

The use of green dye in the erosion control blanket is not acceptable.






Temporary ditch checks shall comply with Section 280 of the Standard Specifications for Road and Bridge Construction and Standard 280001 located in the plans.

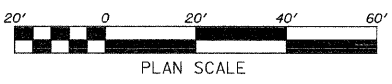
Temporary ditch checks shall be placed at stations called out in the Schedule of Quantities or as directed by the Engineer.

Stockpiles of soil and other building materials to remain in place more than 3 days shall be furnished with erosion and sediment control measures (i.e. perimeter silt fence). Stockpiles to remain in place for 14 days or more shall receive temporary seeding.

All adjacent streets must be kept clear of debris, inspected daily and cleaned when necessary.

LEGEND

-  Erosion Control Blanket
-  Temporary Ditch Checks
-  Perimeter Erosion Barrier
-  Seeding, Class 2 (Special)
-  Inlet and Pipe Protection



BILL OF MATERIAL

Item	Unit	Quantity
Erosion Control Blanket	Sq. Yd.	3,699
Temporary Ditch Checks	Foot	97
Perimeter Erosion Barrier	Foot	130
Inlet and Pipe Protection	Each	2
Seeding, Class 2 (Special)	Acre	0.76



DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

EROSION CONTROL PLAN
STRUCTURE NO. 066-3031
 STA. 17+00.00 - STA. 23+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	6
WHA# 1128D06		CONTRACT NO. 89432		
[ILLINOIS] FED. AID PROJECT BRS-0217(102)				

FILE = S:\S\Projects\1128D06\Bridges\Drawings\1128D06.Erosion.dgn

STORM WATER POLLUTION PREVENTION PLAN

The following plan is established and incorporated in the project to direct the Contractor in the placement of temporary erosion control systems and to provide a storm sewer water pollution prevention plan for compliance under NPDES.

The purpose of this plan is to minimize erosion within the construction site and to limit sediments from leaving the construction site by utilizing proper temporary erosion control systems and providing ground cover within a reasonable amount of time.

Certain erosion control facilities shall be installed by the Contractor at the beginning of construction. Other items shall be installed by the Contractor as directed by the Engineer on a case by case situation depending on the Contractor's sequence of activities, time of year, and expected weather conditions.

The Contractor shall install permanent erosion control systems and seeding within a time frame specified herein and as directed by the Engineer, therefore minimizing the amount of area susceptible to erosion and reducing the amount of temporary seeding. The Engineer will determine if any temporary erosion control systems shown in the plan can be deleted and if any additional temporary erosion control systems, which are not included in this plan, shall be added. The Contractor shall perform all work as directed by the Engineer and as shown in Standard 280001 of the plans.

Section 280, Temporary Erosion Control, of the Standard Specifications additionally supplements this plan.

SITE DESCRIPTION

DESCRIPTION OF CONSTRUCTION ACTIVITY:

1. The project consists of bridge replacement on F.A.S. RTE. 217 (C.H. 6) over Maids Run & approach roadway work thereto.
2. Construction includes pavement removal, earth excavation, entrances, channel excavation, various pavement items, bridge items and other miscellaneous items of construction.

DESCRIPTION OF INTENDED SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB SOILS FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

1. Pavement removal and earth excavation
2. Channel excavation
3. Furnished excavation
4. Aggregate base, bituminous surface and related appurtenances
5. Placement of permanent erosion control, including seeding

AREA OF CONSTRUCTION SITE:

The total area of the construction site is estimated to be 1.34 acres of which 1.33 acres will be disturbed by excavation, grading, and other activities.

OTHER REPORTS, STUDIES AND PLANS WHICH AID IN THE DEVELOPMENT OF THE STORM WATER POLLUTION PREVENTION PLAN AS REFERENCED DOCUMENTS:

1. Information of the soils and terrain within the site was obtained from soil borings that were utilized for the development of the proposed temporary erosion control systems.
2. Project plan documents, specifications and special provisions, and plan drawings indicating drainage patterns and approximate slopes anticipated after grading activities were utilized for the proposed placement of the temporary erosion control systems.

CONTROLS - EROSION CONTROLS AND SEDIMENT CONTROL DESCRIPTION OF STABILIZATION PRACTICES AT THE BEGINNING OF CONSTRUCTION.

1. The drawings, specifications and special provisions will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices include: temporary seeding, permanent seeding, perimeter erosion barrier, and other appropriate measures as directed by the Engineer. Stabilization measures shall be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.
 - (a) Areas of existing vegetation (wood and grasslands) outside the proposed construction limits shall be identified by the Engineer for preserving and shall be protected from construction activities.
 - (b) Dead, diseased, or unsuitable vegetation within the site shall be removed as directed by the Engineer, along with required tree removal.
 - (c) As soon as reasonable access is available to all locations where water drains away from the project, temporary ditch checks and perimeter erosion barrier shall be installed as called out in this plan and directed by the Engineer.
 - (d) Bare and sparsely vegetated ground in highly erodible areas as determined by the Engineer shall be temporarily seeded at the beginning of construction where no construction activities are expected within 7 days.
 - (e) At locations where a significant amount of water drains into the construction zone from outside areas (adjacent landowners), temporary ditch checks will be utilized to locally divert water, reduce flow rates, and collect outside siltation inside the Right-of-Way line.
2. Establishment of these temporary erosion control measures will have additional benefits to the project. Desirable grass seed will become established in these areas and will spread seeds onto the construction site until permanent seeding/mowing and over seeding can be completed.

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION:

1. During construction, areas outside the construction limits as outlined previously herein shall be protected. The Contractor shall not use this area for staging (except as described on the plans and directed by the Engineer), parking of vehicles or construction equipment, storage of materials, or other construction related activities.
 - (a) Within the construction limits, areas which may be susceptible to erosion as determined by the Engineer shall remain undisturbed until full scale construction is underway to prevent unnecessary soil erosion.
 - (b) Earth stockpiles shall be temporarily seeded if they are to remain unused for more than 14 days.
 - (c) As construction proceeds, the Contractor shall institute the following as directed by the Engineer:
 - I. Place temporary erosion control facilities at locations shown on the plans.
 - II. Temporarily seed erodible bare earth on a weekly basis to minimize the amount of erodible surface area within the contract limits.
 - (d) Excavated areas and embankment shall be permanently seeded immediately after final grading. If not, they shall be temporarily seeded if no construction activity in the area is planned for 7 days.
 - (e) Construction equipment shall be stored and fueled only at designated locations. All necessary measures shall be taken to contain any fuel or other pollutant in accordance with EPA water quality regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site.
 - (f) The Resident Engineer shall inspect the project daily during construction activities. Inspection shall also be done weekly, and after rains of 1/2" or greater or equivalent snowfall and during the winter shutdown period. The project shall additionally be inspected by the Construction Field Engineer on a bi-weekly basis to determine that erosion control efforts are in place and effective and if other erosion control work is necessary.
 - (g) Sediment collected during construction of the various temporary erosion control systems shall be disposed of on the site on a regular basis as directed by the Engineer. The cost of this maintenance shall be included in the Unit bid price for Earth Excavation (Special).
 - (h) The temporary erosion control systems shall be removed as directed by the Engineer after use is no longer needed or no longer functioning. The cost of this removal shall be included in the unit bid price for various temporary erosion control pay items.

DESCRIPTION OF STRUCTURAL PRACTICES AFTER FINAL GRADING

1. Temporary erosion control systems shall be left in place with proper maintenance until permanent erosion control is in place and working properly and all proposed turf areas seeded and established.
2. Once permanent erosion control systems as proposed in the plans are functional and established, temporary items shall be removed, cleaned up, and disturbed turf reseeded.

MAINTENANCE AFTER CONSTRUCTION

1. Construction is complete after acceptance by IDOT final inspection. Maintenance up to this date will be by the Contractor.

MISCELLANEOUS:

1. Temporary erosion control seeding shall be applied at a rate of 100 lbs./acres.
2. Temporary ditch checks shall comply with Section 280 of the Standard Specifications for Road and Bridge Construction and Standard 280001 located in the plans.
3. All erosion control products furnished shall be specifically recommended by the manufacturer for the use specified in the erosion control plan. Prior to the approval and use of the product, the Contractor shall submit to the Engineer a notarized certification by the producer stating the intended use of the product and that the physical properties required for this application are met or exceeded. The Contractor shall provide manufacturer installation procedures to facilitate the Engineer in construction inspection.

This plan has been prepared to comply with the provisions of the NPDES permit number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from construction site activities.

FILE = G:\Sruet\112806\B-ridge Drawings\112806_Erosion.dgn



DESIGNED -	MICHAEL WAGNER	REVISED -	
CHECKED -	BRIAN CONVERSE	REVISED -	
DRAWN -	RON ALLEN	REVISED -	
CHECKED -	BRIAN CONVERSE	REVISED -	

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

EROSION CONTROL PLAN
STRUCTURE NO. 066-3031

STA. 17+00.00 - STA. 23+00.00

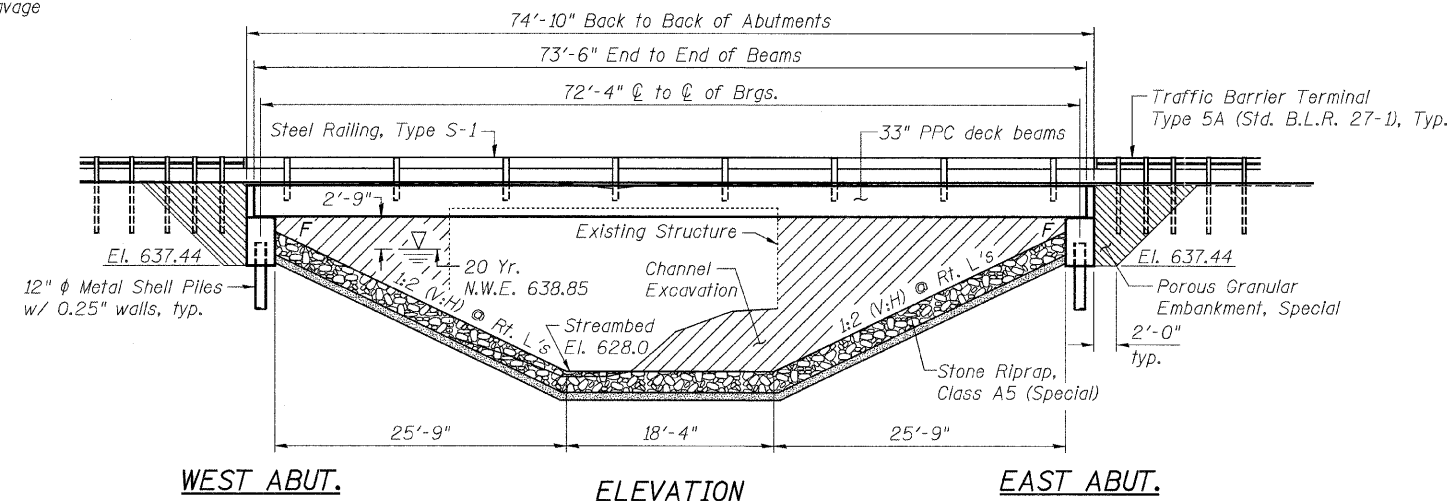
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	7
WHA* 112806		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-0217102				

EXISTING STRUCTURE: S.N. 066-3030

Originally built in 1958 under Section 24B. The existing structure is a single span (1 @ 31'-0") reinforced concrete slab bridge on closed abutments with wooden piles. 33'-0" back to back of abutments and 28'-0" out to out of deck. Structure to be removed and replaced. Road shall be closed to traffic during construction.

BENCH MARK: Chisled "□" on the C of the North hub guard of Existing Bridge
El. 645.29

No slavage



INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 Riprap & Pile Layout
- 3 33" x 36" PPC Deck Beam
- 4 33" x 36" PPC Deck Beam Details
- 5 West Abutment Details
- 6 East Abutment Details
- 7 Steel Railing, Type S1 Details
- 8 Metal Shell Pile Details
- 9-10 Boring Logs

MAIDS RUN
BUILT 2012 BY
MERCER COUNTY
SECTION 05-00096-00-BR
F.A.S. RT. 217 STATION 20+05
STR. NO. 066-3031 LOADING HL-93

NAME PLATE LETTERING

Refer to Std. 515001-03

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.	—	630	630
Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	37	—	37
Removal of Existing Structures	Each	—	—	1
Structure Excavation	Cu. Yd.	—	240	240
Concrete Structures	Cu. Yd.	—	38.0	38.0
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2,205	—	2,205
Reinforcement Bars, Epoxy Coated	Pound	—	4,600	4,600
Steel Railing, Type S1	Foot	150	—	150
Furnishing Metal Pile Shells 12" x 0.250"	Foot	—	448	448
Driving Piles	Foot	—	448	448
Test Pile Metal Shells	Each	—	2	2
Pile Shoes	Each	—	10	10
Name Plates	Each	1	—	1
Waterproofing Membrane System	Sq. Yd.	249.5	—	249.5
Portland Cement Mortar Fairing Course	Foot	662	—	662
Permanent Survey Marker, Type I	Each	—	1	1
Porous Granular Embankment, Special	Ton	—	200	200
Stone Riprap, Class A5 (Special)	Ton	—	747	747

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 the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.
- * See Special Provisions.
- ** Channel to be transitioned to fit proposed structure inside Right-Of-Way.

LOADING HL-93

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

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications, 5th. Edition and 2011 Interim

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

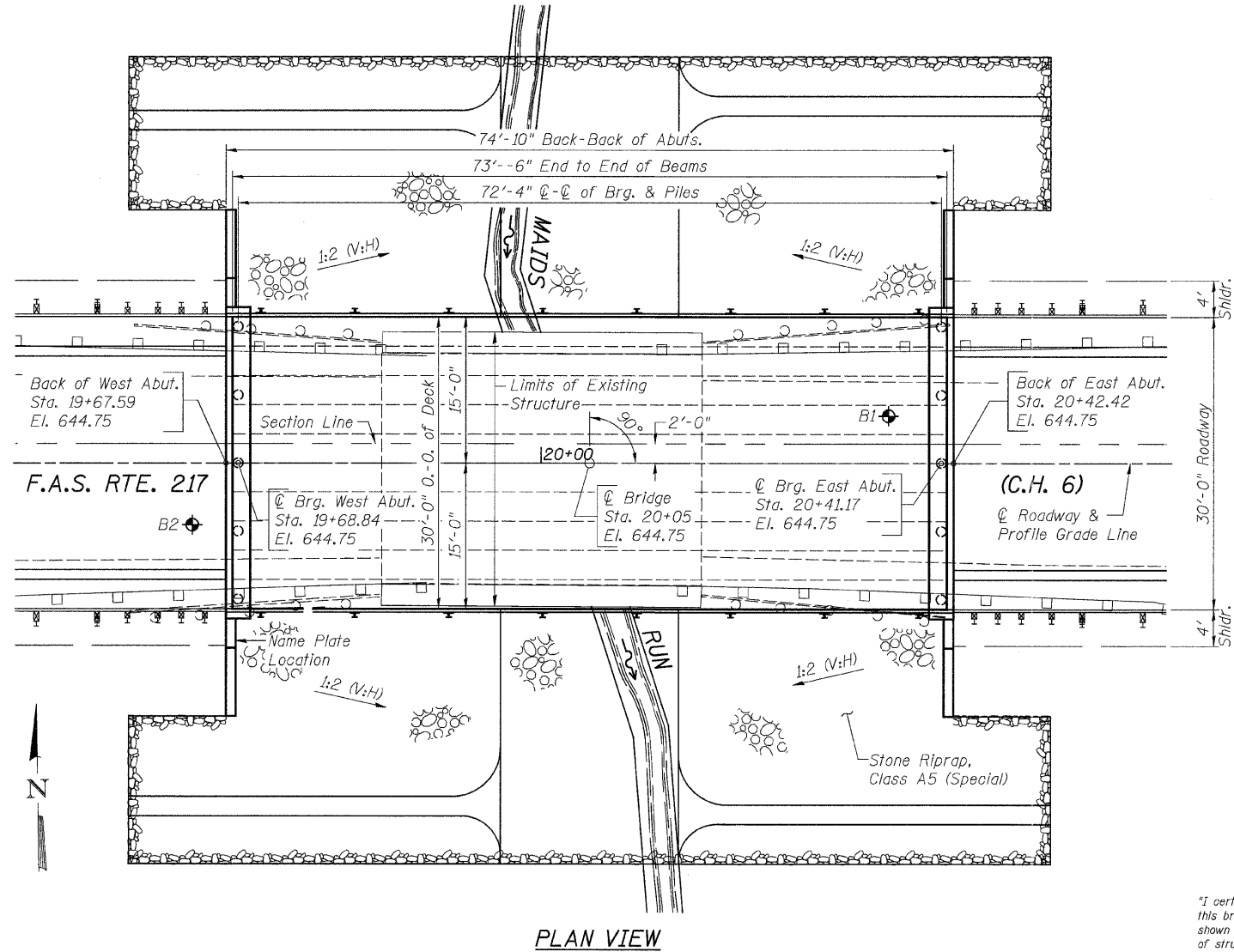
f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" φ Low Lax Strands)
fpbt = 201,960 psi (1/2" φ Low Lax Strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.093g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.135g
Soil Site Class = D

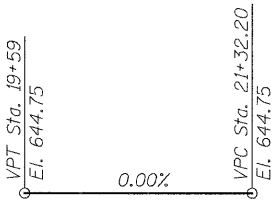
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	637.44	637.44



VERTICAL CURVE

Along Roadway C



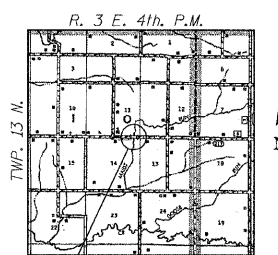
WATERWAY INFORMATION

DRAINAGE AREA 6.90 Sq. Mi.
DESIGN DISCHARGE (20 YR.) 1,270 C.F.S.
EXISTING OPENING 242 Sq. Ft.
REQUIRED OPENING 412 Sq. Ft.
PROPOSED OPENING 412 Sq. Ft.
CREATED HEAD (20 YR.) < 0.5'
100 YR. DISCHARGE 1,920 C.F.S.
CREATED HEAD (100 YR.) < 1.0'
HIGH WATER ELEV. (100 YR.) 640.18 Ft.



Brian K. Converse
DATE: 12/5/2011
EXPIRES 11/30/12

"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 complies with requirements of the current AASHTO Bridge Design Specifications."



GENERAL PLAN & ELEVATION
C.H. 6 OVER MAIDS RUN CREEK
F.A.S. RT. 217 - SEC. 05-00096-00-BR
MERCER COUNTY
STATION 20+05
STRUCTURE NO. 066-3031



DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

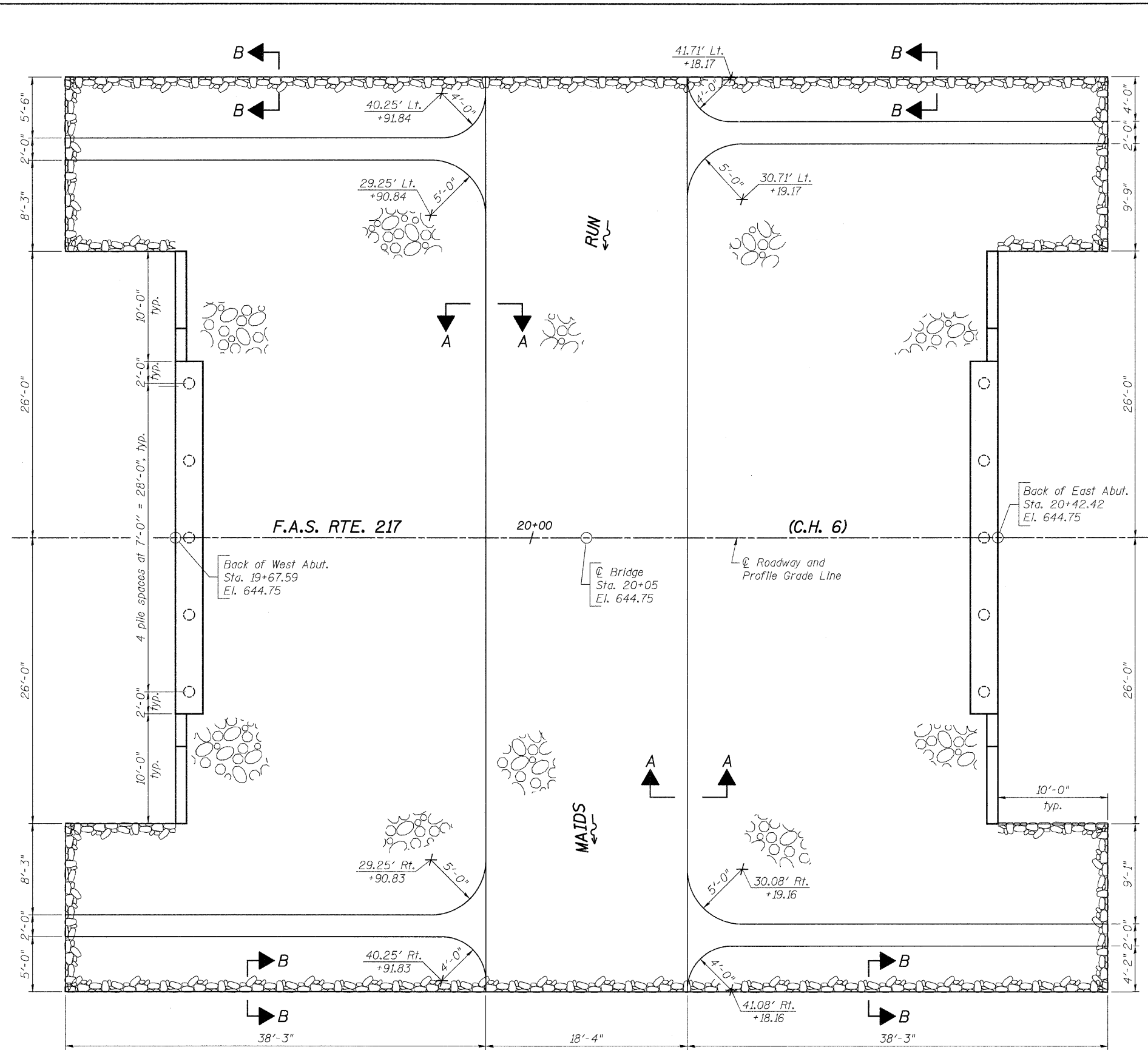
MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

STRUCTURAL SHEET NO. 1 OF 10 SHEETS

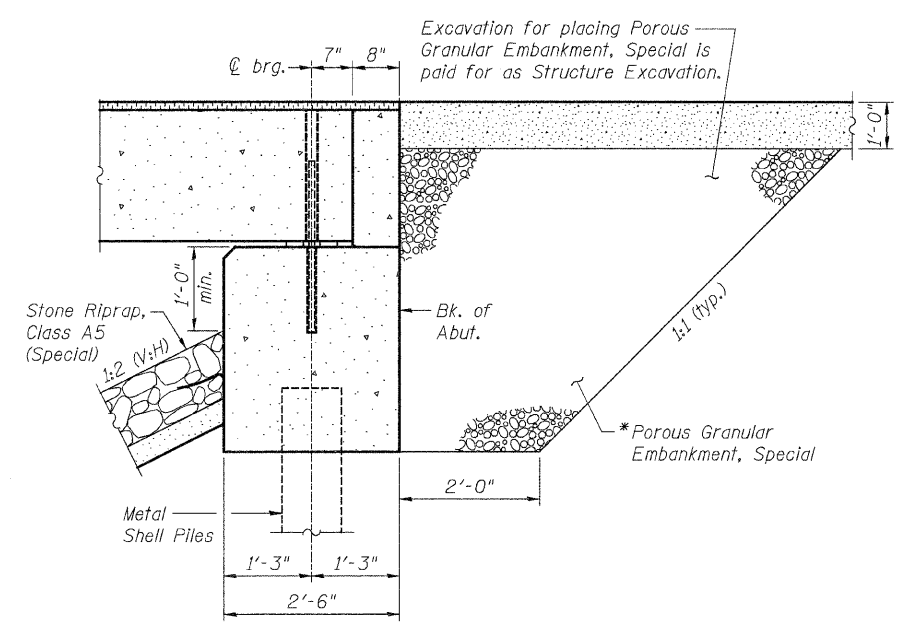
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	8
	WHA# 1128006		CONTRACT NO. 89432	
[ILLINOIS] FED. AID PROJECT BRS-0217102				

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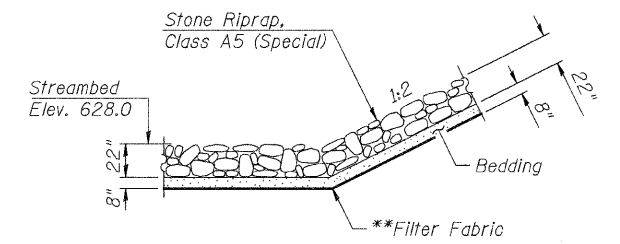


PLAN VIEW

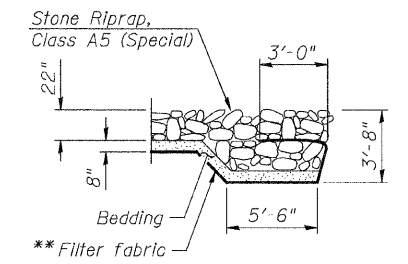


SECTION THRU ABUTMENT

* Pay Limits of Porous Granular Embankment, Special shall extend to 2'-0" from the end of each wingwall.



SECTION A-A



SECTION B-B

BILL OF MATERIAL

Item	Unit	Quantity
Stone Riprap, Class A5 (Special)	Ton	747

** Included in the cost of Stone Riprap, Class A5 (Special).



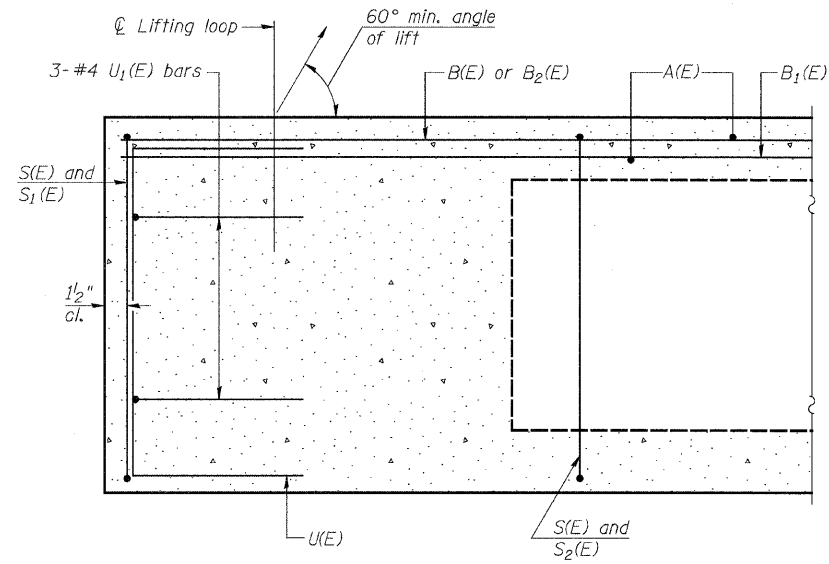
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CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

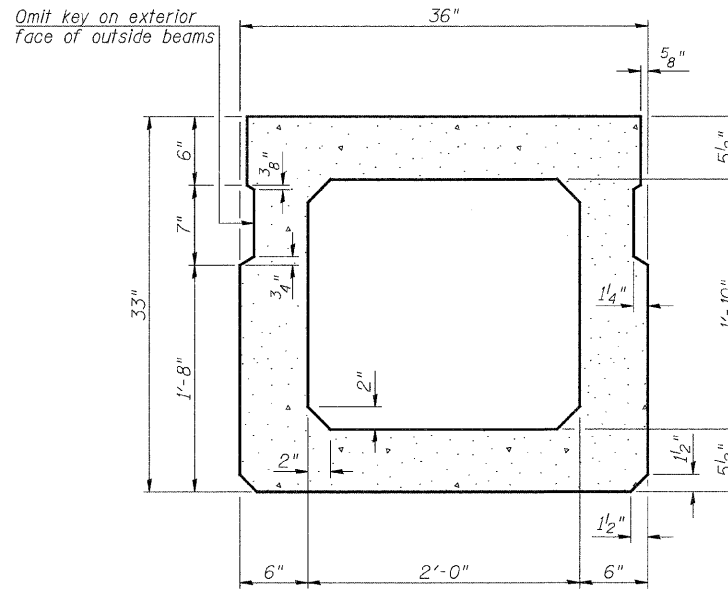
RIPRAP & PILE LAYOUT
STRUCTURE NO. 066-3031

STRUCTURAL SHEET NO. 2 OF 10 SHEETS

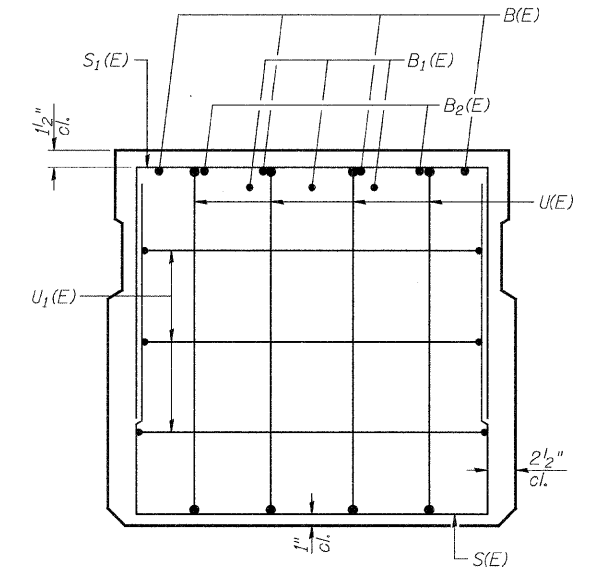
F.A.S. RTE. 217	SECTION 05-00096-00-BR	COUNTY MERCER	TOTAL SHEETS 21	SHEET NO. 9
WHA* 1128006		CONTRACT NO. 89432		
[ILLINOIS] FED. AID PROJECT BRS-0217(102)				



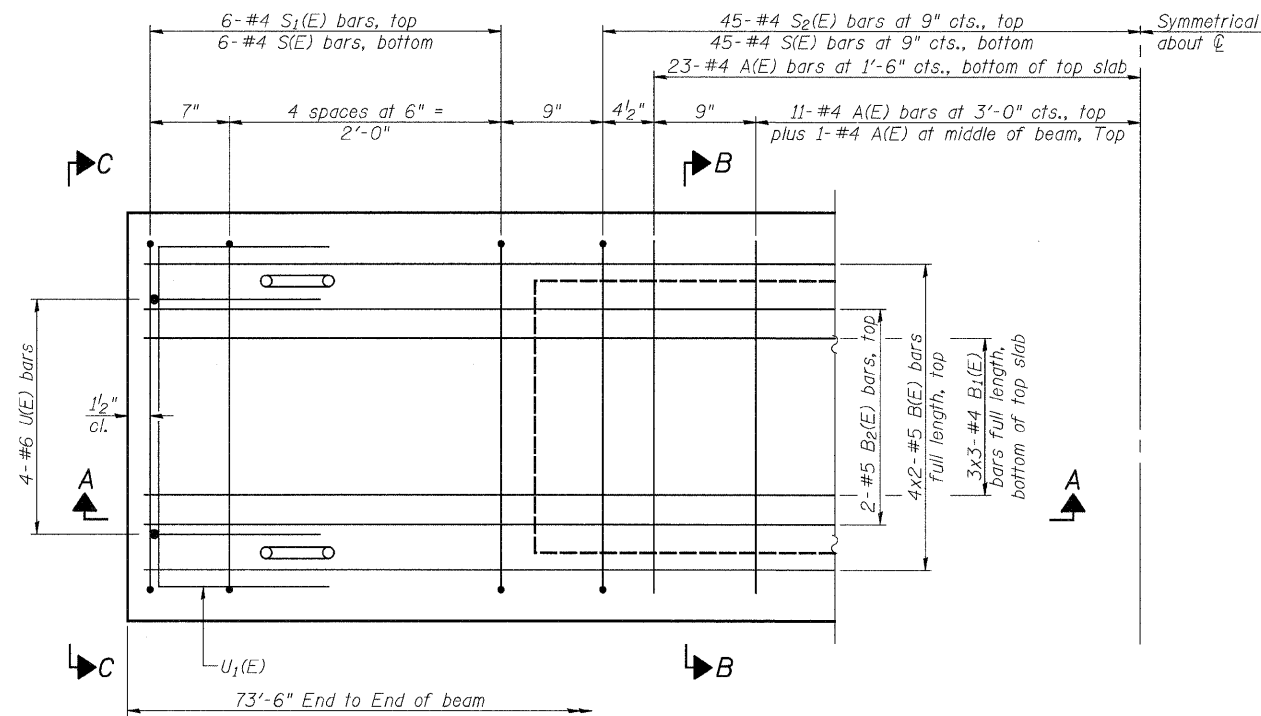
SECTION A-A



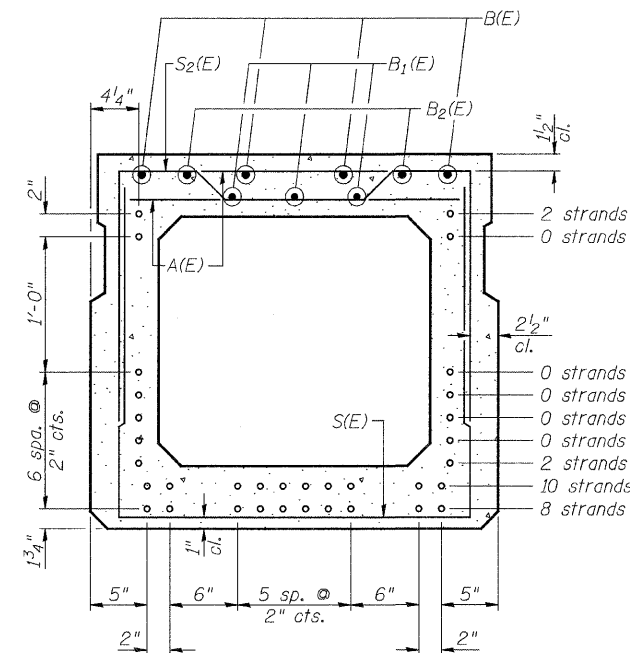
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B
(Showing reinforcement and permissible strand locations)

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	99	#4	2'-7"	—
B(E)	8	#5	37'-11"	—
B1(E)	9	#4	25'-10"	—
B2(E)	4	#5	10'-0"	—
S(E)	102	#4	7'-5"	┌
S1(E)	12	#4	6'-3"	┌
S2(E)	90	#4	6'-6"	┌
U(E)	8	#6	5'-0"	┌
U1(E)	6	#4	5'-0"	┌

NOTE:
See Structural Sheet 4 of 10 for additional details and Bill of Material.

Bars indicated thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.

NOTE:
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

NOTE:
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

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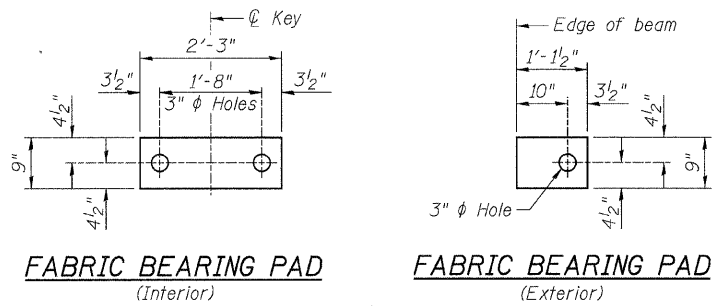
DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

33" x 36" PPC DECK BEAM
STRUCTURE NO. 066-3031

STRUCTURAL SHEET NO. 3 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	10
WHA* 1128006		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-021(102)				



FABRIC BEARING PAD
(Interior)

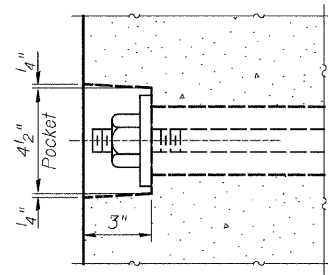
FABRIC BEARING PAD
(Exterior)

FIXED

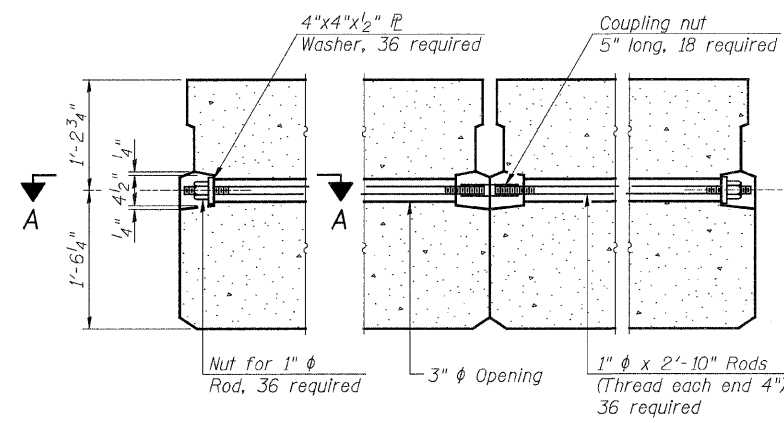
NOTES:

All bearing pads shall be 1" thick.

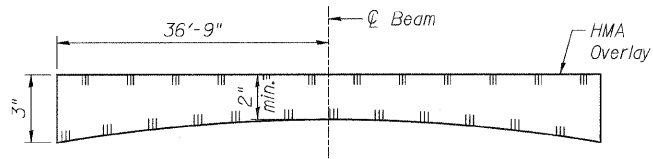
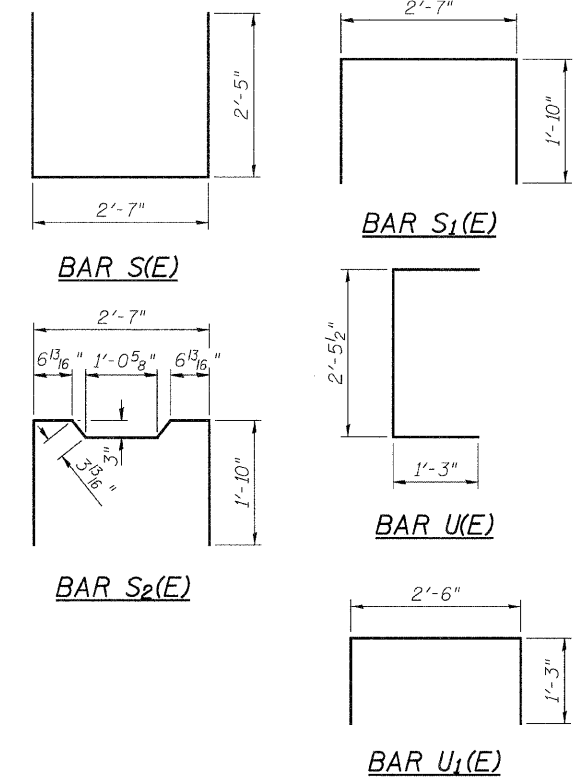
Exterior bearing pads shall be used at the crown break.



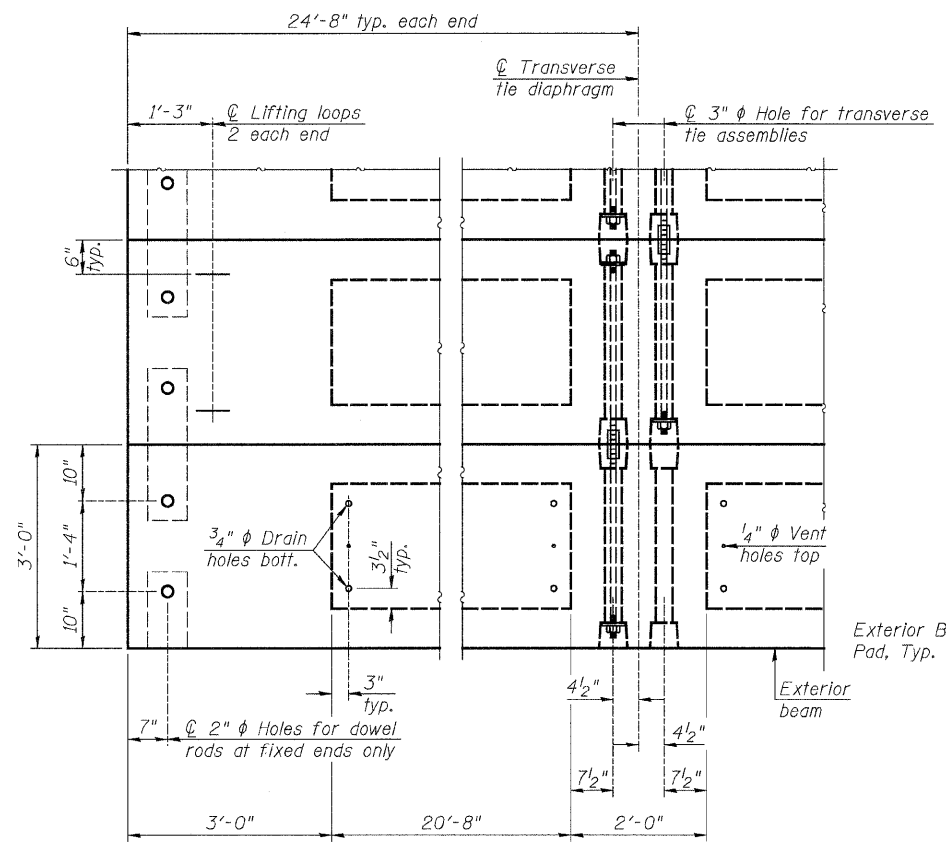
SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



VARIABLE DEPTH OVERLAY DIAGRAM

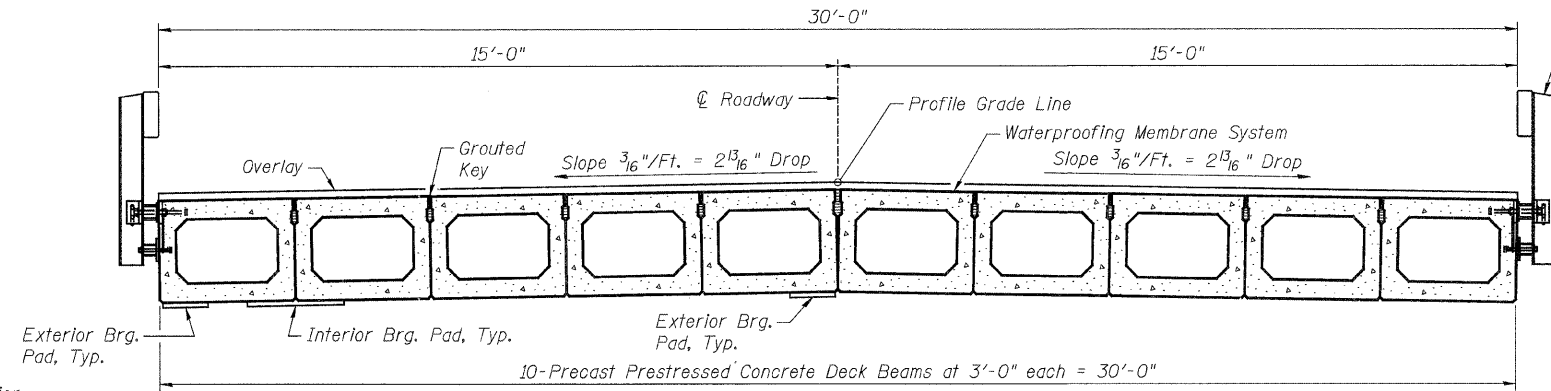


PLAN VIEW

NOTES:

Connect beams in pairs with the transverse tie configuration shown.

Unused transverse tie hole on exterior beam can be omitted.



CROSS SECTION

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.

The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

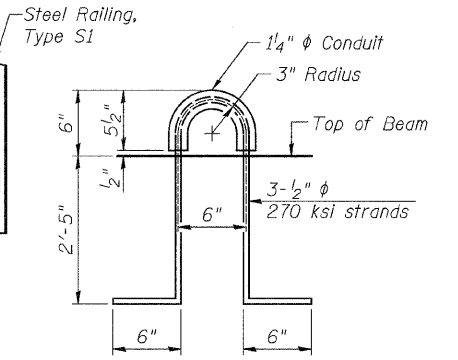
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	37
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2,205
Waterproofing Membrane System	Sq. Yd.	249.5
Portland Cement Mortar Fairing Course	Foot	662

FILE = S:\AS\Project\1128006\Bridg Drawing\1128006_DeckBeamDetail.dwg

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ASSOCIATES INC.
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, CHICAGO, IL 60611-0367
T: 815-284-3381 DESIGN FIRM: #184-00918

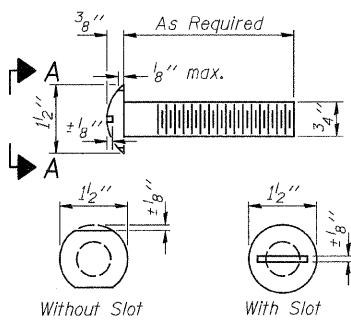
DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20 + 05

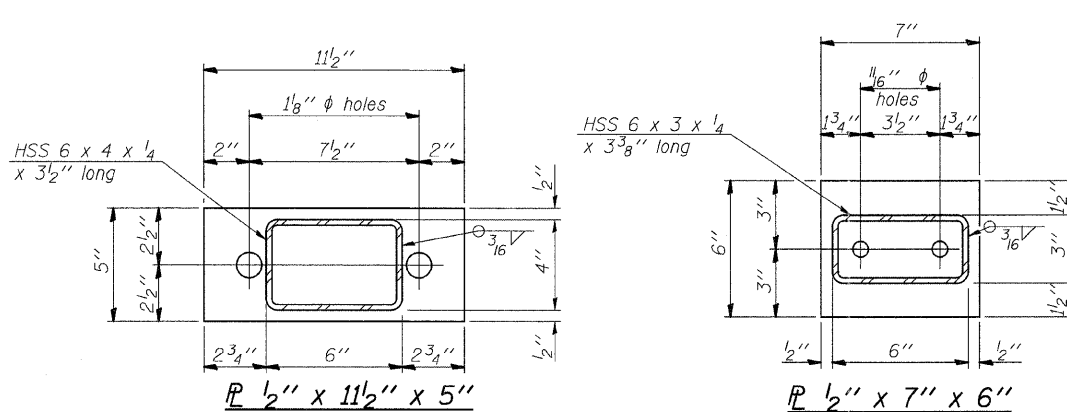
33" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 066-3031

STRUCTURAL SHEET NO. 4 OF 10 SHEETS

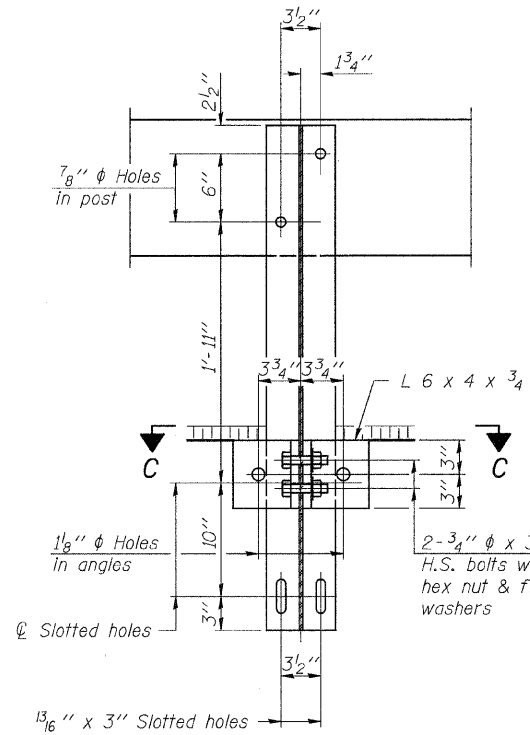
F.A.S. RTE. 217	SECTION 05-00096-00-BR	COUNTY MERCER	TOTAL SHEETS 21	SHEET NO. 11
WHA# 1128006		CONTRACT NO. 89432		
[ILLINOIS] FED. AID PROJECT BRS-021(102)				



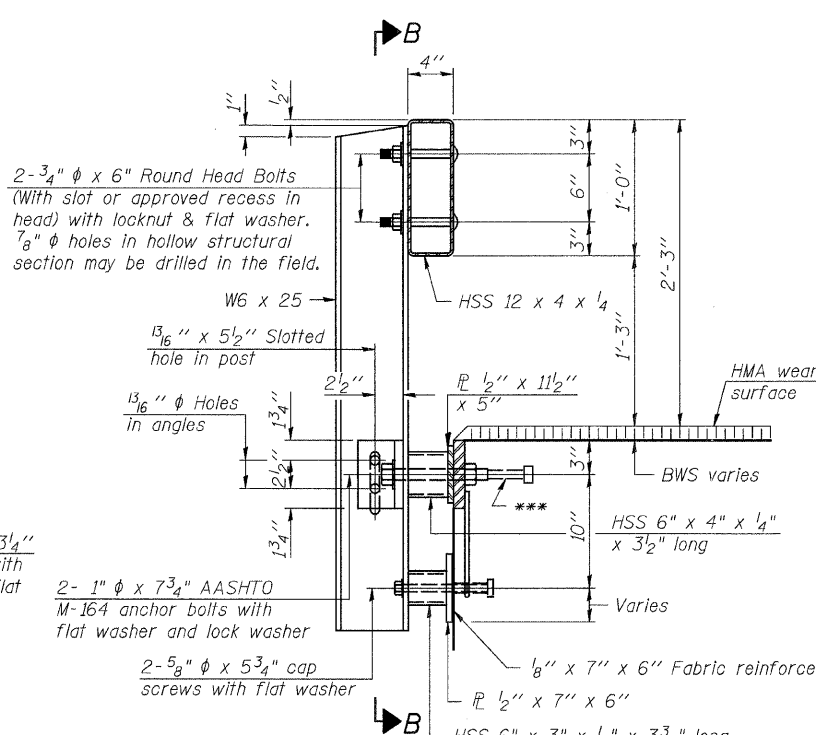
**VIEW A-A
ROUND HEAD BOLT**



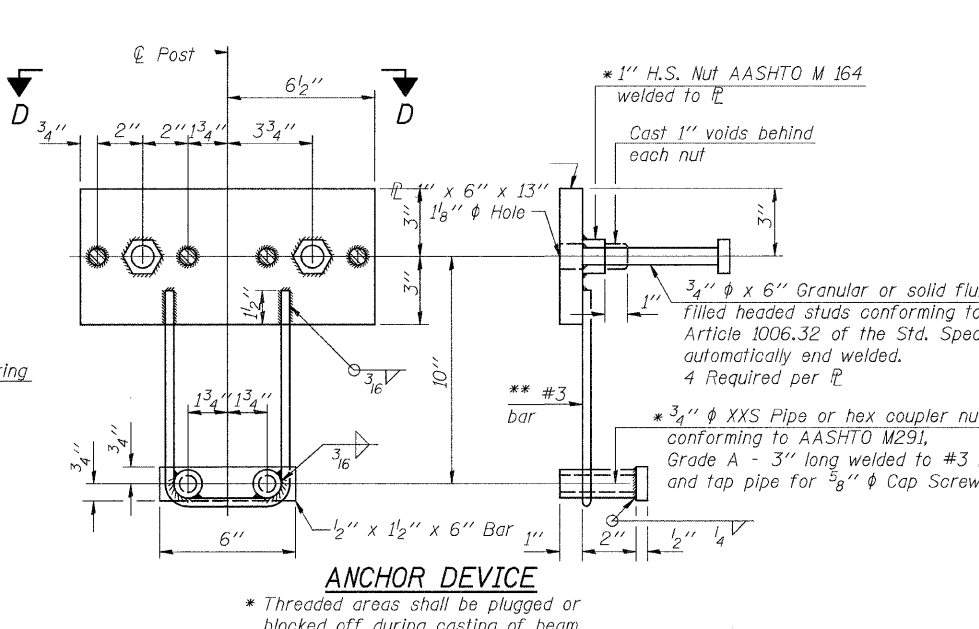
ELEVATION VIEW



SECTION B-B

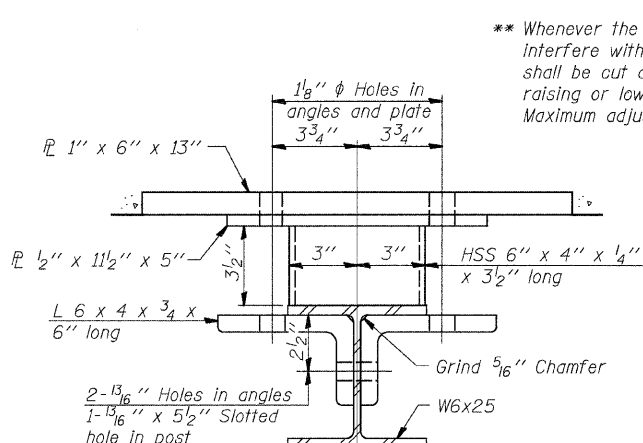


SECTION AT RAILING POST

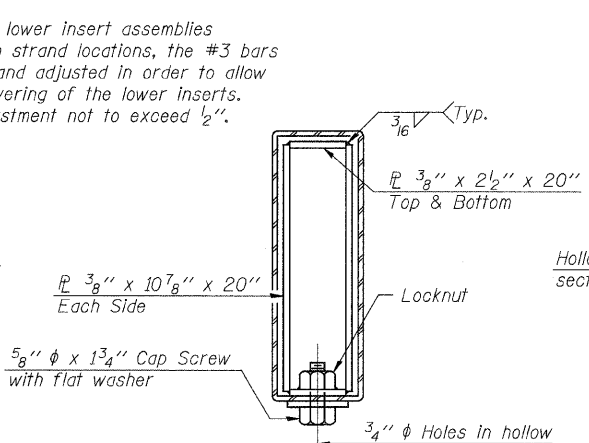


ANCHOR DEVICE

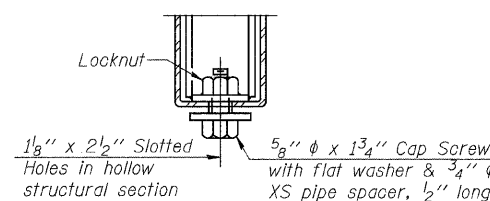
Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4 inch x 6 inch x 1'-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 *** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



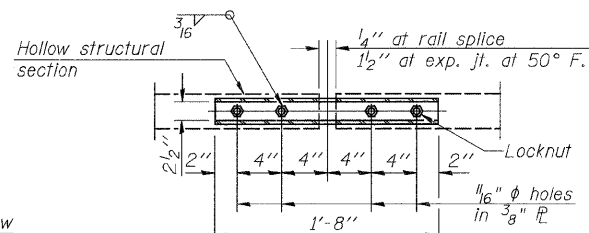
SECTION C-C



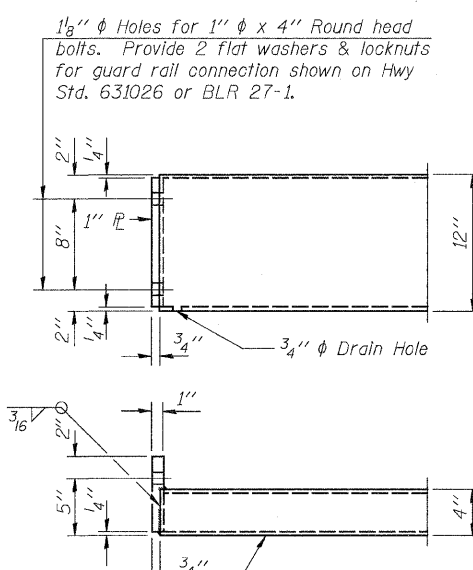
SECTIONS AT RAIL SPLICE



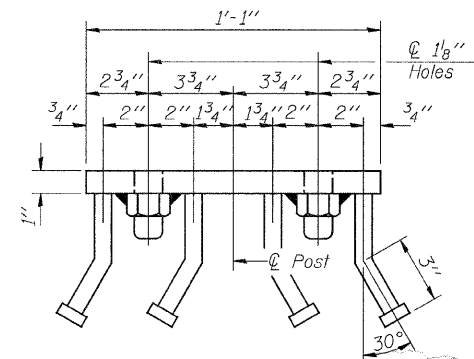
**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



**PLAN-BOTT. SPLICE P
TYPICAL**



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	150



DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

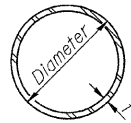
**MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20 + 05**

**STEEL RAILING, TYPE S1 DETAILS
STRUCTURE NO. 066-3031**

STRUCTURAL SHEET NO. 7 OF 10 SHEETS

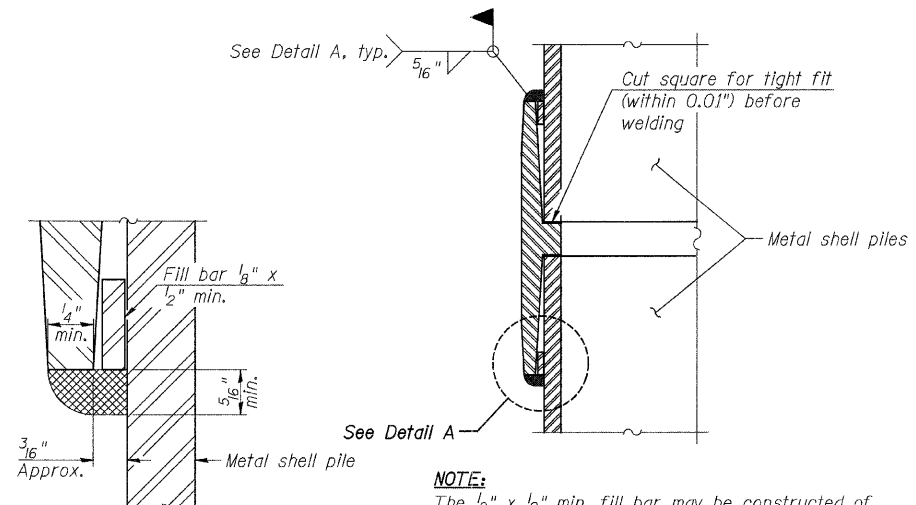
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	14
WHA* 1128D06			CONTRACT NO. 89432	
ILLINOIS FED. AID PROJECT BRS-02171021				

FILE # S:\Struct\1128d06\SP-Edge_Drawing\1128D06-RAIL.rvt



METAL SHELL PILE TABLE

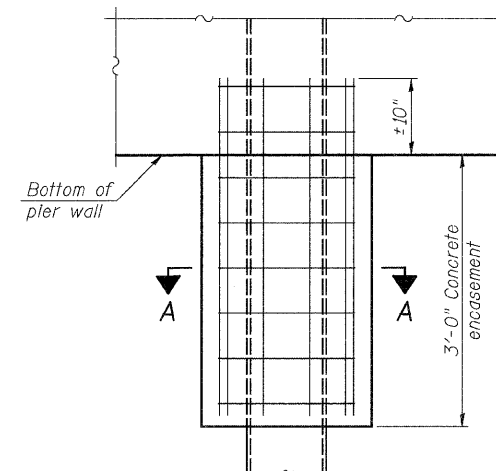
Designation and outside diameter	Wall thickness t	Weight per Foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



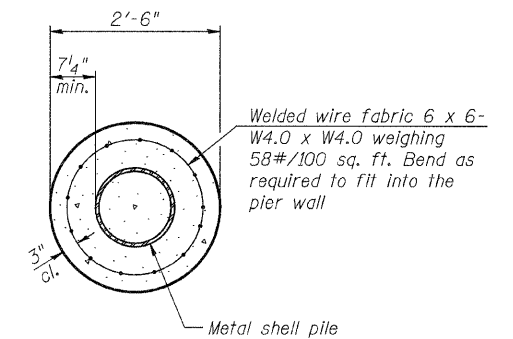
DETAIL A

NOTE:
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



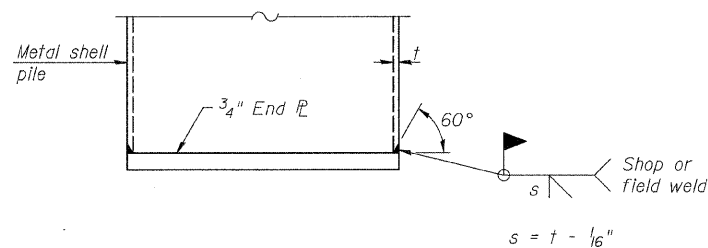
ELEVATION



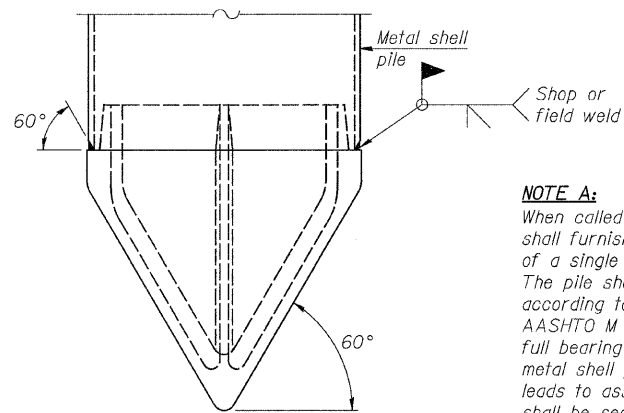
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



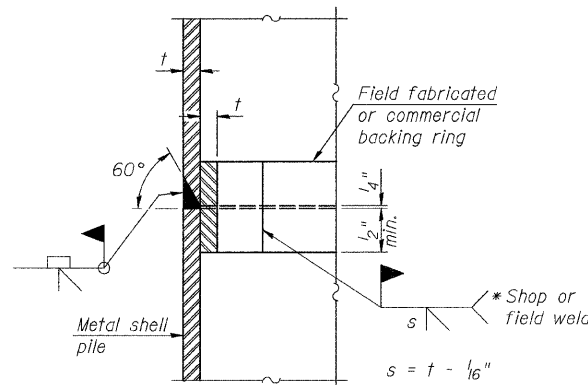
END PLATE ATTACHMENT



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.

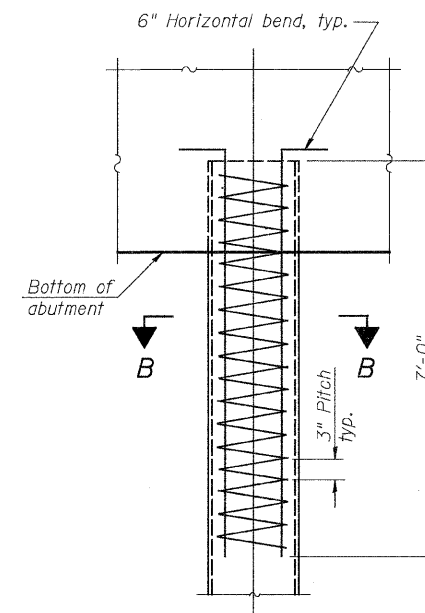
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

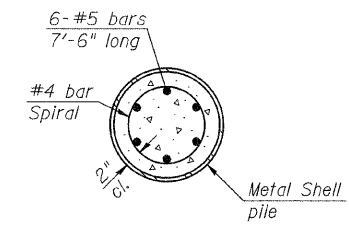


COMPLETE PENETRATION WELD SPLICE

* Field Fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

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

FILE = S:\S\Project\1128d06\Bridges Drawings\1128d06_Pile.dgn



DESIGNED -	MICHAEL WAGNER	REVISED -	
CHECKED -	BRIAN CONVERSE	REVISED -	
DRAWN -	RON ALLEN	REVISED -	
CHECKED -	BRIAN CONVERSE	REVISED -	

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20 + 05

METAL SHELL PILE DETAILS
STRUCTURE NO. 066-3031

STRUCTURAL SHEET NO. 8 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	15
WHA# 1128D06		CONTRACT NO. 89432		
[ILLINOIS] FED. AID PROJECT BRS-0217(102)				

LOG OF BORING NO. 1										Page 1 of 2	
OWNER				ARCHITECT/ENGINEER							
				Willett, Hofmann & Associates, Inc.							
SITE				PROJECT							
Mercer County, Illinois				Proposed Bridge							
GRAPHIC LOG	DEPTH (ft.)	USCS SYMBOL	SAMPLES			TESTS					
			NUMBER	TYPE	RECOVERY	SPT-N BLOWS / FT.	MOISTURE, %	DRY DENSITY PCF			UNCONFINED STRENGTH PSF
	0.3		1	AS			6.4				
	2.0			HS							
		CH	2	ST	13"		26.8	94	3500*		
	5			HS							
	7.0	MH	3	ST	16"		33.9	84	1390	Torvane	
				HS					1500*	800 psf	
	12.0	ML	4	ST	20"		27.1	95	1000*	Torvane	
				HS						550 psf	
	15	ML	5	ST	23"		26.6	97	770	Torvane	
				HS					3000*	1200 psf	
	20	ML	6	SS	14"	3	29.5				
				HS							
	25	ML	7	SS	13"	3	34.5				
				HS							
	30										

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer*

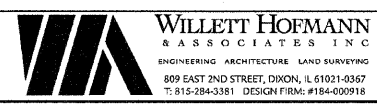
WATER LEVEL OBSERVATIONS				BORING STARTED 11-15-06			
WL	29'	WD	35'	BORING COMPLETED 11-15-06			
WL				RIG Rig 112 FOREMAN MG			
WL				APPROVED RED JOB # 15-106			

LOG OF BORING NO. 1										Page 2 of 2	
OWNER				ARCHITECT/ENGINEER							
				Willett, Hofmann & Associates, Inc.							
SITE				PROJECT							
Mercer County, Illinois				Proposed Bridge							
GRAPHIC LOG	DEPTH (ft.)	USCS SYMBOL	SAMPLES			TESTS					
			NUMBER	TYPE	RECOVERY	SPT-N BLOWS / FT.	MOISTURE, %	DRY DENSITY PCF			UNCONFINED STRENGTH PSF
	34.0	ML	8	SS	18"	9	19.6				
	35			HS							
		CL	9	SS	16"	11	18.6		4500*		
	40			HS							
	43.0	CH	10	ST	24"		24.1	102	4580		
				HS					4500*		
	45										
	47.0										
	50										
	53.0										

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 11-15-06			
WL	29'	WD	35'	BORING COMPLETED 11-15-06			
WL				RIG Rig 112 FOREMAN MG			
WL				APPROVED RED JOB # 15-106			

FILE # S:\Projects\112806\Bridg\Drawings\112806\BoringLogs.dgn



DESIGNED - MICHAEL WAGNER	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20 + 05

BORING LOGS
STRUCTURE NO. 066-3031
 STRUCTURAL SHEET NO. 9 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	16
WHA* 112806		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-021(102)				

LOG OF BORING NO. 2										Page 1 of 2	
OWNER				ARCHITECT/ENGINEER							
				Willet, Hofmann & Associates, Inc.							
SITE				PROJECT							
Mercer County, Illinois				Proposed Bridge							
GRAPHIC LOG	DEPTH (ft.)	USCS SYMBOL	SAMPLES				TESTS				
			NUMBER	TYPE	RECOVERY	SPT - N BLOWS / FT.	MOISTURE, %	DRY DENSITY PCF	UNCONFINED STRENGTH PSF		
	0.3	AS	1	AS			7.3				
	2.0	HS		HS							
		GL-CH	2	ST	14"		23.9	103	4500*		
	5	HS		HS							
	7.0	ML	3	ST	12"		24.0	97	6000*		
	10	HS		HS							
		ML	4	ST	27"		29.0	93	2000*		
	15	HS		HS							
	18.0	MH	5	SS	19"	WOH	31.0				
	20	HS		HS							
		MH	6	ST	26"		31.2	90	1020 1000*	Torvane 650 psf	
	25	HS		HS							
		MH	7	ST	23"		30.3	90	2000*	Torvane 700 psf	
	30	HS		HS							
	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				11-15-06	
WL	35'	WD	42'	BORING COMPLETED				11-15-06	
WL				RIG	Rig 112	FOREMAN	MG		
WL				APPROVED	RED	JOB #	15-106		

LOG OF BORING NO. 2										Page 2 of 2	
OWNER				ARCHITECT/ENGINEER							
				Willet, Hofmann & Associates, Inc.							
SITE				PROJECT							
Mercer County, Illinois				Proposed Bridge							
GRAPHIC LOG	DEPTH (ft.)	USCS SYMBOL	SAMPLES				TESTS				
			NUMBER	TYPE	RECOVERY	SPT - N BLOWS / FT.	MOISTURE, %	DRY DENSITY PCF	UNCONFINED STRENGTH PSF		
		CL	8	ST	25"		15.8	117	5000*		
	35	HS		HS							
	40	CL	9	ST	20"		14.6	121	6860 6500*		
	45	HS		HS							
		CL	10	ST	19"		17.9		4500*		
	50	HS		HS							
		CL	11	SS	22"		31	21.3			
	55	HS		HS							
			12	SS	18"		11	23.9			
	60	HS		HS							
			13	SS	18"		10	23.2			
	60.0										

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				11-15-06	
WL	35'	WD	42'	BORING COMPLETED				11-15-06	
WL				RIG	Rig 112	FOREMAN	MG		
WL				APPROVED	RED	JOB #	15-106		

FILE # S:\AS\Project\1128006\Bridges - Drawings\1128006-BoringLog.dgn



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CHECKED - BRIAN CONVERSE	REVISED -
DRAWN - RON ALLEN	REVISED -
CHECKED - BRIAN CONVERSE	REVISED -

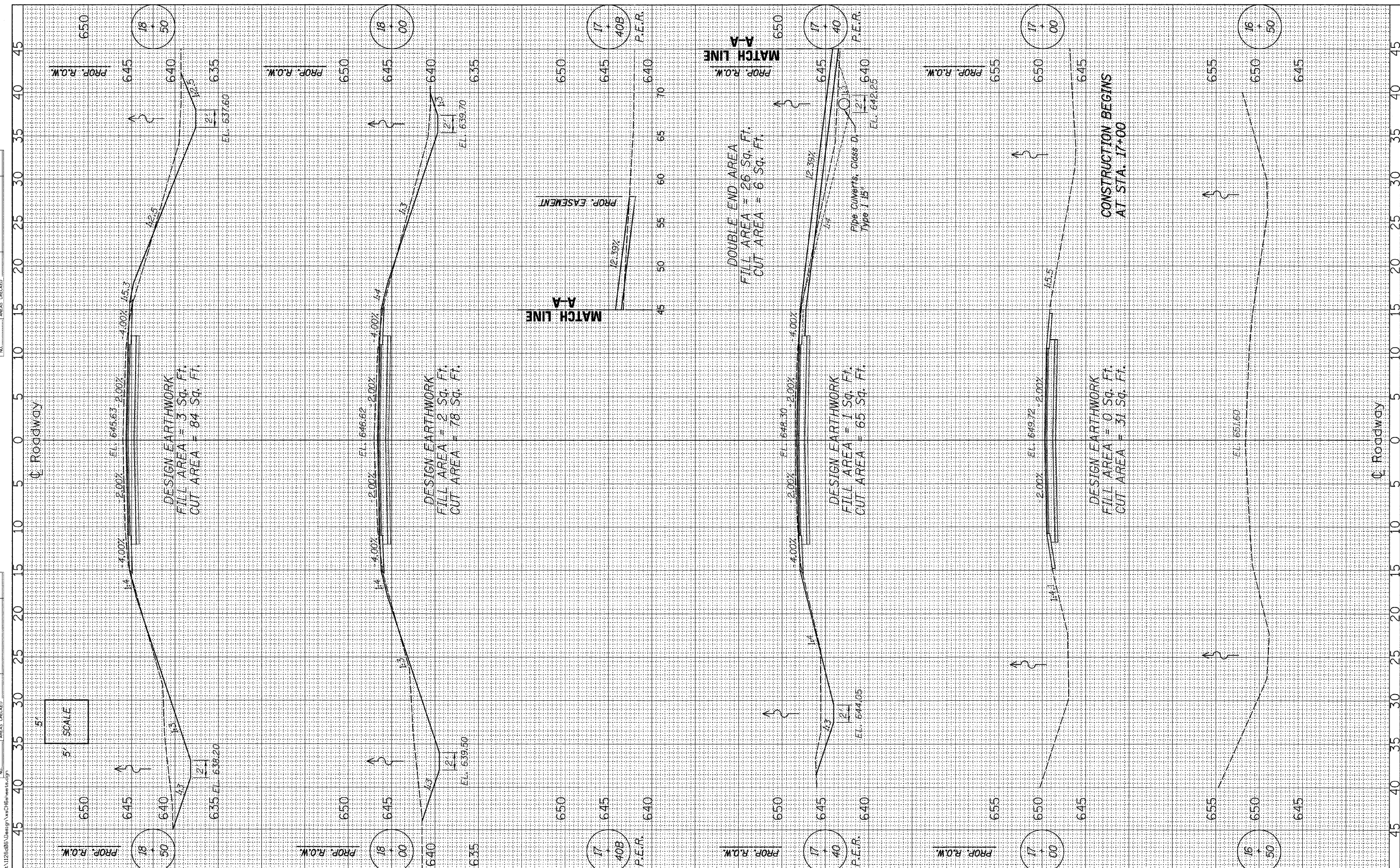
MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20 + 05

BORING LOGS
STRUCTURE NO. 066-3031
STRUCTURAL SHEET NO. 10 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	17
WHA* 1128006		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-021(102)				

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

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



WILLETT HOFMANN ASSOCIATES INC.
 ENGINEERING ARCHITECTURE LAND SURVEYING
 839 EAST 2ND STREET, OAKTON, IL 61021-6367
 T: 815-294-3381 DESIGN FIRM: #164-000918

DESIGNED -	MICHAEL WAGNER	REVISED -	
DRAWN -	RON ALLEN	REVISED -	
CHECKED -	BRIAN CONVERSE	REVISED -	
DATE -	AUGUST 2011	REVISED -	

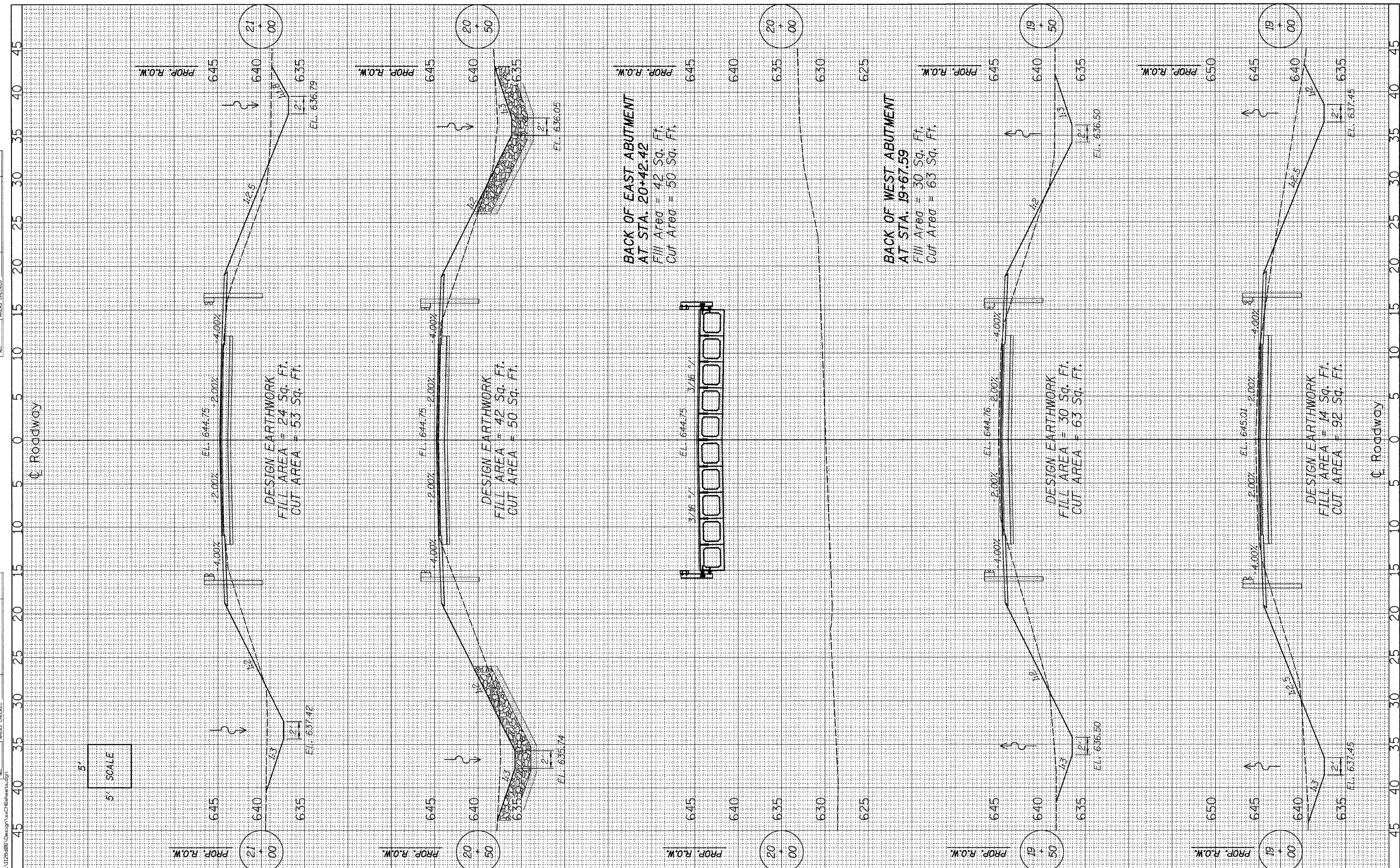
MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

CROSS SECTIONS		
STRUCTURE NO. 066-3031		
SCALE: 1" = 5'	SHEET NO. 1 OF 3 SHEETS	STA. 16+50.00 TO STA. 18+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	18
WHA* 1128D06		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-021102				

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

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



WILETT HOFMANN
 ASSOCIATES INC.
 ENGINEERING ARCHITECTURE LAND SURVEYING
 839 EAST 2ND STREET, DEKOR, IL 61021-0357
 T: 815-284-3381 DESIGN FIRM: #164-006918

DESIGNED -	MICHAEL WAGNER	REVISED -	
DRAWN -	RON ALLEN	REVISED -	
CHECKED -	BRIAN CONVERSE	REVISED -	
DATE -	AUGUST 2011	REVISED -	

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20 + 05

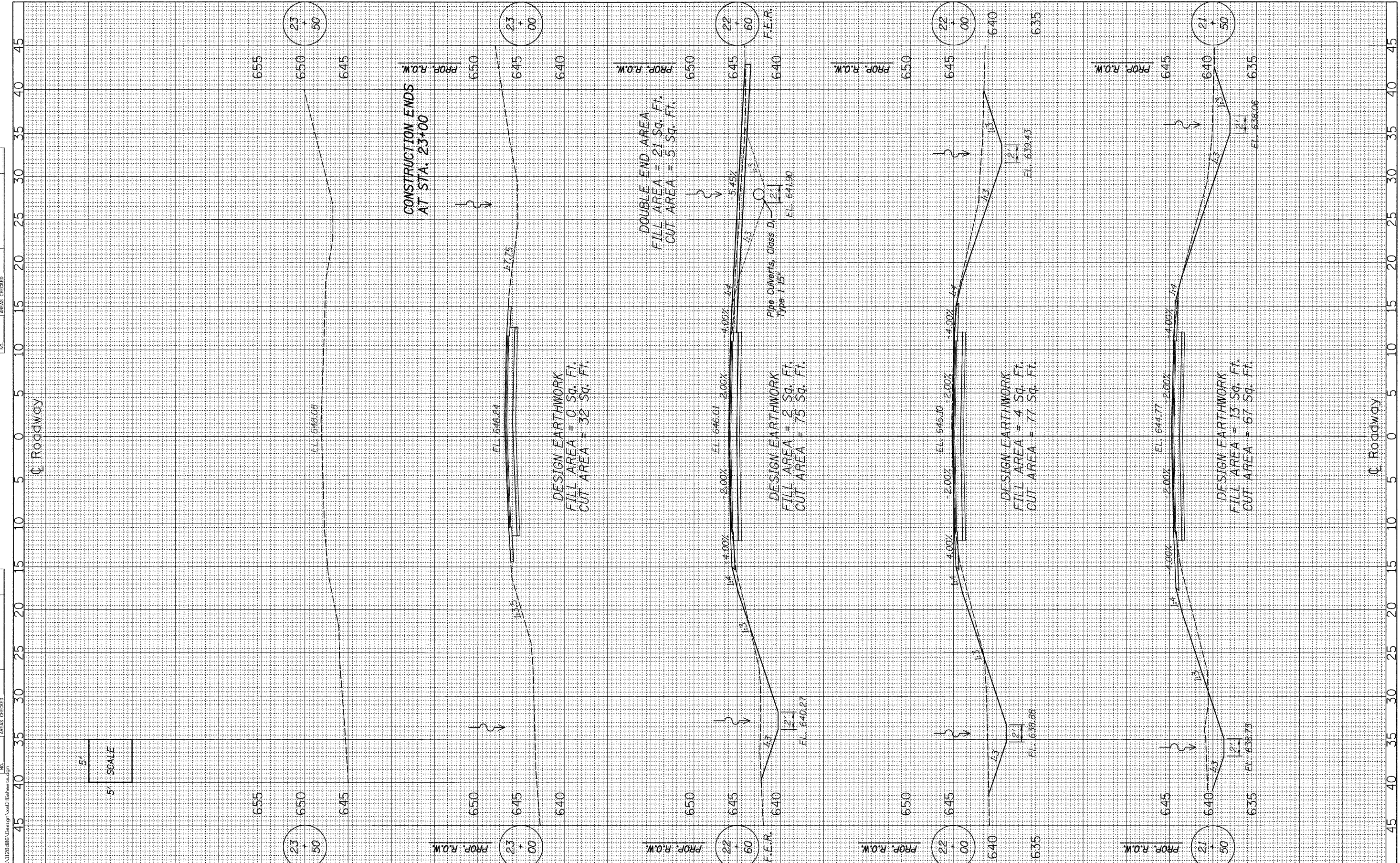
CROSS SECTIONS
STRUCTURE NO. 066-3031
 SCALE: 1" = 5'
 SHEET NO. 2 OF 3 SHEETS
 STA. 19+00.00 TO STA. 21+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	19
WHA* 1128D06		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-02171021				

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FINAL SURVEY	BY	DATE
NOTE BOOK		
NO.		
DESIGNED		
CHECKED		
DATE		

ORIGINAL SURVEY	BY	DATE
NOTE BOOK		
NO.		
DESIGNED		
CHECKED		
DATE		



FILE # S:\S\p\112806\Design\112806.dwg



DESIGNED	- MICHAEL WAGNER	REVISED	-
DRAWN	- RON ALLEN	REVISED	-
CHECKED	- BRIAN CONVERSE	REVISED	-
DATE	- AUGUST 2011	REVISED	-

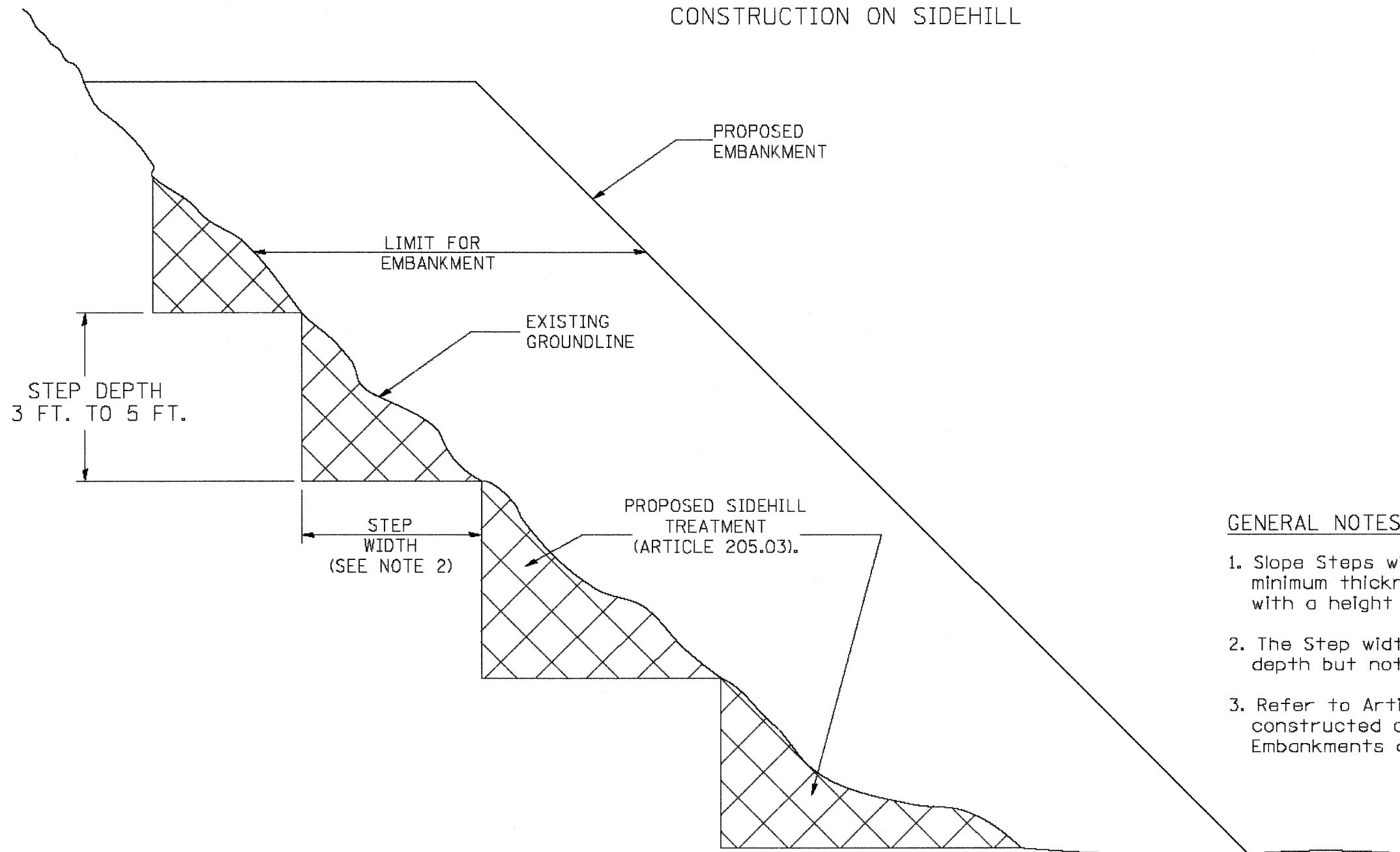
MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

CROSS SECTIONS
STRUCTURE NO. 066-3031

SCALE: 1" = 5' SHEET NO. 3 OF 3 SHEETS STA. 21+50.00 TO STA. 23+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	20
WHA# 1128006		CONTRACT NO. 89432		
ILLINOIS FED. AID PROJECT BRS-021(102)				

SLOPE STEPS DETAIL
TYPICAL CROSS-SECTION EMBANKMENT
CONSTRUCTION ON SIDEHILL



GENERAL NOTES:

1. Slope Steps will be required for all 12(300) minimum thickness "silver fills" and on a fills with a height of 10'(3.0m).
2. The Step width shall be twice the Step depth but not less than 6 feet.
3. Refer to Article 205.03 for Embankment to be constructed on Hillside or Slopes, or if existing Embankments are to be widened.

REPLACEMENT MATERIAL:



STANDARD EMBANKMENT
 (IN ACCORDANCE WITH
 205 OF THE STANDARD SPECIFACATION).

All dimensions are in inches (millimeters)
 unless otherwise noted.

FILE = S:\S\Project\1128006\B-ridge Drawings\1128006-SlopeStepDetail.dgn



DESIGNED -	MICHAEL WAGNER	REVISED -	
CHECKED -	BRIAN CONVERSE	REVISED -	
DRAWN -	RON ALLEN	REVISED -	
CHECKED -	BRIAN CONVERSE	REVISED -	

MERCER COUNTY
F.A.S. 217 (C.H. 6) OVER MAIDS RUN
STATION 20+05

SLOPE STEP DETAILS
STRUCTURE NO. 066-3031

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
217	05-00096-00-BR	MERCER	21	21
WHA# 1128006		CONTRACT NO. 89432		
<small>[ILLINOIS] FED. AID PROJECT BRS-0217(102)</small>				