

RTE. NO.	SECTION	COUNTY	TOTAL SHTS.	SHEET NO.
FAU 7359	09-00702-00-BR	MACON	12	1
FED. ROAD DIST. NO.		ILLINOIS	PROJECT: BHM-5169(37)	
CONTRACT NO. 95512				

**INDEX OF SHEETS**

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- 2 Summary of Quantities, General Notes, and Typical Sections
- 3 Plan and Profile
- 4 General Plan and Elevation
- 5 Superstructure
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- 8 Joint Details
- 9 Concrete Repair Details
- 10 Bicycle & Parapet Railing
- 11 Type SM Steel Bridge Rail Side Mounted with Concrete Wearing Surface
- 12 Approach Pavement Details

**LIST OF STANDARDS**

- Standard 000001-04 Standard symbols, abbreviations and patterns  
Standard 420001-06 Pavement Joints  
Standard 420401-05 Bridge Approach Pavement  
Standard 515001-02 Name plate for bridges  
Standard 630001-07 Steel Plate Beam Guardrail  
Standard 630301-04 Shoulder Widening for Type 1 (Special) Guardrail Terminals  
Standard 635006-02 Reflector and Terminal Marker Placement  
Standard 701011-01 Off-road moving operations, 2-l, 2-w, day only, for speeds > 45 mph  
Standard 702001-06 Traffic control devices  
Standard BLR-20-4 Traffic Barrier Terminal - Type 5R  
Standard BLR-21-6 Typical application of traffic control devices for Construction on Rural Local Highways  
Standard BLR-22-4 Typical application of traffic control devices 2-l, 2-w, rural, Road closed to Thru Traffic

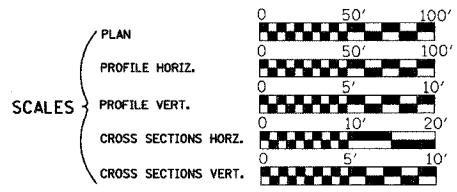
ROADWAY CLASSIFICATION: MINOR ARTERIAL (URBAN)  
2027 ADT = 5200  
DESIGN SPEED: 40 MPH

**JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS**  
J.U.L.I.E. Telephone No. Toll Free 1-800-892-0123

CONTRACT NO. : 95512

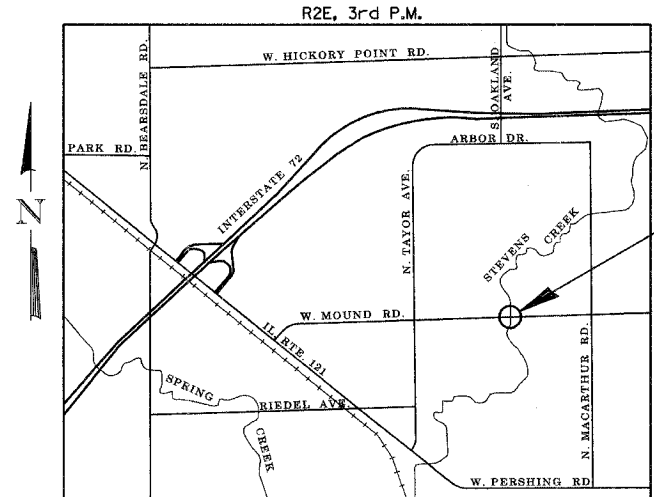
**URS**  
345 EAST ASH AVENUE, SUITE B  
DECATUR, ILLINOIS 62526  
PH. 217-875-4800

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**PLANS FOR PROPOSED  
LOCAL AGENCY IMPROVEMENT**



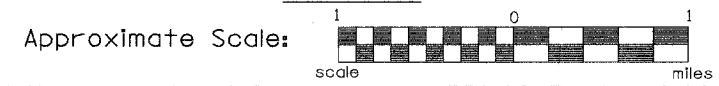
**HIGHWAY BRIDGE PROGRAM  
FAU 7359 (MOUND ROAD)  
OVER STEVENS CREEK  
SECTION NO. 09-00702-00-BR  
CITY OF DECATUR  
MACON COUNTY  
PROJECT #BHM-5169(37)**

C-97-062-07

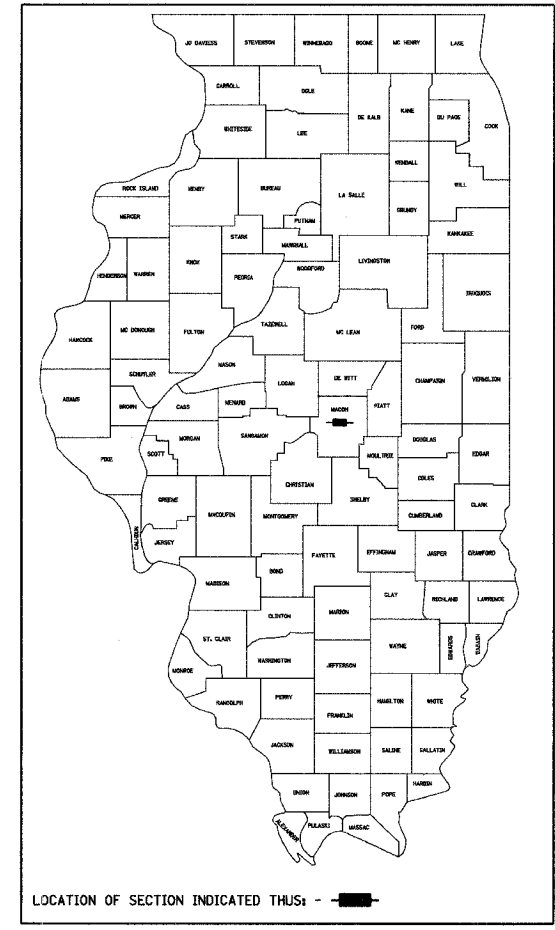


**PROJECT LOCATION**  
STR. NO. 058-3062  
BEGIN STA. 13+50  
END STA. 17+00

**LAYOUT**



Total and Net Length of Improvement 350.00 Feet = 0.066 Miles



APPROVED 4/2/2007 Richard B. Marley 20  
CITY DIRECTOR OF ENGINEERING AND INFRASTRUCTURE

PASSED 4/10 2007 M. Paul O'Neal  
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review Christina M. Keenan 4/10 2007  
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



Keith W. Bentley  
Illinois Professional No. 43789

3/29/2007  
Date

**SUMMARY OF QUANTITIES**

CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	162
20300100	CHANNEL EXCAVATION	CU YD	370
25000200	SEEDING, CLASS 2	ACRE	0.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23
25100115	MULCH, METHOD 2	ACRE	0.25
28100107	STONE RIPRAP, CLASS A4	SQ YD	294
28200200	FILTER FABRIC	SQ YD	294
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	38
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	377
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	43
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	340
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	68
42101300	PROTECTIVE COAT	SQ YD	1207
48101200	AGGREGATE SHOULDERS, TYPE B	TON	120
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
50102400	CONCRETE REMOVAL	CU YD	0.5
50300225	CONCRETE STRUCTURES	CU YD	0.6
50300255	CONCRETE SUPERSTRUCTURE	CU YD	16.0
50301100	CONCRETE WEARING SURFACE	CU YD	123
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	6936
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	11770
50901050	STEEL RAILING, TYPE SM	FOOT	137
50901720	BICYCLE RAILING	FOOT	137
51500100	NAME PLATES	EACH	1
59000200	EPOXY CRACK INJECTION	FOOT	3.5
63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	1
63100210	TRAFFIC BARRIER TERMINAL, TYPE 5R (SPECIAL)	EACH	1
67100100	MOBILIZATION	L SUM	1
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	1
X0322194	POLYMER MODIFIED PORTLAND CEMENT MORTAR	SQ FT	4.7
XX005128	STRIP SEAL EXPANSION JOINT ASSEMBLY	FOOT	102
	SEE SPECIAL PROVISIONS		

**GENERAL NOTES**

THE AREA TO BE SEEDED SHALL CONSIST OF THE APPROACH PAVEMENT EMBANKMENT SLOPES.

SEEDING DATES FOR CLASS 2 SEEDING WILL BE AS LISTED BELOW:

SPRING MARCH 1 THRU JUNE 1  
FALL AUGUST 1 THRU NOVEMBER 15

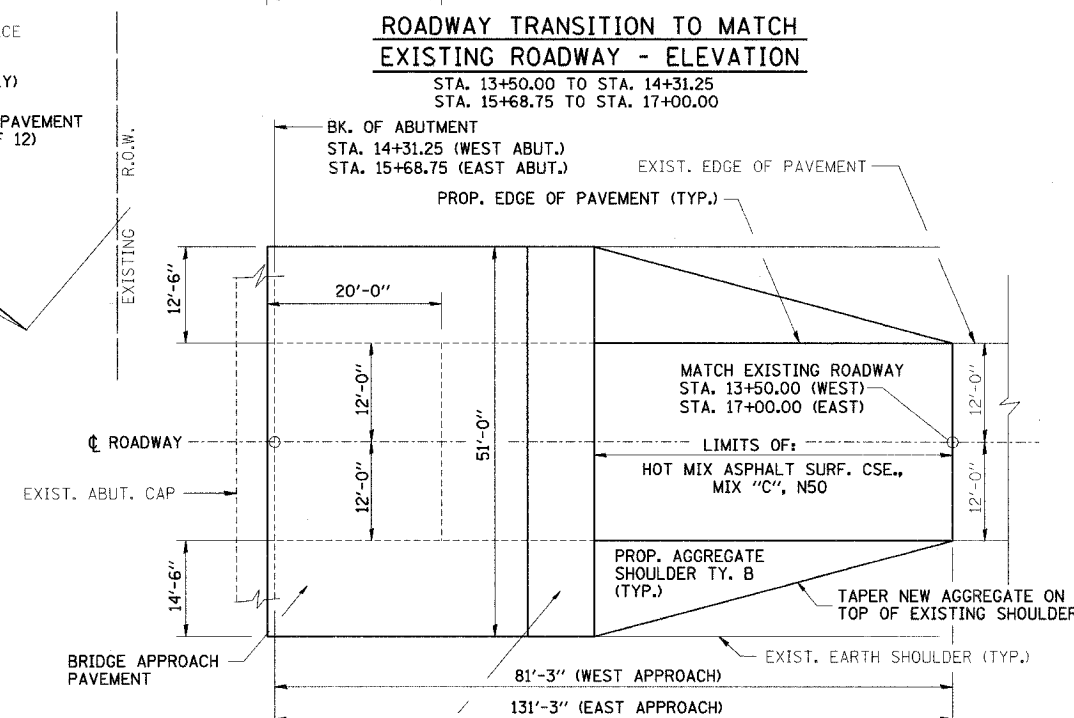
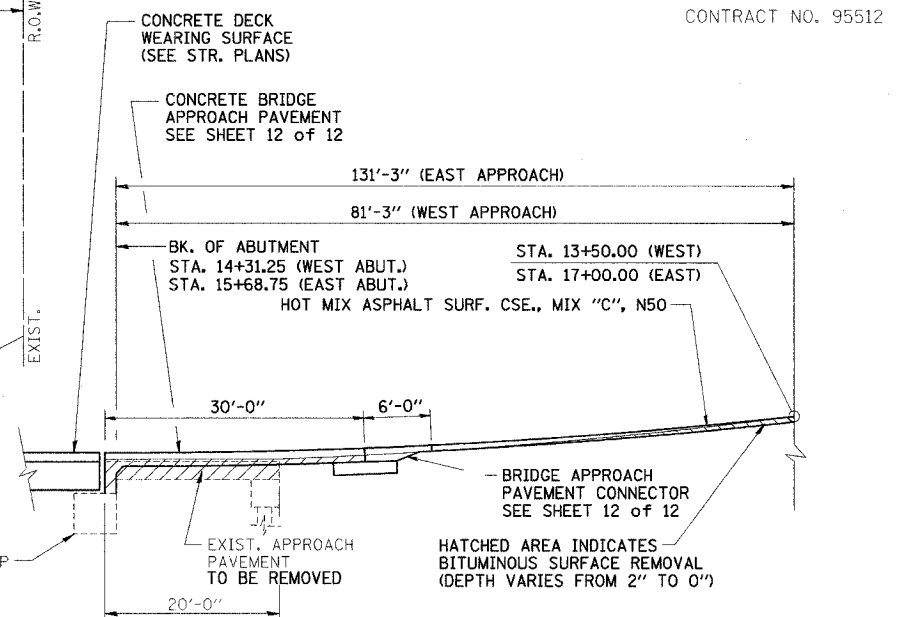
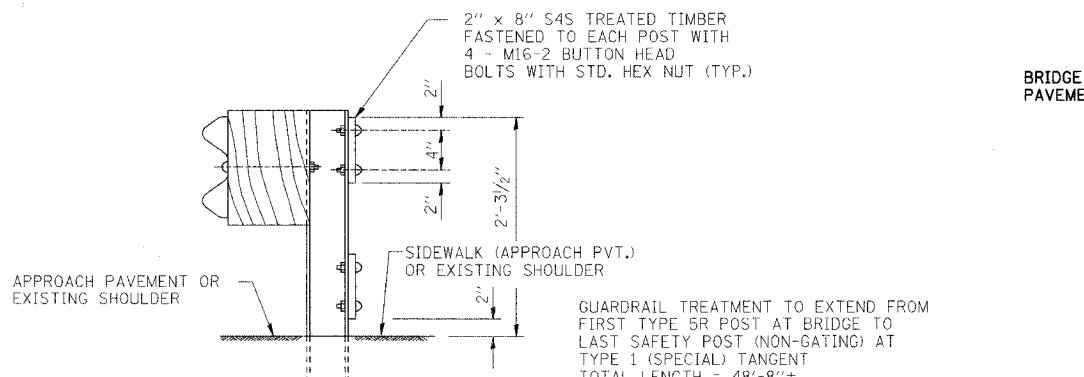
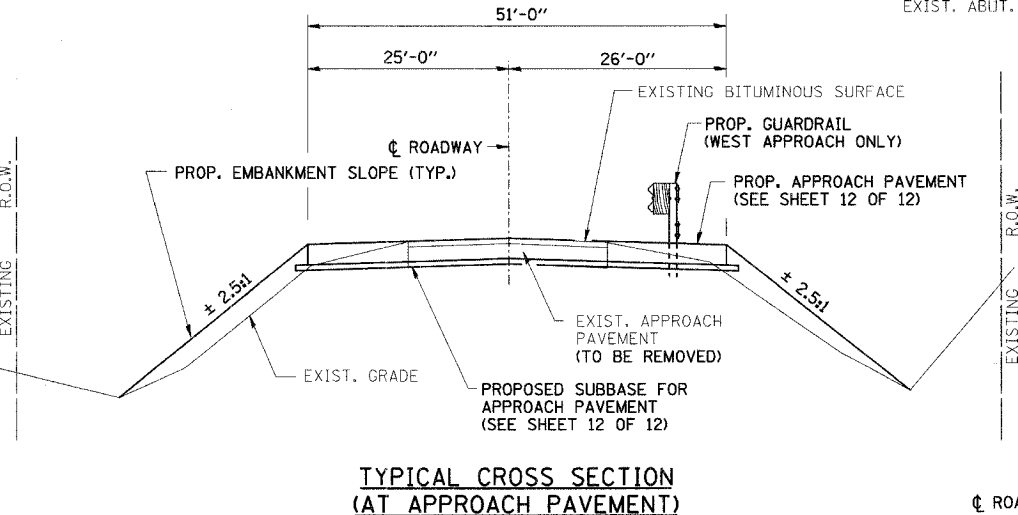
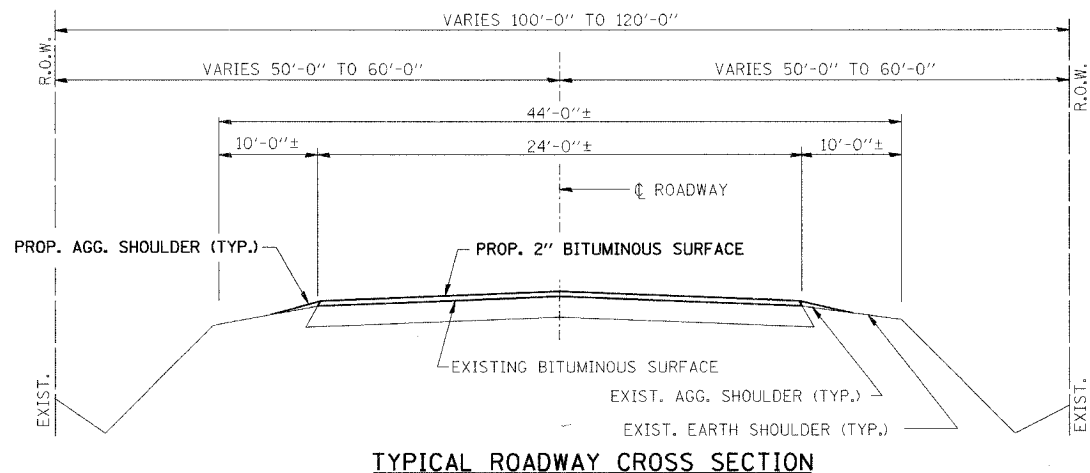
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITY FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR THEIR MARKING OF THE EXACT LOCATION.

WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST OF HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.

REMOVAL OF EXISTING PAVEMENT MATERIAL SHALL BE INCLUDED IN EARTH EXCAVATION.

**APPLICATION RATES**

NITROGEN FERTILIZER NUTRIENT	90	LBS. / ACRE
PHOSPHORUS FERTILIZER NUTRIENT	90	LBS. / ACRE
POTASSIUM FERTILIZER NUTRIENT	90	LBS. / ACRE
MULCH METHOD 2	2	TONS / ACRE
GRANULAR MATERIALS	2.05	TONS/CU. YD.
BITUMINOUS MATERIALS-PRIME COAT	0.10	GALS./S. Y.
HOT MIX ASPHALT	112	LBS./S. Y. / INCH



**GENERAL DATA**

Date	Designed DCS	FAU 7359 (MOUND ROAD) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 STR. NO. 058-3062
Revisions	Drawn BKN	
	Checked TDN	
	Approved KWB	
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526	URS Job No. 36431697

**BENCHMARK:**

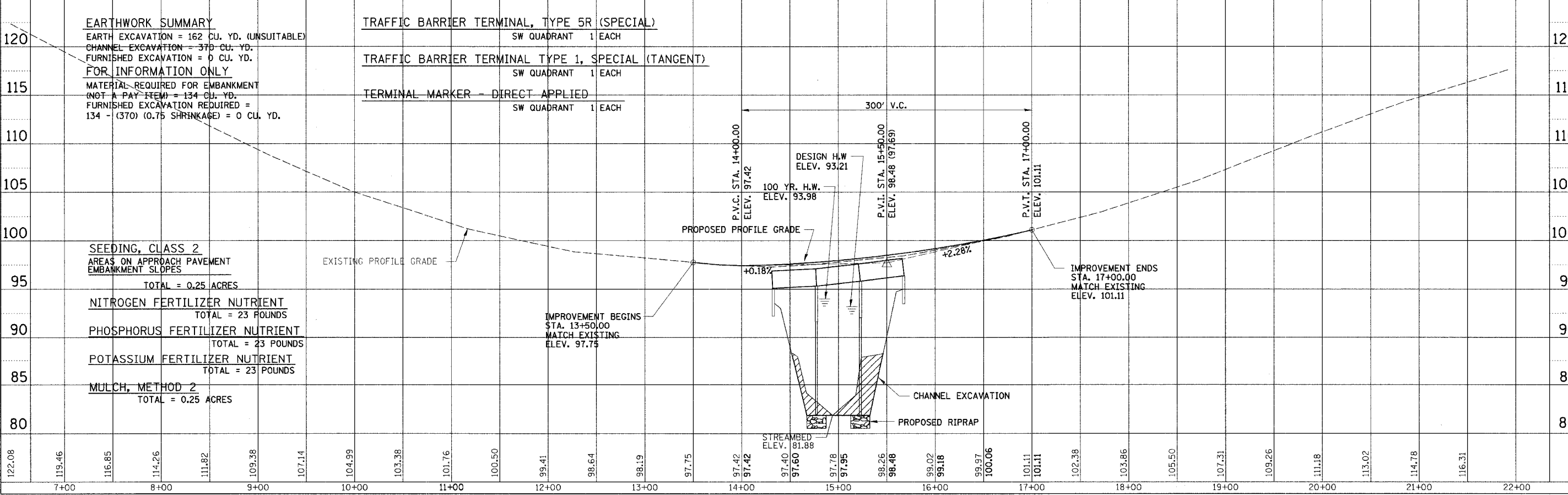
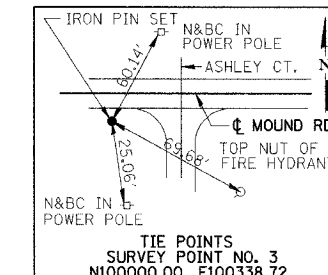
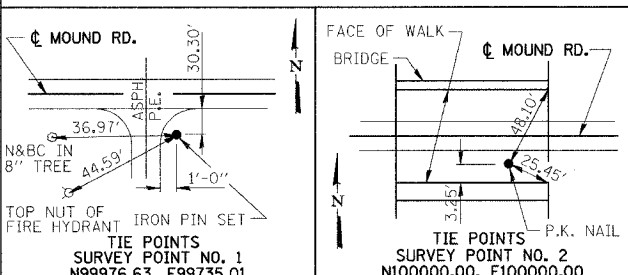
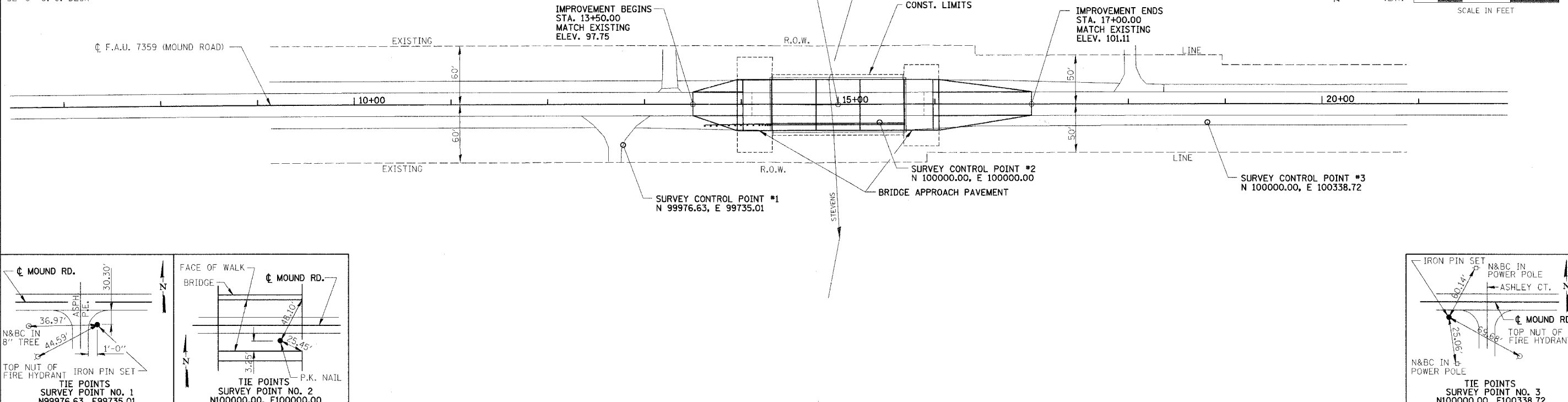
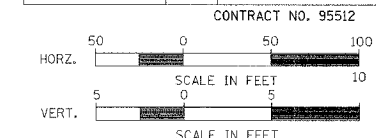
"M" IN MUELLER ON FIRE HYDRANT AT SERVICE ROAD  
SOUTHWEST OF BRIDGE.  
ELEV. 100.00

**STRUCTURE NO. 058-3062**

THREE SPAN CONCRETE DECK BEAM SUPERSTRUCTURE ON  
SPILL-THRU CONCRETE PILE BENT ABUTMENTS AND  
SOLID CONCRETE PIERS ON TIMBER PILES.  
137'-6" BK.-BK. ABUTMENTS  
52'-0" O.-O. DECK

STA. 15+00.00  
PRECAST CONCRETE DECK BEAM SUPERSTRUCTURE  
THREE SPANS AT 44'-9 1/2", 45'-5", 44'-9 1/2"  
BACK TO BACK OF ABUTMENTS (EXISTING) 137'-6"  
O - O DECK = 51'-0"  
FACE OF RAIL TO FACE OF PARAPET 43'-5"  
0° SKEW

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 7359	09-00702-00-BR	MACON	12	3
STA. 13+50.00		TO STA. 17+00.00		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT:	DHM-5189(37)	
CONTRACT NO. 95512				



**EARTHWORK SUMMARY**  
EARTH EXCAVATION = 162 CU. YD. (UNSUITABLE)  
CHANNEL EXCAVATION = 370 CU. YD.  
FURNISHED EXCAVATION = 0 CU. YD.  
**FOR INFORMATION ONLY**  
MATERIAL REQUIRED FOR EMBANKMENT  
(NOT A PAY ITEM) = 134 CU. YD.  
FURNISHED EXCAVATION REQUIRED =  
134 - (370) (0.75 SHRINKAGE) = 0 CU. YD.

**TRAFFIC BARRIER TERMINAL, TYPE 5R (SPECIAL)**  
SW QUADRANT 1 EACH  
**TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)**  
SW QUADRANT 1 EACH  
**TERMINAL MARKER - DIRECT APPLIED**  
SW QUADRANT 1 EACH

**SEEDING, CLASS 2**  
AREAS ON APPROACH PAVEMENT  
EMBANKMENT SLOPES  
TOTAL = 0.25 ACRES  
**NITROGEN FERTILIZER NUTRIENT**  
TOTAL = 23 POUNDS  
**PHOSPHORUS FERTILIZER NUTRIENT**  
TOTAL = 23 POUNDS  
**POTASSIUM FERTILIZER NUTRIENT**  
TOTAL = 23 POUNDS  
**MULCH, METHOD 2**  
TOTAL = 0.25 ACRES

IMPROVEMENT BEGINS  
STA. 13+50.00  
MATCH EXISTING  
ELEV. 97.75

IMPROVEMENT ENDS  
STA. 17+00.00  
MATCH EXISTING  
ELEV. 101.11

DATE	BY	REVISION

**BENCHMARK:**  
 "M" in Mueller on Fire Hydrant at Private Road Southwest of Bridge. Elev. 100.00

**EXISTING STRUCTURE:**  
 Three Span Concrete Deck Beam Bridge on Pile Bent Abutments and Piers.  
 52'-0" O.-O. Deck, 137'-6" Bk.-Bk. Abutments.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 7359/09-00702-00-BR		MACON	12	4
FED. ROAD DIST. NO.	ILLINOIS PROJECT	BHM-5169(37)		

CONTRACT NO. 95512

**GENERAL NOTES**

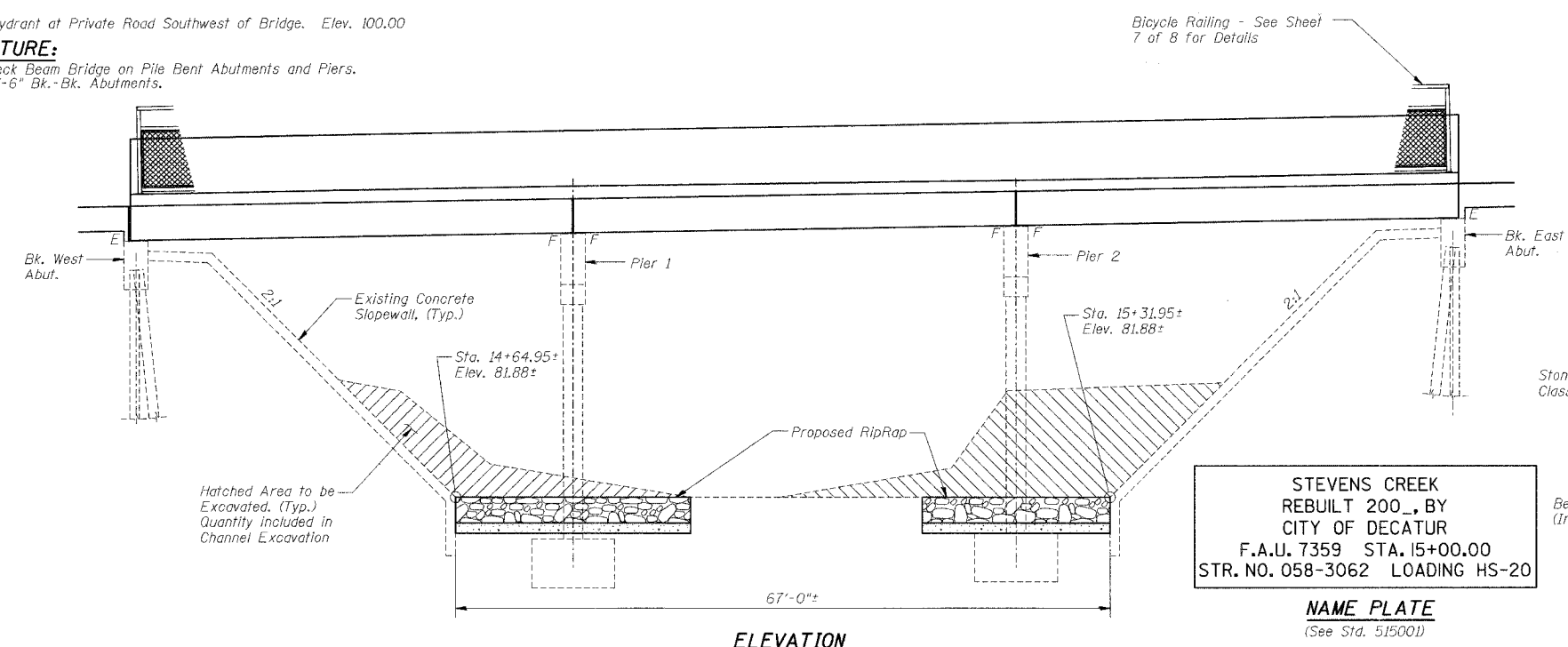
Layout of Riprap may be varied in the field to suit ground conditions as directed by the Engineer.

Reinforcement Bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.

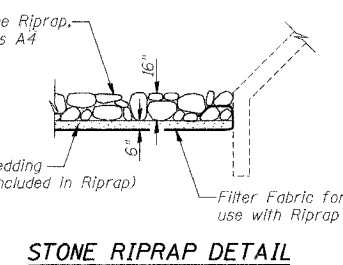
The area between the bottom of the beams and the top of the caps shall be filled with non-shrink grout to prevent the beams from rocking.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		370	370
Stone Riprap, Class A4	Sq. Yd.		294	294
Filter Fabric	Sq. Yd.		294	294
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		0.5	0.5
Concrete Structures	Cu. Yd.		0.6	0.6
Concrete Superstructure	Cu. Yd.	16.0		16.0
Concrete Wearing Surface	Cu. Yd.	123		123
Strip Seal Expansion Joint Assembly	Foot	102		102
Protective Coat	Sq. Yd.	867		867
Polymer Modified Portland Cement Mortar	Sq. Yd.		4.7	4.7
Epoxy Crack Injection	Foot		3.5	3.5
P.P.C. Deck Beams (21" Depth)	Sq. Ft.	6936		6936
Reinforcement Bars, Epoxy Coated	Pound	11730	40	11770
Steel Railing, Type SM	Foot	137		137
Name Plates	Each	1		1
Bicycle Railing	Foot	137		137



**STEVENS CREEK REBUILT 200... BY CITY OF DECATUR**  
 F.A.U. 7359 STA. 15+00.00  
 STR. NO. 058-3062 LOADING HS-20  
**NAME PLATE**  
 (See Std. 51500)



**DESIGN SPECIFICATIONS**  
 2002 AASHTO

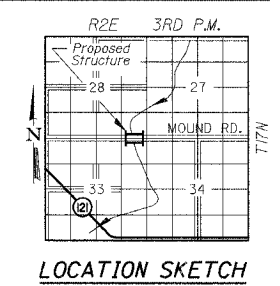
**LOADING HS20-44**

**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  p.s.i.  
 $f_y = 60,000$  p.s.i.  
 $n = 9$

**PPC UNITS**  
 $f'_{ci} = 4,000$  p.s.i.  
 $f'_c = 5,000$  p.s.i.  
 $f'_s = 270,000$  p.s.i.  
 $f'_{si} = 189,000$  p.s.i.

**CONCRETE WEARING SURFACE**  
 $f'_c = 5,000$  p.s.i.

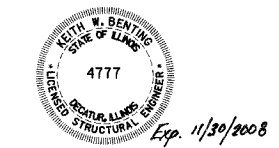


**WATERWAY INFORMATION**

Drainage Area = 49.9 Sq. Mi. Existing Low Grade Elev. 97.29 @ Sta. 14+31.84  
 Proposed Low Grade Elev. 97.42 @ Sta. 14+00.00

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Head-Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	30	4,577	771	939	93.21	0.51	0.13	93.72	93.34
Base	100	5,736	863	1,040	93.98	0.67	0.35	94.65	94.33
Overlapping									
Max. Calc.	500	7,473	1,051	1,249	95.05	1.50	1.32	96.55	96.37

Low Beam Elev. (Prop.) = 94.71

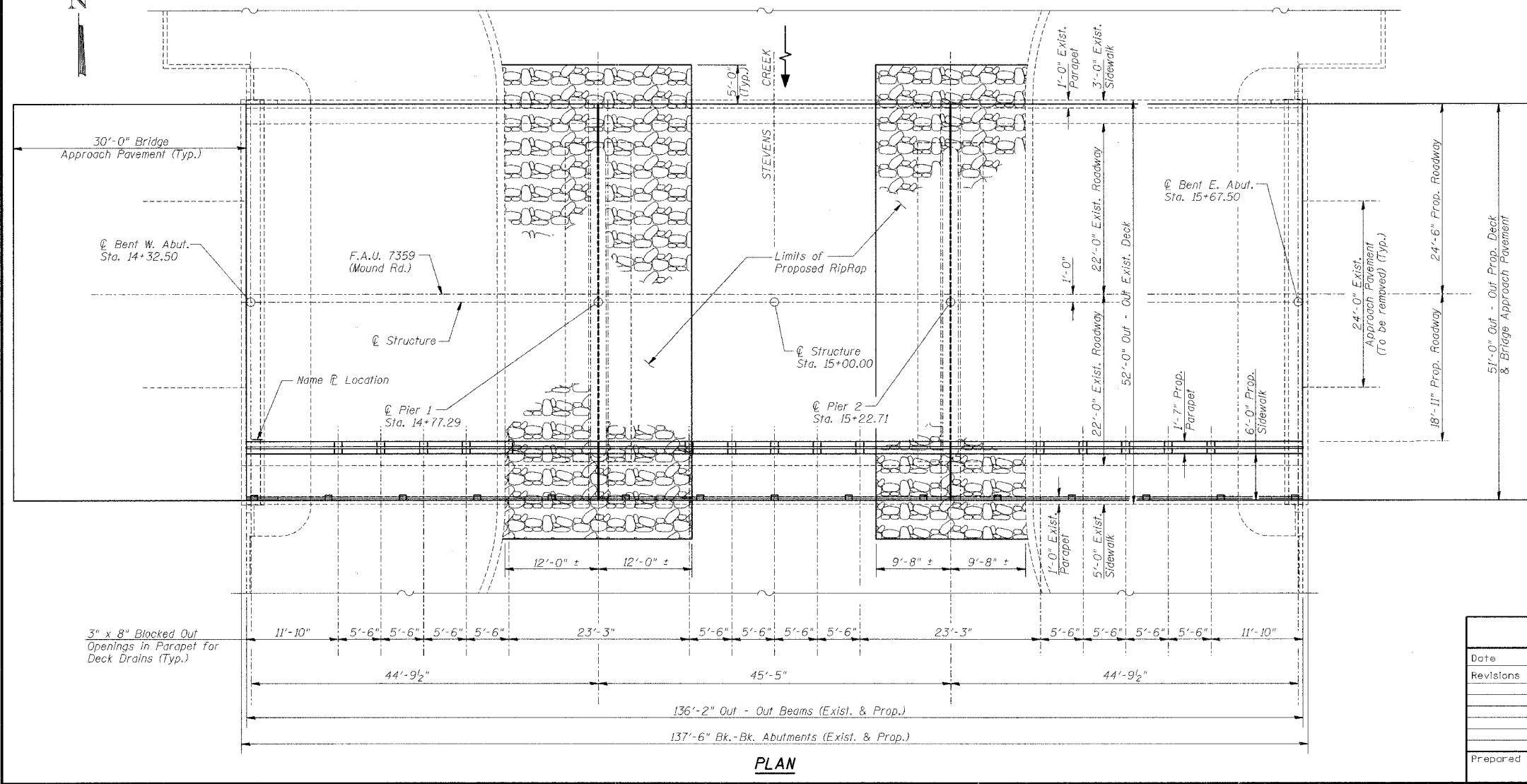


DATE: March 29, 2007  
Keith W. Benting  
 KEITH W. BENTING  
 ILL. STRUCTURAL NO. 4777

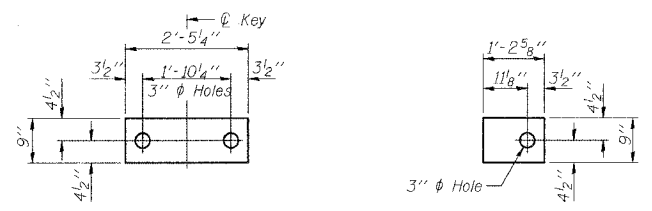
I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY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

**GENERAL PLAN AND ELEVATION**

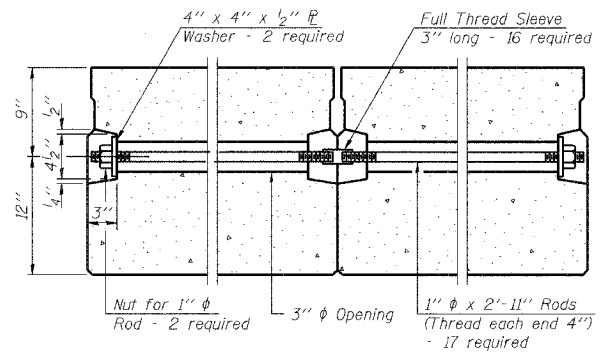
Date	Designed DCS	F.A.U. 7359 (MOUND RD.) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 PROP. STR. NO. 058-3062	Sheet No.
Revisions	Drawn BKN		1
	Checked TDN		
	Approved KWB		
Prepared by:	URS		345 East Ash Avenue Decatur, IL 62525



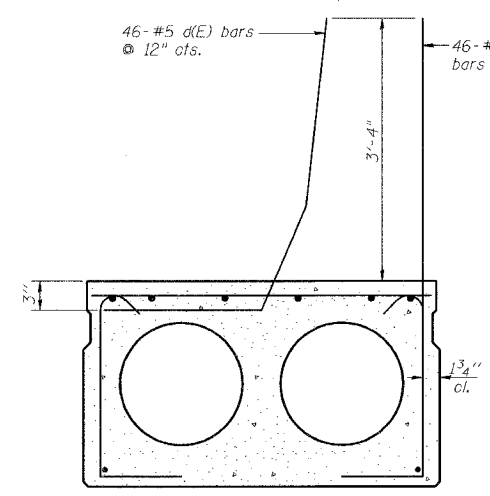
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 7359	09-00702-00-BR	MACON	12	5
FED. ROAD DIST. NO.	ILLINOIS PROJECT BHM-5169(37)		CONTRACT NO. 95512	



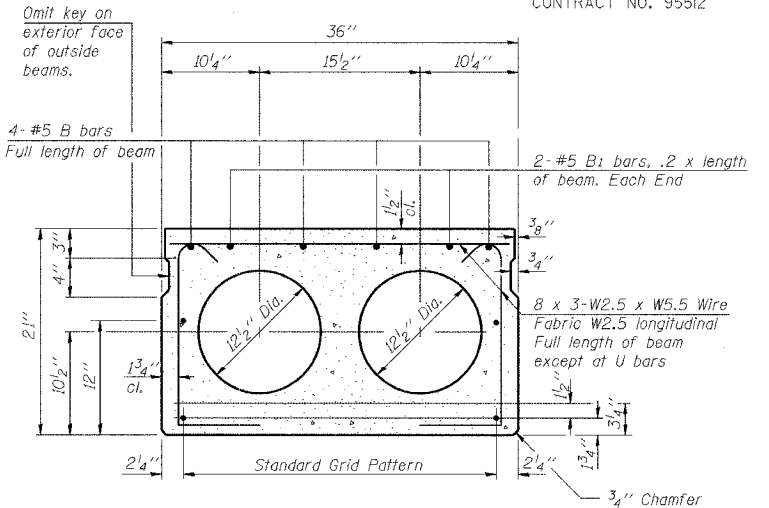
**FABRIC BEARING PAD**  
(Interior) **FABRIC BEARING PAD**  
(Exterior)



**TYPICAL TRANSVERSE TIE ASSEMBLY**

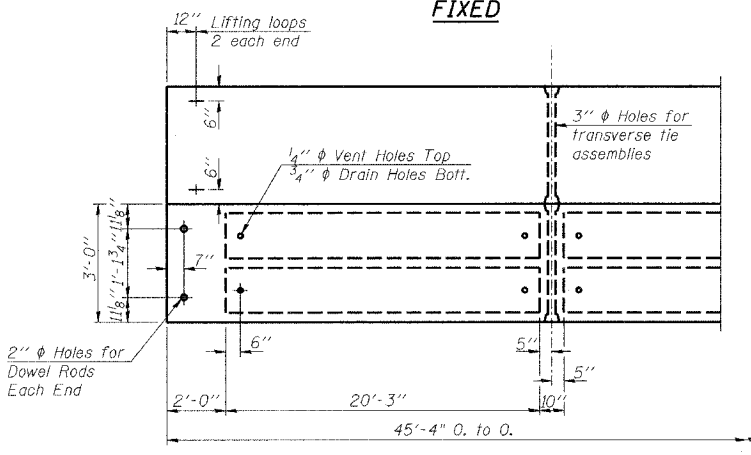


**PARAPET BEAM TYPICAL SECTION**  
(Reinforcement, Strand Pattern, and Dimensions same as other Typical Section shown)

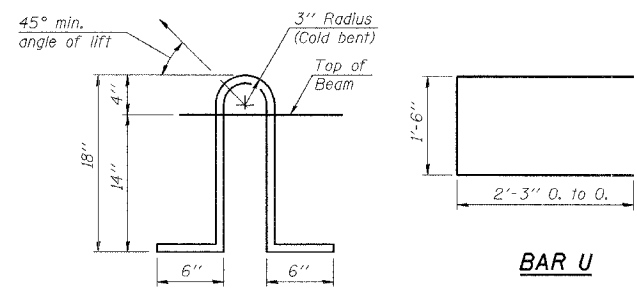


**TYPICAL SECTION**

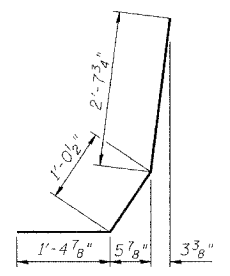
1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
6-Strands 1 3/4" up, 8-Strands 3/4" up, and 2-Strands 12" up.  
Note: Place strands symmetrically about  $\phi$  of beam.



**PLAN**



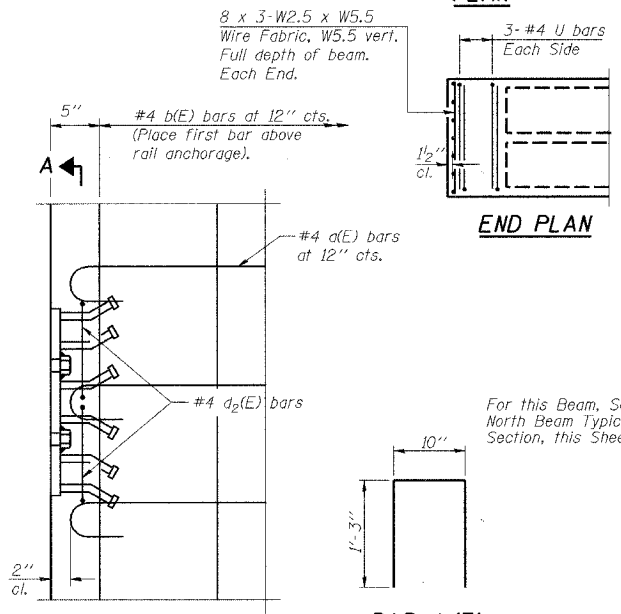
**LIFTING LOOP DETAIL**



**BAR U**

**BAR d1(E)**  
(138 Required)

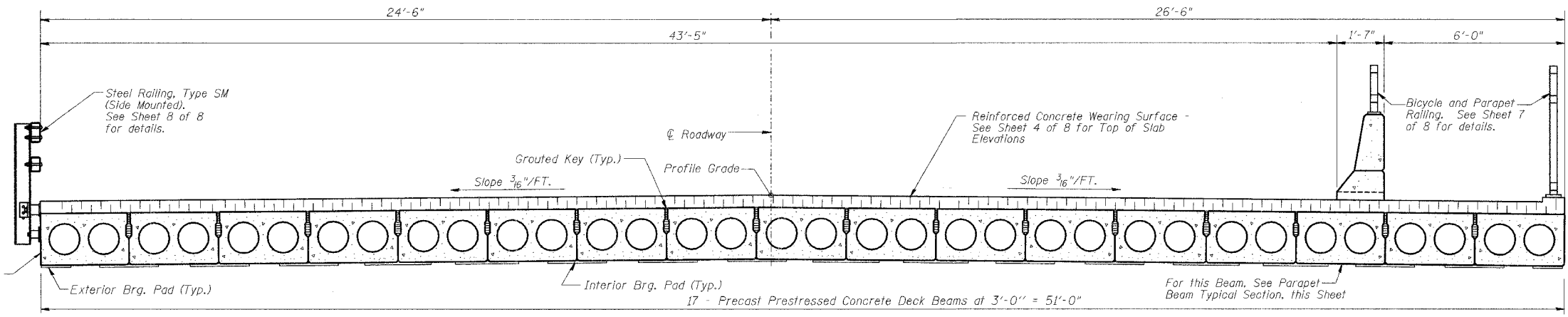
**BAR d2(E)**  
(138 Required)



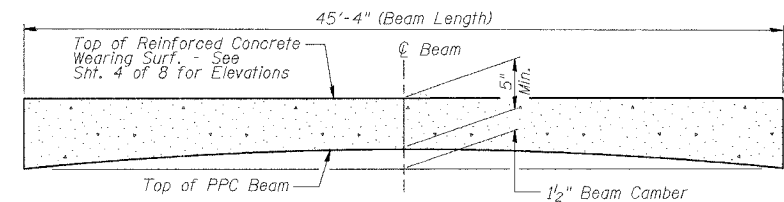
**END PLAN**

**PLAN - NORTH BEAM**

**BAR d2(E)**  
(46 Required)



**CROSS SECTION**  
(Looking East)



**ANTICIPATED CAMBER DIAGRAM**  
(See Sheet 4 of 8 for Wearing Surface Profile and Top of Slab Elevations)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
Precast Prestressed Conc. Deck Bms. (21')			Sq. Ft. 69.36	

**NOTES**

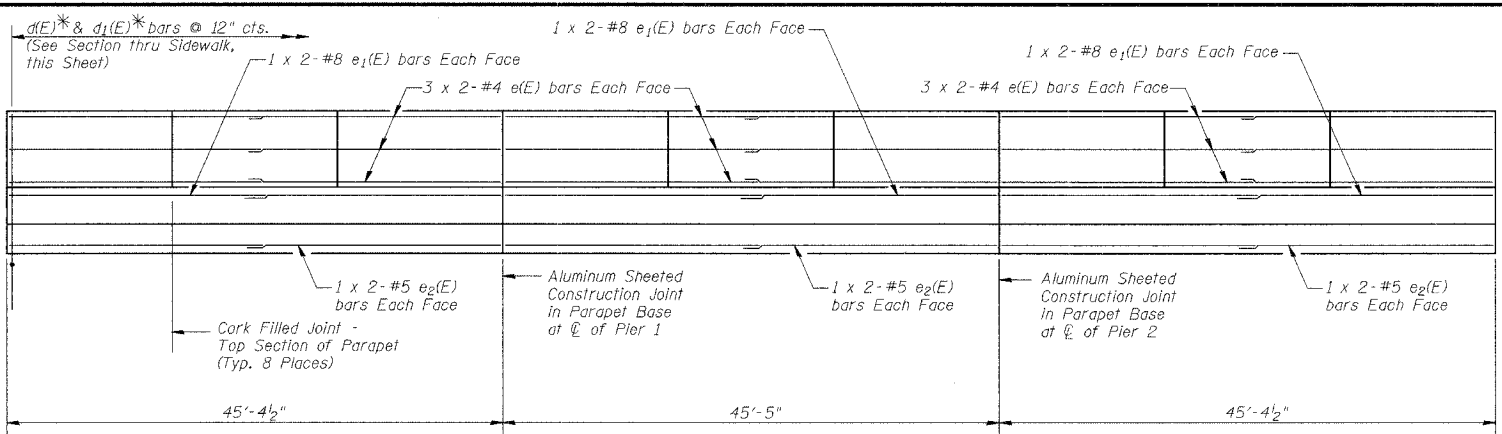
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2"  $\phi$  270 ksi strands, as shown. The 1" rods in the transverse tie assembly shall 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 AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4000 p.s.i. For the North Beam, the rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.

**SUPERSTRUCTURE - ALL SPANS**

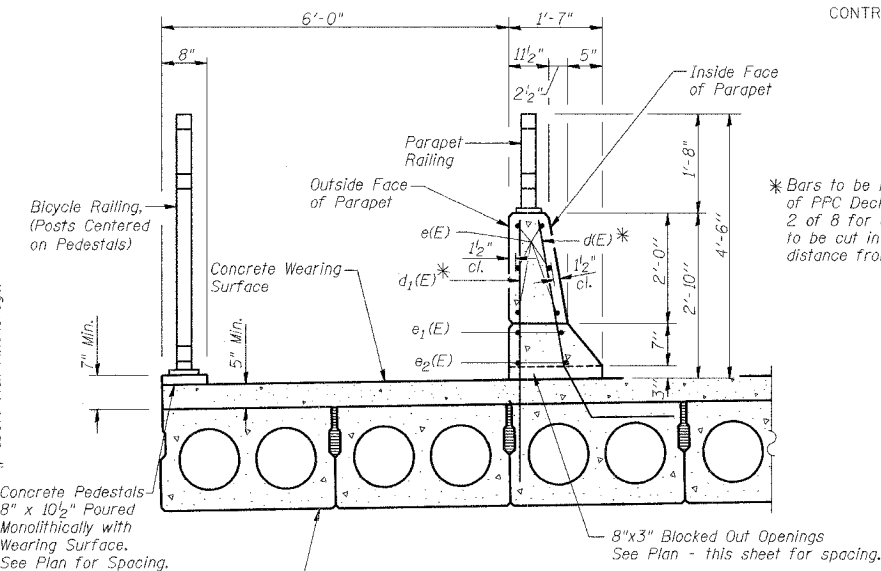
Date	Designed DCS	F.A.U. 7359 (MOUND RD.) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 PROP. STR. NO. 058-3062	Sheet No.
Revisions	Drawn BKN		<b>2</b>
	Checked TDN		
	Approved KWB		
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 7359	09-00702-00-BR	MACON	12	6
FED. ROAD DIST. NO.	ILLINOIS PROJECT	BHM-5169(37)		

CONTRACT NO. 95512

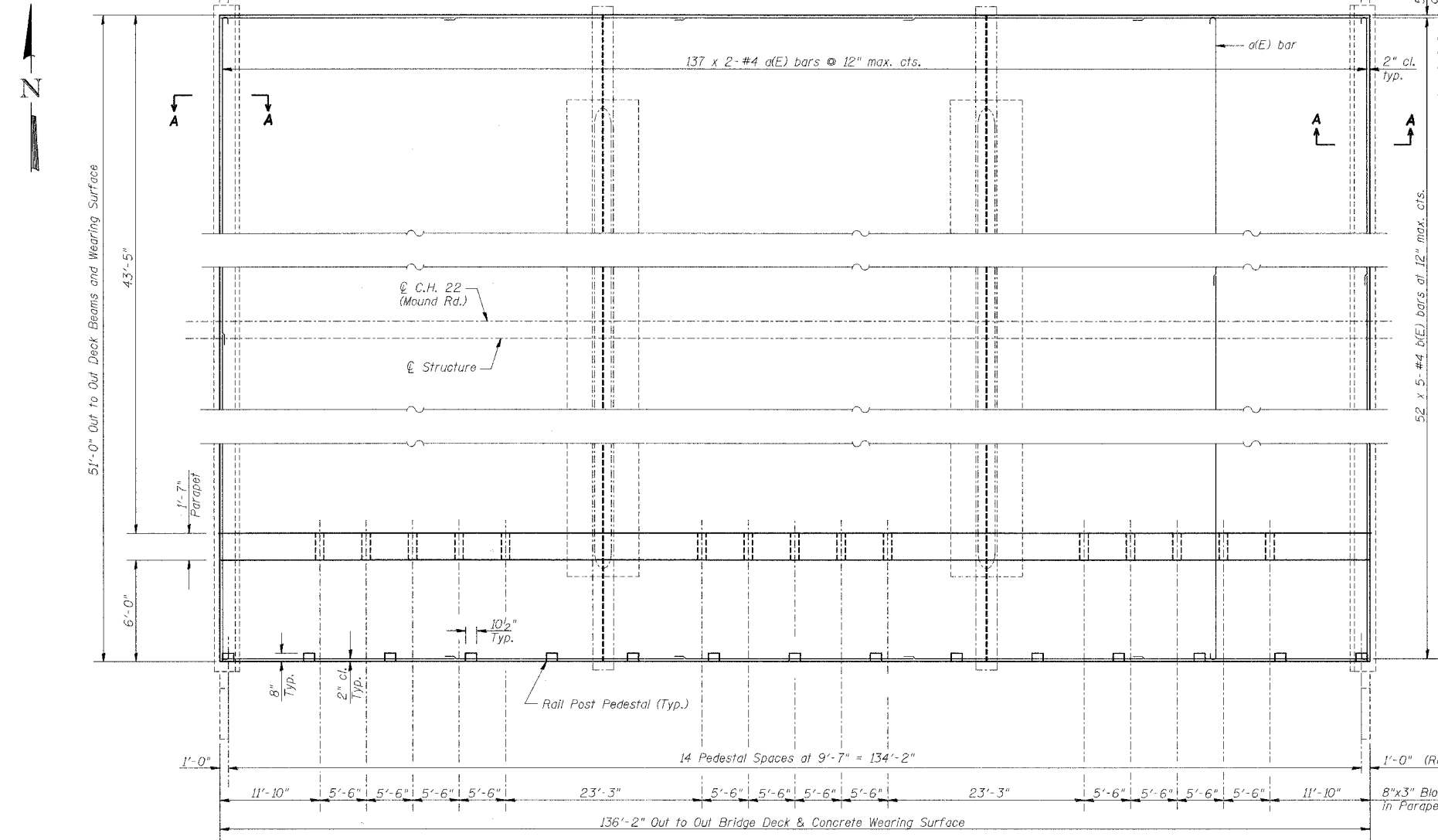


**INSIDE PARAPET ELEVATION**

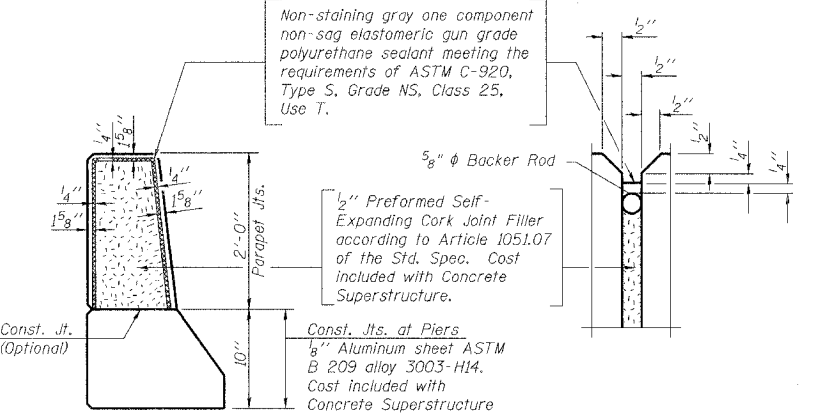


**SECTION THRU SIDEWALK**  
(Looking West)

\* Bars to be included in the Cost of PPC Deck Beams (See Sheet 2 of 8 for details). Top of Bars to be cut in field to maintain clear distance from Top of Parapet



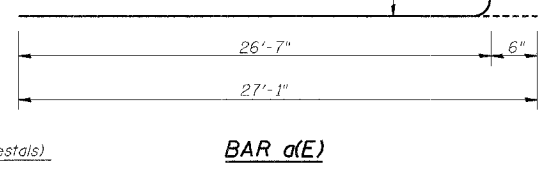
**PLAN**



**PARAPET JOINT DETAILS**

**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	274	#4	27'-1"	→
d1(E)	260	#4	29'-2"	—
e(E)	36	#4	23'-9"	—
e1(E)	12	#8	25'-9"	—
e2(E)	12	#5	24'-1"	—
Reinforcement Bars, Epoxy Coated		Pound	11730	
Concrete Superstructure		Cu. Yds.	16.0	
Concrete Wearing Surface		Cu. Yds.	12.3	
Protective Coat		Sq. Yds.	867	



**BAR d(E)**

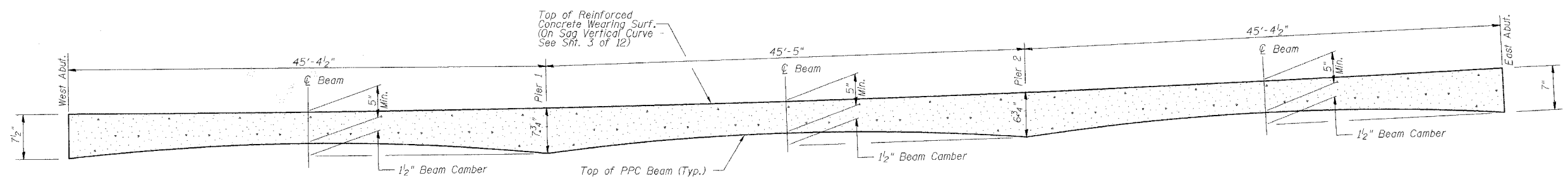
- Notes:
- For Section A-A, see sheet 5 of 8.
  - Reinforcement bars designated (E) shall be epoxy coated.
  - Bars indicated thus 137 x 2-#4 etc. indicates 137 lines of bars with 2 lengths per line.
  - Formwork necessary for the wearing surface may be secured utilizing the bottom North rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.
  - Forming of the Parapet shall be performed by conventional methods. Slipforming of the parapet is prohibited.

**MIN. BAR LAP**  
 #4 = 2'-5"  
 #5 = 3'-0"  
 #8 = 6'-4"

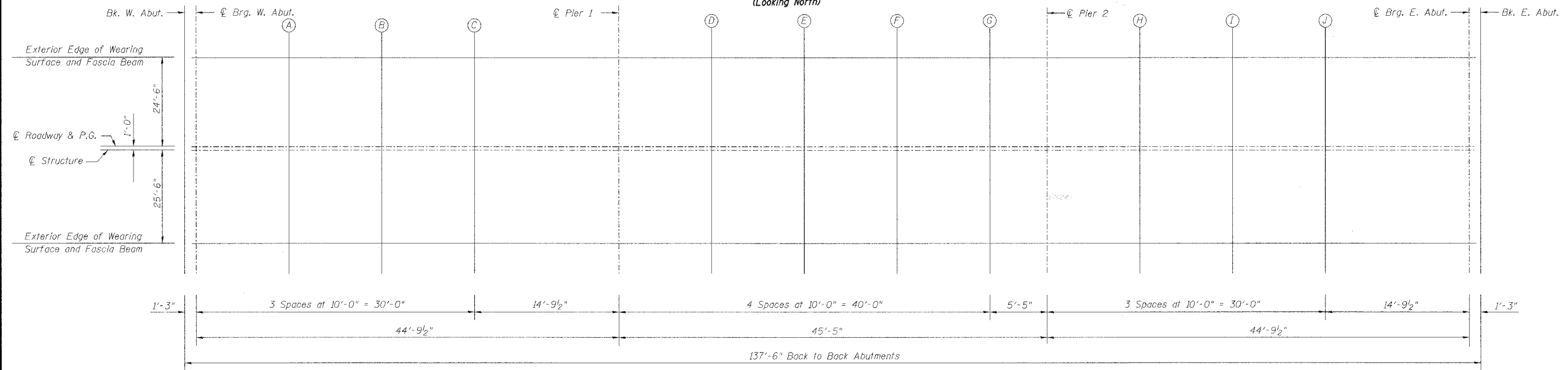
SUPERSTRUCTURE DETAILS				Sheet No.
Date	Designed	DCS	F.A.U. 7359 (MOUND RD.) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 PROP. STR. NO. 058-3062	3 of 8
Revisions	Drawn	BKN		
	Checked	TDN		
	Approved	KWB		
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526			

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 7359	09-00702-00-BR	MACON	12	7
FED. ROAD DIST. NO.		ILLINOIS	PROJECT BHM-5169(37)	

CONTRACT NO. 95512



**WEARING SURFACE  
LONGITUDINAL CROSS SECTION  
(Looking North)**



**PLAN**

**TOP OF WEARING SURFACE ELEVATIONS**

**☉ ROADWAY & PG**

Location	Station	Offset	Grade Elevation
Bk. W. Abut.	14+31.25	0.00	97.51
☉ Brg. W. Abut.	14+32.50	0.00	97.52
A	14+42.50	0.00	97.56
B	14+52.50	0.00	97.61
C	14+62.50	0.00	97.67
☉ Pier 1	14+77.29	0.00	97.77
D	14+87.29	0.00	97.84
E	14+97.29	0.00	97.93
F	15+07.29	0.00	98.02
G	15+17.29	0.00	98.11
☉ Pier 2	15+22.71	0.00	98.17
H	15+32.71	0.00	98.28
I	15+42.71	0.00	98.39
J	15+52.71	0.00	98.51
☉ Brg. E. Abut.	15+67.50	0.00	98.70
Bk. E. Abut.	15+68.75	0.00	98.72

**☉ STRUCTURE**

Location	Station	Offset	Grade Elevation
Bk. W. Abut.	14+31.25	1.00	97.53
☉ Brg. W. Abut.	14+32.50	1.00	97.53
A	14+42.50	1.00	97.58
B	14+52.50	1.00	97.63
C	14+62.50	1.00	97.69
☉ Pier 1	14+77.29	1.00	97.78
D	14+87.29	1.00	97.86
E	14+97.29	1.00	97.94
F	15+07.29	1.00	98.03
G	15+17.29	1.00	98.13
☉ Pier 2	15+22.71	1.00	98.18
H	15+32.71	1.00	98.29
I	15+42.71	1.00	98.41
J	15+52.71	1.00	98.53
☉ Brg. E. Abut.	15+67.50	1.00	98.72
Bk. E. Abut.	15+68.75	1.00	98.74

**EDGES OF WEARING SURFACE  
AND FASCIA BEAMS**

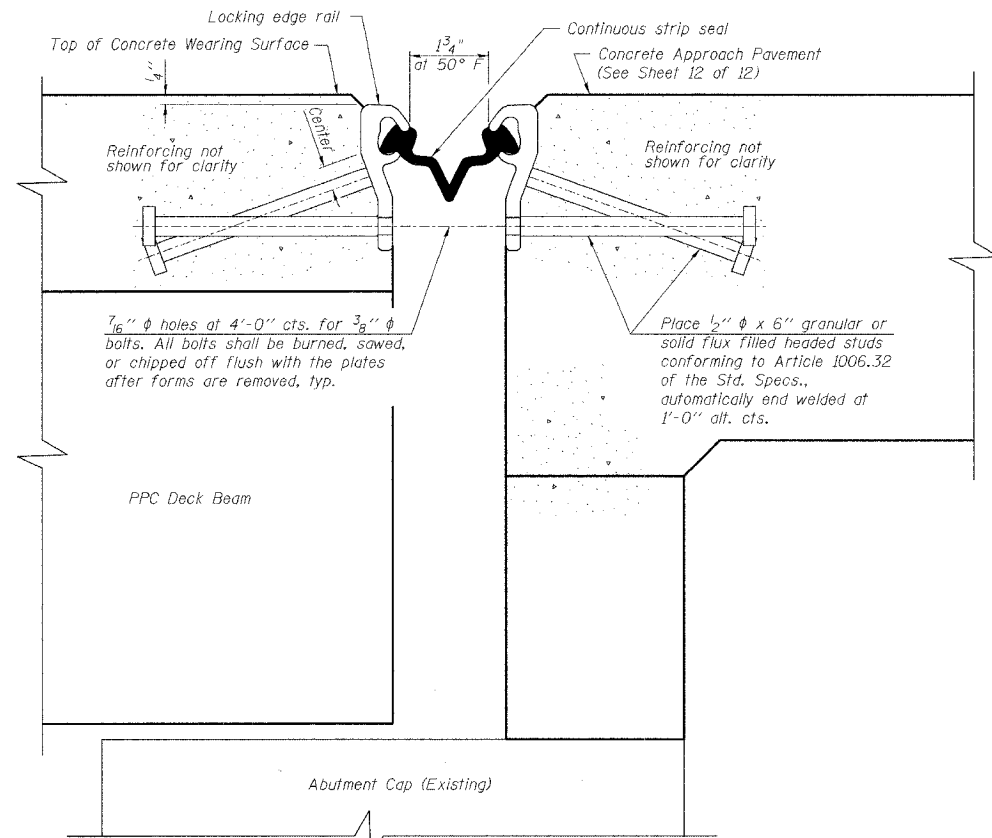
Location	Station	Offset	Grade Elevation
Bk. W. Abut.	14+31.25	+25.5	97.13
☉ Brg. W. Abut.	14+32.50	+25.5	97.13
A	14+42.50	+25.5	97.18
B	14+52.50	+25.5	97.23
C	14+62.50	+25.5	97.29
☉ Pier 1	14+77.29	+25.5	97.39
D	14+87.29	+25.5	97.46
E	14+97.29	+25.5	97.54
F	15+07.29	+25.5	97.63
G	15+17.29	+25.5	97.73
☉ Pier 2	15+22.71	+25.5	97.79
H	15+32.71	+25.5	97.89
I	15+42.71	+25.5	98.01
J	15+52.71	+25.5	98.13
☉ Brg. E. Abut.	15+67.50	+25.5	98.32
Bk. E. Abut.	15+68.75	+25.5	98.34

**CONCRETE WEARING SURFACE ELEVATIONS**

Date	Designed DCS	<b>F.A.U. 7359 (MOUND RD.) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 PROP. STR. NO. 058-3062</b>	Sheet No.
Revisions	Drawn DCS		<b>4</b>
	Checked TDN		of 8
	Approved KWB		URS Job No.
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526		36431697

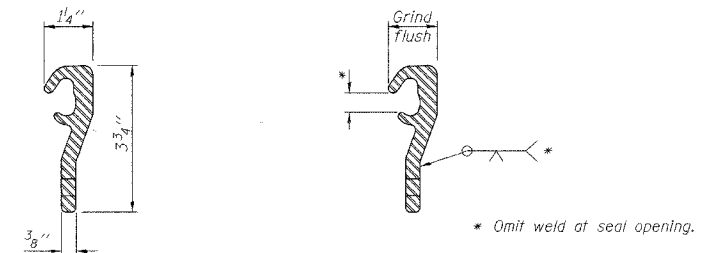
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 7359	09-00702-00-BR	MACON	12	8
FED. ROAD DIST. NO.		ILLINOIS PROJECT BHM-5163(37)		

CONTRACT NO. 95512



**SECTION A-A**  
**SECTION THRU STRIP SEAL JOINT**  
**FOR OVERLAY OVER DECK BEAMS**

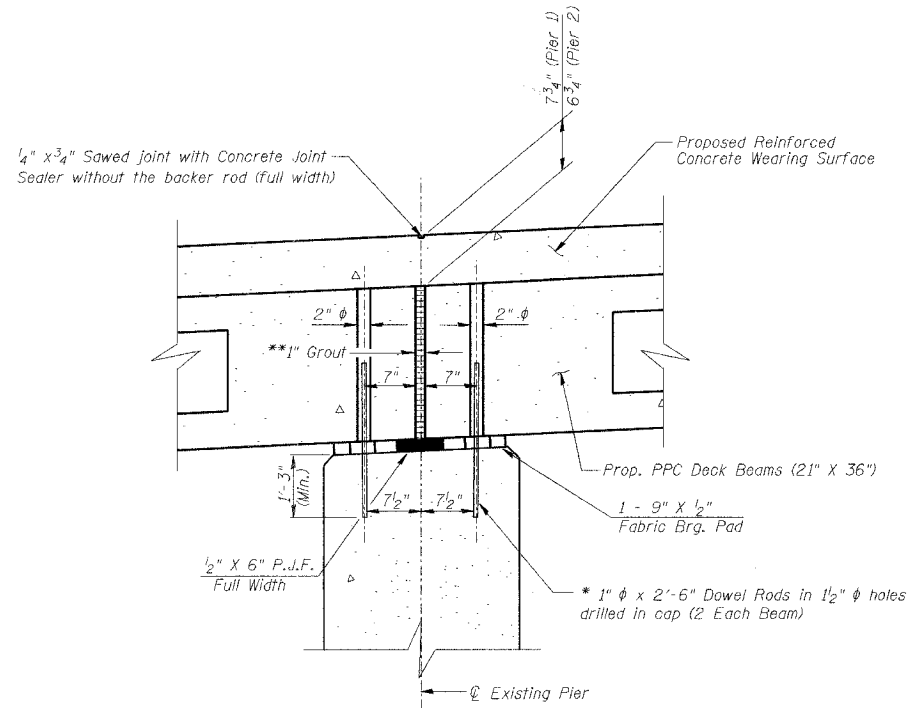
(For section location see sheet 3 of 8)



**LOCKING EDGE RAIL**      **LOCKING EDGE RAIL SPLICE**

**Notes:**  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.  
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.  
The inside of the Locking Edge Rail groove shall be free of weld residue.  
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.  
The manufacturer's recommended installation methods shall be followed.

**SECTION THRU JOINT AT ABUTMENT**



**SECTION THRU PIER**

(At Rt. Angles)  
\*After the beams are in place, 1 1/2" diameter holes shall be drilled into the bridge seat, and the dowel rods grouted and allowed to cure (min. 24 hrs.) prior to grouting the shear keys. The grout shall be an approved non-shrink grout.  
\*\*1" Joint shall be filled with an approved non-shrink grout in place and allowed to cure 24 hrs. 1" dimension may vary plus or minus to accommodate tolerance in beam lengths.  
Before new beams are set, any remaining dowel rods are to be cut off flush with top surface of pier cap.

**EXPANSION JOINT QUANTITY**

Item	Unit	Quantity
Strip Seal Expansion Joint Assembly	Foot	102

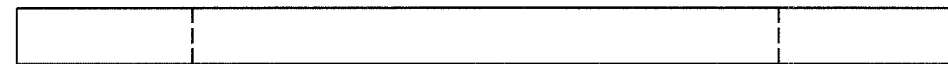
**JOINT DETAILS**

Date	Designed DCS	F.A.U. 7359 (MOUND RD.) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 PROP. STR. NO. 058-3062	Sheet No.
Revisions	Drawn BKN		<b>5</b>
	Checked TDN		
	Approved KWB		
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526		
			URS Job No. 36431697

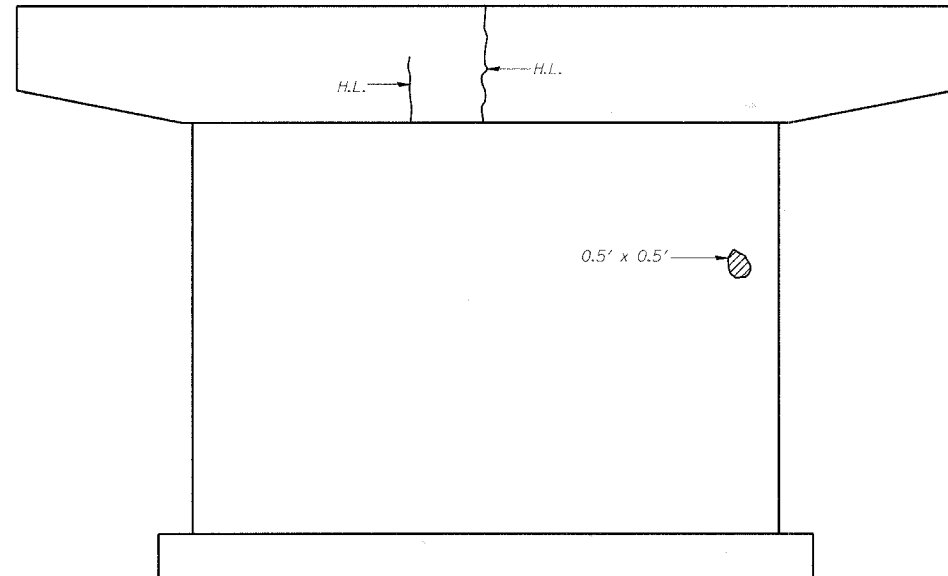


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 7359	09-00702-00-BR	MACON	12	9
FED. ROAD DIST. NO.	ILLINOIS PROJECT BHM-5169(37)			

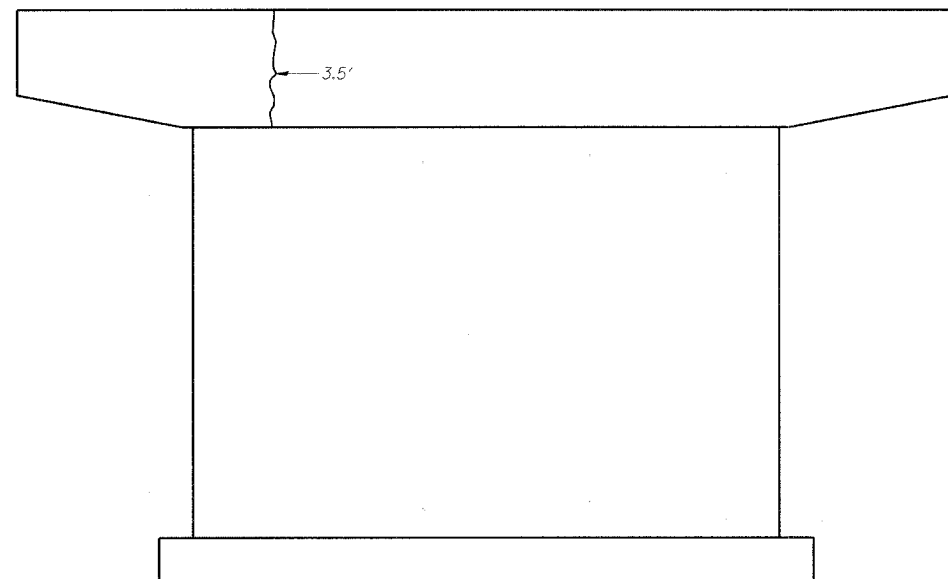
CONTRACT NO. 95512



PIER 1 - PLAN



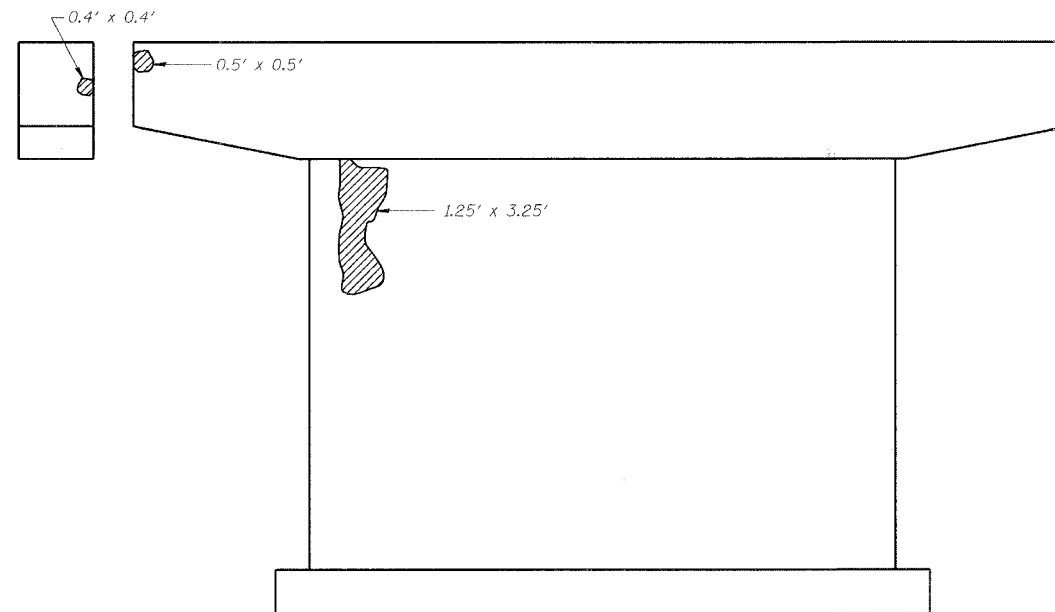
PIER 1 - ELEVATION  
(Looking East)



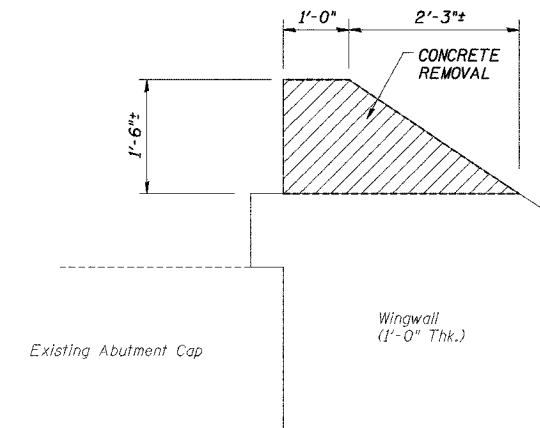
PIER 1 - ELEVATION  
(Looking West)



PIER 2 - PLAN

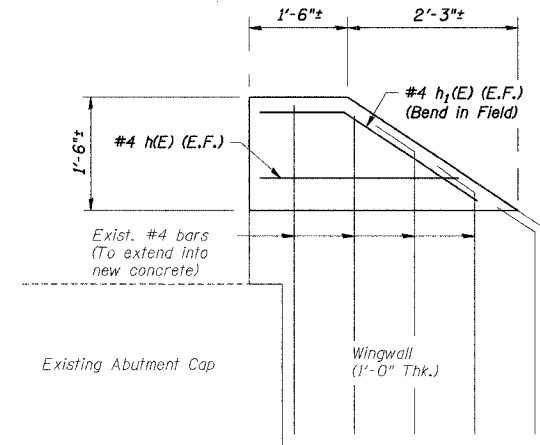


PIER 2 - ELEVATION  
(Looking West)



ELEVATION

SHOWING CONCRETE REMOVAL



ELEVATION

SHOWING CONCRETE REPLACEMENT

CONCRETE REPLACEMENT DETAIL

(AT ALL WINGWALLS)

Notes: Partial removal of concrete shall be performed per IDOT Standard Specification Art. 501.05.

Replacement concrete shall be cast against the in-place beam.

BILL OF MATERIAL - 4 WINGWALLS

Bar	No.	Size	Length	Shape
ME	8	#4	3'-4"	—
h1(E)	8	#4	3'-8"	—
Concrete Removal			Cu. Yd.	0.5
Concrete Structures			Cu. Yd.	0.6
Reinforcement Bars, Epoxy Coated			Pound	40

LEGEND

Polymer Modified Portland Cement Mortar Repair

3.5' Epoxy Crack Injection

H.L. Hairline Crack - Not to be sealed

Note: Crack Widths are 1/8" ± 1/16" unless otherwise noted.

CONCRETE REPAIR QUANTITIES

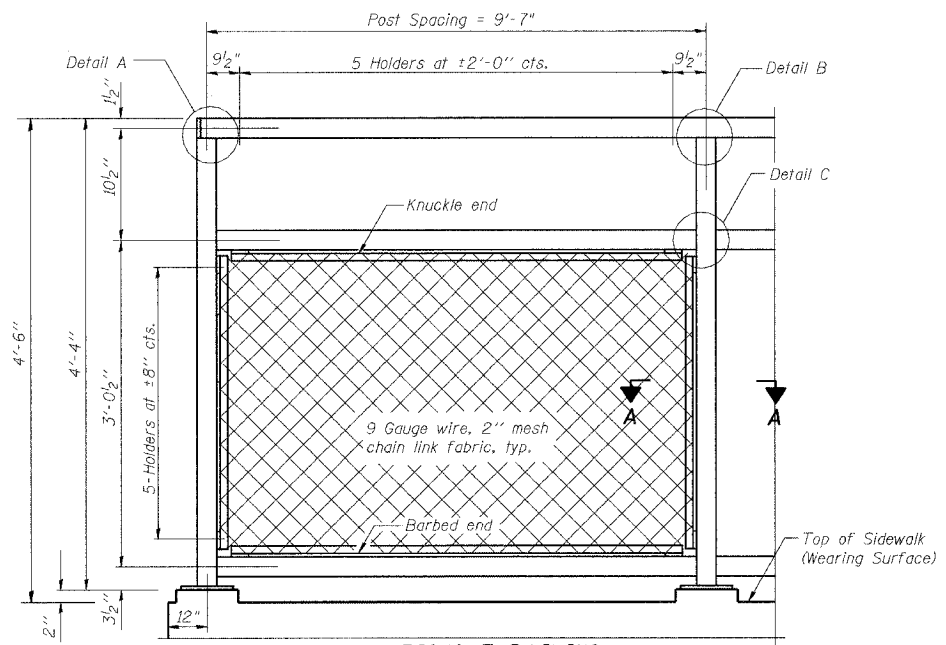
Item	Unit	Quantity
Polymer Modified Portland Cement Mortar	Sq Ft	4.7
Epoxy Crack Injection	Foot	3.5

CONCRETE REMOVAL, REPLACEMENT AND REPAIR DETAILS

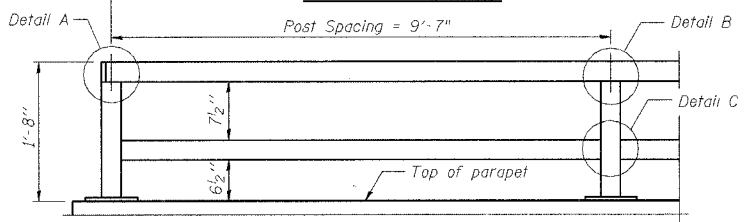
Date	Designed DCS	F.A.U. 7359 (MOUND RD.) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 PROP. STR. NO. 058-3062	Sheet No.
Revisions	Drawn BKN		6
	Checked TDN		
	Approved KWB		
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		
		URS Job No.	36431697

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 7359	09-00702-00-BR	MACON	12	10
FED. ROAD DIST. NO.	ILLINOIS PROJECT	BHM-5169(37)		

CONTRACT NO. 95512

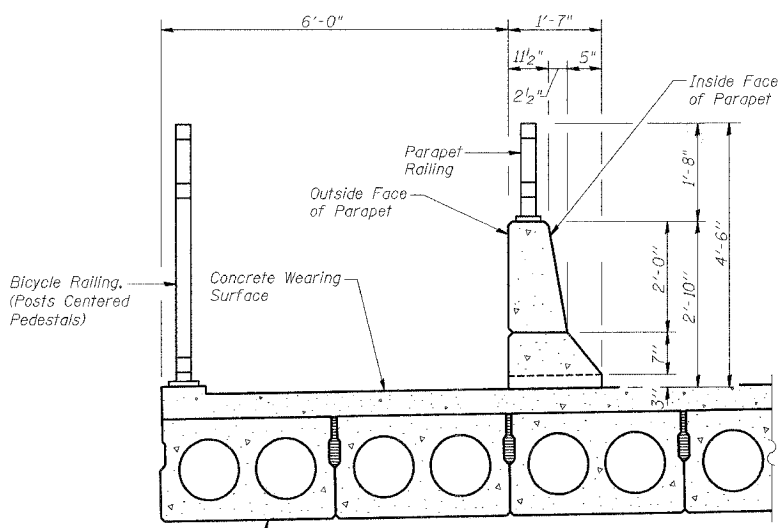
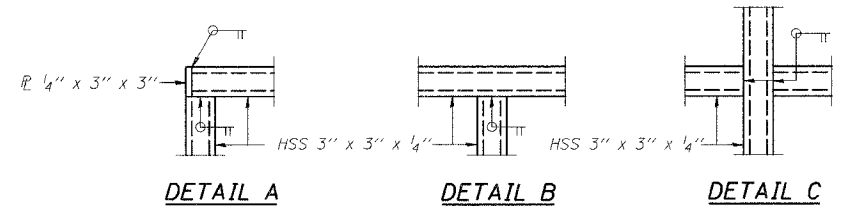


**BICYCLE RAILING**



**PARAPET RAILING ELEVATION**

(Inside Face of Two Element Rail)

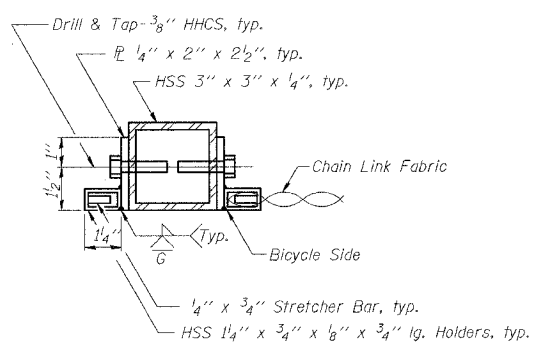


**SECTION THRU SIDEWALK**

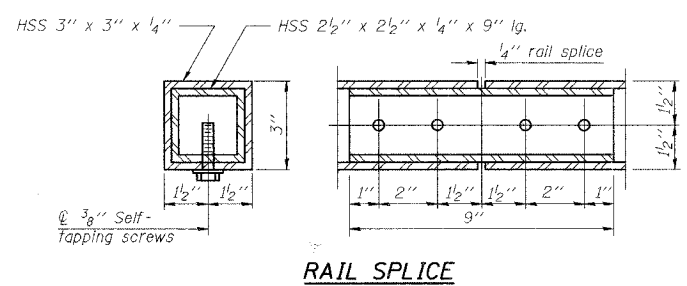
(Looking West)

**NOTES**

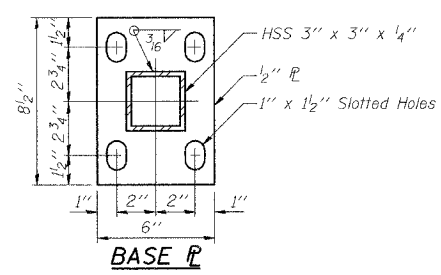
Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the Contract Unit Price per foot for Bicycle Railing.  
 The 9 gauge fabric ties shall be according to Article 1006.27 (d) of the Standard Specifications.  
 Installation of the chain link fabric shall be according to Section 664 of the Standard Specifications.  
 Hollow structural sections shall conform to the requirements of ASTM designation A 500, Grade B, structural steel tubing.  
 All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36.  
 The Parapet Railing, furnished and installed shall not be paid for separately but shall be included in the unit bid price for Bicycle Railing.  
 The chain link fabric shall be placed along Bicycle Side as shown on Section A-A.  
 Stretcher bars shall be used at all four sides of each panel.  
 If the option of drilling and epoxy grouting the anchor rods is chosen, the Contractor shall use the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures. The capsule or the adhesive cartridge shall be sealed with pre-measured amounts of the adhesive chemical.  
 Space reinforcement to miss anchor rods.  
 All posts, railing, splices, anchor devices, and bent plates shall be galvanized after shop fabrication according to AASHTO M111 and ASTM A 385. All bolts, nuts, washers, and anchor rods shall be galvanized according to AASHTO M 232 except stainless steel bolts as noted.  
 Vent holes for galvanizing shall be placed in the posts and rails at locations that will not allow the accumulation of moisture in the members.  
 The chain link fabric shall conform to the requirements of Article 1006.27(a)(1)a, b or c of the Standard Specifications.



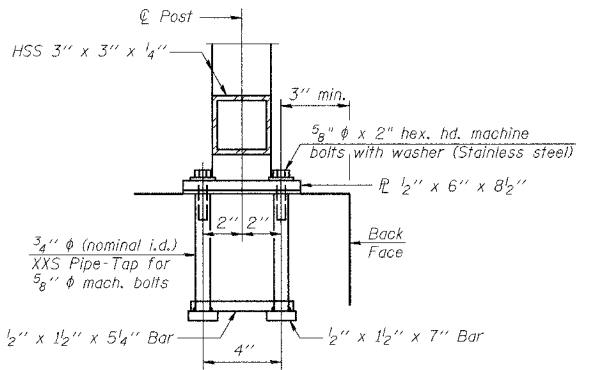
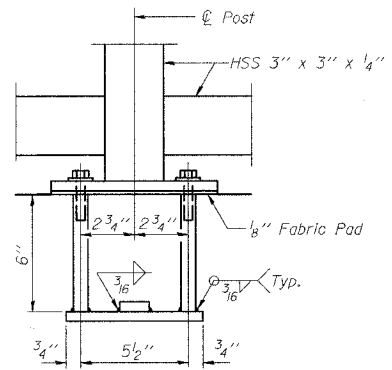
**SECTION A-A**



**RAIL SPLICE**



**BASE R**

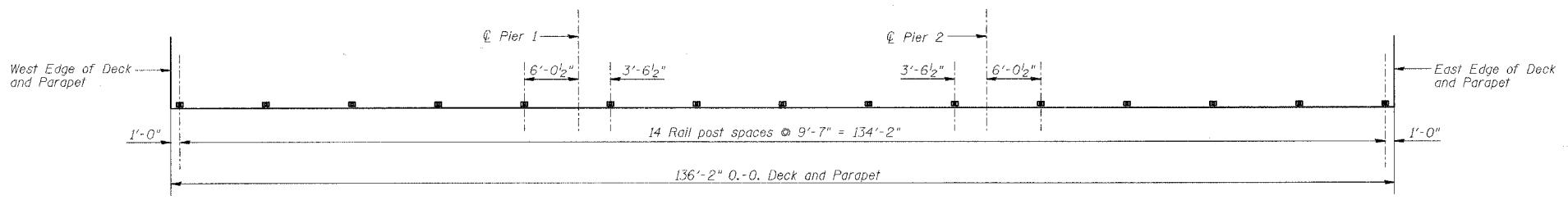


**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and epoxy grouting 3/8" anchor rods. Embedment shall be according to the manufacturer's specifications.

**BILL OF MATERIAL**

Item	Unit	Quantity
Bicycle Railing	Foot	137

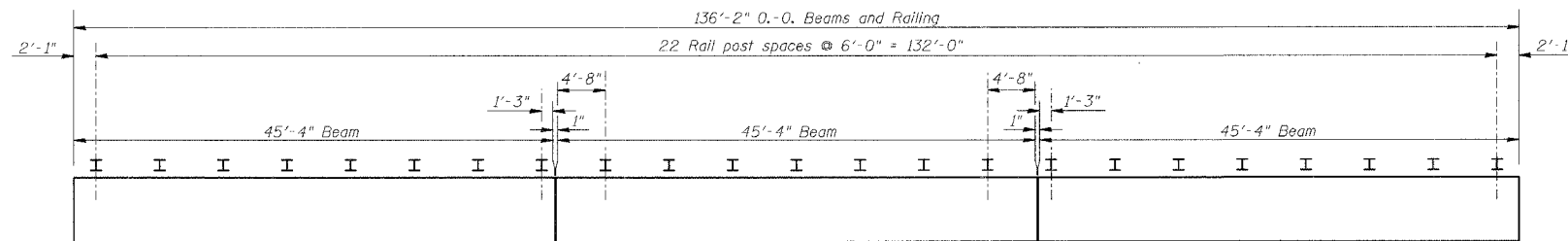


**PLAN VIEW - SOUTH SIDE OF BRIDGE**

(Showing Rail Post Spacing for Bicycle and Parapet Railing)

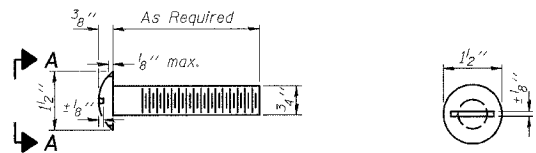
BICYCLE & PARAPET RAILING			
Date	Designed DCS	F.A.U. 7359 (MOUND RD.) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 PROP. STR. NO. 058-3062	Sheet No.
Revisions	Drawn BKN		<b>7</b>
	Checked TDN		
	Approved KWB		
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526		
		URS Job No.	36431697

ROUTE NO.	SECTION	COUNTY	TOTAL SHEET NO.
F.A.U. 7359	09-00702-00-BR	MACON	12 II
FED. ROAD DIST. NO.	ILLINOIS PROJECT BHM-5169K371	CONTRACT NO. 95512	

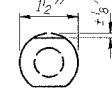


**PLAN VIEW - NORTH BEAMS**  
(Showing Rail Post Spacing)

**DETAIL OF 3/4\"/>**



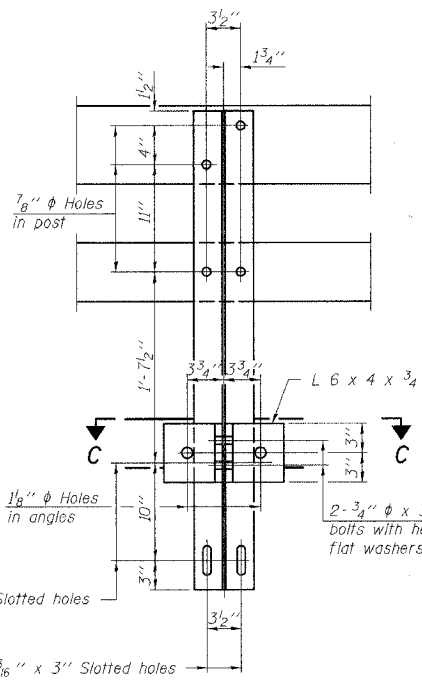
With Slot



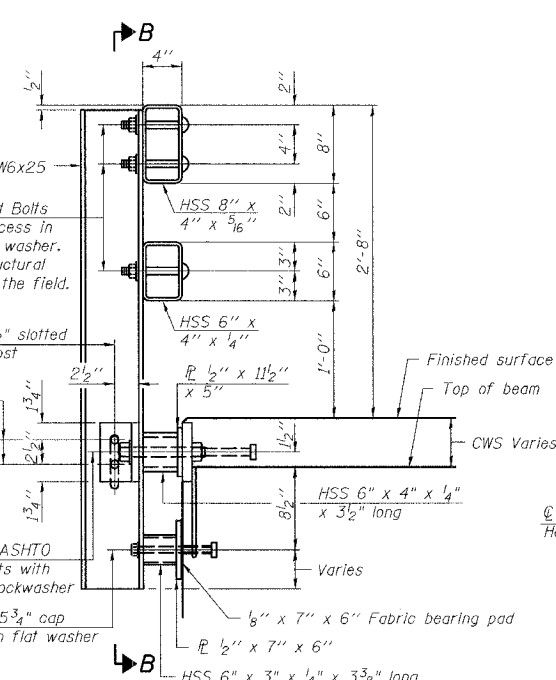
Without Slot or Recess

**VIEW A-A**

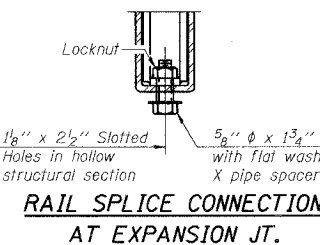
4-3/4\"/>



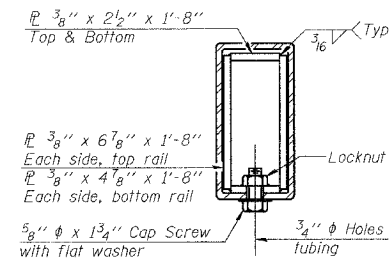
**SECTION B-B**



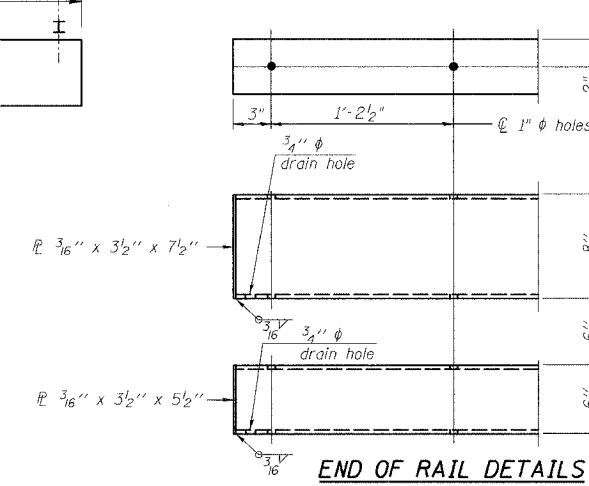
**SECTION AT RAIL POST**



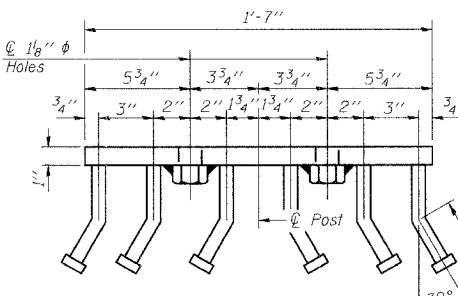
**RAIL SPLICE CONNECTION AT EXPANSION JT.**



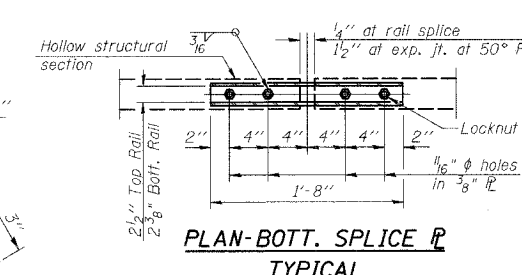
**SECTION AT RAIL SPLICE**



**END OF RAIL DETAILS**



**VIEW D-D**



**PLAN-BOTT. SPLICE TYPICAL**

**NOTES**

Follow 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 Railing, Type SM.

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

For multi-span bridges, sufficient 1/4\"/>

The 3/4\"/>

The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type SM	Foot	137

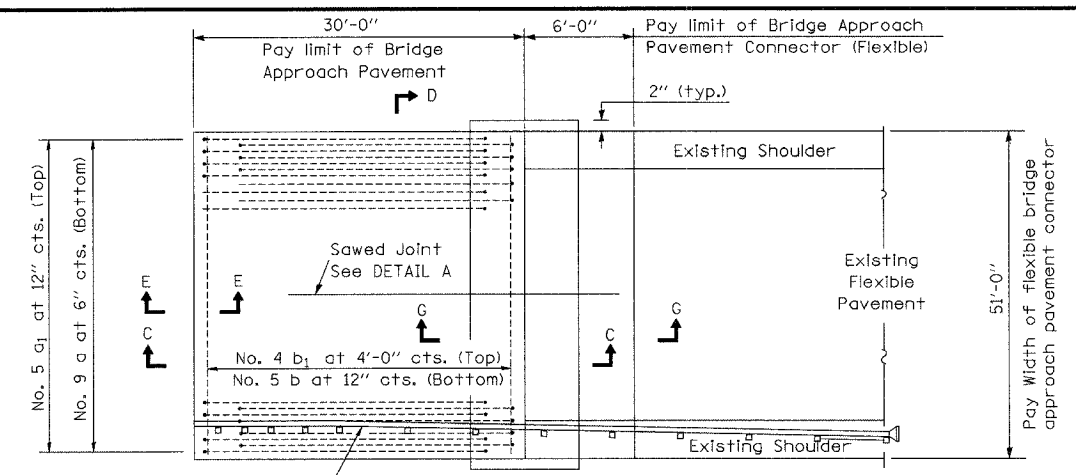
**TYPE SM STEEL BRIDGE RAIL SIDE MOUNTED WITH CONCRETE WEARING SURFACE**

Date	Designed DCS	F.A.U. 7359 (MOUND RD.) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 PROP. STR. NO. 058-3062	Sheet No.
Revisions	Drawn BKN		<b>8</b>
	Checked TDN		
	Approved KWB		
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526		
		URS Job No.	36431697

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 7359	09-00702-00-BR	MACON	12	12
FED. ROAD DIST. NO.		ILLINOIS PROJECT: BHM-5169(37)		

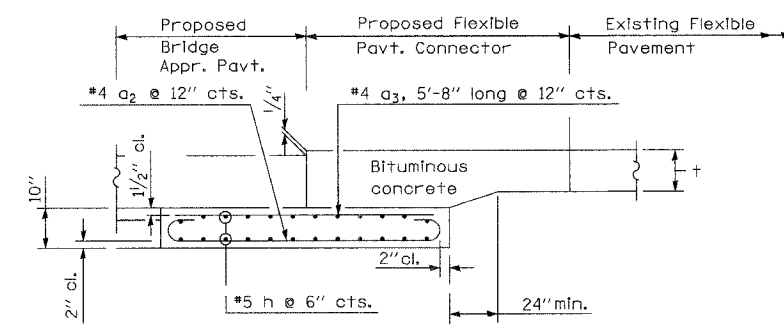
CONTRACT NO. 95512



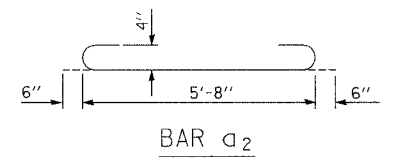
Steel Plate Beam Guardrail - South Side, West Approach Only. See General Notes. Arrange reinforcing to avoid Guardrail Posts.

**BRIDGE APPROACH PAVEMENT CONNECTOR**

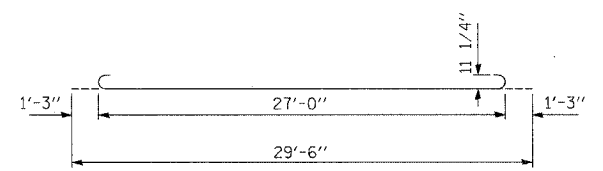
\* Saw  $\perp$  or lane edge if poured two or more lane widths at a time



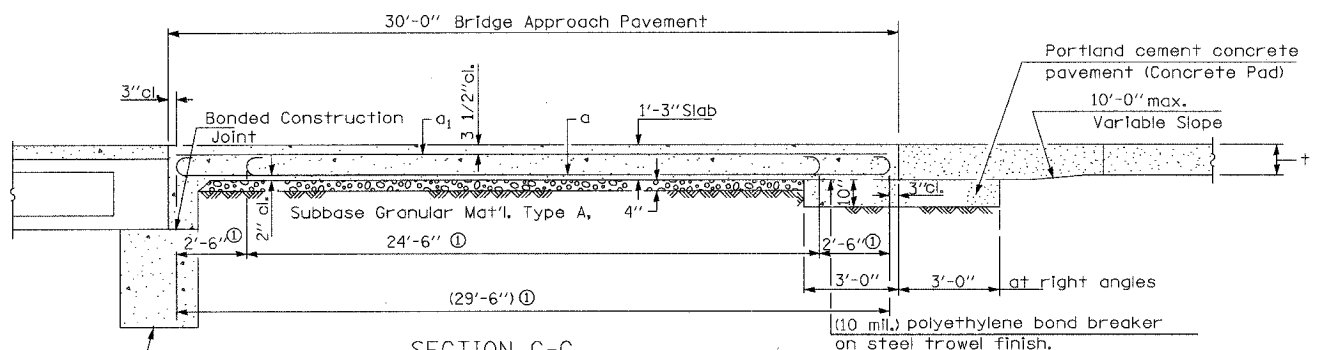
SECTION G-G (Showing reinforcement)



BAR a<sub>2</sub>

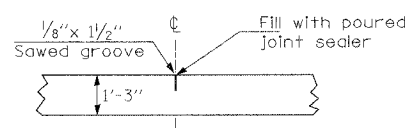


BAR a



SECTION C-C

ⓐ Stagger No. 9 a bars as shown on plan - full width



DETAIL A (Reinforcement Not Shown)

**GENERAL NOTES**

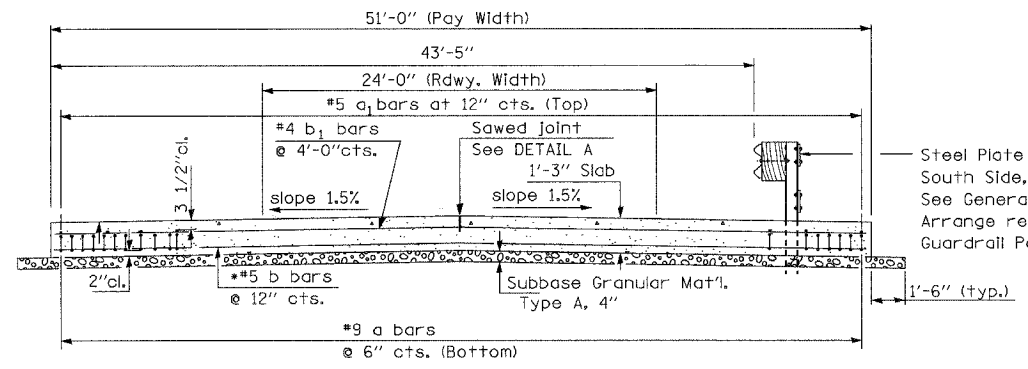
THICKNESS-"t"=Thickness of Pavement.  
See Standard 420001 for joint details not shown.  
See Sheets 2 and 3 of 12, Standards 630001-07, 630301-04 and B.L.R. 20-4 for guardrail details.  
All items necessary to construct Bridge Approach Pavement and Bridge Approach Pavement Connector (Flexible) shall be paid for according to IDOT Standard Specification Art. 420.19.

**DESIGN STRESSES**

$f_y = (60,000 \text{ p.s.i.})$   
 $f'_c = (3,500 \text{ p.s.i.})$   
 $n = 8.5$

**BILL OF MATERIAL**

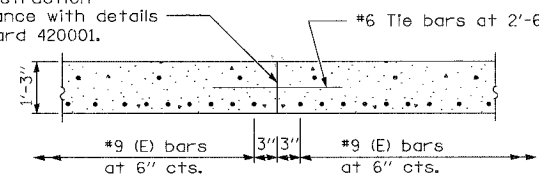
Item	Unit	Quantity
Bridge Approach Pavement	Sq. Yds.	340
Bridge Approach Pavement Connector (Flexible)	Sq. Yds.	68
Protective Coat	Sq. Yds.	340



SECTION D-D

(See Plan for Dimensions not shown) All reinforcement bars shall be epoxy coated.

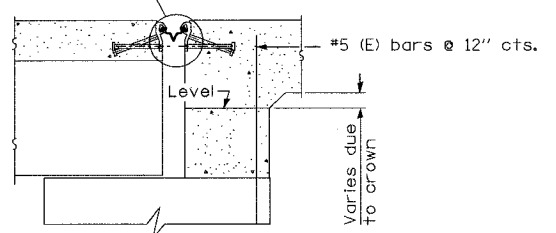
Longitudinal Construction Joint in accordance with details shown on Standard 420001.



OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

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

Strip Seal Expansion Joint Assembly (See Sheet 8 of 12)



SECTION E-E

APPROACH PAVEMENT DETAILS		
Date	Designed DCS	FAU 7359 (MOUND ROAD) OVER STEVENS CREEK CITY OF DECATUR STA. 15+00.00 STR. NO. 058-3062
Revisions	Drawn DCS	
	Checked TDN	
	Approved KWB	
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526	URS Job No. 36431697