

\* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

**NOTES:**

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

**SEQUENCE OF CONSTRUCTION (PATCHING FIRST)**

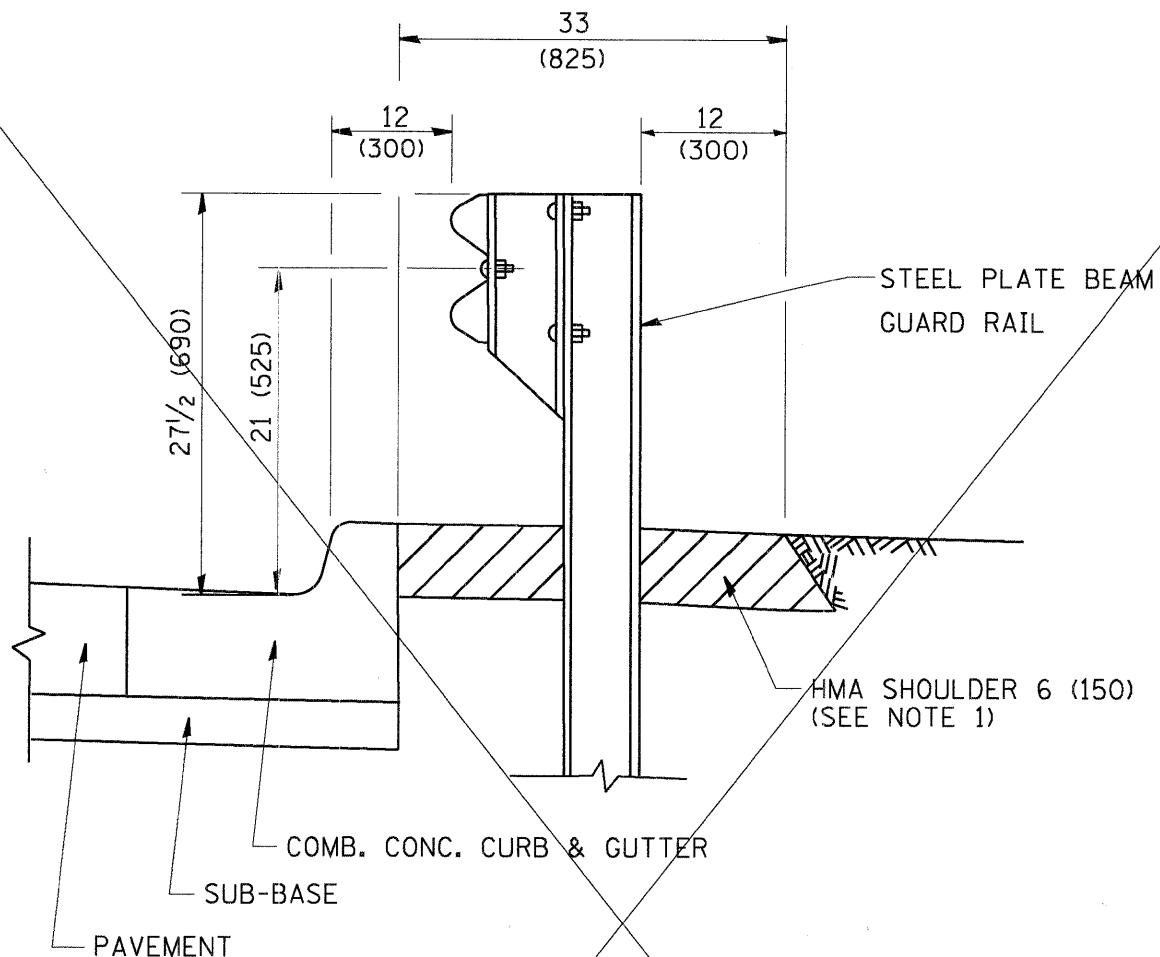
1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

**SEQUENCE OF CONSTRUCTION (MILLING FIRST)**

1. MILL HMA FIRST IF THERE IS AT LEAST 4 1/2 INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = c:\projects\distad22x34\bd22.dgn	USER NAME = bauerdl	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT</b>			F.A.P. RTE. 361	SECTION 06-00214-20-BR	COUNTY KANE	TOTAL SHEETS 320	SHEET NO. 101
	PLOT SCALE = 50.000' / IN.	DRAWN -	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	<b>BD400-04 (BD-22)</b>		CONTRACT NO. 63075	
	PLOT DATE = 10/27/2008	CHECKED -	REVISED - R. BORO 09-04-07		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							
		DATE - 10-25-94	REVISED - K. ENG 10-27-08									

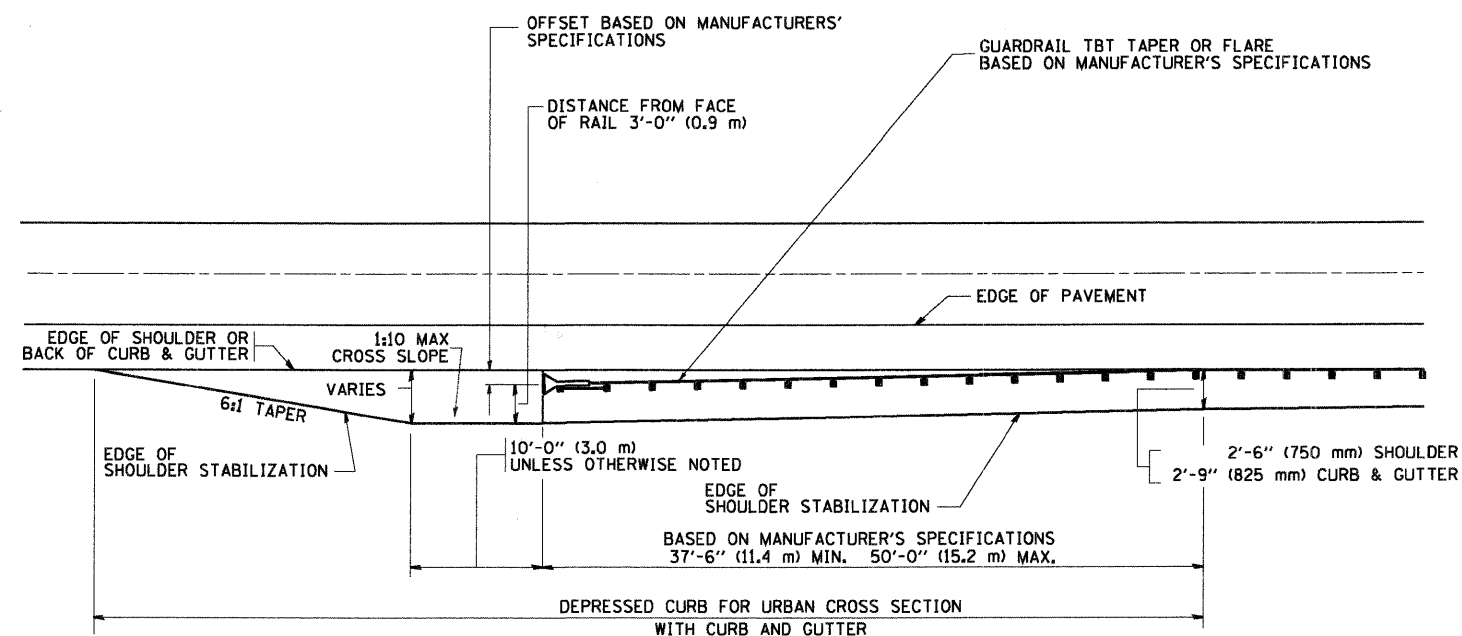


- NOTES: 1. THE HMA SHOULDER SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL
2. GUARD RAIL MAY BE PLACED AT THE BACK OF CURB WHEN DIRECTED BY THE ENGINEER.

BASIS OF PAYMENT: HMA SHOULDER 6 (150) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDER 6" (150 mm)".

STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

**DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER**  
 [FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



**STABILIZATION AT TBT TY. 1 SPL.**

TBT = TRAFFIC BARRIER TERMINAL  
 ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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 PLOT DATE = 1/4/2008

DESIGNED - M. DE YONG  
 DRAWN -  
 CHECKED -  
 DATE - 09-22-90

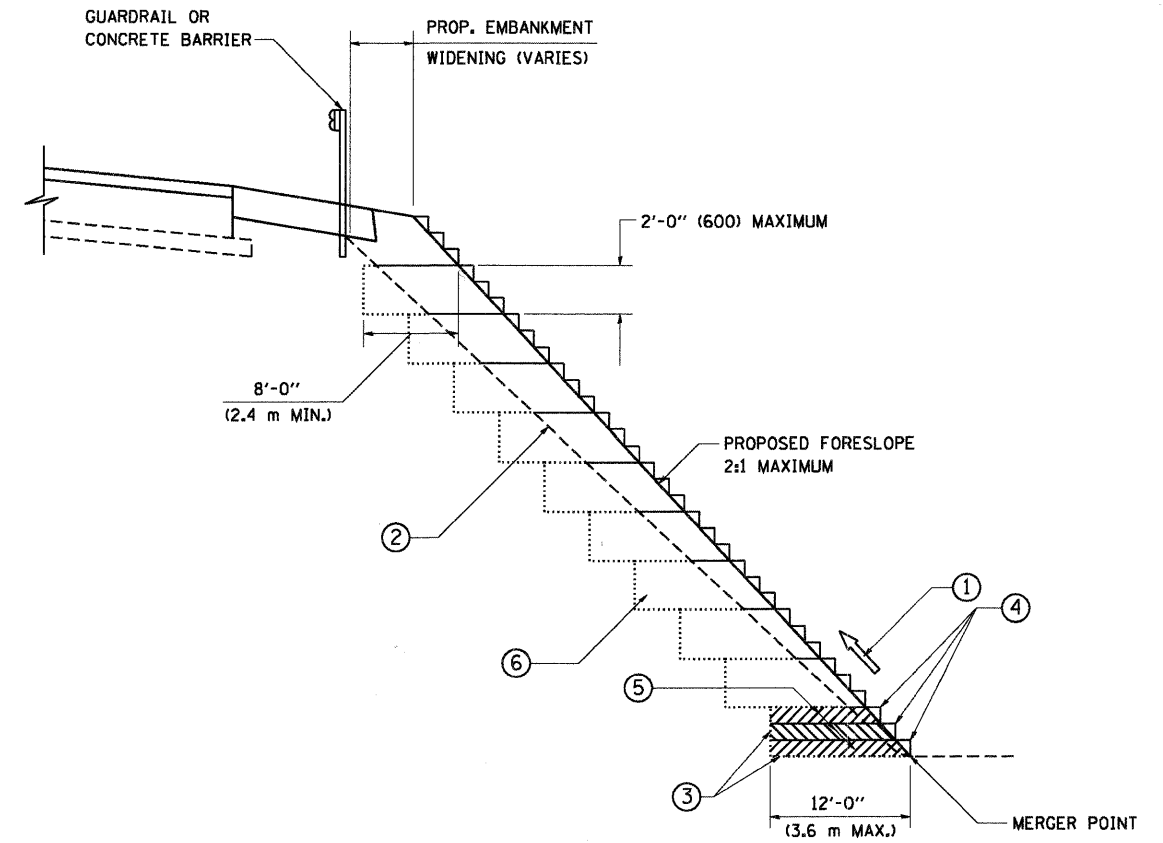
REVISED - R. SHAH 02-23-95  
 REVISED - A. ABBAS 03-21-97  
 REVISED - E. GOMEZ 08-28-00  
 REVISED - R. BORO 01-01-07

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER STABILIZATION AT TBT TY 1 SPL.

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	102
BD600-10 (BD 34)			CONTRACT NO. 63075	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**TYPICAL BENCHING DETAIL  
FOR EMBANKMENT**

**NOTES:**

- ① CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
- ② EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
- ③ BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
- ④ TRIM TO FINAL SLOPE.
- ⑤ EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
- ⑥ EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- ⑦ SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

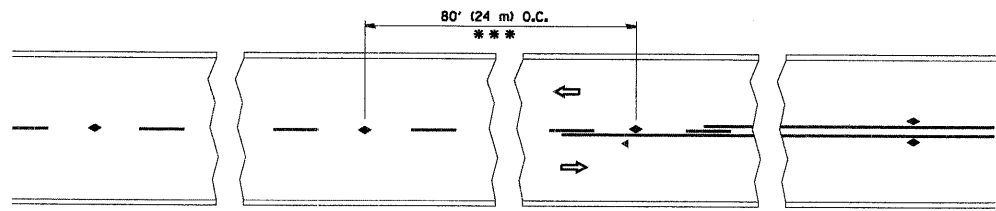
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)  
UNLESS OTHERWISE SHOWN.

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		DRAWN - CADD	REVISED -
		CHECKED - S.E.B.	REVISED -
		DATE - 06-16-04	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

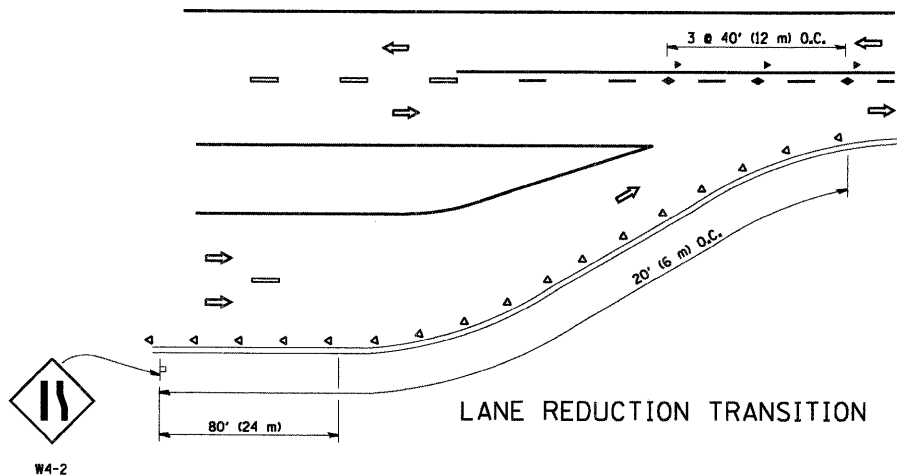
<b>BENCHING DETAIL FOR EMBANKMENT WIDENING</b>			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.R. RTE. 361	SECTION 06-00214-20-BR	COUNTY KANE	TOTAL SHEETS 320	SHEET NO. 103
<b>BD-51</b>		<b>CONTRACT NO. 63075</b>		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

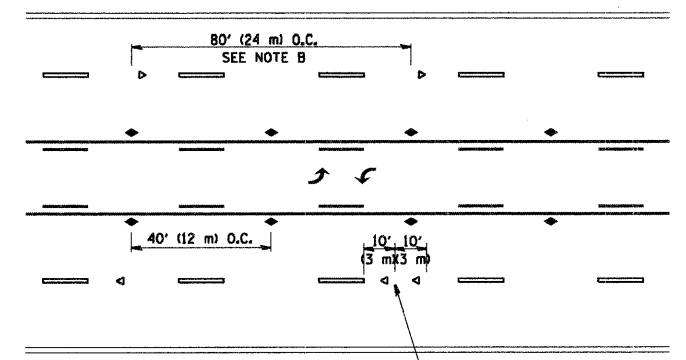


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

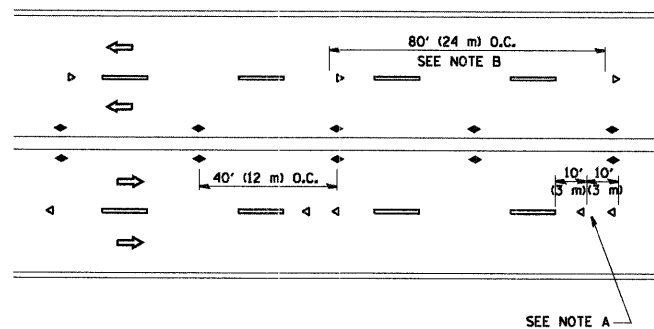
TWO-LANE/TWO-WAY



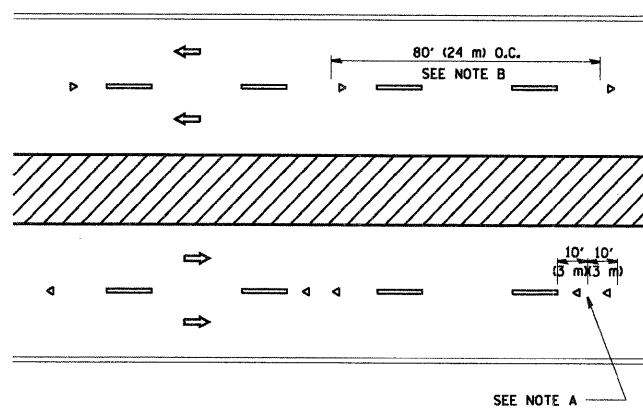
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

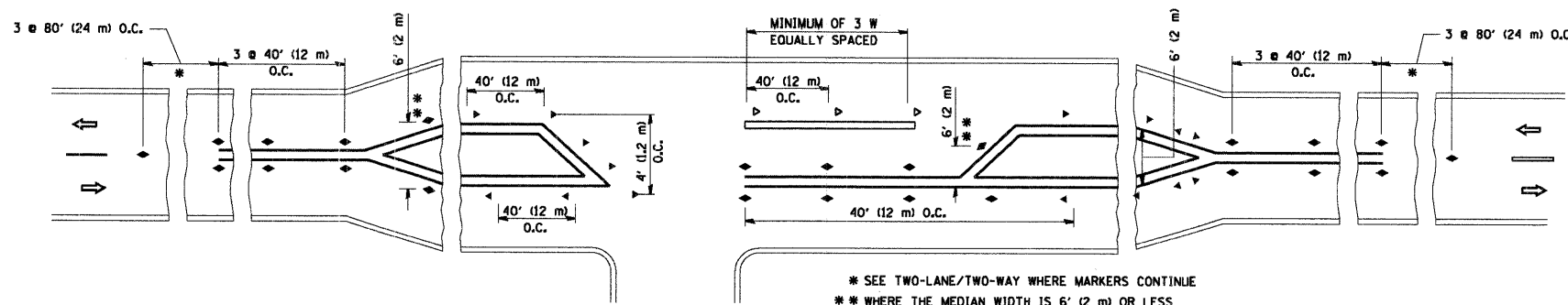
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

\* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE  
 \*\* WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

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

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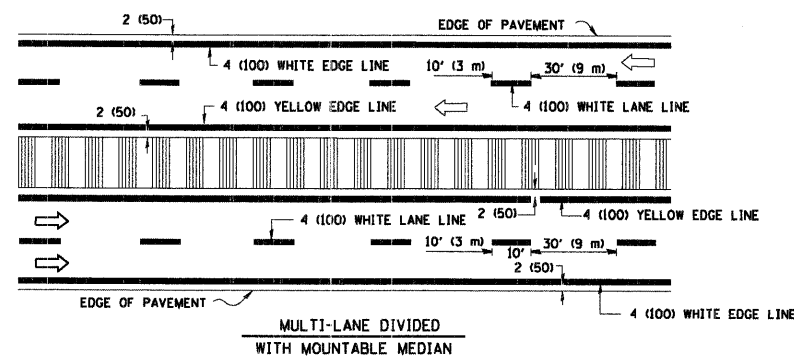
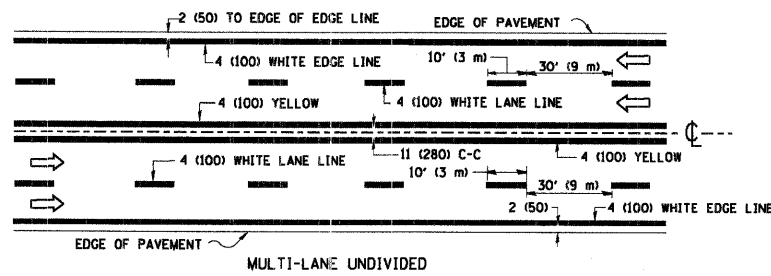
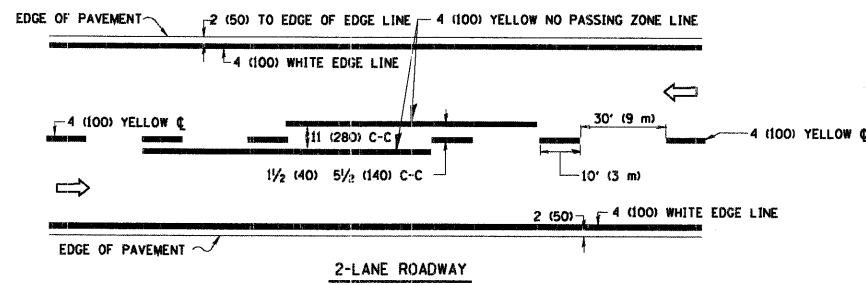
DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE -

REVISED - T. RAMMACHER 09-19-94  
 REVISED - T. RAMMACHER 03-12-99  
 REVISED - T. RAMMACHER 01-06-00  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

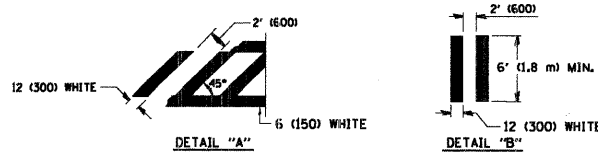
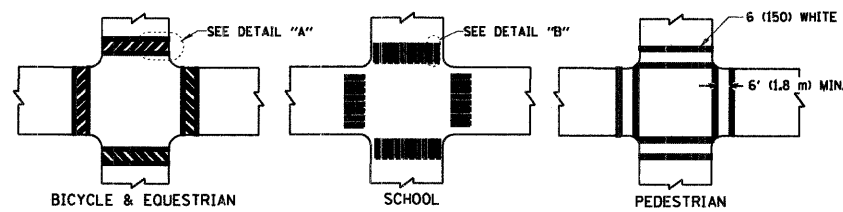
TYPICAL APPLICATIONS  
 RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)  
 SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-11			CONTRACT NO. 63075	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

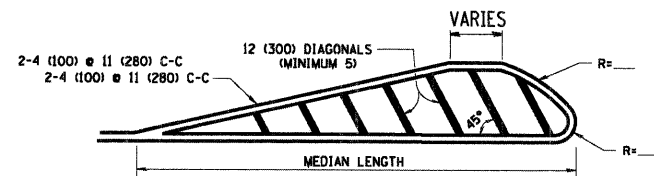
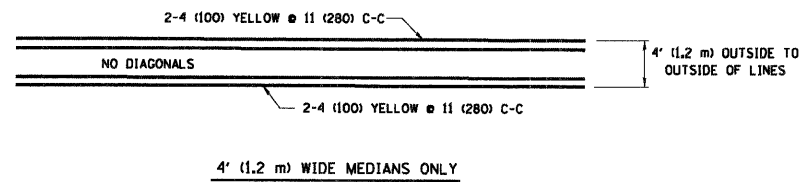


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

**TYPICAL LANE AND EDGE LINE MARKING**

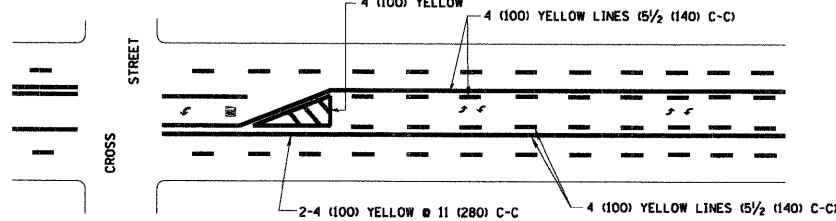


**TYPICAL CROSSWALK MARKING**

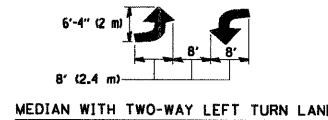


FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.  
 DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))  
 75' (25 m) C-C (30MPH (50 km/h) TO 45MPH (70 km/h))  
 150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

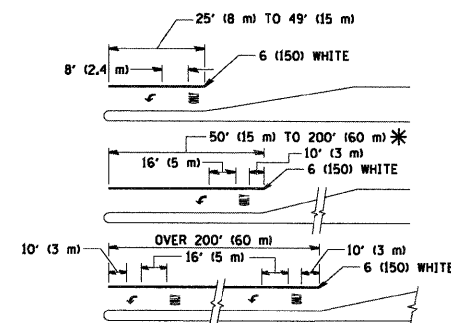
**MEDIANS OVER 4' (1.2 m) WIDE**



A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



**TYPICAL PAINTED MEDIAN MARKING**

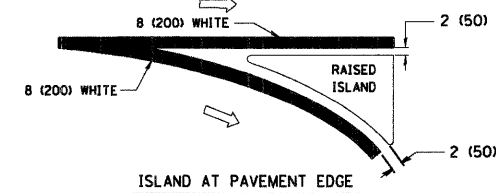
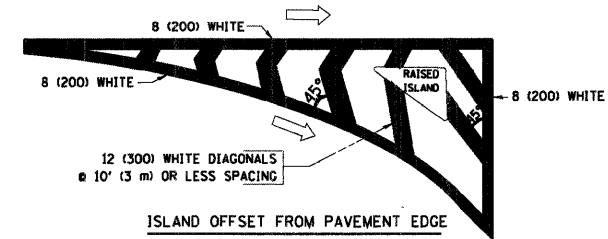


FULL SIZE LETTERS 8" (2.4 m) AND ARROWS SHALL BE USED.  
 AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

\* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

**TYPICAL LEFT (OR RIGHT) TURN LANE**

**TYPICAL TURN LANE MARKING**



**TYPICAL ISLAND MARKING**

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5 1/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8" (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5 1/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C (30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6" (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

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 PLOT DATE = 1/4/2008

DESIGNED - EVERS  
 DRAWN -  
 CHECKED -  
 DATE - 03-19-90

REVISED - T. RAMMACHER 10-27-94  
 REVISED - A. HOUSEH 10-09-96  
 REVISED - A. HOUSEH 10-17-96  
 REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

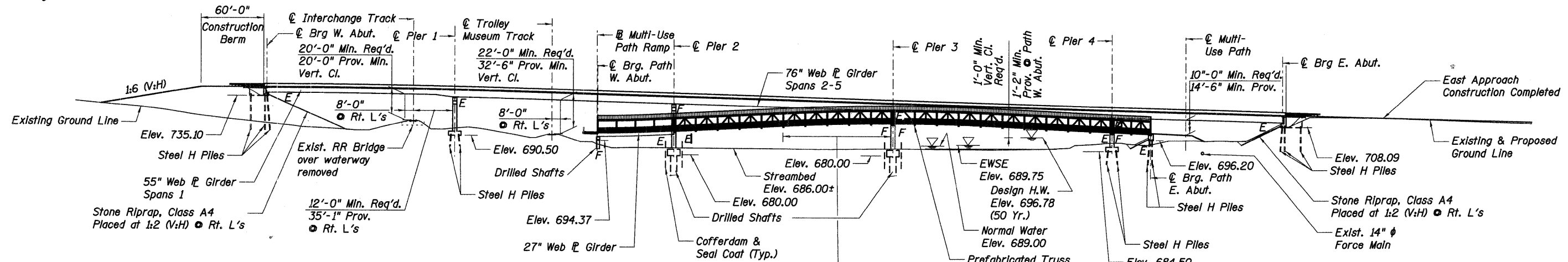
DISTRICT ONE  
 TYPICAL PAVEMENT MARKINGS

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	105
TC-13		CONTRACT NO. 63075		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	106
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. 51 OF 5108		

Bench Mark BM-19: "Aluminum Disk" set in concrete, 0.10± mile south of Gilbert St. on east side of IL 25 4' ± from split rail fence. Elev. 724.23.  
 Bench Mark BM-22: "Chiseled Box Cut" set at the top of concrete bridge headwall, at the NE corner of bridge at the SE corner of Stearns Road and Dunham Road. Elev. 767.36.  
 No Freefall deckdrains will be permitted in the span over the tracks or within 10' of cross arms of a railroad pole line.  
 Existing Structure: None



DESIGN SCOUR ELEVATION TABLE

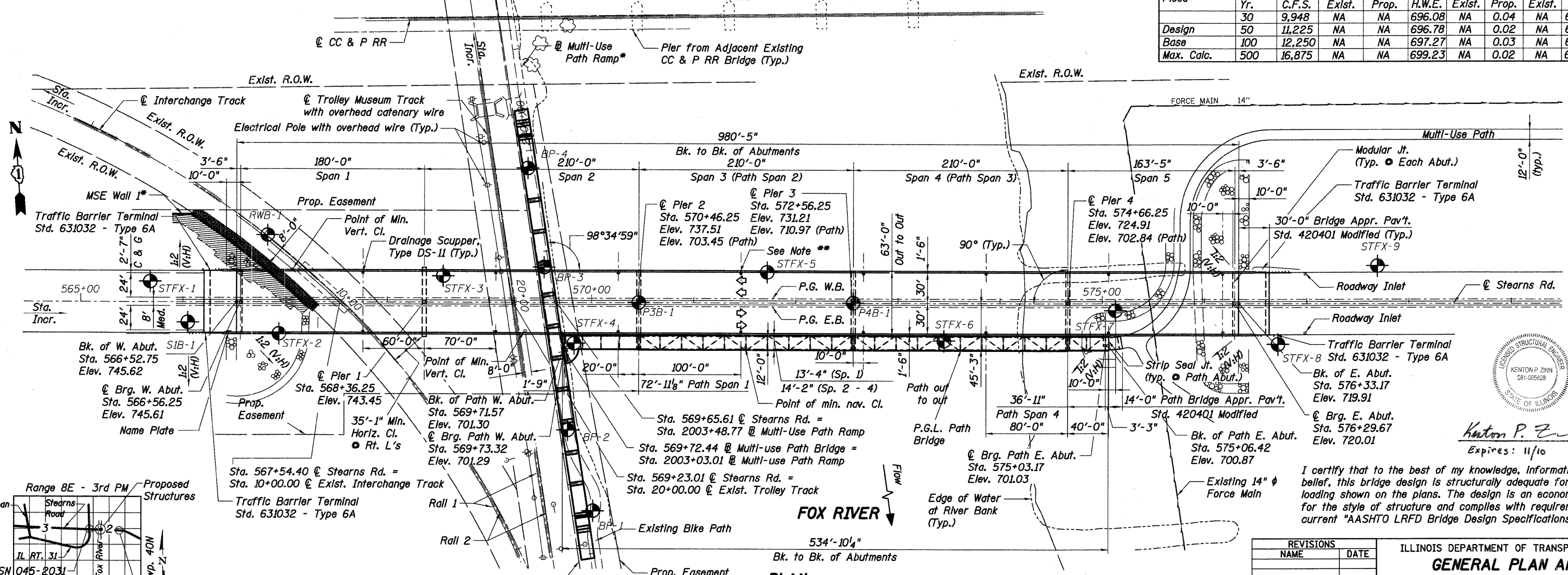
Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	E. Abut.
	735.10	695.50	678.30	678.30	678.00	708.09

WATERWAY INFORMATION

Drainage Area = 1,517 Sq. Mi.

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exlst.	Prop.		Exlst.	Prop.	Exlst.	Prop.
Design	30	9,948	NA	NA	696.08	NA	0.04	NA	696.12
Base	50	11,225	NA	NA	696.78	NA	0.02	NA	696.80
Max. Calc.	100	12,250	NA	NA	697.27	NA	0.03	NA	697.30
	500	16,875	NA	NA	699.23	NA	0.02	NA	699.25

ELEVATION



PLAN



Kenton P. Zini  
 Expires: 11/10

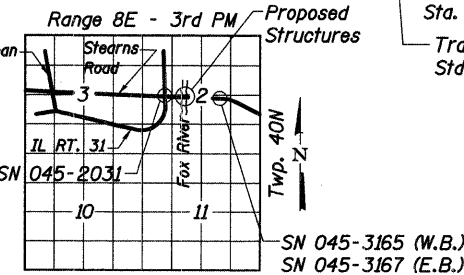
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Bridge Design Specifications".

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**GENERAL PLAN AND ELEVATION I**  
 STEARNS ROAD OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3166 PUBLIC WATERS  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DFM DRAWN: DFM  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



LOCATION SKETCH



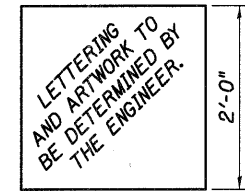
Denotes Soil Boring \* See Sheet S56 of S108 for MSE Wall 1 and Sheet S16 of S108 for Multi-Use Ramp  
 \*\* Enclosed Drainage System Over River

H:\0305\3.0 Phase 1\deliverables\3.3 structure\Drawings\Final\045-3166 GR&E.dgn  
 2/26/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	107
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S2 OF S108		

FOX RIVER  
 BUILT 20XX BY  
 KANE COUNTY  
 SEC. 06-00214-20-BR  
 F.A.P. 361 STA. 571+42.96  
 STR. NO. 045-3166 LOADING HL-93

**NAME PLATE**  
 See Std. 515001



**NAME PLATES (SPECIAL)**

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

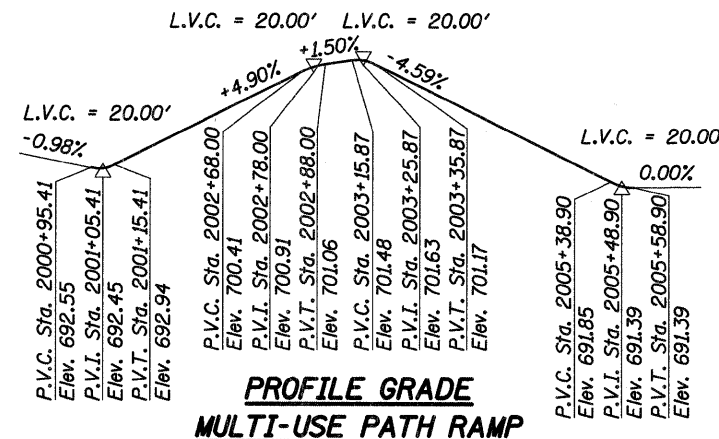
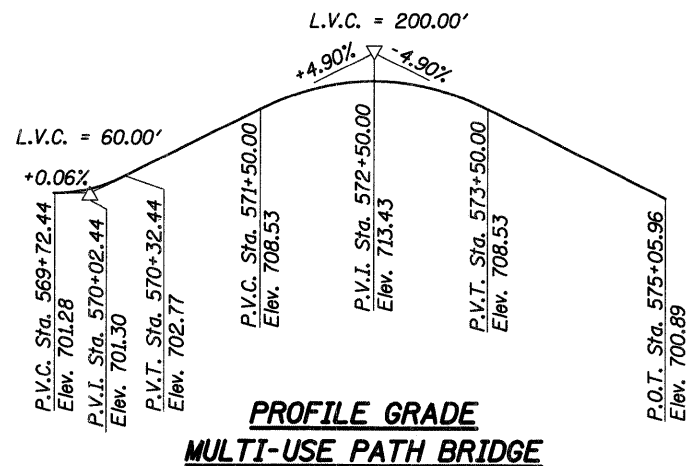
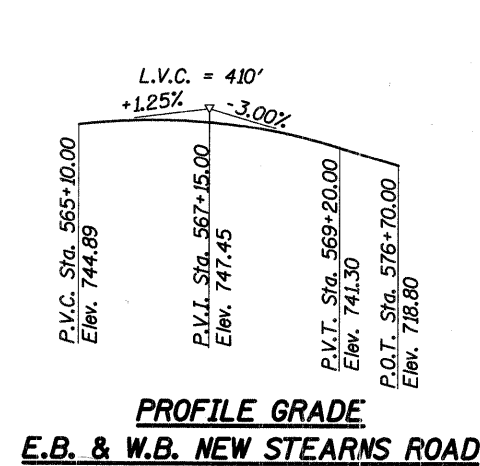
**DESIGN STRESSES**

FIELD UNITS

- $f'_c = 3,500$  psi
- $f_y = 60,000$  psi (Reinforcement)
- $f_y = 50,000$  psi (M270 Grade 50)

**SEISMIC DATA**

- Seismic Performance Zone (SPZ) = 1
- Design Spectral Acceleration at 1.0 sec (SD1) = 0.061g
- Design Spectral Acceleration at 0.2 sec (SDS) = 0.116g
- Soil Site Class = C



Rail 1 Sta. 9+12.35 Elev. 711.52	Rail 2 Sta. 9+11.25 Elev. 711.69	Rail 1 Sta. 9+93.67 Elev. 715.94	Rail 2 Sta. 9+93.25 Elev. 716.10	Rail 1 Sta. 10+49.52 Elev. 718.78	Rail 2 Sta. 10+49.47 Elev. 719.05
5.44% Rail 1		5.09% Rail 1		5.45% Rail 2	
5.45% Rail 2		5.25% Rail 2			

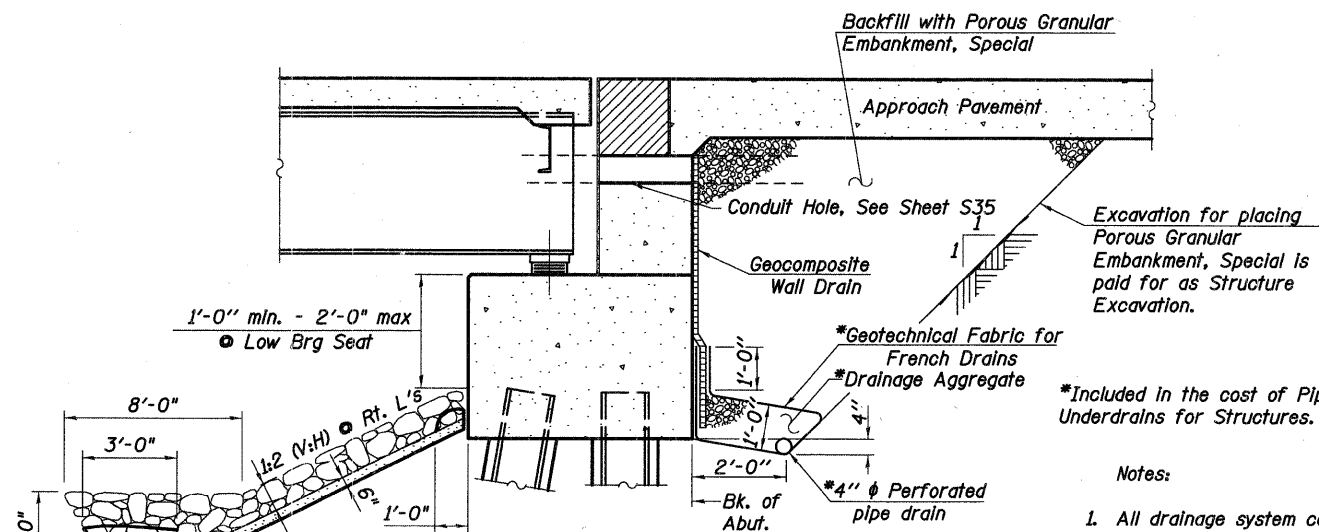
**TOP OF RAIL PROFILES  
 EXISTING INTERCHANGE TRACK**

Stations Measured along C Track

Rail 1 Sta. 18+53.78 Elev. 700.52	Rail 2 Sta. 18+53.73 Elev. 700.56	Rail 1 Sta. 19+68.14 Elev. 700.48	Rail 2 Sta. 19+68.21 Elev. 700.44	Rail 1 Sta. 20+74.01 Elev. 700.60	Rail 2 Sta. 20+73.53 Elev. 700.30
0.035% Rail 1		0.113% Rail 1		0.105% Rail 2	
0.105% Rail 2		0.133% Rail 2			

**TOP OF RAIL PROFILES  
 EXISTING TROLLEY MUSEUM TRACK**

Stations Measured along C Track



**SECTION THRU PILE SUPPORTED  
 STUB ABUTMENT**

(Stearns Rd. & MUP Bridge E. Abut)  
 (Horiz. dim. • Rt. L's)

**Notes:**

- All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).
- 6" Bedding shall be included in the cost of Stone Rip Rap, Class A4
- Conduit expansion fitting shall coincide with bridge expansion joint.

REVISIONS	
NAME	DATE

**Baker**

Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**GENERAL PLAN AND  
 ELEVATION II**  
 STEARNS ROAD PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DFM DRAWN: DFM  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ





F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	109
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. 54 OF 5108				

**TOTAL BILL OF MATERIAL, S.N. 045-3166**

ITEM	UNIT	SUPER-STRUCTURE QUANTITY	SUBSTRUCTURE QUANTITY		TOTAL QUANTITY
			PIERS	ABUTMENTS	
Porous Granular Embankment, Special	Cu Yd	0	0	336	336
Stone Riprap, Class A4	Sq Yd	0	0	1,462	1,462
Filter Fabric	Sq Yd	0	0	1,578	1,578
Protective Coat	Sq Yd	7,137	0	0	7,137
Structure Excavation	Cu Yd	0	1,332	483	1,815
Cofferdam Excavation	Cu Yd	0	764	0	764
Cofferdams	Each	0	2	0	2
Concrete Structures	Cu Yd	0	1,792	211	2,003
Concrete Superstructure	Cu Yd	1,823	0	16	1,839
Bridge Deck Grooving	Sq Yd	6,071	0	0	6,071
Seal Coat Concrete	Cu Yd	0	247	0	247
Concrete Encasement	Cu Yd	0	20	12	32
Form Liner Textured Surface	Sq Ft	0	15,857	2,346	18,203
Stud Shear Connectors	Each	16,800	0	0	16,800
Reinforcement Bars	Pound	0	185,370	0	185,370
Reinforcement Bars, Epoxy Coated	Pound	558,760	297,470	23,720	879,950
Bar Splicers	Each	0	0	122	122
Steel Ralling (Special)	Ft	2,025	0	0	2,025
Bicycle Ralling	Ft	0	0	156	156
Furnishing Steel Piles HP12x74	Ft	0	3,835	1,984	5,819
Driving Piles	Ft	0	3,835	1,984	5,819
Test Pile Steel HP12x74	Each	0	2	2	4
Name Plates	Each	1	0	0	1
Name Plates (Special)	Each	0	4	2	6
Permanent Casing	Ft	0	426	0	426
Drilled Shaft In Soil	Cu Yd	0	782	0	782
Elastomeric Bearing Assembly, Type II	Each	7	0	0	7
Elastomeric Bearing Assembly, Type III	Each	7	0	0	7
Anchor Bolts, 1 1/4"	Each	0	84	0	84
Anchor Bolts, 1 1/2"	Each	0	14	28	42
Concrete Sealer	Sq Ft	0	2,211	1,936	4,147
Geocomposite Wall Drain	Sq Yd	0	0	134	134
Pipe Underdrains For Structures 4"	Ft	0	0	186	186
High Load Multi-Rotation Bearings, Guided Expansion, 700K	Each	21	0	0	21
Furnishing And Erecting Structural Steel Bridge No. 1	L Sum	1	0	0	1
Mechanically Stabilized Earth Retaining Wall	Sq Ft	0	0	2,222	2,222
Temporary Access Causeway	L Sum	1	0	0	1
Anti-Graffiti Coating	Sq Ft	0	15,857	2,496	18,353
Drainage Scuppers (Special)	Each	16	0	0	16
Drainage System	L Sum	1	0	0	1
Modular Expansion Joint 6"	Ft	126	0	0	126

**TOTAL BILL OF MATERIAL, S.N. 045-3164**

ITEM	UNIT	SUPER-STRUCTURE QUANTITY	SUBSTRUCTURE QUANTITY		TOTAL QUANTITY
			PIERS	ABUTMENTS	
Porous Granular Embankment, Special	Cu Yd	0	0	24	24
Stone Riprap, Class A4	Sq Yd	0	122	227	349
Filter Fabric	Sq Yd	0	0	272	272
Protective Coat	Sq Yd	671	0	0	671
Structure Excavation	Cu Yd	0	9	35	44
Concrete Structures	Cu Yd	0	54	50	104
Concrete Superstructure	Cu Yd	29	0	3	32
Bridge Deck Grooving	Sq Yd	670	0	0	670
Concrete Encasement	Cu Yd	0	0	1	1
Precast Prestressed Concrete Deck Beams (11" Depth)	Sq Ft	4,885	0	0	4,885
Stud Shear Connectors	Each	429	0	0	429
Reinforcement Bars	Pound	0	18,810	13,990	32,800
Reinforcement Bars, Epoxy Coated	Pound	15,290	46,680	13,990	75,960
Bar Splicers	Each	0	0	39	39
Bicycle Ralling, Special	Ft	933	0	0	933
Furnishing Steel Piles HP12x53	Ft	0	0	58	58
Driving Piles	Ft	0	0	58	58
Test Pile Steel HP12x53	Each	0	0	1	1
Temporary Sheet Piling	Sq Ft	0	0	624	624
Name Plates	Each	1	0	0	1
Permanent Casing	Ft	0	638	226	864
Drilled Shaft In Soil	Cu Yd	0	202	69	271
Preformed Joint Strip Seal	Ft	97	0	0	97
Elastomeric Bearing Assembly, Type I	Each	2	0	0	2
Anchor Bolts, 1"	Each	28	0	0	28
Concrete Sealer	Sq Ft	0	610	454	1,064
Geocomposite Wall Drain	Sq Yd	0	0	153	153
Pipe Underdrains For Structures 4"	Ft	0	0	68	68
Pedestrian Truss Superstructure	Sq Ft	5,484	0	0	5,484
Concrete Wearing Surface, 5"	Sq Yd	543	0	0	543
Furnishing And Erecting Structural Steel Bridge No. 2	L Sum	1	0	0	1
Anti-Graffiti Coating	Sq Ft	0	612	425	1,037
Roofing System	Ft	534	0	0	534

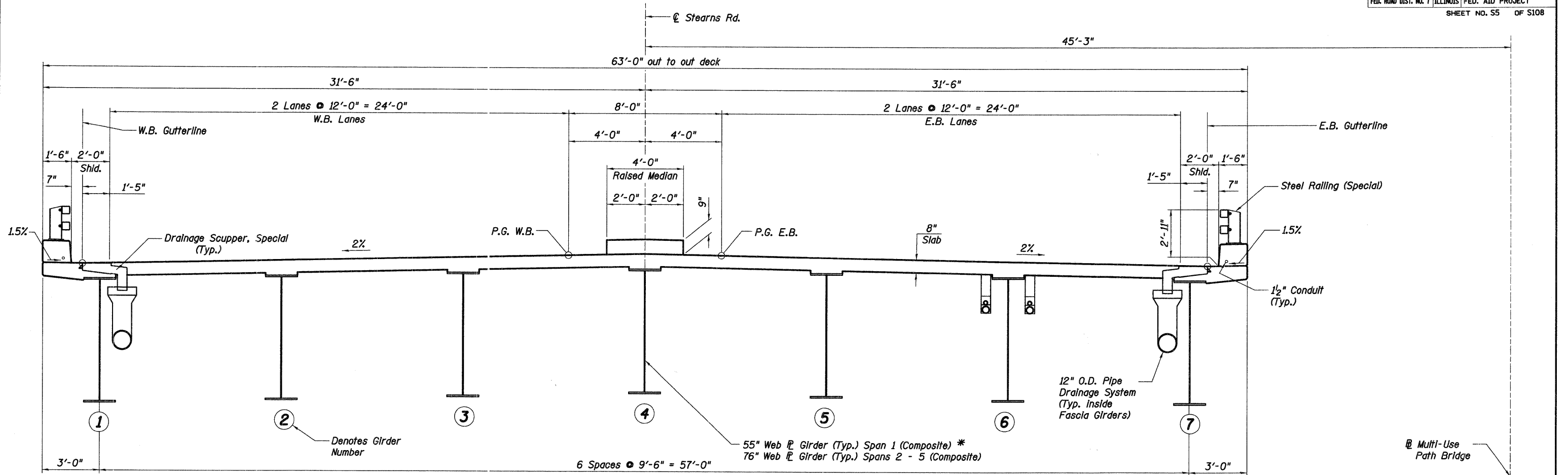
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REVISIONS	
NAME	DATE



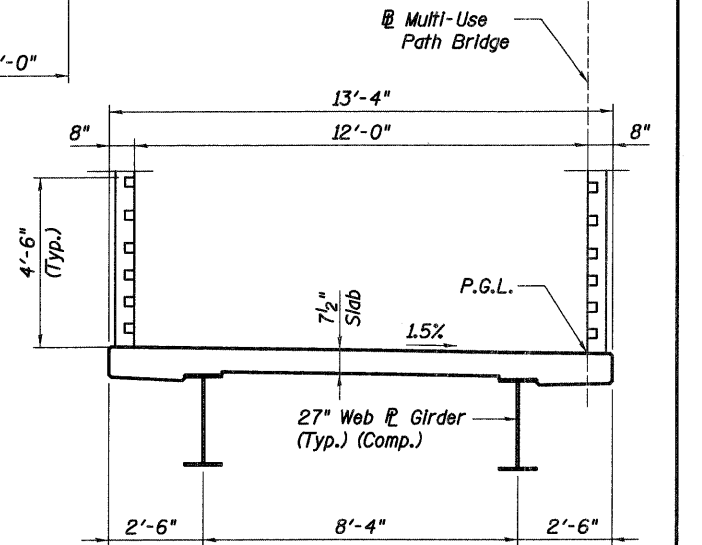
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**BILL OF MATERIAL**  
 STEARNS ROAD PUBLIC WATERS  
 OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: GWG  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	110
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S5 OF S108		



**TYPICAL CROSS SECTION**  
(Looking Upstation)

\* See Framing Plan and Girder Elevation Sheets for details, Sheets S26 thru S28 of S108.



**CROSS SECTION THRU DECK OF MULTI-USE PATH BRIDGE**

(Path Span 1)  
(Roof not shown for clarity)

**Notes:**

1. See Sheet S54 of S108 for Drainage Scupper locations.
2. See Sheet S55 of S108 for Drainage Scupper Details.



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**TYPICAL CROSS SECTION**

STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS

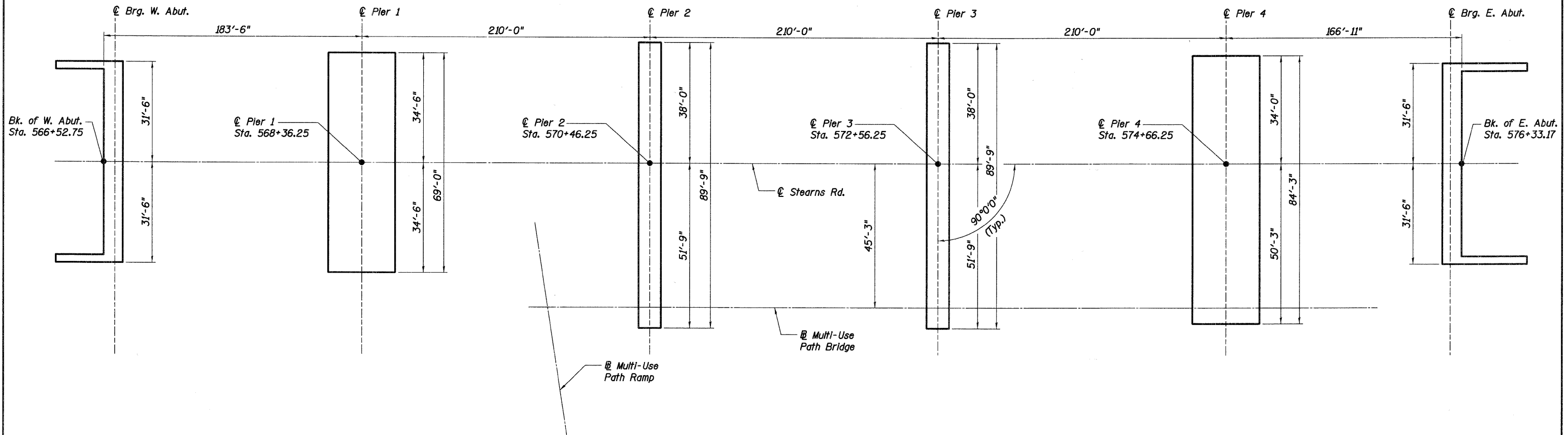
STRUCTURE NUMBER 045-3166

KANE COUNTY FAP 361 SECTION 06-00214-20-BR

STATION 571+42.96 DESIGNED: GWG DRAWN: SGW

DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	111
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S6 OF S108		



**FOOTING LAYOUT**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**FOOTING LAYOUT**

STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166

KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	112
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. 57 OF 5108				

**GIRDERS 1 & 7**

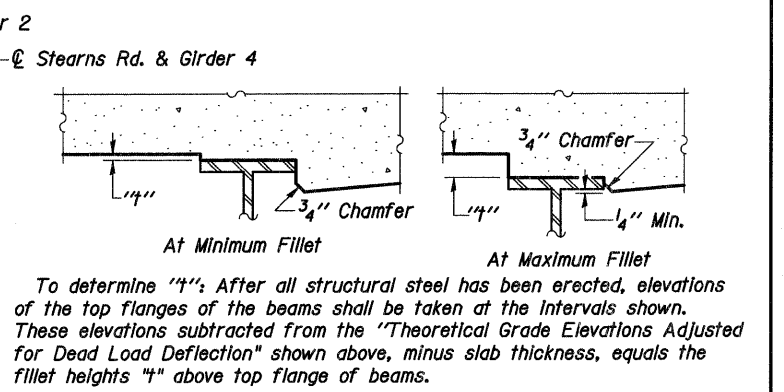
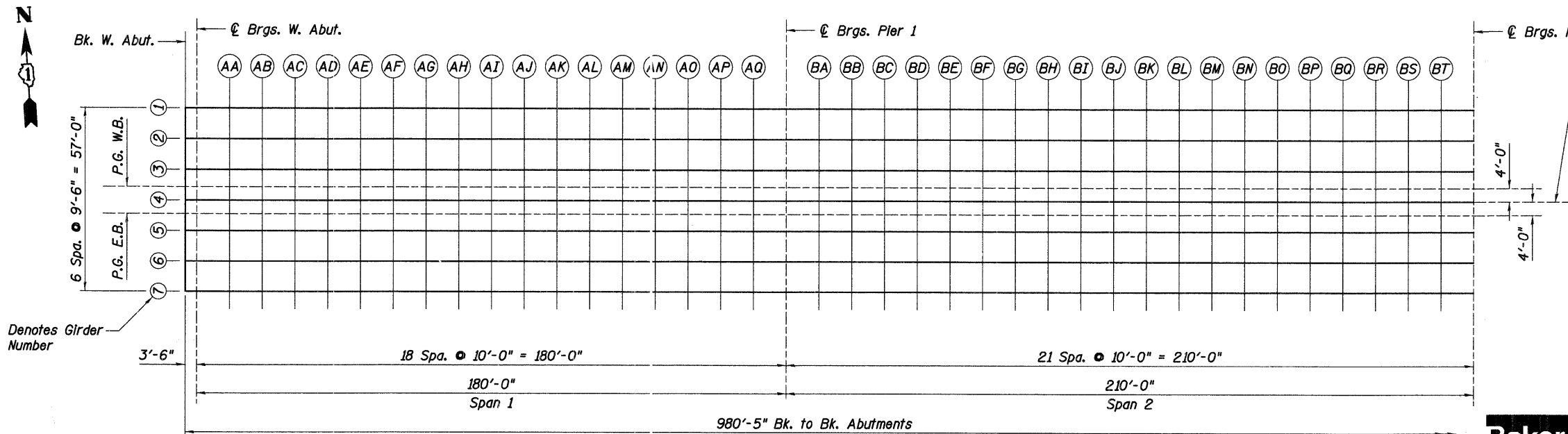
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	566+52.75	24.50	745.13	--
⊕ Brgs. W. Abut.	566+56.25	24.50	745.12	745.12
AA	566+66.25	24.50	745.09	745.19
AB	566+76.25	24.50	745.04	745.23
AC	566+86.25	24.50	744.99	745.27
AD	566+96.25	24.50	744.93	745.28
AE	567+06.25	24.50	744.85	745.25
AF	567+16.25	24.50	744.77	745.21
AG	567+26.25	24.50	744.68	745.13
AH	567+36.25	24.50	744.57	745.02
AI	567+46.25	24.50	744.46	744.89
AJ	567+56.25	24.50	744.33	744.72
AK	567+66.25	24.50	744.20	744.54
AL	567+76.25	24.50	744.05	744.34
AM	567+86.25	24.50	743.90	744.12
AN	567+96.25	24.50	743.73	743.89
AO	568+06.25	24.50	743.55	743.65
AP	568+16.25	24.50	743.36	743.41
AQ	568+26.25	24.50	743.17	743.19
⊕ Brgs. Pier 1	568+36.25	24.50	742.96	742.96
BA	568+46.25	24.50	742.74	742.73
BB	568+56.25	24.50	742.51	742.50
BC	568+66.25	24.50	742.27	742.28
BD	568+76.25	24.50	742.02	742.05
BE	568+86.25	24.50	741.76	741.81
BF	568+96.25	24.50	741.49	741.57
BG	569+06.25	24.50	741.21	741.31
BH	569+16.25	24.50	740.92	741.04
BI	569+26.25	24.50	740.62	740.76
BJ	569+36.25	24.50	740.32	740.47
BK	569+46.25	24.50	740.02	740.17
BL	569+56.25	24.50	739.72	739.87
BM	569+66.25	24.50	739.42	739.56
BN	569+76.25	24.50	739.12	739.24
BO	569+86.25	24.50	738.82	738.92
BP	569+96.25	24.50	738.52	738.60
BQ	570+06.25	24.50	738.22	738.27
BR	570+16.25	24.50	737.92	737.95
BS	570+26.25	24.50	737.62	737.63
BT	570+36.25	24.50	737.32	737.32
⊕ Brgs. Pier 2	570+46.25	24.50	737.02	737.02

**GIRDERS 2 & 6**

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	566+52.75	15.00	745.32	--
⊕ Brgs. W. Abut.	566+56.25	15.00	745.31	745.31
AA	566+66.25	15.00	745.28	745.38
AB	566+76.25	15.00	745.23	745.42
AC	566+86.25	15.00	745.18	745.46
AD	566+96.25	15.00	745.12	745.47
AE	567+06.25	15.00	745.04	745.44
AF	567+16.25	15.00	744.96	745.40
AG	567+26.25	15.00	744.87	745.32
AH	567+36.25	15.00	744.76	745.21
AI	567+46.25	15.00	744.65	745.08
AJ	567+56.25	15.00	744.52	744.91
AK	567+66.25	15.00	744.39	744.73
AL	567+76.25	15.00	744.24	744.53
AM	567+86.25	15.00	744.09	744.31
AN	567+96.25	15.00	743.92	744.08
AO	568+06.25	15.00	743.74	743.84
AP	568+16.25	15.00	743.55	743.60
AQ	568+26.25	15.00	743.36	743.38
⊕ Brgs. Pier 1	568+36.25	15.00	743.15	743.15
BA	568+46.25	15.00	742.93	742.92
BB	568+56.25	15.00	742.70	742.69
BC	568+66.25	15.00	742.46	742.47
BD	568+76.25	15.00	742.21	742.24
BE	568+86.25	15.00	741.95	742.00
BF	568+96.25	15.00	741.68	741.76
BG	569+06.25	15.00	741.40	741.50
BH	569+16.25	15.00	741.11	741.23
BI	569+26.25	15.00	740.81	740.95
BJ	569+36.25	15.00	740.51	740.66
BK	569+46.25	15.00	740.21	740.36
BL	569+56.25	15.00	739.91	740.06
BM	569+66.25	15.00	739.61	739.75
BN	569+76.25	15.00	739.31	739.43
BO	569+86.25	15.00	739.01	739.11
BP	569+96.25	15.00	738.71	738.79
BQ	570+06.25	15.00	738.41	738.46
BR	570+16.25	15.00	738.11	738.14
BS	570+26.25	15.00	737.81	737.82
BT	570+36.25	15.00	737.51	737.51
⊕ Brgs. Pier 2	570+46.25	15.00	737.21	737.21

**Notes:**

1. For Dead Load Deflection Diagram see Sheet S9 of S108.



**FILLET HEIGHTS**

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the intervals shown. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown above, minus slab thickness, equals the fillet heights "t" above top flange of beams.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**TOP OF SLAB ELEVATIONS I**

STEARN'S ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	113
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. 58 OF 5108		

**GIRDERS 3 & 5**

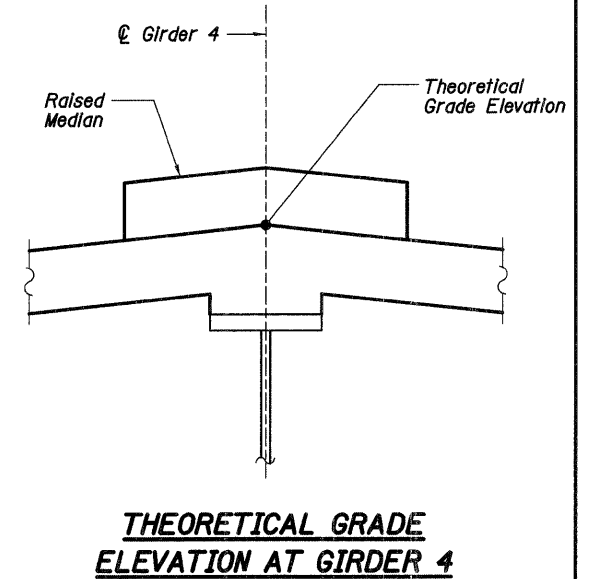
**P.G. E.B. & W.B.**

**GIRDER 4**

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	566+52.75	5.50	745.51	--
⊕ Brgs. W. Abut.	566+56.25	5.50	745.50	745.50
AA	566+66.25	5.50	745.47	745.57
AB	566+76.25	5.50	745.42	745.61
AC	566+86.25	5.50	745.37	745.65
AD	566+96.25	5.50	745.31	745.66
AE	567+06.25	5.50	745.23	745.63
AF	567+16.25	5.50	745.15	745.59
AG	567+26.25	5.50	745.06	745.51
AH	567+36.25	5.50	744.95	745.40
AI	567+46.25	5.50	744.84	745.27
AJ	567+56.25	5.50	744.71	745.10
AK	567+66.25	5.50	744.58	744.92
AL	567+76.25	5.50	744.43	744.72
AM	567+86.25	5.50	744.28	744.50
AN	567+96.25	5.50	744.11	744.27
AO	568+06.25	5.50	743.93	744.03
AP	568+16.25	5.50	743.74	743.79
AQ	568+26.25	5.50	743.55	743.57
⊕ Brgs. Pier 1	568+36.25	5.50	743.34	743.34
BA	568+46.25	5.50	743.12	743.11
BB	568+56.25	5.50	742.89	742.88
BC	568+66.25	5.50	742.65	742.66
BD	568+76.25	5.50	742.40	742.43
BE	568+86.25	5.50	742.14	742.19
BF	568+96.25	5.50	741.87	741.95
BG	569+06.25	5.50	741.59	741.69
BH	569+16.25	5.50	741.30	741.42
BI	569+26.25	5.50	741.00	741.14
BJ	569+36.25	5.50	740.70	740.85
BK	569+46.25	5.50	740.40	740.55
BL	569+56.25	5.50	740.10	740.25
BW	569+66.25	5.50	739.80	739.94
BN	569+76.25	5.50	739.50	739.62
BO	569+86.25	5.50	739.20	739.30
BP	569+96.25	5.50	738.90	738.98
BQ	570+06.25	5.50	738.60	738.65
BR	570+16.25	5.50	738.30	738.33
BS	570+26.25	5.50	738.00	738.01
BT	570+36.25	5.50	737.70	737.70
⊕ Brgs. Pier 2	570+46.25	5.50	737.40	737.40

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	566+52.75	0.00	745.62	--
⊕ Brgs. W. Abut.	566+56.25	0.00	745.61	745.61
AA	566+66.25	0.00	745.58	745.68
AB	566+76.25	0.00	745.53	745.72
AC	566+86.25	0.00	745.48	745.76
AD	566+96.25	0.00	745.42	745.77
AE	567+06.25	0.00	745.34	745.74
AF	567+16.25	0.00	745.26	745.70
AG	567+26.25	0.00	745.17	745.62
AH	567+36.25	0.00	745.06	745.51
AI	567+46.25	0.00	744.95	745.38
AJ	567+56.25	0.00	744.82	745.21
AK	567+66.25	0.00	744.69	745.03
AL	567+76.25	0.00	744.54	744.83
AM	567+86.25	0.00	744.39	744.61
AN	567+96.25	0.00	744.22	744.38
AO	568+06.25	0.00	744.04	744.14
AP	568+16.25	0.00	743.85	743.90
AQ	568+26.25	0.00	743.66	743.68
⊕ Brgs. Pier 1	568+36.25	0.00	743.45	743.45
EA	568+46.25	0.00	743.23	743.22
EB	568+56.25	0.00	743.00	742.99
EC	568+66.25	0.00	742.76	742.77
ED	568+76.25	0.00	742.51	742.54
EE	568+86.25	0.00	742.25	742.30
EF	568+96.25	0.00	741.98	742.06
EG	569+06.25	0.00	741.70	741.80
EH	569+16.25	0.00	741.41	741.53
EI	569+26.25	0.00	741.11	741.25
EJ	569+36.25	0.00	740.81	740.96
EK	569+46.25	0.00	740.51	740.66
EL	569+56.25	0.00	740.21	740.36
EW	569+66.25	0.00	739.91	740.05
EN	569+76.25	0.00	739.61	739.73
EO	569+86.25	0.00	739.31	739.41
EP	569+96.25	0.00	739.01	739.09
EQ	570+06.25	0.00	738.71	738.76
ER	570+16.25	0.00	738.41	738.44
ES	570+26.25	0.00	738.11	738.12
ET	570+36.25	0.00	737.81	737.81
⊕ Brgs. Pier 2	570+46.25	0.00	737.51	737.51

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	566+52.75	4.00	745.70	--
⊕ Brgs. W. Abut.	566+56.25	4.00	745.69	745.69
AA	566+66.25	4.00	745.66	745.76
AB	566+76.25	4.00	745.61	745.80
AC	566+86.25	4.00	745.56	745.84
AD	566+96.25	4.00	745.50	745.85
AE	567+06.25	4.00	745.42	745.82
AF	567+16.25	4.00	745.34	745.78
AG	567+26.25	4.00	745.25	745.70
AH	567+36.25	4.00	745.14	745.59
AI	567+46.25	4.00	745.03	745.46
AJ	567+56.25	4.00	744.90	745.29
AK	567+66.25	4.00	744.77	745.11
AL	567+76.25	4.00	744.62	744.91
AM	567+86.25	4.00	744.47	744.69
AN	567+96.25	4.00	744.30	744.46
AO	568+06.25	4.00	744.12	744.22
AP	568+16.25	4.00	743.93	743.98
AQ	568+26.25	4.00	743.74	743.76
⊕ Brgs. Pier 1	568+36.25	4.00	743.53	743.53
BA	568+46.25	4.00	743.31	743.30
BB	568+56.25	4.00	743.08	743.07
BC	568+66.25	4.00	742.84	742.85
BD	568+76.25	4.00	742.59	742.62
BE	568+86.25	4.00	742.33	742.38
BF	568+96.25	4.00	742.06	742.14
BG	569+06.25	4.00	741.78	741.88
BH	569+16.25	4.00	741.49	741.61
BI	569+26.25	4.00	741.19	741.33
BJ	569+36.25	4.00	740.89	741.04
BK	569+46.25	4.00	740.59	740.74
BL	569+56.25	4.00	740.29	740.44
BW	569+66.25	4.00	739.99	740.13
BN	569+76.25	4.00	739.69	739.81
BO	569+86.25	4.00	739.39	739.49
BP	569+96.25	4.00	739.09	739.17
BQ	570+06.25	4.00	738.79	738.84
BR	570+16.25	4.00	738.49	738.52
BS	570+26.25	4.00	738.19	738.20
BT	570+36.25	4.00	737.89	737.89
⊕ Brgs. Pier 2	570+46.25	4.00	737.59	737.59



**Notes:**

1. For Dead Load Deflection Diagram see Sheet S9 of S108.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TOP OF SLAB ELEVATIONS II**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC  
 STRUCTURE NUMBER 045-3166 WATERS  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



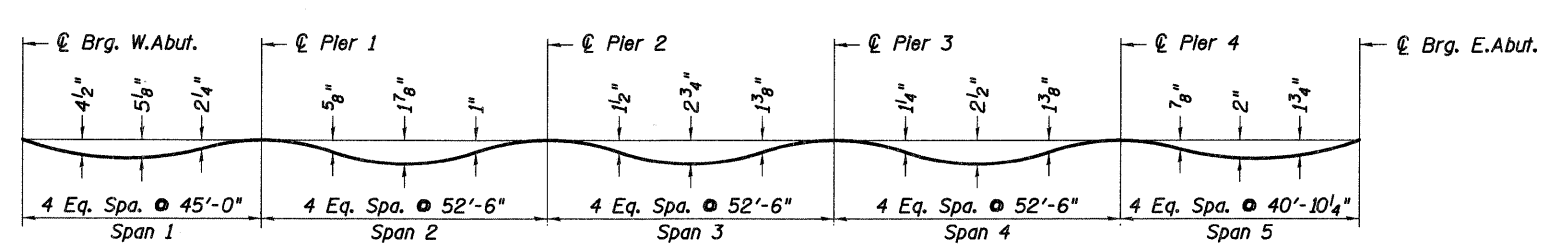
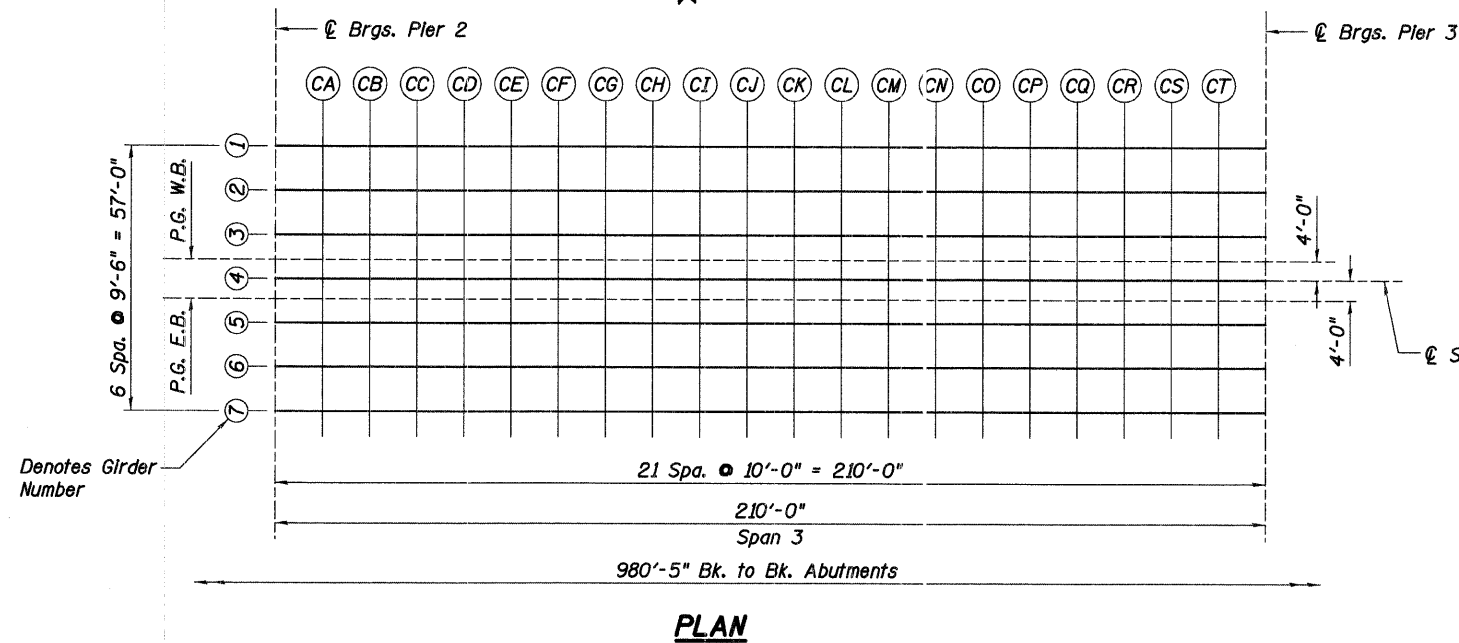
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	114
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S9 OF S108		

**GIRDERS 1 & 7**

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brgs. Pier 2	570+46.25	24.50	737.02	737.02
CA	570+56.25	24.50	736.72	736.73
CB	570+66.25	24.50	736.42	736.45
CC	570+76.25	24.50	736.12	736.18
CD	570+86.25	24.50	735.82	735.91
CE	570+96.25	24.50	735.52	735.64
CF	571+06.25	24.50	735.22	735.37
CG	571+16.25	24.50	734.92	735.10
CH	571+26.25	24.50	734.62	734.82
CI	571+36.25	24.50	734.32	734.54
CJ	571+46.25	24.50	734.02	734.24
CK	571+56.25	24.50	733.72	733.94
CL	571+66.25	24.50	733.42	733.63
CM	571+76.25	24.50	733.12	733.32
CN	571+86.25	24.50	732.82	732.99
CO	571+96.25	24.50	732.52	732.66
CP	572+06.25	24.50	732.22	732.33
CQ	572+16.25	24.50	731.92	732.00
CR	572+26.25	24.50	731.62	731.67
CS	572+36.25	24.50	731.32	731.35
CT	572+46.25	24.50	731.02	731.03
℄ Brgs. Pier 3	572+56.25	24.50	730.72	730.72

**GIRDERS 2 & 6**

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brgs. Pier 2	570+46.25	15.00	737.21	737.21
CA	570+56.25	15.00	736.91	736.92
CB	570+66.25	15.00	736.61	736.64
CC	570+76.25	15.00	736.31	736.37
CD	570+86.25	15.00	736.01	736.10
CE	570+96.25	15.00	735.71	735.83
CF	571+06.25	15.00	735.41	735.56
CG	571+16.25	15.00	735.11	735.29
CH	571+26.25	15.00	734.81	735.01
CI	571+36.25	15.00	734.51	734.73
CJ	571+46.25	15.00	734.21	734.43
CK	571+56.25	15.00	733.91	734.13
CL	571+66.25	15.00	733.61	733.82
CM	571+76.25	15.00	733.31	733.51
CN	571+86.25	15.00	733.01	733.18
CO	571+96.25	15.00	732.71	732.85
CP	572+06.25	15.00	732.41	732.52
CQ	572+16.25	15.00	732.11	732.19
CR	572+26.25	15.00	731.81	731.86
CS	572+36.25	15.00	731.51	731.54
CT	572+46.25	15.00	731.21	731.22
℄ Brgs. Pier 3	572+56.25	15.00	730.91	730.91



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

Note: The above deflections are not for use in the field if the Engineer is working from the "Theoretical Grade Elevations Adjusted For Dead Load Deflections".

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**TOP OF SLAB ELEVATIONS III**

STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



**GIRDERS 3 & 5**

**P.G. E.B. & W.B.**

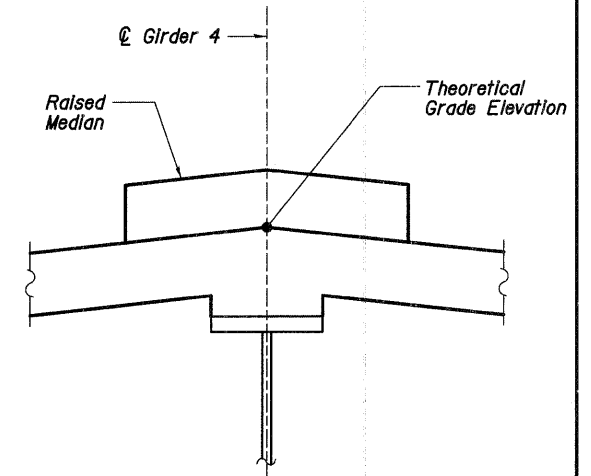
**GIRDER 4**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	115
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	SHEET NO. S10 OF S108	

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brgs. Pier 2	570+46.25	5.50	737.40	737.40
CA	570+56.25	5.50	737.10	737.11
CB	570+66.25	5.50	736.80	736.83
CC	570+76.25	5.50	736.50	736.56
CD	570+86.25	5.50	736.20	736.29
CE	570+96.25	5.50	735.90	736.02
CF	571+06.25	5.50	735.60	735.75
CG	571+16.25	5.50	735.30	735.48
CH	571+26.25	5.50	735.00	735.20
CI	571+36.25	5.50	734.70	734.92
CJ	571+46.25	5.50	734.40	734.62
CK	571+56.25	5.50	734.10	734.32
CL	571+66.25	5.50	733.80	734.01
CM	571+76.25	5.50	733.50	733.70
CN	571+86.25	5.50	733.20	733.37
CO	571+96.25	5.50	732.90	733.04
CP	572+06.25	5.50	732.60	732.71
CQ	572+16.25	5.50	732.30	732.38
CR	572+26.25	5.50	732.00	732.05
CS	572+36.25	5.50	731.70	731.73
CT	572+46.25	5.50	731.40	731.41
☉ Brgs. Pier 3	572+56.25	5.50	731.10	731.10

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brgs. Pier 2	570+46.25	0.00	737.51	737.51
CA	570+56.25	0.00	737.21	737.22
CB	570+66.25	0.00	736.91	736.94
CC	570+76.25	0.00	736.61	736.67
CD	570+86.25	0.00	736.31	736.40
CE	570+96.25	0.00	736.01	736.13
CF	571+06.25	0.00	735.71	735.86
CG	571+16.25	0.00	735.41	735.59
CH	571+26.25	0.00	735.11	735.31
CI	571+36.25	0.00	734.81	735.03
CJ	571+46.25	0.00	734.51	734.73
CK	571+56.25	0.00	734.21	734.43
CL	571+66.25	0.00	733.91	734.12
CM	571+76.25	0.00	733.61	733.81
CN	571+86.25	0.00	733.31	733.48
CO	571+96.25	0.00	733.01	733.15
CP	572+06.25	0.00	732.71	732.82
CQ	572+16.25	0.00	732.41	732.49
CR	572+26.25	0.00	732.11	732.16
CS	572+36.25	0.00	731.81	731.84
CT	572+46.25	0.00	731.51	731.52
☉ Brgs. Pier 3	572+56.25	0.00	731.21	731.21

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brgs. Pier 2	570+46.25	4.00	737.59	737.59
CA	570+56.25	4.00	737.29	737.30
CB	570+66.25	4.00	736.99	737.02
CC	570+76.25	4.00	736.69	736.75
CD	570+86.25	4.00	736.39	736.48
CE	570+96.25	4.00	736.09	736.21
CF	571+06.25	4.00	735.79	735.94
CG	571+16.25	4.00	735.49	735.67
CH	571+26.25	4.00	735.19	735.39
CI	571+36.25	4.00	734.89	735.11
CJ	571+46.25	4.00	734.59	734.81
CK	571+56.25	4.00	734.29	734.51
CL	571+66.25	4.00	733.99	734.20
CM	571+76.25	4.00	733.69	733.89
CN	571+86.25	4.00	733.39	733.56
CO	571+96.25	4.00	733.09	733.23
CP	572+06.25	4.00	732.79	732.90
CQ	572+16.25	4.00	732.49	732.57
CR	572+26.25	4.00	732.19	732.24
CS	572+36.25	4.00	731.89	731.92
CT	572+46.25	4.00	731.59	731.60
☉ Brgs. Pier 3	572+56.25	4.00	731.29	731.29



**THEORETICAL GRADE ELEVATION AT GIRDER 4**

**Notes:**

1. For Dead Load Deflection Diagram see Sheet S9 of S108.

REVISIONS	
NAME	DATE



ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TOP OF SLAB ELEVATIONS IV**  
 STEARNS ROAD PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	116
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S11 OF S108		

**GIRDERS 1 & 7**

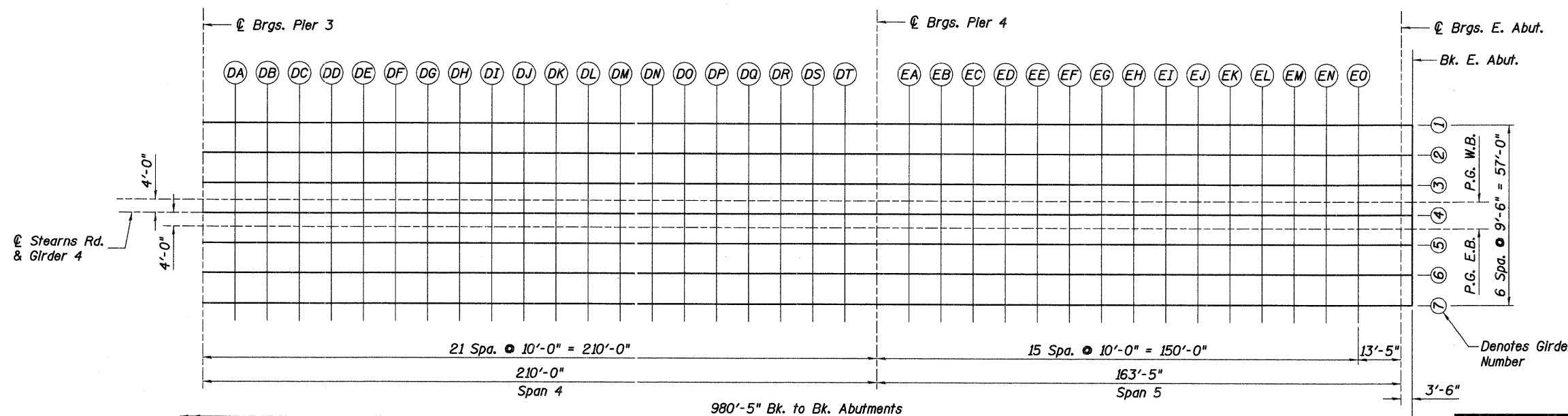
**GIRDERS 2 & 6**

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brgs. Pier 3	572+56.25	24.50	730.72	730.72
DA	572+66.25	24.50	730.42	730.43
DB	572+76.25	24.50	730.12	730.14
DC	572+86.25	24.50	729.82	729.86
DD	572+96.25	24.50	729.52	729.59
DE	573+06.25	24.50	729.22	729.32
DF	573+16.25	24.50	728.92	729.05
DG	573+26.25	24.50	728.62	728.78
DH	573+36.25	24.50	728.32	728.50
DI	573+46.25	24.50	728.02	728.22
DJ	573+56.25	24.50	727.72	727.93
DK	573+66.25	24.50	727.42	727.63
DL	573+76.25	24.50	727.12	727.32
DM	573+86.25	24.50	726.82	727.00
DN	573+96.25	24.50	726.52	726.68
DO	574+06.25	24.50	726.22	726.35
DP	574+16.25	24.50	725.92	726.02
DQ	574+26.25	24.50	725.62	725.69
DR	574+36.25	24.50	725.32	725.37
DS	574+46.25	24.50	725.02	725.04
DT	574+56.25	24.50	724.72	724.73
☉ Brgs. Pier 4	574+66.25	24.50	724.42	724.42
EA	574+76.25	24.50	724.12	724.13
EB	574+86.25	24.50	723.82	723.84
EC	574+96.25	24.50	723.52	723.56
ED	575+06.25	24.50	723.22	723.29
EE	575+16.25	24.50	722.92	723.02
EF	575+26.25	24.50	722.62	722.74
EG	575+36.25	24.50	722.32	722.47
EH	575+46.25	24.50	722.02	722.19
EI	575+56.25	24.50	721.72	721.90
EJ	575+66.25	24.50	721.42	721.60
EK	575+76.25	24.50	721.12	721.29
EL	575+86.25	24.50	720.82	720.98
EM	575+96.25	24.50	720.52	720.65
EN	576+06.25	24.50	720.22	720.32
EO	576+16.25	24.50	719.92	719.98
☉ Brgs. E. Abut.	576+29.67	24.50	719.52	719.52
Bk. E. Abut.	576+33.17	24.50	719.41	--

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brgs. Pier 3	572+56.25	15.00	730.91	730.91
DA	572+66.25	15.00	730.61	730.62
DB	572+76.25	15.00	730.31	730.33
DC	572+86.25	15.00	730.01	730.05
DD	572+96.25	15.00	729.71	729.78
DE	573+06.25	15.00	729.41	729.51
DF	573+16.25	15.00	729.11	729.24
DG	573+26.25	15.00	728.81	728.97
DH	573+36.25	15.00	728.51	728.69
DI	573+46.25	15.00	728.21	728.41
DJ	573+56.25	15.00	727.91	728.12
DK	573+66.25	15.00	727.61	727.82
DL	573+76.25	15.00	727.31	727.51
DM	573+86.25	15.00	727.01	727.19
DN	573+96.25	15.00	726.71	726.87
DO	574+06.25	15.00	726.41	726.54
DP	574+16.25	15.00	726.11	726.21
DQ	574+26.25	15.00	725.81	725.88
DR	574+36.25	15.00	725.51	725.56
DS	574+46.25	15.00	725.21	725.23
DT	574+56.25	15.00	724.91	724.92
☉ Brgs. Pier 4	574+66.25	15.00	724.61	724.61
EA	574+76.25	15.00	724.31	724.32
EB	574+86.25	15.00	724.01	724.03
EC	574+96.25	15.00	723.71	723.75
ED	575+06.25	15.00	723.41	723.48
EE	575+16.25	15.00	723.11	723.21
EF	575+26.25	15.00	722.81	722.93
EG	575+36.25	15.00	722.51	722.66
EH	575+46.25	15.00	722.21	722.38
EI	575+56.25	15.00	721.91	722.09
EJ	575+66.25	15.00	721.61	721.79
EK	575+76.25	15.00	721.31	721.48
EL	575+86.25	15.00	721.01	721.17
EM	575+96.25	15.00	720.71	720.84
EN	576+06.25	15.00	720.41	720.51
EO	576+16.25	15.00	720.11	720.17
☉ Brgs. E. Abut.	576+29.67	15.00	719.71	719.71
Bk. E. Abut.	576+33.17	15.00	719.60	--

**Notes:**

1. For Dead Load Deflection Diagram see Sheet S9 of S108.



**PLAN**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TOP OF SLAB ELEVATIONS V**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
 Baker Engineering, Inc.

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 1/15/2009



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	117
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S12 OF S108				

**GIRDERS 3 & 5**

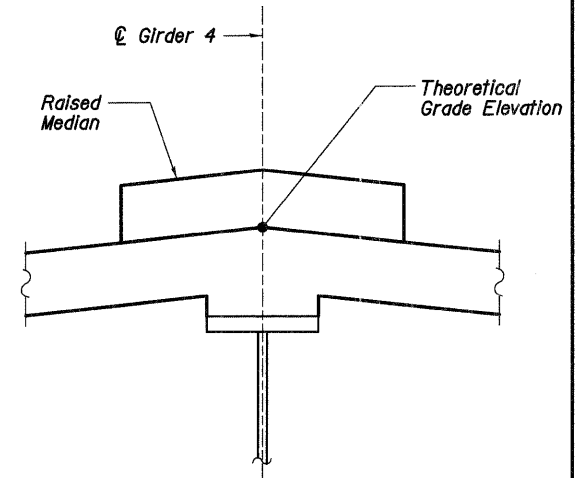
**P.G. E.B. & W.B.**

**GIRDER 4**

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Brgs. Pier 3	572+56.25	5.50	731.10	731.10
DA	572+66.25	5.50	730.80	730.81
DB	572+76.25	5.50	730.50	730.52
DC	572+86.25	5.50	730.20	730.24
DD	572+96.25	5.50	729.90	729.97
DE	573+06.25	5.50	729.60	729.70
DF	573+16.25	5.50	729.30	729.43
DG	573+26.25	5.50	729.00	729.16
DH	573+36.25	5.50	728.70	728.88
DI	573+46.25	5.50	728.40	728.60
DJ	573+56.25	5.50	728.10	728.31
DK	573+66.25	5.50	727.80	728.01
DL	573+76.25	5.50	727.50	727.70
DM	573+86.25	5.50	727.20	727.38
DN	573+96.25	5.50	726.90	727.06
DO	574+06.25	5.50	726.60	726.73
DP	574+16.25	5.50	726.30	726.40
DQ	574+26.25	5.50	726.00	726.07
DR	574+36.25	5.50	725.70	725.75
DS	574+46.25	5.50	725.40	725.42
DT	574+56.25	5.50	725.10	725.11
⊙ Brgs. Pier 4	574+66.25	5.50	724.80	724.80
EA	574+76.25	5.50	724.50	724.51
EB	574+86.25	5.50	724.20	724.22
EC	574+96.25	5.50	723.90	723.94
ED	575+06.25	5.50	723.60	723.67
EE	575+16.25	5.50	723.30	723.40
EF	575+26.25	5.50	723.00	723.12
EG	575+36.25	5.50	722.70	722.85
EH	575+46.25	5.50	722.40	722.57
EI	575+56.25	5.50	722.10	722.28
EJ	575+66.25	5.50	721.80	721.98
EK	575+76.25	5.50	721.50	721.67
EL	575+86.25	5.50	721.20	721.36
EM	575+96.25	5.50	720.90	721.03
EN	576+06.25	5.50	720.60	720.70
EO	576+16.25	5.50	720.30	720.36
⊙ Brgs. E. Abut.	576+29.67	5.50	719.90	719.90
Bk. E. Abut.	576+33.17	5.50	719.79	--

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Brgs. Pier 3	572+56.25	0.00	731.21	731.21
LA	572+66.25	0.00	730.91	730.92
LB	572+76.25	0.00	730.61	730.63
LC	572+86.25	0.00	730.31	730.35
LD	572+96.25	0.00	730.01	730.08
LE	573+06.25	0.00	729.71	729.81
LF	573+16.25	0.00	729.41	729.54
LG	573+26.25	0.00	729.11	729.27
LH	573+36.25	0.00	728.81	728.99
LI	573+46.25	0.00	728.51	728.71
LJ	573+56.25	0.00	728.21	728.42
LK	573+66.25	0.00	727.91	728.12
LL	573+76.25	0.00	727.61	727.81
LM	573+86.25	0.00	727.31	727.49
LN	573+96.25	0.00	727.01	727.17
LO	574+06.25	0.00	726.71	726.84
LP	574+16.25	0.00	726.41	726.51
LQ	574+26.25	0.00	726.11	726.18
LR	574+36.25	0.00	725.81	725.86
LS	574+46.25	0.00	725.51	725.53
LT	574+56.25	0.00	725.21	725.22
⊙ Brgs. Pier 4	574+66.25	0.00	724.91	724.91
EA	574+76.25	0.00	724.61	724.62
EB	574+86.25	0.00	724.31	724.33
EC	574+96.25	0.00	724.01	724.05
ED	575+06.25	0.00	723.71	723.78
EE	575+16.25	0.00	723.41	723.51
EF	575+26.25	0.00	723.11	723.23
EG	575+36.25	0.00	722.81	722.96
EH	575+46.25	0.00	722.51	722.68
EI	575+56.25	0.00	722.21	722.39
EJ	575+66.25	0.00	721.91	722.09
EK	575+76.25	0.00	721.61	721.78
EL	575+86.25	0.00	721.31	721.47
EM	575+96.25	0.00	721.01	721.14
EN	576+06.25	0.00	720.71	720.81
EO	576+16.25	0.00	720.41	720.47
⊙ Brgs. E. Abut.	576+29.67	0.00	720.01	720.01
Bk. E. Abut.	576+33.17	0.00	719.90	--

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Brgs. Pier 3	572+56.25	4.00	731.29	731.29
DA	572+66.25	4.00	730.99	731.00
DB	572+76.25	4.00	730.69	730.71
DC	572+86.25	4.00	730.39	730.43
DD	572+96.25	4.00	730.09	730.16
DE	573+06.25	4.00	729.79	729.89
DF	573+16.25	4.00	729.49	729.62
DG	573+26.25	4.00	729.19	729.35
DH	573+36.25	4.00	728.89	729.07
DI	573+46.25	4.00	728.59	728.79
DJ	573+56.25	4.00	728.29	728.50
DK	573+66.25	4.00	727.99	728.20
DL	573+76.25	4.00	727.69	727.89
DM	573+86.25	4.00	727.39	727.57
DN	573+96.25	4.00	727.09	727.25
DO	574+06.25	4.00	726.79	726.92
DP	574+16.25	4.00	726.49	726.59
DQ	574+26.25	4.00	726.19	726.26
DR	574+36.25	4.00	725.89	725.94
DS	574+46.25	4.00	725.59	725.61
DT	574+56.25	4.00	725.29	725.30
⊙ Brgs. Pier 4	574+66.25	4.00	724.99	724.99
EA	574+76.25	4.00	724.69	724.70
EB	574+86.25	4.00	724.39	724.41
EC	574+96.25	4.00	724.09	724.13
ED	575+06.25	4.00	723.79	723.86
EE	575+16.25	4.00	723.49	723.59
EF	575+26.25	4.00	723.19	723.31
EG	575+36.25	4.00	722.89	723.04
EH	575+46.25	4.00	722.59	722.76
EI	575+56.25	4.00	722.29	722.47
EJ	575+66.25	4.00	721.99	722.17
EK	575+76.25	4.00	721.69	721.86
EL	575+86.25	4.00	721.39	721.55
EM	575+96.25	4.00	721.09	721.22
EN	576+06.25	4.00	720.79	720.89
EO	576+16.25	4.00	720.49	720.55
⊙ Brgs. E. Abut.	576+29.67	4.00	720.09	720.09
Bk. E. Abut.	576+33.17	4.00	719.98	--



**THEORETICAL GRADE ELEVATION AT GIRDER 4**

**Notes:**

1. For Dead Load Deflection Diagram see Sheet S9 of S108.

REVISIONS	
NAME	DATE

**Baker**  
Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TOP OF SLAB ELEVATIONS VI**  
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: CWG DRAWN: SCW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	118
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S13 OF S108				

**WEST APPROACH  
NORTH EDGE OF SHOULDER**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End West Appr. Pav't.	566+23.25	-26.00	745.10
A1	566+33.25	-26.00	745.11
A2	566+43.25	-26.00	745.13
E. End West Appr. Pav't.	566+53.25	-26.00	745.11

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End West Appr. Pav't.	566+23.25	-24.00	745.16
A1	566+33.25	-24.00	745.16
A2	566+43.25	-24.00	745.15
E. End West Appr. Pav't.	566+53.25	-24.00	745.13

**P.G. W.B.**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End West Appr. Pav't.	566+23.25	0.00	745.64
A1	566+33.25	0.00	745.64
A2	566+43.25	0.00	745.63
E. End West Appr. Pav't.	566+53.25	0.00	745.61

**P.G. E.B.**

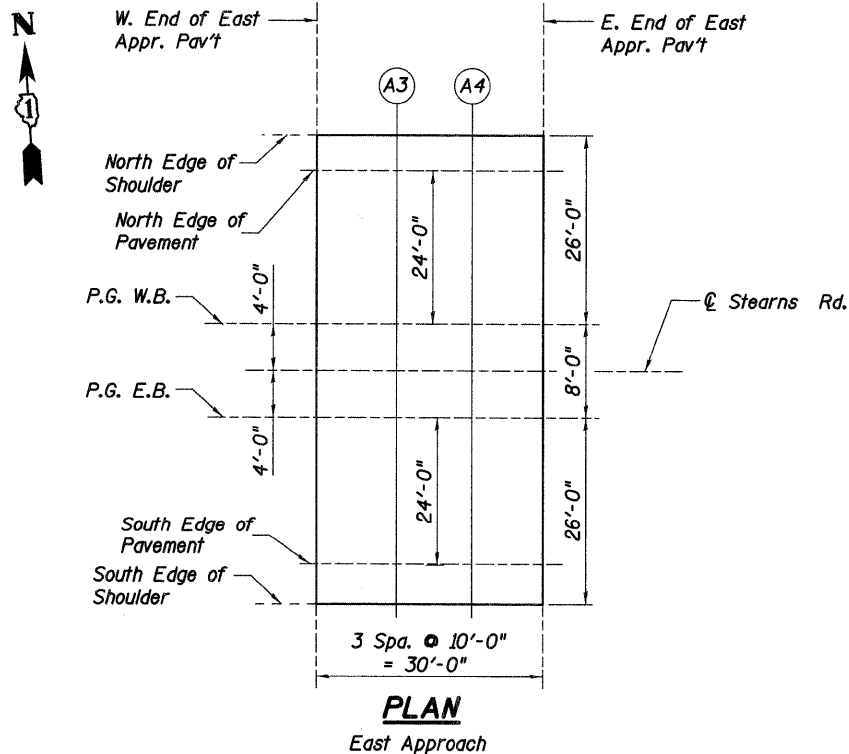
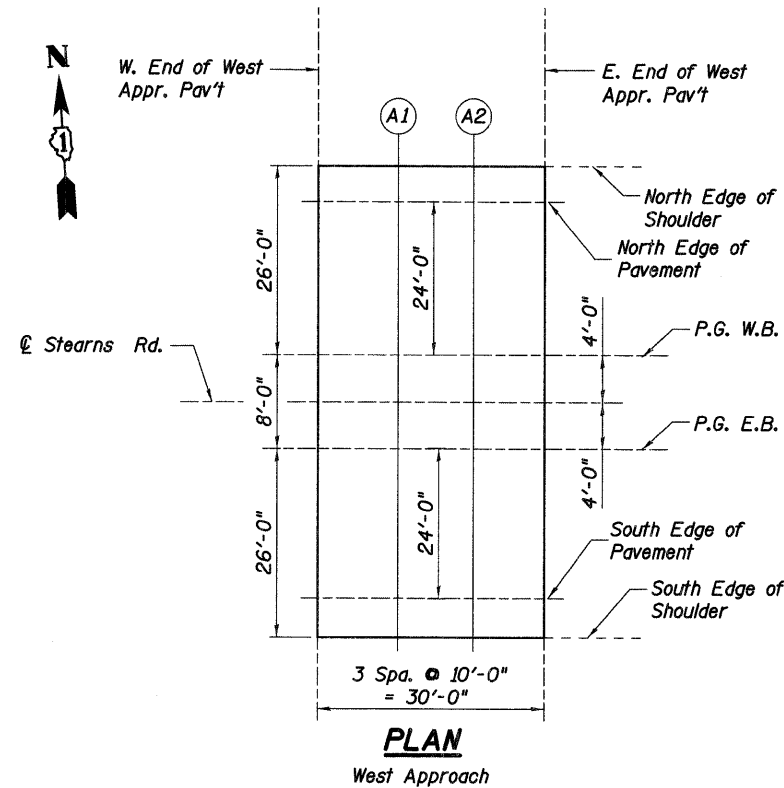
Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End West Appr. Pav't.	566+23.25	0.00	745.64
A1	566+33.25	0.00	745.64
A2	566+43.25	0.00	745.63
E. End West Appr. Pav't.	566+53.25	0.00	745.61

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End West Appr. Pav't.	566+23.25	24.00	745.16
A1	566+33.25	24.00	745.16
A2	566+43.25	24.00	745.15
E. End West Appr. Pav't.	566+53.25	24.00	745.13

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End West Appr. Pav't.	566+23.25	26.00	745.10
A1	566+33.25	26.00	745.11
A2	566+43.25	26.00	745.13
E. End West Appr. Pav't.	566+53.25	26.00	745.11



**EAST APPROACH  
NORTH EDGE OF SHOULDER**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	576+32.67	-26.00	719.42
A3	576+42.67	-26.00	719.12
A4	576+52.67	-26.00	718.79
E. End East Appr. Pav't.	576+62.67	-26.00	718.47

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	576+32.67	-24.00	719.44
A3	576+42.67	-24.00	719.14
A4	576+52.67	-24.00	718.84
E. End East Appr. Pav't.	576+62.67	-24.00	718.54

**P.G. W.B.**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	576+32.67	0.00	719.92
A3	576+42.67	0.00	719.62
A4	576+52.67	0.00	719.32
E. End East Appr. Pav't.	576+62.67	0.00	719.02

**P.G. E.B.**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	576+32.67	0.00	719.92
A3	576+42.67	0.00	719.62
A4	576+52.67	0.00	719.32
E. End East Appr. Pav't.	576+62.67	0.00	719.02

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	576+32.67	24.00	719.44
A3	576+42.67	24.00	719.14
A4	576+52.67	24.00	718.84
E. End East Appr. Pav't.	576+62.67	24.00	718.54

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	576+32.67	26.00	719.42
A3	576+42.67	26.00	719.12
A4	576+52.67	26.00	718.79
E. End East Appr. Pav't.	576+62.67	26.00	718.47

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TOP OF  
 APPROACH SLAB ELEVATIONS**  
 STEARNS ROAD PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

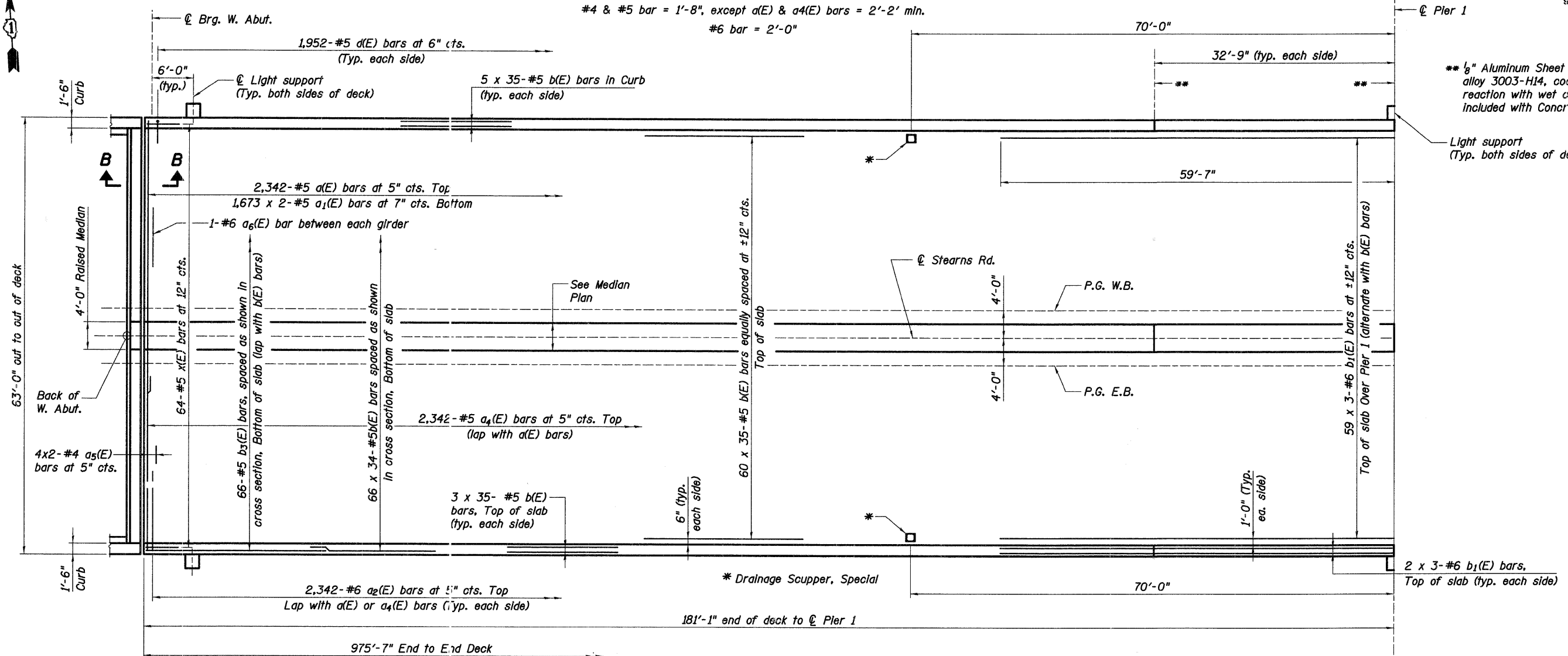


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	119
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S14 OF S108				



**Minimum Lap Lengths**

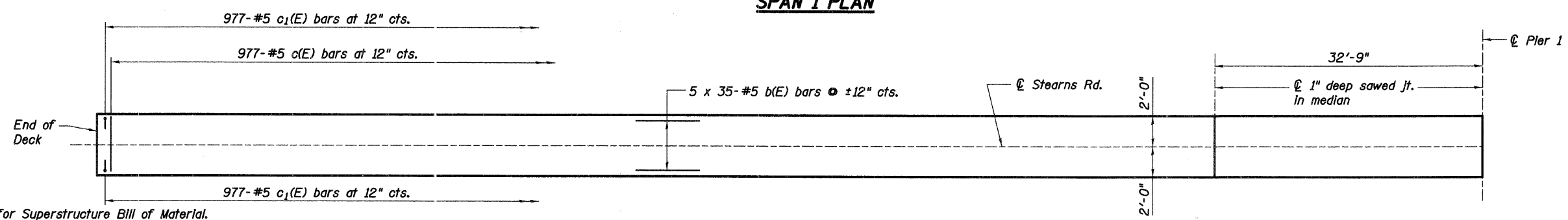
#4 & #5 bar = 1'-8", except a(E) & a4(E) bars = 2'-2' min.  
#6 bar = 2'-0"



\*\* 1/8" Aluminum Sheet ASTM B209 alloy 3003-H14, coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

Light support (Typ. both sides of deck at Pler 1)

**SPAN 1 PLAN**



**SPAN 1 MEDIAN PLAN**

- Notes:**
1. See Sheet S19 of S108 for Superstructure Bill of Material.
  2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
  3. See Sheet S19 of S108 for curb reinforcement.
  4. Cut longitudinal reinforcement to clear drainage scuppers.
  5. For drainage scupper details, see sheet S55 of S108.
  6. See Sheet S21 of S108 for Section B-B.
  7. For light support details see sheet S21 of S108.

REVISIONS	
NAME	DATE



ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DECK AND MEDIAN PLAN I**  
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: CWG DRAWN: SCW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

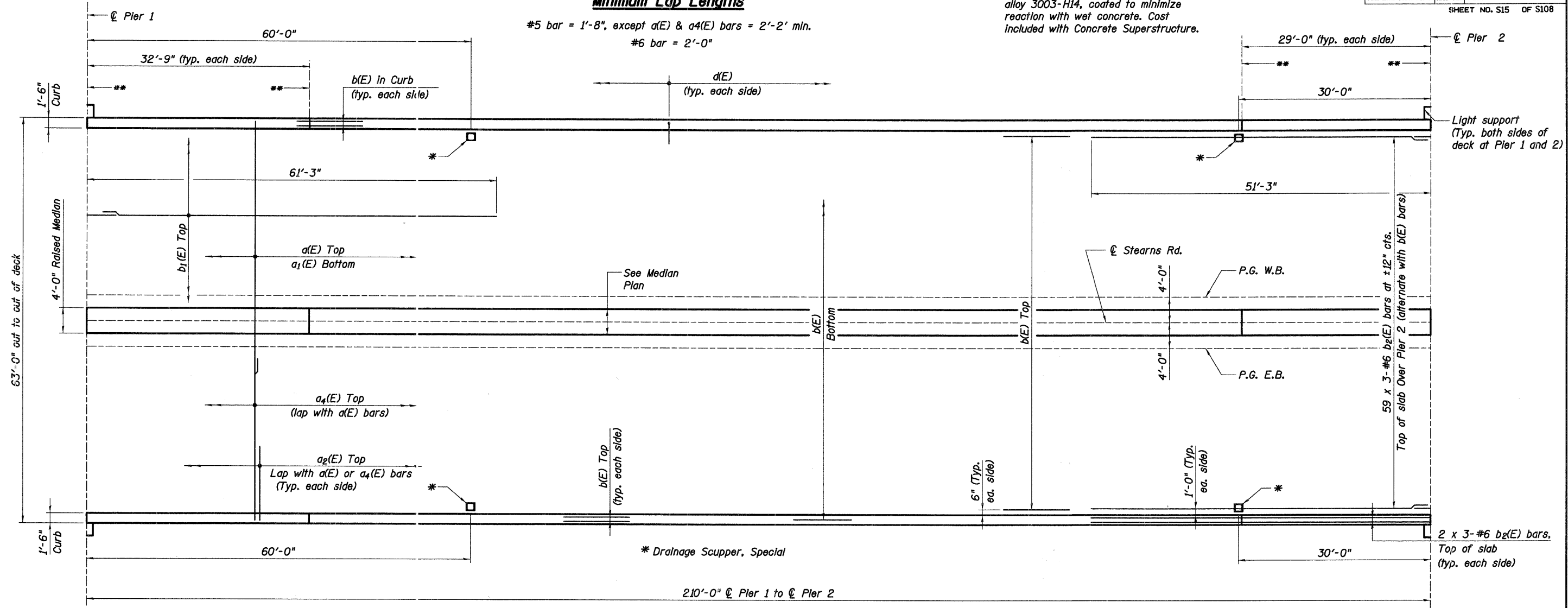
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 2/9/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	120
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
SHEET NO. S15 OF S108				

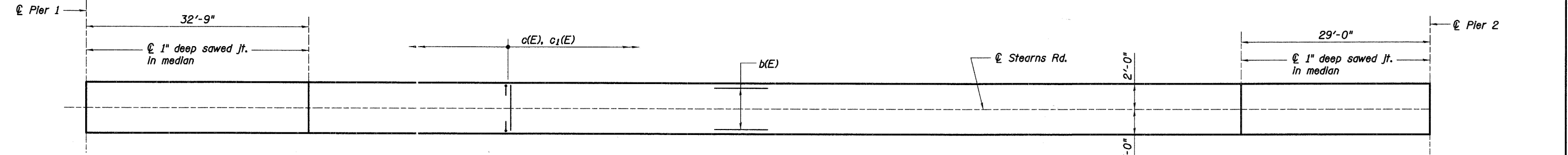
**Minimum Lap Lengths**

#5 bar = 1'-8", except a(E) & a4(E) bars = 2'-2" min.  
 #6 bar = 2'-0"

\*\* 1/8" Aluminum Sheet ASTM B209 alloy 3003-H14, coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.



**SPAN 2 PLAN**



**SPAN 2 MEDIAN PLAN**

**Notes:**

1. See Sheet S19 of S108 for Superstructure Bill of Material.
2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet S19 of S108 for curb reinforcement.
4. Cut longitudinal reinforcement to clear drainage scuppers.
5. For Drainage Scupper Details see sheet S55 of S108.
6. For light support details see sheet S21 of S108.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DECK AND MEDIAN PLAN II**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

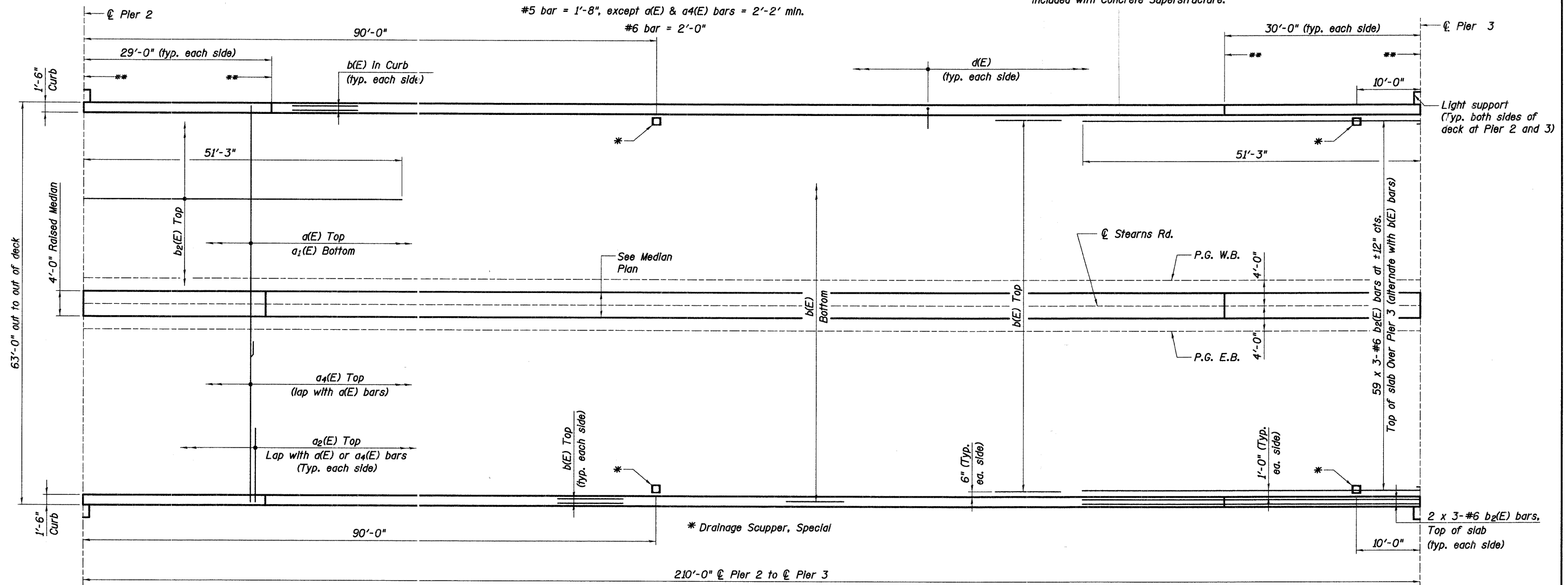


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	121
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
			SHEET NO. S16	OF S108

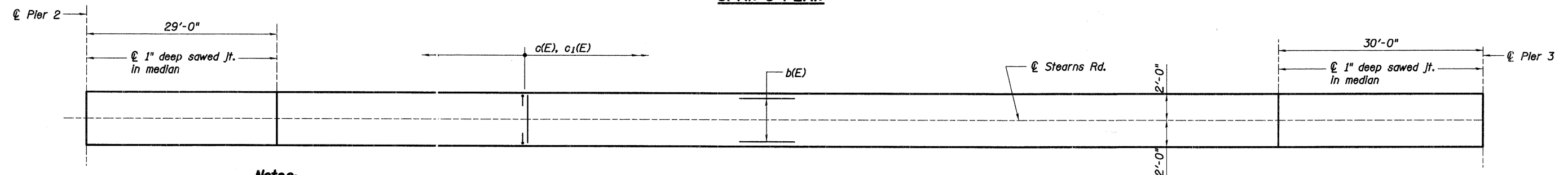
\*\* 1/8" Aluminum Sheet ASTM B209 alloy 3003-H14, coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

**Minimum Lap Lengths**

#5 bar = 1'-8", except a(E) & a4(E) bars = 2'-2" min.  
#6 bar = 2'-0"



**SPAN 3 PLAN**



**SPAN 3 MEDIAN PLAN**

**Notes:**

1. See Sheet S19 of S108 for Superstructure Bill of Material.
2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet S19 of S108 for curb reinforcement.
4. Cut longitudinal reinforcement to clear drainage scuppers.
5. For Drainage Scupper Details see sheet S55 of S108.
6. For Light support details see sheet S21 of S108.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DECK AND MEDIAN PLAN III**  
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

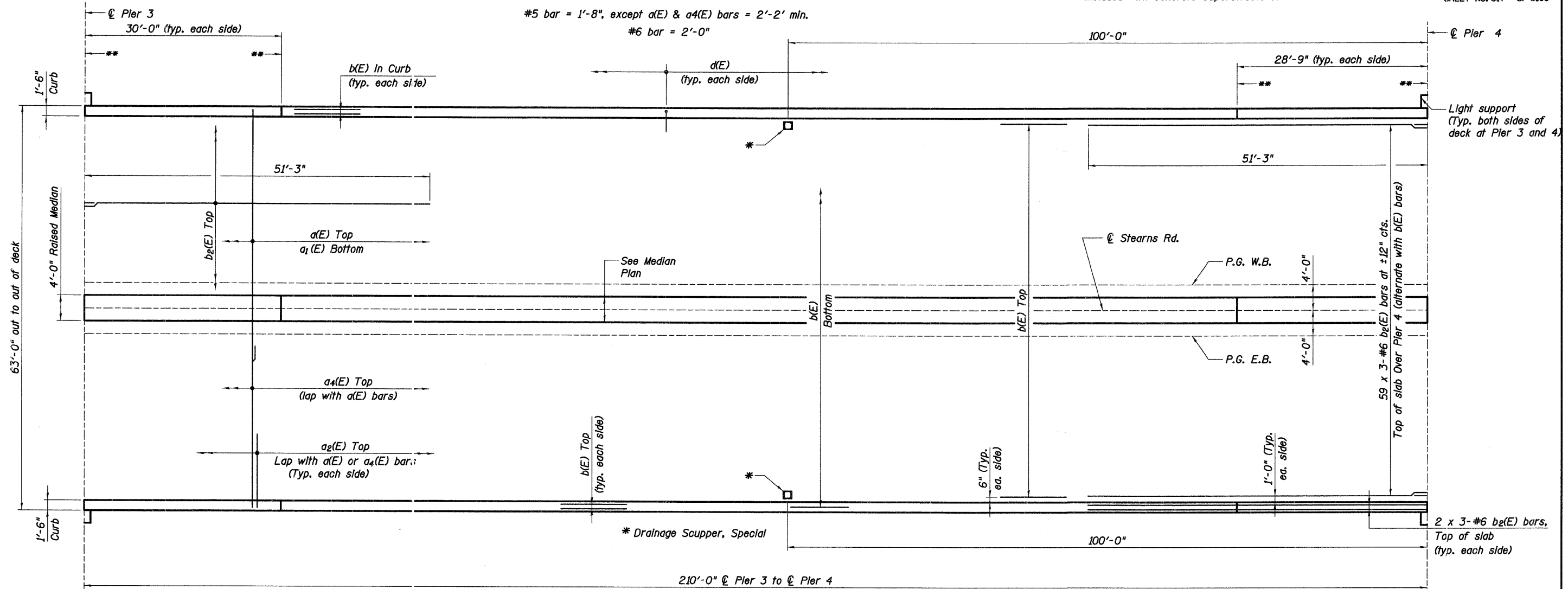


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	122
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
SHEET NO. S17 OF S108				

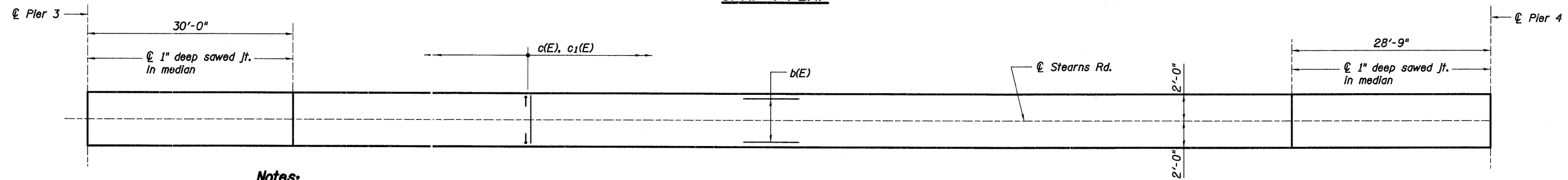
\*\* 1/8" Aluminum Sheet ASTM B209 alloy 3003-H14, coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

**Minimum Lap Lengths**

#5 bar = 1'-8", except a(E) & a4(E) bars = 2'-2" min.  
#6 bar = 2'-0"



**SPAN 4 PLAN**



**Notes:**

1. See Sheet S19 of S108 for Superstructure Bill of Material.
2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet S19 of S108 for curb reinforcement.
4. Cut longitudinal reinforcement to clear drainage scuppers.
5. For Drainage Scupper Details see sheet S55 of S108.
6. For light support details see sheet S21 of S108.

**SPAN 4 MEDIAN PLAN**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DECK AND MEDIAN PLAN IV**  
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

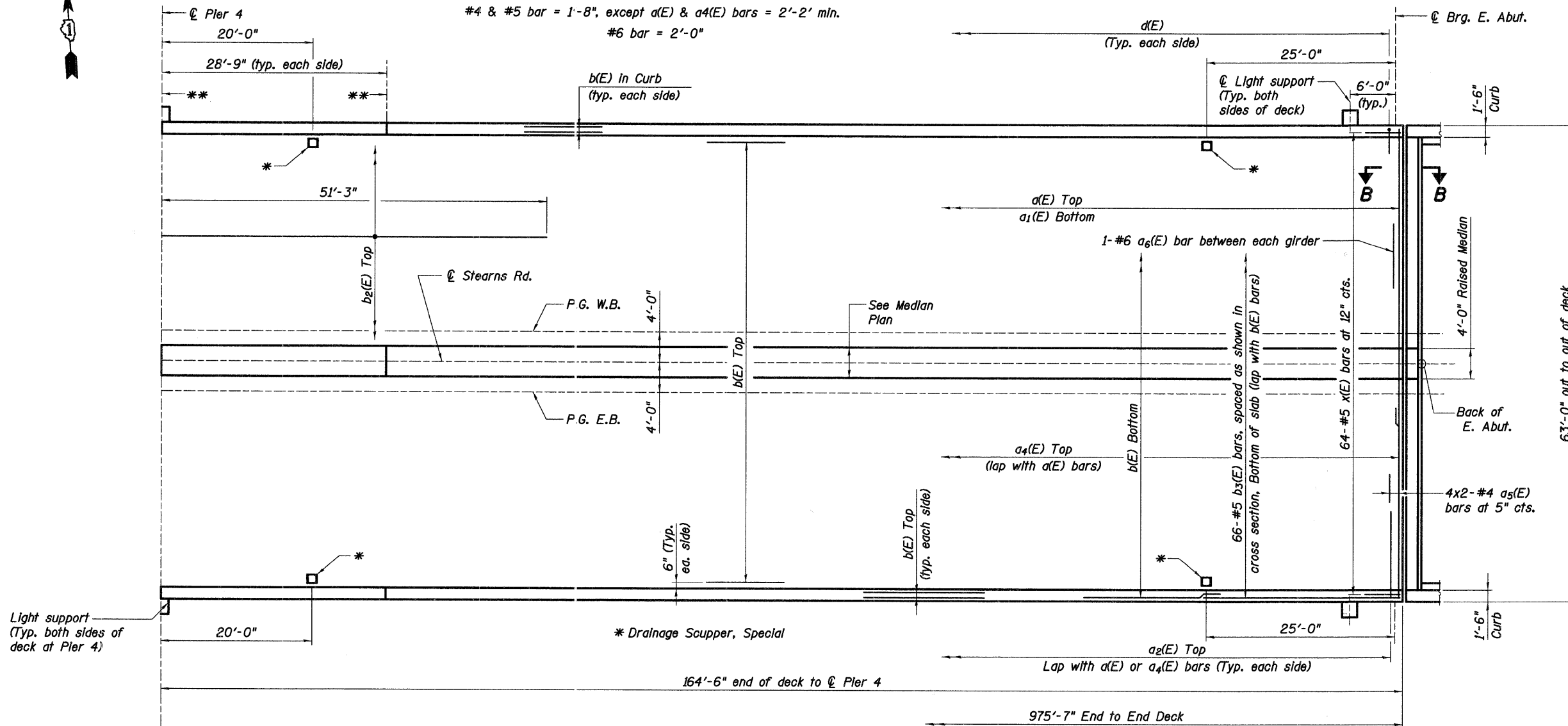
**Baker**  
Baker Engineering, Inc.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	123
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S18 OF S108				

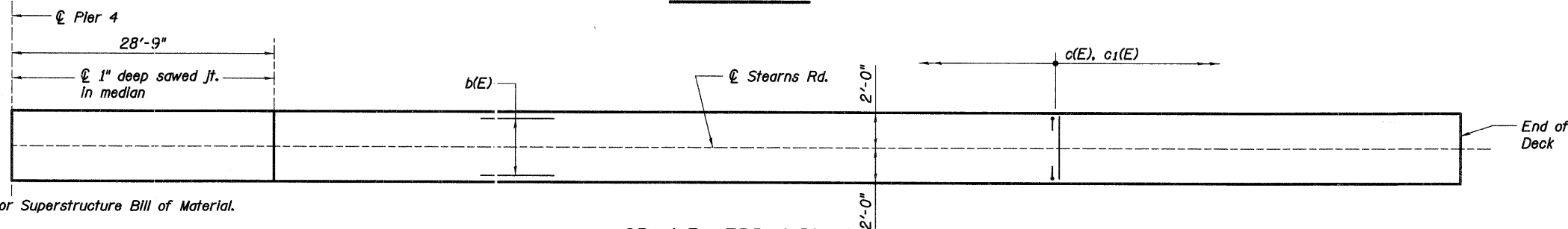
\*\* 1/8" Aluminum Sheet ASTM B209 alloy 3003-H14, coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

**Minimum Lap Lengths**

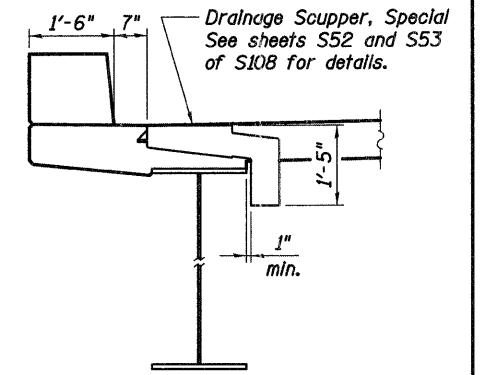
#4 & #5 bar = 1'-8", except a(E) & a4(E) bars = 2'-2" min.  
#6 bar = 2'-0"



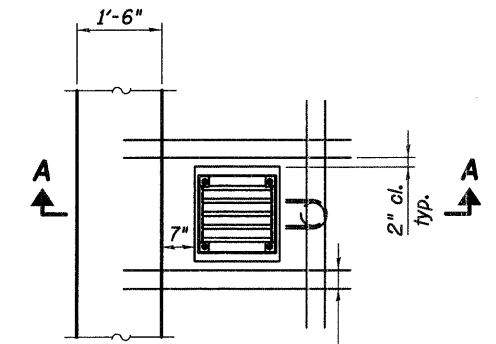
**SPAN 5 PLAN**



**SPAN 5 MEDIAN PLAN**



**SECTION A-A**



2-#5 a3(E) bars at 4" cts. (4'-0" long - 3 faces of scupper) tied to bottom of top reinforcement mat. (Typ.)

**SCUPPER PLAN**

**Notes:**

1. See Sheet S19 of S108 for Superstructure Bill of Material.
2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet S19 of S108 for curb reinforcement.
4. Cut longitudinal reinforcement to clear drainage scuppers.
5. For drainage scupper details, see sheet S55 of S108.
6. See Sheet S21 of S108 for Section B-B.
7. For light support details see sheet S21 of S108.

REVISIONS	
NAME	DATE

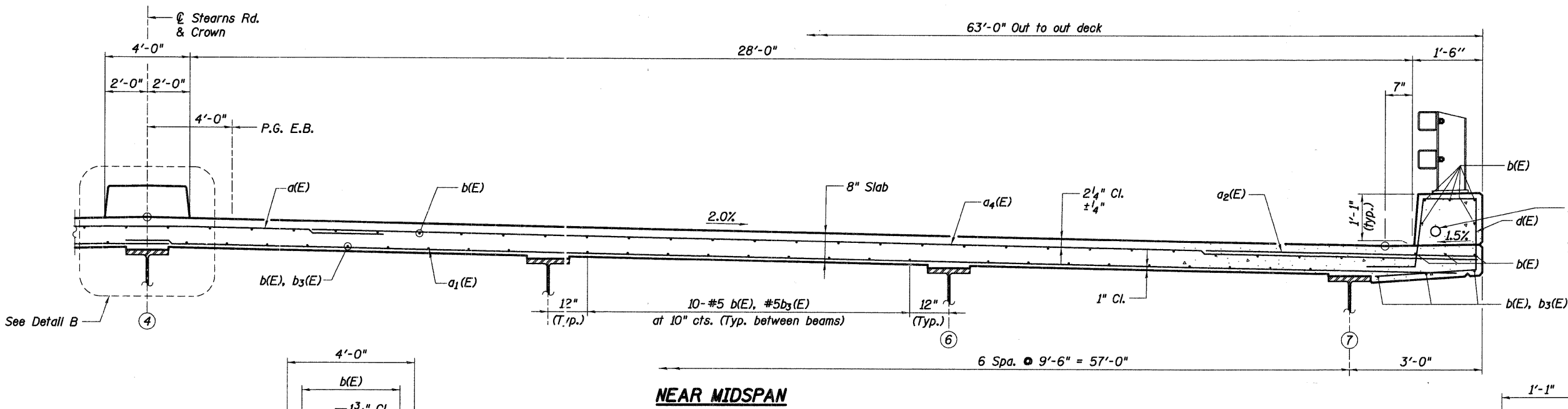
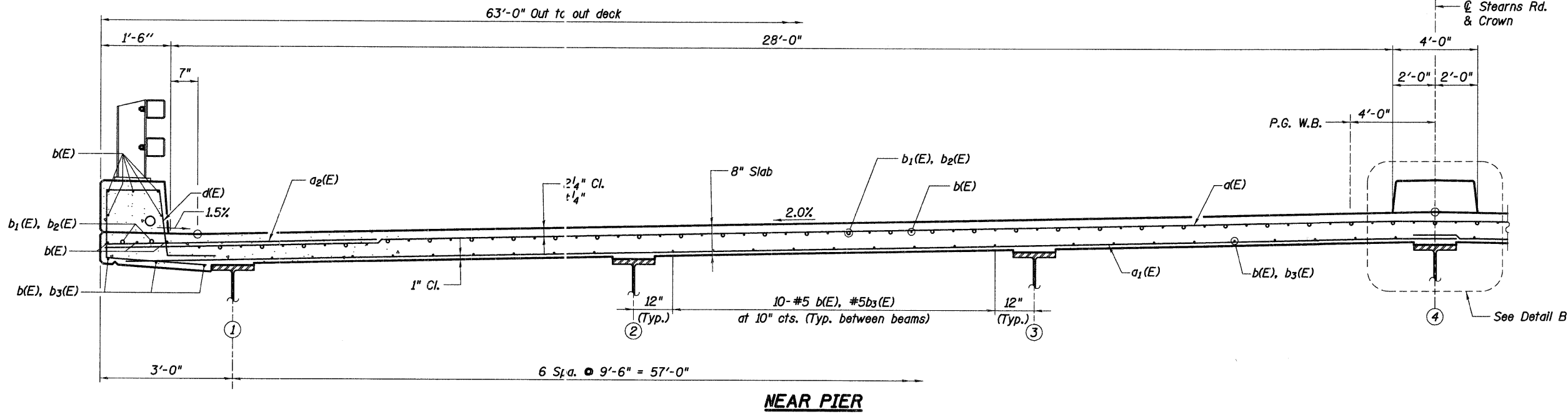
**Baker**  
Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DECK AND MEDIAN PLAN V**  
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: CWG DRAWN: SCW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

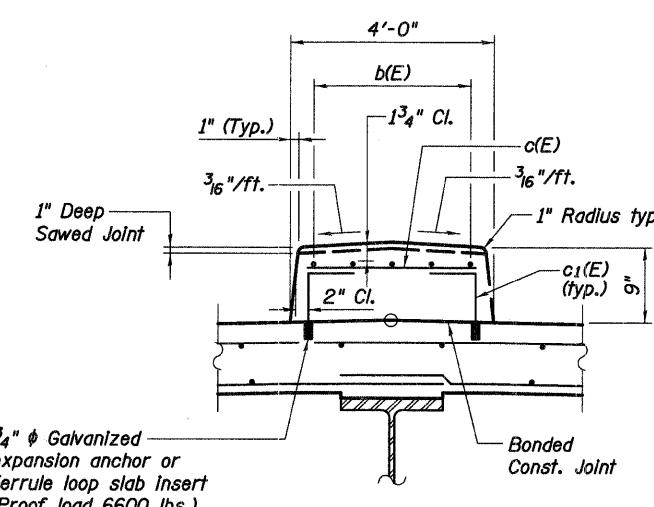
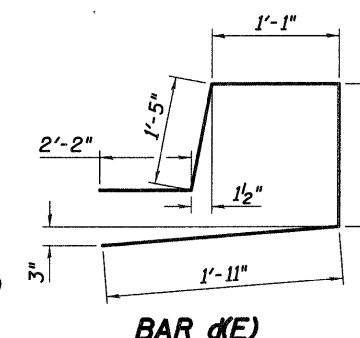
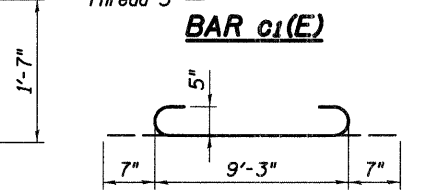
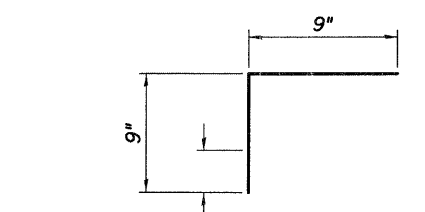
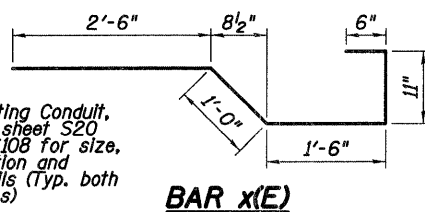
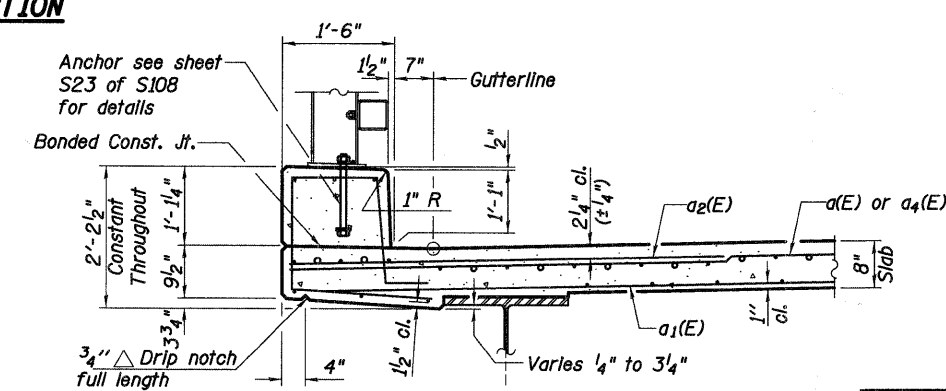
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	124
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S19 OF S108				

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	2,342	# 5	37'-2"	—
a(E)	3,346	# 5	32'-2"	—
a(E)	4,684	# 6	6'-0"	—
a(E)	96	# 5	4'-0"	—
a(E)	2,342	# 5	27'-8"	—
a(E)	16	# 4	32'-2"	—
a(E)	12	# 5	10'-5"	—
a(E)	48	# 5	8'-0"	—
b(E)	5,079	# 5	29'-8"	—
b(E)	189	# 6	41'-8"	—
b(E)	567	# 6	35'-6"	—
b(E)	132	# 5	14'-10"	—
c(E)	977	# 5	3'-6"	—
a(E)	1,954	# 5	1'-6"	—
d(E)	3,904	# 5	8'-2"	—
d(E)	48	# 6	8'-0"	—
d(E)	48	# 6	12'-4"	—
d(E)	60	# 6	8'-0"	—
d(E)	48	# 6	6'-5"	—
x(E)	128	# 5	6'-5"	—
Reinforcement Bars, Epoxy Coated			Pound	558,760
Concrete Superstructure			Cu. Yds.	1,839



**DECK CROSS SECTION  
(Looking Upstation)**



**DETAIL B**

**Note:**  
1. The cost of Expansion Anchors/Inserts is included in the cost of Reinforcement Bars, Epoxy Coated.

REVISIONS	
NAME	DATE

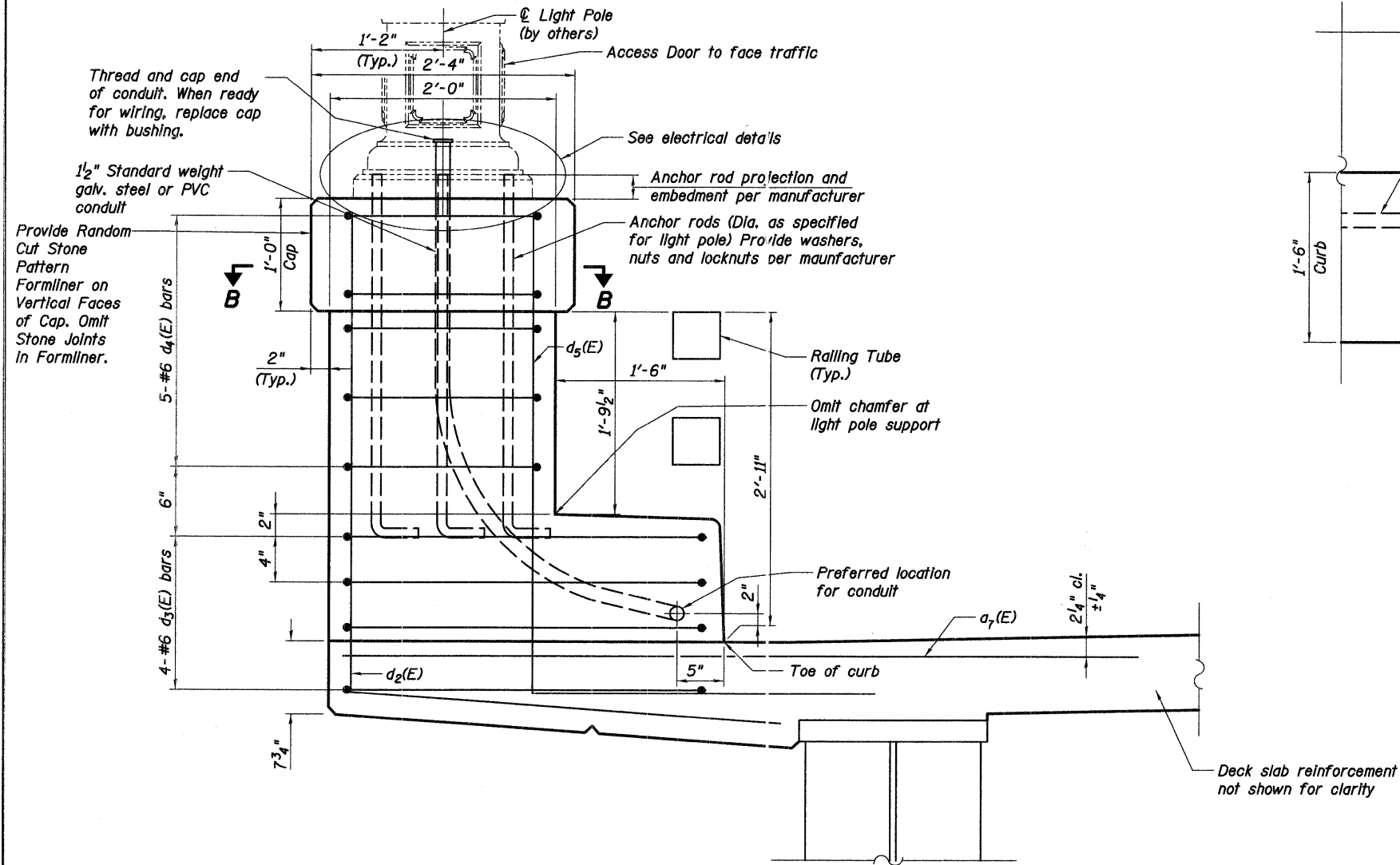
**Baker**  
Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DECK CROSS SECTION**  
STEARNS ROAD  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166  
PUBLIC WORKS  
KANE COUNTY  
FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96  
DESIGNED: GWG  
DRAWN: SCW  
DATE: JANUARY 16, 2009  
CHECKED: KPZ  
CHECKED: KPZ

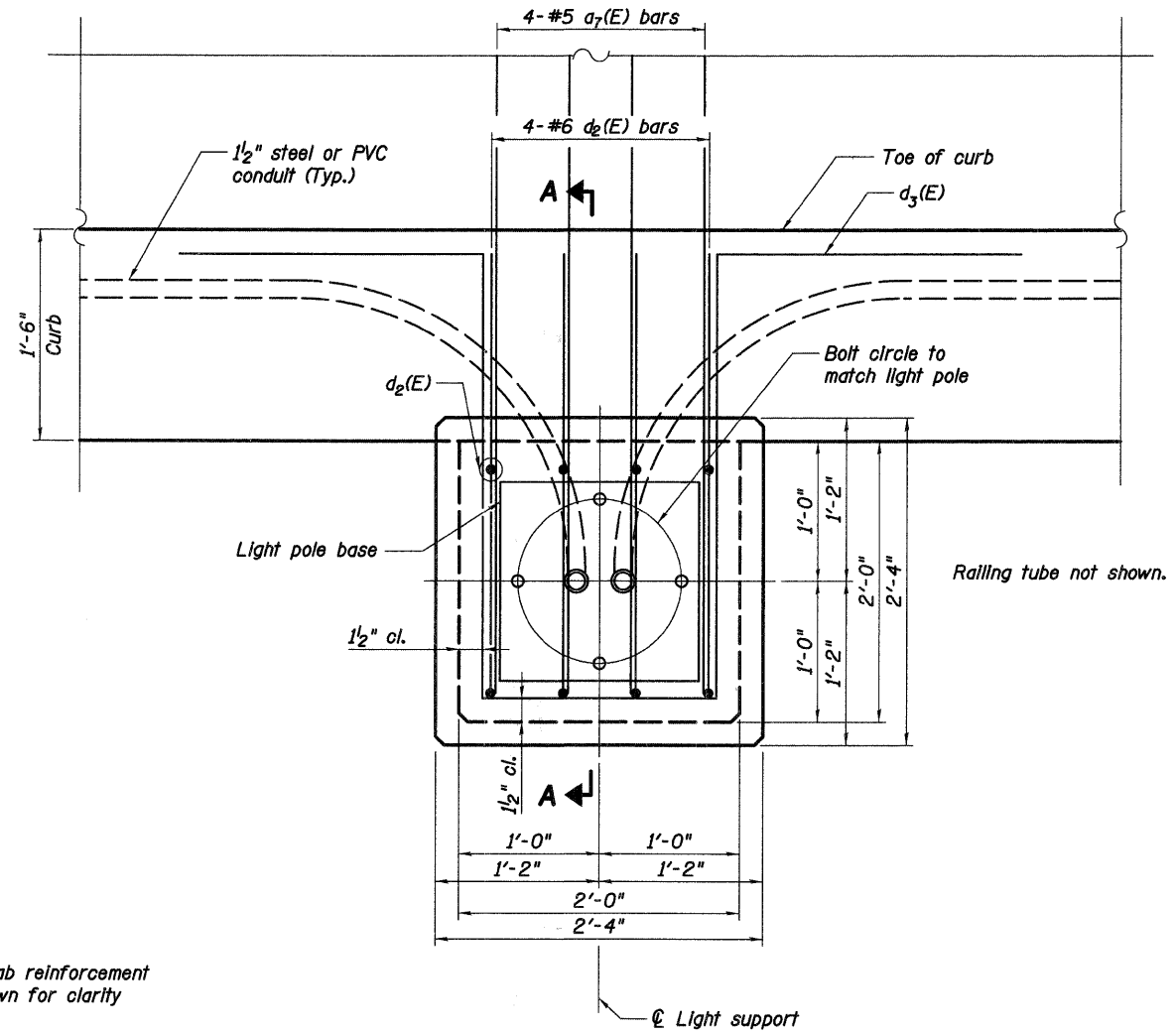
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 2/10/2009



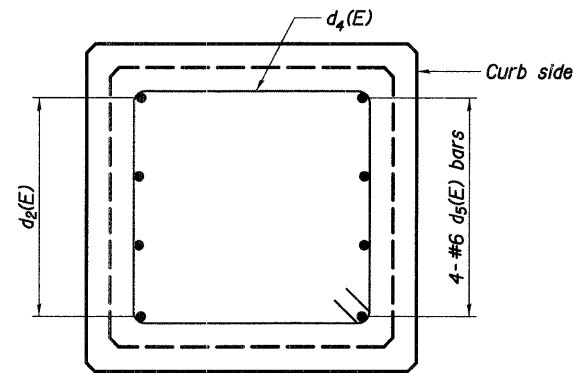
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	125
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S20 OF S108				



**SECTION A-A**

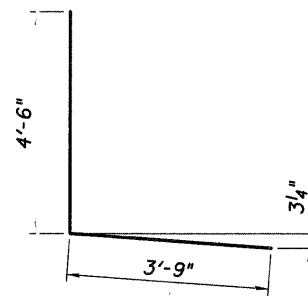


**PLAN**

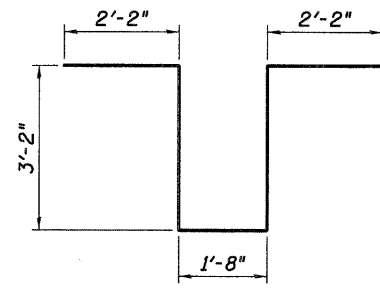


**SECTION B-B**

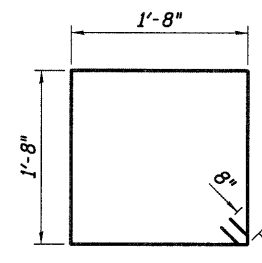
Anchor rods and conduit not shown



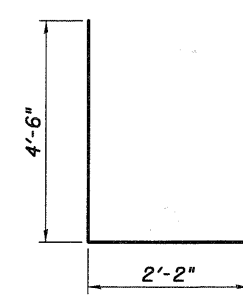
**BAR d2(E)**



**BAR d3(E)**



**BAR d4(E)**



**BAR d5(E)**

**Notes:**

1. Cost of anchor rods and conduit is included with Concrete Superstructure.
2. For electrical details see lighting plans.
3. For deck slab details see sheets S14 to S19 of S108.
4. For light support locations see sheets S14 to S18 of S108.
5. See Sheet S51 of S108 for rubbed finish details.

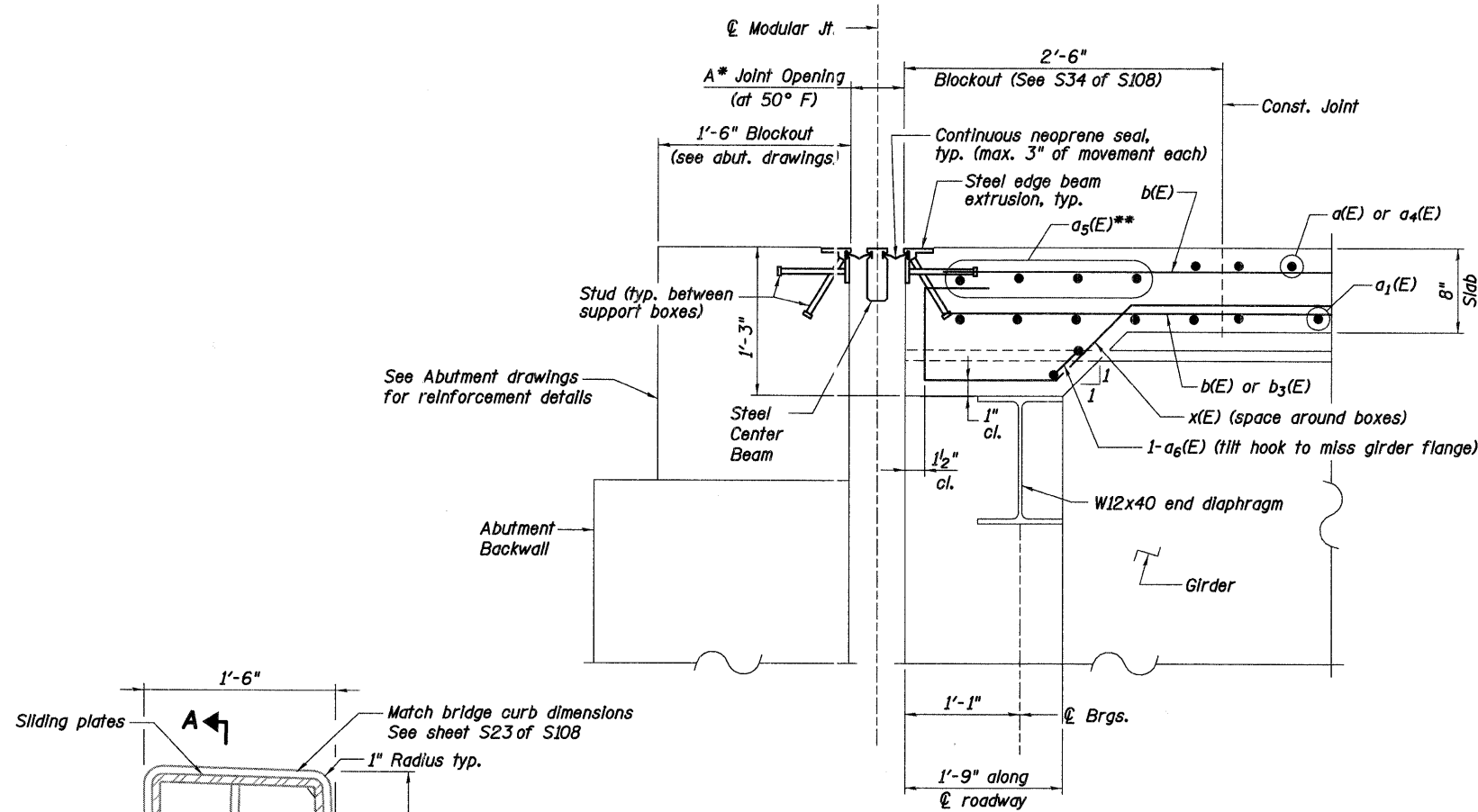
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**LIGHT SUPPORT DETAILS**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: CWG DRAWN: CWG  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

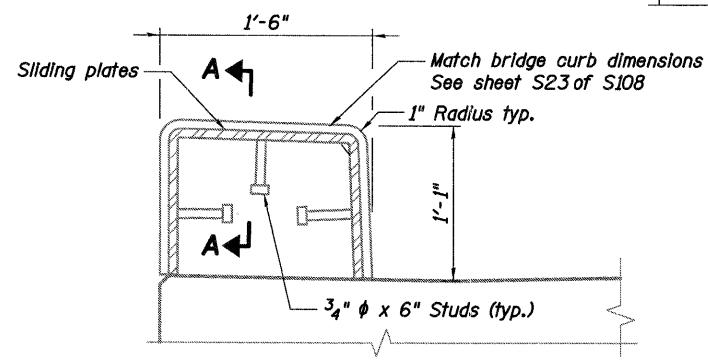
**Baker**  
 Baker Engineering, Inc.

H:\M3005\3.0 Phase II deliverables\3.3 structure\Drawings\Final\045-3166 lightsupport.dgn 2/13/2009

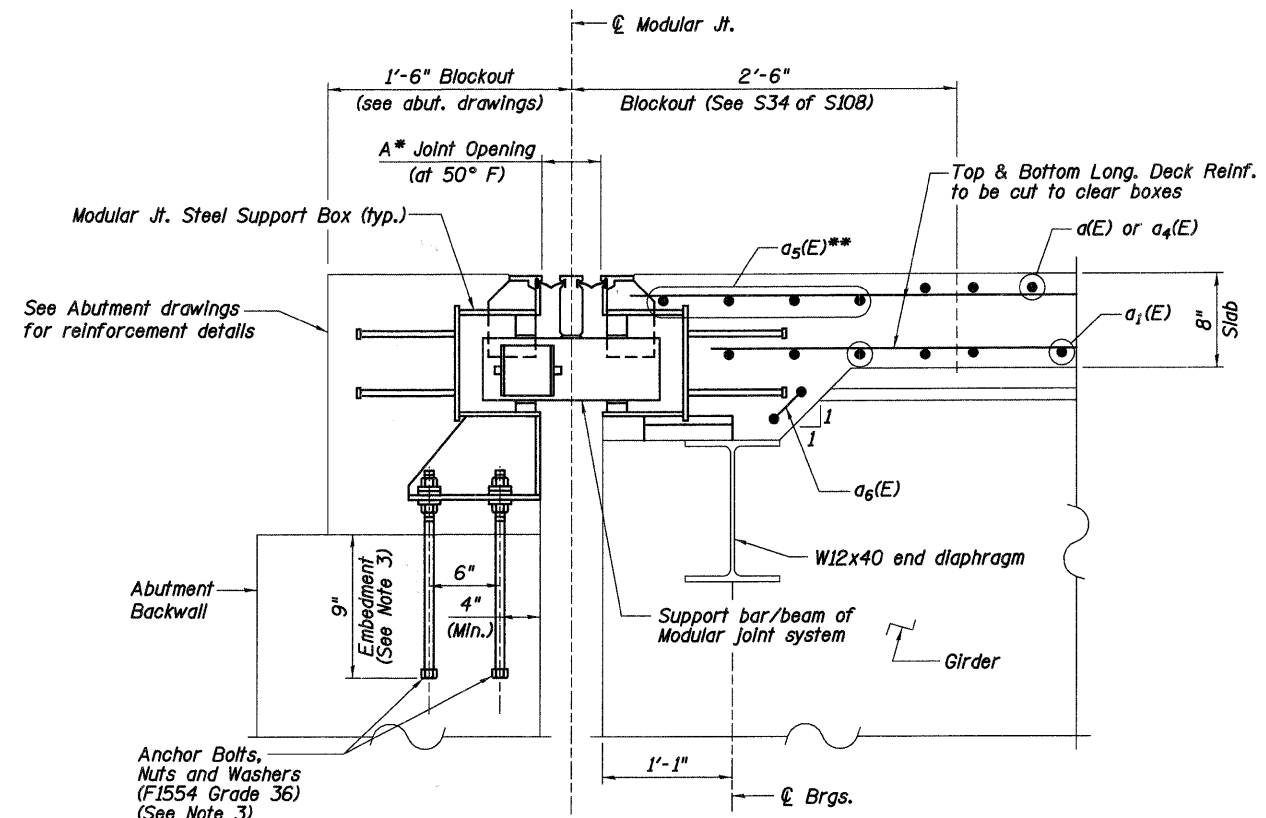
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	126
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S21 OF S108				



**SECTION B-B BETWEEN BOXES**



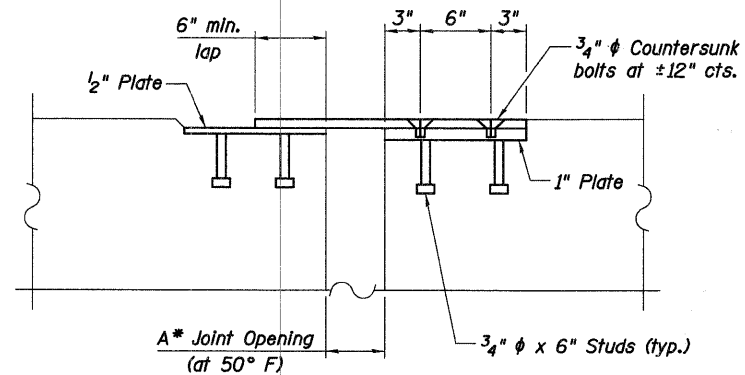
**CURB SLIDING PLATE DETAIL**



**SECTION B-B AT SUPPORT BOX**

\* Dimension 'A' varies depending upon joint manufacturer  
 A = 5 1/2" @ W. Abut. and A = 9 1/2" @ E. Abut. was assumed for deck lengths, cl. brgs, stations, etc.

\*\* Place under the top b(E) bars



**SECTION A-A**

(Typ. of Raised Median Sliding Plate Detail and Curb Sliding Plate Detail)

LOCATION	TOTAL MOVEMENT ALONG CL STEARNS RD.
W. Abut.	4 7/8"
E. Abut.	7 3/8"

**Notes:**

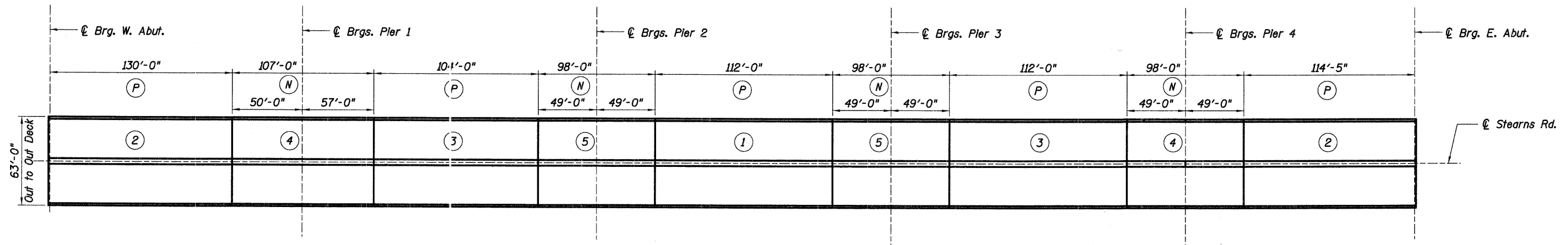
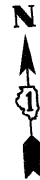
1. See sheet S34 of S108 for modular joint plan, elevation and additional notes.
2. Rigidly attach modular joint support box to diaphragms and beams by adjustable brackets, stools, or shims.
3. Anchor bolts in abutment backwall may either be cast in place or installed as holes drilled after the backwall is cast. Drill and set anchor bolts shall be installed according to Article 510.06 of the Standard Specifications. Anchor bolt locations per manufacturer's recommendations and per approval of the engineer.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DECK DETAILS**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DFM DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	127
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S22 OF S108				



**Notes:**

- When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:
  - At least 72 hours shall have elapsed from the end of the previous pour.
  - The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3,500 psi.
- Pour the 8" thick deck, fillets and overhang concrete per the deck pouring sequence shown. After Pour ⑤ is complete and the requirements of Note 1 have been met, proceed with casting the curbs and median. Meet the requirements of Note 1 during the construction of the curbs and median.
- Blockouts for the modular joints are not shown. Cast blockouts after Pours ① through ⑤ are complete and the curbs and median have been completed. For block out requirements see Sheet S34 of S108.
- Contractor may deviate from the Deck Pouring Sequence shown upon approval of the Engineer. All deck concrete in the positive moment regions shall be placed and cured per Note 1 prior to pouring the deck concrete in the negative moment regions.

**Legend:**

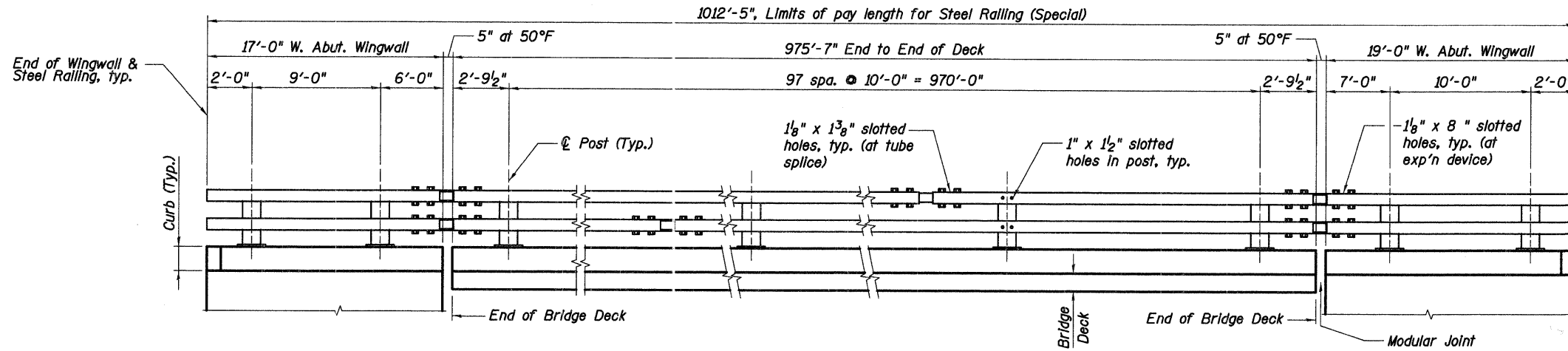
- ④ Denotes Deck Pouring Sequence Number
- Ⓟ Denotes Positive Moment Region
- Ⓝ Denotes Negative Moment Region

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DECK POURING SEQUENCE**  
 STEARNS ROAD PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



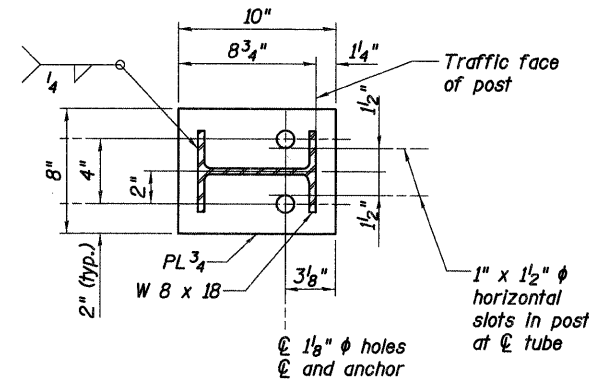
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	128
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S23 OF S108				



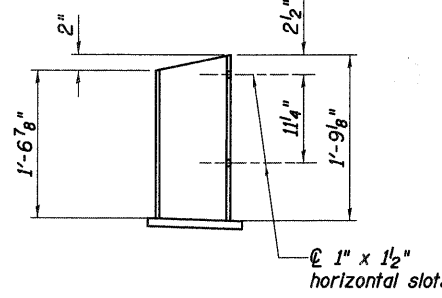
**ELEVATION - INSIDE FACE OF BRIDGE RAIL**  
(looking north, north rail shown, south rail similar)

**Structural Steel:**  
 AASHTO M-183 (ASTM A-36)  $f_y = 36,000 \text{ psi}$   
 AASHTO M-223 (ASTM A-572) GRADE 50  $f_y = 50,000 \text{ psi}$   
 COLD FORMED ASTM A-500 GRADE B  $f_y = 46,000 \text{ psi}$

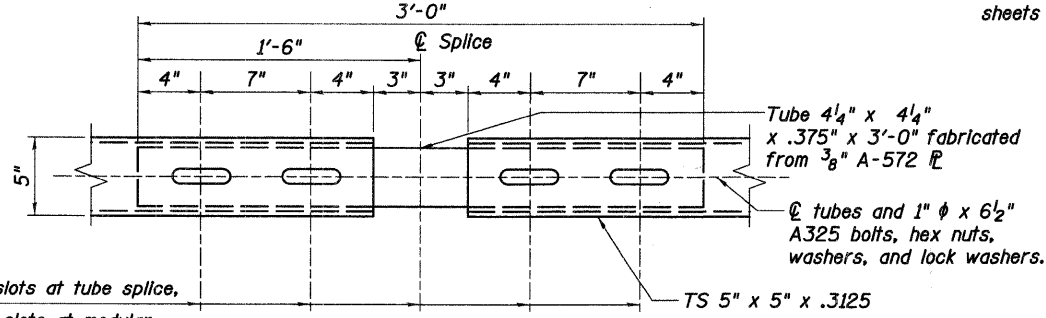
- NOTES:**
- All tubes shall be ASTM A-500 Grade B.
  - All posts and base plates shall be ASTM A-572 Grade 50.
  - All other steel shall be ASTM A-36 unless otherwise noted.
  - The material listed in notes 1 thru 3 shall be painted using the Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System. The finish coat shall be Federal Standard 595B, color #14062; submit paint chips to the Engineer for approval prior to ordering any finish coat material.
  - All anchor bolts and miscellaneous bolts, nuts and washers shall be galvanized after fabrication according to AASHTOM111 or M232.
  - Post anchor, encased in concrete, shall be ASTM A-36 (AASHTO M-183) steel and need not be galvanized.
  - Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
  - Tubes shall be continuous over not less than two posts. No welded butt splices will be allowed in the tube sections.
  - The centerline of the tube splice shall be 1'-8" minimum and 2'-6" maximum from the centerline of the posts.
  - All bolts that have lock washers shall be tightened to snug only.
  - Posts shall be perpendicular to the longitudinal roadway grade.
  - Cost of curb concrete included with Concrete Superstructure.
  - For curb reinforcement on bridge deck see sheets S14 to S19 of S108.
  - For modular expansion joint details see sheet S34 of S108.
  - For additional steel railing details see sheet S24 S108
  - For curb reinforcement on wingwalls see sheets S36 and S38 of S108.



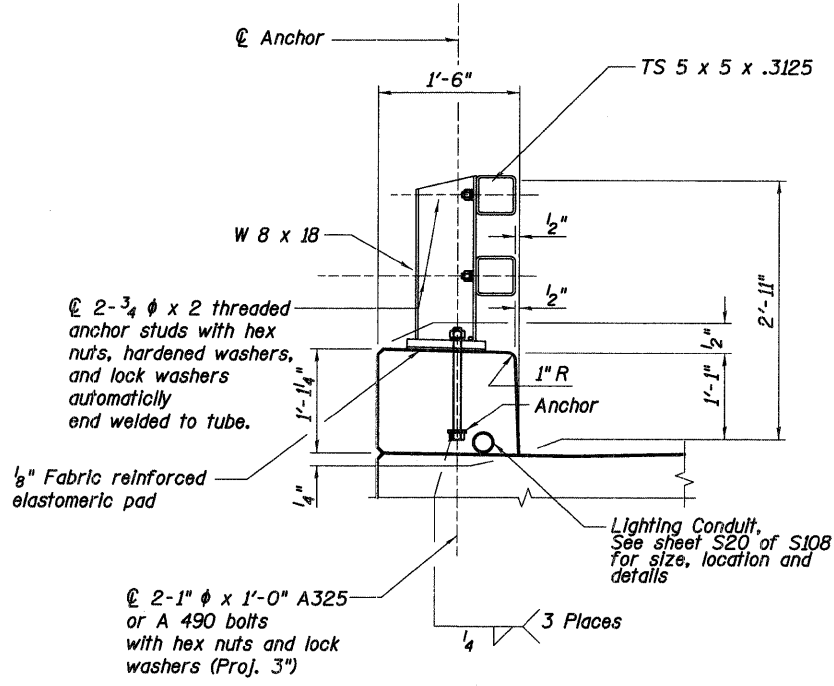
**PLAN - POST DETAIL**



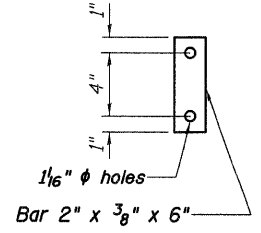
**ELEVATION**



**PLAN - TUBE SPLICE**



**SECTION THRU BRIDGE RAIL**



**ANCHOR DETAIL**

1/16" x 1 3/8" slots at tube splice, and 1/8" x 4 1/4" slots at modular joint. Slot both inner and outer tubes. Stagger top and bottom splices into different post spacings except at modular joint, place at opposite ends of same post space. (Range of motion = 1'-0" at modular joint.)

**BILL OF MATERIAL**

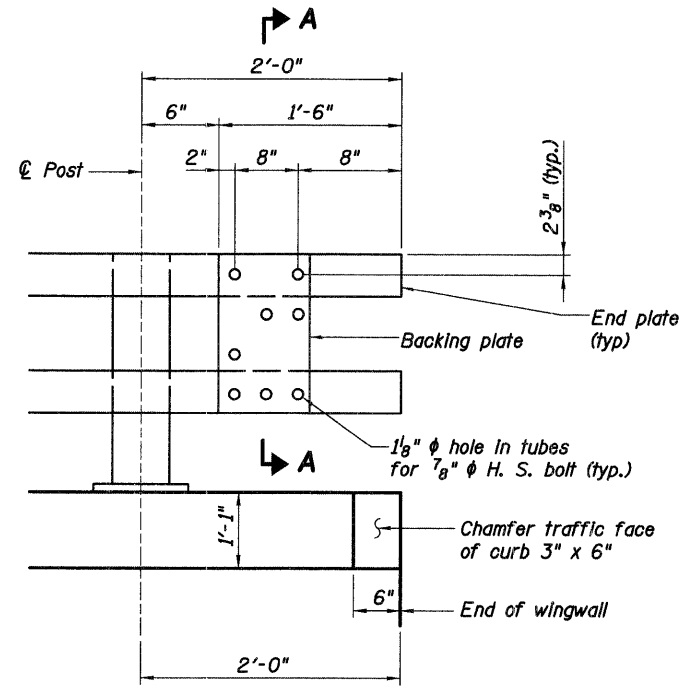
Item	Unit	Quantity
Steel Railing (Special)	Foot	2,025

REVISIONS	
NAME	DATE

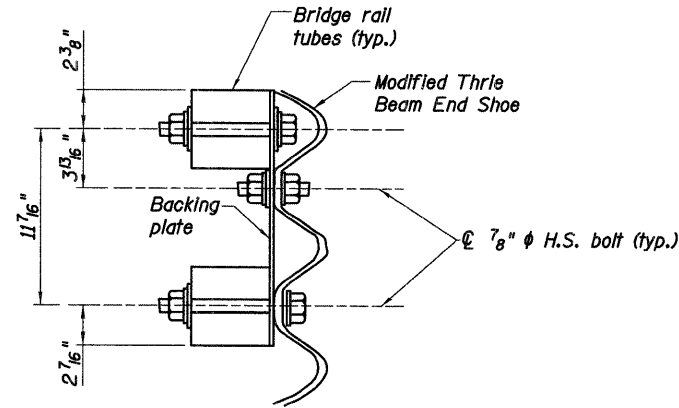
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**STEEL RAILING DETAILS I**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: JB  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
 Baker Engineering, Inc.

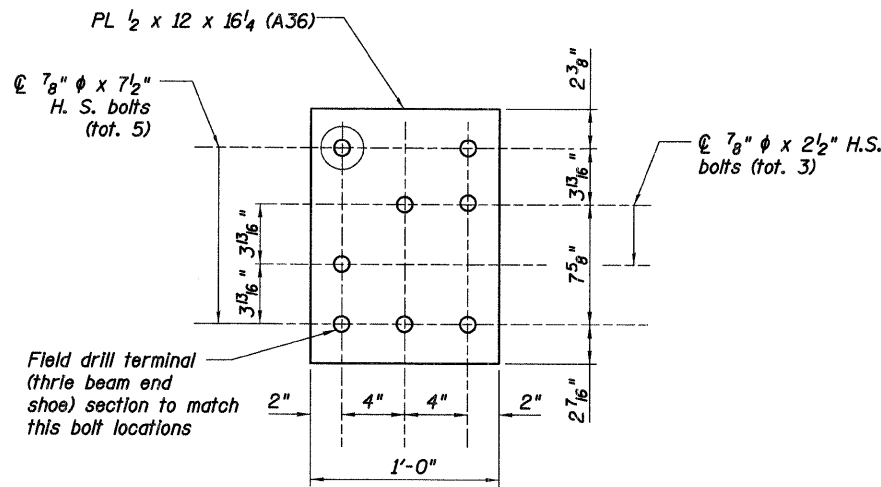
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	129
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S24 OF S108				



**RAIL END DETAILS**

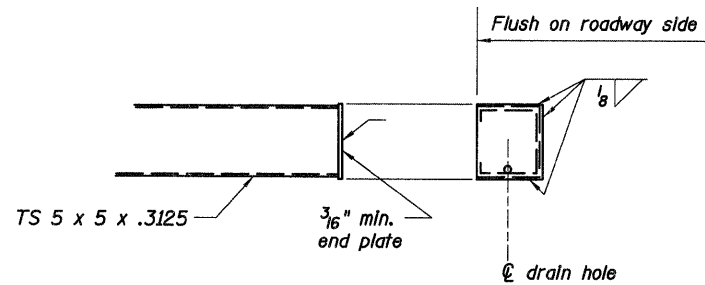


**SECTION A-A**



**BACKING PLATE**

Holes are 1/8"  $\phi$  for 7/8"  $\phi$  H. S. bolts with hex nuts, 2 PL washers, and 1 lock washer



**END PLATE DETAIL**

**NOTE:**

- For additional steel railing details and notes see sheet S23 of S108.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**STEEL RAILING DETAILS II**

STEARNS ROAD PUBLIC WATERS  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: DAP DRAWN: JB  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	130
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S25 OF S108				

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

The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

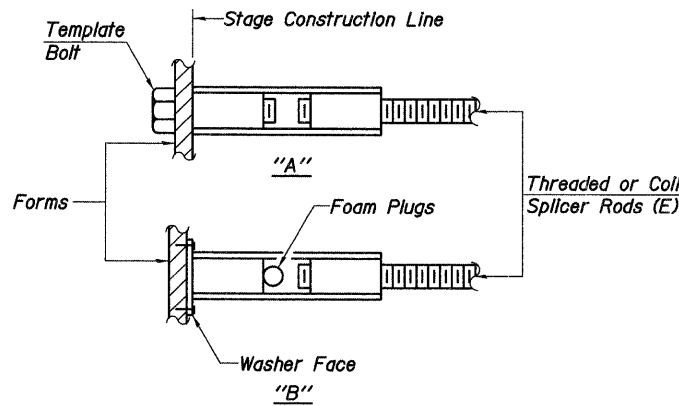
Wire Connector



WELDED SECTIONS

**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



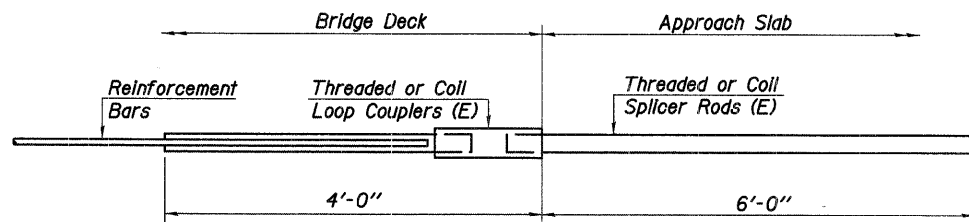
**INSTALLATION AND SETTING METHODS**

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

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

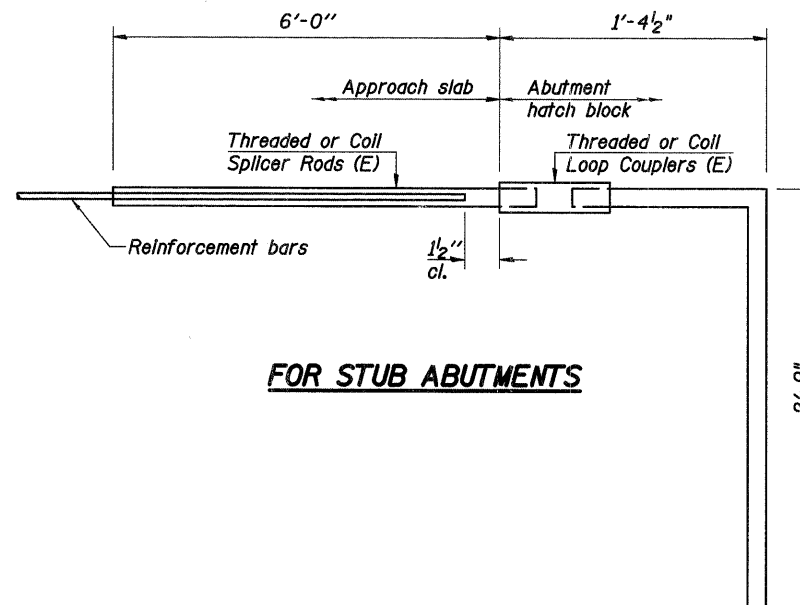
- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_t$
  - ② Minimum \*Pull-out Strength (Tension in kips) =  $0.66 \times f_y \times A_t$
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
 \* = 28 day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

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



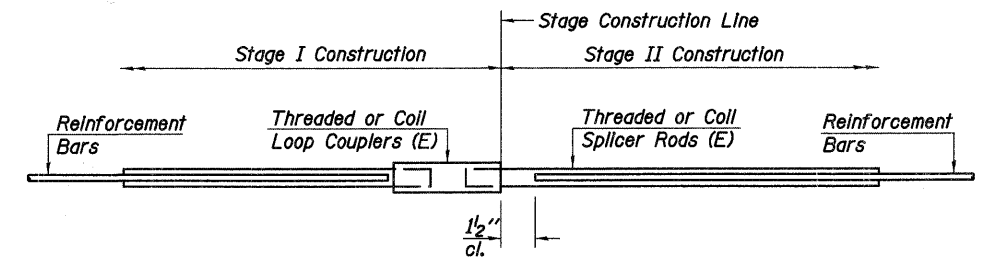
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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



**FOR STUB ABUTMENTS**

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	12.3 kips - tension
No. Required =	161



**STANDARD**

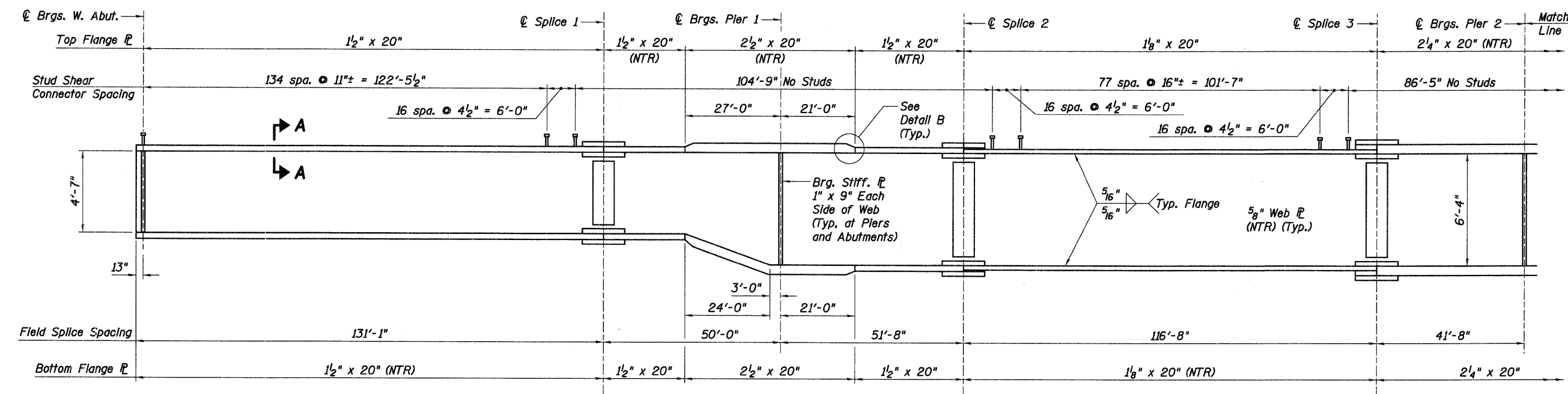
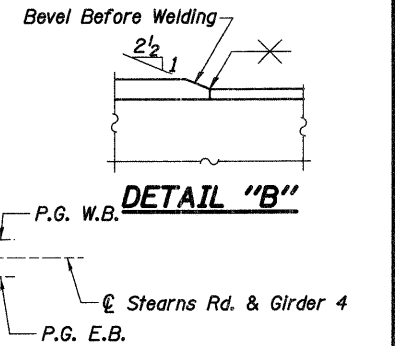
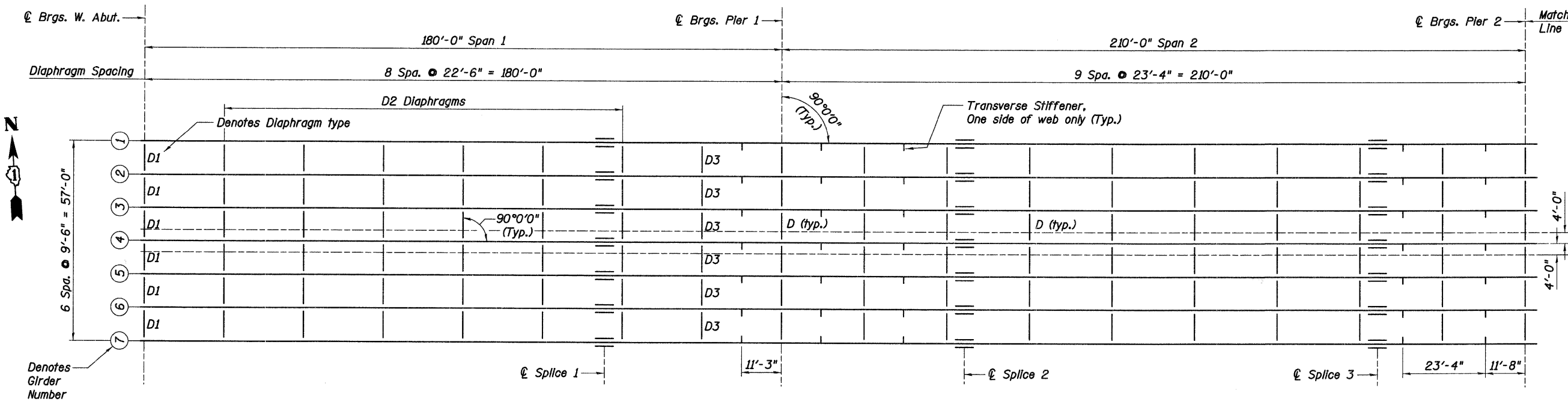
Bar Size	No. Assemblies Required	Location

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**BAR SPLICER ASSEMBLY DETAILS**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
 Baker Engineering, Inc.

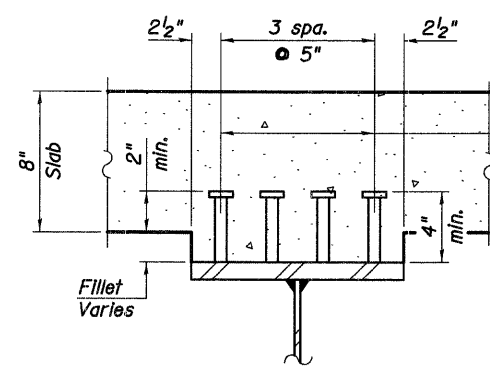
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	131
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S26 OF S108				



**TOP OF WEB ELEVATIONS**

Girder Number	© Brg. W. Abut.	© Splice 1	© Pier 1	© Splice 2	© Splice 3	© Pier 2	© Splice 4	© Splice 5	© Pier 3	© Splice 6	© Splice 7	© Pier 4	© Splice 8	© Brg. E. Abut.
1	744.25	743.24	741.97	740.86	737.36	736.09	734.81	731.09	729.79	728.48	724.79	723.48	722.17	718.68
2	744.44	743.43	742.16	741.05	737.55	736.28	735.00	731.28	729.98	728.67	724.98	723.67	722.36	718.87
3	744.63	743.62	742.35	741.24	737.74	736.47	735.19	731.47	730.17	728.86	725.17	723.86	722.55	719.06
4	744.82	743.81	742.54	741.43	737.93	736.66	735.38	731.66	730.36	729.05	725.36	724.05	722.74	719.25
5	744.63	743.62	742.35	741.24	737.74	736.47	735.19	731.47	730.17	728.86	725.17	723.86	722.55	719.06
6	744.44	743.43	742.16	741.05	737.55	736.28	735.00	731.28	729.98	728.67	724.98	723.67	722.36	718.87
7	744.25	743.24	741.97	740.86	737.36	736.09	734.81	731.09	729.79	728.48	724.79	723.48	722.17	718.68

(For Fabrication Only)



**Notes:**

- For additional Framing Plan and Girder Elevation Information, see sheets S27 and S28 of S108.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements Notch Toughness, Zone 2.
- For Diaphragm details, see sheet S29 of S108.
- For Splice details, see sheet S30 of S108.
- The structural steel for girders, bearing stiffeners, and splice plate material except fill plates shall conform to the requirements of AASHTO M270, Gr. 50.



REVISIONS	
NAME	DATE

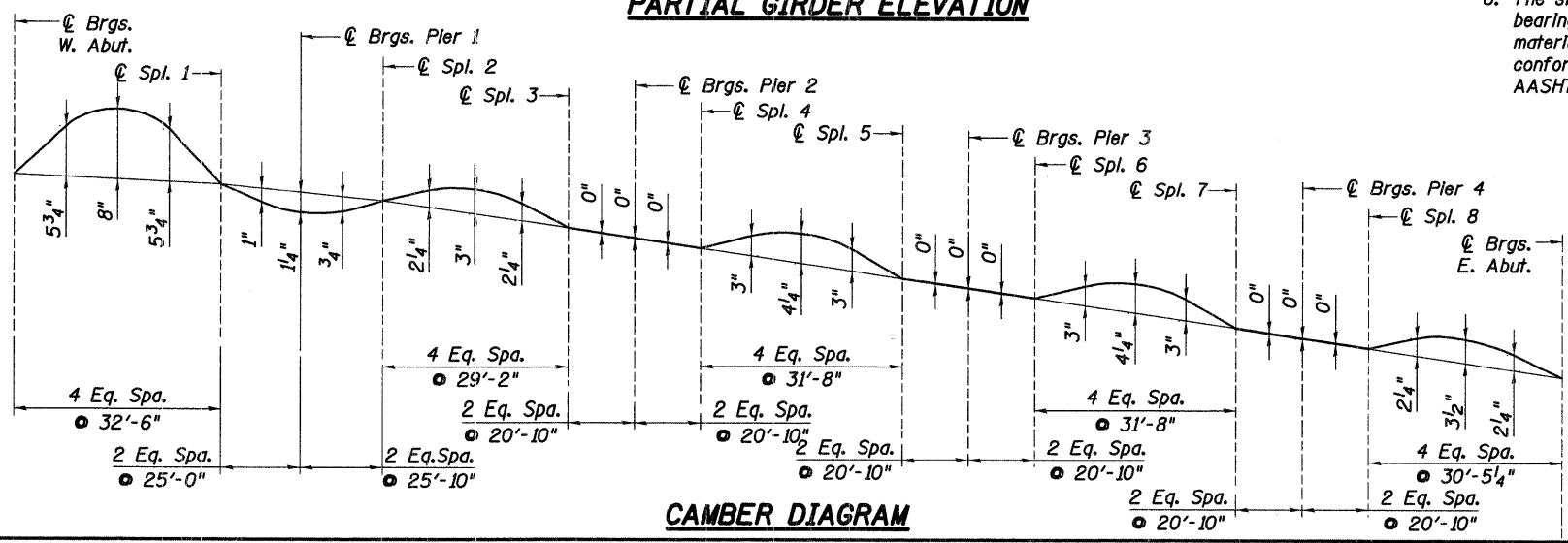
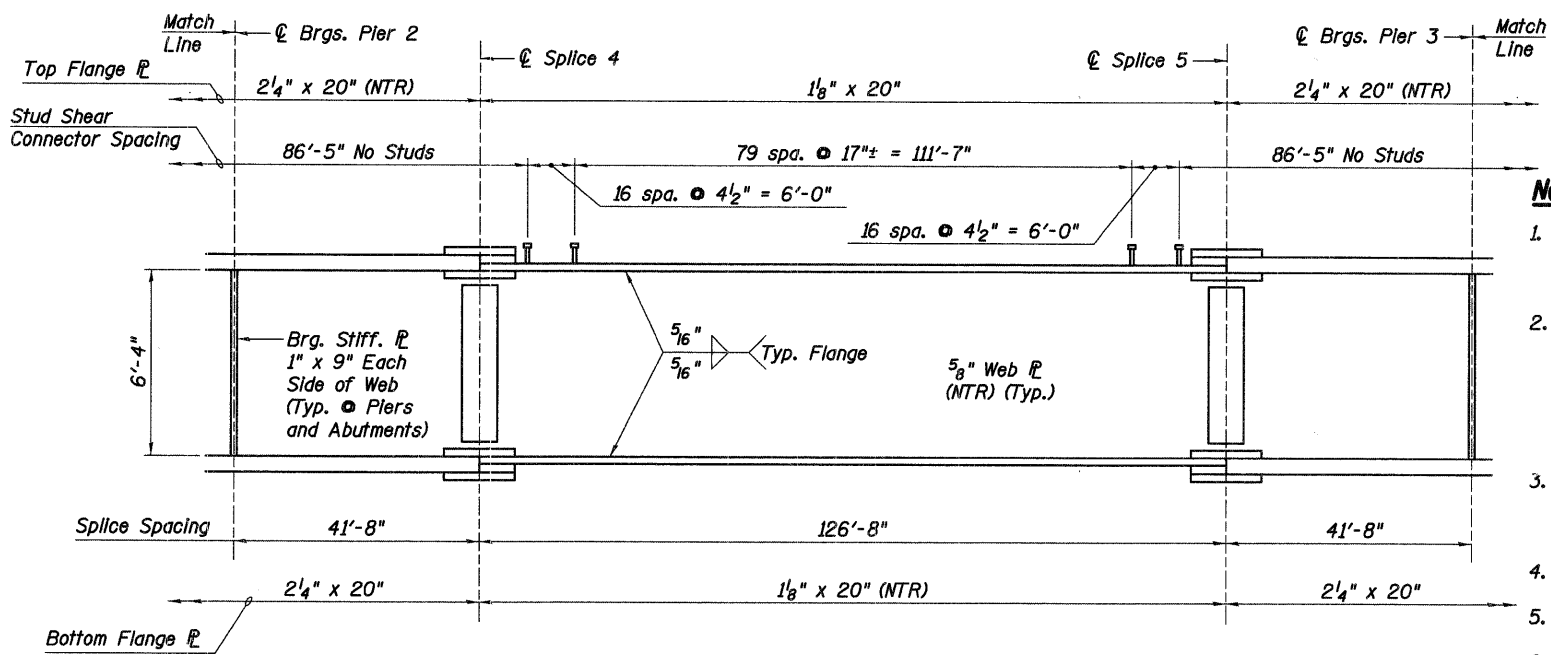
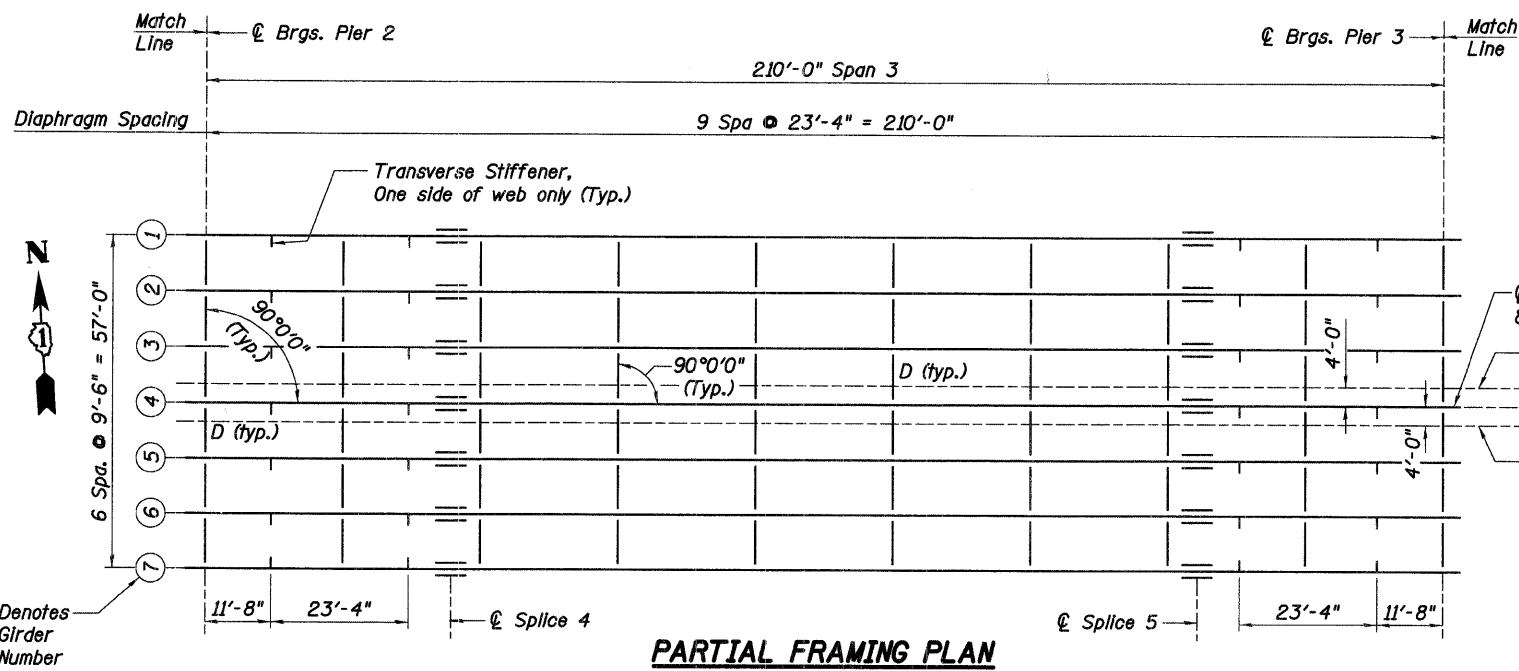
ILLINOIS DEPARTMENT OF TRANSPORTATION

**FRAMING PLAN AND GIRDER ELEVATION I**

STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166

KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	132
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S27 OF S108				



**INTERIOR GIRDER MOMENT TABLE**

	0.4 Sp. 1	Pier 1	0.5 Sp. 2 0.5 Sp. 3 0.5 Sp. 4	Pier 2	Pier 3	Pier 4	0.6 Sp. 5
$I_s$ (in <sup>4</sup> )	56,561	176,971	89,785	160,669	160,669	160,669	89,785
$I_o(n)$ (in <sup>4</sup> )	110,315	--	180,259	--	--	--	180,259
$I_o(3n)$ (in <sup>4</sup> )	83,830	--	135,981	--	--	--	135,981
$S_s$ (in <sup>3</sup> )	1,950	4,370	2,295	3,992	3,992	3,992	2,295
$S_o(n)$ (in <sup>3</sup> )	2,394	--	2,923	--	--	--	2,923
$S_o(3n)$ (in <sup>3</sup> )	2,224	--	2,684	--	--	--	2,684
$Z$ (in <sup>3</sup> )	--	--	--	--	--	--	--
DC1 (k/')	1.32	1.67	1.32	1.63	1.63	1.63	1.32
MDC1 (k)	2,724	6,775	2,005	5,796	6,161	5,952	2,122
DC2 (k/')	0.15	--	0.15	--	--	--	0.15
MDC2 (k)	311	--	237	--	--	--	246
DW (k/')	0.40	0.40	0.40	0.40	0.40	0.40	0.40
MDW (k)	840	1,788	641	1,515	1,612	1,545	664
$M_L + IM$ (k)	3,085	4,008	3,176	3,826	3,618	3,627	3,015
$M_u$ (Strength I) (k)	10,453	18,165	9,322	16,213	16,451	16,105	9,232
* $\phi_r M_n, \phi_r M_{no}$ (k)	11,796	--	14,796	--	--	--	14,738
$f_s$ DC1 (ksi)	16.8	18.6	10.5	17.4	18.5	17.9	11.1
$f_s$ DC2 (ksi)	1.7	--	1.1	--	--	--	1.1
$f_s$ DW (ksi)	4.5	4.9	2.9	4.6	4.8	4.6	3.0
$f_s$ 1.3(L+IM) (ksi)	20.1	14.3	17.0	15.0	14.1	14.2	16.1
$f_s$ (Service II) (ksi)	43.1	37.8	31.5	37.0	37.4	36.7	31.3
** $f_s$ (Total)(Strength I)(ksi)	--	49.9	--	48.8	49.3	48.4	--
$V_r$ (k)	35.9	--	32.5	--	--	--	36.7

\* Compact sections  
 \*\* Non-Compact and slender sections

**Notes:**

- For additional Framing Plan and Girder Elevation information, see sheets S26 and S28 of S108.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements Notch Toughness, Zone 2.
- For Diaphragm details, see sheet S29 of S108.
- For Splice details, see sheet S30 of S108.
- The structural steel for girders, bearing stiffeners, and splice plate material except fill plates shall conform to the requirements of AASHTO M270, Gr. 50.

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).

$I_o(n), S_o(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).

$I_o(3n), S_o(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

$Z$ : Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (in<sup>3</sup>).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_L + IM$ : Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).

$M_u$  (Strength I): Factored design moment (kip-ft.).  $1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_L + IM$

$\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_r M_{no}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

$f_s$  (Service II): Sum of stresses as computed from the moments below on non-compact section (ksi).

$f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).

$V_r$ : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

**INTERIOR GIRDER REACTION TABLE**

	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	E. Abut.
$R_{DC1}$ (k)	85	306	285	293	291	75
$R_{DC2}$ (k)	10	33	30	31	31	9
$R_{DW}$ (k)	26	89	82	85	84	23
$R_L + IM$ (k)	126	279	281	276	272	124
$R_{Total}$ (k)	162	707	678	685	678	231

**REVISIONS**

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**FRAMING PLAN AND GIRDER ELEVATION II**

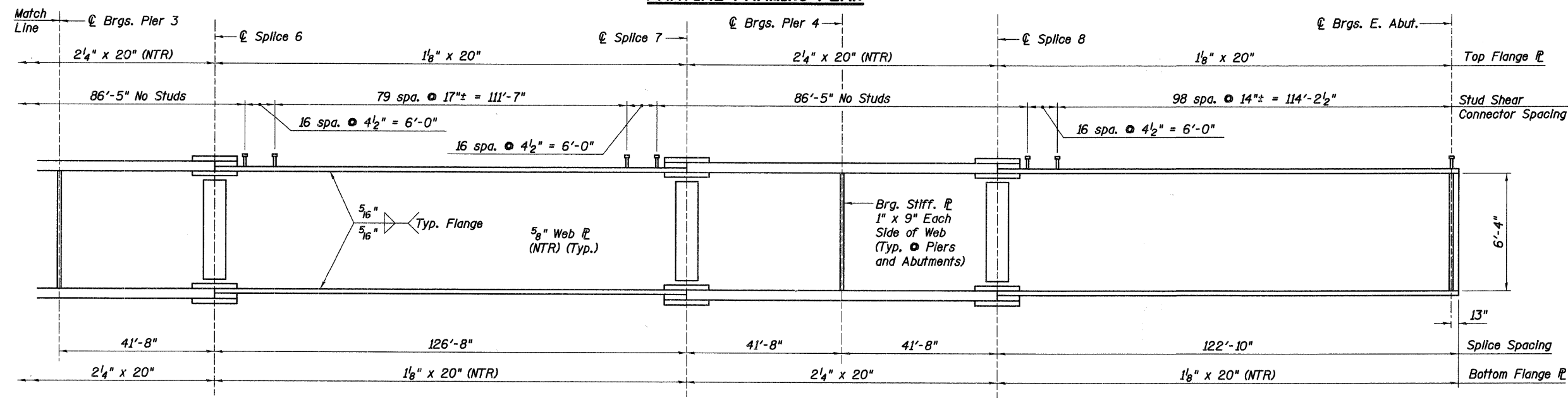
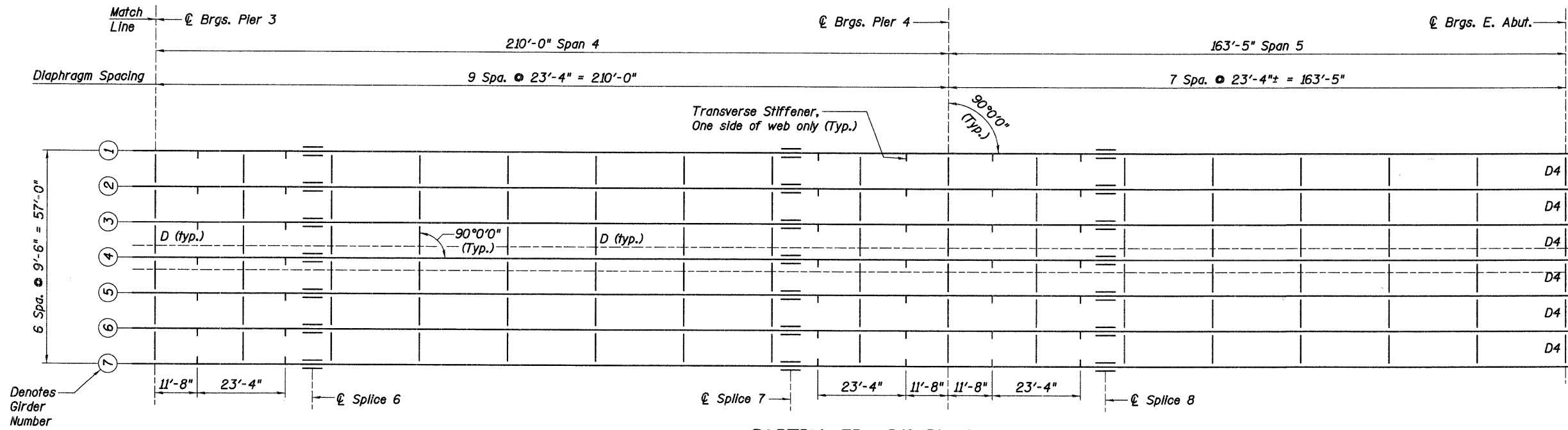
STEARN'S ROAD      PUBLIC  
 OVER THE FOX RIVER      WATERS  
 STRUCTURE NUMBER 045-3166

KANE COUNTY      FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96      DESIGNED: GWG      DRAWN: SGW  
 DATE: JANUARY 16, 2009      CHECKED: KPZ      CHECKED: KPZ





F.A.P. No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	133
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S28 OF S108				



- Notes:**
- For additional Framing Plan and Girder Elevation Information, see sheets S26 and S27 of S108.
  - All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
  - Load carrying components designated "NTR" shall conform to the Supplemental Requirements Notch Toughness, Zone 2.
  - For Diaphragm details, see sheet S29 of S108.
  - For Splice details, see sheet S30 of S108.
  - The structural steel for girders, bearing stiffeners, and splice plate material except fill plates shall conform to the requirements of AASHTO M270, Gr. 50.

REVISIONS	
NAME	DATE



ILLINOIS DEPARTMENT OF TRANSPORTATION

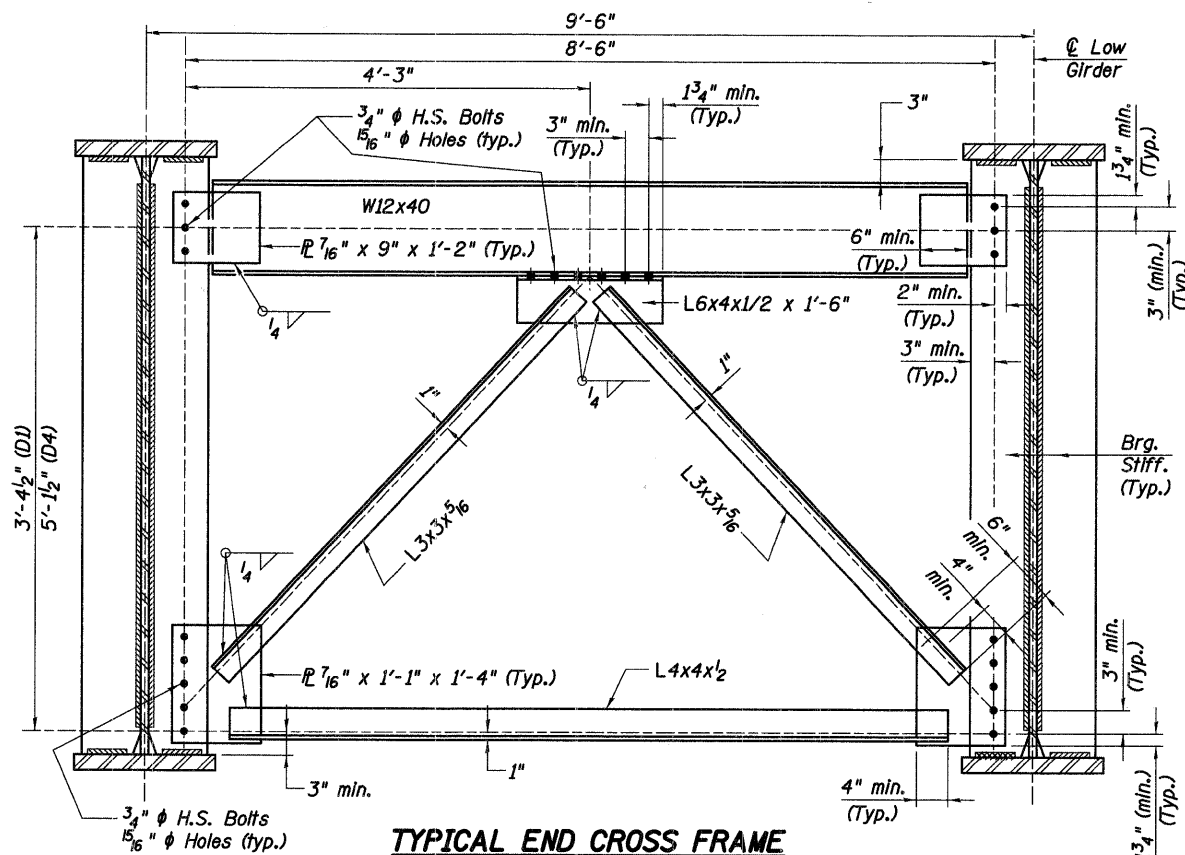
**FRAMING PLAN AND GIRDER ELEVATION III**

STEARNS ROAD PUBLIC  
OVER THE FOX RIVER WATERS  
STRUCTURE NUMBER 045-3166

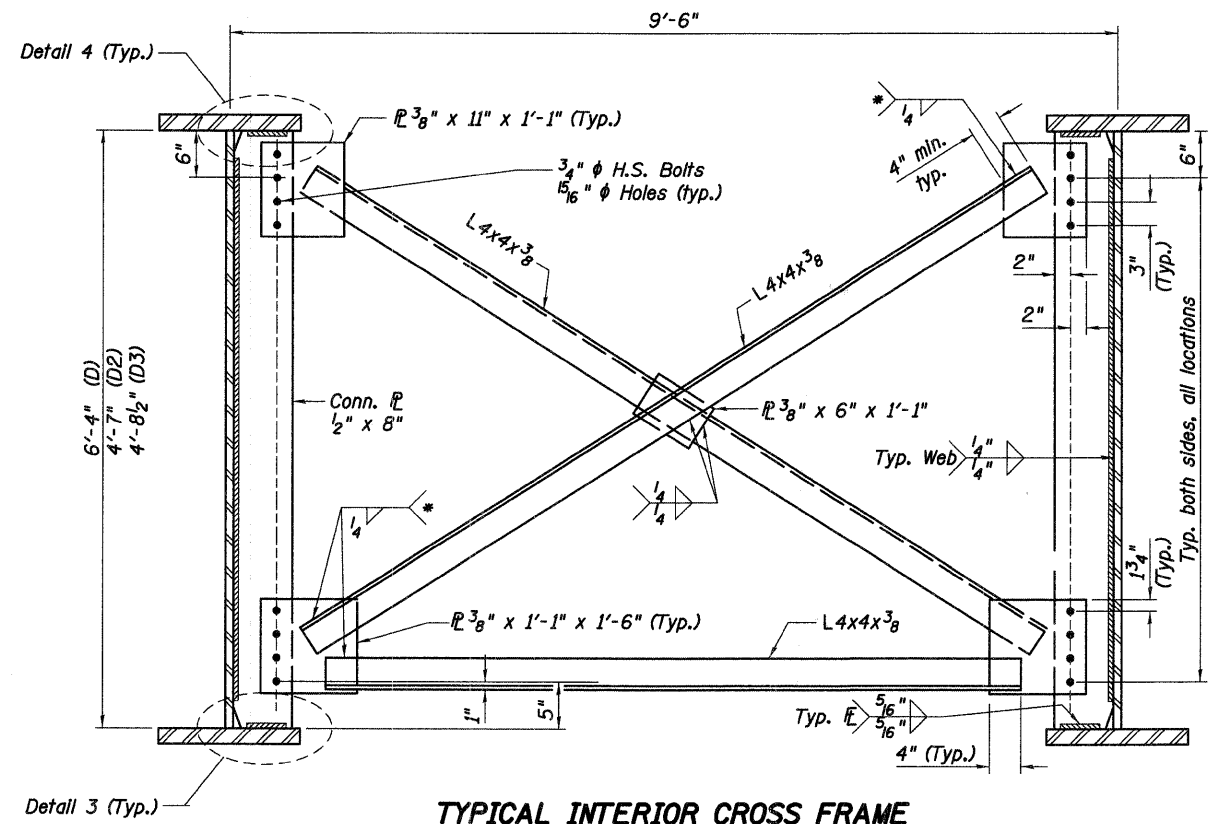
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

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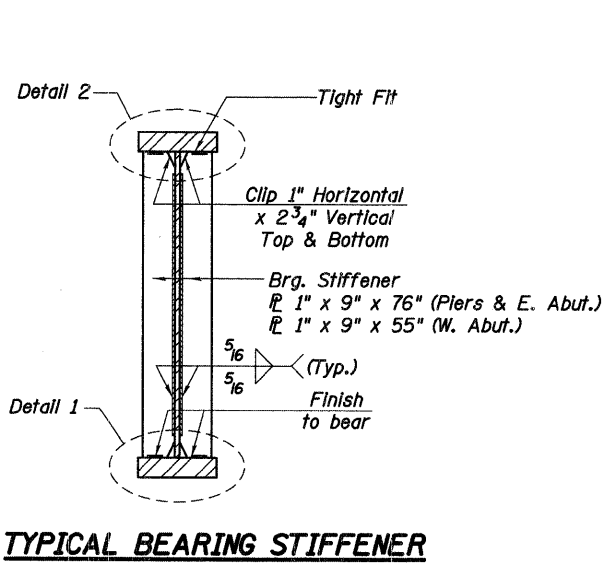
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	134
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S29 OF S108				



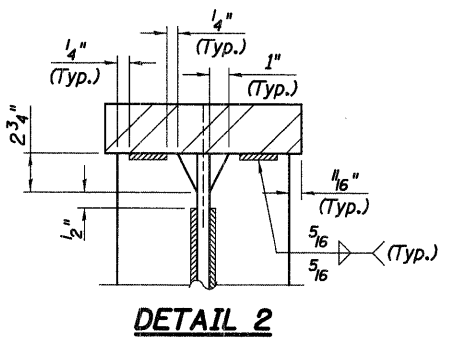
**TYPICAL END CROSS FRAME**  
Diaphragm Type D1 ( 6 Req'd)  
Diaphragm Type D4 ( 6 Req'd)



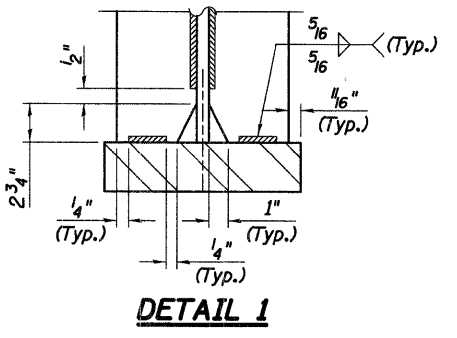
**TYPICAL INTERIOR CROSS FRAME**  
Diaphragm Type D ( 204 Req'd)  
Diaphragm Type D2 ( 36 Req'd)  
Diaphragm Type D3 ( 6 Req'd)



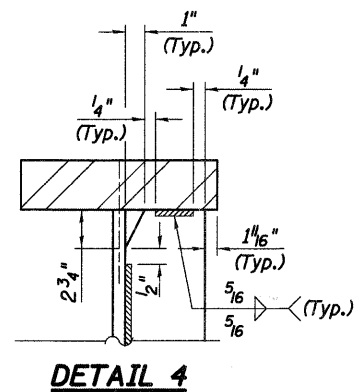
**TYPICAL BEARING STIFFENER**



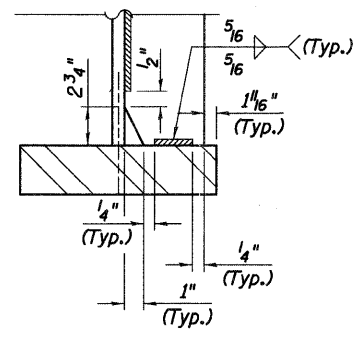
**DETAIL 2**



**DETAIL 1**



**DETAIL 4**



**DETAIL 3**

- Notes:**
1. For Diaphragm locations, see sheets S26 to S28 of S108.
  2. Two hardened washers required for all diaphragm holes.
  3. All cross frame components shall be AASHTO M270 Gr. 36.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**STEEL DETAILS I**

STEARNS ROAD  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166  
PUBLIC WATERS

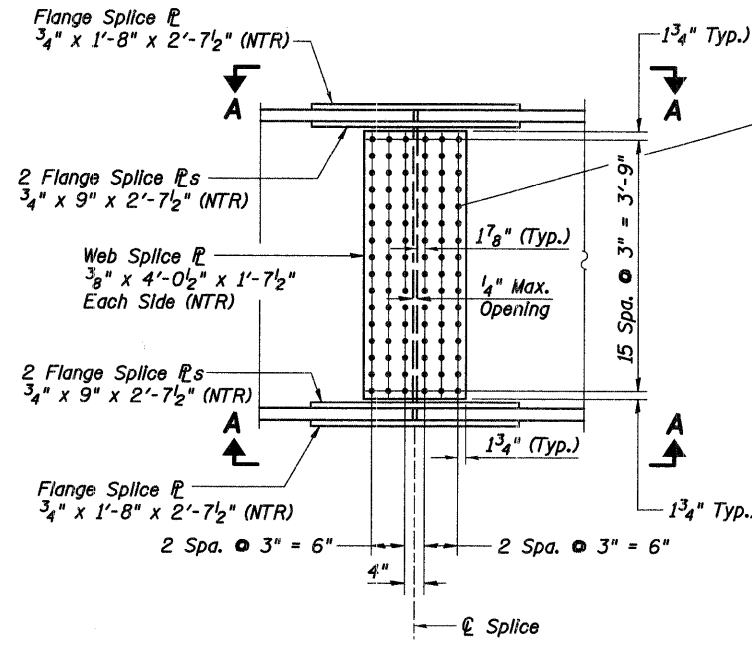
KANE COUNTY  
STATION 571+42.96  
DATE: JANUARY 16, 2009

FAP 361 SECTION 06-00214-20-BR  
DESIGNED: CWG  
CHECKED: KPZ

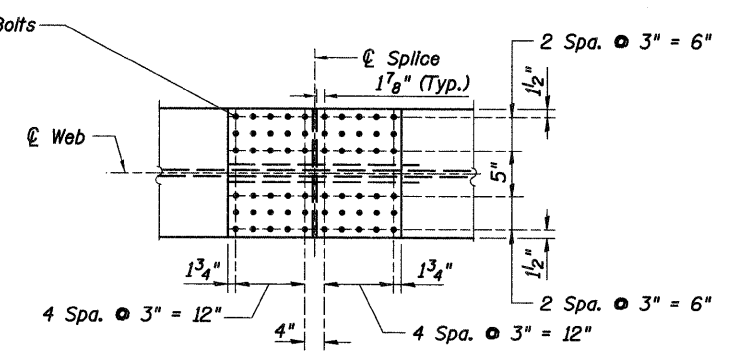
Baker Engineering, Inc.

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 1/15/2009

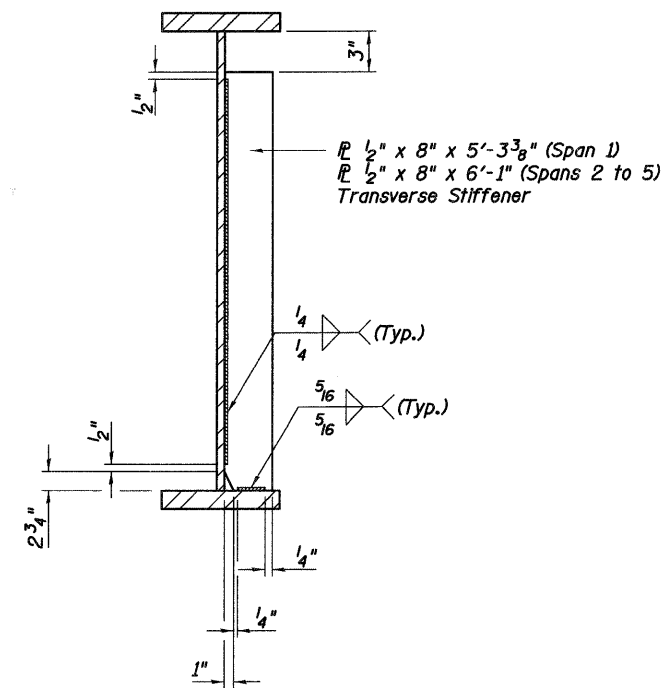
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	135
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S30 OF S108				



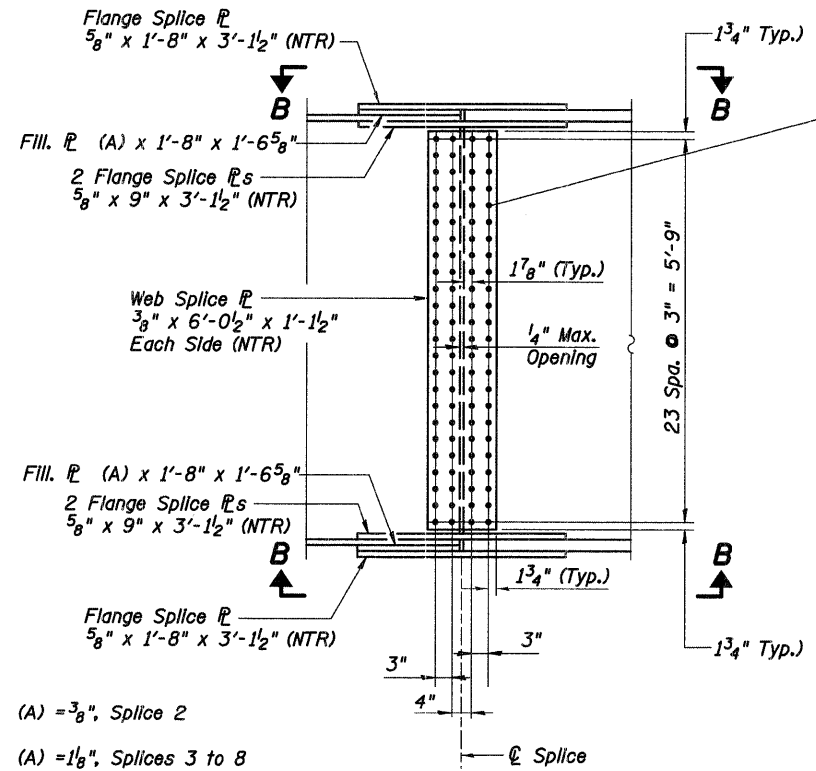
**SPLICE 1 ELEVATION**



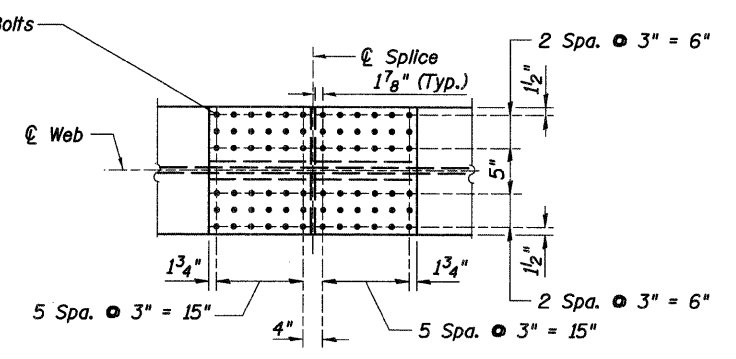
**VIEW A-A**



**TRANSVERSE STIFFENER DETAIL**



**SPLICE 2 TO 8 ELEVATION**



**VIEW B-B**

(A) = 3 $\frac{1}{8}$ " Splice 2  
 (A) = 1 $\frac{1}{8}$ " Splices 3 to 8

**Notes:**

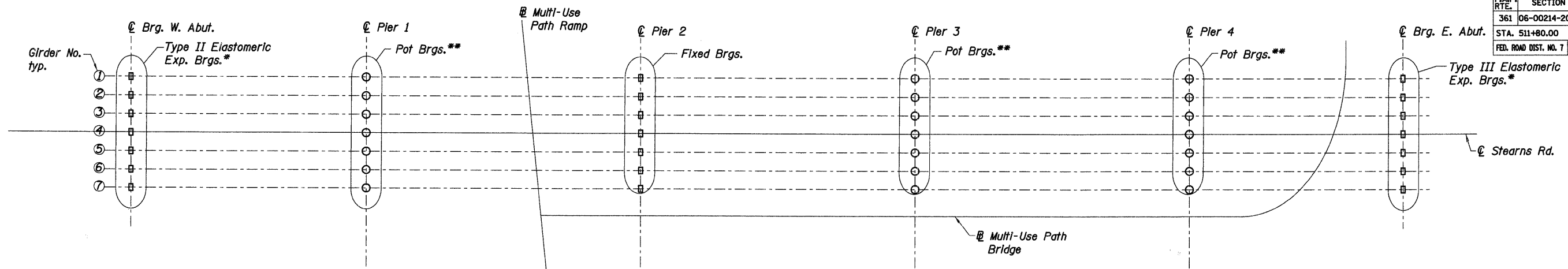
1. For Splice and Stiffener locations, see sheets S26 to S28 of S108.
2. Load carrying components designated "NTR" shall conform to the Supplemental Requirements Notch Toughness, Zone 2.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**STEEL DETAILS II**  
 STEARNS ROAD PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	136
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
			SHEET NO. S31 OF S108	

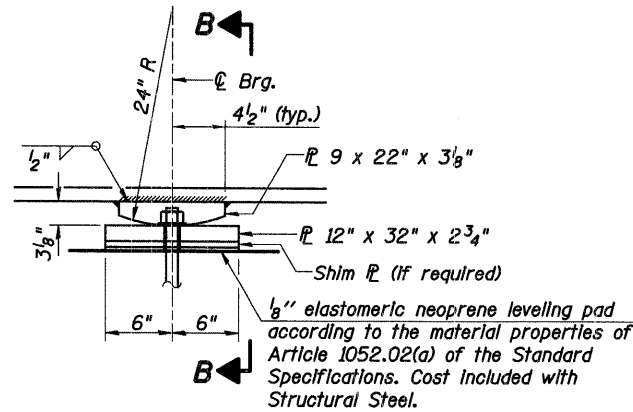


\* See sheet S32 of S108 for Type II and Type III elastomeric exp. bearing details  
 \*\* See sheet S33 of S108 for Pot bearing details

**BEARING LOCATION AND KEY PLAN**  
 (Plan not to scale)

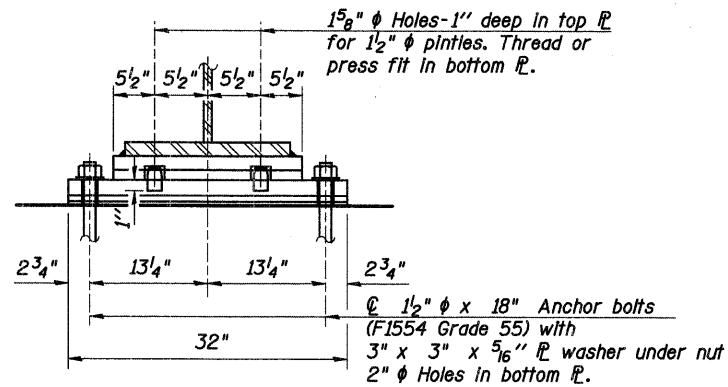
**Notes:**

1. Cost of fixed bearing assemblies, excluding anchor bolts, to be included with "Furnishing and Erecting Structural Steel."
2. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
3. Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
4. Anchor bolts for Type II and Type III bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
5. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
6. Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II and Type III.
7. The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
8. Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
9. Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
10. The structural steel plates and pintles of the bearing assemblies shall conform to the requirements of AASHTO M270, Gr. 50.
11. H.S. Bolts in bearing assembly shall be galvanized according to AASHTO M289 Class 50.

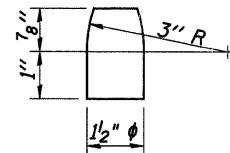


**ELEVATION AT PIER**

**FIXED BEARING**  
 (Pier 2 - 7 required)



**SECTION B-B**



**PINTLE**

**BILL OF MATERIAL**

Item	Unit	Total
Anchor Bolts, 1 1/2"	Each	14

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

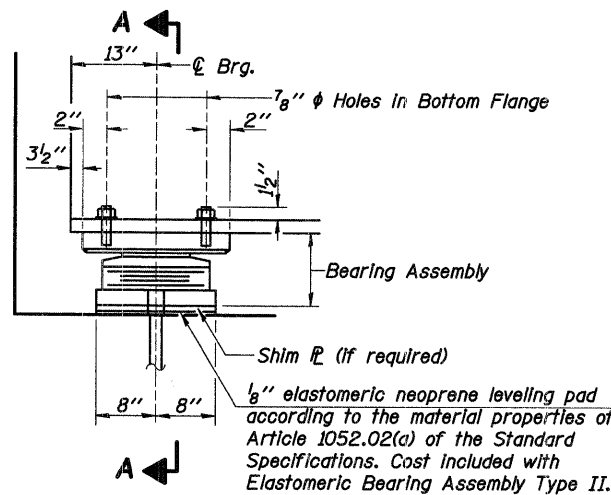
**BEARING DETAILS I**

STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**

Baker Engineering, Inc.

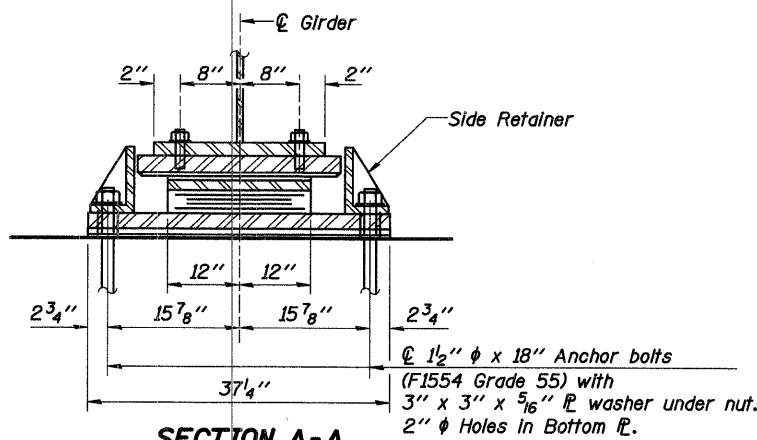
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	137
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S32 OF S108				



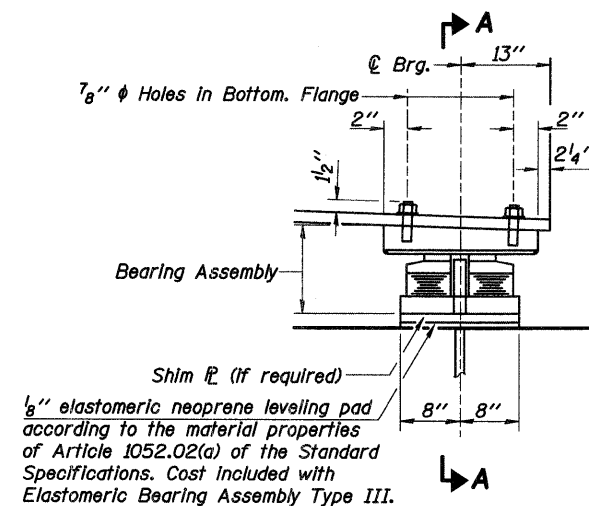
**ELEVATION AT ABUT.**

**TYPE II ELASTOMERIC EXP. BRG.**

(West Abutment - 7 required)



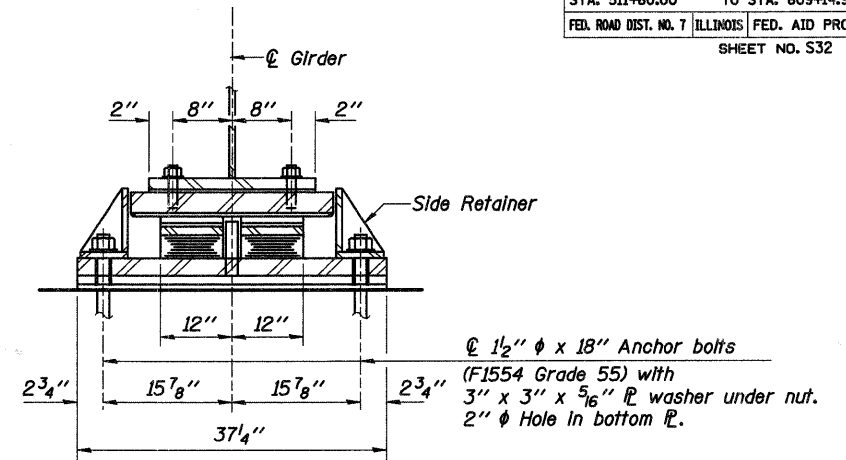
**SECTION A-A**



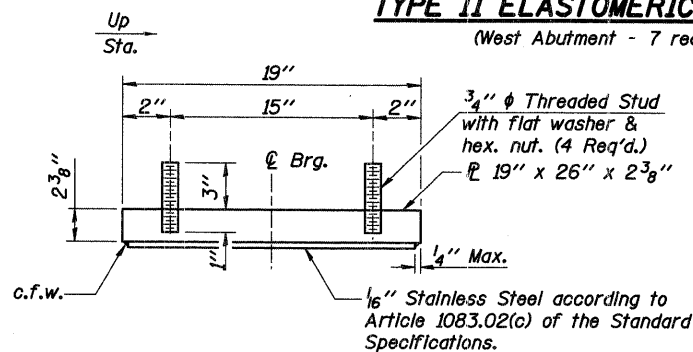
**ELEVATION AT ABUT.**

**TYPE III ELASTOMERIC EXP. BRG.**

(East Abutment - 7 required)

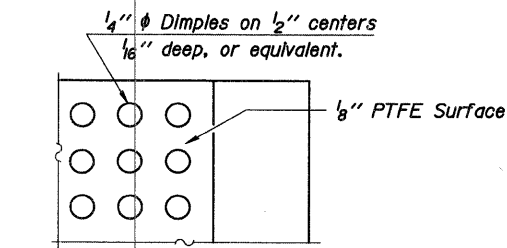


**SECTION A-A**



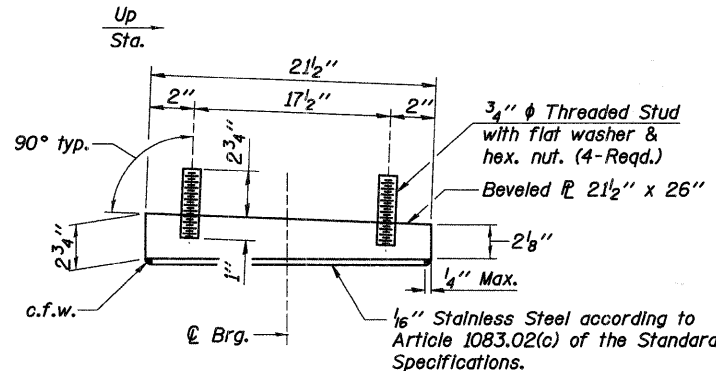
**TOP BEARING ASSEMBLY**

(Type II Elastomeric Exp. Brg. only)



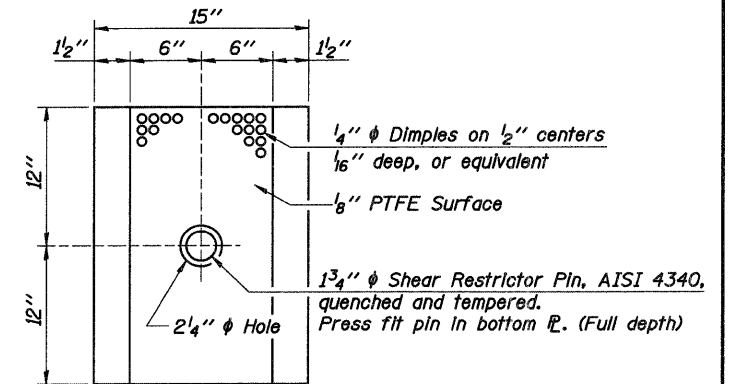
**PLAN-PTFE SURFACE**

(Type II Elastomeric Exp. Brg. only)



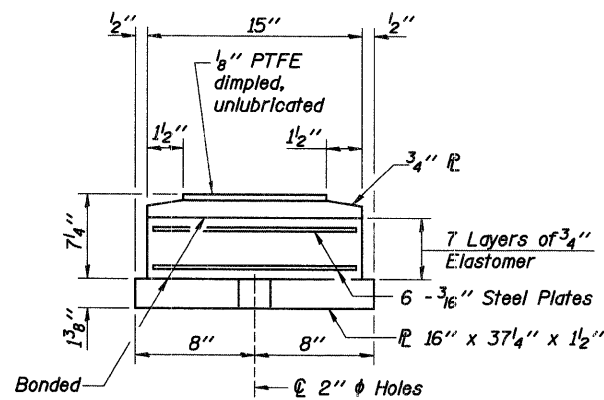
**TOP BEARING ASSEMBLY**

(Type III Elastomeric Exp. Brg. only)



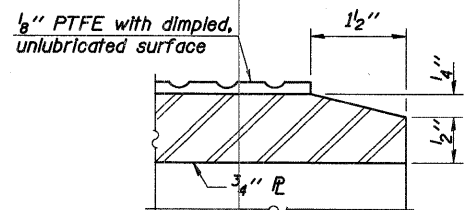
**PLAN-PTFE ELASTOMERIC BRG.**

(Type III Elastomeric Exp. Brg. only)

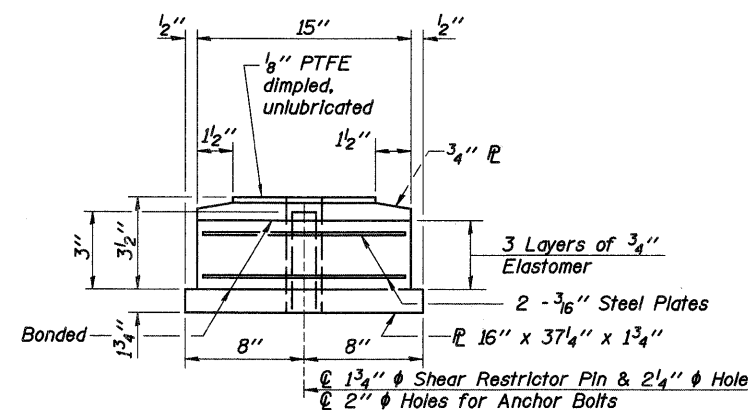


**BOTTOM BEARING ASSEMBLY**

(Type II Elastomeric Exp. Brg. only)

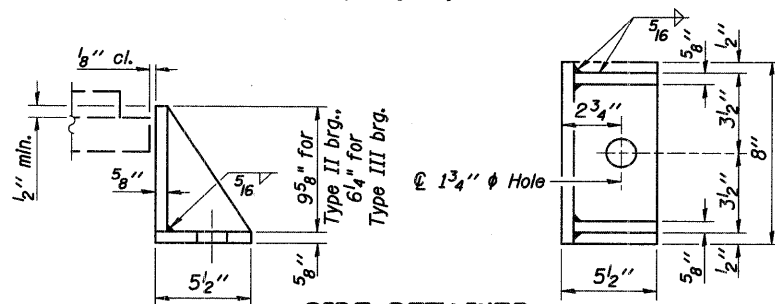


**SECTION THRU PTFE**



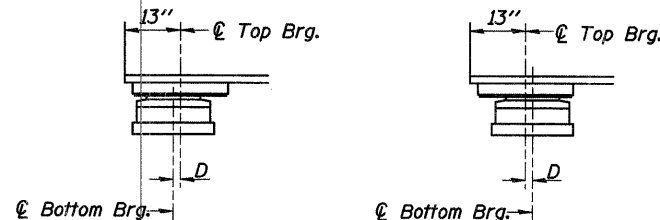
**BOTTOM BEARING ASSEMBLY**

(Type III Elastomeric Exp. Brg. only)



**SIDE RETAINER**

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



**SETTING ANCHOR BOLTS AT EXP. BRG.**  
 BELOW 50°F. (Move bottom. brg. away from fixed brg.)  
 ABOVE 50°F. (Move bottom. brg. toward fixed brg.)

**SETTING ANCHOR BOLTS AT EXP. BRG.**

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

**Note:**

1. See sheet S31 of S108 for bearing notes.

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	7
Elastomeric Bearing Assembly Type III	Each	7
Anchor Bolts, 1 1/2"	Each	28

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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**BEARING DETAILS II**

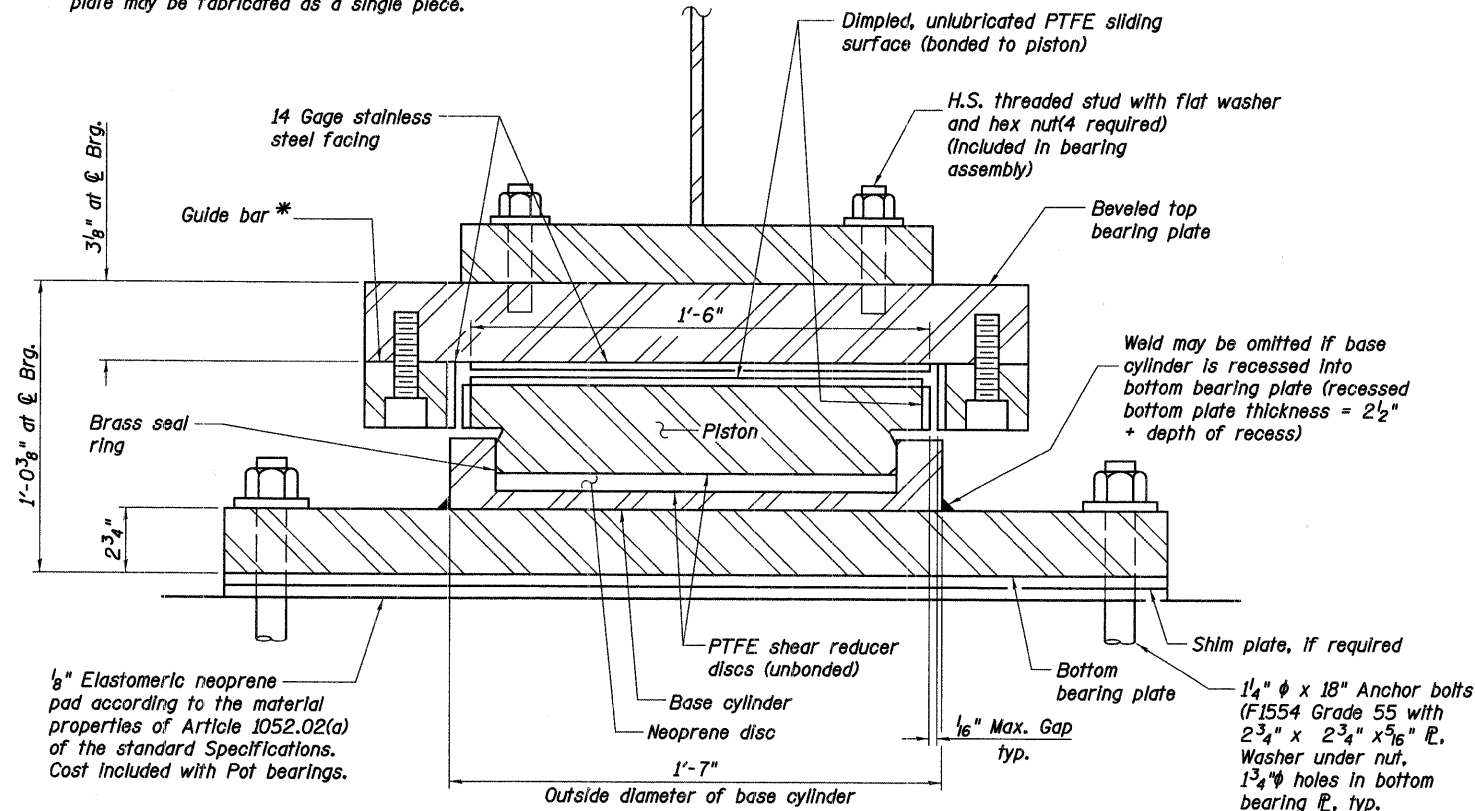
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**

Baker Engineering, Inc.

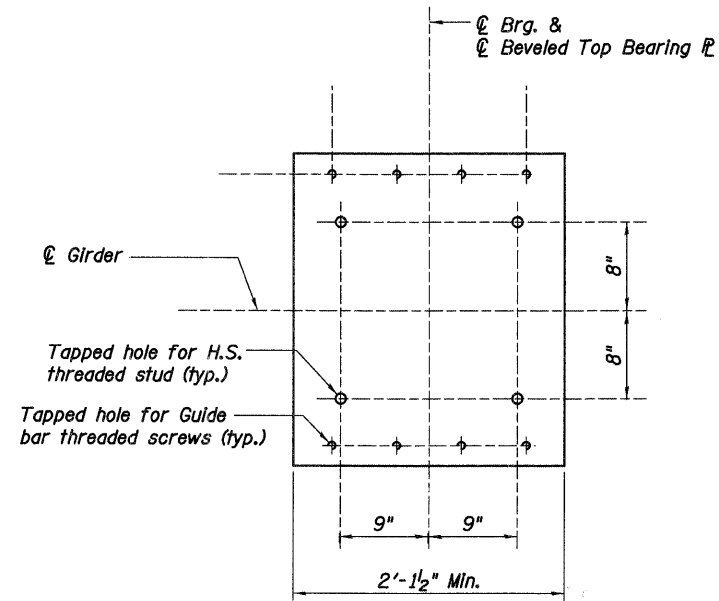
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	138
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S33 OF S108				

\* As alternates to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece.

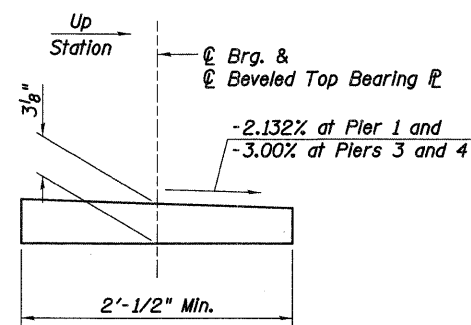


**GUIDED EXPANSION POT BEARING**

(Piers 1,3 and 4 - 21 required)



**PLAN**



**BEVELED TOP BEARING P. ELEVATION**

**GUIDED EXPANSION POT BEARING DESIGN DATA**

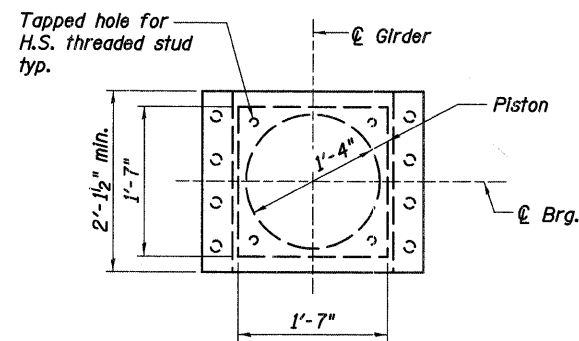
- Vertical design load (total maximum service axial Dead Load + Live Load without Impact) = 690 KIPS.
- Total required movement = 2.625" for Piers 1 and 3 = 5.25" for Pier 4

**BILL OF MATERIAL**

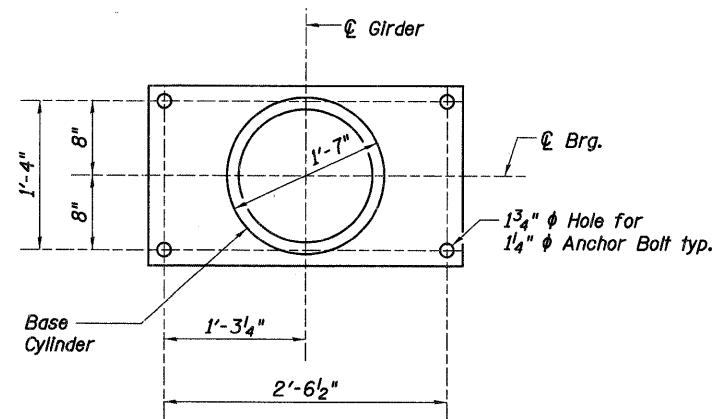
Item	Unit	Total
High Load Multi-Rotation Bearings, Guided Expansion, 700K	Each	21
Anchor Bolts, 1/4"	Each	84

**NOTES:**

- The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



**BEVELED TOP BEARING P. AND PISTON PLAN**



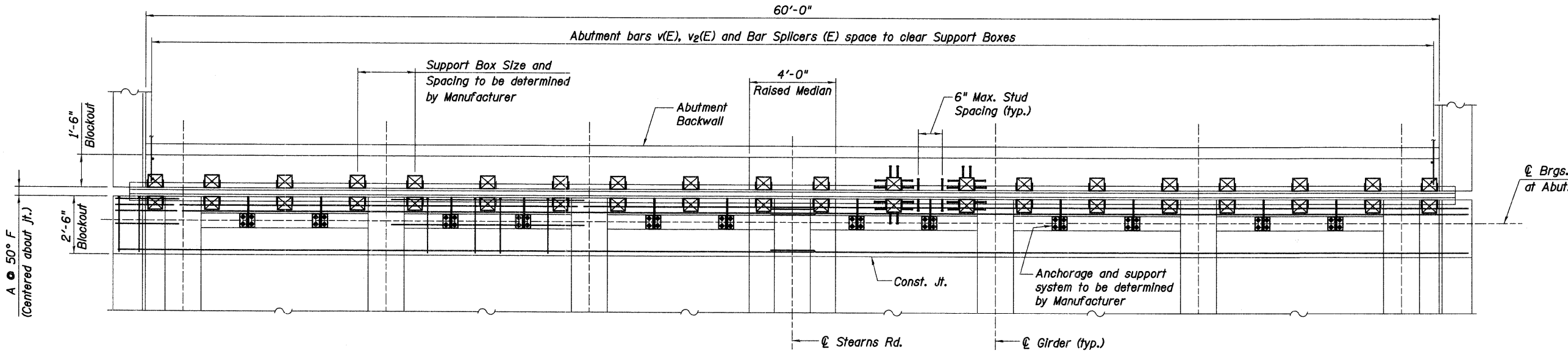
**BOTTOM BEARING P. AND BASE CYLINDER PLAN**

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NAME	DATE

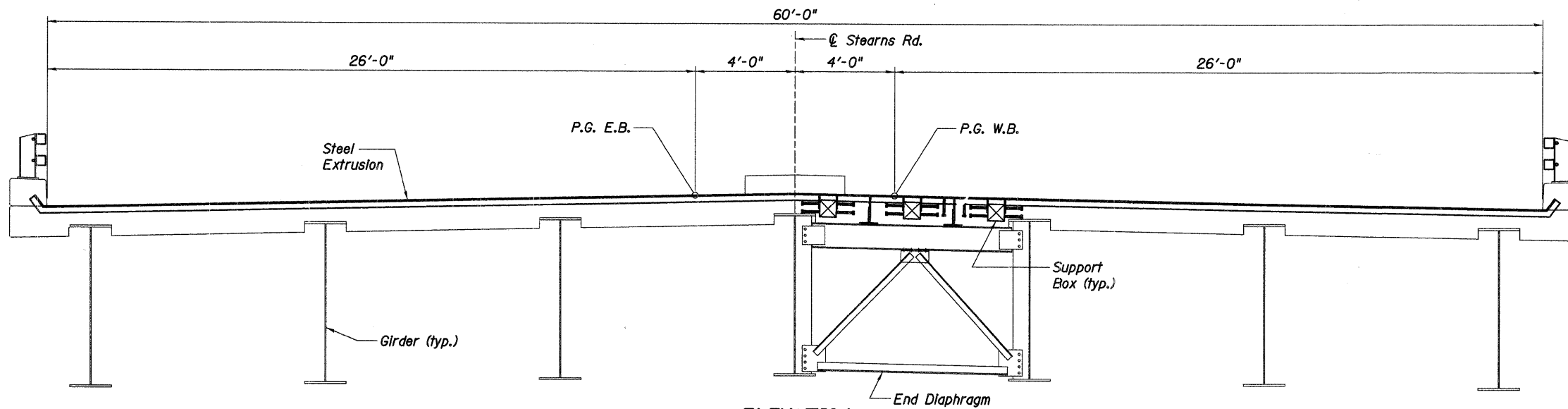
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**BEARING DETAILS III**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
 Baker Engineering, Inc.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	139
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S34 OF S108				



**PLAN**  
(West Abut shown East Abut opposite hand)



**ELEVATION**  
(West Abut shown looking west, East Abut opposite hand)

**Notes:**

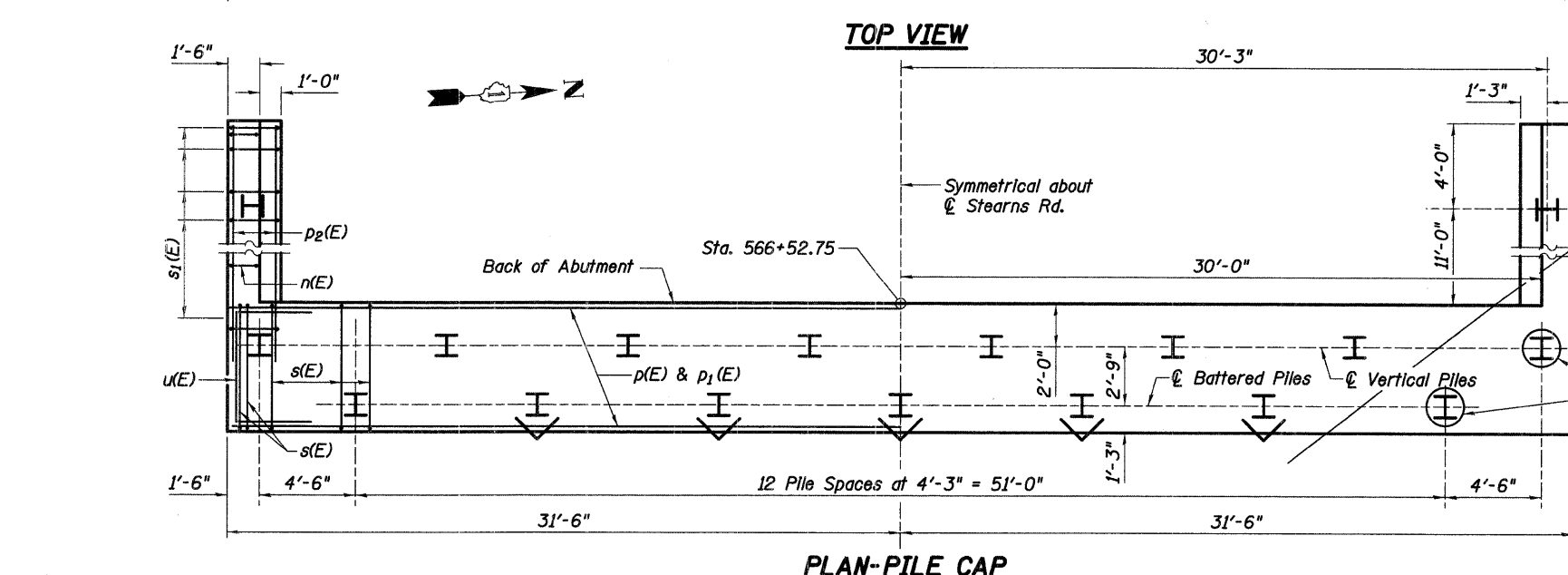
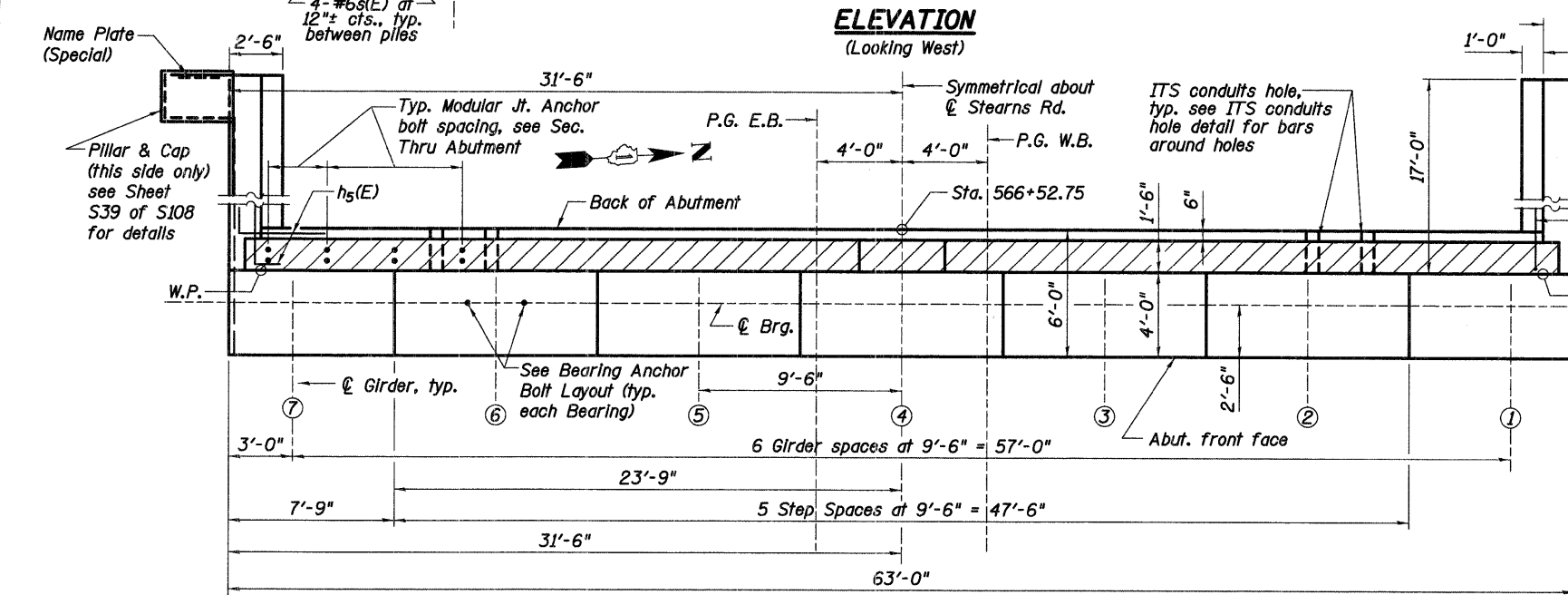
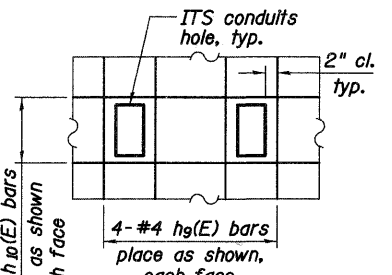
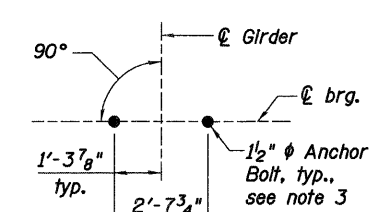
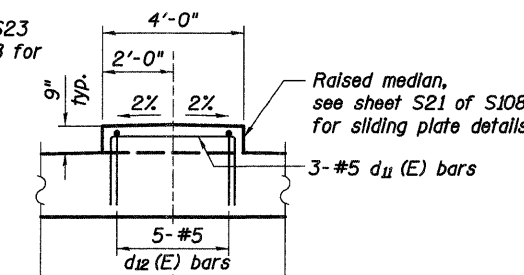
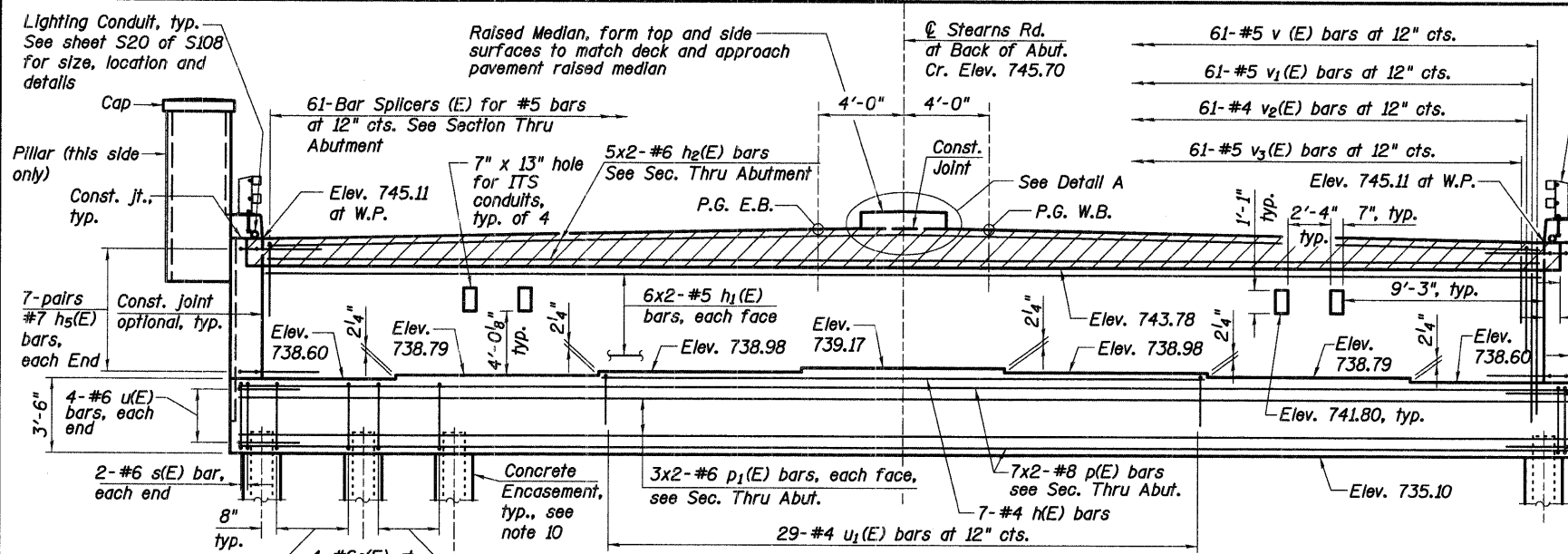
1. Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
2. For procedure and requirements regarding modular specifications, see the Guide Bridge Special Provision, "Modular Expansion Joint".
3. See Sheets S35 and S36 of S108 for West Abutment Details and Sheets S37 and S38 of S108 for East Abutment Details.
4. See Sheet S29 of S108 for Abutment End Diaphragm Details.
5. See Sheets S14 to S21 of S108 for Deck Reinforcement Details.
6. See Sheet S21 of S108 for additional modular joint details.

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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MODULAR JOINT DETAILS**  
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	140
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S35 OF S108				



- Notes:**
- For details of Bar Splicers, see sheet S25 of S108.
  - For additional abutment details see sheets S36 and S39 of S108.
  - For bearing assembly and bearing assembly anchor bolt details see sheets S31 to S32 of S108.
  - For Modular Joint details see sheet S34 of S108 and for Modular Joint anchor bolt details see sheet S21 of S108.
  - Space reinforcement in pile cap to miss anchor bolts.
  - Four steps monolithically with cap.
  - Bars indicated thus 3x2-#5 etc. Indicates 3 lines of bars with 2 lengths per line.
  - Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
  - Quantity of concrete in end post included with Concrete Superstructure.
  - For details of piles and concrete encasement see sheet S52 of S108.
  - For piles (total of 2) located with in MSE Wall 1 reinforced soil limits, utilize corrugated metal pipe pile spacers as per Special Provisions. Pile spacers to be placed prior to MSE Wall 1 construction so that these piles are driven after Wall 1 has been constructed.
  - Concrete Sealer shall be applied to the surface of the backwall, bearing seat, and pile cap front face.
  - For additional ITS conduit and conduits hole details see lighting plans.
  - Field cut or bend bars in back wall to miss holes for ITS conduits.

**WEST ABUTMENT PILE DATA**

Type: HP 12x74  
 Nominal Required Bearing: 360 KIPS  
 Factored Resistance Available: 180 KIPS  
 Est. Length: 83 ft.  
 No. Production Piles: 16  
 No. Test Piles: 1

Piles shall be driven through 18 inch diameter precored holes extending to elevation 714.00 feet according to article 512.09(c) of the standard specifications except for piles in corrugated metal pipe. All costs associated with precoring and backfilling shall be included in "Driving Piles".

No piles shall be driven until a minimum of 30 days after the full height construction of the abutment embankment and construction berm has been completed.

The contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their nominal required bearing to prevent pile damage during driving.

Battered Piles - Piles with Corrugated Metal Pipe Pile Spacers   
 Vertical Piles -

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**WEST ABUTMENT I**

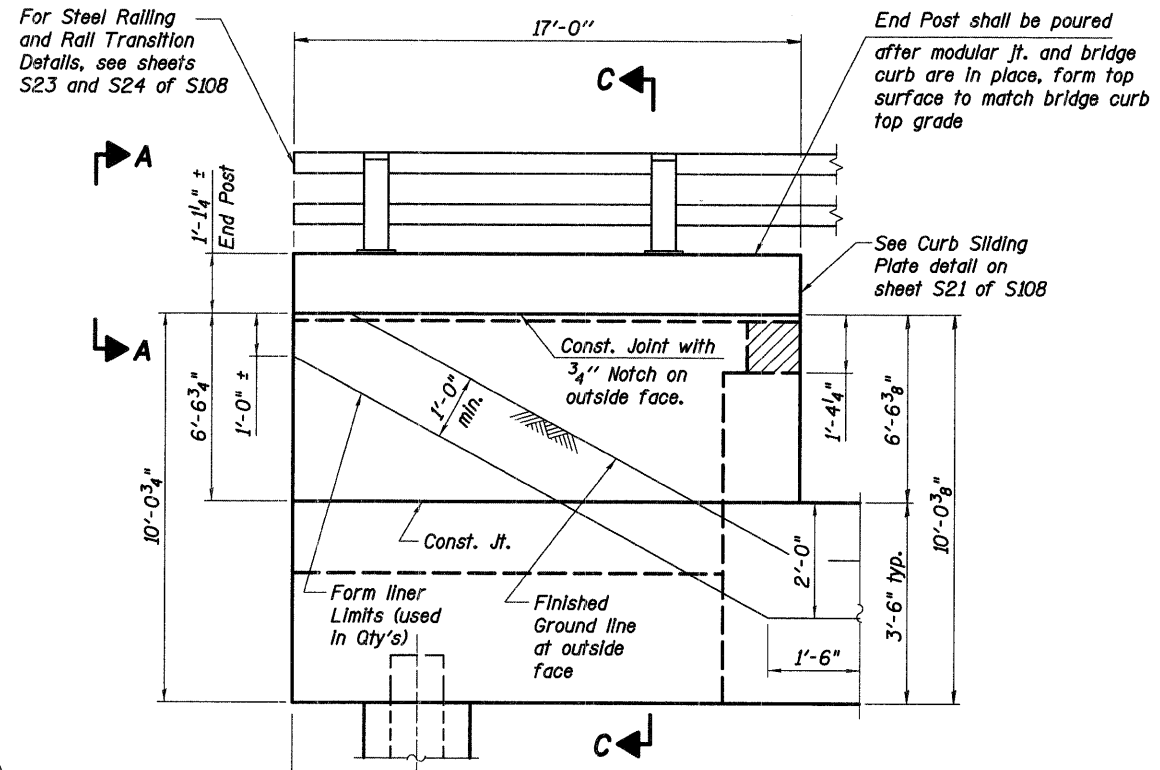
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



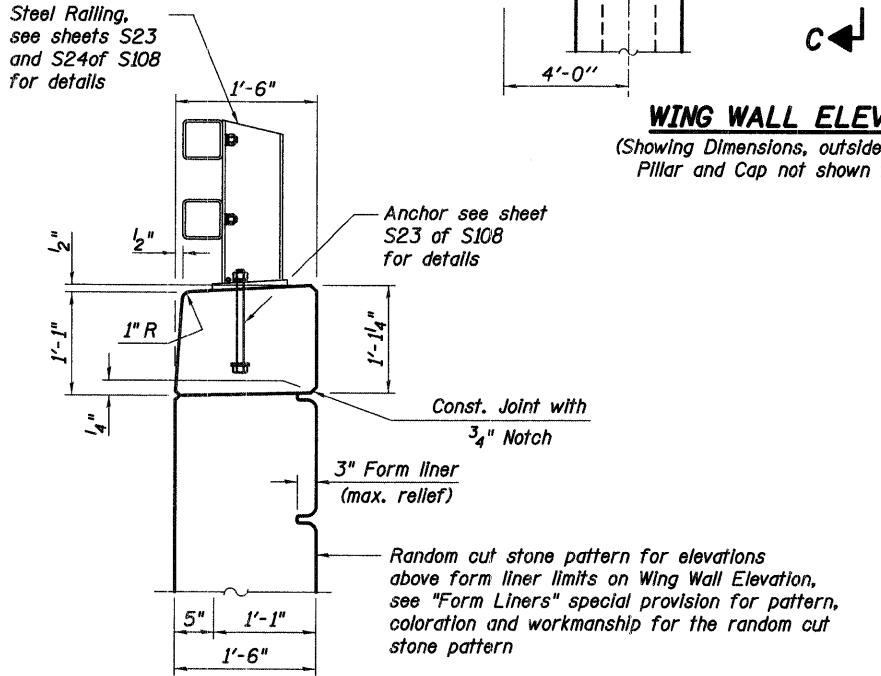
P:\13005\3.0 phase II deliverables\3.3 structure\drawings\Final\045-3166 Abut\_I\_west1.dgn  
 3/25/2009



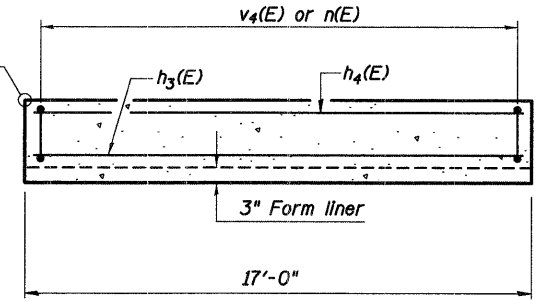
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	141
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S36 OF S108				



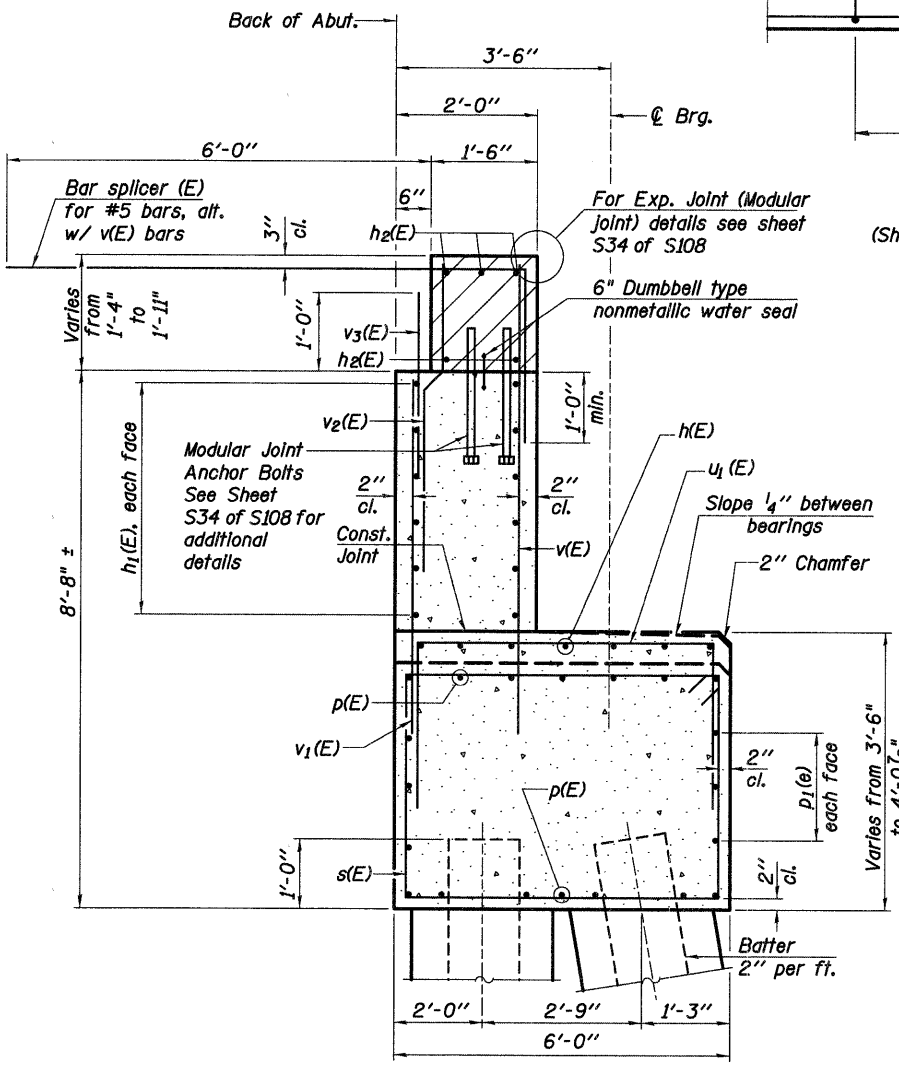
**WING WALL ELEVATION**  
(Showing Dimensions, outside face shown, Pillar and Cap not shown for clarity)



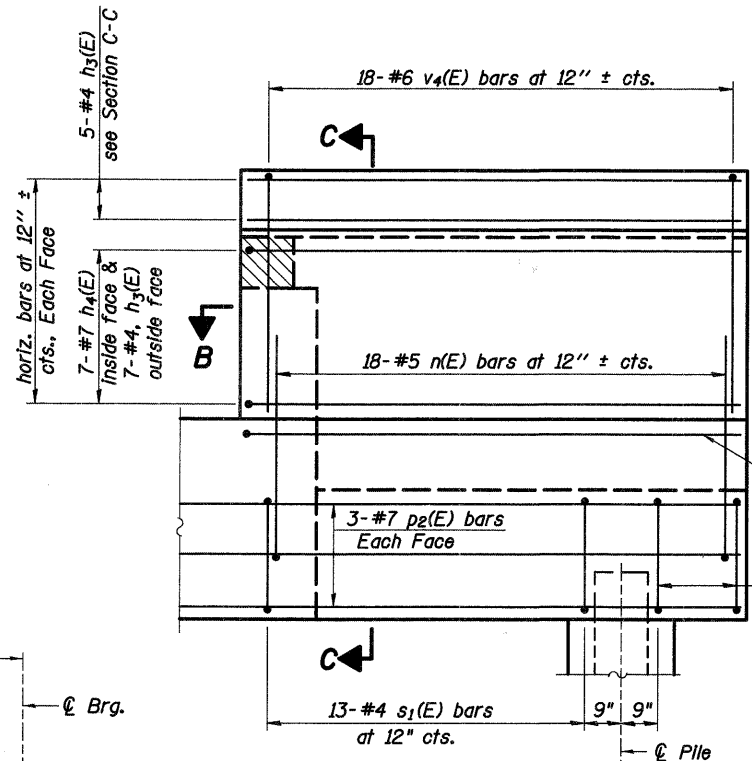
**VIEW A-A**  
(Pillar and Cap not shown for clarity)



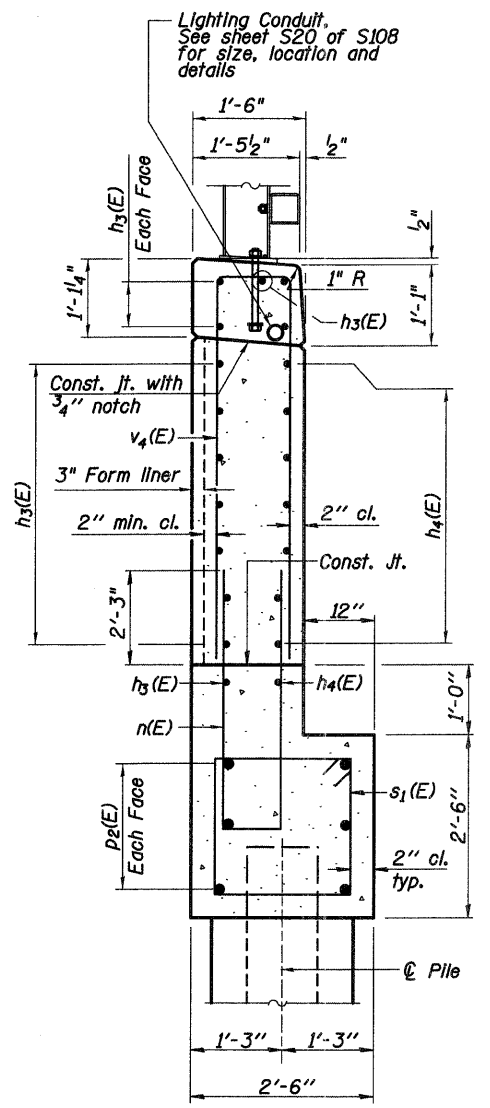
**SECTION B-B**



**SEC. THRU ABUT.**



**WING WALL ELEVATION**  
(Showing Reinforcement, outside face shown, Pillar and Cap not shown for clarity)



**SECTION C-C**

**NOTE:**  
1. For additional abutment details see sheets S35 and S39 of S108.

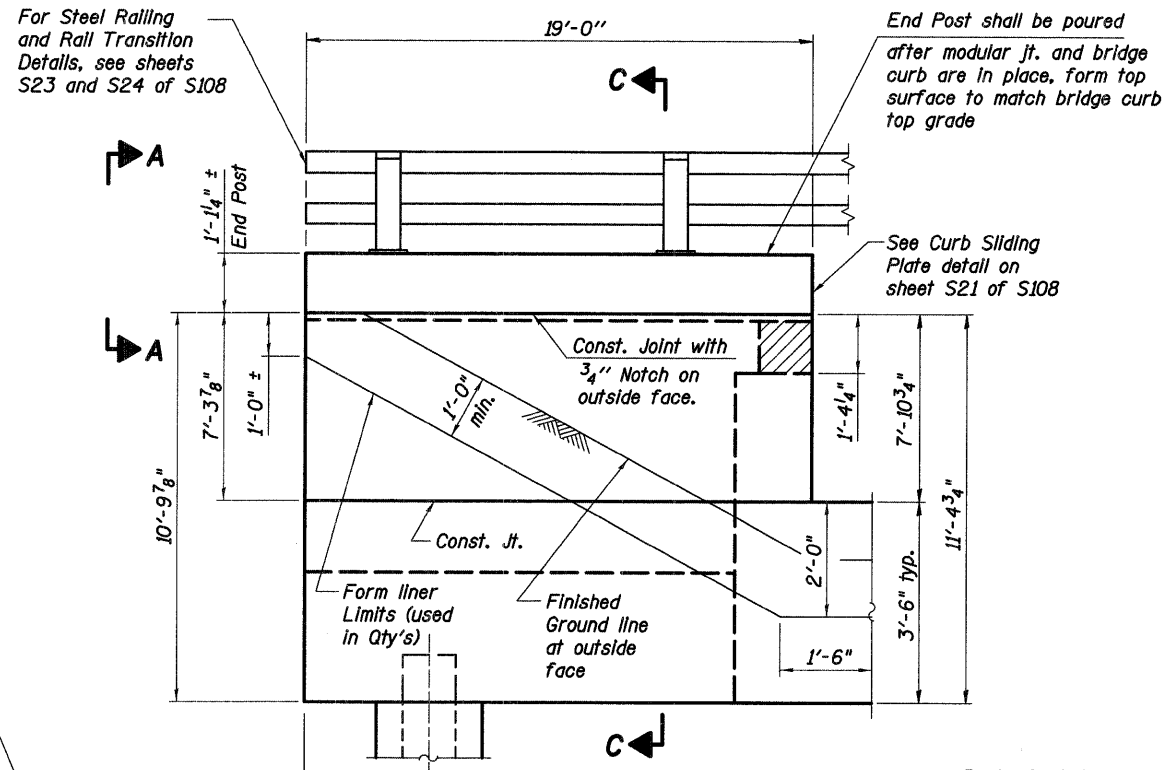
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**WEST ABUTMENT II**  
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



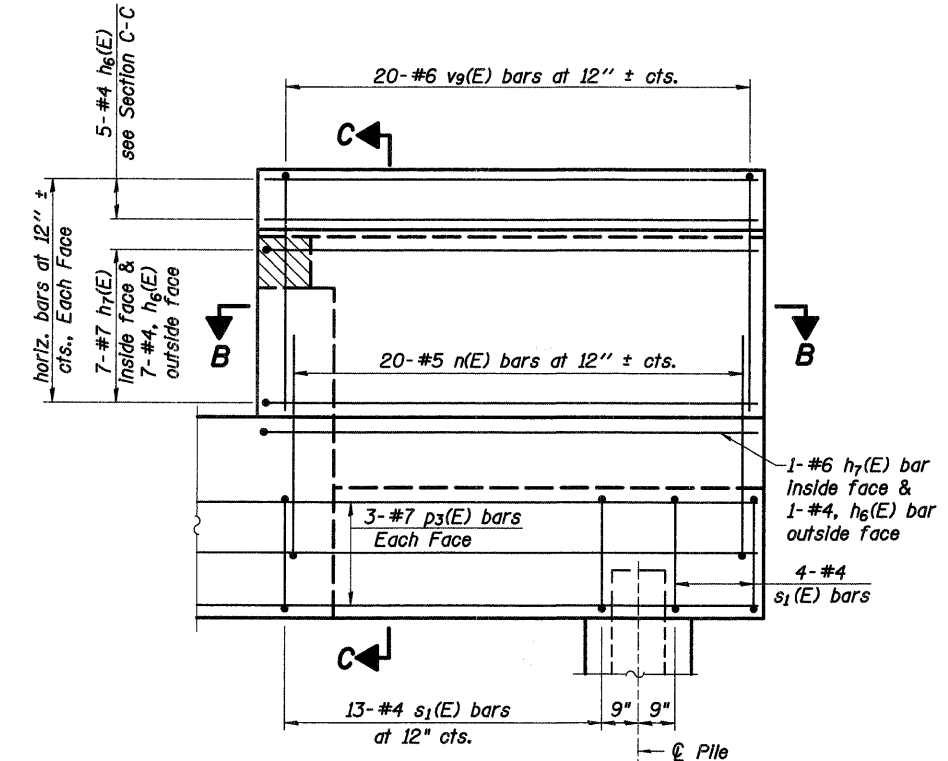


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	143
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S38 OF S108				



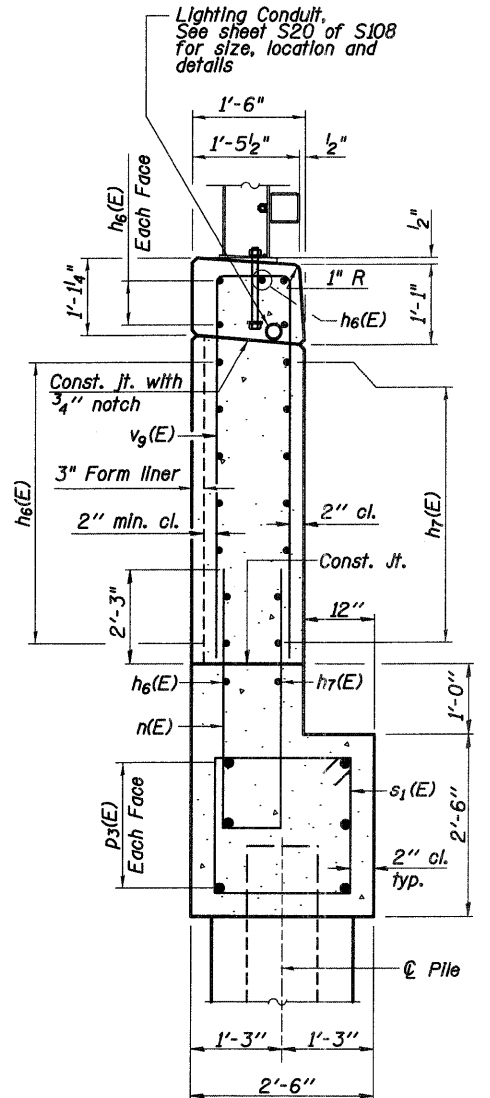
**WING WALL ELEVATION**

(Showing Dimensions, outside face shown, Pillar and Cap not shown for clarity)



**WING WALL ELEVATION**

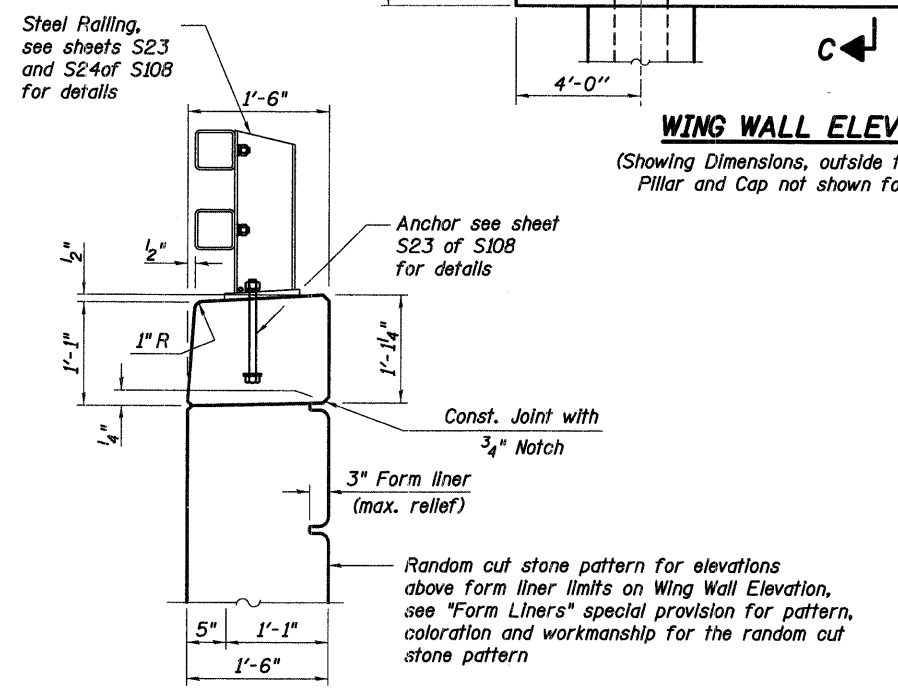
(Showing Reinforcement, outside face shown, Pillar and Cap not shown for clarity)



**SECTION C-C**

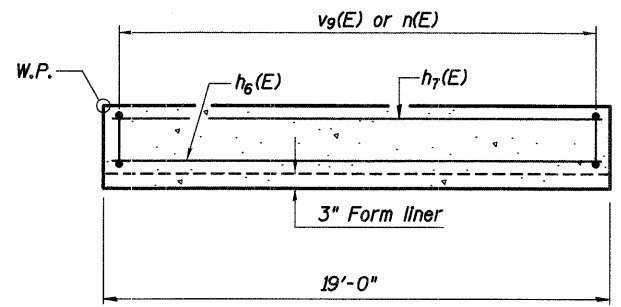
**NOTE:**

- For additional abutment details see sheets S37 and S39 of S108.

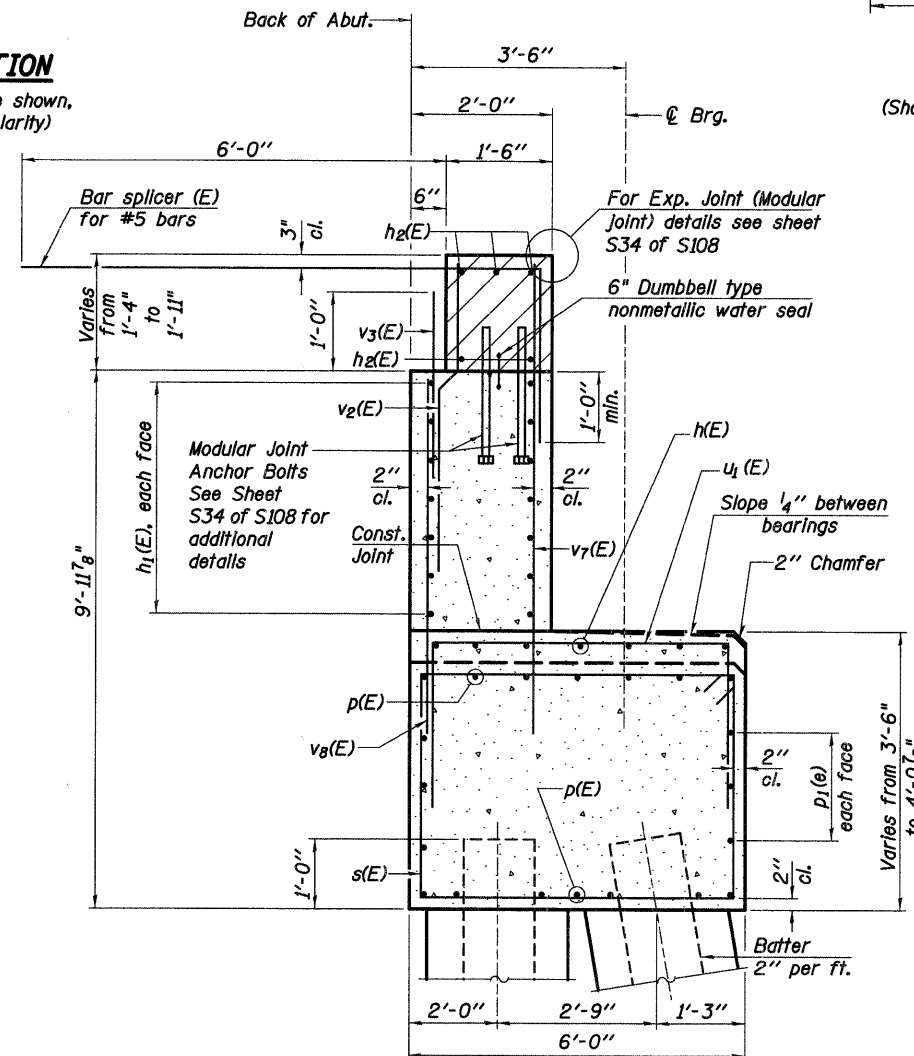


**VIEW A-A**

(Pillar and Cap not shown for clarity)



**SECTION B-B**



**SEC. THRU ABUT.**

REVISIONS	
NAME	DATE



ILLINOIS DEPARTMENT OF TRANSPORTATION  
**EAST ABUTMENT II**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

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 3/25/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	144
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S39 OF S108				

**WEST ABUTMENT  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	A	B	C
$d_{u(E)}$	3	# 5	6'-8"		1'-7"	3'-6"	
$d_{u(E)}$	5	# 5	4'-4"		1'-7"	1'-2"	
$h(E)$	7	# 4	28'-2"				
$h_1(E)$	24	# 5	30'-11"				
$h_2(E)$	10	# 6	31'-3"				
$h_3(E)$	26	# 4	16'-8"				
$h_4(E)$	16	# 7	16'-8"				
$h_5(E)$	28	# 7	5'-0"		3'-10"	1'-2"	
$h_6(E)$	16	# 4	4'-6"				
$h_7(E)$	8	# 4	7'-0"				
$h_8(E)$	4	# 5	8'-10"		3'-7"	1'-8"	
$n(E)$	36	# 5	10'-3"		4'-8"	0'-11"	
$p(E)$	28	# 8	33'-7"				
$p_1(E)$	12	# 6	32'-10"				
$p_2(E)$	12	# 7	17'-0"				
$s(E)$	60	# 6	19'-0"		3'-2"	5'-8"	0'-8"
$s_1(E)$	34	# 4	9'-5"		2'-2"	2'-2"	0'-4 1/2"
$s_2(E)$	9	# 4	7'-5"		1'-2"	2'-2"	0'-4 1/2"
$u(E)$	8	# 6	9'-9"		2'-1"	5'-7"	
$u_1(E)$	29	# 4	8'-4"		1'-4"	5'-8"	
$u_2(E)$	4	# 4	2'-0"				
$u_3(E)$	3	# 4	3'-0"				
$v(E)$	61	# 5	8'-4"				
$v_1(E)$	61	# 5	7'-6"				
$v_2(E)$	61	# 4	3'-6"				
$v_3(E)$	61	# 5	3'-8"				
$v_4(E)$	36	# 6	15'-5"		7'-3"	0'-11"	
$v_5(E)$	3	# 6	7'-6"		3'-9"	3'-9"	
$v_6(E)$	10	# 5	8'-0"				

**EAST ABUTMENT  
BILL OF MATERIAL**

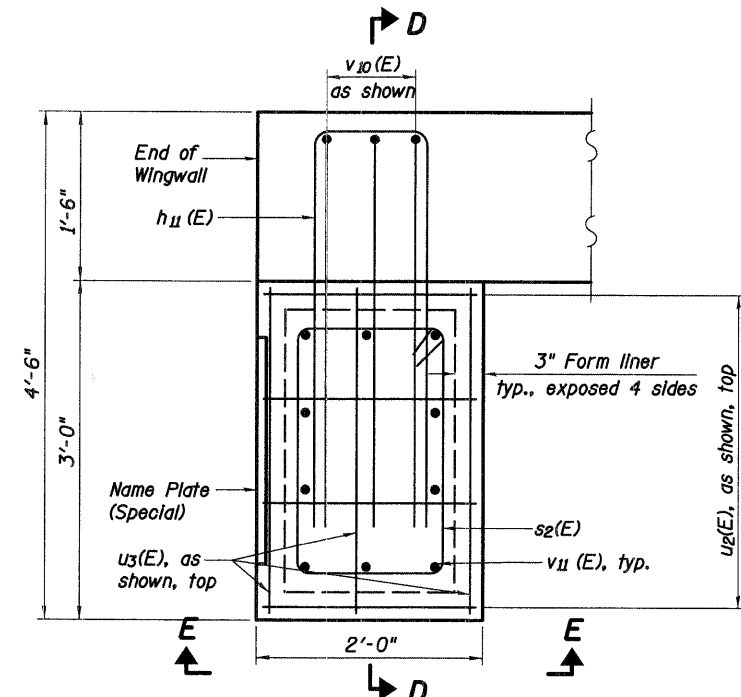
Bar	No.	Size	Length	Shape	A	B	C
$d_{u(E)}$	3	# 5	6'-8"		1'-7"	3'-6"	
$d_{u(E)}$	5	# 5	4'-4"		1'-7"	1'-2"	
$h(E)$	7	# 4	28'-2"				
$h_1(E)$	28	# 5	30'-11"				
$h_2(E)$	10	# 6	31'-3"				
$h_3(E)$	28	# 4	18'-8"				
$h_4(E)$	18	# 8	18'-8"				
$h_5(E)$	32	# 8	6'-2"		4'-10"	1'-4"	
$h_6(E)$	32	# 4	4'-6"				
$h_7(E)$	8	# 4	7'-0"				
$h_8(E)$	4	# 5	8'-10"		3'-7"	1'-8"	
$n(E)$	40	# 5	11'-1"		5'-1"	0'-11"	
$p(E)$	28	# 8	33'-7"				
$p_1(E)$	12	# 6	32'-10"				
$p_2(E)$	12	# 8	20'-0"				
$s(E)$	60	# 6	19'-0"		3'-2"	5'-8"	0'-8"
$s_1(E)$	38	# 4	9'-5"		2'-2"	2'-2"	0'-4 1/2"
$s_2(E)$	9	# 4	7'-5"		1'-2"	2'-2"	0'-4 1/2"
$u(E)$	8	# 6	9'-9"		2'-1"	5'-7"	
$u_1(E)$	29	# 4	8'-4"		1'-4"	5'-8"	
$u_2(E)$	4	# 4	2'-0"				
$u_3(E)$	3	# 4	3'-0"				
$v_2(E)$	61	# 4	3'-6"				
$v_3(E)$	61	# 5	3'-8"				
$v_7(E)$	61	# 5	9'-9"				
$v_8(E)$	61	# 5	8'-9"				
$v_9(E)$	40	# 6	17'-1"		8'-1"	0'-11"	
$v_{10}(E)$	3	# 6	7'-6"		3'-9"	3'-9"	
$v_{11}(E)$	10	# 5	8'-0"				

Concrete Structures	Cu. Yd.	100
Reinforcement Bars, Epoxy Coated	Pound	11,160
Structure Excavation	Cu. Yd.	0
Form Liner Textured Surface	Sq. Ft.	251
Furnishing Steel Piles HP 12x74	Foot	1,328
Driving Piles	Foot	1,328
Test Pile Steel HP 12x74	Each	1
Concrete Encasement	Cu. Yd.	6
Concrete Sealer	Sq. Ft.	926

Concrete Structures	Cu. Yd.	111
Reinforcement Bars, Epoxy Coated	Pound	12,560
Structure Excavation	Cu. Yd.	0
Form Liner Textured Surface	Sq. Ft.	293
Furnishing Steel Piles HP 12x74	Foot	656
Driving Piles	Foot	656
Test Pile Steel HP 12x74	Each	1
Concrete Encasement	Cu. Yd.	6
Concrete Sealer	Sq. Ft.	1,010

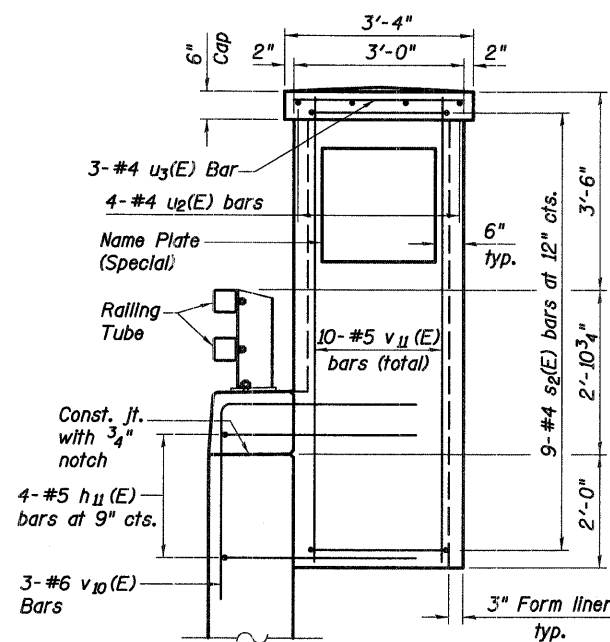
**MINIMUM BAR LAP**

- #5 = 2'-2"
- #6 = 2'-10"
- #8 = 4'-6"



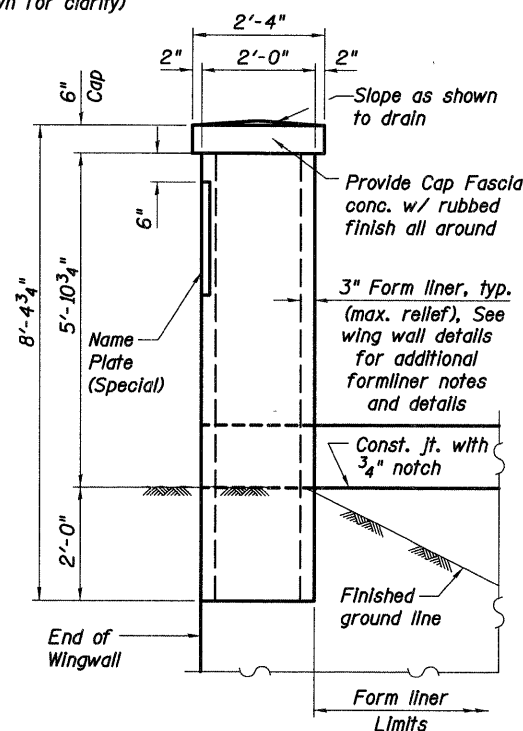
**PILLAR PLAN**

(Wingwall bars, railing and cap not shown for clarity)



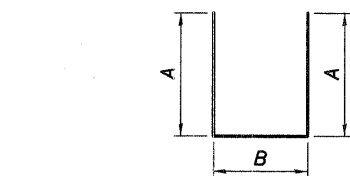
**SECTION D-D**

(Wingwall bars not shown for clarity, see abutment sheets, see View E-E for name plate location)

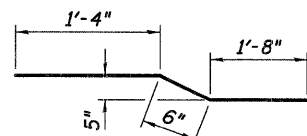


**SECTION E-E**

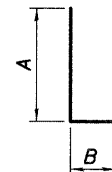
(Railing not shown for clarity)



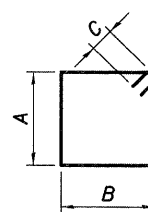
**BARS  $d_{11}(E)$ ,  $d_{12}(E)$ ,  $h_{11}(E)$   $n(E)$ ,  $u(E)$  thru  $u_3(E)$ ,  $v_4(E)$  &  $v_9(E)$**



**BAR  $v_2(E)$**



**BAR  $h_5(E)$ ,  $h_6(E)$  &  $v_{10}(E)$**



**BARS  $s(E)$ ,  $s_1(E)$  &  $s_2(E)$**

**Notes:**

- For West Abutment details see sheets S35 and S36 of S108.
- For East Abutment details see sheets S37 and S38 of S108.
- Cost of Deck railing to abutment post connection details included with Steel Bridge Rail, Special.
- For steel bridge rail details see sheet S23 of S108.
- See "Name Plates (Special) special provision for additional information.
- Adjust Pillar bars within Wingwall around Wingwall bars or vice versa.

REVISIONS	
NAME	DATE

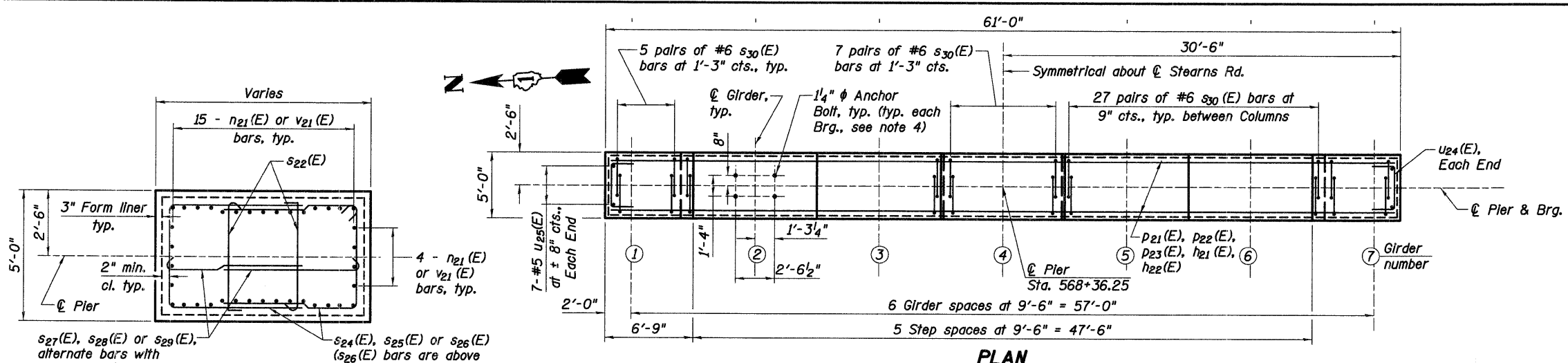
**Baker**  
Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION

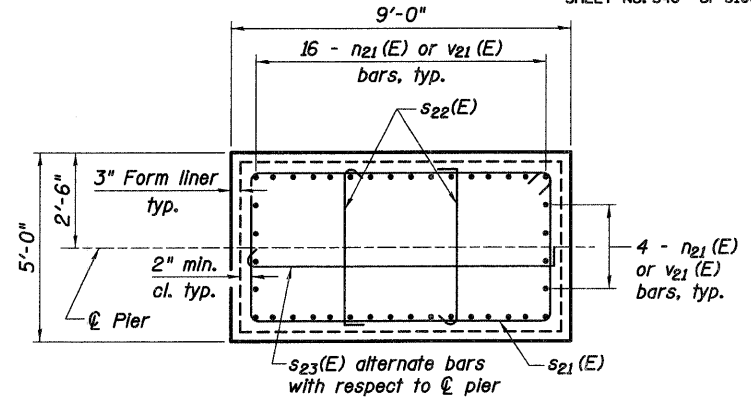
**ABUTMENT DETAILS**

STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

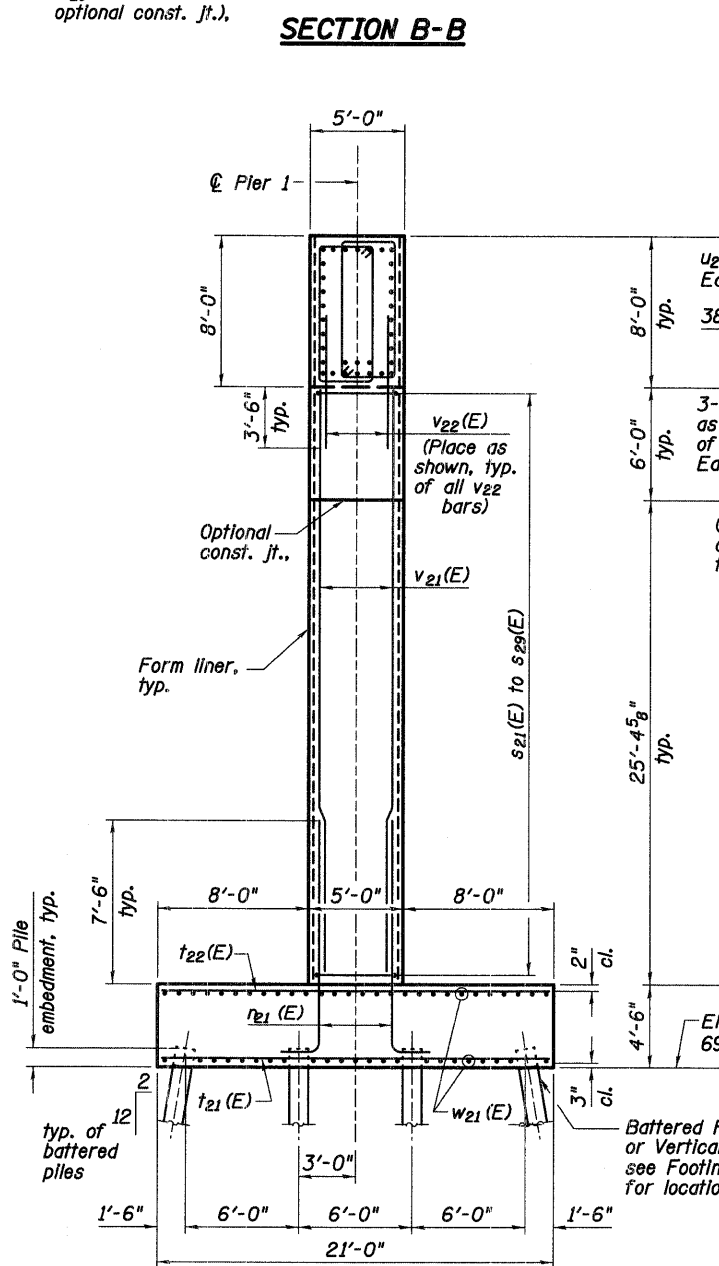
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	145
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S40 OF S108				



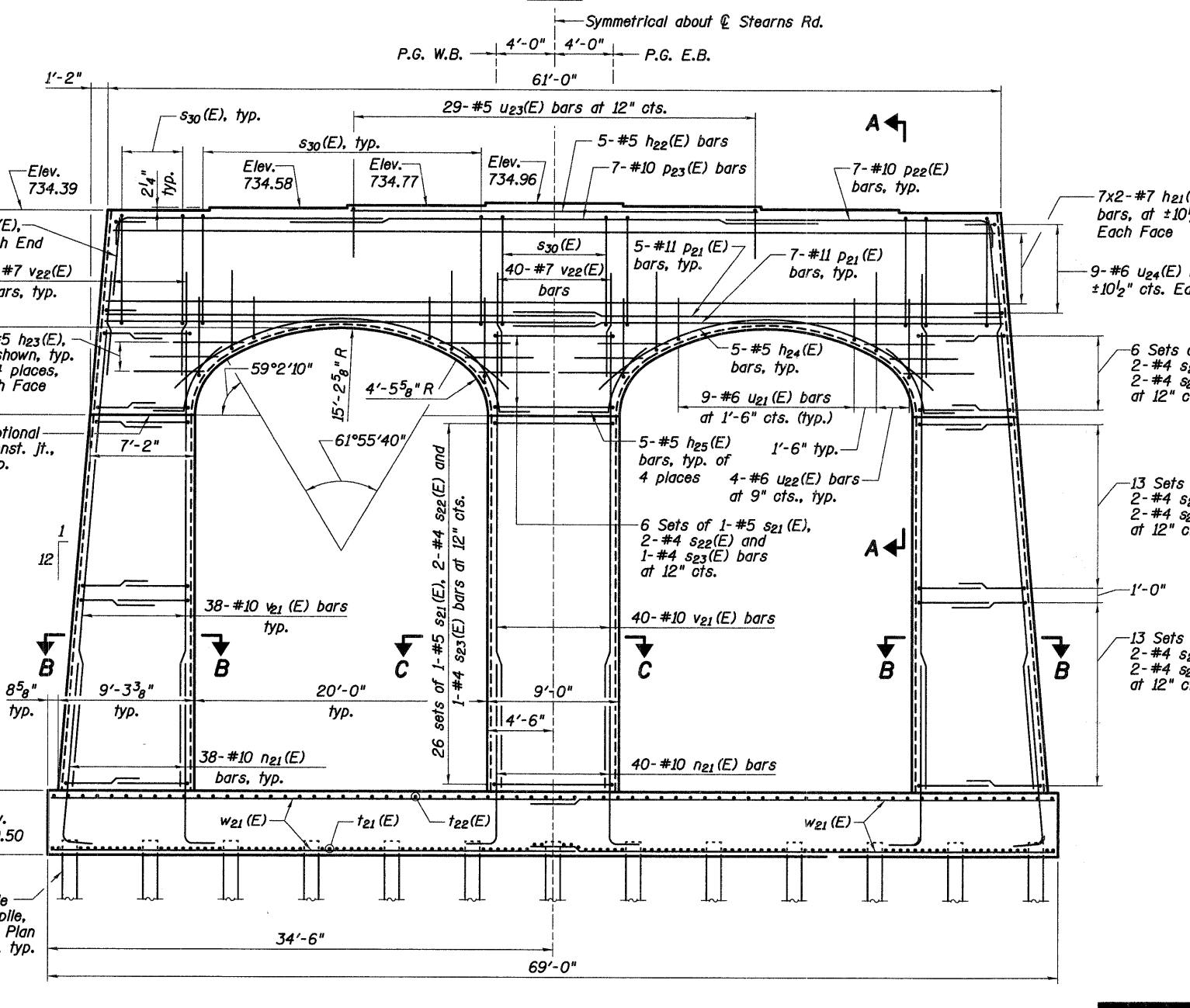
PLAN



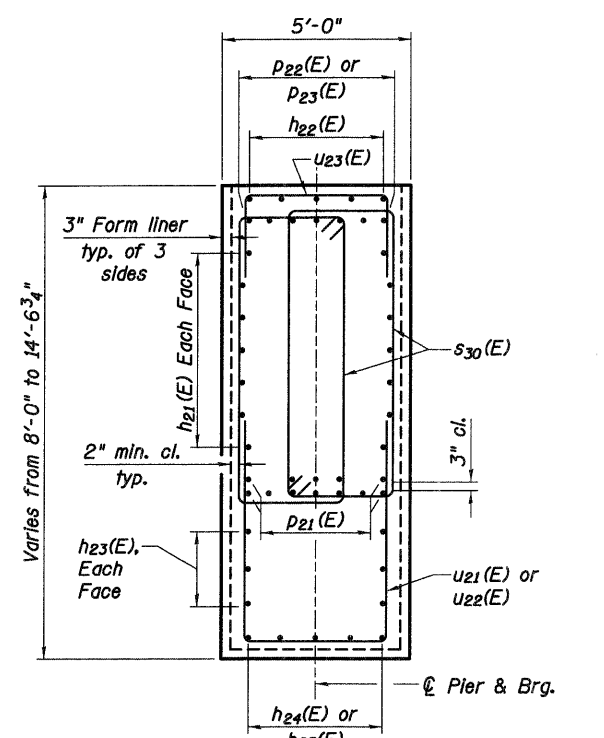
SECTION C-C



SECTION B-B



ELEVATION (Looking East)



SECTION A-A

- Notes:**
1. Space reinforcement in cap to miss anchor bolts.
  2. Pour steps monolithically with cap.
  3. For additional pier details see sheet S41 of S108.
  4. For bearing and bearing anchor bolt details see sheets S31 and S33 of S108.
  5. For formliner details see sheet S51 of S108.
  6. For details of piles, see sheet S52 of S108.
  7. Bars indicated thus 3x2-#5 etc. indicates 3 lines of bars with 2 lengths per line.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PIER 1 DETAILS I**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



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 2/9/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	146
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S41 OF S108				

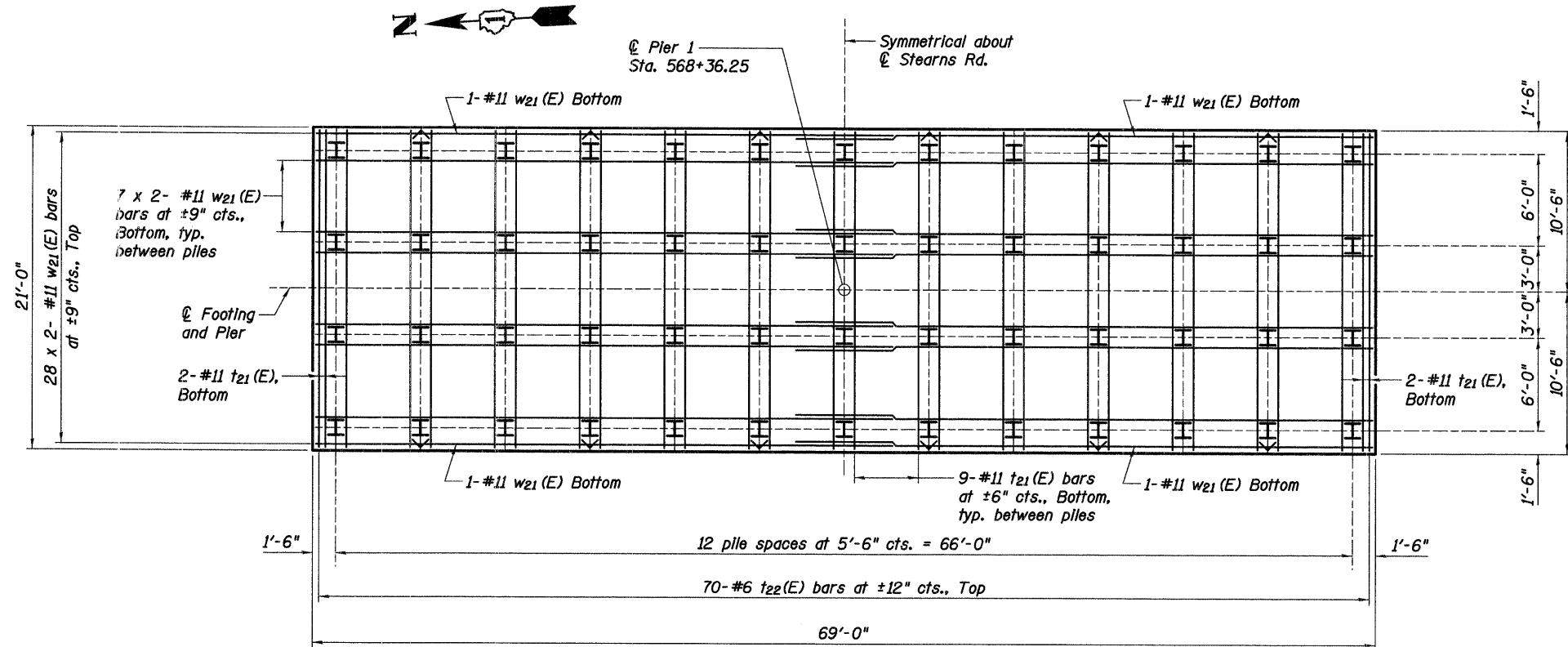
**PIER 1 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	A	B	C
h <sub>21</sub> (E)	28	# 7	32'-4"	—			
h <sub>22</sub> (E)	5	# 5	28'-1"	—			
h <sub>23</sub> (E)	24	# 5	6'-0"	—			
h <sub>24</sub> (E)	10	# 5	24'-9"	⌒	24'-9"	15'-9"	
h <sub>25</sub> (E)	20	# 5	6'-6"	⌒	4'-6"	4'-6"	
n <sub>21</sub> (E)	116	# 10	13'-7"	⌒	11'-9"	1'-10"	
p <sub>21</sub> (E)	24	# 11	34'-6"	—			
p <sub>22</sub> (E)	14	# 10	20'-9"	⌒	18'-11"	1'-10"	
p <sub>23</sub> (E)	7	# 10	34'-10"	—			
s <sub>21</sub> (E)	32	# 5	25'-7"	⌒	8'-2"	4'-2"	0'-5 1/2"
s <sub>22</sub> (E)	192	# 4	4'-11"	⌒	0'-4 1/2"	4'-2"	0'-4 1/2"
s <sub>23</sub> (E)	32	# 4	8'-11"	⌒	0'-4 1/2"	8'-2"	0'-4 1/2"
s <sub>24</sub> (E)	52	# 5	14'-6"	⌒	5'-2"	4'-2"	
s <sub>25</sub> (E)	52	# 5	13'-4"	⌒	4'-7"	4'-2"	
s <sub>26</sub> (E)	24	# 5	12'-4"	⌒	4'-1"	4'-2"	
s <sub>27</sub> (E)	52	# 4	5'-4"	⌒	0'-4 1/2"	4'-11 1/2"	
s <sub>28</sub> (E)	52	# 4	4'-9"	⌒	0'-4 1/2"	4'-4 1/2"	
s <sub>29</sub> (E)	24	# 4	4'-4"	⌒	0'-4 1/2"	3'-11 1/2"	
s <sub>30</sub> (E)	142	# 6	22'-2"	⌒	7'-5"	3'-0"	0'-8"
t <sub>21</sub> (E)	112	# 11	20'-8"	—			
t <sub>22</sub> (E)	70	# 6	20'-8"	—			
u <sub>21</sub> (E)	18	# 6	11'-2"	⌒	3'-6"	4'-2"	
u <sub>22</sub> (E)	16	# 6	15'-8"	⌒	5'-9"	4'-2"	
u <sub>23</sub> (E)	29	# 5	7'-10"	⌒	1'-10"	4'-2"	
u <sub>24</sub> (E)	18	# 6	7'-0"	⌒	1'-6"	4'-0"	
u <sub>25</sub> (E)	14	# 5	7'-0"	—			
v <sub>21</sub> (E)	116	# 10	31'-2"	—			
v <sub>22</sub> (E)	116	# 7	7'-0"	—			
w <sub>21</sub> (E)	102	# 11	37'-11"	—			

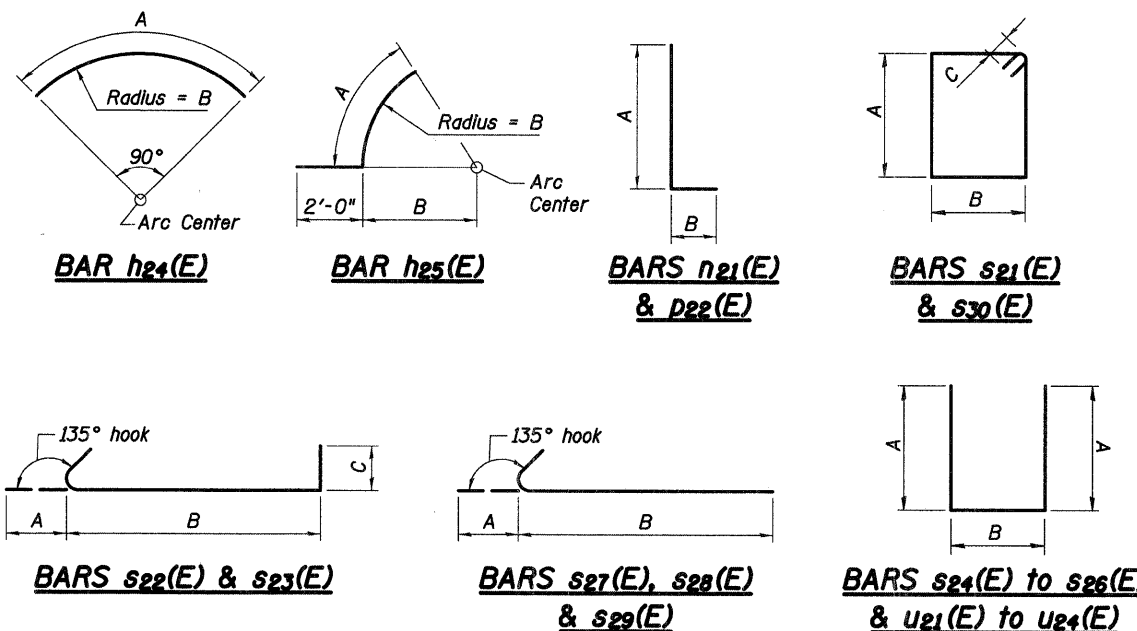
Concrete Structures	Cu. Yd.	492
Reinforcement Bars, Epoxy Coated	Pound	78,100
Structure Excavation	Cu. Yd.	795
Form Liner Textured Surface	Sq. Ft.	3,854
Furnishing Steel Piles HP 12x74	Foot	2,295
Driving Piles	Foot	2,295
Test Pile Steel HP 12x74	Each	1

**MINIMUM BAR LAP**

#4	=	1'-4"
#5	=	1'-8"
#6	=	2'-0"
#7	=	2'-9"
#10	=	5'-10" (Pier Cap)
	=	7'-3" (Pier Column)
#11	=	7'-2"



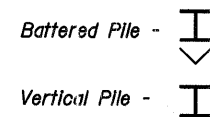
**FOOTING PLAN**



**PIER 1 PILE DATA**

Type: HP 12x74  
 Nominal Required Bearing: 360 kips  
 Factored Resistance Available: 180 kips  
 Est. Length: 45 ft.  
 No. Production Piles: 51  
 No. Test Piles: 1

The contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their nominal required bearing to prevent pile damage during driving.



**Notes:**

- For plan, elevation and sections see sheet S40 of S108.
- For details of piles sheet S52 of S108.

**Baker**

Baker Engineering, Inc.

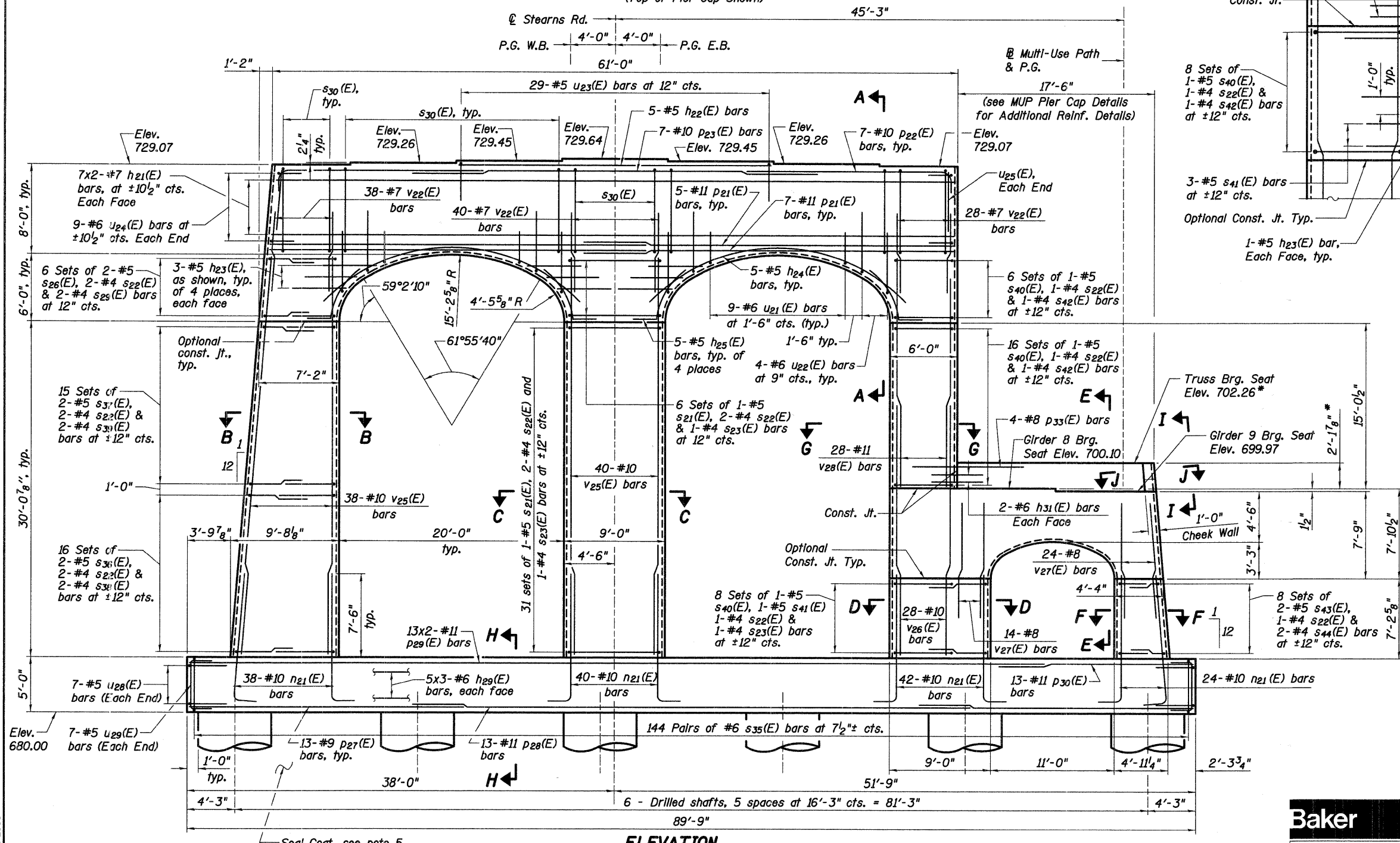
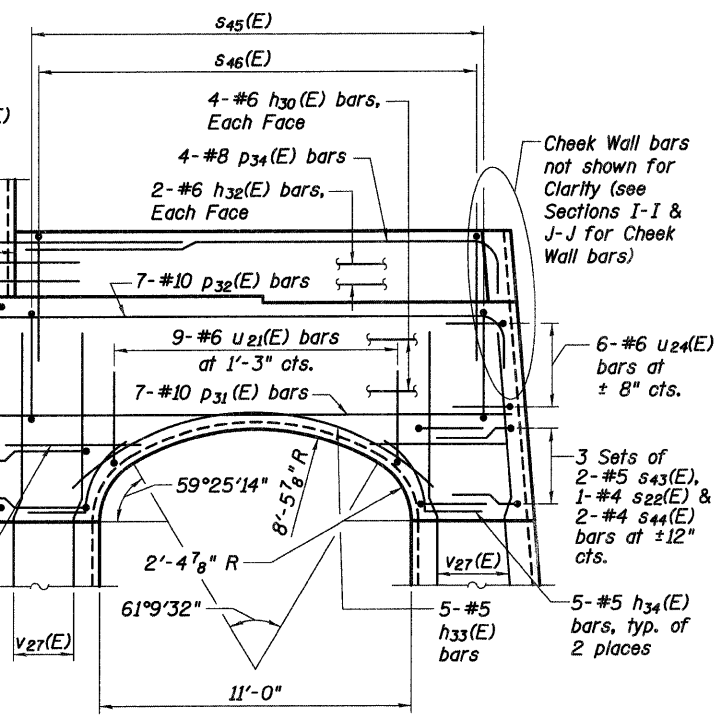
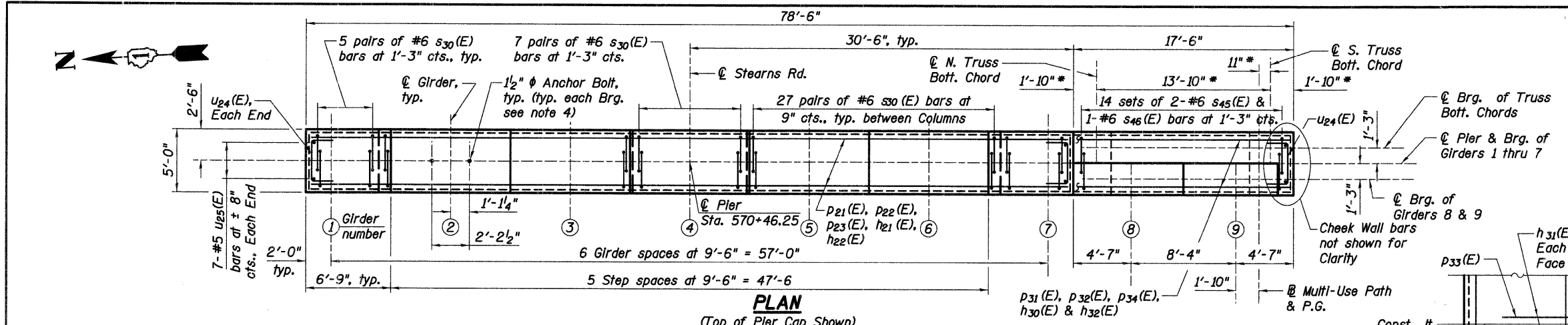
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PIER 1 DETAILS II**

STEARN'S ROAD  
 OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY  
 STATION 571+42.96  
 DATE: JANUARY 16, 2009  
 PUBLIC WATERS  
 FAP 361 SECTION 06-00214-20-BR  
 DESIGNED: DAP  
 DRAWN: SGW  
 CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	147
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S42 OF S108				



**Notes:**

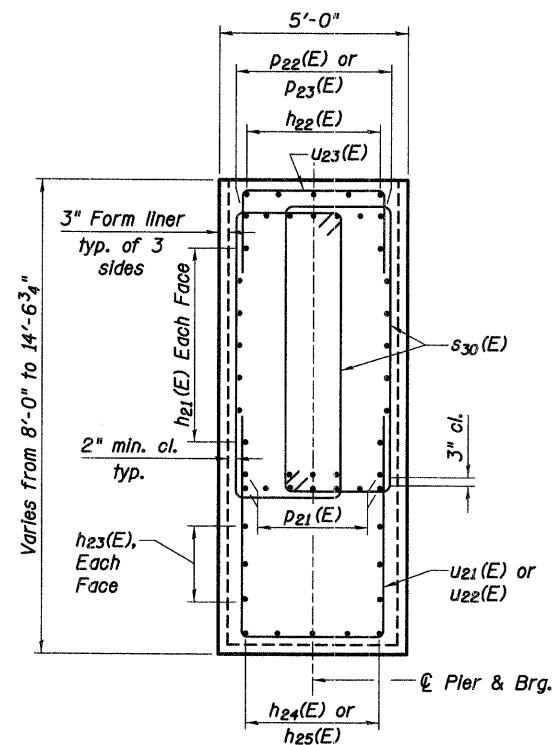
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For additional pier details see sheets S43 and S44 of S108.
4. For bearing and bearing anchor bolt details see sheets S31 of S108.
5. For form liner, cofferdam and seal coat details see sheet S51 of S108.
6. Bars indicated thus 3x2-#5 etc. indicates 3 lines of bars with 2 lengths per line.
7. Concrete Sealer shall be applied to the MUP Bridge bearing seat as well as above elevation 697.00 on all sides of the MUP Pier Cap.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE		
		<b>PIER 2 DETAILS I</b>	
		STEARNS ROAD OVER THE FOX RIVER STRUCTURE NUMBER 045-3166 PUBLIC WATERS	
		KANE COUNTY FAP 361 SECTION 06-00214-20-BR STATION 571+42.96 DESIGNED: DAP DRAWN: SGW DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ	

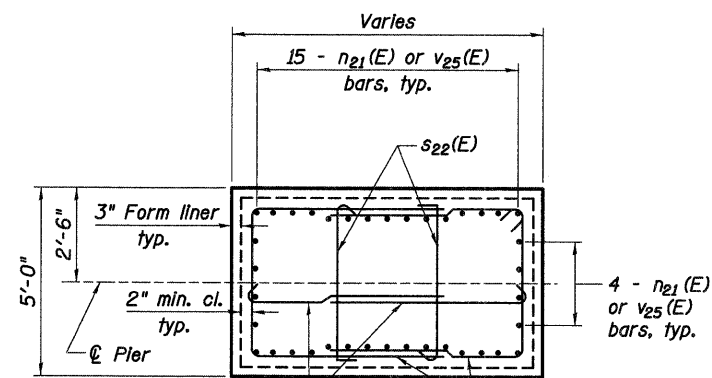


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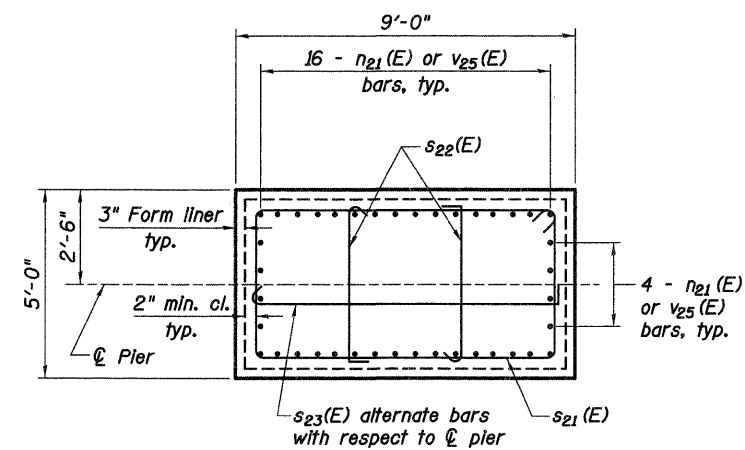
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	148
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S43 OF S108				



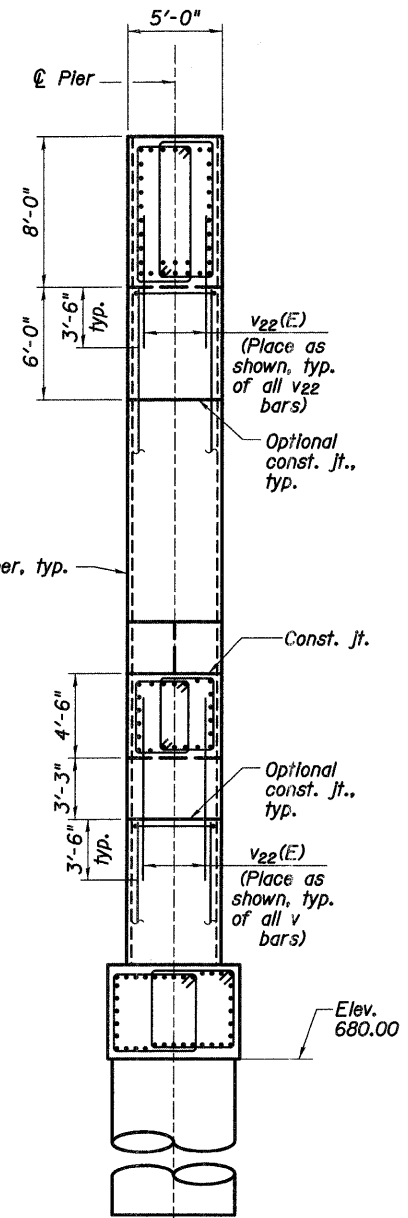
**SECTION A-A**



**SECTION B-B**

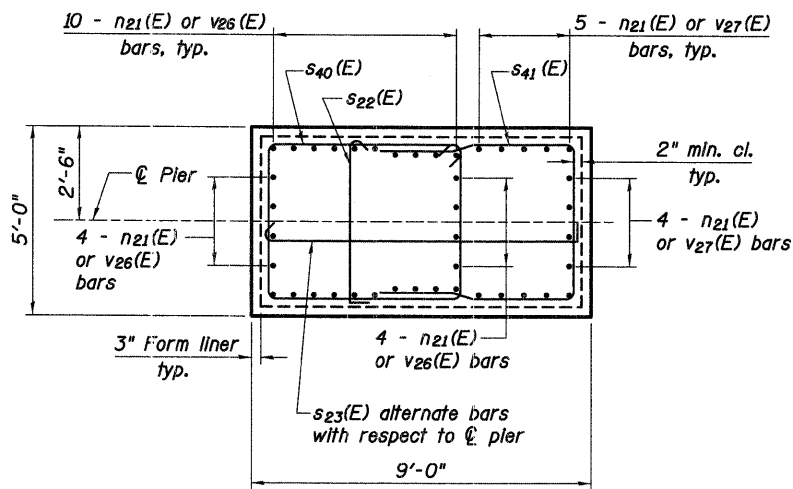


**SECTION C-C**

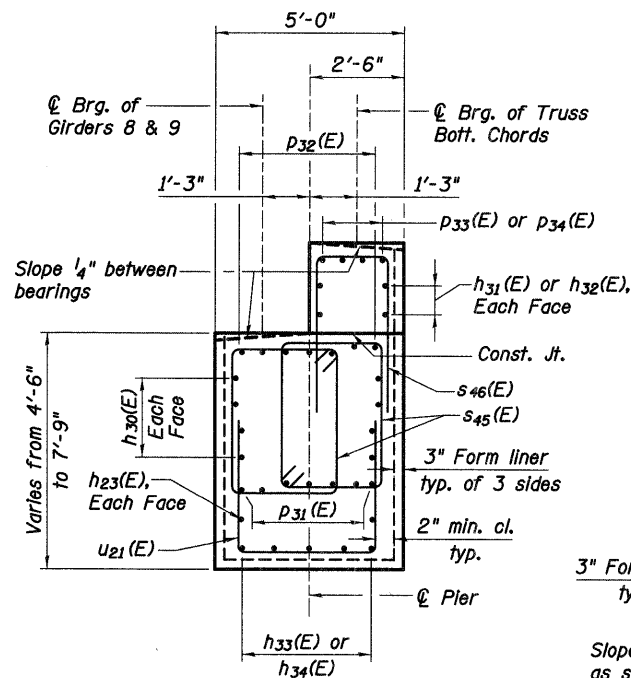


**END VIEW**

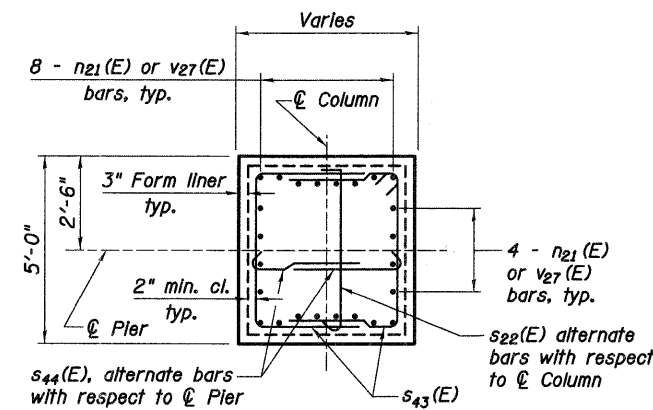
(Looking North, some bars are not shown for clarity)



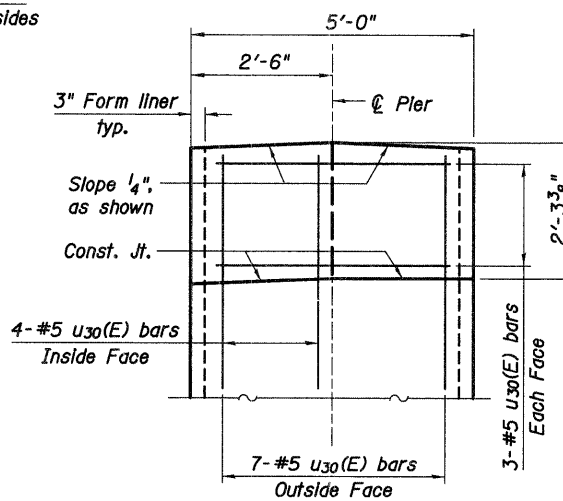
**SECTION D-D**



**SECTION E-E**

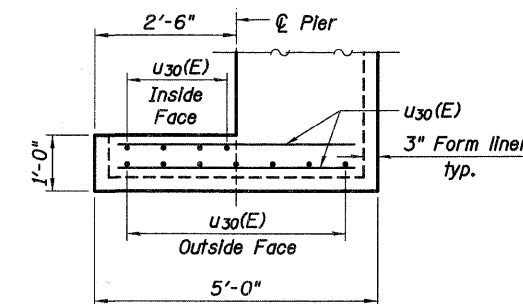


**SECTION F-F**



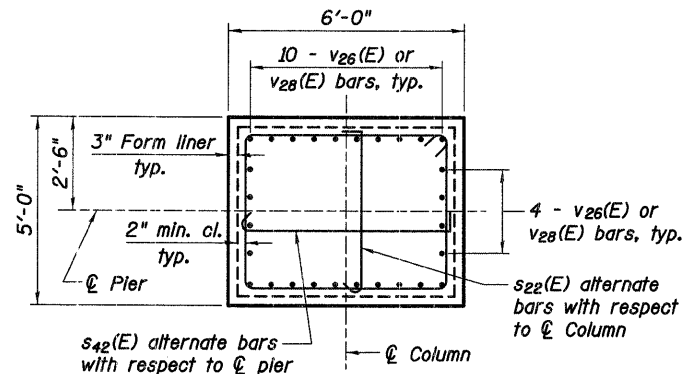
**SECTION I-I**

(Cheek wall elevation shown, MUP Pier cap details not shown for clarity)

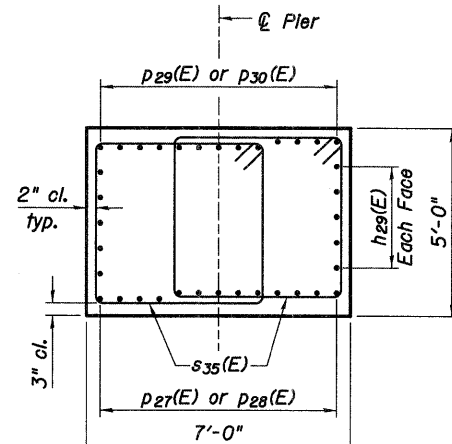


**SECTION J-J**

(Cheek wall section shown, MUP Pier cap details not shown for clarity)



**SECTION G-G**



**SECTION H-H**

**Notes:**

- For additional pier details see sheets S42 and S44 of S108.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PIER 2 DETAILS II**

STEARNS ROAD  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166  
KANE COUNTY  
STATION 571+42.96  
DATE: JANUARY 16, 2009

PUBLIC  
WATERS  
DESIGNED: DAP  
DRAWN: SGW  
CHECKED: KPZ

**Baker**

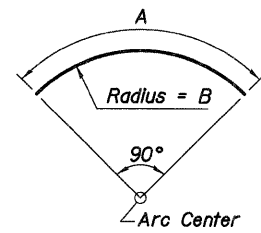
Baker Engineering, Inc.



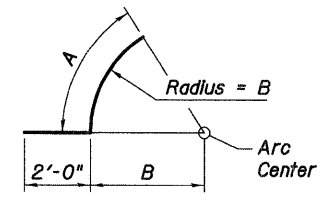
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	149
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S44 OF S108				

**PIER 2 BILL OF MATERIAL**

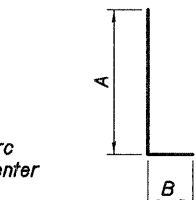
Bar	No.	Size	Length	Shape	A	B	C
h21(E)	28	# 7	32'-4"				
h22(E)	5	# 5	28'-1"				
h23(E)	28	# 5	6'-0"				
h24(E)	10	# 5	24'-9"		24'-9"	15'-9"	
h25(E)	20	# 5	6'-6"		4'-6"	4'-6"	
h26(E)	30	# 6	31'-2"				
h30(E)	8	# 6	19'-2"				
h31(E)	4	# 6	4'-6"				
h32(E)	4	# 6	17'-2"				
h33(E)	5	# 5	14'-2"		14'-2"	9'-0"	
h34(E)	10	# 5	5'-0"		3'-0"	2'-6"	
n21(E)	144	# 10	13'-7"		11'-9"	1'-10"	
p21(E)	24	# 11	34'-6"				
p22(E)	14	# 10	20'-9"		18'-11"	1'-10"	
p23(E)	7	# 10	34'-10"				
p27(E)	26	# 9	24'-6"				
p28(E)	13	# 11	50'-0"				
p29(E)	26	# 11	41'-9"				
p30(E)	13	# 9	18'-0"				
p31(E)	7	# 10	20'-6"				
p32(E)	7	# 10	24'-0"		22'-2"	1'-10"	
p33(E)	4	# 8	8'-0"				
p34(E)	4	# 8	18'-6"		17'-2"	1'-4"	
s21(E)	37	# 5	25'-7"		8'-2"	4'-2"	0'-5 1/2"
s22(E)	197	# 4	4'-11"		0'-4 1/2"	4'-2"	0'-4 1/2"
s23(E)	45	# 4	8'-11"		0'-4 1/2"	8'-2"	0'-4 1/2"
s26(E)	12	# 5	12'-4"		4'-1"	4'-2"	
s29(E)	12	# 4	4'-4"		0'-4 1/2"	3'-11 1/2"	
s30(E)	142	# 6	22'-2"		7'-5"	3'-0"	0'-8"
s33	474	# 6	21'-4"				
s34	948	# 6	7'-4"		0'-8"	6'-0"	0'-6"
s35(E)	288	# 6	23'-10"		4'-7"	6'-8"	0'-8"
s36(E)	32	# 5	14'-10"		5'-4"	4'-2"	
s37(E)	30	# 5	13'-6"		4'-8"	4'-2"	
s38(E)	32	# 4	5'-6"		0'-4 1/2"	5'-1 1/2"	
s39(E)	30	# 4	4'-10"		0'-4 1/2"	4'-5 1/2"	
s40(E)	38	# 5	19'-7"		5'-2"	4'-2"	0'-5 1/2"
s41(E)	11	# 5	13'-8"		4'-9"	4'-2"	
s42(E)	30	# 4	5'-11"		0'-4 1/2"	5'-2"	0'-4 1/2"
s43(E)	22	# 5	10'-4"		3'-1"	4'-2"	
s44(E)	22	# 4	3'-3"		0'-4 1/2"	2'-10 1/2"	
s45(E)	28	# 6	15'-2"		3'-11"	3'-0"	0'-8"
s46(E)	14	# 6	13'-8"		4'-9"	4'-2"	
u21(E)	27	# 6	11'-2"		3'-6"	4'-2"	
u22(E)	16	# 6	15'-8"		5'-9"	4'-2"	
u23(E)	29	# 5	7'-10"		1'-10"	4'-2"	
u24(E)	24	# 6	7'-0"		1'-6"	4'-0"	
u25(E)	14	# 5	7'-0"				
u26(E)	14	# 5	9'-2"		1'-4"	6'-6"	
u29(E)	14	# 5	7'-1"		1'-4"	4'-5"	
u30(E)	17	# 5	4'-6"				
v22(E)	106	# 7	7'-0"				
v23	216	# 10	30'-0"				
v24	216	# 11	35'-5"		1'-7"	33'-10"	1'-2 3/4"
v25(E)	78	# 10	35'-8"				
v26(E)	28	# 10	22'-3"				
v27(E)	38	# 8	10'-6"				
v28(E)	28	# 10	20'-9"				



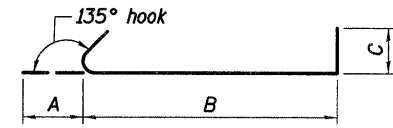
**BARS h24(E) & h33(E)**



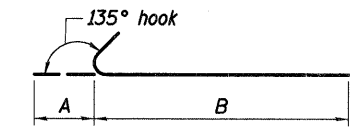
**BARS h25(E) & h34(E)**



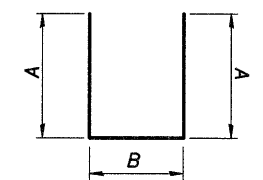
**BARS n21(E), p22(E), p32(E) & p34(E)**



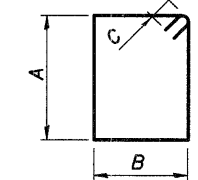
**BARS s22(E) s23(E) & s42(E)**



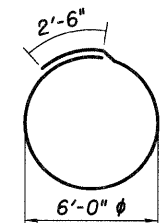
**BARS s29(E), s38(E), s39(E) & s44(E)**



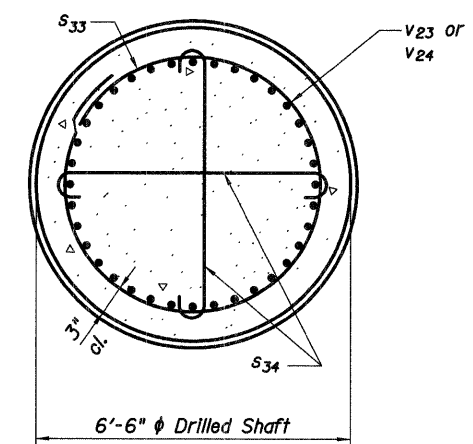
**BARS s26(E), s36(E), s37(E), s41(E), s43(E), s46(E), u21(E) to u24(E), u28(E) & u29(E)**



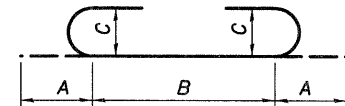
**BARS s21(E), s30(E), s35(E), s40(E) & s45(E)**



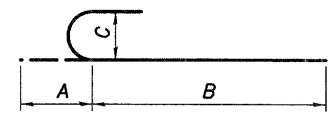
**BAR s33(E)**



**SECTION A-A**

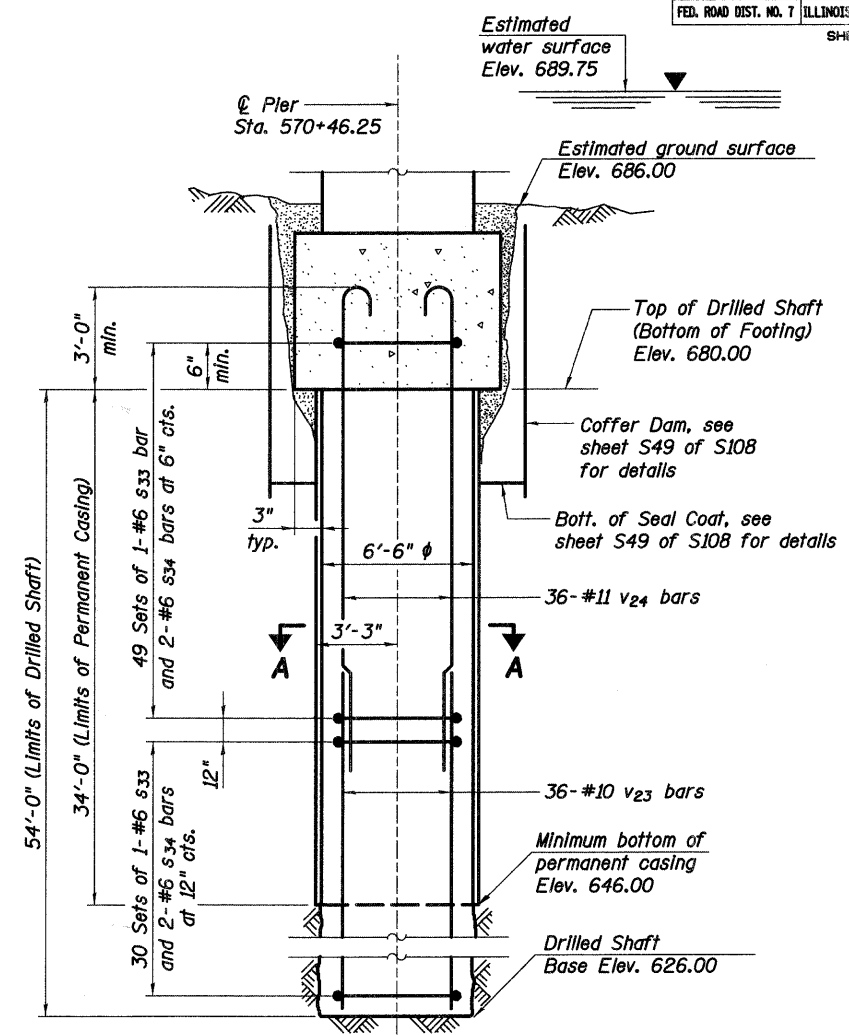


**BARS s34(E)**



**BARS v24(E)**

Concrete Structures	Cu. Yd.	409
Reinforcement Bars	Pound	94,160
Reinforcement Bars, Epoxy Coated	Pound	75,370
Form Liner Textured Surface	Sq. Ft.	4,610
Drilled Shaft In Soil	Cu. Yd.	398
Permanent Casing	Foot	204



**DRILLED SHAFT ELEVATION**

**Drilled Shaft Notes:**

- Contractor is responsible for determining the permanent casing thickness and the actual bottom of permanent casing elevation to be used. See Article 516.06(d) and 1006.05(d) of the Standard Specifications.
- Pay limits for the Permanent Casing shall be based on the minimum length shown.

**Notes:**

- For Pier details see sheets S42 and S43 of S108.
- For Cofferdam and Seal Coat Details see sheet S51 of S108.

**MINIMUM BAR LAP**

- #4 = 1'-4"
- #5 = 1'-8"
- #6 = 2'-0" (U.N.O.)
- #6 = 2'-6" (Drilled Shaft only)
- #7 = 2'-9"
- #8 = 4'-6"
- #9 = 4'-9"
- #10 = 5'-10" (Pier Cap & Drilled Shaft)
- = 7'-3" (Pier Column)
- #11 = 7'-2"



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

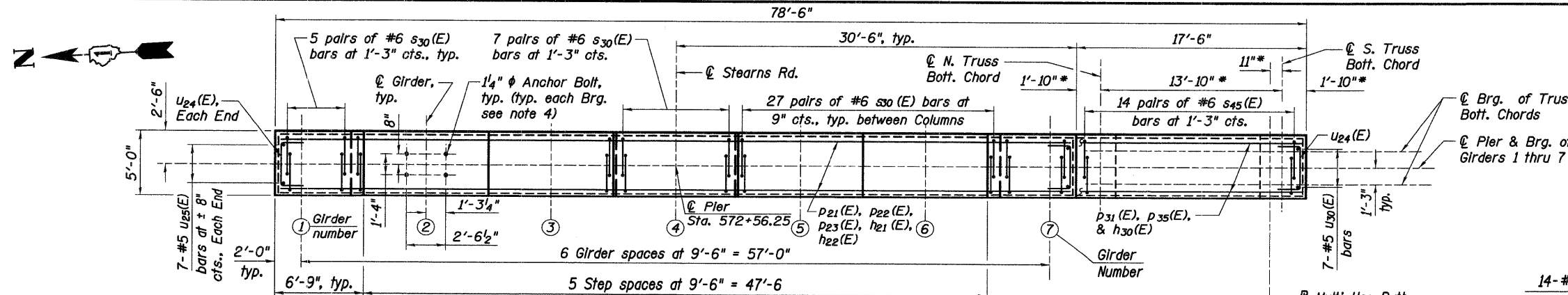
**PIER 2 DETAILS III**

STEARNS ROAD  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96  
DESIGNED: DAP  
DRAWN: SCW  
DATE: JANUARY 16, 2009  
CHECKED: KPZ

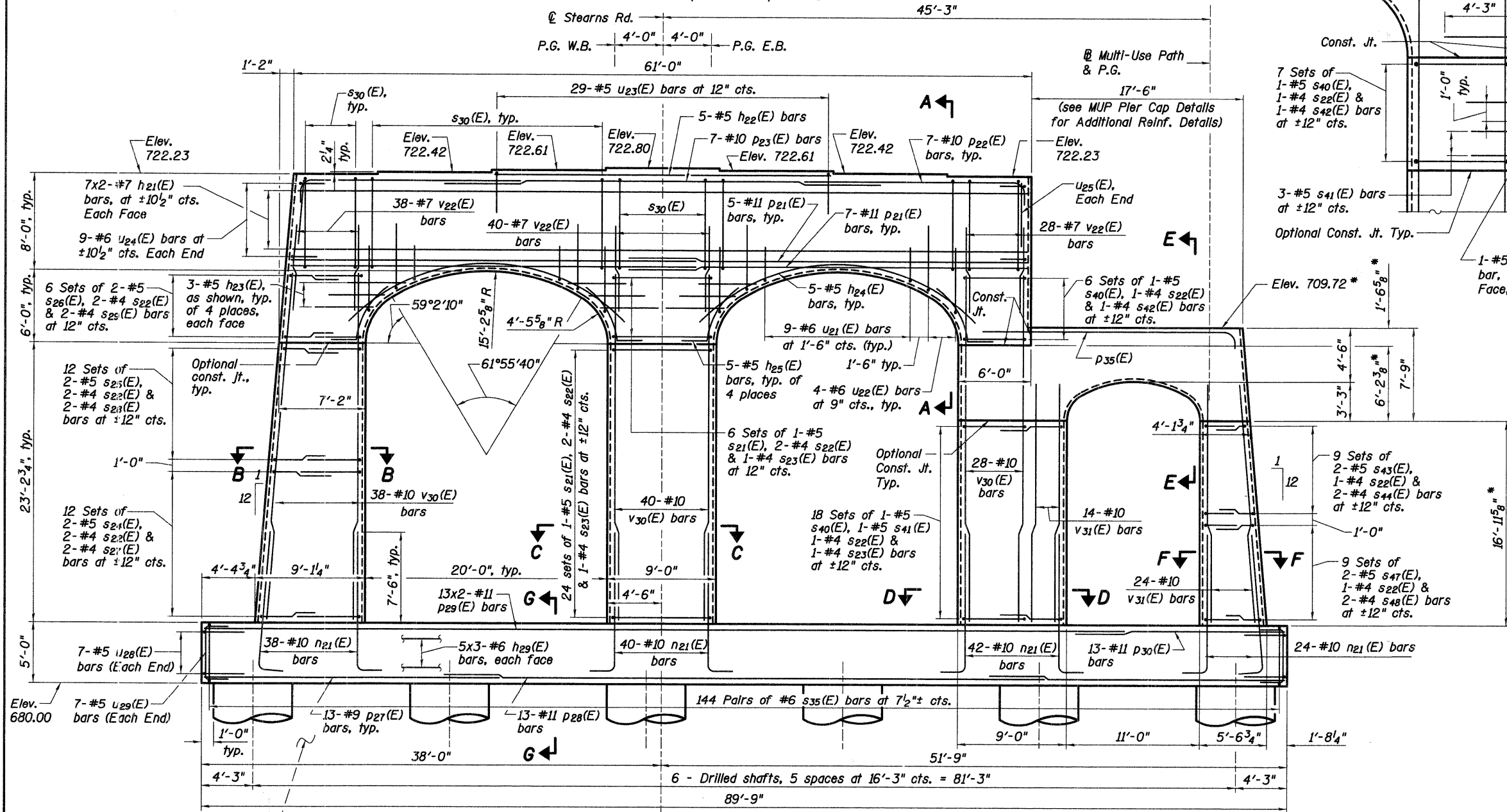
PUBLIC WATERS  
DRAWN: SCW  
CHECKED: KPZ

H:\13005\3.0 Phase II deliverables\3.3 structure drawings\Final\045-3166 Pier\_2\_Details III.dgn 1/15/2009

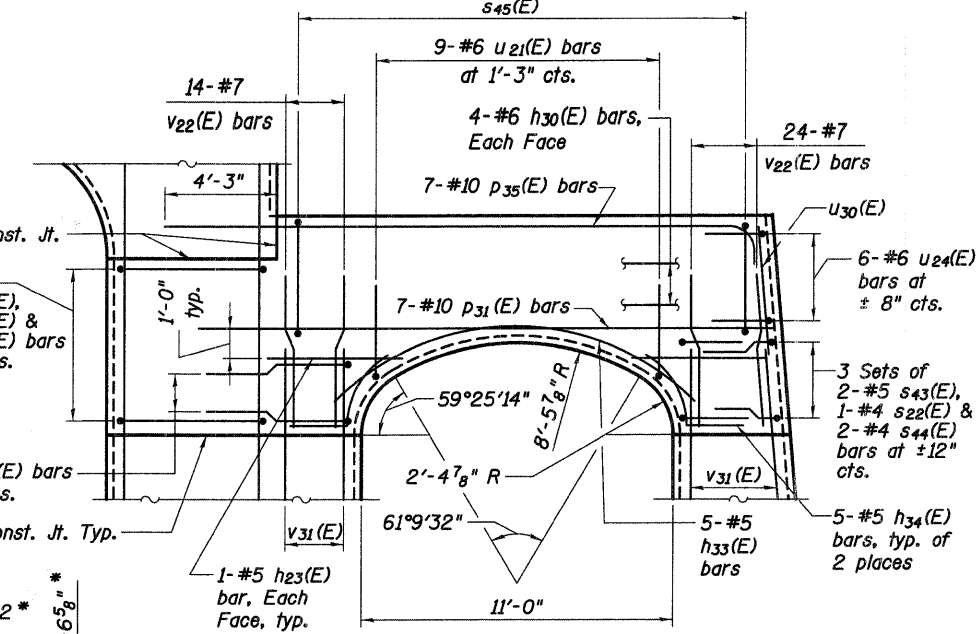
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	3	320
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S45 OF S108		



PLAN  
(Top of Pier Cap Shown)



ELEVATION



MUP PIER CAP DETAILS

(MUP Pier cap details shown, see Pier, Plan and Elevation for additional details)

\* May vary per Truss manufacturer's design, see "Section B-B" on sheet S60 of S108 and "MUP Bridge Truss Bearing" detail on sheet S69 of S108

Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For additional pier details, see sheets S46 and S47 of S108.
4. For bearing and bearing anchor bolt details see sheets S31 and S33 of S108.
5. For form liner, cofferdam and seal coat details see sheet S51 of S108.
6. Bars indicated thus 3x2-#5 etc. indicates 3 lines of bars with 2 lengths per line.
7. Concrete Sealer shall be applied to the MUP Bridge bearing seat as well as above elevation 706.50 on all sides of the MUP Pier Cap.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PIER 3 DETAILS I**

STEARNS ROAD  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166  
PUBLIC WATERS

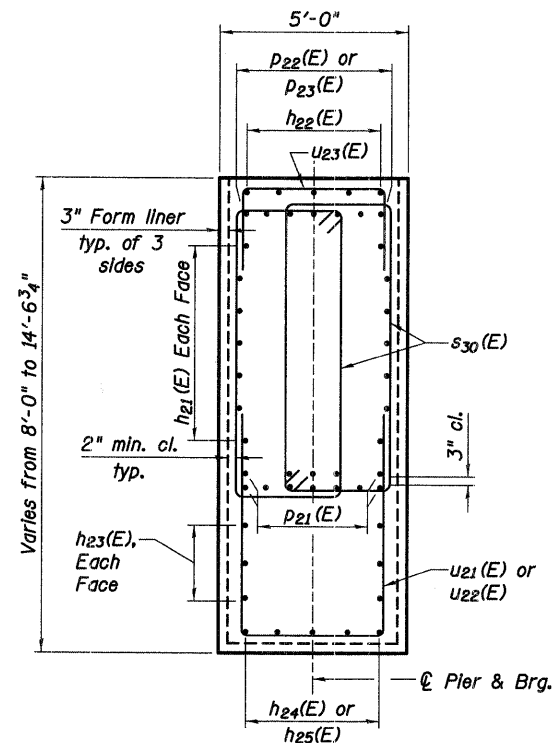
KANE COUNTY  
STATION 571+42.96  
DATE: JANUARY 16, 2009

FAP 361 SECTION 06-00214-20-BR  
DESIGNED: DAP  
DRAWN: SCW  
CHECKED: KPZ

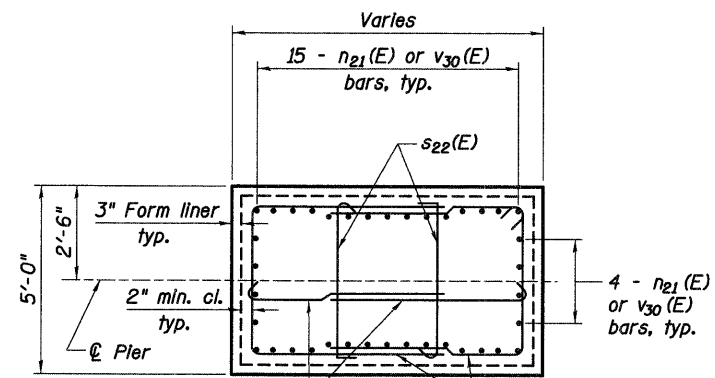


H:\13005\3.0 Phase II deliverables\3.3 structure\Drawings\Final\045-3166 Pier\_3 Details I.dgn 2/9/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	151
STA. 571+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S46 OF S108		

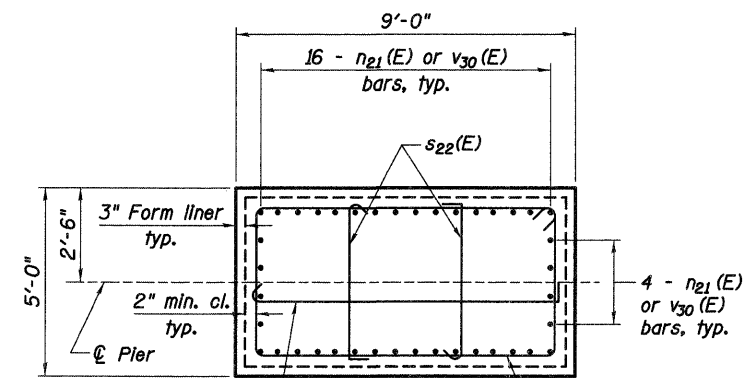


**SECTION A-A**



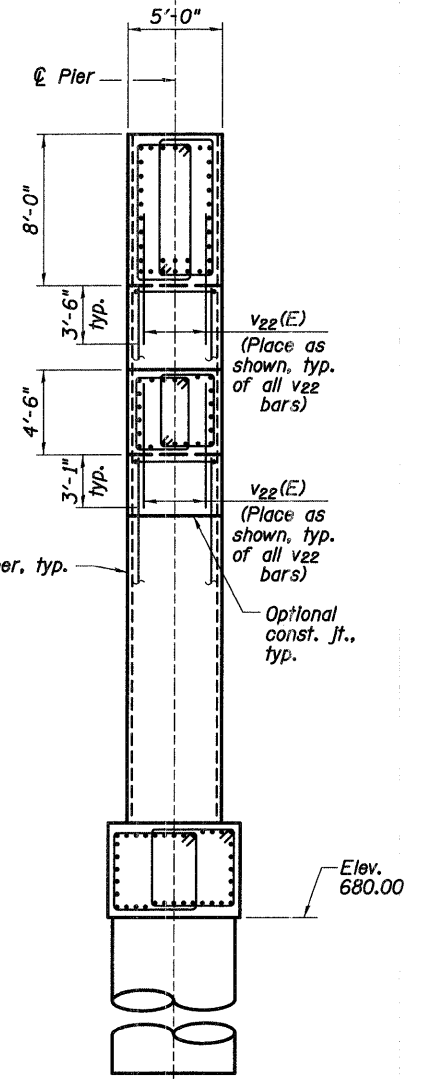
**SECTION B-B**

$s_{27}(E)$ ,  $s_{28}(E)$  or  $s_{29}(E)$ , alternate bars with respect to  $\text{C Pler}$  ( $s_{29}(E)$  bars are above optional const. jt.),  $s_{24}(E)$ ,  $s_{25}(E)$  or  $s_{26}(E)$  ( $s_{26}(E)$  bars are above optional const. jt.)



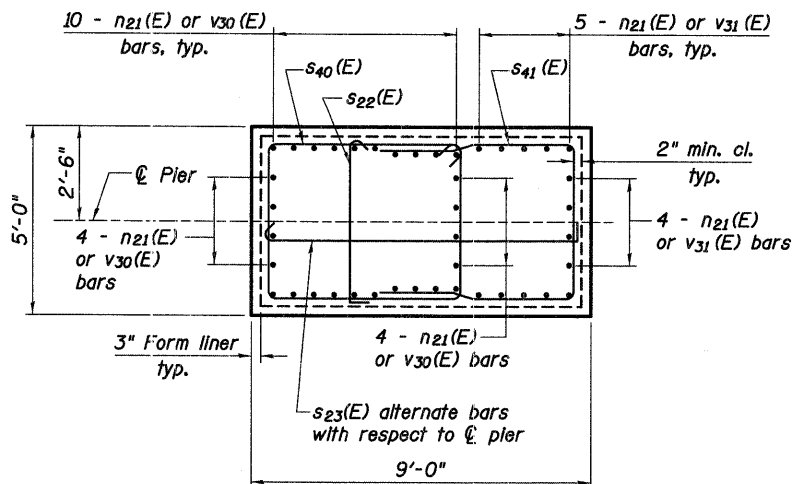
**SECTION C-C**

$s_{23}(E)$  alternate bars with respect to  $\text{C Pler}$ ,  $s_{21}(E)$

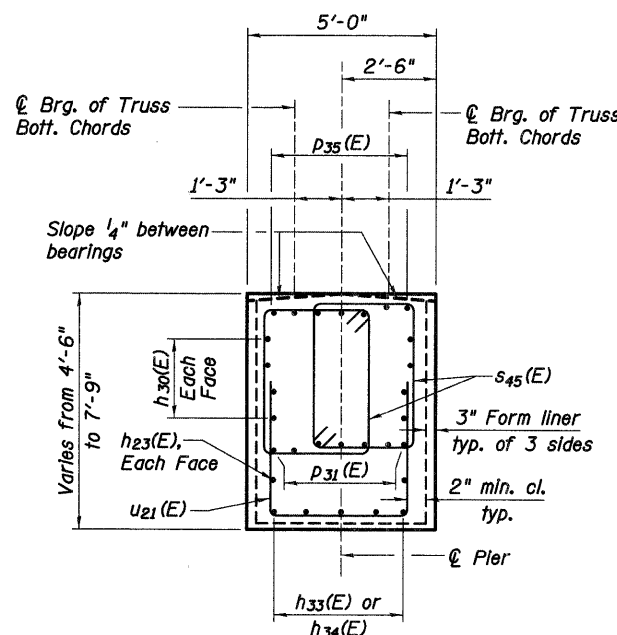


**END VIEW**

(Looking North, some bars are not shown for clarity)

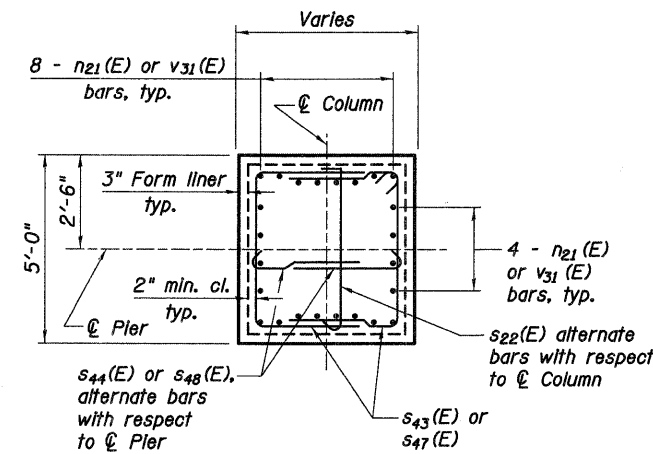


**SECTION D-D**



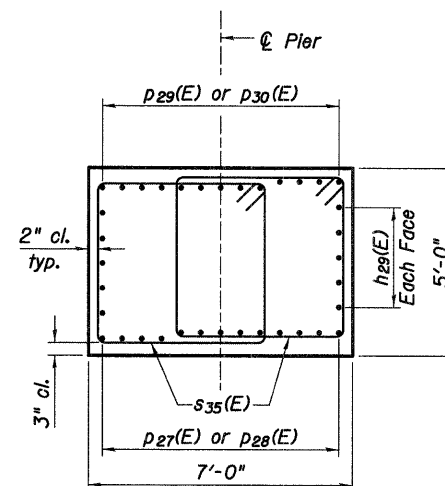
**SECTION E-E**

$\text{C Brg. of Truss Bott. Chords}$ ,  $\text{C Brg. of Truss Bott. Chords}$ , Slope  $\frac{1}{4}$ " between bearings



**SECTION F-F**

$s_{44}(E)$  or  $s_{48}(E)$ , alternate bars with respect to  $\text{C Pler}$ ,  $s_{43}(E)$  or  $s_{47}(E)$ ,  $s_{22}(E)$  alternate bars with respect to  $\text{C Column}$



**SECTION G-G**

**Notes:**

- For additional pier details see sheets S45 and S47 of S108.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PIER 3 DETAILS II**

STEARN'S ROAD PUBLIC  
OVER THE FOX RIVER WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

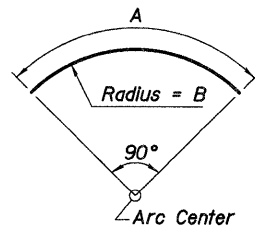
**Baker**

Baker Engineering, Inc.

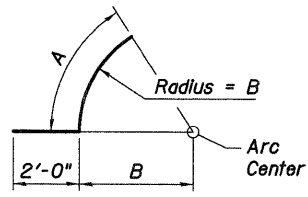
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	152
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. 547 OF 5108				

**PIER 3 BILL OF MATERIAL**

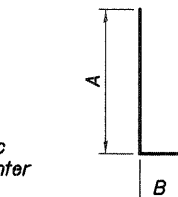
Bar	No.	Size	Length	Shape	A	B	C
h21(E)	28	# 7	32'-4"				
h22(E)	5	# 5	28'-1"				
h23(E)	28	# 5	6'-0"				
h24(E)	10	# 5	24'-9"		24'-9"	15'-9"	
h25(E)	20	# 5	6'-6"		4'-6"	4'-6"	
h29(E)	30	# 6	31'-2"				
h30(E)	8	# 6	19'-2"				
h33(E)	5	# 5	14'-2"		14'-2"	9'-0"	
h34(E)	10	# 5	5'-0"		3'-0"	2'-6"	
n21(E)	144	# 10	13'-7"		11'-9"	1'-10"	
p21(E)	24	# 11	34'-6"				
p22(E)	14	# 10	20'-9"		18'-11"	1'-10"	
p23(E)	7	# 10	34'-10"				
p27(E)	26	# 9	24'-6"				
p28(E)	13	# 11	50'-0"				
p29(E)	26	# 11	41'-9"				
p30(E)	13	# 9	18'-0"				
p31(E)	7	# 10	20'-6"				
p35(E)	7	# 10	22'-4"		21'-0"	1'-4"	
s21(E)	30	# 5	25'-7"		8'-2"	4'-2"	0'-5 1/2"
s22(E)	172	# 4	4'-11"		0'-4 1/2"	4'-2"	0'-4 1/2"
s23(E)	48	# 4	8'-11"		0'-4 1/2"	8'-2"	0'-4 1/2"
s24(E)	24	# 5	14'-6"		5'-2"	4'-2"	
s25(E)	24	# 5	13'-4"		4'-7"	4'-2"	
s26(E)	12	# 5	12'-4"		4'-1"	4'-2"	
s27(E)	24	# 4	5'-4"		0'-4 1/2"	4'-11 1/2"	
s28(E)	24	# 4	4'-9"		0'-4 1/2"	4'-4 1/2"	
s29(E)	12	# 4	4'-4"		0'-4 1/2"	3'-11 1/2"	
s30(E)	142	# 6	22'-2"		7'-5"	3'-0"	0'-8"
s33	462	# 6	21'-4"				
s34	924	# 6	7'-4"		0'-8"	6'-0"	0'-6"
s35(E)	288	# 6	23'-10"		4'-7"	6'-8"	0'-8"
s40(E)	31	# 5	19'-7"		5'-2"	4'-2"	0'-5 1/2"
s41(E)	21	# 5	13'-8"		4'-9"	4'-2"	
s42(E)	13	# 4	5'-11"		0'-4 1/2"	5'-2"	0'-4 1/2"
s43(E)	24	# 5	10'-4"		3'-1"	4'-2"	
s44(E)	24	# 4	3'-3"		0'-4 1/2"	2'-10 1/2"	
s45(E)	28	# 6	15'-2"		3'-11"	3'-0"	0'-8"
s47(E)	18	# 5	10'-11"		3'-4 1/2"	4'-2"	
s48(E)	18	# 4	3'-6 1/2"		0'-4 1/2"	3'-2"	
u21(E)	27	# 6	11'-2"		3'-6"	4'-2"	
u22(E)	16	# 6	15'-8"		5'-9"	4'-2"	
u23(E)	29	# 5	7'-10"		1'-10"	4'-2"	
u24(E)	24	# 6	7'-0"		1'-6"	4'-0"	
u25(E)	14	# 5	7'-0"				
u26(E)	14	# 5	9'-2"		1'-4"	6'-6"	
u29(E)	14	# 5	7'-1"		1'-4"	4'-5"	
u30(E)	7	# 5	4'-6"				
v22(E)	144	# 7	7'-0"				
v23	216	# 10	30'-0"				
v29	216	# 11	33'-5"		1'-7"	31'-10"	1'-2 3/4"
v30(E)	106	# 10	28'-11"				
v31(E)	38	# 10	19'-11"				



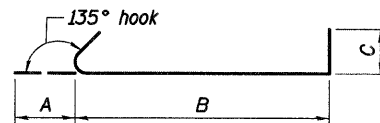
**BARS h24(E) & h33(E)**



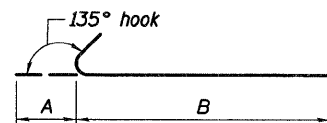
**BARS h25(E) & h34(E)**



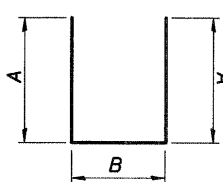
**BARS n21(E), p22(E) & p35(E)**



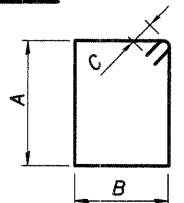
**BARS s22(E) s23(E) & s42(E)**



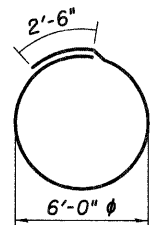
**BARS s27(E) to s29(E) & s44(E)**



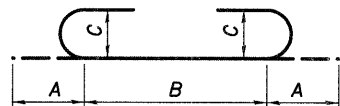
**BARS s24(E) to s26(E), s41(E), s43(E), s47(E), u21(E) to u24(E), u28(E) & u29(E)**



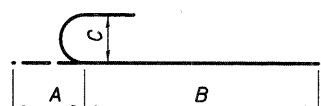
**BARS s21(E), s30(E), s35(E), s40(E) & s45(E)**



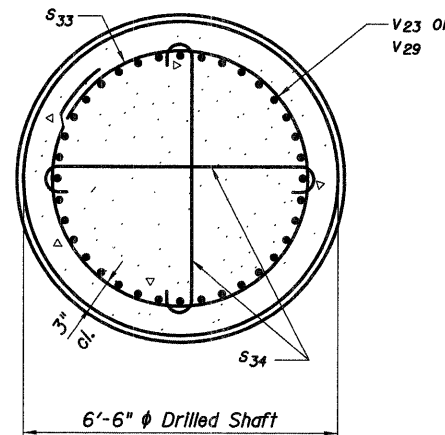
**BAR s33(E)**



**BARS s34(E)**



**BARS v29(E)**

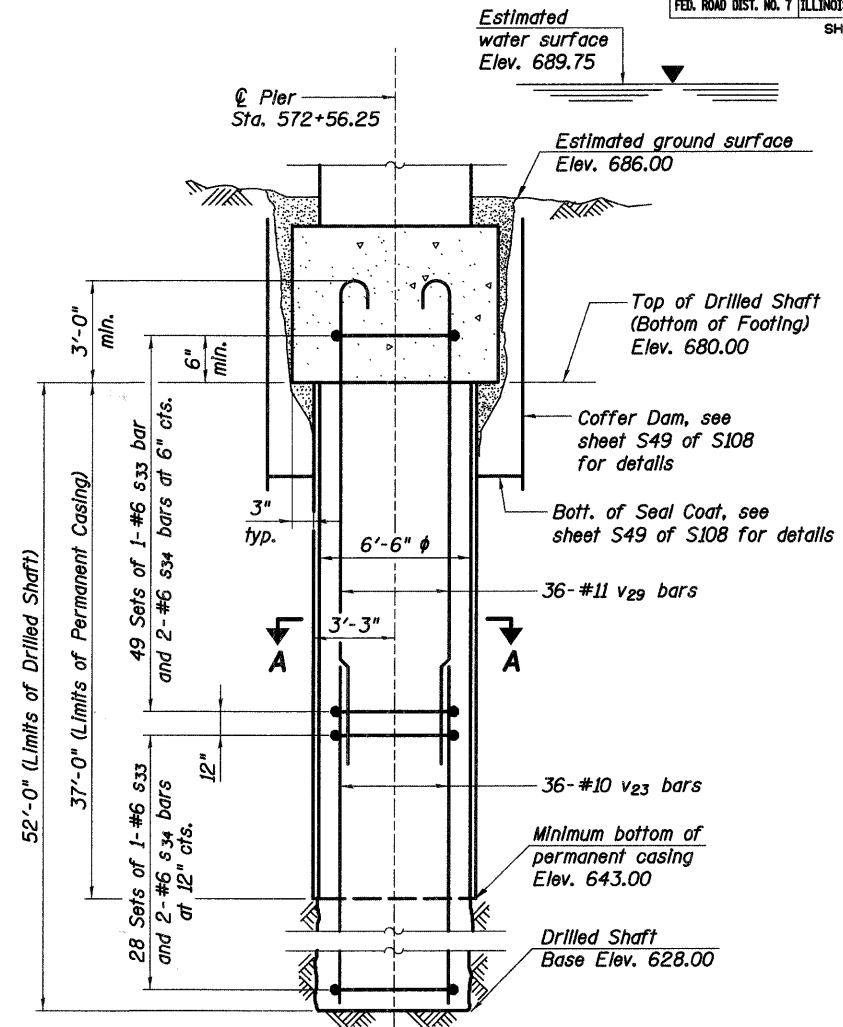


**SECTION A-A**

**MINIMUM BAR LAP**

- #4 = 1'-4"
- #5 = 1'-8"
- #6 = 2'-0" (U.N.O.)
- #6 = 2'-6" (Drilled Shaft only)
- #7 = 2'-9"
- #8 = 4'-6"
- #9 = 4'-9"
- #10 = 5'-10" (Pier Cap & Drilled Shaft)
- #10 = 7'-3" (Pier Column)
- #11 = 7'-2"

Concrete Structures	Cu. Yd.	388
Reinforcement Bars	Pound	91,210
Reinforcement Bars, Epoxy Coated	Pound	73,030
Form Liner Textured Surface	Sq. Ft.	4,245
Drilled Shaft In Soil	Cu. Yd.	384
Permanent Casing	Foot	222



**DRILLED SHAFT ELEVATION**

**Drilled Shaft Notes:**

- Contractor is responsible for determining the permanent casing thickness and the actual bottom of permanent casing elevation to be used. See Article 516.06(d) and 1006.05(d) of the Standard Specifications.
- Pay limits for the Permanent Casing shall be based on the minimum length shown.

**Notes:**

- For Pier details, see sheets S45 and S46 of S108.
- For Cofferdam and Seal Coat Details see sheet S51 of S108.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PIER 3 DETAILS III**

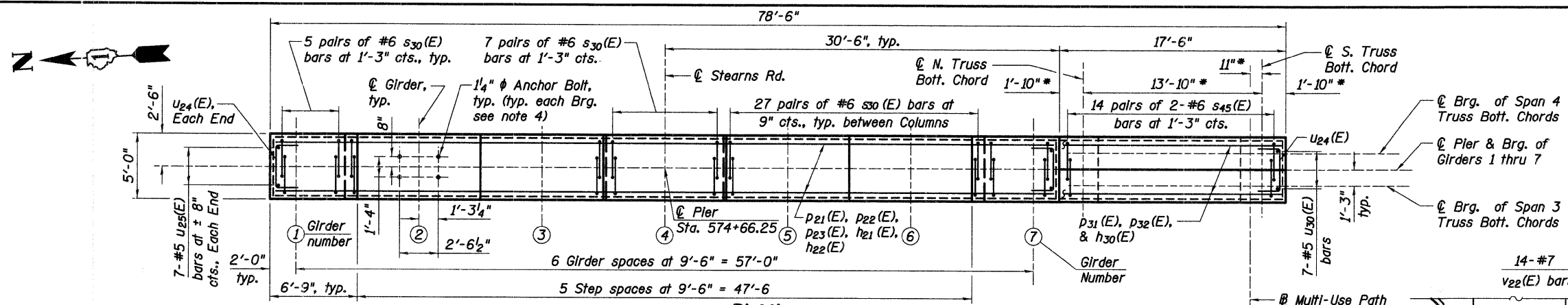
STEARNS ROAD  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166

KANE COUNTY  
STATION 571+42.96  
DATE: JANUARY 16, 2009

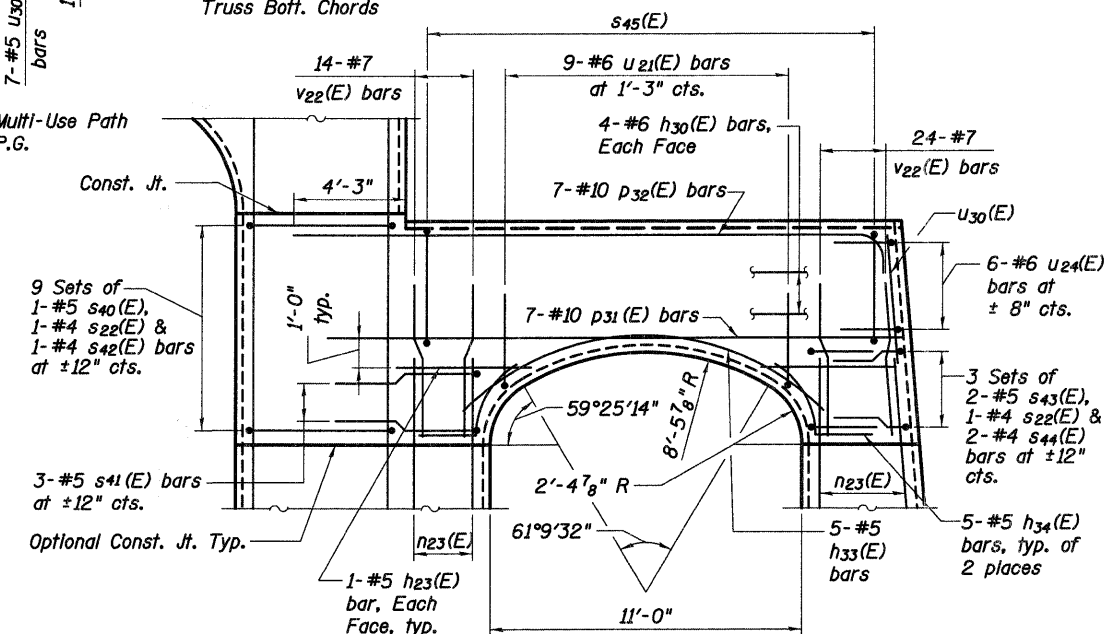
PUBLIC WATERS  
FAP 361 SECTION 06-00214-20-BR  
DESIGNED: DAP  
DRAWN: SGW  
CHECKED: KPZ

**Baker**  
Baker Engineering, Inc.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	153
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. 548 OF 5108				



**PLAN**  
(Top of Pler Cap Shown)

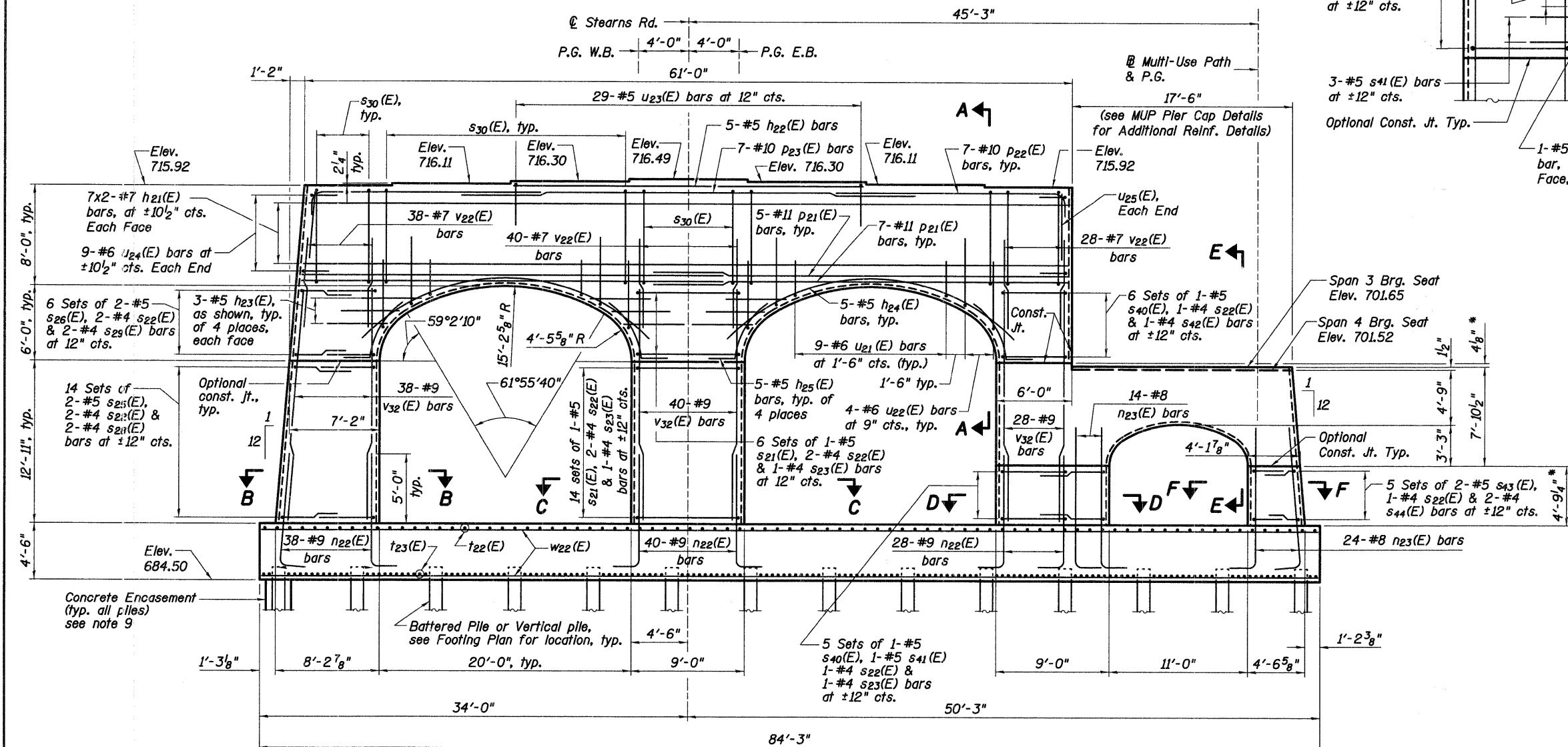


**MUP PIER CAP DETAILS**  
(MUP Pler cap details shown, see Pler, Plan and Elevation for additional details)

\* May vary per Truss manufacturer's design, see "Section B-B" on sheet S60 of S108 and "MUP Bridge Truss Bearing" detail on sheet S69 of S108

**Notes:**

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For additional pier details, see sheets S49 and S50 of S108.
4. For bearing and bearing anchor bolt details see, sheets S31 and S33 of S108.
5. For form liner details see sheet S51 of S108.
6. Bars indicated thus 3x2-#5 etc. indicates 3 lines of bars with 2 lengths per line.
7. Concrete Sealer shall be applied to the MUP Bridge bearing seat as well as above elevation 698.00 on all sides of the MUP Pier Cap.
8. For details of piles and concrete encasement see sheet S52 of S108.



**ELEVATION**

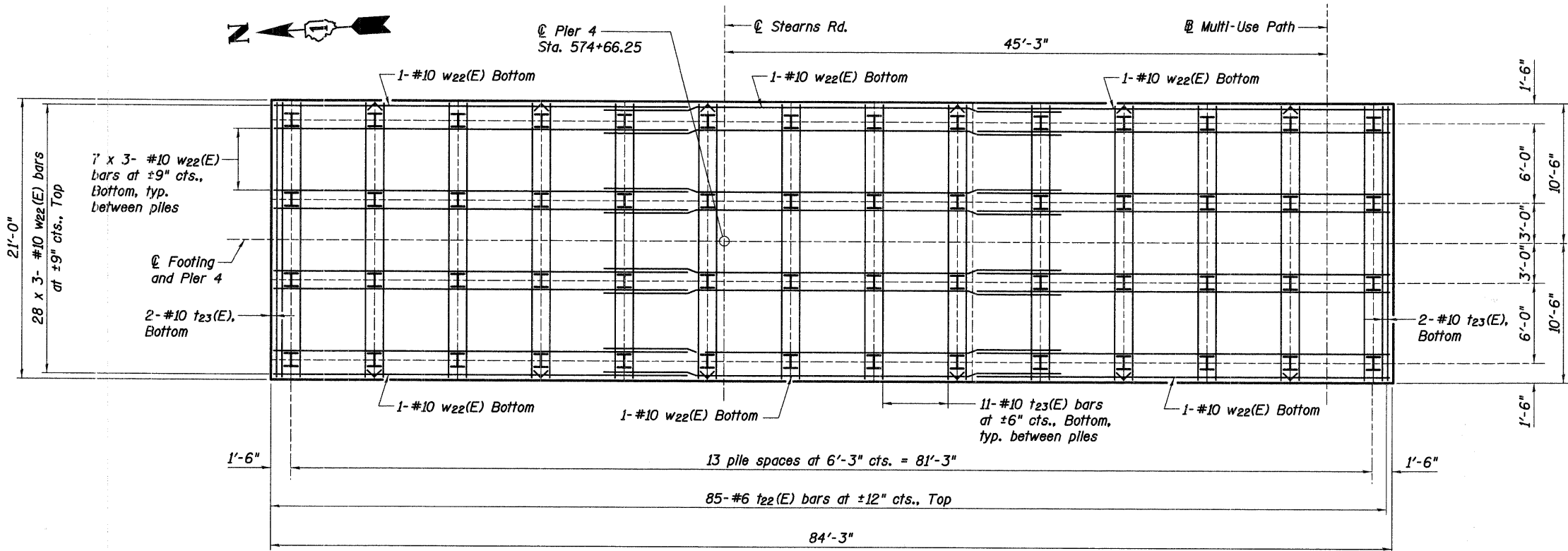
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION	
<b>PIER 4 DETAILS I</b>	
STEARNS ROAD OVER THE FOX RIVER STRUCTURE NUMBER 045-3166	PUBLIC WATERS
KANE COUNTY STATION 571+42.96	FAP 361 SECTION 06-00214-20-BR DESIGNED: DAP DRAWN: SGW
DATE: JANUARY 16, 2009	CHECKED: KPZ CHECKED: KPZ



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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	154
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S49 OF S108				

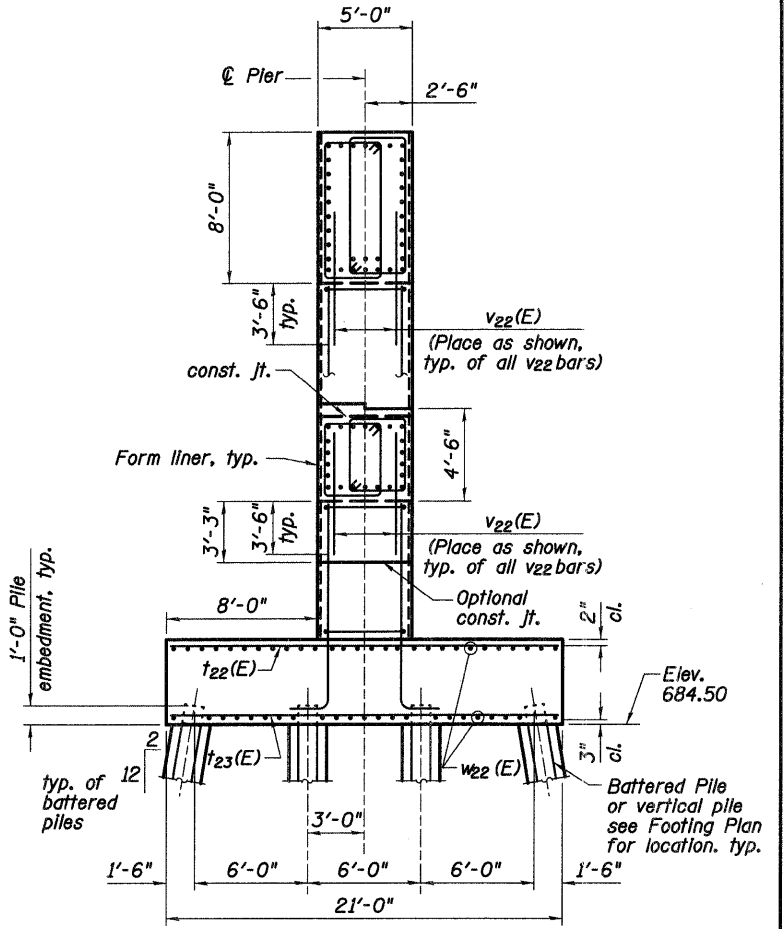
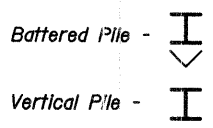


**FOOTING PLAN**

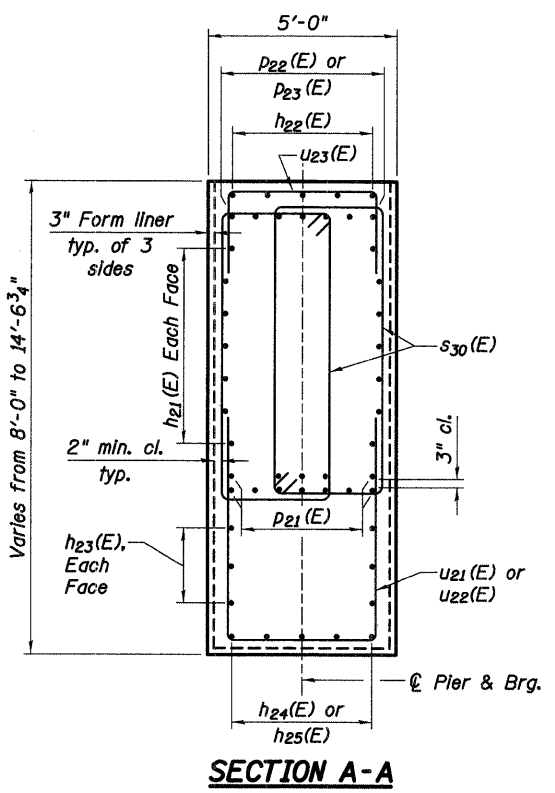
**PIER 4 PILE DATA**

Type: HF 12x74  
 Nominal Required Bearing: 376 kips  
 Factored Resistance Available: 180 kips  
 Est. Length: 28 ft.  
 No. Production Piles: 55  
 No. Test Piles: 1

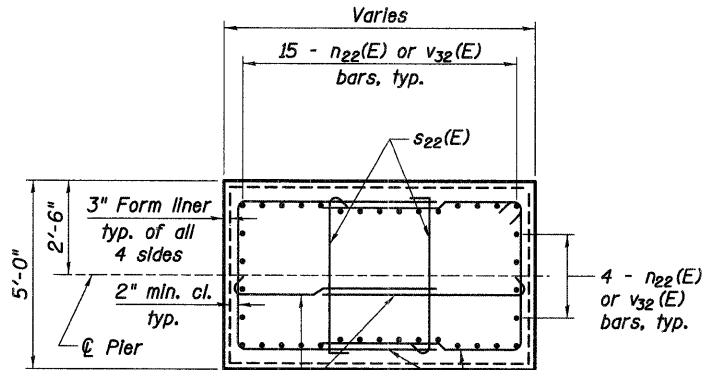
The contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their nominal required bearing to prevent pile damage during driving.



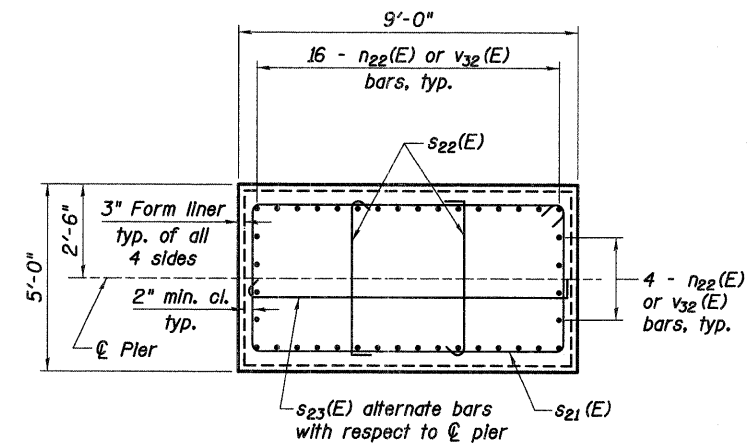
**END VIEW**  
(Looking North)



**SECTION A-A**



**SECTION B-B**



**SECTION C-C**

**Notes:**

1. Bars indicated thus 28 x 2-#5 etc. indicates 28 lines of bars with 2 lengths per line.
2. For plan, elevation and sections, see sheets S48 and S50 of S108.
3. For details of piles, see sheet S52 of S108.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PIER 4 DETAILS II**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

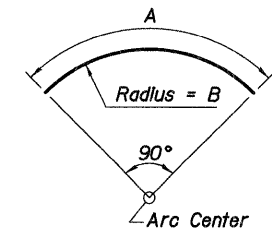


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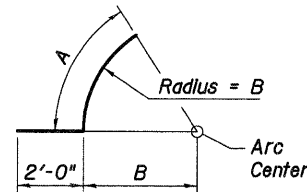
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	155
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S50 OF S108				

**PIER 4 BILL OF MATERIAL**

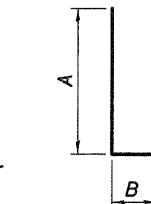
Bar	No.	Size	Length	Shape	A	B	C
h <sub>21</sub> (E)	28	# 7	32'-4"				
h <sub>22</sub> (E)	5	# 5	28'-1"				
h <sub>23</sub> (E)	28	# 5	6'-0"				
h <sub>24</sub> (E)	10	# 5	24'-9"		24'-9"	15'-9"	
h <sub>25</sub> (E)	20	# 5	6'-6"		4'-6"	4'-6"	
h <sub>30</sub> (E)	8	# 6	19'-2"				
h <sub>33</sub> (E)	5	# 5	14'-2"		14'-2"	9'-0"	
h <sub>34</sub> (E)	10	# 5	5'-0"		3'-0"	2'-6"	
n <sub>22</sub> (E)	106	# 9	10'-9"		9'-2"	1'-7"	
n <sub>23</sub> (E)	38	# 8	13'-3"		11'-11"	1'-4"	
p <sub>21</sub> (E)	24	# 11	34'-6"				
p <sub>22</sub> (E)	14	# 10	20'-9"		18'-11"	1'-10"	
p <sub>23</sub> (E)	7	# 10	34'-10"				
p <sub>31</sub> (E)	7	# 10	20'-6"				
p <sub>32</sub> (E)	7	# 10	24'-0"		22'-2"	1'-10"	
s <sub>21</sub> (E)	20	# 5	25'-7"		8'-2"	4'-2"	0'-5 1/2"
s <sub>22</sub> (E)	108	# 4	4'-11"		0'-4 1/2"	4'-2"	0'-4 1/2"
s <sub>23</sub> (E)	25	# 4	8'-11"		0'-4 1/2"	8'-2"	0'-4 1/2"
s <sub>25</sub> (E)	28	# 5	13'-4"		4'-7"	4'-2"	
s <sub>26</sub> (E)	12	# 5	12'-4"		4'-1"	4'-2"	
s <sub>28</sub> (E)	28	# 4	4'-9"		0'-4 1/2"	4'-4 1/2"	
s <sub>29</sub> (E)	12	# 4	4'-4"		0'-4 1/2"	3'-11 1/2"	
s <sub>30</sub> (E)	142	# 6	22'-2"		7'-5"	3'-0"	0'-8"
s <sub>40</sub> (E)	20	# 5	19'-7"		5'-2"	4'-2"	0'-5 1/2"
s <sub>41</sub> (E)	8	# 5	13'-8"		4'-9"	4'-2"	
s <sub>42</sub> (E)	15	# 4	5'-11"		0'-4 1/2"	5'-2"	0'-4 1/2"
s <sub>43</sub> (E)	16	# 5	10'-4"		3'-1"	4'-2"	
s <sub>44</sub> (E)	16	# 4	3'-3"		0'-4 1/2"	2'-10 1/2"	
s <sub>45</sub> (E)	28	# 6	15'-2"		3'-11"	3'-0"	0'-8"
u <sub>22</sub> (E)	85	# 6	20'-8"				
u <sub>23</sub> (E)	147	# 10	20'-8"				
u <sub>21</sub> (E)	27	# 6	11'-2"		3'-6"	4'-2"	
u <sub>22</sub> (E)	16	# 6	15'-8"		5'-9"	4'-2"	
u <sub>23</sub> (E)	29	# 5	7'-10"		1'-10"	4'-2"	
u <sub>24</sub> (E)	24	# 6	7'-0"		1'-6"	4'-0"	
u <sub>25</sub> (E)	14	# 5	7'-0"				
u <sub>30</sub> (E)	7	# 5	4'-6"				
v <sub>22</sub> (E)	144	# 7	7'-0"				
v <sub>23</sub> (E)	106	# 9	18'-7"				
w <sub>22</sub> (E)	153	# 10	31'-11"				



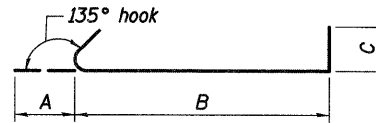
**BARS h<sub>24</sub>(E) & h<sub>33</sub>(E)**



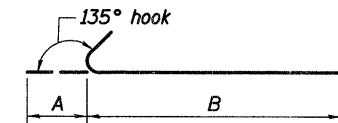
**BARS h<sub>25</sub>(E) & h<sub>34</sub>(E)**



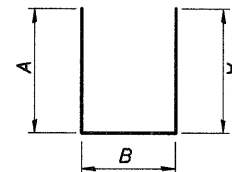
**BARS n<sub>22</sub>(E), n<sub>23</sub>(E) & p<sub>22</sub>(E)**



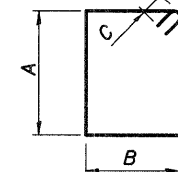
**BARS s<sub>22</sub>(E), s<sub>23</sub>(E) & s<sub>42</sub>(E)**



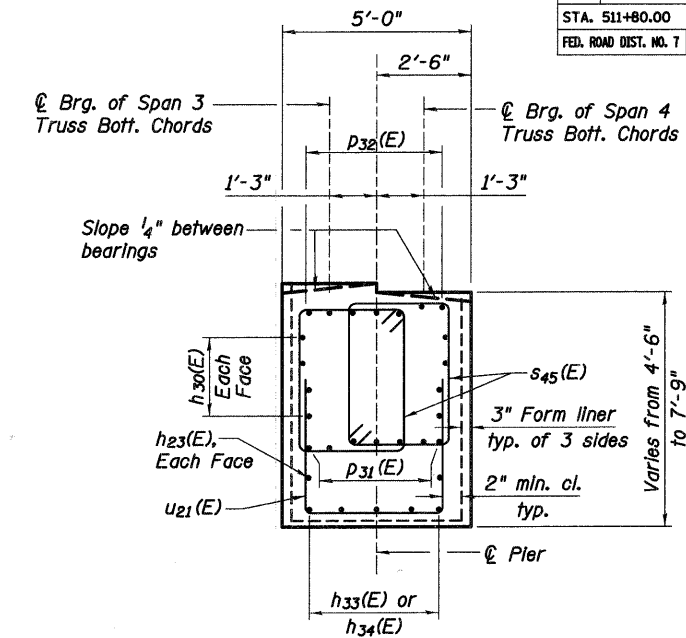
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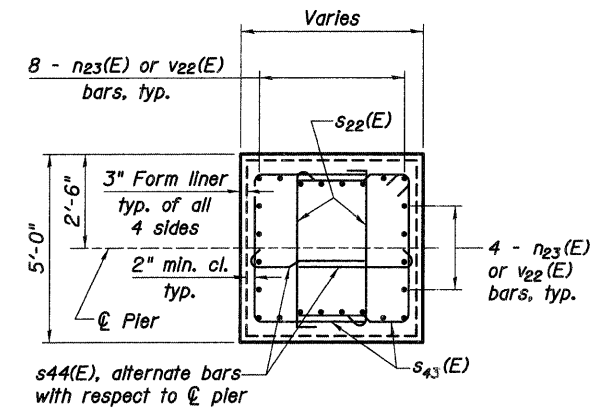
**BARS s<sub>25</sub>(E), s<sub>26</sub>(E), s<sub>41</sub>(E), s<sub>43</sub>(E) & u<sub>21</sub>(E) to u<sub>24</sub>(E)**



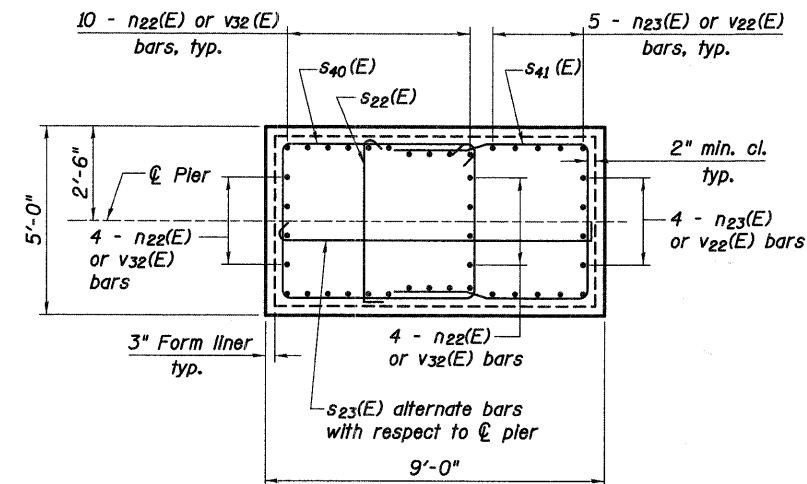
**BARS s<sub>21</sub>(E), s<sub>30</sub>(E), s<sub>40</sub>(E) & s<sub>45</sub>(E)**



**SECTION E-E**



**SECTION F-F**



**SECTION D-D**

**MINIMUM BAR LAP**

- #4 = 1'-4"
- #5 = 1'-8"
- #6 = 2'-0" (U.N.O.)
- #6 = 2'-6" (Drilled Shaft only)
- #7 = 2'-9"
- #8 = 4'-6"
- #9 = 4'-9"
- #10 = 5'-10" (Pier Cap & Footing)
- #10 = 7'-3" (Pier Column)
- #11 = 7'-2"

Concrete Structures	Cu. Yd.	504
Reinforcement Bars, Epoxy Coated	Pound	70,970
Structure Excavation	Cu. Yd.	538
Form Liner Textured Surface	Sq. Ft.	3,148
Furnishing Steel Piles HP 12x7 <sup>4</sup>	Foot	1,540
Driving Piles	Foot	1,540
Test Pile Steel HP 12x7 <sup>4</sup>	Each	1

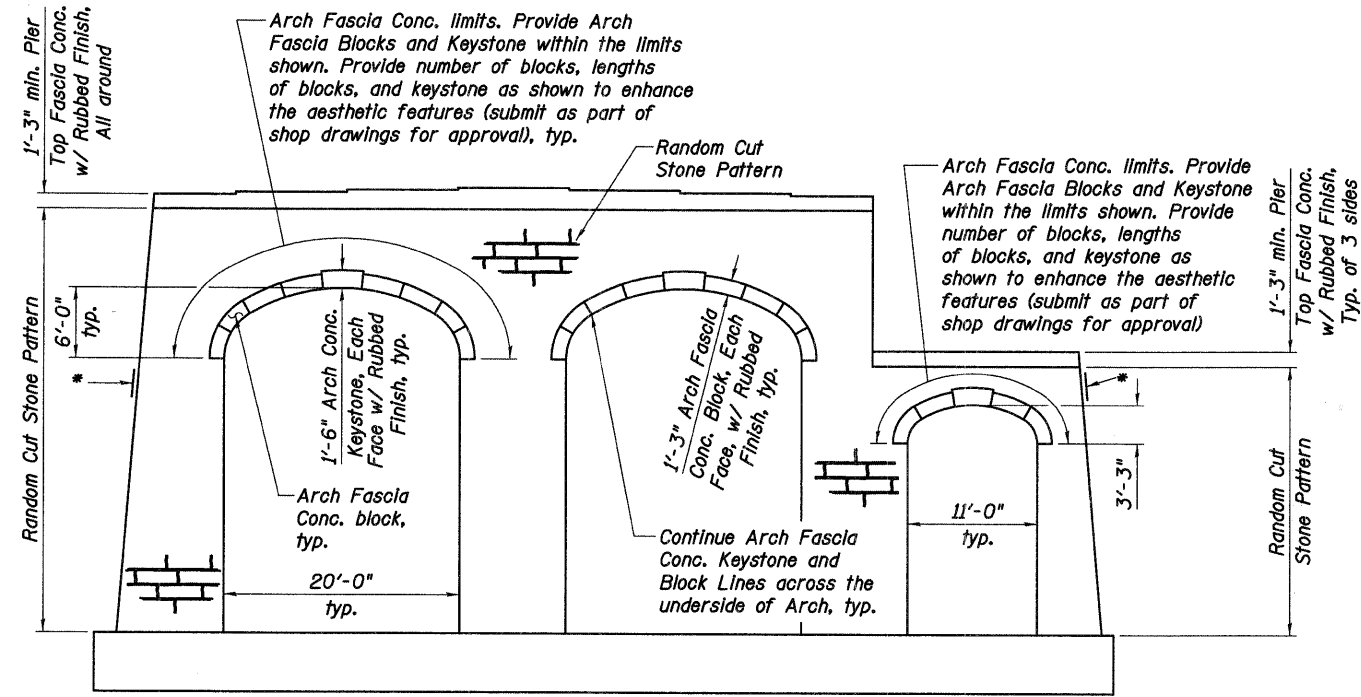
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PIER 4 DETAILS III**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



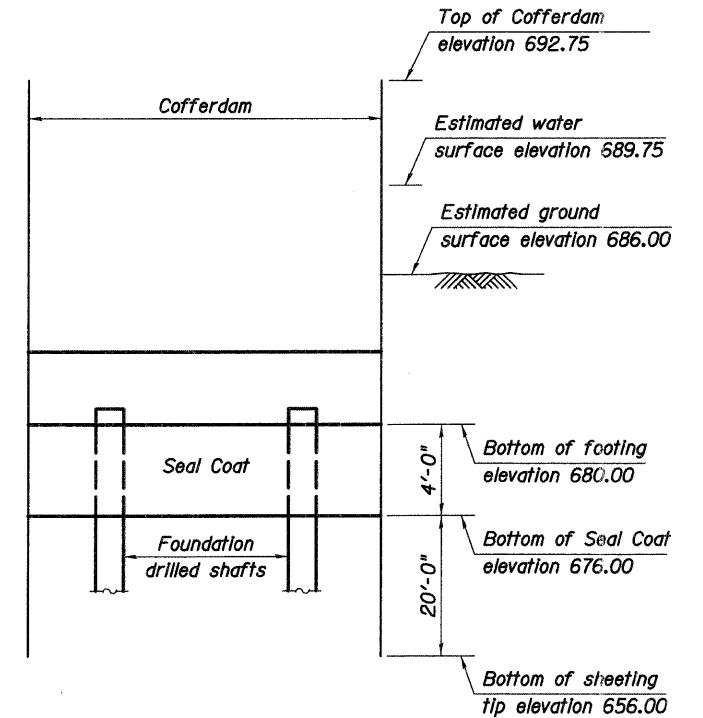
H:\3005\3.0 Phase II deliverables\3.3 structure Drawings\Final\045-3166 Pier\_4 Details III.dgn 1/15/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	156
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
SHEET NO. S51 OF S108				



\* Indicates Name Plate (Special) location, Piers 2 and 3 only. Center on Pler width. Bottom of Name Plate (Special) Elevations: 696.50 • Pier 2, 706.20 • Pier 3

**PIERS 2, 3 AND 4 ELEVATION**

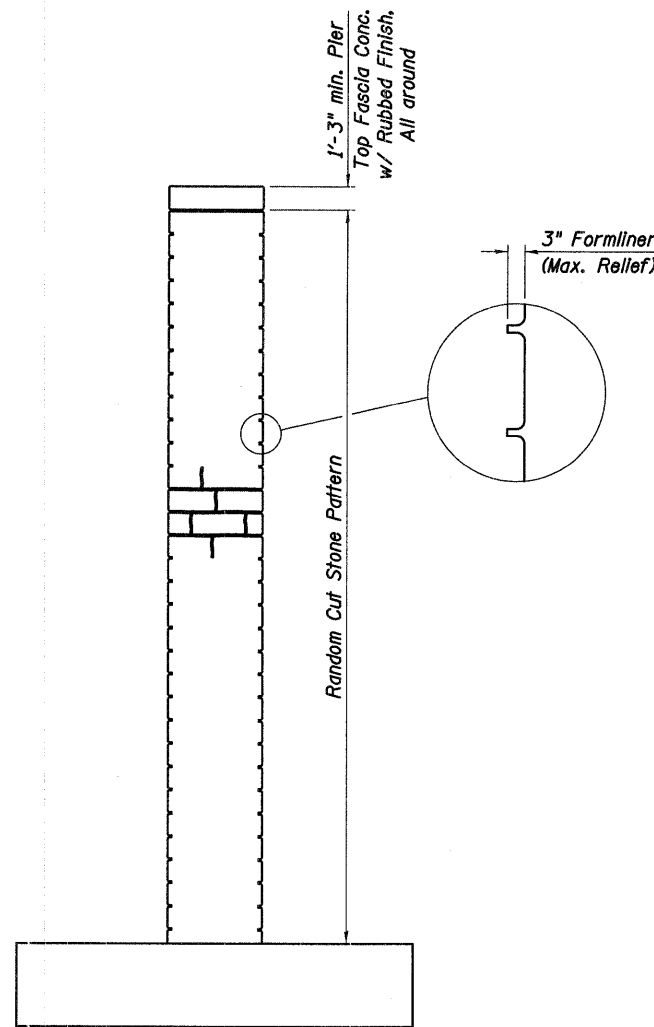


**SCHEMATIC COFFERDAM ELEVATION**

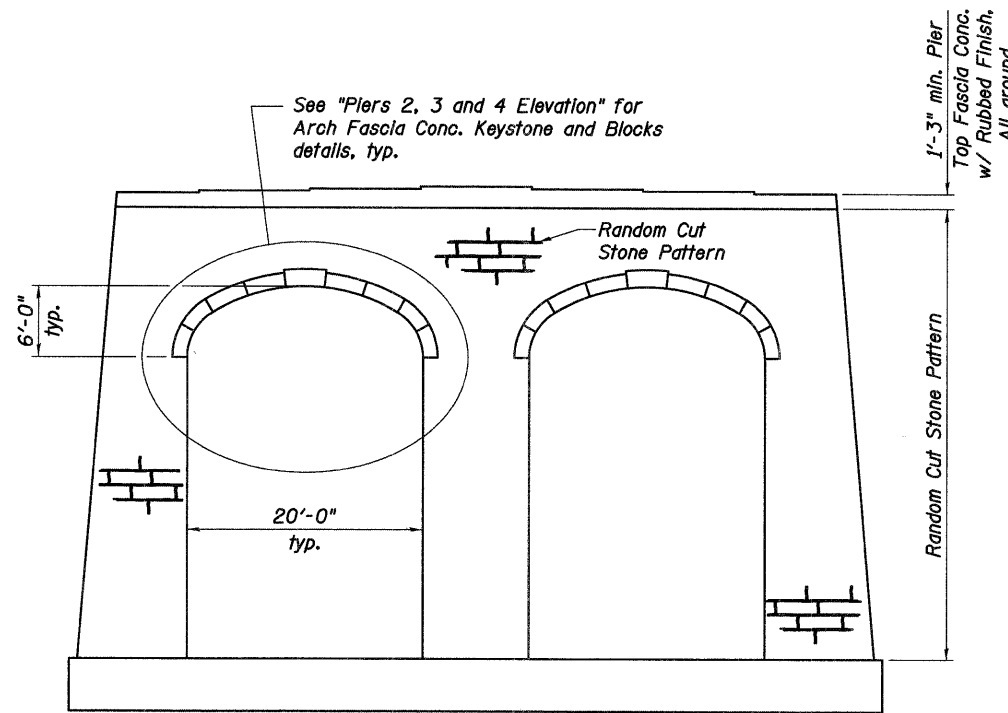
(Typical for piers 2 and 3 only)

**Notes:**

1. See "Form Liners" special provision for pattern, coloration and workmanship for the Random Cut Stone Pattern.
2. See sheets S40 thru S50 of S108 for pier details.



**TYPICAL END VIEW**



**PIER 1 ELEVATION**

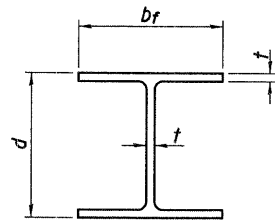
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PIER FORMLINER AND COFFERDAM DETAILS**  
 STEARNS ROAD PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



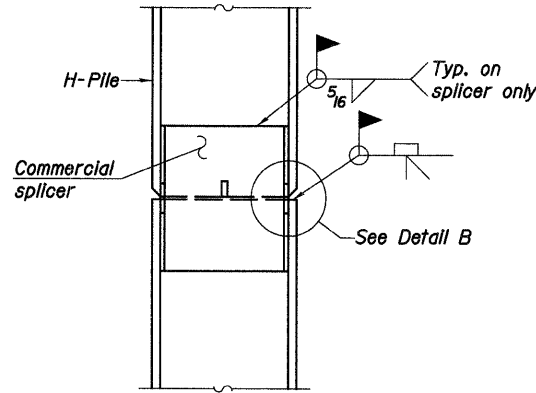


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	157
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S52 OF S108				

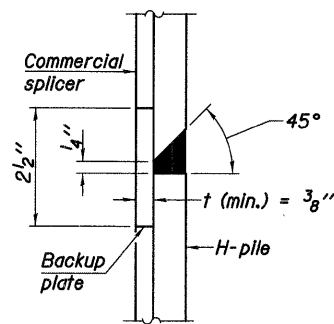


**STEEL PILE TABLE**

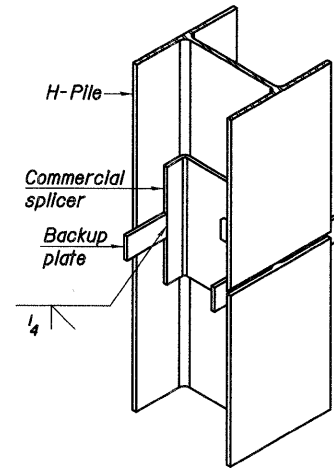
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	5/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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



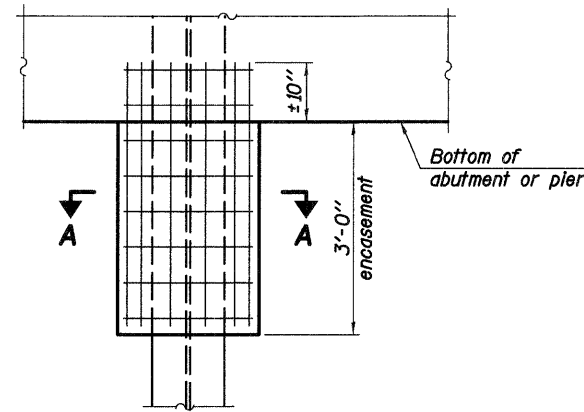
**ELEVATION**



**DETAIL "B"**

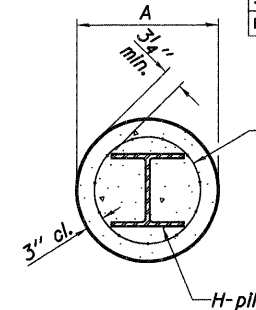


**ISOMETRIC VIEW**



**ELEVATION**

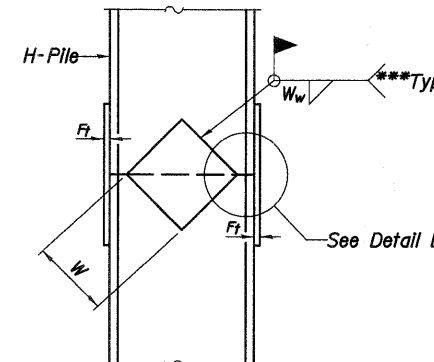
**PILE ENCASEMENT**



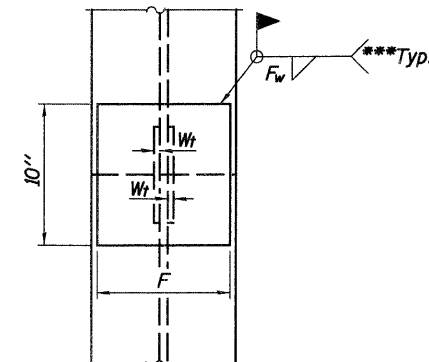
**SECTION A-A**

Welded wire fabric 6 x 6 W4.0 x W4.0 weighing 58#/100 sq. ft. Bend as required to fit into wall. The cost of excavation and reinforcement to be included with "Concrete Encasement"

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

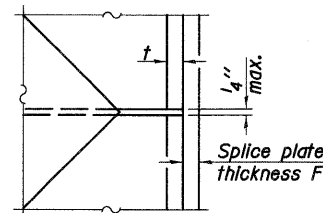


**ELEVATION**



**END VIEW**

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



**DETAIL D**

**WELDED PLATE FIELD SPLICE**

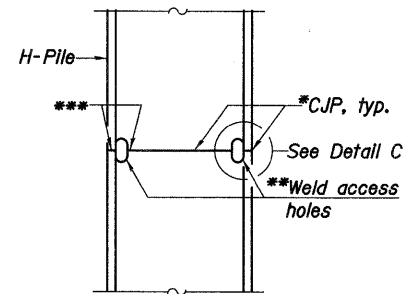
Note: The steel H-piles shall be according to AASHTO M270 Grade 50.

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NAME	DATE

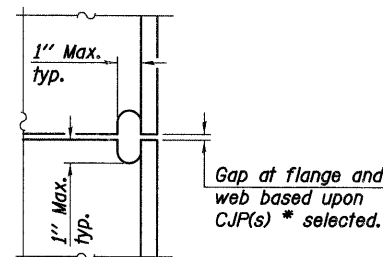
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PILE DETAILS**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
 Baker Engineering, Inc.

**WELDED COMMERCIAL SPLICE**



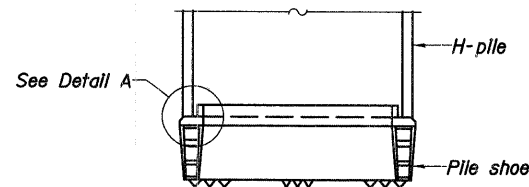
**ELEVATION**



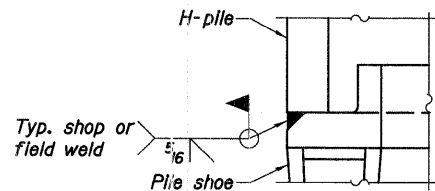
**DETAIL C**

**COMPLETE PENETRATION WELD SPLICE**

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



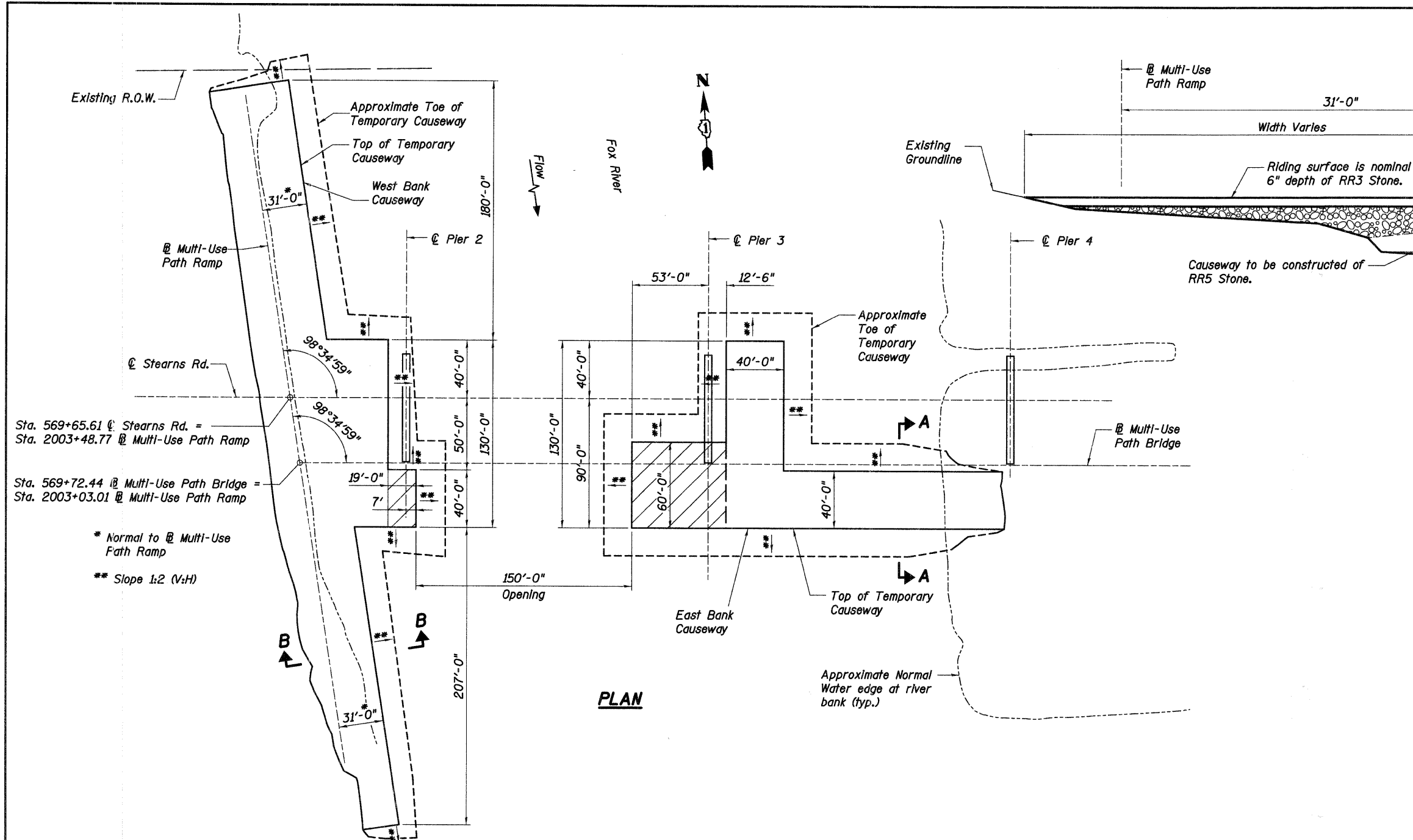
**ELEVATION**



**DETAIL A**

**H-PILE SHOE ATTACHMENT**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	158
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S53 OF S108				



**PLAN**

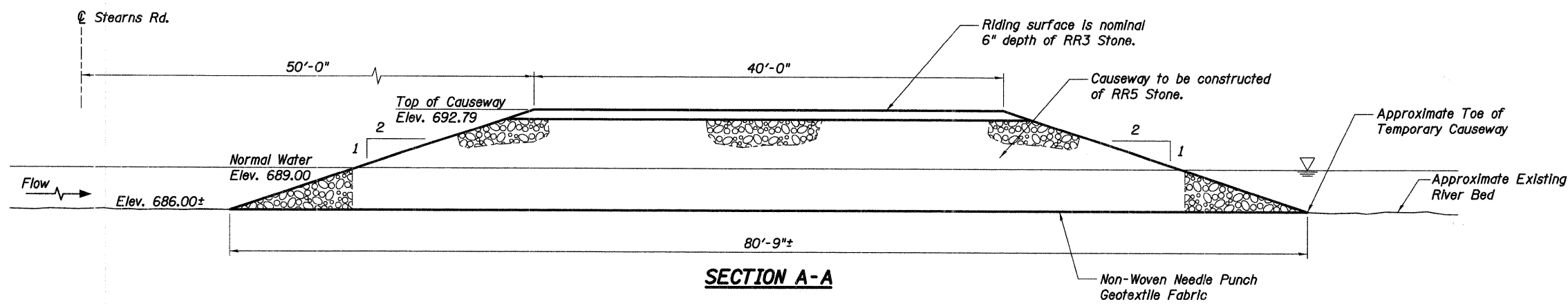
**SECTION B-B**

**Legend:**

Segment A as per Contingency Plan in the Temporary Causeway Special Provision

**Notes:**

1. Plan View Dimensions are normal or parallel to the centerline of Stearns Rd., unless otherwise noted.
2. An above grade concrete washout area shall be constructed and clearly marked in a location near the causeway where trucks and other construction equipment can be cleaned. Grout or concrete shall not be dumped onto the causeway at any time.



**SECTION A-A**

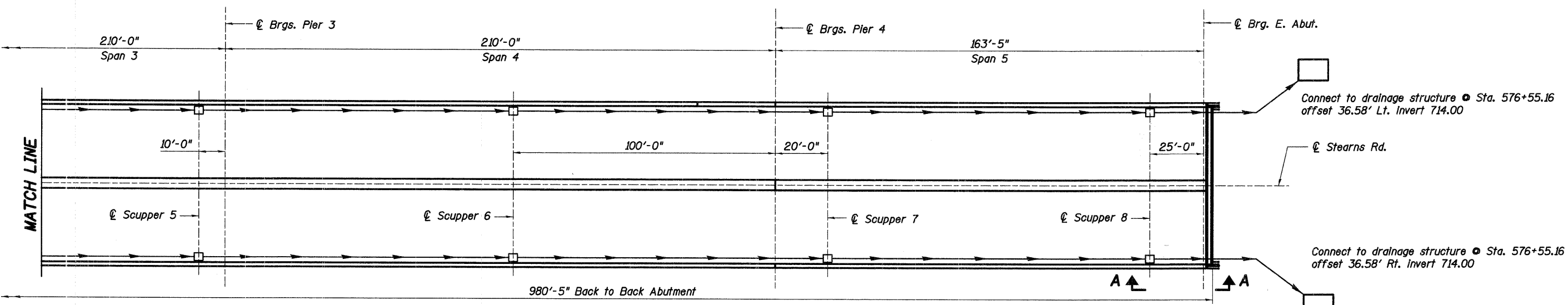
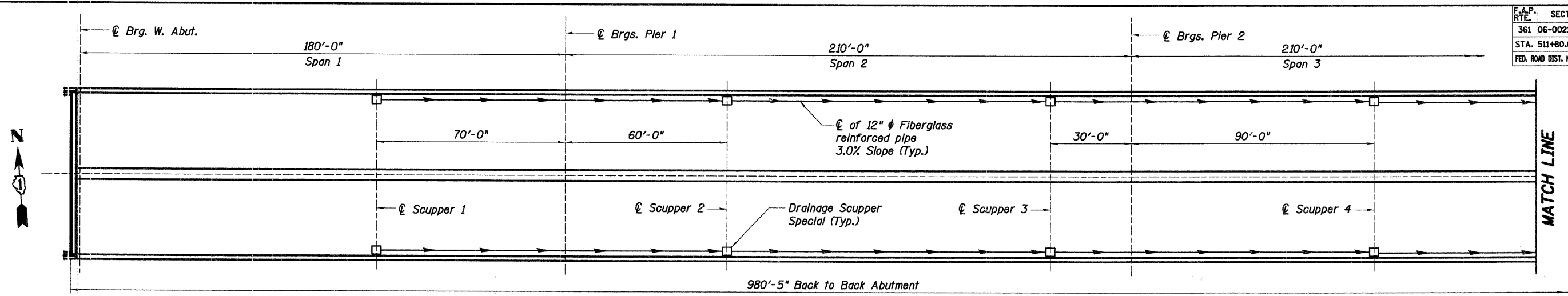
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TEMPORARY CAUSEWAY**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWG DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



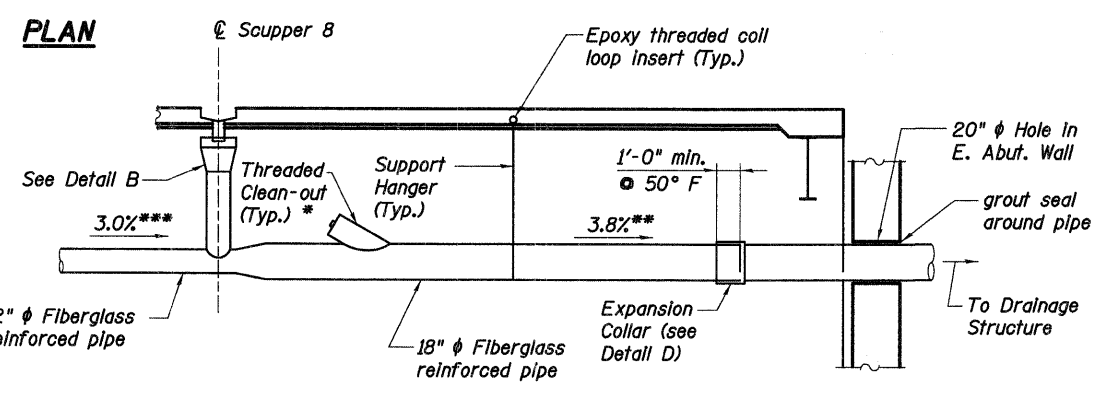
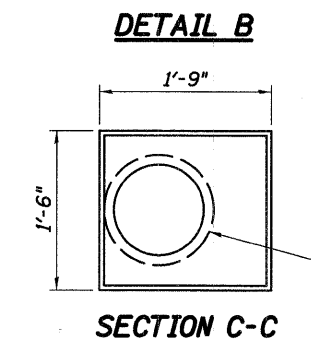
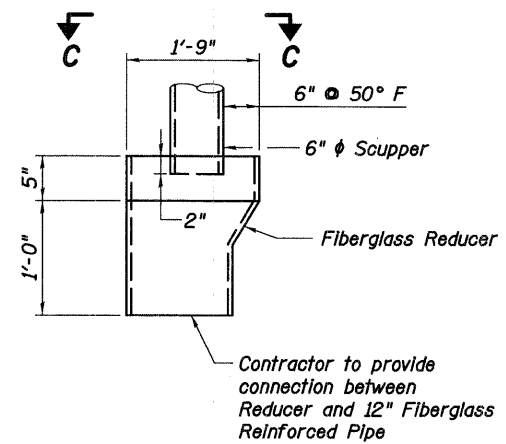
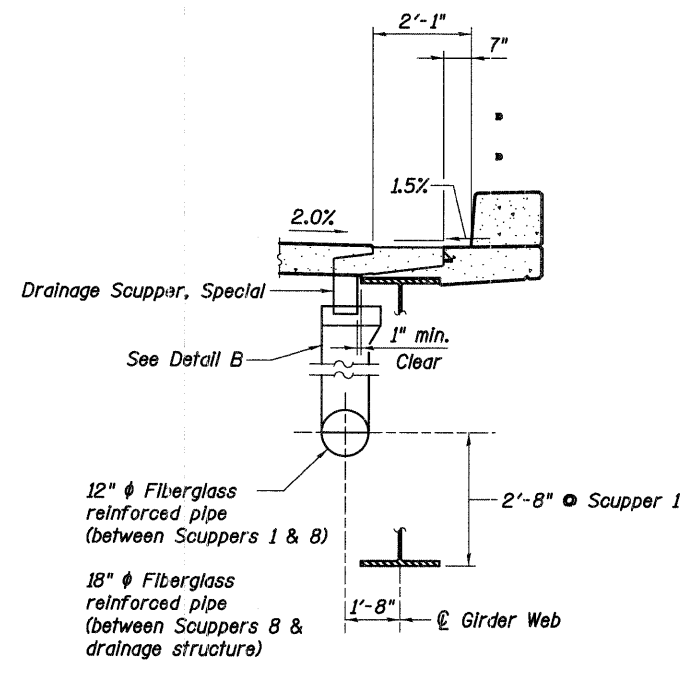
h:\3005\3.0 phase 11 deliverables\3.3 structure\drawings\Final\045-3166 Causeway.dgn 1/5/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	159
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S54 OF S108				



Connect to drainage structure @ Sta. 576+55.16  
offset 36.58' Lt. Invert 714.00

Connect to drainage structure @ Sta. 576+55.16  
offset 36.58' Rt. Invert 714.00



**SECTION A-A**  
 \* Threaded Clean-out shall not extend beneath the top of the girder's bottom flange  
 \*\* Typ. between Scupper 8 & drainage structure  
 \*\*\* Typ. between Scupper 1 & 8

**BILL OF MATERIAL**

Item	Unit	Total
Drainage System	L SUM	1

- Notes:**
- For Drainage Scupper Details see sheet S55 S108 of
  - Distance between downspout support hangers not to exceed 5'.
  - Cost of Fiberglass Reinforced Pipe with all supports, coil loop inserts, fittings, connections and clean-outs is to be included with "Drainage System".
  - For Drainage Structure details, see Roadway plans.
  - Contractor to provide expansion collar on fiberglass reinforced pipe to account for thermal movement between bridge pipe and pipe extending to drainage structure. Collar shall account for 4" of movement from 50° F.
  - The fiberglass pipe and fittings shall have the color dark green, Federal Standard 595B, color #14062.
  - Place bird screen cover on all fiberglass reducers as directed by the engineer. Cost shall be included with "Drainage System."

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**DRAINAGE SYSTEM**

STEARN'S ROAD  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166  
PUBLIC WATERS

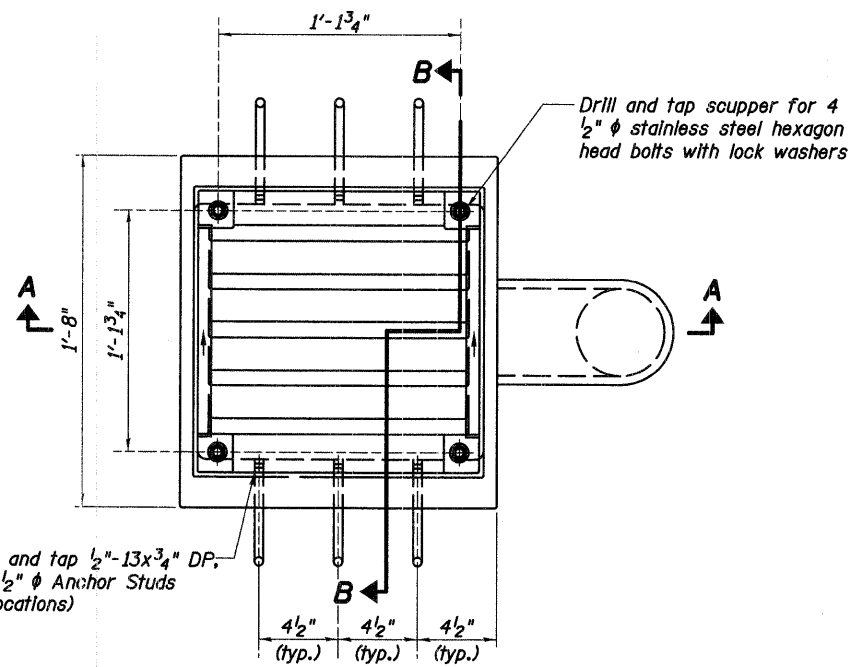
KANE COUNTY  
STATION 571+42.96  
DATE: JANUARY 16, 2009

FAP 361 SECTION 06-00214-20-BR  
DESIGNED: DFM  
DRAWN: SGW  
CHECKED: KPZ



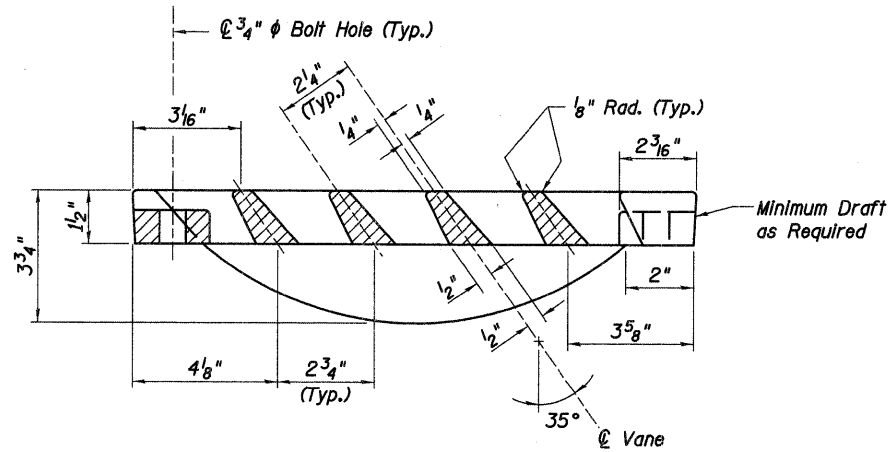
h:\3005\3.0 phase 11 deliverables\3.3 structure\drawings\final\045-3166 DrainPlanandDetails.dgn 1/15/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	160
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S55 OF S108				

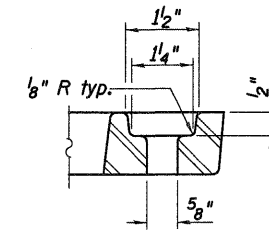


**PLAN**

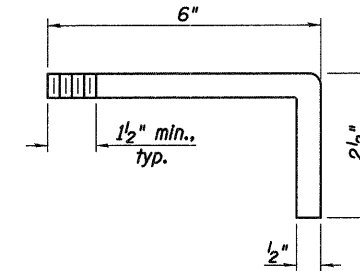
(Showing scuppers on north side of bridge. South side scuppers are mirrored about vertical axis to locate downspout clear of Girder 7.)



**VANE GRATE DETAIL**



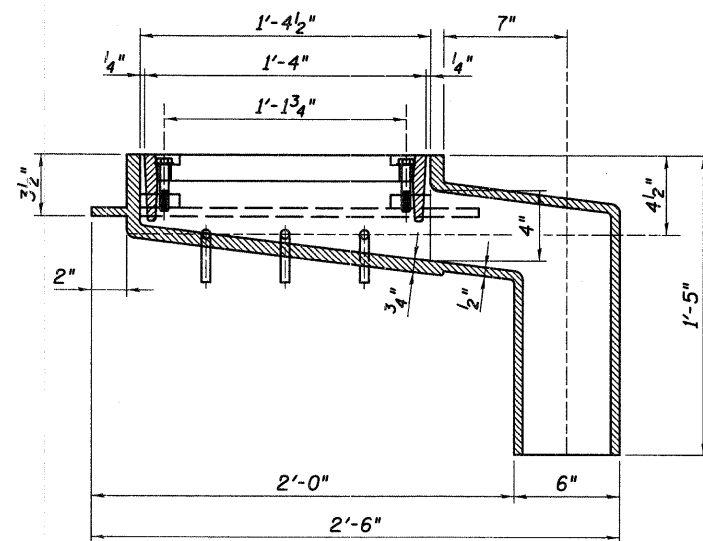
**BOLT HOLE DETAIL**



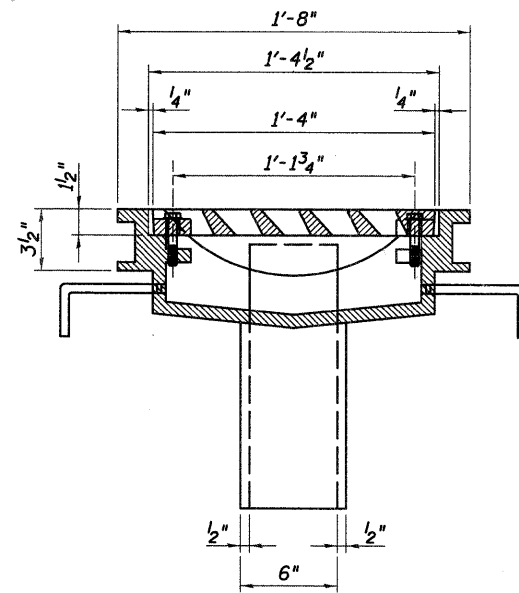
**ANCHOR STUD DETAIL**

**Notes:**

- All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
- Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
- As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.
- Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.
- The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
- Cost of the Grate, Frame, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, Special.



**SECTION A-A**



**SECTION B-B**

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Drainage Scuppers (Special)	Each	16

REVISIONS	
NAME	DATE

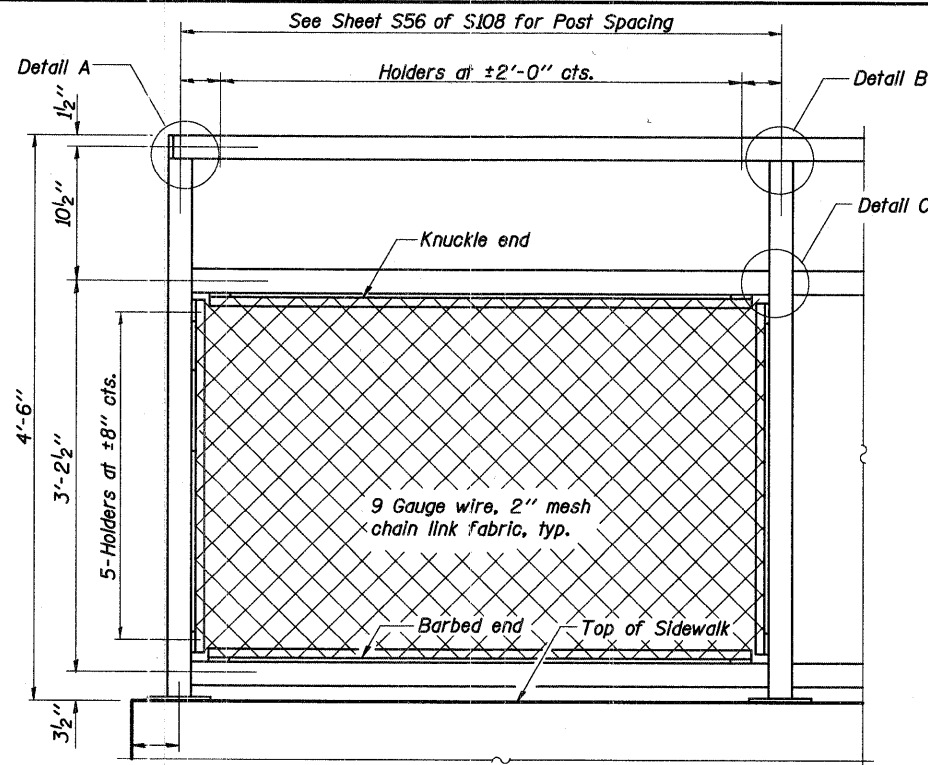
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DRAINAGE SCUPPER DETAILS**  
 STEARNS ROAD PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: GWC DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**

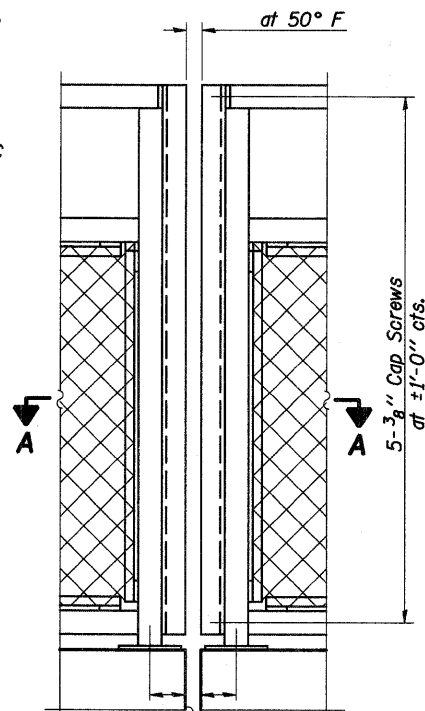
Baker Engineering, Inc.



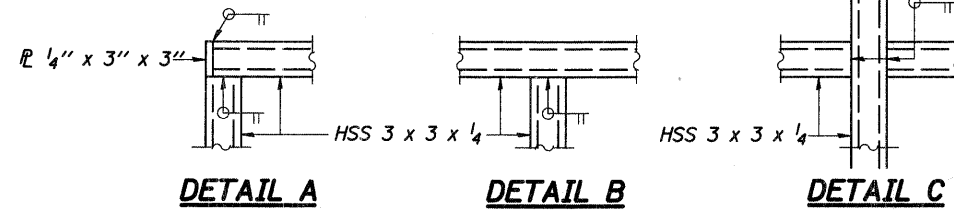
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	162
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S57 OF S108				



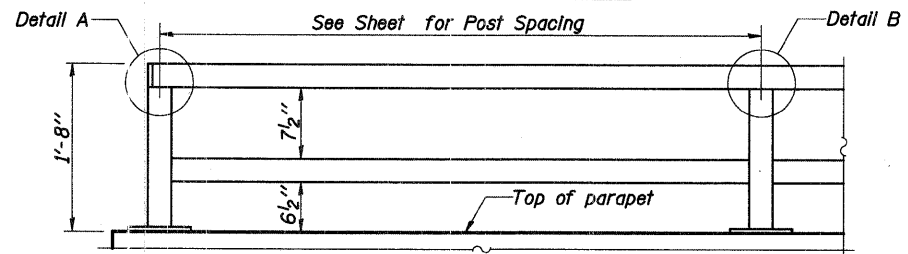
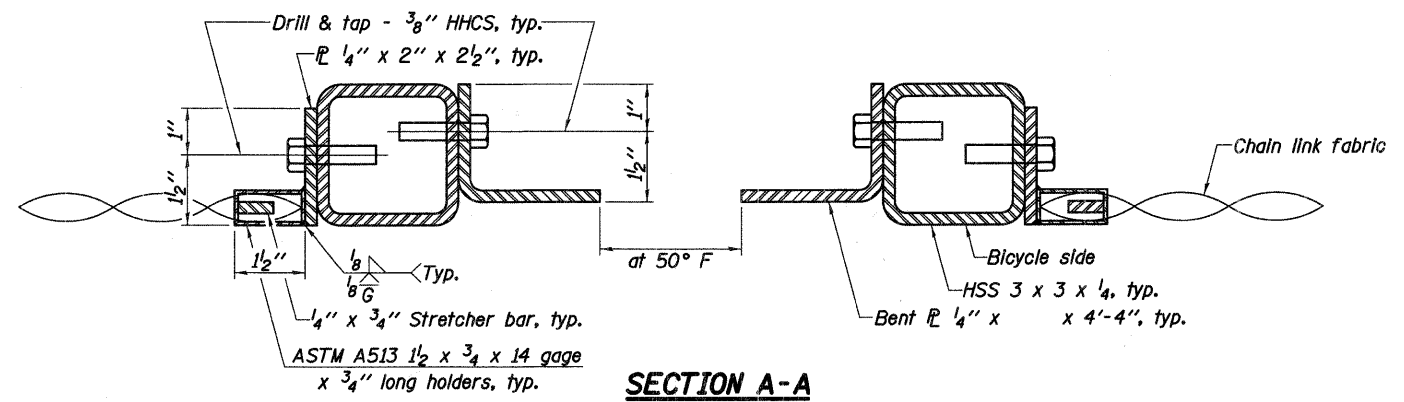
**BICYCLE RAILING**



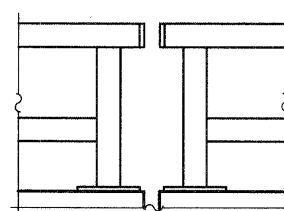
**BICYCLE RAILING**



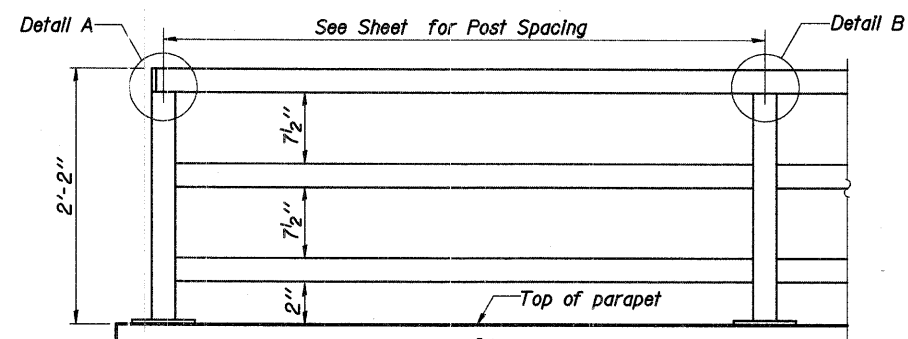
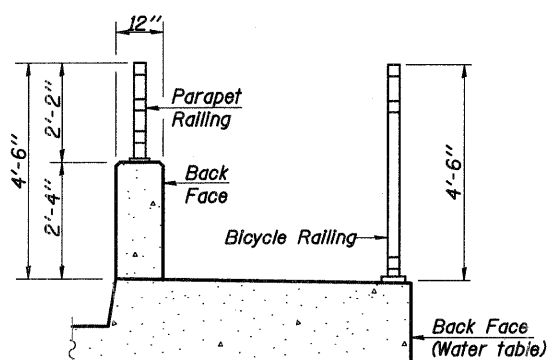
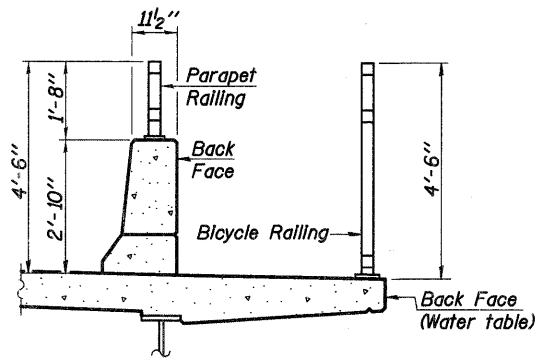
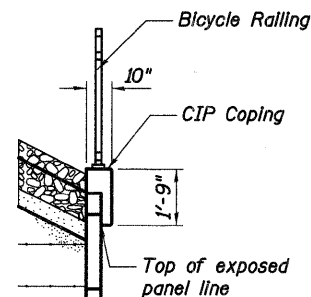
All post, railing, splices, anchor devices, and bent plates shall be painted using the Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System. The finish coat shall be Federal Standard 595B, color #14062; submit paint chips to the Engineer for approval prior to ordering any finish coat material"



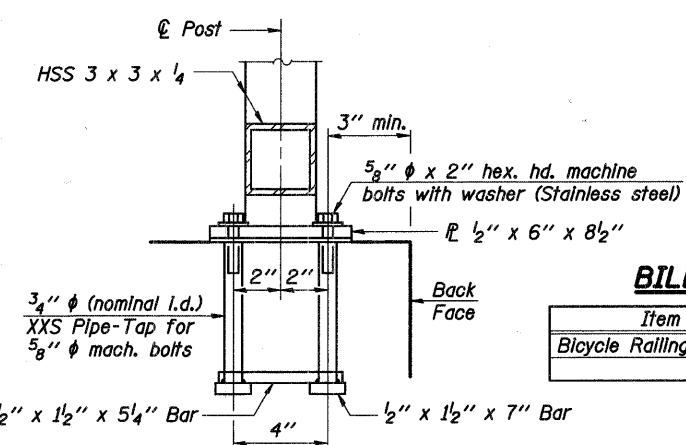
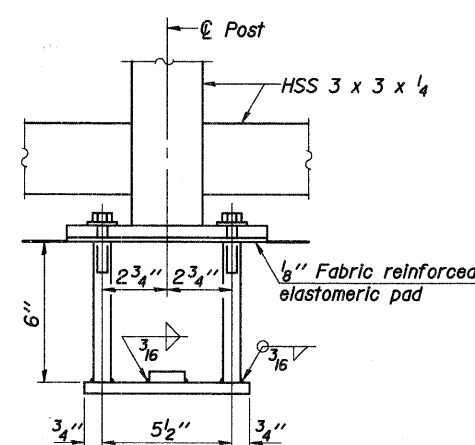
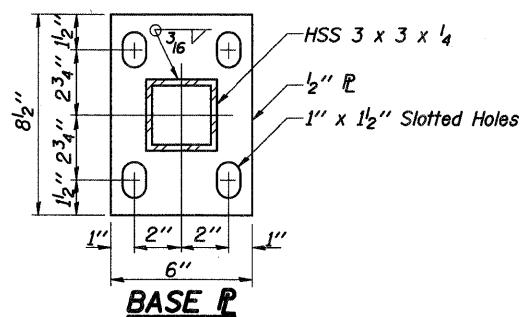
**PARAPET RAILING ELEVATION**  
(Inside Face of Two Element Rail)



**PARAPET RAILING ELEVATION AT EXPANSION JOINT**  
(Two Element Rail Shown-Three Element Rail Similar)

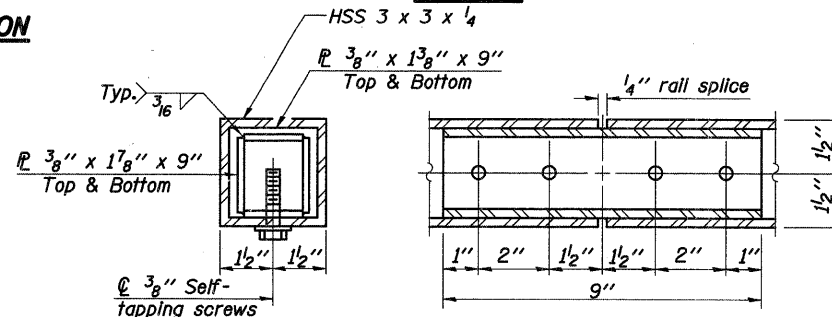


**PARAPET RAILING ELEVATION**  
(Inside Face of Three Element Rail)



**BILL OF MATERIAL**

Item	Unit	Quantity
Bicycle Railing	Foot	156



In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" φ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**MSE WALL 1 - BICYCLE RAILING**

STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS

STRUCTURE NUMBER 045-3166

KANE COUNTY FAP 361 SECTION 06-00214-20-BR

STATION 571+42.96 DESIGNED: DFM DRAWN: SGW

DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

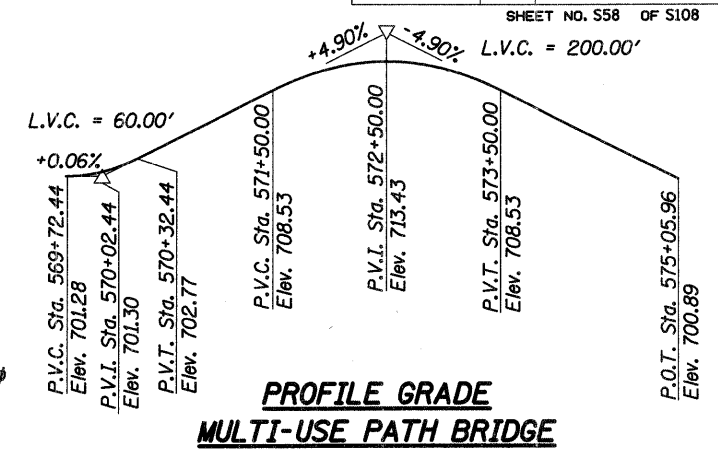
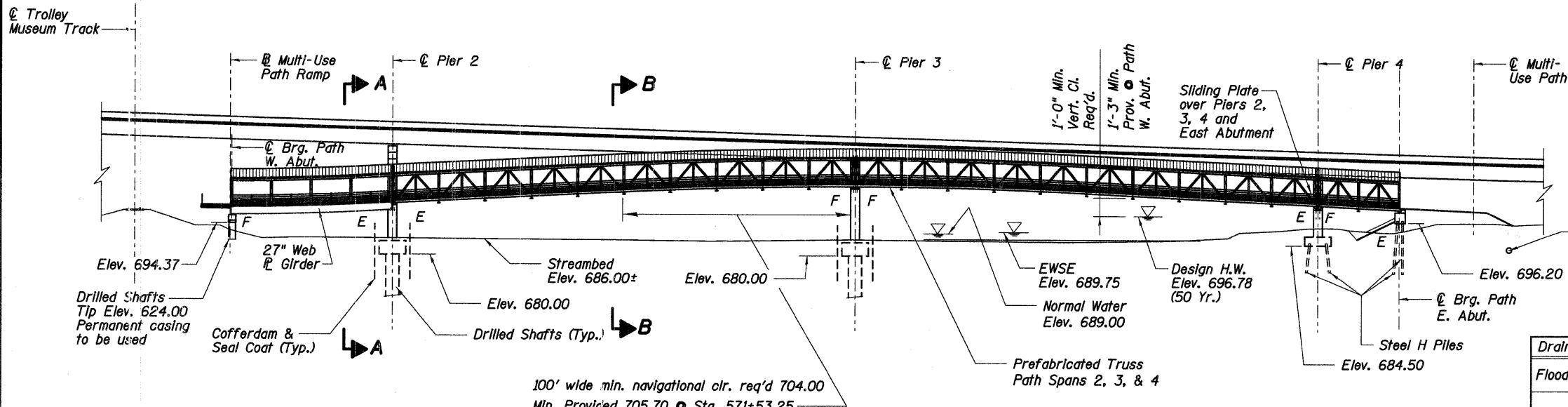
**Baker**

Baker Engineering, Inc.

H:\3005\3.0 phase 11 deliverables\3.3 structure\drawings\Final\045-3166 MSE Wall\Bike Rail.dgn  
 1/15/2009

F.A.P. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361 06-00214-20-BR	KANE	320	163
STA. 511+80.00 TO STA. 609+14.92			
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT			
		SHEET NO. 558 OF 5108	

Bench Mark BM-19: "Aluminum Disk" set in concrete, 0.10± mile south of Gilbert St. on east side of IL 25 4' ± from split rail fence. Elev. 724.23.  
 Bench Mark BM-22: "Chiseled Box Cut" set at the top of concrete bridge headwall, at the NE corner of bridge at the SE corner of Stearns Road and Dunham Road. Elev. 767.36.  
 No freefall deckdrains will be permitted in the span over the tracks or within 10' of cross arms of a railroad pole line.  
 Existing Structure: None



**WATERWAY INFORMATION**

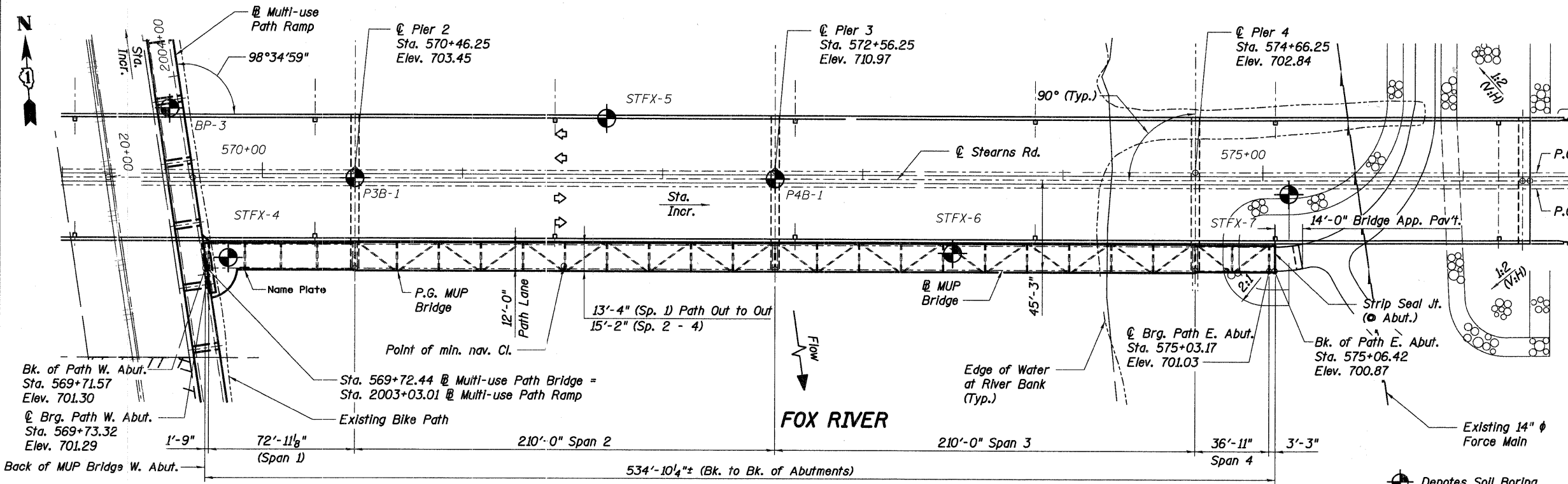
Drainage Area = 1,517 Sq. Mi.

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exst. Prop.	Nat. H.W.E.	Head - Ft. Exst. Prop.	Headwater El. Exst. Prop.
Design	30	9,948	NA NA	696.08	NA 0.04	NA 696.12
Design	50	11,225	NA NA	696.78	NA 0.02	NA 696.80
Base	100	12,250	NA NA	697.27	NA 0.03	NA 697.30
Max. Calc.	500	16,875	NA NA	699.23	NA 0.02	NA 699.25

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	W. Abut.	Pier 2	Pier 3	Pier 4	E. Abut.
	678.30	678.30	678.30	678.00	696.20

**ELEVATION**



**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims  
 Guide Specifications for Design of Pedestrian Bridges (Prefabricated Truss)  
 ASCE/SEI 7-05 Minimum Design Loads for Buildings and Other Structures (Span 1 Roof Structure)

**MULTI-USE PATH BRIDGE LOADING**

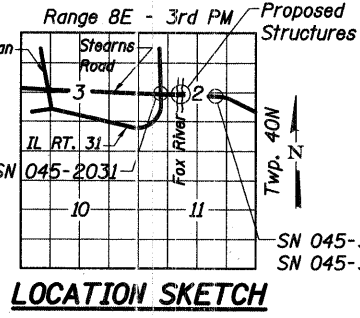
- 85#/sq. ft pedestrian load (Span 1)
- 65#/sq. ft pedestrian load (Spans 2 & 3)
- 85#/sq. ft pedestrian load (Span 4)
- H-10 Vehicle Loading
- ROOF LOADINGS
- Main Wind Force Resistance System: Load Case A,  $C_{nw} = 14psf$ ,  $C_{nl} = 2psf$
- Load Case B,  $C_{nw} = -14psf$  &  $C_{nl} = -10psf$
- Wind Load on Components and Cladding  $C_{nl} = +15psf, -10psf$
- Balanced Snow Load = 25psf

**DESIGN STRESSES**

- FIELD UNITS
- $f'_c = 3,500$  psi
  - $f_y = 60,000$  psi (Reinforcement)
  - $f_y = 50,000$  psi (M270 Grade 50)
  - $f_y = 50,000$  psi (Path Bridge Prefabricated Truss steel - M270 Grade 50 and ASTM A847)
  - $f_y = 46,000$  psi (Roof framing steel - ASTM A500 Gr. B)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec (SD1) = 0.061g  
 Design Spectral Acceleration at 0.2 sec (SDS) = 0.116g  
 Soil Site Class = C

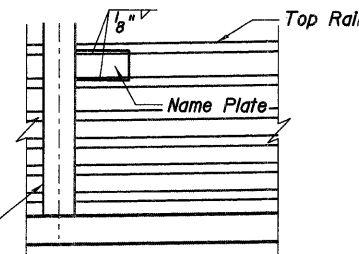


For Section A-A see Sheet S59 of S108.  
 For Section B-B see Sheet S59 of S108.

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 LRFD Bridge Design Specifications".



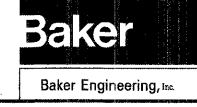
Kenton P. Zinn  
 Expires: 11/10



**NAME PLATE MOUNTING DETAIL**  
 (Inside Face of Bicycle Rolling, Special)

FOX RIVER  
 BUILT 20XX BY  
 KANE COUNTY  
 SEC. 06-00214-20-BR  
 F.A.P. 361 STA. 572+37.71  
 STR. NO. 045-3164 LOADING H10

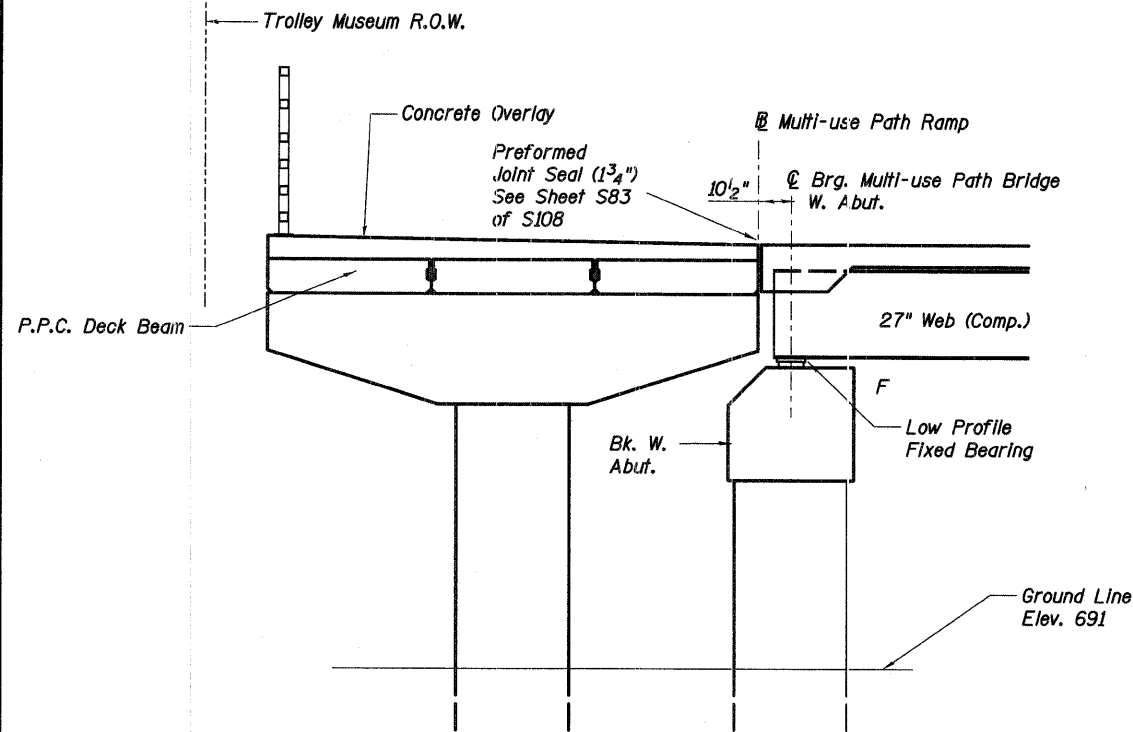
**NAME PLATE**  
 See Std. 515001



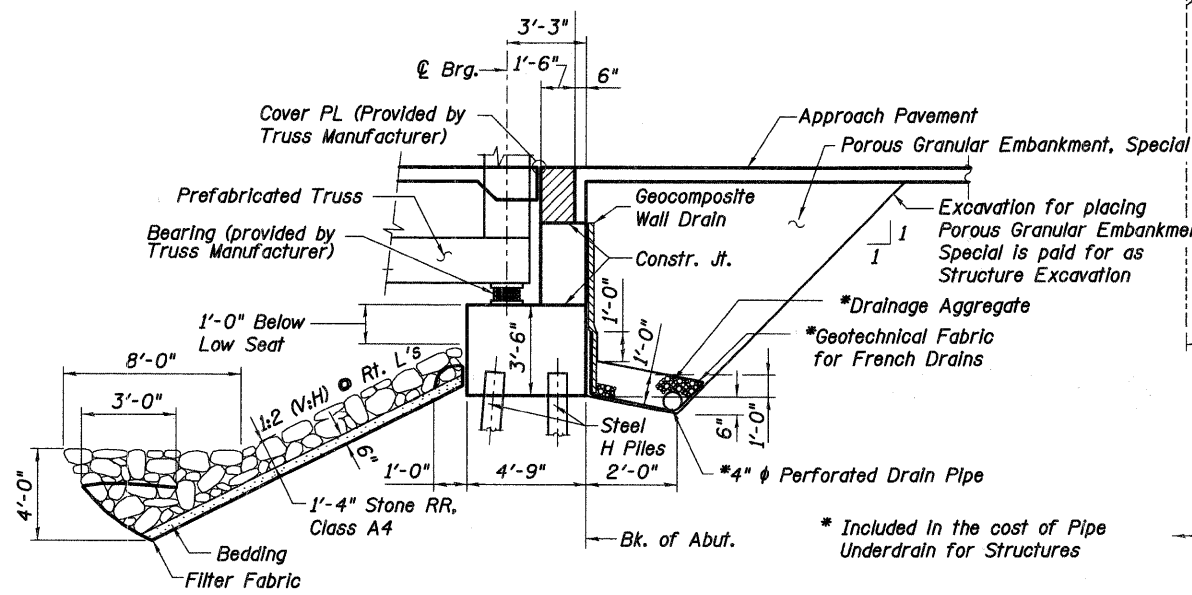
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -**  
**GENERAL PLAN AND ELEVATION**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 PUBLIC WATERS  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: JHJ  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

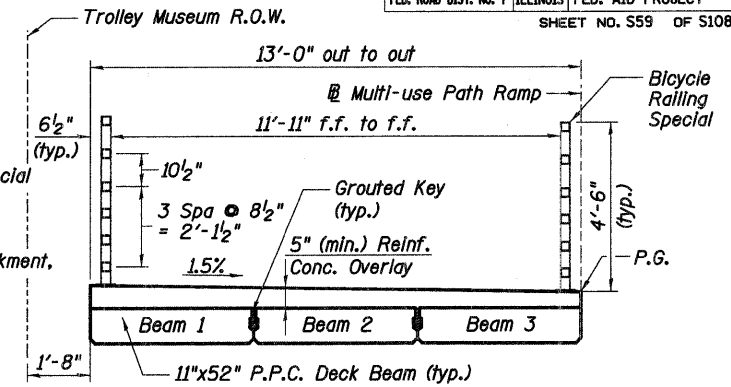
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	164
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S59 OF S108				



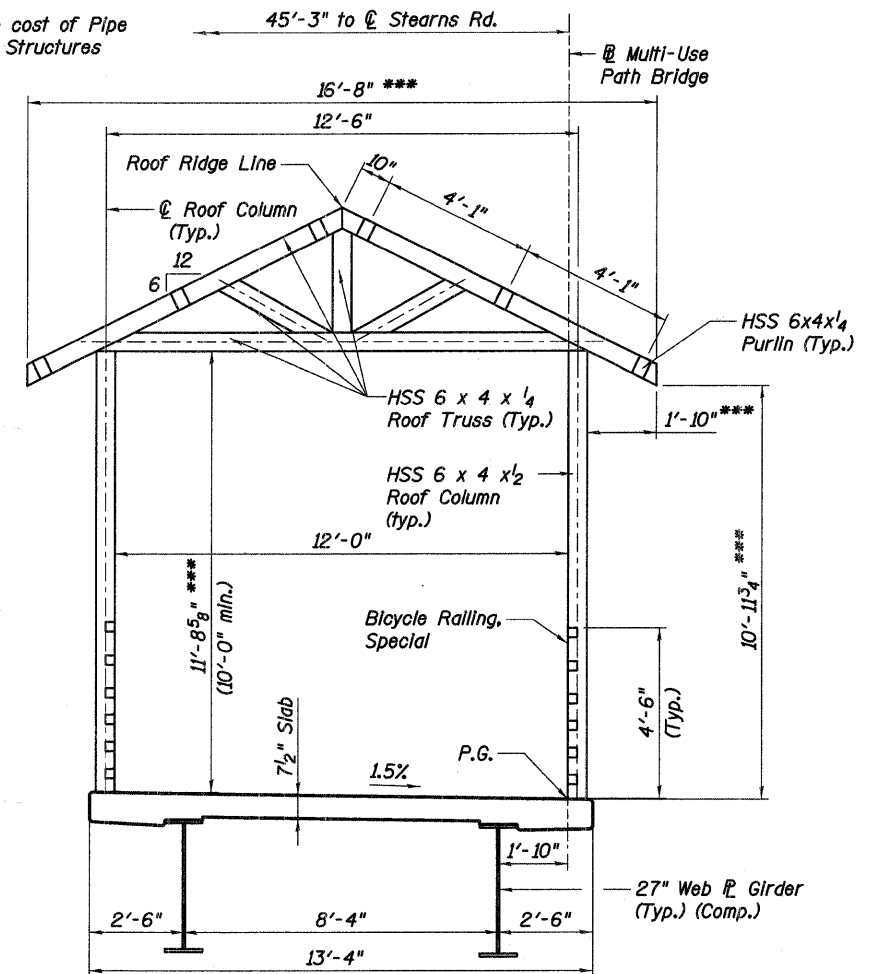
**CROSS SECTION THRU MULTI-USE PATH RAMP & MULTI-USE PATH BRIDGE**



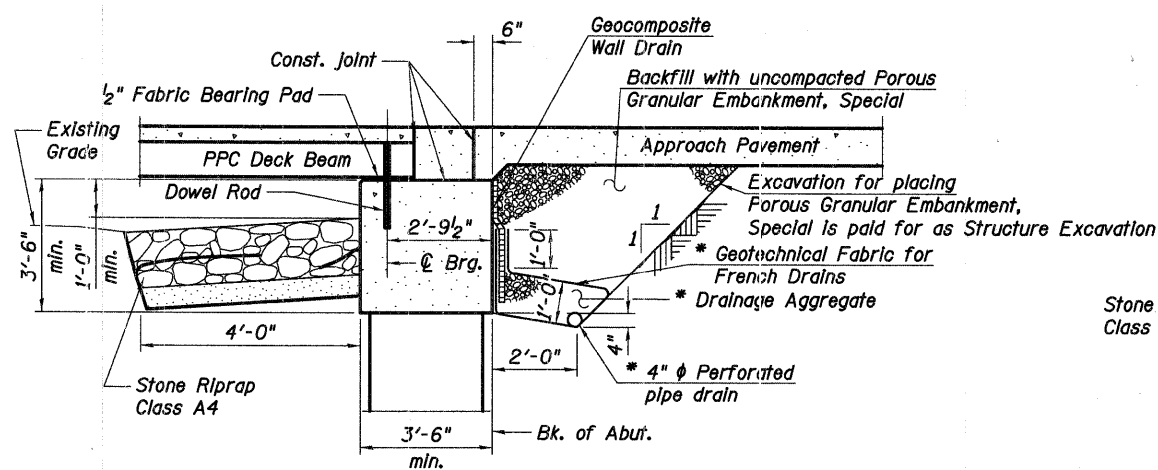
**SECTION THRU EAST ABUTMENT, MULTI-USE PATH BRIDGE**  
(Horiz. dim. @ Rt. L's)



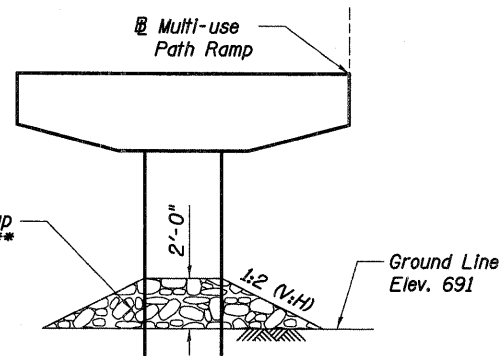
**MUP RAMP CROSS SECTION**  
(Looking North)



**SECTION A-A**  
(Multi-use Path Bridge Span 1) \*\*\* Dimensions are based on a particular Prefabricated Truss manufacturer's design.



**SECTION THRU MUP RAMP ABUTMENTS**  
(Horiz. dim. @ Rt. L's)



**MUP RAMP PIER SKETCH**

\*\*\* Included in the cost of pipe underdrains for structures.  
\*\*\* Place around hammerhead cap on piers 1, 2, 10, & 11 as per the plan view shown on sheet S73 of S108.

Note:  
Layout of riprap may be varied to suit ground conditions in the field as directed by the engineer

**Baker**

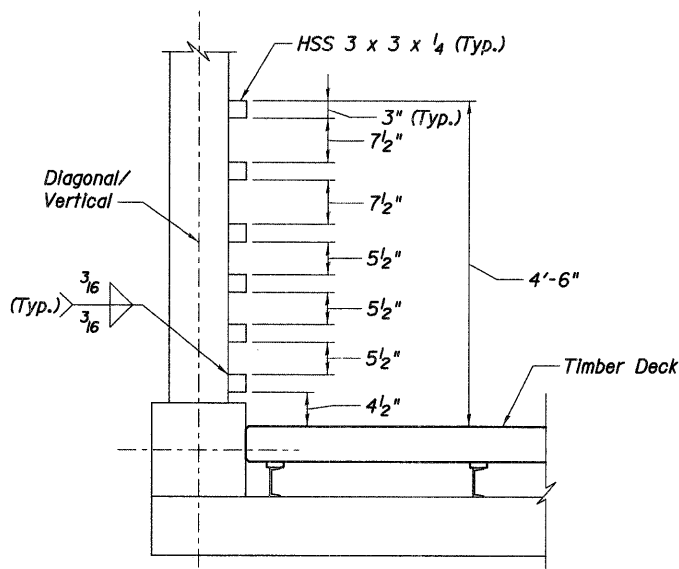
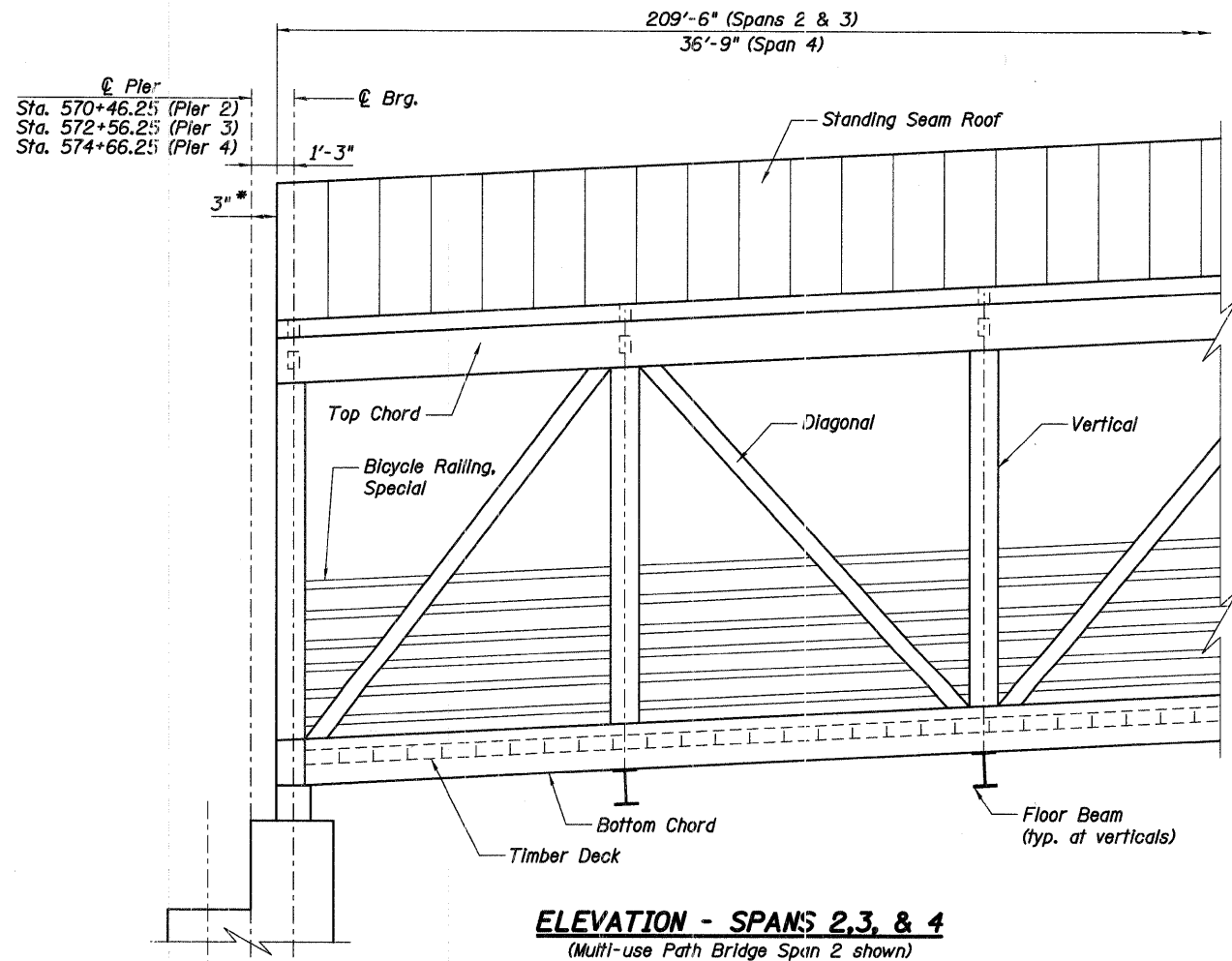
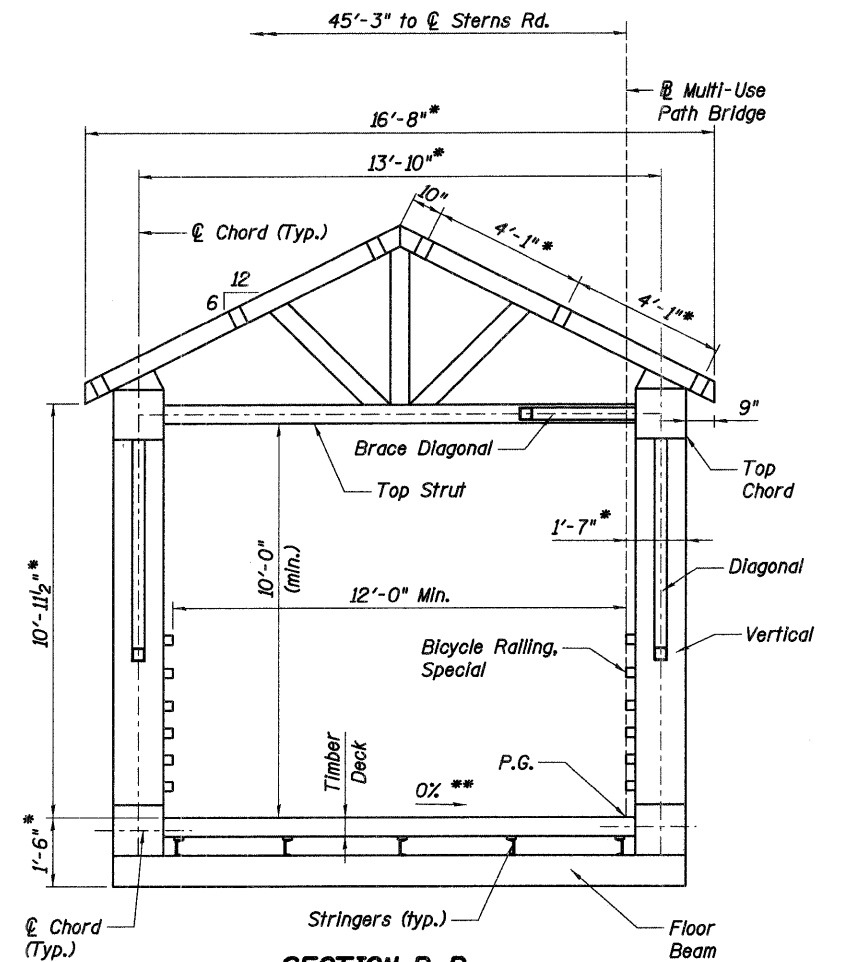
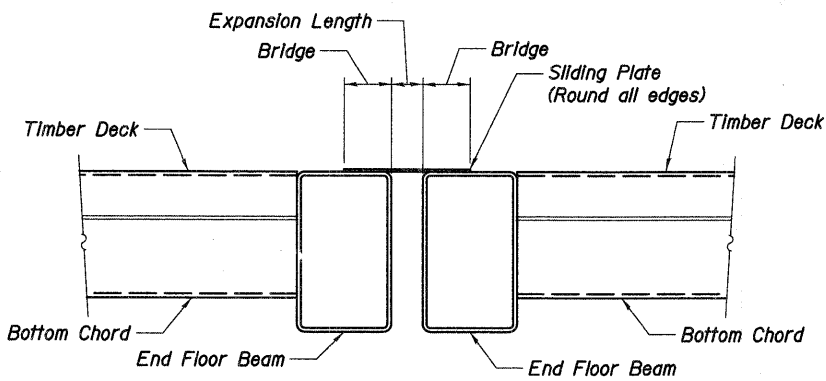
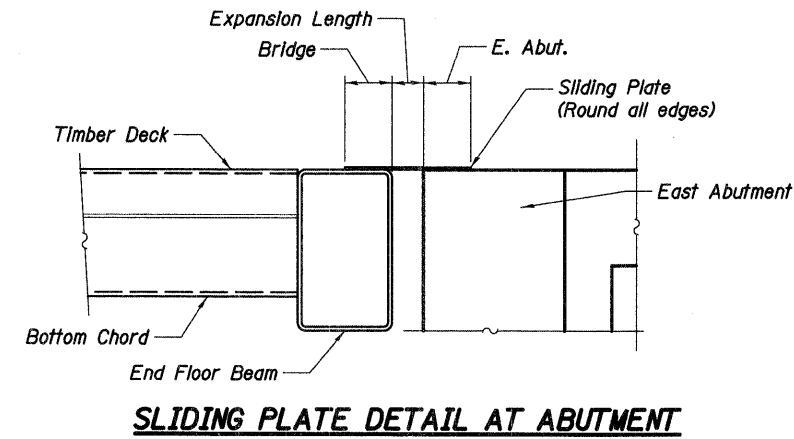
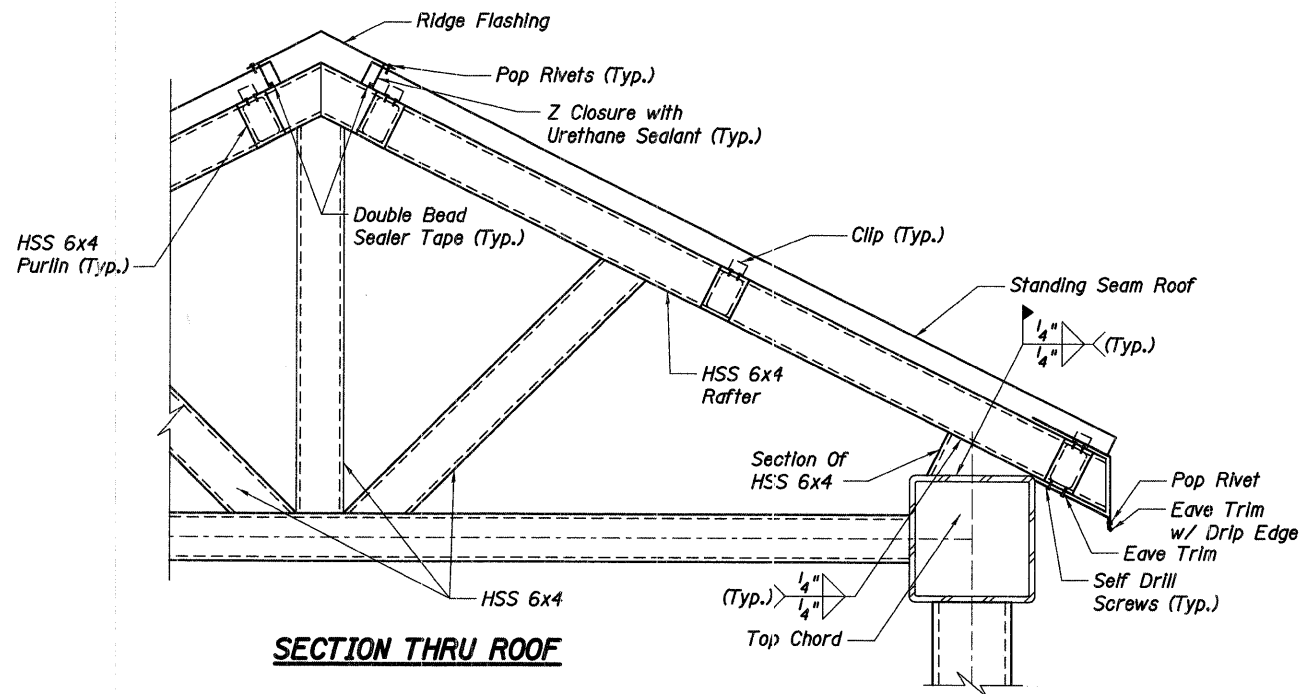
Baker Engineering, Inc.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE & RAMP - TYPICAL SECTIONS**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	165
STA. 511+80.00 TO STA. 609+14.92		ILLINOIS FED. AID PROJECT		
FED. ROAD DIST. NO. 7		SHEET NO. S60 OF S108		



SERVICE LOAD REACTION TABLE FROM PEDESTRAIN TRUSS USED FOR SUBSTRUCTURE DESIGN

	Pier 2	Pier 3	Pier 4	E. Abut.
R <sub>DC1</sub> (k)	136.5	273.0	160.5	24.0
R <sub>DC2</sub> (k)	53.2	106.5	62.6	9.4
R <sub>DW</sub> (k)	0.0	0.0	0.0	0.0
R <sub>∑</sub> ** (k)	107.1	214.2	125.9	18.8
R <sub>Total</sub> (k)	296.8	593.7	349.0	52.2

\*\* Pedestrian Load per AASHTO LRF4

**Notes:**

- Dimensions shown for the prefabricated bridges are based on a particular manufactured product. Actual dimensions of supplied bridge structure may vary subject to approval of the engineer. Contractor to verify and adjust substructure elements as required. Cost shall be included with "Pedestrian Truss Superstructure".
- Cost of "Bicycle Railing Special", joint sliding plates, bearings, and all other items excluding roofing system attached to the pedestrian truss on MUP Bridge spans 2, 3, & 4 shall be included with "Pedestrian Truss Superstructure".
- Contractor shall not erect prefabricated truss bridge by placing erection equipment on the Stearns Road Bridge unless calculations are submitted to and approved by the Engineer. These calculations shall demonstrate that the bridge satisfies the Design Specifications on sheet S2 of S108 under these construction loadings.
- The finish coat for all post, railing, splices, anchor devices, and bent plates for the Bicycle Railing, Special shall be Federal Standard 595B, color #14062; submit paint chips to the Engineer for approval prior to ordering any finish coat material. The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -**  
**PREFABRICATED TRUSS DETAILS**

MULTI-USE PATH BRIDGE  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3164  
PUBLIC WORKS

KANE COUNTY  
STATION 572+37.71  
DESIGNED: DFM  
DATE: JANUARY 16, 2009

FAP 361 SECTION 06-00214-20-BR  
DRAWN: JHJ  
CHECKED: KPZ

**Baker**  
Baker Engineering, Inc.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	166
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S61 OF S108				

**Girder 8**

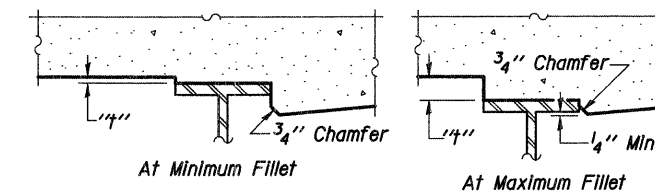
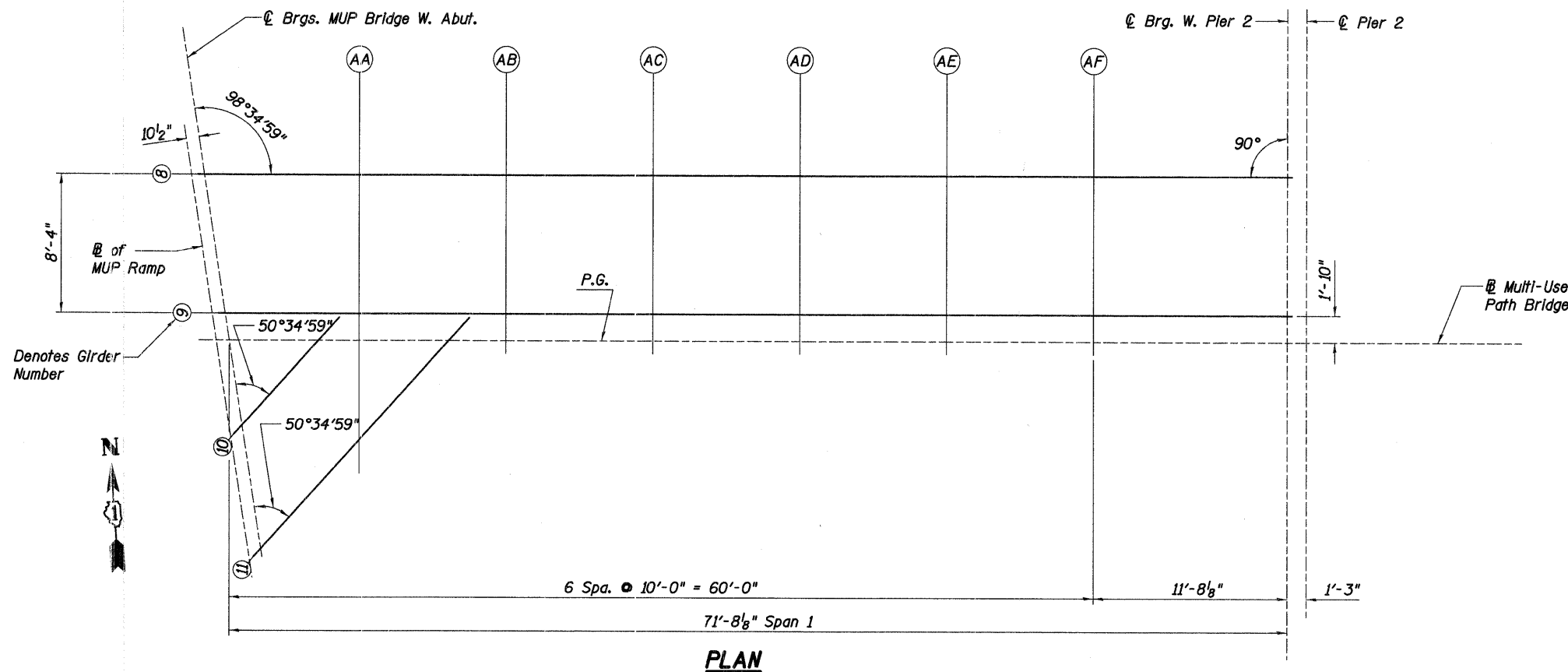
Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓜ MUP Ramp	569+70.91	10.17	701.44	701.44
Ⓞ Brgs. W. Abut.	569+71.79	10.17	701.44	701.44
AA	569+83.32	10.17	701.49	701.62
AB	569+93.32	10.17	701.63	701.83
AC	570+03.32	10.17	701.84	702.09
AD	570+13.32	10.17	702.14	702.38
AE	570+23.32	10.17	702.51	702.71
AF	570+33.32	10.17	702.97	703.08
Ⓞ Brgs. W. Pier 2	570+45.00	10.17	703.54	703.53
Ⓞ Pier 2	570+46.25	10.17	703.60	703.60

**Girder 9**

Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓜ MUP Ramp	569+72.16	1.83	701.31	701.31
Ⓞ Brgs. W. Abut.	569+73.04	1.83	701.31	701.31
AA	569+83.32	1.83	701.37	701.49
AB	569+93.32	1.83	701.50	701.71
AC	570+03.32	1.83	701.72	701.96
AD	570+13.32	1.83	702.01	702.25
AE	570+23.32	1.83	702.39	702.58
AF	570+33.32	1.83	702.84	702.96
Ⓞ Brgs. W. Pier 2	570+45.00	1.83	703.42	703.40
Ⓞ Pier 2	570+46.25	1.83	703.48	703.48

**P.G.**

Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓜ MUP Ramp	569+72.44	0.00	701.28	701.28
Ⓞ Brgs. W. Abut.	569+73.32	0.00	701.29	701.29
AA	569+83.32	0.00	701.34	701.46
AB	569+93.32	0.00	701.47	701.68
AC	570+03.32	0.00	701.69	701.93
AD	570+13.32	0.00	701.98	702.23
AE	570+23.32	0.00	702.36	702.56
AF	570+33.32	0.00	702.82	702.93
Ⓞ Brgs. W. Pier 2	570+45.00	0.00	703.39	703.38
Ⓞ Pier 2	570+46.25	0.00	703.45	703.45



To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "f" above top flange of beams.

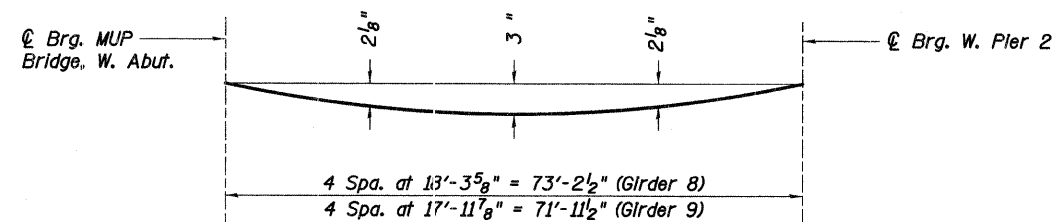
**FILLET HEIGHTS**

**Girder 10**

Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓜ MUP Ramp	569+73.31	-5.76	701.20	701.20
Ⓞ Brgs. W. Abut.	569+74.06	-4.92	701.21	701.21

**Girder 11**

Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓜ MUP Ramp	569+74.43	-13.17	701.09	701.09
Ⓞ Brgs. W. Abut.	569+75.18	-12.34	701.10	701.10
AA	569+83.32	-3.30	701.29	701.61



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete, roof and railing)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown in the tables Girder 8, Girder 9, P.G. Girder 10 and Girder 11.

REVISIONS	
NAME	DATE

**Baker**  
Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -**  
**TOP OF SLAB ELEVATIONS**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	167
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. 562 OF 5108				

**EAST APPROACH**

**NORTH EDGE OF SHOULDER**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	575+05.92	13.50	700.89
E. End East Appr. Pav't.	575+19.92	13.50	700.48

**NORTH EDGE OF PAVEMENT**

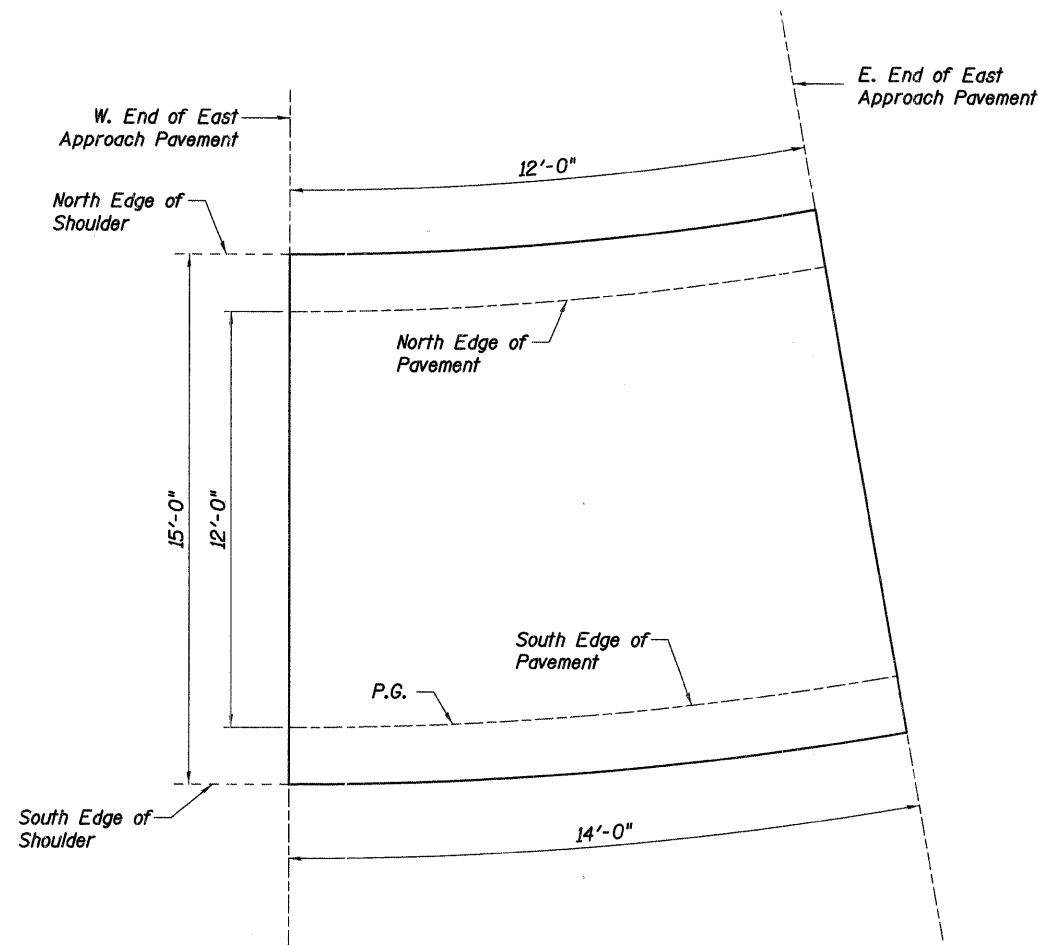
Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	575+05.92	12.00	700.89
E. End East Appr. Pav't.	575+19.92	12.00	700.45

**SOUTH EDGE OF PAVEMENT & P.G.**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	575+05.92	0.00	700.89
E. End East Appr. Pav't.	575+19.92	0.00	700.21

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset (ft)	Theoretical Grade Elevations
W. End East Appr. Pav't.	575+05.92	-1.50	700.89
E. End East Appr. Pav't.	575+19.92	-1.50	700.18



**PLAN**  
(East Slab)

REVISIONS	
NAME	DATE



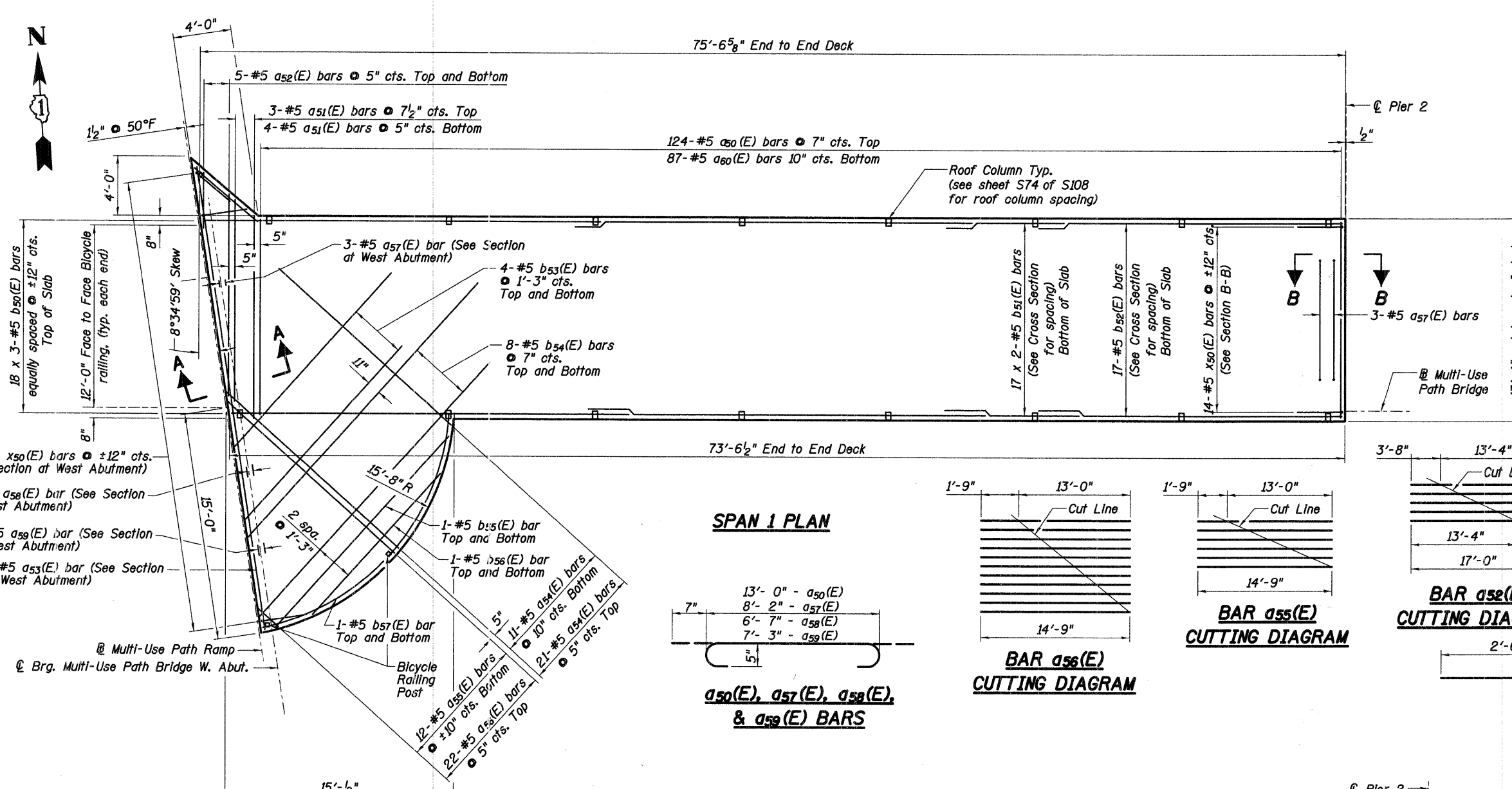
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE - TOP OF APPROACH SLAB ELEVATIONS**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	168
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S63 OF S108				

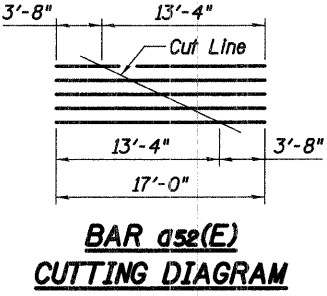
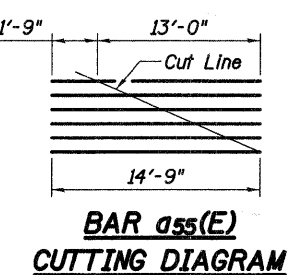
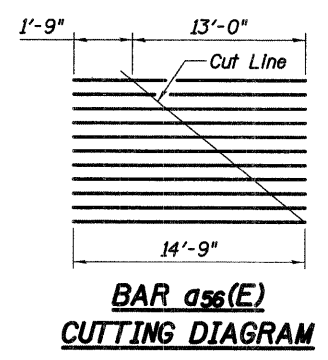
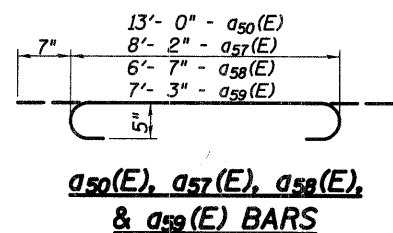
**MUP BRIDGE - SUPERSTRUCTURE**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a50(E)	124	# 5	14'-2"	U
a51(E)	7	# 5	13'-4"	U
a52(E)	5	# 5	17'-0"	U
a53(E)	6	# 5	31'-0"	U
a54(E)	32	# 5	15'-3"	U
a55(E)	6	# 5	14'-9"	U
a56(E)	11	# 5	14'-9"	U
a57(E)	6	# 5	9'-4"	U
a58(E)	3	# 5	7'-9"	U
a59(E)	3	# 5	8'-5"	U
a60(E)	93	# 5	13'-0"	U
b50(E)	54	# 5	26'-2"	U
b51(E)	34	# 5	29'-3"	U
b52(E)	17	# 5	20'-0"	U
b53(E)	8	# 5	15'-5"	U
b54(E)	16	# 5	22'-7"	U
b55(E)	2	# 5	16'-11"	U
b56(E)	2	# 5	12'-6"	U
b57(E)	2	# 5	20'-2"	U
b58(E)	2	# 5	21'-8"	U
x50(E)	46	# 5	6'-5"	U
Reinforcement Bars, Epoxy Coated			Pound	8,250
Concrete Superstructure			Cu. Yds.	29



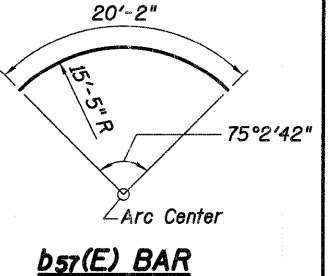
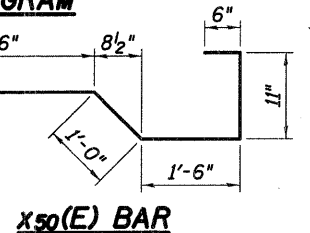
**SPAN 1 PLAN**



**BAR a52(E) CUTTING DIAGRAM**

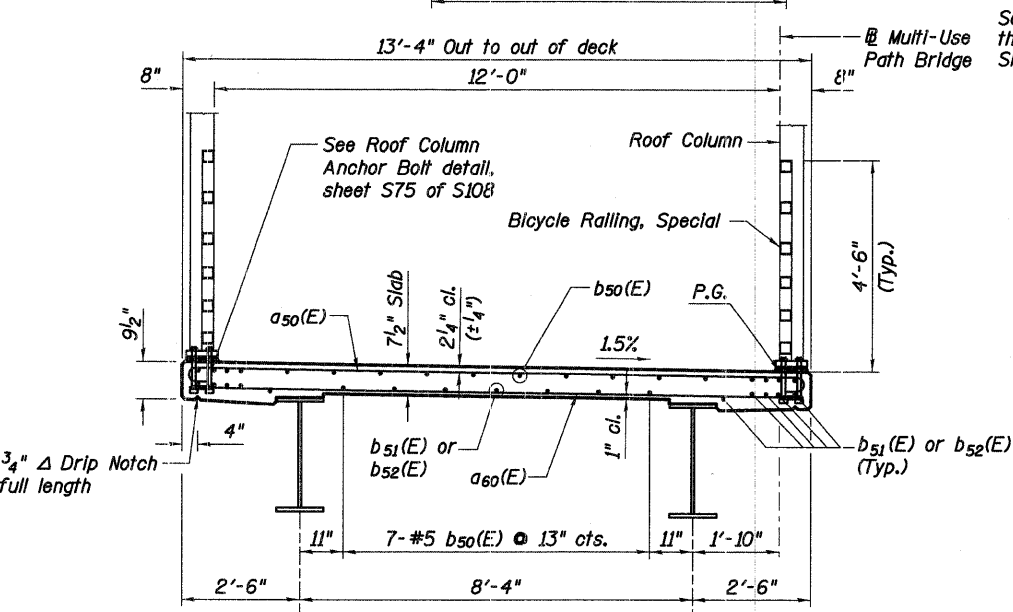
**BAR a55(E) CUTTING DIAGRAM**

**BAR a55(E) CUTTING DIAGRAM**

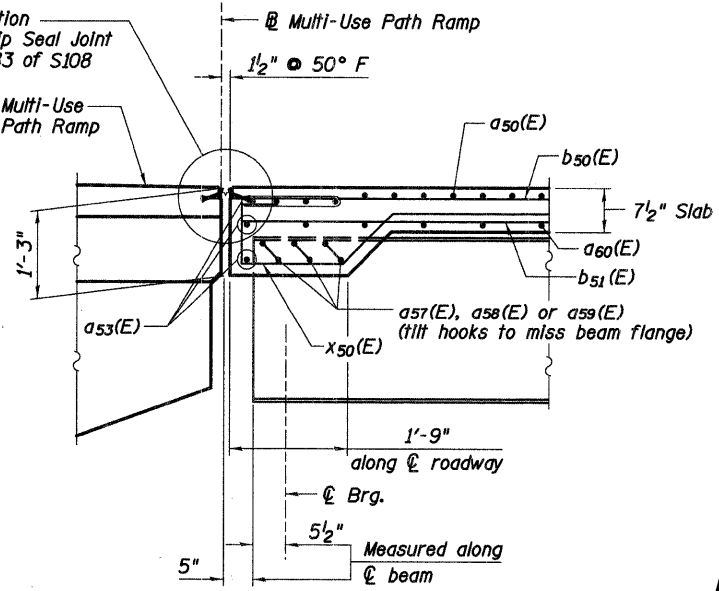


**x50(E) BAR**

**b57(E) BAR**

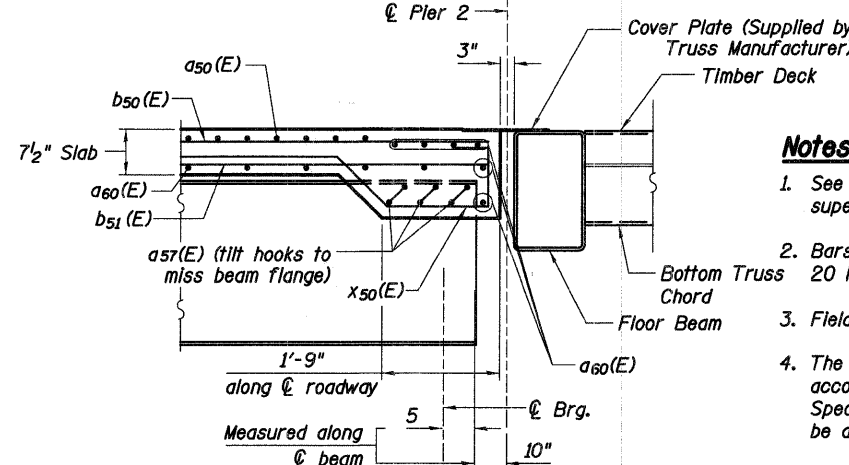


**CROSS SECTION**



**SECTION A-A**

(Intersection between MUP Ramp and MUP Bridge)



**SECTION B-B**

**MIN. LAP**  
#5 Bar = 1'-8"

**Notes:**

- See sheets S64 to S66 of S108 for superstructure details.
- Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
- Field cut alcove reinforcement as required.
- The top surface of the deck shall be finished according to Article 424.06 of the Standard Specifications, except the surface shall not be divided by grooves.

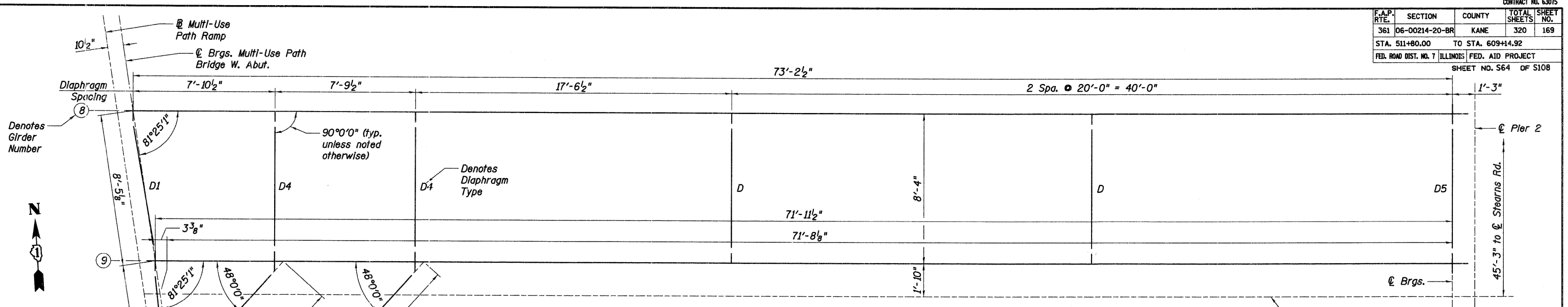
REVISIONS	
NAME	DATE



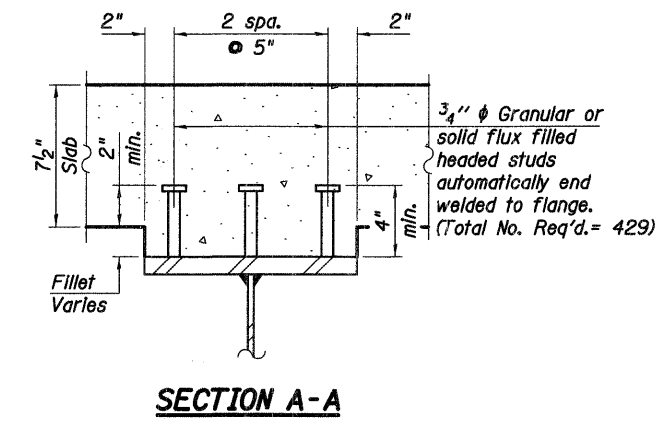
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE - DECK PLAN**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164 PUBLIC WATERS  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

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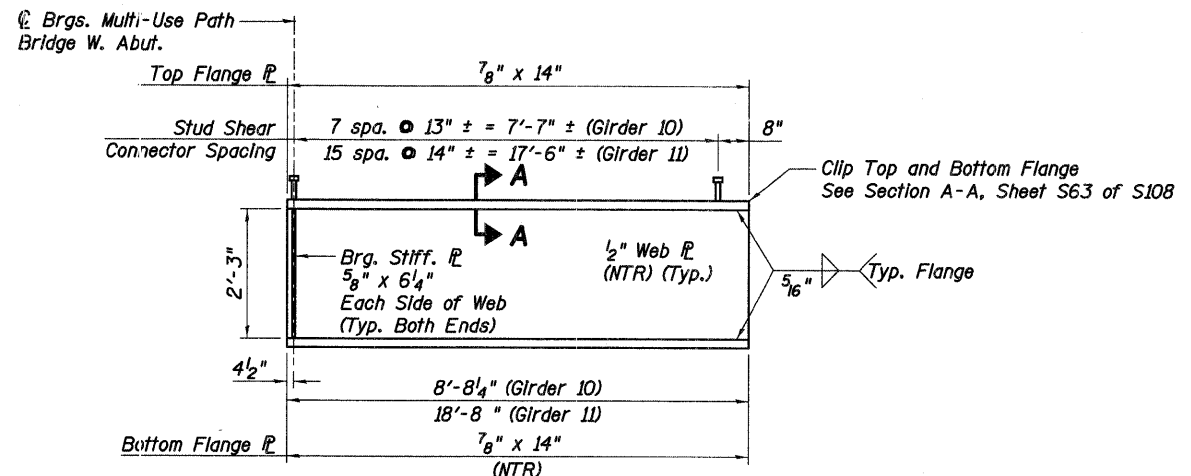
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	169
STA. 511+80.00 TO STA. 609+14.92		ILLINOIS FED. AID PROJECT		
FED. ROAD DIST. NO. 7		SHEET NO. S64 OF S108		



**SPAN 1 FRAMING PLAN**

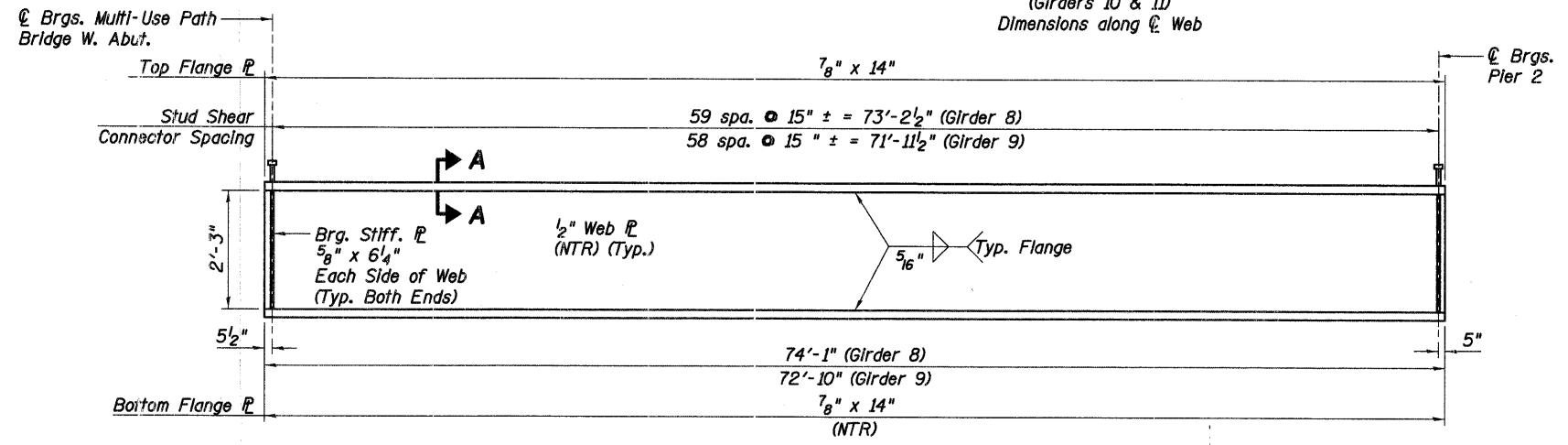


**SECTION A-A**



**GIRDER ELEVATION**

(Girders 10 & 11)  
 Dimensions along C Web



**GIRDER ELEVATION**

(Girders 8 & 9)  
 Dimensions along C Web

**Notes:**

- For additional Framing Plan and Girder Elevation Information, see sheets S65 and S66 of S108.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements Notch Toughness, Zone 2.
- For Diaphragm details, see sheet S66 of S108.
- For Connection details for the connection between Girder 10 & 11 to Girder 9, see sheet S66 of S108.
- The structural steel for girders, bearing stiffeners, and splice plate material except fill plates shall conform to the requirements of AASHTO M270, Gr. 50.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE - FRAMING PLAN AND GIRDER ELEVATION**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: GWG DRAWN: GWG  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



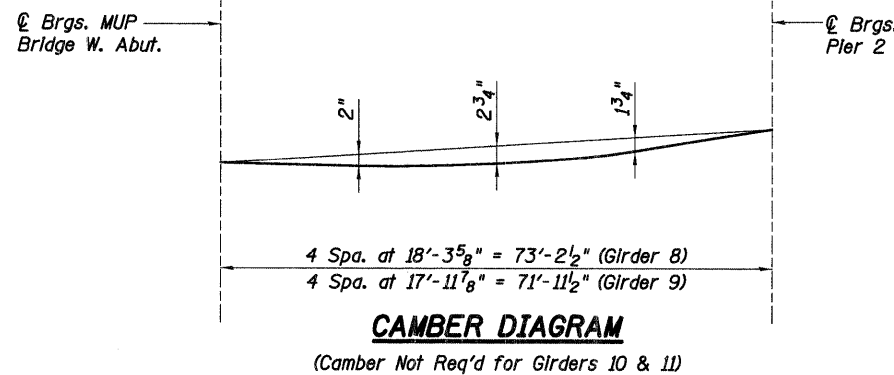
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 7/16/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	170
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
SHEET NO. S65 OF S108				

0.5 Sp. 2		
$I_s$	(in <sup>4</sup> )	5,582
$I_o(n)$	(in <sup>4</sup> )	13,846
$I_o(3n)$	(in <sup>4</sup> )	10,293
$S_s$	(in <sup>3</sup> )	388
$S_o(n)$	(in <sup>3</sup> )	534
$S_o(3n)$	(in <sup>3</sup> )	489
Z	(in <sup>3</sup> )	--
DC1	(k/')	1
M <sub>DC1</sub>	(k)	47
DC2	(k/')	0
M <sub>DC2</sub>	(k)	11
DW	(k/')	0
M <sub>DW</sub>	(k)	0
M <sub>ℓ + IM</sub>	(k)	29
M <sub>u</sub> (Strength I)	(k)	123
* $\phi_r M_n, \phi_r M_{nc}$	(k)	2,618
$f_s$ DC1	(ksi)	2
$f_s$ DC2	(ksi)	0
$f_s$ DW	(ksi)	0
$f_s$ 1.3(ℓ+IM)	(ksi)	1
$f_s$ (Service II)	(ksi)	3
** $f_s$ (Total)(Strength I)	(ksi)	--
V <sub>r</sub>	(k)	0

\* Compact sections  
 \*\* Non-Compact and slender sections

	MUP Bridge W. Abut.	Brgs. Pier 2
R <sub>DC1</sub>	(k) 28	(k) 25
R <sub>DC2</sub>	(k) 8	(k) 8
R <sub>DW</sub>	(k) 0	(k) 0
R <sub>ℓ + IM</sub>	(k) 23	(k) 20
R <sub>Total</sub>	(k) 59	(k) 53



**TOP OF WEB ELEVATIONS**

Girder Number	℄ Brg. MUP Bridge W. Abut.	End of Girder 9	℄ Pier 2
8	700.67	--	702.77
9	700.54	--	702.64
10	700.44	700.56	--
11	700.33	700.63	--

(For Fabrication Only)

**Notes:**

- For additional Framing Plan and Girder Elevation Information, see sheets S64 and S66 of S108.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements Notch Toughness, Zone 2.
- For Diaphragm details, see sheet S66 of S108.
- For Connection details for the connection between Girder 10 & 11 to Girder 9, see sheet S66 of S108.
- The structural steel for girders, bearing stiffeners, and splice plate material except fill plates shall conform to the requirements of AASHTO M270, Gr. 50.

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).  
 $I_o(n), S_o(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).  
 $I_o(3n), S_o(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).  
 Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (in<sup>3</sup>).  
 DC1: Un-factored non-composite dead load (kips/ft.).  
 M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).  
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
 M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
 DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
 M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
 M<sub>ℓ + IM</sub>: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).  
 M<sub>u</sub> (Strength I): Factored design moment (kip-ft.). 1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>ℓ + IM</sub>  
 $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).  
 $\phi_r M_{nc}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).  
 $f_s$  (Service II): Sum of stresses as computed from the moments below (ksi). M<sub>DC1</sub> + M<sub>DC2</sub> + M<sub>DW</sub> + 1.3 M<sub>ℓ + IM</sub>  
 $f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi). 1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>ℓ + IM</sub>  
 V<sub>r</sub>: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

REVISIONS	
NAME	DATE

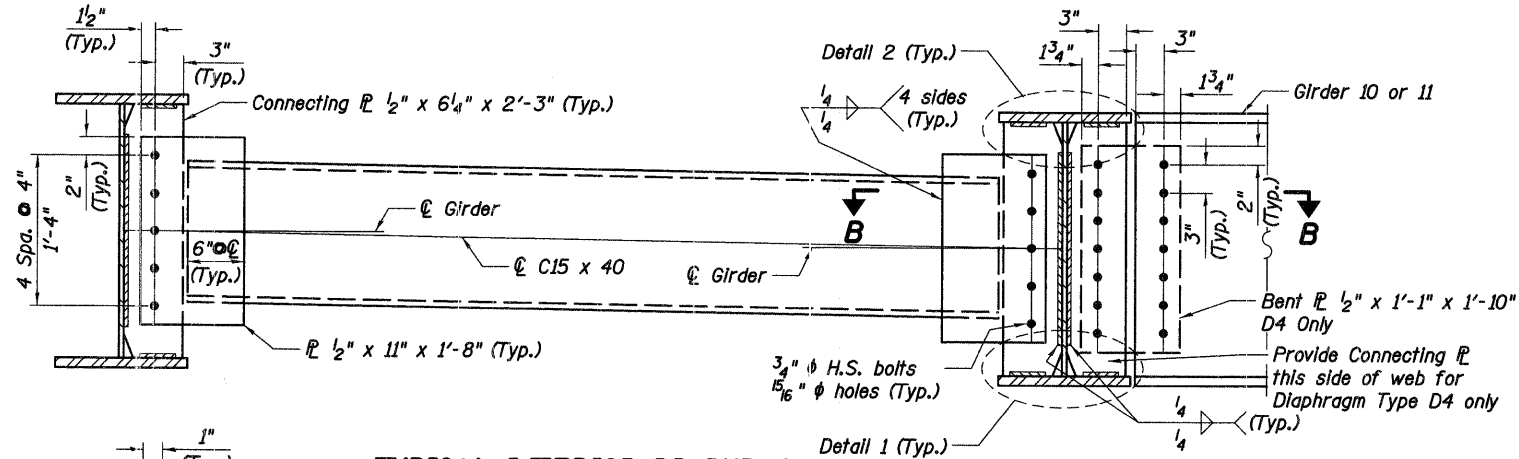


ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -**  
**STEEL DETAILS I**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: GWG DRAWN: GWG  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

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 1/16/2009

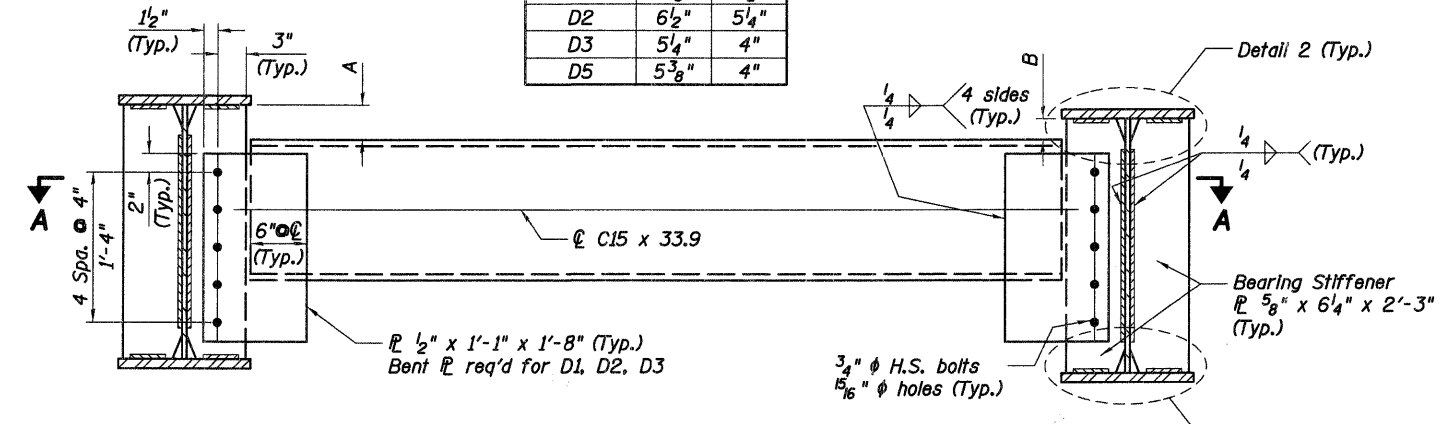
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	171
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S66 OF S108				

Diaphragm Type	A	B
D1	7 <sup>7</sup> / <sub>8</sub> "	6 <sup>1</sup> / <sub>2</sub> "
D2	6 <sup>1</sup> / <sub>2</sub> "	5 <sup>1</sup> / <sub>4</sub> "
D3	5 <sup>1</sup> / <sub>4</sub> "	4"
D5	5 <sup>3</sup> / <sub>8</sub> "	4"



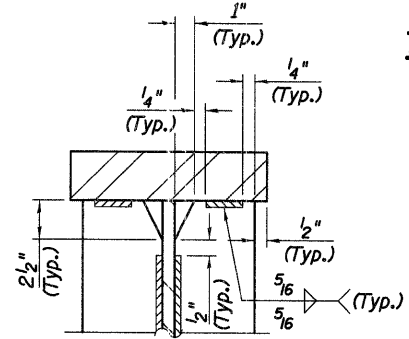
**TYPICAL INTERIOR DIAPHRAGM**

Diaphragm Type D (2 Req'd)  
Diaphragm Type D4 (2 Req'd)

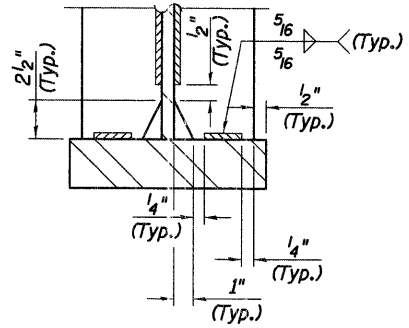


**TYPICAL END DIAPHRAGM**

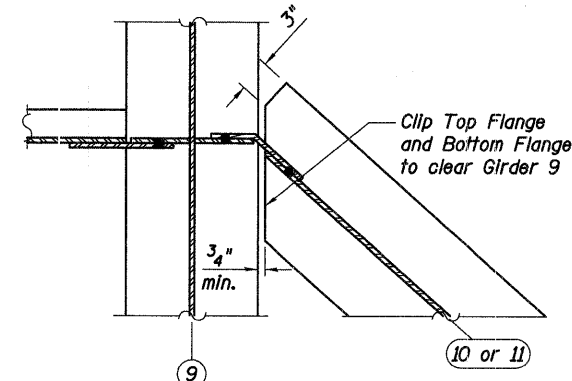
Diaphragm Type D1 (1 Req'd)  
Diaphragm Type D2 (1 Req'd)  
Diaphragm Type D3 (1 Req'd)  
Diaphragm Type D5 (1 Req'd)



**DETAIL 2**

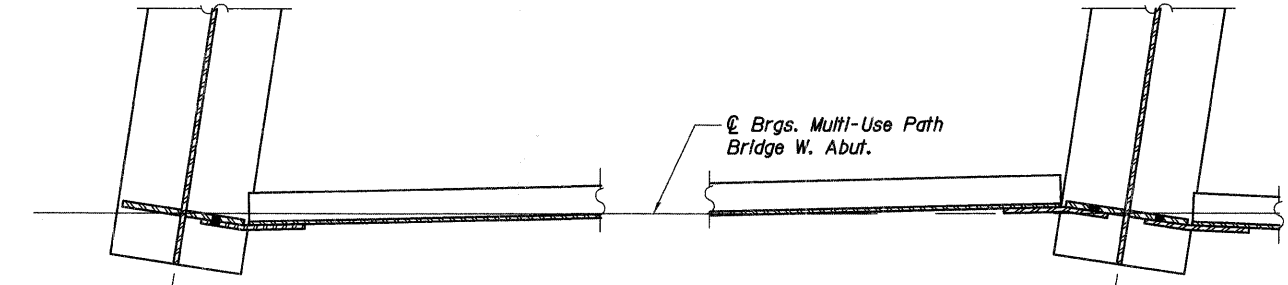


**DETAIL 1**



**SECTION B-B**

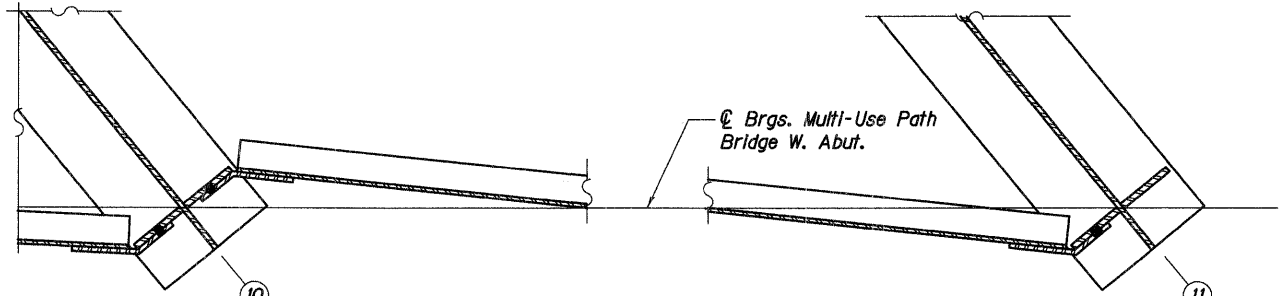
Diaphragm Type D4



**SECTION A-A**

Girders 8 & 9

Denotes Girder Number

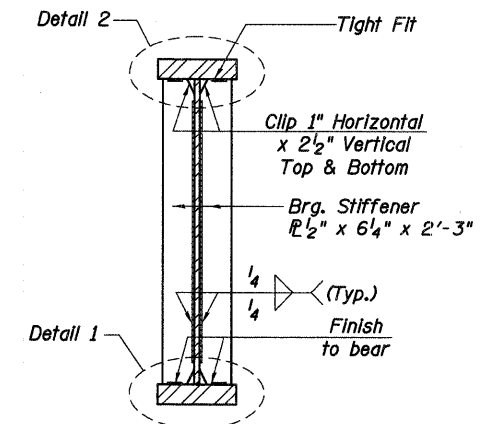


**SECTION A-A**

Girders 10 & 11

**Notes:**

- For additional Framing Plan and Girder Elevation information, see sheets S64 and S65 of S108.
- All cross frames or diaphragms shall be installed as steel erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements Notch Toughness, Zone 2.
- All diaphragm components shall be AASHTO M270 Gr. 36.
- Two hardened washers required for all diaphragm holes.
- The structural steel for girders, bearing stiffeners, and splice plate material except fill plates shall conform to the requirements of AASHTO M270, Gr. 50.



**TYPICAL BEARING STIFFENER**

**Baker**

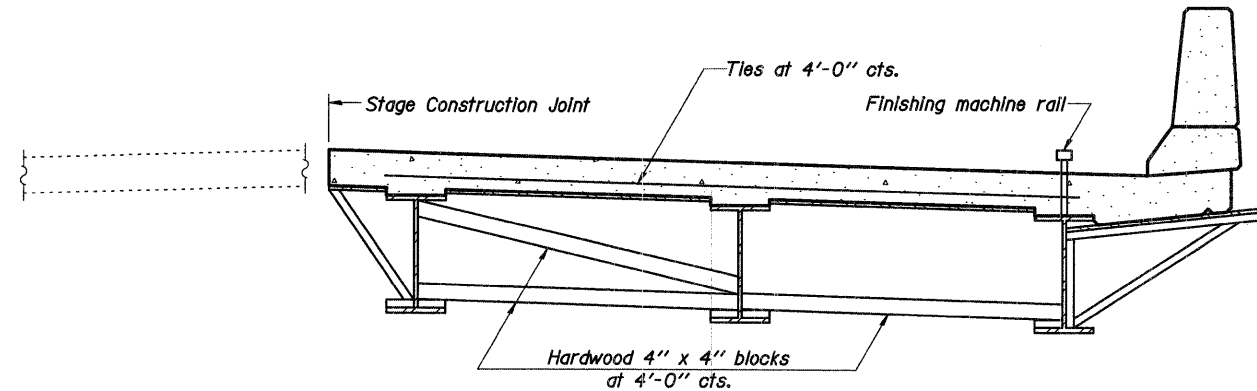
Baker Engineering, Inc.

REVISIONS	
NAME	DATE

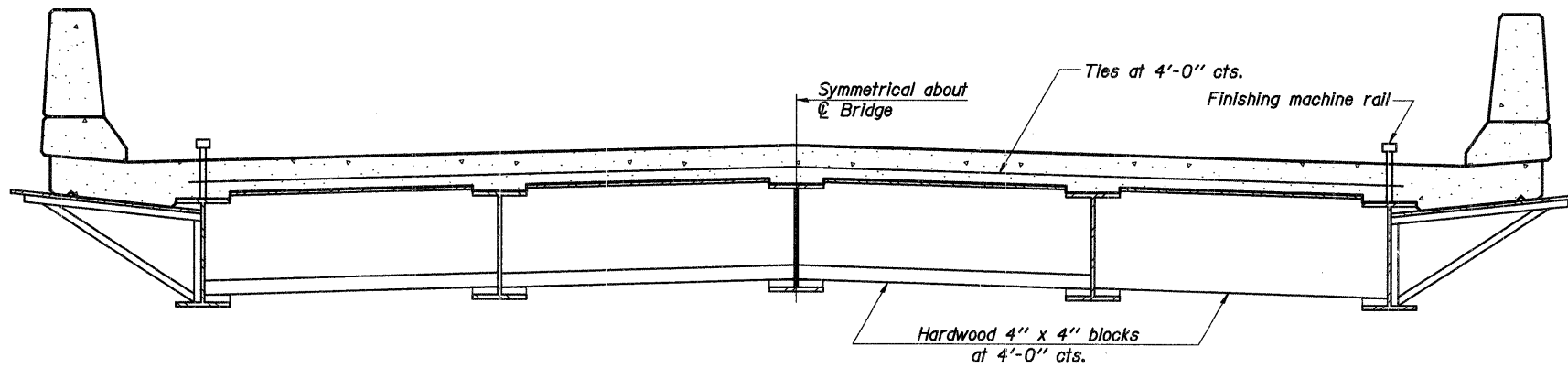
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE - STEEL DETAILS II**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: GWG DRAWN: GWG  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	172
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S67 OF S108				

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.  
 The finishing machine rails shall be placed on the top flange of the exterior beams.  
 The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.  
 For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



**FORM BRACES FOR STAGE CONSTRUCTION**



**FORM BRACES FOR STANDARD CONSTRUCTION**

h:\3005\3.0 phase II deliverables\3.3 structure\drawings\Final\045-3164 MUP Bridge CantFormBracket.dgn 1/15/2009

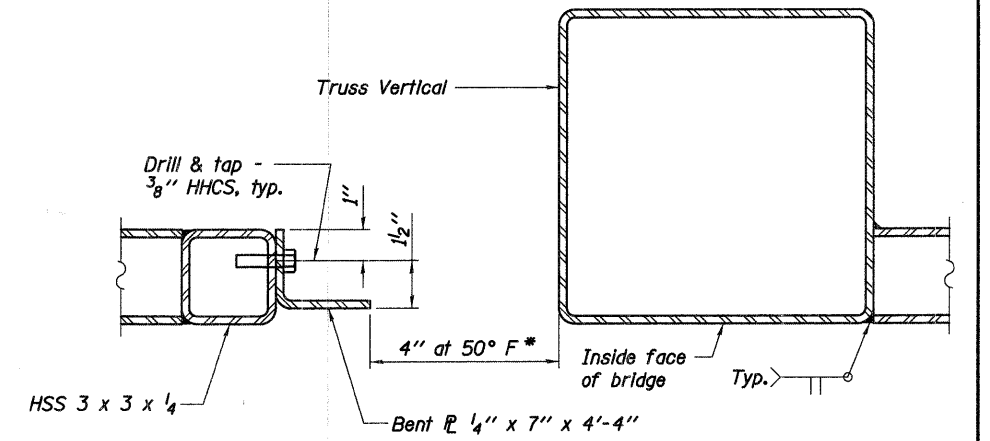
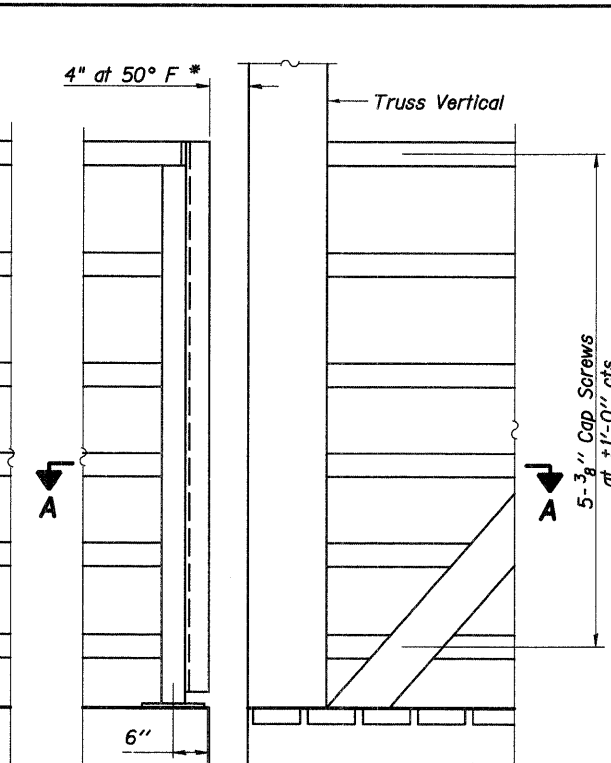
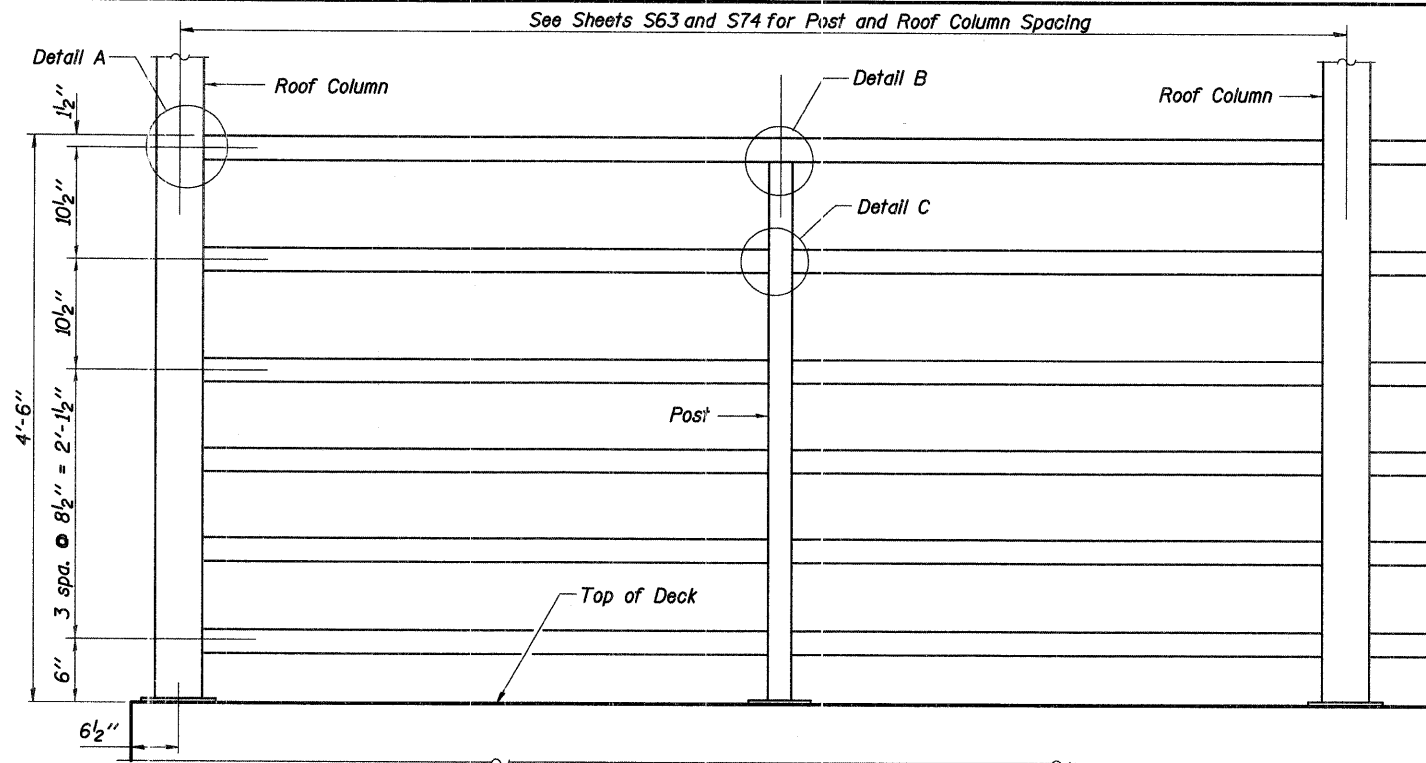


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -**  
**CANTILEVER FORMING BRACKETS**  
 MULTI-USE PATH BRIDGE PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	173
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S68 OF S108				

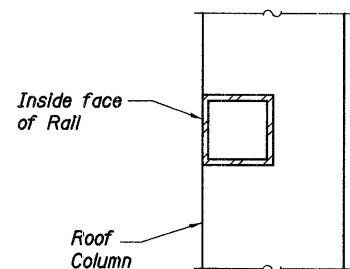


**BICYCLE RAILING, SPECIAL**

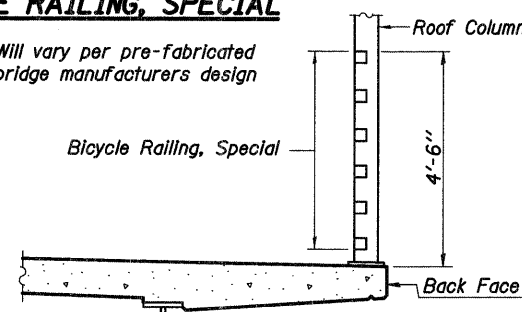
(10'-0" Maximum Post Spacing)

**BICYCLE RAILING, SPECIAL**

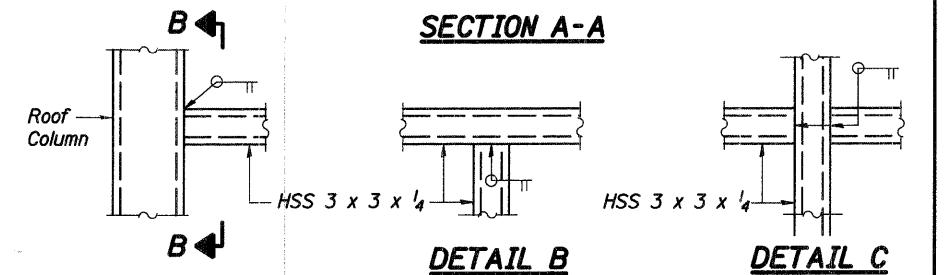
\* Will vary per pre-fabricated bridge manufacturers design



**SECTION B-B**



**SECTION THRU DECK**



**DETAIL A**

**SECTION A-A**

**DETAIL B**

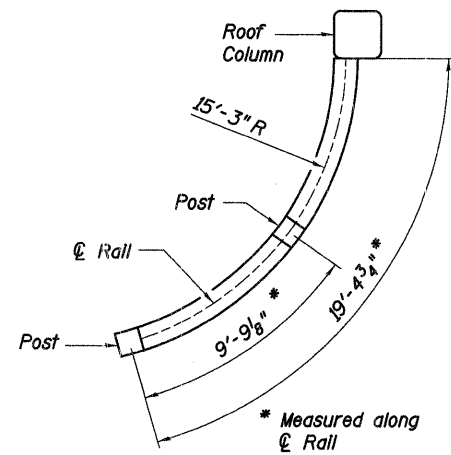
**DETAIL C**

**Notes:**

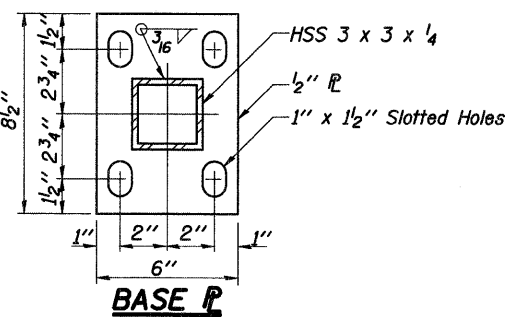
1. Dimensions shown for the pre-fabricated bridges may vary based upon the manufacturer. Contractor to verify and adjust Bicycle Railing, Special elements as required. Cost is included with "Pedestrian Truss Superstructure".
2. The finish coat for all post, railing, roof columns, splices, anchor devices, and bent plates shall be Federal Standard 595B, color #14062; submit paint chips to the Engineer for approval prior to ordering any finish coat material. The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting.
3. Cost for Bicycle Railing Installed on the Pre-fabricated Truss is included with "Pedestrian Truss Superstructure".

**BILL OF MATERIAL**

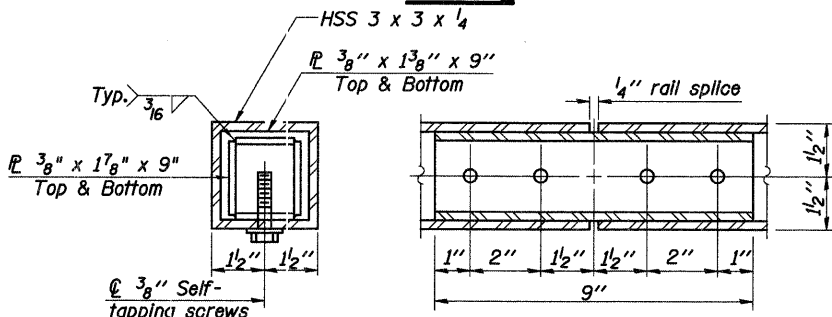
Item	Unit	Quantity
Bicycle Railing, Special	Foot	157



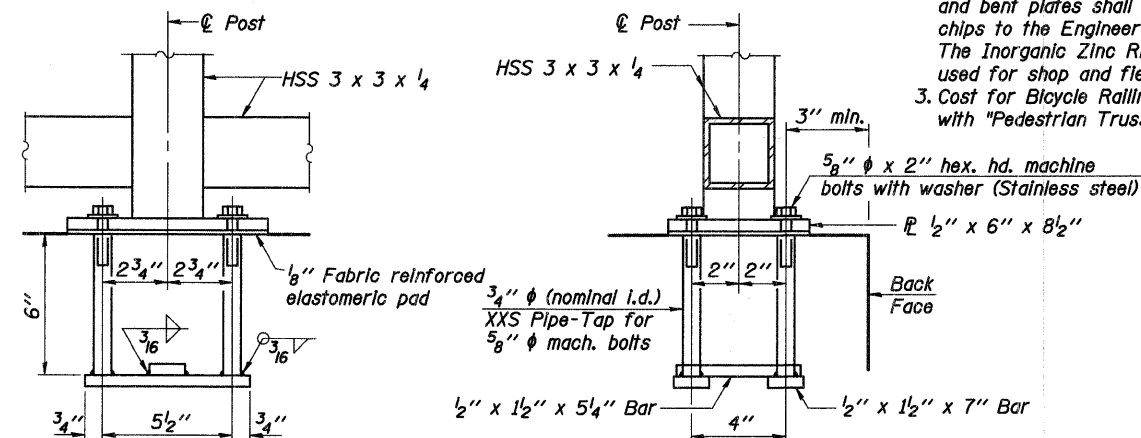
**ALCOVE RAIL DETAIL**



**BASE P**



**RAIL SPLICE**



**ANCHOR BOLT DETAILS**



Baker Engineering, Inc.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**MUP BRIDGE - BICYCLE RAILING, SPECIAL**

MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS

STRUCTURE NUMBER 045-3164

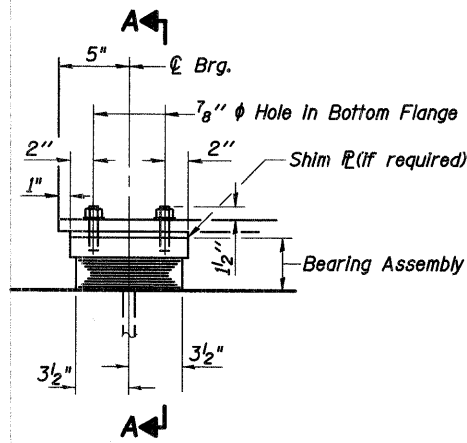
KANE COUNTY FAP 361 SECTION 06-00214-20-BR

STATION 572+37.71 DESIGNED: DFM DRAWN: SGW

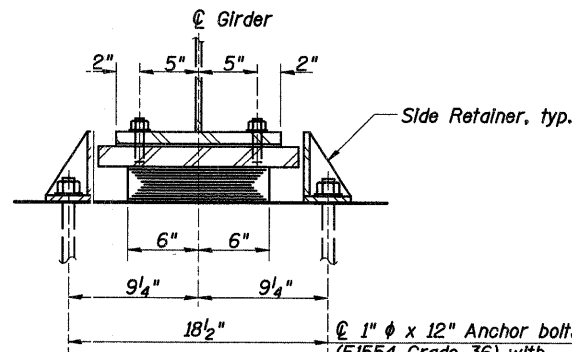
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

h:\13005\3.0 phase 11 deliverables\3.3 structure\drawings\Final\045-3164 MUP Bridge BicycleRailing.dgn 1/15/2009

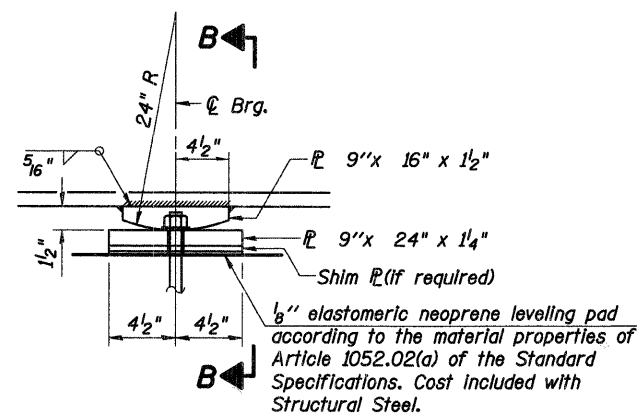
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	174
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S69 OF S108				



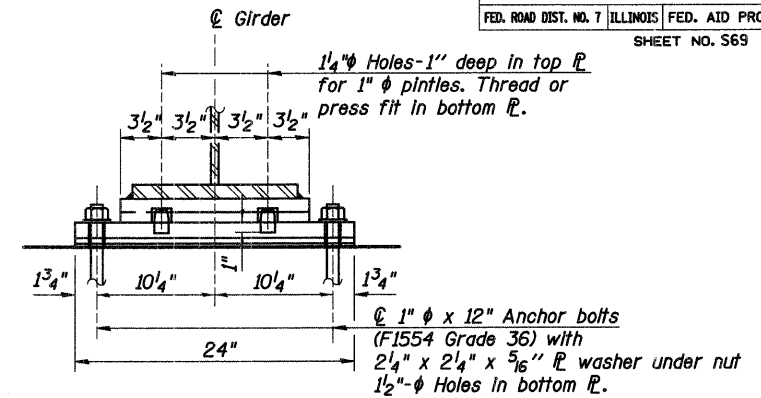
**ELEVATION**



**SECTION A-A**

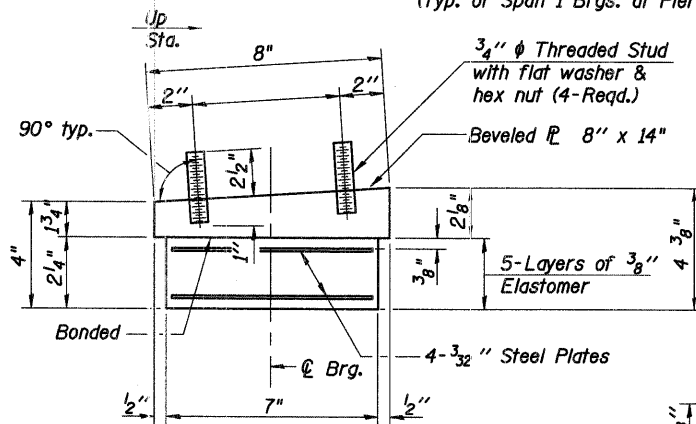


**ELEVATION**  
(View parallel to G Girder)



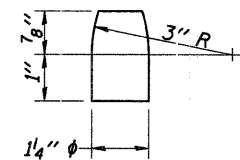
**SECTION B-B**

**TYPE I ELASTOMERIC EXP. BRG.**  
(Typ. of Span 1 Brgs. at Pier 2 - 2 Required)

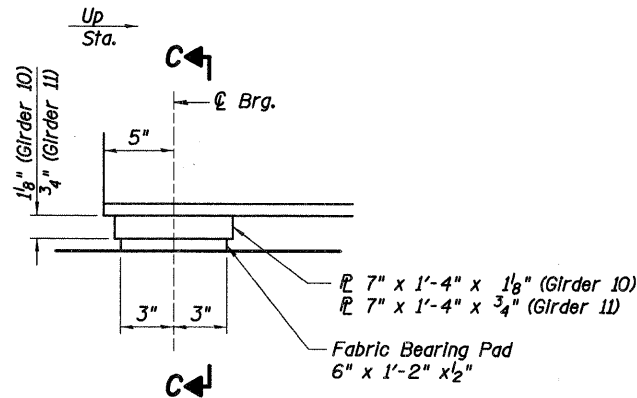


**BEARING ASSEMBLY**

Note: Shim plates shall not be placed under Bearing Assembly.



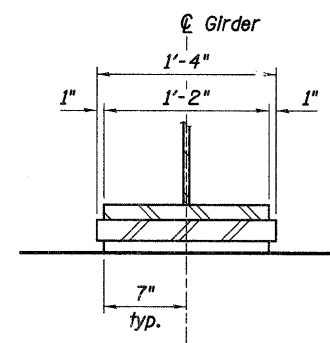
**PINTLE**



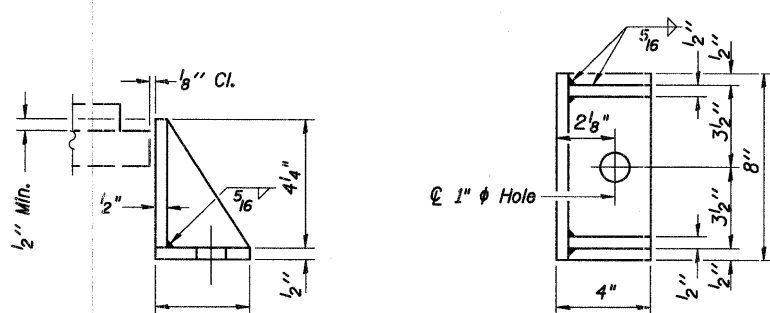
**ELEVATION**

(View parallel to G Girder)

**FABRIC BEARING PAD**  
(Typ. of Girders 10 & 11 Span 1 at MUP Bridge West abut. alcove, 2 required)

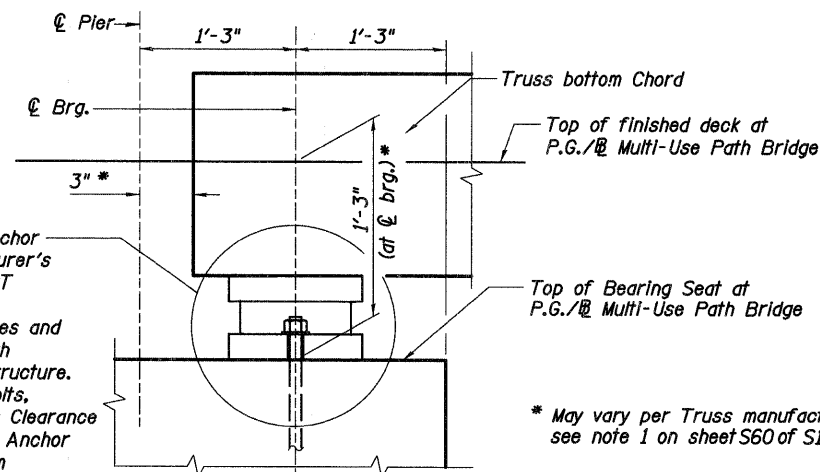


**SECTION C-C**



**SIDE RETAINER**

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



**MUP BRIDGE TRUSS BEARING**

(Typ. of all Truss exp. and fixed bearings of Piers 2, 3, & 4 and MUP Bridge East Abutment)

Bearing Assembly and Anchor Bolt details per Manufacturer's recommendations and IDOT Specifications. Cost of Bearing Assemblies and Anchor Bolts included with Pedestrian Truss Superstructure. Coordinate the Anchor Bolts, Bearing Plates and Truss Clearance with Truss Manufacturer. Anchor Bolts to have 12" minimum embedment.

\* May vary per Truss manufacturer's design, see note 1 on sheet S60 of S108

**FIXED BEARING**

(Typ. of Girders 8 & 9 Span 1 Brgs. at MUP Bridge West Abutment - 2 Required)

**Notes:**

- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
- Anchor bolts for side retainers and may be cast in place or installed in holes drilled before or after members are in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
- Cost of fabric bearing pad and other steel members required for the fabric bearing pad assemblies to be included with "Furnishing and Erecting Structural Steel".
- Cost of fixed bearing assemblies excluding anchor bolts, to be included with "Furnishing and Erecting Structural Steel".

**BILL OF MATERIAL**

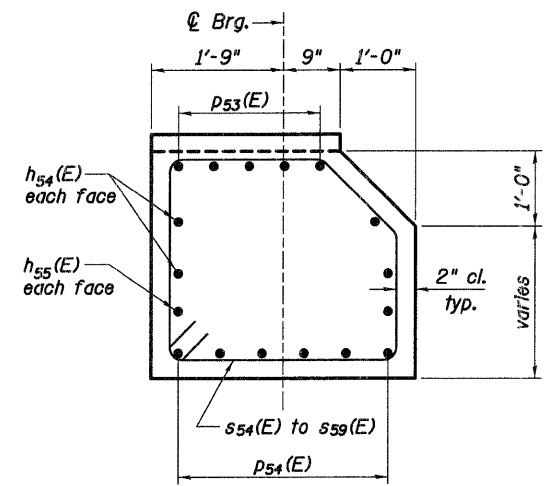
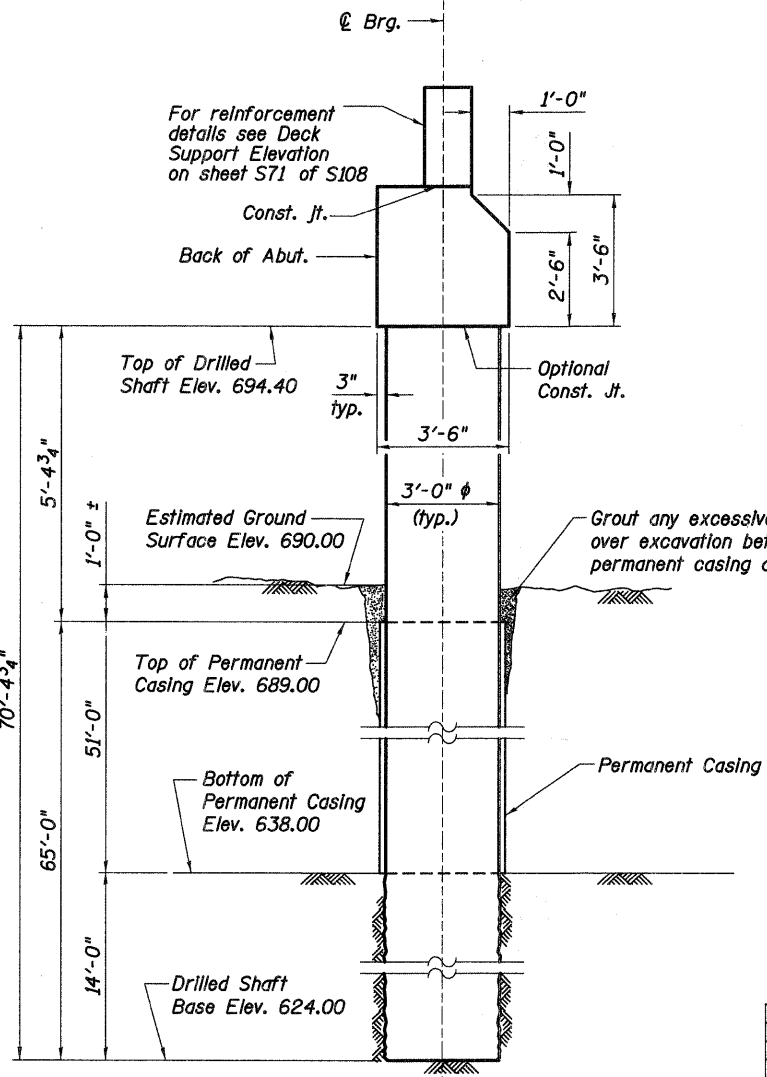
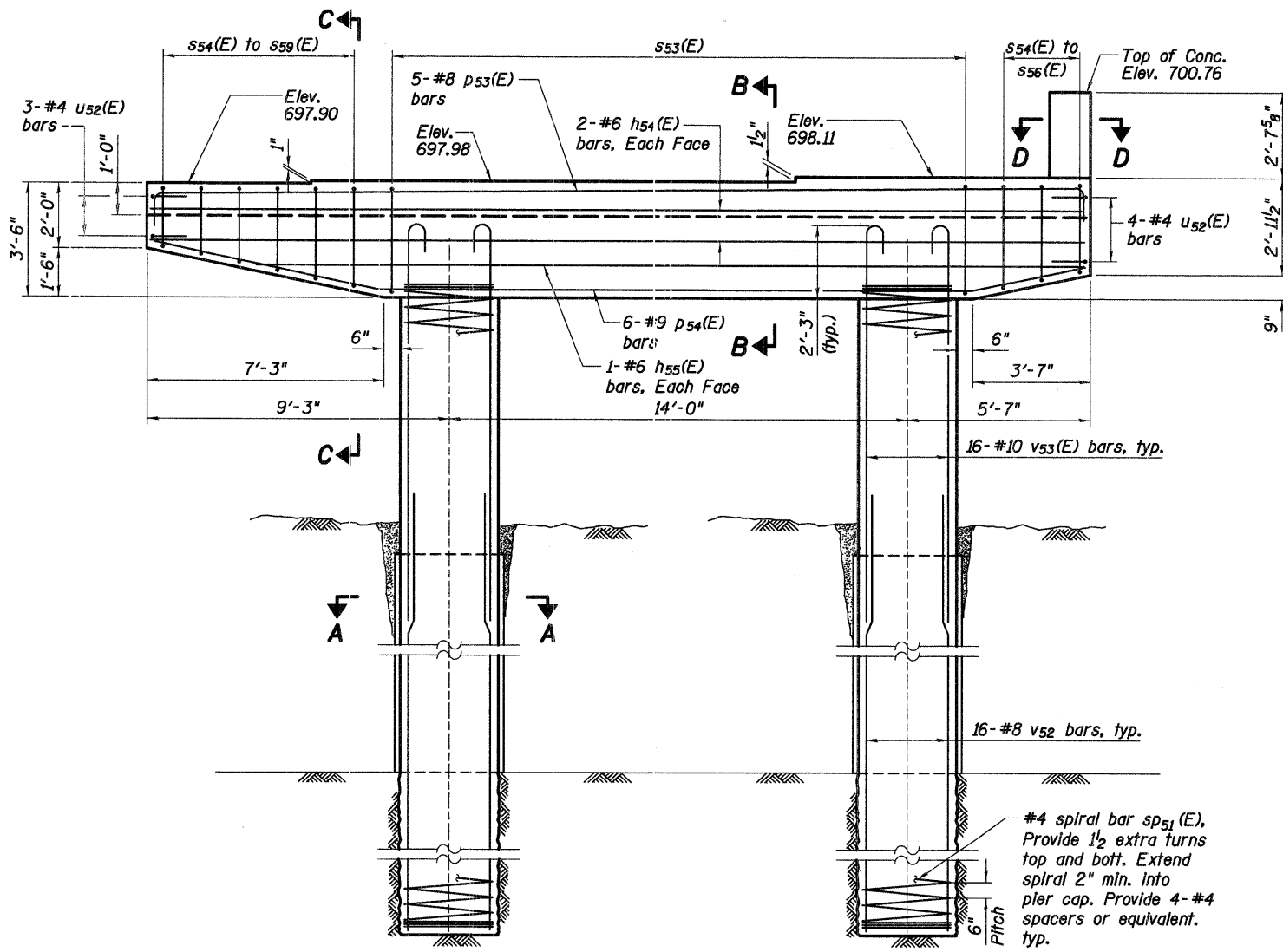
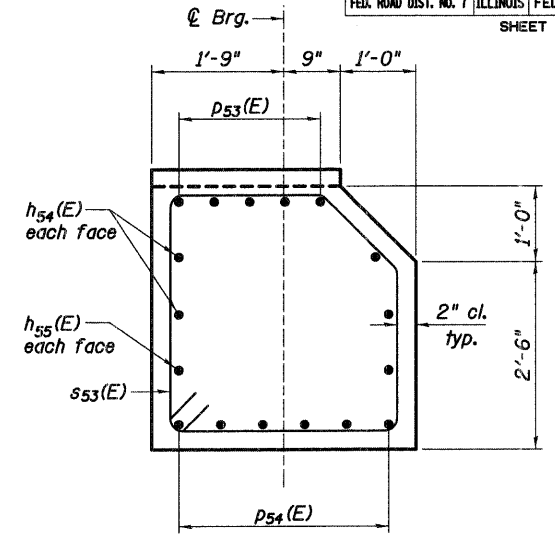
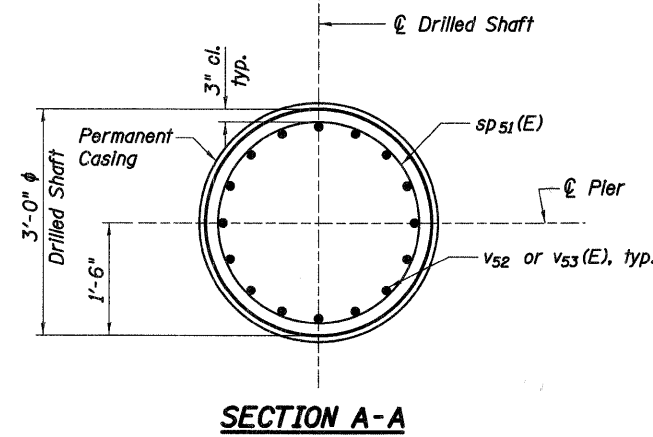
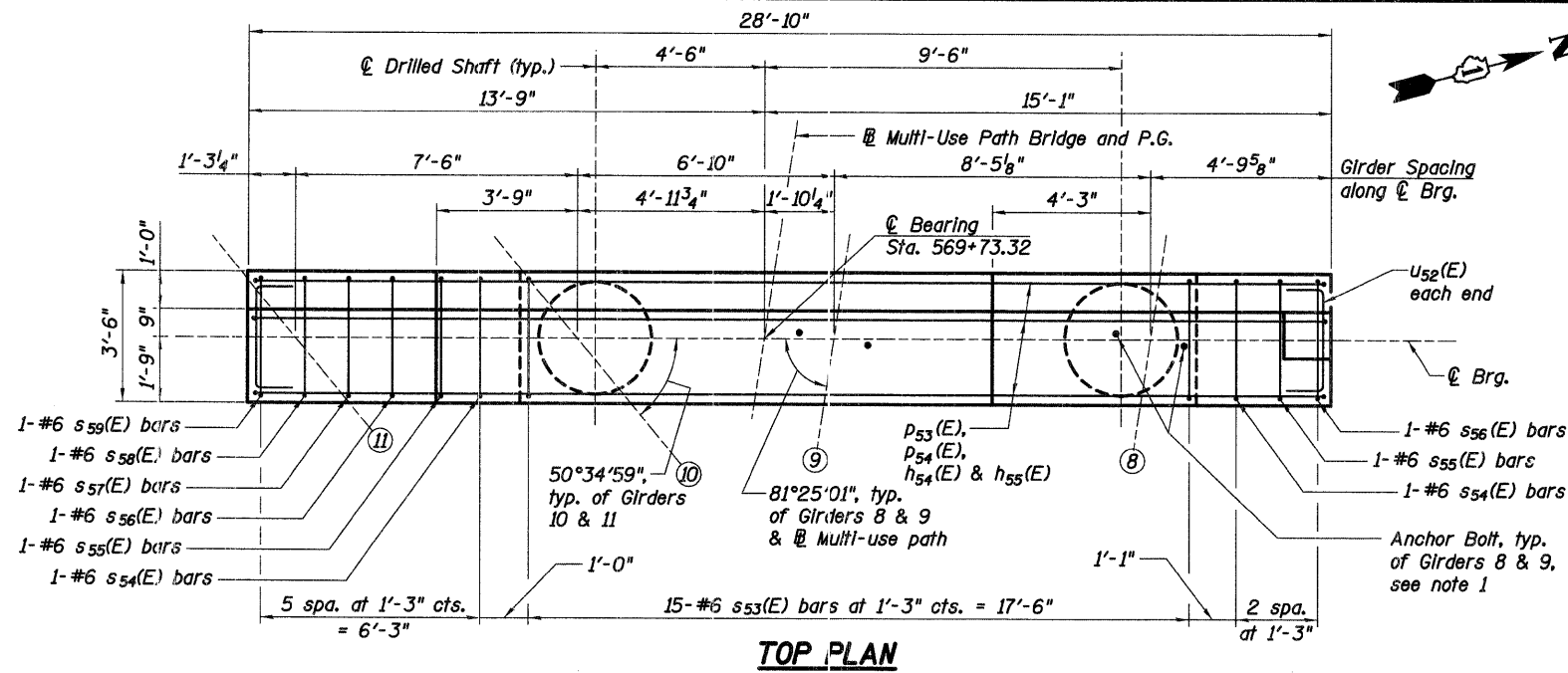
Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	2
Anchor Bolts, 1"	Each	8

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE - BEARING DETAILS**  
STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3166  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 571+42.96 DESIGNED: DAP DRAWN: SCW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
Baker Engineering, Inc.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	175
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S70 OF S108				



**Drilled Shaft Notes:**

- Contractor is responsible for determining the permanent casing thickness and the actual bottom of permanent casing elevation to be used. See Article 516.06(d) and 1006.05(d) of the Standard Specifications.
- Pay limits for the Permanent Casing shall be based on the minimum length shown.

**Notes:**

- For additional abutment details see sheet S71 of S108.
- For bearing assembly and bearing assembly anchor bolt details see sheet S69 of S108.
- Space reinforcement in pier cap to miss anchor bolts.
- Concrete Sealer shall be applied to the surface of the bearing seat, and to both faces and ends of the pier cap.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**MUP BRIDGE - WEST ABUTMENT I**

MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS

STRUCTURE NUMBER 045-3164

KANE COUNTY FAP 361 SECTION 06-00214-20-BR

STATION 572+37.71 DESIGNED: DAP DRAWN: SGW

DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	176
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S71 OF S108				

**MUP BRIDGE -  
WEST ABUTMENT BILL OF MATERIAL**

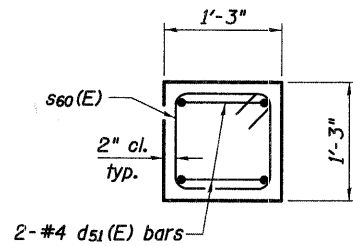
Bar	No.	Size	Length	Shape	A	B	C
$d_{51}(E)$	2	# 4	9'-4"		4'-3"	0'-10"	
$h_{54}(E)$	4	# 7	28'-6"				
$h_{55}(E)$	2	# 7	25'-4"				
$p_{53}(E)$	5	# 8	31'-8"		1'-7"	28'-6"	
$p_{54}(E)$	6	# 9	28'-7"				
$s_{53}(E)$	15	# 6	11'-3"		3'-2"	2'-2"	
$s_{54}(E)$	2	# 6	11'-0"		2'-11"	1'-11"	
$s_{55}(E)$	2	# 6	10'-9"		2'-8"	1'-8"	
$s_{56}(E)$	2	# 6	10'-6"		2'-5"	1'-5"	
$s_{57}(E)$	1	# 6	10'-3"		2'-2"	1'-2"	
$s_{58}(E)$	1	# 6	10'-0"		1'-11"	0'-11"	
$s_{59}(E)$	1	# 6	9'-9"		1'-8"	0'-8"	
$s_{60}(E)$	4	# 4	4'-5"		0'-11"	0'-11"	0'-4 1/2"
$sp_{51}(E)^*$	2	# 4	70'-6"				
$u_{52}(E)$	7	# 4	5'-9"		1'-4"	3'-1"	
$v_{52}$	32	# 8	40'-0"				
$v_{53}(E)$	32	# 10	38'-8"		37'-3"	1'-5"	1'-1 1/4"

Concrete Structures	Cu. Yd.	14
Reinforcement Bars	Pound	3,420
Reinforcement Bars, Epoxy Coated	Pound	9,030
Drilled Shaft In Soil	Cu. Yd.	35
Permanent Casing	Foot	102
Concrete Sealer	Sq. Ft.	321

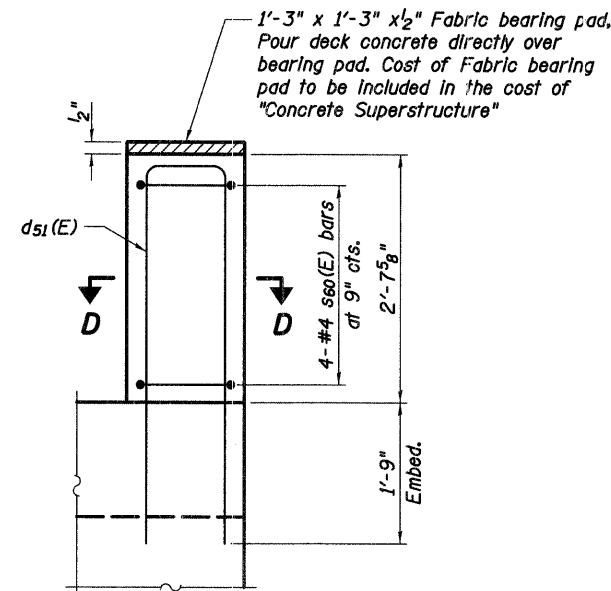
\* length is height of spiral

**MINIMUM BAR LAP**

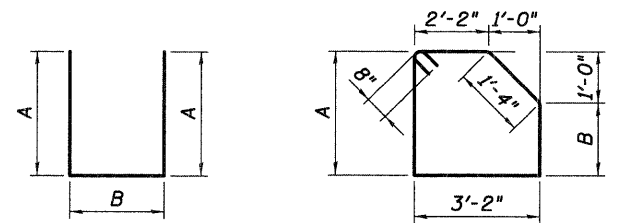
#8 = 4'-6"



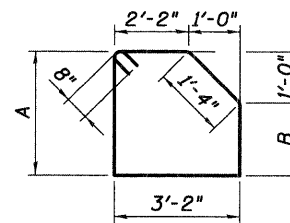
**SECTION D-D**



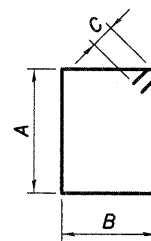
**DECK SUPPORT ELEVATION**



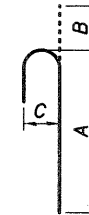
**BARS  $d_{51}(E)$ ,  
 $D_{53}(E)$  &  $U_{52}(E)$**



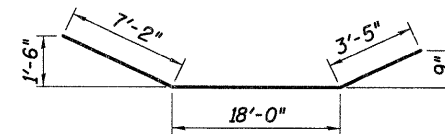
**BARS  $s_{53}(E)$  to  $s_{59}(E)$**



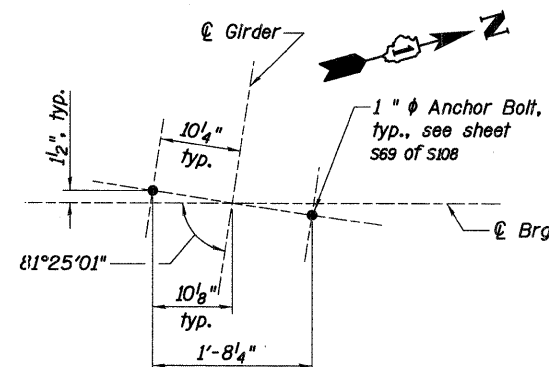
**BARS  $s_{60}(E)$**



**BAR  $v_{53}(E)$**



**BAR  $D_{54}(E)$**



**BEARING ANCHOR BOLT LAYOUT**  
(typical of girders 8 and 9)

**Baker**

Baker Engineering, Inc.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -  
WEST ABUTMENT II**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DAP DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	177
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
				SHEET NO. S72 OF S108

**MUP BRIDGE - EAST ABUTMENT BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
$h_{51}(E)$	5	# 6	14'-8"	—
$h_{52}(E)$	12	# 4	4'-8"	—
$h_{53}(E)$	8	# 5	4'-6"	□
$n_{51}(E)$	12	# 5	8'-5"	□
$p_{51}(E)$	14	# 8	17'-2"	—
$p_{52}(E)$	12	# 5	4'-8"	—
$s_{51}(E)$	18	# 6	16'-0"	□
$s_{52}(E)$	12	# 4	9'-5"	□
$u_{51}(E)$	8	# 4	7'-0"	□
$v_{51}(E)$	48	# 4	2'-3"	—
Concrete Structures		Cu. Yd.	14	
Reinforcement Bars, Epoxy Coated		Pound	1,610	
Furnishing Steel Piles HP 12x53		Foot	58	
Driving Piles		Foot	58	
Test Pile Steel HP 12x53		Each	1	
Concrete Encasement		Cu. Yd.	1	
Concrete Sealer		Sq. Ft.	171	

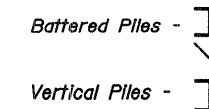
**PILE DATA**

Type: HP 12x53  
 Nominal Required Bearing: 360 kips  
 Factored Resistance Available: 180 kips  
 Est. Length: 29  
 No. Production Piles: 2  
 No. Test Piles: 1

Piles shall be driven through 18 inch diameter precored holes extending to elevation 691.00 feet according to article 512.09(c) of the standard specifications. All costs associated with precoring and backfilling shall be included in "Driving Piles".

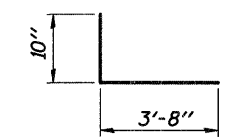
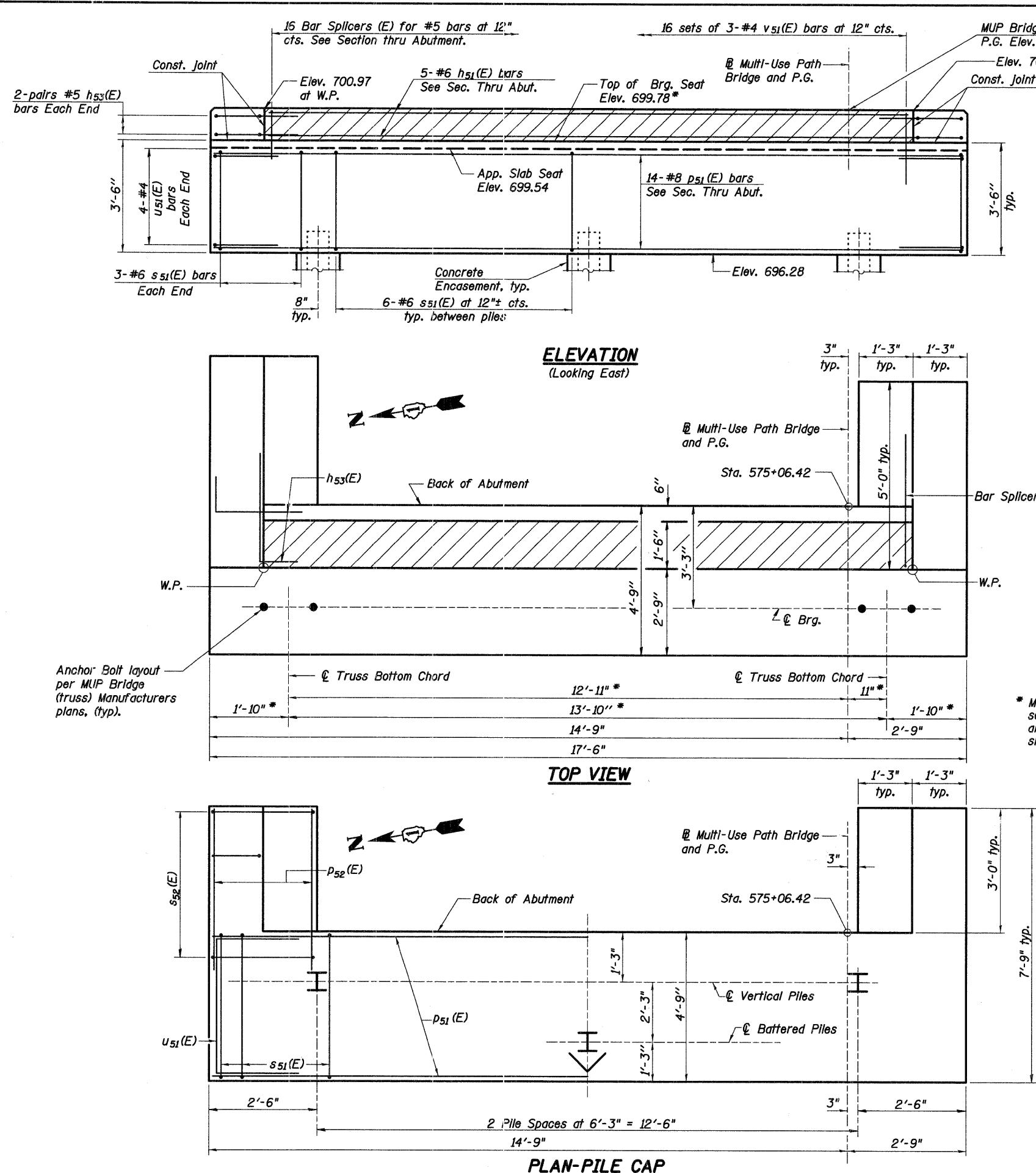
No piles shall be driven until a minimum of 30 days after the full height construction of the abutment embankment and construction berm.

The contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their nominal required bearing to prevent pile damage during driving.

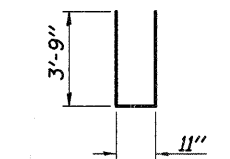


**Notes:**

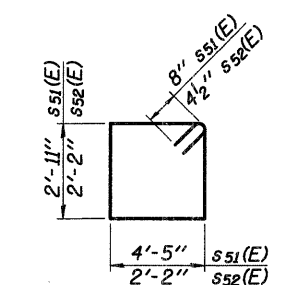
1. For details of Bar Splicers, see sheet S25 of S108.
2. For additional abutment details see sheet S73 of S108.
3. For bearing assembly and bearing assembly anchor bolt details see sheet S69 of S108.
4. Expansion Joint details per Pedestrian Truss design.
5. Space reinforcement in pile cap to miss anchor bolts.
6. Hatched area to be poured after superstructure false work has been removed.
7. For details of piles and concrete encasement see sheet S52 of S108.
8. Concrete Sealer shall be applied to the surface of the backwall, bearing seat, and pile cap front face.



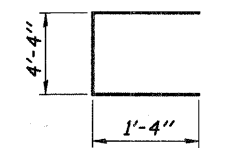
**BAR  $h_{53}(E)$**



**BAR  $n_{51}(E)$**



**BARS  $s_{51}(E)$  &  $s_{52}(E)$**



**BAR  $u_{51}(E)$**

REVISIONS	
NAME	DATE

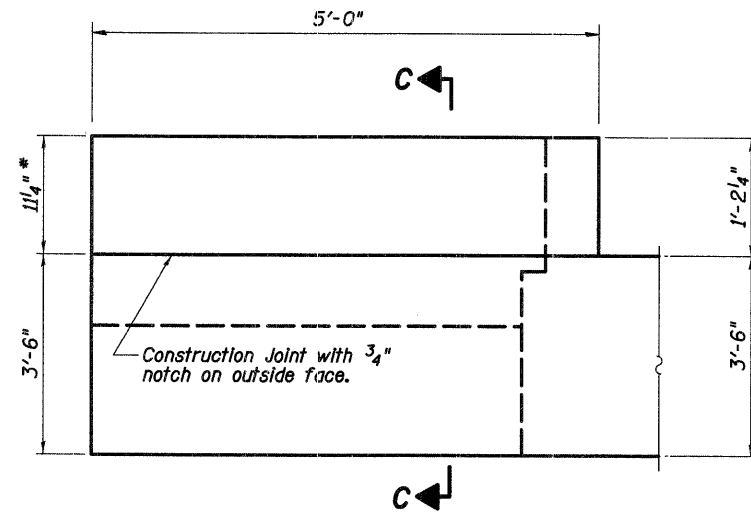
**Baker**  
 Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE - EAST ABUTMENT I**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164 PUBLIC WORKS  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

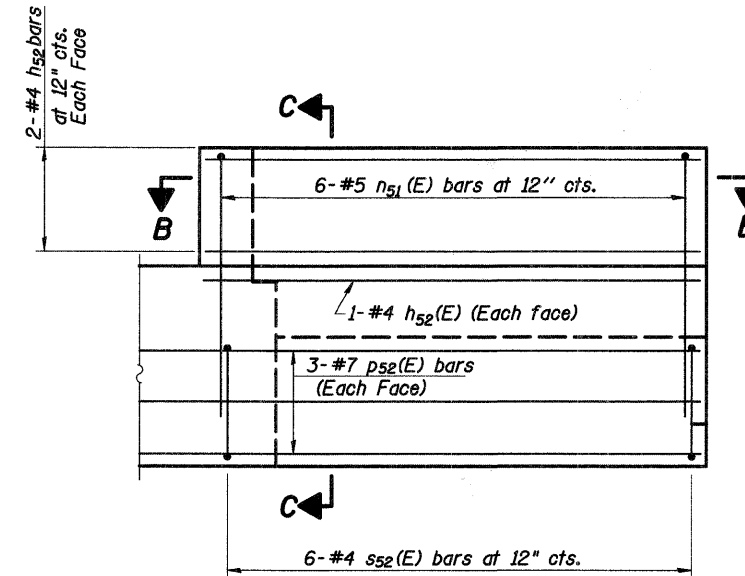
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 1/15/2009

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	178
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S73 OF S108				

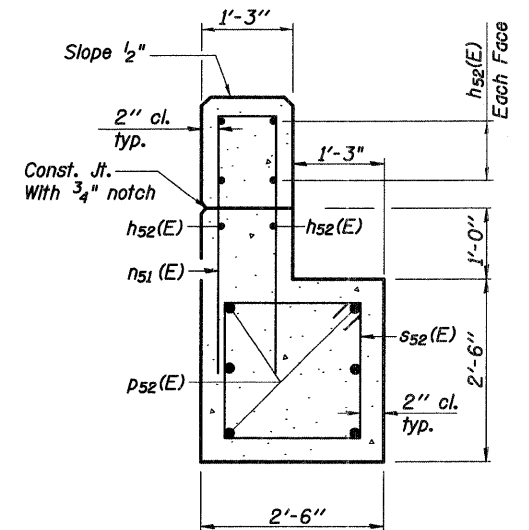
\* May vary per Truss manufacturer's design, see "MUP Bridge Truss Bearing" detail on sheet S69 of S108



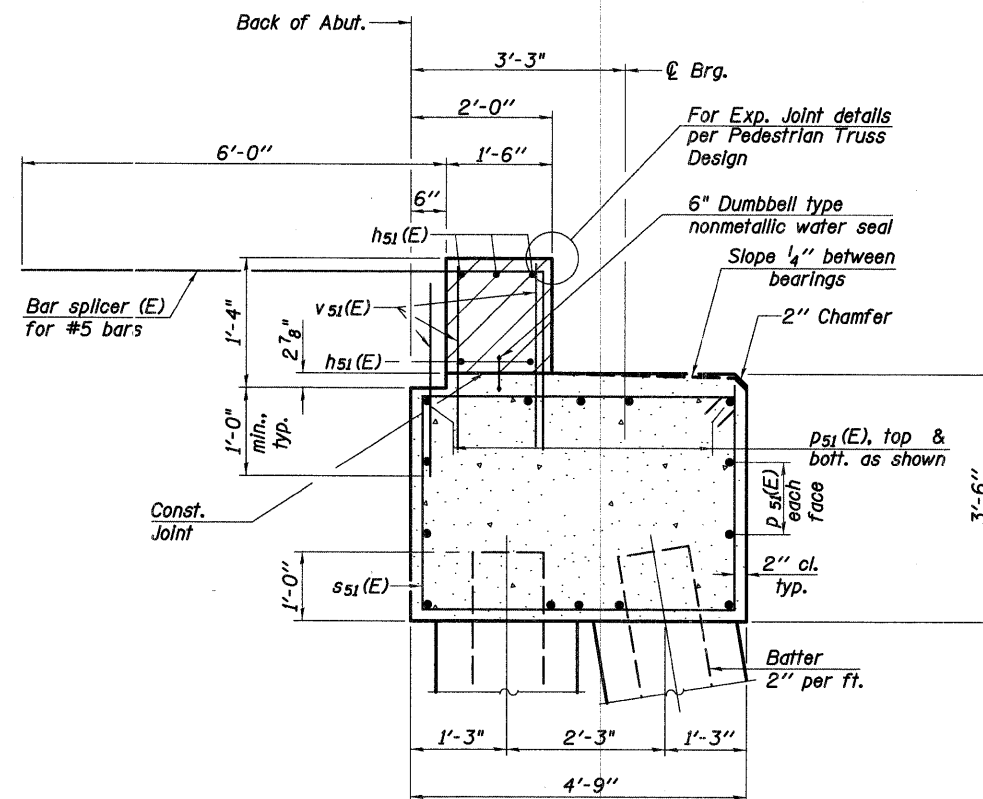
**WING WALL ELEVATION**  
Showing Dimensions  
(Typ. of both wingwalls)



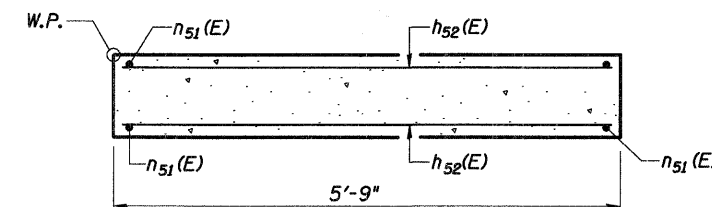
**WING WALL ELEVATION**  
Showing Reinforcement  
(Typ. of both wingwalls)



**SECTION C-C**



**SEC. THRU ABUT.**



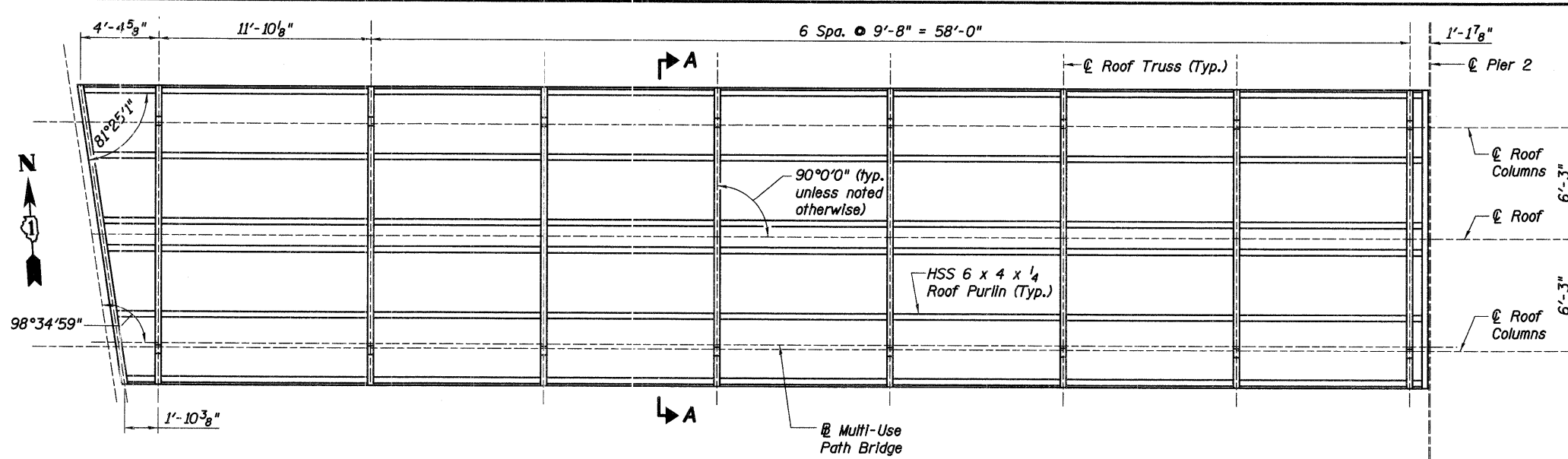
**SECTION B-B**

REVISIONS	
NAME	DATE

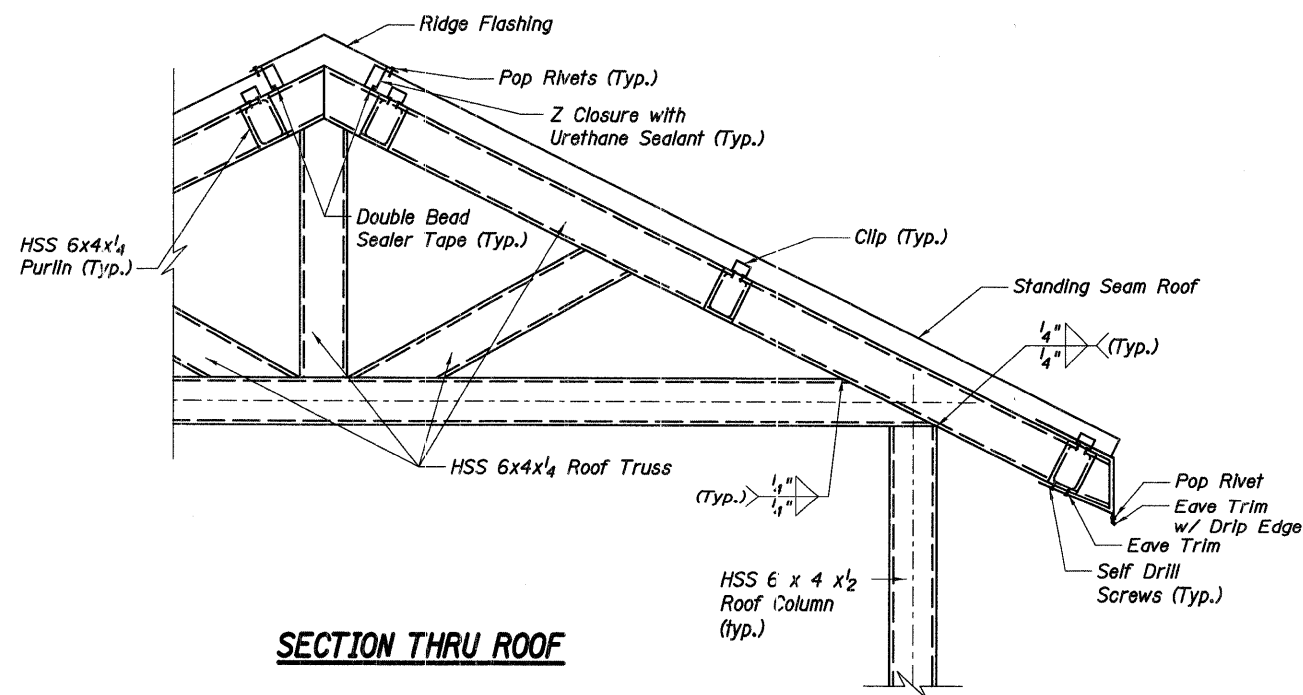
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -**  
**EAST ABUTMENT II**  
MULTI-USE PATH BRIDGE PUBLIC  
OVER THE FOX RIVER WATERS  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DAP DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
Baker Engineering, Inc.

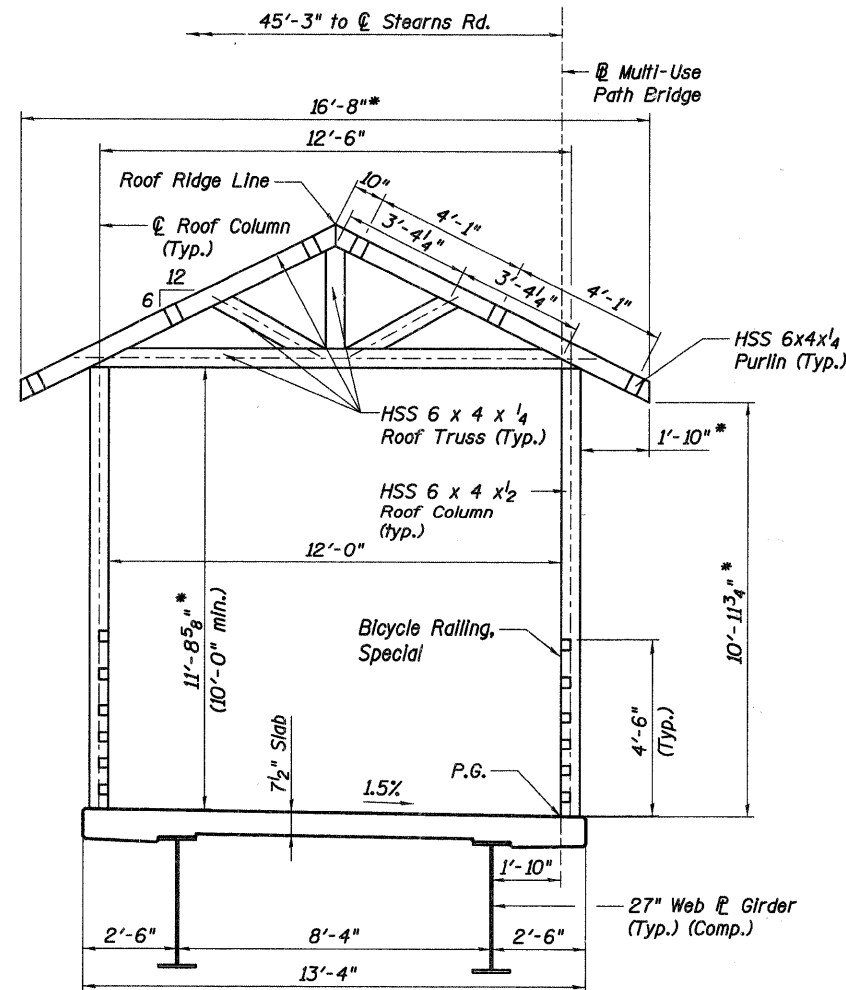
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	179
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S74 OF S108				



**SPAN 1 ROOF FRAMING PLAN**



**SECTION THRU ROOF**



**SECTION A-A**  
(Multi-use Path Bridge Span 1)

**Notes:**

- Dimensions shown for the roof purlin spacing are based on a particular manufactured standing seam roof panel. Actual spacing of purlins may vary subject to approval of the engineer. Contractor to verify and adjust structure elements as required. Cost is included with "Roofing System".
- Roof Ridge lines and widths shall be continuous across all MUP Bridge spans.

\* Dimensions are based on a particular Pre-Fabricated Truss manufacturer's design.

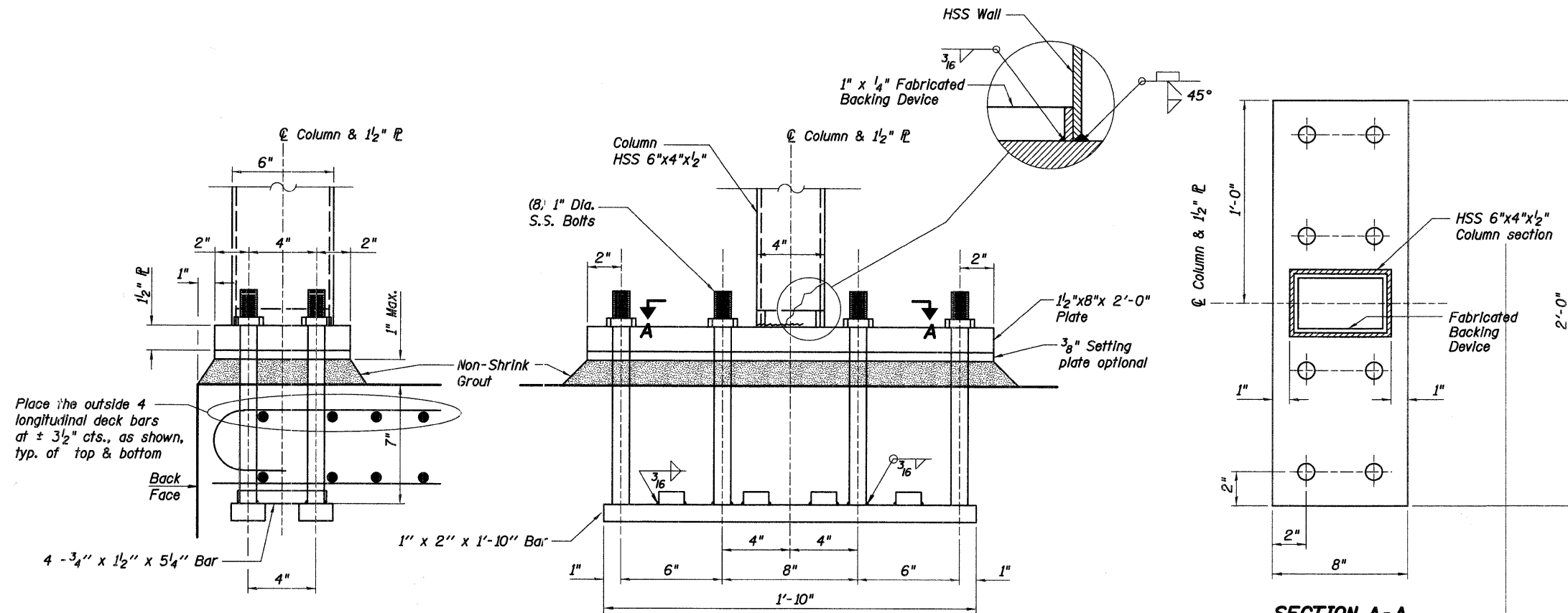
REVISIONS	
NAME	DATE

**Baker**

Baker Engineering, Inc.

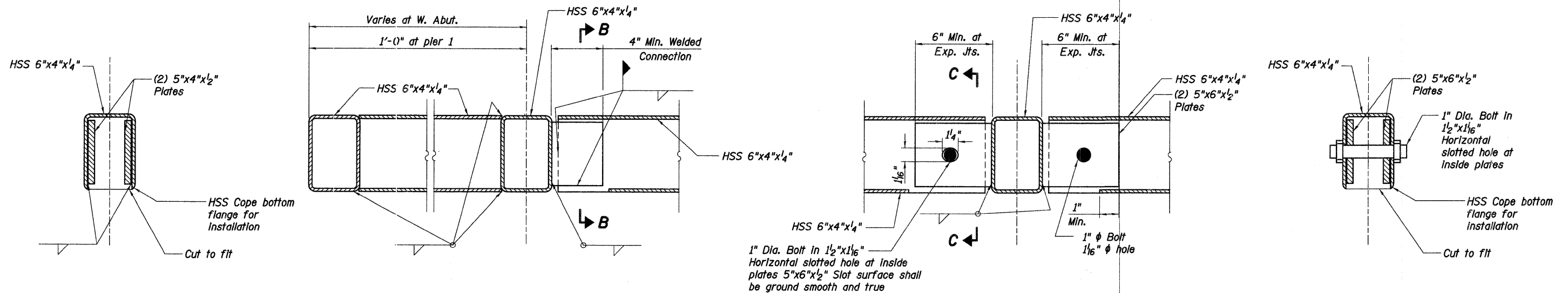
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -**  
**SPAN 1 ROOF FRAMING PLAN**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71  
 DATE: JANUARY 16, 2009  
 DESIGNED: DFM  
 CHECKED: KPZ  
 PUBLIC WATERS  
 DRAWN: SCW  
 CHECKED: KPZ

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	180
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. 575 OF 5108				



**ANCHOR BOLT DETAIL**

**SECTION A-A**



**SECTION B-B**

**WELDED CONNECTION AT CANTILEVER**

**BOLTED CONNECTION**

**SECTION C-C**

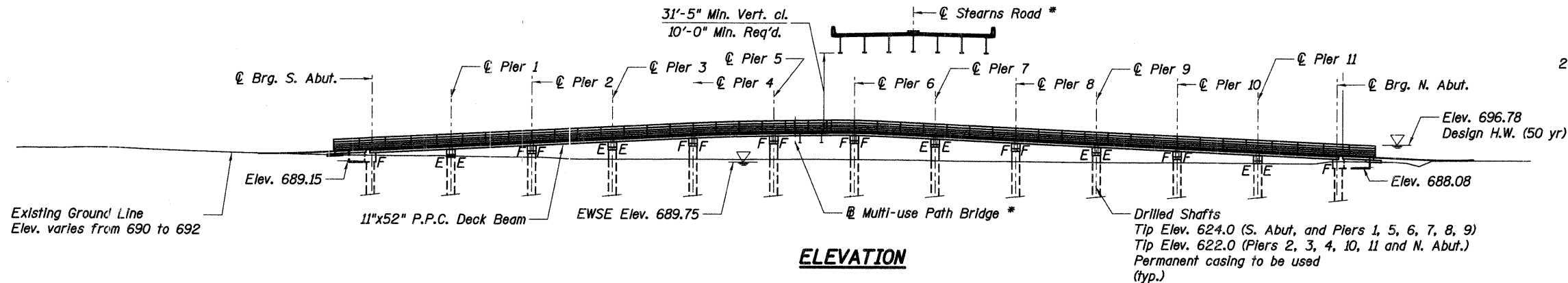
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP BRIDGE -**  
**SPAN 1 ROOF DETAILS**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
 Baker Engineering, Inc.



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	181
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. 576 OF 5108		



**ELEVATION**

**DESIGN SPECIFICATIONS**  
2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

**MULTI-USE PATH BRIDGE LOADING**  
85#/sq. ft Pedestrian Load  
H-10 Vehicle Loading

**DESIGN STRESSES**  
FIELD UNITS

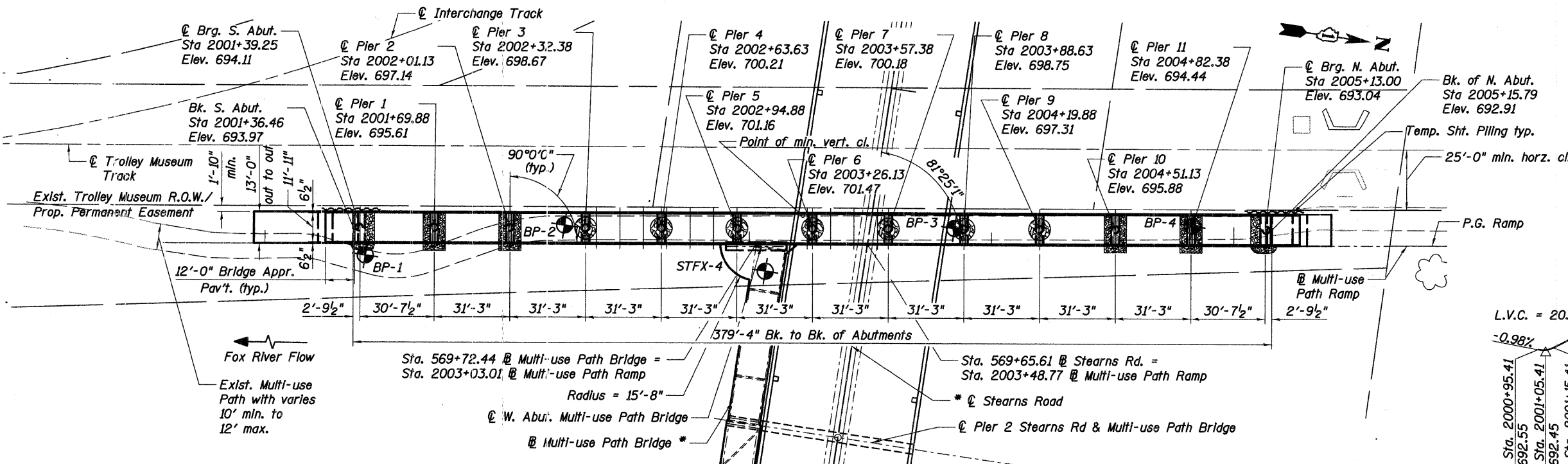
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**  
 $f'_c = 5,000$  psi (P.P.C. Deck Beams)  
 $f'_c = 6,000$  psi (P.P.C. Deck Beams)

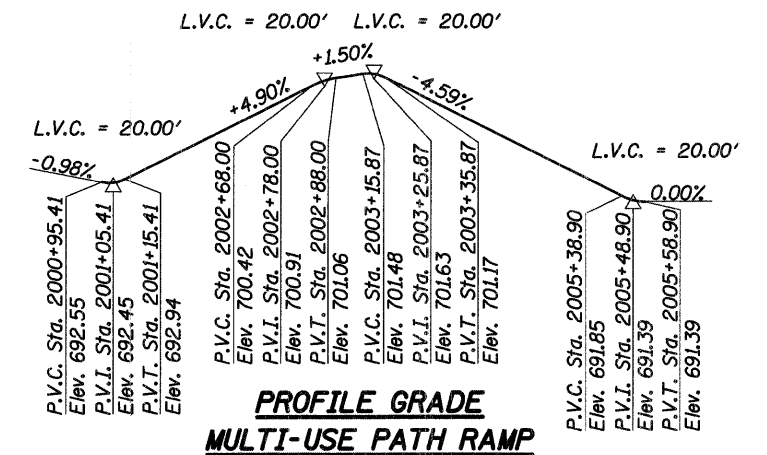
**SEISMIC DATA**  
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec (SD1) = 0.084g  
Design Spectral Acceleration at 0.2 sec (SDS) = 0.152g  
Soil Site Class = D

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	Pier 9	Pier 10	Pier 11	N. Abut.
	686.04	685.87	685.50	684.87	684.97	685.05	685.04	684.76	684.57	684.32	684.34	684.19	684.98



**PLAN**



**PROFILE GRADE MULTI-USE PATH RAMP**

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 LRFD Bridge Design Specifications".



*Kenton P. Zinn*  
Expires: 11/10

Denotes Soil Boring

\* See sheet S1 of S108 for the General Plan and Elevation of Stearns Road Bridge and the Multi-use Path Bridge

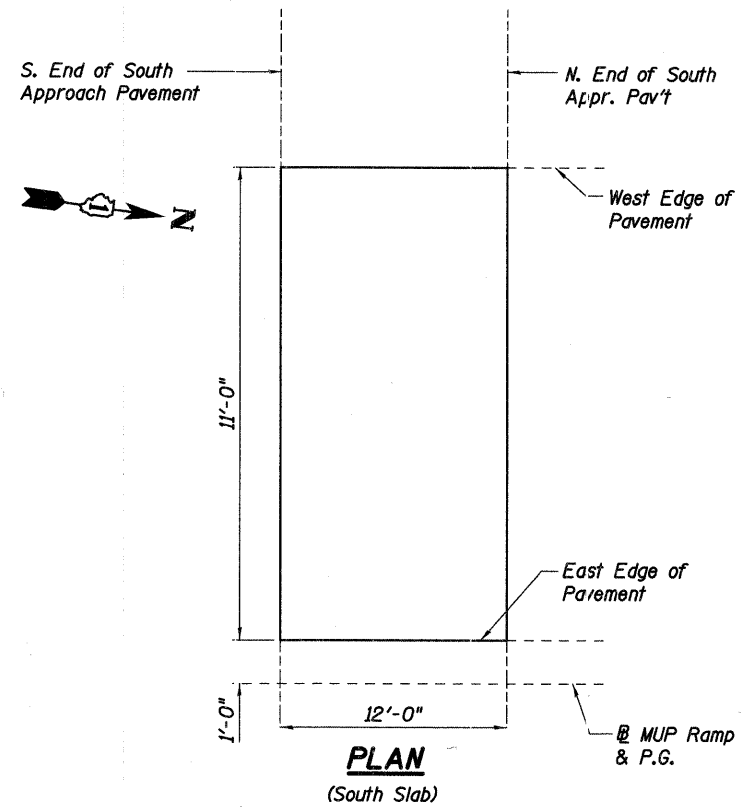


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP - GENERAL PLAN AND ELEVATION**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3164  
PUBLIC WATERS  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71  
DESIGNED: DFM DRAWN: DFM  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

H:\1005\3.0 Phase II deliverables\3.3 structure\Drawings\Final\045-3164 MUP Ramp G\_P&E.dgn 2/26/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	182
STA. 511+80.00 TO STA. 609+14.92				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. 577 OF 5108				



**SOUTH APPROACH**

**WEST EDGE OF PAVEMENT**

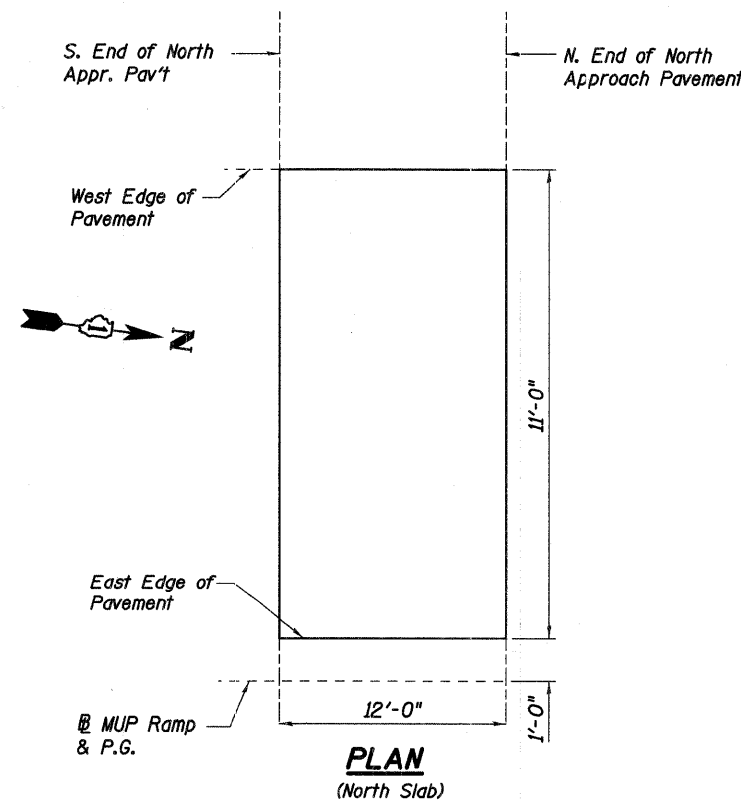
Location	Station	Offset (ft)	Theoretical Grade Elevations
S. End South Appr. Pav't.	2001+24.96	12.00	693.59
N. End South Appr. Pav't.	2001+36.96	12.00	694.18

**P.G.**

Location	Station	Offset (ft)	Theoretical Grade Elevations
S. End South Appr. Pav't.	2001+24.96	0.00	693.41
N. End South Appr. Pav't.	2001+36.96	0.00	694.00

**EAST EDGE OF PAVEMENT**

Location	Station	Offset (ft)	Theoretical Grade Elevations
S. End South Appr. Pav't.	2001+24.96	1.00	693.43
N. End South Appr. Pav't.	2001+36.96	1.00	694.01



**NORTH APPROACH**

**WEST EDGE OF PAVEMENT**

Location	Station	Offset (ft)	Theoretical Grade Elevations
S. End North Appr. Pav't.	2005+15.29	12.00	693.11
N. End North Appr. Pav't.	2005+27.29	12.00	692.56

**P.G.**

Location	Station	Offset (ft)	Theoretical Grade Elevations
S. End North Appr. Pav't.	2005+15.29	0.00	692.93
N. End North Appr. Pav't.	2005+27.29	0.00	692.38

**EAST EDGE OF PAVEMENT**

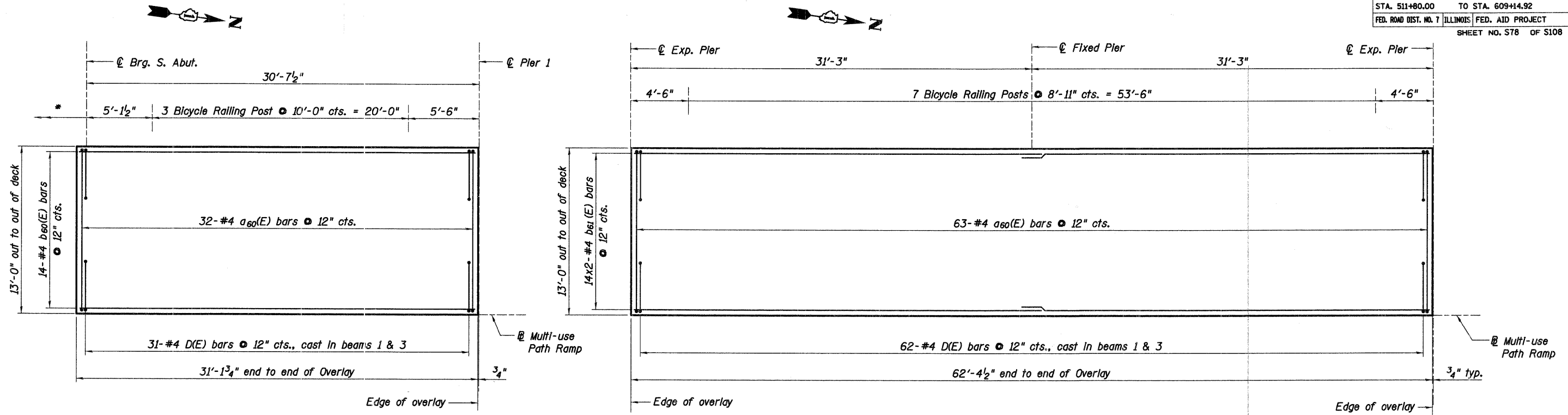
Location	Station	Offset (ft)	Theoretical Grade Elevations
S. End North Appr. Pav't.	2005+15.29	1.00	692.95
N. End North Appr. Pav't.	2005+27.29	1.00	692.40

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP - TOP OF APPROACH SLAB ELEVATIONS**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



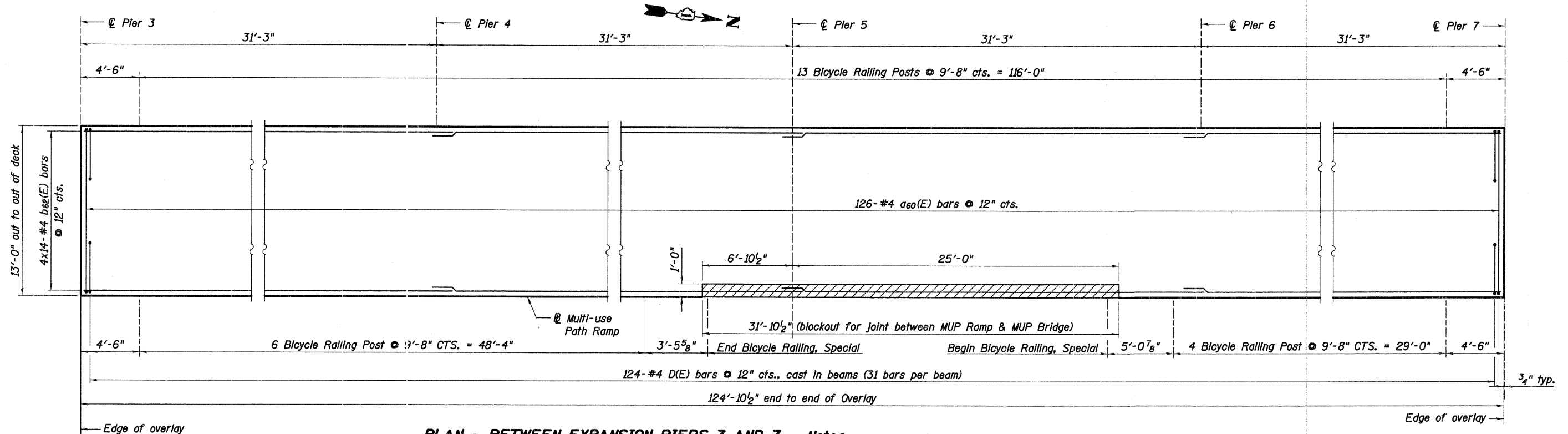
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	183
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. 578 OF 5108				



**PLAN - TYPICAL END SPAN**  
(Span 1 shown Span 12 opposite hand)

\* Post Spacing extends onto Bridge Approach

**PLAN - TYPICAL SECTION BETWEEN EXPANSION PIERS**  
(3 sections required as shown spans 2&3, 8&9, 10&11)



**PLAN - BETWEEN EXPANSION PIERS 3 AND 7**

**Notes:**

- #4 D(E) Bars are to be cast with Beams. See sheet S80 of S108 for Details. Cost is Included with Precast Prestressed Concrete Deck Beams (11" Depth).
- Bars Indicated thus 14x2-#4 etc. Indicates 14 lines of bars with 2 lengths per line.
- See sheet S81 of S108 for Bicycle Railing, Special Details

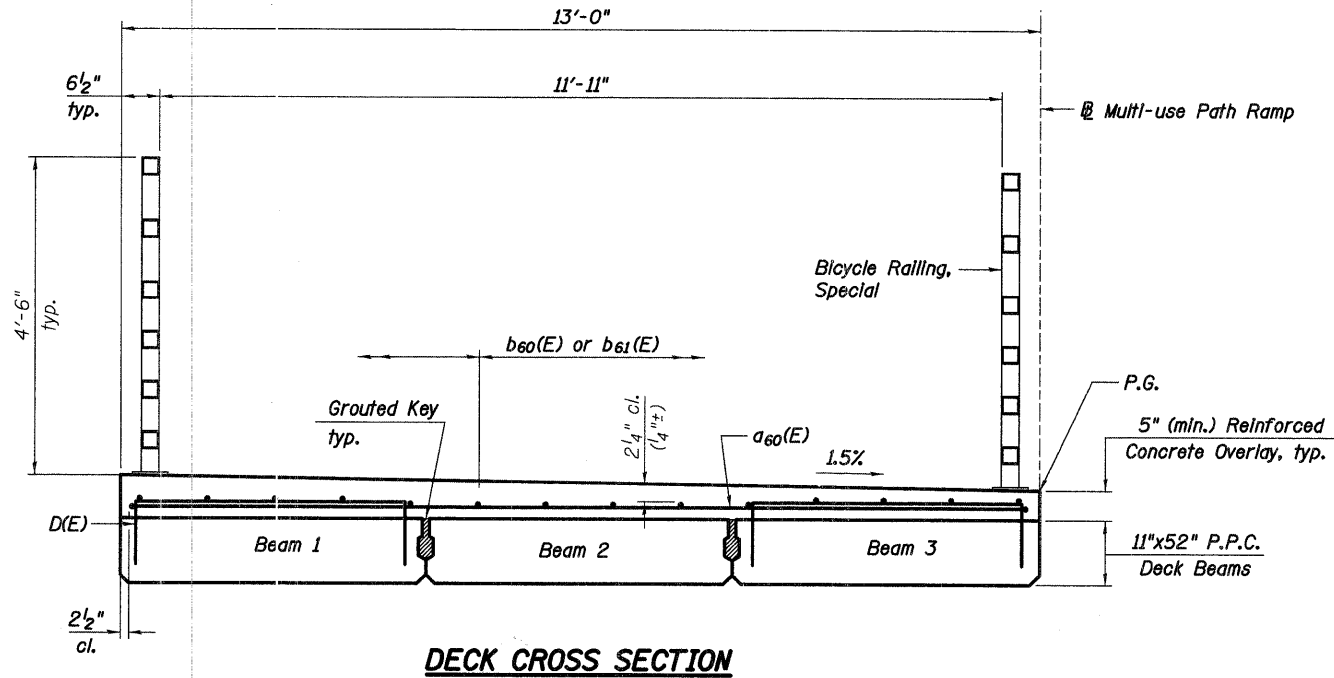


REVISIONS	
NAME	DATE

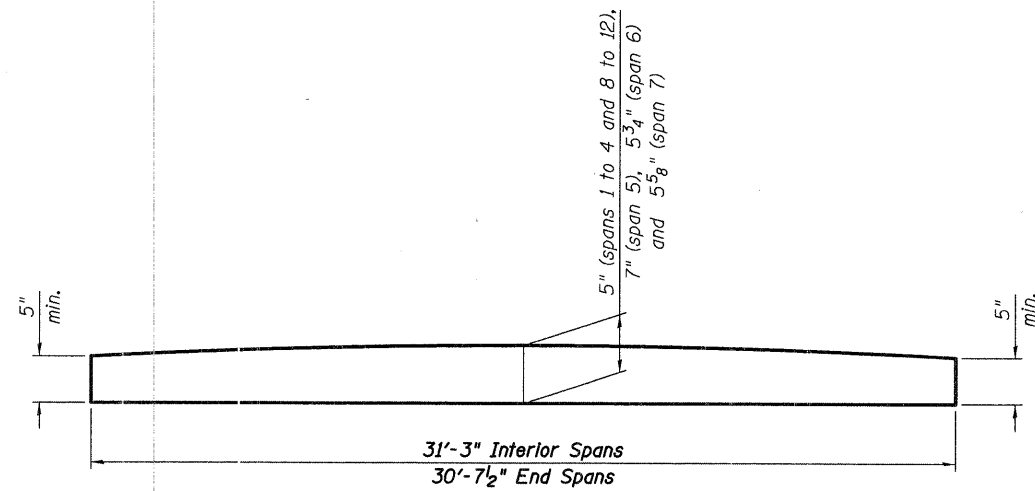
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP - DECK PLAN**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

h:\13005\3.0 phase II deliverables\3.3 structure\drawings\Final\045-3164 MUP Ramp Deck.dgn  
 1/15/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	184
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S79 OF S108				



**DECK CROSS SECTION**

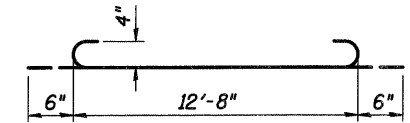


**REINFORCED CONCRETE WEARING SURFACE PROFILE**

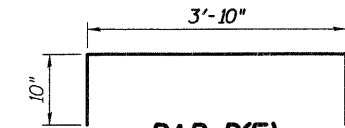
(Propose along @ of Multi-use Path Ramp)

**MUP RAMP -  
SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a <sub>60</sub> (E)	379	# 4	13'-8"	
b <sub>60</sub> (E)	28	# 4	30'-10"	—
b <sub>61</sub> (E)	84	# 4	31'-10"	—
b <sub>62</sub> (E)	56	# 4	32'-5"	—
Reinforcement Bars, Epoxy Coated			Pound	7,040
Concrete Wearing Surface, 5"			Sq Yd	543



**BAR a<sub>60</sub>(E)**



**BAR D(E)**

(For Information only)

**Minimum Bar Lap**

#4 bars = 1'-8"

**Notes:**

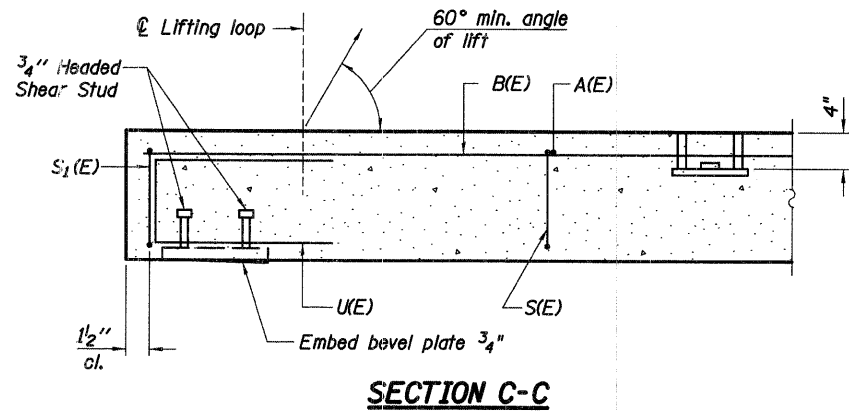
- #4 D(E) Bars are to be cast with Beams. See sheet S80 of S108 for Details. Cost is included with Precast Prestressed Concrete Deck Beams (11" Depth).
- See sheet S81 of S108 for Bicycle Railing Special Details.
- The top surface of the concrete wearing surface shall be finished according to Article 424.06 of the Standard Specifications, except the surface shall not be divided by grooves.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP -  
DECK CROSS SECTION**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

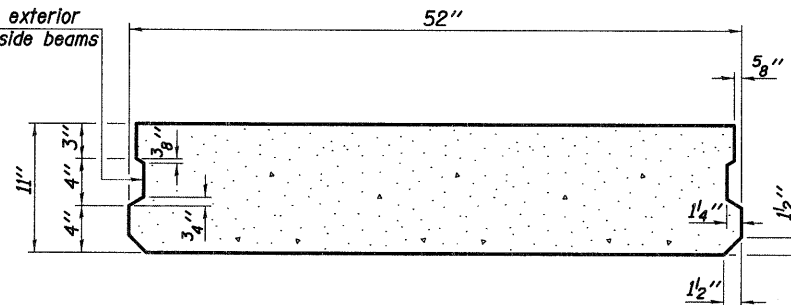


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	185
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S80 OF S108		

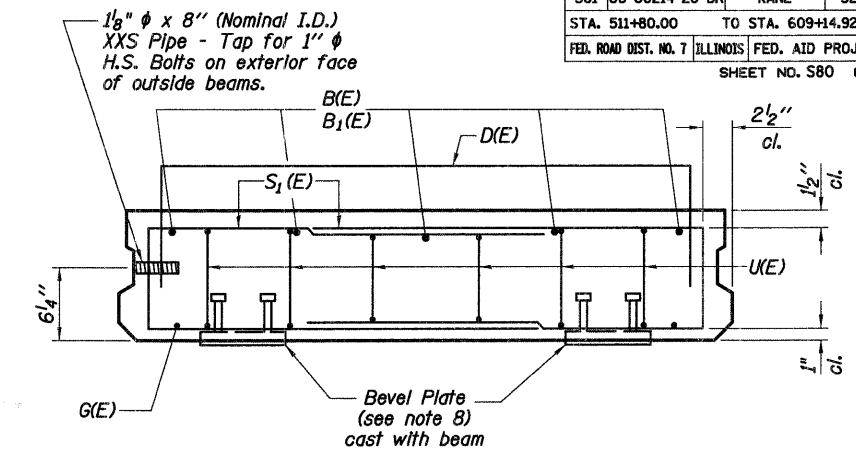


**SECTION C-C**

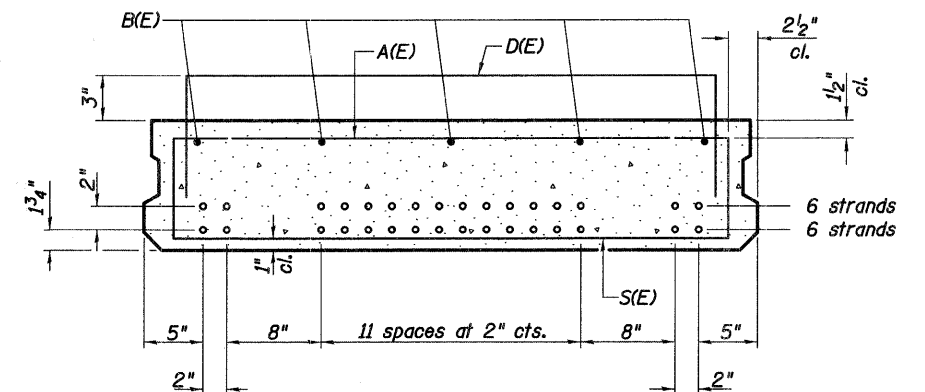
Omit key on exterior face of outside beams



**SECTION A-A**  
(Showing dimensions)

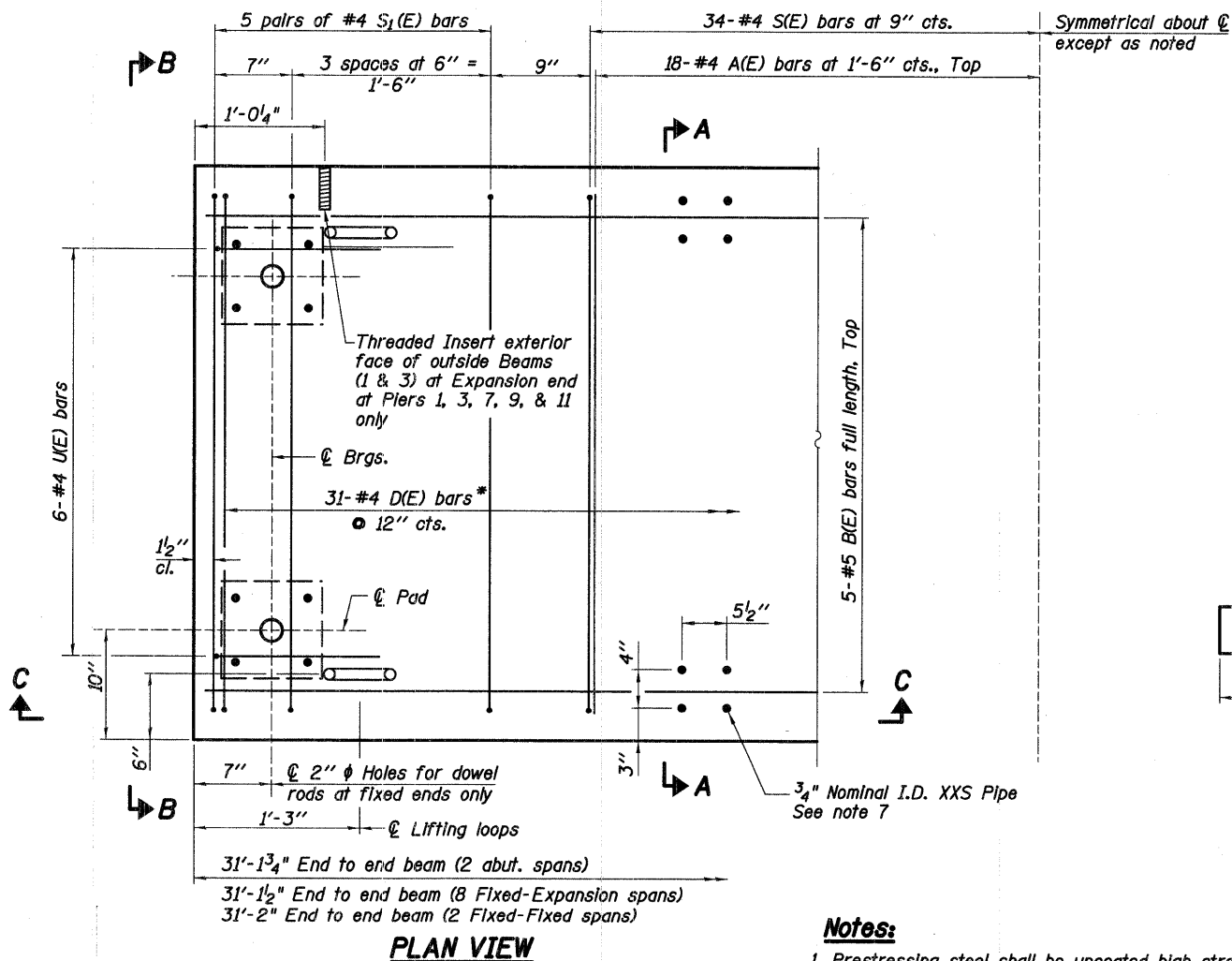


**VIEW B-B**



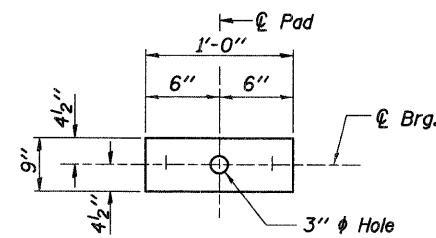
**SECTION A-A**

(Showing reinforcement and permissible strand locations)  
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



**PLAN VIEW**

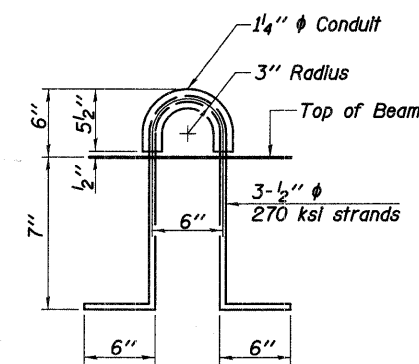
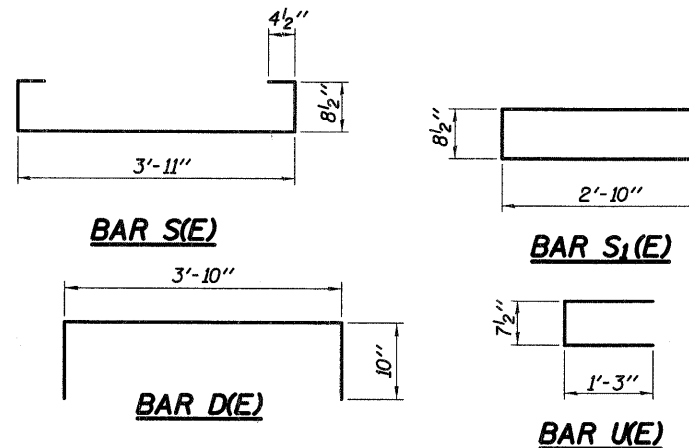
\* Only present in beams 1 & 3



**FABRIC BEARING PAD**

**FIXED**

Note: Omit holes when using expansion bearings.



**LIFTING LOOP DETAIL**

**BAR LIST**  
**ONE BEAM ONLY**  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	18	#4	3'-11"	—
B(E)	5	#5	30'-10"	—
D(E)*	31	#5	5'-6"	□
S(E)	34	#4	6'-1"	□
S1(E)	20	#4	6'-5"	□
U(E)	12	#4	3'-2"	□

\* Only present in beams 1 & 3

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (11" depth)	Sq. Ft.	4,885
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**Notes:**

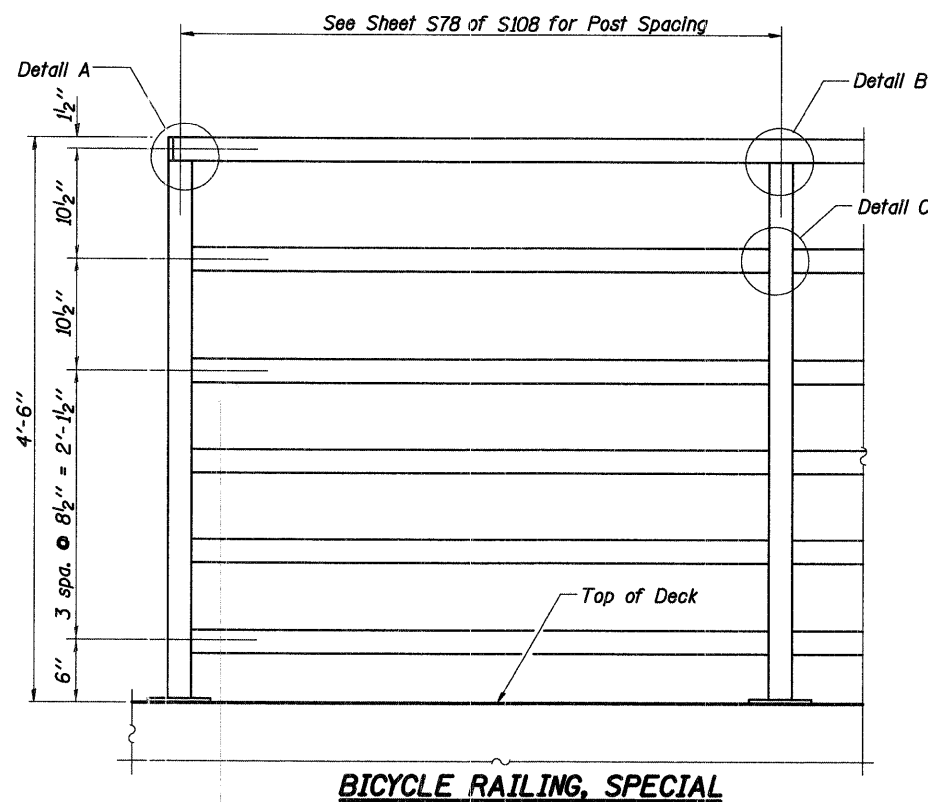
1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
2. Reinforcement Bars shall conform to ASTM A 706, Grade 60. See special provisions.
3. Two 1/8" fabric adjusting shims of the dimensions of the bearing pad shall be provided for each bearing pad location. Cost of fabric bearing pads and Dowel Bars shall be included in Precast deck beams.
4. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
5. 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.
6. Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
7. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
8. See Sheet S81 of S108 for Bicycle Rolling Anchor Details and Spacing.
9. See Sheet S82 of S108 Bevel Plate Details.

REVISIONS	
NAME	DATE

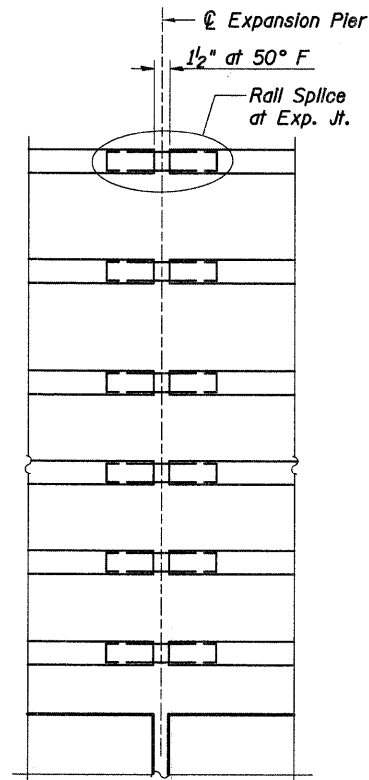
**Baker**  
Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP -**  
**11" X 52" P.P.C. DECK BEAM**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

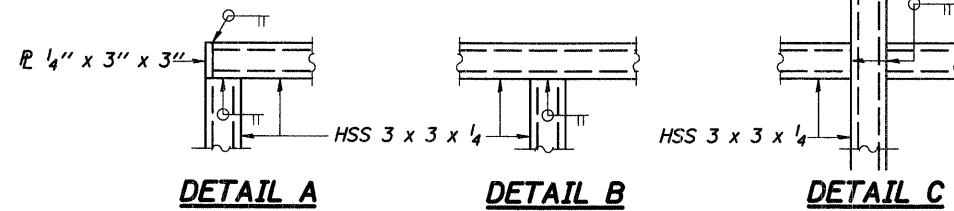
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	186
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
				SHEET NO. S81 OF S108



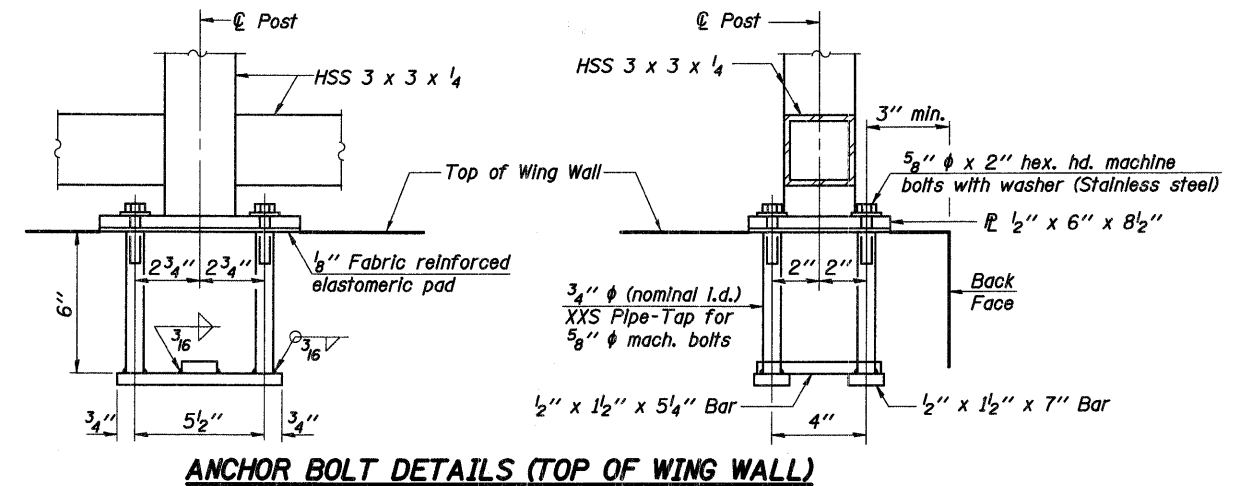
**BICYCLE RAILING, SPECIAL**



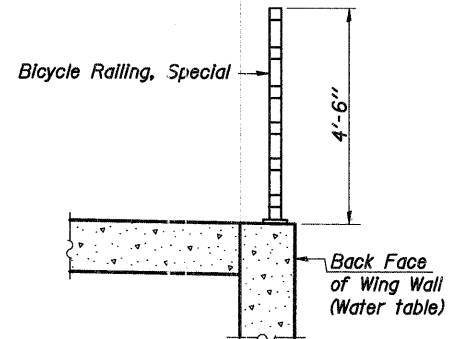
**BICYCLE RAILING, SPECIAL AT EXPANSION PIER**



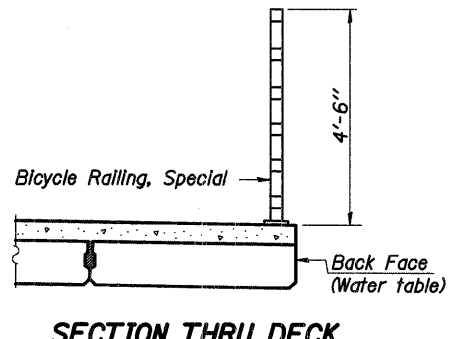
The finish coat for all post, railing, splices, anchor devices, and bent plates shall be Federal Standard 595B, color #14062; submit paint chips to the Engineer for approval prior to ordering any finish coat material. The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting



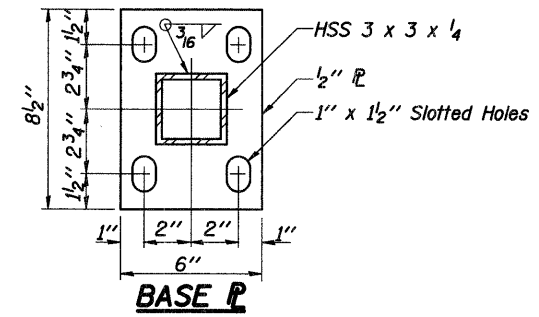
**ANCHOR BOLT DETAILS (TOP OF WING WALL)**



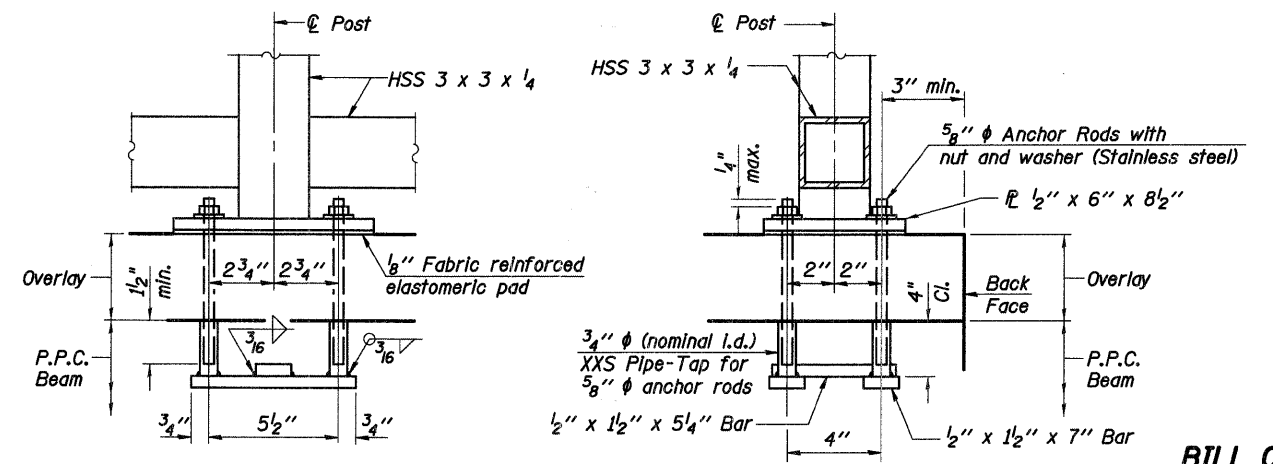
**SECTION THRU WING WALL**



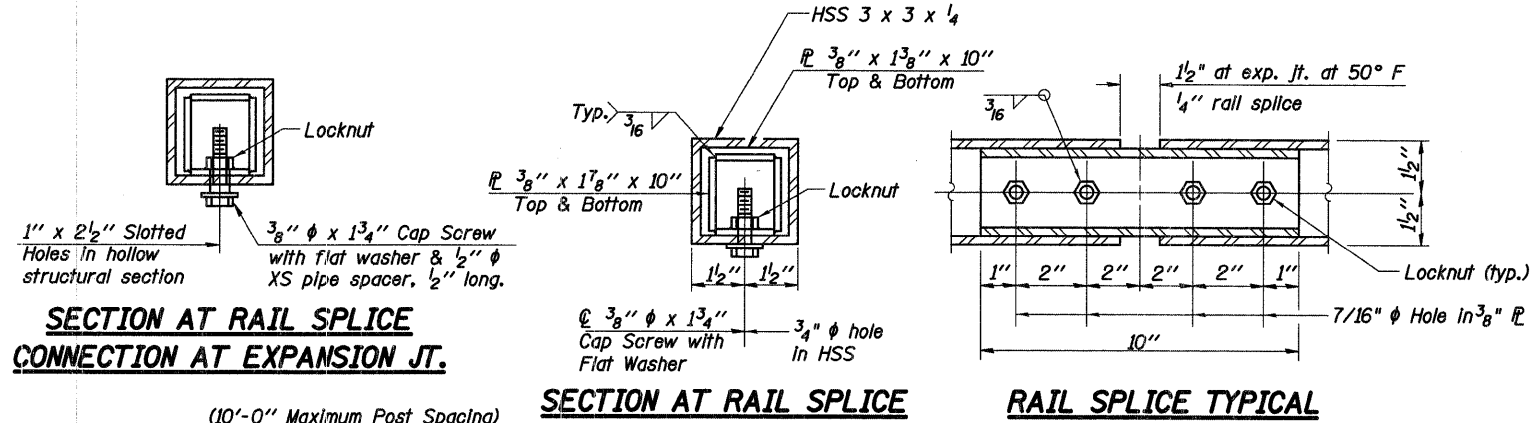
**SECTION THRU DECK**



**BASE PLATE**



**ANCHOR BOLT DETAILS (P.P.C. DECK BEAMS)**



**SECTION AT RAIL SPLICE CONNECTION AT EXPANSION JT.**

**SECTION AT RAIL SPLICE**

**RAIL SPLICE TYPICAL**

**BILL OF MATERIAL**

Item	Unit	Quantity
Bicycle Railing, Special	Foot	776

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

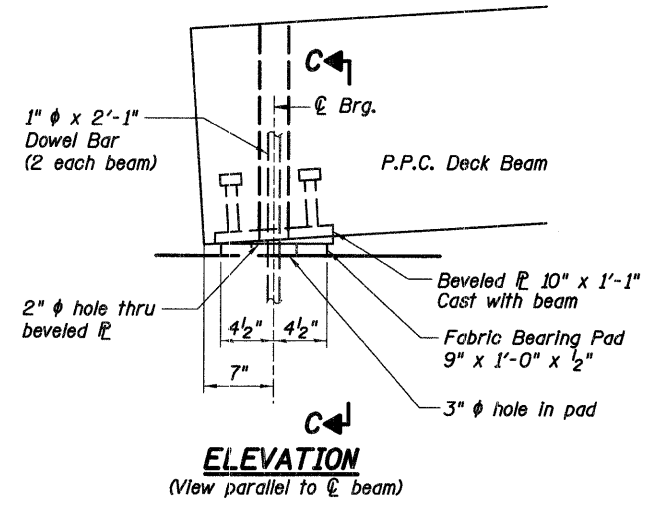


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP - BICYCLE RAILING, SPECIAL**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

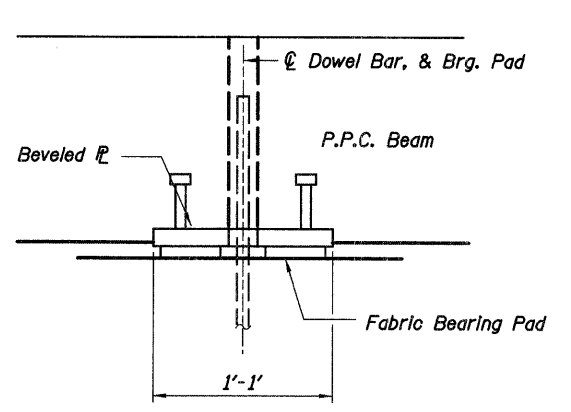
h:\13005\3.0 phase II deliverables\3.3 structure\drawings\Final\045-3164 MUP Ramp BicycleRailing.dgn 1/15/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	187
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		SHEET NO. S82 OF S108		



**ELEVATION**  
(View parallel to  $\bar{C}$  beam)

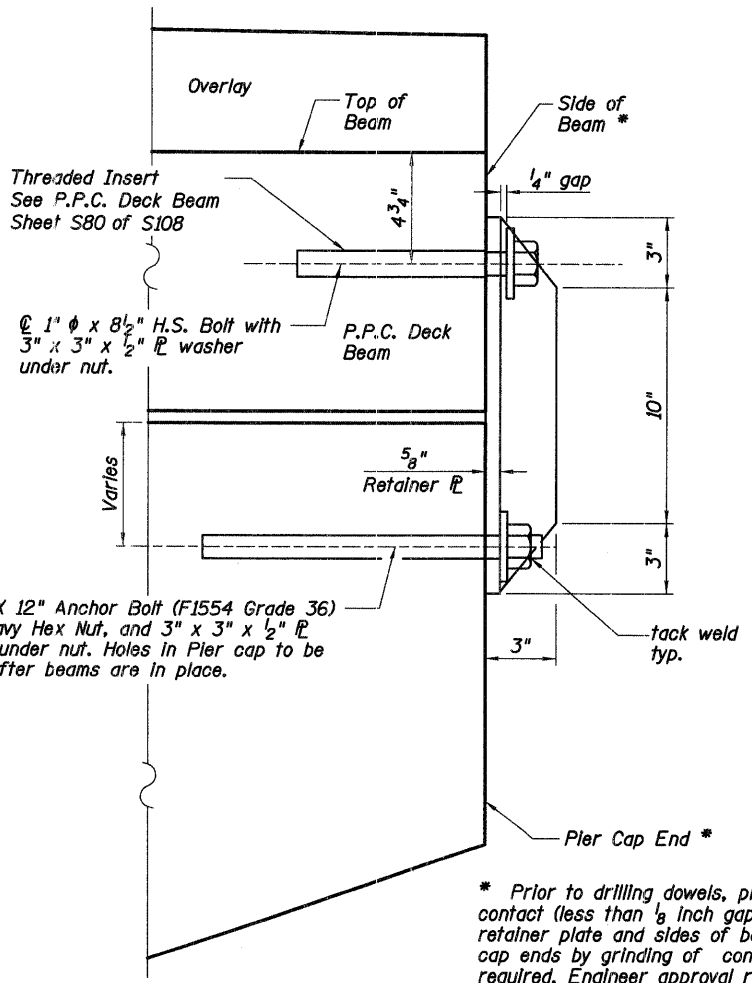
Note: Omit holes and dowel bar when used at expansion joints.



**SECTION C-C**  
(2 at each beam end)

**FABRIC BEARING PAD**

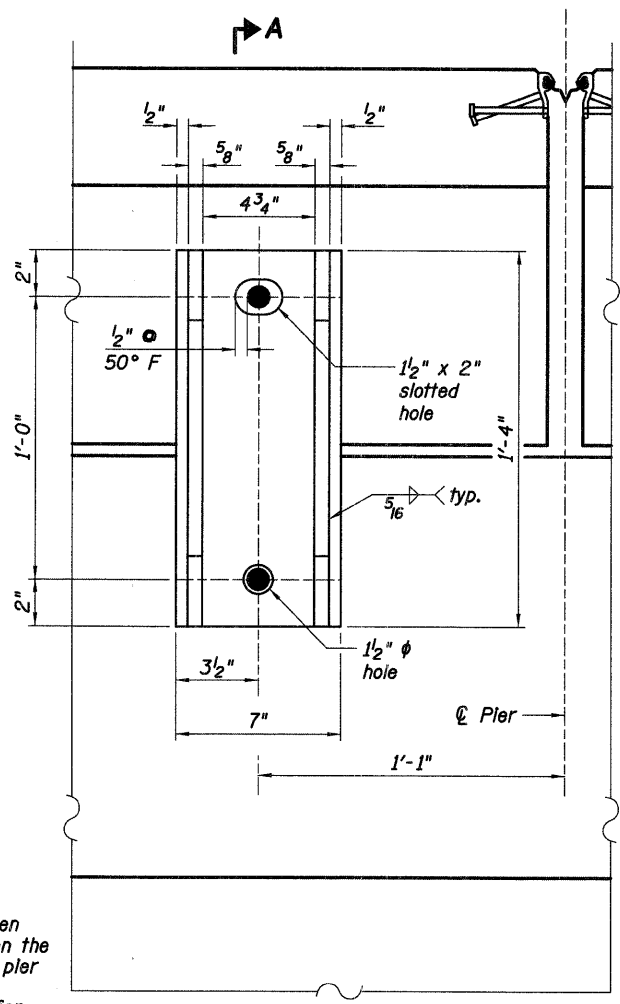
(N. Abut., S. Abut., Fixed Piers 2, 4, 5, 6, 8, 10; 84 required)  
(Expansion Piers 1, 3, 7, 9, 11; 60 required)



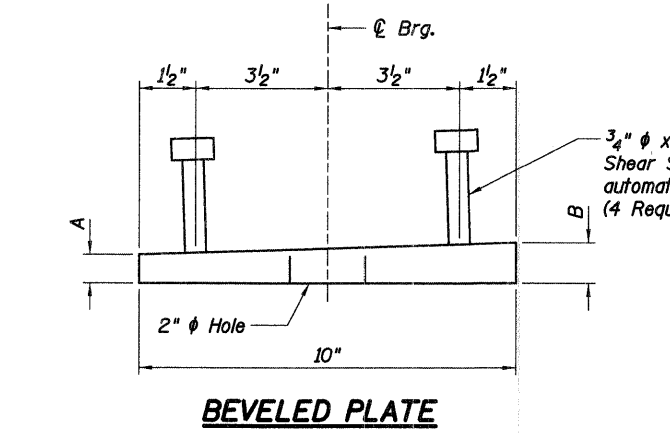
**SECTION A-A**

**SIDE RETAINER**

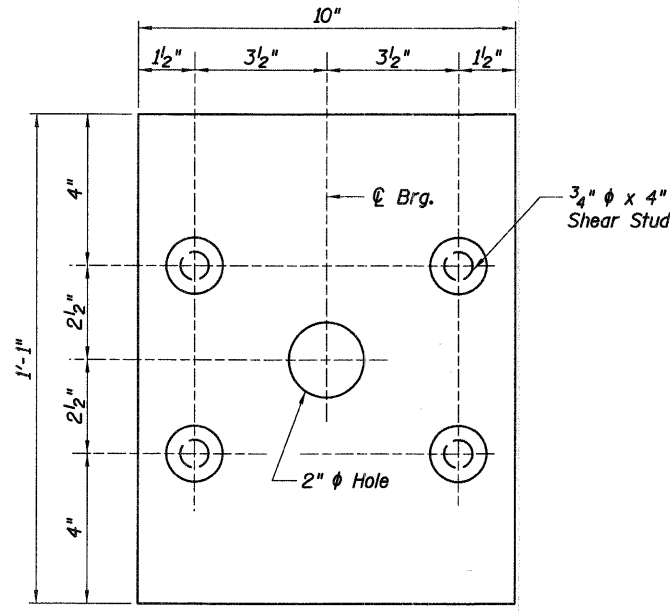
(Piers 1, 3, 7, 9, 11)  
(20 required)



**ELEVATION**



**BEVELED PLATE**



**BEVELED PLATE**  
(Showing studs)

**Notes:**

- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Dowel bars at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Side retainers, beveled plates, shear studs, fabric bearing pads, dowel bars and associated members shall be included in the cost of Precast Concrete Deck Beams.

BEVEL PLATE DIMENSIONS			
Support	Bearing Location	A (at South edge)	B (at North edge)
S Abut	-	3/4"	1 1/4"
Pier 1	South	3/4"	1 1/4"
	North	3/4"	1 1/4"
Pier 2	South	3/4"	1 1/4"
	North	3/4"	1 1/4"
Pier 3	South	3/4"	1 1/4"
	North	3/4"	1 1/4"
Pier 4	South	3/4"	1 1/4"
	North	3/4"	1 1/4"
Pier 5	South *	-	-
	North **	1"	1"
Pier 6	South **	1"	1"
	North *	-	-
Pier 7	South	1 3/16"	3/4"
	North	1 3/16"	3/4"
Pier 8	South	1 3/16"	3/4"
	North	1 3/16"	3/4"
Pier 9	South	1 3/16"	3/4"
	North	1 3/16"	3/4"
Pier 10	South	1 3/16"	3/4"
	North	1 3/16"	3/4"
Pier 11	South	1 3/16"	3/4"
	North	1 3/16"	3/4"
N Abut	-	1 3/16"	3/4"

\* No bevel plate provided at these locations.  
\*\* Plate with no bevel provided at these locations.

**BILL OF MATERIAL**

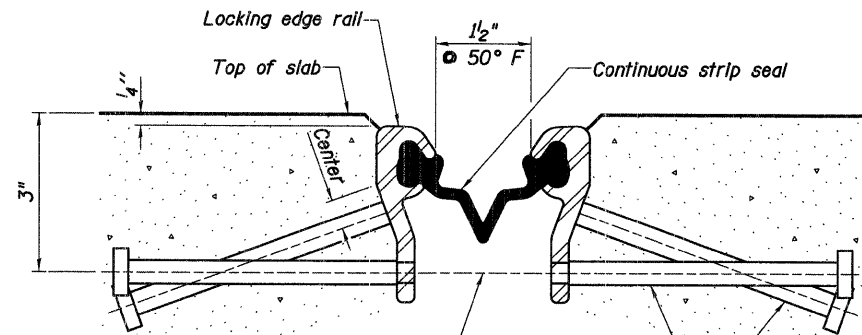
Item	Unit	Total
Anchor Bolts, 1"	Each	20

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP - BEARING DETAILS**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
Baker Engineering, Inc.

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	188
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S83 OF S108				

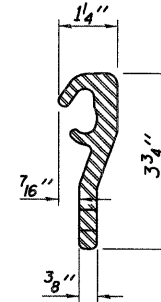


7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

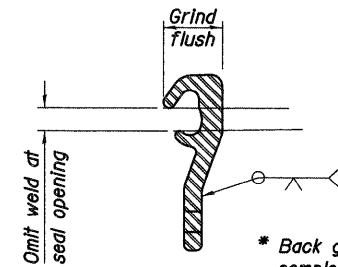
Place 1/2" φ x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded at 1'-0" alt. cts.

**SECTION THRU STRIP SEAL JOINT**

(Piers 1, 3, 7, 9, 11, & Intersection between MUP Ramp and MUP Bridge)



**LOCKING EDGE RAIL**



**LOCKING EDGE RAIL SPLICE**

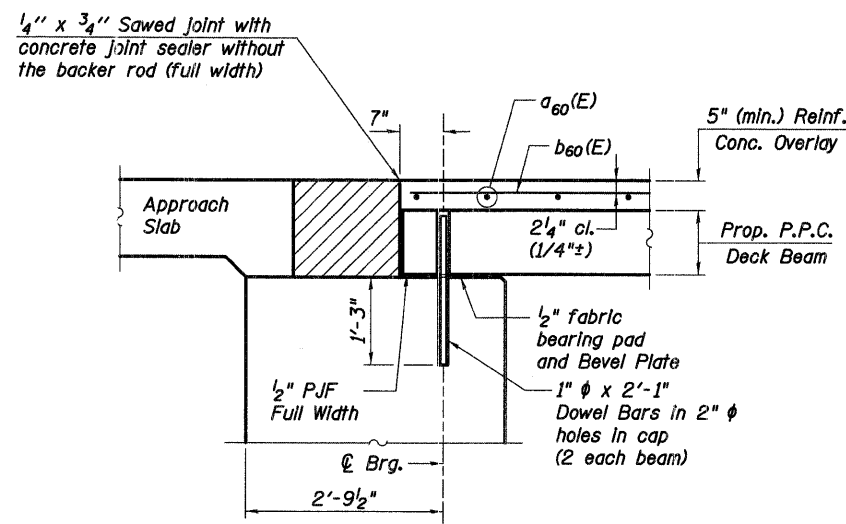
\* Back gouge not required if complete joint penetration is verified by mockup

**Notes:**

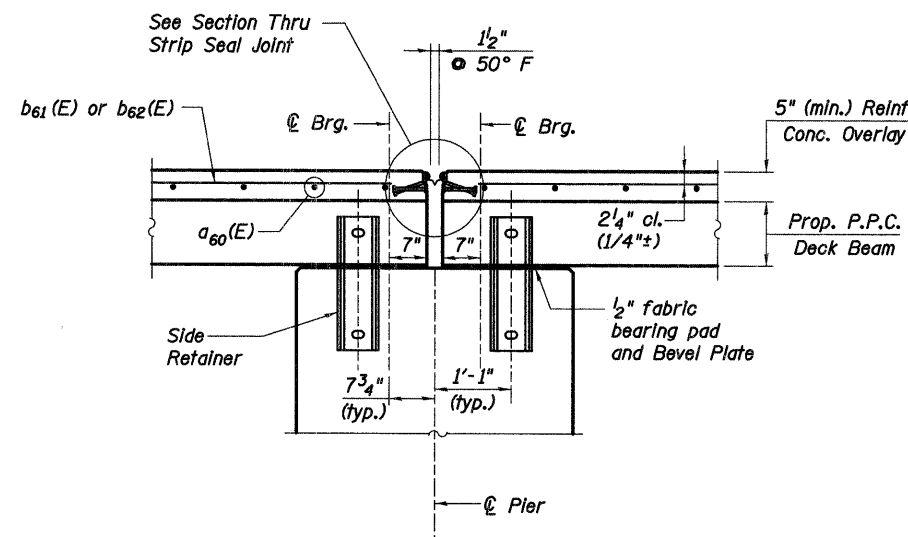
- The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
- The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.
- The manufacturer's recommended installation methods shall be followed.
- The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
- All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
- The inside of the locking edge rail groove shall be free of weld residue
- Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
- All horizontal dimensions are at right angles to beam ends.
- Hatched area to be poured after concrete wearing surface is in place.
- See sheet S82 of S108 for bearing pad, side retainer, bevel plate, and dowel bar details.

**BILL OF MATERIAL**

Preformed Joint Strip Seal	Foot	97
----------------------------	------	----

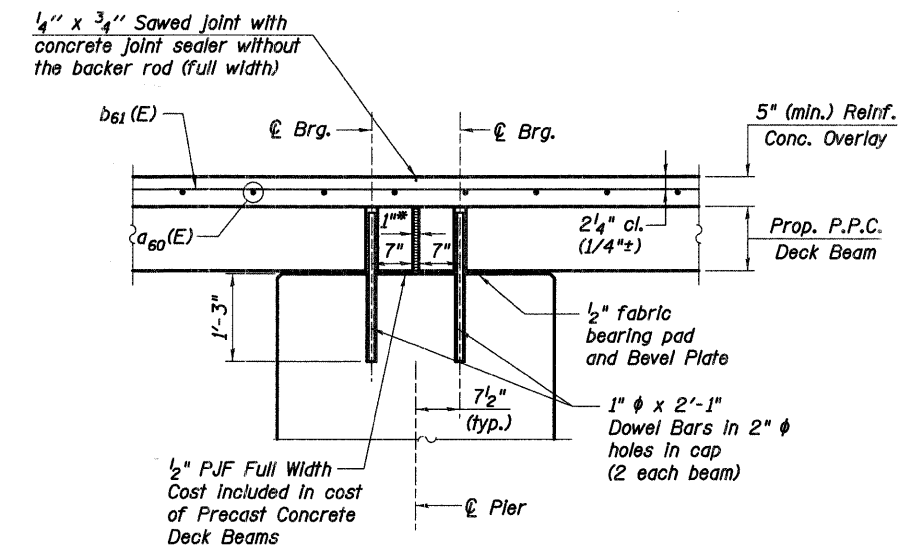


**SECTION THRU ABUTMENT**



**SECTION THRU EXPANSION PIER**

(Piers 1, 3, 7, 9, & 11)



**SECTION THRU FIXED PIER**

(Piers 2, 4, 5, 6, 8, & 10)

\*1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

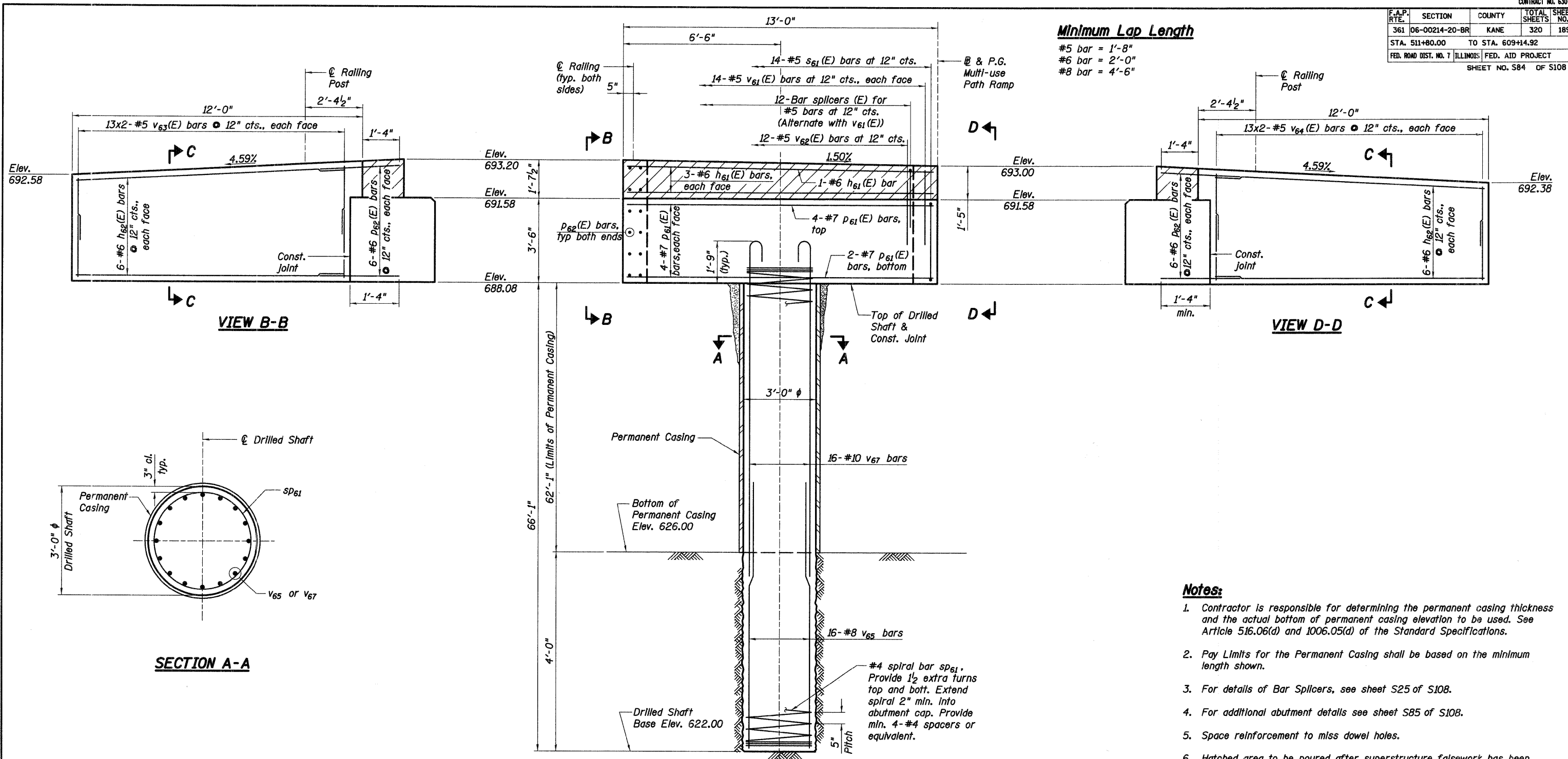
REVISIONS	
NAME	DATE

**Baker**  
Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP - JOINT DETAILS**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DFM DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

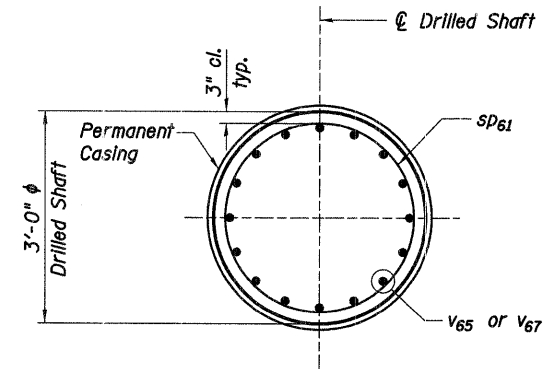


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	189
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. 584 OF 5108				



**Minimum Lap Length**  
 #5 bar = 1'-8"  
 #6 bar = 2'-0"  
 #8 bar = 4'-6"

**SECTION A-A**

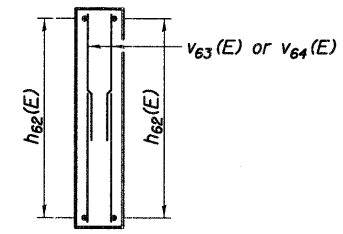


**ELEVATION**

**Notes:**

- Contractor is responsible for determining the permanent casing thickness and the actual bottom of permanent casing elevation to be used. See Article 516.06(d) and 1006.05(d) of the Standard Specifications.
- Pay Limits for the Permanent Casing shall be based on the minimum length shown.
- For details of Bar Splicers, see sheet S25 of S108.
- For additional abutment details see sheet S85 of S108.
- Space reinforcement to miss dowel holes.
- Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included with Concrete Superstructure.
- For railing details see sheet S81 of S108.
- Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

**SECTION C-C**



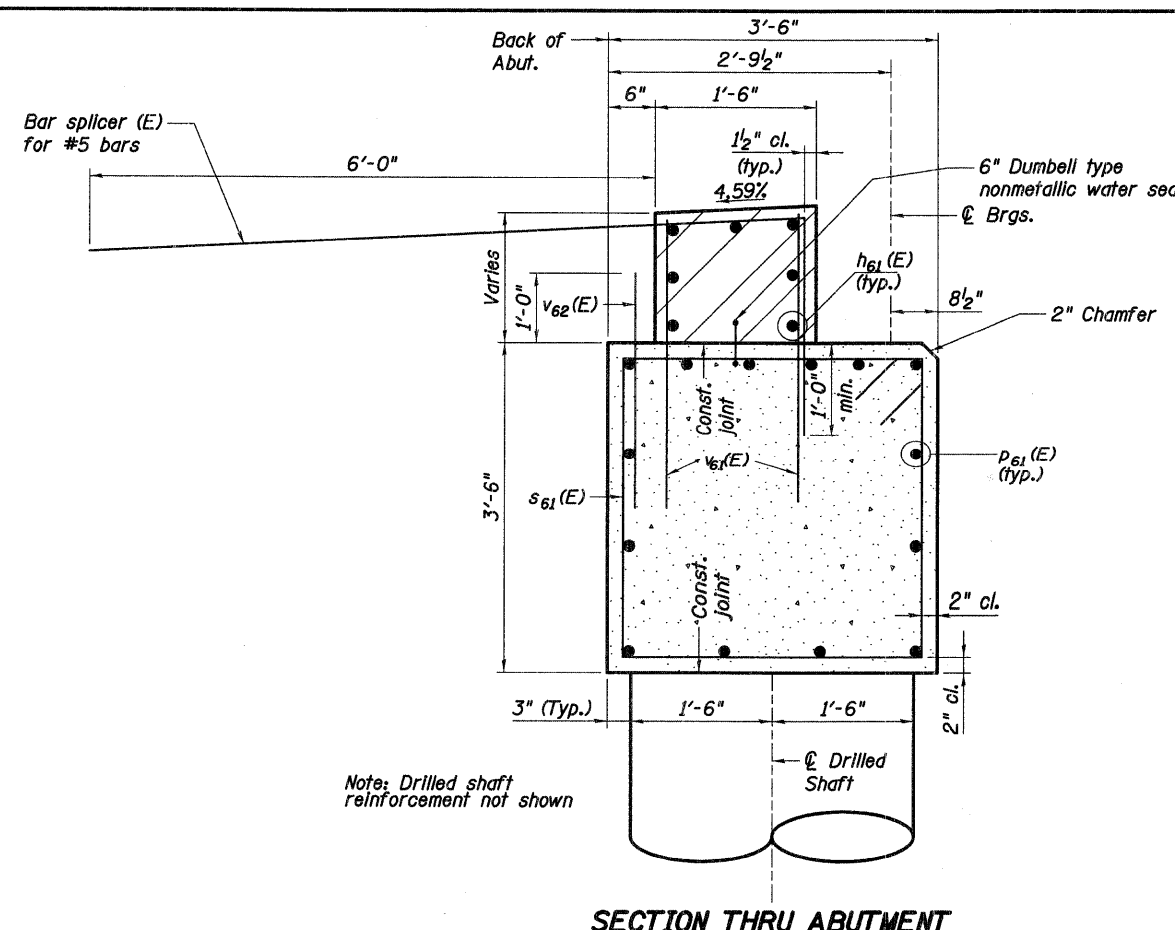
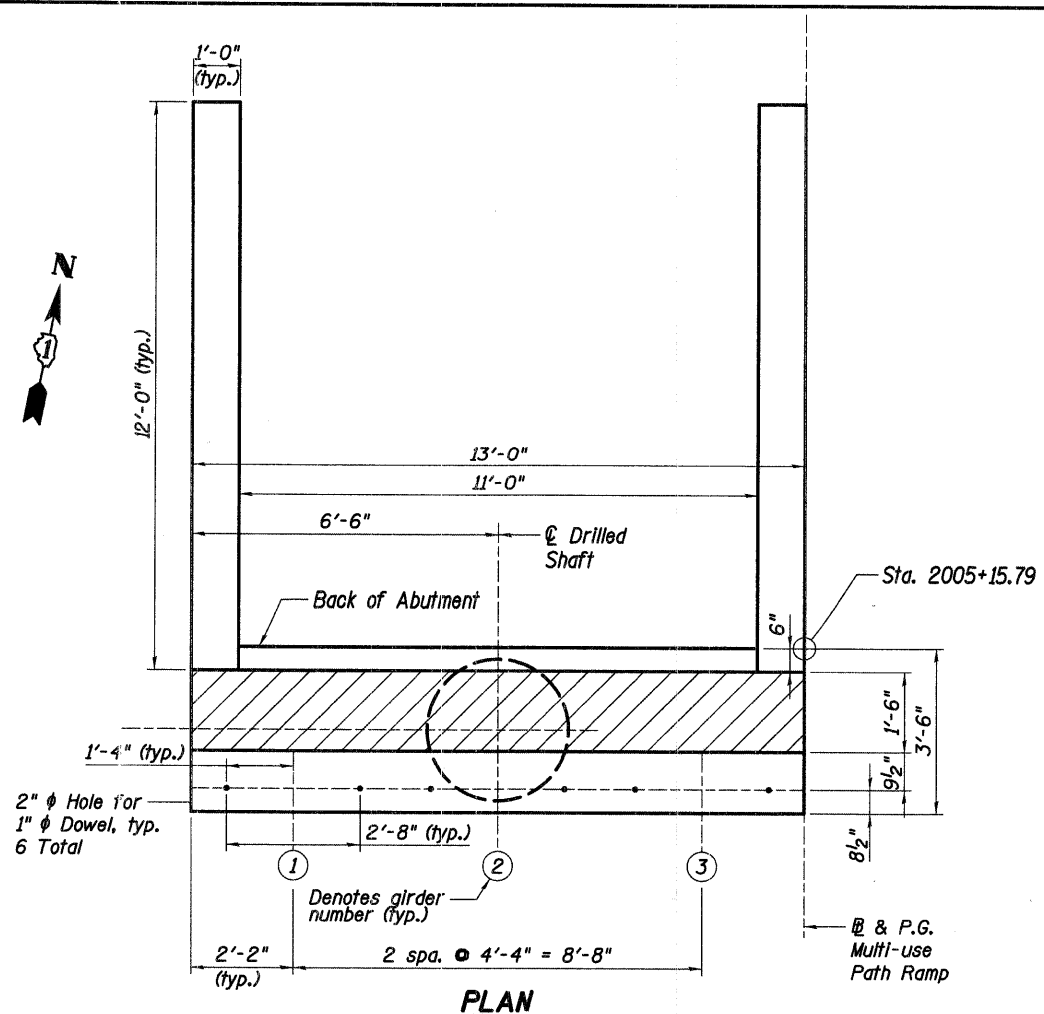
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP-**  
**NORTH ABUTMENT DETAILS I**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DAP DRAWN: TMA  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ



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 1/15/2009

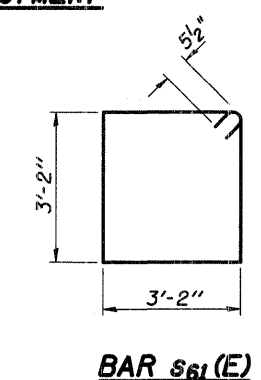
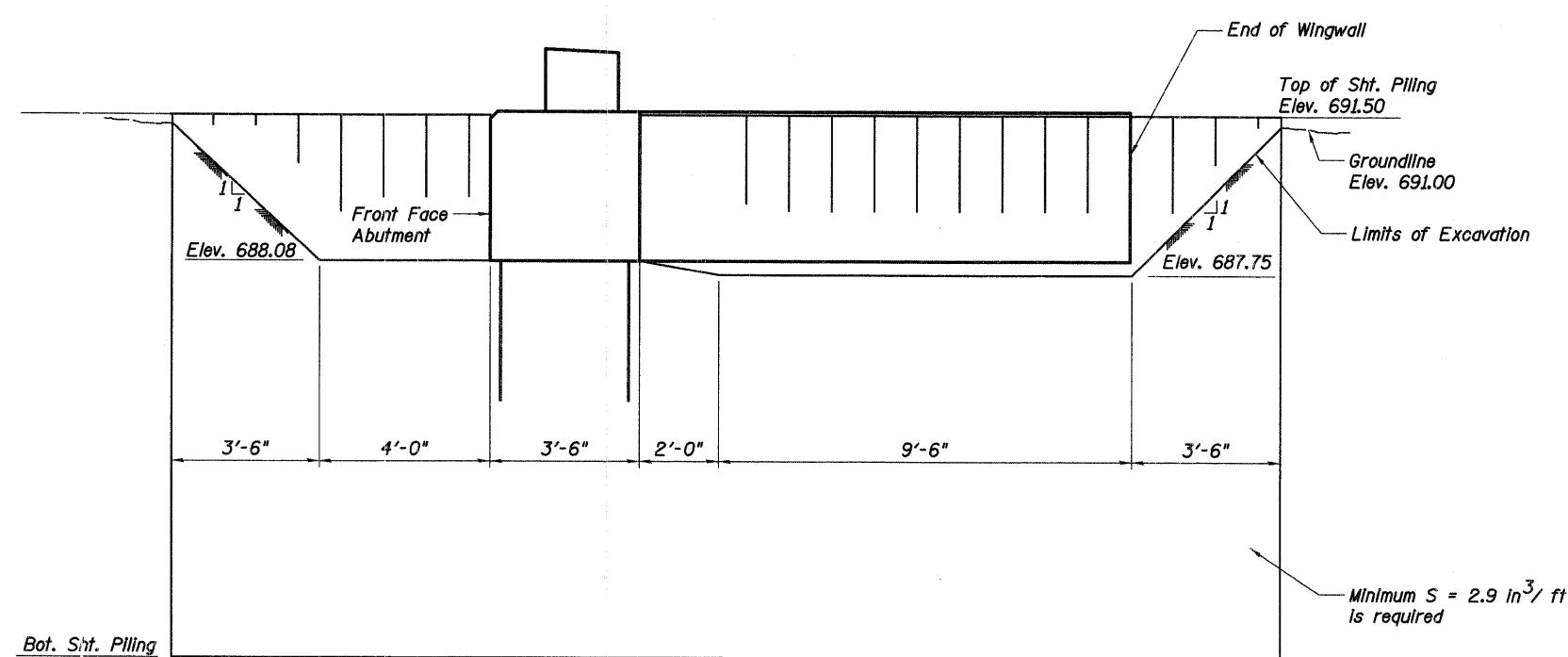
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	190
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S85 OF S108				



**MUP RAMP - NORTH ABUTMENT  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>61</sub> (E)	7	# 6	12'-8"	—
h <sub>62</sub> (E)	24	# 6	11'-2"	—
p <sub>61</sub> (E)	14	# 7	12'-8"	—
p <sub>62</sub> (E)	24	# 5	4'-0"	—
s <sub>61</sub> (E)	14	# 4	13'-7"	□
s <sub>62</sub>	1	# 5	66'-3"	WWW
v <sub>61</sub> (E)	28	# 5	4'-0"	—
v <sub>62</sub> (E)	12	# 5	3'-0"	—
v <sub>63</sub> (E)	52	# 5	3'-4"	—
v <sub>64</sub> (E)	52	# 5	3'-3"	—
v <sub>65</sub>	16	# 8	36'-0"	—
v <sub>67</sub>	16	# 10	38'-9"	—
Concrete Structures			Cu. Yd.	11
Reinforcement Bars			Pound	5,600
Reinforcement Bars, Epoxy Coated			Pound	1,640
Structure Excavation			Cu. Yd.	17
Bar Splicers			Each	12

\* length is height of spiral, provide minimum lap length of 2'-0"



**Notes:**

- If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
- For additional abutment details and notes see sheet S84 of S108.

REVISIONS	
NAME	DATE

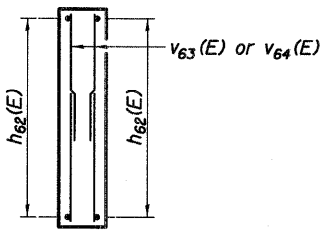
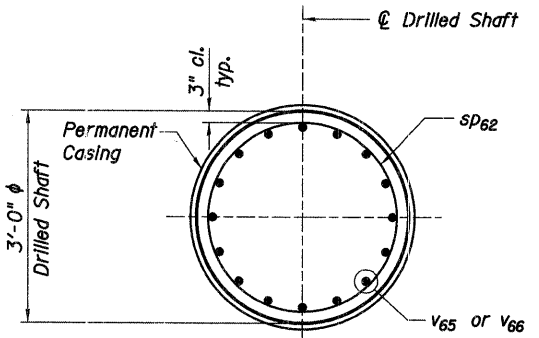
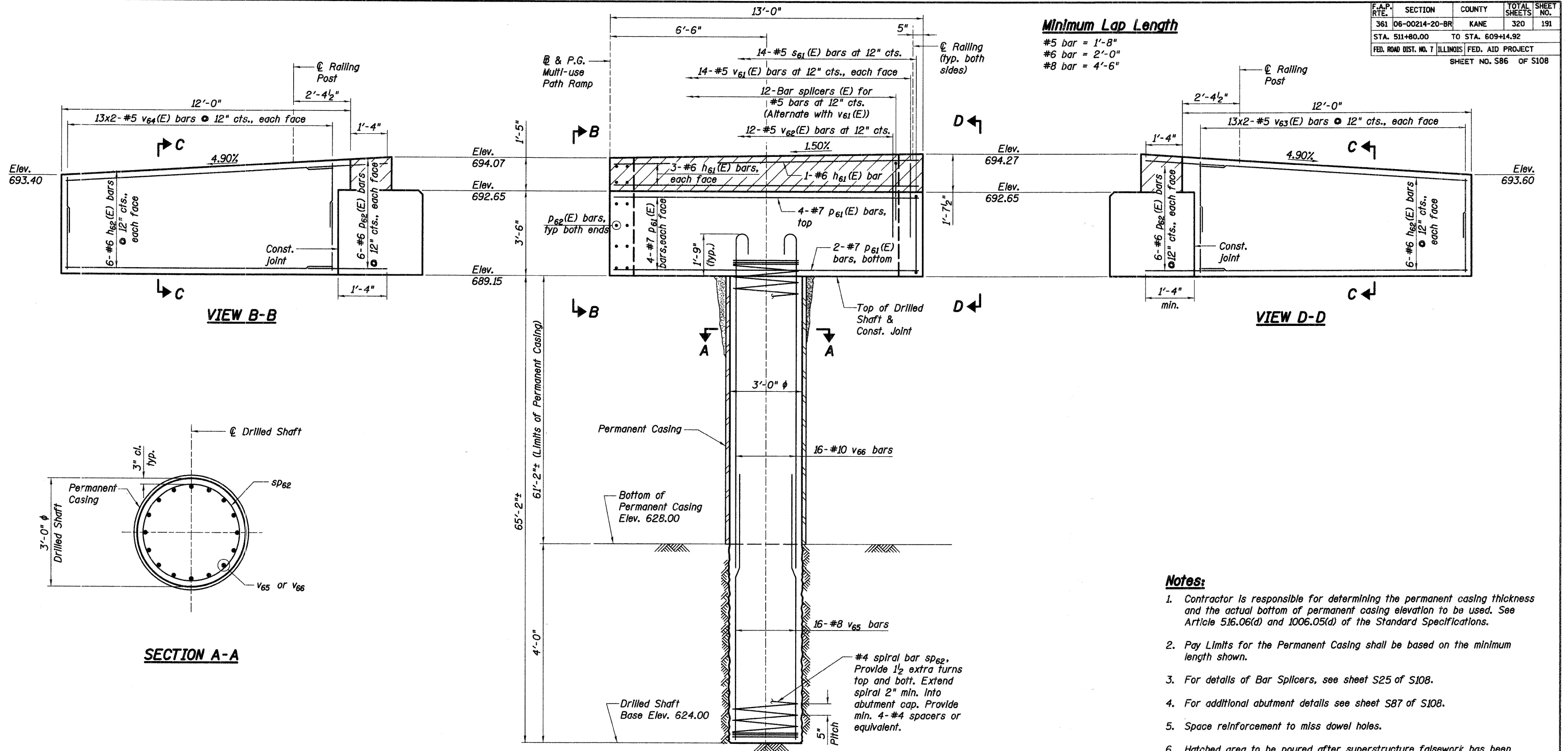


ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP-  
NORTH ABUTMENT DETAILS II**

MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
PUBLIC WATERS  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DAP DRAWN: TMA  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	191
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S86 OF S108				



- Notes:**
- Contractor is responsible for determining the permanent casing thickness and the actual bottom of permanent casing elevation to be used. See Article 5.16.06(d) and 1006.05(d) of the Standard Specifications.
  - Pay Limits for the Permanent Casing shall be based on the minimum length shown.
  - For details of Bar Splicers, see sheet S25 of S108.
  - For additional abutment details see sheet S87 of S108.
  - Space reinforcement to miss dowel holes.
  - Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included with Concrete Superstructure.
  - For railing details see sheet S81 of S108.
  - Bars indicated thus 20x3-#5 etc. Indicates 20 lines of bars with 3 lengths per line.

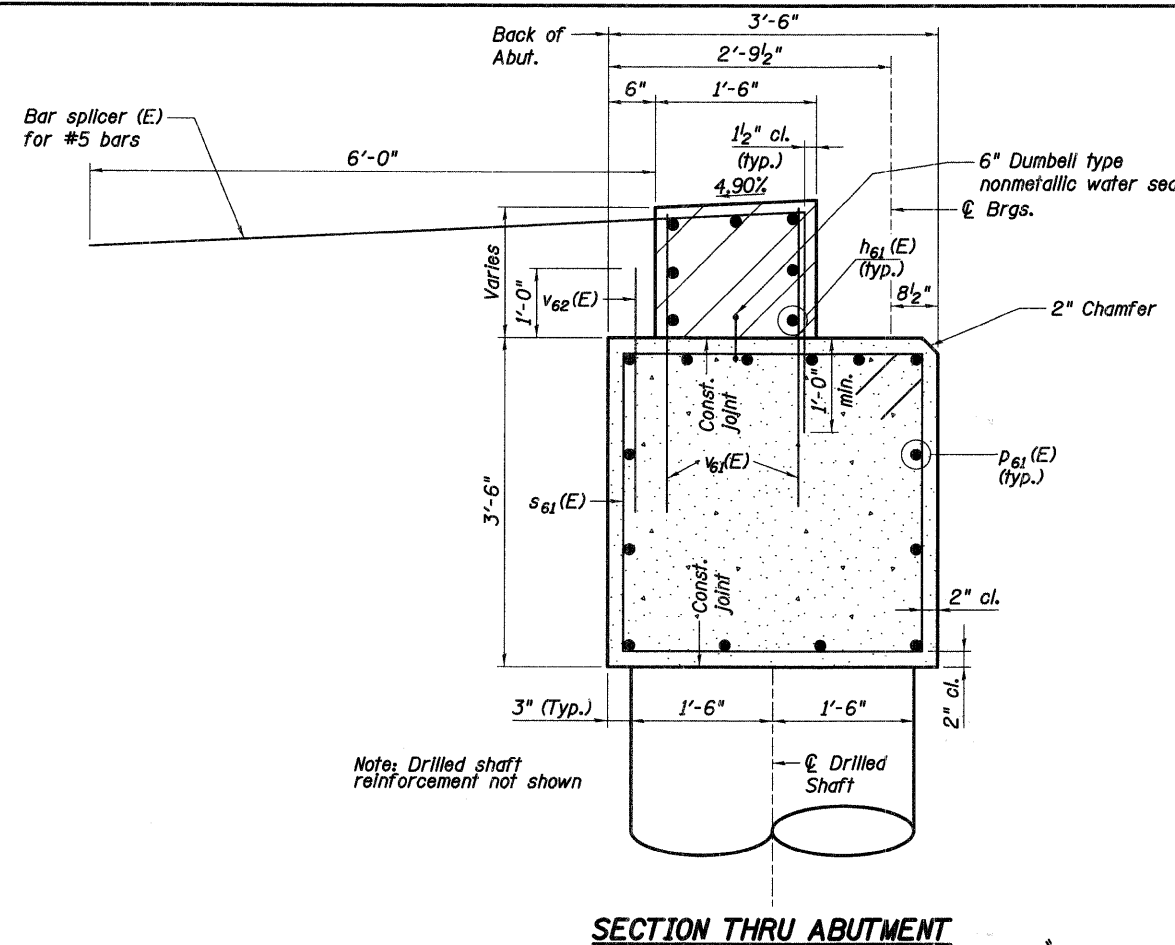
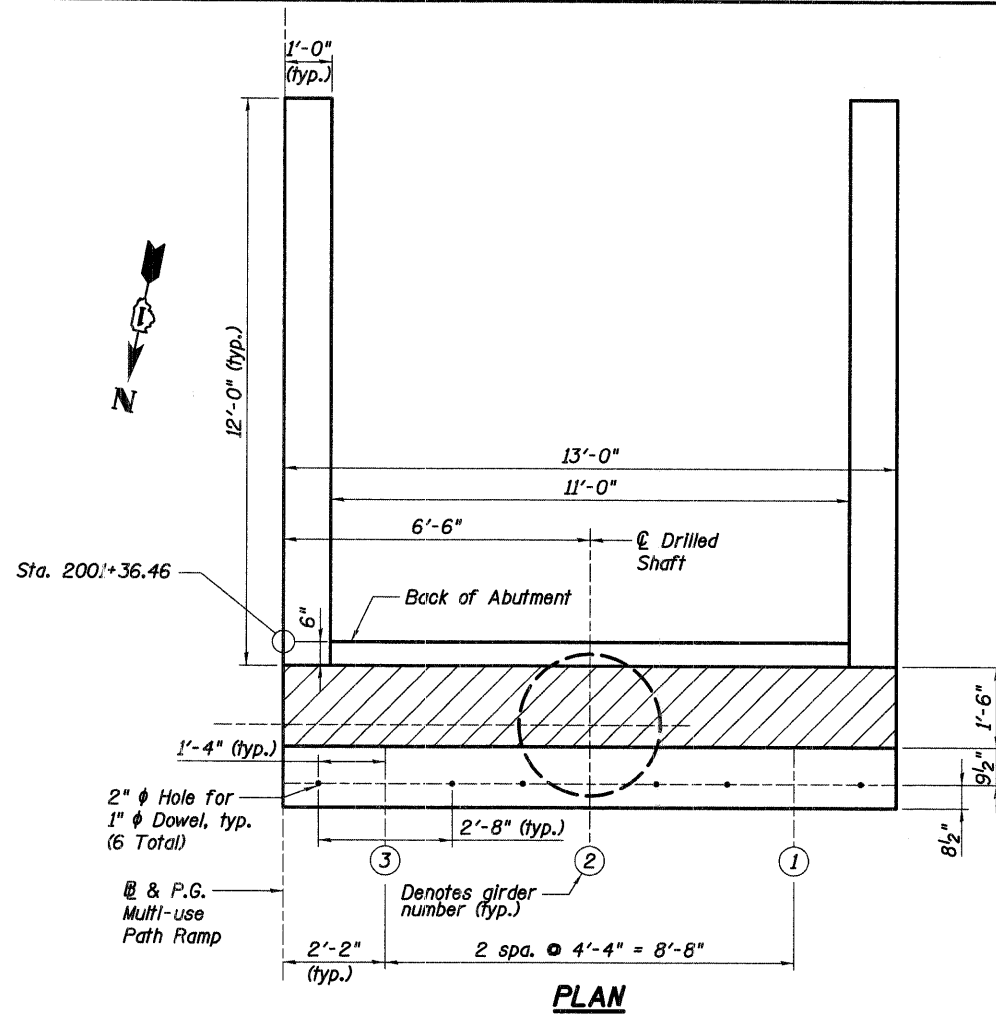
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP-**  
**SOUTH ABUTMENT DETAILS I**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71  
 DATE: JANUARY 16, 2009  
 DESIGNED: DAP  
 CHECKED: KPZ  
 DRAWN: TMA  
 CHECKED: KPZ



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 1/15/2009

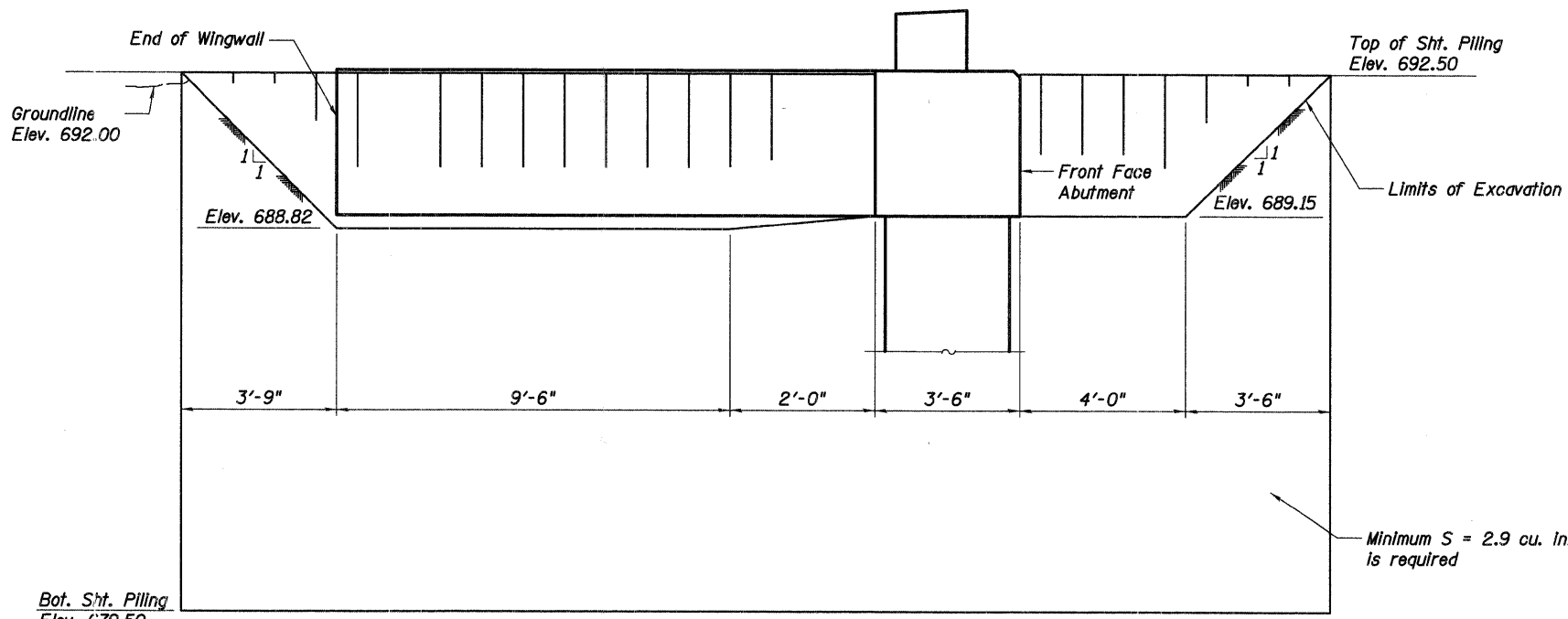
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	192
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S87 OF S108				



**MUP RAMP - SOUTH ABUTMENT  
BILL OF MATERIAL**

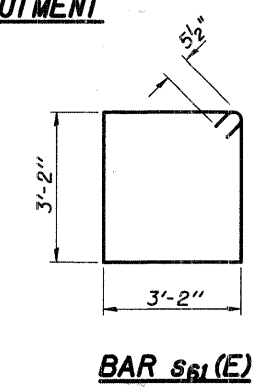
Bar	No.	Size	Length	Shape
h61(E)	7	# 6	12'-8"	—
h62(E)	24	# 6	11'-2"	—
p61(E)	14	# 7	12'-8"	—
p62(E)	24	# 5	4'-0"	—
s61(E)	14	# 5	13'-7"	□
s62	1	# 4	65'-3"	WWWW
v61(E)	28	# 5	4'-0"	—
v62(E)	12	# 5	3'-0"	—
v63(E)	52	# 5	3'-4"	—
v64(E)	52	# 5	3'-3"	—
v65	16	# 8	36'-0"	—
v66	16	# 10	37'-0"	C
Concrete Structures			Cu. Yd.	11
Reinforcement Bars			Pound	4,970
Reinforcement Bars, Epoxy Coated			Pound	1,710
Structure Excavation			Cu. Yd.	18
Bar Splicers			Each	12

\* length is height of spiral, provide minimum lap length of 2'-0"



**SOUTH MUP RAMP ABUTMENT  
TEMPORARY SOIL RETENTION SYSTEM DETAILS**

The top and bottom elevation and length shown for the sheet piling are estimated



**Notes:**

1. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
2. For additional abutment details and notes see sheet S86 of S108.

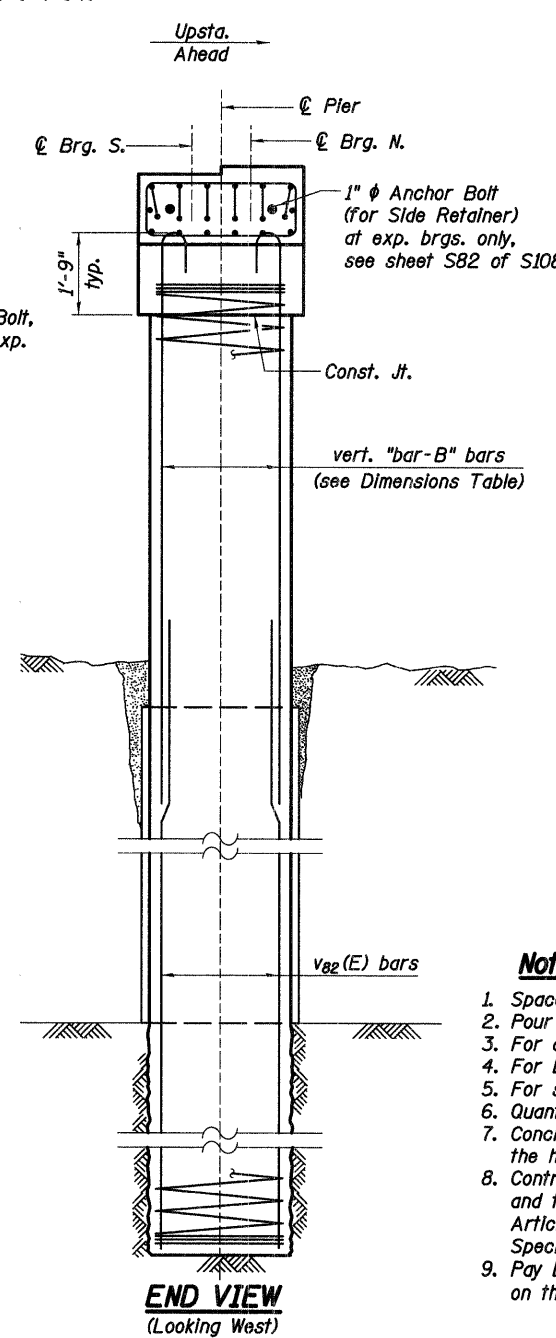
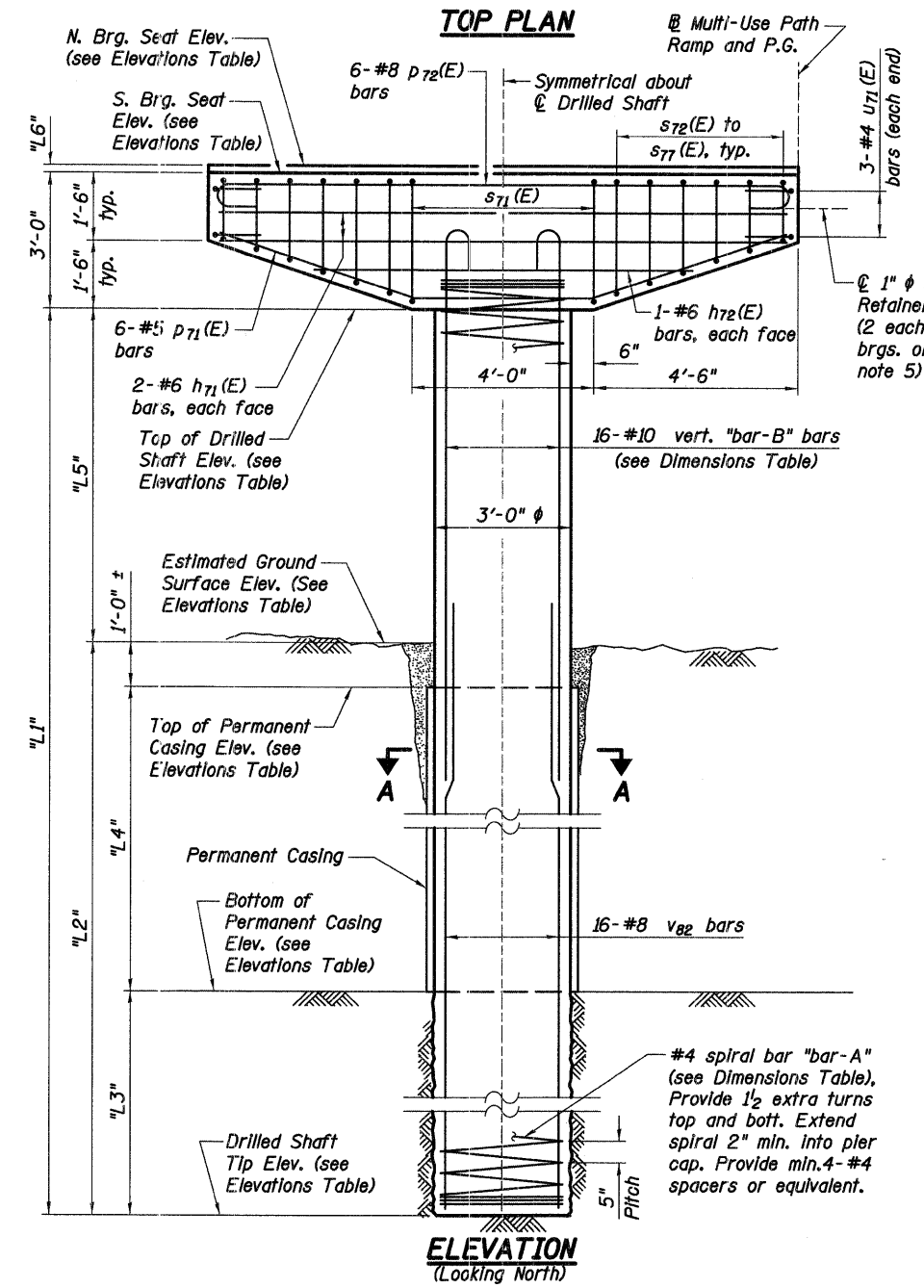
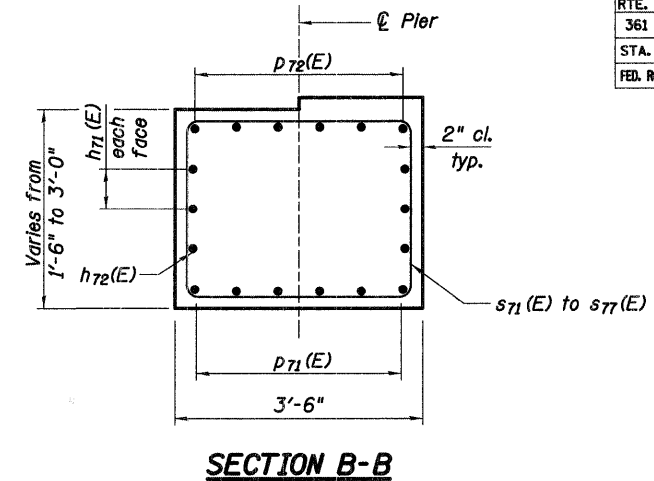
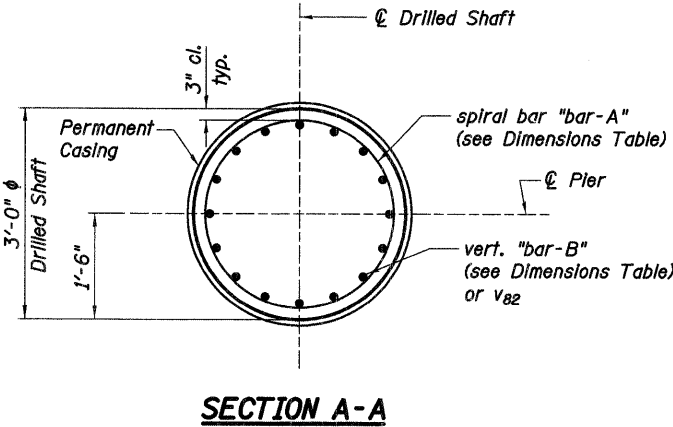
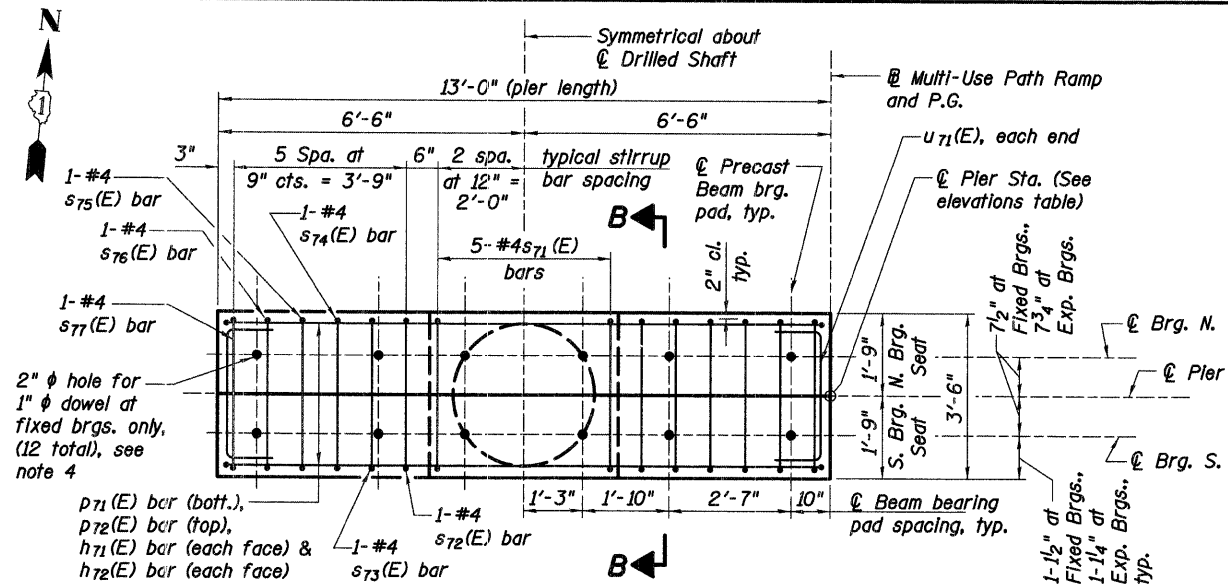


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP -  
SOUTH ABUTMENT DETAILS II**  
MULTI-USE PATH BRIDGE OVER THE FOX RIVER PUBLIC WATERS  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71 DESIGNED: DAP DRAWN: TMA  
DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	193
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. S88 OF S108				



Support	Centerline Pier Sta.	Bearing Type	Drilled Shaft Tip Elev.	Bottom of Permanent Casing Elev.	Top of Permanent Casing Elev.	Estimated Ground Surface Elev.	Top of Drilled Shaft Elev.	South Brg. Seat Elev.	North Brg. Seat Elev.
Pier 1	2001+69.88	EXP.	624.00	628.00	691.10	692.10	691.18	694.18	694.24
Pier 2	2002+01.13	FIX.	622.00	637.00	690.50	691.50	692.71	695.71	695.77
Pier 3	2002+32.38	EXP.	622.00	637.00	690.40	691.40	694.24	697.24	697.30
Pier 4	2002+63.63	FIX.	622.00	637.00	690.40	691.40	695.77	698.77	698.83
Pier 5	2002+94.88	FIX.	624.00	638.00	690.50	691.50	696.78	699.78	699.78
Pier 6	2003+26.13	FIX.	624.00	638.00	690.50	691.50	697.09	700.09	700.09
Pier 7	2003+57.38	EXP.	624.00	632.00	690.50	691.50	695.76	698.82	698.76
Pier 8	2003+88.63	FIX.	624.00	632.00	690.50	691.50	694.33	697.39	697.33
Pier 9	2004+19.88	EXP.	624.00	632.00	690.40	691.40	692.89	695.95	695.89
Pier 10	2004+51.13	FIX.	622.00	626.00	690.40	691.40	691.46	694.52	694.46
Pier 11	2004+82.38	EXP.	622.00	626.00	690.03	691.40	690.03	693.09	693.03

Support	"L1"	"L2"	"L3"	"L4"	"L5" *	"L6" **	"Bar-A"	"Bar-B"
Pier 1	67'-2 1/4"	68'-1 1/4"	4'-0"	63'-1 1/4"	-0'-11"	0'-0"	sp71(E)	v71(E)
Pier 2	70'-8 5/8"	69'-6"	15'-0"	53'-6"	1'-2 5/8"	0'-0 3/4"	sp72(E)	v72(E)
Pier 3	72'-2 7/8"	69'-4 3/4"	15'-0"	53'-4 3/4"	2'-10 1/8"	0'-0"	sp73(E)	v73(E)
Pier 4	73'-9 1/4"	69'-4 3/4"	15'-0"	53'-4 3/4"	4'-4 1/2"	0'-0"	sp74(E)	v74(E)
Pier 5	72'-9 1/4"	67'-6"	14'-0"	52'-6"	5'-3 1/4"	0'-0"	sp75(E)	v75(E)
Pier 6	73'-1"	67'-6"	14'-0"	52'-6"	5'-7"	0'-0"	sp76(E)	v76(E)
Pier 7	71'-9 1/8"	67'-6"	8'-0"	58'-6"	4'-3 1/8"	0'-0"	sp77(E)	v77(E)
Pier 8	70'-3 7/8"	67'-6"	8'-0"	58'-6"	2'-9 7/8"	0'-0"	sp78(E)	v78(E)
Pier 9	68'-10 5/8"	67'-4 3/4"	8'-0"	58'-4 3/4"	1'-5 7/8"	0'-0"	sp79(E)	v79(E)
Pier 10	69'-5 1/2"	69'-4 3/4"	4'-0"	64'-4 3/4"	0'-0 5/8"	0'-0"	sp80(E)	v80(E)
Pier 11	68'-0 3/8"	69'-4 3/4"	4'-0"	64'-0 3/8"	-1'-4 1/2"	0'-0"	sp81(E)	v81(E)

\* Negative sign for "L5" indicates that the top of drilled shaft elevation is lower than the estimated ground elevation.  
 \*\* Negative sign for "L6" indicates that the north bearing seat elevation is lower than the south bearing seat elevation.

**Notes:**

- Space reinforcement in cap to miss dowels and side retainer anchor bolts.
- Pour steps monolithically with cap.
- For additional pier details, see sheets S89 and S90 of S108.
- For bearing dowel details, see sheet S82 of S108.
- For side retainer anchor bolt details, see sheet S82 of S108.
- Quantity of Drilled Shaft above ground is included with "Drilled Shaft In Soil".
- Concrete Sealer shall be applied to the bearing seat as well as both faces of the hammerhead pier cap at expansion piers 1, 3, 7, 9, and 11.
- Contractor is responsible for determining the permanent casing thickness and the actual bottom of permanent casing elevation to be used. See Article 516.06(d) and 1006.05(d) of the Standard Specifications.
- Pay Limits for the Permanent Casing shall be based on the minimum length shown.

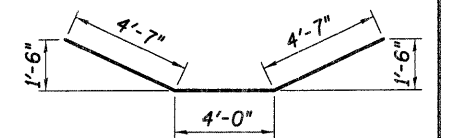
**MINIMUM BAR LAP**  
 #8 = 4'-6"

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP - PIER DETAILS I**  
 MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
 STRUCTURE NUMBER 045-3164  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 572+37.71 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ RECHECKED: KPZ

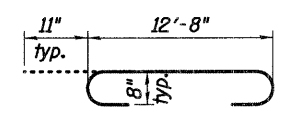
**Baker**  
 Baker Engineering, Inc.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	194
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
SHEET NO. 589 OF 5108				

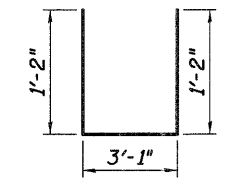


\* length is height of spiral, provide minimum lap length of 3'-0"

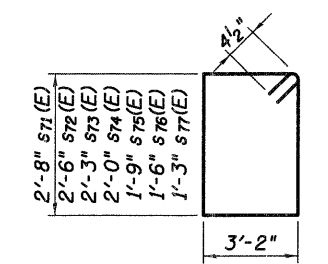
**BAR D71(E)**



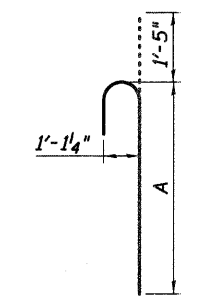
**BAR D72(E)**



**BARS U71(E)**



**BARS S71(E) thru S77(E)**



**BAR V71(E) thru V76(E)**

Bar	A
V71(E)	33'-5"
V72(E)	37'-0"
V73(E)	38'-6"
V74(E)	40'-0"
V75(E)	39'-0"
V76(E)	39'-4"

**PIER 1 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h71(E)	4	# 6	12'-8"	—
h72(E)	2	# 6	8'-3"	—
p71(E)	6	# 5	13'-2"	∩
p72(E)	6	# 8	14'-6"	∩
s71(E)	5	# 4	12'-5"	□
s72(E)	2	# 4	12'-1"	□
s73(E)	2	# 4	11'-7"	□
s74(E)	2	# 4	11'-1"	□
s75(E)	2	# 4	10'-7"	□
s76(E)	2	# 4	10'-1"	□
s77(E)	2	# 4	9'-7"	□
sp71(E)*	1	# 4	67'-3"	∩∩∩∩
u71(E)	6	# 4	5'-5"	U
v71(E)	16	# 10	34'-10"	C
v72	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	4	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	3,950	
Structure Excavation		Cu. Yd.	4	
Drilled Shaft In Soil		Cu. Yd.	18	
Concrete Sealer		Sq. Ft.	122	

**PIER 2 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h71(E)	4	# 6	12'-8"	—
h72(E)	2	# 6	8'-3"	—
p71(E)	6	# 5	13'-2"	∩
p72(E)	6	# 8	14'-6"	∩
s71(E)	5	# 4	12'-5"	□
s72(E)	2	# 4	12'-1"	□
s73(E)	2	# 4	11'-7"	□
s74(E)	2	# 4	11'-1"	□
s75(E)	2	# 4	10'-7"	□
s76(E)	2	# 4	10'-1"	□
s77(E)	2	# 4	9'-7"	□
sp72(E)*	1	# 4	70'-10"	∩∩∩∩
u71(E)	6	# 4	5'-5"	U
v72(E)	16	# 10	38'-5"	C
v72	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	5	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,240	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	18	

**PIER 3 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h71(E)	4	# 6	12'-8"	—
h72(E)	2	# 6	8'-3"	—
p71(E)	6	# 5	13'-2"	∩
p72(E)	6	# 8	14'-6"	∩
s71(E)	5	# 4	12'-5"	□
s72(E)	2	# 4	12'-1"	□
s73(E)	2	# 4	11'-7"	□
s74(E)	2	# 4	11'-1"	□
s75(E)	2	# 4	10'-7"	□
s76(E)	2	# 4	10'-1"	□
s77(E)	2	# 4	9'-7"	□
sp73(E)*	1	# 4	72'-4"	∩∩∩∩
u71(E)	6	# 4	5'-5"	U
v73(E)	16	# 10	39'-11"	C
v72	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	5	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,370	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	18	
Concrete Sealer		Sq. Ft.	122	

**PIER 4 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h71(E)	4	# 6	12'-8"	—
h72(E)	2	# 6	8'-3"	—
p71(E)	6	# 5	13'-2"	∩
p72(E)	6	# 8	14'-6"	∩
s71(E)	5	# 4	12'-5"	□
s72(E)	2	# 4	12'-1"	□
s73(E)	2	# 4	11'-7"	□
s74(E)	2	# 4	11'-1"	□
s75(E)	2	# 4	10'-7"	□
s76(E)	2	# 4	10'-1"	□
s77(E)	2	# 4	9'-7"	□
sp74(E)*	1	# 4	73'-10"	∩∩∩∩
u71(E)	6	# 4	5'-5"	U
v74(E)	16	# 10	41'-5"	C
v72	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	5	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,490	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	18	

**PIER 5 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h71(E)	4	# 6	12'-8"	—
h72(E)	2	# 6	8'-3"	—
p71(E)	6	# 5	13'-2"	∩
p72(E)	6	# 8	14'-6"	∩
s71(E)	5	# 4	12'-5"	□
s72(E)	2	# 4	12'-1"	□
s73(E)	2	# 4	11'-7"	□
s74(E)	2	# 4	11'-1"	□
s75(E)	2	# 4	10'-7"	□
s76(E)	2	# 4	10'-1"	□
s77(E)	2	# 4	9'-7"	□
sp75(E)*	1	# 4	72'-10"	∩∩∩∩
u71(E)	6	# 4	5'-5"	U
v75(E)	16	# 10	40'-5"	C
v72	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	6	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,410	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	19	

**PIER 6 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h71(E)	4	# 6	12'-8"	—
h72(E)	2	# 6	8'-3"	—
p71(E)	6	# 5	13'-2"	∩
p72(E)	6	# 8	14'-6"	∩
s71(E)	5	# 4	12'-5"	□
s72(E)	2	# 4	12'-1"	□
s73(E)	2	# 4	11'-7"	□
s74(E)	2	# 4	11'-1"	□
s75(E)	2	# 4	10'-7"	□
s76(E)	2	# 4	10'-1"	□
s77(E)	2	# 4	9'-7"	□
sp76(E)*	1	# 4	73'-2"	∩∩∩∩
u71(E)	6	# 4	5'-5"	U
v76(E)	16	# 10	40'-9"	C
v72	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	6	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,440	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	19	

REVISIONS	
NAME	DATE



ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP - PIER DETAILS II**  
 STEARNS ROAD OVER THE FOX RIVER PUBLIC WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SCW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

h:\3005\3.0 phase 11 deliverables\3.3 structure\drawings\final\045-3164 MUP Ramp Piers-2.dgn  
 1/15/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	195
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S90 OF S108				

**PIER 7 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>71</sub> (E)	4	# 6	12'-8"	—
h <sub>72</sub> (E)	2	# 6	8'-3"	—
p <sub>71</sub> (E)	6	# 5	13'-2"	∩
p <sub>72</sub> (E)	6	# 8	14'-6"	⌒
s <sub>71</sub> (E)	5	# 4	12'-5"	□
s <sub>72</sub> (E)	2	# 4	12'-1"	□
s <sub>73</sub> (E)	2	# 4	11'-7"	□
s <sub>74</sub> (E)	2	# 4	11'-1"	□
s <sub>75</sub> (E)	2	# 4	10'-7"	□
s <sub>76</sub> (E)	2	# 4	10'-1"	□
s <sub>77</sub> (E)	2	# 4	9'-7"	□
sp <sub>71</sub> (E)*	1	# 4	71'-10"	⋈
u <sub>71</sub> (E)	6	# 4	5'-5"	□
v <sub>71</sub> (E)	16	# 10	39'-5"	⌒
v <sub>72</sub> (E)	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	5	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,330	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	19	
Concrete Sealer		Sq. Ft.	122	

**PIER 8 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>81</sub> (E)	4	# 6	12'-8"	—
h <sub>82</sub> (E)	2	# 6	8'-3"	—
p <sub>81</sub> (E)	6	# 5	13'-2"	∩
p <sub>82</sub> (E)	6	# 8	14'-6"	⌒
s <sub>81</sub> (E)	5	# 4	12'-5"	□
s <sub>82</sub> (E)	2	# 4	12'-1"	□
s <sub>83</sub> (E)	2	# 4	11'-7"	□
s <sub>84</sub> (E)	2	# 4	11'-1"	□
s <sub>85</sub> (E)	2	# 4	10'-7"	□
s <sub>86</sub> (E)	2	# 4	10'-1"	□
s <sub>87</sub> (E)	2	# 4	9'-7"	□
sp <sub>81</sub> (E)*	1	# 4	70'-5"	⋈
u <sub>81</sub> (E)	6	# 4	5'-5"	□
v <sub>81</sub> (E)	16	# 10	38'-0"	⌒
v <sub>82</sub> (E)	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	5	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,210	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	19	

**PIER 9 BILL OF MATERIAL**

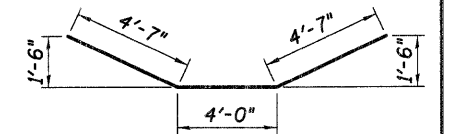
Bar	No.	Size	Length	Shape
h <sub>91</sub> (E)	4	# 6	12'-8"	—
h <sub>92</sub> (E)	2	# 6	8'-3"	—
p <sub>91</sub> (E)	6	# 5	13'-2"	∩
p <sub>92</sub> (E)	6	# 8	14'-6"	⌒
s <sub>91</sub> (E)	5	# 4	12'-5"	□
s <sub>92</sub> (E)	2	# 4	12'-1"	□
s <sub>93</sub> (E)	2	# 4	11'-7"	□
s <sub>94</sub> (E)	2	# 4	11'-1"	□
s <sub>95</sub> (E)	2	# 4	10'-7"	□
s <sub>96</sub> (E)	2	# 4	10'-1"	□
s <sub>97</sub> (E)	2	# 4	9'-7"	□
sp <sub>91</sub> (E)*	1	# 4	69'-0"	⋈
u <sub>91</sub> (E)	6	# 4	5'-5"	□
v <sub>91</sub> (E)	16	# 10	36'-7"	⌒
v <sub>92</sub> (E)	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	5	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,090	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	18	
Concrete Sealer		Sq. Ft.	122	

**PIER 10 BILL OF MATERIAL**

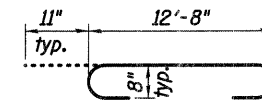
Bar	No.	Size	Length	Shape
h <sub>101</sub> (E)	4	# 6	12'-8"	—
h <sub>102</sub> (E)	2	# 6	8'-3"	—
p <sub>101</sub> (E)	6	# 5	13'-2"	∩
p <sub>102</sub> (E)	6	# 8	14'-6"	⌒
s <sub>101</sub> (E)	5	# 4	12'-5"	□
s <sub>102</sub> (E)	2	# 4	12'-1"	□
s <sub>103</sub> (E)	2	# 4	11'-7"	□
s <sub>104</sub> (E)	2	# 4	11'-1"	□
s <sub>105</sub> (E)	2	# 4	10'-7"	□
s <sub>106</sub> (E)	2	# 4	10'-1"	□
s <sub>107</sub> (E)	2	# 4	9'-7"	□
sp <sub>101</sub> (E)*	1	# 4	69'-6"	⋈
u <sub>101</sub> (E)	6	# 4	5'-5"	□
v <sub>101</sub> (E)	16	# 10	37'-1"	⌒
v <sub>102</sub> (E)	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	4	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,130	
Structure Excavation		Cu. Yd.	-	
Drilled Shaft In Soil		Cu. Yd.	18	

**PIER 11 BILL OF MATERIAL**

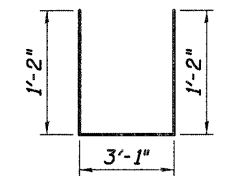
Bar	No.	Size	Length	Shape
h <sub>111</sub> (E)	4	# 6	12'-8"	—
h <sub>112</sub> (E)	2	# 6	8'-3"	—
p <sub>111</sub> (E)	6	# 5	13'-2"	∩
p <sub>112</sub> (E)	6	# 8	14'-6"	⌒
s <sub>111</sub> (E)	5	# 4	12'-5"	□
s <sub>112</sub> (E)	2	# 4	12'-1"	□
s <sub>113</sub> (E)	2	# 4	11'-7"	□
s <sub>114</sub> (E)	2	# 4	11'-1"	□
s <sub>115</sub> (E)	2	# 4	10'-7"	□
s <sub>116</sub> (E)	2	# 4	10'-1"	□
s <sub>117</sub> (E)	2	# 4	9'-7"	□
sp <sub>111</sub> (E)*	1	# 4	68'-1"	⋈
u <sub>111</sub> (E)	6	# 4	5'-5"	□
v <sub>111</sub> (E)	16	# 10	35'-8"	⌒
v <sub>112</sub> (E)	16	# 8	40'-0"	—
Concrete Structures		Cu. Yd.	4	
Reinforcement Bars		Pound	1,710	
Reinforcement Bars, Epoxy Coated		Pound	4,020	
Structure Excavation		Cu. Yd.	5	
Drilled Shaft In Soil		Cu. Yd.	18	
Concrete Sealer		Sq. Ft.	122	



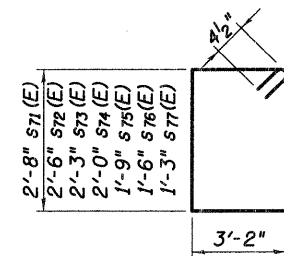
**BAR D<sub>71</sub>(E)**



**BAR D<sub>72</sub>(E)**

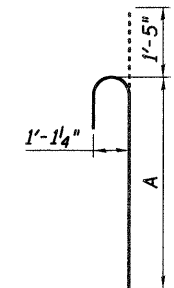


**BARS U<sub>71</sub>(E)**



**BARS S<sub>71</sub>(E) thru S<sub>77</sub>(E)**

Bar	A
v <sub>77</sub> (E)	38'-0"
v <sub>78</sub> (E)	36'-7"
v <sub>79</sub> (E)	35'-2"
v <sub>80</sub> (E)	35'-8"
v <sub>81</sub> (E)	34'-3"



**BAR V<sub>77</sub>(E) thru V<sub>81</sub>(E)**

\* length is height of spiral, provide minimum lap length of 3'-0"

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**MUP RAMP -**  
**PIER DETAILS III**  
 STEARNS ROAD PUBLIC  
 OVER THE FOX RIVER WATERS  
 STRUCTURE NUMBER 045-3166  
 KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
 STATION 571+42.96 DESIGNED: DAP DRAWN: SGW  
 DATE: JANUARY 16, 2009 CHECKED: KPZ CHECKED: KPZ

**Baker**  
 Baker Engineering, Inc.

H:\13005\3.0 phase 11 deliverables\3.3 structure\drawings\Final\045-3164 MUP Ramp Piers.3.dgn  
 1/15/2009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	196
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S91 OF S108				

**BORING NO. P3B-1**

**BORING NO. P3B-1**

**BORING LOG P3B-1** Page 1 of 2

Wang Engineering, Inc.  
Consulting Geotechnical and Environmental Engineers  
wangeng@wangeng.com  
1145 Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

WEI Job No.: 707-11-01

Datum: NGVD  
Elevation: 686.84 ft  
North: 1934477.50 ft  
East: 994925.75 ft  
Station: 570+39  
Offset: 7.0 RT

Client: Baker Engineering, Inc.

Project: New Stearns Road over Fox River

Location: Sec. 2 and 3, T. 40 N, R. 8 E. of Geneva Quadrangle

**BORING LOG P3B-1** Page 2 of 2

Wang Engineering, Inc.  
Consulting Geotechnical and Environmental Engineers  
wangeng@wangeng.com  
1145 Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

WEI Job No.: 707-11-01

Datum: NGVD  
Elevation: 686.84 ft  
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Project: New Stearns Road over Fox River

Location: Sec. 2 and 3, T. 40 N, R. 8 E. of Geneva Quadrangle

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
	689.3	Loose to medium dense, brown and gray SANDY GRAVEL to GRAVELLY SAND —Water Level = 1.5ft Above River Bed—	1	1	7 7 8	NP	11		689.3	Medium stiff, gray CLAY LOAM	11	11	8 4 12	0.74 B	8
	688.1		2	2	13 22 7	NP	5		688.1	Very dense, brown and gray, GRAVELLY SAND to SANDY GRAVEL	30	12	25 30	0.50 P	12
	678.8	Stiff to very stiff, brown to gray CLAY with occasional sand and silt interbeds	3	3	4 5 4	2.00 P	9		678.8		35	13	25 28 27	NP	10
	673.5		4	4	4 4 7	1.23 B	22		673.5	Medium dense, brown, coarse SAND with gravel	35	14	11 6 6	NP	10
	673.5	Stiff to very stiff, gray, gravelly SANDY CLAY LOAM	5	5	2 5 6	1.39 B	23		673.5		40	15	11 12 13	4.76 B	12
	668.2		6	6	9 14 15	3.50 P	16		668.2	Very stiff to hard, gray gravelly CLAY LOAM	40	16	9 14 21	1.50 P	14
	664.5	Medium dense to dense, gray GRAVELLY SAND	7	7	10 11 10	1.31 B	8		664.5	Pressuremeter Test@43.0'-44.0'	45	17	3 5 6	3.85 B	13
	664.5		8	8	7 10	NP	14		664.5	—Pressuremeter Test@47.0'-48.0'	50	18	18 23 42	10.24 S	9
	664.5	Medium dense, brown and gray, fine to coarse SAND	9	9	12 13	NP	14		664.5	Very dense, brown and gray SANDY GRAVEL —Boulders at 73.5' - 76.25'—	55	19	31 23 47	NP	9
	664.5	Stiff to very stiff, gray CLAY LOAM to SANDY CLAY	10	10	5 6 7	2.71 B	11		664.5		60	20	28 44 42	NP	17

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
	689.3		17	17	10 11 18	3.20 B	13		689.3		23	20 36 41	NP	10	
	688.1	—Pressuremeter Test@52.0'-53.0'	18	18	8 9 12	3.20 B	12		688.1	—Boulder at 79.5' - 80.5'—	80	24	20 28 35	NP	10
	678.8		19	19	13 17 22	4.43 B	12		678.8		85	25	5.90 B	15	
	673.5	—Boulder at 59.0' - 60.5'—	20	20	28 44 42	NP	17		673.5	Hard, gray gravelly CLAY	85	26	54 306	NP	15
	668.2		21	21	18 23 42	10.24 S	9		668.2	Very dense, brown GRAVEL with sand	90	27			
	664.5	Very dense, gray SANDY LOAM	22	22	31 23 47	NP	9		664.5	Very dense, brown, fine SAND —Spoon refusal at 92.0'— Boring terminated at 92.0 ft	95	28			
	664.5	Hard, gray gravelly CLAY LOAM —Pressuremeter Test@67.0'-68.0'	23	23					664.5		100				

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-04-2007	Complete Drilling	12-06-2007	While Drilling	▽	0.00 ft	
Drilling Contractor	TSC	Drill Rig	CME 55 ATV	At Completion of Drilling	▽	0.00 ft	
Driller	D.F. & C	Logger	J. Kasnick	Time After Drilling	NA		
Checked by	E. Datz	Depth to Water	▽	NA			
Drilling Method	3.25" ID. HSA; Mud Rotary at 41ft			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-04-2007	Complete Drilling	12-06-2007	While Drilling	▽	0.00 ft	
Drilling Contractor	TSC	Drill Rig	CME 55 ATV	At Completion of Drilling	▽	0.00 ft	
Driller	D.F. & C	Logger	J. Kasnick	Time After Drilling	NA		
Checked by	E. Datz	Depth to Water	▽	NA			
Drilling Method	3.25" ID. HSA; Mud Rotary at 41ft			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**SOIL BORING LOG I**

STEARNS ROAD  
OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3166

KANE COUNTY  
STATION 571+42.96

PUBLIC WATERS  
FAP 361 SECTION 06-00214-20-BR  
DESIGNED: WEI  
DRAWN: SCW  
DATE: JANUARY 16, 2009  
CHECKED: WEI  
CHECKED: DFM



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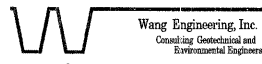


F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	197
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S92 OF S108				

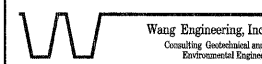
**BORING NO. P4B-1**

**BORING NO. P4B-1**

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 <p>Wang Engineering, Inc. Consulting Geotechnical and Environmental Engineers wangeng@wangeng.com 1145 Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938</p>	<p><b>BORING LOG P4B-1</b></p> <p>WEI Job No.: 707-11-01</p> <p>Client: Baker Engineering, Inc.</p> <p>Project: New Stearns Road over Fox River</p> <p>Location: Sec. 2 and 3, T. 40 N, R. 8 E of Geneva Quadrangle</p>	<p>Datum: NGVD Elevation: 687.01 ft North: 1984477.82 ft East: 965137.63 ft Station: 572+50 Offset: 5.0 LT</p>
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 <p>Wang Engineering, Inc. Consulting Geotechnical and Environmental Engineers wangeng@wangeng.com 1145 Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938</p>	<p><b>BORING LOG P4B-1</b></p> <p>WEI Job No.: 707-11-01</p> <p>Client: Baker Engineering, Inc.</p> <p>Project: New Stearns Road over Fox River</p> <p>Location: Sec. 2 and 3, T. 40 N, R. 8 E of Geneva Quadrangle</p>	<p>Datum: NGVD Elevation: 687.01 ft North: 1984477.82 ft East: 965137.63 ft Station: 572+50 Offset: 5.0 LT</p>
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Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)
		Medium dense, brown and gray SANDY GRAVEL to GRAVELLY SAND -Water Level = 1.6ft Above River Bed-	17		1	9	NP	5	681.0		Dense, fine to medium SAND to SANDY LOAM	17		1	5	NP	20
			12		2	12	NP	6				30		2	10	NP	20
			10		3	9	NP	12				35		3	13	NP	22
	678.0	Medium dense to dense, brown, medium to coarse SAND with gravel	15		4	13	NP	9				40		4	10	NP	17
			20		5	15	NP	23				45		5	8	NP	13
	669.8	Medium dense to very dense, gray, GRAVELLY SAND	25		6	25	NP	17	645.3		Very stiff to hard, brownish gray CLAY LOAM with little gravel	45		6	20	NP	8
			25		7	25	NP	12				50		7	3	NP	13
	666.0	Dense, gray, medium to coarse SAND with trace to some gravel			8	25	NP	8						8	5	NP	8
					9	21	NP	12						9	5	NP	12
					10	21	NP	18						10	5	NP	18

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)
			55		17	4	2.62	13									
			60		18	7	10.09	11									
			65		19	10	9.10	11									
	659.3	Dense, brown and gray, medium to coarse SAND	70		20	18	4.50	12									
	618.8	Hard, gray CLAY LOAM	75		21	20	NP	8									
	615.0	Very dense, gray GRAVELLY SAND															
	613.0	Boring terminated at 74.00 ft															

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	11-29-2007	Complete Drilling	11-30-2007
Drilling Contractor	TSC	Drill Rig	Mobil B-57 ATV
Driller	D.F. & C	Logger	J. Kasnick
Checked by	E. Datz	Time After Drilling	NA
Drilling Method	3.25" ID. HSA; Mud Rotary at 43.5ft	Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	11-29-2007	Complete Drilling	11-30-2007
Drilling Contractor	TSC	Drill Rig	Mobil B-57 ATV
Driller	D.F. & C	Logger	J. Kasnick
Checked by	E. Datz	Time After Drilling	NA
Drilling Method	3.25" ID. HSA; Mud Rotary at 43.5ft	Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**SOIL BORING LOG II**

MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71  
DESIGNED: WEI DRAWN: SGW  
DATE: JANUARY 16, 2009 CHECKED: WEI CHECKED: DFM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-20-BR	KANE	320	198
STA. 511+80.00		TO STA. 609+14.92		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. S93 OF S108				

**BORING NO. S1B-1**

**BORING NO. S1B-1**

Page 1 of 3

**Wang Engineering, Inc.**  
Consulting Geotechnical and Environmental Engineers  
wangeng@wangeng.com  
1145 Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

**BORING LOG S1B-1**

WEI Job No.: 707-11-01

Datum: NGVD  
Elevation: 715.83 ft  
North: 1934488.61 ft  
East: 994504.83 ft  
Station: 566+18  
Offset: 18.0 RT

Client: Baker Engineering, Inc.  
Project: New Stearns Road over Fox River  
Location: Sec. 2 and 3, T. 40 N, R. 8 E of Geneva Quadrangle

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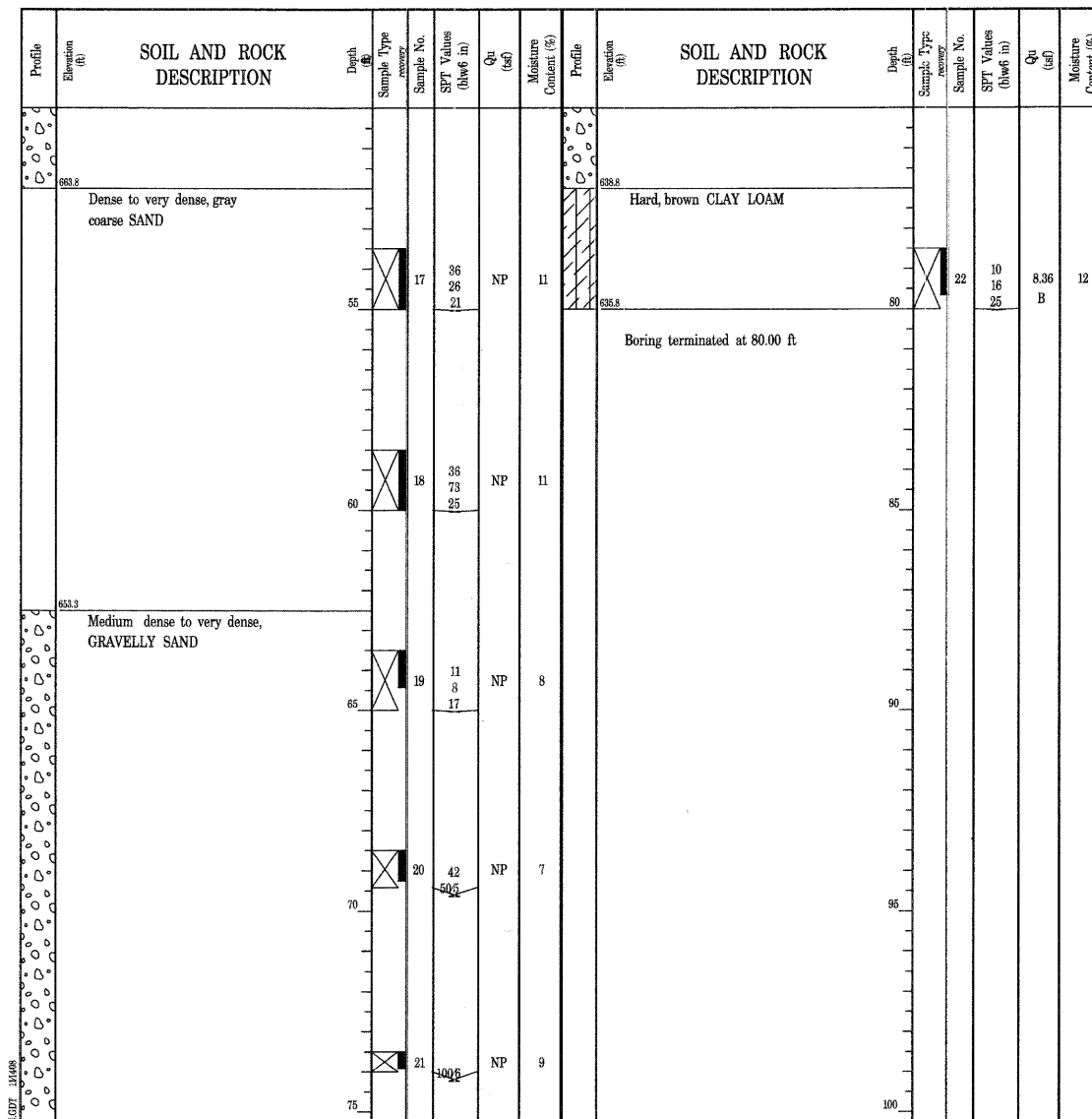
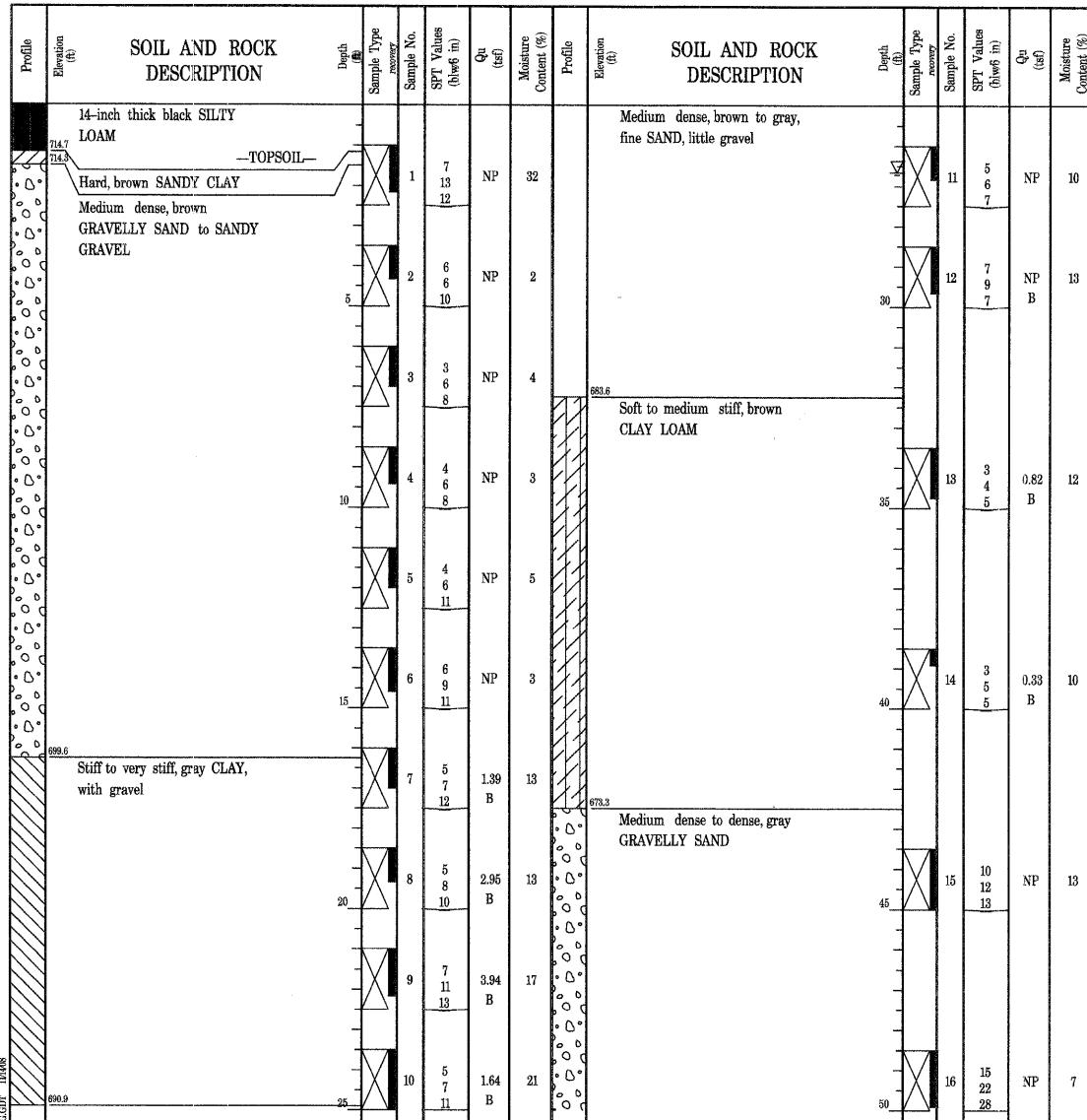
**Wang Engineering, Inc.**  
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Lombard, IL 60148  
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**BORING LOG S1B-1**

WEI Job No.: 707-11-01

Datum: NGVD  
Elevation: 715.83 ft  
North: 1934488.61 ft  
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Station: 566+18  
Offset: 18.0 RT

Client: Baker Engineering, Inc.  
Project: New Stearns Road over Fox River  
Location: Sec. 2 and 3, T. 40 N, R. 8 E of Geneva Quadrangle



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	12-13-2007	Complete Drilling	12-13-2007
Drilling Contractor	TSC	Drill Rig	CME-55 ATV
Driller	F & C	Logger	J. Kasnick
Checked by	E. Datz	While Drilling	26.66 ft
Drilling Method	3.25" ID HSA	At Completion of Drilling	NA
		Time After Drilling	NA
		Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	12-13-2007	Complete Drilling	12-13-2007
Drilling Contractor	TSC	Drill Rig	CME-55 ATV
Driller	F & C	Logger	J. Kasnick
Checked by	E. Datz	While Drilling	26.66 ft
Drilling Method	3.25" ID HSA	At Completion of Drilling	NA
		Time After Drilling	NA
		Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**SOIL BORING LOG III**

MULTI-USE PATH BRIDGE OVER THE FOX RIVER  
STRUCTURE NUMBER 045-3164  
KANE COUNTY FAP 361 SECTION 06-00214-20-BR  
STATION 572+37.71  
DATE: JANUARY 16, 2009

DESIGNED: WEI  
CHECKED: WEI

PUBLIC WATERS  
DRAWN: SGW  
CHECKED: DFM



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