

SUMMARY OF QUANTITIES

F.A. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00444-00-BR	SANGAMON	33	2
STA.	N/A	TO STA.	N/A	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*CITY OF SPRINGFIELD

SP	CODE NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
	20200100	EARTH EXCAVATION	CU YD	690
	20700400	POROUS GRANULAR EMBANKMENT (SPECIAL)	CU YD	226
	25000200	SEEDING, CLASS 2	ACRE	0.3
	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	27
	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	27
	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	27
	25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.6
	25100115	MULCH, METHOD 2	ACRE	0.3
	25100630	EROSION CONTROL BLANKET	SQ YD	704
	28000300	TEMPORARY DITCH CHECKS	EACH	4
	28100109	STONE RIPRAP, CLASS A5	SQ YD	1,473
	28200200	FILTER FABRIC	SQ YD	1,473
	31101000	SUBBASE GRANULAR MATERIAL, TYPE B	TON	497
	42000301	PORTLAND CEMENT CONCRETE PAVEMENT 8" (JOINTED)	SQ YD	676
	42001165	BRIDGE APPROACH PAVEMENT	SQ YD	348
	42001300	PROTECTIVE COAT	SQ YD	1,023
	42400100	PORTLAND CEMENT CONCRETE SIDEWALK 4 INCH	SQ FT	1,922
	44000100	PAVEMENT REMOVAL	SQ YD	992
	44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	406
	44000600	SIDEWALK REMOVAL	SQ FT	1,722
	50100200	REMOVAL OF EXISTING STRUCTURES	L SUM	1
	50200100	STRUCTURE EXCAVATION	CU YD	488
	50300100	FLOOR DRAINS	EACH	8
	50300225	CONCRETE STRUCTURES	CU YD	218.6
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	331.7
	50300260	BRIDGE DECK GROOVING	SQ YD	837
	50300280	CONCRETE ENCASEMENT	CU YD	11.2
	50300300	PROTECTIVE COAT	SQ YD	1,158
	50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
	50500505	STUD SHEAR CONNECTORS	EACH	4,830
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	93,040
	50800515	BAR SPLICERS	EACH	695
	50900105	ALUMINUM RAILING, TYPE L	FOOT	304
	50901125	STEEL RAILING (TEMPORARY)	FOOT	146
	51201600	FURNISHING STEEL PILES HP 12X53	FOOT	701
	51201610	FURNISHING STEEL PILES HP 12X63	FOOT	672

SP	CODE NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
	51202305	DRIVING PILES	FOOT	1,373
	51203600	TEST PILE STEEL HP 12X53	EACH	2
	51203610	TEST PILE STEEL HP 12X63	EACH	2
	51205200	TEMPORARY SHEET PILING	SQ FT	332
	51500100	NAME PLATES	EACH	1
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	91
	60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	186
	60260100	INLETS TO BE ADJUSTED	EACH	1
	60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	265
	67100100	MOBILIZATION	L SUM	1
	70103700	TRAFFIC CONTROL COMPLETE	L SUM	1
	70300230	TEMPORARY PAVEMENT MARKING - LINE 5"	FOOT	4,954
	70300260	TEMPORARY PAVEMENT MARKING - LINE 12"	FOOT	264
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	462.5
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	312.5
	78005120	EPOXY PAVEMENT MARKING - LINE 5"	FOOT	885
	78100200	TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER	EACH	14
	78300105	PAVEMENT MARKING REMOVAL	FOOT	885
	X0322752	WORK ZONE PAVEMENT MARKING REMOVAL	FOOT	5,218
	X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
	X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1
	Z0013798	CONSTRUCTION LAYOUT	L SUM	1
	Z0024478	FLEXIBLE DELINEATORS	EACH	14
	Z0030260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1
	Z0030330	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 3	EACH	1

Δ SPECIALTY ITEMS

CONSTRUCTION TYPE CODE: X071-2A

GENERAL NOTES:

- WHERE SECTION OR SUB-SECTION MARKERS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED AGENT OR LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE JULIE NUMBER IS 1-800-892-0123.

THE LOCATION OF ALL UTILITIES ARE BASED ON INFORMATION PROVIDED BY OTHERS AND ARE INTENDED TO BE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS CONSTRUCTION ACTIVITIES WITH THE VARIOUS UTILITY OWNERS. ALL POTENTIAL CONFLICTS SHALL BE INVESTIGATED AND REMEDIAL ACTION TAKEN PRIOR TO INTERRUPTION OF THE CONTRACTOR'S PROGRESS.

ALL UTILITIES THAT REQUIRE RELOCATION SHALL BE COMPLETED BY THE UTILITY COMPANIES.
- WHERE PROPOSED CONSTRUCTION ABUTS EXISTING APPURTENANCES, A SAW CUT SHALL BE MADE TO ACHIEVE A NEAT CONSTRUCTION JOINT. SAW CUTTING WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE FOR THE ITEM BEING CONSTRUCTED.
- ALL PRIVATE ENTRANCES AND SIDE ROADS ADJACENT TO THE PROJECT SHALL BE KEPT OPEN AT ALL TIMES.
- UTILITY POLES ARE TO BE MOVED, IF NECESSARY, BY THE UTILITY COMPANIES.
- THE FOLLOWING DENSITIES HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:
A. GRANULAR MATERIALS 2.05 TONS / CU. YD.

REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS

**SUMMARY OF QUANTITIES
GENERAL NOTES**

SCALE: NONE
DATE: 6/19/2007

DRAWN BY: GLD
CHECKED BY: SPH

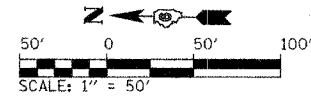
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REFERENCE = SHEET

F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	5
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

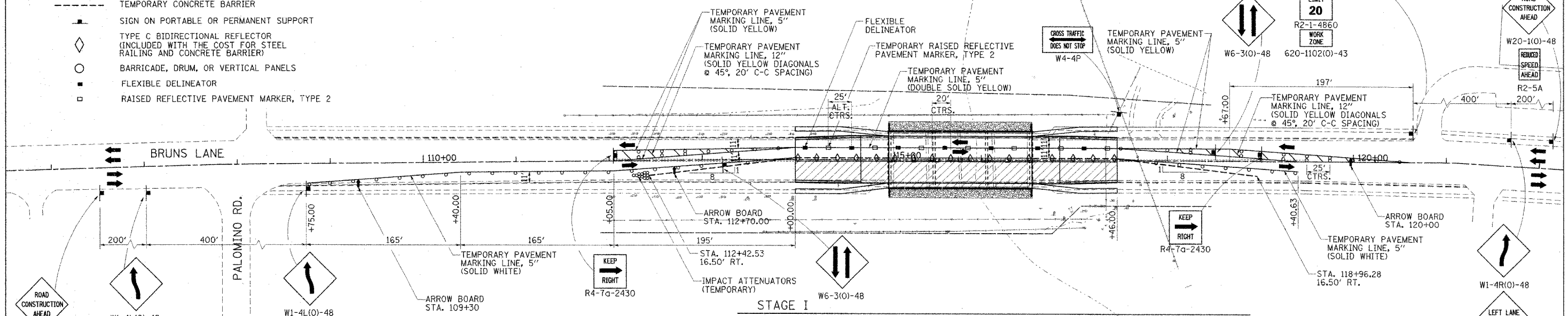
*CITY OF SPRINGFIELD

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE C BIDIRECTIONAL REFLECTOR (INCLUDED WITH THE COST FOR STEEL RAILING AND CONCRETE BARRIER)
- BARRICADE, DRUM, OR VERTICAL PANELS
- FLEXIBLE DELINEATOR
- RAISED REFLECTIVE PAVEMENT MARKER, TYPE 2



STAGE I - TRAFFIC CONTROL



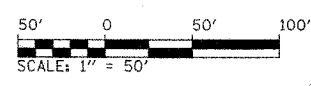
STAGE I - TRAFFIC CONTROL ITEMS

TEMPORARY STEEL RAILING	146	FOOT
TEMPORARY PAVEMENT MARKING - LINE 5"	2,448	FOOT
TEMPORARY PAVEMENT MARKING - LINE 12"	133	FOOT
TEMPORARY CONCRETE BARRIER	312.5	FOOT
TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER	7	EACH
FLEXIBLE DELINEATORS	7	EACH
IMPACT ATTENUATORS (TEMPORARY)	1	EACH

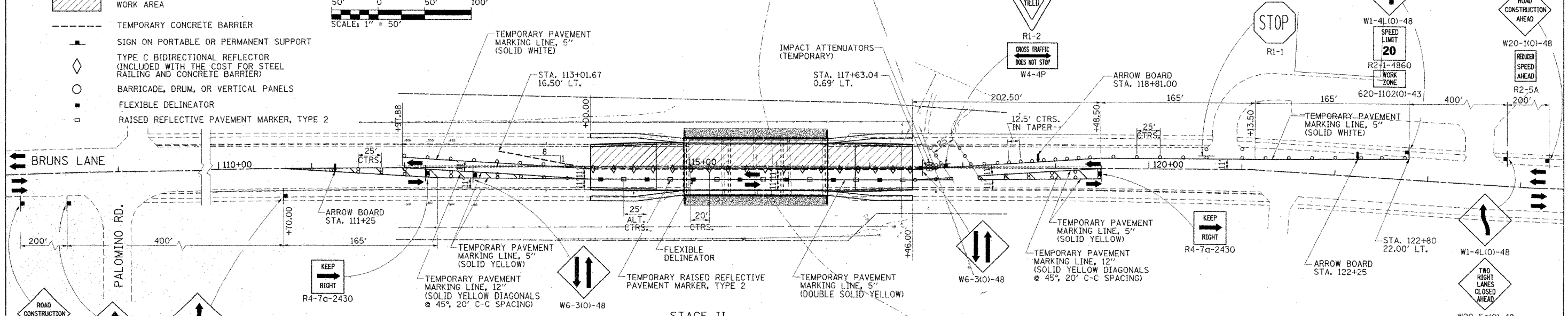
- STAGE I WORK IN STAGE I SHALL CONSIST OF THE FOLLOWING:
1. INSTALLATION OF TEMPORARY STEEL RAILING, CONCRETE BARRIER, ADVANCE WARNING SIGNS, BARRICADES, TEMPORARY IMPACT ATTENUATORS, TEMPORARY PAVEMENT MARKINGS, FLEXIBLE DELINEATORS, AND TYPE C REFLECTORS AS SHOWN ON STAGE I TRAFFIC CONTROL PLAN.
 2. REMOVAL OF EXISTING PAVEMENT MARKING THAT WILL CONFLICT WITH STAGE I TEMPORARY PAVEMENT MARKING.
 3. REMOVAL OF THE SOUTHBOUND BRIDGE DECK, SUBSTRUCTURE AND THE APPROACH PAVEMENTS.
 4. CONSTRUCTION OF THE NEW SOUTHBOUND SUBSTRUCTURE, SUPERSTRUCTURE AND APPROACH PAVEMENTS.

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE C BIDIRECTIONAL REFLECTOR (INCLUDED WITH THE COST FOR STEEL RAILING AND CONCRETE BARRIER)
- BARRICADE, DRUM, OR VERTICAL PANELS
- FLEXIBLE DELINEATOR
- RAISED REFLECTIVE PAVEMENT MARKER, TYPE 2



STAGE II - TRAFFIC CONTROL



STAGE II - TRAFFIC CONTROL ITEMS

TEMPORARY PAVEMENT MARKING - LINE 5"	2,506	FOOT
TEMPORARY PAVEMENT MARKING - LINE 12"	131	FOOT
RELOCATE TEMPORARY CONCRETE BARRIER	312.5	FOOT
TEMPORARY CONCRETE BARRIER	150	FOOT
TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER	7	EACH
FLEXIBLE DELINEATORS	7	EACH
RELOCATE IMPACT ATTENUATORS (TEMPORARY)	1	EACH

- STAGE II WORK IN STAGE II SHALL CONSIST OF THE FOLLOWING:
1. REMOVAL OF STAGE I TEMPORARY PAVEMENT MARKINGS, FLEXIBLE DELINEATORS AND TEMPORARY RAISED MARKERS.
 2. RELOCATION AND INSTALLATION OF TEMPORARY CONCRETE BARRIER, ADVANCE WARNING SIGNS, BARRICADES AND TEMPORARY IMPACT ATTENUATORS AS SHOWN ON THE STAGE II TRAFFIC CONTROL PLAN.
 3. INSTALLATION OF THE TEMPORARY PAVEMENT MARKINGS, FLEXIBLE DELINEATORS AND RAISED PAVEMENT MARKINGS.
 4. REMOVAL OF THE NORTHBOUND BRIDGE DECK, SUBSTRUCTURE, AND APPROACH PAVEMENTS.
 5. CONSTRUCTION OF THE NEW NORTHBOUND SUBSTRUCTURE, SUPERSTRUCTURE AND APPROACH PAVEMENTS.
 6. REMOVAL OF ALL TEMPORARY MARKING AND INSTALLATION OF PERMANENT PAVEMENT MARKINGS.

REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS

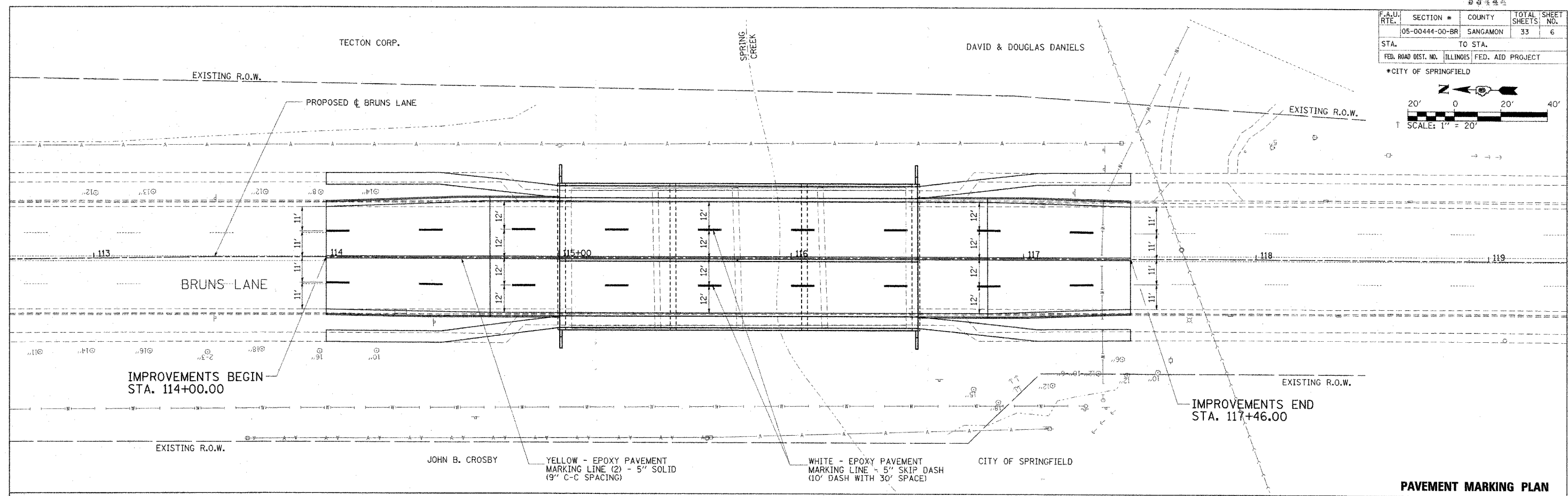
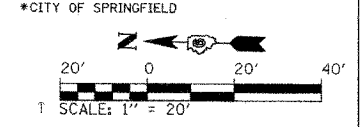
MAINTENANCE OF TRAFFIC

SCALE: NONE
DATE: 6/19/07

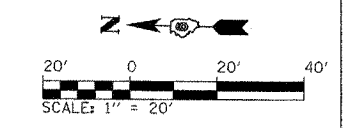
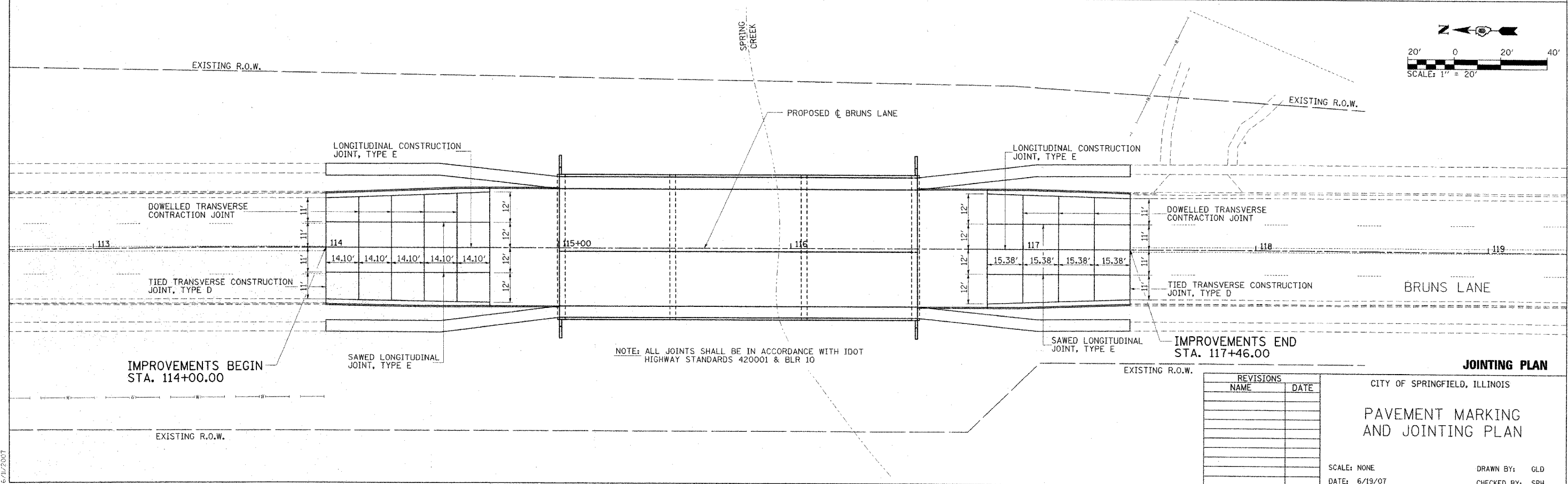
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CHECKED BY: SPH

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F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	6
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PAVEMENT MARKING PLAN



JOINTING PLAN

REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
PAVEMENT MARKING AND JOINTING PLAN

SCALE: NONE
 DATE: 6/19/07
 DRAWN BY: GLD
 CHECKED BY: SPH

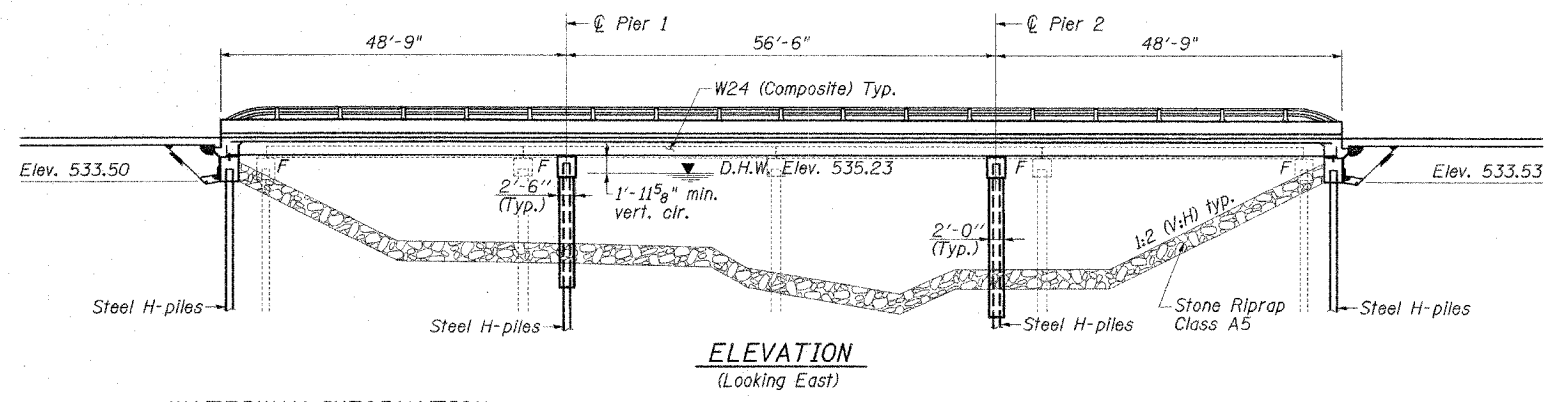
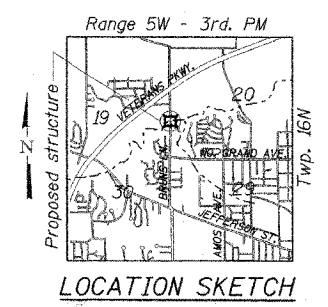
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F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	7
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
			CITY OF SPRINGFIELD SHEET 1 OF 24 SHEETS	

Bench Mark "A":
Set chisled "□" on first pier North end of bridge East side.
Elev. 542.56

Existing Structure:
S.N. 084-3040 built in 1963 as FAS 1639, Sec. 101-2 212-1CS at Sta. 115+77.50 as a 4-span prestressed concrete box beam structure 145'-0" Bk. to Bk. w/pile bent piers and abutments.

Proposed Structure:
Existing bridge to be removed and replaced with a three span wide flange beam and concrete deck bridge on integral abutments and concrete encased pile bent piers.
Traffic to be maintained utilizing staged construction.
Staged Removal
No Salvage



WATERWAY INFORMATION

Drainage Area = 107.65 sq. mi.		Exist. Low Grade Elev. 539.93 ft. @ Sta. 115+05.0		Prop. Low Grade Elev. 540.47 ft. @ Sta. 115+03.5		
Flood Yr.	Freq.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
Design	30	5841.1	1213.0	535.23	0.18	535.41
Base	100	7647.1	1358.7	536.43	0.30	536.73
Overtopping						
Max. Calc.	500	9964.7	1554.2	537.95	0.99	538.94

DESIGN SPECIFICATIONS

2004 AASHTO LRFD w/Interims thru 2006

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (reinforcement)
fy = 50,000 psi (M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.5

LOADING HL-93

Allow 50 psf for future wearing surface.

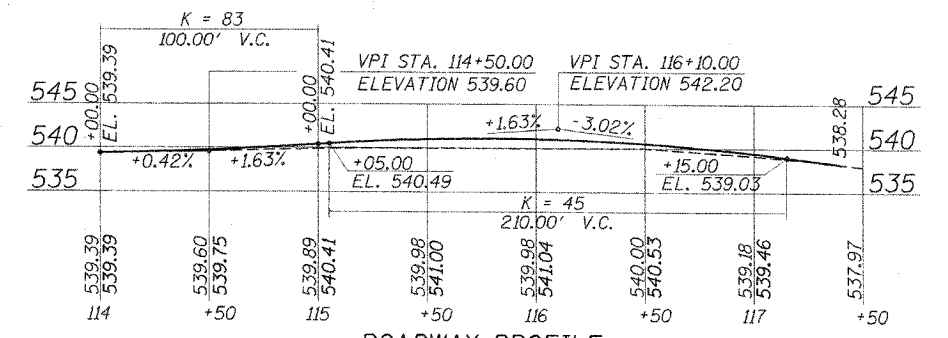
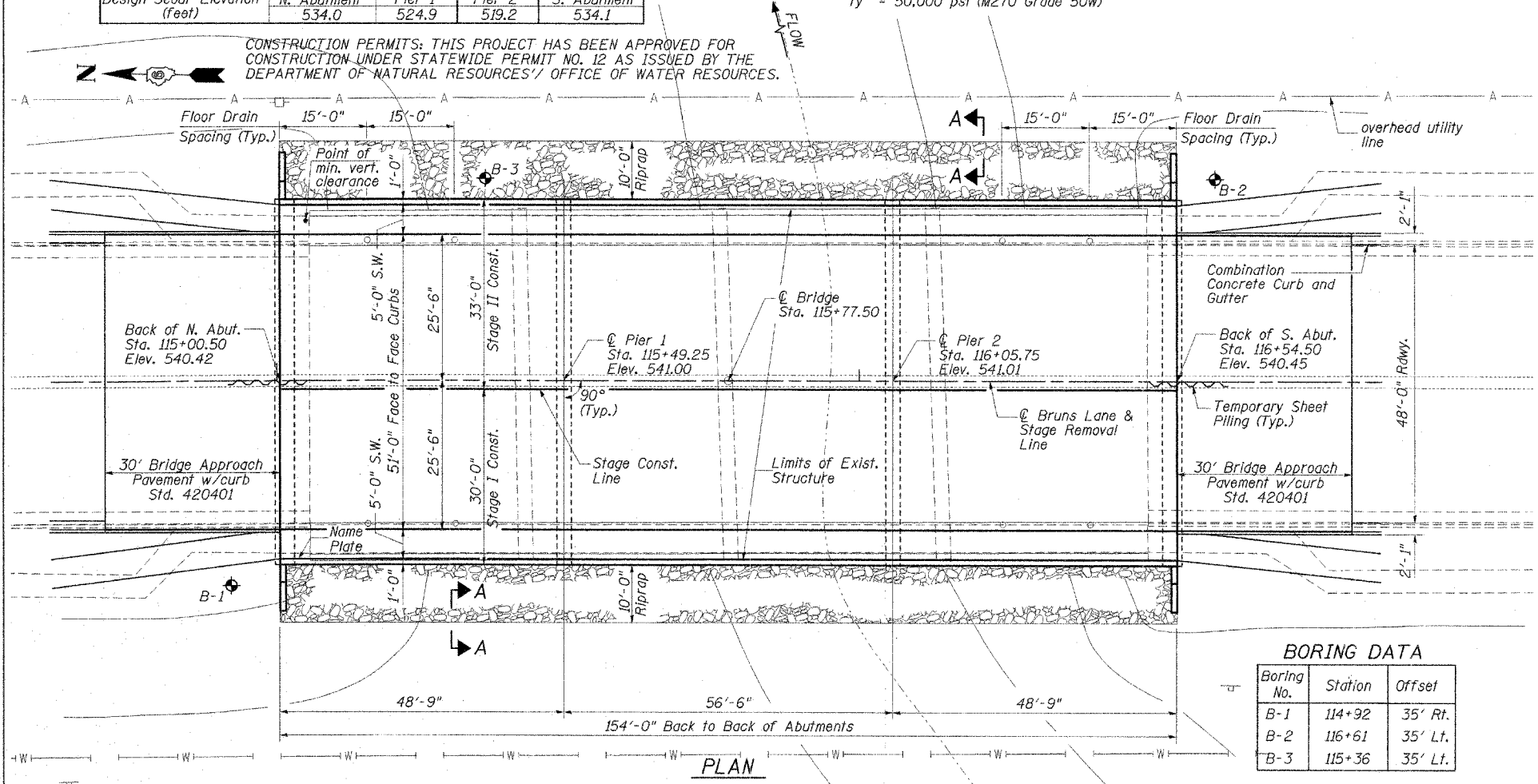
SPRING CREEK
BUILT 200_ BY
CITY OF SPRINGFIELD
SEC. 05-00444-00-BR
FAU RTE. 8006-STATION 115+77.50
STR. NO. 084-6017 LOADING HL-93

NAME PLATE
See Std. 515001

INDEX OF SHEETS

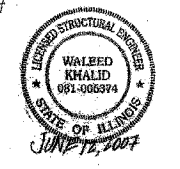
SHEET NO.	TITLE
1.	General Plan & Elevation
2.	Notes and Bill of Material
3.	Stage Construction Details
4.	Temporary Steel Railing
5.	Temporary Concrete Barrier
6.	Deck Elevations 1
7.	Deck Elevations 2
8.	Deck Elevations 3
9.	Approach Pavement Elevations
10.	Superstructure
11.	Parapet Details
12.	Aluminum Railing, Type L
13.	Abutment Diaphragm Details
14.	Framing Plan & Elevation
15.	Framing Details & Tables
16.	North Abutment
17.	South Abutment
18.	Pier 1
19.	Pier 2
20.	Bar Splicer Assembly Details
21.	Steel H-Pile Details
22.	Cantilever Forming Brackets
23.	Boring Logs 1
24.	Boring Logs 2

CONSTRUCTION PERMITS: THIS PROJECT HAS BEEN APPROVED FOR CONSTRUCTION UNDER STATEWIDE PERMIT NO. 12 AS ISSUED BY THE DEPARTMENT OF NATURAL RESOURCES/ OFFICE OF WATER RESOURCES.



I certify that to the best of my knowledge, information and belief, that 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."

Waleed Khalid, S.E.
Illinois Licensed Structural Engineer
License Number: 081-006374
Expiration Date: November 30, 2008



NOTES:

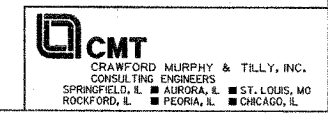
1. See Sheet 2 of 24 for Section A-A.

BORING DATA

Boring No.	Station	Offset
B-1	114+92	35' Rt.
B-2	116+61	35' Lt.
B-3	115+36	35' Lt.

REVISIONS	
NAME	DATE

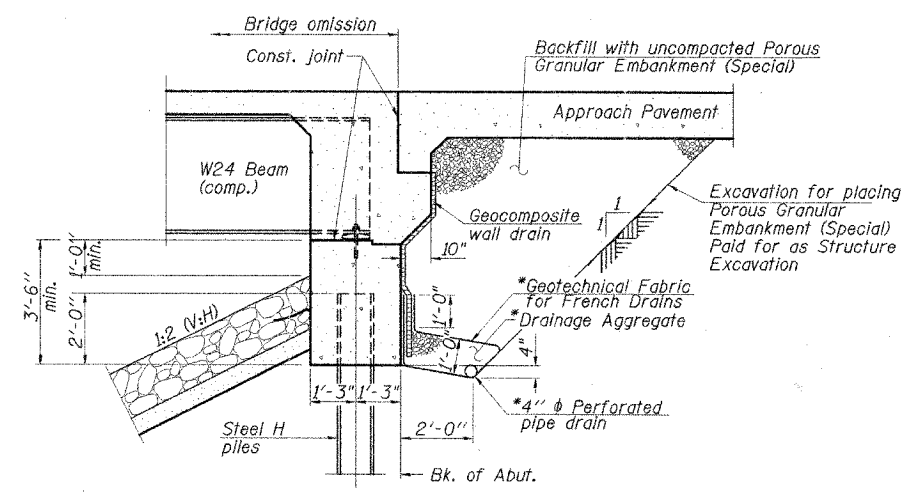
CITY OF SPRINGFIELD, ILLINOIS
GENERAL PLAN & ELEVATION
FAU 8006-BRUNS LANE OVER SPRING CREEK
SECTION 05-00444-00-BR
SANGAMON COUNTY
STATION 115+77.50 S.N. 084-6017
SCALE: NONE DRAWN BY: GLD
DATE: 6/19/07 CHECKED BY: WK



F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	8
STA. N/A	TO STA. N/A			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
*CITY OF SPRINGFIELD SHEET 2 OF 24 SHEETS				

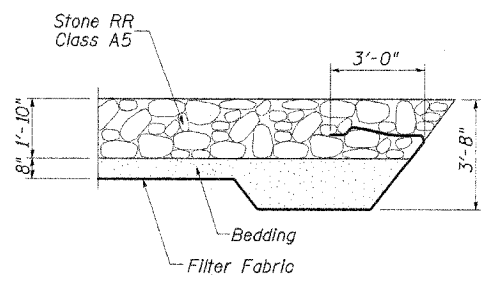
GENERAL NOTES

- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts $\frac{7}{8}$ in. ϕ , holes $\frac{5}{16}$ in. ϕ , unless otherwise noted.
- Calculated weight of Structural Steel = 168,600 pounds
- All structural steel shall be AASHTO M 270 Grade 50W.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.
- 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.

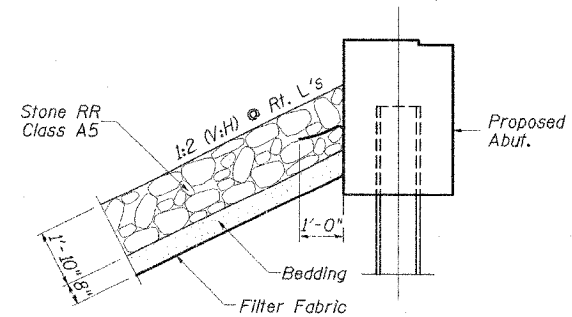


*Included in the cost of Pipe Underdrains for Structures 4"
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

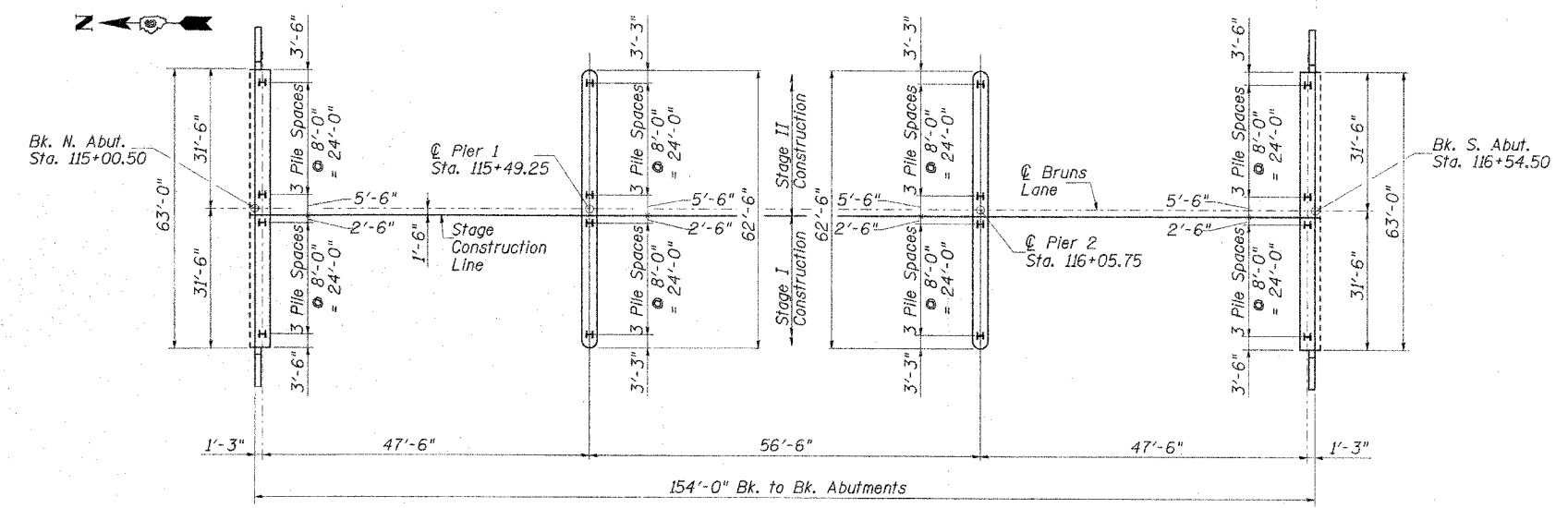
SECTION THRU INTEGRAL ABUTMENT



SECTION A-A
(See Sheet 1 of 24 for location)



SECTION THRU RIPRAP SLOPE



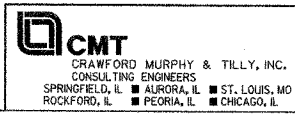
FOOTING LAYOUT

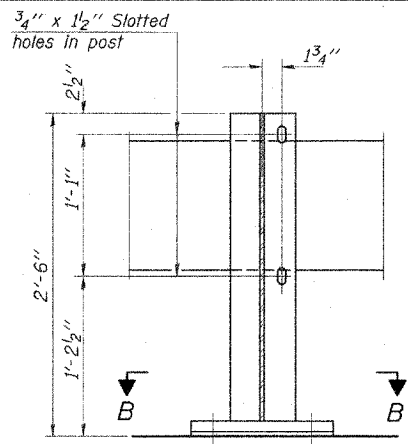
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		226	226
Stone Riprap, Class A5	Sq. Yd.		1473	1473
Filter Fabric	Sq. Yd.		1473	1473
Removal of Existing Structures	L. Sum			1
Structure Excavation	Cu. Yd.		488	488
Floor Drains	Each	8		8
Concrete Structures	Cu. Yd.		218.6	218.6
Concrete Superstructure	Cu. Yd.	331.7		331.7
Bridge Deck Grooving	Sq. Yd.	837		837
Concrete Encasement	Cu. Yd.		11.2	11.2
Protective Coat	Sq. Yd.	1158		1158
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	4830		4830
Reinforcement Bars, Epoxy Coated	Pound	70,290	22,750	93,040
Bar Splicers	Each	587	108	695
Aluminum Railing, Type L	Foot	304		304
Steel Railing (Temporary)	Foot	146		146
Furnishing Steel Piles HP 12x53	Foot		701	701
Furnishing Steel Piles HP 12x63	Foot		672	672
Driving Piles	Foot		1373	1373
Test Pile Steel HP 12x53	Each		2	2
Test Pile Steel HP 12x63	Each		2	2
Temporary Sheet Piling	Sq. Ft.		332	332
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		91	91
Pipe Underdrains for Structures 4"	Foot		186	186
Underwater Structure Excavation Protection - Location 1 (Pier 1)	Each		1	1
Underwater Structure Excavation Protection - Location 2 (Pier 2)	Each		1	1
Bridge Approach Pavement	Sq. Yd.			348

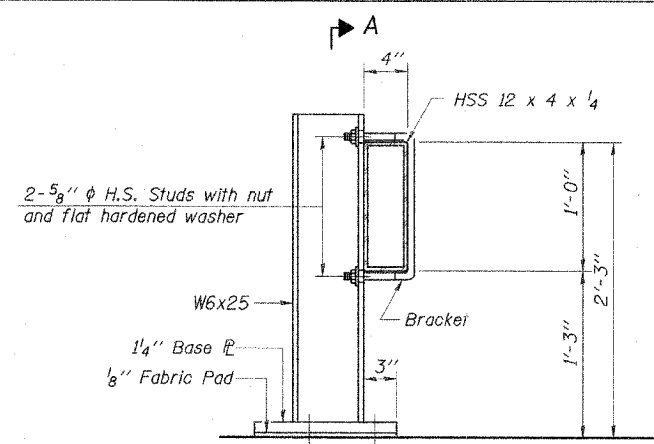
REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
NOTES AND BILL OF MATERIAL
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK

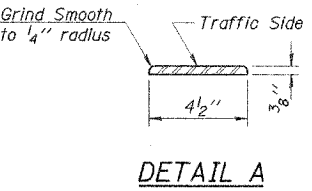




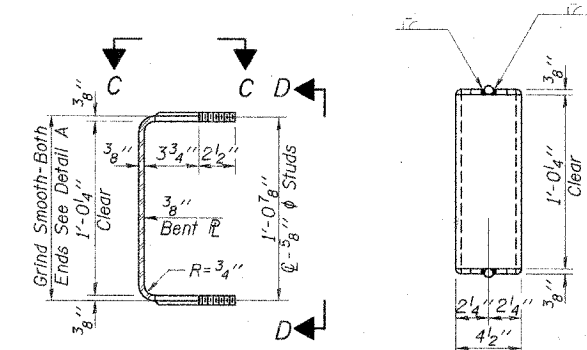
SECTION A-A



SECTION AT RAIL POST

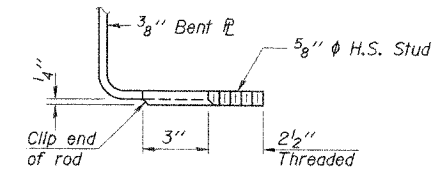


DETAIL A

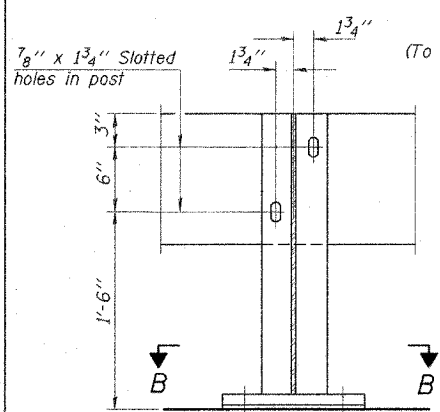


SECTION THRU BRACKET

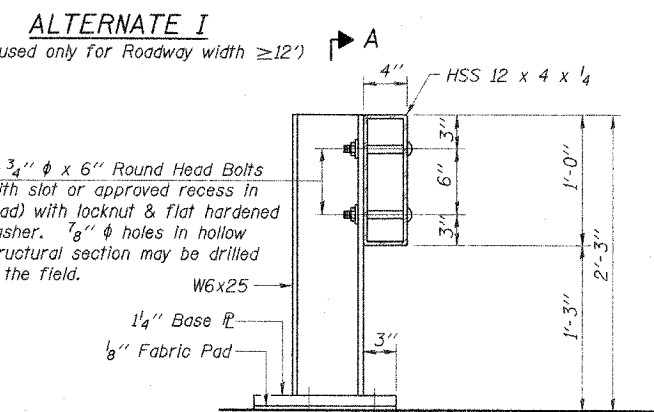
VIEW D-D



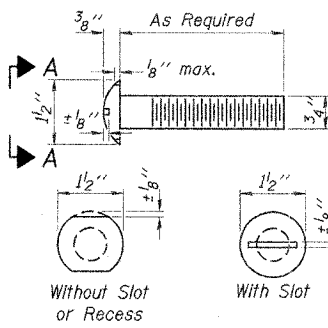
VIEW E-E



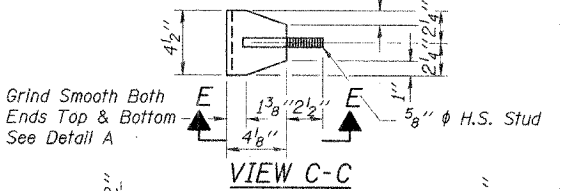
SECTION A-A



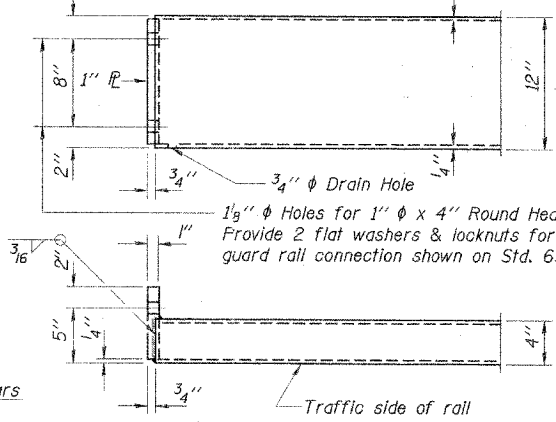
SECTION AT RAIL POST



VIEW A-A ROUND HEAD BOLT

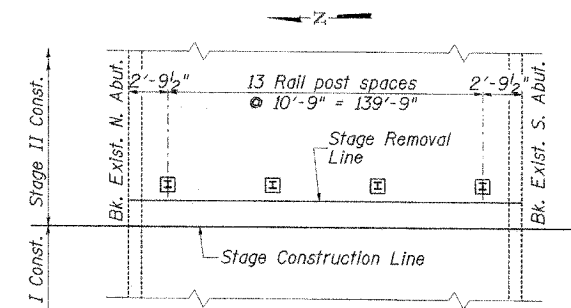


VIEW C-C

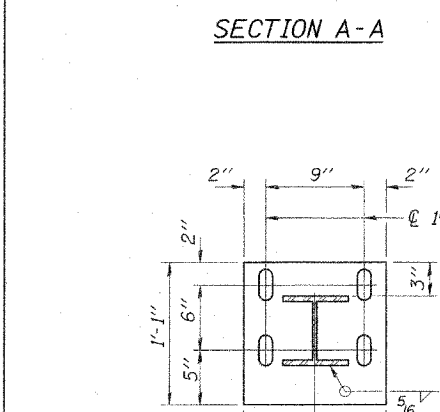


END OF RAIL DETAILS

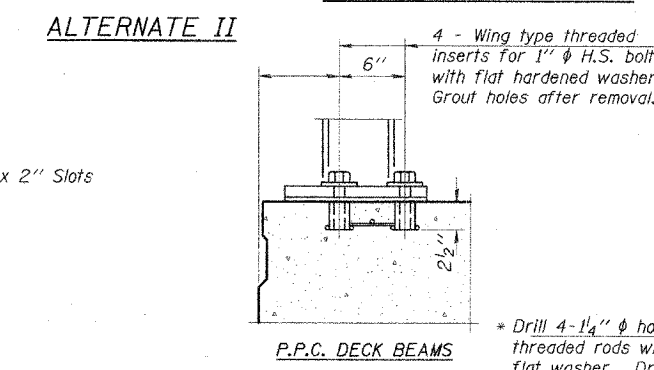
Notes:
 See Rail Post spacing detail this sheet.
 The contact surfaces between post flange, rail and inside face of bracket for Alternate I shall be free of all lubricants.
 The nut for 5/8\"/>



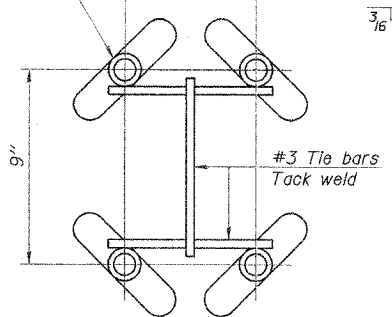
TEMPORARY BRIDGE RAIL POST SPACING PLAN



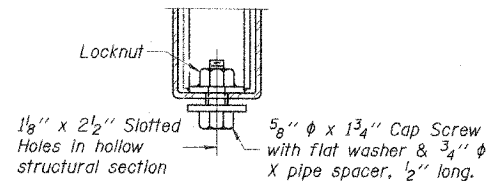
SECTION B-B



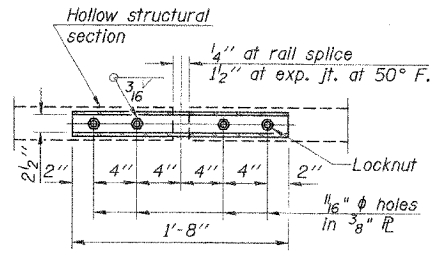
P.P.C. DECK BEAMS



INSERT DETAIL



RAIL SPLICE CONNECTION AT EXPANSION JT.



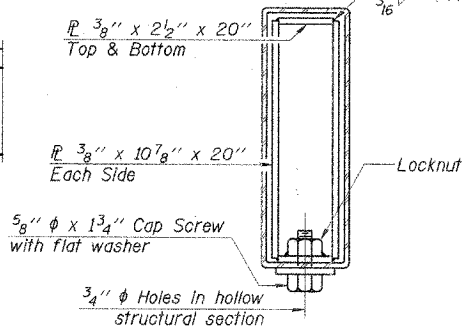
PLAN-BOTT. SPLICE TYPICAL

* Drilled holes for existing deck.

* Drill 4-1 1/4\"/>

* 4-1 1/4\"/>

ANCHORAGE DETAILS



SECTION AT RAIL SPLICE

Item	Unit	Quantity
Steel Railing (Temporary)	Foot	146

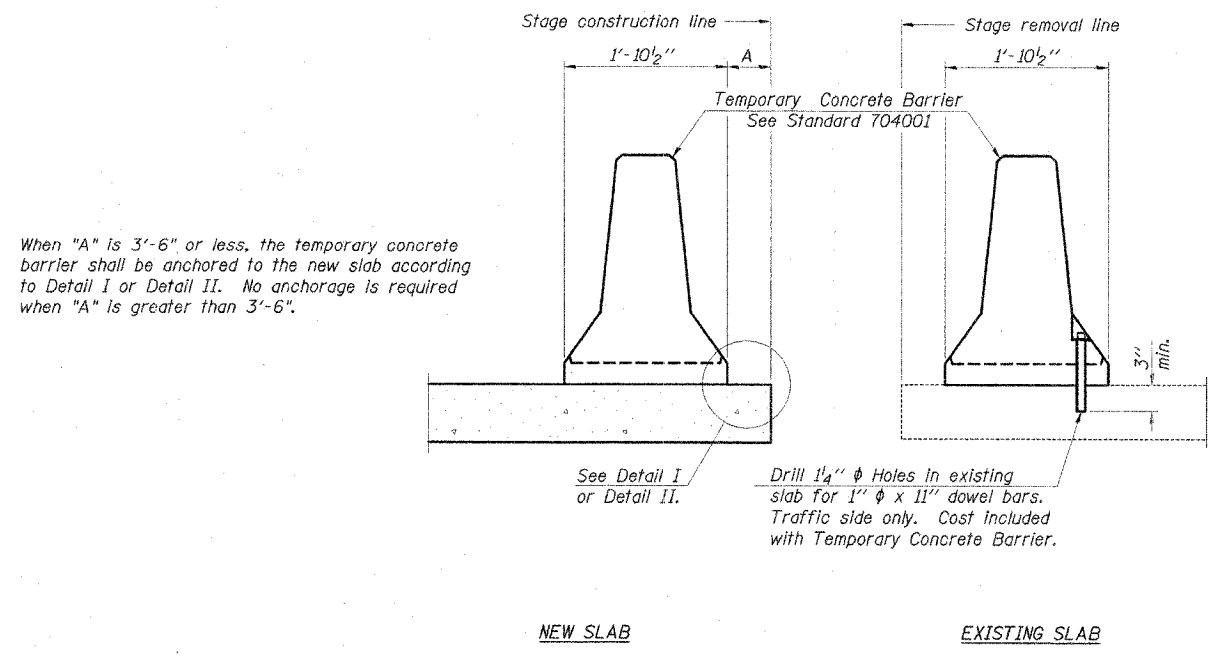
BILL OF MATERIAL

REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
 TEMPORARY STEEL RAILING
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK

CMT
 CRAWFORD MURPHY & TILLY, INC.
 CONSULTING ENGINEERS
 SPRINGFIELD, ILL. ■ AURORA, ILL. ■ ST. LOUIS, MO
 ROCKFORD, ILL. ■ PEORIA, ILL. ■ CHICAGO, ILL.

F.A.D. RTE.	SECTION *	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00444-00-BR	SANGAMON	33	11
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
*CITY OF SPRINGFIELD SHEET 5 OF 24 SHEETS				



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

See Detail I or Detail II.
 Drill 1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

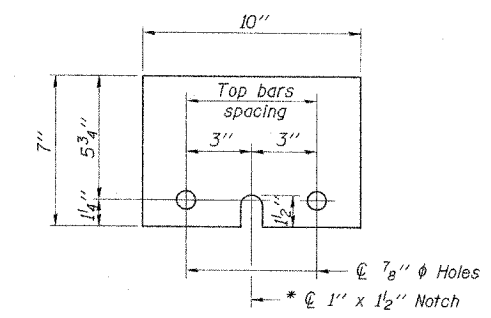
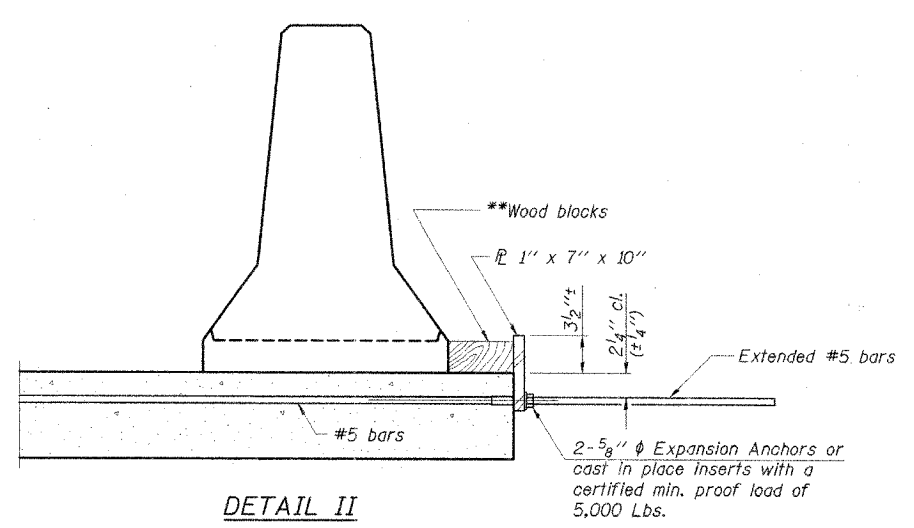
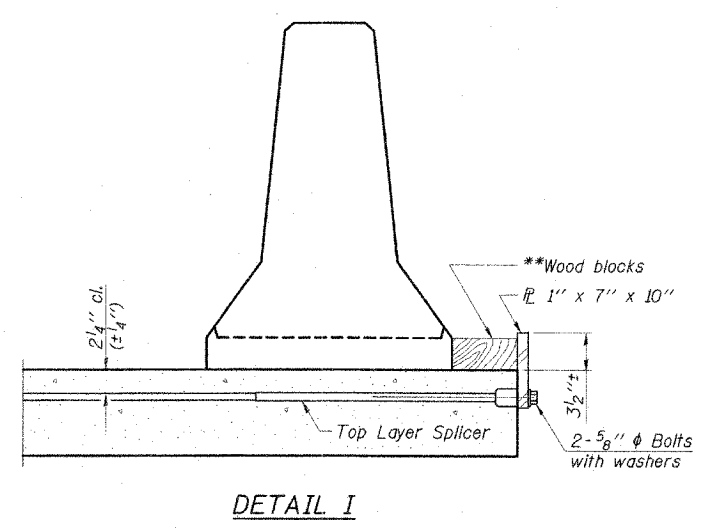
SECTIONS THRU SLAB

NOTES

Detail I - With Bar Splicer or Couplers:
 Connect one (1) 1"x7"x10" steel \bar{r} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{c} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
 Connect one (1) 1"x7"x10" steel \bar{r} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{c} of each barrier panel.

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



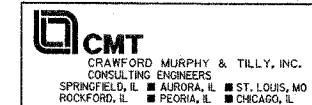
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

STEEL RETAINER 1" x 7" x 10"
 * Required only with Detail II

L:\Springfield\0502503\Draw\Sheets\TEMP CONC BARR R-27.dgn 6/12/2007

R-27

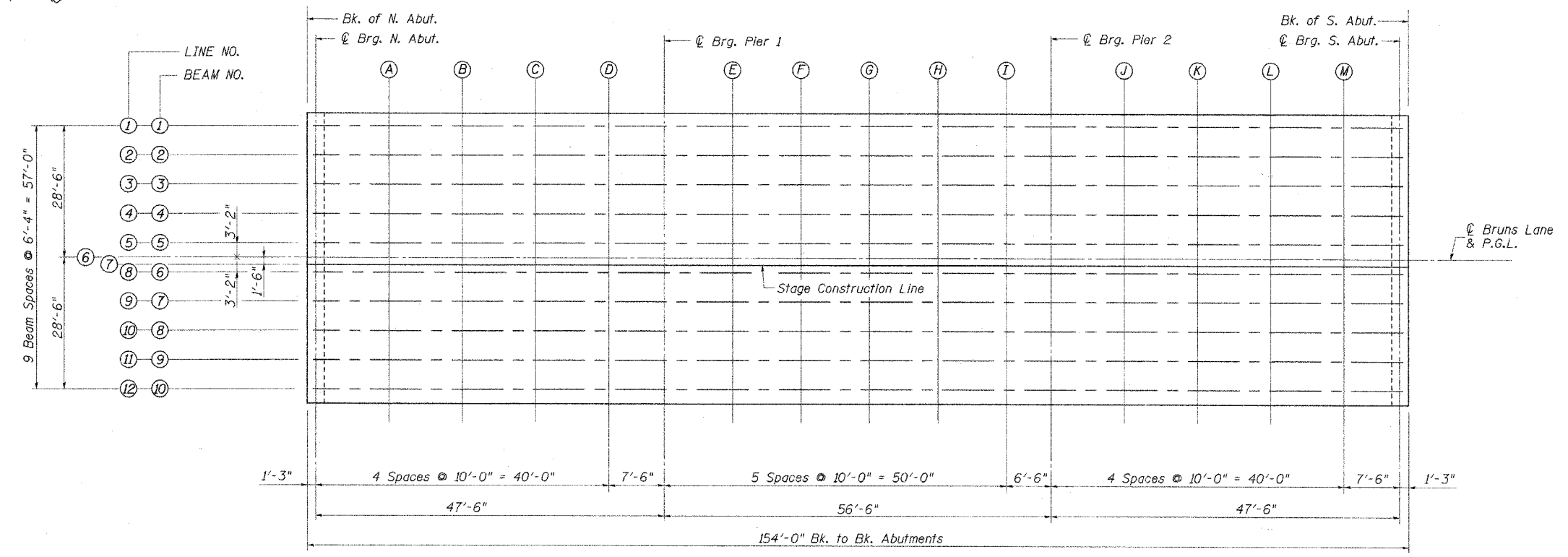
11-1-06



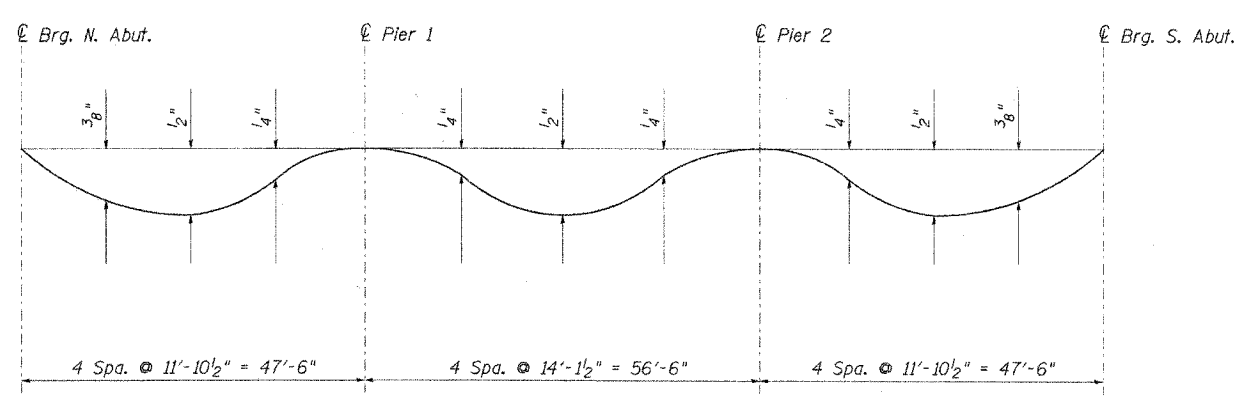
REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
TEMPORARY CONCRETE BARRIER
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK

F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00444-00-BR	SANGAMON	33	12
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
*CITY OF SPRINGFIELD SHEET 6 OF 24 SHEETS				

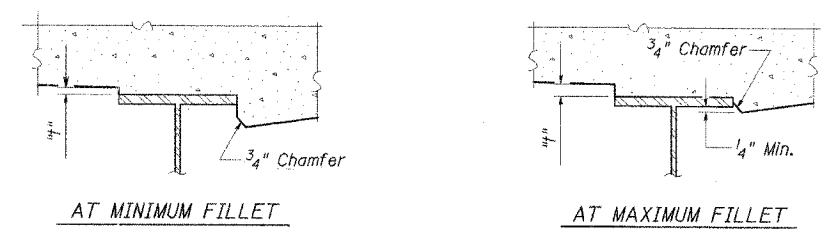


LAYOUT PLAN FOR DECK ELEVATIONS



DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)

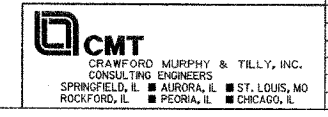
NOTE: The above deflections are not for use in the field if the engineer is working from the theoretical grade elevations adjusted for dead load deflection shown on sheets 7 & 8 of 24.



METHOD OF DETERMINING FILLET HEIGHTS "H"
After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the stations shown on Sheets 7 & 8. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 7 & 8, minus slab thickness equals the fillet heights "H" above top flange of girders.

NOTES:
1. Work this Sheet with Sheets 7 & 8 of 24.

REVISIONS	
NAME	DATE



CITY OF SPRINGFIELD, ILLINOIS
DECK ELEVATIONS 1
FAU 8006-BRUNS LANE OVER SPRING CREEK
SECTION 05-00444-00-BR
SANGAMON COUNTY
STATION 115+77.50 S.N. 084-6017
SCALE: NONE DRAWN BY: GLD
DATE: 6/19/07 CHECKED BY: WK

BEAM 1 - (LINE NO.1)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	-28.500	540.056	540.056
⊕ Brg. N. Abut.	115+01.75	-28.500	540.076	540.076
1 A	115+11.75	-28.500	540.234	540.261
1 B	115+21.75	-28.500	540.370	540.409
1 C	115+31.75	-28.500	540.485	540.514
1 D	115+41.75	-28.500	540.577	540.587
⊕ Pier 1	115+49.25	-28.500	540.632	540.632
1 E	115+59.25	-28.500	540.685	540.697
1 F	115+69.25	-28.500	540.717	540.745
1 G	115+79.25	-28.500	540.726	540.760
1 H	115+89.25	-28.500	540.713	540.737
1 I	115+99.25	-28.500	540.678	540.684
⊕ Pier 2	116+05.75	-28.500	540.644	540.644
1 J	116+15.75	-28.500	540.572	540.587
1 K	116+25.75	-28.500	540.479	540.512
1 L	116+35.75	-28.500	540.363	540.401
1 M	116+45.75	-28.500	540.225	540.247
⊕ Brg. S. Abut.	116+53.25	-28.500	540.108	540.108
Bk. South Abut.	116+54.50	-28.500	540.087	540.087

BEAM 2 - (LINE NO.2)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	-22.167	540.021	540.021
⊕ Brg. N. Abut.	115+01.75	-22.167	540.042	540.042
2 A	115+11.75	-22.167	540.199	540.227
2 B	115+21.75	-22.167	540.336	540.374
2 C	115+31.75	-22.167	540.450	540.480
2 D	115+41.75	-22.167	540.542	540.552
⊕ Pier 1	115+49.25	-22.167	540.597	540.597
2 E	115+59.25	-22.167	540.651	540.662
2 F	115+69.25	-22.167	540.682	540.711
2 G	115+79.25	-22.167	540.691	540.725
2 H	115+89.25	-22.167	540.678	540.702
2 I	115+99.25	-22.167	540.644	540.649
⊕ Pier 2	116+05.75	-22.167	540.609	540.609
2 J	116+15.75	-22.167	540.538	540.552
2 K	116+25.75	-22.167	540.444	540.478
2 L	116+35.75	-22.167	540.328	540.366
2 M	116+45.75	-22.167	540.191	540.212
⊕ Brg. S. Abut.	116+53.25	-22.167	540.073	540.073
Bk. South Abut.	116+54.50	-22.167	540.052	540.052

BEAM 3 - (LINE NO.3)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	-15.833	540.153	540.153
⊕ Brg. N. Abut.	115+01.75	-15.833	540.174	540.174
3 A	115+11.75	-15.833	540.331	540.359
3 B	115+21.75	-15.833	540.468	540.506
3 C	115+31.75	-15.833	540.582	540.612
3 D	115+41.75	-15.833	540.674	540.684
⊕ Pier 1	115+49.25	-15.833	540.729	540.729
3 E	115+59.25	-15.833	540.782	540.794
3 F	115+69.25	-15.833	540.814	540.843
3 G	115+79.25	-15.833	540.823	540.857
3 H	115+89.25	-15.833	540.810	540.834
3 I	115+99.25	-15.833	540.776	540.781
⊕ Pier 2	116+05.75	-15.833	540.741	540.741
3 J	116+15.75	-15.833	540.670	540.684
3 K	116+25.75	-15.833	540.576	540.610
3 L	116+35.75	-15.833	540.460	540.498
3 M	116+45.75	-15.833	540.323	540.344
⊕ Brg. S. Abut.	116+53.25	-15.833	540.205	540.205
Bk. South Abut.	116+54.50	-15.833	540.184	540.184

BEAM 4 - (LINE NO.4)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	-9.500	540.272	540.272
⊕ Brg. N. Abut.	115+01.75	-9.500	540.293	540.293
4 A	115+11.75	-9.500	540.450	540.478
4 B	115+21.75	-9.500	540.586	540.625
4 C	115+31.75	-9.500	540.701	540.731
4 D	115+41.75	-9.500	540.793	540.803
⊕ Pier 1	115+49.25	-9.500	540.848	540.848
4 E	115+59.25	-9.500	540.901	540.913
4 F	115+69.25	-9.500	540.933	540.961
4 G	115+79.25	-9.500	540.942	540.976
4 H	115+89.25	-9.500	540.929	540.953
4 I	115+99.25	-9.500	540.894	540.900
⊕ Pier 2	116+05.75	-9.500	540.860	540.860
4 J	116+15.75	-9.500	540.788	540.803
4 K	116+25.75	-9.500	540.695	540.729
4 L	116+35.75	-9.500	540.579	540.617
4 M	116+45.75	-9.500	540.442	540.463
⊕ Brg. S. Abut.	116+53.25	-9.500	540.324	540.324
Bk. South Abut.	116+54.50	-9.500	540.303	540.303

BEAM 5 - (LINE NO.5)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	-3.167	540.371	540.371
⊕ Brg. N. Abut.	115+01.75	-3.167	540.391	540.391
5 A	115+11.75	-3.167	540.549	540.576
5 B	115+21.75	-3.167	540.685	540.724
5 C	115+31.75	-3.167	540.800	540.830
5 D	115+41.75	-3.167	540.892	540.902
⊕ Pier 1	115+49.25	-3.167	540.947	540.947
5 E	115+59.25	-3.167	541.000	541.012
5 F	115+69.25	-3.167	541.032	541.060
5 G	115+79.25	-3.167	541.041	541.075
5 H	115+89.25	-3.167	541.028	541.052
5 I	115+99.25	-3.167	540.993	540.999
⊕ Pier 2	116+05.75	-3.167	540.959	540.959
5 J	116+15.75	-3.167	540.887	540.902
5 K	116+25.75	-3.167	540.794	540.827
5 L	116+35.75	-3.167	540.678	540.716
5 M	116+45.75	-3.167	540.541	540.562
⊕ Brg. S. Abut.	116+53.25	-3.167	540.423	540.423
Bk. South Abut.	116+54.50	-3.167	540.402	540.402

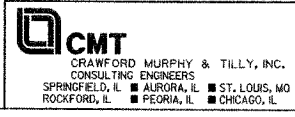
⊕ BRUNS LANE & PGL - (LINE NO.6)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	0.000	540.421	540.421
⊕ Brg. N. Abut.	115+01.75	0.000	540.441	540.441
6 A	115+11.75	0.000	540.598	540.626
6 B	115+21.75	0.000	540.735	540.774
6 C	115+31.75	0.000	540.849	540.879
6 D	115+41.75	0.000	540.942	540.951
⊕ Pier 1	115+49.25	0.000	540.996	540.996
6 E	115+59.25	0.000	541.050	541.062
6 F	115+69.25	0.000	541.081	541.110
6 G	115+79.25	0.000	541.091	541.125
6 H	115+89.25	0.000	541.078	541.101
6 I	115+99.25	0.000	541.043	541.049
⊕ Pier 2	116+05.75	0.000	541.008	541.008
6 J	116+15.75	0.000	540.937	540.952
6 K	116+25.75	0.000	540.843	540.877
6 L	116+35.75	0.000	540.728	540.765
6 M	116+45.75	0.000	540.590	540.611
⊕ Brg. S. Abut.	116+53.25	0.000	540.472	540.472
Bk. South Abut.	116+54.50	0.000	540.451	540.451

NOTES:
1. Work this Sheet with Sheet 6 of 24.

REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
DECK ELEVATIONS 2
FAU 8006-BRUNS LANE OVER SPRING CREEK
SECTION 05-00444-00-BR
SANGAMON COUNTY
STATION 115+77.50 S.N. 084-6017
SCALE: NONE DRAWN BY: GLD
DATE: 6/19/07 CHECKED BY: WK



L:\Springfield\0502503\Draw\Sheets\DECK ELEVATION 2.dgn 6/12/2007

STAGE CONSTRUCTION LINE - (LINE NO.7)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	+1.500	540.397	540.397
Ⓞ Brg. N. Abut.	115+01.75	+1.500	540.418	540.418
7 A	115+11.75	+1.500	540.575	540.603
7 B	115+21.75	+1.500	540.711	540.750
7 C	115+31.75	+1.500	540.826	540.856
7 D	115+41.75	+1.500	540.918	540.928
Ⓞ Pier 1	115+49.25	+1.500	540.973	540.973
7 E	115+59.25	+1.500	541.026	541.038
7 F	115+69.25	+1.500	541.058	541.086
7 G	115+79.25	+1.500	541.101	541.101
7 H	115+89.25	+1.500	541.054	541.078
7 I	115+99.25	+1.500	541.019	541.025
Ⓞ Pier 2	116+05.75	+1.500	540.985	540.985
7 J	116+15.75	+1.500	540.913	540.928
7 K	116+25.75	+1.500	540.820	540.854
7 L	116+35.75	+1.500	540.704	540.742
7 M	116+45.75	+1.500	540.567	540.588
Ⓞ Brg. S. Abut.	116+53.25	+1.500	540.449	540.449
Bk. South Abut.	116+54.50	+1.500	540.428	540.428

BEAM 6 - (LINE NO.8)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	+3.167	540.371	540.371
Ⓞ Brg. N. Abut.	115+01.75	+3.167	540.391	540.391
8 A	115+11.75	+3.167	540.549	540.576
8 B	115+21.75	+3.167	540.685	540.724
8 C	115+31.75	+3.167	540.800	540.830
8 D	115+41.75	+3.167	540.892	540.902
Ⓞ Pier 1	115+49.25	+3.167	540.947	540.947
8 E	115+59.25	+3.167	541.000	541.012
8 F	115+69.25	+3.167	541.032	541.060
8 G	115+79.25	+3.167	541.041	541.075
8 H	115+89.25	+3.167	541.028	541.052
8 I	115+99.25	+3.167	540.993	540.999
Ⓞ Pier 2	116+05.75	+3.167	540.959	540.959
8 J	116+15.75	+3.167	540.887	540.902
8 K	116+25.75	+3.167	540.794	540.827
8 L	116+35.75	+3.167	540.678	540.716
8 M	116+45.75	+3.167	540.541	540.562
Ⓞ Brg. S. Abut.	116+53.25	+3.167	540.423	540.423
Bk. South Abut.	116+54.50	+3.167	540.402	540.402

BEAM 7 - (LINE NO.9)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	+9.500	540.272	540.272
Ⓞ Brg. N. Abut.	115+01.75	+9.500	540.293	540.293
9 A	115+11.75	+9.500	540.450	540.478
9 B	115+21.75	+9.500	540.586	540.625
9 C	115+31.75	+9.500	540.701	540.731
9 D	115+41.75	+9.500	540.793	540.803
Ⓞ Pier 1	115+49.25	+9.500	540.848	540.848
9 E	115+59.25	+9.500	540.901	540.913
9 F	115+69.25	+9.500	540.933	540.961
9 G	115+79.25	+9.500	540.942	540.976
9 H	115+89.25	+9.500	540.929	540.953
9 I	115+99.25	+9.500	540.894	540.900
Ⓞ Pier 2	116+05.75	+9.500	540.860	540.860
9 J	116+15.75	+9.500	540.788	540.803
9 K	116+25.75	+9.500	540.695	540.729
9 L	116+35.75	+9.500	540.579	540.617
9 M	116+45.75	+9.500	540.442	540.463
Ⓞ Brg. S. Abut.	116+53.25	+9.500	540.324	540.324
Bk. South Abut.	116+54.50	+9.500	540.303	540.303

BEAM 8 - (LINE NO.10)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	+15.833	540.153	540.153
Ⓞ Brg. N. Abut.	115+01.75	+15.833	540.174	540.174
10 A	115+11.75	+15.833	540.331	540.359
10 B	115+21.75	+15.833	540.468	540.506
10 C	115+31.75	+15.833	540.582	540.612
10 D	115+41.75	+15.833	540.674	540.684
Ⓞ Pier 1	115+49.25	+15.833	540.729	540.729
10 E	115+59.25	+15.833	540.782	540.794
10 F	115+69.25	+15.833	540.814	540.843
10 G	115+79.25	+15.833	540.823	540.857
10 H	115+89.25	+15.833	540.810	540.834
10 I	115+99.25	+15.833	540.776	540.781
Ⓞ Pier 2	116+05.75	+15.833	540.741	540.741
10 J	116+15.75	+15.833	540.670	540.684
10 K	116+25.75	+15.833	540.576	540.610
10 L	116+35.75	+15.833	540.460	540.498
10 M	116+45.75	+15.833	540.323	540.344
Ⓞ Brg. S. Abut.	116+53.25	+15.833	540.205	540.205
Bk. South Abut.	116+54.50	+15.833	540.184	540.184

BEAM 9 - (LINE NO.11)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	+22.167	540.021	540.021
Ⓞ Brg. N. Abut.	115+01.75	+22.167	540.042	540.042
11 A	115+11.75	+22.167	540.199	540.227
11 B	115+21.75	+22.167	540.336	540.374
11 C	115+31.75	+22.167	540.450	540.480
11 D	115+41.75	+22.167	540.542	540.552
Ⓞ Pier 1	115+49.25	+22.167	540.597	540.597
11 E	115+59.25	+22.167	540.651	540.662
11 F	115+69.25	+22.167	540.682	540.711
11 G	115+79.25	+22.167	540.691	540.725
11 H	115+89.25	+22.167	540.678	540.702
11 I	115+99.25	+22.167	540.644	540.649
Ⓞ Pier 2	116+05.75	+22.167	540.609	540.609
11 J	116+15.75	+22.167	540.538	540.552
11 K	116+25.75	+22.167	540.444	540.478
11 L	116+35.75	+22.167	540.328	540.366
11 M	116+45.75	+22.167	540.191	540.212
Ⓞ Brg. S. Abut.	116+53.25	+22.167	540.073	540.073
Bk. South Abut.	116+54.50	+22.167	540.052	540.052

BEAM 10 - (LINE NO.12)

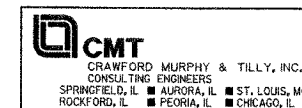
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. North Abut.	115+00.50	+28.500	540.056	540.056
Ⓞ Brg. N. Abut.	115+01.75	+28.500	540.076	540.076
12 A	115+11.75	+28.500	540.234	540.261
12 B	115+21.75	+28.500	540.370	540.409
12 C	115+31.75	+28.500	540.485	540.514
12 D	115+41.75	+28.500	540.577	540.587
Ⓞ Pier 1	115+49.25	+28.500	540.632	540.632
12 E	115+59.25	+28.500	540.685	540.697
12 F	115+69.25	+28.500	540.717	540.745
12 G	115+79.25	+28.500	540.726	540.760
12 H	115+89.25	+28.500	540.713	540.737
12 I	115+99.25	+28.500	540.678	540.684
Ⓞ Pier 2	116+05.75	+28.500	540.644	540.644
12 J	116+15.75	+28.500	540.572	540.587
12 K	116+25.75	+28.500	540.479	540.512
12 L	116+35.75	+28.500	540.363	540.401
12 M	116+45.75	+28.500	540.225	540.247
Ⓞ Brg. S. Abut.	116+53.25	+28.500	540.108	540.108
Bk. South Abut.	116+54.50	+28.500	540.087	540.087

NOTES:

1. Work this Sheet with Sheet 6 of 24.

REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
DECK ELEVATIONS 3
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK



F.A.U. RTE.	SECTION *	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00444-00-BR	SANGAMON	33	15
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
*CITY OF SPRINGFIELD SHEET 9 OF 24 SHEETS				

EAST CURB LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
End N. Appr. Pav't.	114+70.50	-25.500	539.517
A	114+80.50	-25.500	539.650
B	114+90.50	-25.500	539.795
Bk. N. Abut.	115+00.50	-25.500	539.952

EAST EDGE OF PAVEMENT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
End N. Appr. Pav't.	114+70.50	-24.000	539.548
A	114+80.50	-24.000	539.681
B	114+90.50	-24.000	539.826
Bk. N. Abut.	115+00.50	-24.000	539.983

Ø ROADWAY & P.G.L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
End N. Appr. Pav't.	114+70.50	0.000	539.986
A	114+80.50	0.000	540.119
B	114+90.50	0.000	540.264
Bk. N. Abut.	115+00.50	0.000	540.421

STAGE CONSTRUCTION LINE

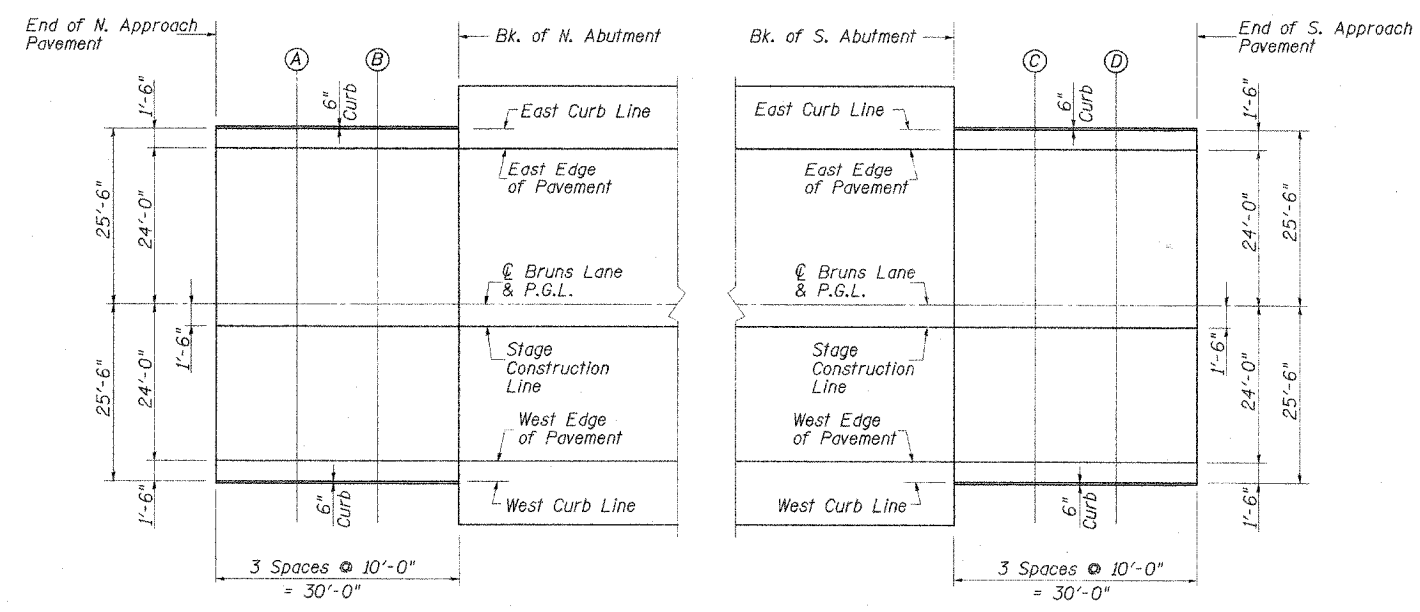
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
End N. Appr. Pav't.	114+70.50	+1.500	539.962
A	114+80.50	+1.500	540.095
B	114+90.50	+1.500	540.240
Bk. N. Abut.	115+00.50	+1.500	540.397

WEST EDGE OF PAVEMENT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
End N. Appr. Pav't.	114+70.50	+24.000	539.548
A	114+80.50	+24.000	539.681
B	114+90.50	+24.000	539.826
Bk. N. Abut.	115+00.50	+24.000	539.983

WEST CURB LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
End N. Appr. Pav't.	114+70.50	+25.500	539.517
A	114+80.50	+25.500	539.650
B	114+90.50	+25.500	539.795
Bk. N. Abut.	115+00.50	+25.500	539.952



LAYOUT PLAN
NORTH APPROACH PAVEMENT

LAYOUT PLAN
SOUTH APPROACH PAVEMENT

EAST CURB LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
Bk. S. Abut.	116+54.50	-25.500	539.983
C	116+64.50	-25.500	539.803
D	116+74.50	-25.500	539.602
End S. Appr. Pav't.	116+84.50	-25.500	539.378

EAST EDGE OF PAVEMENT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
Bk. S. Abut.	116+54.50	-24.000	540.014
C	116+64.50	-24.000	539.835
D	116+74.50	-24.000	539.633
End S. Appr. Pav't.	116+84.50	-24.000	539.410

Ø ROADWAY & P.G.L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
Bk. S. Abut.	116+54.50	0.000	540.451
C	116+64.50	0.000	540.272
D	116+74.50	0.000	540.071
End S. Appr. Pav't.	116+84.50	0.000	539.847

STAGE CONSTRUCTION LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
Bk. S. Abut.	116+54.50	+1.500	540.428
C	116+64.50	+1.500	540.249
D	116+74.50	+1.500	540.047
End S. Appr. Pav't.	116+84.50	+1.500	539.824

WEST EDGE OF PAVEMENT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
Bk. S. Abut.	116+54.50	+24.000	540.014
C	116+64.50	+24.000	539.835
D	116+74.50	+24.000	539.633
End S. Appr. Pav't.	116+84.50	+24.000	539.410

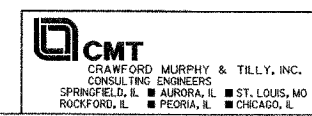
WEST CURB LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
Bk. S. Abut.	116+54.50	+25.500	539.983
C	116+64.50	+25.500	539.803
D	116+74.50	+25.500	539.602
End S. Appr. Pav't.	116+84.50	+25.500	539.378

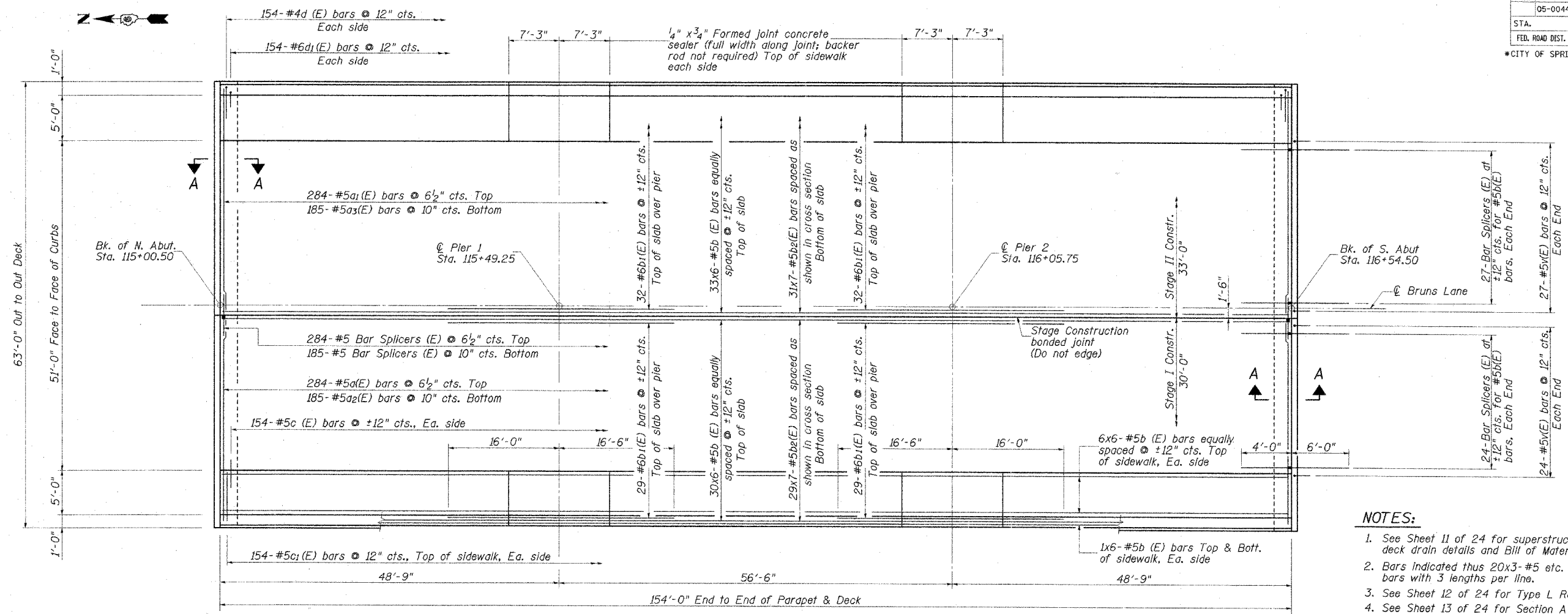
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REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
APPROACH PAVEMENT ELEVATIONS
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK

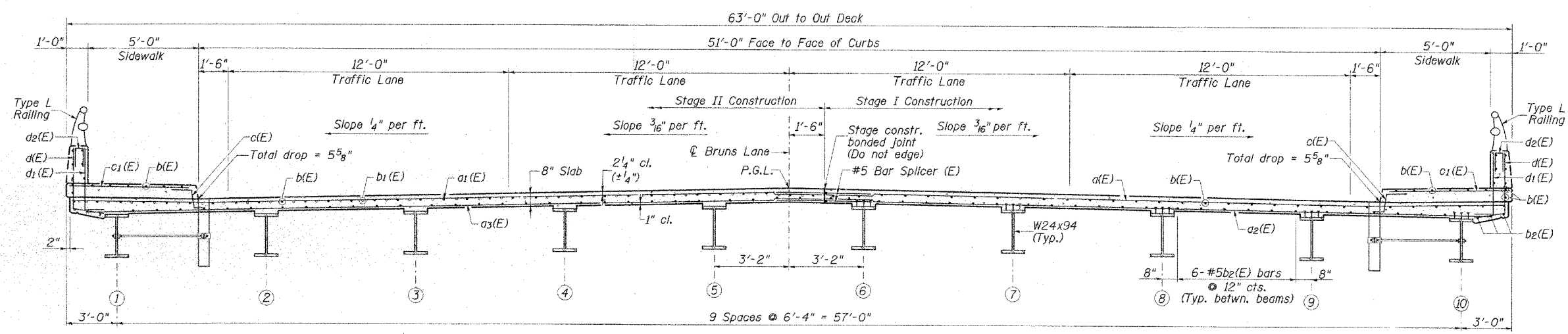


F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR	SANGAMON	ILLINOIS	33	16
STA.		TO STA.		
FED. ROAD DIST. NO.		FED. AID PROJECT		
CITY OF SPRINGFIELD SHEET 10 OF 24 SHEETS				



PLAN

- NOTES:**
1. See Sheet 11 of 24 for superstructure and parapet details, deck drain details and Bill of Material.
 2. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
 3. See Sheet 12 of 24 for Type L Railing details.
 4. See Sheet 13 of 24 for Section A-A.
 5. See Sheet 1 of 24 for location of deck drains.
 6. See Sheet 20 of 24 for bar splicer details.



NEAR PIER

CROSS SECTION
(Looking South)

NEAR MIDSPAN

MIN. BAR LAP
*5 bar - 2'-2"

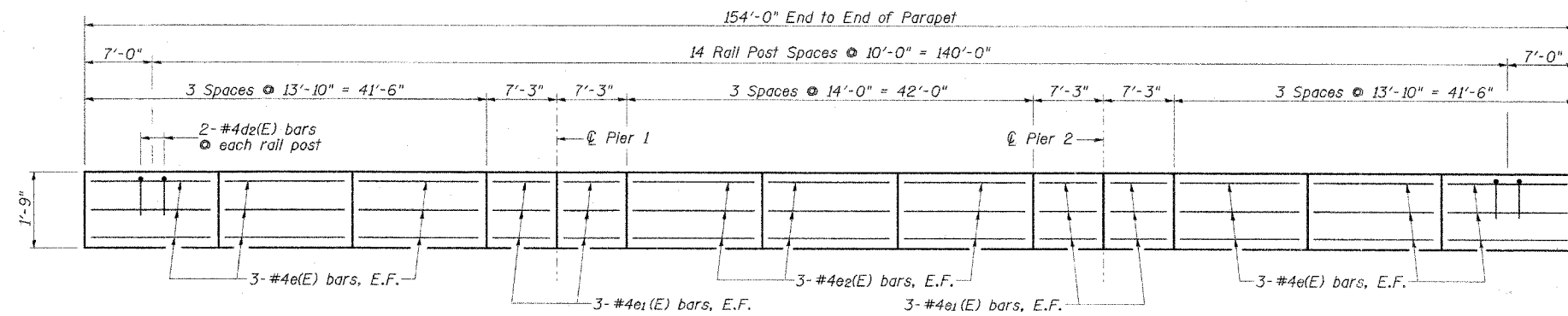
REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
SUPERSTRUCTURE
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK

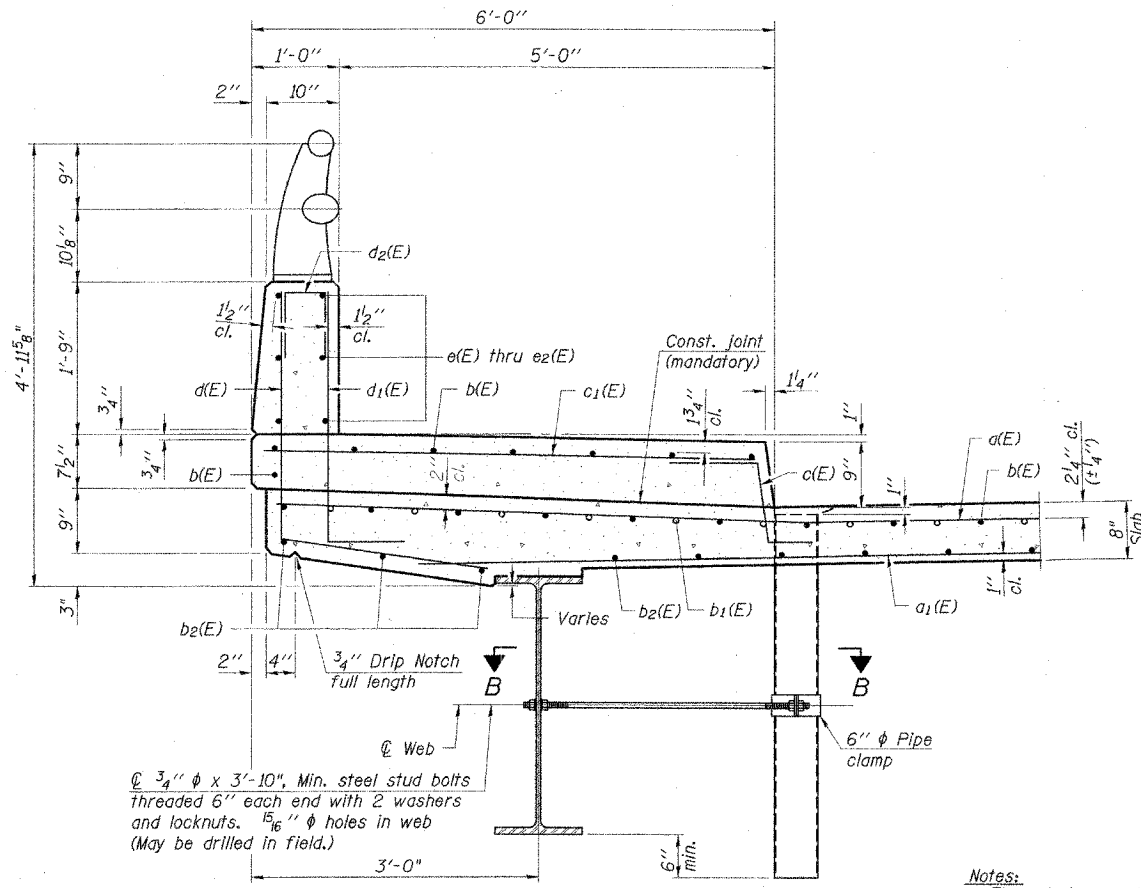
CMT
 CRAWFORD MURPHY & TILLY, INC.
 CONSULTING ENGINEERS
 SPRINGFIELD, IL ■ ALTOONA, IL ■ ST. LOUIS, MO
 ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

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F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	17
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
CITY OF SPRINGFIELD SHEET 11 OF 24 SHEETS				

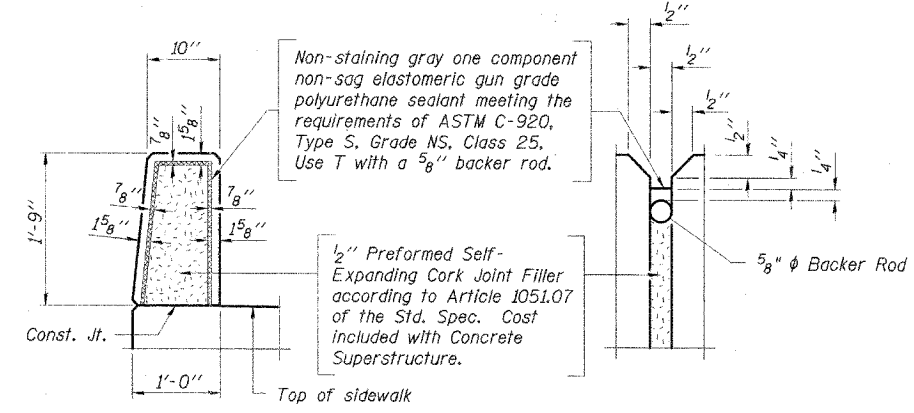
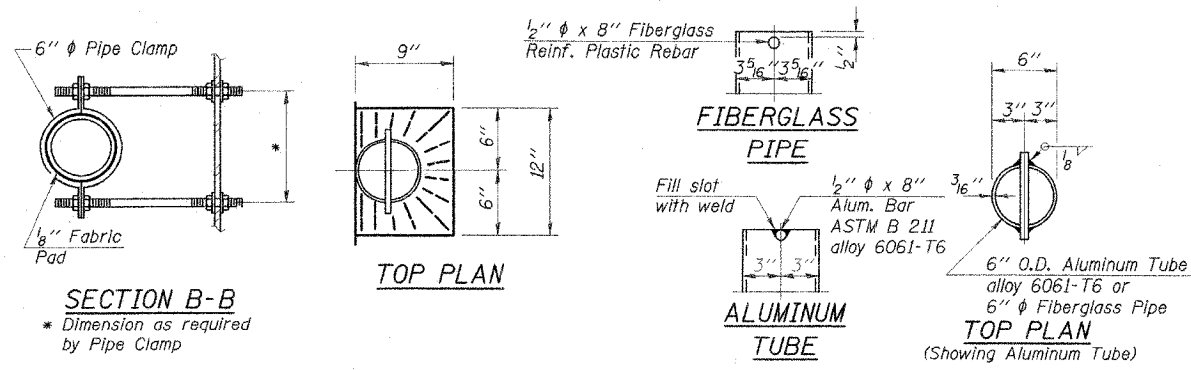


INSIDE ELEVATION OF PARAPET
(East parapet shown, West opposite)

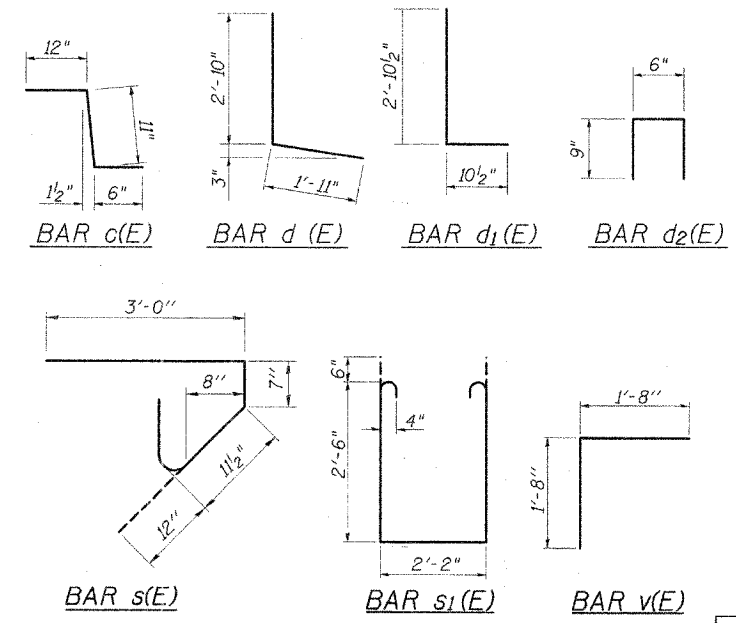


SECTION THRU SIDEWALK

Notes:
Floor drains need not be painted.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.



PARAPET JOINT DETAILS

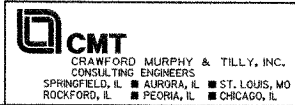


SUPERSTRUCTURE BILL OF MATERIAL

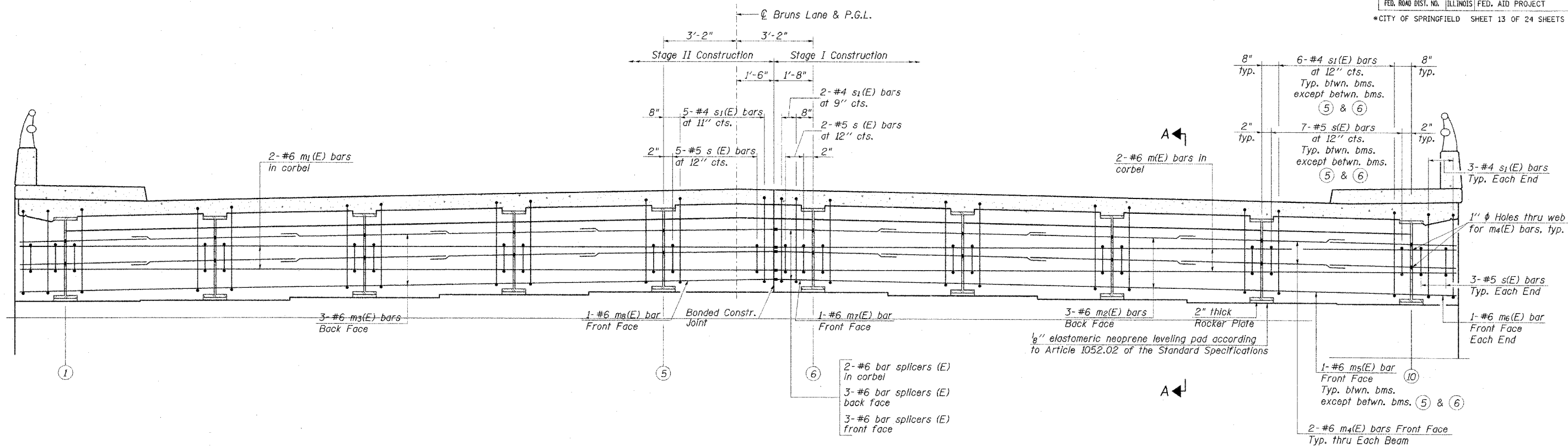
Bar	No.	Size	Length	Shape
a(E)	284	#5	29'-8"	—
a1(E)	284	#5	32'-8"	—
a2(E)	185	#5	29'-2"	—
a3(E)	185	#5	32'-2"	—
b(E)	474	#5	27'-5"	—
b1(E)	122	#6	32'-6"	—
b2(E)	420	#5	23'-10"	—
c(E)	308	#5	2'-5"	┌
c1(E)	308	#5	5'-7"	┌
d(E)	308	#4	4'-9"	┌
d1(E)	308	#6	3'-9"	┌
d2(E)	60	#4	2'-0"	┌
e(E)	72	#4	13'-6"	—
e1(E)	48	#4	6'-11"	—
e2(E)	36	#4	13'-8"	—
m(E)	4	#6	28'-8"	—
m1(E)	4	#6	32'-8"	—
m2(E)	6	#6	28'-8"	—
m3(E)	6	#6	32'-8"	—
m4(E)	40	#6	9'-3"	—
m5(E)	16	#6	6'-0"	—
m6(E)	4	#6	2'-8"	—
m7(E)	2	#6	1'-4"	—
m8(E)	2	#6	4'-4"	—
s(E)	138	#5	5'-7"	┐
s1(E)	122	#4	8'-2"	┐
v(E)	102	#5	3'-4"	┐
Reinforcement Bars, Epoxy Coated		Pound	70,290	
Concrete Superstructure		Cu. Yd.	331.7	
Bar Splicers		Each	587	

REVISIONS	
NAME	DATE

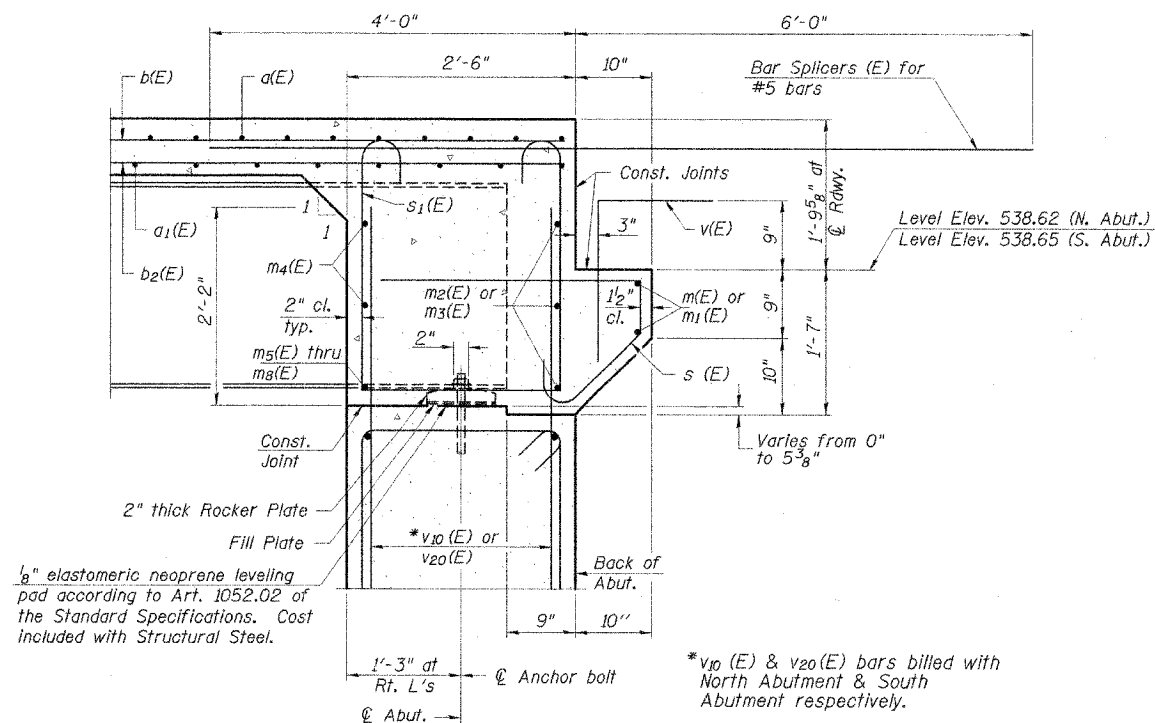
CITY OF SPRINGFIELD, ILLINOIS
PARAPET DETAILS
FAU 8006-BRUNS LANE OVER SPRING CREEK
SECTION 05-00444-00-BR
SANGAMON COUNTY
STATION 115+77.50 S.N. 084-6017
SCALE: NONE DRAWN BY: GLD
DATE: 6/19/07 CHECKED BY: WK



F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	19
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
CITY OF SPRINGFIELD SHEET 13 OF 24 SHEETS				



DIAPHRAGM ELEVATION AT ABUTMENT
(Looking South at South Abut., North Abut. similar)



SECTION A-A

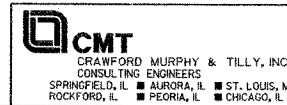
MIN. BAR LAP
#6 bar = 2'-9"

NOTES:

1. Reinforcement bars in diaphragm are billed with superstructure on Sheet 11 of 24.
2. Concrete in diaphragm is included with Concrete Superstructure on Sheet 11 of 24.
3. For details of bars s(E) & s1(E) see Sheet 11 of 24.
4. The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
5. For location of holes in web see Sheet 15 of 24.
6. For bar splicer details see Sheet 20 of 24.

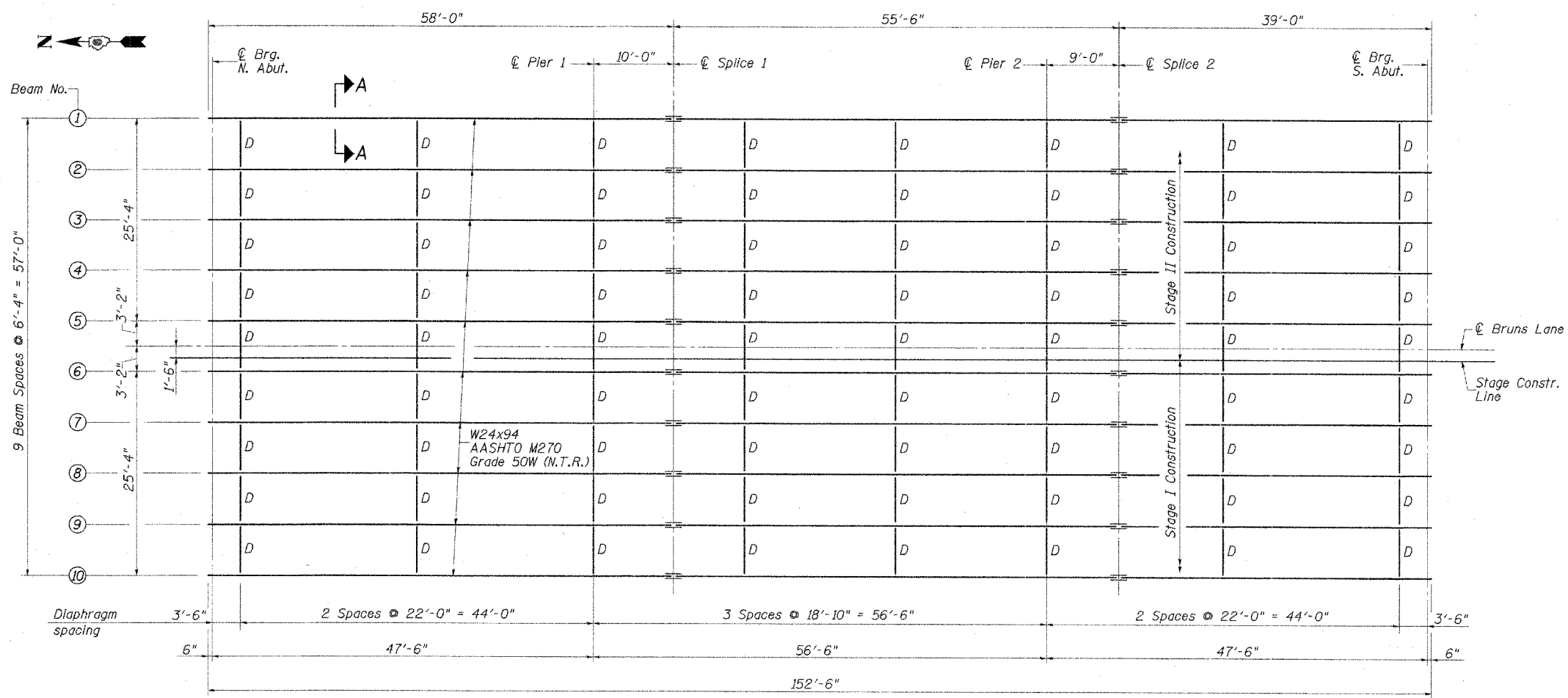
REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
ABUTMENT DIAPHRAGM DETAILS
FAU 8006-BRUNS LANE OVER SPRING CREEK
SECTION 05-00444-00-BR
SANGAMON COUNTY
STATION 115+77.50 S.N. 084-6017
SCALE: NONE DRAWN BY: GLD
DATE: 6/13/07 CHECKED BY: WK



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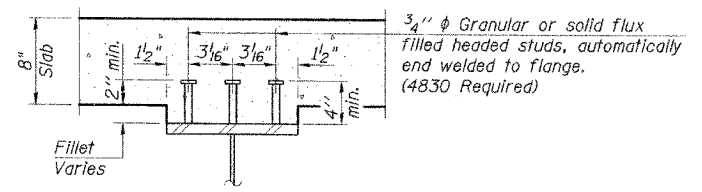
F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR	SANGAMON	33	20	
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
*CITY OF SPRINGFIELD SHEET 14 OF 24 SHEETS				



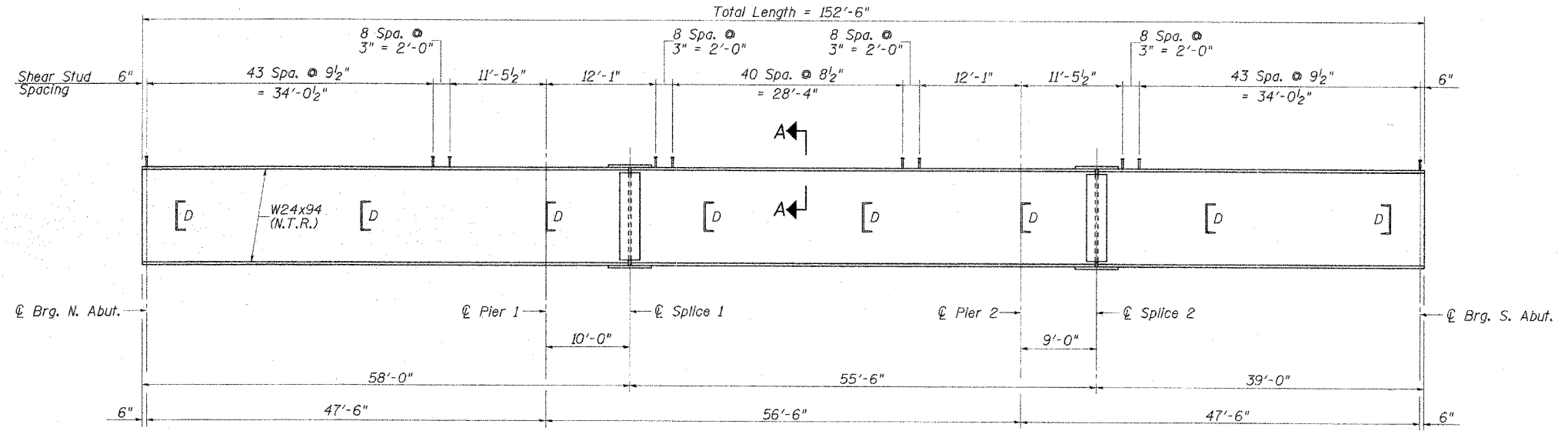
FRAMING PLAN

TOP OF BEAM ELEVATIONS BEFORE DEFLECTIONS
(For Fabrication Only)

LOCATION	BEAM 1 BEAM 10	BEAM 2 BEAM 9	BEAM 3 BEAM 8	BEAM 4 BEAM 7	BEAM 5 BEAM 6
℄ Brg. N. Abut.	539.20	539.33	539.47	539.59	539.68
℄ Splice 1	539.65	539.78	539.92	540.03	540.12
℄ Pier 1	539.73	539.86	539.99	540.11	540.21
℄ Pier 2	539.64	539.77	539.90	540.02	540.12
℄ Splice 2	539.62	539.75	539.88	540.00	540.10
℄ Brg. S. Abut.	539.23	539.37	539.50	539.62	539.72



SECTION A-A



BEAM ELEVATION

NOTES:

- All structural steel shall be AASHTO M270 Grade 50W.
- Load carrying components designed "N.T.R." shall conform to the supplemental requirements for notch toughness (Zone 2).
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
FRAMING PLAN & ELEVATION
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK

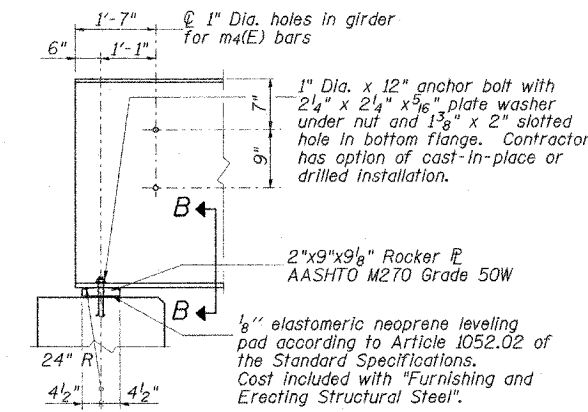
CMT
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 CONSULTING ENGINEERS
 SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
 ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

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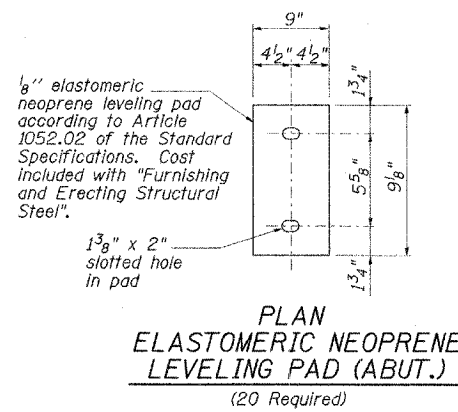
F.A.U. R.T.E.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	21
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
*CITY OF SPRINGFIELD SHEET 15 OF 24 SHEETS				

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Span 2
I_s	(in ⁴) 2700	2700	2700
$I_o(n)$	(in ⁴) 8510	—	8510
$I_o(3n)$	(in ⁴) 6270	—	6270
S_s	(in ³) 222	222	222
$S_o(n)$	(in ³) 355	—	355
$S_o(3n)$	(in ³) 319	—	319
DC1	(k/')	0.777	0.965
MDC1	(k)	125.9	253.3
DC2	(k/')	0.188	—
MDC2	(k)	33.9	—
DW	(k/')	0.317	0.317
MDW	(k)	58.0	70.0
M \pm + Imp	(k)	501.4	275.3
Mu(Strength I)	(k)	1164.2	903.4
$\phi_r M_n$	(k)	1811.4	—
f_s DC1	(ksi)	6.81	13.69
f_s DC2	(ksi)	1.28	—
f_s DW	(ksi)	2.18	3.78
f_s 1.3(4+I)	(ksi)	22.03	19.35
f_s (Service II)	(ksi)	32.30	36.82
f_s (Total)(Strength I)	(ksi)	—	48.83
V _r	(k)	19.5	15.8

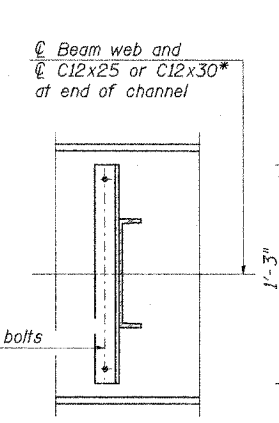
	N. Abut. or S. Abut.	Pier 1 or Pier 2
RDC1	(k) 14.0	44.9
RDC2	(k) 3.6	10.7
R _{DW}	(k) 6.1	18.0
R \pm + Imp	(k) 61.7	88.2
R _{Total}	(k) 85.4	161.8



END OF BEAM ELEVATION

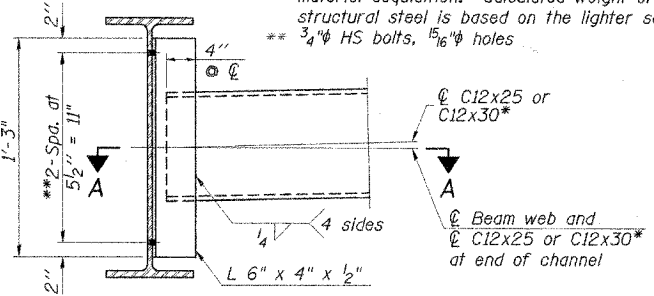


PLAN ELASTOMERIC NEOPRENE LEVELING PAD (ABUT.) (20 Required)

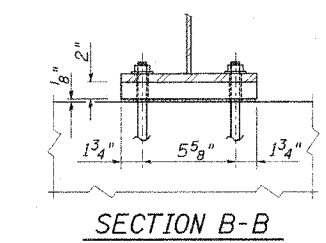


SECTION A-A

Note: Two hardened washers required for each set of oversized holes.
* Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
** 3/4" HS bolts, 1 5/8" holes

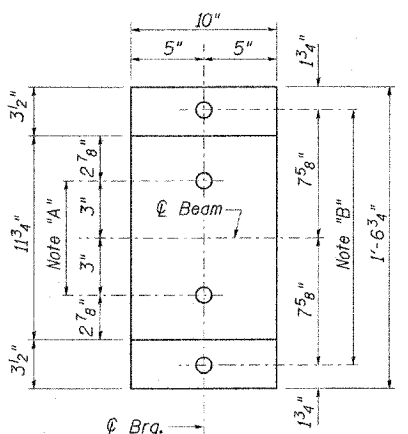


DIAPHRAGM D (72 Required)

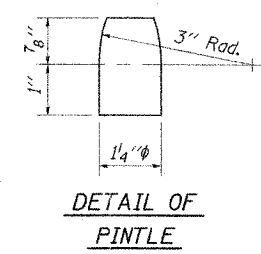


SECTION B-B

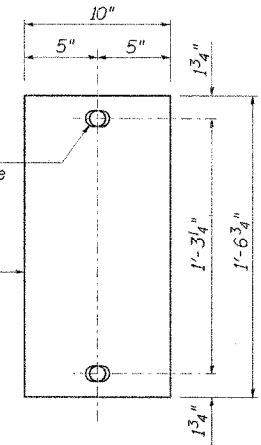
Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade and diameter specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu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



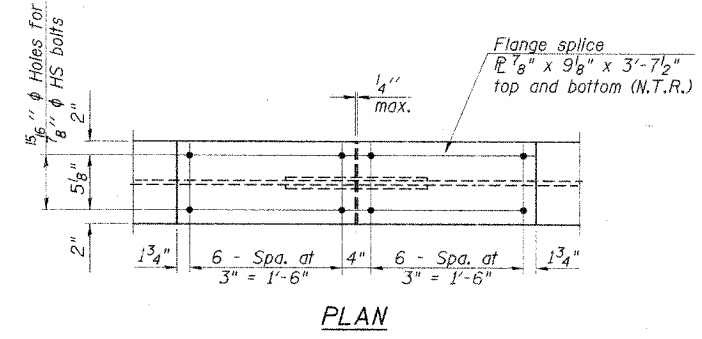
PLAN AT PIER



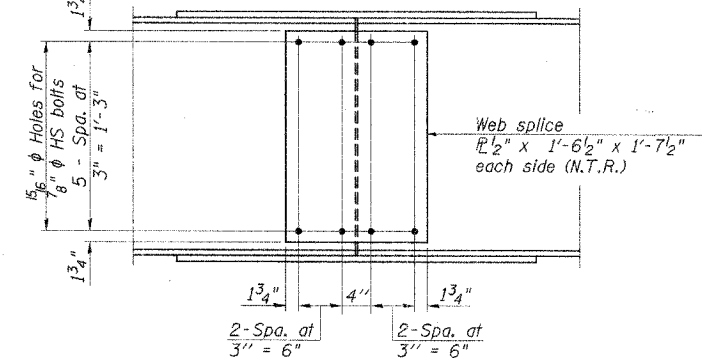
DETAIL OF PINTLE



PLAN - ELASTOMERIC NEOPRENE MAT (PIER) (20 Required)

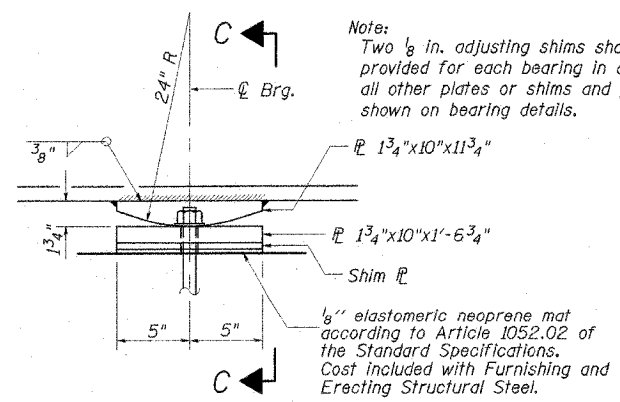


PLAN

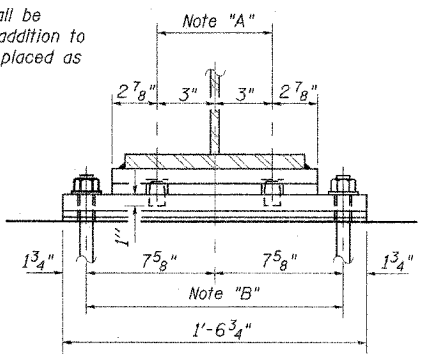


ELEVATION

SPLICE DETAIL (20 Required)



ELEVATION AT PIER



SECTION C-C

FIXED BEARING AT PIER 1 & PIER 2 (20 Required)

- Notes:
- H.S. bolts for splices shall be 7/8" AASHTO M164 (ASTM A325) bolts.
 - All splice plate material shall be AASHTO M270 Grade 50 W (N.T.R.).
 - Load carrying components designed "N.T.R." shall conform to the supplemental requirements for notch toughness (Zone 2).

NOTES:

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 (in⁴ and in³).

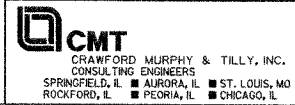
$I_o(n), S_o(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).

$I_o(3n), S_o(3n)$: 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 (in⁴ and in³).

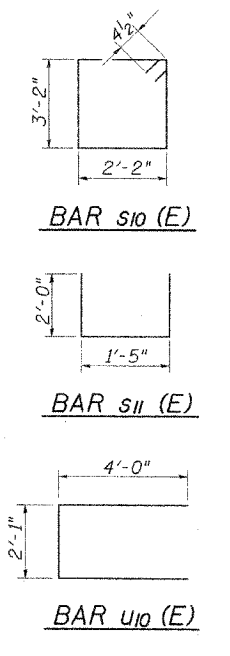
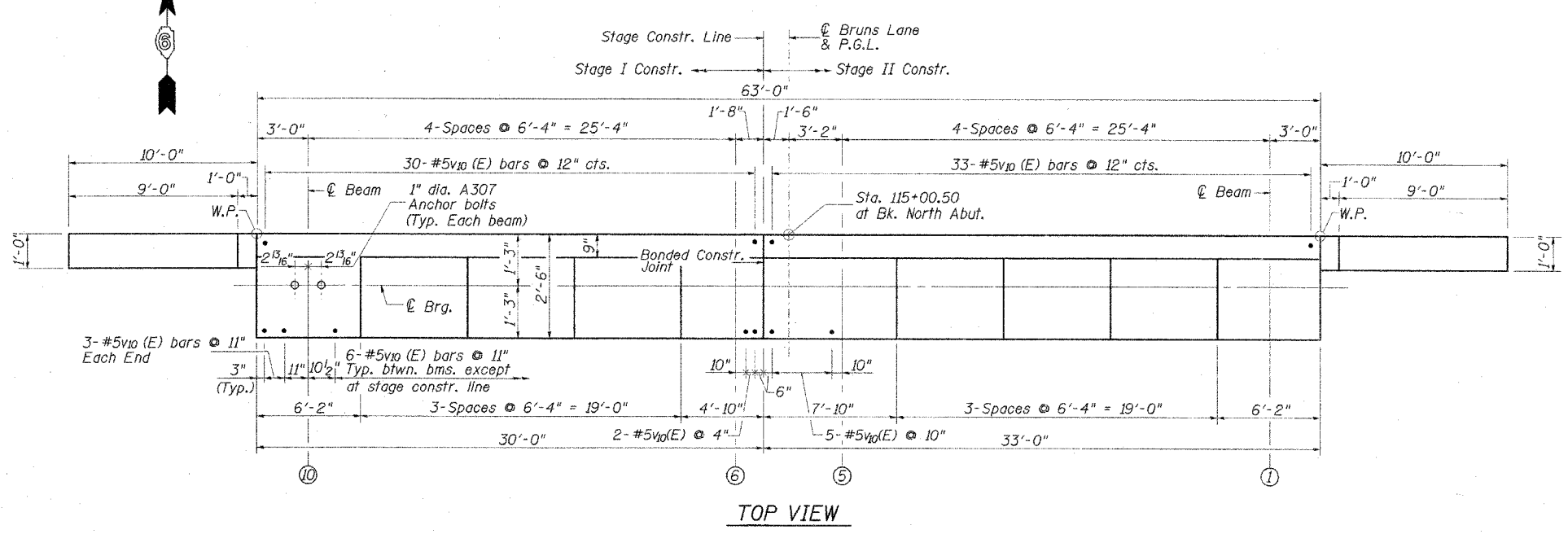
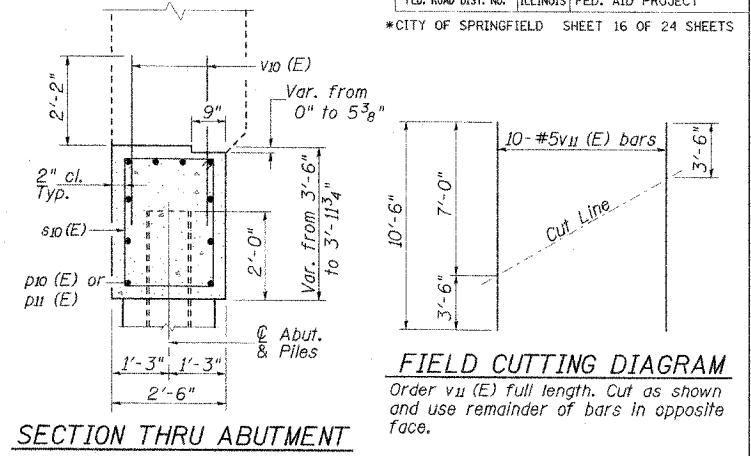
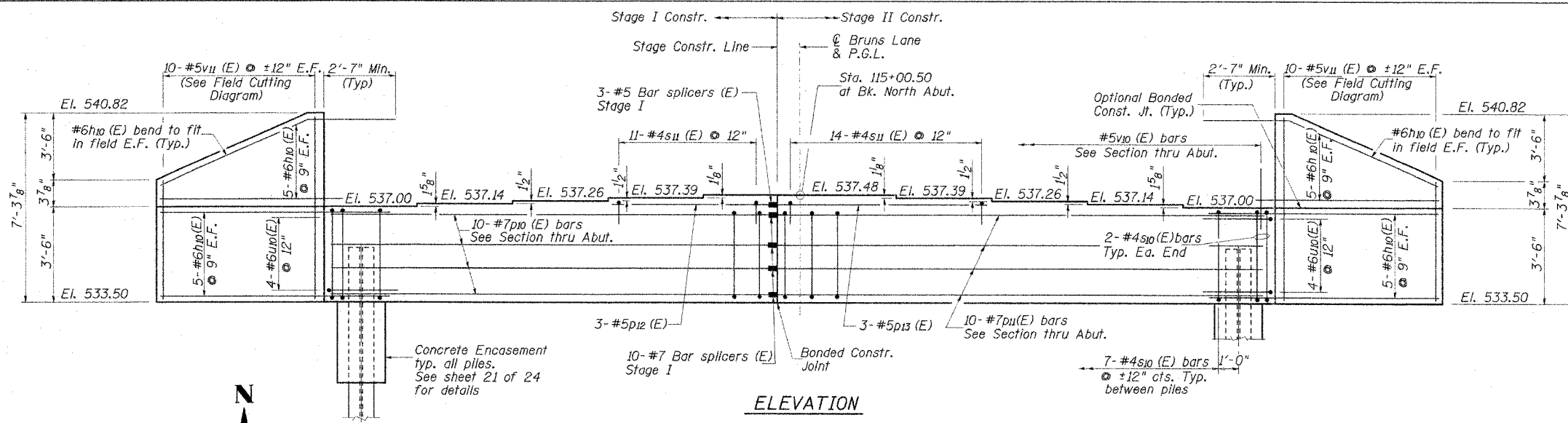
DC1: Un-factored non-composite dead load (kips/ft.).
MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
MDC2: Un-factored moment due to long-term composite (superimposed excluding 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 \pm + Imp: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).
Mu (Strength I): Factored design moment (kip-ft.).
 $1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M\pm + Imp$
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
 f_s (Service II): Sum of stresses as computed from the moments below (ksi).
 $MDC1 + MDC2 + MDW + 1.5 M\pm + Imp$
 f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M\pm + Imp$
V_r: Factored shear range computed according to Article 6.10.10.

REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
FRAMING DETAILS & TABLES
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK



F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	22
STA.	TO STA.		FED. AID PROJECT	
	ILLINOIS		CITY OF SPRINGFIELD SHEET 16 OF 24 SHEETS	



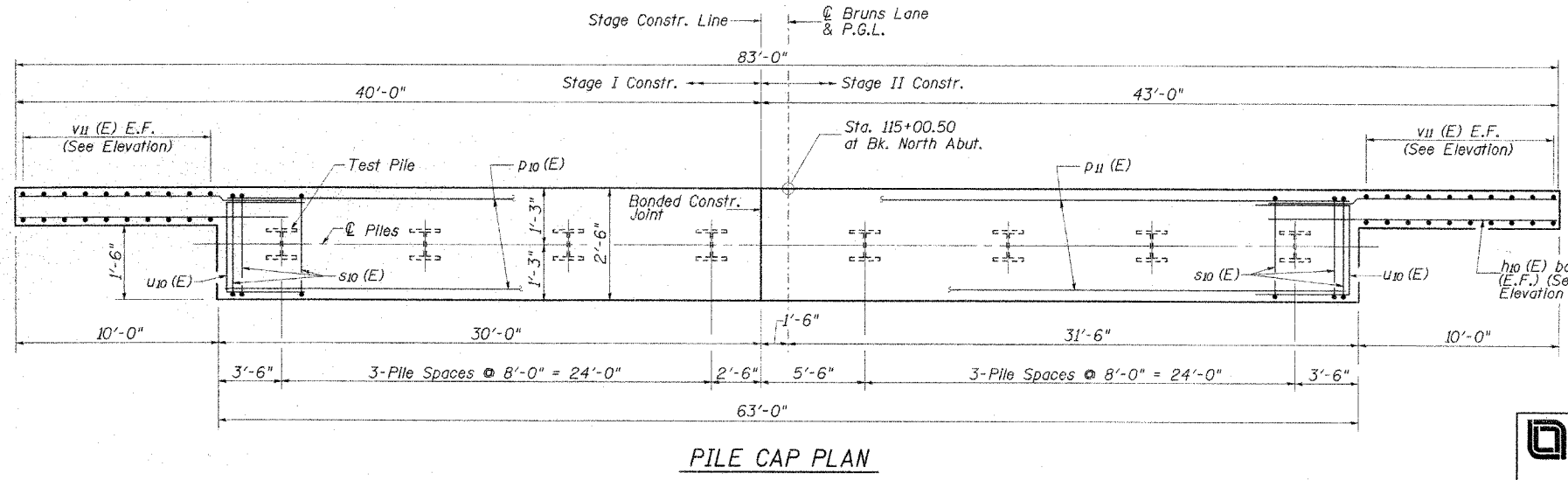
NORTH ABUT. BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₁₀ (E)	40	#6	13'-0"	—
p ₁₀ (E)	10	#7	29'-8"	—
p ₁₁ (E)	10	#7	32'-8"	—
p ₁₂ (E)	3	#5	10'-10"	—
p ₁₃ (E)	3	#5	13'-10"	—
s ₁₀ (E)	53	#4	11'-5"	□
s ₁₁ (E)	25	#4	5'-5"	□
u ₁₀ (E)	8	#6	10'-1"	—
v ₁₀ (E)	124	#5	4'-4"	—
v ₁₁ (E)	20	#5	10'-6"	—
Concrete Structures		Cu. Yd.	25.7	
Concrete Encasement		Cu. Yd.	2.8	
Reinforcement Bars, Epoxy Coated		Pound	3530	
Structure Excavation		Cu. Yd.	184	
Bar Splicers		Each	13	
Furnishing Steel Piles HP 12x53		Foot	354	
Driving Piles		Foot	354	
Test Pile Steel HP 12x53		Each	1	

PILE DATA

PILE TYPE AND SIZE:	HP 12x53
NOMINAL REQUIRED BEARING:	419 kips
ALLOWABLE RESISTANCE AVAILABLE:	140 kips
FACTORED RESISTANCE AVAILABLE:	209 kips
ESTIMATED PILE LENGTH:	50.5 Ft.
NUMBER OF PRODUCTION PILES:	7
NUMBER OF TEST PILES:	1

- NOTES:**
1. Pour steps monolithically with cap.
 2. Space reinforcement to miss anchor bolts.
 3. See Sheet 2 of 24 for abutment backfill requirements.
 4. See Sheet 20 of 24 for bar splicer details.
 5. See Sheet 21 of 24 for steel H-pile details.



REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS

NORTH ABUTMENT

FAU 8006-BRUNS LANE OVER SPRING CREEK

SECTION 05-00444-00-BR

SANGAMON COUNTY

STATION 115+77.50 S.N. 084-6017

SCALE: NONE DRAWN BY: GLD

DATE: 6/19/07 CHECKED BY: WK

CMT

CRAWFORD MURPHY & TILLY, INC.

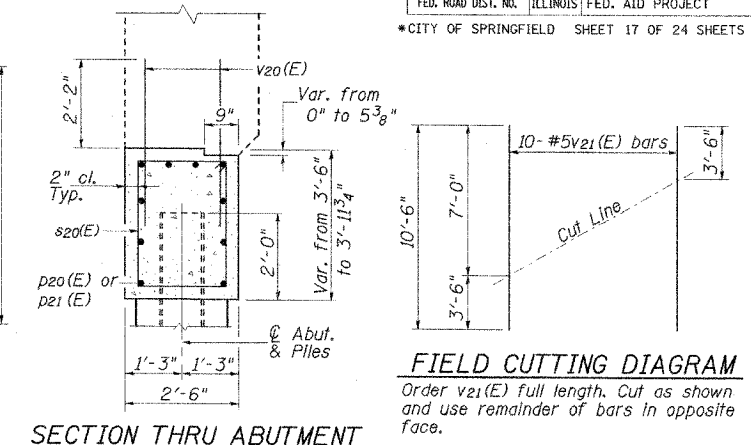
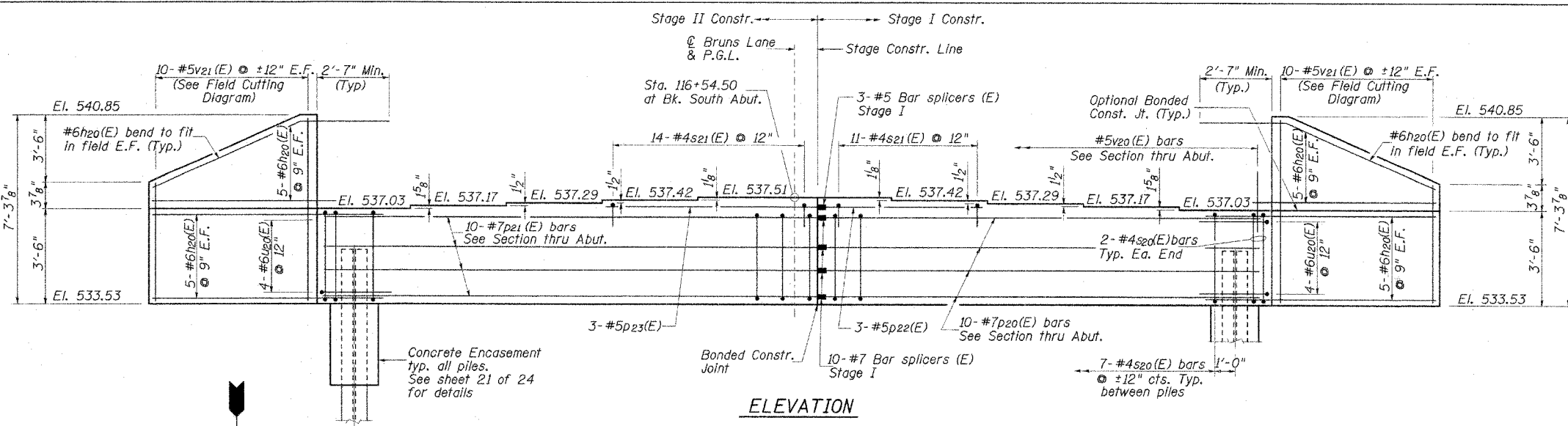
CONSULTING ENGINEERS

SPRINGFIELD, IL ■ ALBANY, IL ■ ST. LOUIS, MO

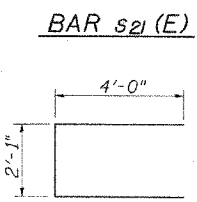
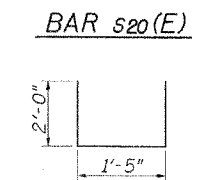
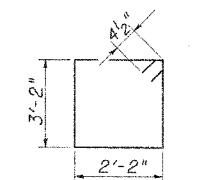
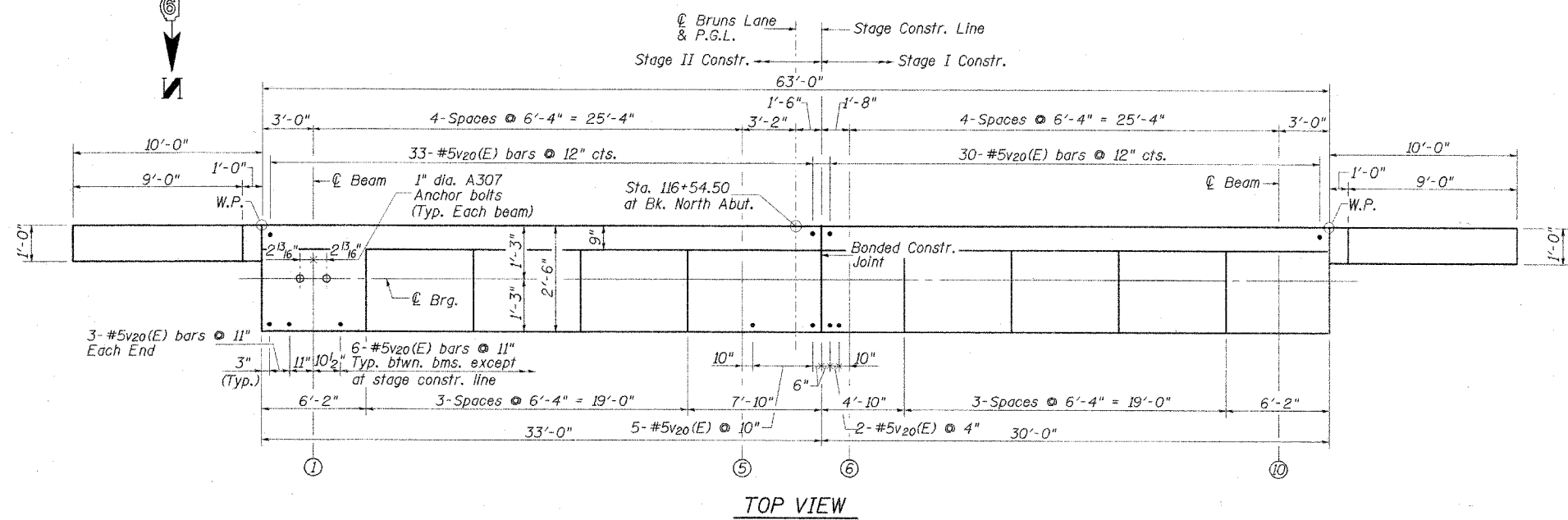
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F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	23
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
CITY OF SPRINGFIELD SHEET 17 OF 24 SHEETS				



FIELD CUTTING DIAGRAM
Order v21(E) full length. Cut as shown and use remainder of bars in opposite face.



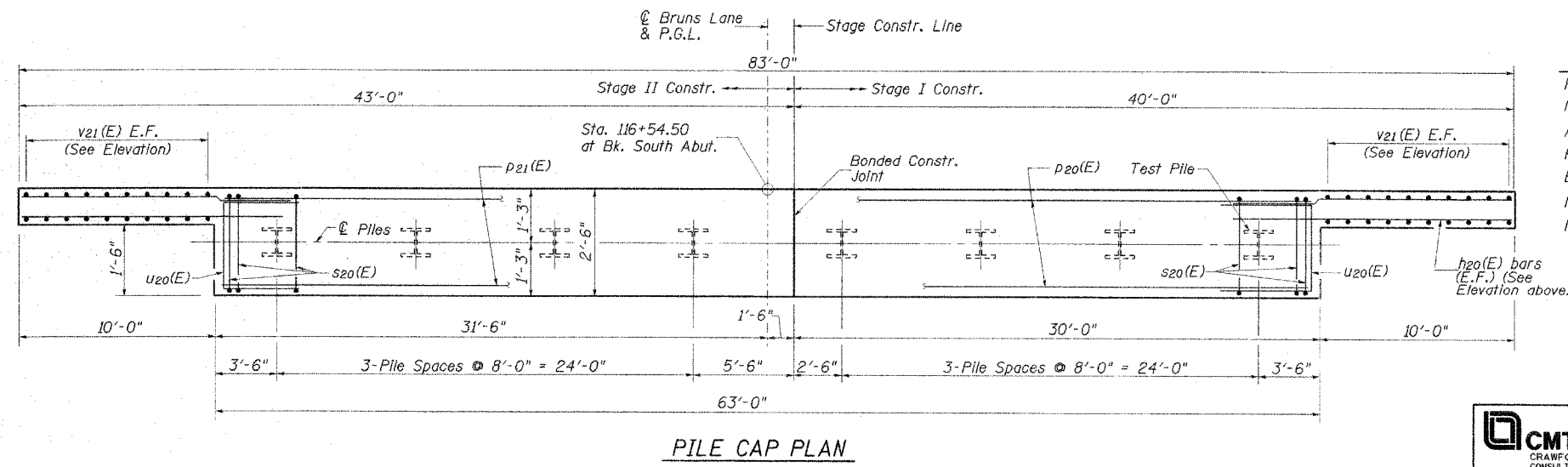
SOUTH ABUT. BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h20(E)	40	#6	13'-0"	—
p20(E)	10	#7	29'-8"	—
p21(E)	10	#7	32'-8"	—
p22(E)	3	#5	10'-10"	—
p23(E)	3	#5	13'-10"	—
s20(E)	53	#4	11'-5"	□
s21(E)	25	#4	5'-5"	□
u20(E)	8	#6	10'-1"	—
v20(E)	124	#5	4'-4"	—
v21(E)	20	#5	10'-6"	—
Concrete Structures			Cu. Yd.	25.7
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated			Pound	3530
Structure Excavation			Cu. Yd.	184
Bar Splicers			Each	13
Furnishing Steel Piles HP 12x53			Foot	347
Driving Piles			Foot	347
Test Pile Steel HP 12x53			Each	1

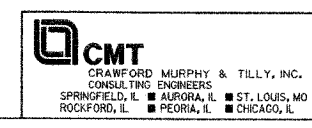
PILE DATA

PILE TYPE AND SIZE:	HP 12x53
NOMINAL REQUIRED BEARING:	419 kips
ALLOWABLE RESISTANCE AVAILABLE:	140 kips
FACTORED RESISTANCE AVAILABLE:	209 kips
ESTIMATED PILE LENGTH:	49.5 Ft.
NUMBER OF PRODUCTION PILES:	7
NUMBER OF TEST PILES:	1

- NOTES:**
1. Pour steps monolithically with cap.
 2. Space reinforcement to miss anchor bolts.
 3. See Sheet 2 of 24 for abutment backfill requirements.
 4. See Sheet 20 of 24 for bar splicer details.
 5. See Sheet 21 of 24 for steel H-pile details.



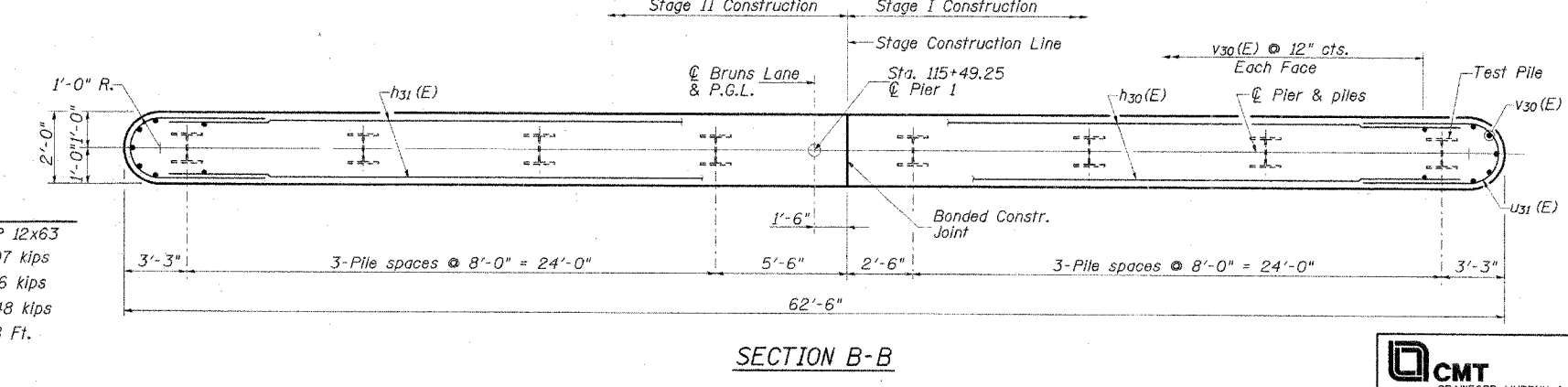
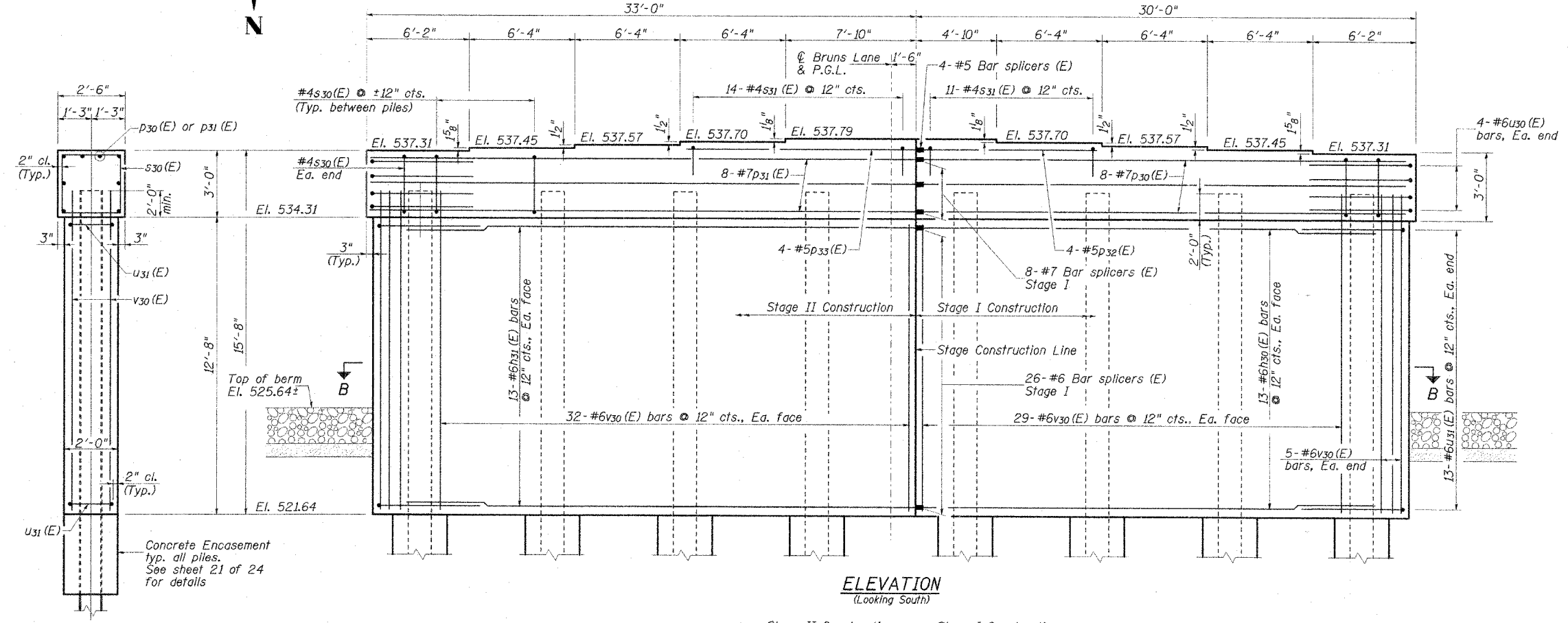
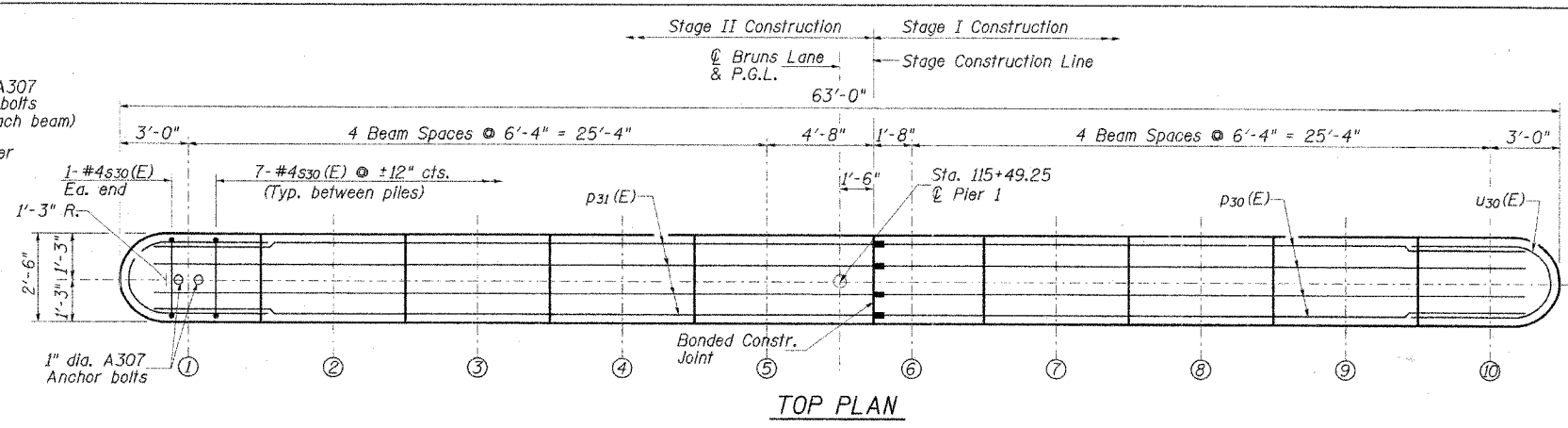
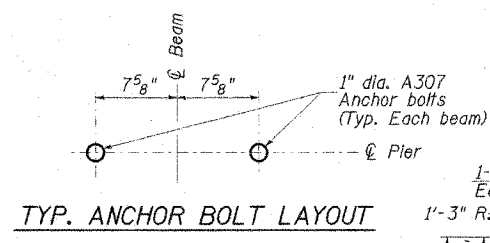
REVISIONS	
NAME	DATE



CITY OF SPRINGFIELD, ILLINOIS
SOUTH ABUTMENT
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK

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F.A.U. RTE.	SECTION *	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR	SANGAMON	ILLINOIS	33	24
STA.	TO STA.		FED. AID PROJECT	
			*CITY OF SPRINGFIELD SHEET 18 OF 24 SHEETS	

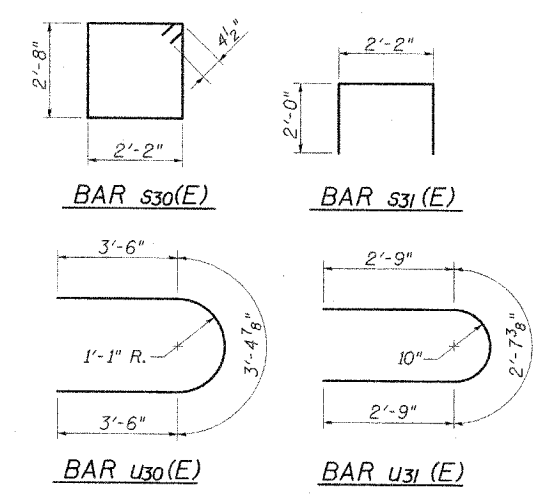


PILE DATA

PILE TYPE AND SIZE:	HP 12x63
NOMINAL REQUIRED BEARING:	497 kips
ALLOWABLE RESISTANCE AVAILABLE:	166 kips
FACTORED RESISTANCE AVAILABLE:	248 kips
ESTIMATED PILE LENGTH:	48 Ft.
NUMBER OF PRODUCTION PILES:	7
NUMBER OF TEST PILES:	1

PIER 1 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h30(E)	26	#6	28'-9"	—
h31(E)	26	#6	31'-9"	—
p30(E)	8	#7	28'-9"	—
p31(E)	8	#7	31'-9"	—
p32(E)	4	#5	10'-10"	—
p33(E)	4	#5	13'-10"	—
s30(E)	51	#4	10'-5"	□
s31(E)	25	#4	6'-2"	□
u30(E)	8	#6	10'-5"	—
u31(E)	26	#6	8'-2"	—
v30(E)	132	#6	14'-6"	—
Structure Excavation			Cu. Yd.	60
Concrete Structures			Cu. Yd.	76.7
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated			Pound	7240
Bar Splicers			Each	38
Furnishing Steel Piles, HP 12x63			Foot	336
Driving Piles			Foot	336
Test Pile Steel HP12x63			Each	1
Underwater Structure Excavation Protection - Location 1			Each	1



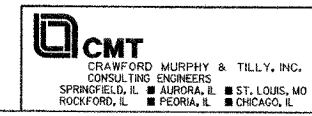
NOTES

1. Pour steps monolithically with cap.
2. Space reinforcement in cap to miss anchor bolts.
3. See Sheet 20 of 24 for bar splicer details.
4. See Sheet 21 of 24 for steel H-pile details.

REVISIONS

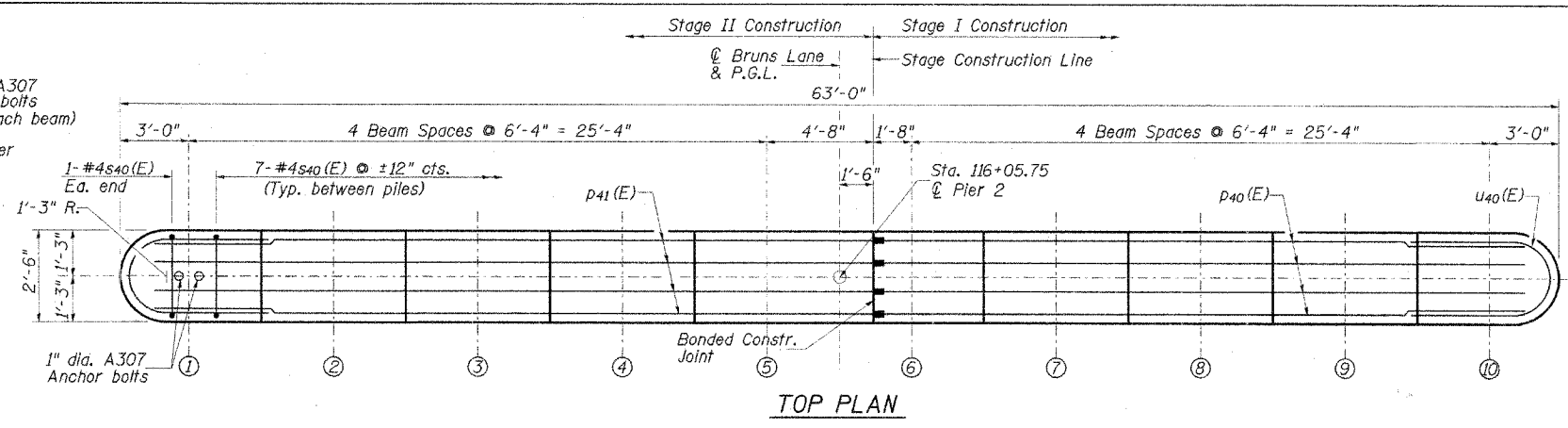
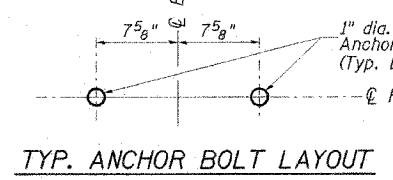
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
PIER 1
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
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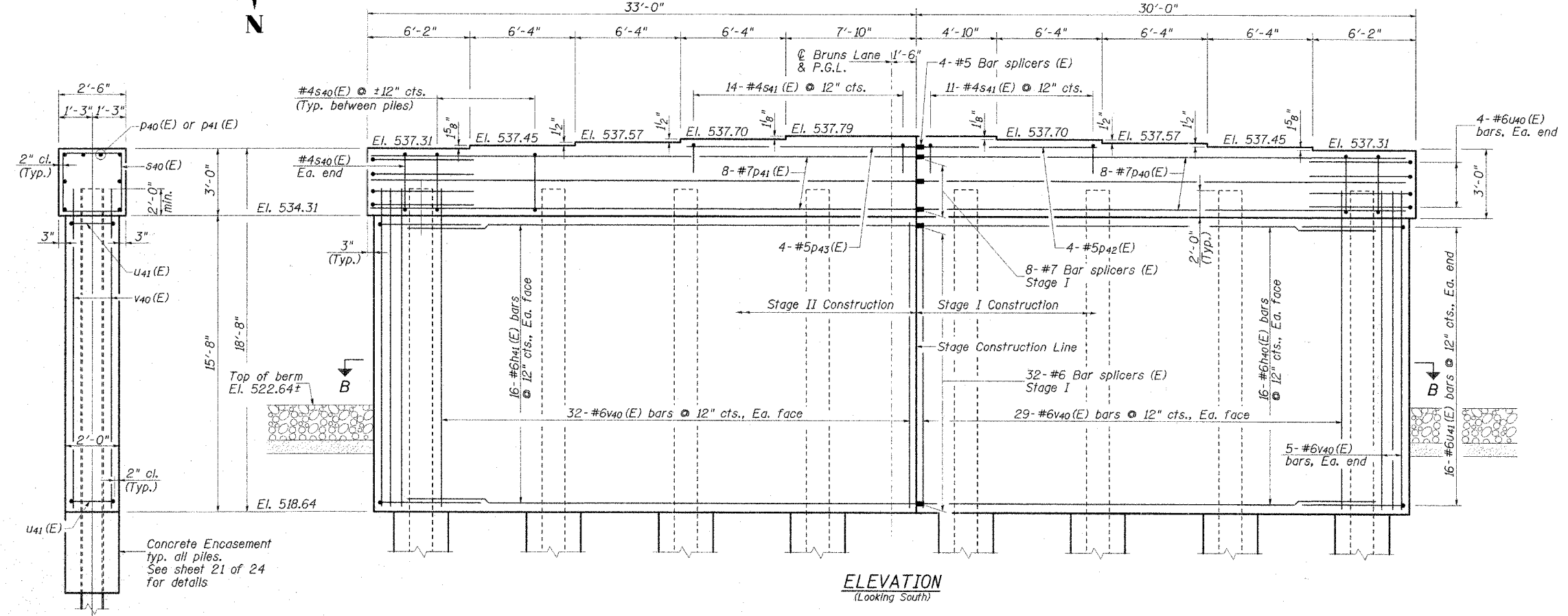
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F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR	SANGAMON	33	25	
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
CITY OF SPRINGFIELD SHEET 19 OF 24 SHEETS				



PIER 2 BILL OF MATERIAL

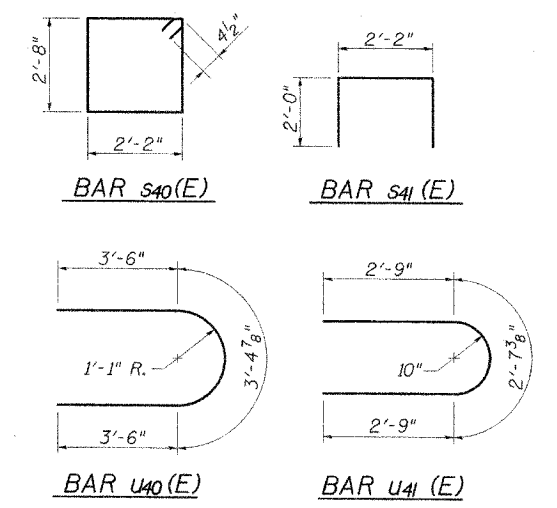
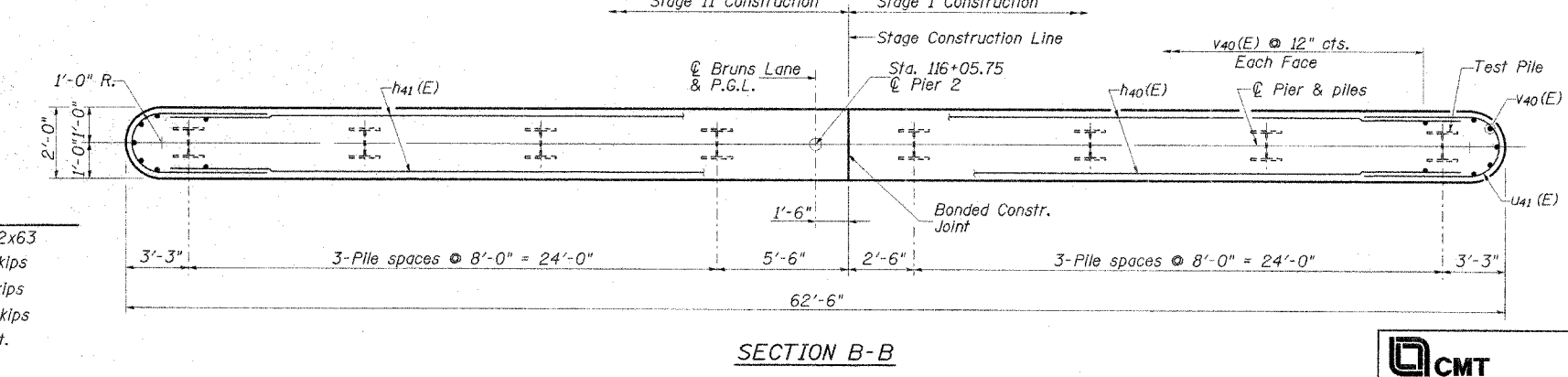
Bar	No.	Size	Length	Shape
h40(E)	32	#6	28'-9"	—
h41(E)	32	#6	31'-9"	—
p40(E)	8	#7	28'-9"	—
p41(E)	8	#7	31'-9"	—
p42(E)	4	#5	10'-10"	—
p43(E)	4	#5	13'-10"	—
s40(E)	51	#4	10'-5"	□
s41(E)	25	#4	6'-2"	□
u40(E)	8	#6	10'-5"	—
u41(E)	32	#6	8'-2"	—
v40(E)	132	#6	17'-6"	—
Structure Excavation			Cu. Yd.	60
Concrete Structures			Cu. Yd.	90.5
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated			Pound	8450
Bar Splicers			Each	44
Furnishing Steel Piles, HP 12x63			Foot	336
Driving Piles			Foot	336
Test Pile Steel HP12x63			Each	1
Underwater Structure Excavation Protection - Location 2			Each	1



END VIEW

PILE DATA

PILE TYPE AND SIZE:	HP 12x63
NOMINAL REQUIRED BEARING:	497 kips
ALLOWABLE RESISTANCE AVAILABLE:	166 kips
FACTORED RESISTANCE AVAILABLE:	248 kips
ESTIMATED PILE LENGTH:	48 Ft.
NUMBER OF PRODUCTION PILES:	7
NUMBER OF TEST PILES:	1



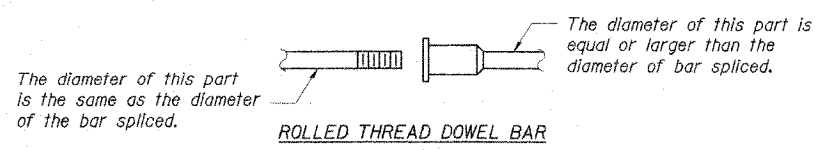
- NOTES**
1. Pour steps monolithically with cap.
 2. Space reinforcement in cap to miss anchor bolts.
 3. See Sheet 20 of 24 for bar splicer details.
 4. See Sheet 21 of 24 for steel H-pile details.

REVISIONS	
NAME	DATE

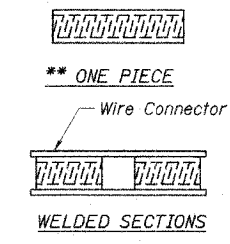
CITY OF SPRINGFIELD, ILLINOIS
PIER 2
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK



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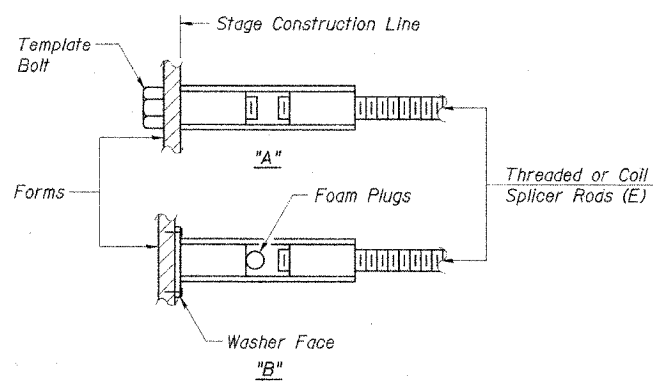


ROLLED THREAD DOWEL BAR



BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

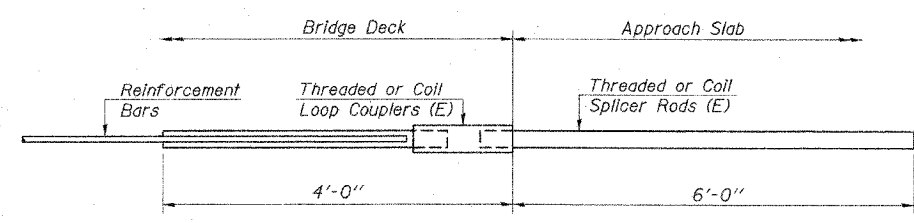
"A": Set bar splicer assembly by means of a template bolt.
 "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E): Indicates epoxy coating.

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:

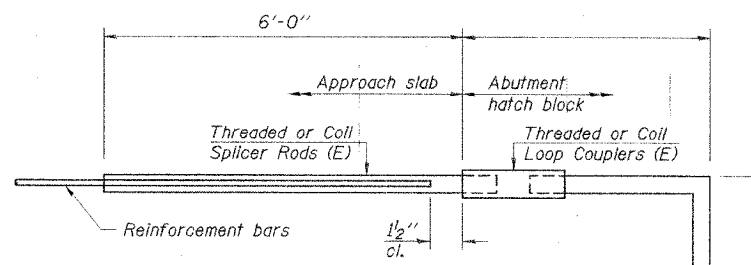
- Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

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



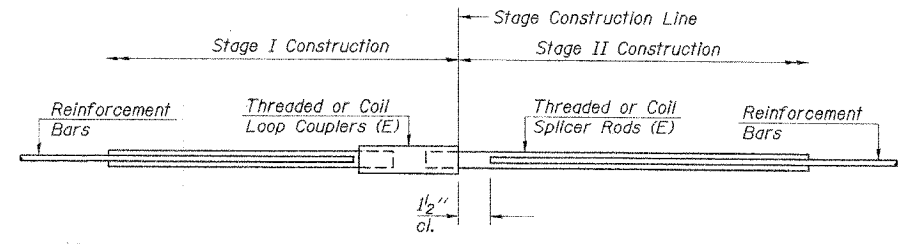
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 102



FOR STUB ABUTMENTS

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

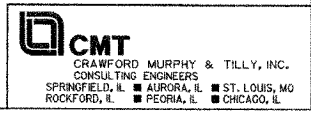


STANDARD

Bar Size	No. Assemblies Required	Location
#5	469	Deck
#6	16	Diaphragm
#5	6	Abutments
#7	20	Abutments
#5	8	Piers
#6	58	Piers
#7	16	Piers

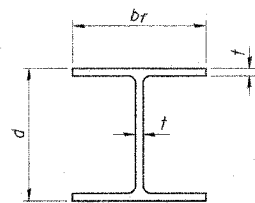
REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
BAR SPLICER ASSEMBLY DETAILS
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK



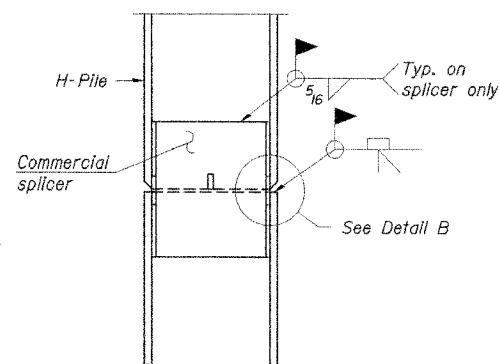
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F.A.U. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	27
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
*CITY OF SPRINGFIELD SHEET 21 OF 24 SHEETS				

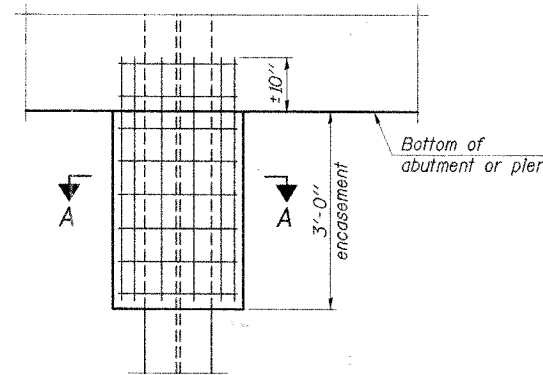


STEEL PILE TABLE

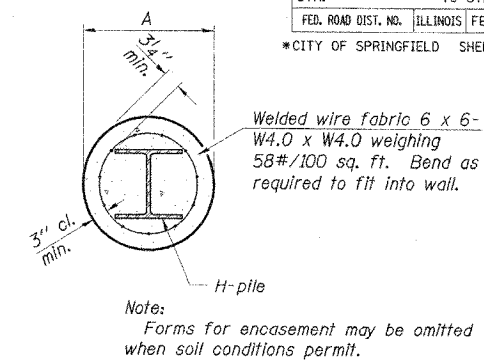
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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



ELEVATION

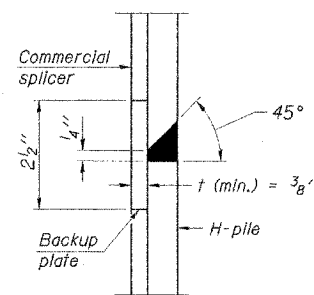


ELEVATION

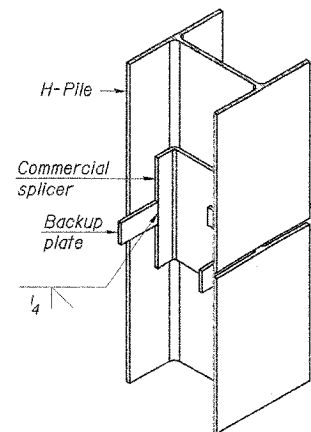


SECTION A-A

PILE ENCASEMENT

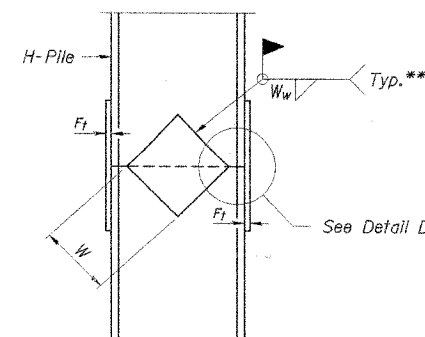


DETAIL "B"

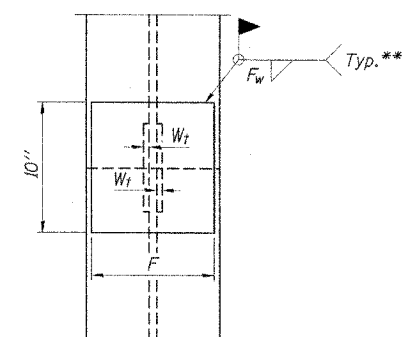


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



ELEVATION

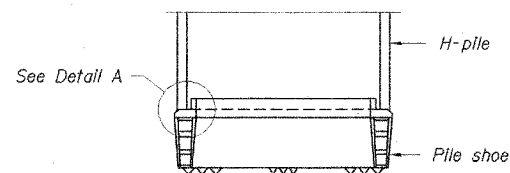


END VIEW

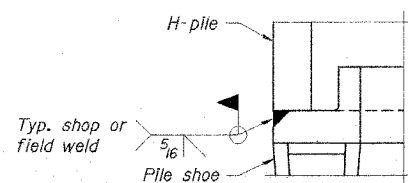
WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
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"

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

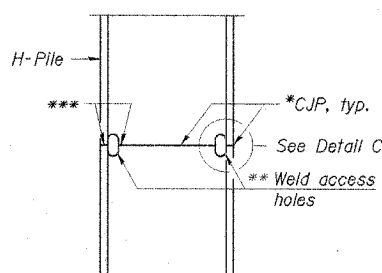


ELEVATION

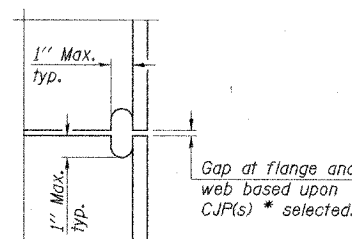


DETAIL A

H-PILE SHOE ATTACHMENT



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.

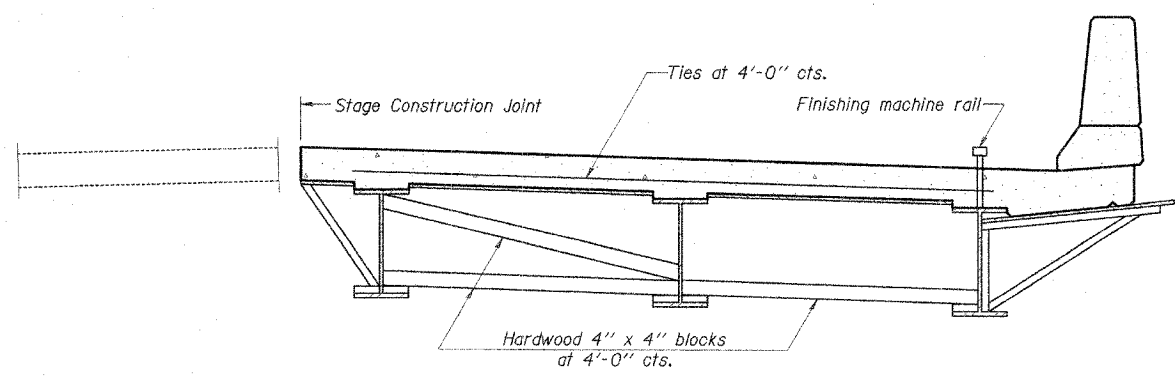
REVISIONS	
NAME	DATE

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

CITY OF SPRINGFIELD, ILLINOIS
STEEL H-PILE DETAILS
FAU 8006-BRUNS LANE OVER SPRING CREEK
SECTION 05-00444-00-BR
SANGAMON COUNTY
STATION 115+77.50 S.N. 084-6017
SCALE: NONE DRAWN BY: GLD
DATE: 6/13/07 CHECKED BY: WK

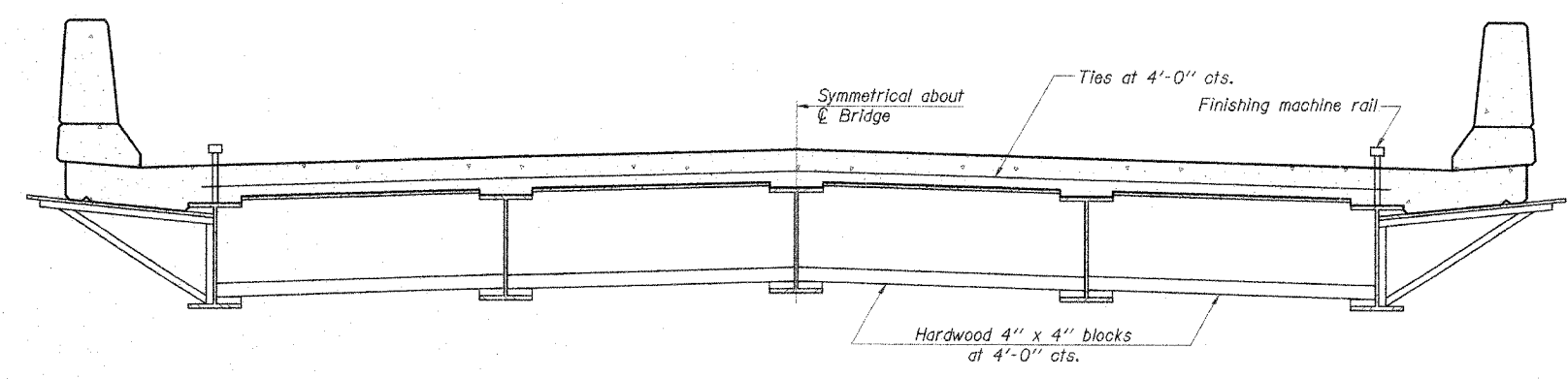
F.A.U. RTE.	SECTION *	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00444-00-BR	SANGAMON	33	28
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*CITY OF SPRINGFIELD SHEET 22 OF 24 SHEETS



**FORM BRACES FOR
STAGE CONSTRUCTION**

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.

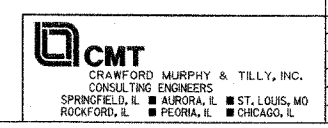


**FORM BRACES FOR
STANDARD CONSTRUCTION**

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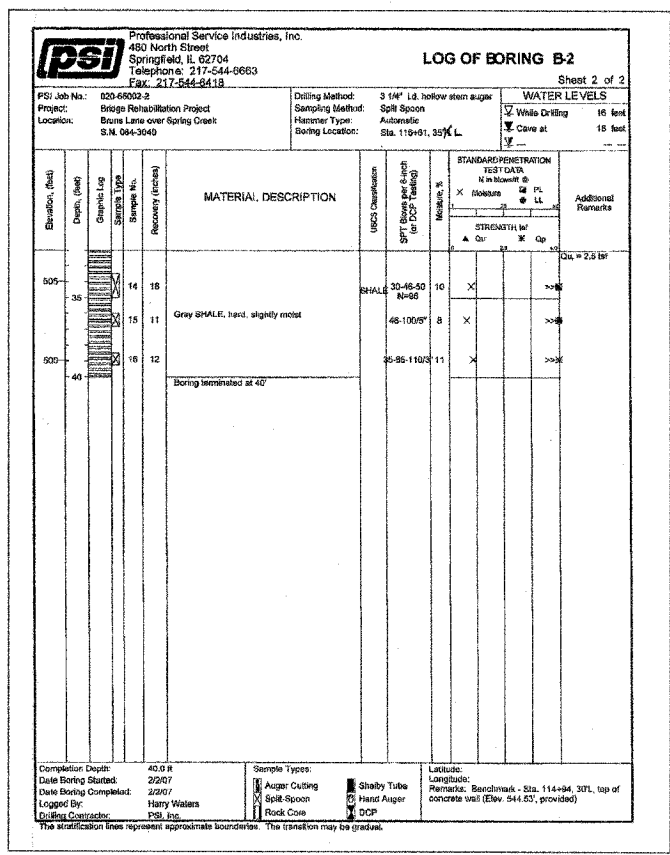
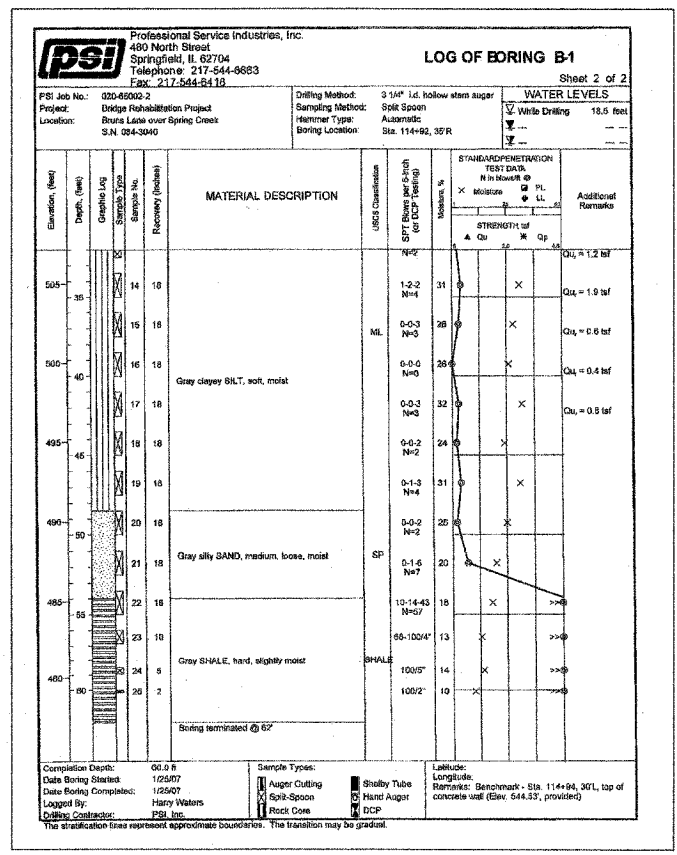
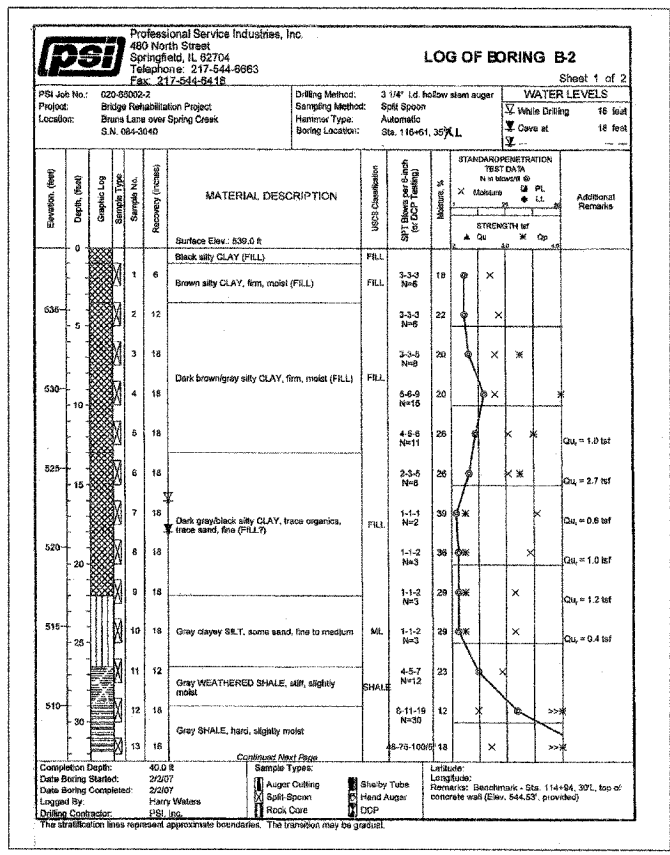
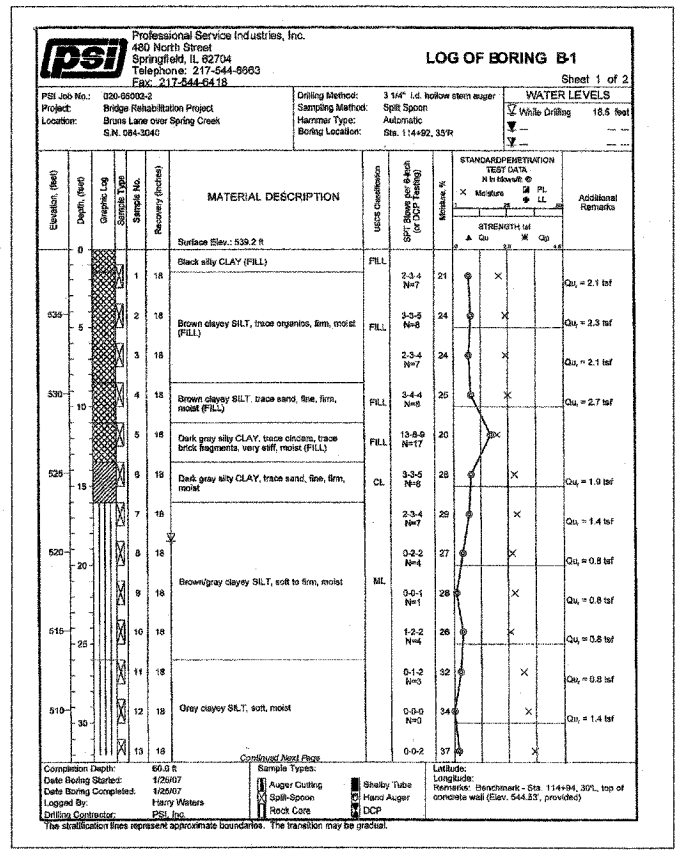
SB-1

11-1-06



REVISIONS	
NAME	DATE

CITY OF SPRINGFIELD, ILLINOIS
CANTILEVER FORMING BRACKETS
 FAU 8006-BRUNS LANE OVER SPRING CREEK
 SECTION 05-00444-00-BR
 SANGAMON COUNTY
 STATION 115+77.50 S.N. 084-6017
 SCALE: NONE DRAWN BY: GLD
 DATE: 6/19/07 CHECKED BY: WK



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REVISIONS	
NAME	DATE

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

CITY OF SPRINGFIELD, ILLINOIS
BORING LOGS 1
FAU 8006-BRUNS LANE OVER SPRING CREEK
SECTION 05-00444-00-BR
SANGAMON COUNTY
STATION 115+77.50 S.N. 084-6017
SCALE: NONE DRAWN BY: GLD
DATE: 6/19/07 CHECKED BY: WK

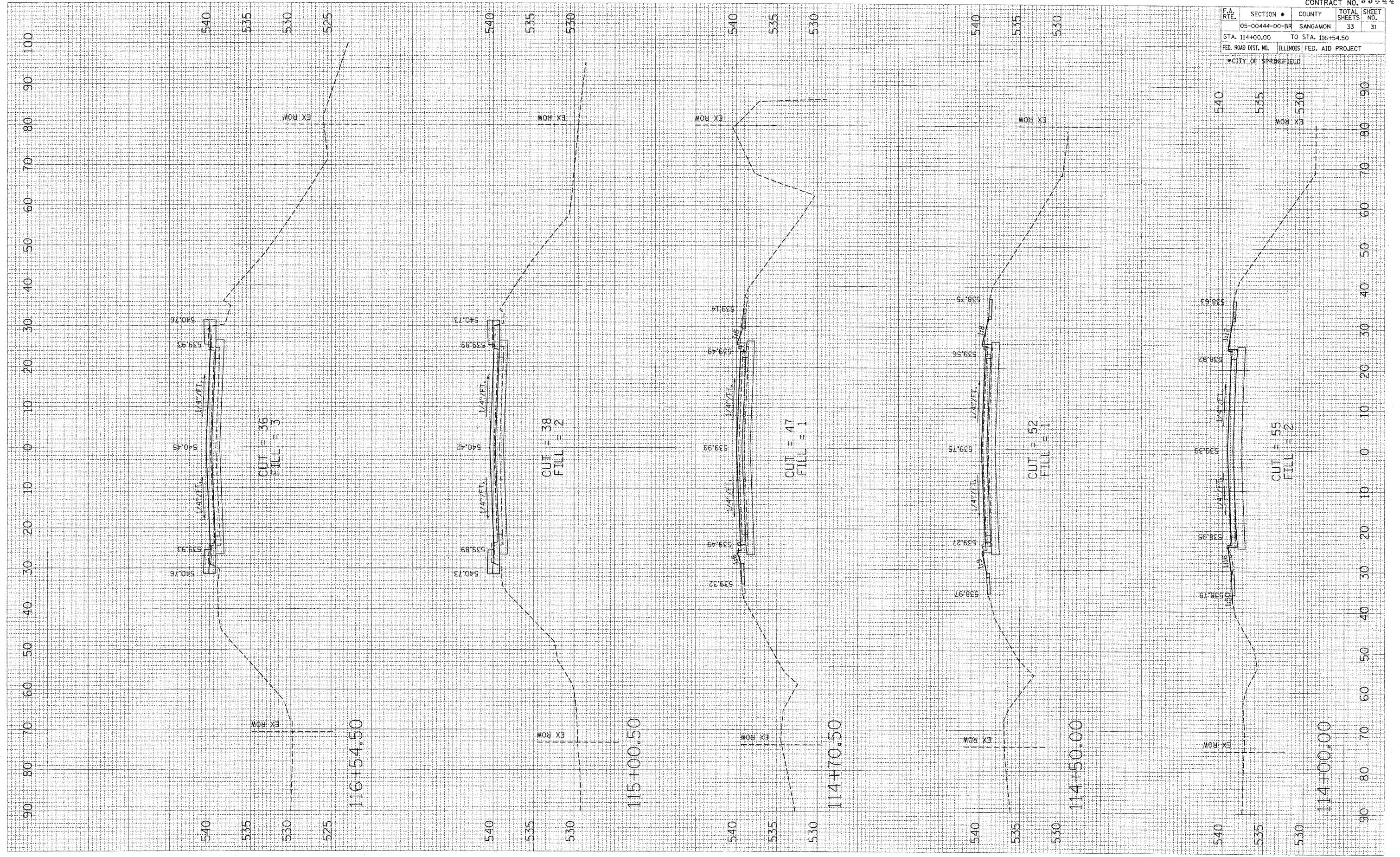
FINAL SURVEY
 SURVEYED BY
 DATE
 CHECKED BY
 DATE
 REVISIONS

ORIGINAL SURVEY
 SURVEYED BY
 DATE
 CHECKED BY
 DATE
 REVISIONS

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CONTRACT NO. 93444

F.A. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	31
STA. 114+00.00		TO STA. 116+54.50		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
*CITY OF SPRINGFIELD				



540
535
530
525
EX ROW
116+54.50

540
535
530
EX ROW
115+00.50

540
535
530
EX ROW
114+70.50

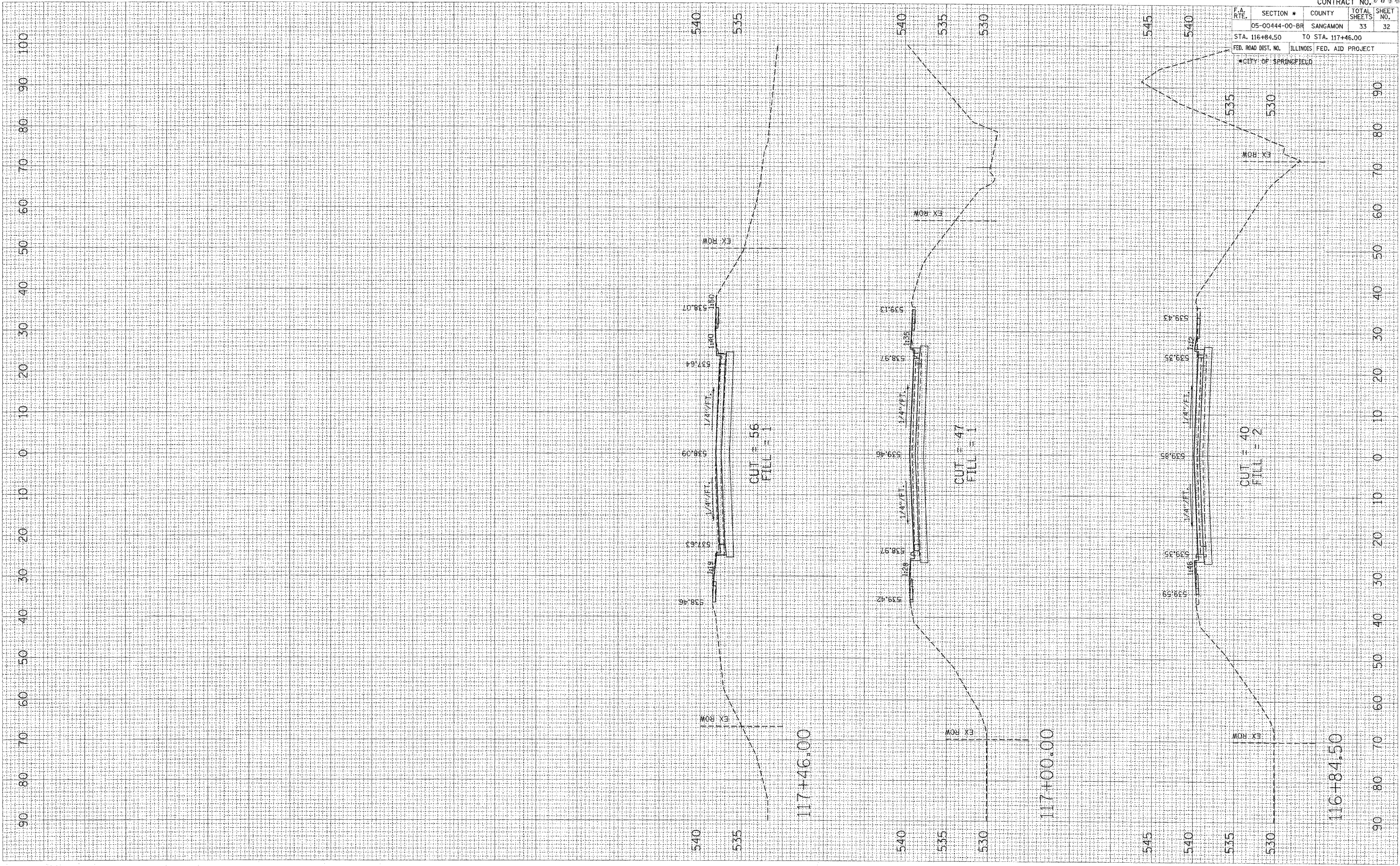
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114+50.00

540
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114+00.00

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 USER NAME = R/SPT#8

ORIGINAL SURVEYED
 SERIALIZED
 PLOTTED
 NO. DATE BY

FINAL SURVEYED
 SERIALIZED
 PLOTTED
 NO. DATE BY



CONTRACT NO. 93444				
F.A. RTE.	SECTION #	COUNTY	TOTAL SHEETS	SHEET NO.
05-00444-00-BR		SANGAMON	33	32
STA. 116+84.50		TO STA. 117+46.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
*CITY OF SPRINGFIELD				

FINAL SURVEY	DATE
SURVEYED BY	BY
REVISIONS	
NO.	

ORIGINAL SURVEY	DATE
SURVEYED BY	BY
REVISIONS	
NO.	

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CONTRACT NO. 93444				
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FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT		
*CITY OF SPRINGFIELD				

