

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 14	94-00091-00-BR	HANCOCK	14	1

**INDEX OF SHEETS**

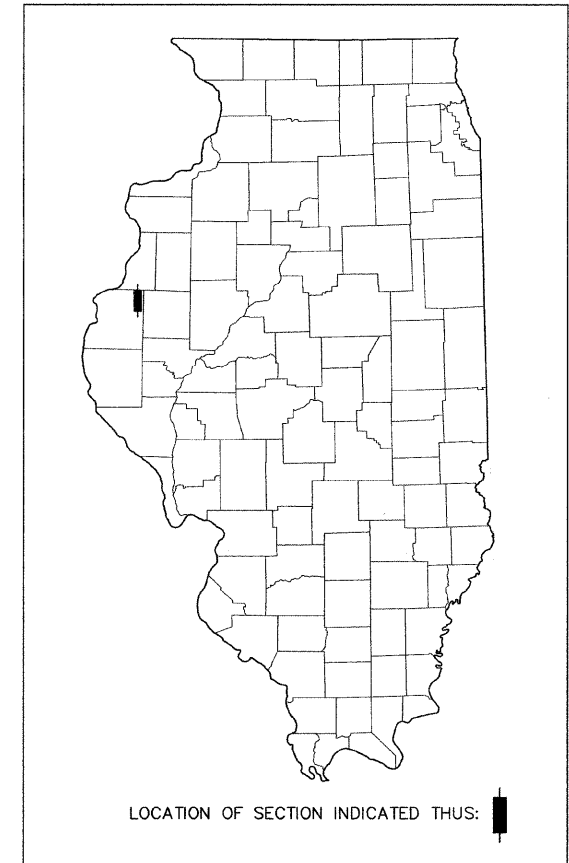
SHEET NO.	DESCRIPTION
1	COVER
2	SUMMARY OF QUANTITIES, TYPICAL SECTIONS GENERAL NOTES AND TRAFFIC CONTROL PLAN
3	PLAN AND PROFILE
4-7	CROSS SECTIONS
8	GENERAL PLAN AND ELEVATION
9-10	P.P.C. DECK BEAM SUPERSTRUCTURE
11	BEAM DETAILS
12	ABUTMENT DETAILS
13	METAL SHELL PILE DETAILS
14	STEEL RAILING, TYPE S-1 DETAILS

**HIGHWAY STANDARDS**

515001-03 -NAME PLATES FOR BRIDGES  
 701901-01 -TRAFFIC CONTROL DEVICES  
 BLR 21-8 -TRAFFIC CONTROL DEVICES RURAL LOCAL HWYS.  
 BLR 23-3 -TRAFFIC BARRIER TERMINAL, TYPE 1  
 BLR 26-2 -STEEL PLATE BEAM GUARD RAIL (27.5" HT.)  
 BLR 27-1 -TRAFFIC BARRIER TERMINAL, TYPE 5A

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**BUREAU OF LOCAL ROADS / STREETS**  
**PLANS FOR PROPOSED**  
**SURFACE TRANSPORTATION/RURAL PROGRAM**

**HANCOCK COUNTY SECTION 94-00091-00-BR**  
**COUNTY HIGHWAY 14 STRUCTURE NO. 034-3141**  
**PROJECT NO. RS-0067(143) JOB NO. C-96-264-10**

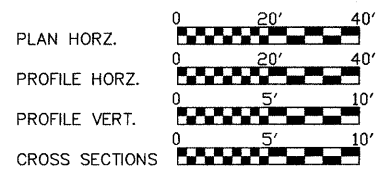
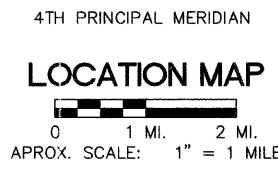
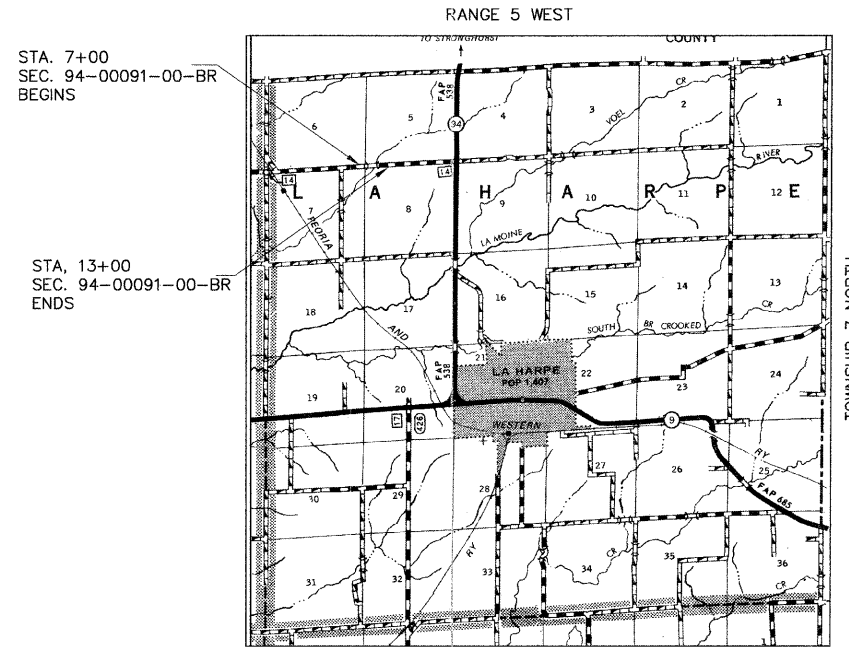


**PROJECT DESCRIPTION**

SEC. 94-00091-00-BR CONSIST OF THE CONSTRUCTION OF A 55.50' (B-B ABUT.) PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE WITH THE NECESSARY BRIDGE APPROACH ADJUSTMENTS.

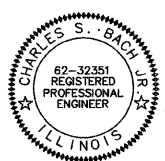
EXISTING STRUCTURE NO. 034-3140  
 A 27' X 22' CONCRETE SLAB BRIDGE WITH CLOSED ABUTMENTS AND WINGWALLS.

PROPOSED STRUCTURE NO. 034-3141  
 A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE ON PILE BENT ABUTMENTS. 55'-6" B-B ABUTMENTS 30'-0" O-O DECK



DESIGN CLASSIFICATION: RURAL LOCAL ROAD  
 DESIGN ADT (2011) = 300  
 DESIGN SPEED = 40 MPH

**GROSS LENGTH OF IMPROVEMENT = 600.00 FEET**  
**STRUCTURE LENGTH = 55.50 FEET**  
**NET LENGTH OF IMPROVEMENT = 600.00 FEET (0.114 MILES)**



*Charles S. Bach, Jr.* 6/8/2011  
 CHARLES S. BACH, JR. DATE  
 062-032351  
 EXP. DATE 11/30/11  
 THIS SEAL COVERS SHEETS: 1-7

APPROVED	<i>Elgin Berry</i> 6/9	20 11
	COUNTY ENGINEER	
PASSED	<i>August 15</i>	20 11
	<i>Terrence H. Fountain</i> M.A.S.	
	DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS	
PASSED	<i>August 15</i>	20 11
	<i>Ron Buchanan</i>	
	DISTRICT SIX ENGINEER OF CONSTRUCTION	
Releasing For Bid Based on Limited Review	<i>August 15</i>	20 11
	<i>Roger L. Driskell</i> M.A.S.	
	DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER	
	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

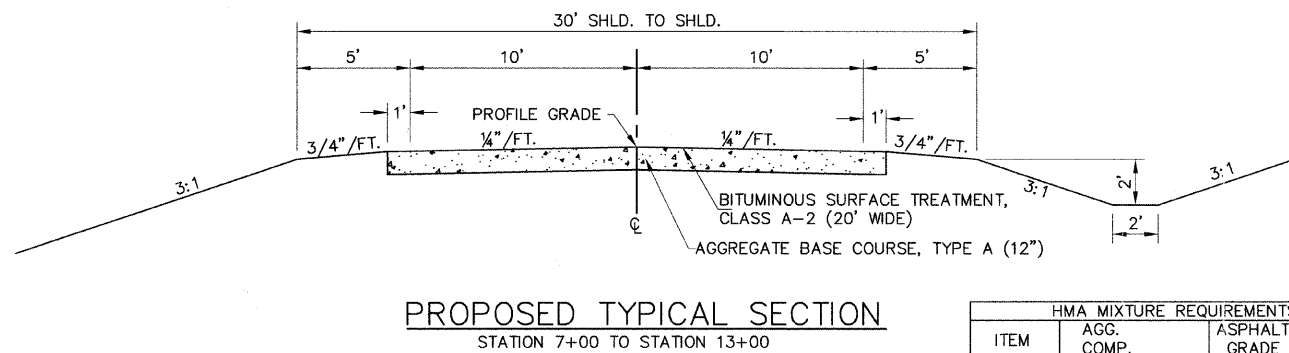
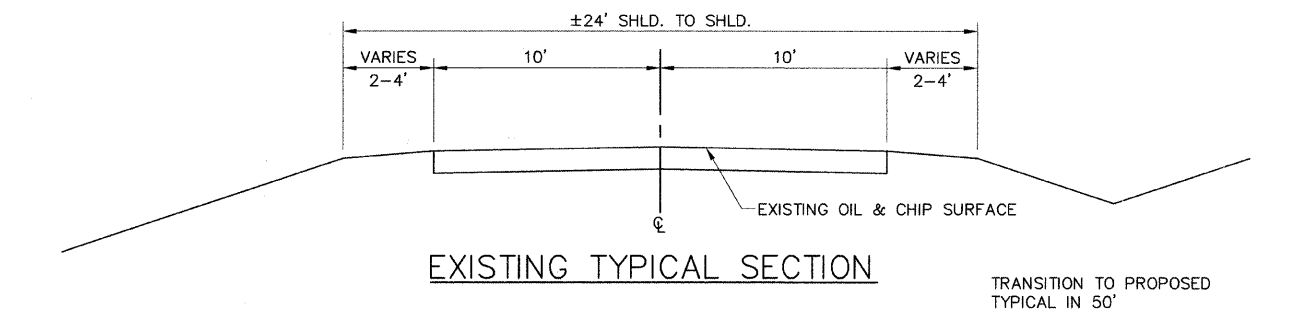
**JULIE**  
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
 1-800-892-0123

DALLAS RURAL WATER DIST.-----FERRIS, IL  
 AMEREN ILLINOIS-----ST. LOUIS, MO.

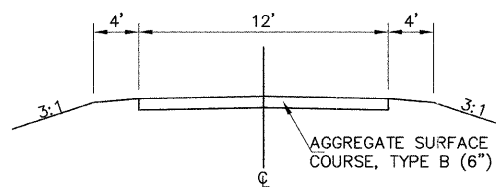
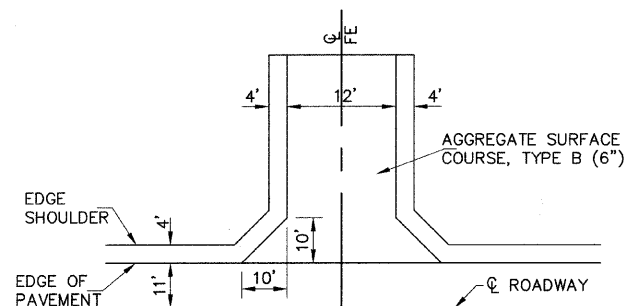
**PSBA**  
 POEPPING, STONE, BACH & ASSOCIATES, INC.  
 ARCHITECTS ENGINEERS PLANNERS SURVEYORS  
 100 SOUTH 54TH STREET  
 QUINCY, ILLINOIS  
 PH (217) 223-4605  
 FAX (217) 223-1546  
 DESIGN FIRM REGISTRATION NO. 184-000493

**PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS**

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH #14	94-00091-00-BR	HANCOCK	14	2
SUMMARY OF QUANTITIES, TYPICAL SECTIONS GENERAL NOTES AND TRAFFIC CONTROL PLAN				

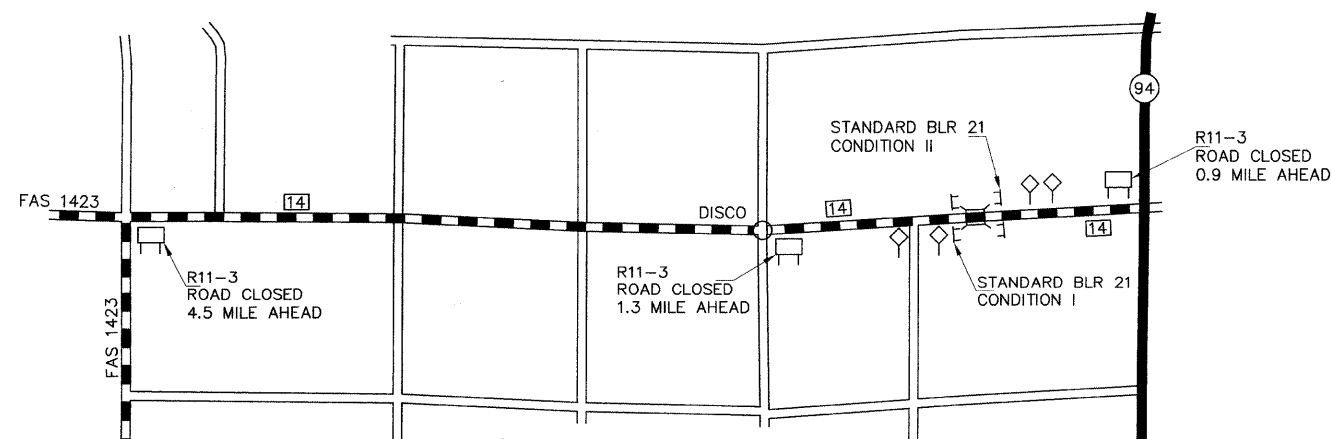


HMA MIXTURE REQUIREMENTS			
ITEM	AGG. COMP.	ASPHALT GRADE	DESIGN AIR VOIDS
SURFACE COURSE	IL-9.5 OR 12.5 MIX "C"	PG 64-22	4% @ N50



FE DETAIL

FE TYPICAL SECTION



TRAFFIC CONTROL PLAN

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	263
* 20300100	CHANNEL EXCAVATION	CU YD	200
* 20400800	FURNISHED EXCAVATION	CU YD	1,092
25000200	SEEDING, CLASS 2	ACRE	0.4
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	36
25000500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	36
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	36
25000700	AGRICULTURAL GROUND LIMESTONE	TON	1.0
25100115	MULCH, METHOD 2	ACRE	0.4
28100205	STONE RIPRAP, CLASS A3	TON	170
35100100	AGGREGATE BASE COURSE, TYPE A	TON	935
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	38
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	470
40300300	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	GALLON	935
40300500	COVER COAT AGGREGATE	TON	18
40300600	SEAL COAT AGGREGATE	TON	18
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	23
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	29.2
* 50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,610
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,230
Δ 50900205	STEEL RAILING, TYPE S-1	FOOT	108
51200956	FURNISHING METAL SHELL PILES 12"X0.179"	FOOT	414
51202305	DRIVING PILES	FOOT	414
51203200	TEST PILE METAL SHELLS	EACH	1
51500100	NAME PLATES	EACH	1
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	38
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	40
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	179
Δ 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	25
Δ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
67100100	MOBILIZATION	L SUM	1
Δ LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2
* X2810208	STONE RIPRAP, CLASS A4 (SPECIAL)	TON	349
* X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1

\* DENOTES SPECIAL PROVISION  
Δ SPECIALTY ITEMS

CONSTRUCTION TYPE CODE 0011-(X080)

GENERAL NOTES

THE REMOVAL OF EXISTING ROADWAY WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE NEW BRIDGE AND APPROACHES SHALL BE REMOVED AS EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTORS EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.2 AND 107.26 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ALL ELEVATIONS SHOWN REFER TO AN U.S.G.S. MEAN SEA LEVEL DATUM.

THE REMOVAL OF EXISTING ENTRANCE CULVERTS SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

**PSBA**  
POPPING, STONE, BACH & ASSOCIATES, INC.  
ARCHITECTS ENGINEERS PLANNERS SURVEYORS

REVISIONS	
NAME	DATE

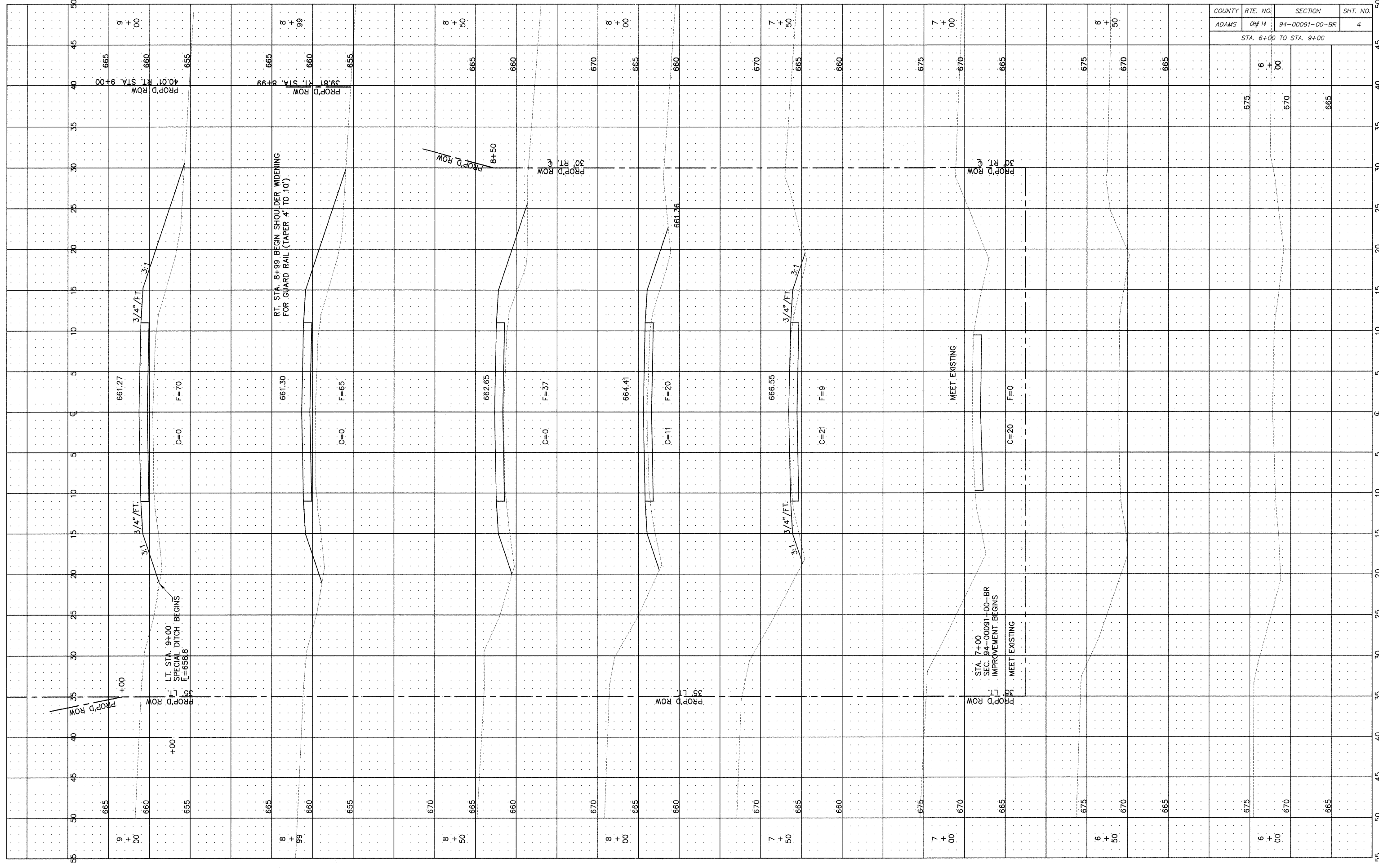
HANCOCK COUNTY  
SECTION 94-00091-00-BR  
SUMMARY OF QUANTITIES  
TYPICAL CROSS SECTIONS  
GENERAL NOTES  
TRAFFIC CONTROL PLAN

SCALE: VERT.      DRAWN BY: GPR  
HORIZ.              CHECKED BY:  
DATE



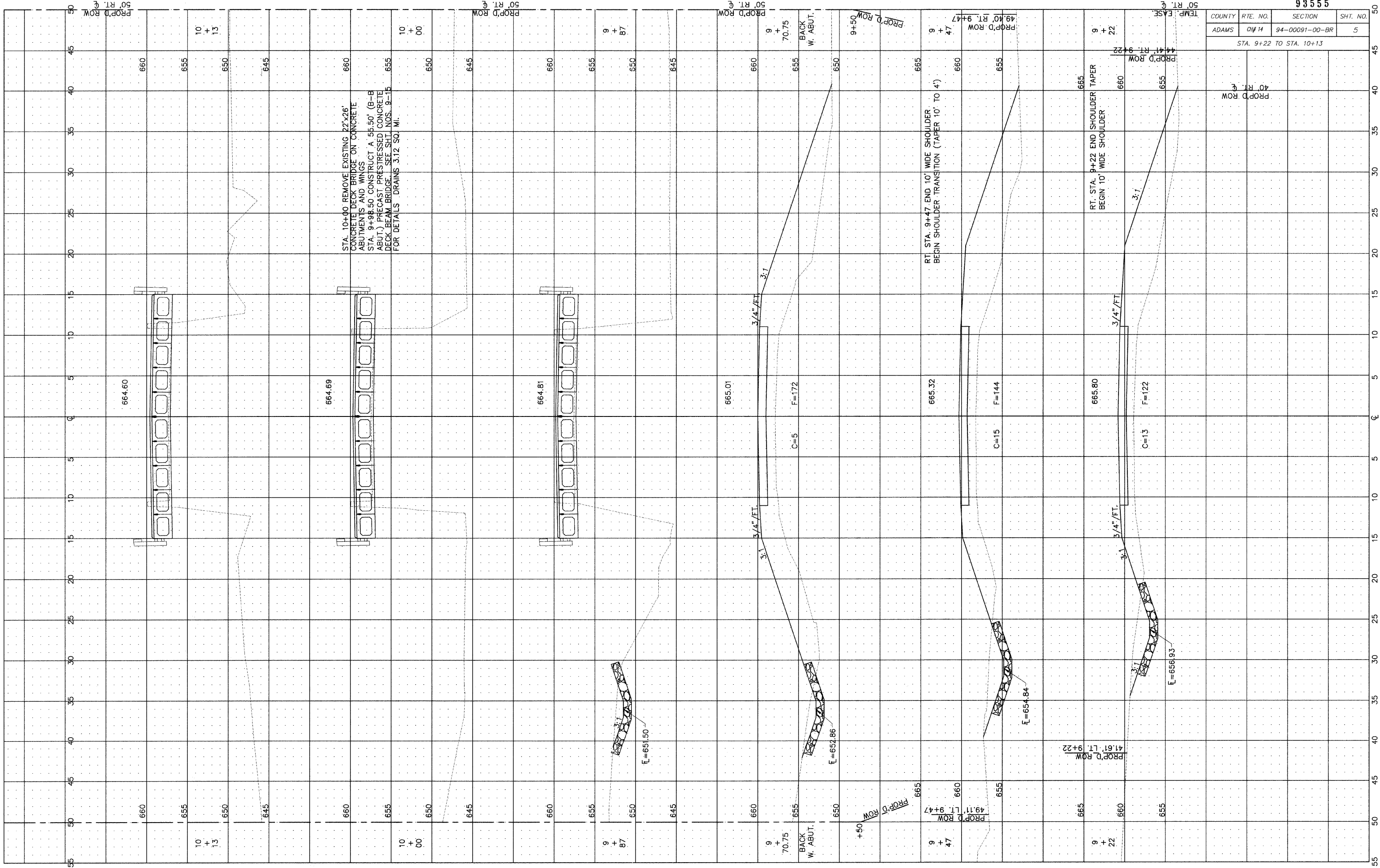
COUNTY	RTE. NO.	SECTION	SHT. NO.
ADAMS	CH# 14	94-00091-00-BR	4

STA. 6+00 TO STA. 9+00



COUNTY	RTE. NO.	SECTION	SHT. NO.
ADAMS	CH# 14	94-00091-00-BR	5

STA. 9+22 TO STA. 10+13



STA. 10+00 REMOVE EXISTING 22'x26' CONCRETE DECK BRIDGE ON CONCRETE ABUTMENTS AND WINGS  
 STA. 9+98.50 CONSTRUCT A .55.50' (B-B ABUT.) PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE. SEE SHT. NOS. 9-15 FOR DETAILS. DRAINS 3.12 SQ. MI.

RT. STA. 9+47 END 10' WIDE SHOULDER. BEGIN SHOULDER TRANSITION (TAPER 10' TO 4')

RT. STA. 9+22 END SHOULDER TAPER BEGIN 10' WIDE SHOULDER

E=651.50

E=652.86

E=654.84

E=656.93

BACK W. ABUT.

PROP'D ROW

PROP'D ROW

PROP'D ROW

TEMP. EASE

PROP'D ROW

50' RT. E

10+13

10+00

50' RT. E

9+87

50' RT. E

9+70.75

9+50

9+47

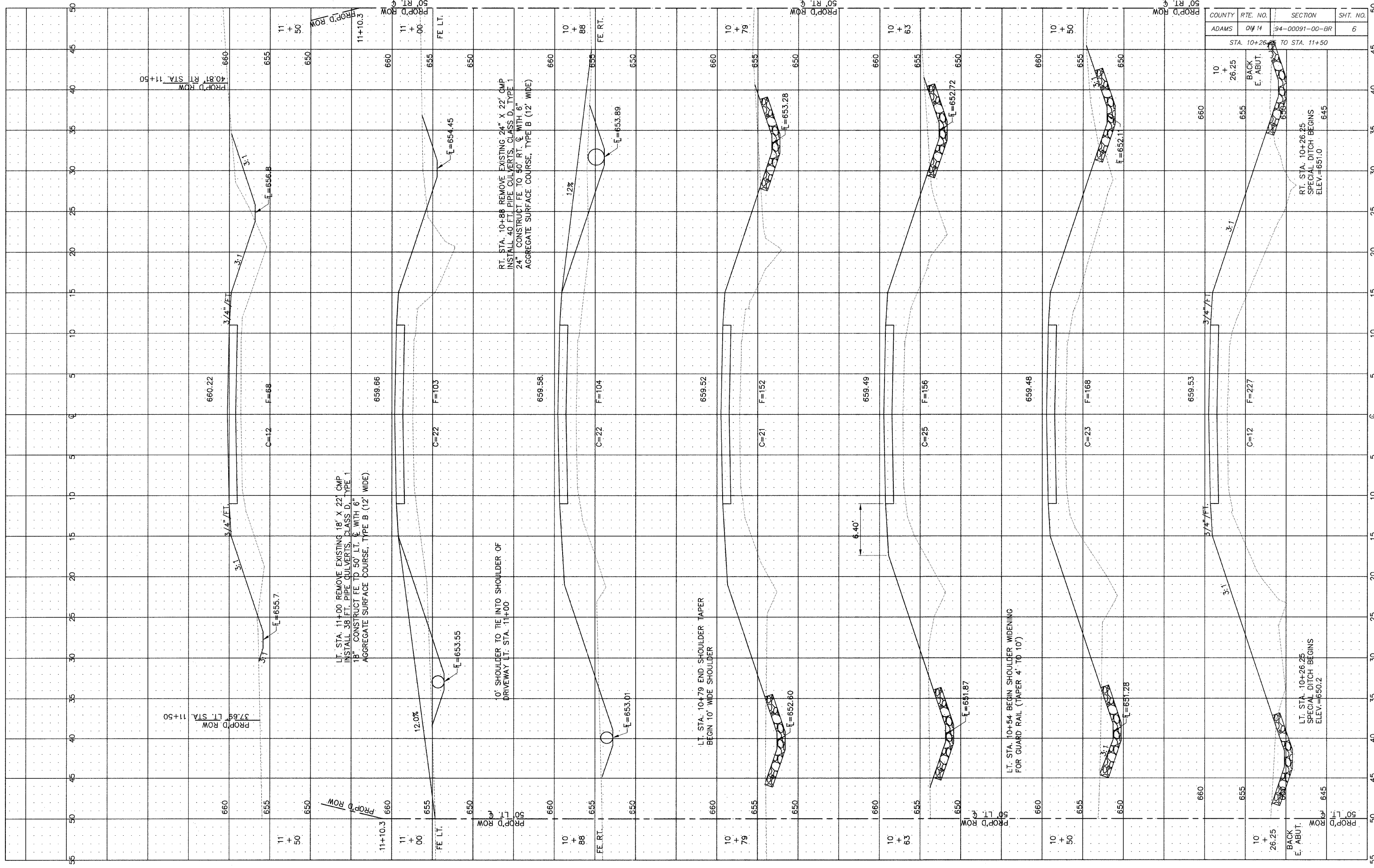
9+22

50' RT. E

50' RT. W

50

55



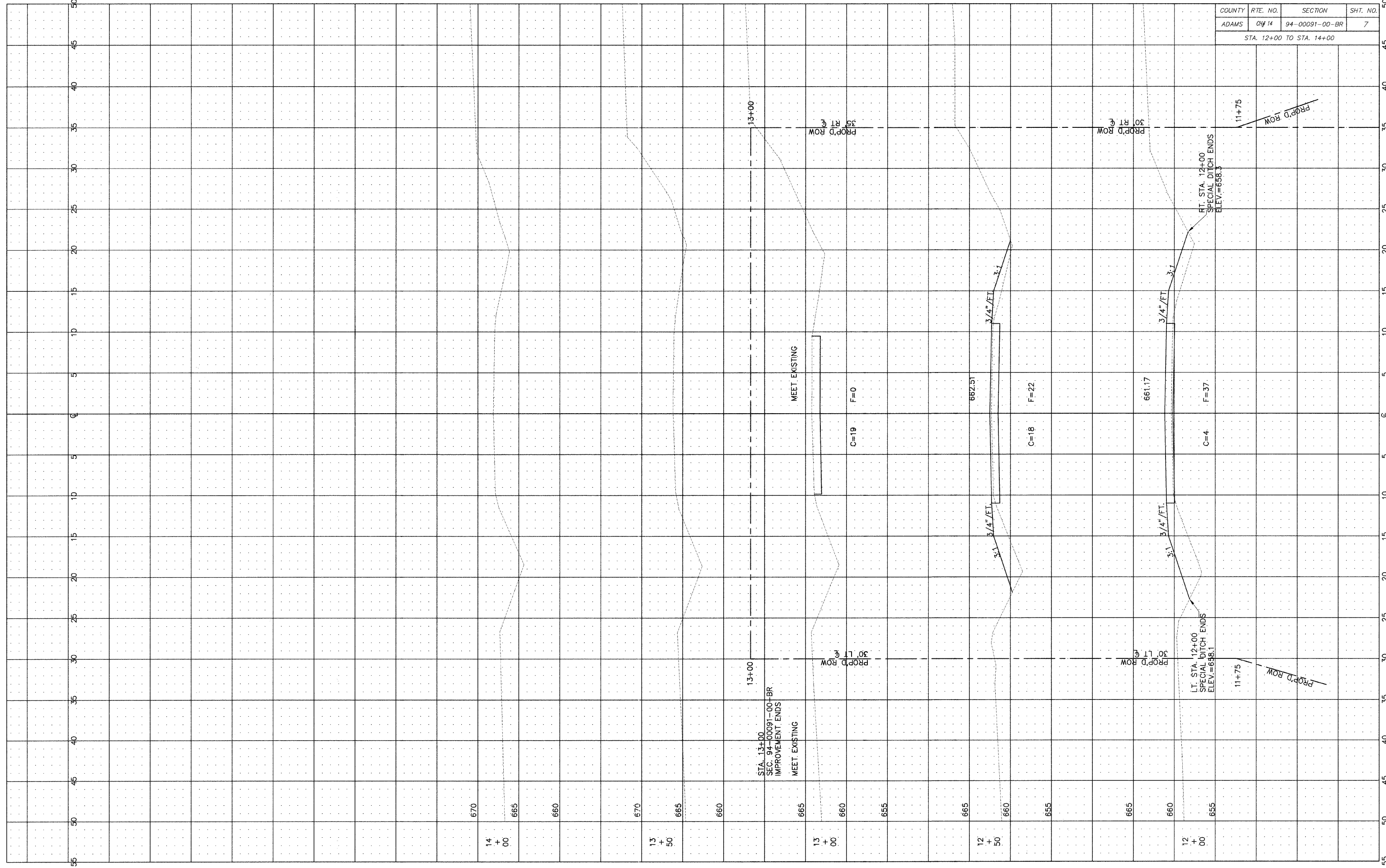
COUNTY	RTE. NO.	SECTION	SHT. NO.
ADAMS	OH# 14	194-00091-00-BR	6

STA. 10+26.25 TO STA. 11+50

93555

93555

COUNTY	RTE. NO.	SECTION	SHT. NO.
ADAMS	OH# 14	94-00091-00-BR	7
STA. 12+00 TO STA. 14+00			



STA. 13+00  
SEC. 94-00091-00-BR  
IMPROVEMENT ENDS  
MEET EXISTING

MEET EXISTING

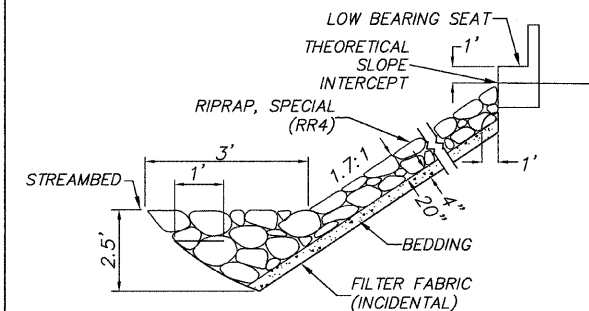
L.T. STA. 12+00  
SPECIAL DITCH ENDS  
ELEV.=658.1

FT. STA. 12+00  
SPECIAL DITCH ENDS  
ELEV.=658.3

BM #1 - SET CHISLED SQUARE ON N. SIDE CONC. PAD FOR GRAIN BIN RT. STA. 5+80 ELEV. = 672.89

EXISTING STRUCTURE - SN. 034-3140  
27' x 22' CONCRETE SLAB BRIDGE WITH CLOSED CONCRETE ABUTMENTS AND WINGWALLS

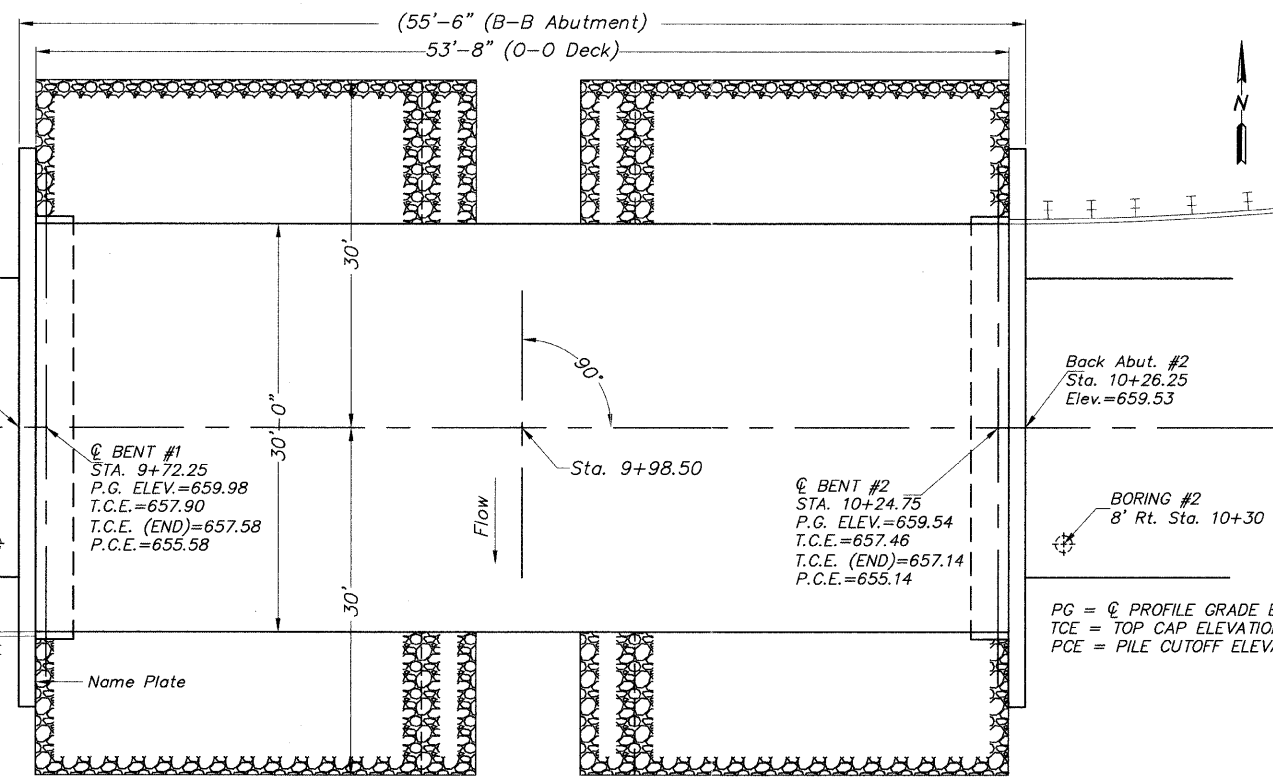
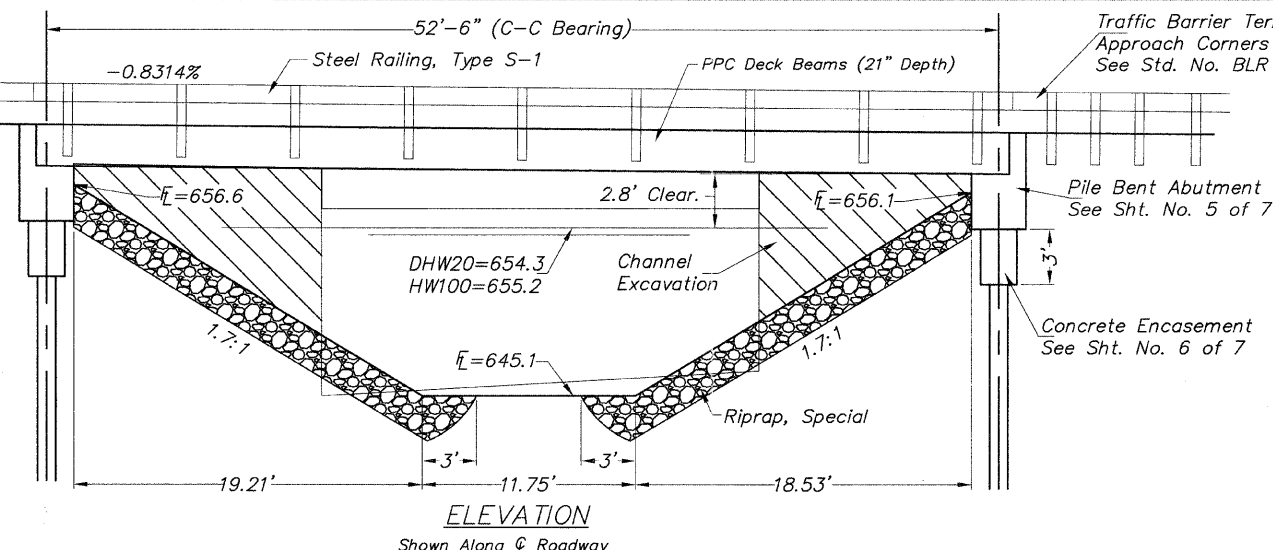
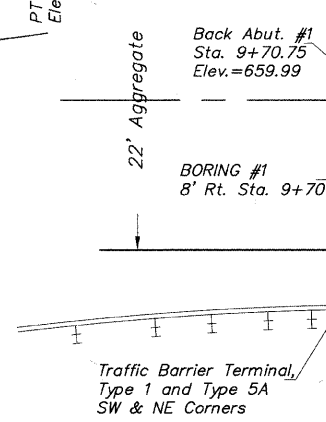
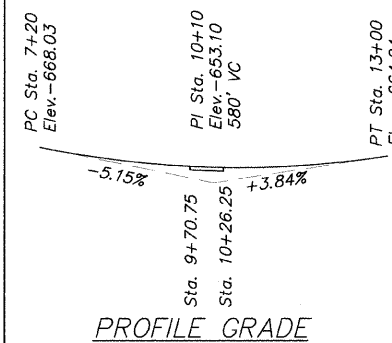
SALVAGE - NO SALVAGEABLE MATERIALS.



ITEM	UNIT	BENT 1	BENT 2	TOTAL
RIPRAP, SPECIAL	TON	177	172	349
FILTER FABRIC	SQ. YD.	166	164	330

FILTER FABRIC AND BEDDING MATERIALS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE PER TON FOR STONE RIPRAP, CLASS A-4 (SPECIAL)

**RIPRAP PLACEMENT DETAIL**



**PLAN**



I Certify That to the Best of my Knowledge, Information and Belief, the Revised Standard Detail Sheets and/or Special Component Sheets Included with the Standard Bridge Detail Sheets are Structurally Adequate for the Design Loading Shown on the Plans. The Design is an Economical One For The Style of Structure and Complies with the Requirements of the Current AASHTO Standard Specifications for Highway Bridges.  
The Design Complies With the Requirements of the Current AASHTO Guide Specifications for Seismic Design of Highway Bridges.  
Date: 6-8-11  
David S. Poland  
Licensed Structural Engineer  
State of Illinois No. 81-005124  
expires 11/30/2012

**DESIGN SPECIFICATIONS**  
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 4th ED. WITH 2009 INTERIMS.

THIS DESIGN COMPLIES WITH ALL REQUIREMENTS OF THE CURRENT AASHTO GUIDE SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES

**LOADING HL-93**  
ALLOW 50#/SQ.FT. FOR FUTURE WEARING SURFACE

**DESIGN STRESSES**  
(PRESTRESSED UNITS) (FIELD UNITS)  
f<sub>ci</sub> = 5.0 KSI f<sub>c</sub> = 3.5 KSI  
f<sub>c</sub> = 6.0 KSI f<sub>y</sub> = 60 KSI  
f<sub>y</sub> = 60 KSI

**PILE DATA (2-ABUTMENTS)**

PILE TYPE AND SIZE: METAL PILE SHELLS 12" (.179" WALL)  
NOMINAL REQUIRED BEARING: 170 KIPS  
FACTORED RESISTANCE AVAILABLE: 85 KIPS  
ESTIMATED LENGTH: 46 FEET (BENT #1), 46 FEET (BENT #2)  
NUMBER OF PRODUCTION PILES: 5 (BENT #1), 4 (BENT #2)  
NUMBER OF TEST PILES: 1 (BENT #2)

**WATERWAY INFORMATION**

DRAINAGE AREA - 3,122 SQ. MI			LOW GRADE ELEVATION = 659.48 AT STA. 10+53						
FLOOD	FLOOD FREQUENCY (YEAR)	FLOW VOLUME (CFS)	OPENING SQ. FT.		NATURAL H.W.E.	HEAD - FT.		HEADWATER ELEV.	
			EXISTING	PROPOSED		EXISTING	PROPOSED	EXISTING	PROPOSED
DESIGN	20	1,086	196	248	654.3	0.3	0.2	654.6	654.5
BASE	100	1,614	208	275	655.2	0.7	0.3	655.8	655.5
OVERTOPPING									
MAX. CALC	500	2,193	211	299	655.80	1.30	0.60	657.10	656.40

**SEISMIC DATA**

SEISMIC PERFORMANCE ZONE (SPZ) = 1  
DESIGN SPECTRAL ACCELERATION AT 1.0 SEC. = 0.045  
DESIGN SPECTRAL ACCELERATION AT 0.2 SEC = 0.10  
SOIL SITE CLASS = D

**DESIGN SCOUR ELEVATION TABLE**

DESIGN SCOUR ELEVATION (FT.)	BENT #1	BENT #2
	654.58	654.14

**GENERAL NOTES**

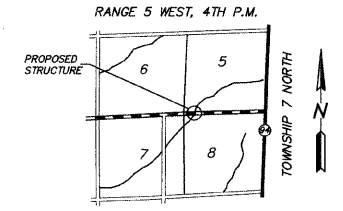
- SEE SPECIAL PROVISIONS FOR BORING LOGS.
- ALL GROUT ON THIS PROJECT SHALL BE NON-SHRINK.
- CORROSION INHIBITOR, PER ARTICLE 1020.05(b)(12) AND 1021.06 OF THE STANDARD SPECIFICATIONS, SHALL BE USED IN THE CONCRETE FOR PRECAST PRESTRESSED CONCRETE DECK BEAMS.
- STONE RIPRAP SHALL BE PLACED TO THE DIMENSIONS SHOWN OVER A GEOTECHNICAL FABRIC IN ACCORDANCE WITH THE RIPRAP PLACEMENT DETAIL AND APPLICABLE SPECIAL PROVISIONS.
- LAYOUT OF THE SLOPE PROTECTION MAY BE VARIED TO SUIT GROUND CONDITIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.
- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706, GRADE 60.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
- 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.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER.	SUBSTRUCTURE		TOTAL
			PIER	ABUT.	
CHANNEL EXCAVATION	CU. YD.	----	----	200	200
STONE RIPRAP, CLASS A-4 (SPECIAL)	TON	----	----	349	349
HOT-MIX ASPHALT SURFACE CSE., MIX "C", N50	TON	23	----	----	23
REMOVAL OF EXISTING STRUCTURE	EACH	----	----	----	1
CONCRETE STRUCTURES	CU. YD.	----	----	29.2	29.2
P.P. CONCRETE DECK BEAMS 21" DEPTH	SQ. FT.	1,610	----	----	1,610
REINFORCEMENT BARS, EPOXY COATED	POUND	----	----	3,230	3,230
STEEL RAILING, TYPE S-1	FOOT	108	----	----	108
FURNISHING METAL SHELL PILES 12" X 0.179	FOOT	----	----	414	414
DRIVING PILES	FOOT	----	----	414	414
TEST PILE METAL SHELLS	EACH	----	----	1	1
NAME PLATES	EACH	----	----	1	1
WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	179	----	----	179

SPRING CREEK  
BUILT 20 BY  
HANCOCK COUNTY  
SEC. 94-00091-00-BR  
PROJECT NO. RS-0067(143)  
C.H.# 14 STA. 9+98.50  
STR. NO. 034-3141 LOADING HL-93

**LETTERING FOR NAME PLATE**  
Locate Name Plate at Southwest Wingwall of Bridge (See Std. 515001)



**LOCATION SKETCH**

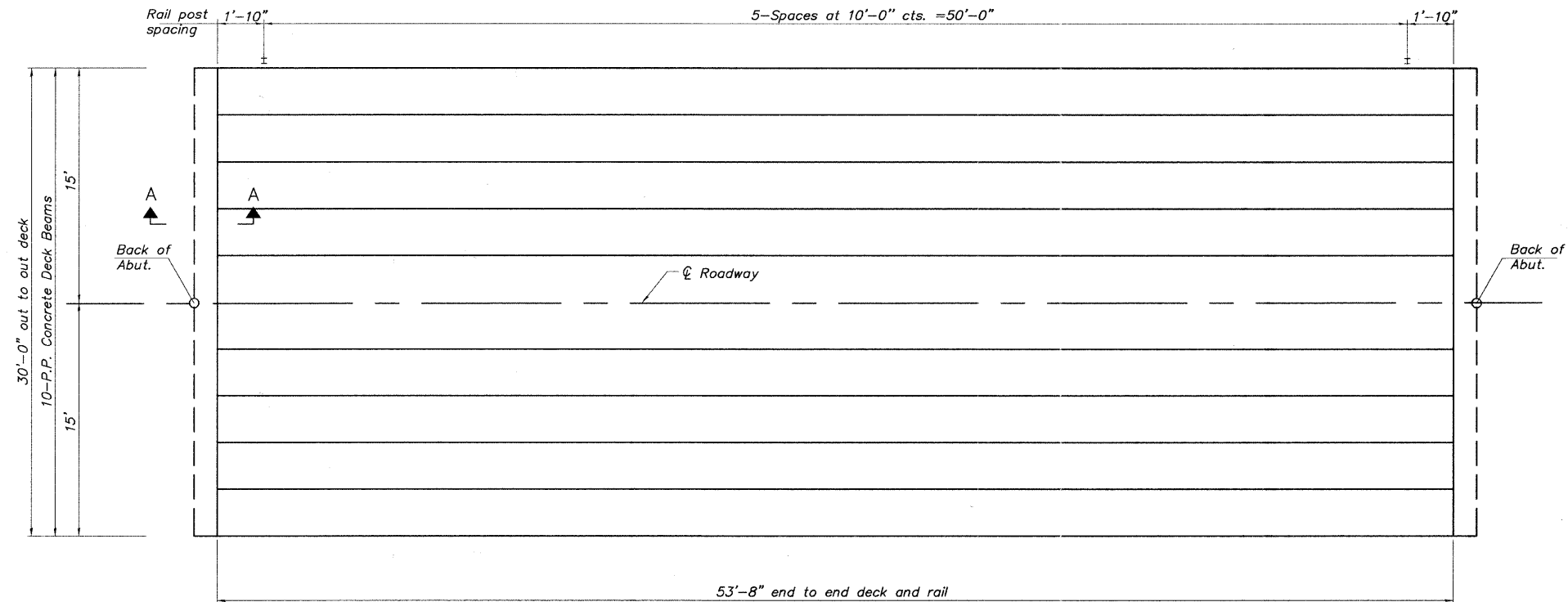
**INDEX OF SHEETS**

- BRIDGE GENERAL PLAN AND ELEVATION
- P.P.C. DECK BEAM SUPERSTRUCTURE
- P.P.C. 21"x36" DECK BEAM
- P.P.C. 21"x36" DECK BEAM BENT DETAILS
- P.P.C. DECK BEAM PILE BENT ABUTMENT DETAILS
- METAL SHELL PILE DETAILS
- STEEL RAILING, TYPE S-1

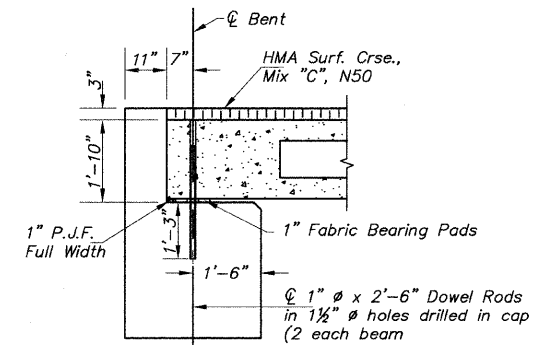
**GENERAL PLAN & ELEVATION  
HANCOCK COUNTY  
SECTION 94-00091-00-BR  
CH #14 OVER SPRING CREEK**

SHEET NO. 1 OF 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH #14	94-00091-00-BR	HANCOCK	14	8
S.N. 034-3141		CONTRACT NO. 93555			
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJ.			

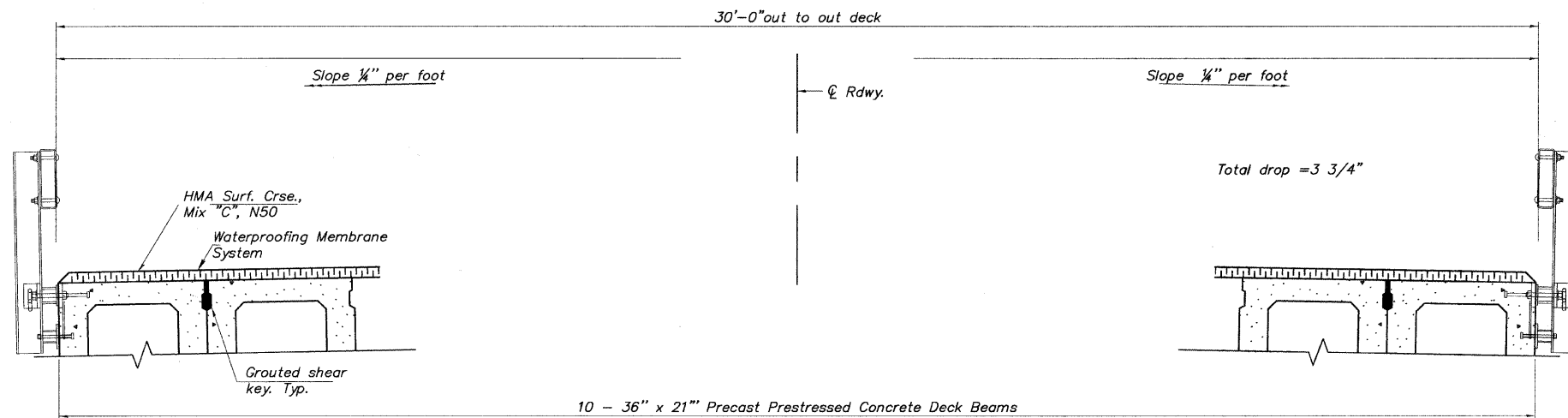




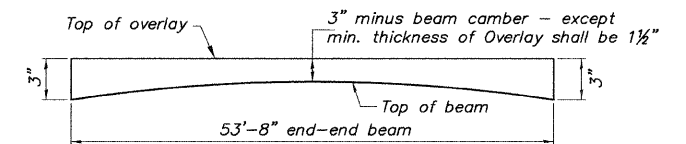
PLAN



SECTION A-A  
See sheet 4 of 7 for fabric bearing pad details.



CROSS SECTION  
(Looking East)



ANTICIPATED HMA WEARING SURFACE PROFILE  
(For information only)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Waterproofing Membrane System	Sq. Yds.	179
HMA Surf. Crse., Mix "C", N50	Ton	23
Portland Cement Mortar Fairing Crse.	As Necessary	

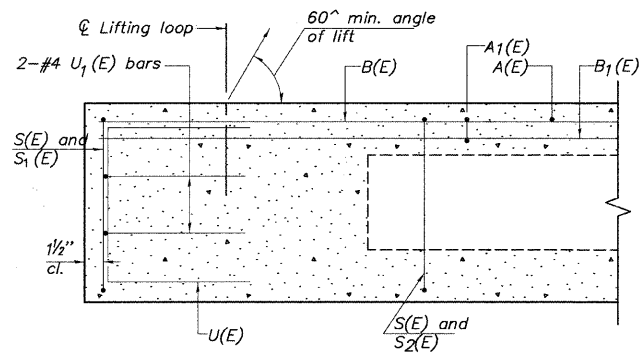
\*See Special Provisions

Notes:  
See sheet 3 of 7 for Superstructure Details and Bill of Material.  
Bars indicated thus 20 x 2-#4 etc. indicates 20 lines of bars with 2 lengths per line.  
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.

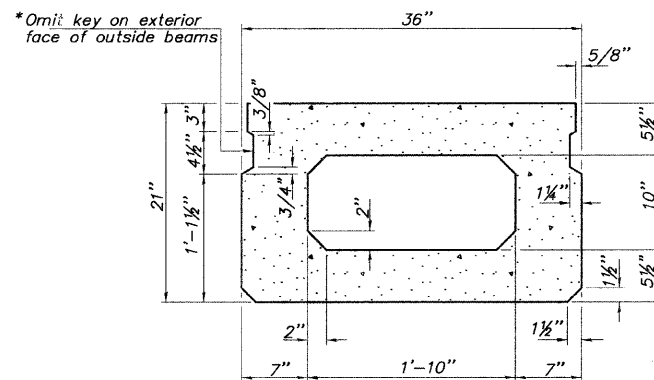
MINIMUM BAR LAP  
#4 bar = 2'-7"

SUPERSTRUCTURE DETAILS  
HANCOCK COUNTY  
SECTION 94-00091-00-BR  
CH #14 OVER SPRING CREEK

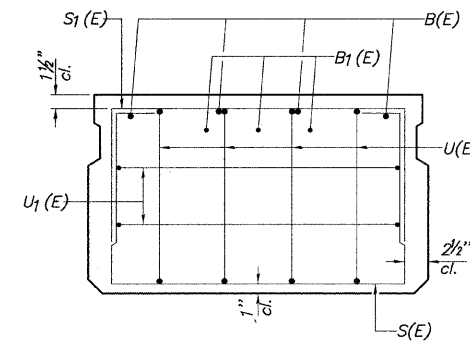
SHEET NO. 2 OF 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH #14	94-00091-00-BR	HANCOCK	14	9
S.N. 034-3141			CONTRACT NO. 93555		
FED. ROAD DIST. NO. 7   ILLINOIS FED. AID PROJ.					



SECTION A-A

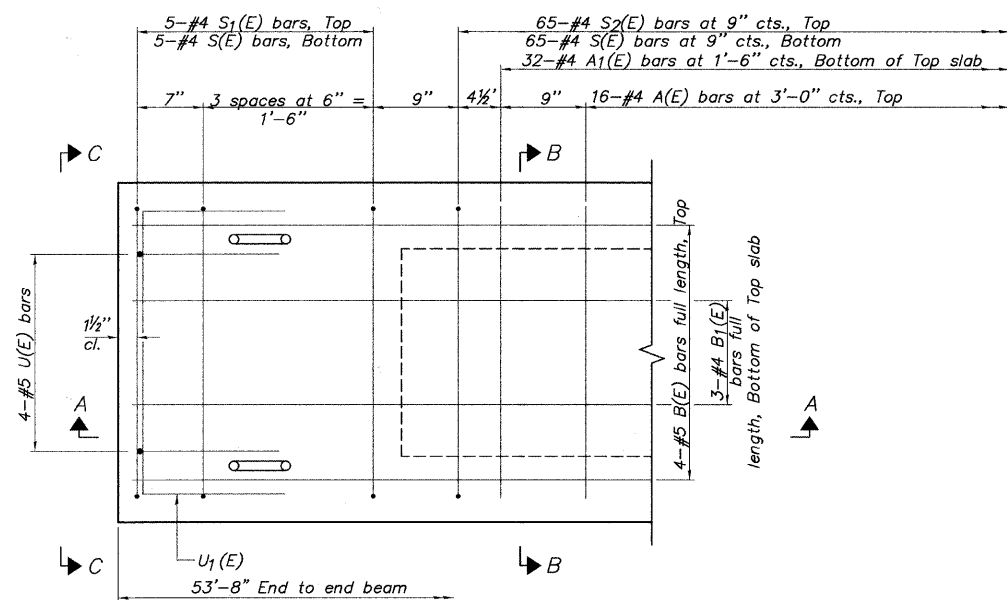


SECTION B-B  
(Showing dimensions)

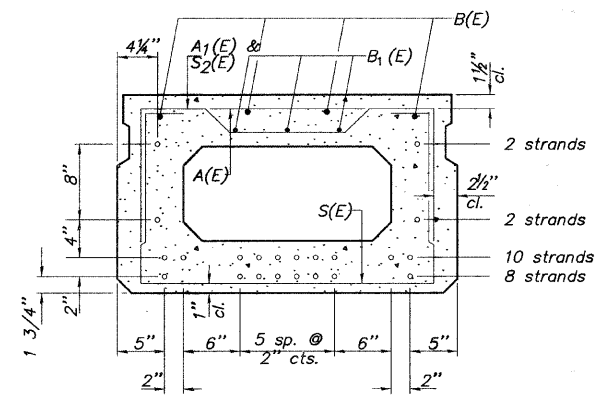


VIEW C-C

\*Rail Post Anchor Devices (Sht. 7 of 7.)  
To Be Cast Into Exterior Face Of Outside Beams



PLAN VIEW



SECTION B-B  
(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.

BAR LIST  
ONE BEAM ONLY  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	2'-7"	—
A1(E)	32	#4	2'-10"	—
B(E)	4	#5	53'-5"	—
B1(E)	3	#4	53'-5"	—
S(E)	75	#4	6'-5"	□
S1(E)	10	#4	4'-11"	□
S2(E)	65	#4	5'-2"	□
U(E)	8	#5	4'-0"	□
U1(E)	4	#4	5'-0"	□

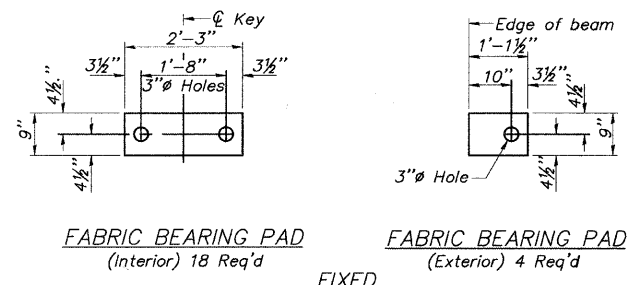
Note: See sheet 4 of 7 for additional details and Bill of Material.

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

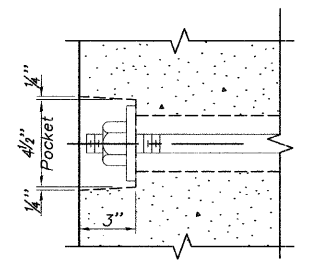
MINIMUM BAR LAP  
#4 bar = 2'-0"  
#5 bar = 2'-6"

SUPERSTRUCTURE DETAILS  
HANCOCK COUNTY  
SECTION 94-00091-00-BR  
CH #14 OVER SPRING CREEK

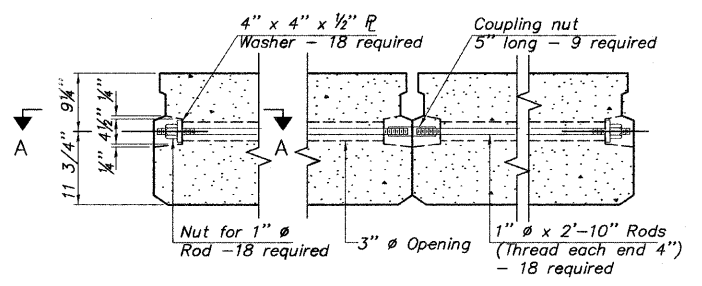
SHEET NO. 3 OF 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH #14	94-00091-00-BR	HANCOCK	14	10
	S.N. 034-3141			CONTRACT NO. 93555	
FED. ROAD DIST. NO. 7   ILLINOIS FED. AID PROJ.					



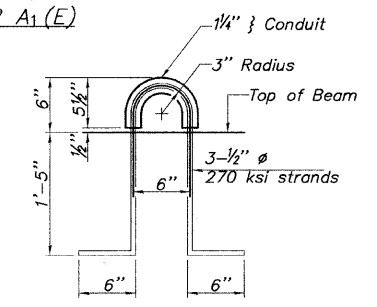
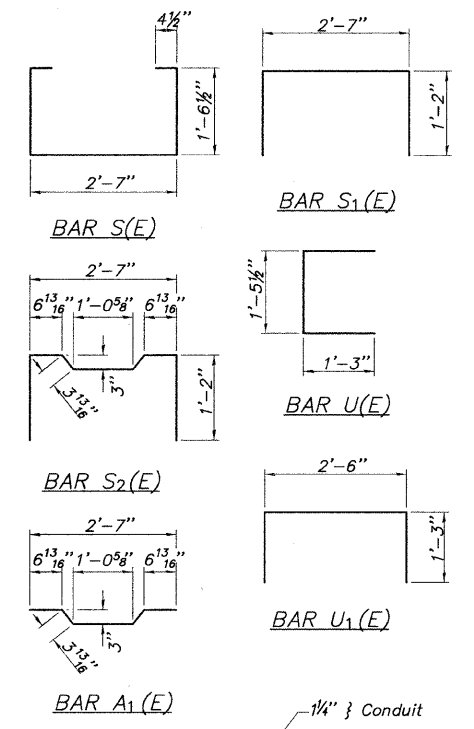
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



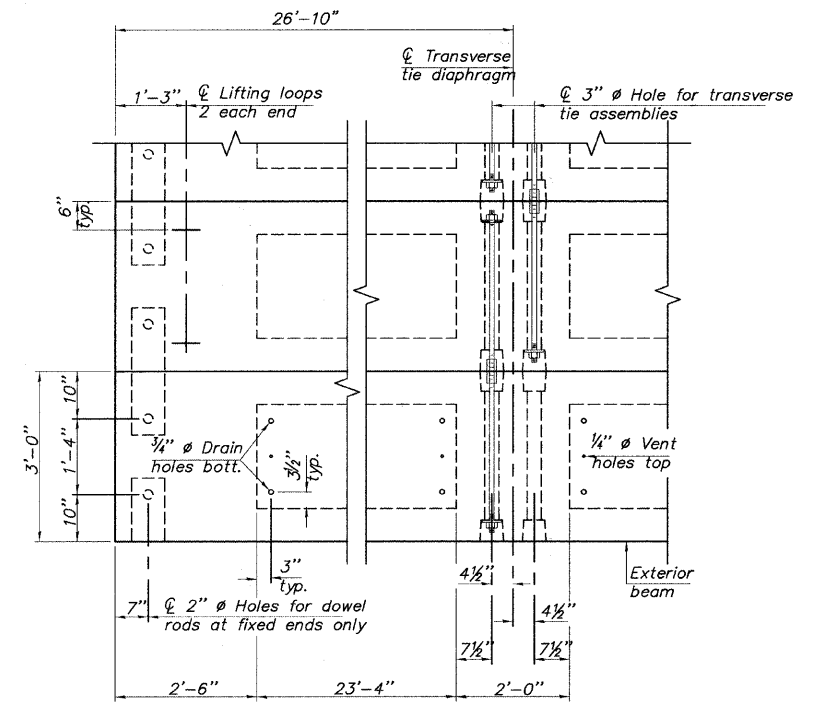
SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



LIFTING LOOP DETAIL



PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

**NOTES**

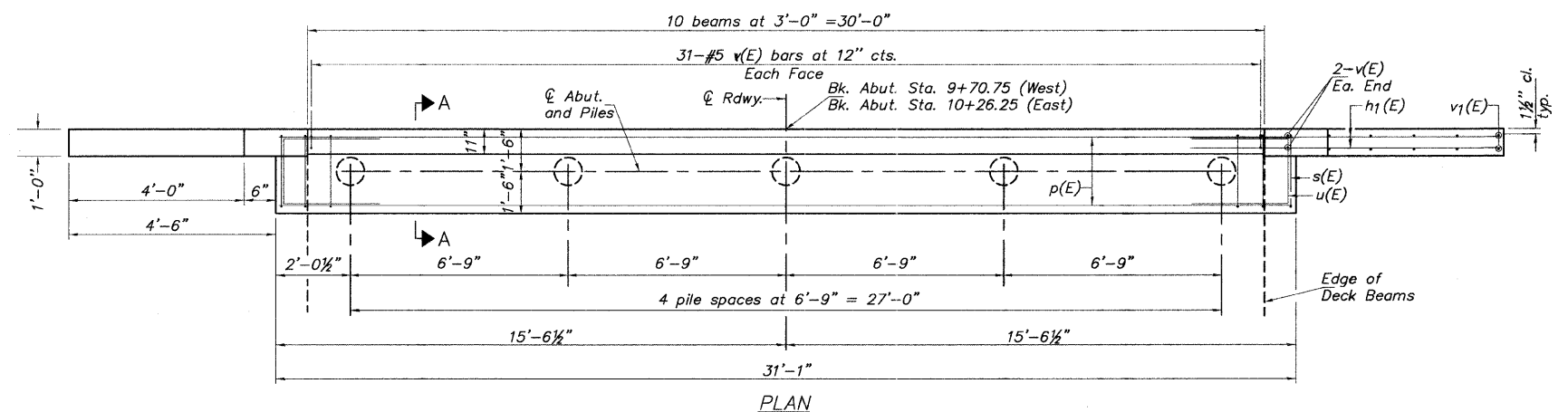
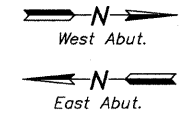
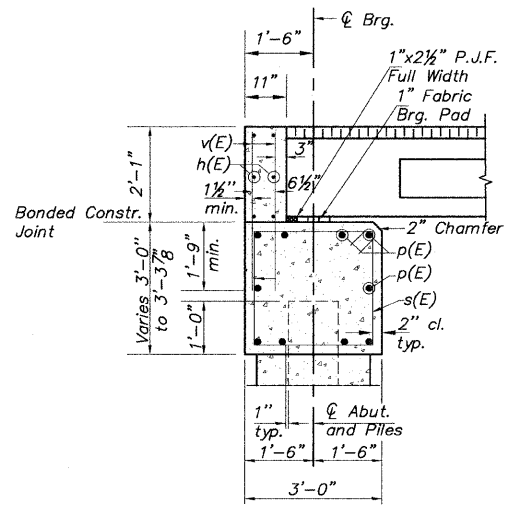
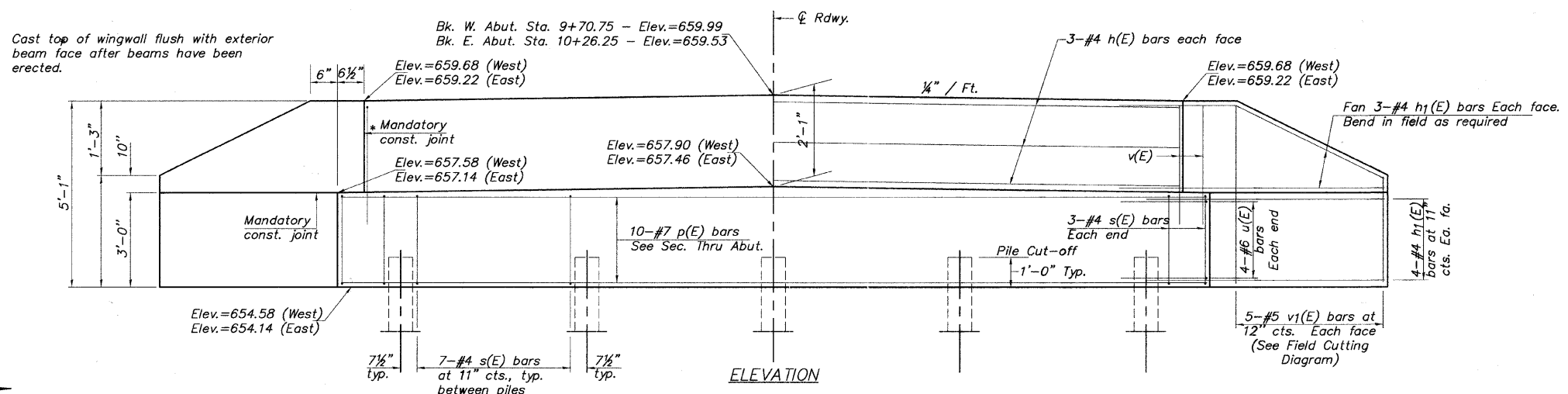
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
Reinforcement bars shall conform to ASTM A 706, Grade 60.  
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.  
Corrosion inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,610
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DECK BEAM DETAILS  
HANCOCK COUNTY  
SECTION 94-00091-00-BR  
CH #14 OVER SPRING CREEK

SHEET NO. 4 OF 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH #14	94-00091-00-BR	HANCOCK	14	11
	S.N. 034-3141			CONTRACT NO. 93555	
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJ.					

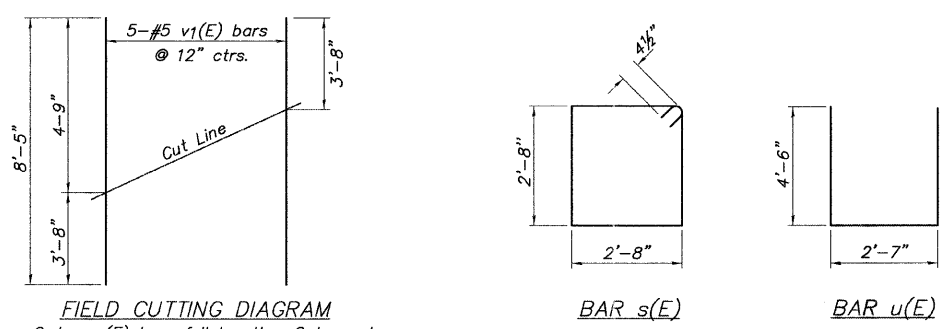


**BILL OF MATERIAL  
ONE ABUTMENT**

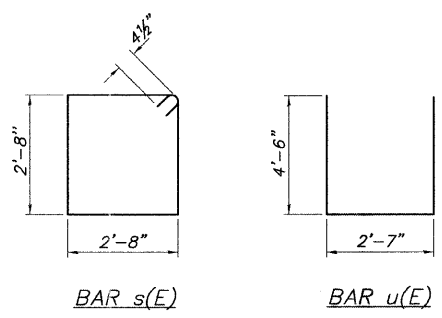
Bar	No.	Size	Length	Shape
h(E)	6	#4	29'-9"	
h1(E)	28	#4	6'-6"	
p(E)	10	#7	30'-9"	
s(E)	34	#4	11'-5"	
u(E)	8	#6	11'-7"	
v(E)	66	#5	3'-9"	
v1(E)	10	#5	8'-5"	
Concrete Structures		Cu. Yd.	14.6	
Reinforcement Bars, Epoxy Coated		Pound	1,615	
Furnishing Metal Shell Piles 12" x 0.179"		Foot	230 (West) 184 (East)	
Driving Piles		Foot	230 (West) 184 (East)	
Test Pile Metal Shells		Each	1	

For details of piles see sheet 6 of 7.

**PILE DATA**  
 Type: Metal Shell Piles 12" (0.179" Wall)  
 Nominal Required Bearing: 170 kips  
 Factored Resistance Available: 85 kips  
 Est. Length: West Abut. - 46 Ft.  
 East Abut. - 46 Ft.  
 No. Production Piles: 10 (Includes Test Pile)  
 No. Test Piles: 1 (East Abut.)\*  
 \* Driven to 110% NRB



**FIELD CUTTING DIAGRAM**  
 Order v1(E) bars full length. Cut as shown and use remainder of bars in opposite face.



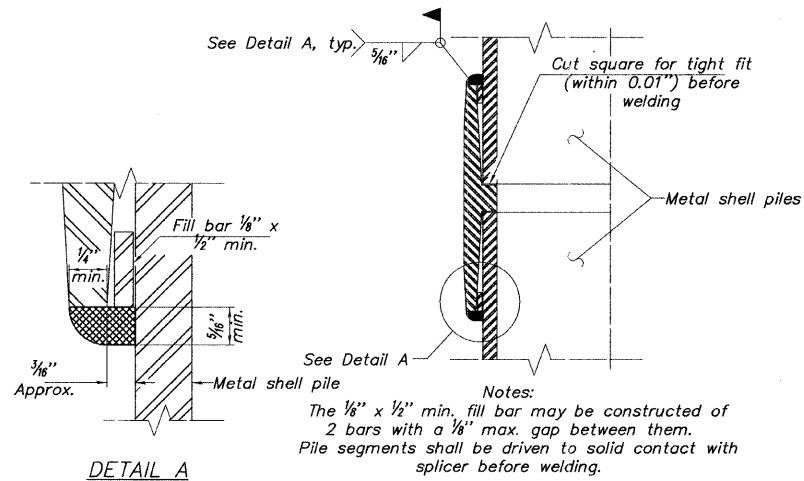
**ABUTMENT DETAILS  
HANCOCK COUNTY  
SECTION 94-00091-00-BR  
CH #14 OVER SPRING CREEK**

SHEET NO. 5 OF 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH #14	94-00091-00-BR	HANCOCK	14	12
	S.N. 034-3141			CONTRACT NO. 93555	
FED. ROAD DIST. NO. 7   ILLINOIS FED. AID PROJ.					

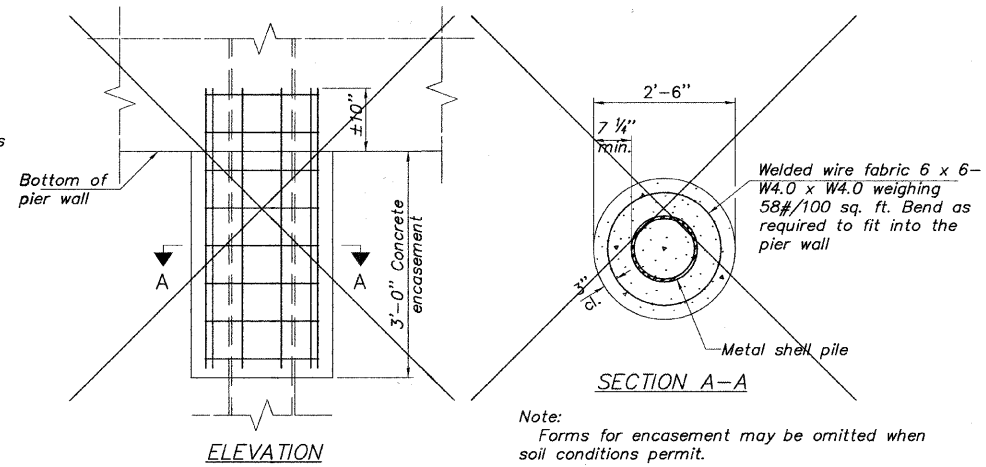


METAL SHELL PILE TABLE

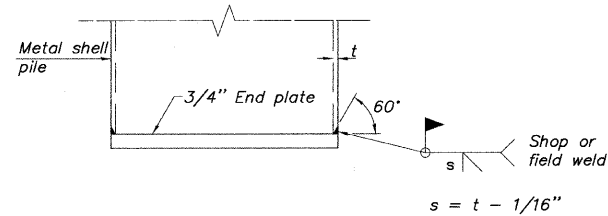
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. 3/ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



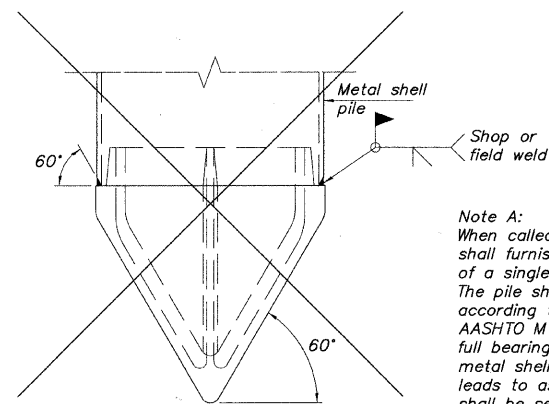
WELDED COMMERCIAL SPLICE



CONCRETE ENCASEMENT AT PIERS



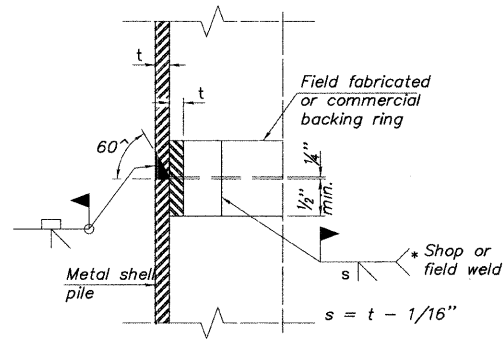
END PLATE ATTACHMENT



METAL SHELL PILE SHOE ATTACHMENT

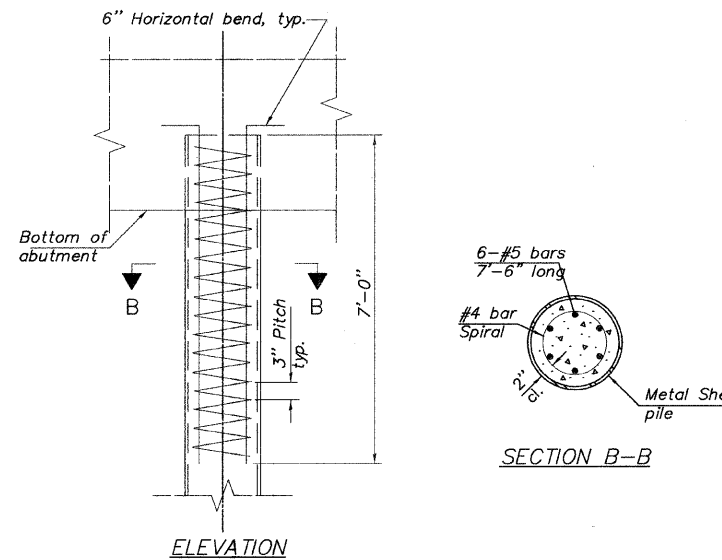
(See Note A)

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



COMPLETE PENETRATION WELD SPLICE

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

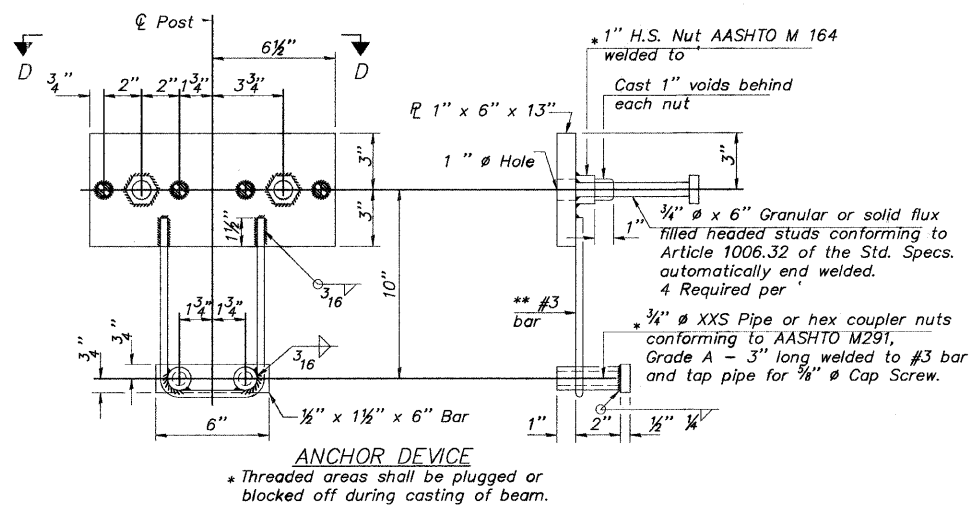
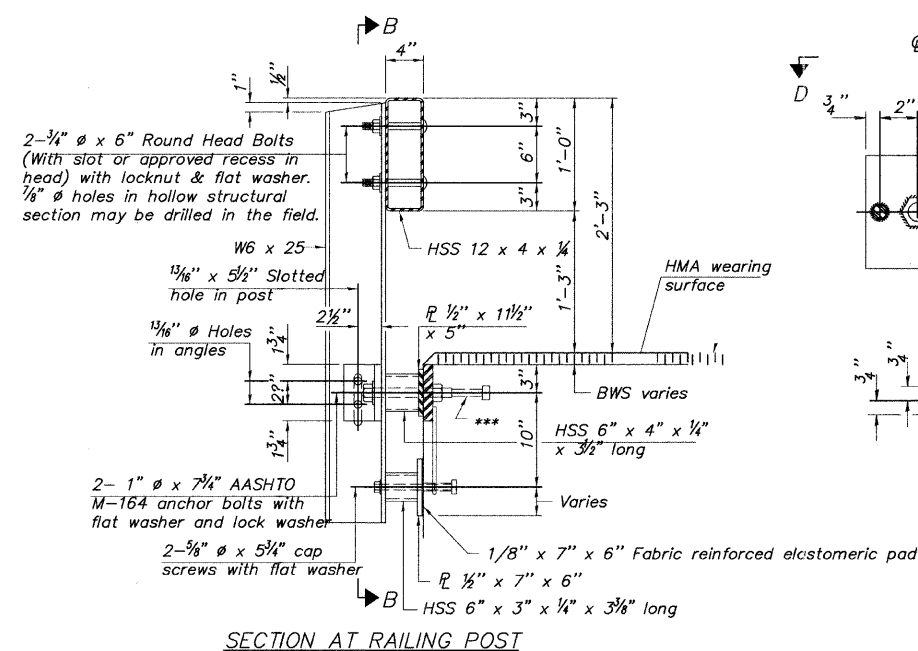
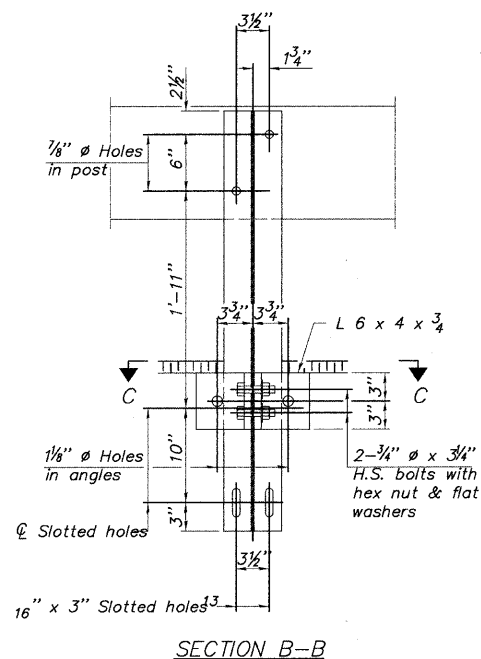
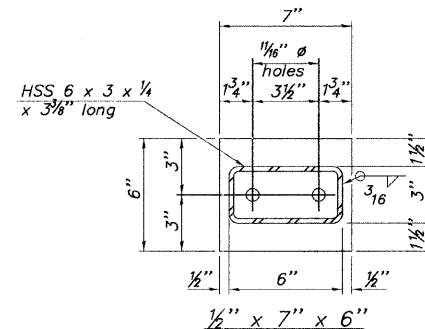
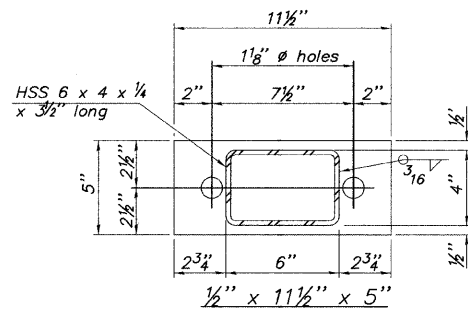
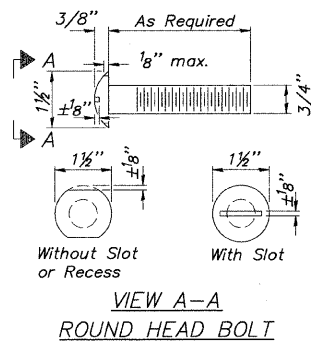


METAL SHELL REINFORCEMENT AT ABUTMENTS

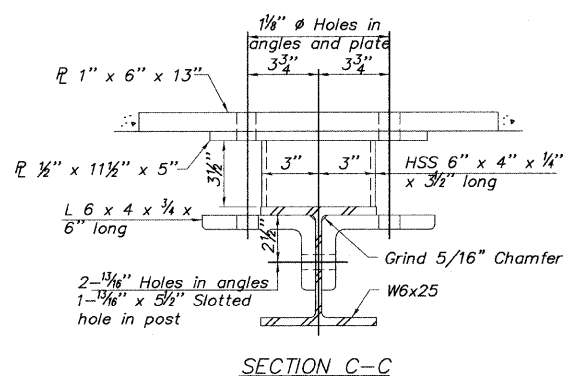
Note:  
The metal shell piles shall be according to ASTM A 252 Grade 3.

METAL SHELL PILE DETAILS  
HANCOCK COUNTY  
SECTION 94-00091-00-BR  
CH #14 OVER SPRING CREEK

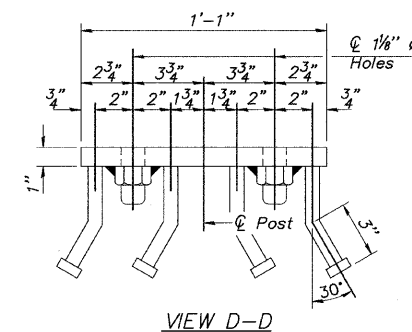
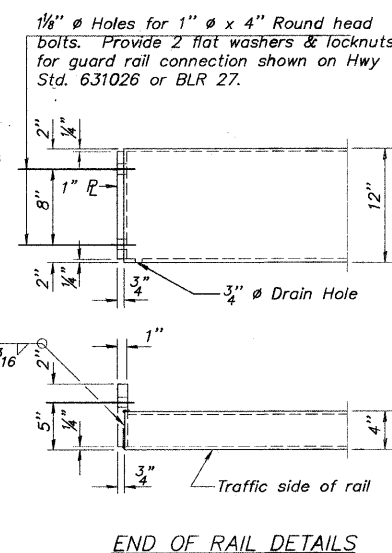
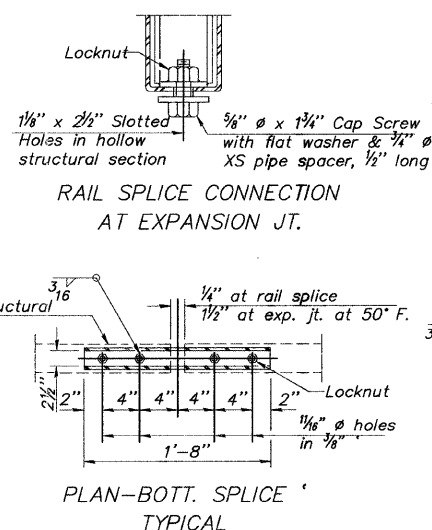
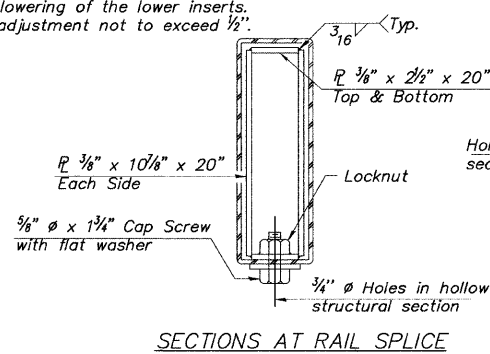
SHEET NO. 6 OF 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH #14	94-00091-00-BR	HANCOCK	14	13
S.N. 034-3141			CONTRACT NO. 93555		
FED. ROAD DIST. NO. 7   ILLINOIS FED. AID PROJ.					



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



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



**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	108

(10'-9" Maximum Post Spacing)

**STEEL RAILING, TYPE S-1 DETAIL  
 HANCOCK COUNTY  
 SECTION 94-00091-00-BR  
 CH #14 OVER SPRING CREEK**

SHEET NO. 7 OF 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH #14	94-00091-00-BR	HANCOCK	14	14
S.N. 034-3141		CONTRACT NO.		93555	
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJ.	