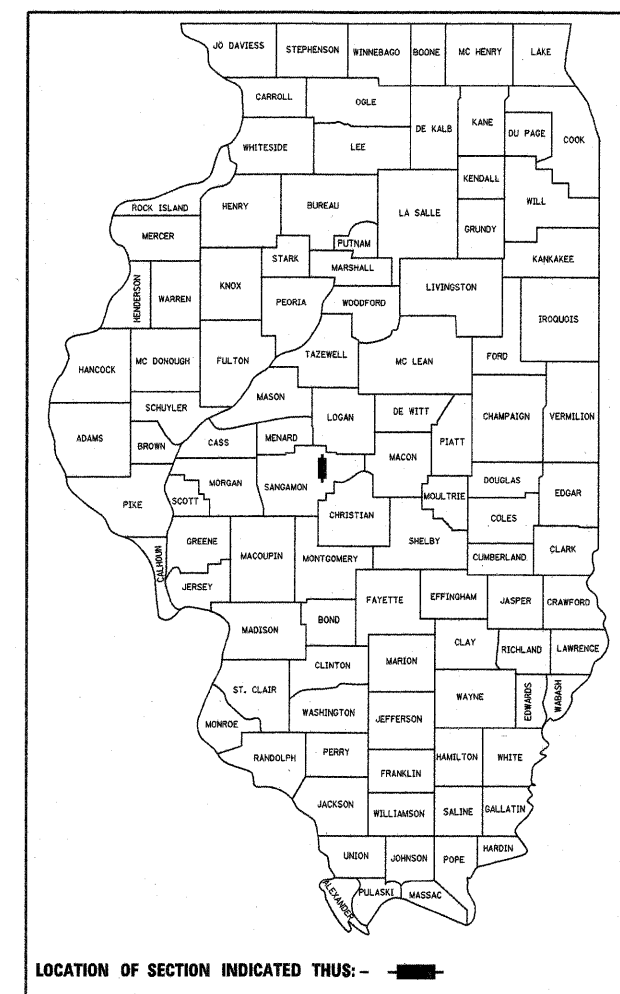


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 48	08-00095-00-BR	SANGAMON	18	1
ILLINOIS				

CONTRACT NO. **93553**

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

**SECTION 08-00095-00-BR
SANGAMON COUNTY
C.H. 48
BROS-0167-(065)
JOB NO. C-96-217-11**



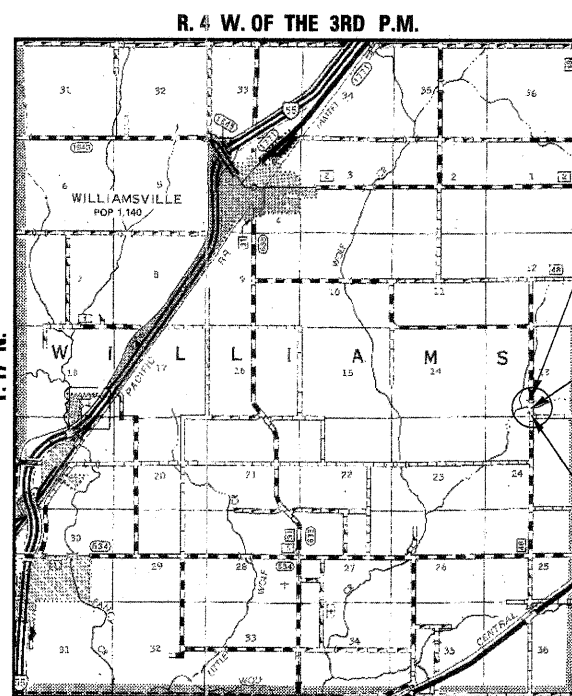
CLASSIFICATION: MINOR COLLECTOR (NON-URBAN)
DESIGN VOLUME: 400 ADT
CURRENT ADT: 185 (2012)
DESIGN SPEED: 40 M.P.H.

TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NUMBER 1-800-892-0123

INDEX OF SHEETS	
SHEET NO.	TITLE
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3.	PLAN AND PROFILE SHEET
4.	SHOULDER & GUARDRAIL DETAILS
5.-13.	BRIDGE PLANS
14.-18.	STATION CROSS SECTIONS

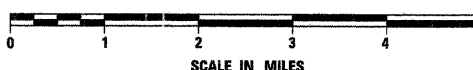
STANDARDS	
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
631011-07	TRAFFIC BARRIER TERMINAL TYPE 2
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
701901-01	TRAFFIC CONTROL DEVICES
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 26-2	STEEL PLATE BEAM GUARDRAIL 700mm (27 1/2") HEIGHT
BLR 27-1	TRAFFIC BARRIER TERMINAL TYPE 5A
780001-02	TYPICAL PAYEMENT MARKINGS

SCALES	
PLAN	
PROFILE HORIZ.	
PROFILE VERT.	
CROSS SECTIONS	



LOCATION PLAN

GROSS LENGTH OF SECTION = 550.00 FEET = 0.104 MILES
NET LENGTH OF SECTION = 550.00 FEET = 0.104 MILES



**IMPROVEMENT ENDS
STA. 17 + 50.00**

**STA. 14 + 97.00 - SPECIAL BRIDGE DESIGN
THREE SPAN P.P.C. DECK BEAM
(17" DEPTH) BRIDGE, THREE SPANS @
30'-0", 30'-0", 30'-0"; 91'-9" BK.-BK. ABUTS.;
30'-0" ROADWAY, 0° SKEW
PROPOSED S.N. 084-3443
EXISTING S.N. 084-3043**

**IMPROVEMENT BEGINS
STA. 12 + 00.00**



Gary J. Cartwright 4-27-11
ILLINOIS PROFESSIONAL NO. 43408
EXPIRES 11-30-11

APPROVED	<i>April 28, 2011</i>	20
	COUNTY ENGINEER	
PASSED	<i>May 23</i>	2011
	DISTRICT SIX CONSTRUCTION ENGINEER	
PASSED	<i>May 23</i>	2011
	DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS	
RELEASED FOR BID BASED ON LIMITED REVIEW	<i>May 23</i>	2011
	DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER	
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
www.fehr-graham.com

FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
SPRINGFIELD, IL ROCKFORD, IL ROCKFORD, IL SPRINGFIELD, IL

SUMMARY OF QUANTITIES

NUMBER	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	300
20300100	CHANNEL EXCAVATION	CU YD	358
20400800	FURNISHED EXCAVATION	CU YD	60
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50
28000400	PERIMETER EROSION BARRIER	FOOT	945
28000500	INLET AND PIPE PROTECTION	EACH	1
35100100	AGGREGATE BASE COURSE, TYPE A	TON	592
40200100	AGGREGATE SURFACE COURSE, TYPE A	TON	15
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	495
40603080	HOT-MIX ASPHALT BINDER COURSE, IL 19.0, N50	TON	155
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	121
48100100	AGGREGATE SHOULDERS, TYPE A	TON	161
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	51.8
50300280	CONCRETE ENCASEMENT	CU YD	21.0
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2,700
50800105	REINFORCEMENT BARS	POUND	7,010
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	180
51201400	FURNISHING STEEL PILES HP10X42	FOOT	544
51202305	DRIVING PILES	FOOT	544
51203400	TEST PILE STEEL HP10X42	EACH	4
51500100	NAME PLATES	EACH	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	301
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	608
Δ 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2
Δ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
Δ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
Δ 63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	37.5
67100100	MOBILIZATION	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
Δ 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,100
Δ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3
X2810208	STONE RIPRAP, CLASS A4 (SPECIAL)	TON	289
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1

*SEE SPECIAL PROVISIONS
 Δ SPECIALTY ITEMS

CONSTRUCTION TYPE CODE: 0011 (X080)

GENERAL NOTES

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
 THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.
 SEEDING, CLASS 2 (SPECIAL) = 0.3 ACRE

TEMPORARY EROSION CONTROL

THE FOLLOWING QUANTITIES ARE ESTIMATE ONLY. ACTUAL QUANTITIES FOR EROSION CONTROL WILL BE DETERMINED BY THE ENGINEER IN THE FIELD AND THERE WILL BE NO ADJUSTMENT IN ANY PRICE DUE TO A CHANGE IN PLAN QUANTITY.

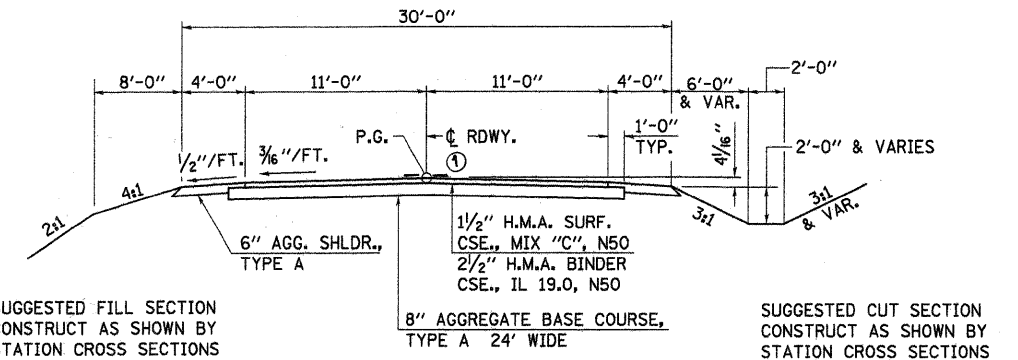
TEMPORARY EROSION CONTROL SEEDING = 50 POUND
 PERIMETER EROSION CONTROL BARRIER = 1068 FOOT
 INLET AND PIPE PROTECTION = 1 EACH

INLET AND PIPE PROTECTION

STA. 16 + 02 = 1 EACH
 TOTAL = 1 EACH

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

ITEM	H.M.A. BINDER COURSE	H.M.A. SURFACE COURSE
AGGREGATE COMPOSITION:	IL 19.0	IL 9.5 OR 12.5 MIX "C"
ASPHALT GRADE:	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4.0% @ N50	4.0% @ N50

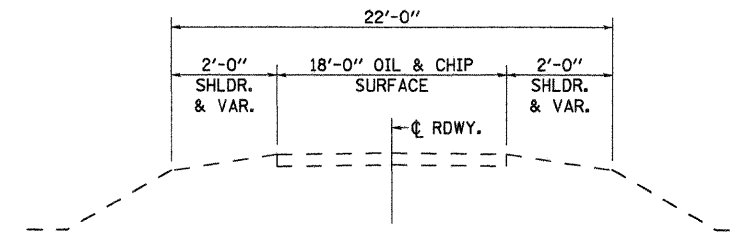


TYPICAL PROPOSED CROSS SECTION

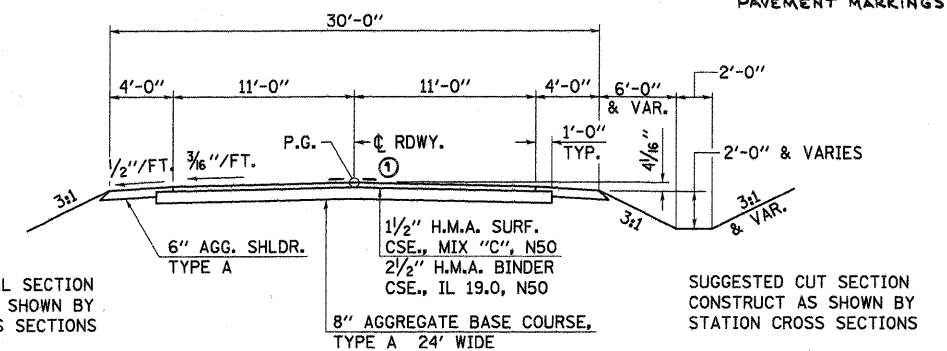
STA. 12+50 TO STA. 14+51.12

TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY TO BE CONSTRUCTED FROM STA. 12+00 TO STA. 12+50.

① SOLID DOUBLE YELLOW PAVEMENT MARKINGS



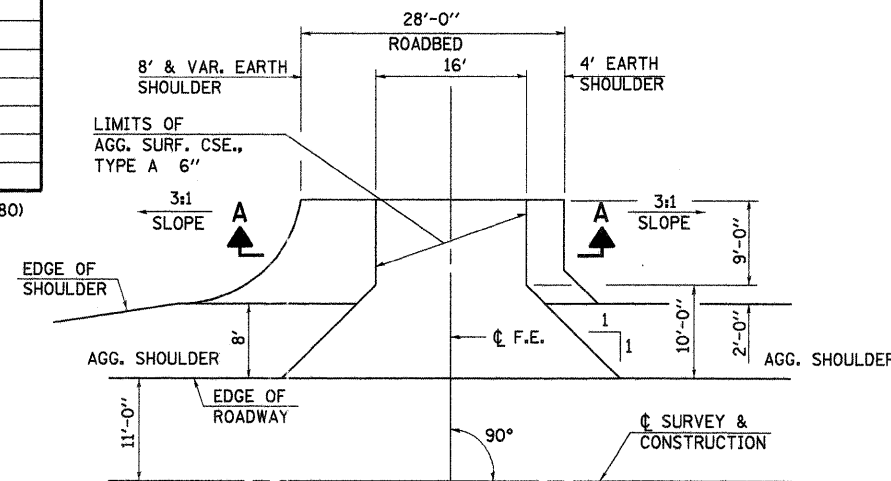
EXISTING TYPICAL CROSS SECTION



TYPICAL PROPOSED CROSS SECTION

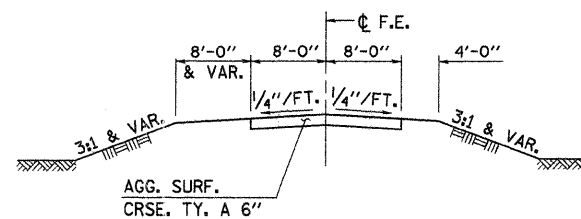
STA. 15+42.87 TO STA. 17+00

TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY TO BE CONSTRUCTED FROM STA. 17+00 TO STA. 17+50



FIELD ENTRANCE DETAIL

F.E. LT. STA. 15+85.5
 (SEE SHEET 4 FOR GUARDRAIL DETAIL)



SECTION A-A

APPLICATION RATES USED IN QUANTITY CALCULATIONS

AGGREGATE BASE COURSE AND SURFACE COURSE	2.05 TON/CU YD
AGGREGATE SHOULDERS	2.05 TON CU YD
BITUMINOUS MATERIALS (PRIME COAT) ON AGGREGATE	0.35 GAL/SQ YD/APPLICATION
BITUMINOUS MATERIALS (PRIME COAT) ON HMA	0.10 GAL/SQ YD/APPLICATION
H.M.A. SURFACE COURSE AND LEVELING BINDER	112 LBS/SQ YD-IN
RIPRAP, SPECIAL	1.65 TON/CU YD

NOTE: THE ABOVE NOTED APPLICATION RATES ARE FOR QUANTITY CALCULATIONS ONLY. THE APPLICATION RATE TO BE APPLIED WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF PLACEMENT

PAVEMENT DESIGN

STRUCTURAL DESIGN TRAFFIC (S.D.T.) : YEAR 2022; P.V. = 373, S.U. = 18, M.U. = 14 CLASS III ROAD

MINIMUM SOIL SUPPORT: I.B.R. = 3.0 (ASSUMED) (> 3 K.S.I.)

PERCENT OF S.D.T. IN DESIGN LANE P = 50%, S = 50%, M = 50%
 T.F. = 0.074

TEMP. = 77° F.; E_{AC} = 623; DESIGN STRAIN = 321

FILE NAME = 18-273-SUMTYP.DGN

DESIGNED - G.J.C.
 DRAWN - R.D.F. & S.A.P.
 CHECKED - G.J.C.
 DATE - 04/19/11

REVISED -
 REVISED -
 REVISED -
 REVISED -

4440 ASH GROVE
 SPRINGFIELD, IL. 62711
 (217) 793-8600
 www.fehr-graham.com



FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 FREEPORT, IL. ROCKFORD, IL. ROCHELLE, IL. MONROE, WI. SPRINGFIELD, IL.

SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTIONS

SCALE: N/A SHEET NO. OF SHEETS PROPOSED STRUCTURE @ STA. 14+97.00

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
48	08-00095-00-BR	SANGAMON	18	2
				CONTRACT NO. 08-00095-00-BR
ILLINOIS				

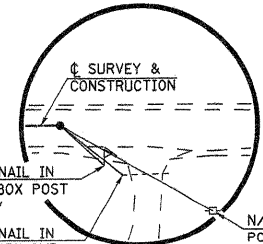
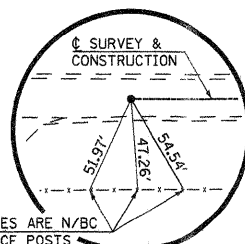
WOOD CREEK FARM, L.P.

WOOD CREEK FARM, L.P.

EXISTING S.N. 084-3043

STA. 15+00 - THREE-SPAN CONTINUOUS R.C. SLAB BRIDGE ON PILE BENT PIERS AND ABUTMENTS. SPANS = 24'-6", 30'-0", 24'-6"; 79'-0" BK.-BK. ABUTS.; 24'-0" ROADWAY; 28'-4" O.-O. DECK; NO SKEW.

REMOVAL OF EXISTING STRUCTURES = 1 EACH



P.O.T. STA. 10+00
I. PIN (FLUSH)

SW. COR., SE. 1/4, SEC. 13,
T. 17 N., R. 4 W., 3RD P.M.
I. PIN (FOUND)

P.O.T. STA. 20+00
I. PIN (FLUSH)

CENTER OF SEC. 13,
T. 17 N., R. 4 W., 3RD P.M.
P.K. NAIL (FOUND)

PROPOSED S.N. 084-3443
STA. 14+97.00 - PRECAST PRESTRESSED
CONCRETE DECK BEAM BRIDGE, 3 SPANS
@ 30'-0", 91'-9" BK.-BK. ABUTMENTS,
30'-0" ROADWAY; SKEW = 0°

PIPE CULVERT TO
REMAIN IN PLACE

IMPROVEMENT ENDS
STA. 17+50.00

IMPROVEMENT BEGINS
STA. 12+00.00

EXISTING OIL & CHIP SURF.

PROP. H.M.A. SURF.

EXISTING R.O.W.

EXISTING R.O.W.

EXISTING R.O.W.

CHANNEL EXCAVATION

THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATED MATERIAL TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EXCAVATION = 358 CU. YD.

ENTRANCES TO BE BUILT

LT. STA. 15+85.50, P.E. -9.8%, 28' ROADBED
QUANTITIES INCLUDED IN THOSE LISTED

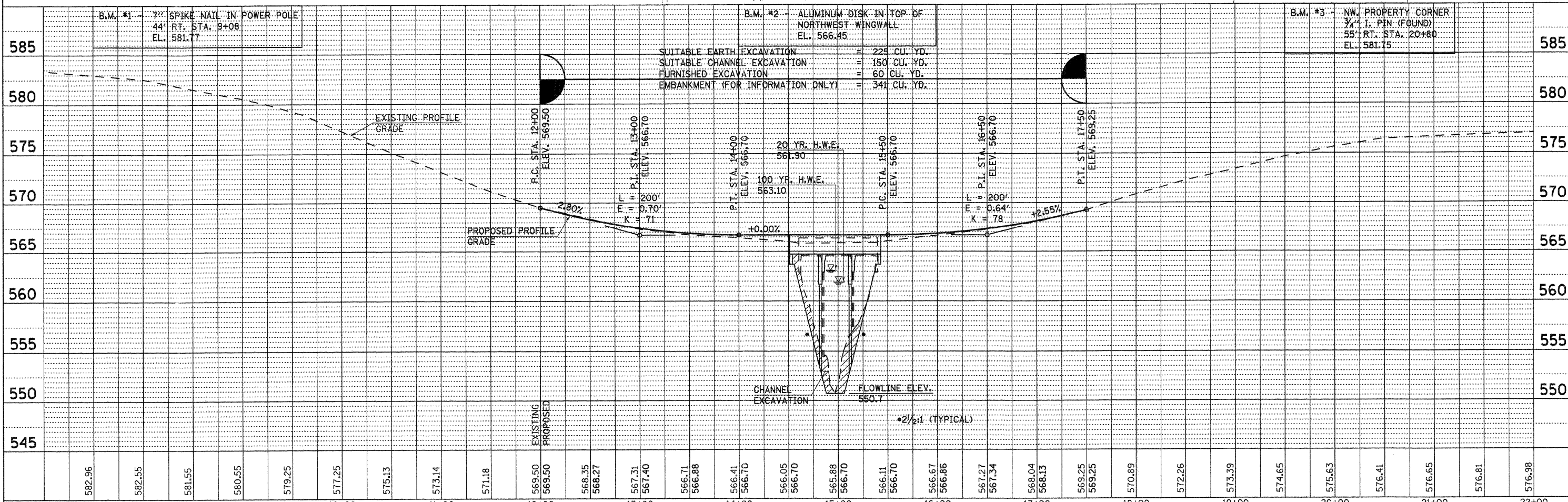
BRUCE R. GILLMAN
AND CATHY J. GILLMAN

UTILITIES

- AMEREN CILCO - (NORTH) KENT KOWALSKIE 309-693-4839
- GREENE COUNTY CABLE TV LANCE ALLEN 217-371-3605 EX. 21745
- FRONTIER COMMUNICATIONS MARY RUTH WILLIS 309-454-1470

LARRY E. WISE &
POLLY A. WISE

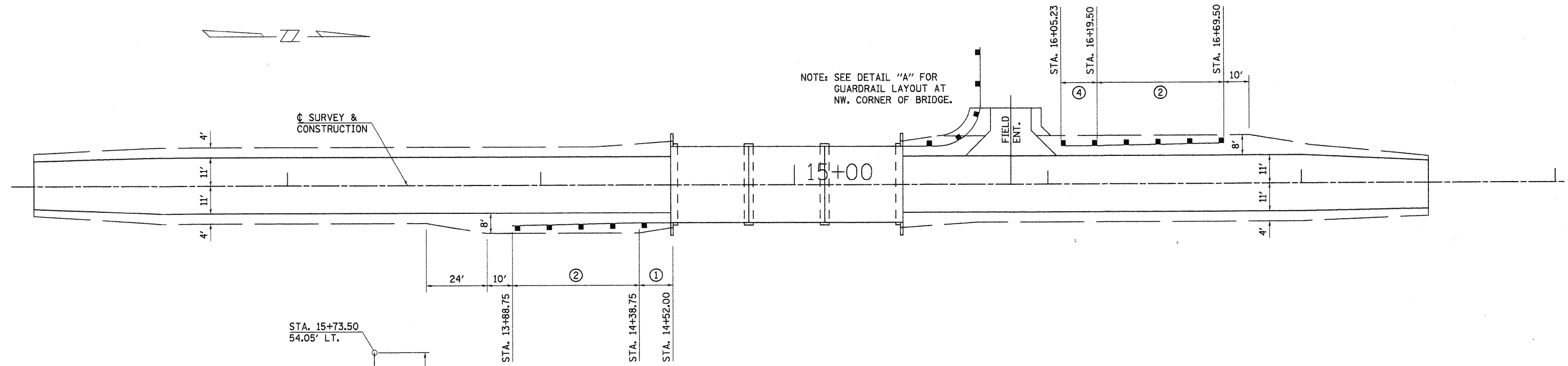
BRUCE R. GILLMAN
AND CATHY J. GILLMAN



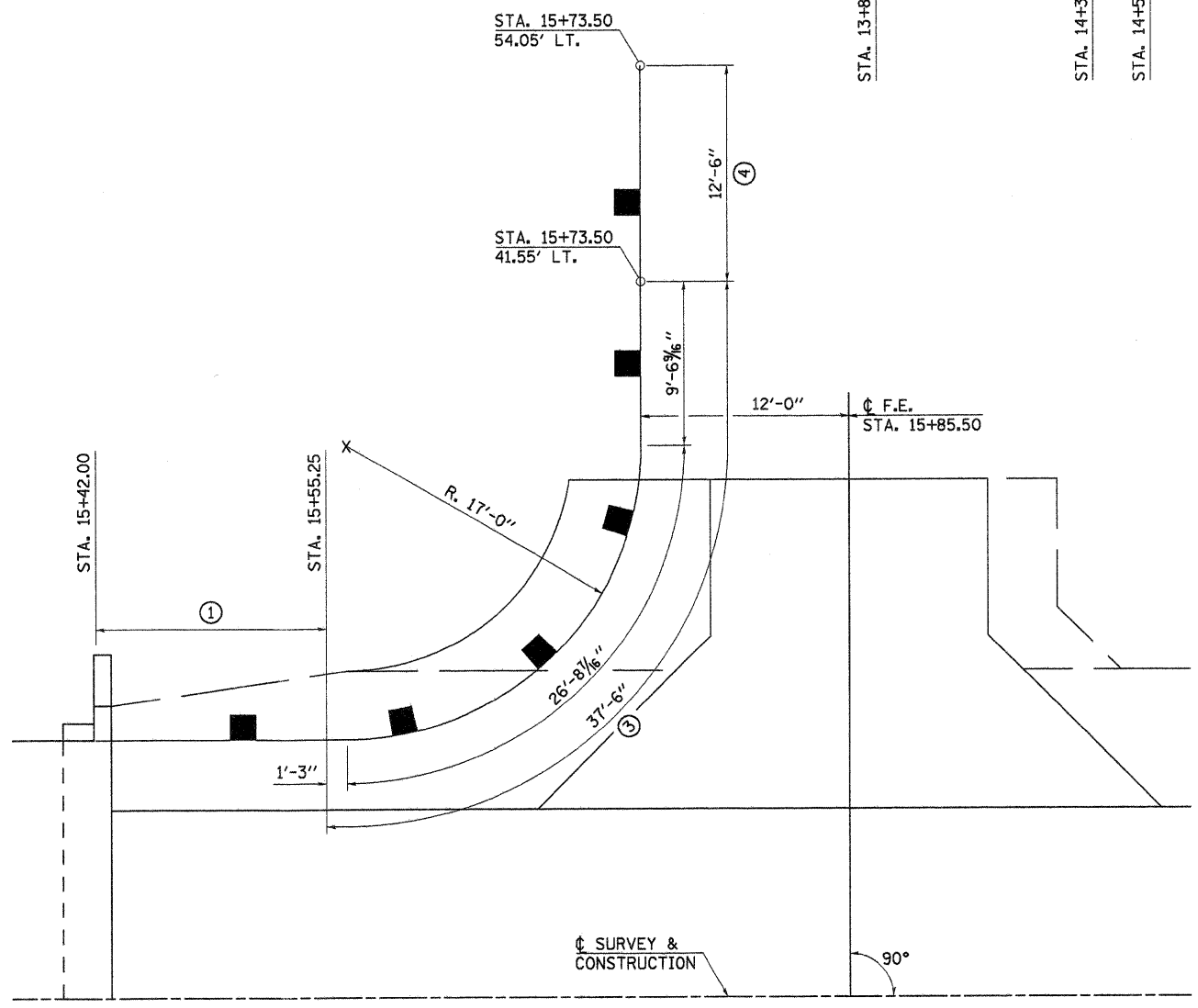
DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	

FILE NAME = 10-273-P&P.DGN	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL	PLAN & PROFILE - C.H. 48 OVER WOLF CREEK				C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOTTED BY = S.A.P.	DRAWN - S.A.P.	REVISED -			48	08-00095-00-BR	SANGAMON	18	3				
CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -			SHEET NO. OF SHEETS STA. 10+00.00 TO STA. 20+00.00				CONTRACT NO. 93503				
DATE = 06/11/18	DATE - 04/19/11	REVISED -			ILLINOIS								
CONTRACT NO. 93503													



GUARDRAIL & SHOULDER DETAIL



DETAIL "A"

TRAFFIC BARRIER TERMINAL, TYPE 5A

15' RT. STA. 14+38.75 TO 15' RT. STA. 14+52.00 = 1 EACH
 15' LT. STA. 15+42.00 TO 15' LT. STA. 15+55.25 = 1 EACH
 TOTAL = 2 EACH

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

16' RT. STA. 13+88.75 TO 15' RT. STA. 14+38.75 = 1 EACH
 15' LT. STA. 16+19.50 TO 16' LT. STA. 16+69.50 = 1 EACH
 TOTAL = 2 EACH

STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)

15' LT. STA. 15+55.25 TO 41.55' LT. STA. 15+73.50 = 37.5 FOOT
 TOTAL = 37.5 FOOT

TRAFFIC BARRIER TERMINAL, TYPE 2

41.55' LT. STA. 15+73.50 TO 54.05' LT. STA. 15+73.50 = 1 EACH
 15' LT. STA. 16+05.23 TO 15' LT. STA. 16+19.50 = 1 EACH
 TOTAL = 2 EACH

LEGEND

- ① TRAFFIC BARRIER TERMINAL, TYPE 5A
- ② TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT
- ③ STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)
- ④ TRAFFIC BARRIER TERMINAL, TYPE 2

FILE NAME = 10-273_SHLDR.DGN	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL	SHOULDER AND GUARDRAIL DETAIL			C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - S.A.P.	REVISED -						48	08-00095-00-BR	SANGAMON	18	4
	CHECKED - G.J.C.	REVISED -			SCALE: 1"=20'	SHEET NO.	OF	SHEETS	PROPOSED STRUCTURE @ STA. 14+97.00	CONTRACT NO. 03553		
	DATE - 04/19/11	REVISED -								[ILLINOIS]		

GENERAL NOTES

See Proposal Booklet for Boring data.

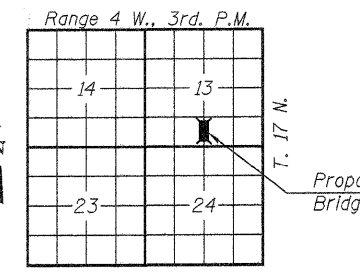
Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60.

The Contractor shall drive one steel HP10x42 test pile to 110% of the nominal required bearing in a permanent location at each abutment and at each Pier as directed by the Engineer, before ordering the remainder of piles.

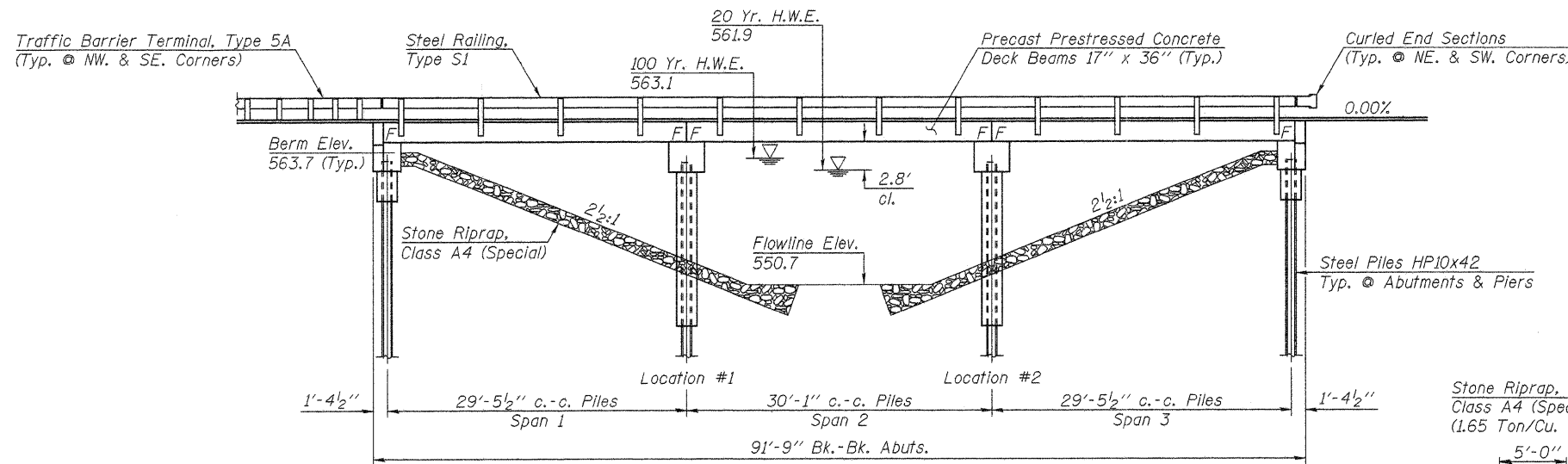
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Structure Excavation will not be measured for payment but shall be included in the unit price bid for "Concrete Structures" or "Concrete Encasement."

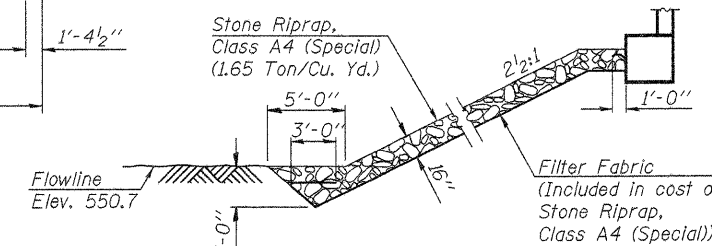
All exposed portions of abutments, wing walls, and piers shall receive a rubbed finish in accordance with Article 503.15 (b) of the Standard Specifications. Cost to be included in cost of Concrete Structures.



LOCATION PLAN

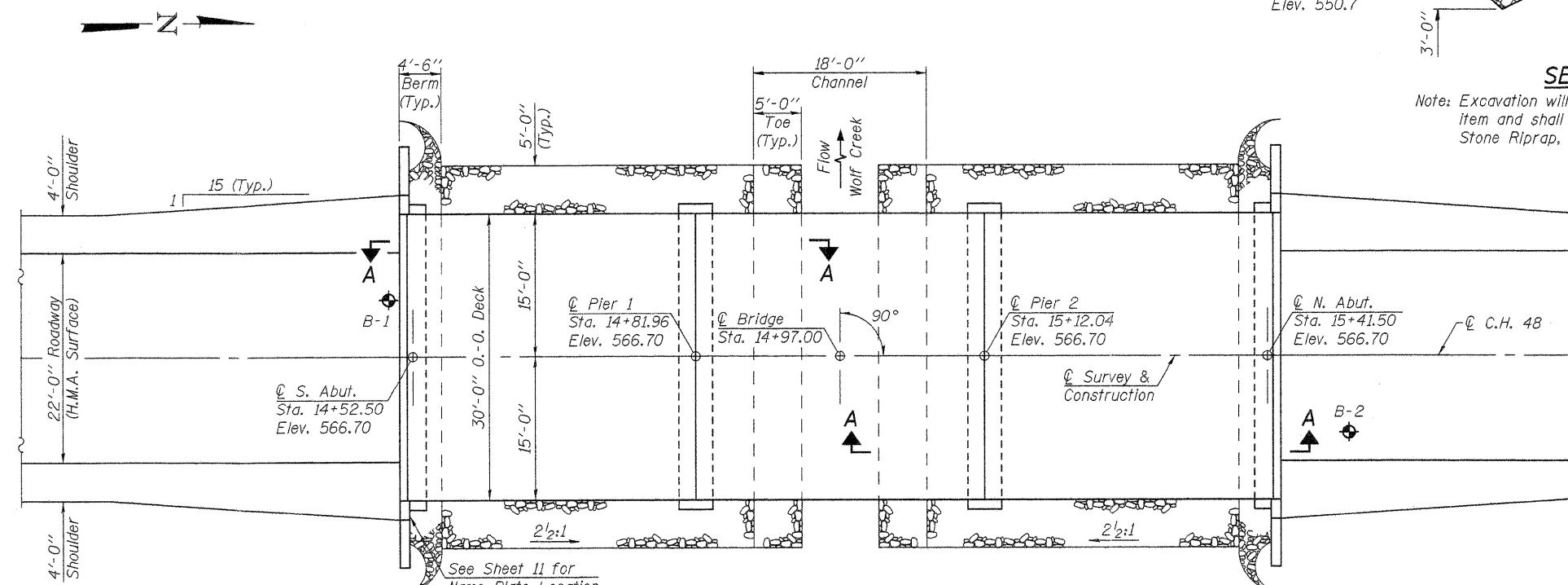


ELEVATION



SECTION A-A

Note: Excavation will not be paid for as a separate item and shall be considered as included in Stone Riprap, Class A4 (Special).



PLAN

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	558.9	538.7	538.7	558.9

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.146
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.255
 Soil Site Class = D

WATERWAY INFORMATION

Drainage Area 6.31 Sq. Mi.
 Existing Opening (20 Yr.) 365 Sq. Ft.
 Required Opening (20 Yr.) 479 Sq. Ft.
 Proposed Opening (20 Yr.) 479 Sq. Ft.
 Design Discharge (20 Yr.) 1,390 C.F.S.
 Created Head (20 Yr.) 0.1 Ft.
 100 Year Discharge 2,160 C.F.S.
 100 Yr. Created Head 0.2 Ft.

DESIGN STRESSES

f'_c = 6,000 p.s.i. (Prestressed Beams)
 f'_{el} = 5,000 p.s.i. (Prestressed Beams)
 f'_s = 270,000 p.s.i. (Prestressed Strands)
 f_{sl} = 201,960 p.s.i. (Prestressed Strands)
 f'_c = 3,500 p.s.i. (Concrete -- Field Units)
 f_y = 60,000 p.s.i. (Reinf. Bars)
 LOADING HL-93
 Design Specifications: 2010 AASHTO LRFD & Interims
 50#/Sq. Ft. included in dead load for future wearing surface.

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

John A. Morris 4/27/11
 ILLINOIS STRUCTURAL NO. 4277 (Expires 11/30/12)



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2,700		2,700
Concrete Structures	Cu. Yd.		51.8	51.8
Reinforcement Bars	Pound		7,010	7,010
Steel Railing, Type S1	Foot	180		180
Name Plates	Each		1	1
Furnishing Steel Piles HP10x42	Foot		544	544
Driving Piles	Foot		544	544
Test Pile, Steel HP10x42	Each		4	4
Stone Riprap, Class A4 (Special)	Ton		289	289
Concrete Encasement	Cu. Yd.		21.0	21.0
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1
Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	28		28
Portland Cement Mortar Fairing Course	Foot	608		608
Waterproofing Membrane System	Sq. Yd.	301		301

LETTERING FOR NAME PLATE

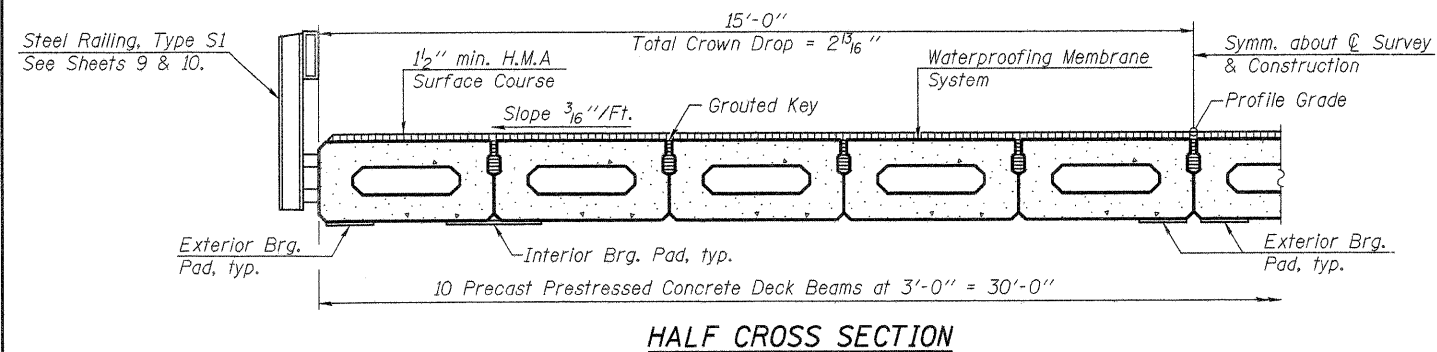
See Std. 515001

**WOLF CREEK
 BUILT 20__ BY
 SANGAMON COUNTY
 SEC. 08-00095-00-BR
 COUNTY HIGHWAY 48
 F.A. PROJ. BROS 0167(065)
 STR. NO. 084-3443 LOADING HL-93**

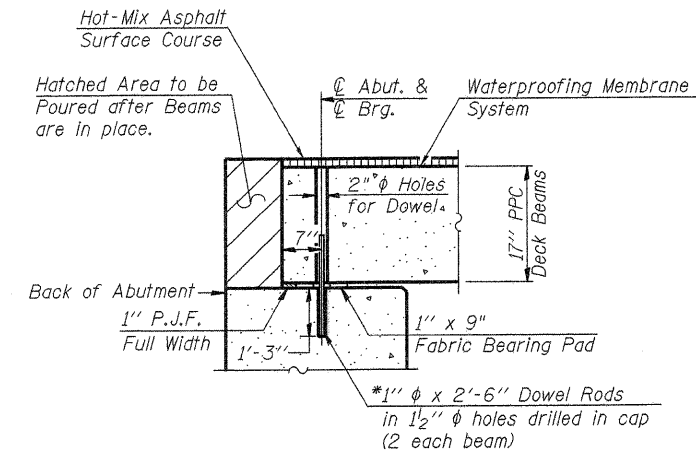
GENERAL PLAN & ELEVATION

**COUNTY HIGHWAY 48
 SECTION 08-00095-00-BR
 SANGAMON COUNTY
 STATION 14+97.00
 S.N. 084-3443**

FILE NAME = 10-273.GPE.DGN	USER NAME = S.A.P.	DESIGNED - A.L.S.	REVISED -	<p>FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL</p>	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - A.R.K.	REVISED -		48	08-00095-00-BR	SANGAMON	18	5
		DRAWN - S.A.P.	REVISED -		CONTRACT NO. 084-3443				
		CHECKED - A.L.S. & A.R.K.	REVISED -		ILLINOIS FED. AID PROJECT				

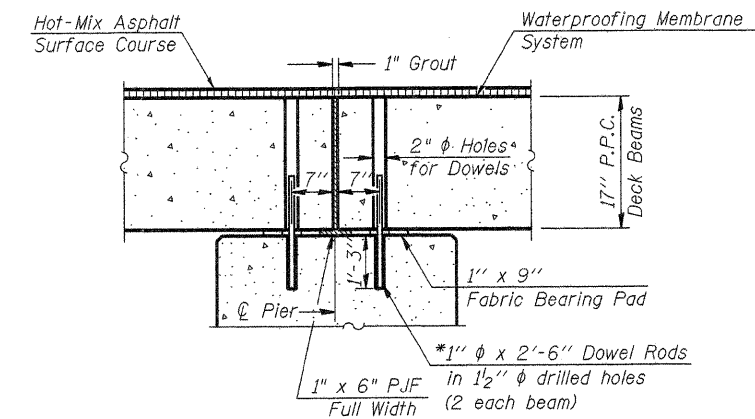


HALF CROSS SECTION

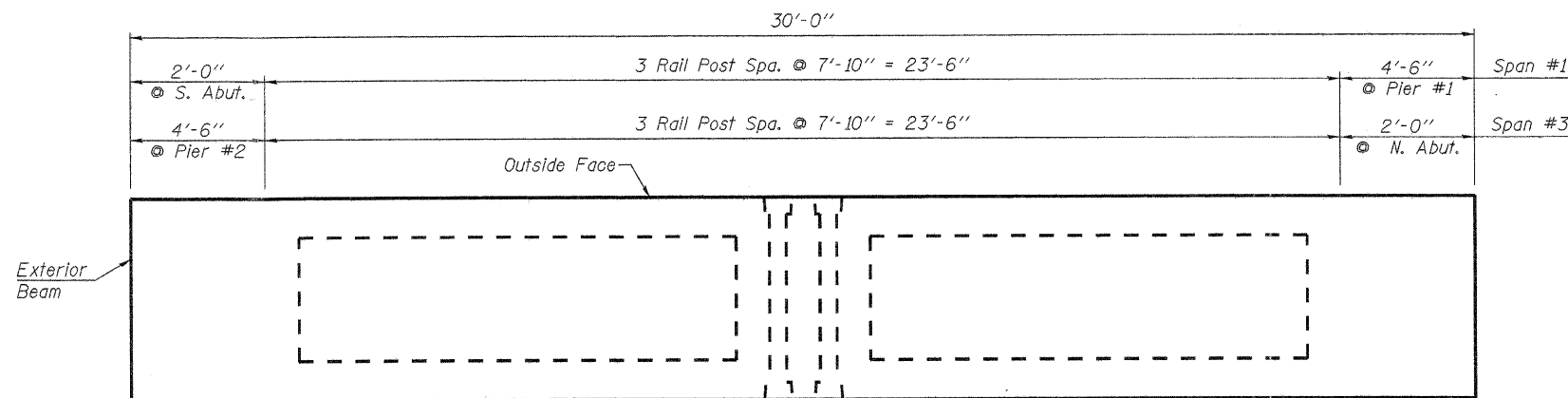


SEC. THRU ABUT.

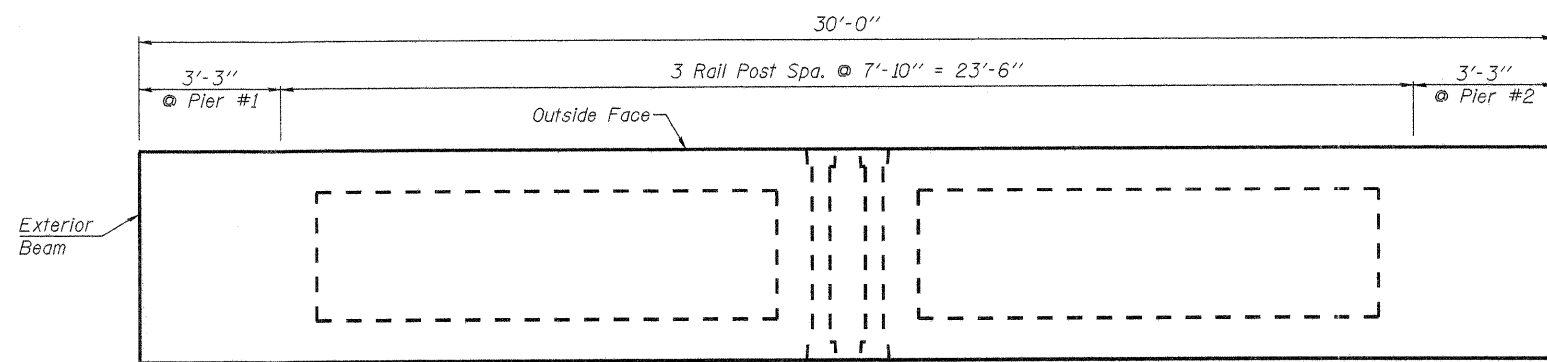
* Note: After beams are in place, 1/2" holes shall be drilled into the Substructure, and the dowel rods grouted in place and allowed to cure (Min. 24 Hrs.) prior to grouting shear key.



SEC. AT PIER

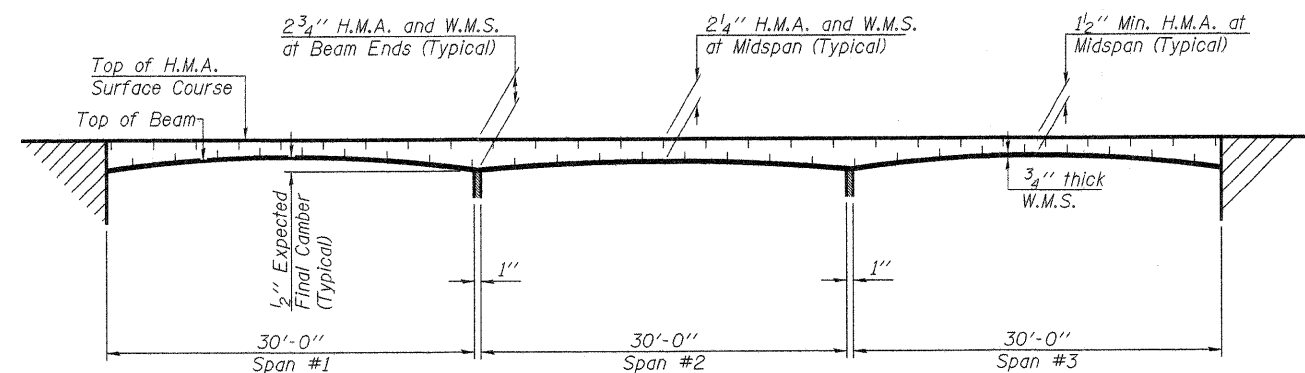


SPAN #1 OR #3



SPAN #2

RAIL POST SPACING PLAN



HOT-MIX ASPHALT SURFACE PROFILE

FILE NAME = 10-273_SUPER.DGN

USER NAME = S.A.P.

DESIGNED - A.L.S.

REVISED -

PLOT SCALE = XXX

DRAWN - S.A.P.

REVISED -

PLOT DATE = 04/19/11

CHECKED - A.L.S. & A.R.K.

REVISED -

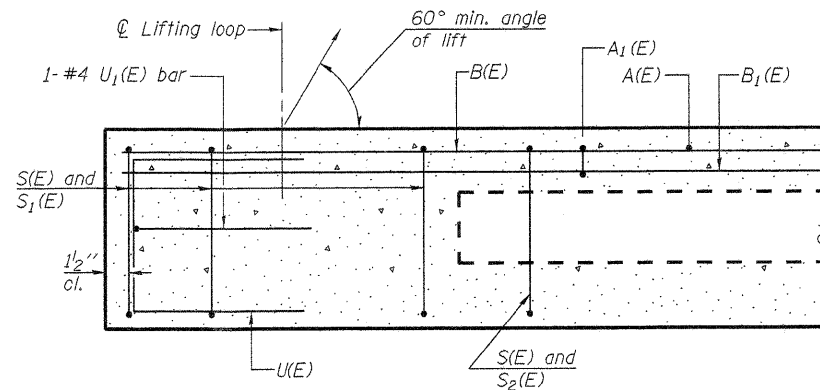


FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

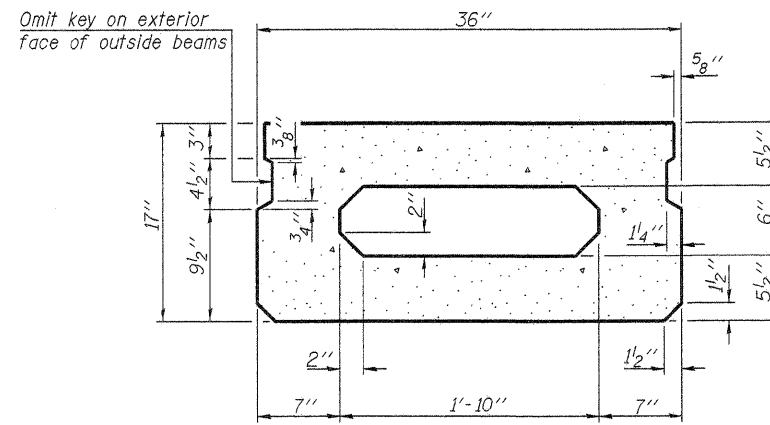
SUPERSTRUCTURE
S.N. 084-3443

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
48	08-00095-00-BR	SANGAMON	18	6
CONTRACT NO. 93553				

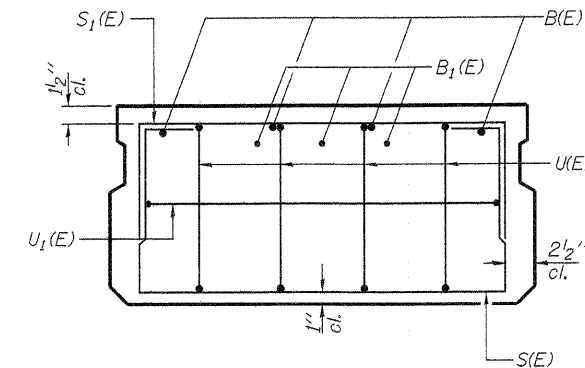
ILLINOIS FED. AID PROJECT



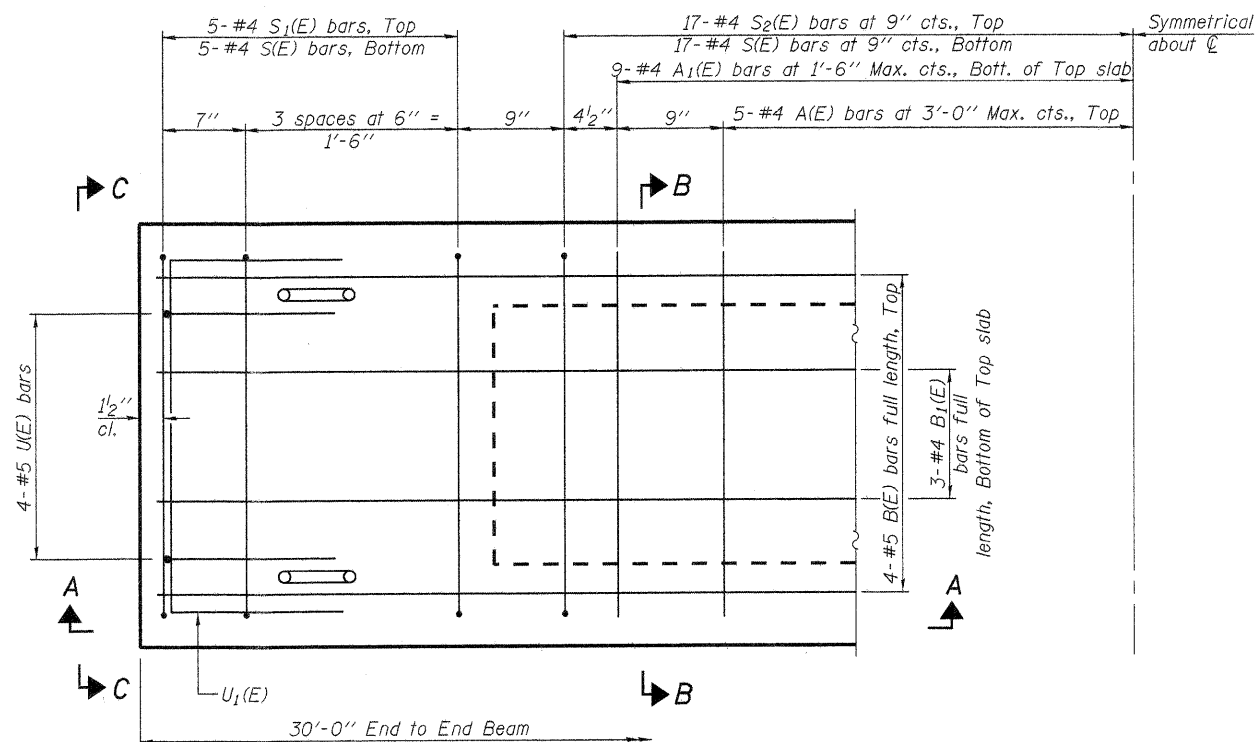
SECTION A-A



SECTION B-B
(Showing dimensions)

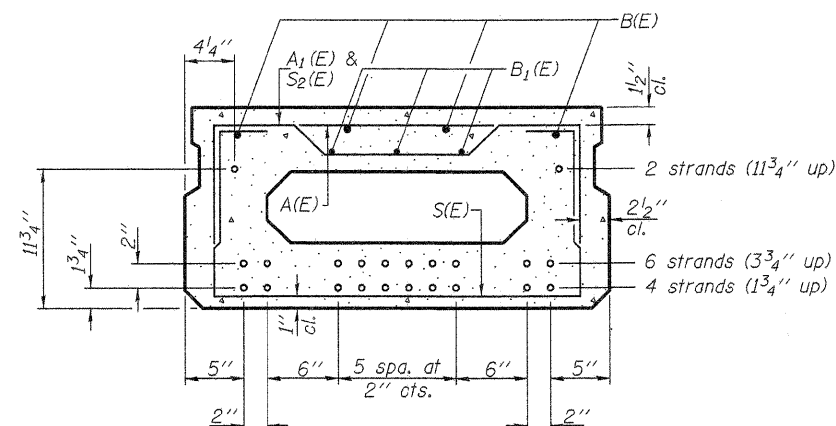


VIEW C-C



PLAN VIEW

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.



Use 12 - 1/2" ϕ strands at the locations shown.

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.

MINIMUM BAR LAP

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

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	9	#4	2'-7"	—
A1(E)	17	#4	2'-10"	—
B(E)	4	#5	29'-9"	—
B1(E)	3	#4	29'-9"	—
S(E)	43	#4	5'-9"	□
S1(E)	10	#4	4'-3"	□
S2(E)	33	#4	4'-6"	□
U(E)	8	#5	3'-8"	□
U1(E)	2	#4	5'-0"	□

Note: See sheet 8 for additional details and Bill of Material. Reinforcement bars designated (E) shall be epoxy coated.

PD-1736-0

7-1-10

FILE NAME = 18-273.SUPER.DGN
PLOT SCALE = XXX
PLOT DATE = 04/19/11

USER NAME = S.A.P.
DRAWN - S.A.P.
CHECKED - A.L.S. & A.R.K.

DESIGNED - A.L.S.	REVISED -
CHECKED - A.R.K.	REVISED -
DRAWN - S.A.P.	REVISED -
CHECKED - A.L.S. & A.R.K.	REVISED -

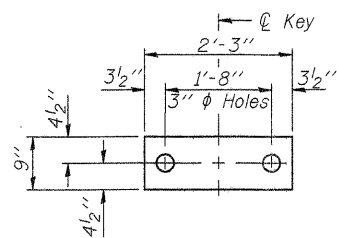
FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

17" x 36" PPC DECK BEAM
S.N. 084-3443

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4B	08-00095-00-BR	SANGAMON	18	7
CONTRACT NO. 93553				

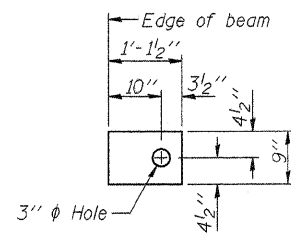
ILLINOIS FED. AID PROJECT

*10-273



FABRIC BEARING PAD

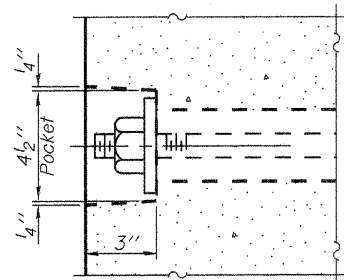
(Interior)
(48 Required)



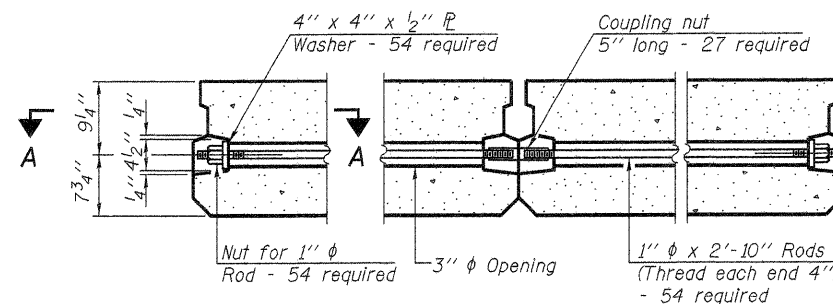
FABRIC BEARING PAD

(Exterior)
(24 Required)

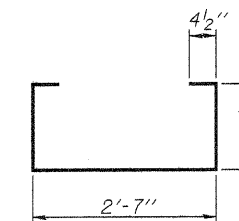
Notes:
All bearing pads shall be 1" thick.



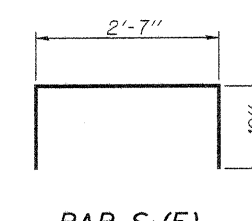
SECTION A-A



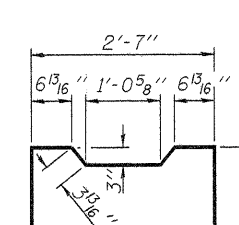
TYPICAL TRANSVERSE TIE ASSEMBLY



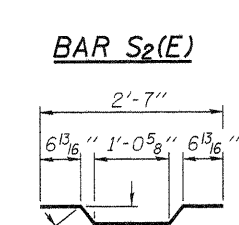
BAR S(E)



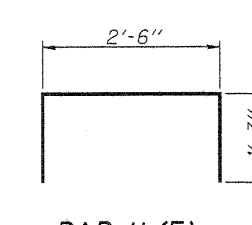
BAR S1(E)



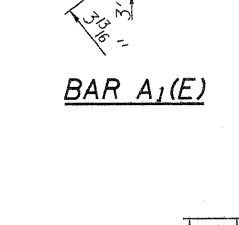
BAR U(E)



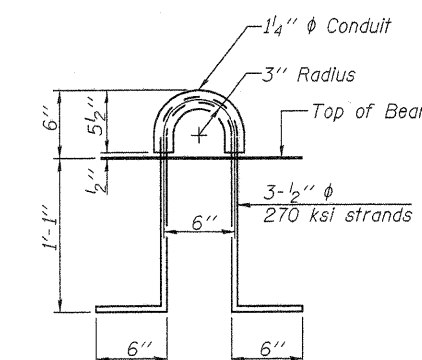
BAR S2(E)



BAR U1(E)



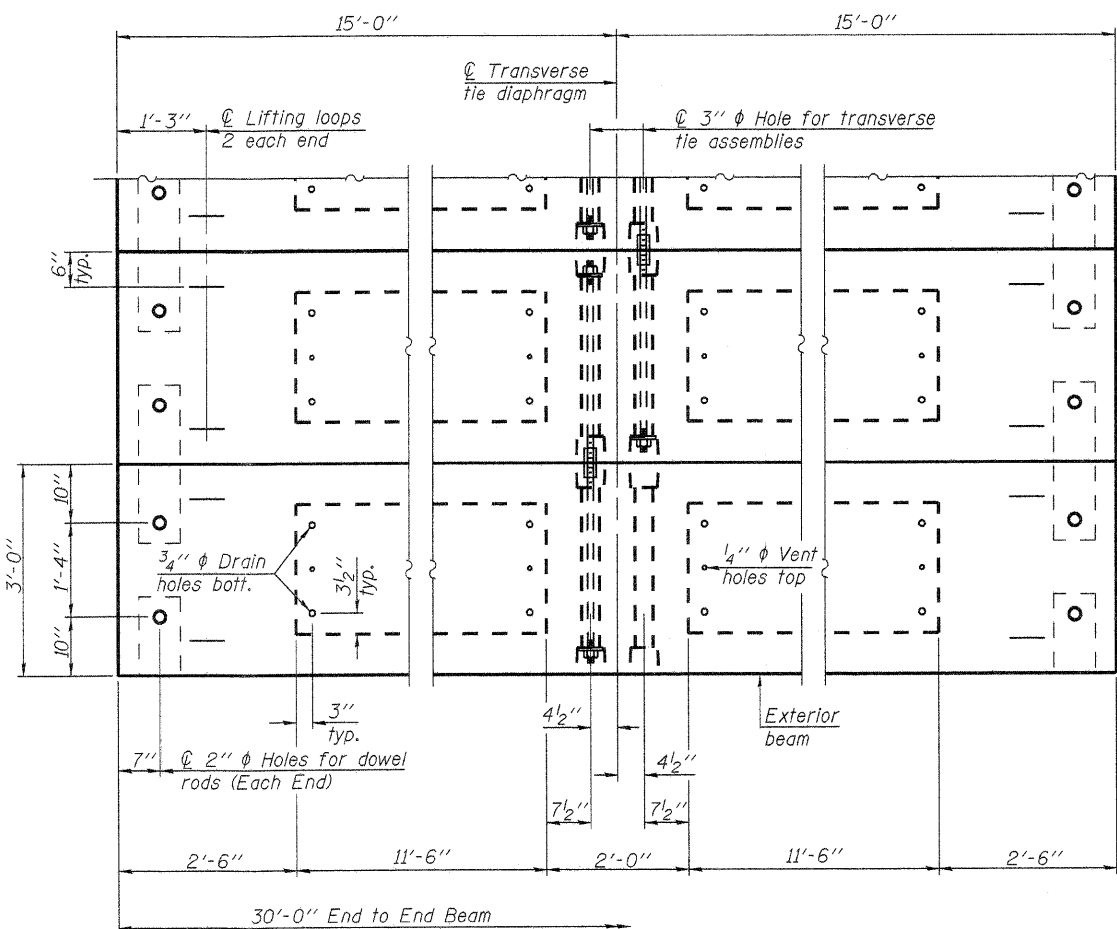
BAR A1(E)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	2,700
Estimated Total Weight (One Beam) = 16,450 Pounds		



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 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. (144 Required)
- 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.
- Rail post inserts, specified elsewhere, shall be cast into the exterior face of the outside beams.
- See Special Provisions for review and distribution of shop drawings.

PD-1736-0D

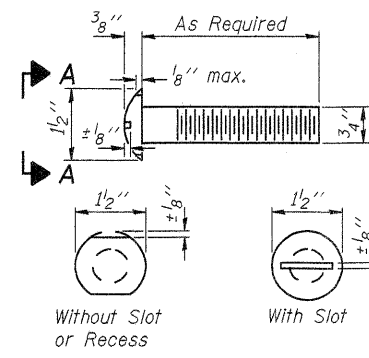
7-1-10

FILE NAME = 18-273.SUPER.DGN	USER NAME = S.A.P.	DESIGNED - A.L.S.	REVISED -
		CHECKED - A.R.K.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 04/19/11	CHECKED - A.L.S. & A.R.K.	REVISED -

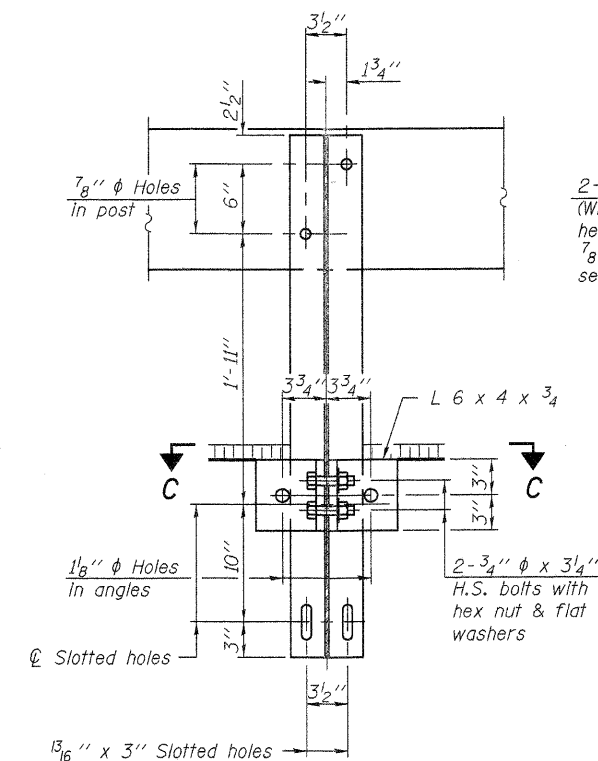
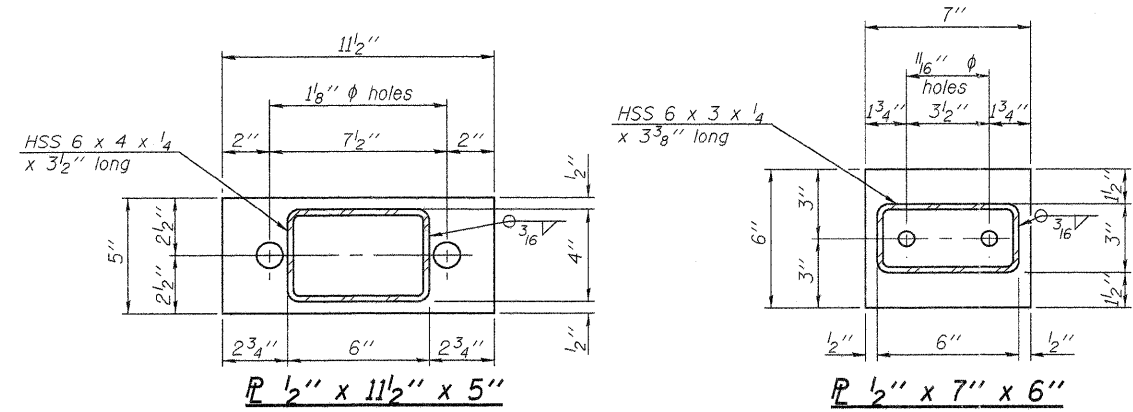
FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

17" x 36" PPC DECK BEAM DETAILS
S.N. 084-3443

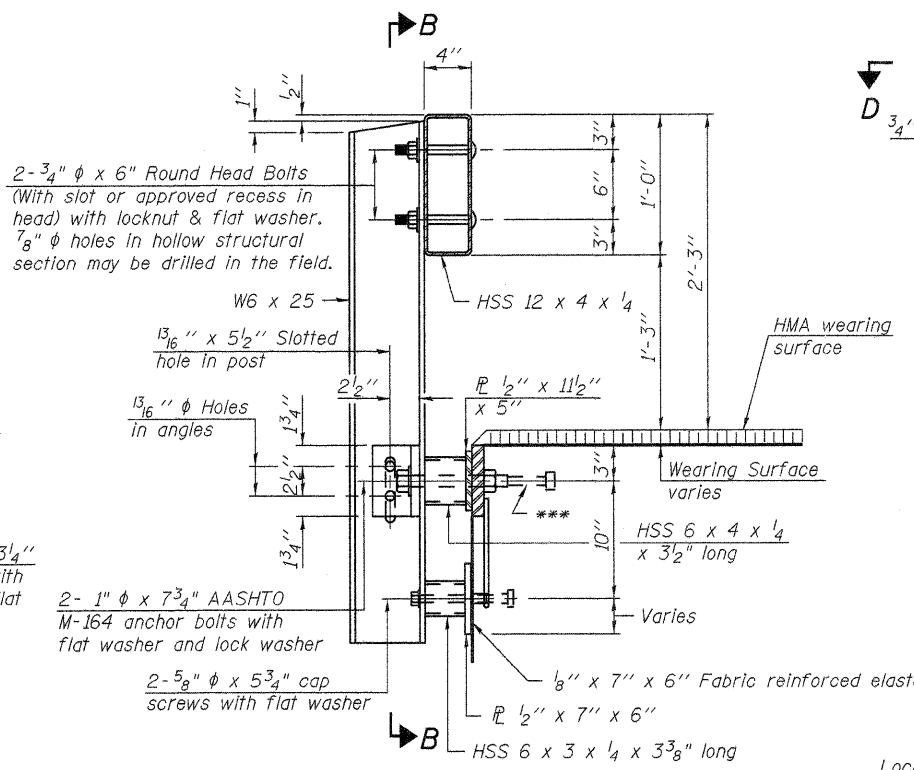
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
48	08-00095-00-BR	SANGAMON	18	8
CONTRACT NO. 9 8 5 5 3				
ILLINOIS FED. AID PROJECT				



**VIEW A-A
ROUND HEAD BOLT**

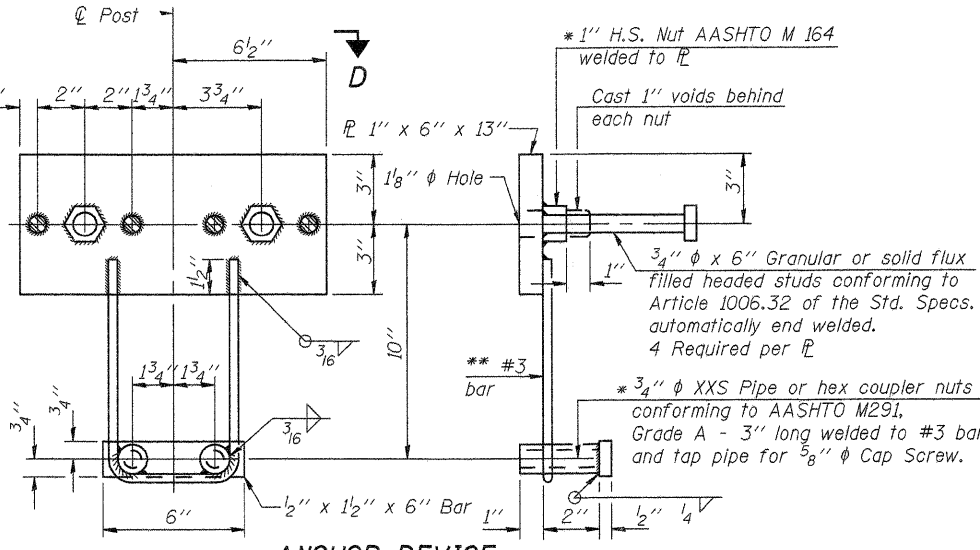


SECTION B-B



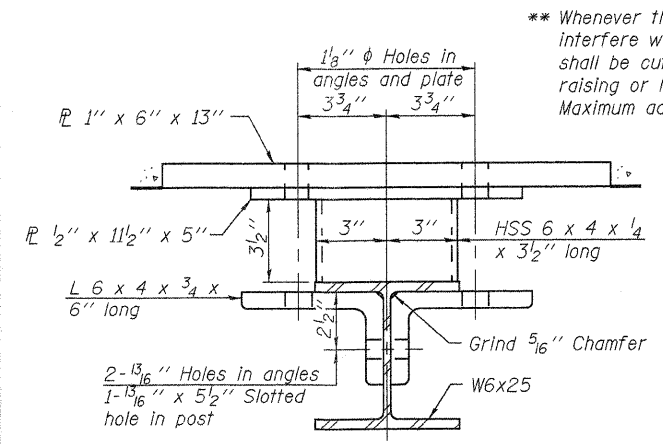
SECTION AT RAILING POST

See Sheet -- for Post Spacing.



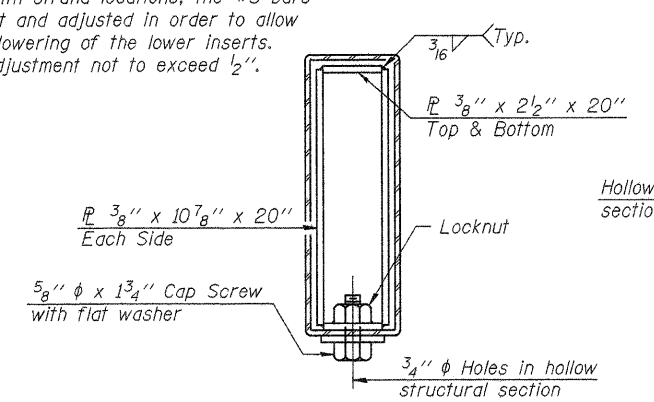
ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

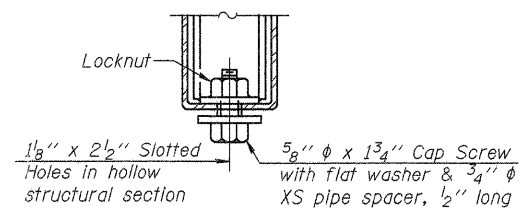


SECTION C-C

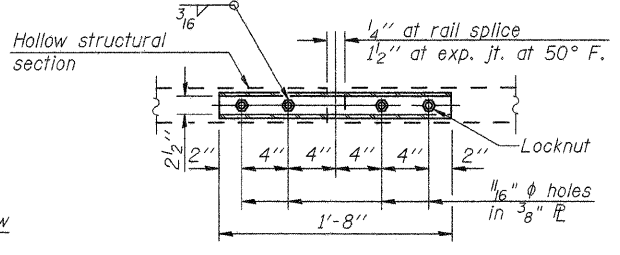
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



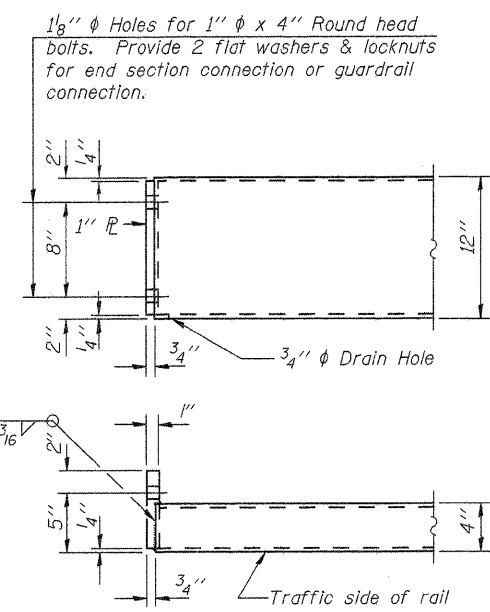
SECTIONS AT RAIL SPLICE



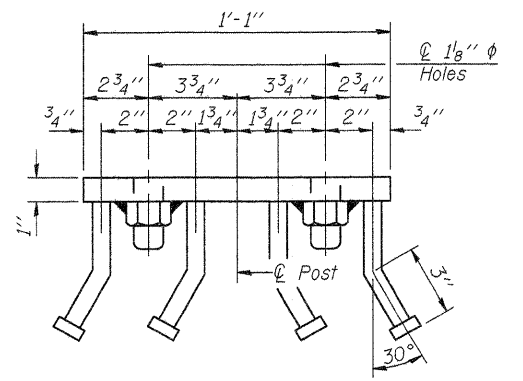
**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



**PLAN-BOTT. SPLICE P
TYPICAL**



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	180

Work this Sheet with Sheet 10.

R-23A 7-1-10 (10'-9" Maximum Post Spacing)

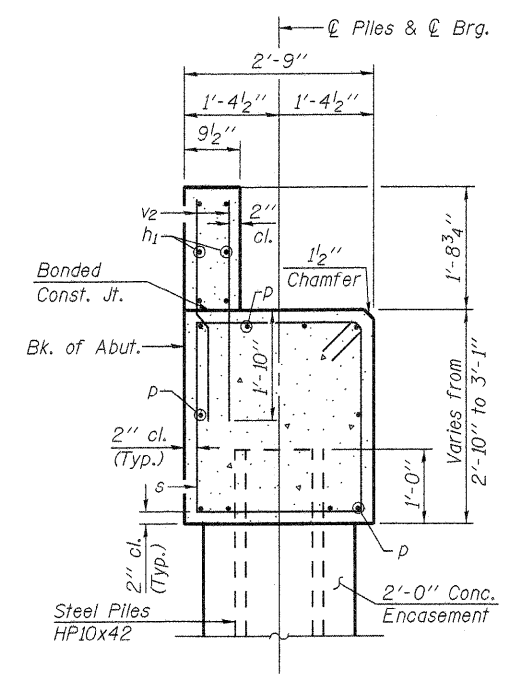
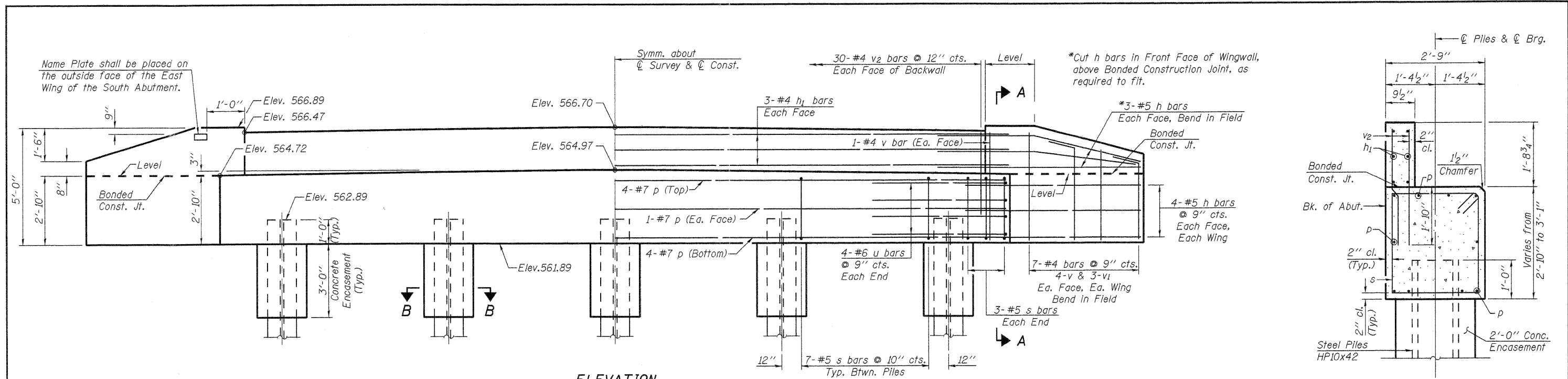
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		CHECKED - A.R.K.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 04/19/11	CHECKED - A.L.S. & A.R.K.	REVISED -

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ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

STEEL RAILING, TYPE S-1
S.N. 084-3443

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
48	08-00095-00-BR	SANGAMON	18	9

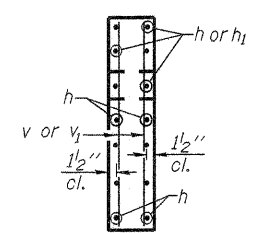
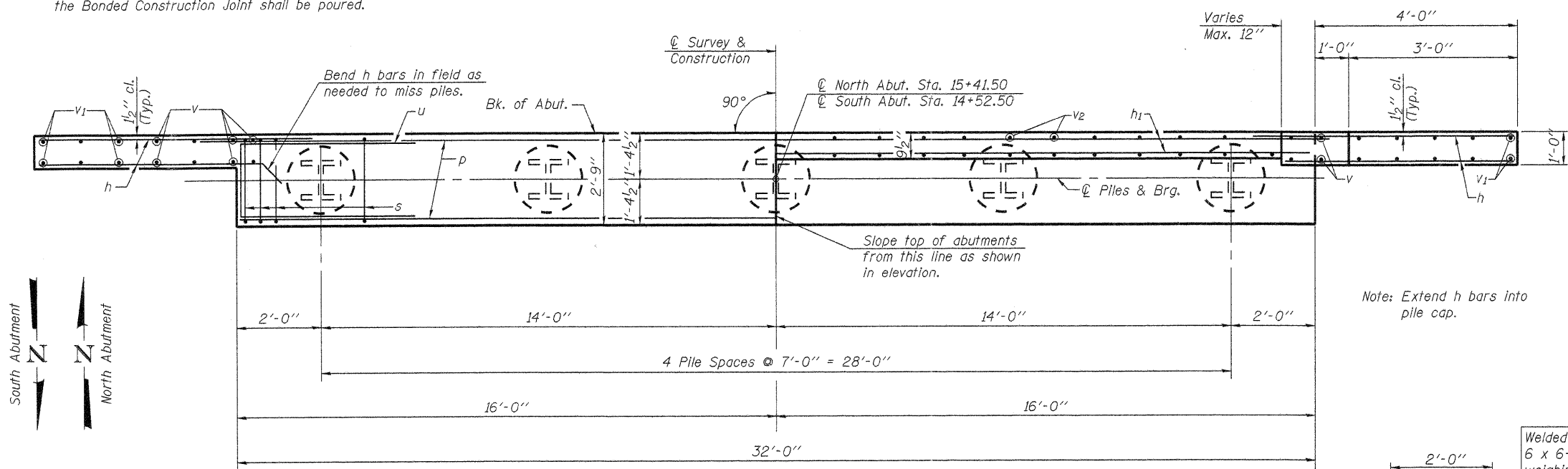
CONTRACT NO. 084558
ILLINOIS FED. AID PROJECT



Note: After beams are in place and dowel rods grouted, the backwall and the portions of the wingwalls above the Bonded Construction Joint shall be poured.

ELEVATION

SECTION THRU ABUT.



SECTION A-A

**2 ABUTMENTS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h	56	#5	7'-0"	—
h ₁	12	#4	33'-0"	—
p	20	#7	31'-8"	—
s	68	#5	10'-9"	□
u	16	#6	12'-4"	—
v	40	#4	4'-9"	—
v ₁	24	#4	4'-3"	—
v ₂	120	#4	3'-4"	—
Concrete Structures			Cu. Yd.	25.5
Reinforcement Bars			Pound	3,490
Name Plates			Each	1
Furnishing Steel Piles, HP10x42			Foot	280
Driving Piles			Foot	280
Test Pile, Steel HP10x42			Each	2
Concrete Encasement			Cu. Yd.	3.5

See Sheet 13 for Pile Details.

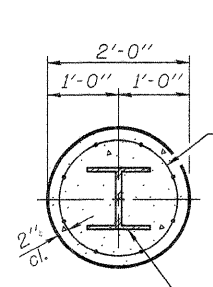
PLAN

PILE DATA

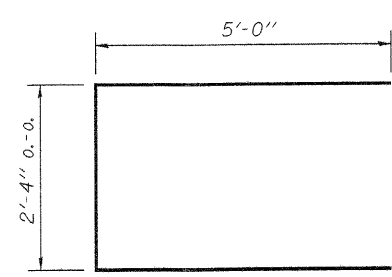
Type & Size.....HP10x42
 No. Req'd. (2 Abuts.).....10*
 Nominal Required Bearing.....335 kips
 Factored Resistance Available.....185 kips
 Estimated Length.....40 ft./pile - S. Abut.
 30 ft./pile - N. Abut.

*Includes 1 Test Pile to be driven to 110% of the nominal required bearing in a permanent location at each abutment.

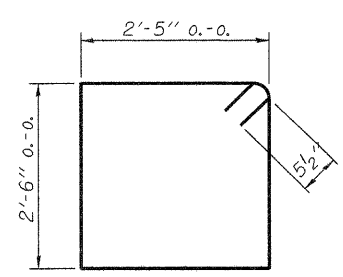
Steel Piles shall be according to AASHTO M270 Grade 50.



**SECTION B-B
PILE ENCASEMENT DETAIL**



BAR u



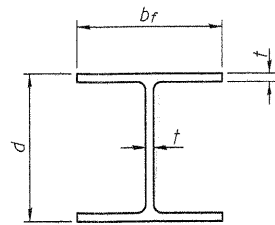
BAR s

FILE NAME = ABUT-8-BW.DGN	USER NAME = S.A.P.	DESIGNED - A.L.S.	REVISED -
		CHECKED - A.R.K.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 04/19/11	CHECKED - A.L.S. & A.R.K.	REVISED -

FEHR-GRAHAM & ASSOCIATES, LLC
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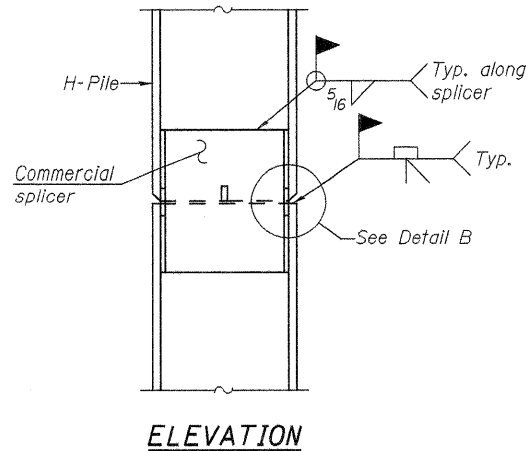
**ABUTMENT DETAILS
S.N. 084-3443**

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
48	08-00095-00-BR	SANGAMON	18	11
CONTRACT NO. 93559				
ILLINOIS FED. AID PROJECT				

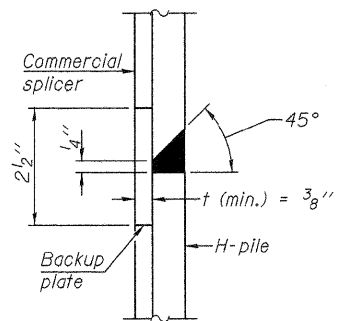


STEEL PILE TABLE

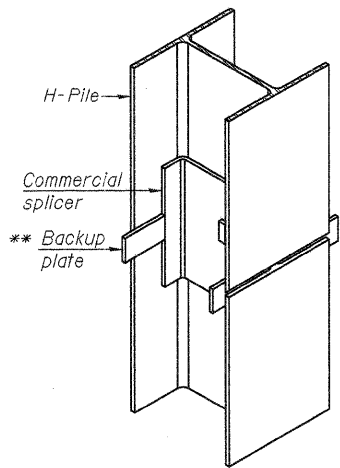
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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



ELEVATION

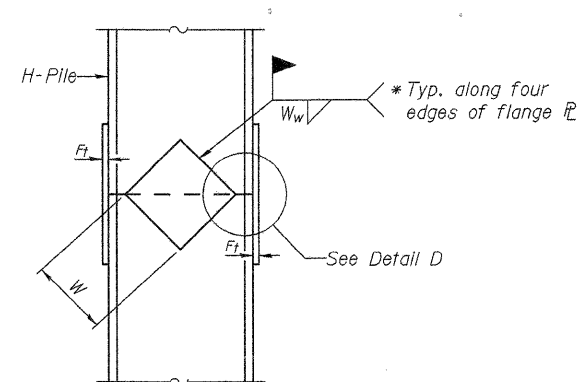


DETAIL "B"

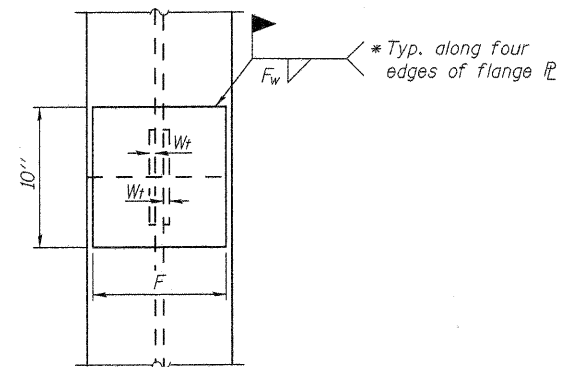


ISOMETRIC VIEW

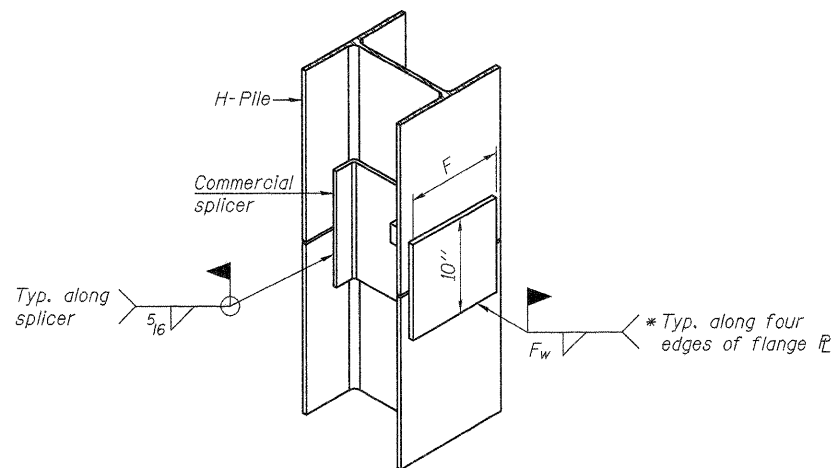
WELDED COMMERCIAL SPLICE



ELEVATION



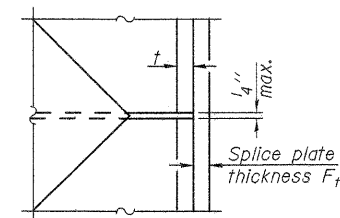
END VIEW



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	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.

F-HP

7-1-10

FILE NAME = 10-273-PILES.DGN

USER NAME = S.A.P.

DESIGNED - A.L.S.

REVISED -

PLOT SCALE = XXX

CHECKED - A.R.K.

REVISED -

PLOT DATE = 04/19/11

DRAWN - S.A.P.

REVISED -

CHECKED - A.L.S. & A.R.K.

REVISED -



FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

HP PILE DETAILS
S.N. 084-3443

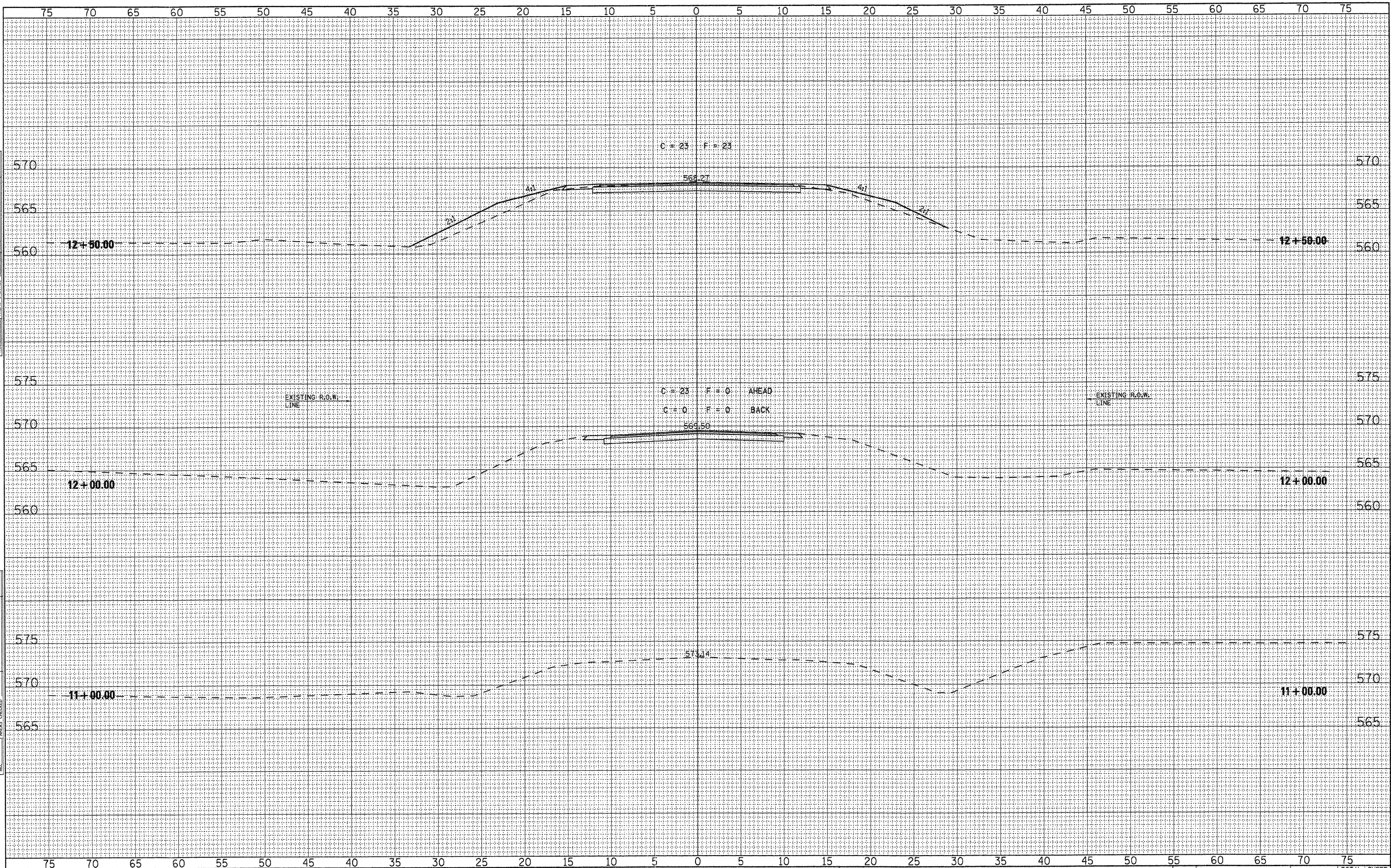
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
48	08-00095-00-BR	SANGAMON	18	13

CONTRACT NO. 93553

ILLINOIS FED. AID PROJECT

DATE	
BY	
FINAL SURVEY	
NOTED	
PLOTTED	
DATE	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
NOTED	
PLOTTED	
DATE	
NO.	



FILE NAME = 10-273.XS-SHEETS.DGN
 DESIGNED - G.J.C.
 DRAWN - S.A.P.
 CHECKED BY - G.J.C.
 DATE = 06/09/10

DESIGNED - G.J.C.
 DRAWN - S.A.P.
 CHECKED - G.J.C.
 DATE - 04/19/11

REVISED -
 REVISED -
 REVISED -
 REVISED -

4440 ASH GROVE
 SPRINGFIELD, IL. 62711
 (217) 793-8600
 www.fehr-graham.com

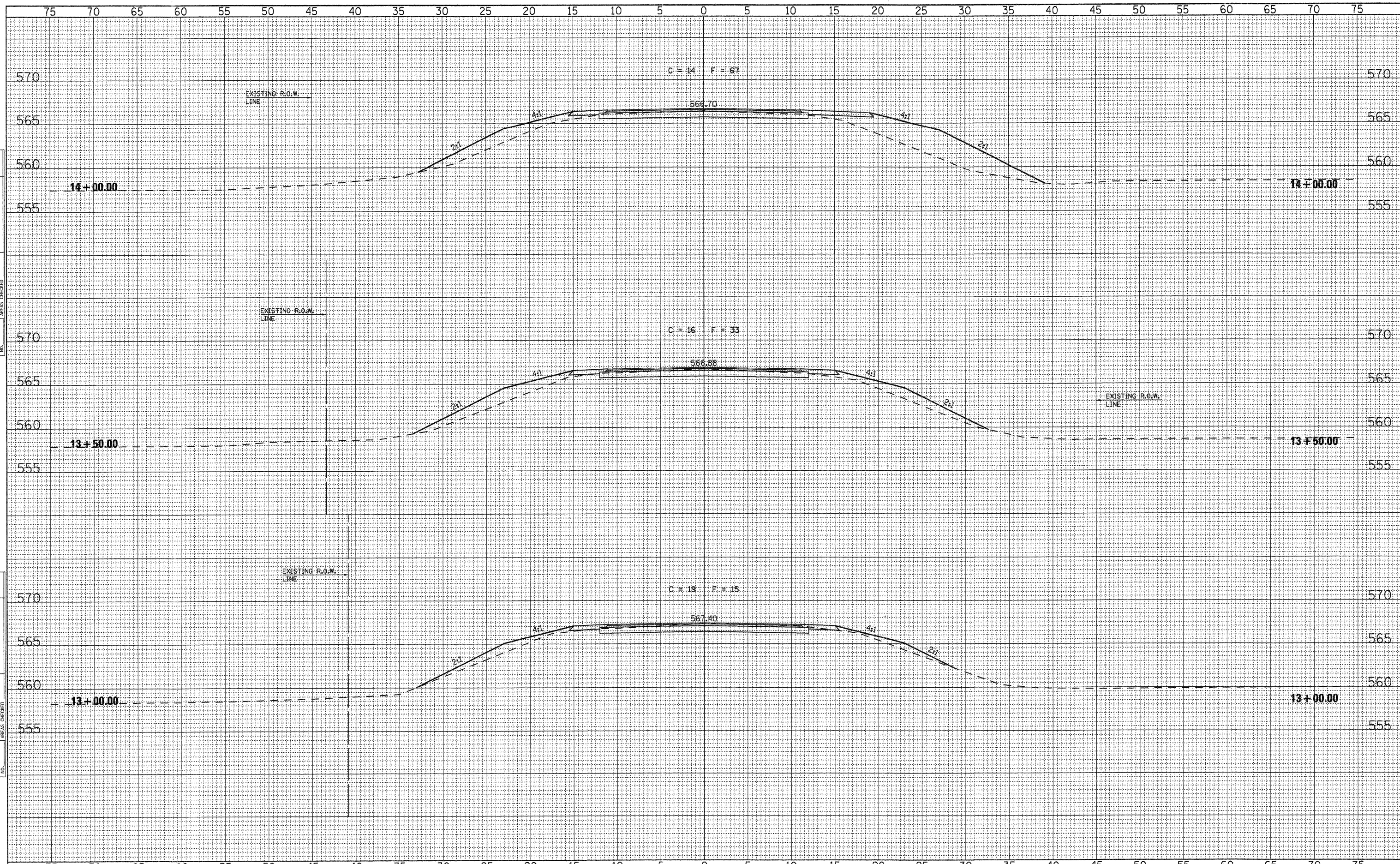
FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

ROADWAY CROSS SECTIONS - C.H. 48
 SCALE: SHEET NO. OF SHEETS STA. 11+00.00 TO STA. 12+50.00

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
48	08-00095-00-BR	SANGAMON	18	14
			CONTRACT NO. 9353	

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

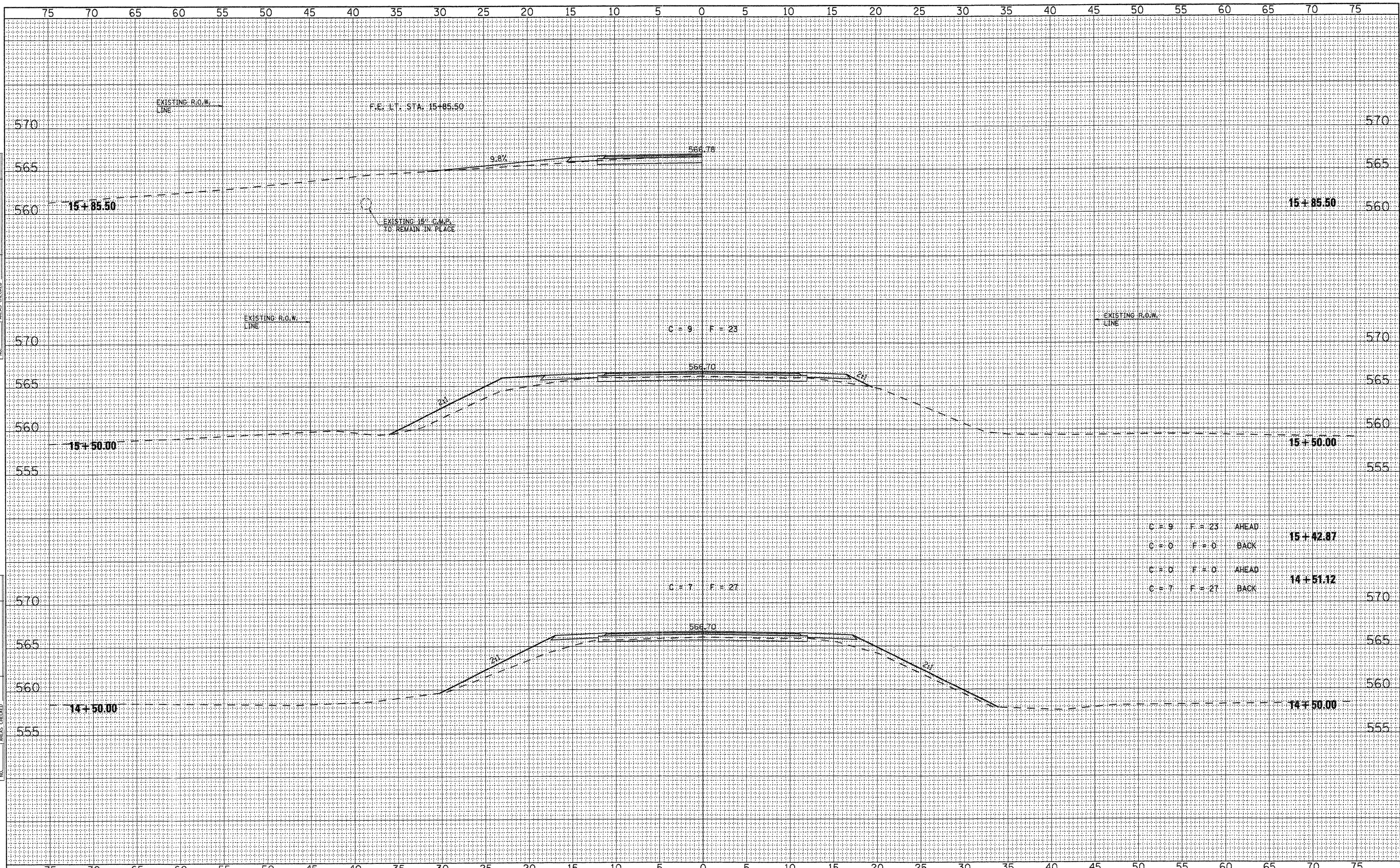
DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____



FILE NAME = 18-273.XS-SHEETS.DGN	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL	ROADWAY CROSS SECTIONS - C.H. 48				C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOTTED BY = S.A.P.	DRAWN - S.A.P.	REVISED -							48	08-00095-00-BR	SANGAMON	18	15
CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -			SCALE: _____ SHEET NO. _____ OF _____ SHEETS STA. 13+00.00 TO STA. 14+00.00				CONTRACT NO. 93553				
PLOT DATE = 06/09/18	DATE - 04/19/11	REVISED -							ILLINOIS				

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 TEMPLATE _____
 NOTE BOOK _____
 AREAS CHECKED _____
 NO. _____

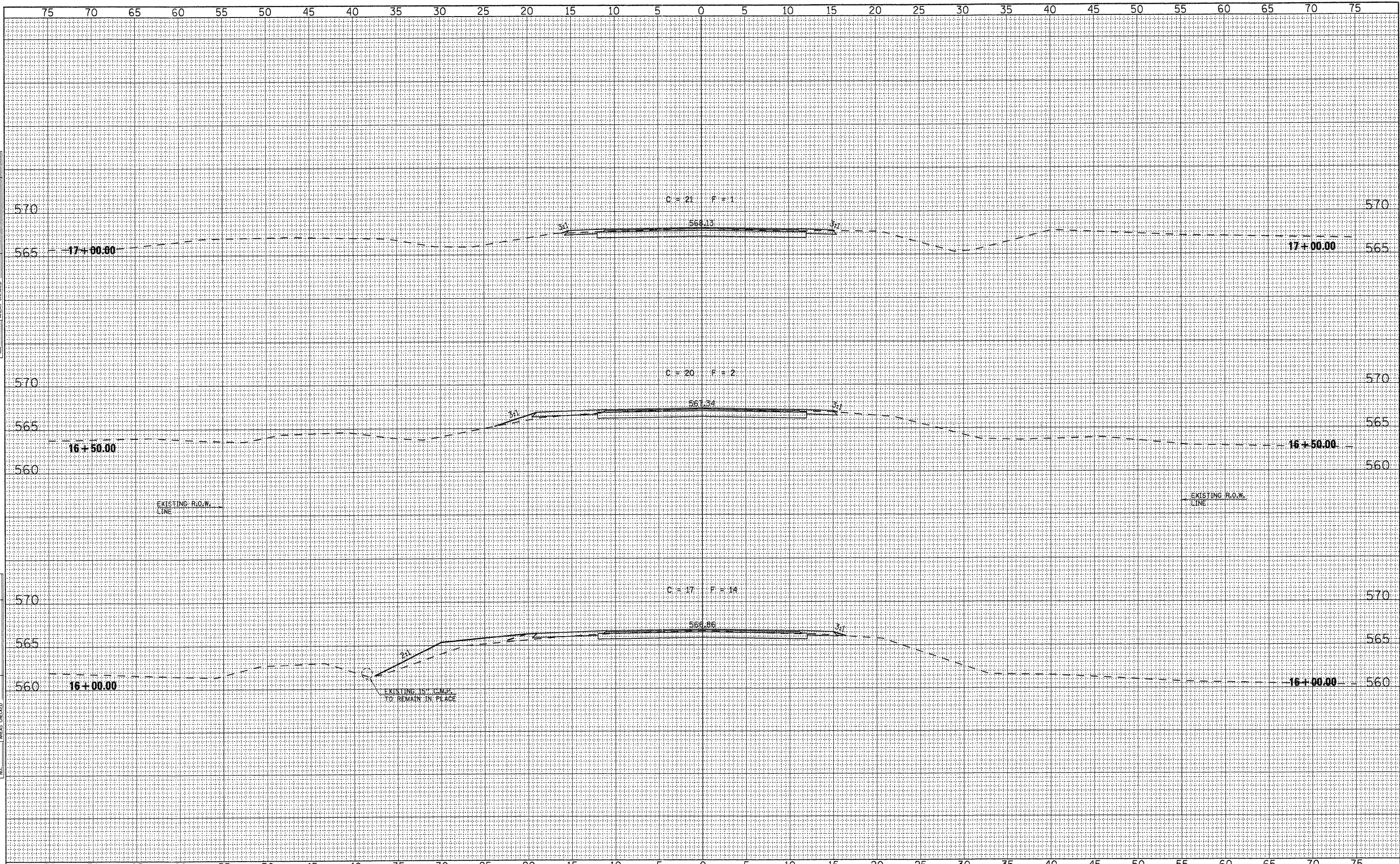
DATE _____
 BY _____
 ORIGINAL SURVEY _____
 SURVEY _____
 PLOTTED _____
 TEMPLATE _____
 NOTE BOOK _____
 AREAS CHECKED _____
 NO. _____



C = 9	F = 23	AHEAD	15 + 42.87
C = 0	F = 0	BACK	
C = 0	F = 0	AHEAD	14 + 51.12
C = 7	F = 27	BACK	

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

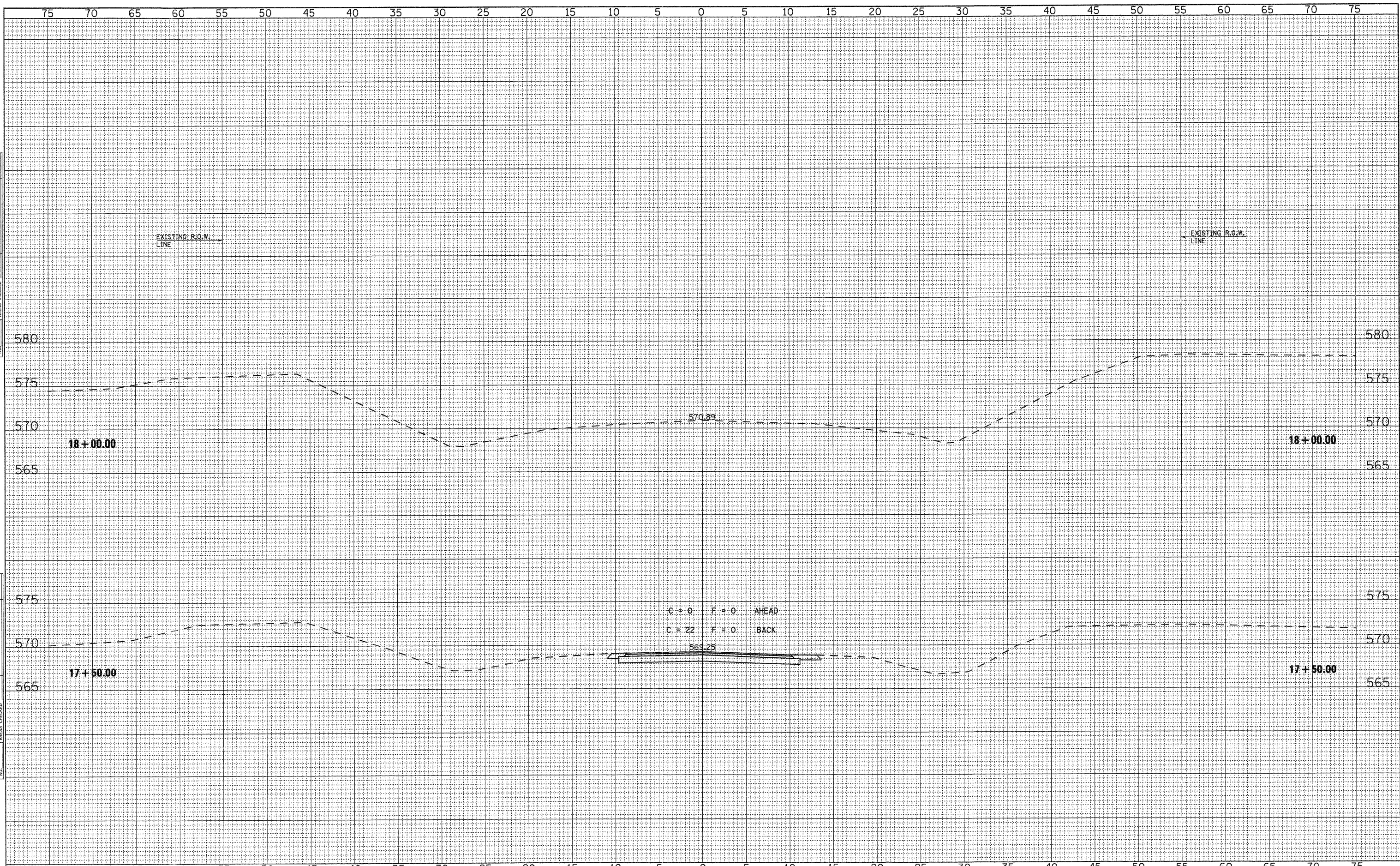
DATE	
BY	
ORIGINAL SURVEY	CLERKED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED



FILE NAME = 10-273.XS-SHEETS.DGN	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL. ROCKFORD, IL. ROCHELLE, IL. MONROE, WI. SPRINGFIELD, IL.	ROADWAY CROSS SECTIONS - C.H. 48				
PLOTTED BY = S.A.P.	DRAWN - S.A.P.	REVISED -			C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -			48	08-00095-00-BR	SANGAMON	18	17
PLOT DATE = 06/09/10	DATE - 04/19/11	REVISED -			SCALE:		SHEET NO. OF SHEETS STA. 16+00.00 TO STA. 17+00.00		
				ILLINOIS		CONTRACT NO. 093559			

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

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



FILE NAME = 18-273.XS-SHEETS.DGN	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL. ROCKFORD, IL. ROCHELLE, IL. MONROE, WI. SPRINGFIELD, IL.	ROADWAY CROSS SECTIONS - C.H. 48				C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOTTED BY = S.A.P.	DRAWN - S.A.P.	REVISED -			48	08-00095-00-BR	SANGAMON	18	18				
CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -			CONTRACT NO. 93553								
SCALE: 1" = 40'	DATE = 04/19/11	REVISED -			ILLINOIS								
PLOT DATE = 06/09/10			STA. 17+50.00 TO STA. 18+00.00										