

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 97A	17-24119-00-BR	SHELBY	20	1
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 95840		

INDEX OF SHEETS

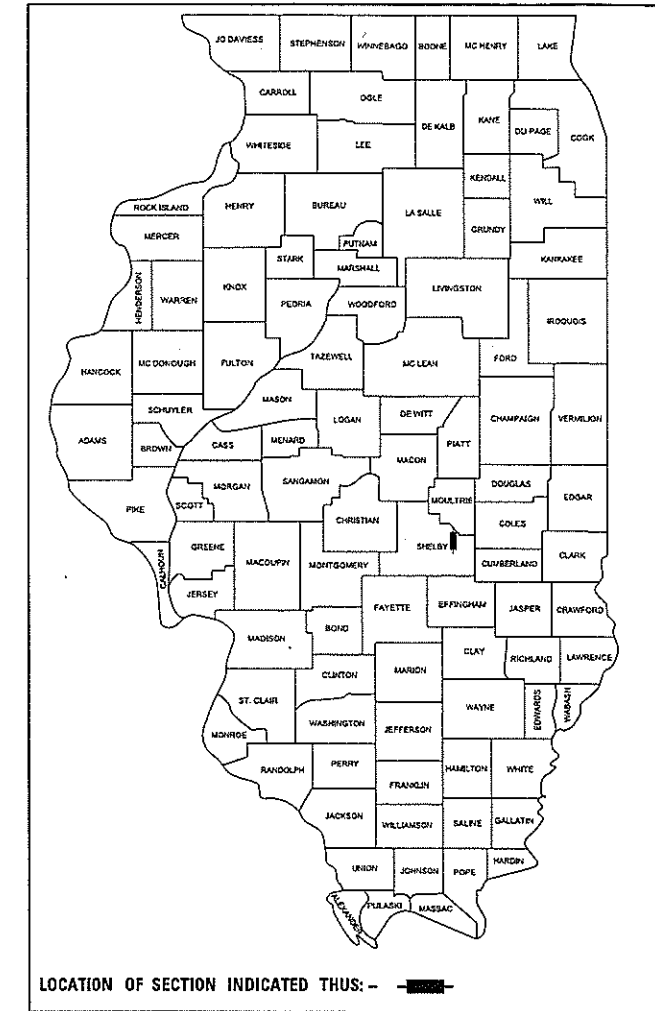
SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL CROSS SECTIONS
4.	PLAN AND PROFILE
5-11.	STATION CROSS SECTIONS
12-18.	BRIDGE PLANS
19-20.	BORINGS

HIGHWAY STANDARDS:

000001-07	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
701901-08	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

**PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM**

**PROJECT SKK8(956)
SECTION 17-24119-00-BR
WINDSOR ROAD DISTRICT
SHELBY COUNTY
T.R. 97A / 1750N ROAD
PROPOSED STRUCTURE NO. 087-3591
C-97-003-19**



UTILITIES

EJ WATER
c/o MILANO & GRUNLOH ENGINEERS
114 W. WASHINGTON
P.O. BOX 897
EFFINGHAM, IL. 62401

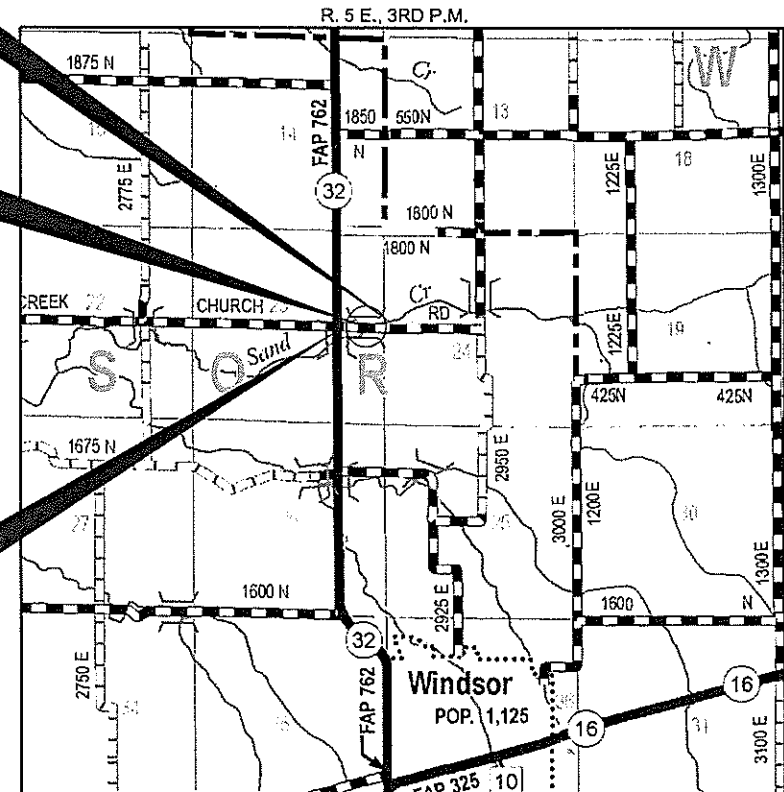
IL. CONSOLIDATED COMMUNICATIONS
121 S. 17TH STREET
MATTOON, IL. 61938

SHELBY ELECTRIC CO-OP
IL. ROUTE 128 & N. 6TH
P.O. BOX 166
SHELBYVILLE, IL. 62565

STA. 9+98
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE, SINGLE SPAN @ 43'-0"
24'-0" RDWY.; SKEW = 0°
EXISTING STRUCTURE NO. 087-3096
PROPOSED STRUCTURE NO. 087-3591

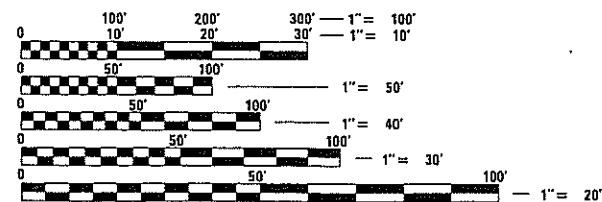
IMPROVEMENT ENDS
STATION 12+35

IMPROVEMENT BEGINS
STATION 7+40



LOCATION MAP

APPROXIMATE SCALE: 0 1/2 MILE
NET LENGTH OF SECTION = 495 FEET = 0.093 MILES



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

FUNCTIONAL CLASSIFICATION: LOCAL ROAD
DESIGN SPEED: 30 MPH
DESIGN TRAFFIC: 100 ADT



WARNING

**CALL 811
BEFORE YOU DIG
DIG NO: A0510429**

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 10-16-2018
[Signature]
COUNTY ENGINEER

APPROVED 10-16-2018
[Signature]
TOWNSHIP COMMISSIONER

PASSED NOV 8, 2018
[Signature]
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS
NOV 8, 2018
[Signature]
REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Releasing For Bid Based on Limited Review

DATE: 10/12/2018

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS

HLR
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com

EXPIRES: 11/30/2019 PROJECT NUMBER: 17.0012.130 DATE: 10/12/18

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL
			CONSTRUCTION TYPE CODE 0011
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	60
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	100
^ 20200100	EARTH EXCAVATION	CU YD	265
20300100	CHANNEL EXCAVATION	CU YD	30
20400800	FURNISHED EXCAVATION	CU YD	395
^ 25000200	SEEDING, CLASS 2	ACRE	0.4
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	36
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	36
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	36
^ 25100115	MULCH, METHOD 2	ACRE	0.4
^ 28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	80
28000305	TEMPORARY DITCH CHECKS	FOOT	40
28100207	STONE RIPRAP, CLASS A4	TON	210
28200200	FILTER FABRIC	SQ YD	252
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	473
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	21.8
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	1,032
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2,490
* 50900205	STEEL RAILING, TYPE S1	FOOT	86
51201400	FURNISHING STEEL PILES HP10X42	FOOT	490
51202305	DRIVING PILES	FOOT	490
51203400	TEST PILE STEEL HP10x42	EACH	1
51500100	NAME PLATES	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	74
67100100	MOBILIZATION	L SUM	1
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL CLEARING AND GRUBBING, FENCE REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. THE REMOVAL AND DISPOSAL OF EXISTING BITUMINOUS AND AGGREGATE PAVEMENT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE LOCATION OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATIONS AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- 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, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:
 AGGREGATE SURFACE COURSE 2.05 TON/CU YD
 STONE RIPRAP 1.75 TON/CU YD
 FERTILIZER NUTRIENT 90 LBS/ACRE
 TEMPORARY EROSION CONTROL SEEDING 100 LBS/ACRE
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY AS DIRECTED BY THE ENGINEER.

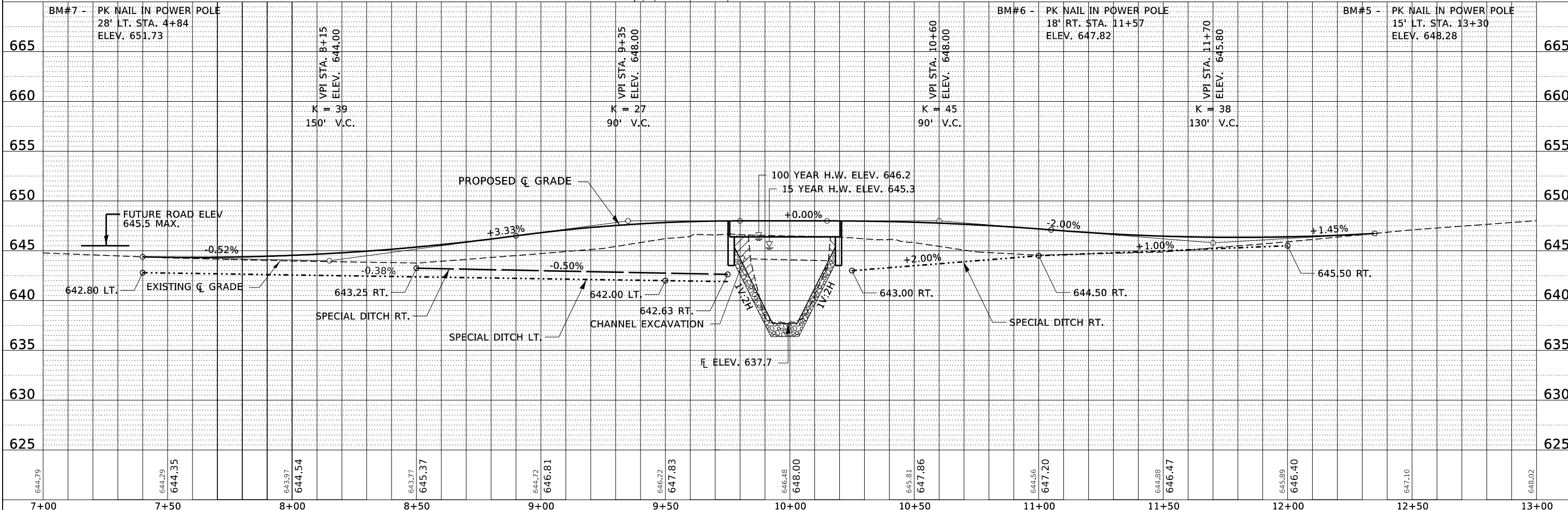
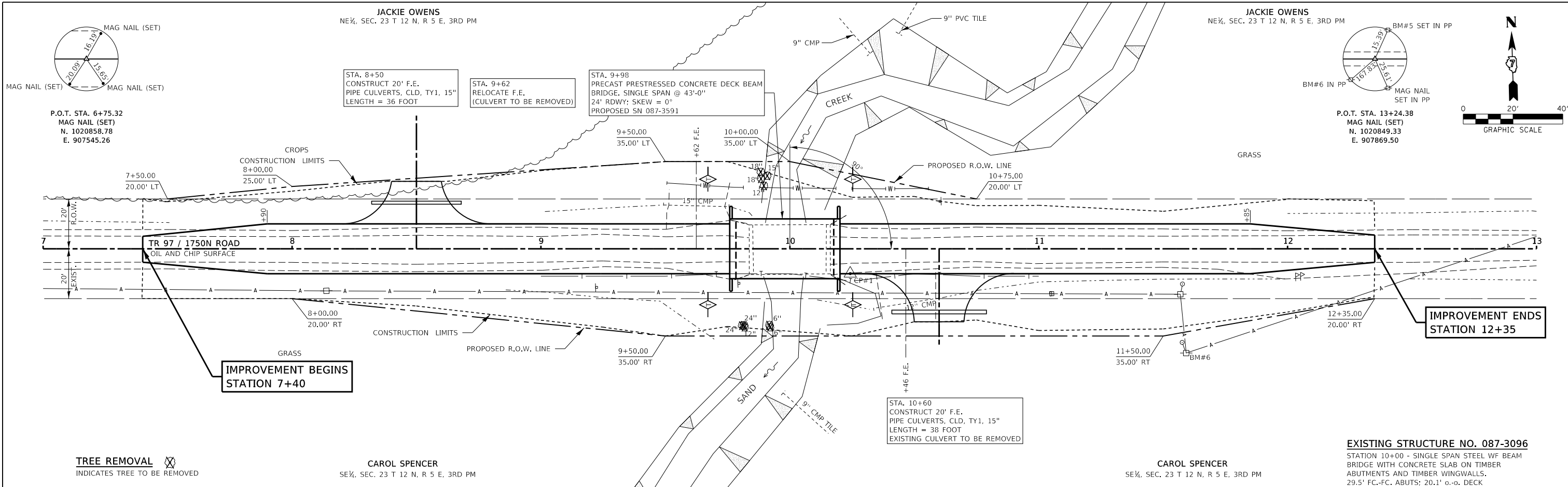
SEEDING TABLE

LOCATION	SEEDING, CLASS 2	NITROGEN FERTILIZER NUTRIENT (90 LBS/ACRE)	PHOSPHORUS FERTILIZER NUTRIENT (90 LBS/ACRE)	POTASSIUM FERTILIZER NUTRIENT (90 LBS/ACRE)	MULCH, METHOD 2	TEMPORARY EROSION CONTROL SEEDING (2@100 LBS/ACRE)
	25000200	25000400	25000500	25000600	25100115	28000250
	ACRE	POUND	POUND	POUND	ACRE	POUND
T.R. 97A / 1750N ROAD						
STA 7+40 TO STA 9+75.83	0.20	18	18	18	0.20	40
STA 10+20.17 TO STA 12+35	0.16	14	14	14	0.16	32
TOTAL	0.36	32	32	32	0.36	72
USE	0.40	36	36	36	0.40	80

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	PERCENT USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE
	20200100 CU.YD.	20300100 CU.YD.			CU.YD.	CU.YD.	CU.YD.
T.R. 97A / 1750N ROAD							
STA 7+40 TO STA 9+75.83	168		25.00%	100.00%	126	287	-161
STA 9+75.83 TO STA 10+20.17		30	25.00%	70.00%	16		16
STA 10+20.17 TO STA 12+35	95		25.00%	100.00%	71	320	-249
TOTAL	263	30			213	607	-394
USE	265	30					-395

FURNISHED EXCAVATION 395 CU YDS



DATE	
BY	
REVIEWED	
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NOTED	
NO.	

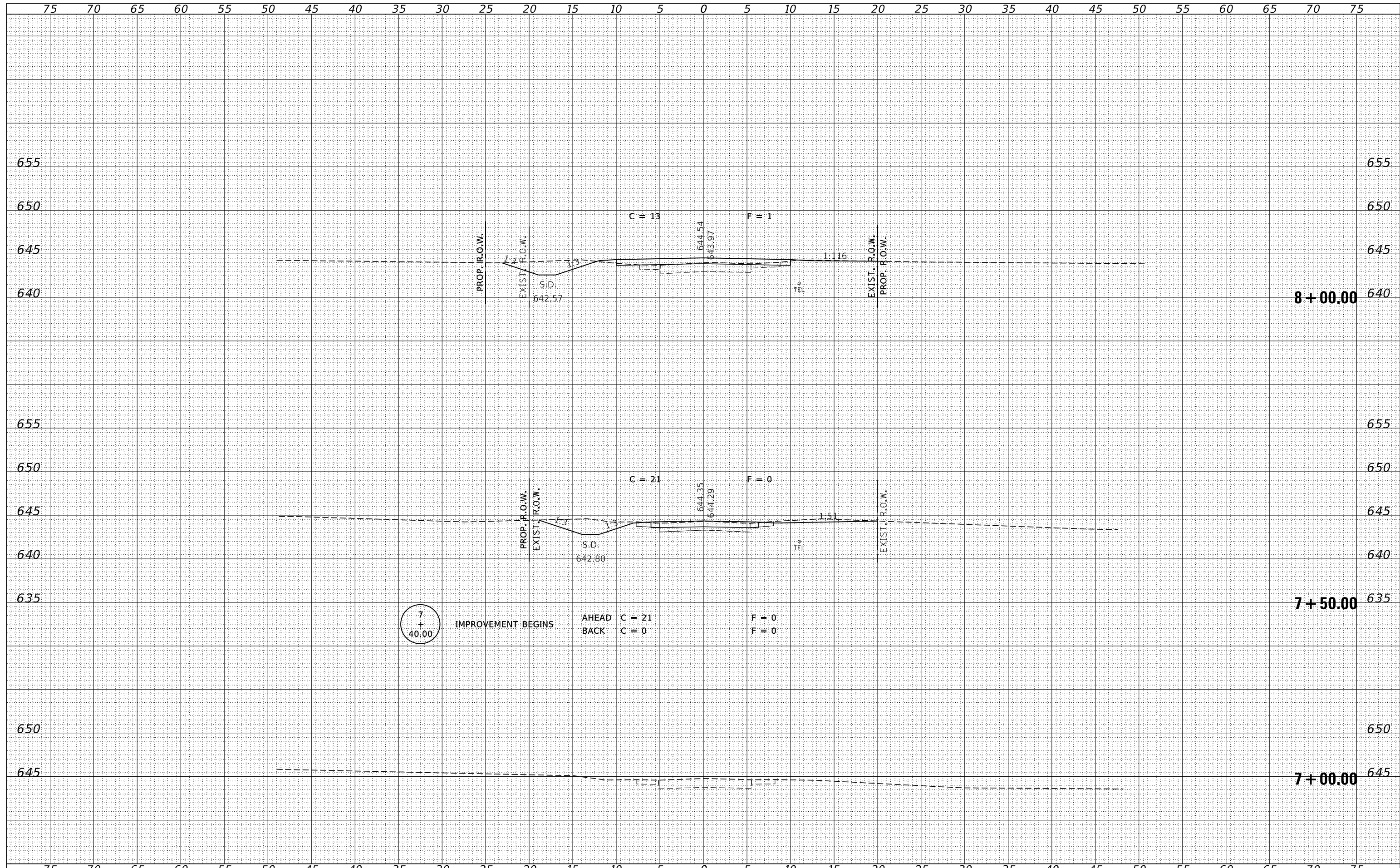
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HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -		97A	17-24119-00-BR	SHELBY	20	4
3085 STEVENSON DRIVE, SUITE 201		CHECKED - J.W.F.	REVISED -		WINDSOR ROAD DISTRICT CONTRACT NO. 95840				
SPRINGFIELD, ILLINOIS 62703		DATE - 10/12/18	REVISED -		ILLINOIS FED. AID PROJECT SKK8(956)				

SCALE: 20H:5V SHEET NO. 1 OF 1 SHEETS STA. 7+00 TO STA. 13+00

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

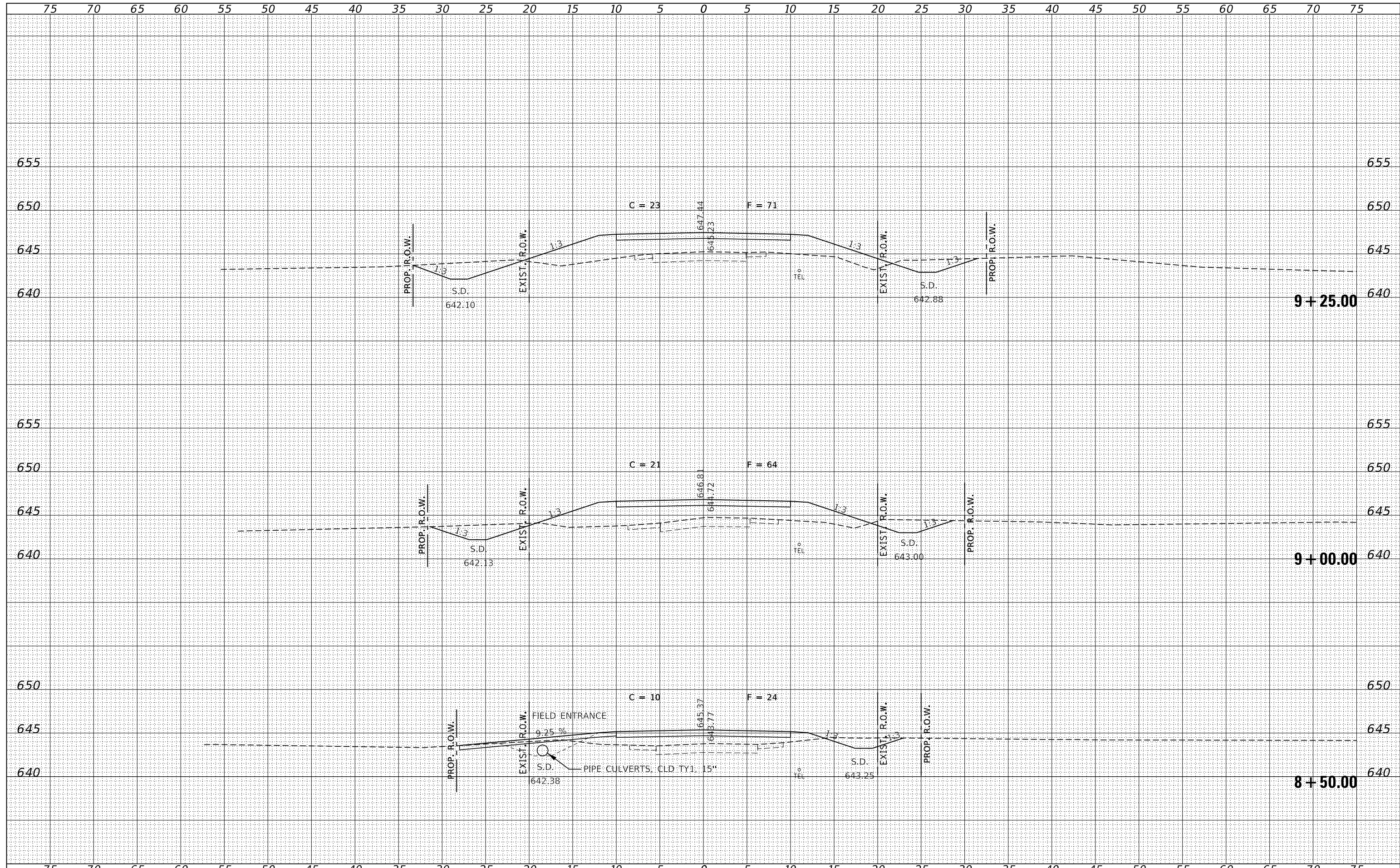
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NOTE BOOK	PLOTTED
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	AREAS
	CHECKED



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HAMPTON, LENZINI AND RENWICK, INC. 3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L/S / P/E / SE CORP. 184.009958	PLOT SCALE = \$SCALE\$	DRAWN - T.W.K.	REvised -		97A	17-24119-00-BR	SHELBY	20	5		
PLOT DATE = 10/12/2018	DATE - 10/12/18	CHECKED - J.W.F.	REvised -		WINDSOR ROAD DISTRICT		CONTRACT NO. 95840		ILLINOIS FED. AID PROJECT SKK2(958)		
		DATE - 10/12/18	REvised -		SCALE: 5H:2V	SHEET NO. 1 OF 7 SHEETS	STA. 7+00.00 TO STA. 8+00.00				

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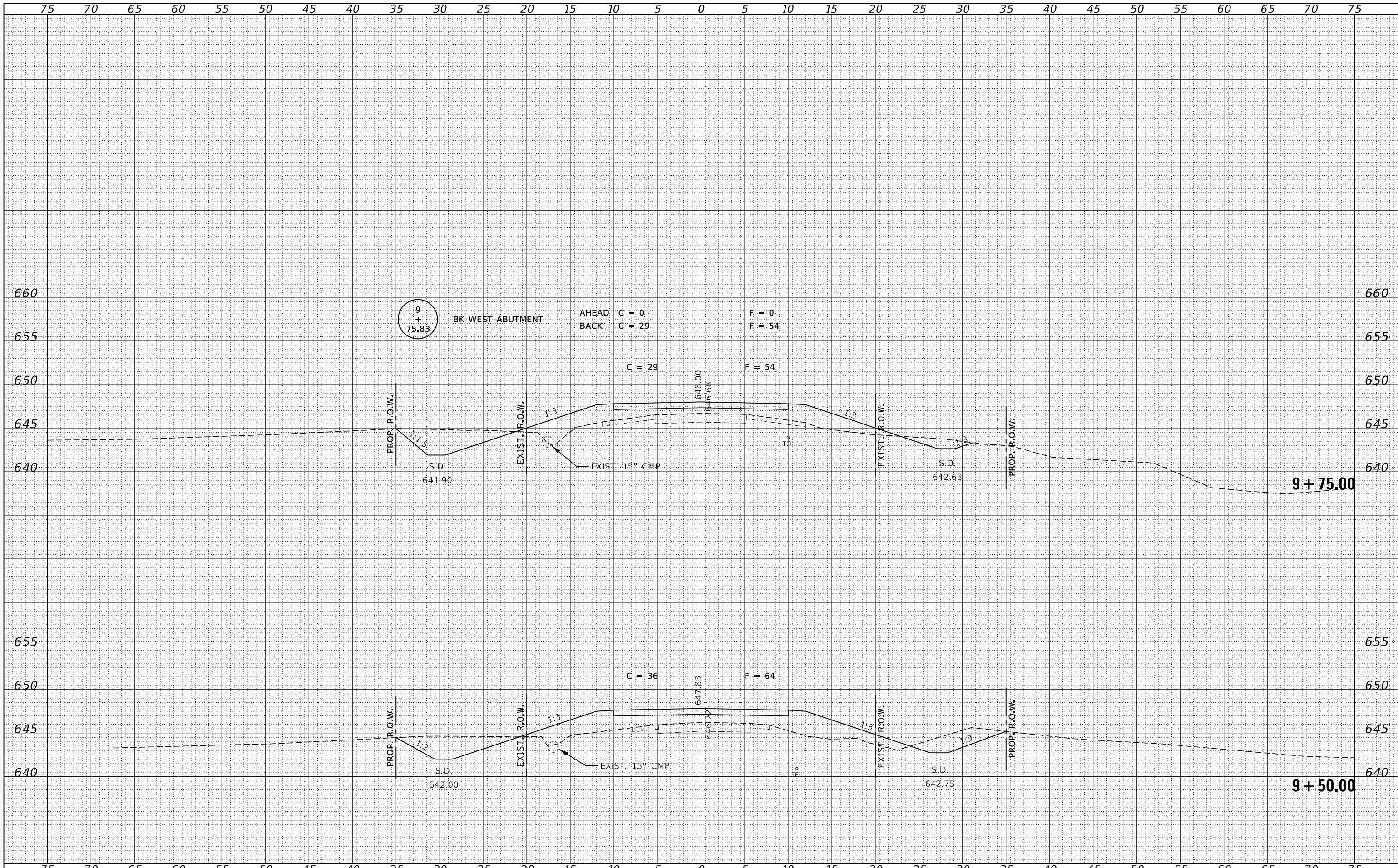
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HAMPTON, LENZINI AND RENWICK, INC. 3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000958	PLOT SCALE = \$SCALES	DRAWN - T.W.K.	REVISED -		97A	17-24119-00-BR	SHELBY	20	6		
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		DATE - 10/12/18	REVISED -		SCALE: 5H:2V	SHEET NO. 2 OF 7 SHEETS	STA. 8+50.00	TO STA. 9+25.00			

DATE	
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PLOTTED	
TEMPLATE	
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 DESIGNED - S.A.A.
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 CHECKED - J.W.F.
 DATE - 10/12/18
 PLOT SCALE = \$SCALE\$
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 DATE - 10/12/18

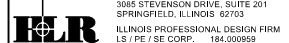
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STATE OF ILLINOIS
 SHELBY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

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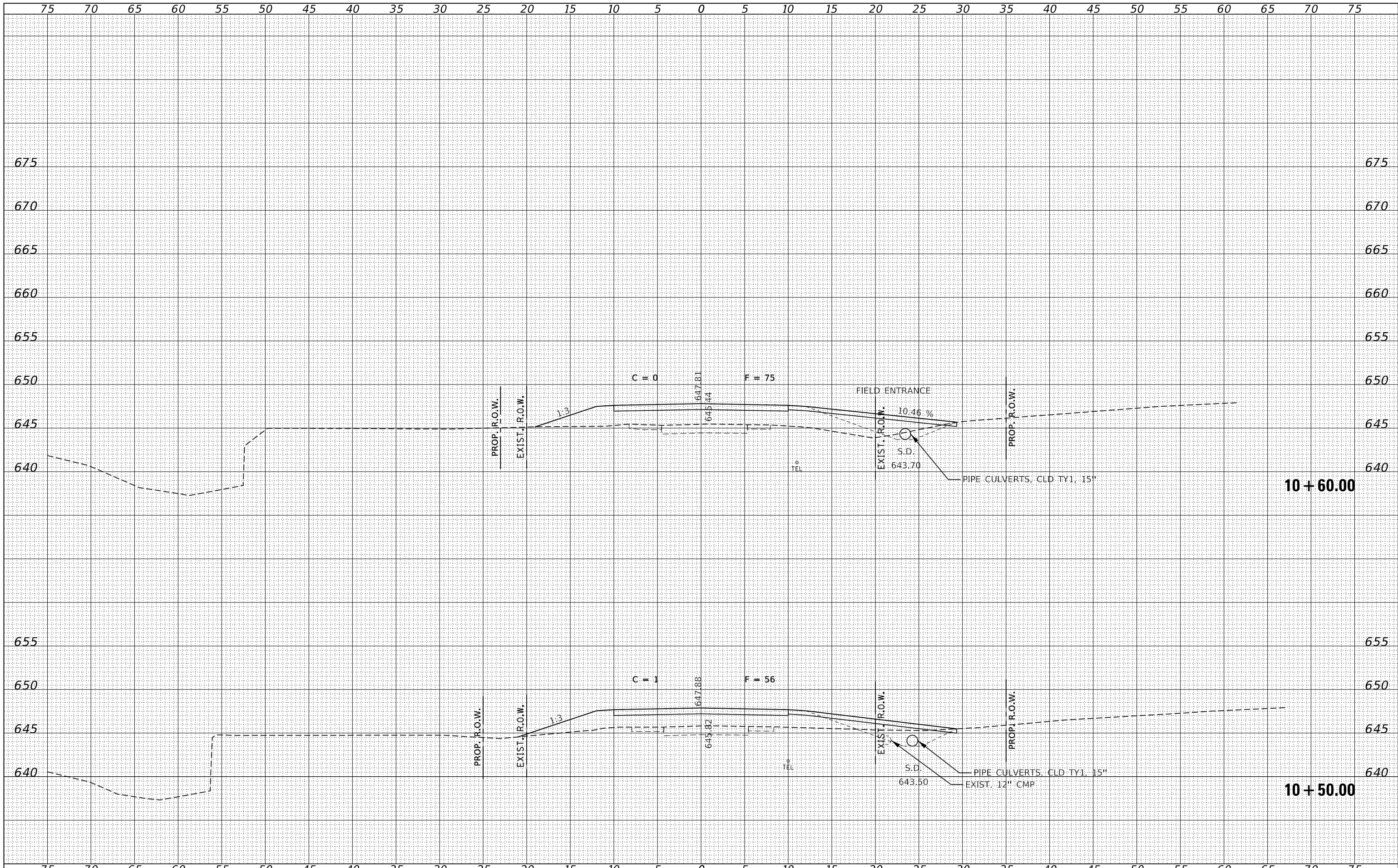
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
97A	17-24119-00-BR	SHELBY	20	7
WINDSOR ROAD DISTRICT			CONTRACT NO. 95840	



ILLINOIS FED. AID PROJECT SKK8(958)

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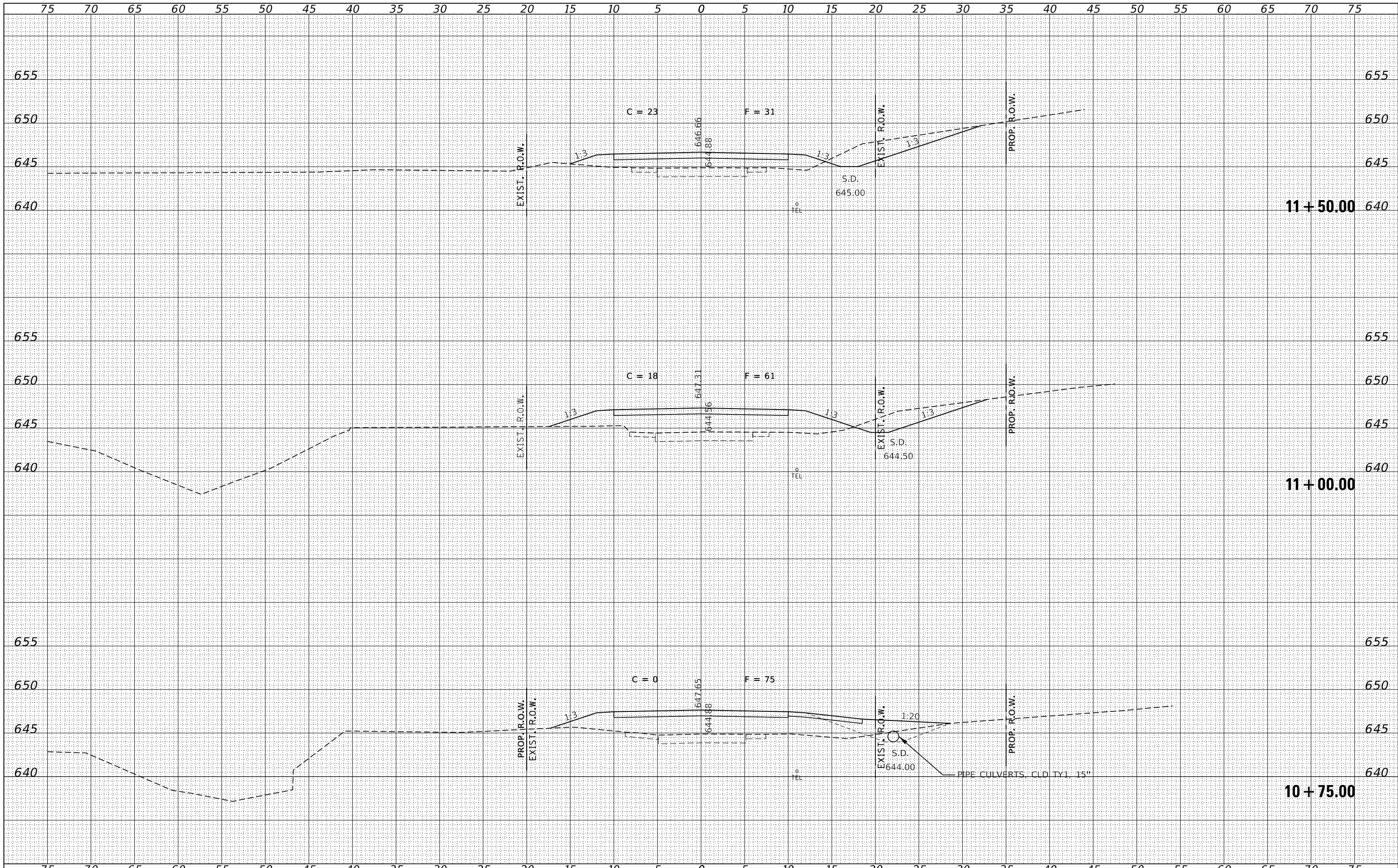
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NOTE BOOK	
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HAMPTON, LENZINI AND RENWICK, INC. 3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.009958	PLOT SCALE = \$SCALES	DRAWN - T.W.K.	REVISED -		97A	17-24119-00-BR	SHELBY	20	9		
PLOT DATE = 10/12/2018	DATE = 10/12/18	CHECKED - J.W.F.	REVISED -		WINDSOR ROAD DISTRICT		CONTRACT NO. 95840		ILLINOIS FED. AID PROJECT SKK8(958)		
		DATE = 10/12/18	REVISED -		SCALE: 5H:2V	SHEET NO. 5 OF 7 SHEETS	STA. 10+50.00 TO STA. 10+60.00				

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

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



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 DATE - 10/12/18

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 PLOT DATE = 10/12/2018

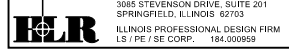
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STATE OF ILLINOIS
 SHELBY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

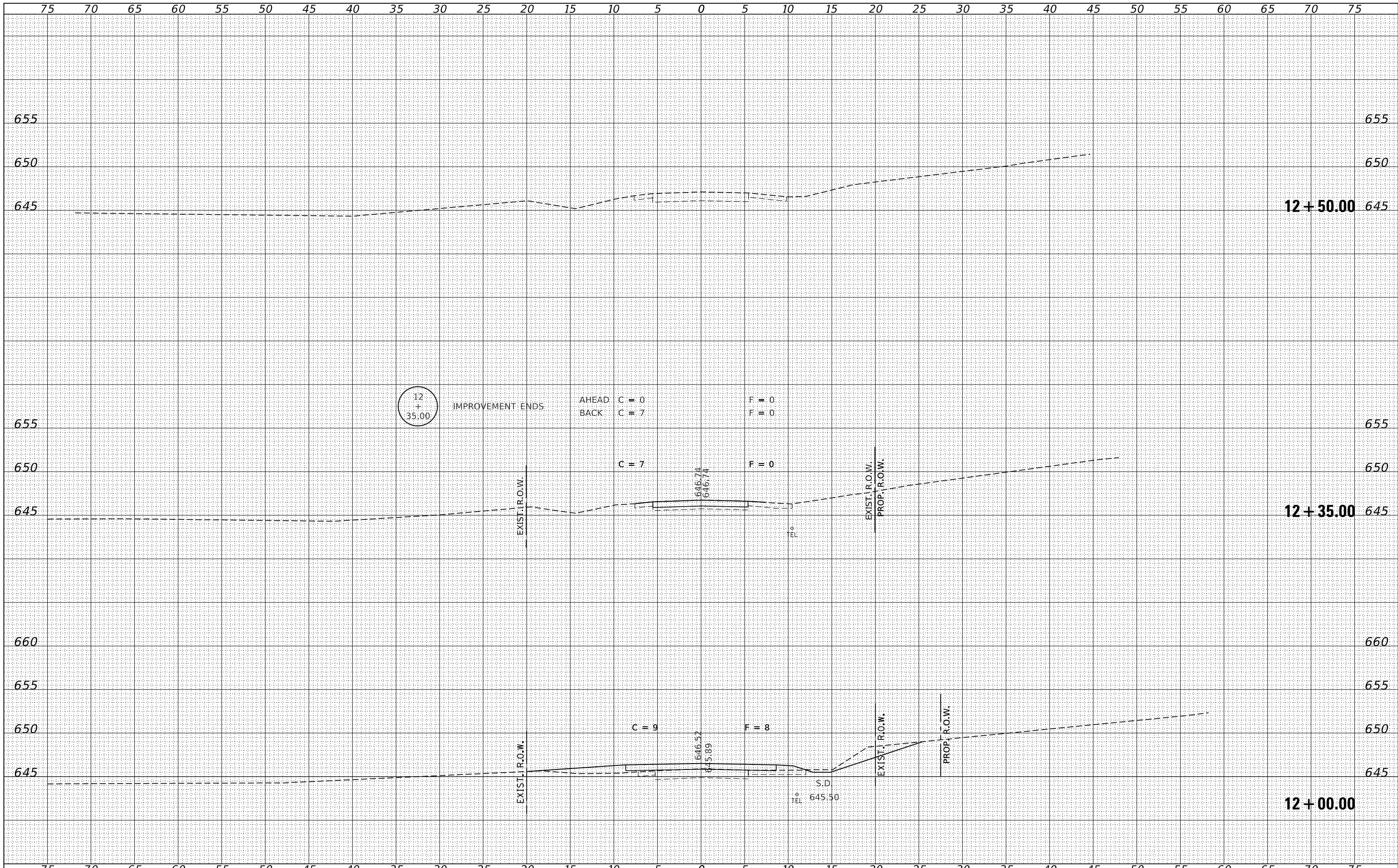
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T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
97A	17-24119-00-BR	SHELBY	20	10
WINDSOR ROAD DISTRICT			CONTRACT NO. 95840	



DATE	
BY	
FINAL SURVEY	
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NOTE BOOK	
NO.	
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DATE	
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ORIGINAL SURVEY	
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NOTE BOOK	
NO.	
PLOTTED	
TEMPLATE	
AREAS	
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12
+
35.00

IMPROVEMENT ENDS

AHEAD C = 0
BACK C = 7

F = 0
F = 0

C = 7

F = 0

C = 9

F = 8

S.D.
TEL 645.50

646.52

645.89

646.74

646.74

FILE NAME = 170012-shf-sss.dgn
 HAMPTON, LENZINI AND RENWICK, INC.
 3885 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 L/S / PE / SE CORP. 184.000958

USER NAME = rmosck
 PLOT SCALE = \$\$SCALE\$
 PLOT DATE = 10/12/2018

DESIGNED - S.A.A.
 DRAWN - T.W.K.
 CHECKED - J.W.F.
 DATE - 10/12/18

REVISED -
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 REVISED -
 REVISED -

STATE OF ILLINOIS
 SHELBY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

SCALE: 5H:2V SHEET NO. 7 OF 7 SHEETS STA. 12+00.00 TO STA. 12+50.00

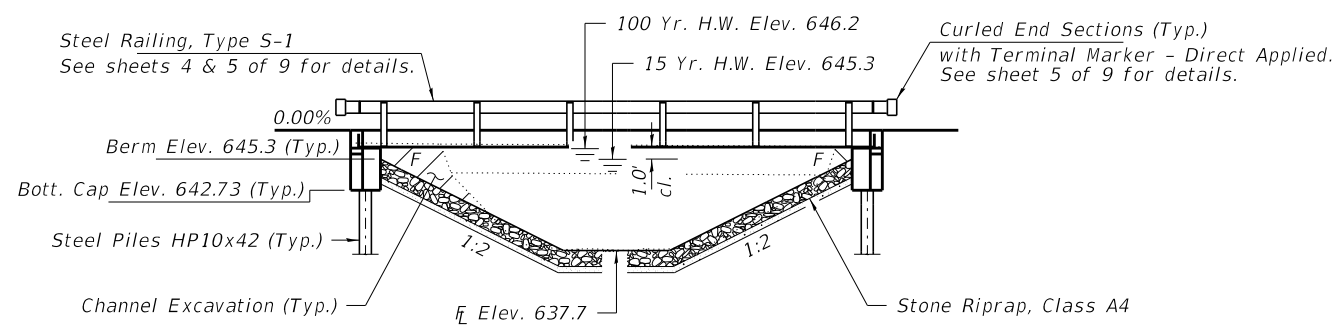
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
97A	17-24119-00-BR	SHELBY	20	11
WINDSOR ROAD DISTRICT			CONTRACT NO. 95840	
ILLINOIS FED. AID PROJECT SKK8(958)				

BENCHMARK: PK nail in power pole. 18' Rt., Sta. 11+57, Elev. 647.82

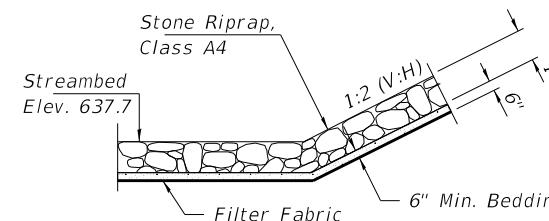
EXISTING STRUCTURE: SN087-3096 - Sta. 10+00 - Single span Steel WF beam bridge with concrete slab on timber abutments and wingwalls. 29.5' fc.-fc.; 20.1' o.-o. deck.

Structure closed to traffic during construction.

No Salvage



ELEVATION



SECTION A-A

Note: See Special Provisions for Stone Riprap, Class A4.

GENERAL NOTES

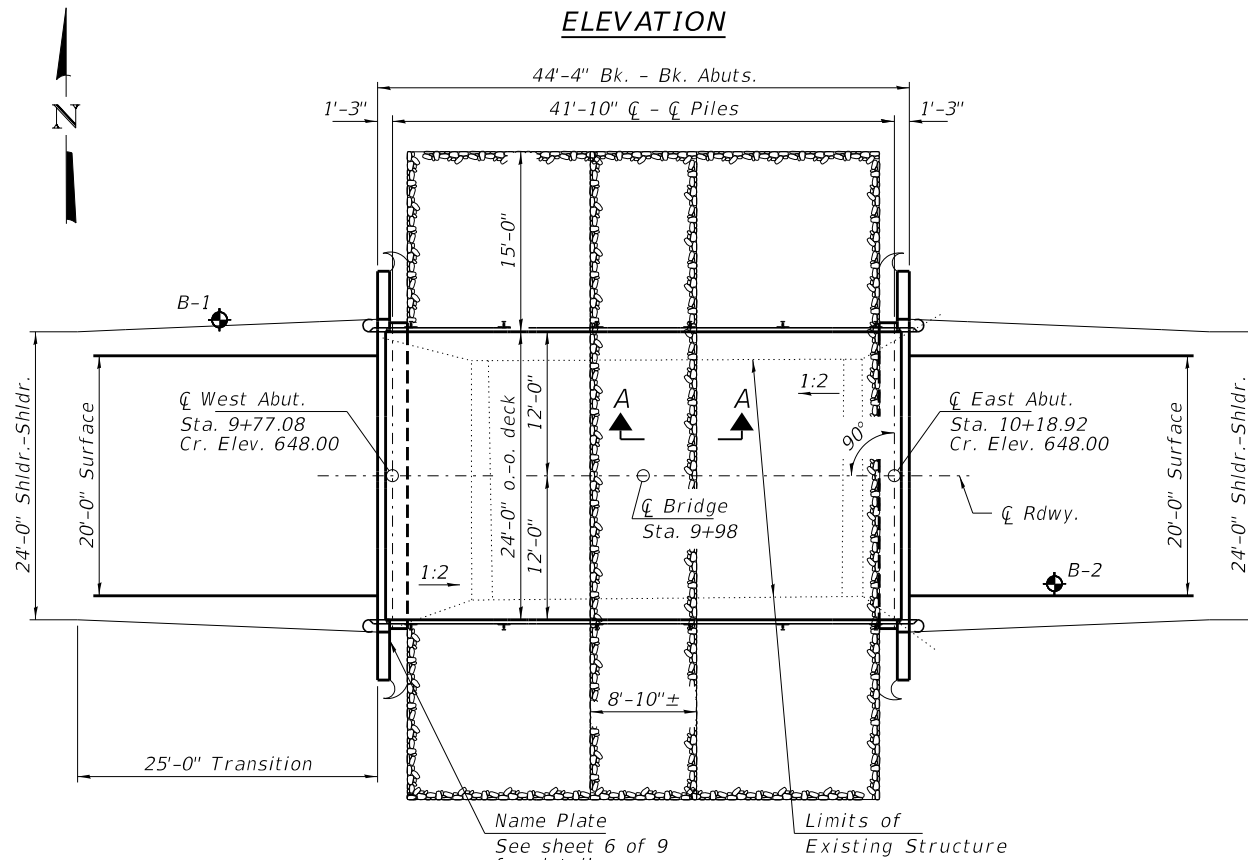
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the West abutment or approved by the Engineer before ordering the remainder of piles.

All bars to be epoxy coated.
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.

All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 17"x48" PPC Deck Beam
3. 17"x48" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
- 8-9. Borings



PLAN

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with all interims.

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f_{pu} = 270,000$ psi (1/2"Ø low lax. strands)
 $f_{pbt} = 201,960$ psi (1/2"Ø low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.179g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.367g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 7.8 Sq. Mi.		Existing Low Grade Elev. 643.8 @ Sta. 8+50 Proposed Low Grade Elev. 645.5 @ Sta. 7+50							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Overtop	10	1342	160	170	645.09	0.04	0.81	645.13	645.90
Design	15	1550	160	180	645.31	0.04	0.82	645.35	646.13
Base	100	2620	160	220	646.20	0.00	0.77	646.20	646.97
Scour Check	200	3020	160	220	646.47	0.00	0.73	646.47	647.20

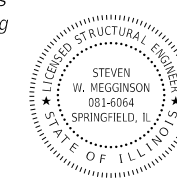
10 Year Velocity through Existing Bridge = 3.3 fps 10 Year Velocity through Proposed Bridge = 6.8 fps

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elev. (ft.)		Item 113
	W. Abut.	E. Abut.	
Q100	642.7	642.7	8
Q200	642.7	642.7	
Design	642.7	642.7	
Check	642.7	642.7	

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 Specifications."

Steven W. Megginson 10/12/18
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064

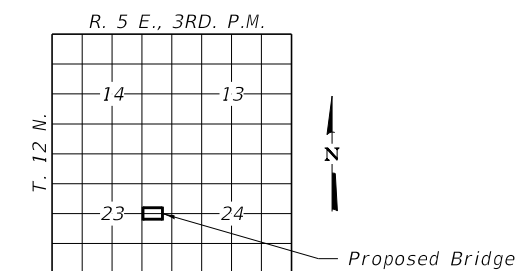


Expires 11-30-2020

SAND CREEK
BUILT 201_ BY
SHELBY COUNTY
SEC. 17-24119-00-BR
WINDSOR ROAD DISTRICT
STR. NO. 087-3591
LOADING HL-93

NAME PLATE

See Std. 515001



LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			30
Stone Riprap, Class A4	Ton			210
Filter Fabric	Sq. Yd.			252
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		21.8	21.8
Precast Prestressed Conc. Deck Beams (17" Depth)	Sq. Ft.	1,032		1,032
Reinforcement Bars, Epoxy Coated	Pound		2,490	2,490
Steel Railing, Type S-1	Foot	86		86
Furnishing Steel Piles HP10x42	Foot		490	490
Driving Piles	Foot		490	490
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each		1	1
Terminal Marker - Direct Applied	Each	4		4

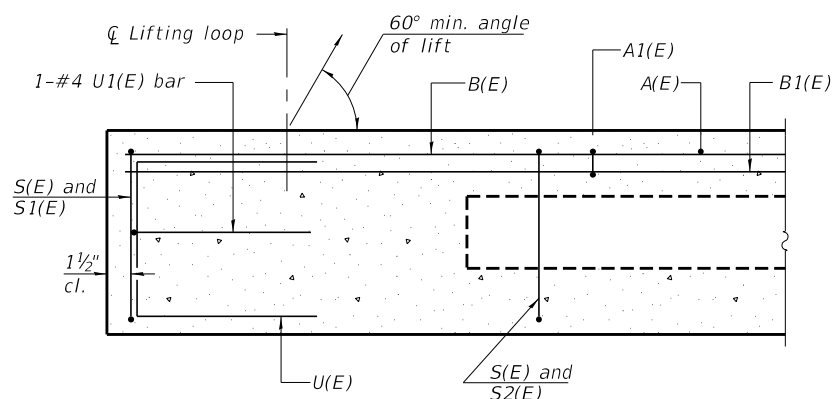
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HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009959	PLOT SCALE =	CHECKED - J.R.B.	REVISED -
PLOT DATE = 10/12/2018		DRAWN - R.D.H.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

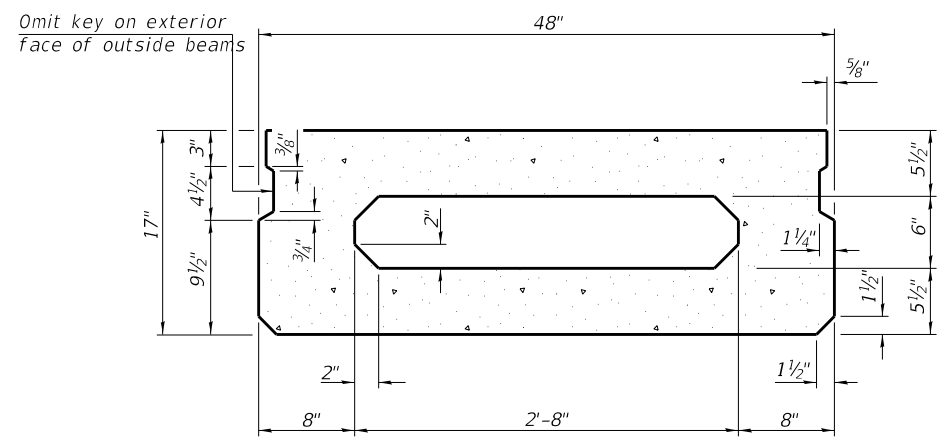
GENERAL PLAN & ELEVATION
STRUCTURE NO. 087-3591

SHEET NO. 1 OF 9 SHEETS

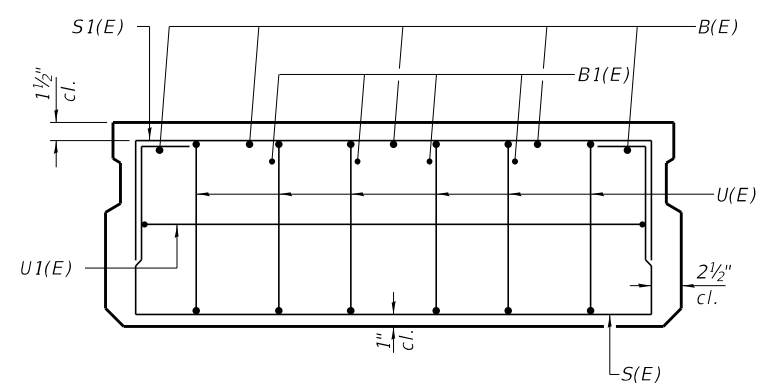
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
97A	17-24119-00-BR	SHELBY	20	12
WINDSOR ROAD DISTRICT		CONTRACT NO. 95840		
ILLINOIS		FED. AID PROJECT SKK8(956)		



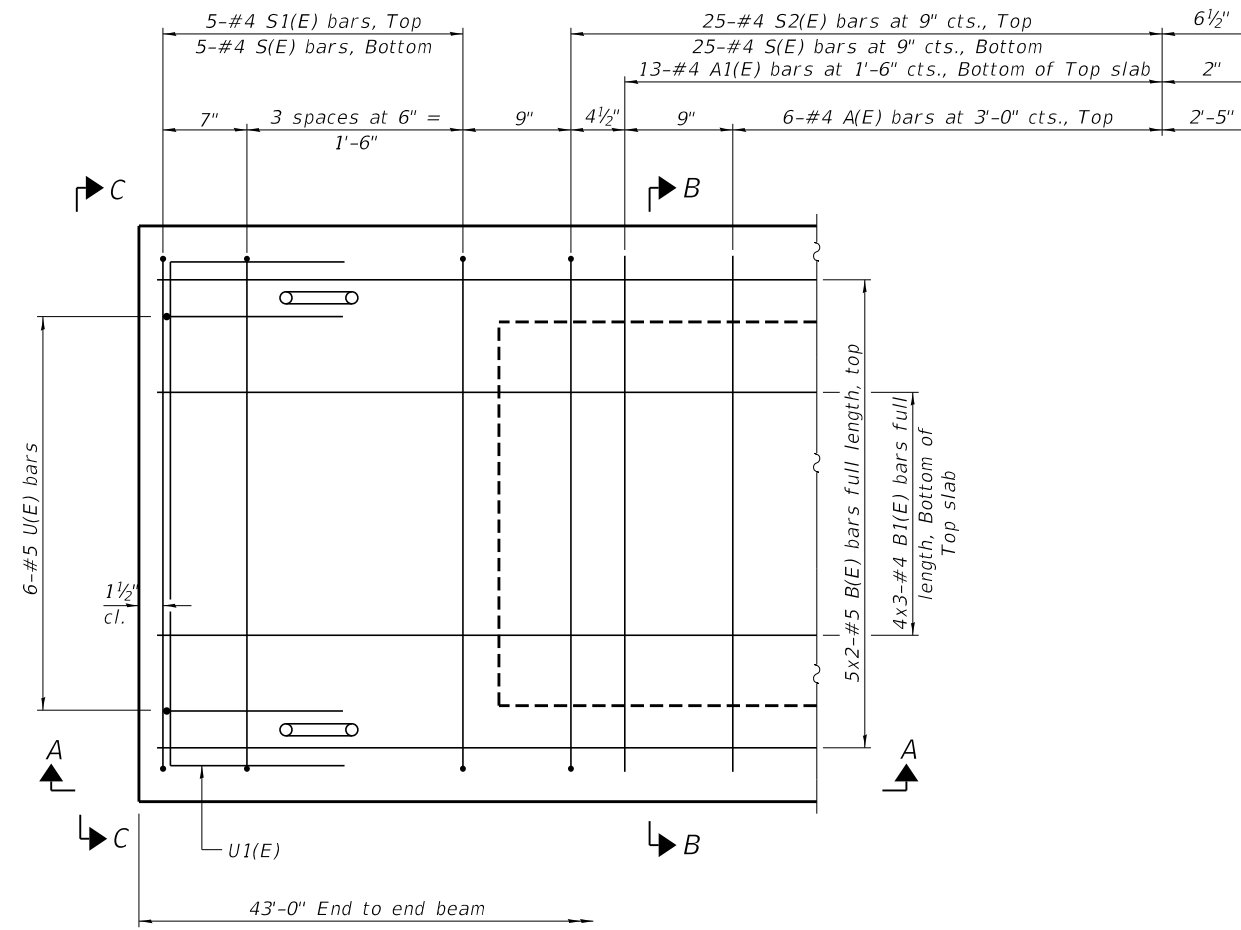
SECTION A-A



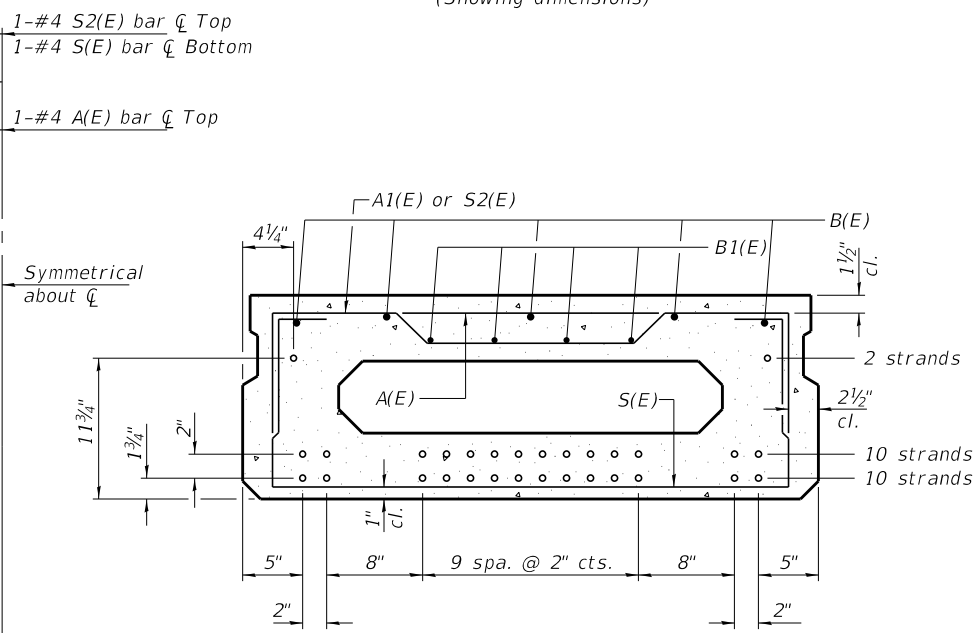
SECTION B-B
(Showing dimensions)



VIEW C-C



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)	13	#4	3'-7"	—
A1(E)	26	#4	3'-10"	~
B(E)	10	#5	22'-8"	—
B1(E)	12	#4	15'-7"	—
S(E)	61	#4	6'-9"	⌊
S1(E)	10	#4	5'-3"	⌊
S2(E)	51	#4	5'-6"	⌊
U(E)	12	#5	3'-8"	⌊
U1(E)	2	#4	6'-0"	⌊

Note: See sheet 3 & 4 of 9 for additional details and Bill of Material.

MINIMUM BAR LAP
#4 bar = 1'-11"
#5 bar = 2'-6"

Notes:
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.
Bars indicated thus 5x2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

PD-1748-0 2-17-2017

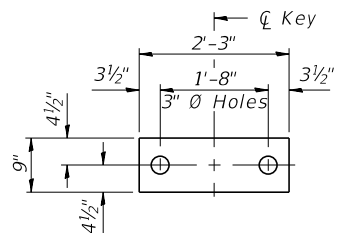
FILE NAME = 170012-shl-bridge.dgn	USER NAME = rmosick	DESIGNED - R.D.H.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	CHECKED - J.R.B.	REVISED -
PLOT DATE = 10/12/2018		DRAWN - R.D.H.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

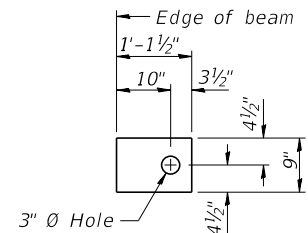
17" x 48" PPC DECK BEAM
STRUCTURE NO. 087-3591

SHEET NO. 2 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
97A	17-24119-00-BR	SHELBY	20	13
WINDSOR ROAD DISTRICT		CONTRACT NO. 95840		
ILLINOIS		FED. AID PROJECT SKK8(956)		



FABRIC BEARING PAD
(Interior - 10 Req'd.)

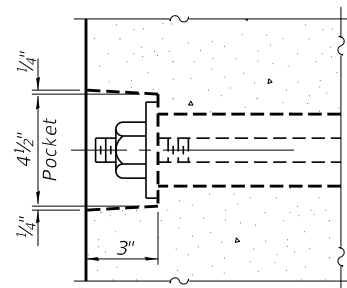


FABRIC BEARING PAD
(Exterior - 4 Req'd.)

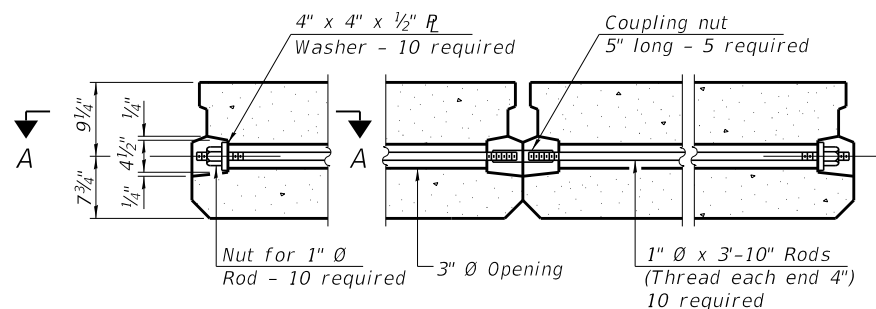
FIXED

Notes:

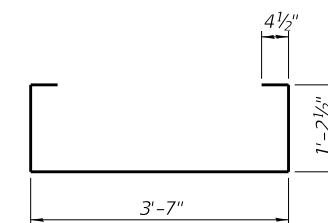
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



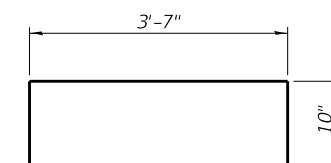
SECTION A-A



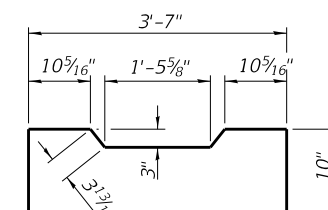
TYPICAL TRANSVERSE TIE ASSEMBLY



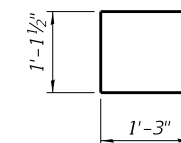
BAR S(E)



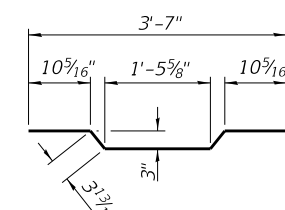
BAR S1(E)



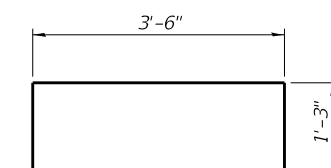
BAR S2(E)



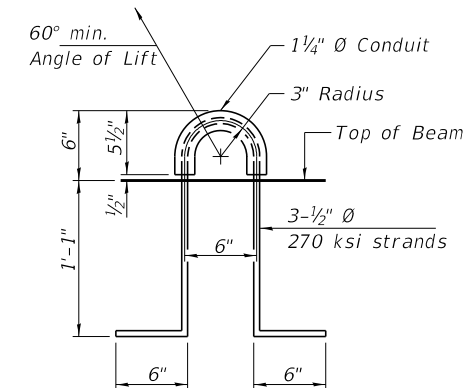
BAR U(E)



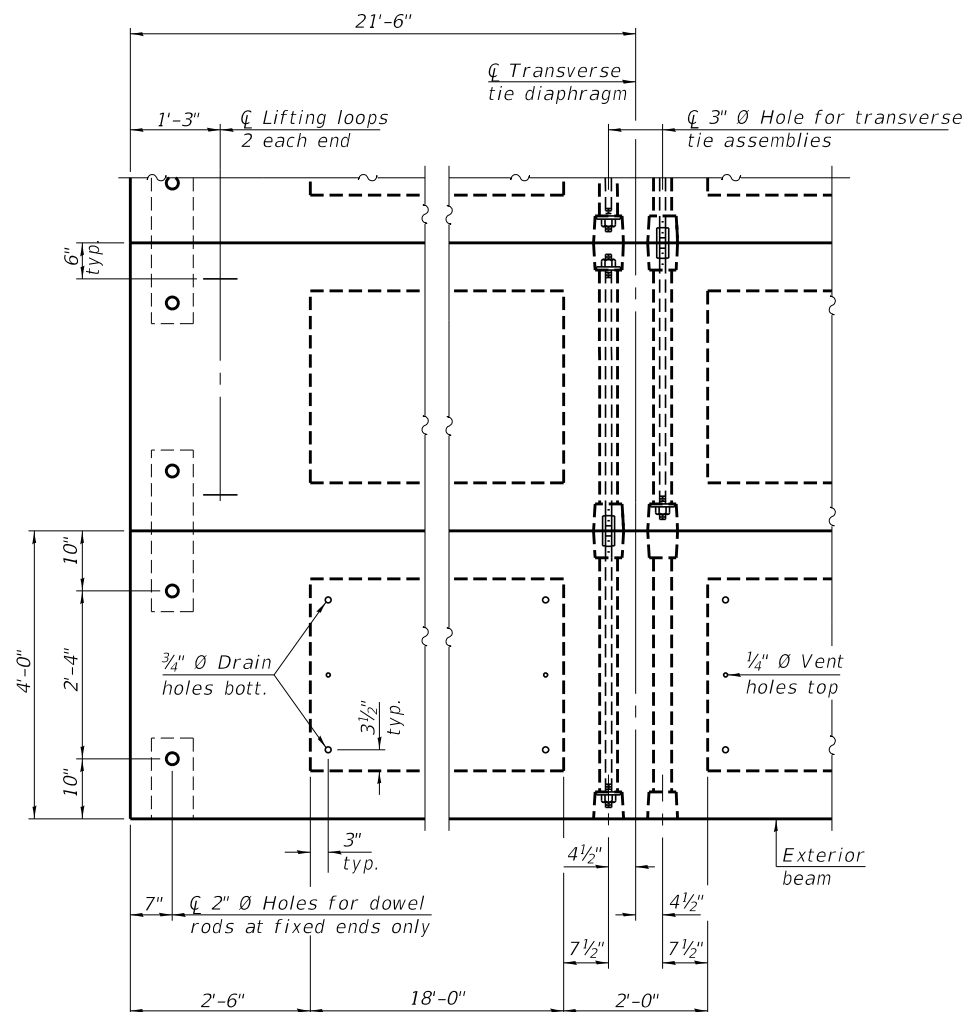
BAR A1(E)



BAR U1(E)



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" 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.
- 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)(10) and 1021.07 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.
- Reinforcement bars designated (E) shall be epoxy coated.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1,032
---	---------	-------

Note:
The loop shall be formed in a manner such that all strands are engaged during lifting. Lifting Loops shall be cut and ground off. Burning of the Lifting Loops will not be allowed. Lifting Loops shall be ground off level with the surface of the deck beams and protected with a two-compound epoxy in accordance with Article 1025.03

PD-1748-0D 2-17-2017

FILE NAME = 170012-shl-bridge.dgn	USER NAME = rmosick	DESIGNED - R.D.H.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	CHECKED - J.R.B.	REVISED -
	PLOT DATE = 10/12/2018	DRAWN - R.D.H.	REVISED -
		CHECKED - S.W.M.	REVISED -

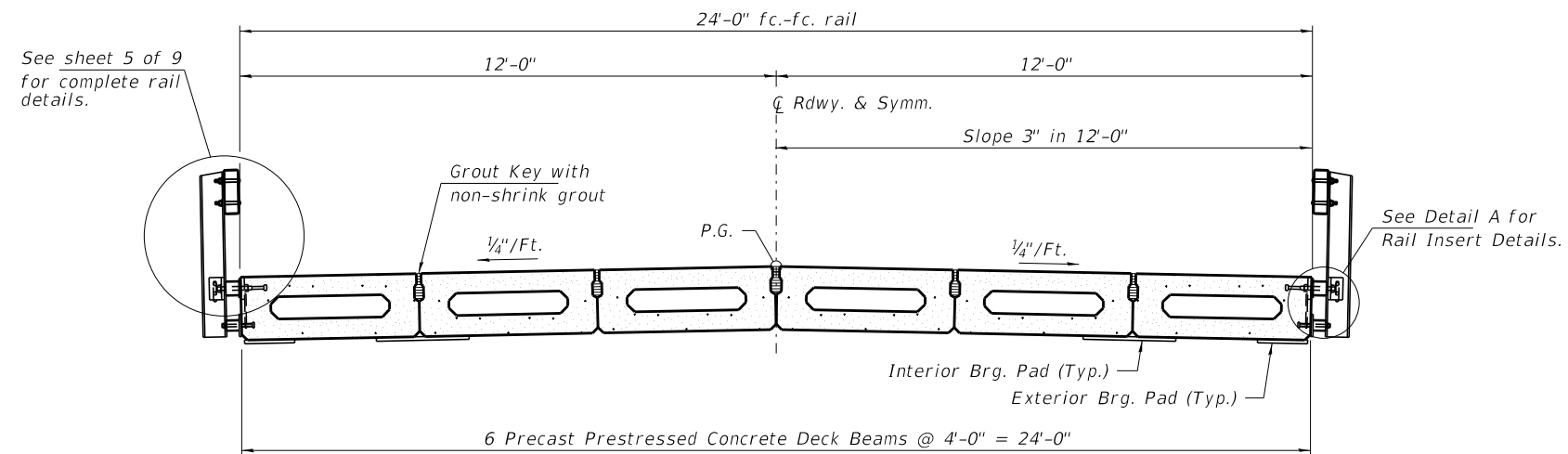
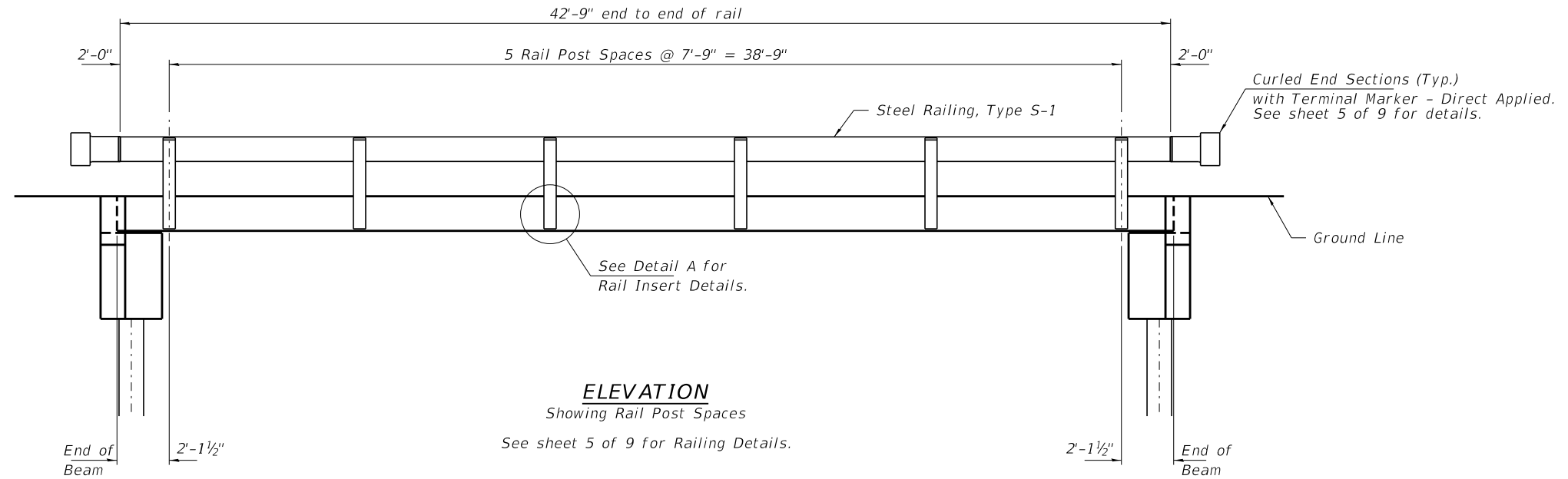
STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

17" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 087-3591

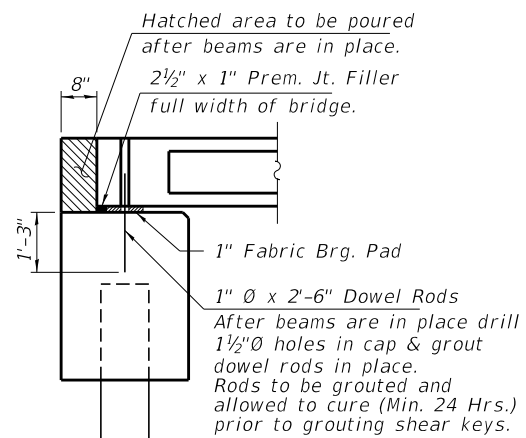
SHEET NO. 3 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
97A	17-24119-00-BR	SHELBY	20	14
WINDSOR ROAD DISTRICT		CONTRACT NO. 95840		

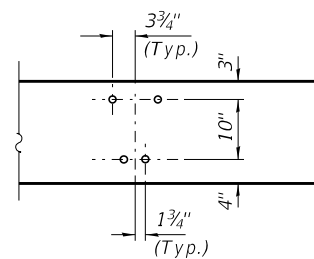
ILLINOIS FED. AID PROJECT SKK8(956)



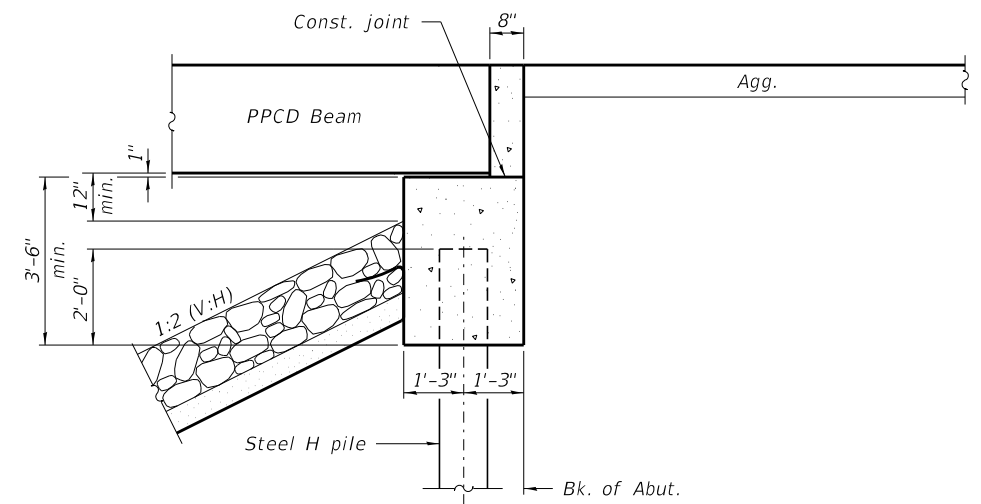
CROSS SECTION
See sheets 2 & 3 of 9 for Superstructure.



SECTION AT ABUTMENTS
@ Rt. L's

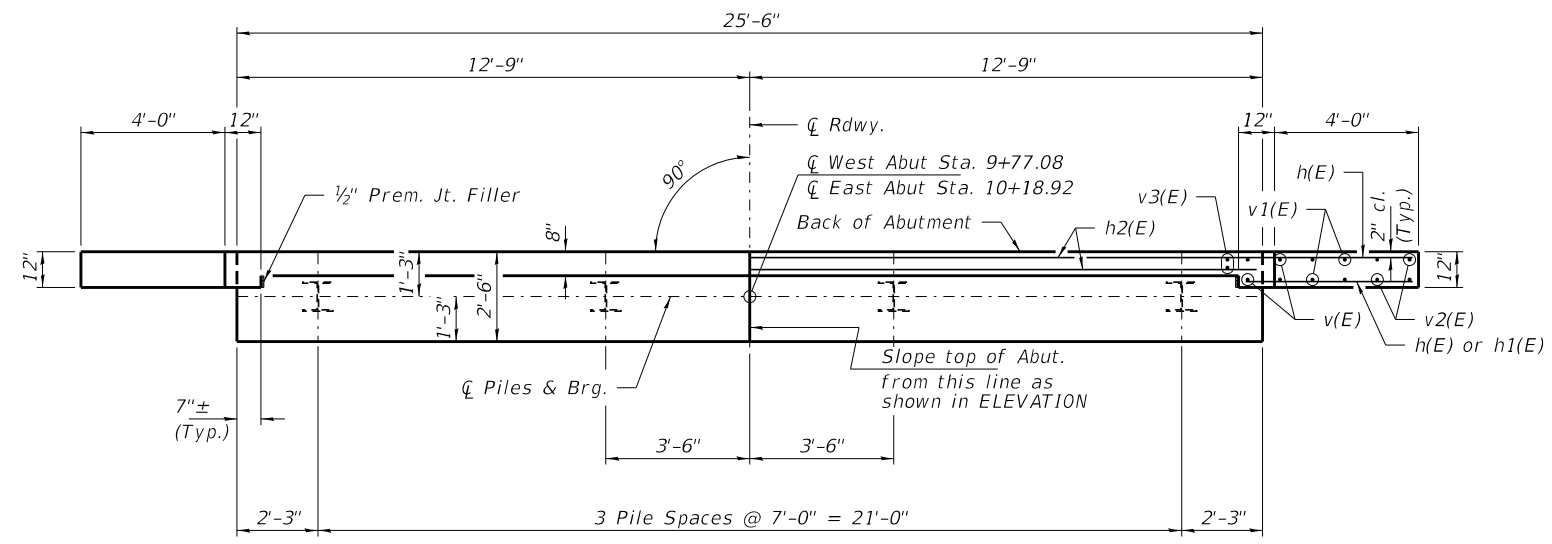


DETAIL A

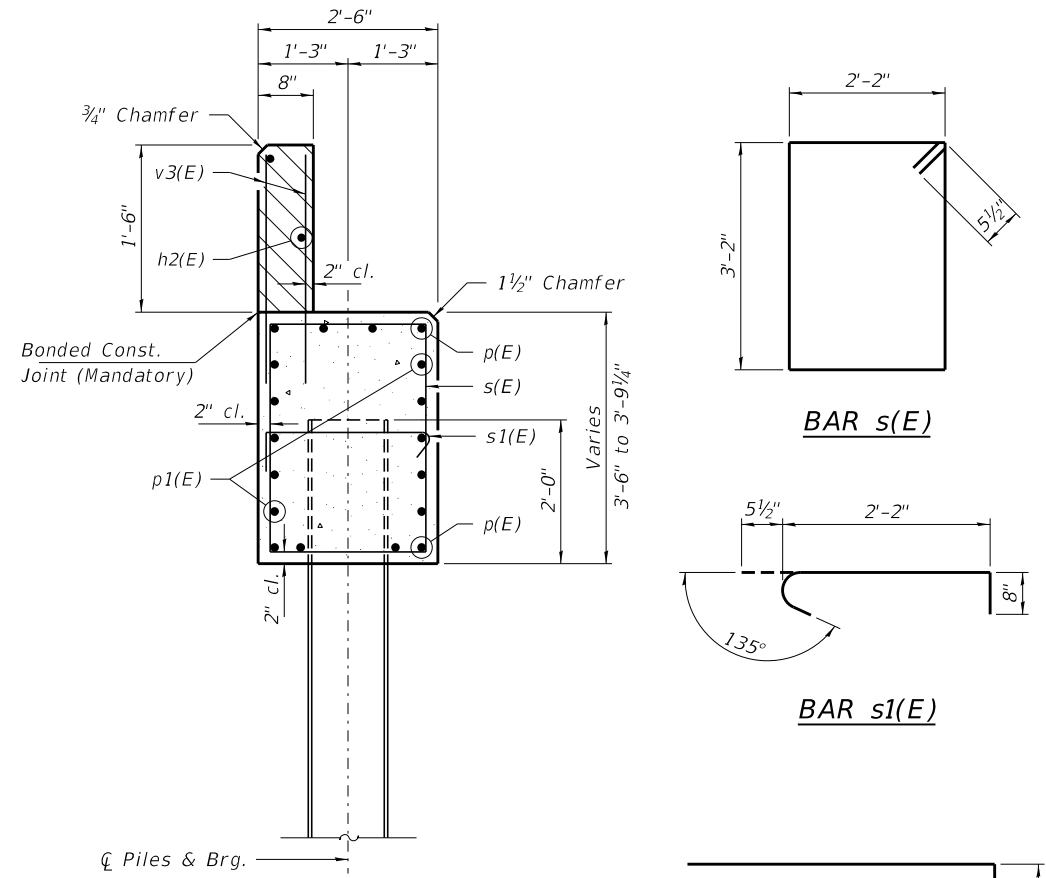


SECTION THRU ABUTMENT
(Horiz. dim. @ Rt. L's)

FILE NAME = 170012-shl-bridge.dgn	USER NAME = rmosck	DESIGNED - R.D.H.	REVISED -	STATE OF ILLINOIS SHELBY COUNTY HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 087-3591	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - J.R.B.	REVISED -			97A	17-24119-00-BR	SHELBY	20	15
	PLOT SCALE =	DRAWN - R.D.H.	REVISED -			WINDSOR ROAD DISTRICT		CONTRACT NO. 95840		
	PLOT DATE = 10/12/2018	CHECKED - S.W.M.	REVISED -			ILLINOIS		FED. AID PROJECT SKK8(956)		
					SHEET NO. 4 OF 9 SHEETS					



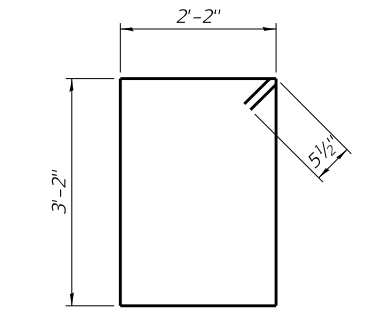
PLAN



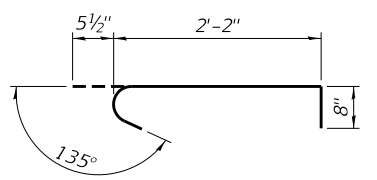
SECTION A-A

Hatched area to be poured after beams are in place.

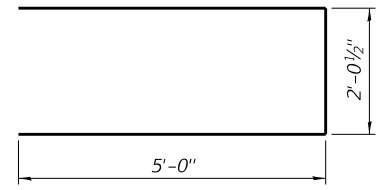
Cast top of wingwall flush with exterior beam face after beams have been erected.



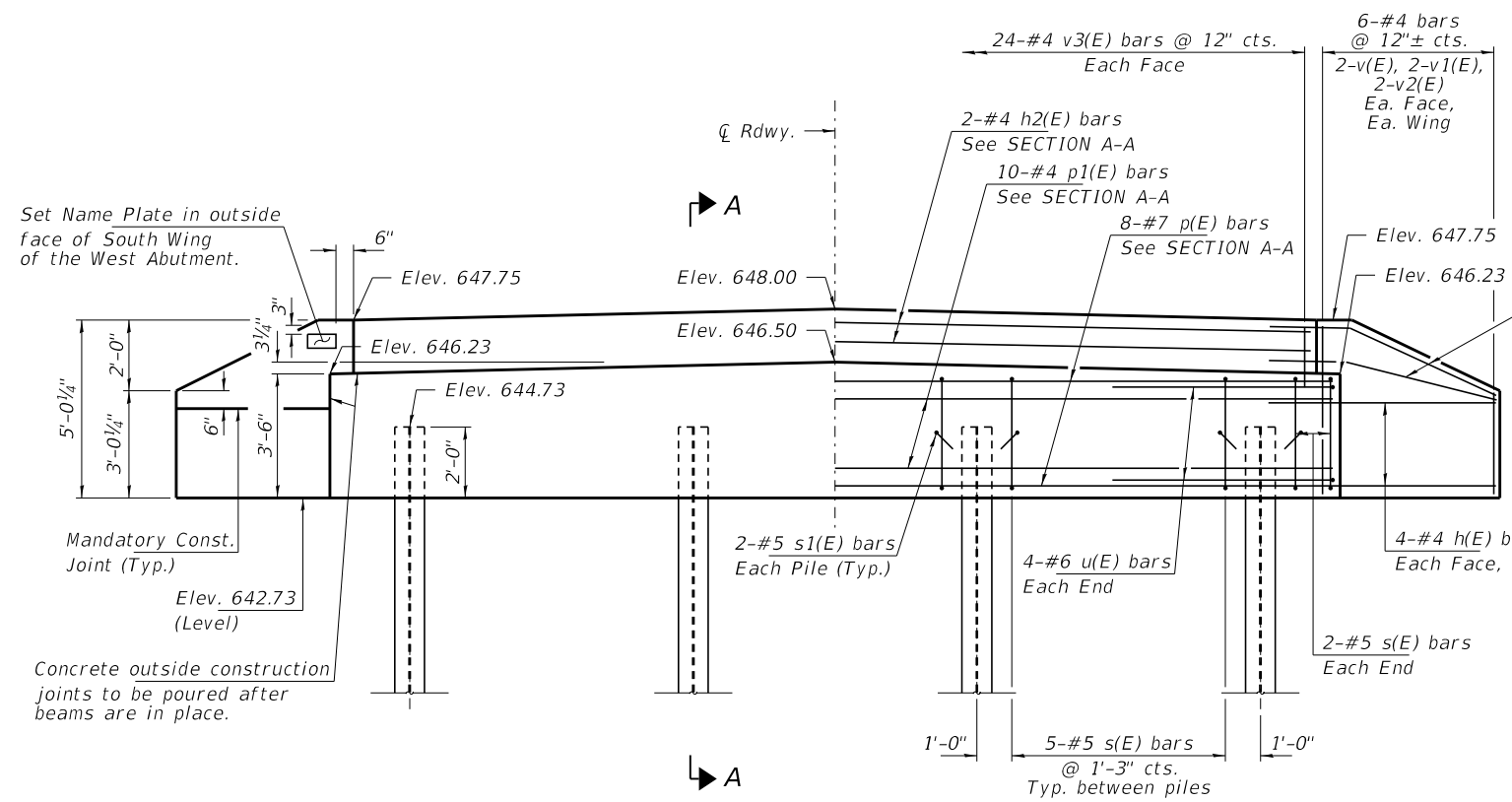
BAR s(E)



BAR s1(E)



BAR u(E)



ELEVATION

Note: Extend h(E) bars into abutment cap.

PILE DATA

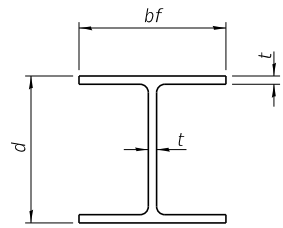
Type _____ Steel HP10x42
 No. Req'd. (2 Abuts.) _____ *8
 Factored Resistance Available (Rf) _____ 184 Kips/Pile
 Nominal Required Bearing (Rn) _____ 335 Kips/Pile
 Est. Length _____ 70 Ft/Pile

Notes: * Includes one test pile to be driven in a permanent location at the West Abutment.

The test pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

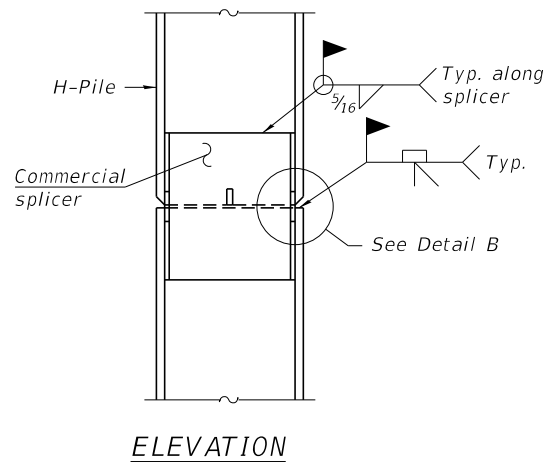
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE	
h(E)	40	#4	6'-3"	—	
h1(E)	8	#4	4'-9"	—	
h2(E)	4	#4	25'-2"	—	
p(E)	16	#7	25'-2"	—	
p1(E)	20	#4	25'-2"	—	
s(E)	38	#5	11'-7"	□	
s1(E)	16	#5	3'-4"	J	
u(E)	16	#6	12'-1"	U	
v(E)	16	#4	4'-7"	—	
v1(E)	16	#4	3'-8"	—	
v2(E)	16	#4	2'-9"	—	
v3(E)	96	#4	2'-4"	—	
Concrete Structures				Cu. Yd.	21.8
Reinforcement Bars, Epoxy Coated				Pound	2,490
Steel Piles HP10x42				Foot	490
Test Pile Steel HP10x42				Each	1
Name Plates				Each	1

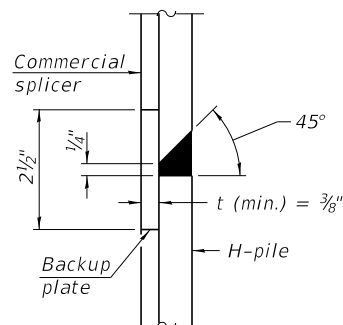


STEEL PILE TABLE

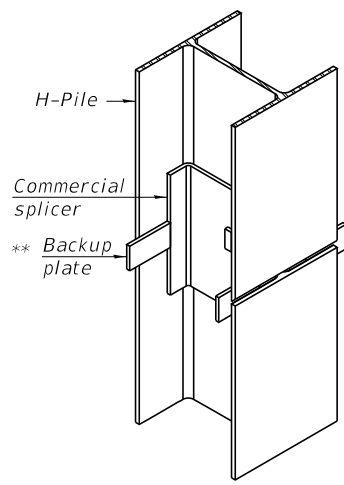
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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

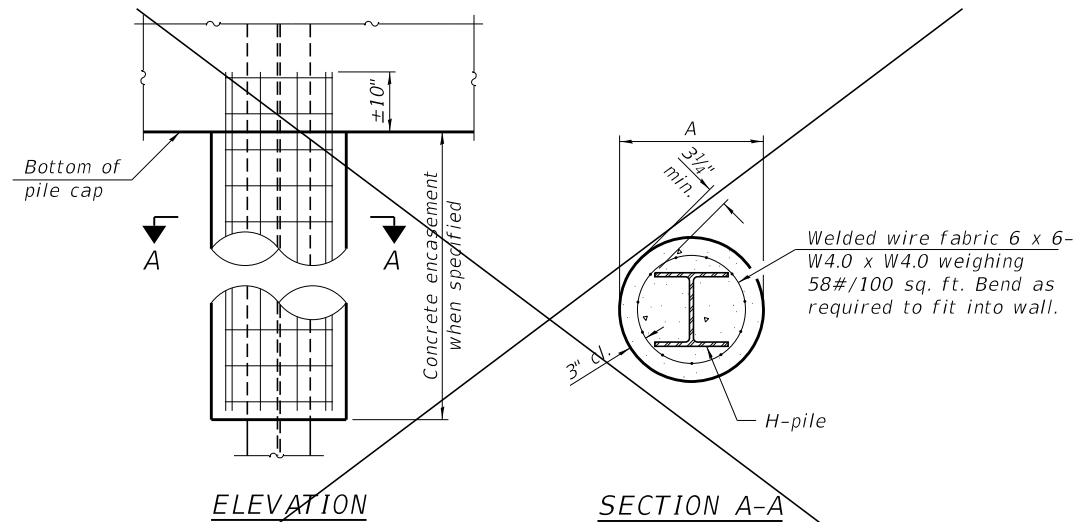


DETAIL "B"



ISOMETRIC VIEW

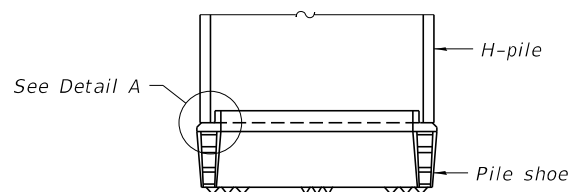
WELDED COMMERCIAL SPLICE



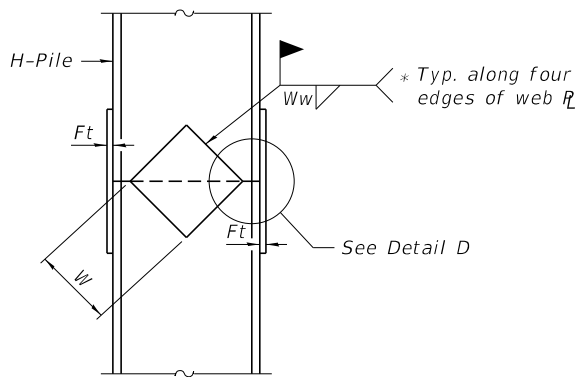
ELEVATION

SECTION A-A

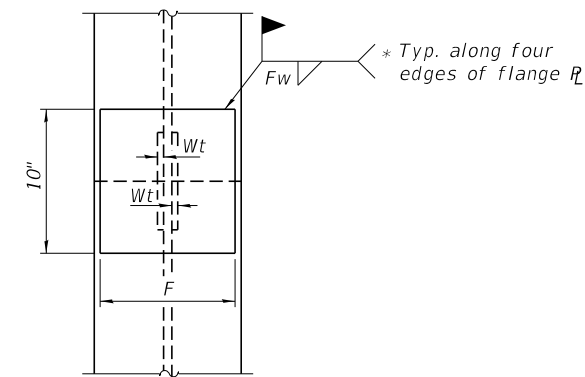
INDIVIDUAL PILE CONCRETE ENCASUREMENT
 (Forms for encasement may be omitted when soil conditions permit).
 (Not Required)



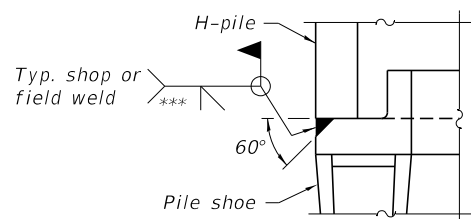
ELEVATION



ELEVATION

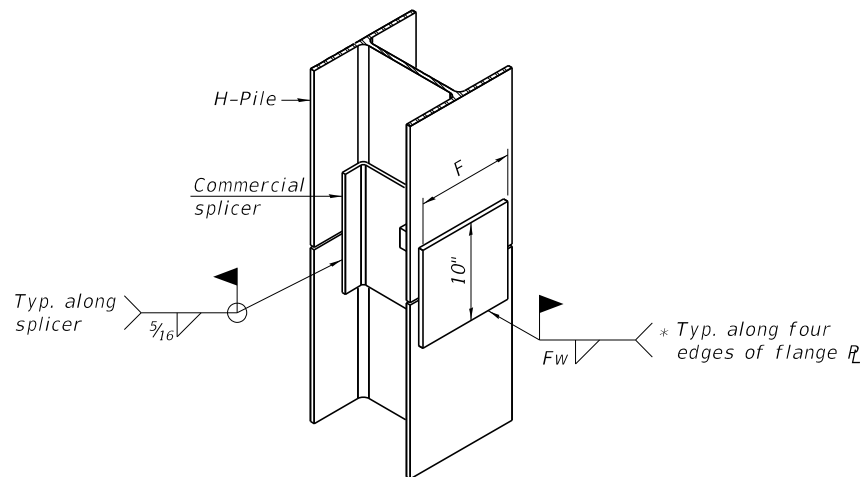


END VIEW



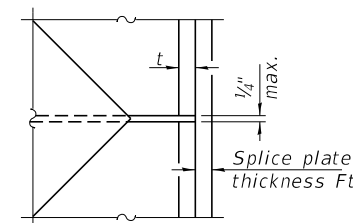
DETAIL A

SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE



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 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 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 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.

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

F-HP 8-11-2017

FILE NAME = 170012-shl-bridge.dgn	USER NAME = rmosck	DESIGNED - R.D.H.	REvised -	STATE OF ILLINOIS SHELBY COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 087-3591	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	CHECKED - J.R.B.	REvised -			97A	17-24119-00-BR	SHELBY	20	18
	PLOT DATE = 10/12/2018	DRAWN - R.D.H.	REvised -			WINDSOR ROAD DISTRICT		CONTRACT NO. 95840		
		CHECKED - S.W.M.	REvised -			ILLINOIS		FED. AID PROJECT SKK8(956)		

