06-14-2019 LETTING ITEM 242

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 179	16-09124 -00-BR	CLAY	25	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95850	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM OFF SYSTEM BRIDGE

PROJECT M3XU(565)
SECTION 16-09124-00-BR
PIXLEY TOWNSHIP
CLAY COUNTY
T.R. 179 / QUARTZ LANE
PROPOSED STRUCTURE NO. 013-3252
C-97-050-18

LOCATION OF SECTION INDICATED THUS:- ▬

UTILITIES

CLAY ELECTRIC CO-OP
P.O. BOX 517
7784 OLD HWY. 50
FLORA, IL 62839

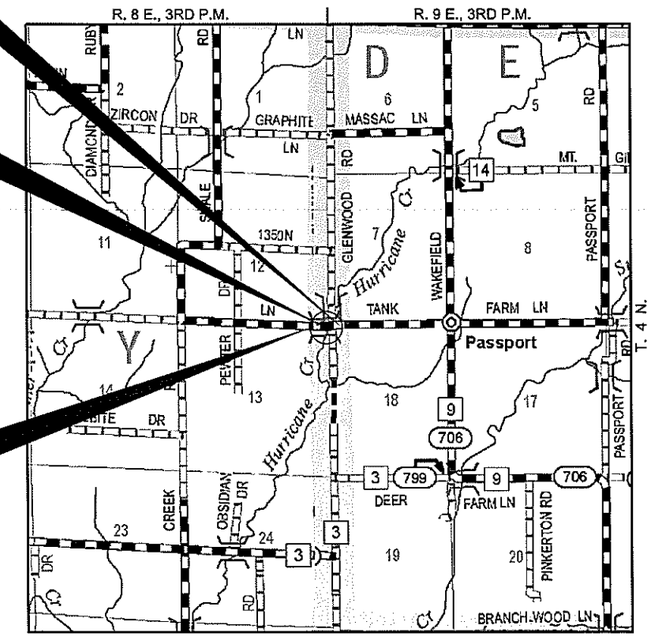
EJ WATER COOPERATIVE, INC.
P.O. BOX 8
108 S. MAIN ST.
DIETERICH, IL 62424

WABASH COMMUNICATIONS CO-OP
210 S. CHURCH ST.
LOUISVILLE, IL 62858

IMPROVEMENT ENDS STATION 52+50

STA. 50+02
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE. SINGLE SPAN @ 70'-0"
24'-0" RDWY.; SKEW = 20°
EXISTING STRUCTURE NO. 013-3084
PROPOSED STRUCTURE NO. 013-3252

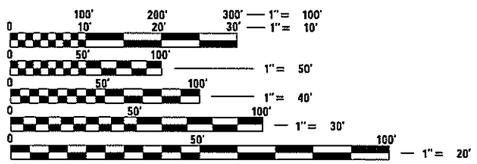
IMPROVEMENT BEGINS STATION 46+50



LOCATION MAP

APPROXIMATE SCALE: 0 ½ MILE

NET LENGTH OF SECTION = 600 FEET = 0.114 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:	50 ADT

WARNING

CALL J.U.L.I.E. TOLL FREE 1-800-892-0123

CALL 811 BEFORE YOU DIG

DIG NO: X1701155

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 4.1.19
COUNTY ENGINEER

APPROVED 4.1.19
TOWNSHIP COMMISSIONER

PASSED 4-11-19
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review 4-11-19
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 03/28/2019
STEVEN W. REGGERSON 062-5005 LICENSED PROFESSIONAL ENGINEER STATE OF ILLINOIS
EXPIRES: 11/30/2019

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 17.0520.130 DATE: 03/28/19

CONTRACT NO. 95850 PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES

	ITEM NO.	ITEM	CONSTRUCTION TYPE CODE 0010 UNIT	TOTAL
	20200100	EARTH EXCAVATION	CU YD	170
	20300100	CHANNEL EXCAVATION	CU YD	40
	20400800	FURNISHED EXCAVATION	CU YD	2,005
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	515
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50300225	CONCRETE STRUCTURES	CU YD	28.0
	50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1,680
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,080
*	50900205	STEEL RAILING, TYPE S1	FOOT	146
	51201400	FURNISHING STEEL PILES HP10X42	FOOT	270
	51202305	DRIVING PILES	FOOT	270
	51203400	TEST PILE STEEL HP10X42	EACH	1
	51500100	NAME PLATES	EACH	1
	59300100	CONTROLLED LOW-STRENGTH MATERAL	CU YD	75
*	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
*	63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
	67100100	MOBILIZATION	L SUM	1
^	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4
^	X2810208	STONE RIPRAP, CLASS A4 (SPECIAL)	TON	370

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

GENERAL NOTES

1) ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016", (HERE IN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED JANUARY 1, 2019; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE "SPECIAL PROVISIONS" INCLUDED IN THE DOCUMENTS.

2) ALL CLEARING AND GRUBBING, TREE REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. THE REMOVAL OF THE EXISTING BITUMINOUS SURFACE WILL BE PAID FOR AS EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. PROPER DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

3) 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.

4) THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES, WATER SERVICE LINES, GAS MAINS, AND OTHER UTILITY FACILITIES AS SHOWN ON THE PLANS ARE BASED ON 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.

5) THE REVISION NUMBER INDICATED FOR THE STANDARS LISTED IN THE INDEX SHEETS SHALL BE USED IN THE CONSTRUCTION OF THIS SECTION.

6) THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.

7) THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES

AGGREGATE SURFACE COURSE	2.05 TON/CU.YD.
STONE RIPRAP, CLASS A4	1.75 TON/CU.YD.

8) EARTH SURFACES SHALL BE SEEDED WITHIN 14 DAYS OF THE END OF ACTIVE DISTURBANCE. THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AND AS DIRECTED BY THE ENGINEER.
ESTIMATED AREAS OF SEEDING: **SEEDING, CLASS 2 (SPECIAL) 0.40 ACRES**

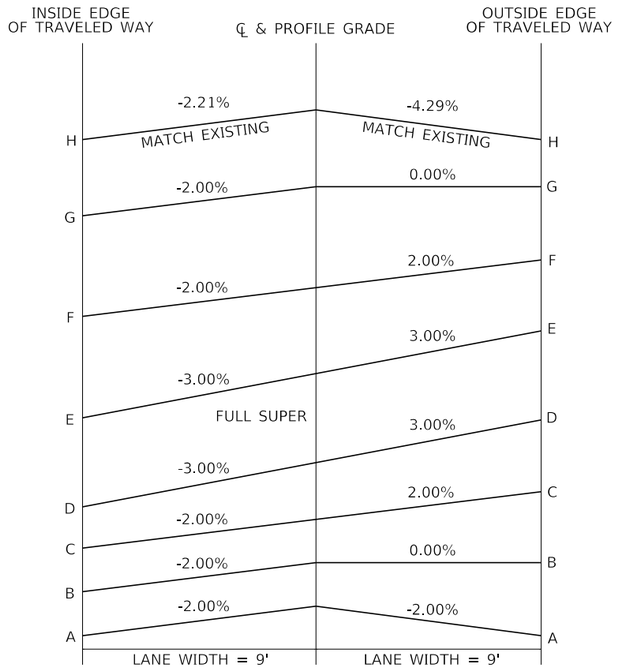
9) ANY SUITABLE MATERIAL FROM EXCAVATION IN THE CHANNEL MAY BE USED IN THE CONSTRUCTION AT THE ROADWAY EMBANKMENTS AS DIRECTED BY THE ENGINEER, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

10) COMMITMENTS:
   1) THE CONTRACTOR SHALL INSPECT THE STRUCTURE FOR SIGNS OF BAT USAGE PRIOR TO WORK IF CONSTRUCTION BEGINS BEFORE NOVEMBER 2020.
   2) TREES GREATER THAN 3" DIA. SHALL NOT BE CLEARED FROM APRIL 1 TO SEPTEMBER 30.

EARTHWORK SUMMARY

LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE(25%)	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD			CUBIC YARD	CUBIC YARD	CUBIC YARD
TR 179 / Quartz Lane							
STA. 46+50 TO STA. 49+66.29	116		25.00%	100.00%	87	896	-809
STA. 49+66.29 TO STA. 50+37.71		40	25.00%	70.00%	21		21
STA. 50+37.71 TO STA. 52+50	54		25.00%	100.00%	40	1255	-1215
TOTAL	170	40			148	2151	-2003
USE	170	40					2005

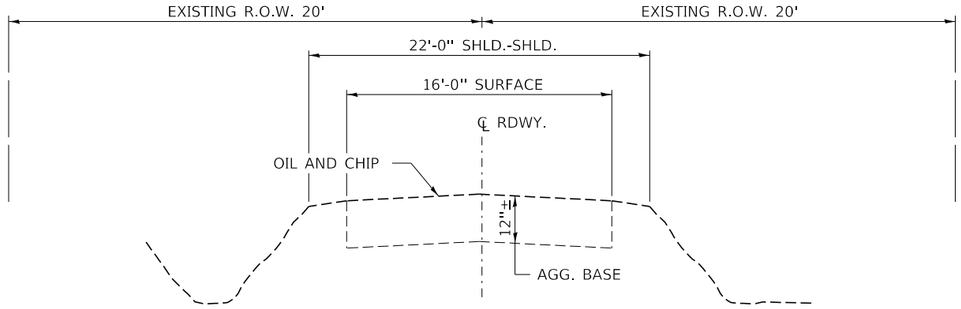
FURNISHED 2005 CU YDS



CURVE 1 SUPERELEVATION TRANSITION			
		CROSS SLOPE	
LOCATION	STATION	LEFT	RIGHT
A	48+86.00	-2.00%	-2.00%
B	49+13.40	-2.00%	0.00%
C	49+40.80	-2.00%	2.00%
D	49+54.40	-3.00%	3.00%
FULL SUPER			
E	51+90.00	-3.00%	3.00%
F	52+03.60	-2.00%	2.00%
G	52+31.00	-2.00%	0.00%
H	52+50.00	-2.21%	-4.29%

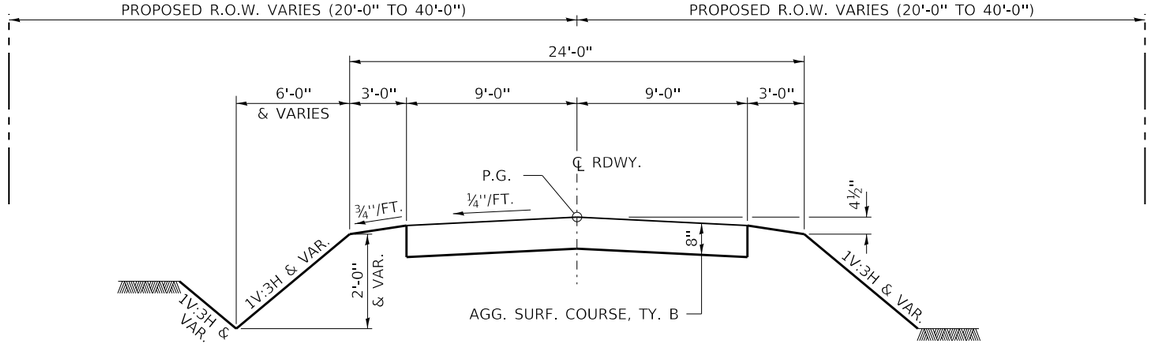
SUPERELEVATION TRANSITIONS

NOTE PT TRANSITION SPECIAL TO MATCH EXISTING PAVEMENT



EXISTING TYPICAL CROSS SECTION

STA. 46+50 TO 52+50

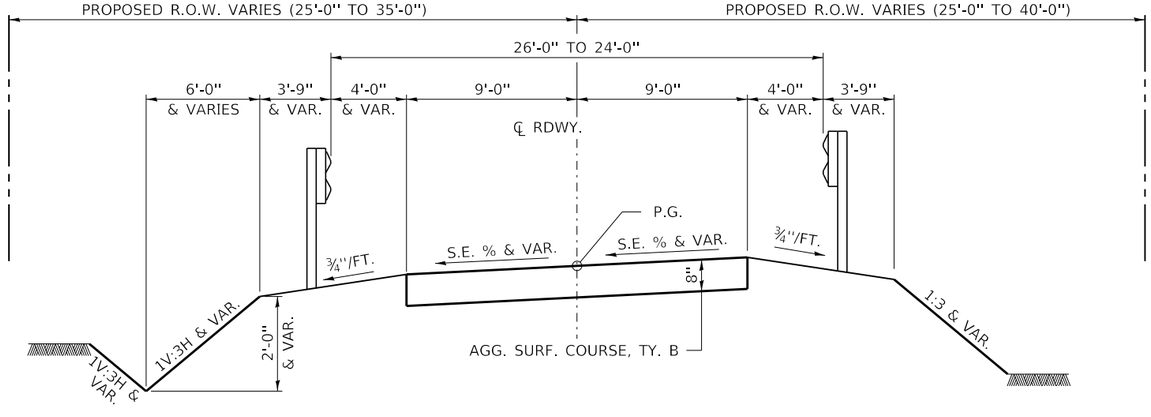


SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION

STA. 46+50 TO 48+86



SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION

STA. 48+86 TO 52+50

SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TRANSITIONS FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY ARE TO BE CONSTRUCTED FROM STA. 46+50 TO 47+00 AND STA. 52+00 TO 52+50.

FILE NAME = 170520-sht-typsections.dgn	USER NAME = rhosick	DESIGNED - J.W.F	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP: 184.000959		DRAWN - M.M.P.	REVISED -
	PLOT SCALE = $SCALES	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

TYPICAL CROSS SECTIONS

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	3
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS FED. AID PROJECT M3XU(565)			

JAMES DREWS
SE¼, SEC 12, T. 4 N., R. 8 E., 3RD P.M.

P.O.T. STA. 45+99.03
(TO BE SET)
N. 17683.7956
E. 14661.2518

CROPLAND

TIMBER

P.C. STA. 49+96.48
(TO BE SET)
N. 17661.8224
E. 15058.0948

N

0 20' 40'
GRAPHIC SCALE

PROPOSED R.O.W. LINE

49+00.00
40.00' LT

47+75.00
20.00' LT

CONSTRUCTION LIMITS

℄ PROPOSED IMPROVEMENT

HURRICANE

49+96.48
40.00' LT

51+00.00
40.00' LT

BM#2

POT STA. 45+99.03

20' R.O.W.

20' EXIST.

46 T.R. 179 / QUARTZ LN
OIL & CHIP

47 48 49 50 51

+10.29 13' LT.
+47.79 13' LT.
+48.00 13' LT.
+86.23 13' LT.

70°

PCP STA. 49+96.48

MATCH LINE STA. 51+00

IMPROVEMENT BEGINS
STATION 46+50

48+00.00
20.00' RT

CONSTRUCTION LIMITS

PROPOSED R.O.W. LINE

+19.39 13' RT.
+56.89 13' RT.
+55.22 13' RT.
+92.01 13' RT.

CP#1
CP#2

49+00.00
40.00' RT

49+96.48
40.00' RT

51+00.00
40.00' RT

GRASS

CREEK

BM#1

TIMBER

STA. 50+02
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE
SINGLE SPAN @ 70'-0", 24' RDWY; SKEW = 20°
S.E. RATE = 3.0%
PROPOSED SN 013-3252

EXISTING STRUCTURE NO. 013-3084

STATION 50+00 - SINGLE SPAN CAST IN PLACE CONC. BRIDGE WITH CONCRETE PARAPETS ON CLOSED CONCRETE ABUTMENTS AND WINGWALLS.
49.98' BK.-BK. ABUTS; 19.00' o.-o. DECK

GREGORY A. & MARILYN PHILLIPS
NE¼, SEC 13, T. 4 N., R. 8 E., 3RD P.M.

PLAN
SURVEYED
PLOTTED
COORDS CHECKED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
COORDS CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

BM#1 - RR SPIKE IN 8" LOCUST TREE
60' RT., STA. 50+00
ELEV. 440.44

BM#2 - RR SPIKE IN 12" ASH TREE
32' LT., STA. 50+98
ELEV. 439.24

460 455 450 445 440 435 430 425 420

VPI STA. 47+60
ELEV. 437.00
K = 38
220' V.C.

VPI STA. 49+15
ELEV. 443.60
K = 34
90' V.C.

FUTURE ROAD ELEV.
442.0 MAX

PROPOSED ℄ GRADE

EXISTING ℄ GRADE

-1.55%
+4.26%
-0.50%
+1.60%

437.00 LT. & RT.

100 YEAR H.W. ELEV. 443.2
15 YEAR H.W. ELEV. 441.8

CHANNEL EXCAVATION

ELEV. 429.9

STONE RIPRAP, CLASS A4 (SPL)

* - 1V:2H @ RT ∠'s

439.46	438.70 438.70	438.15 438.26	437.99 438.47	437.95 439.35	438.04 440.89	438.33 442.83	439.02 444.15	430.07 444.96	439.98 445.76	441.40 446.56
46+00	46+50	47+00	47+50	48+00	48+50	49+00	49+50	50+00	50+50	51+00

FILE NAME = 170520-sht-planprf.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

PLAN & PROFILE
QUARTZ LN

SCALE: 5V:20H | SHEET NO. 1 OF 2 SHEETS | STA. 46+00 TO STA. 51+00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	4
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS FED. AID PROJECT M3XU(565)			

PI STA. 51+20.25
Δ = 20° 36' 08" (LT)
D = 8° 24' 49"
T = 123.77'
R = 681.00'
L = 244.87'
E = 11.16'
PC STA. 49+96.48
PT STA. 52+41.35
S.E. = 3.0%
S.E. TRANSITION
STA. 48+86.00 TO STA. 49+54.40
STA. 51+90.00 TO STA. 52+03.60

P.I. STA. 51+20.25
(TO BE SET)
N. 17654.9797
E. 15181.6770

JAMES K. & DONNA RUSSELL
SW¼, SEC 7, T. 4 N., R. 8 E., 3RD P.M.

P.T. STA. 52+41.35
(TO BE SET)
N. 17692.0601
E. 15299.7635

P.C. STA. 52+56.70
(TO BE SET)
N. 17696.6587
E. 15314.4082

N

0 20' 40'
GRAPHIC SCALE

TIMBER

52+26.20
35.00' LT

51+00.00
40.00' LT

R 40'

CONSTRUCTION LIMITS
℄ PROPOSED IMPROVEMENT

MATCH LINE STA. 51+00

51

QUARTZ LN

52

ROAD

STA. 52+37.68 MAIN LINE =
STA. 1+61.89 SIDE ROAD

20' R.O.W.

20' EXIST.

TANK FARM LN
OIL & CHIP

POT STA. 54+91.02

PT STA. 54+00.27

PI STA.51+20

PC STA. 52+56.70

IMPROVEMENT ENDS
STATION 52+50

PT STA. 52+41.35

CONSTRUCTION LIMITS

52+06.41
40.00' RT

18" CMP

51+00.00
40.00' RT

51+42.34
40.00' RT

TIMBER

GLENWOOD

CROPLAND

CURVE DATA
PI STA. 53+28.98
Δ = 16° 27' 08.5" (RT)
D = 11%d 27' 33"
T = 72.28'
R = 500.00'
L = 143.57'
E = 5.2'
PC STA. 52+56.70
PT STA. 54+00.27

ORLANDO WESLEY & BARBRA GRAY
NW¼, SEC 18, T. 4 N., R. 8 E., 3RD P.M.

NOTE:
GLENWOOD ROAD TO REMAIN OPEN TO LOCAL TRAFFIC AT ALL TIMES. TEMPORARY CLOSURE ALLOWED WITH NOTICE AND PRIOR APROVAL OF THE ENGINEER.

PLAN
DATE / BY
SURVEYED
PLOTTED
COORD'S CHECKED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.

PROFILE
DATE / BY
SURVEYED
PLOTTED
COORD'S CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.

VPI STA. 52+00
ELEV. 448.16

K = 39
90' V.C.

PROPOSED ℄ GRADE

+1.60%

+3.98%

+4.00%

EXISTING ℄ GRADE

444.00 LT.

446.00 LT.

SPECIAL DITCH LT.

460 455 450 445 440 435 430 425 420

441.40 446.56 | 443.59 447.36 | 446.63 448.43 | 450.15 450.15 | 452.03 | 453.69 | 454.61 | 455.50

51+00 51+50 52+00 52+50 53+00 53+50 54+00 54+50

FILE NAME = 170520-sht-planprf.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

PLAN & PROFILE
QUARTZ LN

SCALE: 5V:20H | SHEET NO. 2 OF 2 SHEETS | STA. 51+00 TO STA. 54+89.85

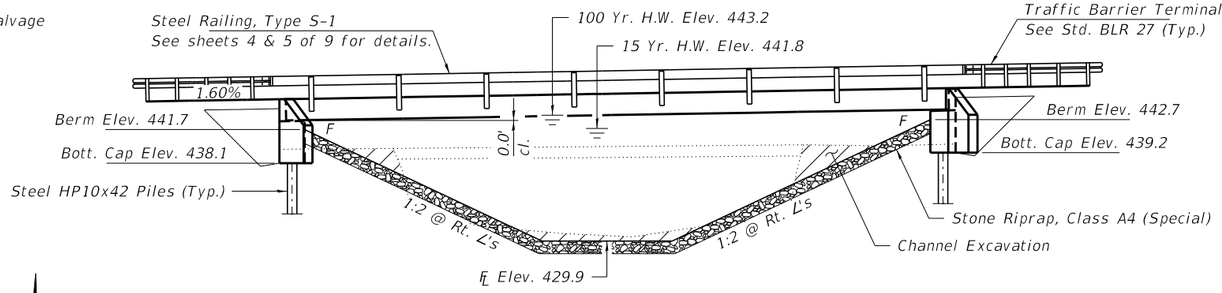
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	5
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
ILLINOIS	FED. AID PROJECT M3XU(565)			

BENCHMARK: RR spike in 12" Ash tree; 32' Lt. Station 50+98, Elev. 439.24

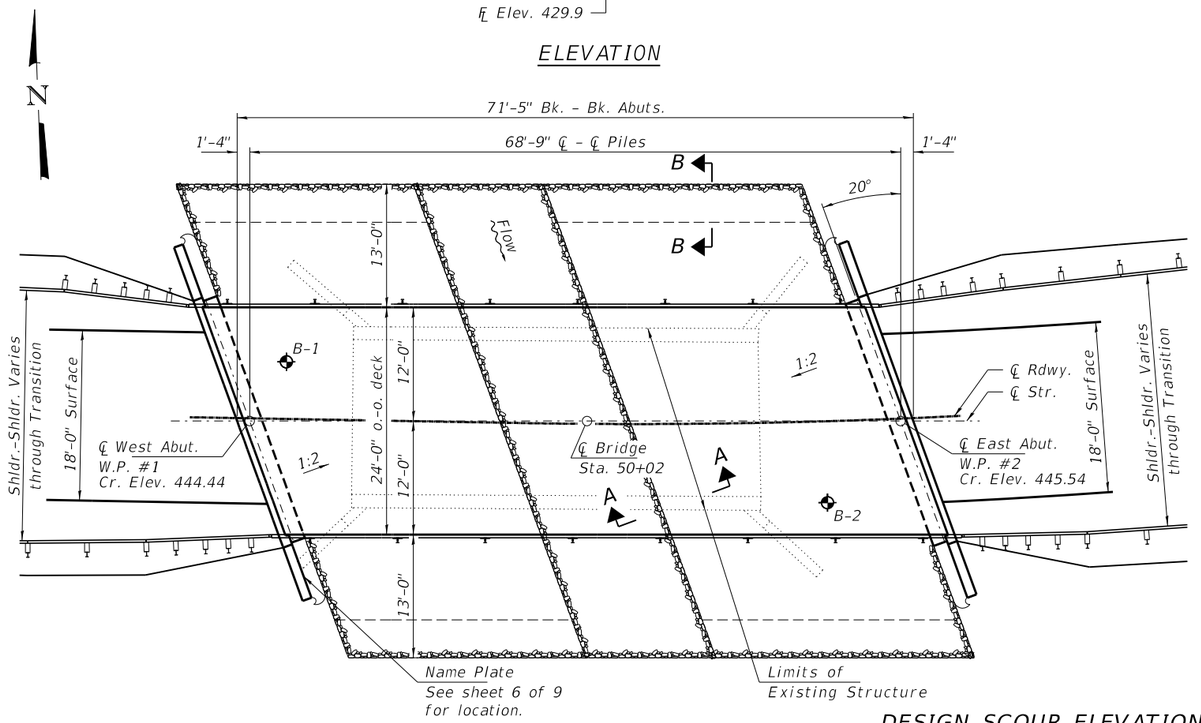
EXISTING STRUCTURE: Sta. 50+00 – Single span concrete slab bridge with concrete parapets on closed concrete abutments and wingwalls.
49.98' bk.–bk. abuts., 19.00' o.–o. deck.

Structure closed to traffic during construction.

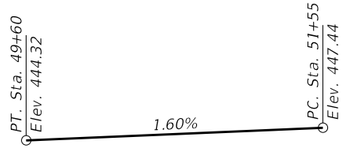
No Salvage



ELEVATION

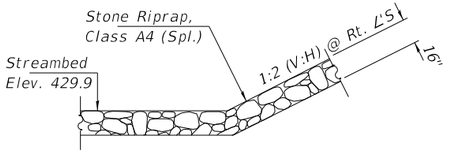


PLAN



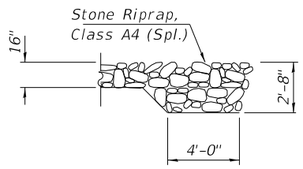
PROFILE GRADE

T.R. 179



SECTION A-A

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



SECTION B-B

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 West Abutment or approved by the Engineer before ordering the remainder of piles.

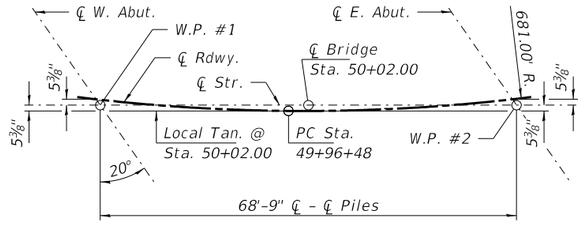
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

All bars to be epoxy coated.

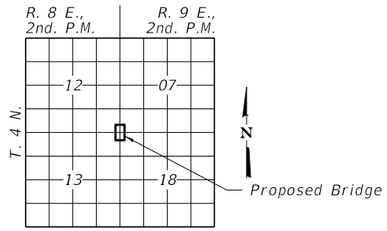
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.

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



OFFSET SKETCH



LOCATION SKETCH

HURRICANE CREEK
BUILT 201_ BY
CLAY COUNTY
SEC. 16-09124-00-BR
PIXLEY ROAD DISTRICT
STR. NO. 013-3252
LOADING HL-93

NAME PLATE

See Std. 515001

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition with all interims.

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.244g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.569g
Soil Site Class = D

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elev. (ft.)		Item 113
	S. Abut.	N. Abut.	
Q100	438.3	439.3	8
Q200	438.3	439.3	
Design	438.3	439.3	
Check	438.3	439.3	

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½"Ø low lax. strands)
fpbt = 201,960 psi (½"Ø low lax. strands)
fy = 60,000 psi (Reinf.)

WATERWAY INFORMATION

Drainage Area = 18.9 Sq. Mi.

Existing Low Grade Elev. 438.0 @ Sta. 47+50
Proposed Low Grade Elev. 438.3 @ Sta. 47+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat.	Head – Ft.		Headwater El.	
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Existing Overtop	10	2730	280	460	441.46	0.08	0.48	441.54	441.94
Design	15	3120	280	480	441.78	0.09	0.50	441.87	442.28
Base/Prop. Overtop	100	5070	280	510	443.15	0.10	0.52	443.25	443.67
Scour Check	200	5790	280	510	443.59	0.10	0.43	443.69	444.02
Max. Calc.	500	6820	280	510	444.17	0.11	0.31	444.28	444.48

10 Year Velocity through Existing Bridge = 11.1 fps
10 Year Velocity through Proposed Bridge = 6.5 fps

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 03/28/2019
ILLINOIS STRUCTURAL ENGR. NO. 081-6064

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS

Expires 11-30-2020

TOTAL BILL OF MATERIAL

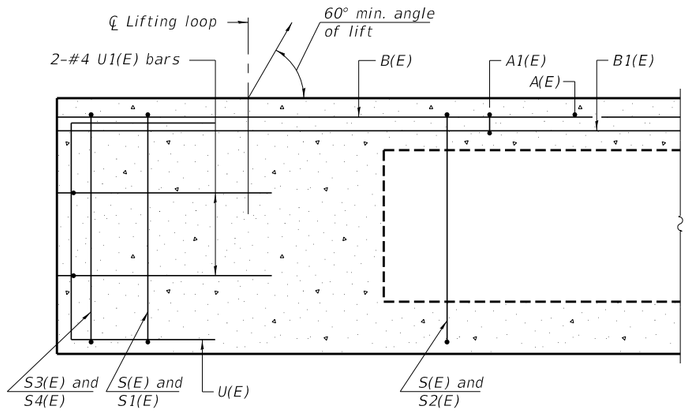
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			40
Stone Riprap, Class A4 (Special)	Ton			370
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		28.0	28.0
Precast Prestressed Conc. Deck Beams (27" Depth)	Sq. Ft.	1,680		1,680
Reinforcement Bars, Epoxy Coated	Pound		3,080	3,080
Steel Railing, Type S–1	Foot	146		146
Furnishing Steel Piles HP10x42	Foot		270	270
Driving Piles	Foot		270	270
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each		1	1
Controlled Low-Strength Material	Cu. Yd.		75	75

FILE NAME = 170520-shl-bridge.dgn	USER NAME = rhoslck	DESIGNED – J.R.B.	REVISED –
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED – S.W.M.	REVISED –
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	DRAWN – M.M.P.	REVISED –
	PLOT DATE = 3/28/2019	CHECKED – S.W.M.	REVISED –

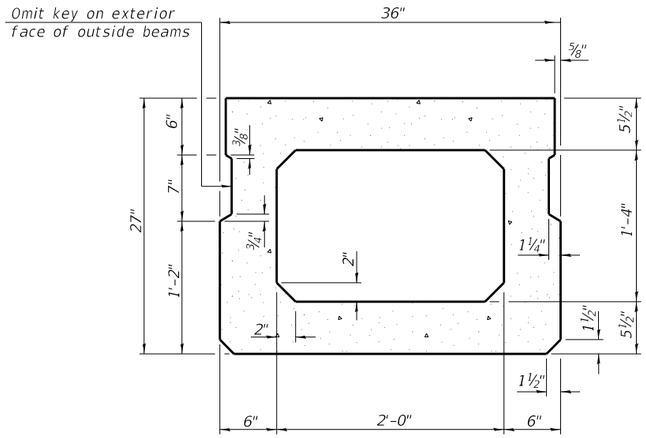
STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
STRUCTURE NO. 013-3252
SHEET NO. 1 OF 9 SHEETS

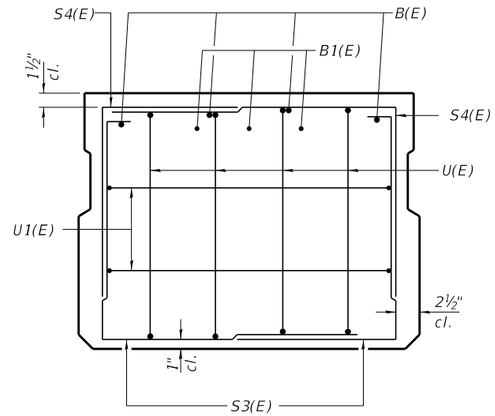
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	6
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		



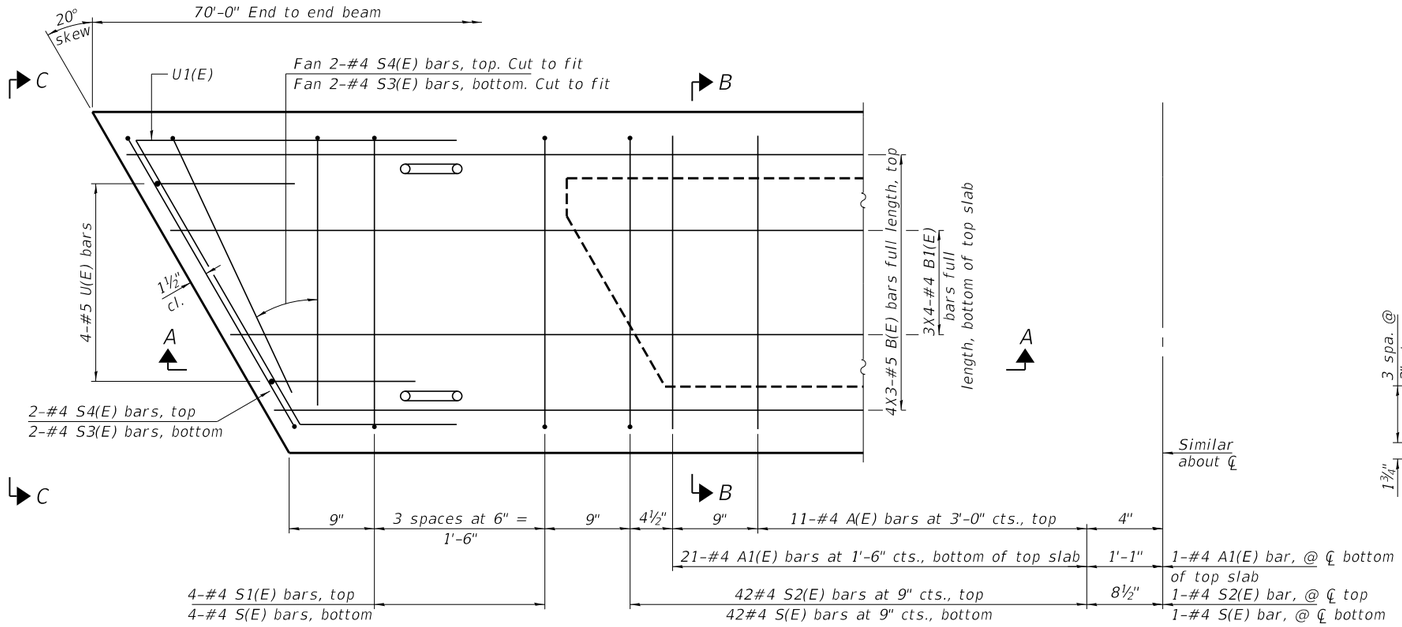
SECTION A-A



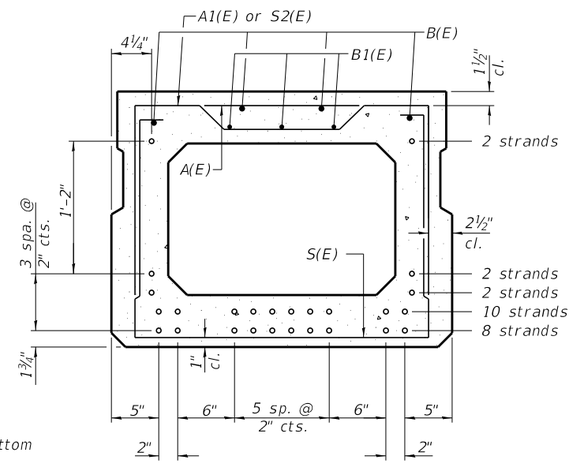
SECTION B-B
(Showing dimensions)



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)	22	#4	2'-7"	—
A1(E)	43	#4	2'-10"	~
B(E)	12	#5	24'-11"	—
B1(E)	12	#4	18'-11"	—
S(E)	93	#4	7'-5"	⊔
S1(E)	8	#4	5'-11"	⊓
S2(E)	85	#4	6'-2"	⊐
S3(E)	8	#4	4'-10"	⌟
S4(E)	8	#4	4'-1"	⌟
U(E)	8	#5	4'-6"	⊏
U1(E)	4	#4	7'-1"	◿

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

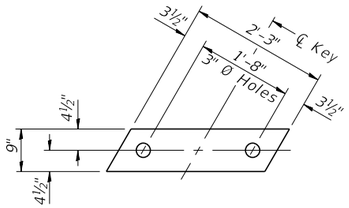
Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.
Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.

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

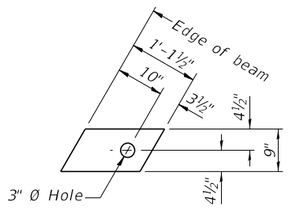
PD-2736-R 2-17-2017

FILE NAME = 170520-sht-bridge.dgn	USER NAME = moslck	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS CLAY COUNTY HIGHWAY DEPARTMENT	27" x 36" PPC DECK BEAM STRUCTURE NO. 013-3252
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -		SHEET NO. 2 OF 9 SHEETS
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -		
	PLOT DATE = 3/28/2019	CHECKED - S.W.M.	REVISED -		

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	7
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		



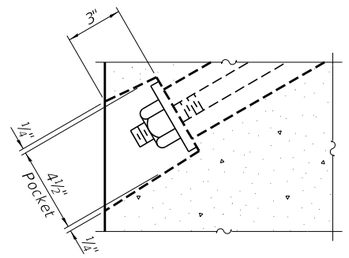
FABRIC BEARING PAD
(Interior - 14 Req'd.)



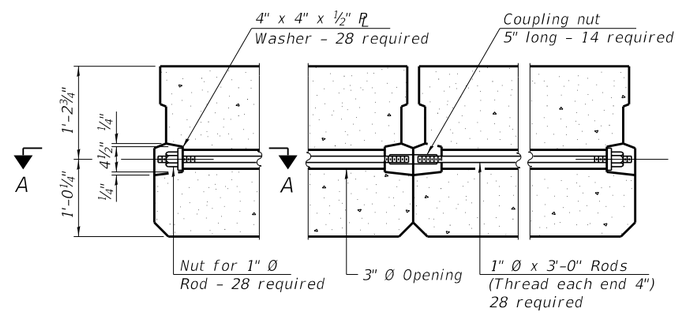
FABRIC BEARING PAD
(Exterior - 4 Req'd.)

FIXED

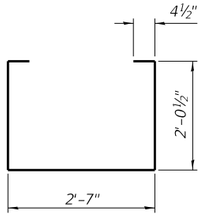
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



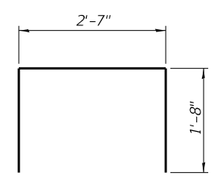
SECTION A-A



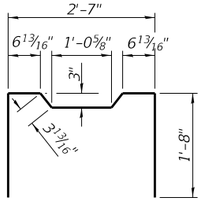
TYPICAL TRANSVERSE TIE ASSEMBLY



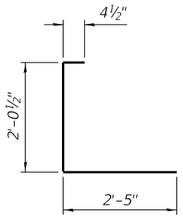
BAR S(E)



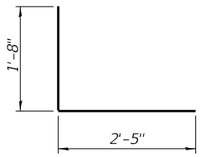
BAR S1(E)



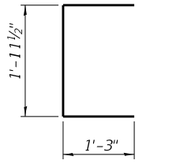
BAR S2(E)



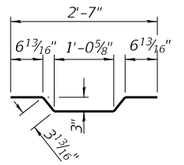
BAR S3(E)



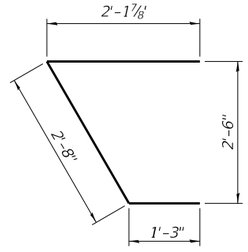
BAR S4(E)



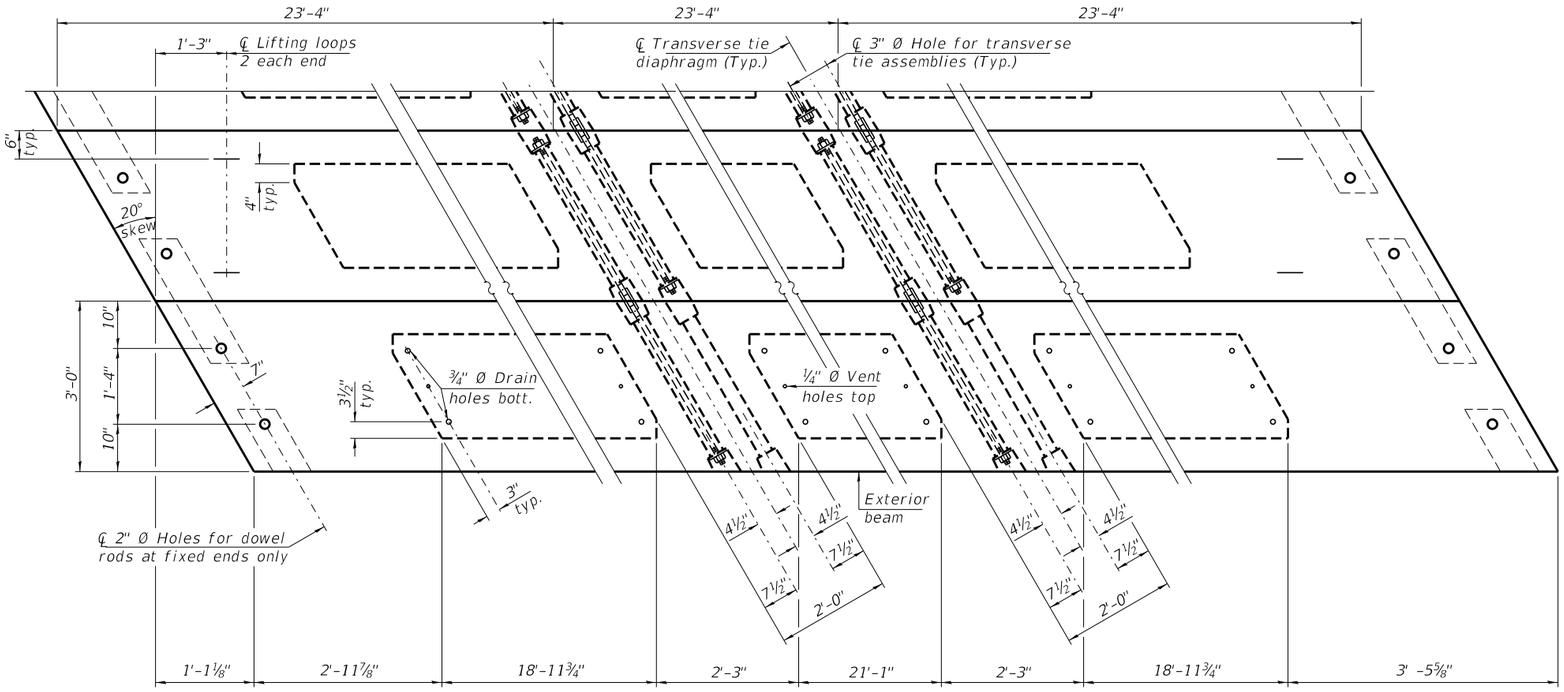
BAR U(E)



BAR A1(E)



BAR U1(E)



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 ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" Ø 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 ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

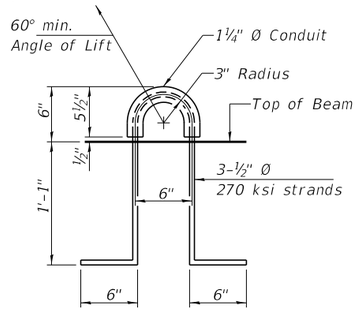
A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.

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.



LIFTING LOOP DETAIL

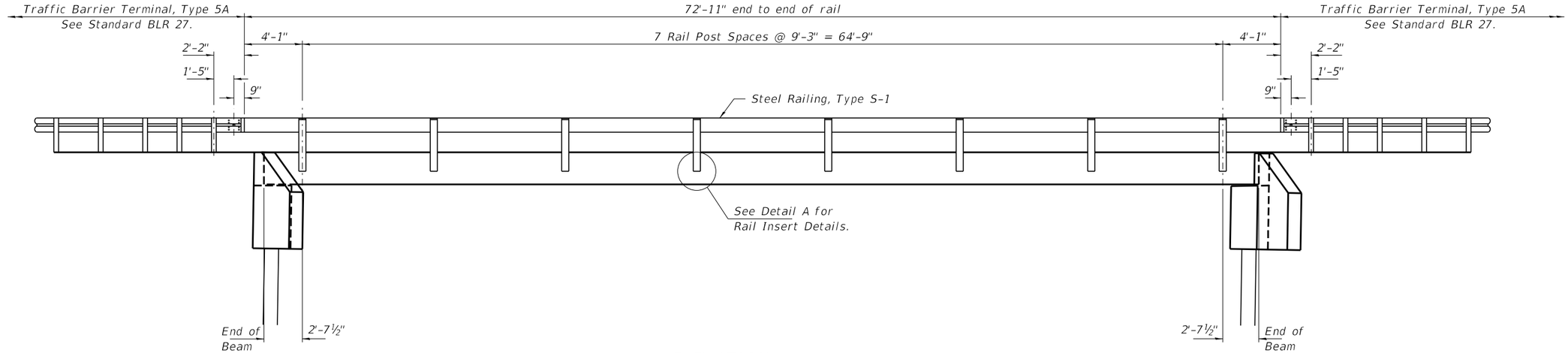
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,680

PD-2736-RD 2-17-2017

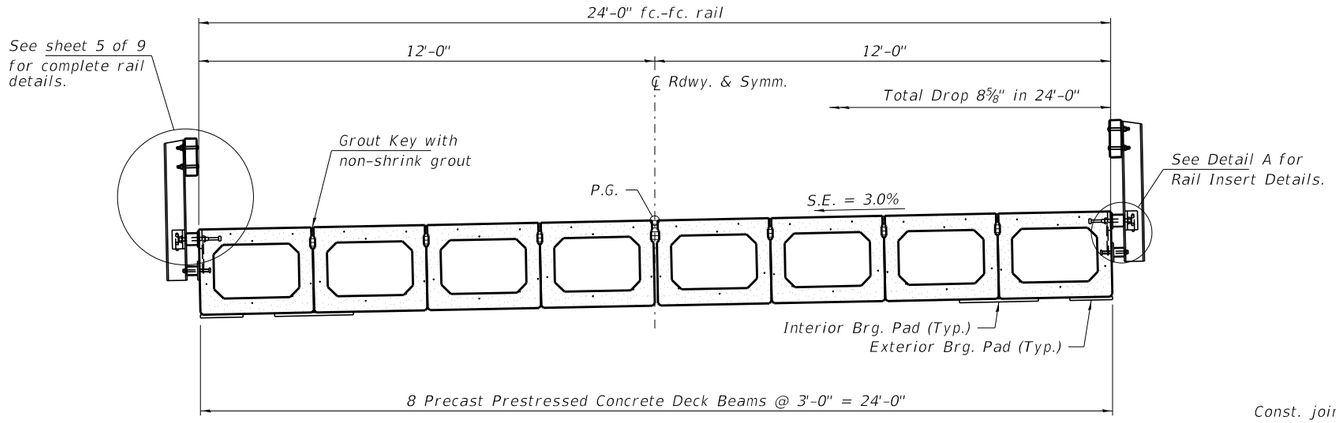
FILE NAME = 170520-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS CLAY COUNTY HIGHWAY DEPARTMENT	27" x 36" PPC DECK BEAM DETAILS STRUCTURE NO. 013-3252 SHEET NO. 3 OF 9 SHEETS
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -		
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -		
	PLOT DATE = 3/28/2019	CHECKED - S.W.M.	REVISED -		

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	8
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
	ILLINOIS FED. AID PROJECT M3XU(565)			



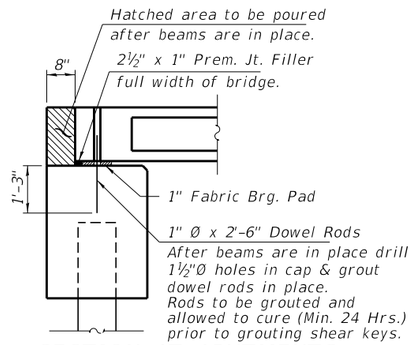
ELEVATION

Showing Rail Post Spaces
See sheet 5 of 9 for Railing Details.



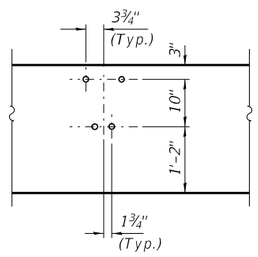
CROSS SECTION

See sheets 2 & 3 of 9 for Superstructure.

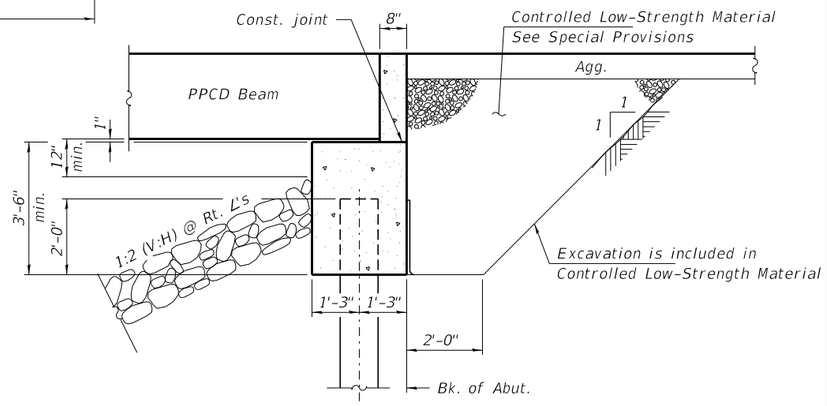


SECTION AT ABUTMENTS

@ Rt. ℄'s



DETAIL A

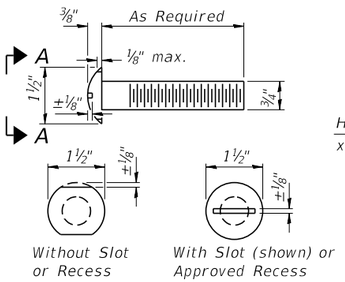


SECTION THRU ABUTMENT

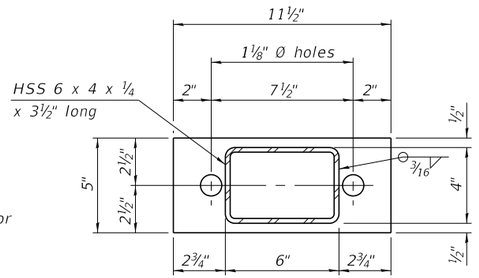
(Horiz. dim. @ Rt. ℄'s)

FILE NAME = 170520-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.R.B.	REVISED -	**STATE OF ILLINOIS** **CLAY COUNTY HIGHWAY DEPARTMENT**	**SUPERSTRUCTURE DETAILS** **STRUCTURE NO. 013-3252**
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -		SHEET NO. 4 OF 9 SHEETS
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -		
	PLOT DATE = 3/28/2019	CHECKED - S.W.M.	REVISED -		

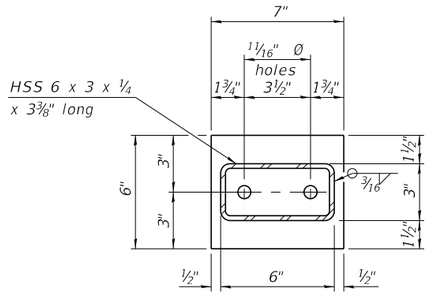
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	9
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
ILLINOIS	FED. AID PROJECT M3XU(565)			



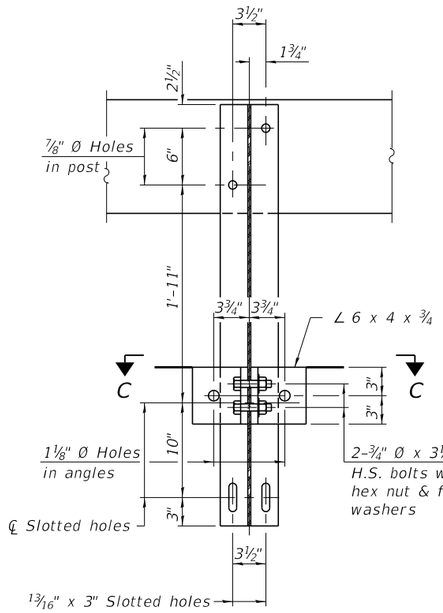
VIEW A-A
ROUND HEAD BOLT



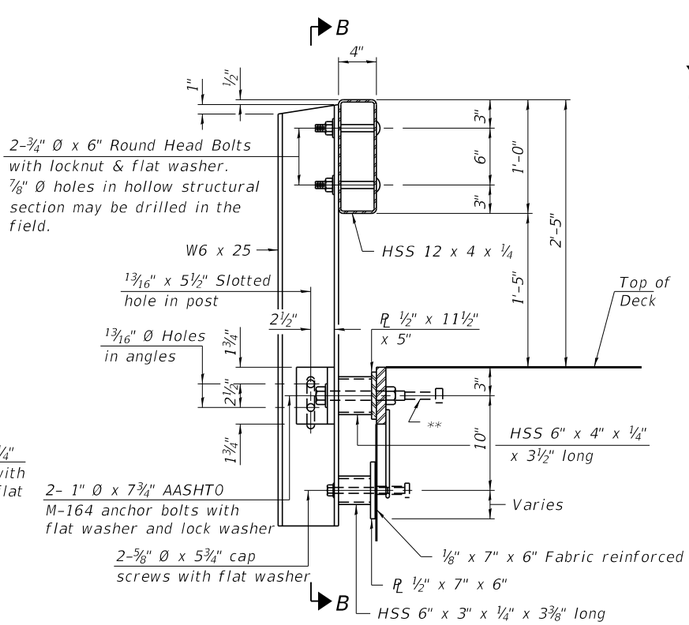
PL 1/2" x 11 1/2" x 5"



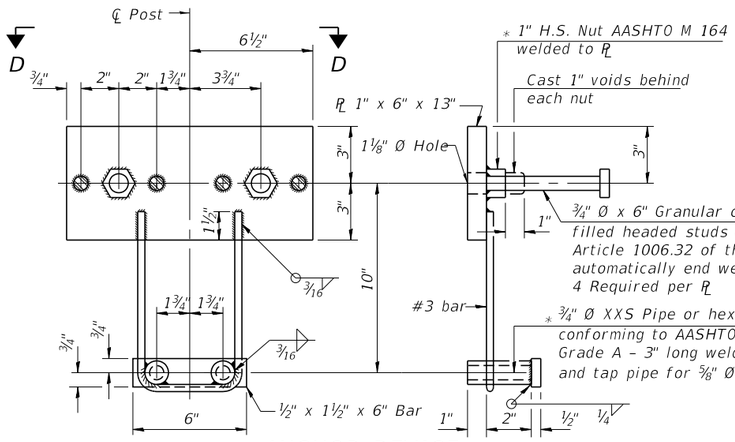
PL 1/2" x 7" x 6"



SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE

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

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	——

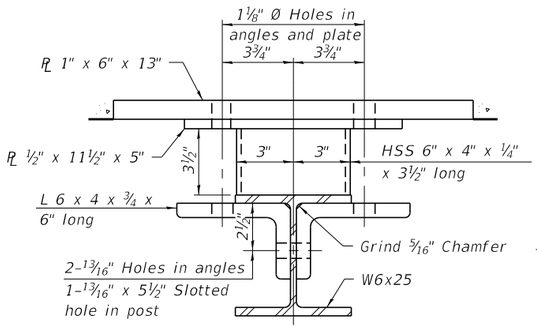
T = Total movement at expansion joint as shown on the design plans.

Notes:

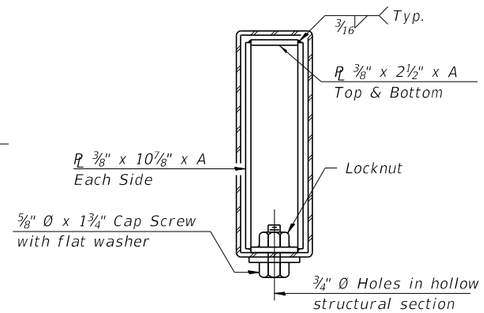
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

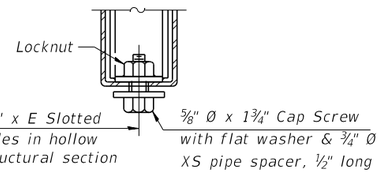
** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.



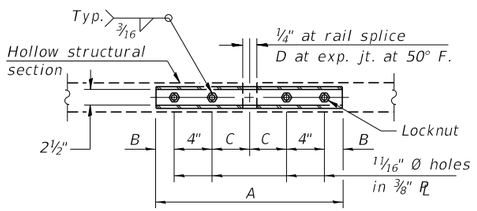
SECTION C-C



SECTIONS AT RAIL SPLICE

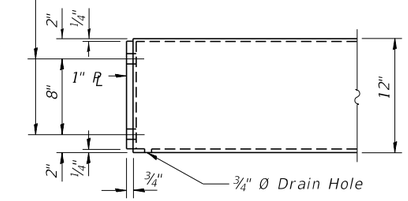


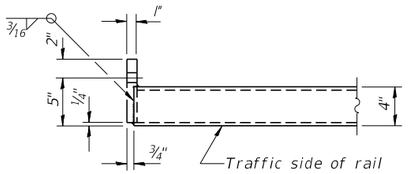
RAIL SPLICE CONNECTION
AT EXPANSION JT.



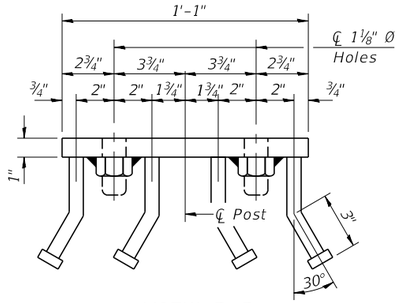
PLAN-BOTT. SPLICE PL
TYPICAL

1 1/8" Ø Holes for 1" Ø x 4" Round head bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Hwy Std. 631026 or BLR 27-1.





END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	146

R-23A

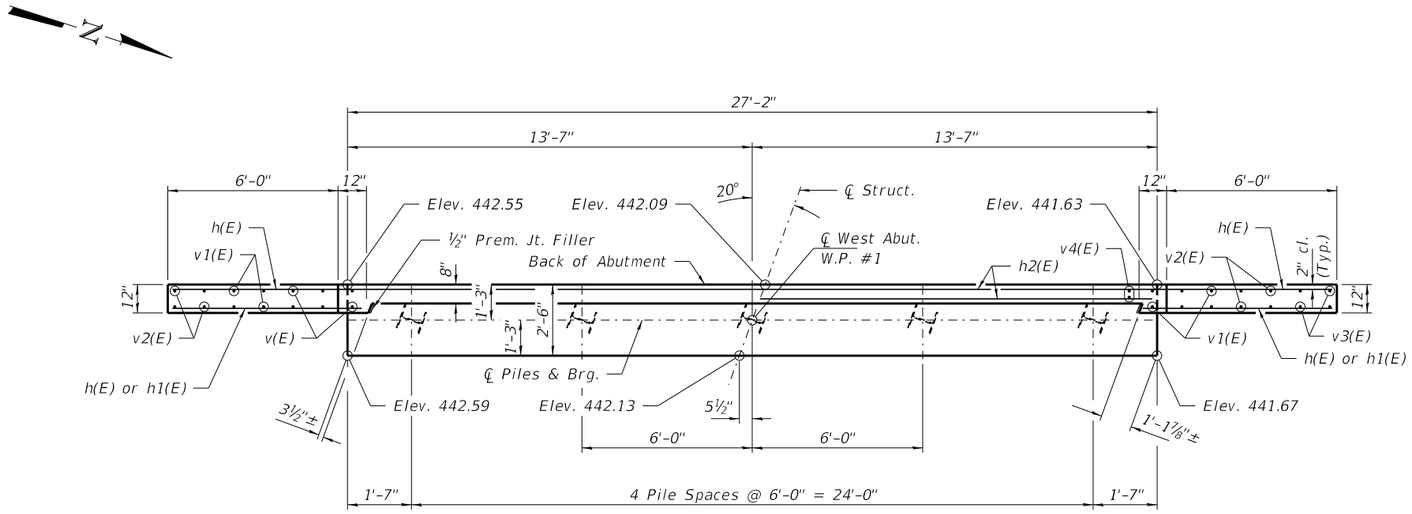
8-11-2017 (10'-9" Maximum Post Spacing)

FILE NAME = 170520-sht-bridge.dgn	USER NAME = mosick	DESIGNED - J.R.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	DRAWN - M.M.P.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/28/2019	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

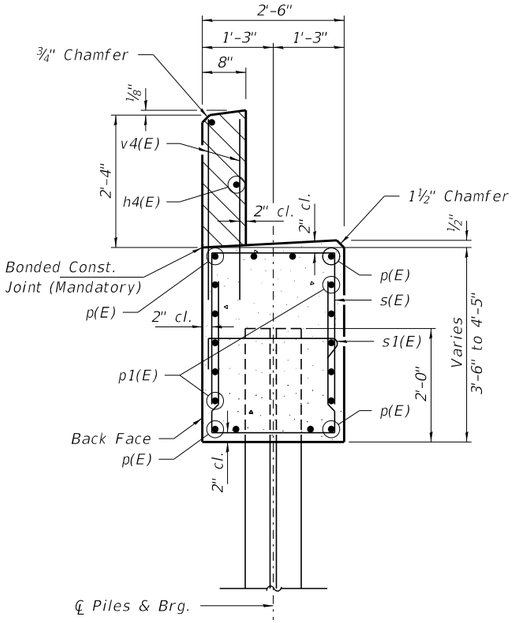
STEEL RAILING, TYPE S-1
STRUCTURE NO. 013-3252
SHEET NO. 5 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	10
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
		ILLINOIS FED. AID PROJECT M3XU(565)		



PLAN

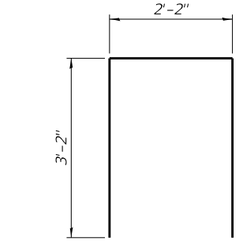
Note: Elevations in PLAN are to top of concrete cap. *Elevations to top of walls are to Front Fc.



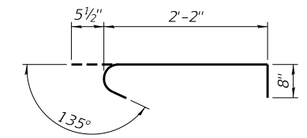
SECTION A-A

Hatched area to be poured after beams are in place.

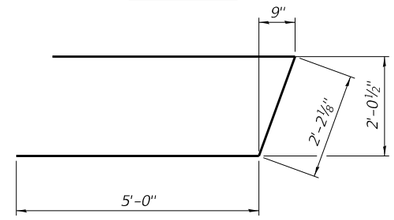
Cast top of wingwall flush with exterior beam face after beams have been erected.



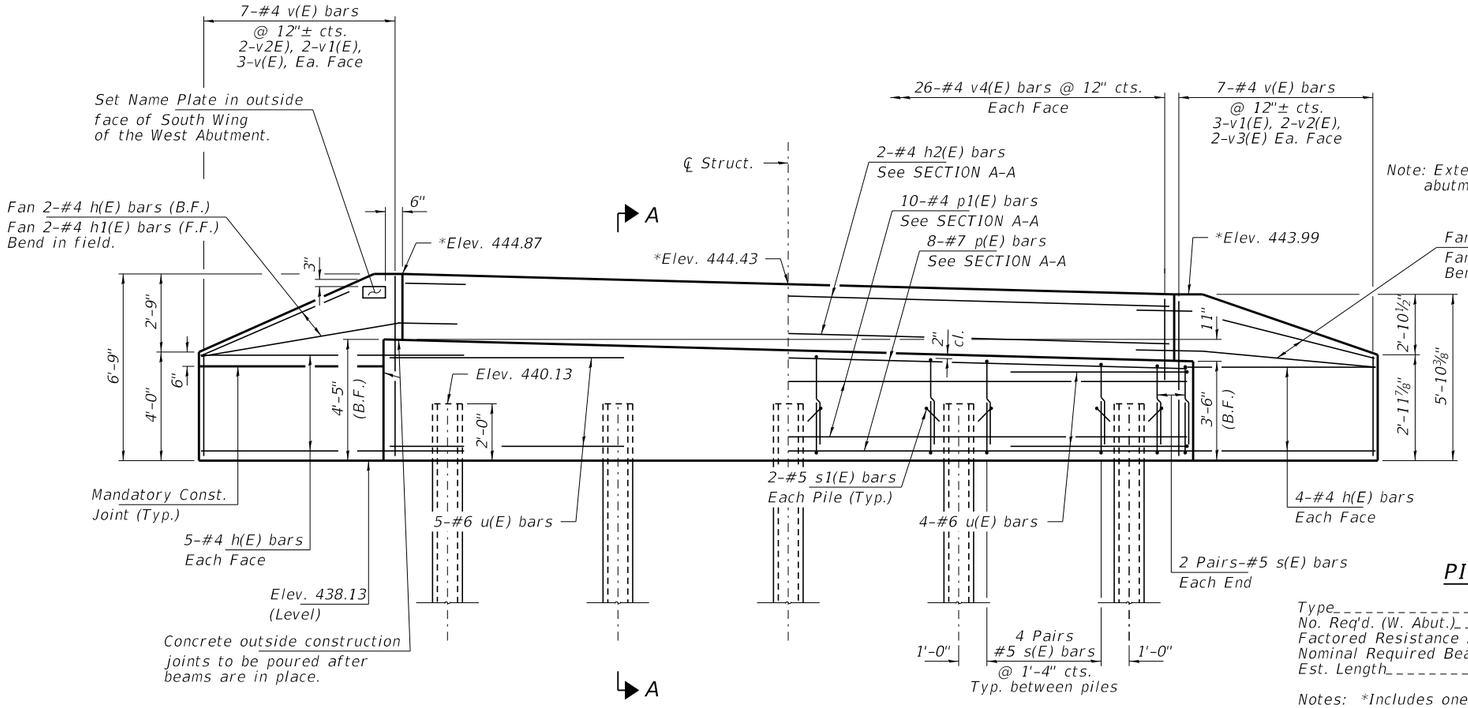
BAR s(E)



BAR s1(E)



BAR u(E)



ELEVATION
(Looking West)

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

PILE DATA

Type _____ Steel HP10x42
No. Req'd. (W. Abut.) _____ *5
Factored Resistance Available (Rf) __ 184 Kips/Pile
Nominal Required Bearing (Rn) _____ 335 Kips/Pile
Est. Length _____ 30 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 - W. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	22	#4	8'-3"	
h1(E)	4	#4	6'-9"	
h2(E)	2	#4	26'-10"	
p(E)	8	#7	26'-10"	
p1(E)	10	#4	26'-10"	
s(E)	40	#5	8'-6"	
s1(E)	10	#5	3'-4"	
u(E)	9	#6	12'-2"	
v(E)	6	#4	5'-9"	
v1(E)	10	#4	4'-9"	
v2(E)	8	#4	3'-9"	
v3(E)	4	#4	2'-8"	
v4(E)	52	#4	3'-2"	
Concrete Structures			Cu. Yd.	14.0
Reinf. Bars, Epoxy Coated			Pound	1,540
Steel Piles HP10x42			Foot	120
Test Pile Steel HP10x42			Each	1
Name Plates			Each	1

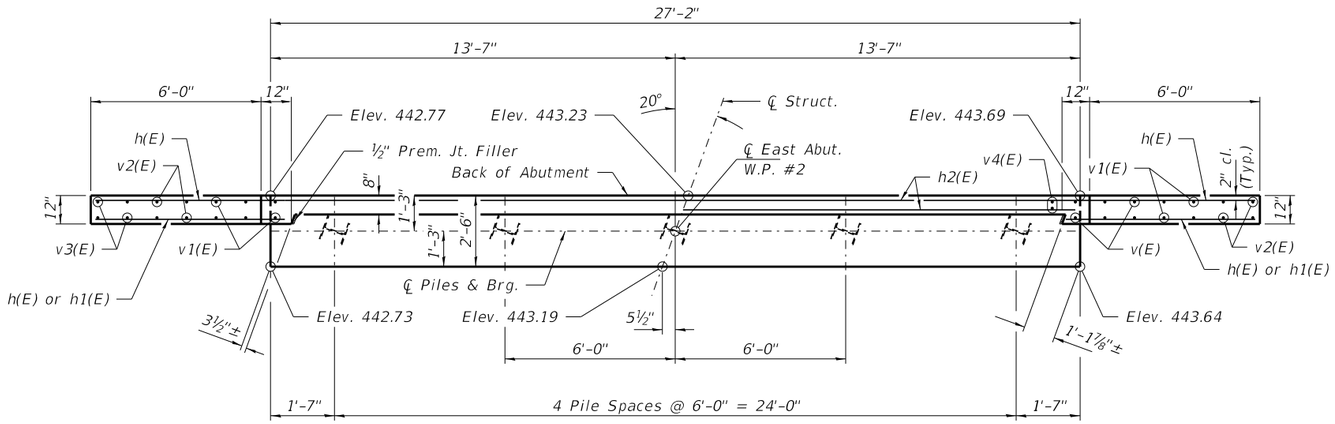
FILE NAME = 170520-sht-bridge.dgn | USER NAME = rhoslck | DESIGNED - J.R.B. | REVISED -
CHECKED - S.W.M. | REVISED -
PLOT SCALE = | DRAWN - M.M.P. | REVISED -
PLOT DATE = 3/28/2019 | CHECKED - S.W.M. | REVISED -

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

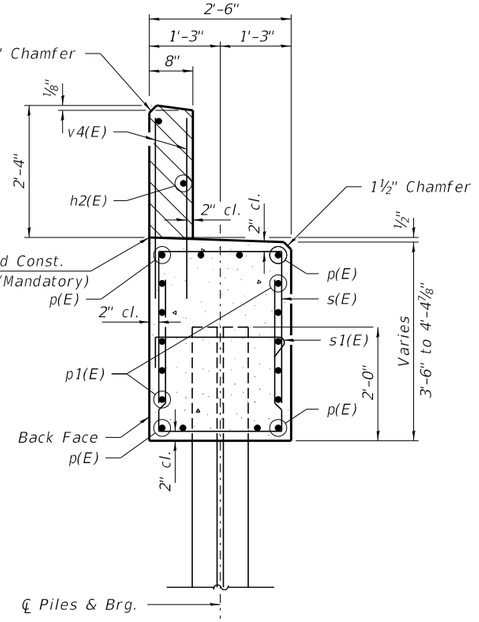
WEST ABUTMENT
STRUCTURE NO. 013-3252
SHEET NO. 6 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	11
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		



PLAN

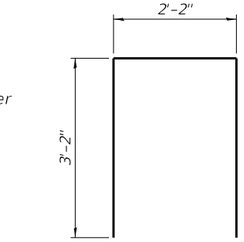
Note: Elevations in PLAN are to top of concrete cap. *Elevations to top of walls are to Front Fc.



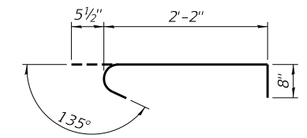
SECTION A-A

Hatched area to be poured after beams are in place.

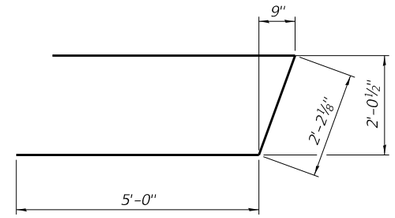
Cast top of wingwall flush with exterior beam face after beams have been erected.



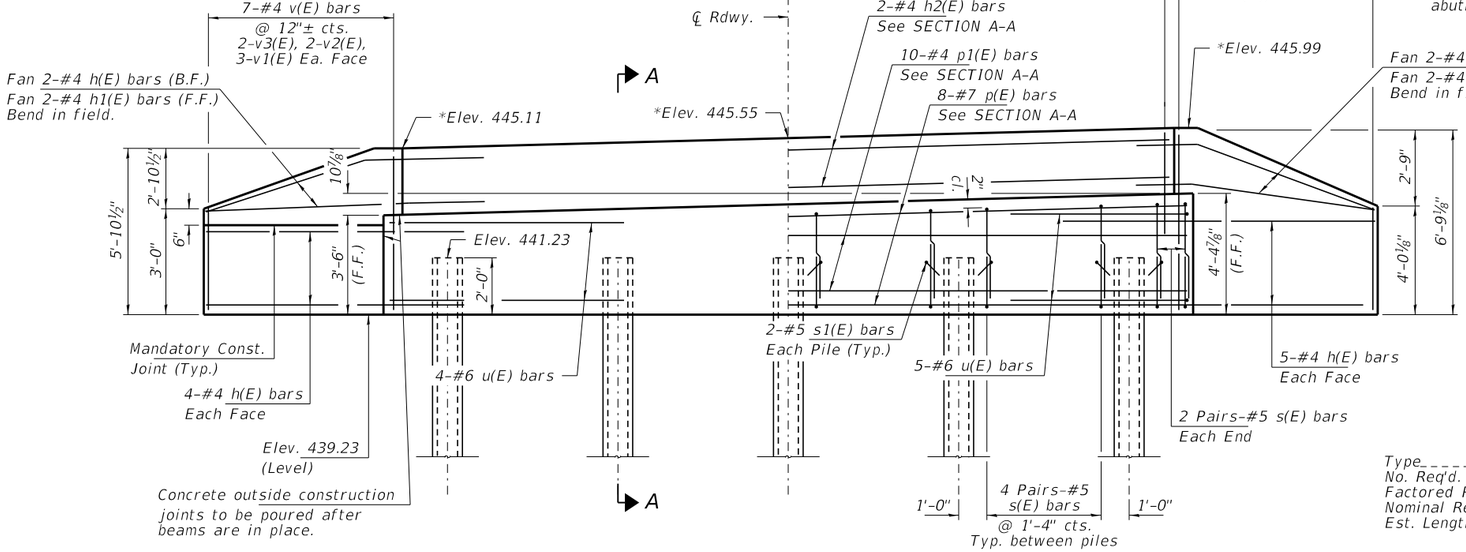
BAR s(E)



BAR s1(E)



BAR u(E)



ELEVATION
(Looking East)

PILE DATA

Type _____ Steel HP10x42
No. Req'd. (E. Abut.) _____ 5
Factored Resistance Available (Rf) _____ 184 Kips/Pile
Nominal Required Bearing (Rn) _____ 335 Kips/Pile
Est. Length _____ 30 Ft/Pile

BILL OF MATERIAL - E. ABUT.

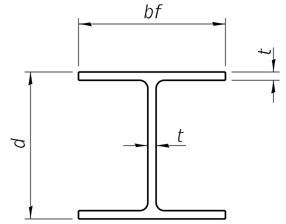
BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	22	#4	8'-3"	
h1(E)	4	#4	6'-9"	
h2(E)	2	#4	26'-10"	
p(E)	8	#7	26'-10"	
p1(E)	10	#4	26'-10"	
s(E)	40	#5	8'-6"	
s1(E)	10	#5	3'-4"	
u(E)	9	#6	12'-2"	
v(E)	6	#4	5'-9"	
v1(E)	10	#4	4'-9"	
v2(E)	8	#4	3'-9"	
v3(E)	4	#4	2'-8"	
v4(E)	52	#4	3'-2"	
Concrete Structures			Cu. Yd.	14.0
Reinf. Bars, Epoxy Coated			Pound	1,540
Steel Piles HP10x42			Foot	150

FILE NAME = 170520-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.R.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	DRAWN - M.M.P.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/28/2019	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

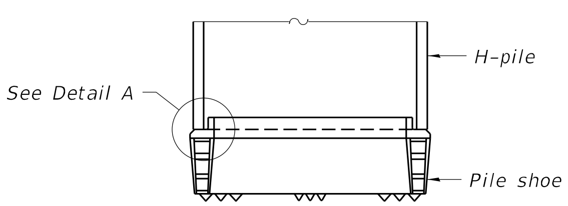
EAST ABUTMENT
STRUCTURE NO. 013-3252
SHEET NO. 7 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	12
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		

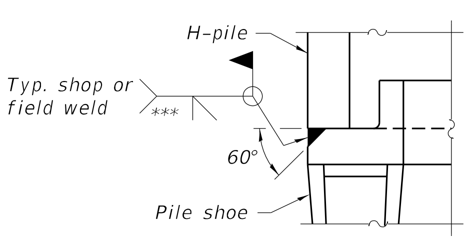


STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14¼"	14⅞"	13/16"	30"
x102	14"	14¾"	11/16"	30"
x89	13⅞"	14¾"	⅝"	30"
x73	13⅝"	14⅝"	½"	30"
HP 12x84	12¼"	12¼"	11/16"	24"
x74	12⅛"	12¼"	⅝"	24"
x63	12"	12⅛"	½"	24"
x53	11¾"	12"	7/16"	24"
HP 10x57	10"	10¼"	9/16"	24"
x42	9¾"	10⅛"	7/16"	24"
HP 8x36	8"	8⅛"	7/16"	18"



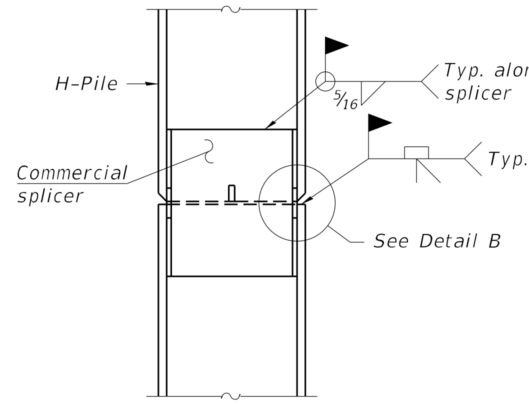
ELEVATION



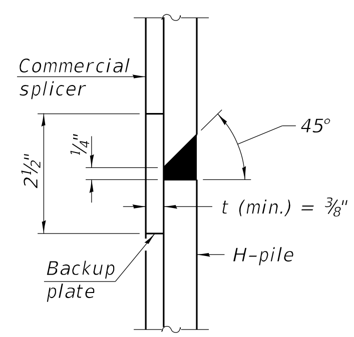
DETAIL A

SHOE ATTACHMENT

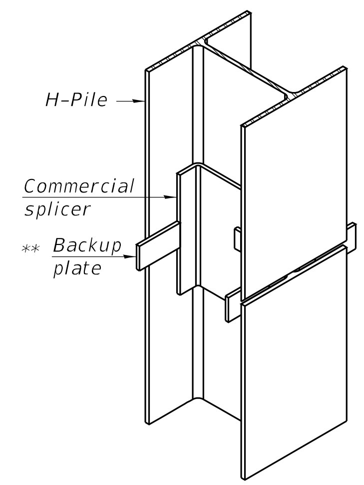
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

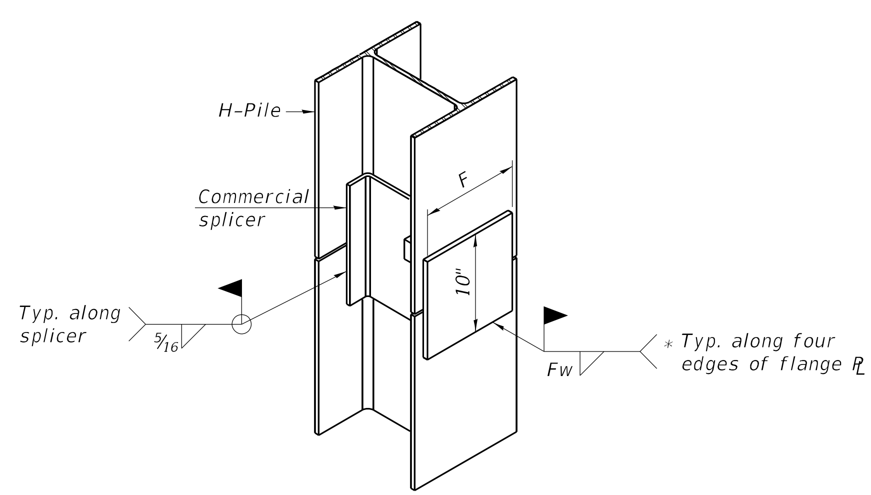


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



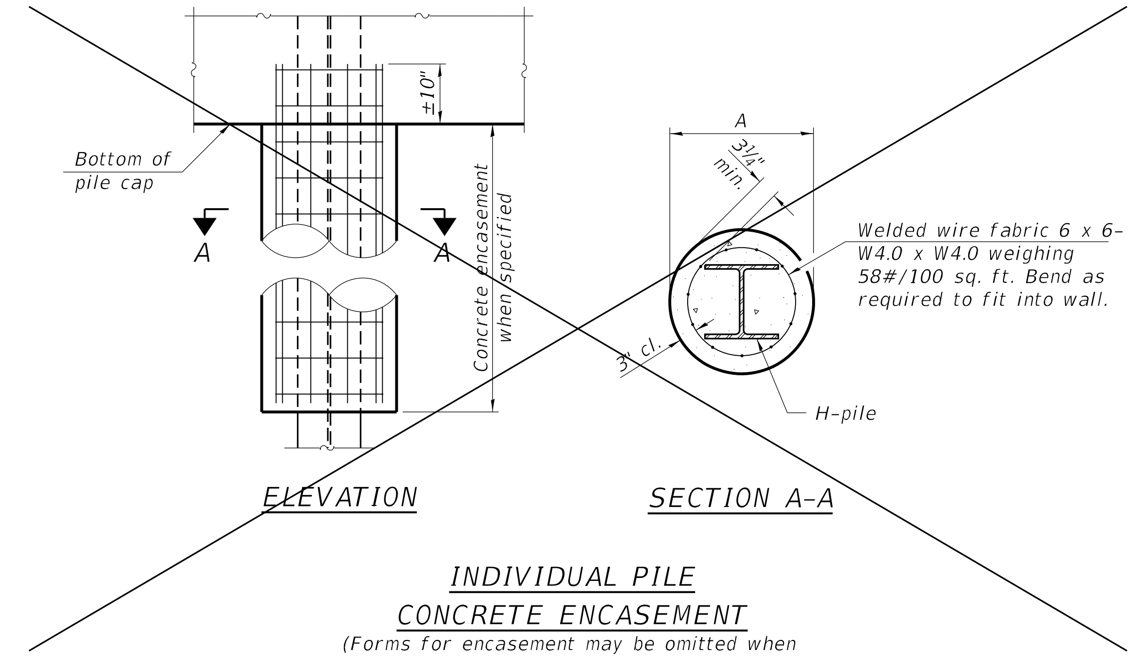
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds ¼" from end of web and/or each flange.

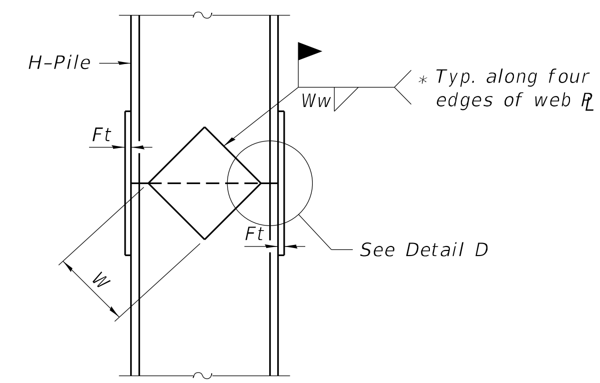
** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).

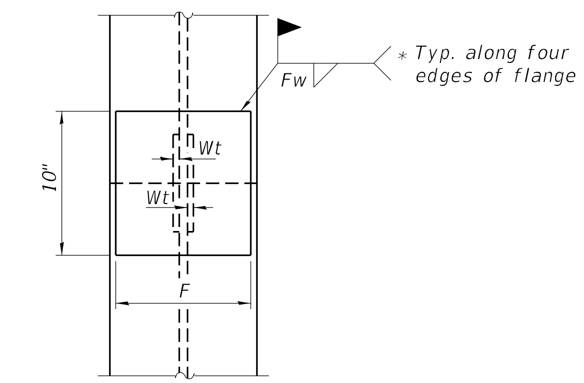


INDIVIDUAL PILE
CONCRETE ENCASEMENT

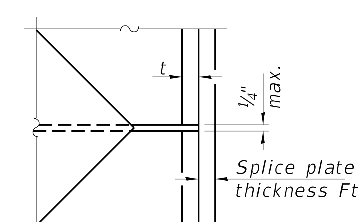
(Forms for encasement may be omitted when soil conditions permit).
(Not required)



ELEVATION



END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12½"	1"	⅞"	7¾"	⅝"	½"
x102	12½"	⅞"	¾"	7¾"	⅝"	½"
x89	12½"	¾"	11/16"	7¾"	⅝"	½"
x73	12½"	⅝"	9/16"	7¾"	⅝"	½"
HP 12x84	10"	⅞"	11/16"	6½"	⅝"	½"
x74	10"	⅞"	11/16"	6½"	⅝"	½"
x63	10"	⅝"	½"	6½"	½"	⅜"
x53	10"	⅝"	½"	6½"	½"	⅜"
HP 10x57	8"	¾"	9/16"	5¼"	½"	⅜"
x42	8"	⅝"	9/16"	5¼"	½"	⅜"
HP 8x36	7"	⅝"	7/16"	4¼"	½"	⅜"

WELDED PLATE FIELD SPLICE

F-HP 8-11-2017

FILE NAME = 170520-sht-bridge.dgn	USER NAME = rhosick	DESIGNED - J.R.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -
	PLOT DATE = 3/28/2019	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

HP PILE DETAILS
STRUCTURE NO. 013-3252

SHEET NO. 8 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	13
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		

NOBLE				BORING No. B-1	water level reading	
ENGINEERING CONSULTANTS		County: Clay, IL		Sheet No. 1 of 1	1st encounter: 17'	
Client: Clay County Highway Dept.		Weather: Sunny		Temperature: 80's	water level	reading
Driller: Noble Engineering Consultants		Date Start: 8-07-17		Surface Elevation: Bridge Deck	@completion	Dry Cave
Location: Str. #013-3084		Date Finished: 8-07-17		Driller: Tony Schocker	Backfill:	Soil cuttings

Depth:	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description		USC Class.	Elev.**
1										-1
2 (437.0)	SS-1	1.0'-2.5'	9	9-7-8	80		0.0'-6.1' Topsoil over silt, clay, sand, etc, FILL		FILL	-2
3										-3
4 (435.0)	SS-2	3.5'-5.0'	14	7-7-7	80				FILL	-4
5										-5
6 (433.0)	SS-3	6.0'-7.5'	9	4-4-5	100	1.0	6.1'-15.5' SILTY CLAY, trace to some sand, stiff, brown		CL	-6
7										-7
8										-8
9 (430.0)	SS-4	8.5'-10.0'	9	4-5-4	100	1.1			CL	-9
10										-10
11										-11
12										-12
13										-13
14 (425.0)	SS-5	13.5'-15.0'	14	4-5-9	100	1.3	15.5'-27.5' CLAYEY SILT(till), trace to some sand, dense to very dense, moist, brown		CL	-14
15							mottled gray to gray below 17'			-15
16										-16
17										-17
18										-18
19 (420.0)	SS-6	18.5'-20.0'	60	11-29-31	100	-			CL-ML	-19
20										-20
21										-21
22										-22
23										-23
24 (415.0)	SS-7	23.5'-25.0'	87	20-29-58	100	-			CL-ML	-24
25										-25
26										-26
27										-27
28										-28
29							27.5'-32.2' HIGHLY WEATHERED ROCK			-29
30 (409.0)	SS-8	28.5'-30.0'	100+	27-100/5"	100	-	AR 32.2'			-30

Drilling Method: HSA (2-1/4" id)	comments	* Qp test is an estimate of the unconfined compressive strength performed	
Depth: 0' to 32.2'		by a compact calibrated spring loaded cylinder	
Drill Rig: Mobile B-47		** ground surface elevation at boring location is estimated and is not surveyed	
Sampling: split-spoon (SS)			

BORING-1

NOBLE			BORING No. B-2	water level reading	
ENGINEERING CONSULTANTS	County: Clay, IL		Sheet No. 1 of 1	1st encounter: 16'	
Client: Clay County Highway Dept.	Weather: Sunny		Temperature: 80's	water level	reading
Driller: Noble Engineering Consultants	Date Start: 8-07-17		Surface Elevation: Bridge Deck	@completion	Dry Cave
Location: Str. #013-3084	Date Finished: 8-07-17		Driller: Tony Schocker	Backfill:	Soil cuttings

Depth:	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description		USC Class.	Elev.**
1										-1
2 (437.0)	SS-1	1.0'-2.5'	7	5-4-3	30		0.0'-8.5' Topsoil over silt, clay, sand, etc, FILL		FILL	-2
3										-3
4 (435.0)	SS-2	3.5'-5.0'	3	1-1-2	100				FILL	-4
5										-5
6 (433.0)	SS-3	6.0'-7.5'	4	1-1-3	100				FILL	-6
7										-7
8										-8
9 (430.0)	SS-4	8.5'-10.0'	3	1-1-2	100	0.8	8.5'-14.0' SILTY CLAY, trace to some sand, medium stiff, brown		CL	-9
10										-10
11										-11
12										-12
13										-13
14 (425.0)	SS-5	13.5'-15.0'	60	10-29-31	100		14.0'-27.1' CLAYEY SILT(till), trace to some sand, dense to very dense, moist, brown		CL-ML	-14
15							mottled gray to gray below 16'			-15
16										-16
17										-17
18										-18
19 (420.0)	SS-6	18.5'-20.0'	56	12-25-31	100	-			CL-ML	-19
20										-20
21										-21
22										-22
23										-23
24 (415.0)	SS-7	23.5'-25.0'	82	21-27-55	100	-			CL-ML	-24
25										-25
26										-26
27										-27
28										-28
29							27.1'-32.4' HIGHLY WEATHERED ROCK			-29
30 (409.0)	SS-8	28.5'-30.0'	100+	24-100/5"	100	-	AR 32.4'			-30

Drilling Method: HSA (2-1/4" id)	comments	* Qp test is an estimate of the unconfined compressive strength performed	
Depth: 0' to 32.4'		by a compact calibrated spring loaded cylinder	
Drill Rig: Mobile B-47		** ground surface elevation at boring location is estimated and is not surveyed	
Sampling: split-spoon (SS)			

BORING-2

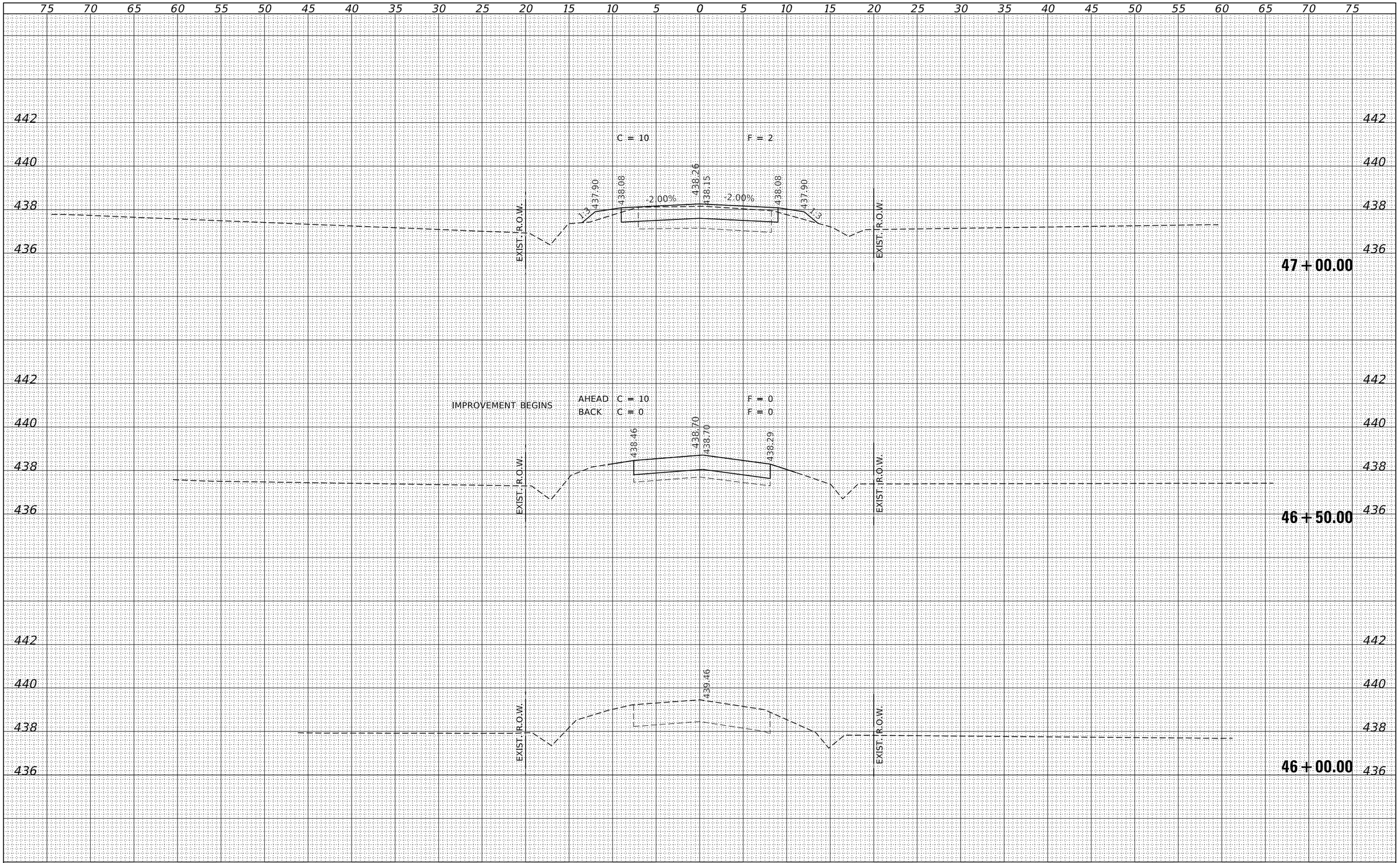
FILE NAME = 170520-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.R.B.	REVISED -	
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -	
3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	DRAWN - M.M.P.	REVISED -	
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/28/2019	CHECKED - S.W.M.	REVISED -	

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

BORINGS
STRUCTURE NO. 013-3252
SHEET NO. 9 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	14
PIXLEY ROAD DISTRICT		CONTRACT NO. 95850		
ILLINOIS	FED. AID PROJECT M3XU(565)			

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



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

FILE NAME = 170520-sht-xssheet.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

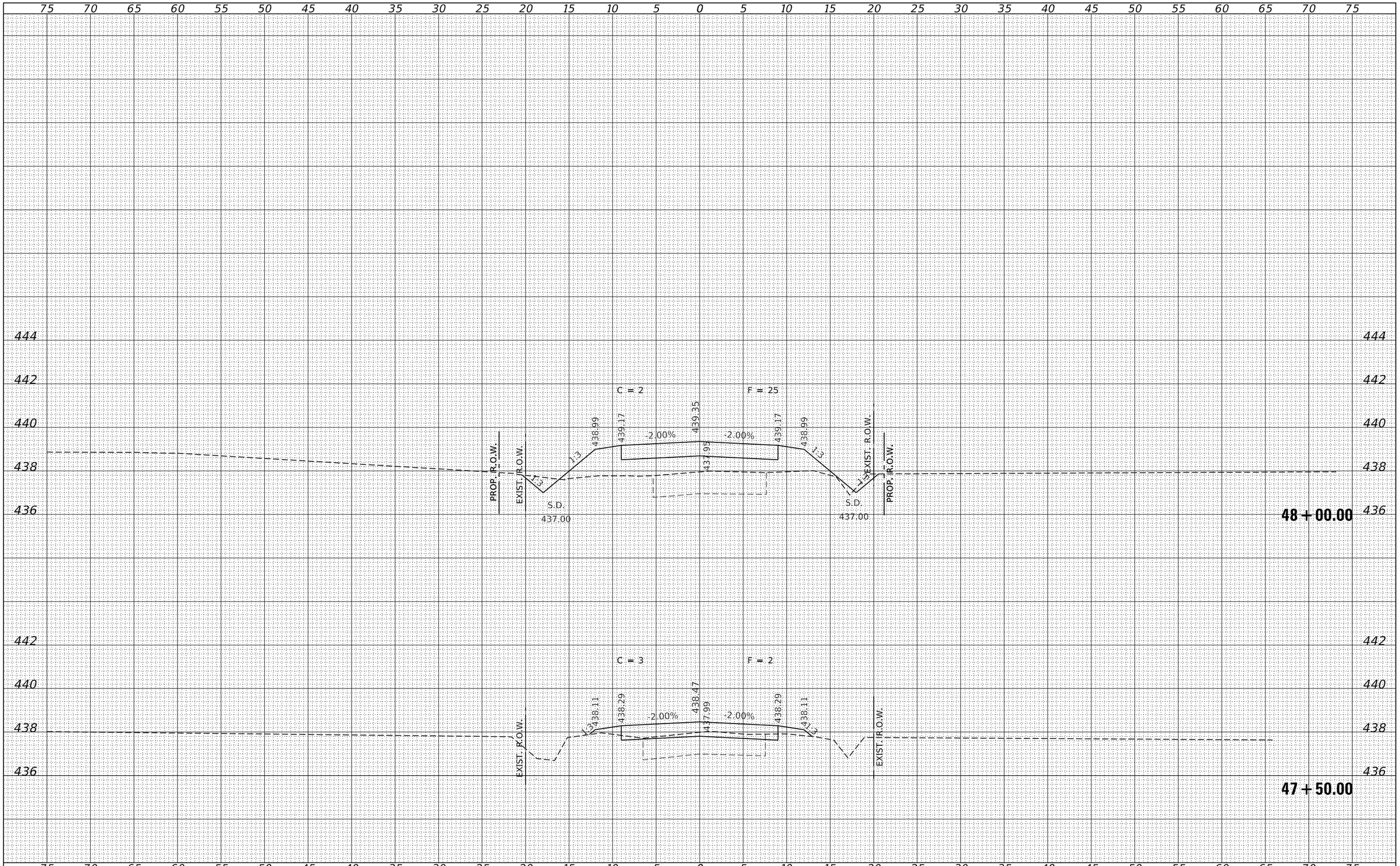
STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 1 OF 11 SHEETS | STA. 46+00.00 TO STA. 47+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	15
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		

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

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



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PLOT SCALE = $SCALE$		CHECKED - S.W.M.	REVISED -
PLOT DATE = 3/28/2019		DATE - 03/28/19	REVISED -

HAMPTON, LENZINI AND RENWICK, INC.
5065 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

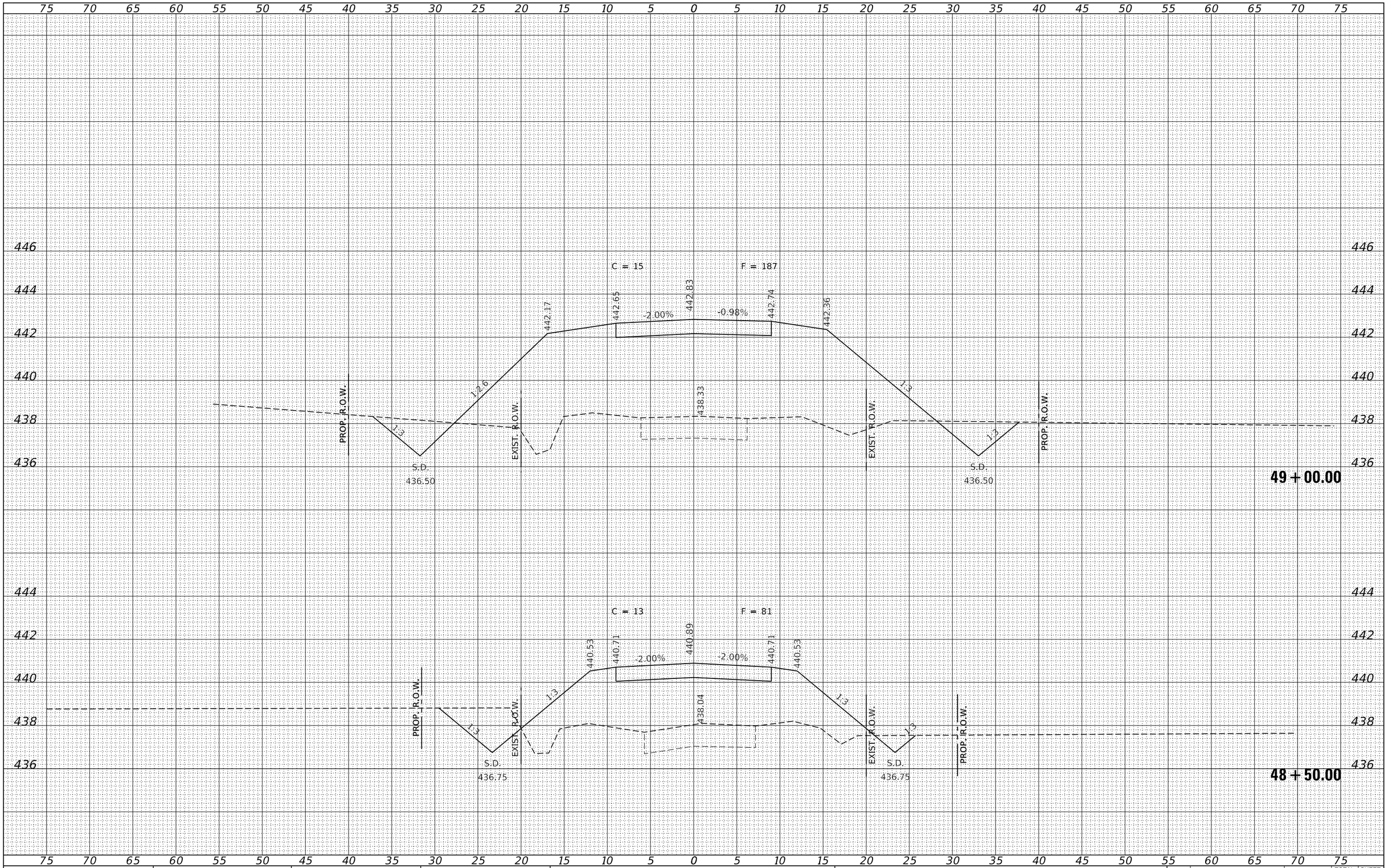
STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 2 OF 11 SHEETS | STA. 47+50.00 TO STA. 48+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	16
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS FED. AID PROJECT M3XU(565)			

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



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

FILE NAME = 170520-sht-xssheet.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
		DRAWN - T.W.K.	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

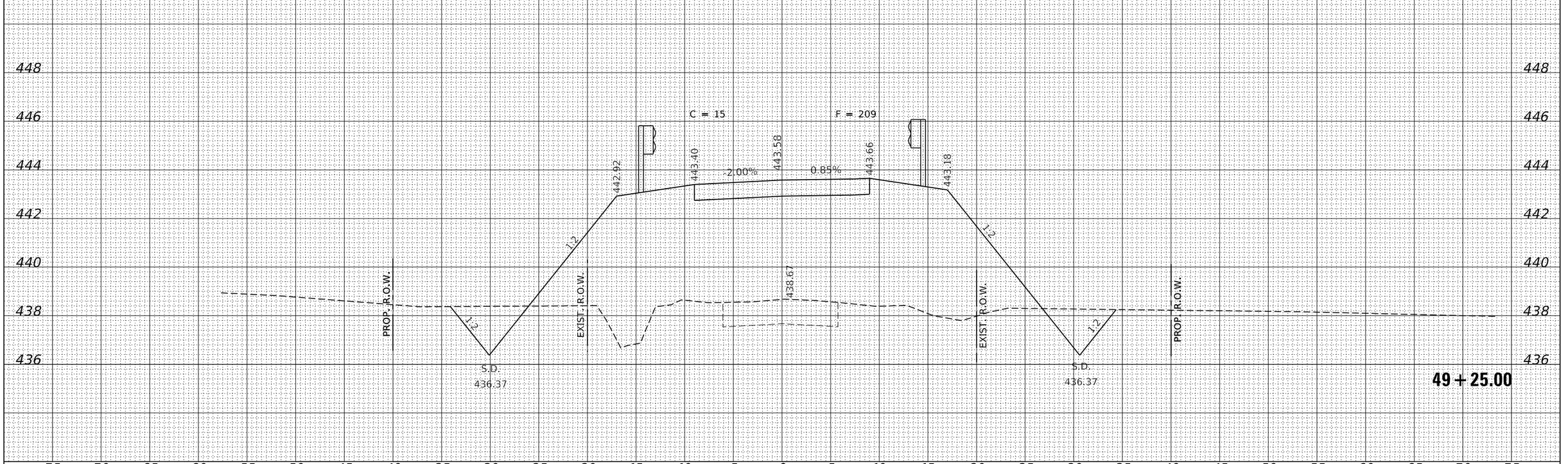
STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 3 OF 11 SHEETS | STA. 48+50.00 TO STA. 49+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	17
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		

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

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



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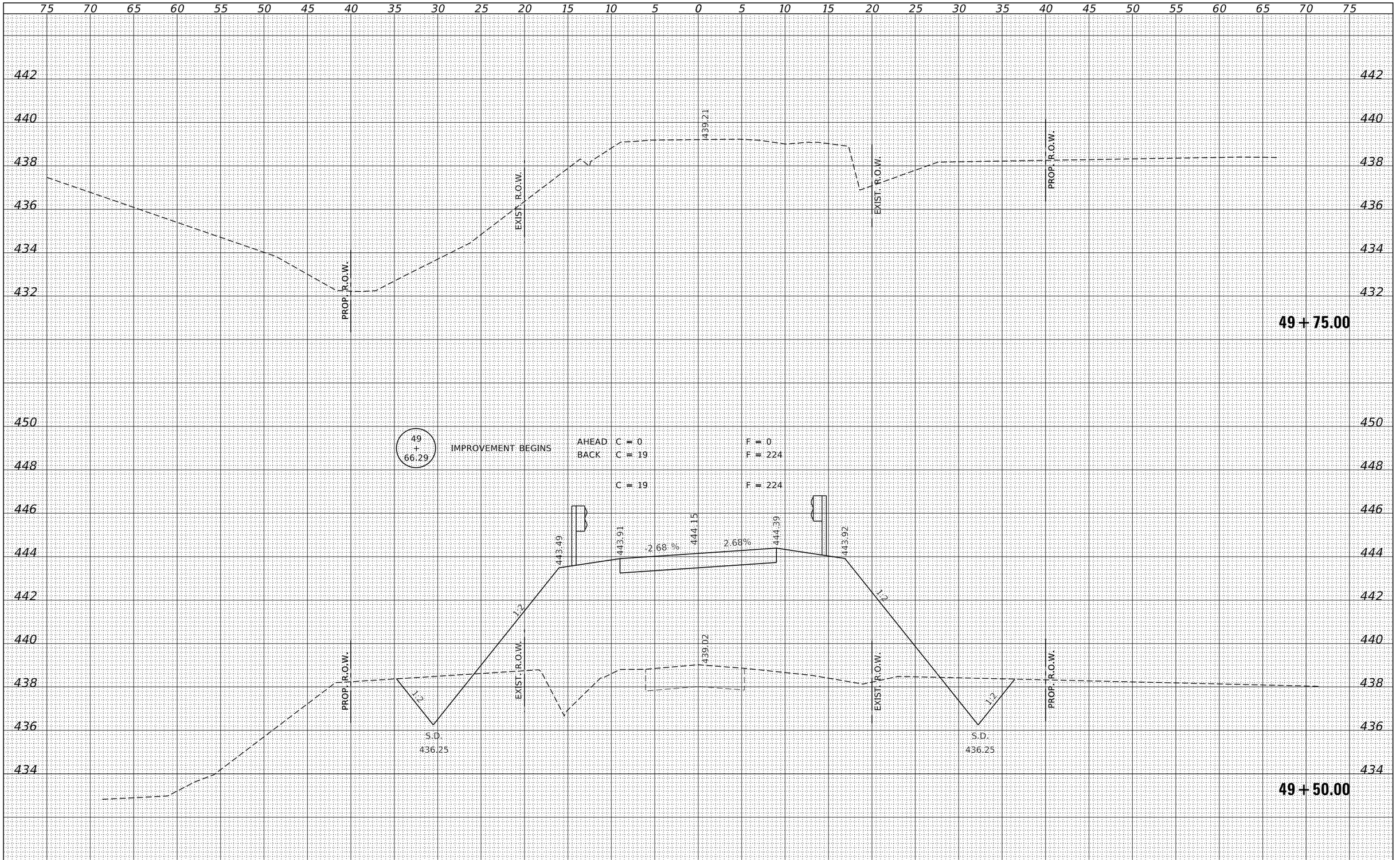
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 4 OF 11 SHEETS | STA. 49+25.00 | TO STA. 49+25.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	18
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		



FINAL SURVEY

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

ORIGINAL SURVEY

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

FILE NAME = 170520-sht-xssheet.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
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		CHECKED - S.W.M.	REVISED -
	PLOT SCALE = $SCALE$	DATE - 03/28/19	REVISED -
	PLOT DATE = 3/28/2019		

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 5 OF 11 SHEETS | STA. 49+50.00 TO STA. 49+75.00

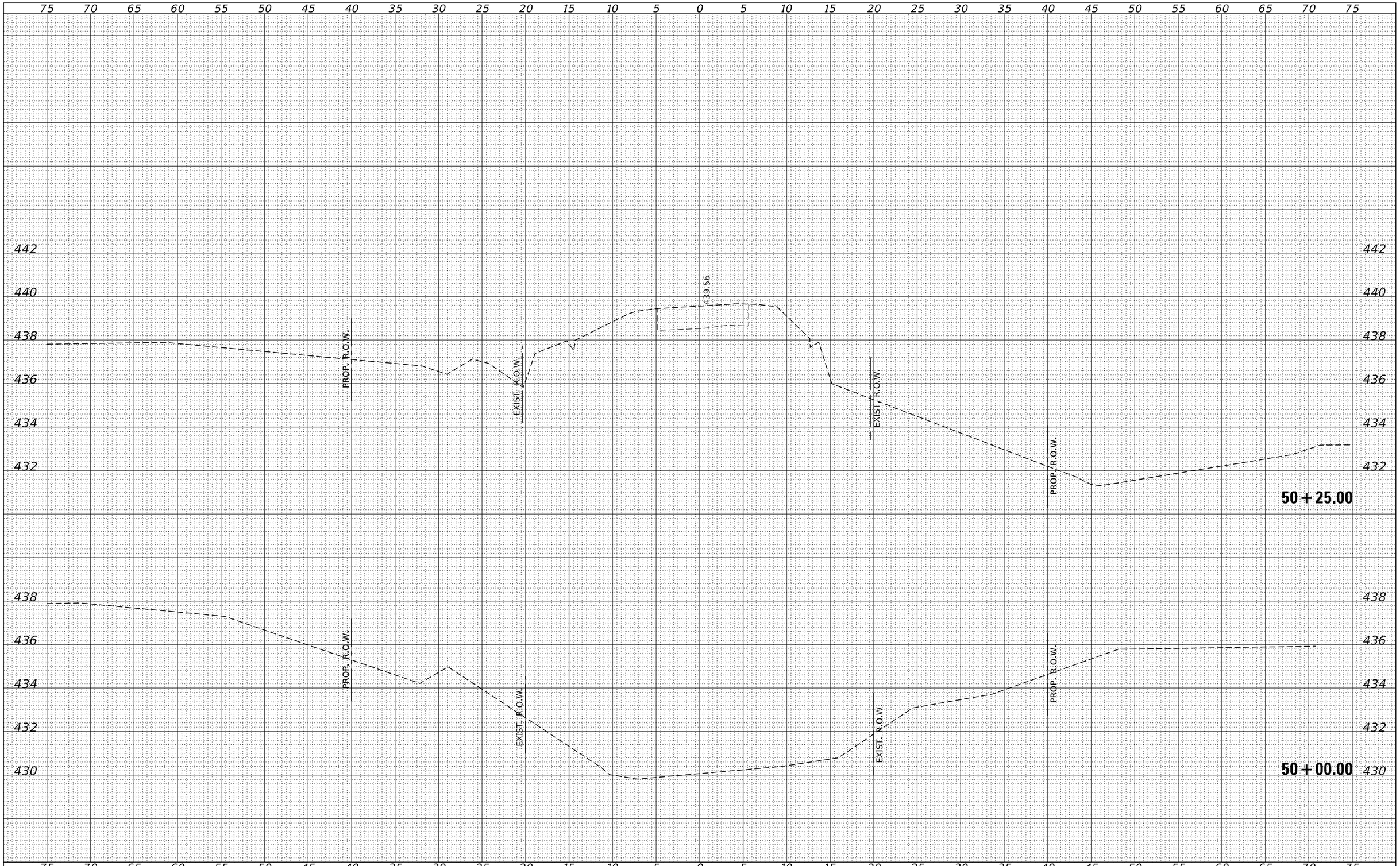
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	19
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS FED. AID PROJECT M3XU(565)			

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

BY	DATE

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

BY	DATE



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	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

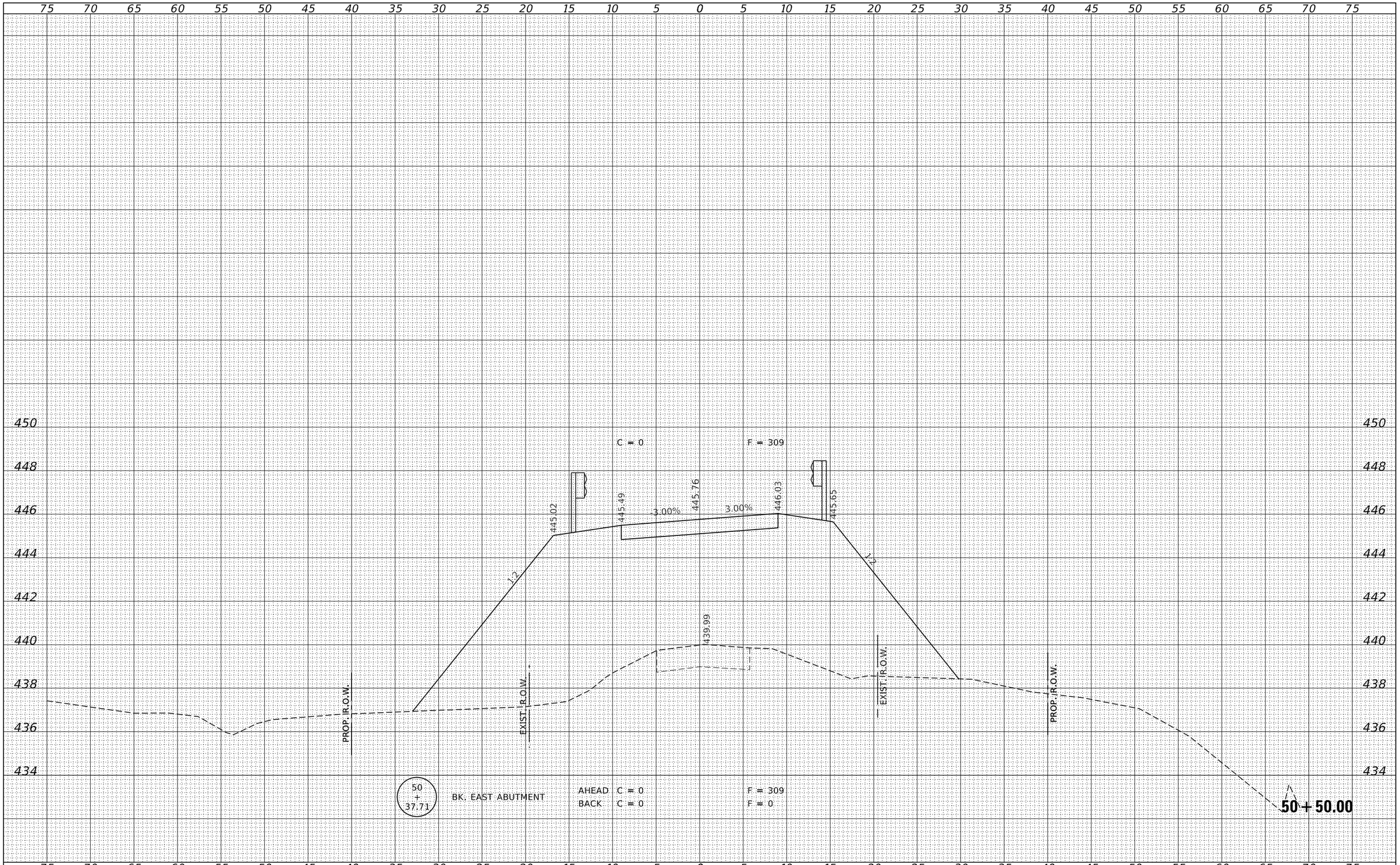
STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 6 OF 11 SHEETS | STA. 50+00.00 TO STA. 50+25.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	20
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		

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

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



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	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

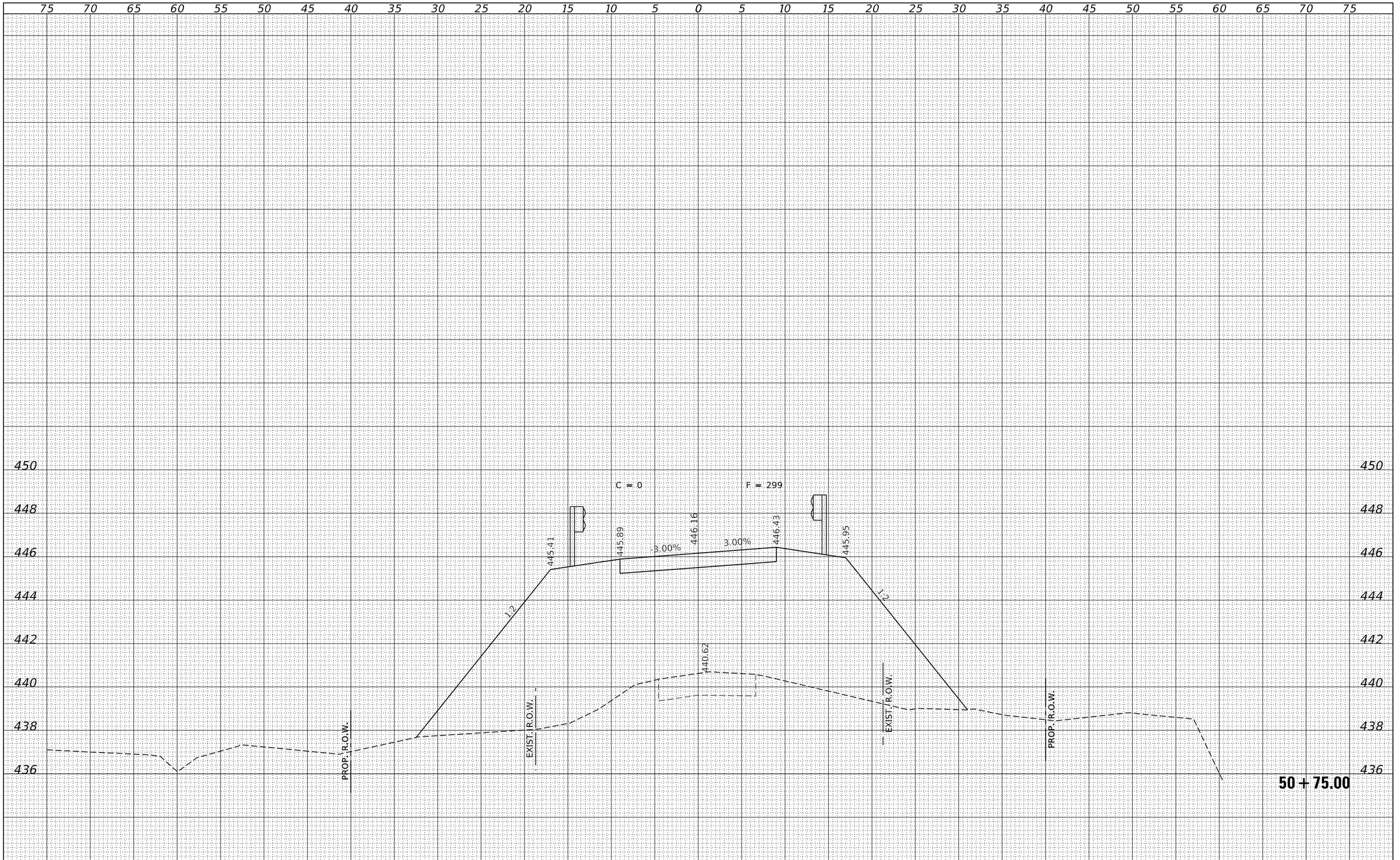
STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 7 OF 11 SHEETS | STA. 50+50.00 TO STA. 50+50.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	21
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS	FED. AID PROJECT M3XU(565)		

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

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



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HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 8 OF 11 SHEETS | STA. 50+75.00 TO STA. 50+75.00

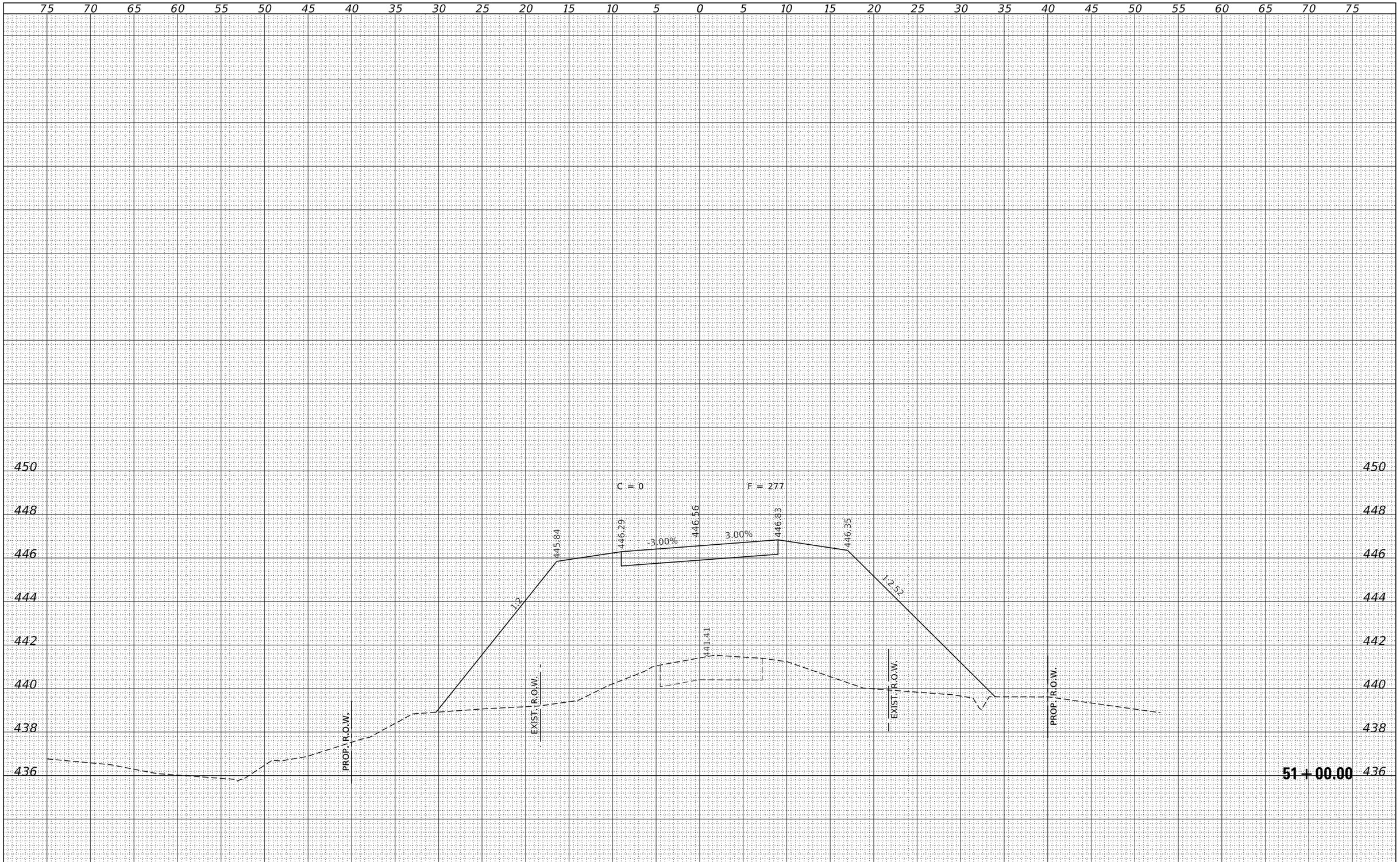
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	22
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS FED. AID PROJECT M3XU(565)			

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

BY	DATE

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

BY	DATE



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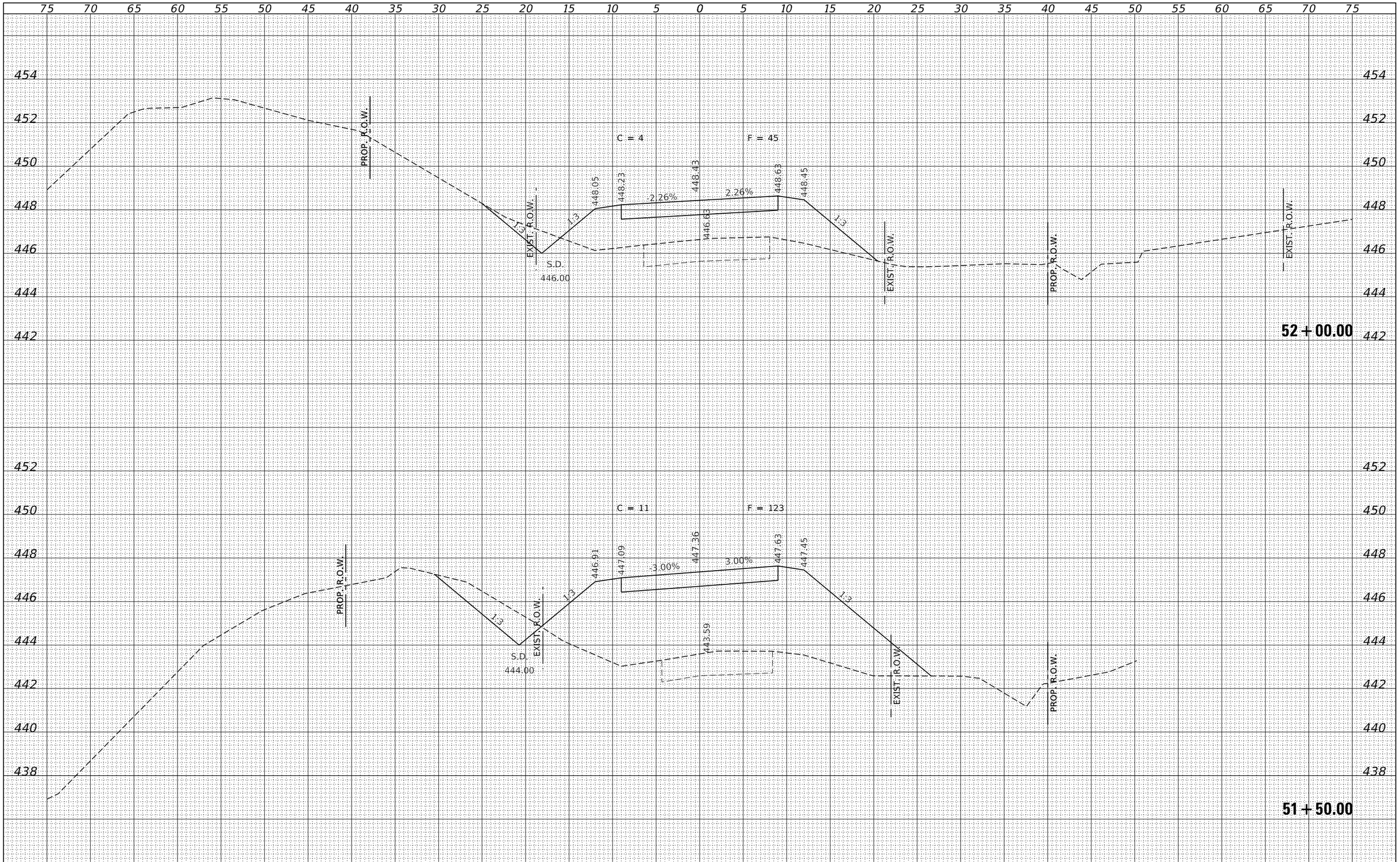
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - T.W.K.	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 9 OF 11 SHEETS | STA. 51+00.00 TO STA. 51+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	23
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
	ILLINOIS FED. AID PROJECT M3XU(565)			



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

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

BY	DATE

FILE NAME = 170520-sht-xssheet.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
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		CHECKED - S.W.M.	REVISED -
	PLOT SCALE = $SCALE$	DATE - 03/28/19	REVISED -
	PLOT DATE = 3/28/2019		

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

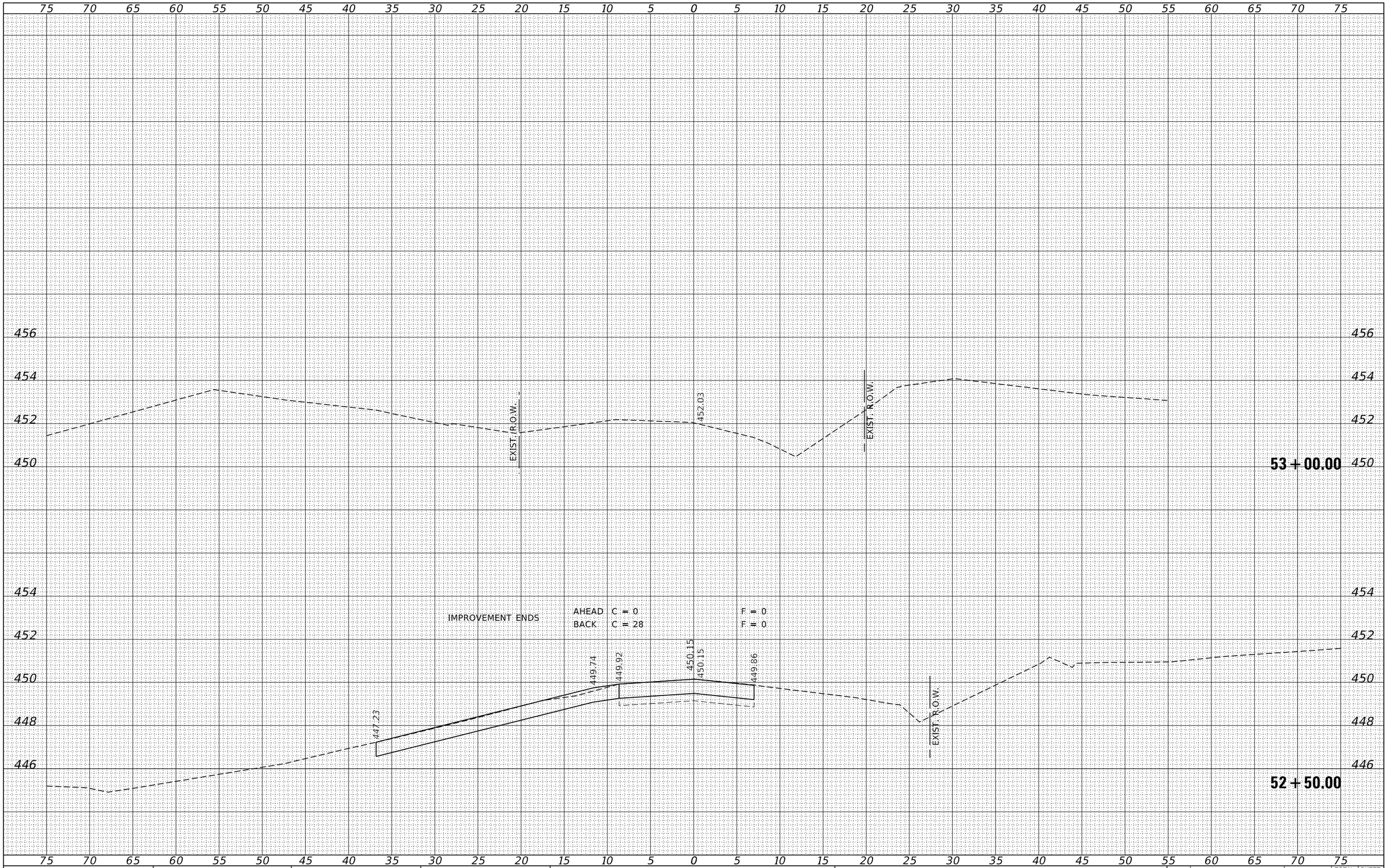
STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 10 OF 11 SHEETS | STA. 51+50.00 TO STA. 52+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	24
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
ILLINOIS	FED. AID PROJECT M3XU(565)			

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

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



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	PLOT DATE = 3/28/2019	DATE - 03/28/19	REVISED -

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CLAY COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS
QUARTZ LN

SCALE: 5H:2V | SHEET NO. 11 OF 11 SHEETS | STA. 52+50.00 TO STA. 53+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
179	16-09124-00-BR	CLAY	25	25
PIXLEY TOWNSHIP		CONTRACT NO. 95850		
ILLINOIS	FED. AID PROJECT M3XU(565)			