

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1464	15-00066-03-BR	LOGAN	20	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO.	

INDEX OF SHEETS

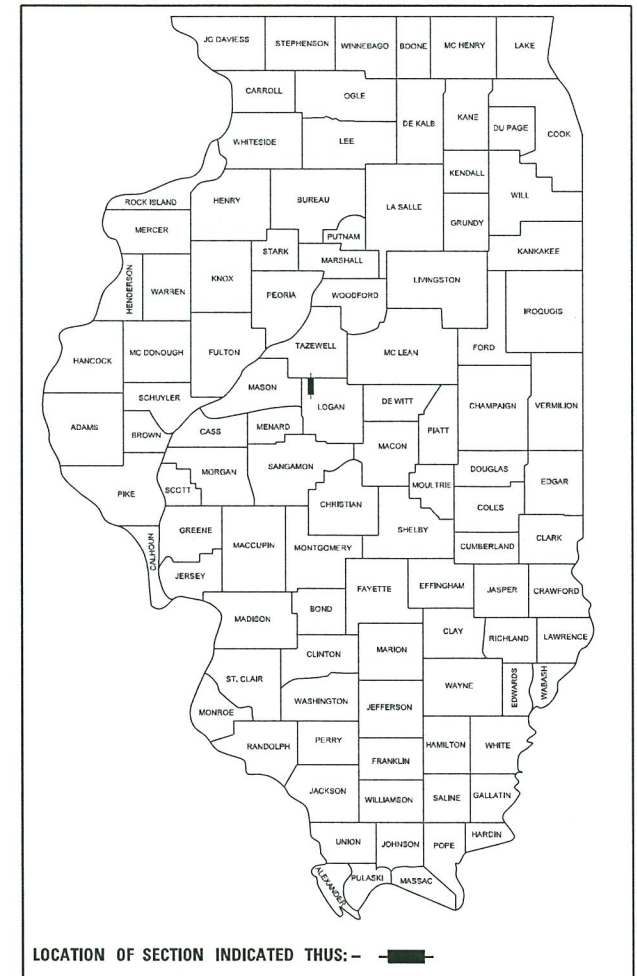
SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL CROSS SECTIONS
4.	PLAN AND PROFILE
5-8.	CULVERT PLANS
9.	BORINGS
10-20.	STATION CROSS SECTIONS

HIGHWAY STANDARDS:

000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
630301-08	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
701901-07	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 23-4	TRAFFIC BARRIER TERMINAL, TYPE 1
BLR 27-1	TRAFFIC BARRIER TERMINAL, TYPE 5A

**PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM – BRIDGE**

**PROJECT G2U3(718)
SECTION 15-00066-03-BR
LOGAN COUNTY
F.A.S. 1464 /C.H. 16 /DELAVAN ROAD
PROPOSED STRUCTURE NO. 054-3924
C-96-209-17**

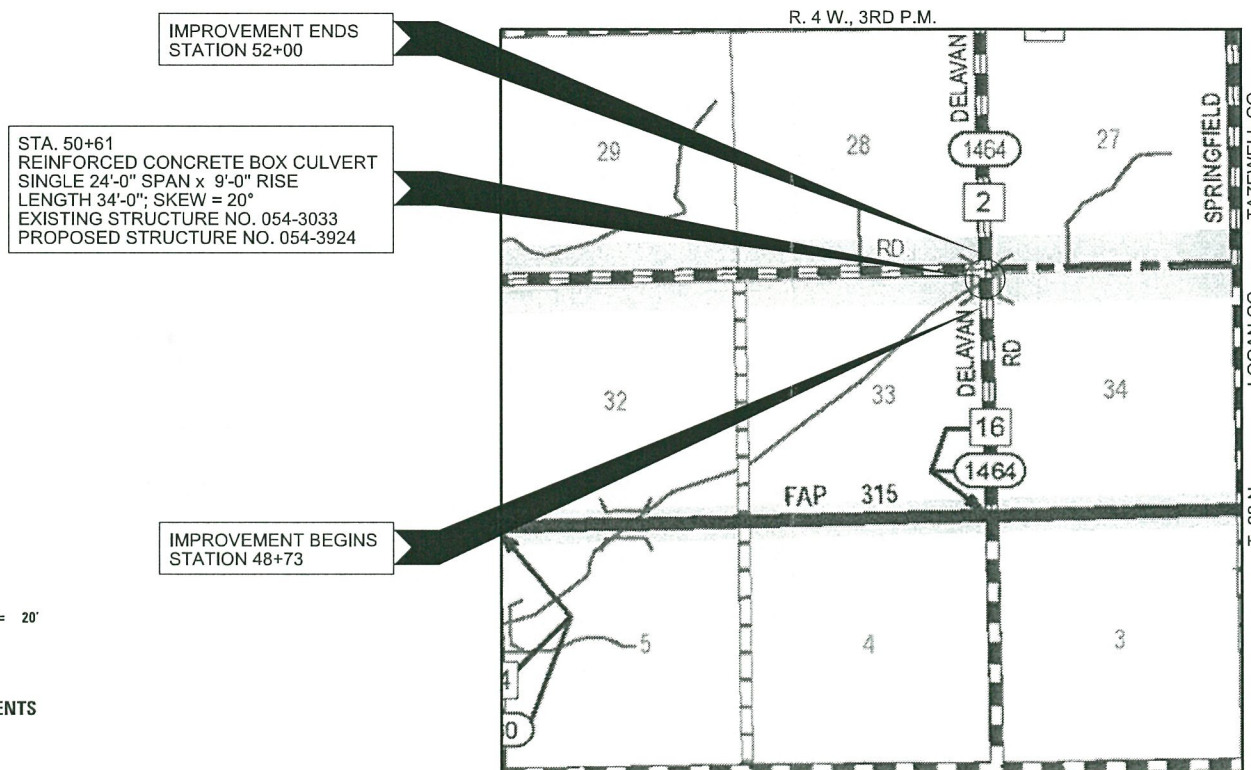


LOCATION OF SECTION INDICATED THUS: — ■ —

UTILITIES

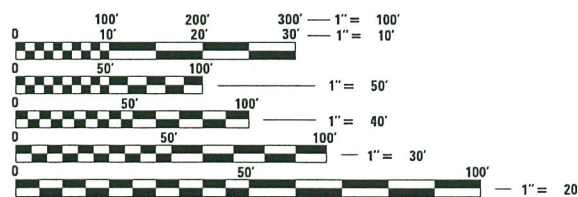
AMEREN
8420 N. UNIVERSITY
PEORIA, IL 61615
ATTN: ELYSE VERNON
309-693-4832

AT&T
201 S. CRESCENT ST.
GILMAN, IL 60938
C/O JMC ENGINEERS & ASSOCIATES
815-274-3093



LOCATION MAP

APPROXIMATE SCALE: 0 1/2 MILE
NET LENGTH OF SECTION = 327 FEET = 0.062 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: RURAL MAJOR COLLECTOR
DESIGN SPEED: 40 MPH
DESIGN TRAFFIC: 325 ADT

CONTRACT NO.



WARNING

**CALL 811
BEFORE YOU DIG**

DIG NO: X2391181

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 3/28 2018
B. A. Aljo
COUNTY ENGINEER

PASSED 5-25 2018
Cheryl L. DeBell
DISTRICT SIX ENGINEER OF
LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review
5-25 2018
Judy M. Southall
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 03/29/2018

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

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

184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

EXPIRES: 11/30/2019 PROJECT NUMBER: 16.0491.130 DATE: 03/29/2018

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	CONSTRUCTION CODE	
		UNIT	TOTAL
20200100	EARTH EXCAVATION	CU YD	350
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	280
35101400	AGGREGATE BASE COURSE, TYPE B	TON	174
48101200	AGGREGATE SHOULDERS, TYPE B	TON	133
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	32,020
50900205	STEEL RAILING, TYPE S1	FOOT	63
51500100	NAME PLATES	EACH	1
54003000	CONCRETE BOX CULVERTS	CU YD	162.3
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	42
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
67100100	MOBILIZATION	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	107
X2070302	POROUS GRANULAR EMBANKMENT, SPECIAL	TON	600
X2090210	POROUS GRANULAR BACKFILL, SPECIAL	CU YD	40
X0301852	DEWATERING STRUCTURE NO. 1	EACH	1

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

EARTHWORK SUMMARY							
LOCATION	EARTH EXCAVATION	MISC EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) / SHORTAGE (-)
	20200100						
DELAVAN ROAD / CH 16 / FAS 1464	CU YD				CU YD	CU YD	CU YD
STA 48+73.00 TO STA 52+00	347		25.00%	100.00%	260	128	132
EXCAVATION FROM STRUCTURE		440	25.00%	70.00%	231		231
TOTAL	347	440			491	128	363
USE	350						363

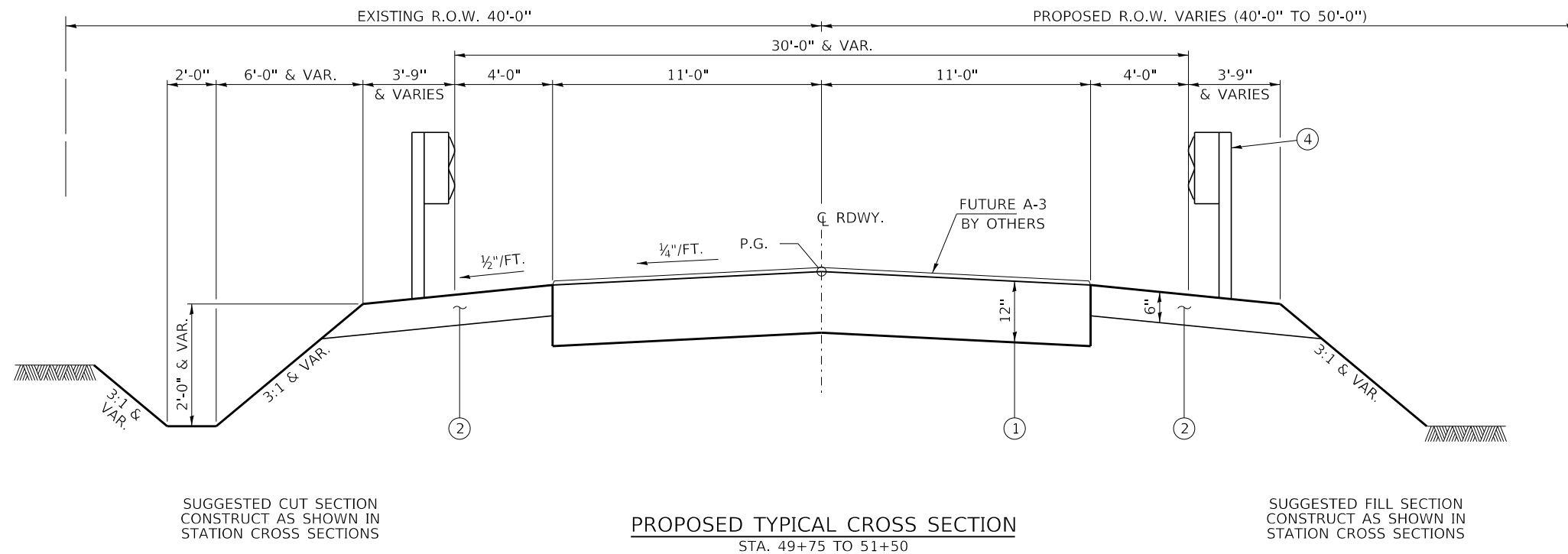
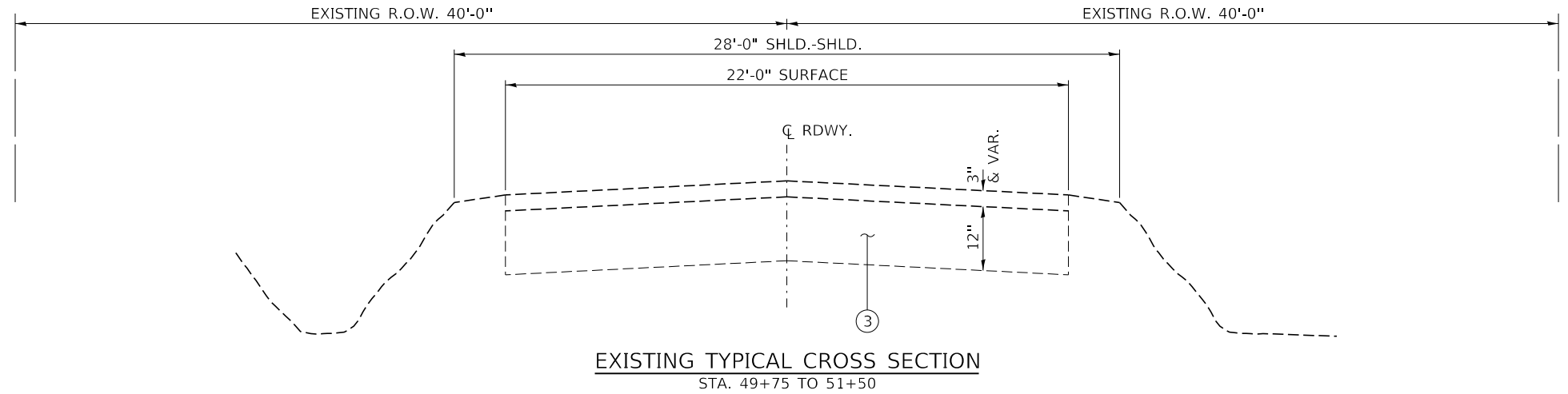
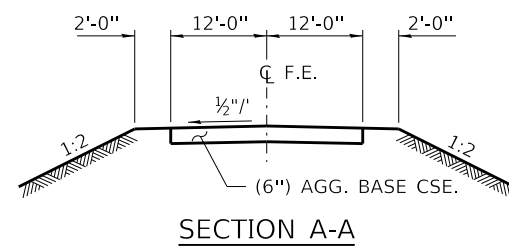
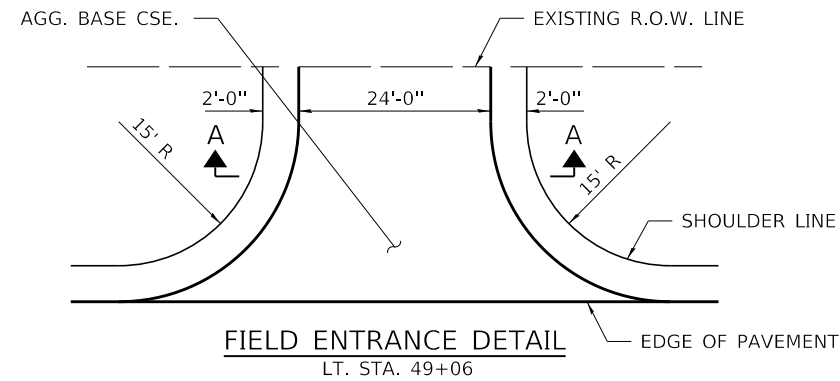
WASTE EXC 363 CU YD.

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 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. PROPOSED DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 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 LOCATION OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES HAS NOT BEEN PREDETERMINED. THESE LOCATIONS 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, JULIE, AND BY FIELD INSPECTION.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES.

AGGREGATE BASE COURSE	2.05 TON/CU YD
AGGR SHOULDER, TYPE B	2.0 TON/CU YD
- SEEDING SHALL BE DONE BY LOGAN COUNTY.
- THE FINAL SURFACE OF ALL EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE VEGETATIVE SUSTAINING SOIL CLEAR OF ROCKS AND DEBRIS SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING VEGETATION SUSTAINING SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
- THE ROAD SHALL BE CLOSED TO ALL TRAFFIC DURING CONSTRUCTION.
- ALL WASTE MATERIAL FROM EXCAVATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ROADWAY SCHEDULE				
LOCATION	AGGREGATE BASE COURSE	AGGREGATE SHOULDERS	POROUS GRANULAR EMBANKMENT	POROUS GRANULAR BACKFILL
	TYPE B	TYPE B	SPECIAL	SPECIAL
DELAVAN ROAD / CH 16 / FAS 1464	35101400	48101200	X2070302	X2090210
	TON	TON	TON	CU YD
STA 48+73.00 TO STA 52+00	174	133	600	40
TOTAL	174	133	600	40



SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

NOTE:
TRANSITION FROM EXISTING TO PROPOSED
SHOULDERS SHALL BE CONSTRUCTED AS PER
STATION SHOWN ON SHEET 4.

LEGEND

- ① AGGREGATE BASE COURSE, TYPE B (12")
- ② AGGREGATE SHOULDERS, TYPE B (6")
- ③ EXISTING OIL & CHIP SURFACE (3") ON AGGREGATE BASE (12")
- ④ STEEL PLATE BEAM GUARDRAIL / TRAFFIC BARRIER TERMINAL

FILE NAME = 160491-sht-typsections.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - D.A.B.	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 5/4/2018	DATE - 03/29/18	REVISED -

STATE OF ILLINOIS
LOGAN COUNTY HIGHWAY DEPARTMENT

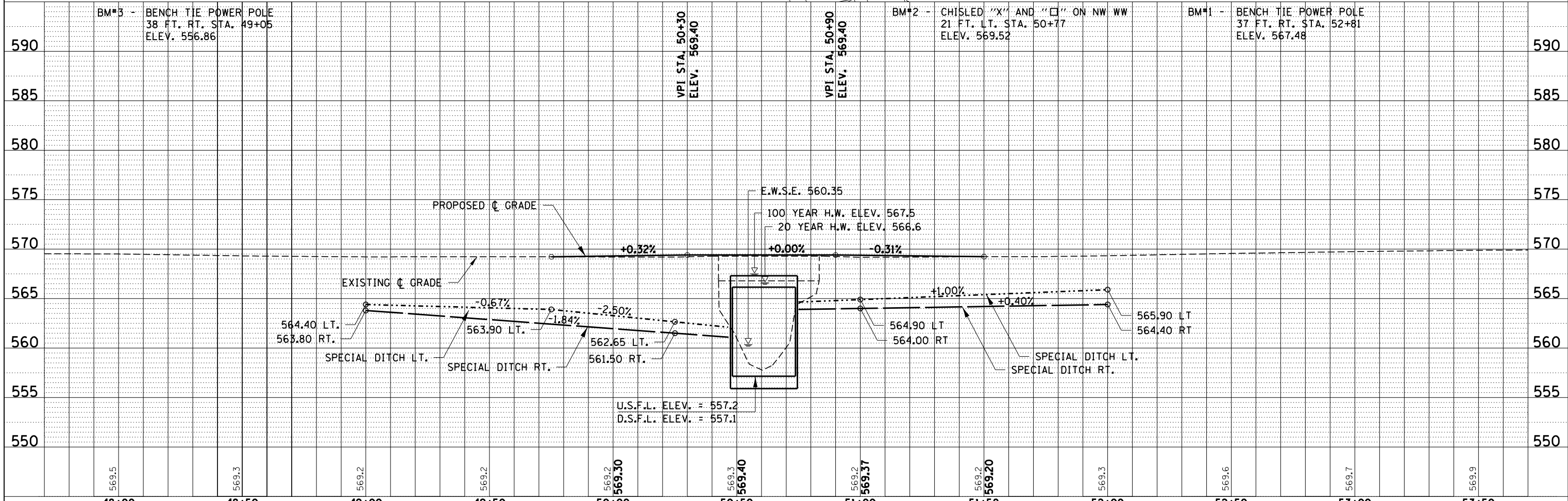
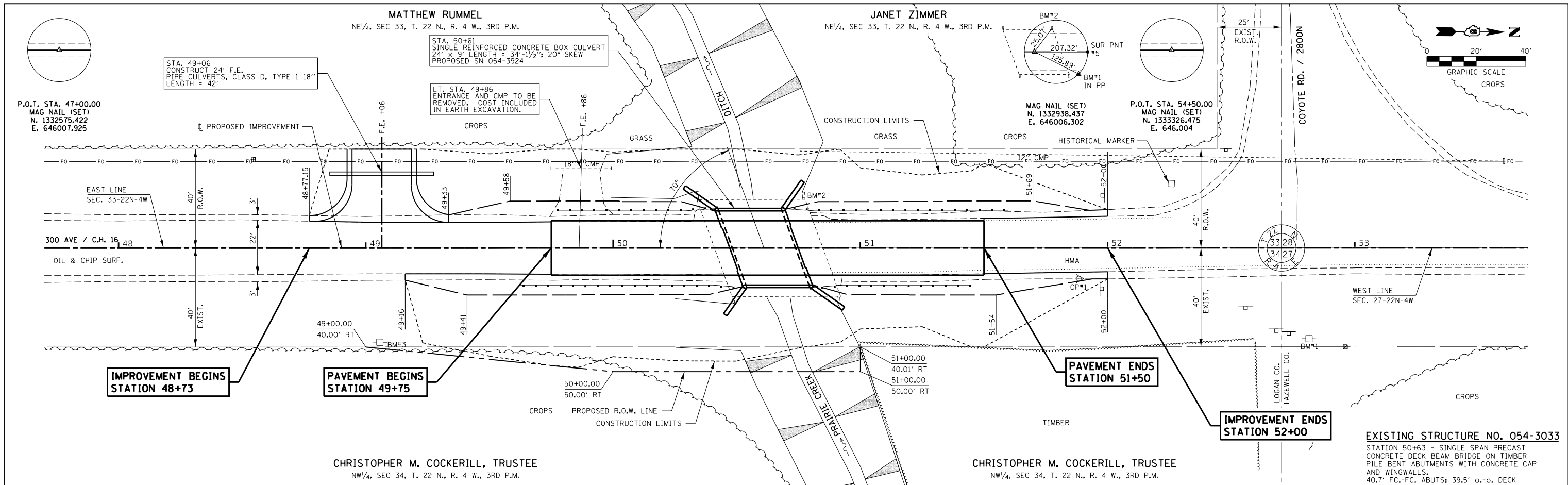
TYPICAL CROSS SECTIONS

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

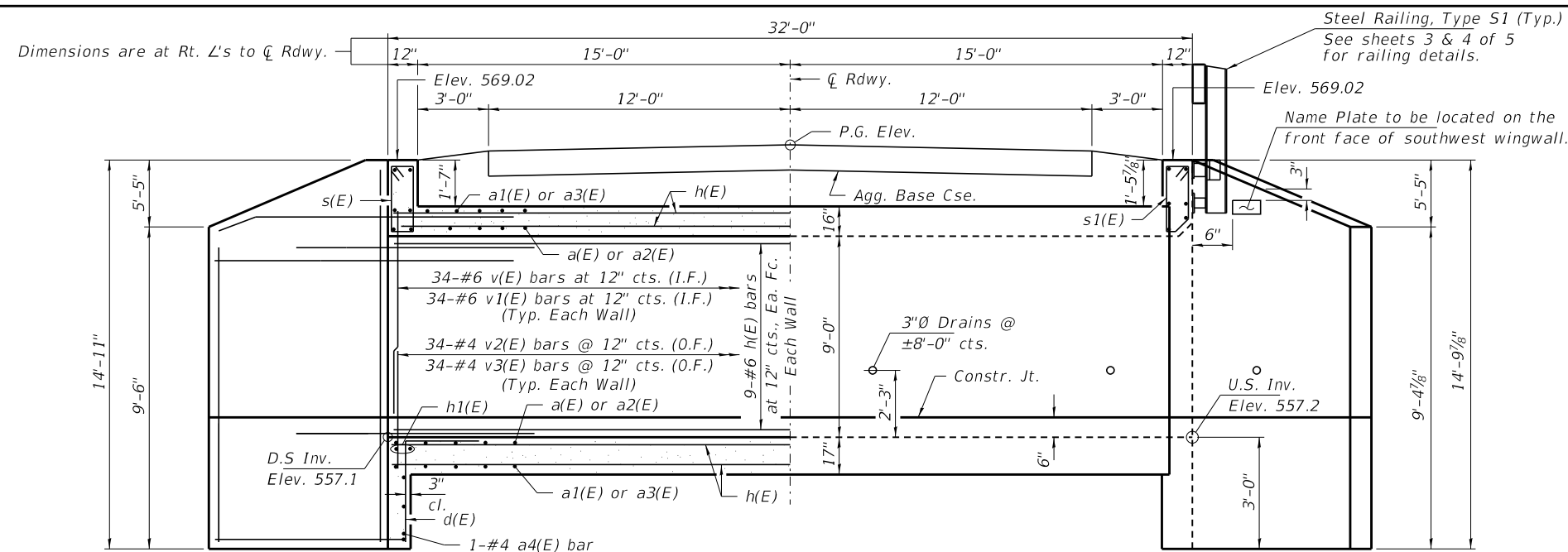
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	3
C.H. 16 / DELAVAN ROAD			CONTRACT NO. 93718	
ILLINOIS FED. AID PROJECT G2U31718				

DATE	
BY	
PLAN	SURVEYED
	NOTED
	PLOTTED
	CHECKED
	FILED
	NO.

DATE	
BY	
PROFILE	SURVEYED
	NOTED
	PLOTTED
	CHECKED
	FILED
	NO.

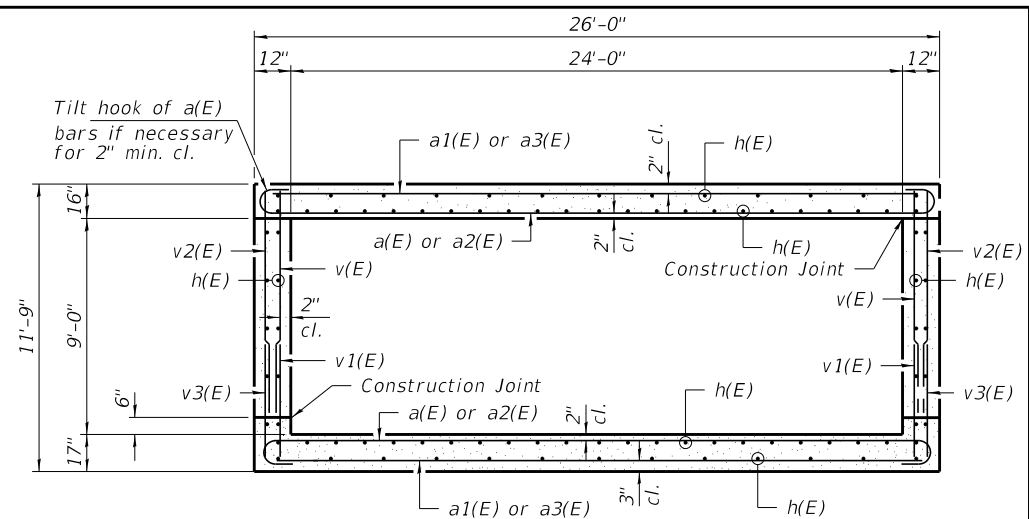


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HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -			1464	15-00066-03-BR	LOGAN	20	4
3065 STEVENSON DRIVE, SUITE 201		CHECKED - S.W.M.	REVISED -			DELANAV ROAD		CONTRACT NO. 93718		
SPRINGFIELD, ILLINOIS 62703		DATE - 03/29/18	REVISED -			ILLINOIS FED. AID PROJECT G2U3(718)				



HALF LONG SECTION
Showing Reinforcement

HALF ELEVATION
Showing Outlines



SECTION THRU BARREL

NOTES

Exposed edges shall be beveled 3/4".
 For backfilling and embankment, see Standard Specifications, except that Porous Granular Embankment shall be placed as shown in backfill detail for the full length of the culvert.
 Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60.
 See Special Provisions.
 It shall be the responsibility of the Contractor to divert flow during construction in order to keep construction areas free of water. The method of water diversion shall be subject to the approval of the Engineer and shall be included in the cost of Concrete Box Culverts.
 All construction joints shall be bonded.
 Precast concrete box culverts will not be allowed.
 All bars shall be epoxy coated.
 A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	120	#9	28'-6"	C
a2(E)	60	#5	25'-8"	—
a3(E)	36	#9	31'-8"	C
a4(E)	18	#5	28'-10"	—
a4(E)	2	#4	28'-6"	—
d(E)	50	#4	4'-5"	L
h(E)	190	#6	33'-10"	—
h1(E)	4	#6	25'-6"	—
h2(E)	8	#10	26'-6"	—
h3(E)	4	#7	26'-6"	—
h4(E)	30	#8	20'-8"	—
h5(E)	20	#8	17'-6"	—
h6(E)	28	#5	19'-0"	—
h7(E)	30	#8	17'-8"	—
h8(E)	20	#8	16'-5"	—
h9(E)	28	#5	17'-6"	—
s(E)	26	#5	7'-9"	□
s1(E)	26	#5	7'-5"	□
v(E)	68	#6	9'-6"	—
v1(E)	68	#6	4'-1"	—
v2(E)	72	#4	10'-1"	—
v3(E)	72	#4	4'-1"	—
v4(E)	60	#4	14'-5"	—
Porous Granular Embankment, Special				Ton 600
Stone Dumped Riprap, Class A4				Ton 280
Reinf. Bars, Epoxy Coated				Pound 32,020
Name Plates				Each 1
Concrete Box Culverts				Cu. Yd. 162.3
Membrane Waterproofing System for Buried Struct.				Sq. Yd. 107
Porous Gran. Backfill, Spl.				Cu. Yd. 40

INDEX OF STRUCTURE SHEETS

- 1-3. Culvert Details
- 4. Steel Railing, Type S-1
- 5. Borings

MIN. BAR LAP
#6 = 2'-7"

DESIGN STRESSES

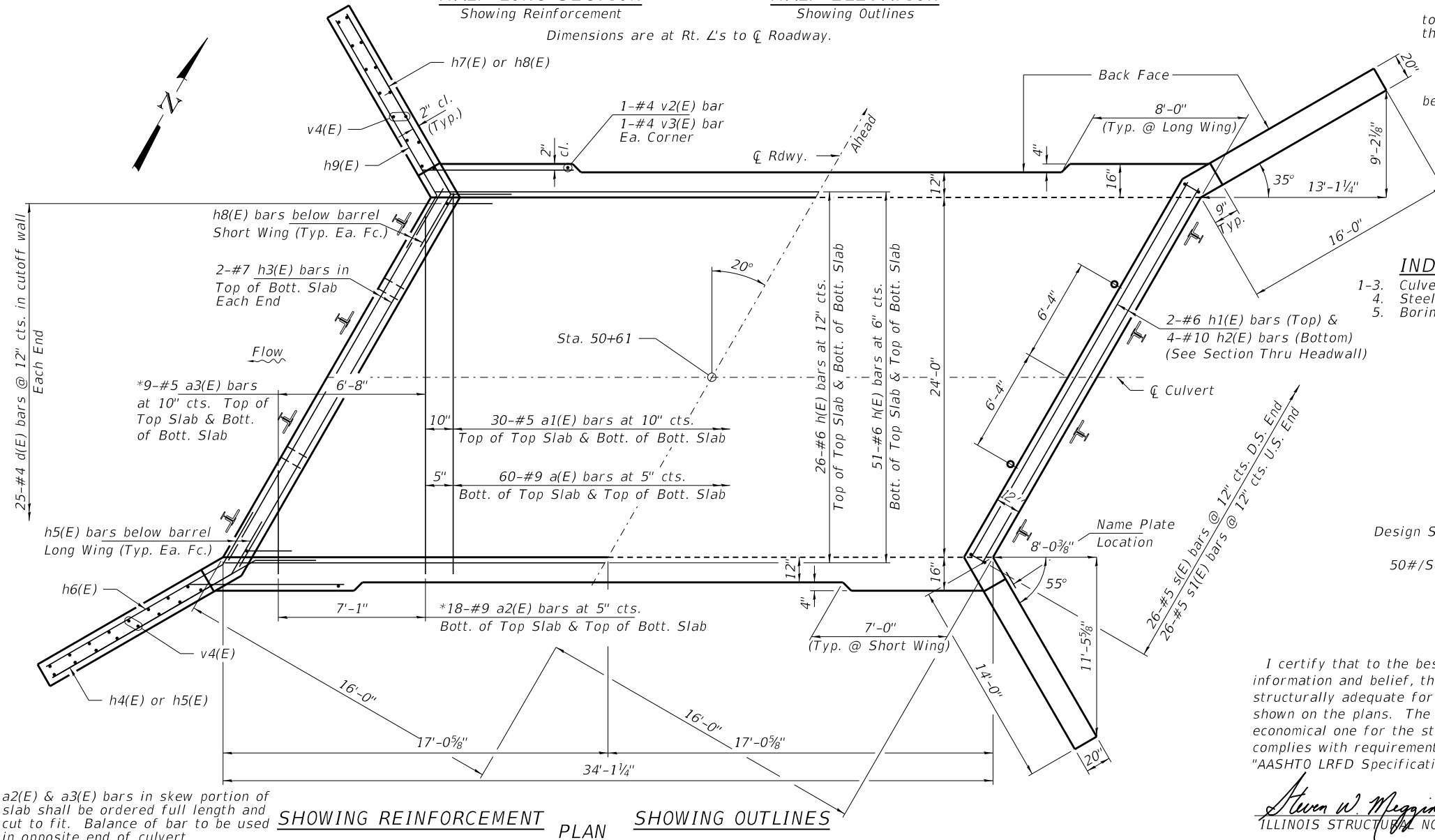
f'c = 3,500 psi
 fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2014 AASHTO LRFD with all interims.
 50#/Sq. Ft. included in dead load for future wearing surface.

I certify that to the best of my knowledge, information and belief, this culvert 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 03/29/2018
 ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



SHOWING REINFORCEMENT PLAN

SHOWING OUTLINES

* a2(E) & a3(E) bars in skew portion of slab shall be ordered full length and cut to fit. Balance of bar to be used in opposite end of culvert.

FILE NAME = 160491-sht-culvert.dgn	USER NAME = rhosick
DESIGNED - J.T.H.	
CHECKED - S.W.M.	
DRAWN - D.A.B.	
CHECKED - S.W.M.	
PLOT SCALE = #SCALE#	
PLOT DATE = 5/7/2018	

DESIGNED - J.T.H.	REVISED -
CHECKED - S.W.M.	REVISED -
DRAWN - D.A.B.	REVISED -
CHECKED - S.W.M.	REVISED -

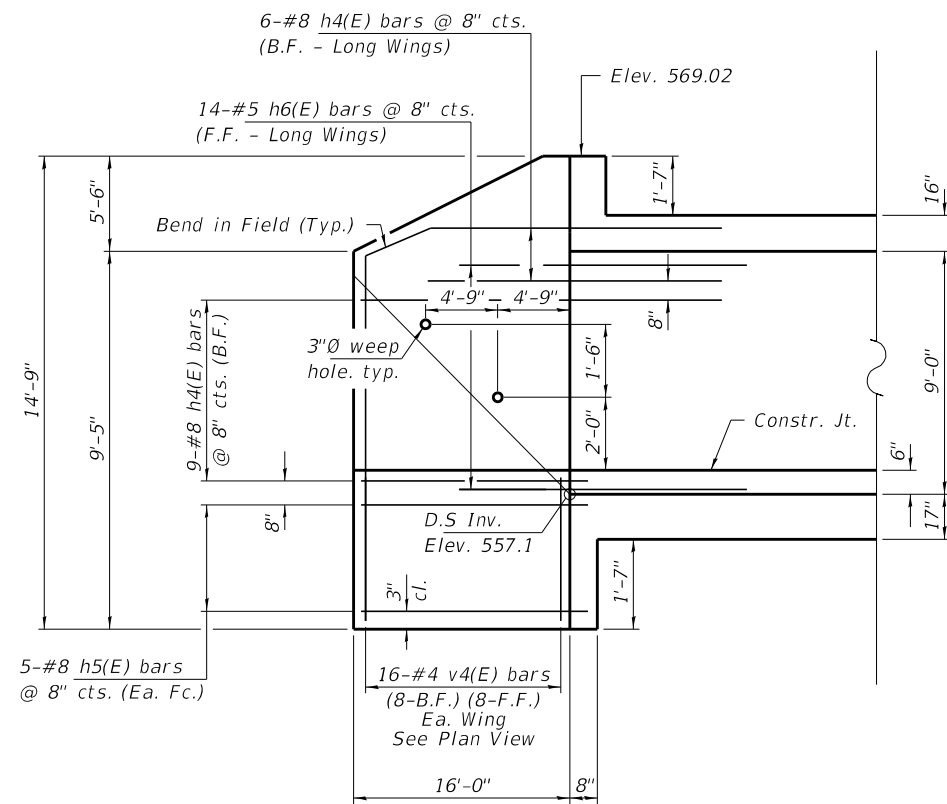
STATE OF ILLINOIS
LOGAN COUNTY HIGHWAY DEPARTMENT

CULVERT DETAILS
STRUCTURE NO. 054-3924

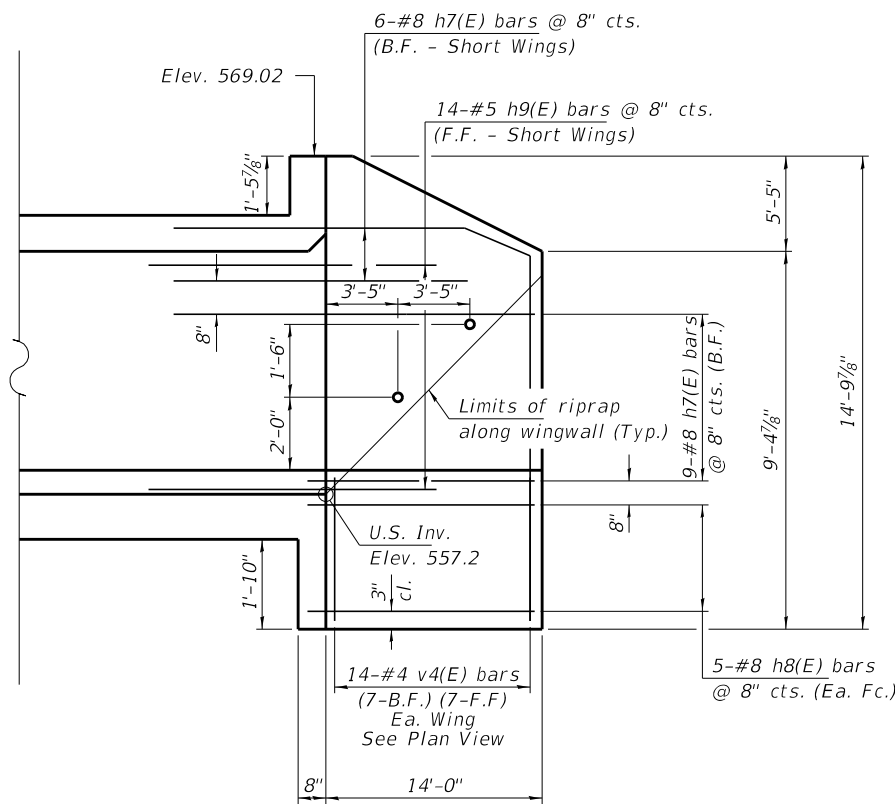
SHEET NO. 1 OF 5 SHEETS

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	5
C.H. 16 / DELAVAN ROAD			CONTRACT NO. 93718	

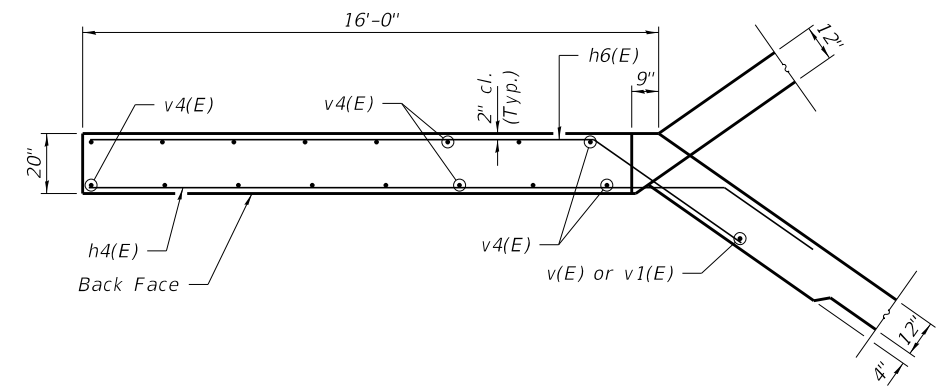
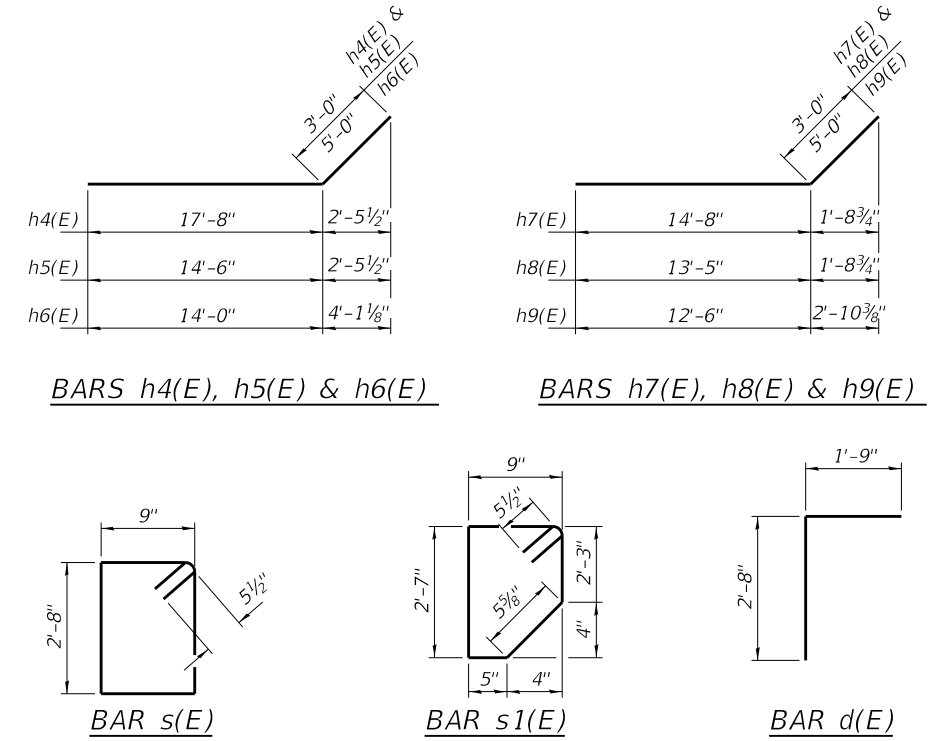
ILLINOIS FED. AID PROJECT G2U31718



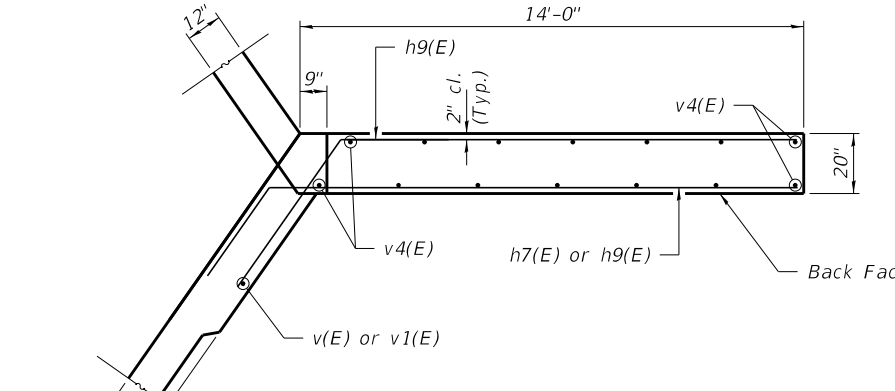
NORTHWEST AND SOUTHEAST WINGWALL ELEV. - (LONG WING)



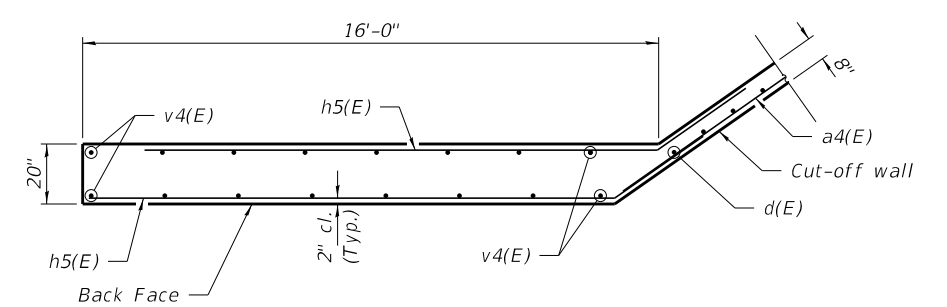
NORTHEAST AND SOUTHWEST WINGWALL ELEV. - (SHORT WING)



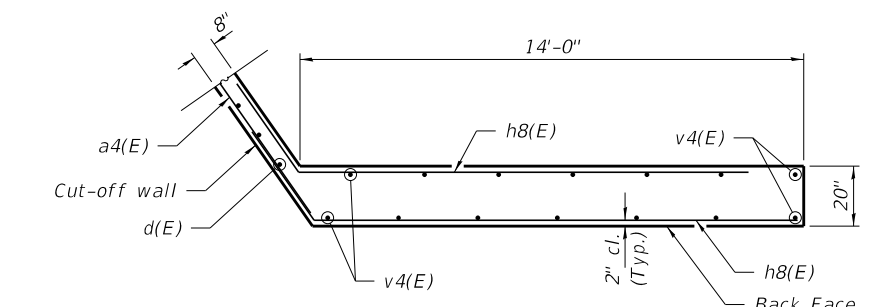
NORTHWEST AND SOUTHEAST WINGWALL UPPER PLAN - (LONG WING)



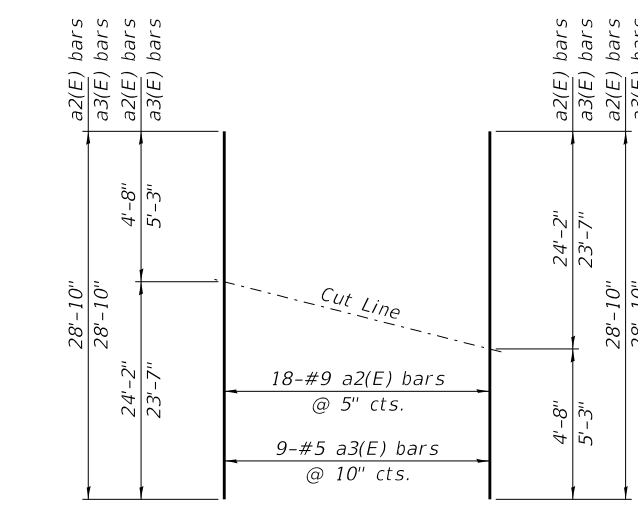
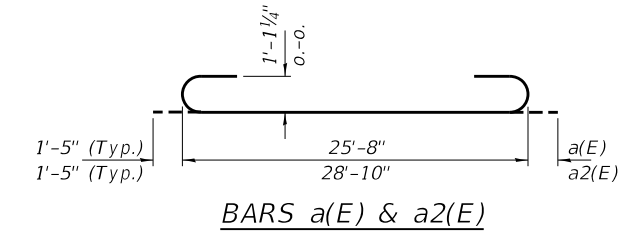
NORTHEAST AND SOUTHWEST WINGWALL UPPER PLAN - (SHORT WING)



NORTHWEST AND SOUTHEAST WINGWALL LOWER PLAN - (LONG WING)



NORTHEAST AND SOUTHWEST WINGWALL LOWER PLAN - (SHORT WING)

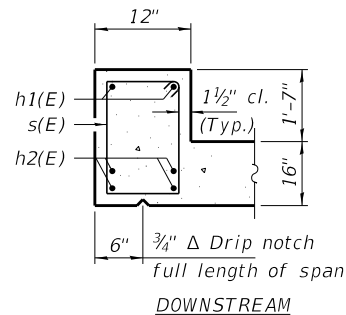
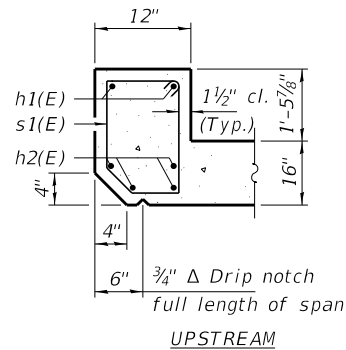


CUTTING DIAGRAM
Order a2(E) and a3(E) bars full length. Cut as shown and use the remainder in opposite end of culvert.

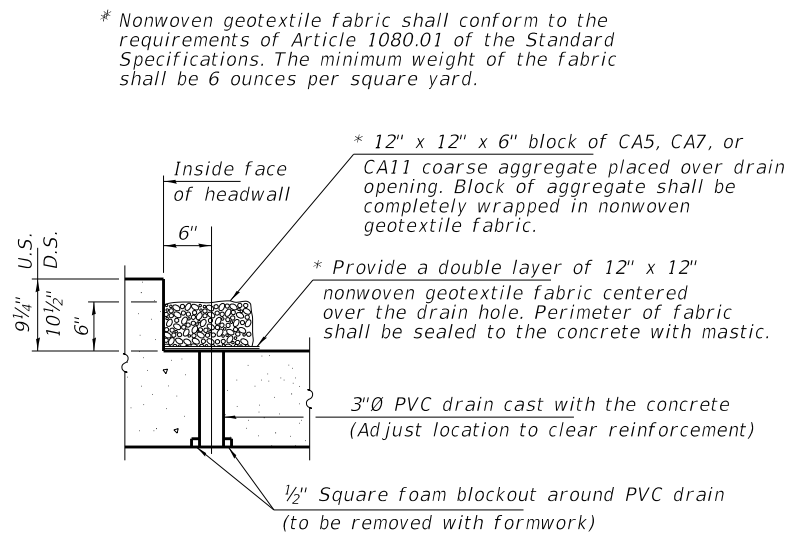
NOTES

1. For Bill of Material and reinforcement bars summary see sheet 1 of 4.
2. B.F. denotes Back Face and F. F. denotes Front Face.

FILE NAME = 160491-sht-culvert.dgn	USER NAME = rhosick	DESIGNED - J.T.H.	REVISED -	STATE OF ILLINOIS LOGAN COUNTY HIGHWAY DEPARTMENT	CULVERT DETAILS STRUCTURE NO. 054-3924	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORP. 184.000959	PLOT SCALE = #SCALE#	CHECKED - S.W.M.	REVISED -			1464	15-00066-03-BR	LOGAN	20	6	
PLOT DATE = 5/4/2018	DRAWN - D.A.B.	CHECKED - S.W.M.	REVISED -			C.H. 16 / DELAVAN ROAD		CONTRACT NO. 93718		ILLINOIS FED. AID PROJECT G2U31718	
						SHEET NO. 2 OF 5 SHEETS					

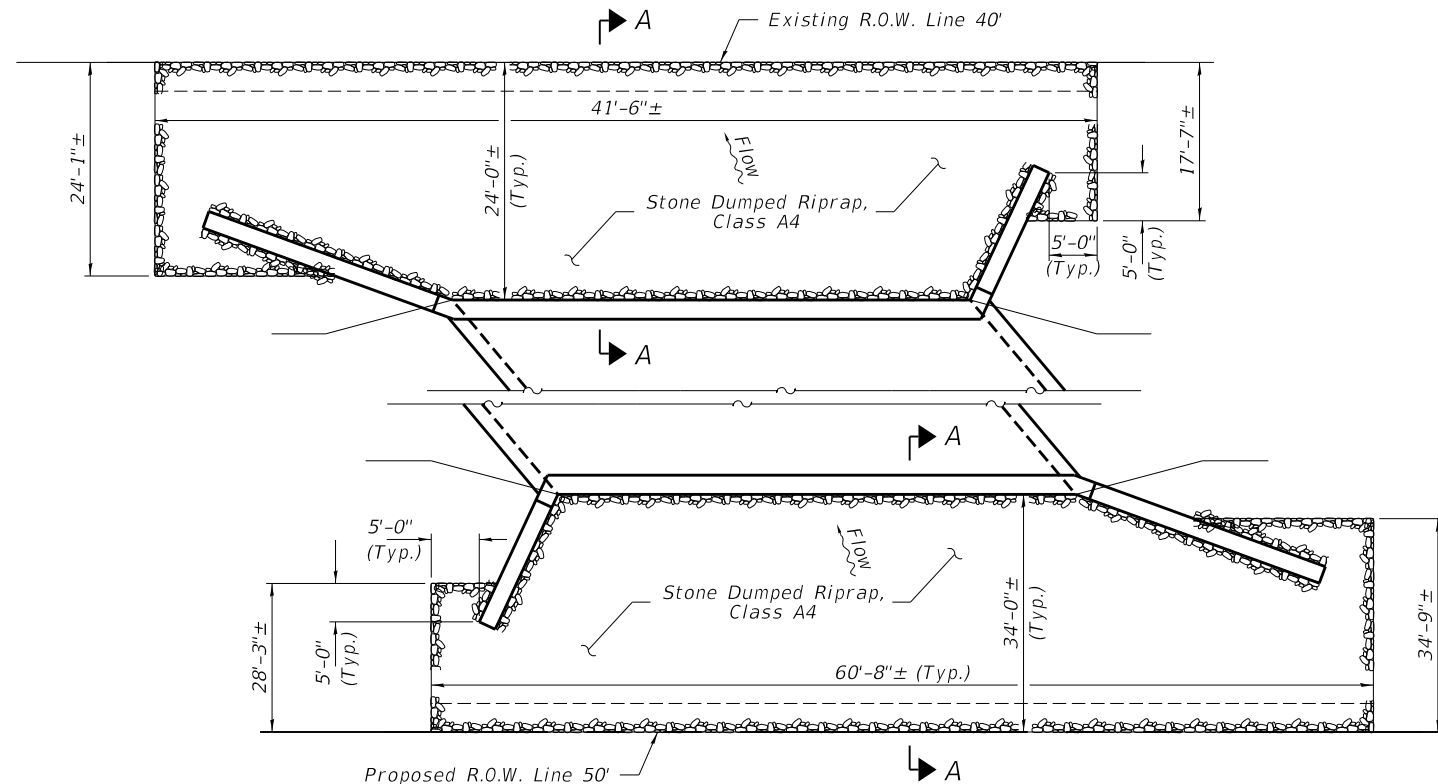


SECTION THRU HEADWALL

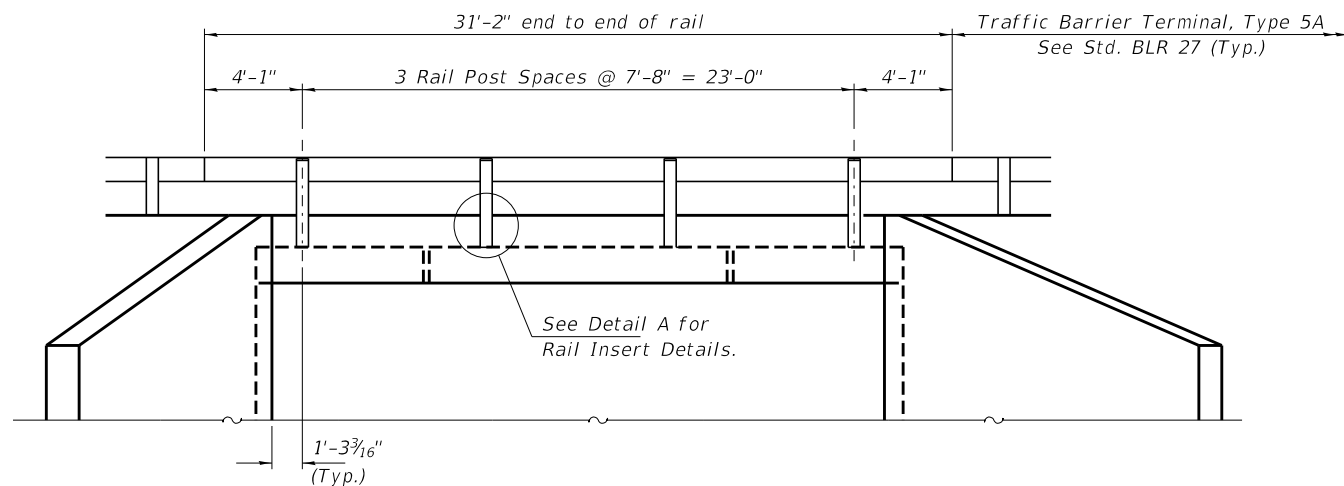


DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for Concrete Box Culverts.)

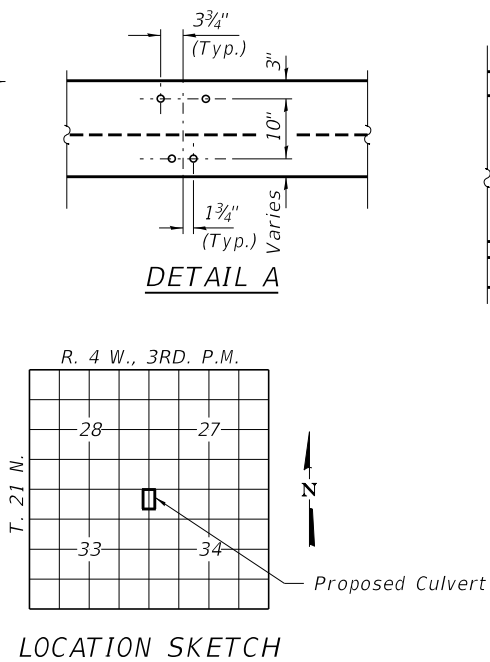


RIPRAP LAYOUT



ELEVATION

Showing Rail Post Spaces
See sheet 4 of 5 for Railing Details.



DETAIL A

LOCATION SKETCH

WATERWAY INFORMATION

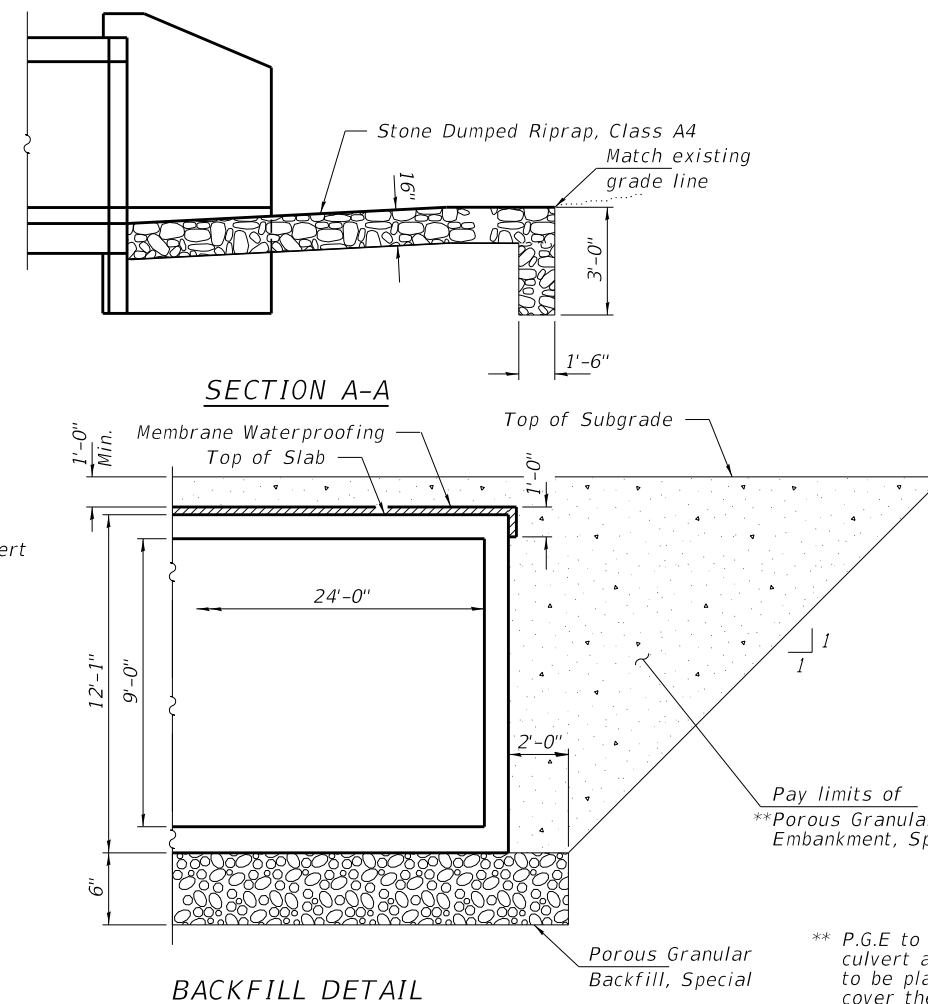
Drainage Area = 20.6 Sq. Mi. Existing Low Grade Elev. 569.2 @ Sta. 49+00
Proposed Low Grade Elev. 569.2 @ Sta. 49+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	860	170	210	565.95	0.10	0.04	566.05	565.99	
Base	20	1090	190	220	566.60	0.70	0.36	567.30	566.96	
Scour Check	100	1670	200	220	567.56	1.25	1.20	568.81	568.76	
Exist. Overtop	200	1920	200	220	567.84	1.33	1.31	569.17	569.15	
Prop. Overtop	200	1920	200	220	567.84	1.33	1.31	569.17	569.15	
Max. Calc.	500	2290	200	220	568.21	1.28	1.28	569.49	569.49	

10 Year Velocity through Existing Bridge = 5.1 fps 10 Year Velocity through Proposed Bridge = 4.1 fps

PRAIRIE CREEK DITCH
BUILT 201 BY
LOGAN COUNTY
SEC. 15-00066-03-BR
C.H. 16 / DELAVAN ROAD
STR. NO. 054-3924
LOADING HL-93

NAME PLATE
See Std. 515001



BACKFILL DETAIL

** P.G.E to extend the full length of culvert and wings. 18" earth cap to be placed at end of wings to cover the P.G.E.

FILE NAME = 160491-sht-culvert.dgn	USER NAME = rhosick	DESIGNED - J.T.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	CHECKED - S.W.M.	REVISED -
PLOT SCALE = #SCALE#	DRAWN - D.A.B.	CHECKED - S.W.M.	REVISED -
PLOT DATE = 5/4/2018			

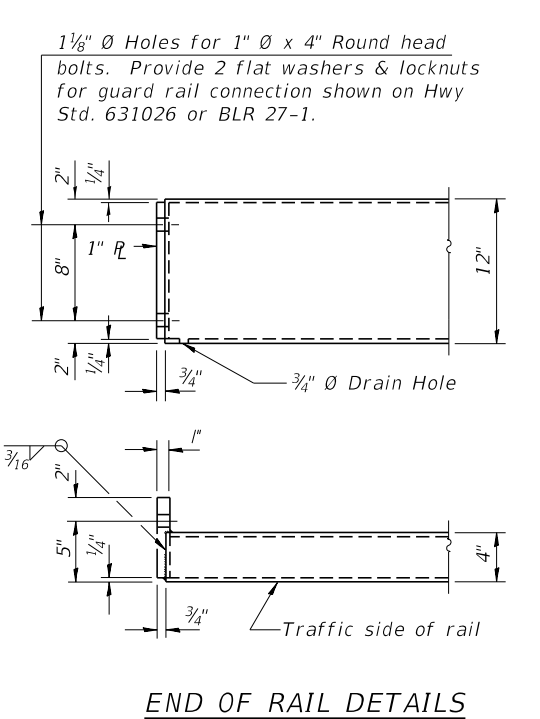
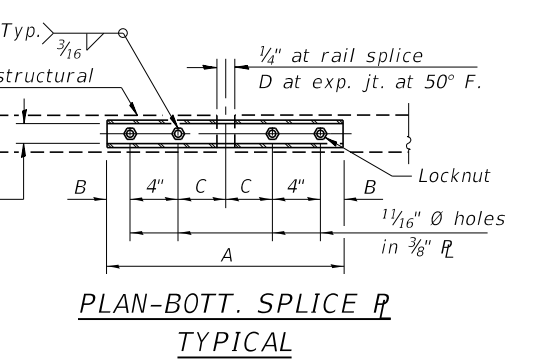
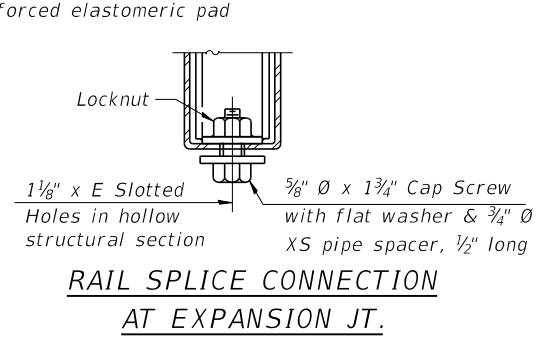
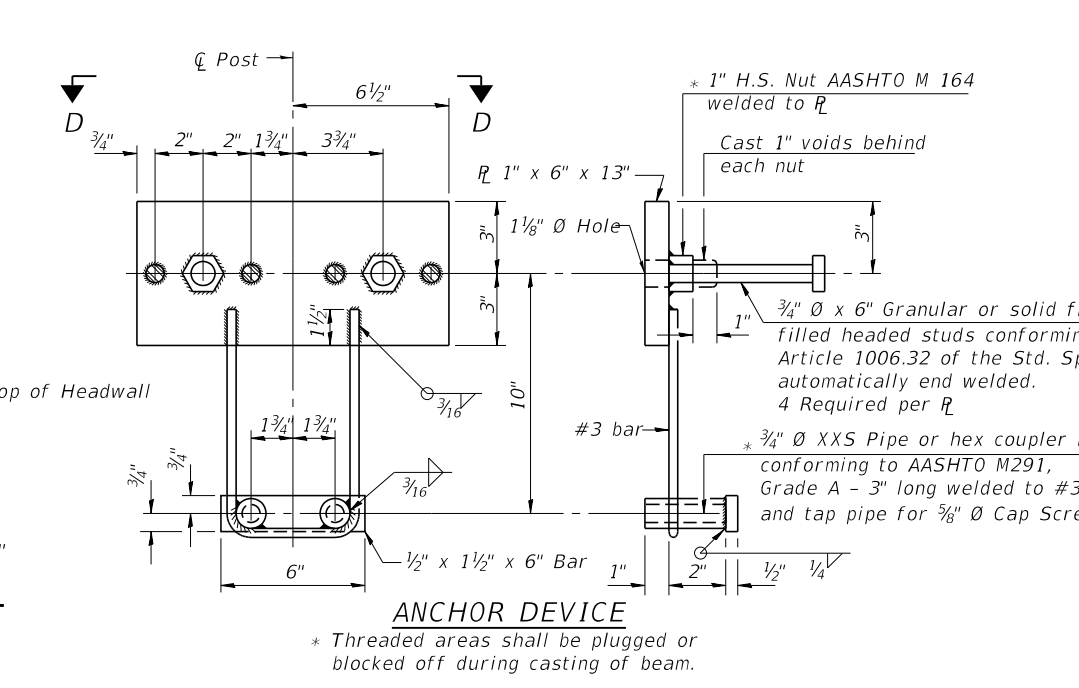
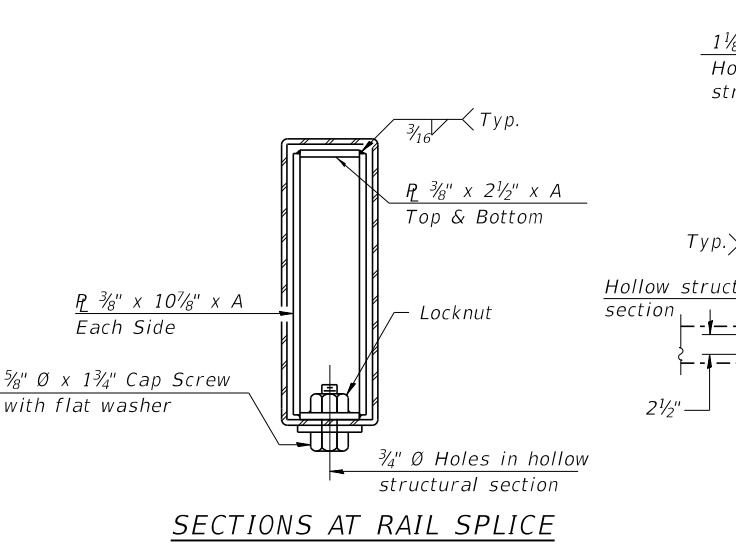
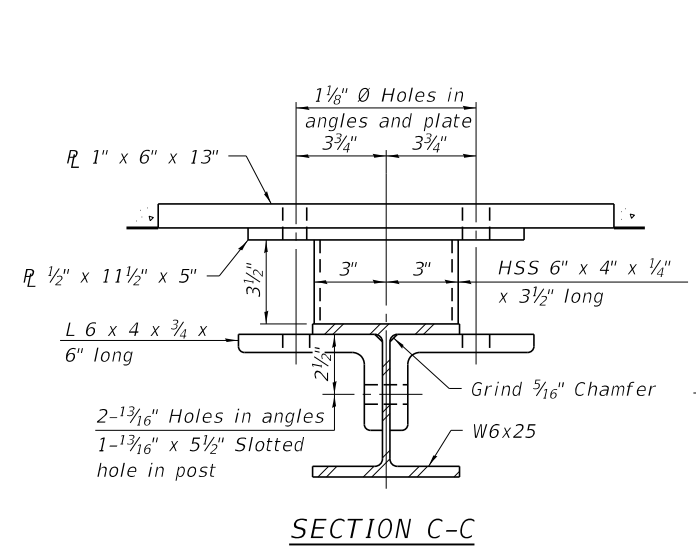
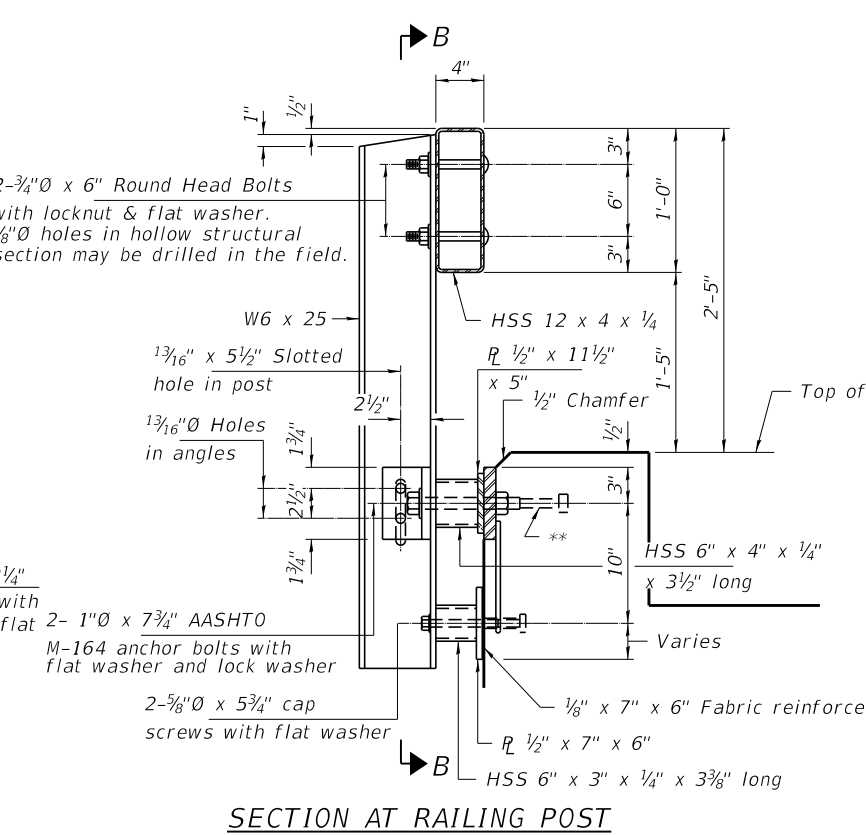
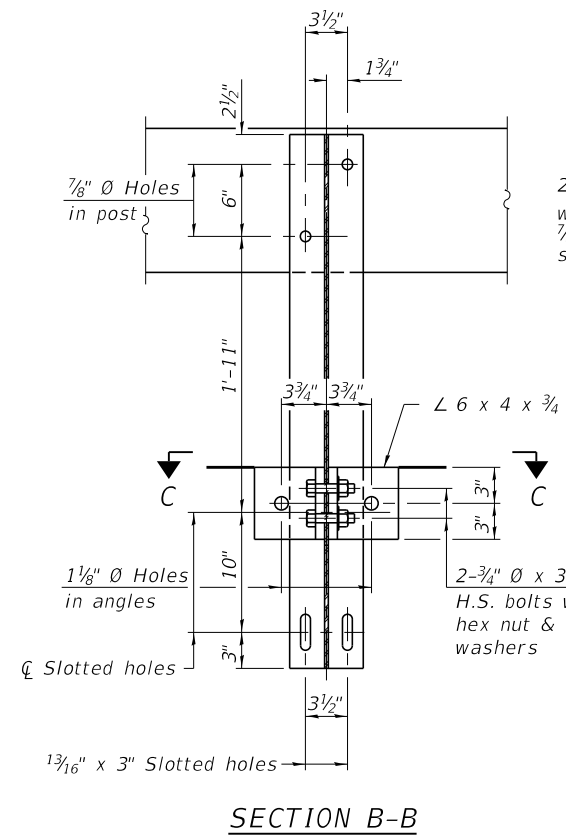
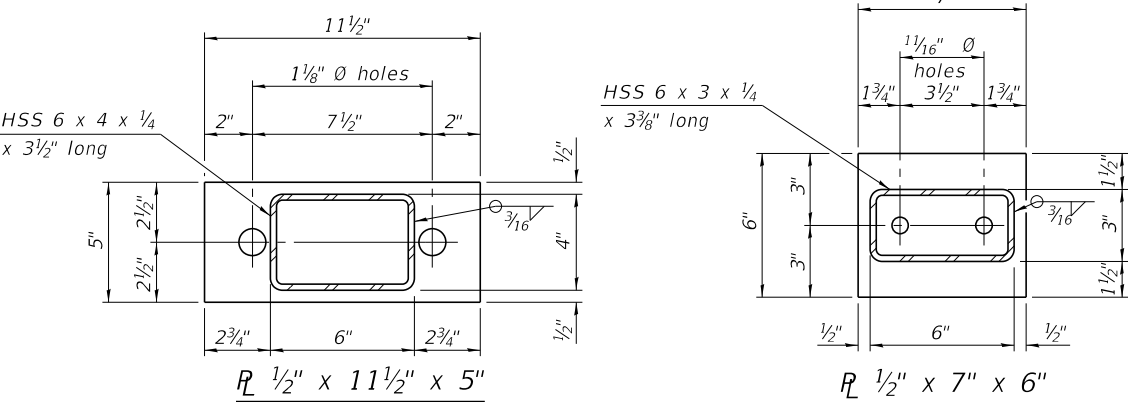
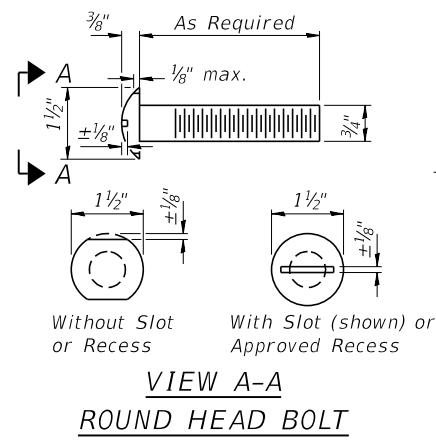
**STATE OF ILLINOIS
LOGAN COUNTY HIGHWAY DEPARTMENT**

**CULVERT DETAILS
STRUCTURE NO. 054-3924**

SHEET NO. 3 OF 5 SHEETS

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	7
C.H. 16 / DELAVAN ROAD		CONTRACT NO. 93718		

ILLINOIS FED. AID PROJECT G2U31718



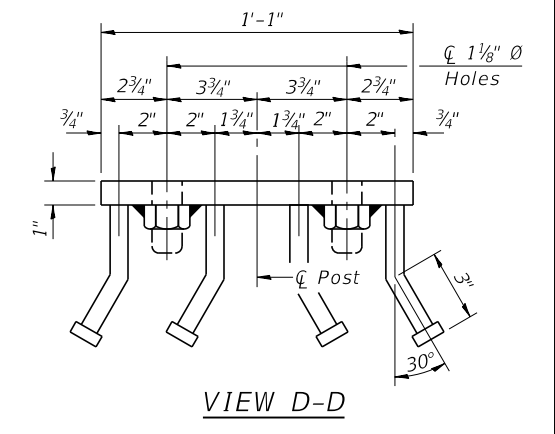
SPLICE DIMENSIONS

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.



BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	63

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

FILE NAME = 160491-sht-culvert.dgn	USER NAME = rhosck	DESIGNED - J.T.H.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.	PLOT SCALE = #SCALE#	CHECKED - S.W.M.	REVISED -
3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62763 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009959	PLOT DATE = 5/4/2018	DRAWN - D.A.B.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
LOGAN COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S-1
STRUCTURE NO. 054-3924

SHEET NO. 4 OF 5 SHEETS

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	8
C.H. 16 / DELAVAN ROAD		CONTRACT NO. 93718		

ILLINOIS FED. AID PROJECT G2U31718



Illinois Department of Transportation
Division of Highways
Reynolds Drilling Corporation

SOIL BORING LOG

Page 2 of 2

Date 8/23/17

ROUTE 15-00066-03-BR DESCRIPTION Bridge Replacement Boring LOGGED BY HW

SECTION 33 LOCATION SEC. 33, TWP. 22, RNG. 4, 3rd PM

COUNTY Logan County DRILLING METHOD HSA HAMMER TYPE Hydraulic

STRUCT. NO. 15-00066-03-BR
Station _____
BORING NO. B-1
Station _____
Offset 568.8
Ground Surface Elev. 99.53 ft

DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)	DESCRIPTION
10	22	4.5	8.8	A-4 SILTY CLAY LOAM — Gray, moist-very moist, low to medium plasticity, little sand, trace gravel (continued)	10	11		21.6	A-1-a MEDIUM SAND — Gray, wet to saturated, medium dense to dense (continued)
22	29	p			11	14			
520.3	51.03				7	7		25.8	
510.3	41.03			A-4 LOAM — Gray, moist, silt and clay, with to and sand	7	10			
		6	0.8	28.5	47	50	4.5	8.6	A-4 SILTY CLAY LOAM — Gray, moist, hard, Till, Little sand, Trace Gravel
		8	p		493.8	24.53			End of Boring
		4	0.5	28.3					
		5	p						
		5	p						
		4							
		5							
		23							
		30							
		50							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

RRS, from 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways
Reynolds Drilling Corporation

SOIL BORING LOG

Page 1 of 2

Date 8/23/17

ROUTE 15-00066-03-BR DESCRIPTION Bridge Replacement Boring LOGGED BY HW

SECTION 33 LOCATION SEC. 33, TWP. 22, RNG. 4, 3rd PM

COUNTY Logan County DRILLING METHOD HSA HAMMER TYPE Hydraulic

STRUCT. NO. 15-00066-03-BR
Station _____
BORING NO. B-1
Station _____
Offset 568.8
Ground Surface Elev. 99.53 ft

DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)	DESCRIPTION
99.03				Crushed stone and mixed soil at road edge	10	11		21.6	A-1-a MEDIUM SAND — Gray, wet to saturated, medium dense to dense (continued)
98.03	3			A-6- SILTY CLAY LOAM — Brown, moist, stiff, trace sand, trace gravel	11	14			
	2	2.0	24.1	SILTY CLAY LOAM — Dark brown to gray, firm to stiff, moist, trace sand, trace gravel	7	7		25.8	
	3				47	50	4.5	8.6	A-4 SILTY CLAY LOAM — Gray, moist, hard, Till, Little sand, Trace Gravel
	3	1.5	25.9		493.8	24.53			End of Boring
	4	p							
	4	0.8	28.8						
	4	p							
	2								
	2	0.8	27.4						
	2	p							
	8			A-1-a FINE SAND — Brown to gray, moist, fine sand					
	9								
	10								
	1								
	2	0.5	27.6						
	2	p							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

RRS, from 137 (Rev. 8-99)

BORING B-1

FILE NAME = 160491-sht-culvert.dgn	USER NAME = rhosick	DESIGNED - J.T.H.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3035 STEVENSON DRIVE, SUITE 201		DRAWN - D.A.B.	REVISED -
SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM			
LS / PE / SE CORP. 184.000959			

STATE OF ILLINOIS
LOGAN COUNTY HIGHWAY DEPARTMENT

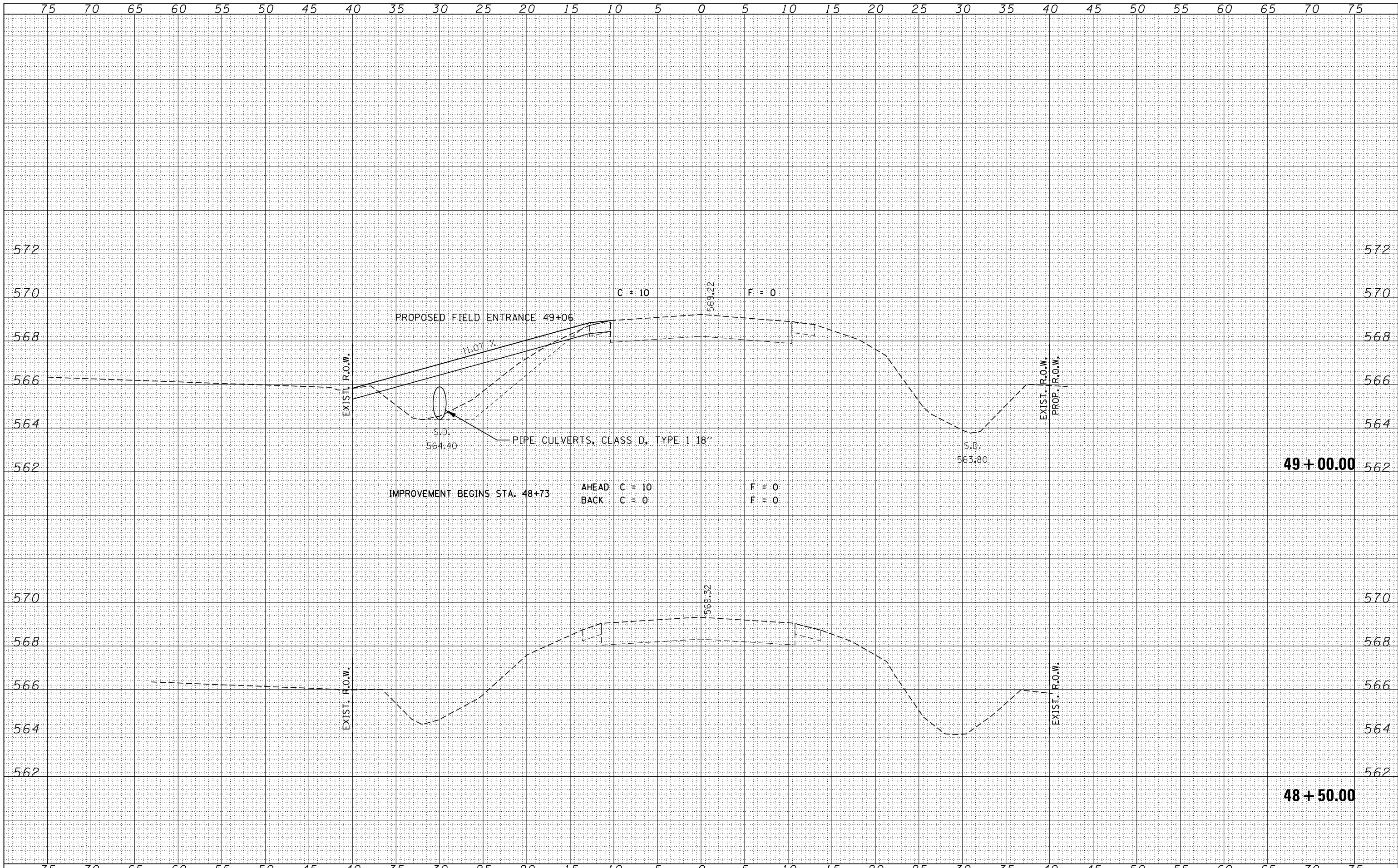
BORINGS
STRUCTURE NO. 054-3924

SHEET NO. 5 OF 5 SHEETS

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	9
C.H. 16 / DELAVAN ROAD	CONTRACT NO. 93718			
ILLINOIS FED. AID PROJECT G2U3(718)				

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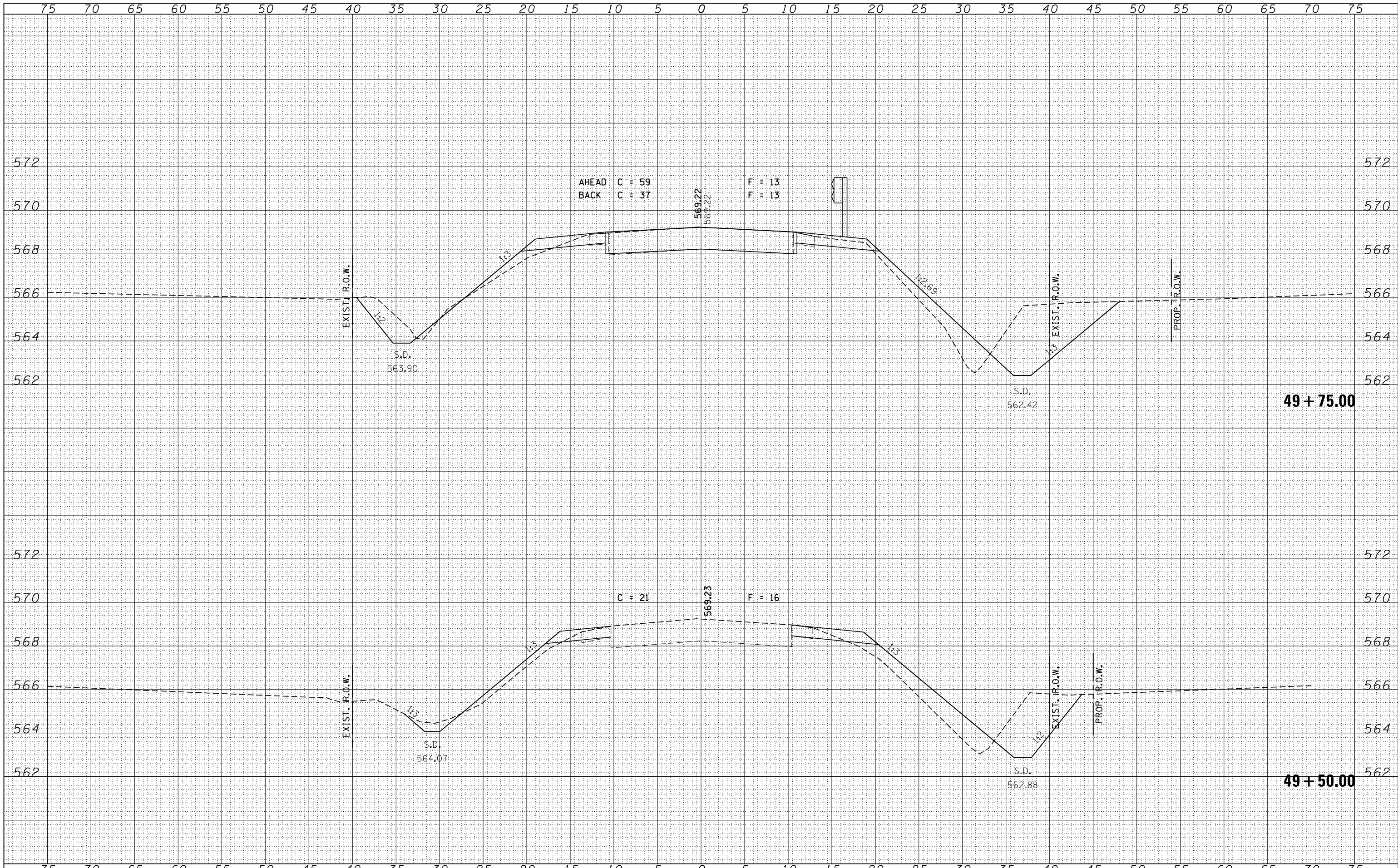
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BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



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HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -		1464	15-00066-03-BR	LOGAN	20	10			
3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -		DELAVAN ROAD			CONTRACT NO. 93718				
ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000958		DATE - 03/29/18	REVISED -		SCALE: 5H:2V	SHEET NO. 1 OF 11 SHEETS	STA. 49+00.00 TO STA. 49+23.00	ILLINOIS FED. AID PROJECT G2U3(718)				

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

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



FILE NAME = 160491-sht-sss.dgn
 HAMPTON, LENZINI AND RENWICK, INC.
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184.000958

USER NAME = rhosick
 DESIGNED - S.W.M.
 DRAWN - T.W.K.
 CHECKED - S.W.M.
 DATE - 03/29/18
 PLOT SCALE = *SCALE*
 PLOT DATE = 5/4/2018

REVISIED -
 REVISIED -
 REVISIED -
 REVISIED -

STATE OF ILLINOIS
 LOGAN COUNTY HIGHWAY DEPARTMENT

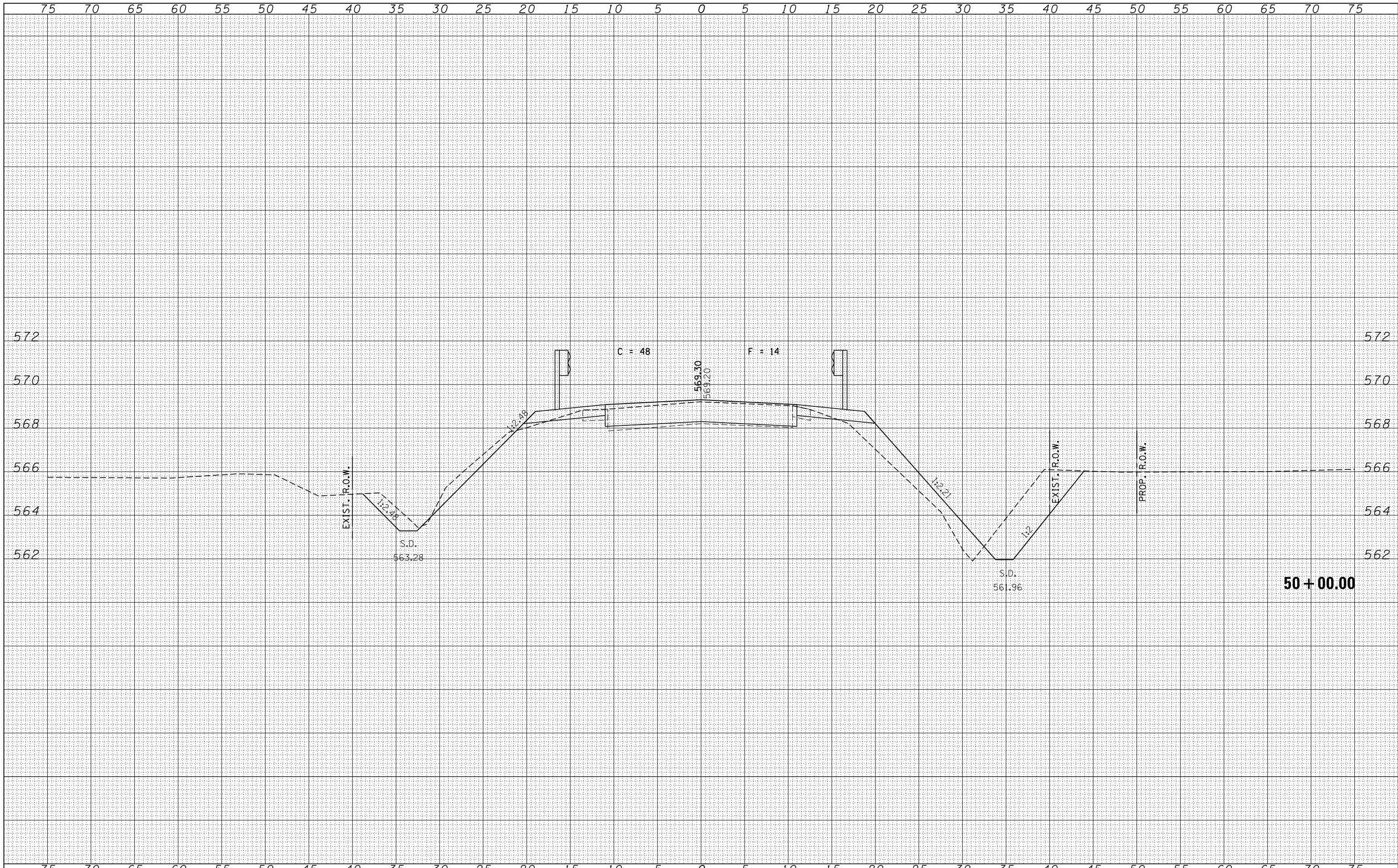
STATION CROSS SECTIONS

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

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	11
DELANVAN ROAD			CONTRACT NO. 93718	
ILLINOIS FED. AID PROJECT G2U3(718)				

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



FILE NAME = 160491-sht-sxs.dgn
 HAMPTON, LENZINI AND RENWICK, INC.
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184-000958

USER NAME = rhosick
 PLOT SCALE = *SCALE*
 PLOT DATE = 5/4/2018

DESIGNED - S.W.M.
 DRAWN - T.W.K.
 CHECKED - S.W.M.
 DATE - 03/29/18

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 LOGAN COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

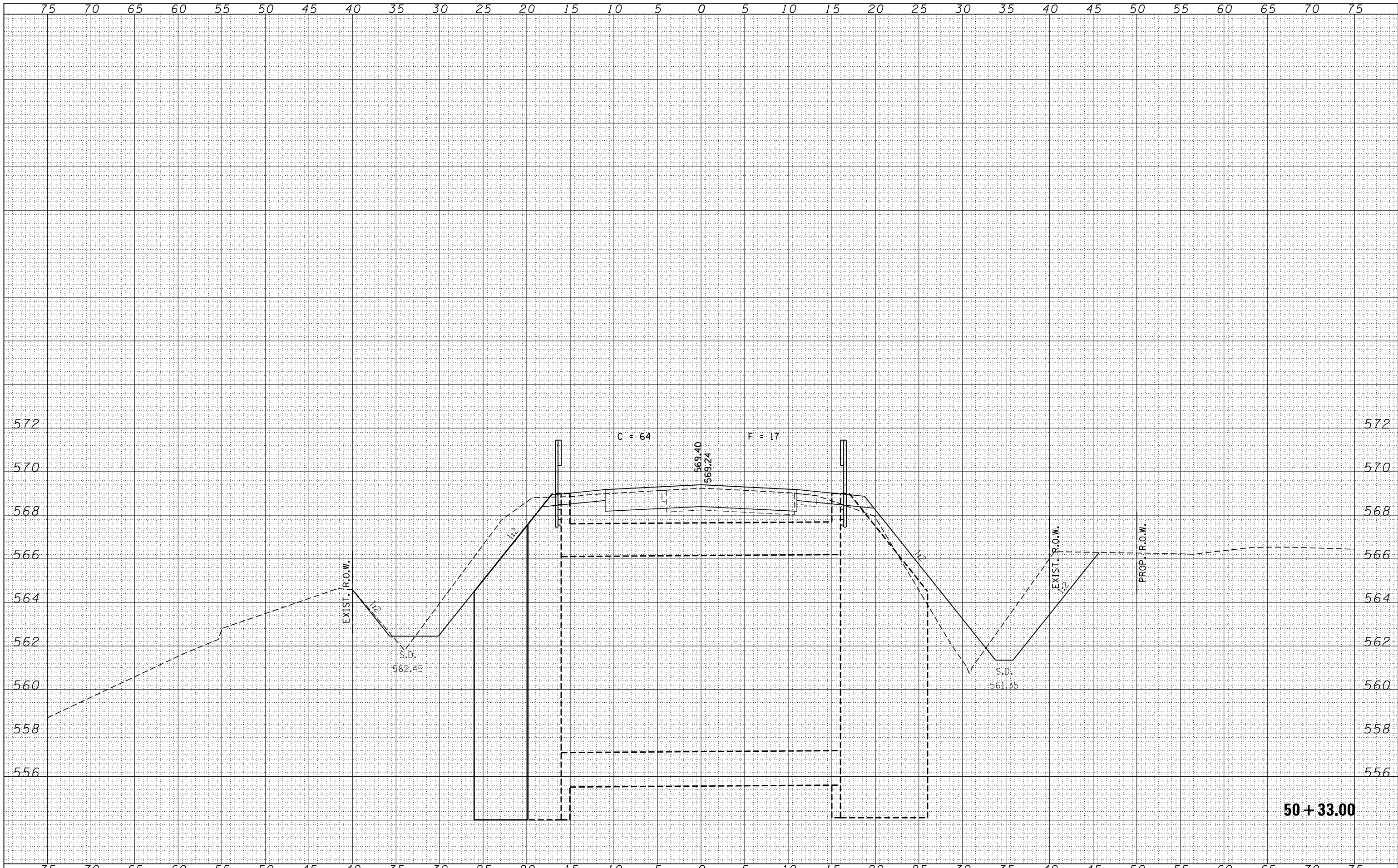
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F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	12
DEHAVAN ROAD			CONTRACT NO. 93718	

ILLINOIS FED. AID PROJECT G2U3(718)

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

DATE	
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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	AREAS
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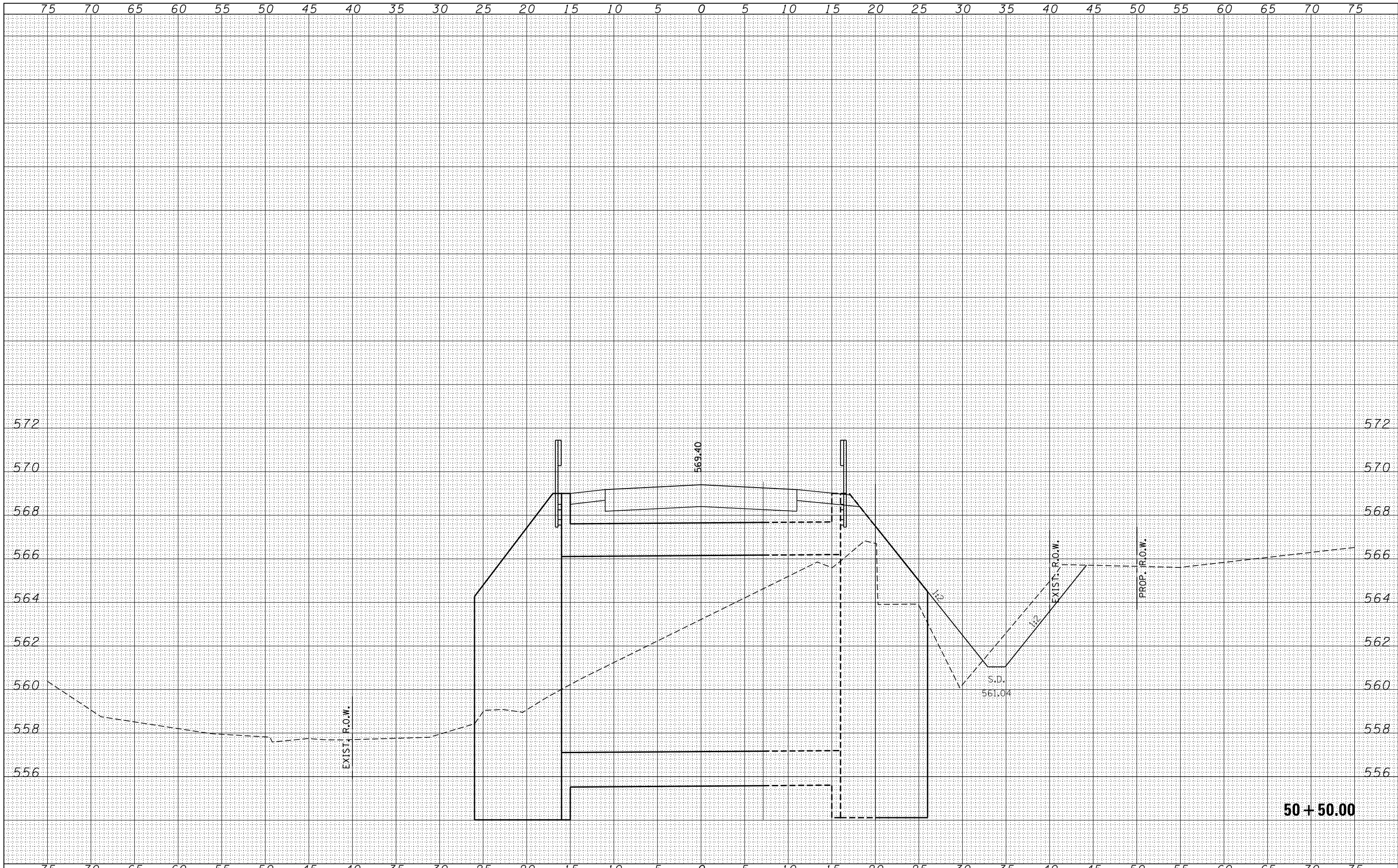


50 + 33.00

FILE NAME = 160491-sht-sxs.dgn	USER NAME = rhosick	DESIGNED - S.W.M.	REVISIED -	<p align="center">STATE OF ILLINOIS LOGAN COUNTY HIGHWAY DEPARTMENT</p> <p align="center">STATION CROSS SECTIONS</p> <p>SCALE: 5H:2V SHEET NO. 5 OF 11 SHEETS STA. 50+33.00 TO STA. 50+33.00</p>	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISIED -		1464	15-00066-03-BR	LOGAN	20	14
3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISIED -		DELANAN ROAD		CONTRACT NO. 93718		
ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000958		DATE - 03/29/18	REVISIED -		ILLINOIS FED. AID PROJECT G2U3(718)				

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

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



FILE NAME = 160491-sht-sxs.dgn
 HAMPTON, LENZINI AND RENWICK, INC.
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184.000958

USER NAME = rhosick
 DESIGNED - S.W.M.
 DRAWN - T.W.K.
 CHECKED - S.W.M.
 DATE - 03/29/18
 PLOT SCALE = *SCALE*
 PLOT DATE = 5/4/2018

REVISIED -
 REVISIED -
 REVISIED -
 REVISIED -

STATE OF ILLINOIS
 LOGAN COUNTY HIGHWAY DEPARTMENT

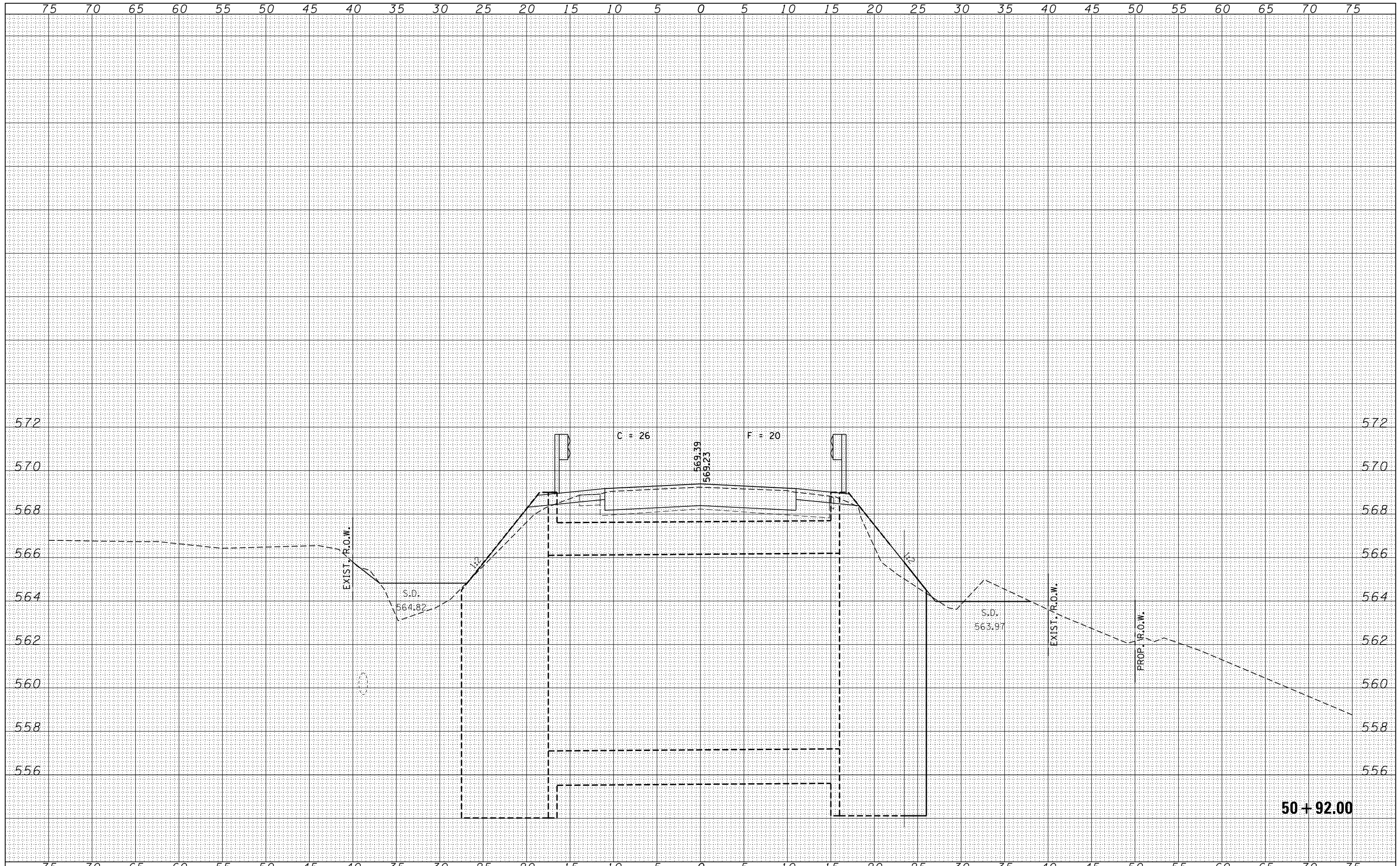
STATION CROSS SECTIONS

SCALE: 5H:2V
 SHEET NO. 6 OF 11 SHEETS
 STA. 50+50.00 TO STA. 50+50.00

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	15
DELANAN ROAD			CONTRACT NO. 93718	
ILLINOIS FED. AID PROJECT G2U3(718)				

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

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



FILE NAME = 160491-sht-sxs.dgn
 HAMPSON, LENZINI AND RENWICK, INC.
 3885 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184.009958

USER NAME = rhosick
 DESIGNED - S.W.M.
 DRAWN - T.W.K.
 CHECKED - S.W.M.
 DATE - 03/29/18

REVISIED -
 REVISIED -
 REVISIED -
 REVISIED -

STATE OF ILLINOIS
 LOGAN COUNTY HIGHWAY DEPARTMENT

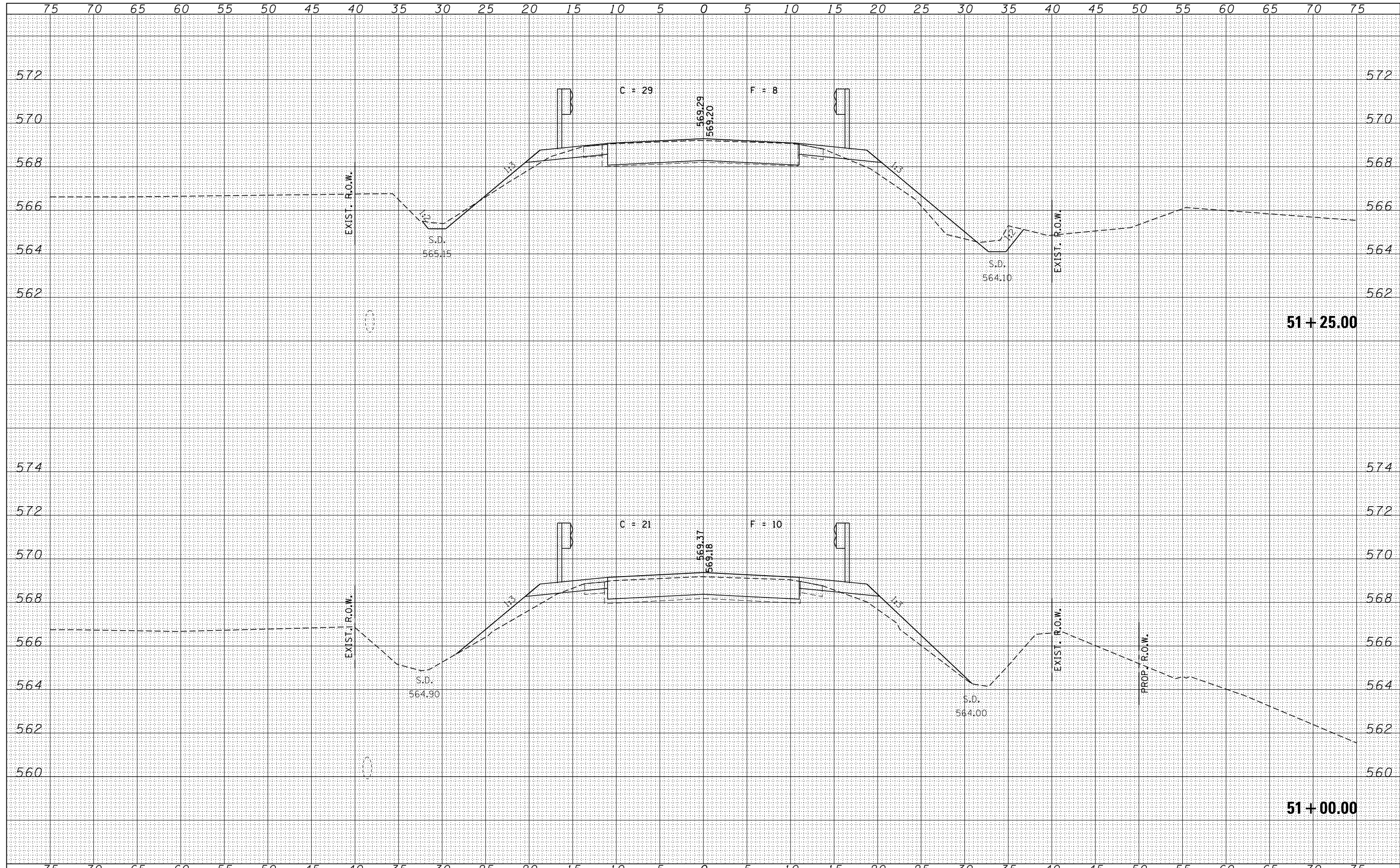
STATION CROSS SECTIONS

SCALE: 5H:2V SHEET NO. 8 OF 11 SHEETS STA. 50+92.00 TO STA. 50+92.00

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	17
DELANAN ROAD			CONTRACT NO. 93718	
ILLINOIS FED. AID PROJECT G2U3(718)				

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

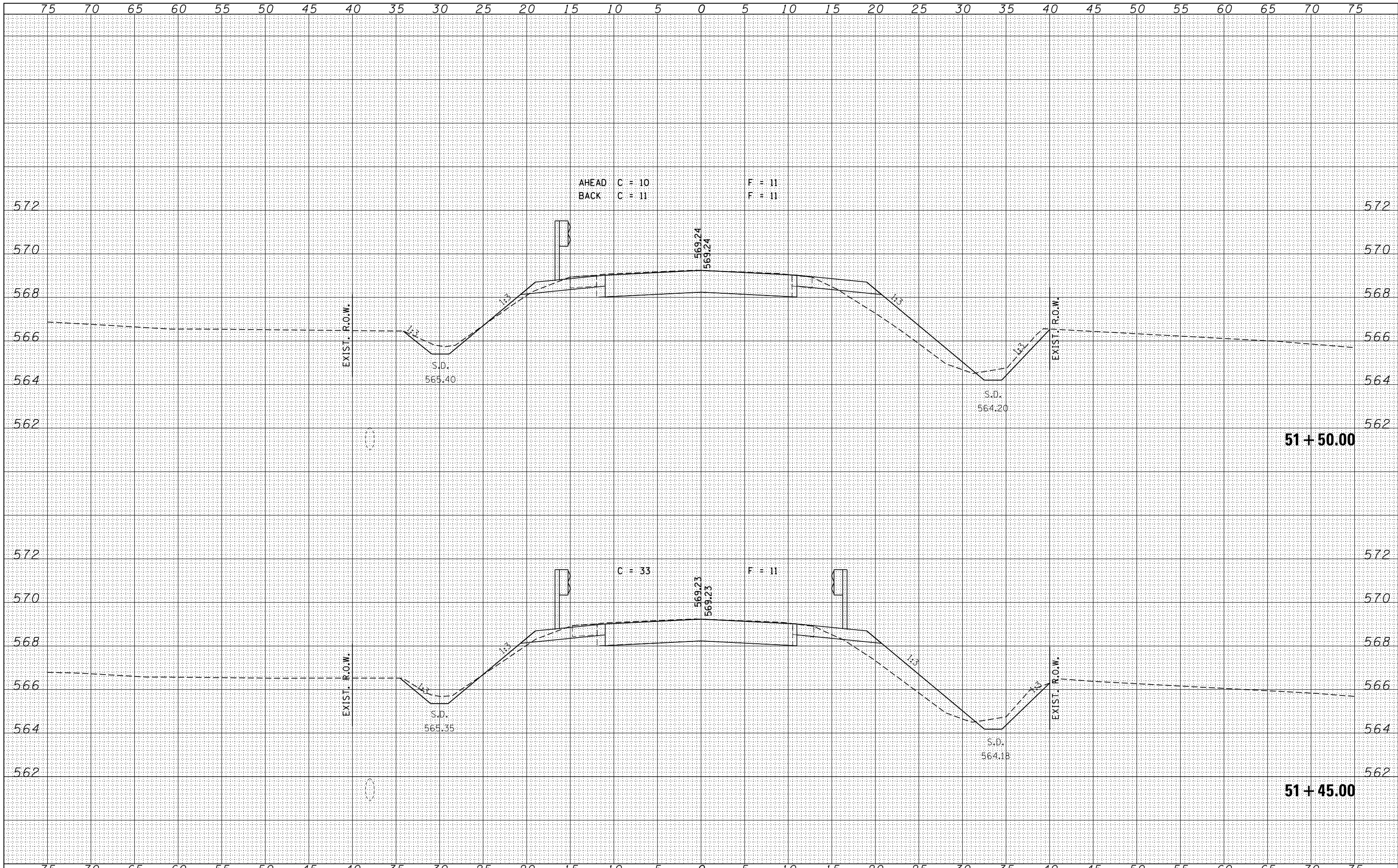
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED



FILE NAME = 160491-sht-sss.dgn	USER NAME = rhosick	DESIGNED - S.W.M.	REVISED -	STATE OF ILLINOIS LOGAN COUNTY HIGHWAY DEPARTMENT	STATION CROSS SECTIONS			F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -		1464	15-00066-03-BR	LOGAN	20	18			
3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -		DELAVAN ROAD			CONTRACT NO. 93718				
ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.009958		DATE - 03/29/18	REVISED -		SCALE: 5H:2V	SHEET NO. 9 OF 11 SHEETS	STA. 51+00.00 TO STA. 51+25.00	ILLINOIS FED. AID PROJECT G2U3(718)				

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

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



FILE NAME = 160491-sht-sxs.dgn
 HAMPTON, LENZINI AND RENWICK, INC.
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184.000958

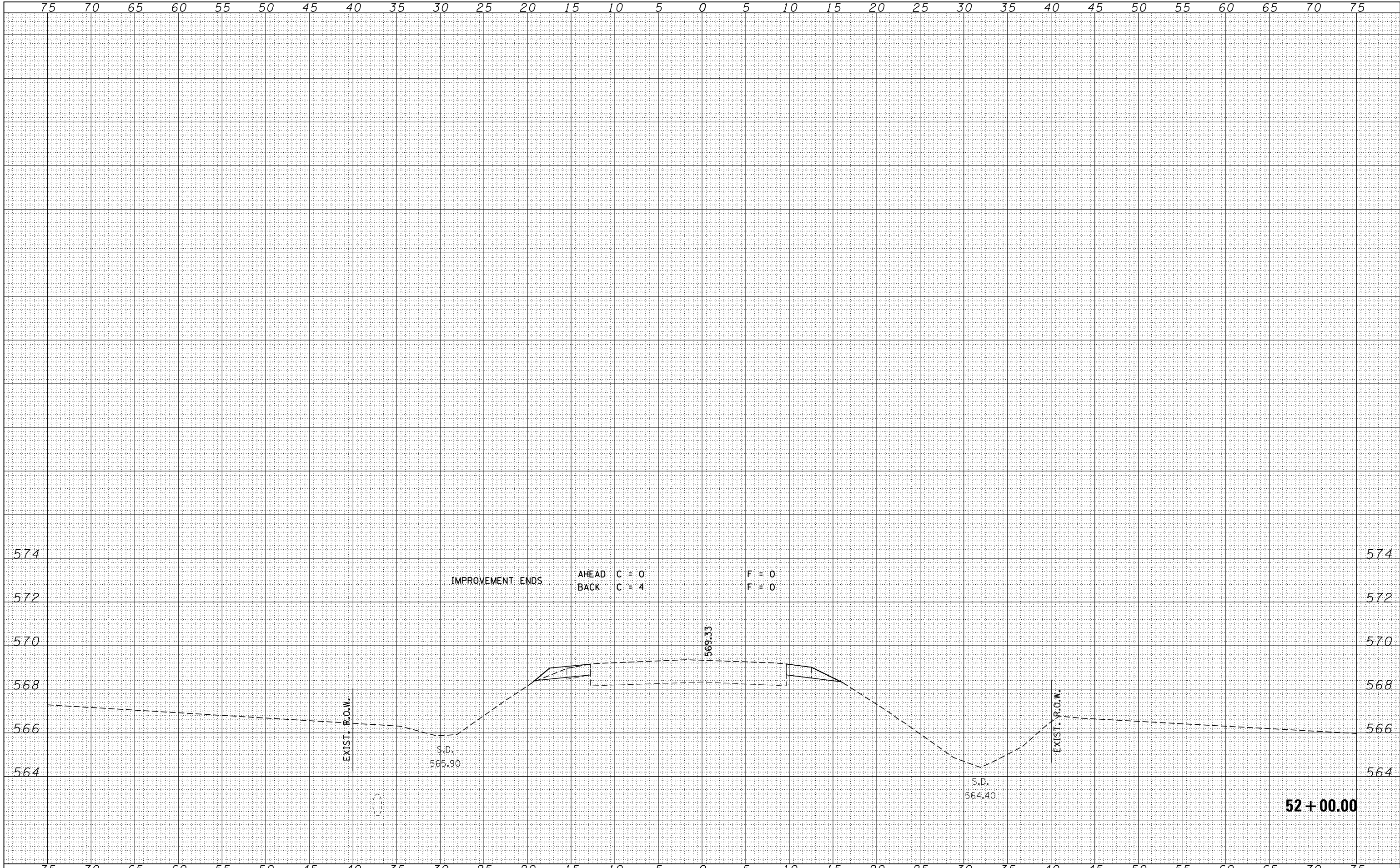
USER NAME = rhosick
 DESIGNED - S.W.M.
 DRAWN - T.W.K.
 CHECKED - S.W.M.
 DATE - 03/29/18

REVISIED -
 REVISIED -
 REVISIED -
 REVISIED -

**STATE OF ILLINOIS
 LOGAN COUNTY HIGHWAY DEPARTMENT**

STATION CROSS SECTIONS
 SCALE: 5H:2V
 SHEET NO. 10 OF 11 SHEETS
 STA. 51+45.00 TO STA. 51+50.00

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1464	15-00066-03-BR	LOGAN	20	19
DEHAVAN ROAD			CONTRACT NO. 93718	
ILLINOIS FED. AID PROJECT G2U3(718)				



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

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

FILE NAME = 160491-sht-sxs.dgn	USER NAME = rhosick	DESIGNED - S.W.M.	REVISED -	STATE OF ILLINOIS LOGAN COUNTY HIGHWAY DEPARTMENT	STATION CROSS SECTIONS		F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009958		DRAWN - T.W.K.	REVISED -		1464	15-00066-03-BR	LOGAN	20	20			
		CHECKED - S.W.M.	REVISED -		SCALE: 5H:2V		SHEET NO. 11 OF 11 SHEETS		STA. 52+00.00 TO STA. 52+00.00		CONTRACT NO. 93718	
		DATE - 03/29/18	REVISED -		ILLINOIS FED. AID PROJECT G2U3(718)							