06-17-11 LETTING ITEM 129

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

BLACKMAN CREEK BRIDGE

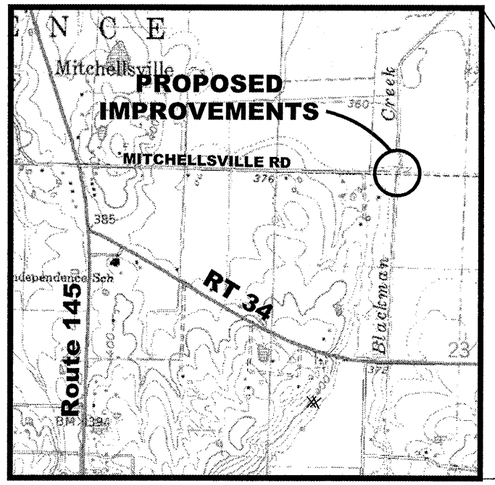
FUNCTIONAL CLASS: LOCAL ROAD
ADT (2002): 25
DESIGN SPEED: 30 MPH

BRIDGE REHABILITATION & REPLACEMENT PROGRAM
TOWNSHIP ROAD 281
SALINE COUNTY - INDEPENDENCE TOWNSHIP
SECTION NO. 06-07114-00-BR
PROJECT NO. BROS-165(31)
JOB NO. C-99-519-07
CONTRACT NO. 99437

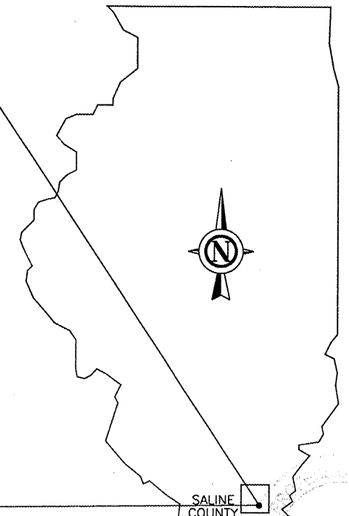
SCALES

PLAN HORIZ. 0 25 50
PROFILE HORIZ. 0 25 50
PROFILE VERT. 0 5 10
CROSS SECTIONS 0 5 10

INDEX TO SHEETS



LOCATION MAP
Scale 1 inch = 2,000 ft
Length Of Improvements = 1000 ft (0.19 mi)



STANDARDS IN SPECIAL PROVISIONS
280001–05
515001–03
542301–03
701901–01
BLR 21–8

ALL EXISTING UTILITIES AND LOCATIONS TO BE CONFIRMED BY J.U.L.I.E.
800–892–0123

Jim W. Brown, President
Illinois Professional Design Firm
Land Survey & Prof. Eng. Corp
Number 184-002518
Expires April 30, 2011
March 1, 2011

BROWN & ROBERTS, INC.
CONSULTING ENGINEERS LAND SURVEYORS
ONE WESTRIDGE ROAD HARRISBURG, IL 62946 (618) 252–8111

BRI Job No. 09141

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 03-01-11
LOCAL AGENCY REPRESENTATIVE
APPROVED 03-01-11
Steve Johnson
ROAD COMMISSIONER

PASSED 3/14/2011
Deni W. Hullet
DISTRICT 9 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW 3/14/2011
Mary C. Lamie
MARY C. LAMIE, P.E.
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

28 Feb 2011 - 8:28am X:\2009\09141\AC\09141 Sheet 1 Cover.dwg

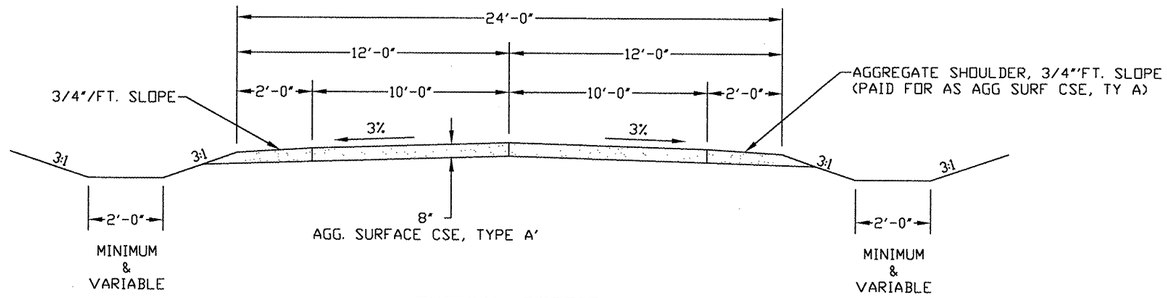
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	2
MITCHELLSVILLE ROAD				

CONTRACT NO. 99437

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	2510
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150
28000305	TEMPORARY DITCH CHECKS	FOOT	80
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	210
40200100	AGGREGATE SURFACE COURSE, TYPE A	TON	1325
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	25
50300225	CONCRETE STRUCTURES	CU YD	19.4
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1440
50800105	REINFORCEMENT BARS	POUND	2440
* 50900205	STEEL RAILING, TYPE S1	FOOT	120
51201400	FURNISH STEEL PILES HP10X42	FOOT	240
51202305	DRIVING PILES	FOOT	240
51500100	NAME PLATES	EACH	1
542A0241	PIPE CULVERTS, CLASS A, TYPE 1 36"	FOOT	20
54213681	PRECAST REINFORCED CONCRETE FLARED END SECTION 36"	EACH	2
67100100	MOBILIZATION	L SUM	1
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1.2

* SPECIALTY ITEMS



TYPICAL SECTION

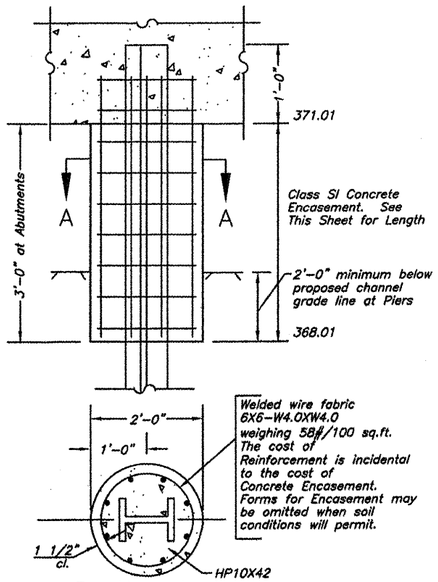
NO SCALE

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	3
INDEPENDENCE TOWNSHIP		MITCHELLSVILLE ROAD		

CONTRACT NO. 99437

Salvage– No Salvage

DETAIL OF HP PILE ENCASEMENT



Section A–A

QUANTITIES/LIN. FT. OF ENCASEMENT

(STEEL PILES)

PILE SIZE	ITEM	QUANTITY
HP 10	CONCRETE ENCASEMENT	0.116 C.Y.

(METAL SHELL PILES)

PILE SIZE	ITEM	QUANTITY
12" DIA.	CONCRETE ENCASEMENT	0.087 C.Y.

DESIGN SPECIFICATIONS

2007 LRFD Specification – 4th ed.

SEISMIC DATA

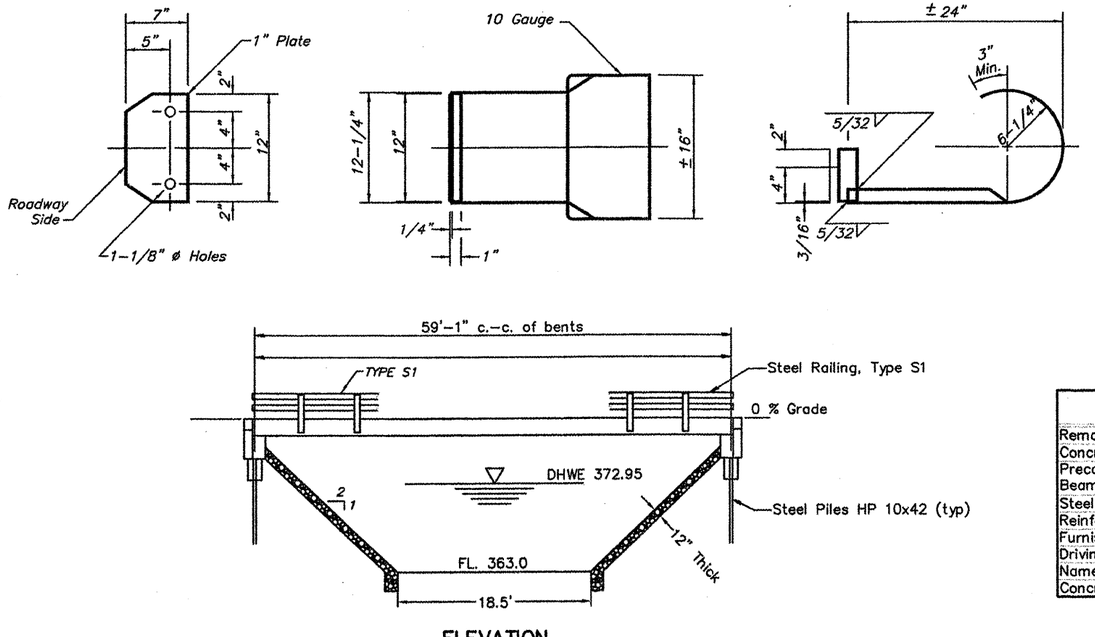
Seismic Performance Zone (SPZ) = 4
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.48
Design Spectral Acceleration at 0.2 sec (S_{DS}) = 0.90
Site Soil Class = E

PILE DATA (2–ABUTS.)

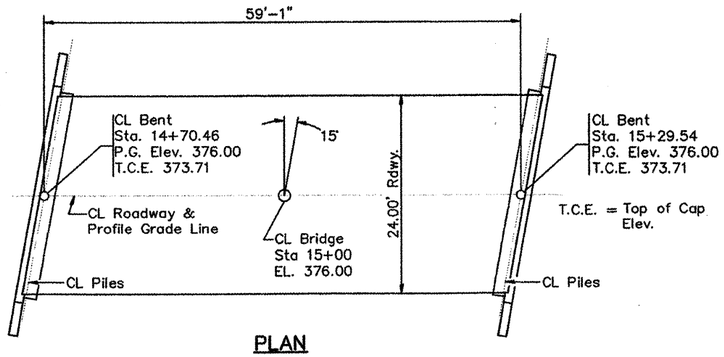
Type	STEEL HP 10X42
Estimated Length	25' W ABUT 35' E ABUT
Number Required	4 PER ABUTMENT (8 TOTAL)
Nominal Required Bearing	335 KIPS
Allowable Resistance Available	111 KIPS

CURLED END SECTION DETAILS

Note: Curled End Sections Shall Be Incidental To The Contract Price.



ELEVATION



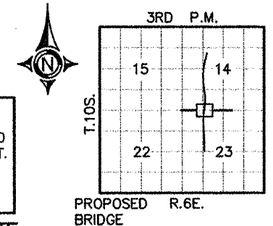
PLAN

GENERAL NOTES

1. The Contractor shall drive 0 test piles, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
2. See Special Provisions for boring logs.
3. A Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
4. The Steel H–piles shall be according to AASHTO M270 Grade 50.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Removal of Existing Structures	Each				1
Concrete Structures	Cu. Yd.			19.4	19.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1440			1440
Steel Bridge Rail, Type S–1	Foot	120			120
Reinforcement Bars	Pound			2440	2440
Furnishing Steel Piles HP 10X42	Foot			240	240
Driving Piles	Foot			240	240
Name Plates	Each				1
Concrete Encasement	Cu. Yd.			2.8	2.8



LOCATION SKETCH

STATION 15 +00
BLACKMAN CREEK
SEC. 06–07114–00–BR BUILT 2010
INDEPENDENCE TOWNSHIP ROAD DIST.
SALINE COUNTY
LOADING HL93
STR. NO. 083–3238

LETTERING FOR NAME PLATE

Locate Name Plate at SOUTHWEST Corner of Bridge

LICENSED STRUCTURAL ENGINEER
ZEYN UZMAN 4745
STATE OF ILLINOIS

I certify that to the best of knowledge, information and belief, this bridge/box culvert design is structurally adequate for the design loading shown on the plans. The design is an economical one for this style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

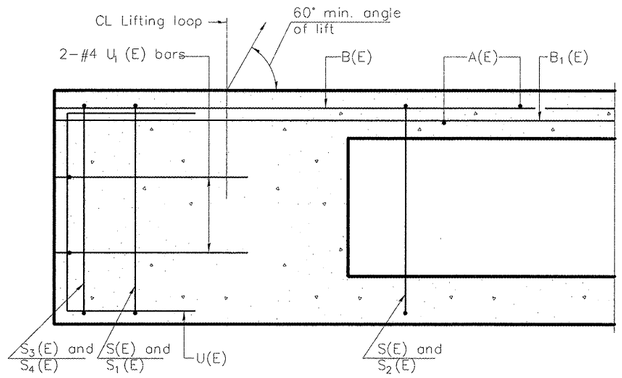
Illinois Structural No. 4745
Expires: 11/30/2012

WATERWAY INFORMATION

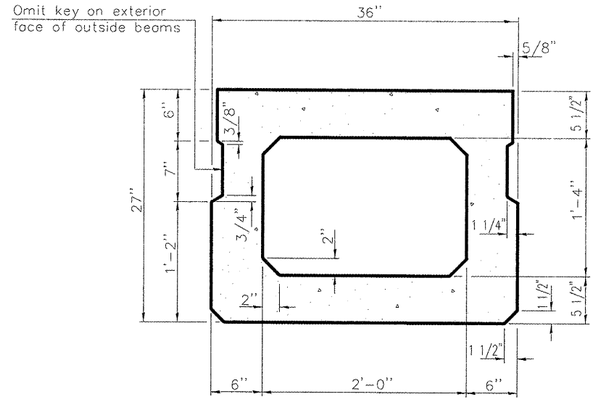
Drainage Area = 4.6 S.M. Low Grade Elev. = 371.3 @ Sta. 23+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head – Ft. Exist.	Head – Ft. Prop.	Headwater El Exist.	Headwater El Prop.
Design	25	2820	222	358	372.95		0.75		363.70
Base	100	4100	222	375	372.84	1.08	0.86	363.92	363.70
Overtopping Max. Calc.	500	5810	222	412	372.83		1.00		373.83

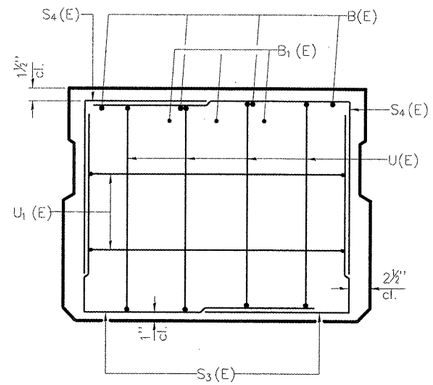
GENERAL PLAN & ELEVATION
TR 281
OVER BLACKMAN CREEK
SECTION 06–07114–00–BR
SALINE COUNTY
STATION 15+00



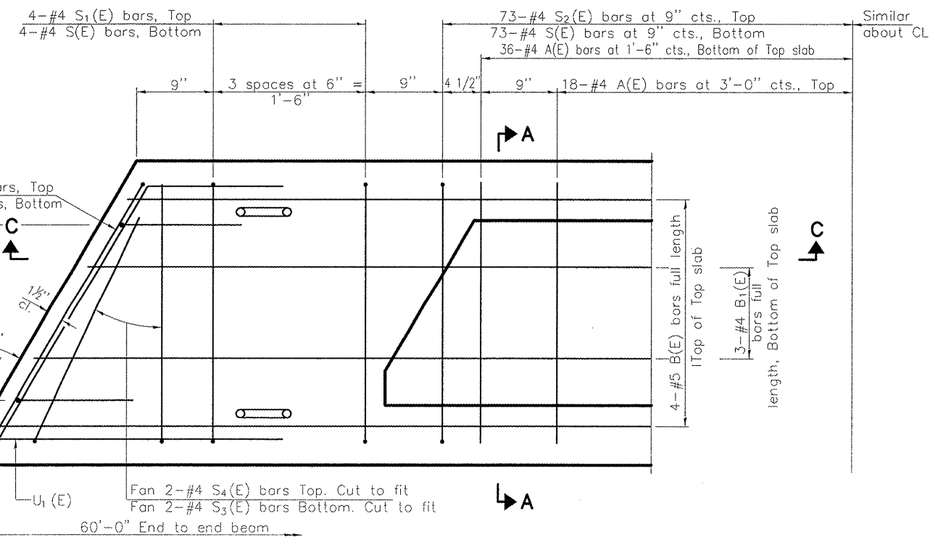
SECTION C–C



SECTION A–A
(Showing dimensions)

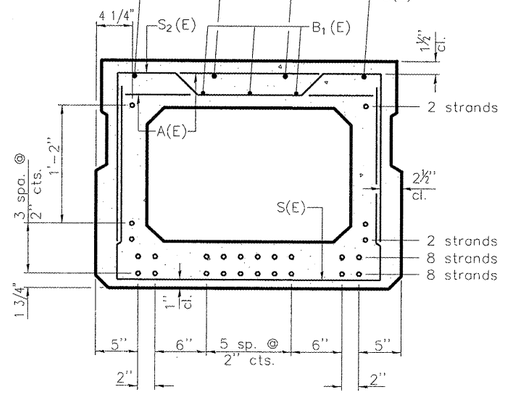


VIEW B–B



PLAN VIEW

Note: Spacing of S(E) and S (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.



SECTION A–A

(Showing reinforcement and permissible strand locations)

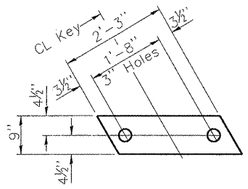
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

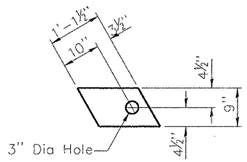
Bar	No.	Size	Length	Shape
A(E)	54	#4	2'–7"	—
B(E)	12	#5	21'–8"	—
B1 (E)	12	#4	21'–8"	—
S(E)	81	#4	6'–5"	⊔
S1 (E)	8	#4	5'–11"	⊓
S2 (E)	73	#4	6'–2"	⊓
S3 (E)	8	#4	4'–5"	⊔⊔
S4 (E)	8	#4	4'–2"	⊔⊔
U(E)	8	#5	4'–6"	⊔
U1 (E)	4	#4	5'–1"	∠

Note: See sheet 5 of 17 for additional details and Bill of Material.

27" X 36" PPC DECK BEAM
STRUCTURE NO. 083–3238



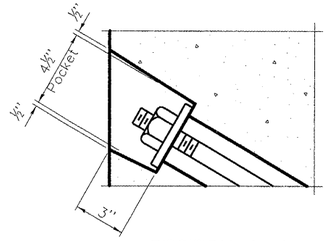
FABRIC BEARING PAD
(Interior)



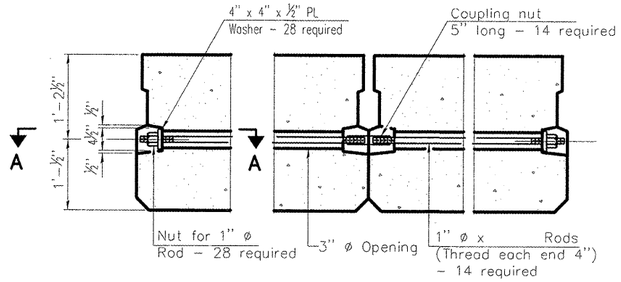
FABRIC BEARING PAD
(Exterior)

FIXED

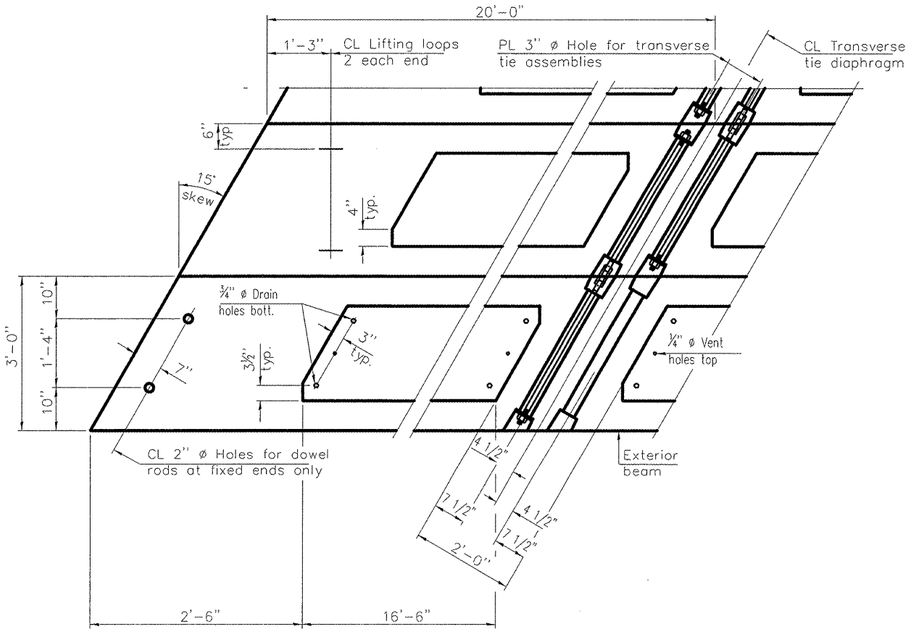
Note: Omit holes when using expansion bearings.



SECTION A-A

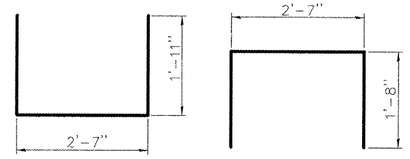


TYPICAL TRANSVERSE TIE ASSEMBLY



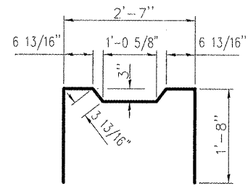
PLAN VIEW

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

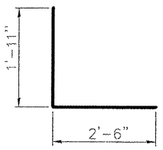


BAR S(E)

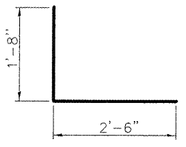
BAR S1 (E)



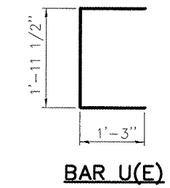
BAR S2 (E)



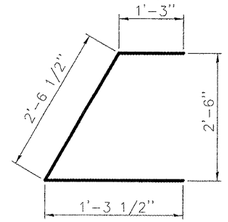
BAR S3 (E)



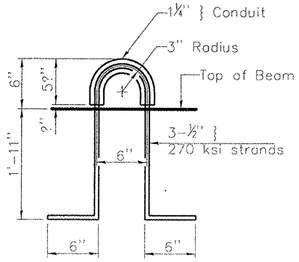
BAR S4 (E)



BAR U(E)



BAR U1 (E)



LIFTING LOOP DETAIL

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" dia. rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

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

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

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

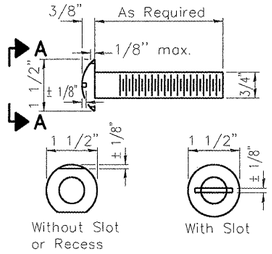
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

See Sheet 6 of 18 for railing inserts.

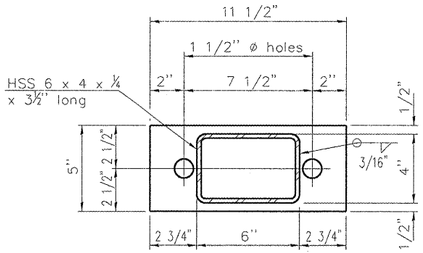
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1440

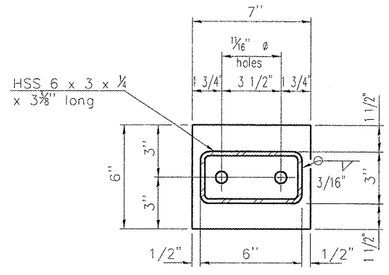
27" X 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 083-3238



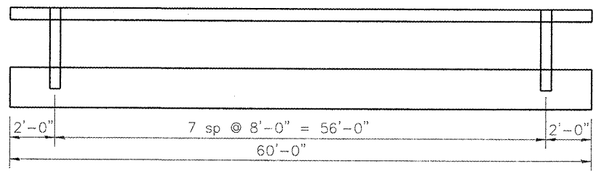
VIEW A–A
ROUND HEAD BOLT



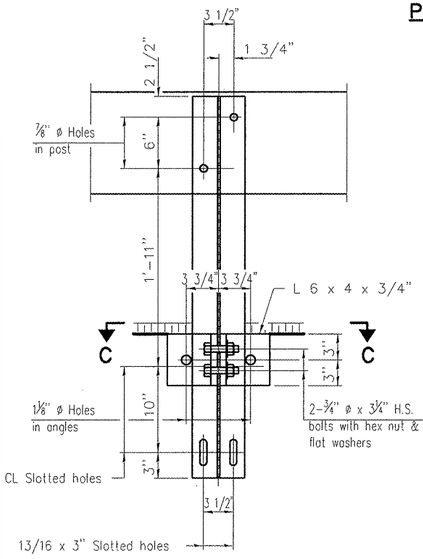
PL 1/2" x 11 1/2" x 5"



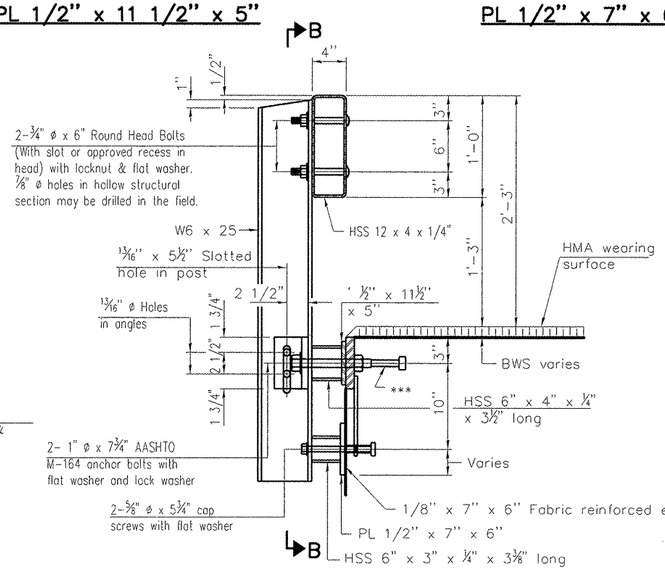
PL 1/2" x 7" x 6"



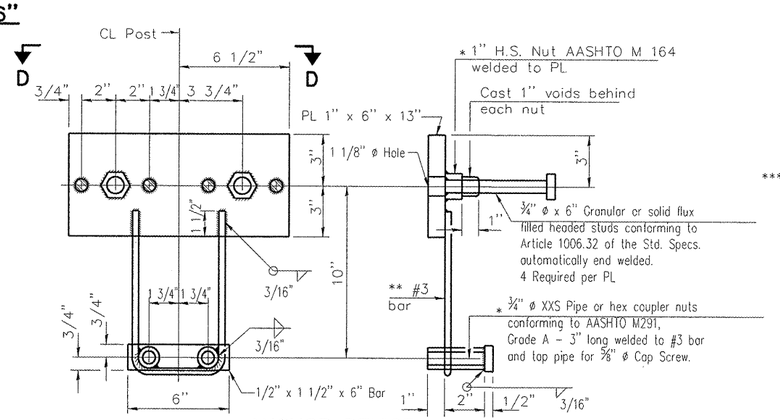
ELEVATION OF RAILING



SECTION B–B



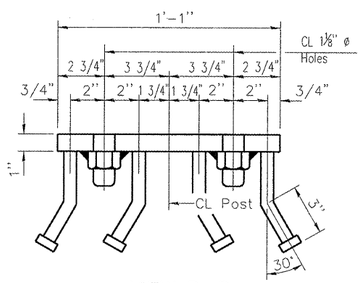
SECTION AT RAILING POST



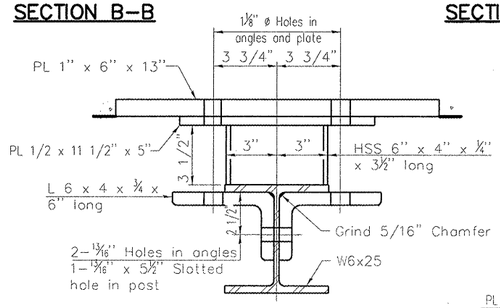
ANCHOR DEVICE

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

Notes:
All field drilled holes shall be coated with an approved zinc rich point before erection.
For multi–span bridges, sufficient ¼" 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.

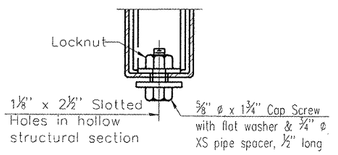


VIEW D–D

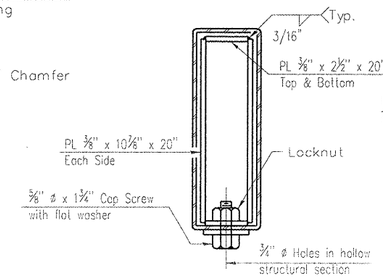


SECTION C–C

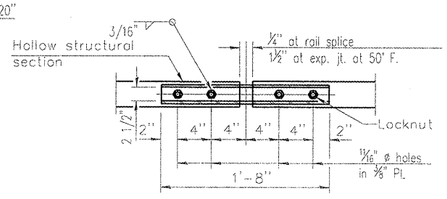
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed ½".



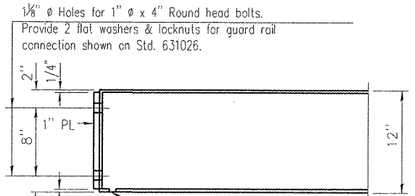
RAIL SPLICE CONNECTION
AT EXPANSION JT.

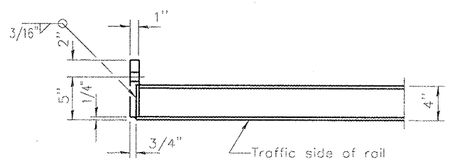


SECTIONS AT RAIL SPLICE



PLAN–BOTT. SPLICE
TYPICAL



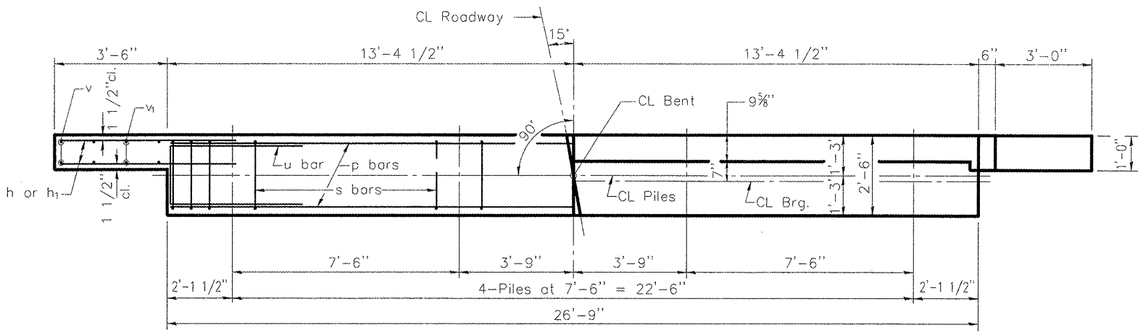


END OF RAIL DETAILS

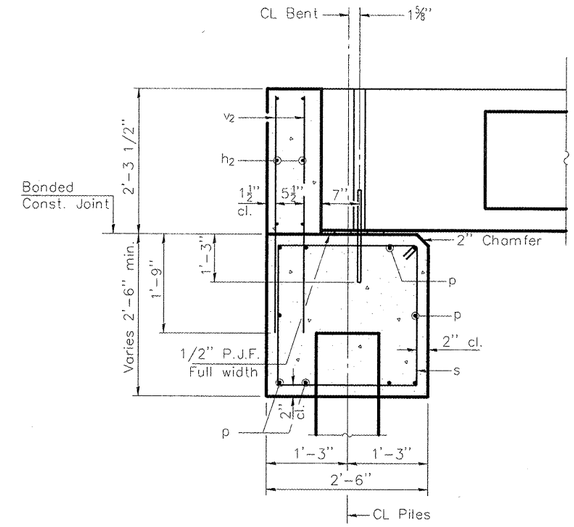
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S–1	Foot	120

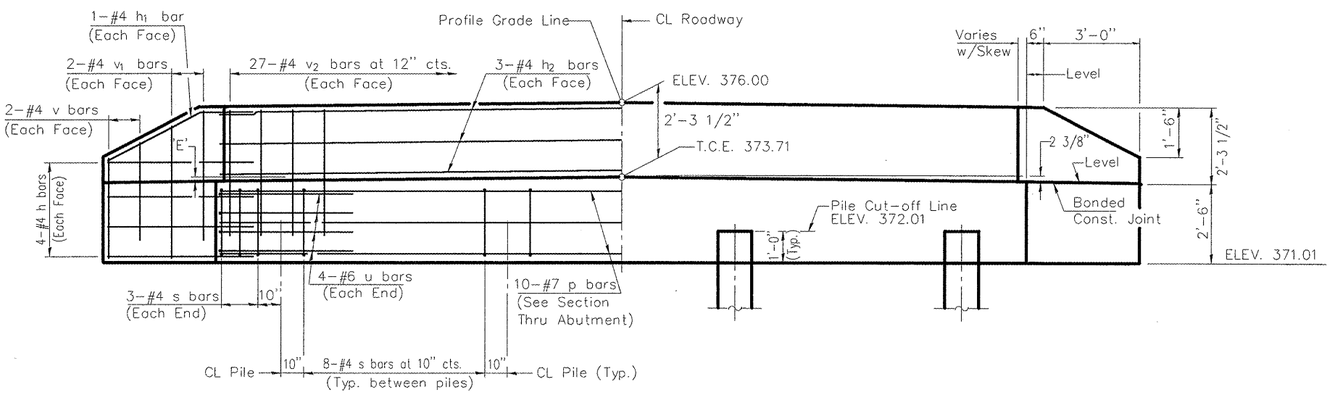
STEEL RAILING, TYPE S–1
STRUCTURE NO. 083–3238



PLAN
('D'=Designated Skew Angle)



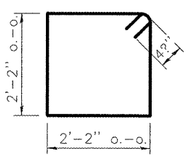
SECTION THRU ABUTMENT
(At Right Angles)



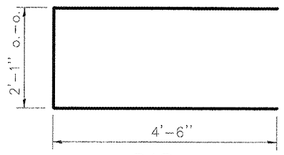
ELEVATION

NOTES

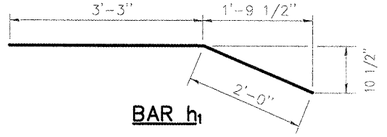
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
3. Space reinforcement in cap to miss anchor bolts.



BAR s



BAR u



BAR h_1

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h_1	4	#4	5'-3"	⟍
h_2	6	#4	26'-5"	—
p	10	#7	26'-5"	—
s	30	#4	9'-5"	□
u	8	#6	11'-1"	⊏
v	8	#4	3'-2"	—
v_1	8	#4	4'-2"	—
v_2	54	#4	3'-11"	—
Concrete Structures			9.7 Cu. Yds.	
Reinforcement Bars			1220 Lb.	

DESIGN STRESSES

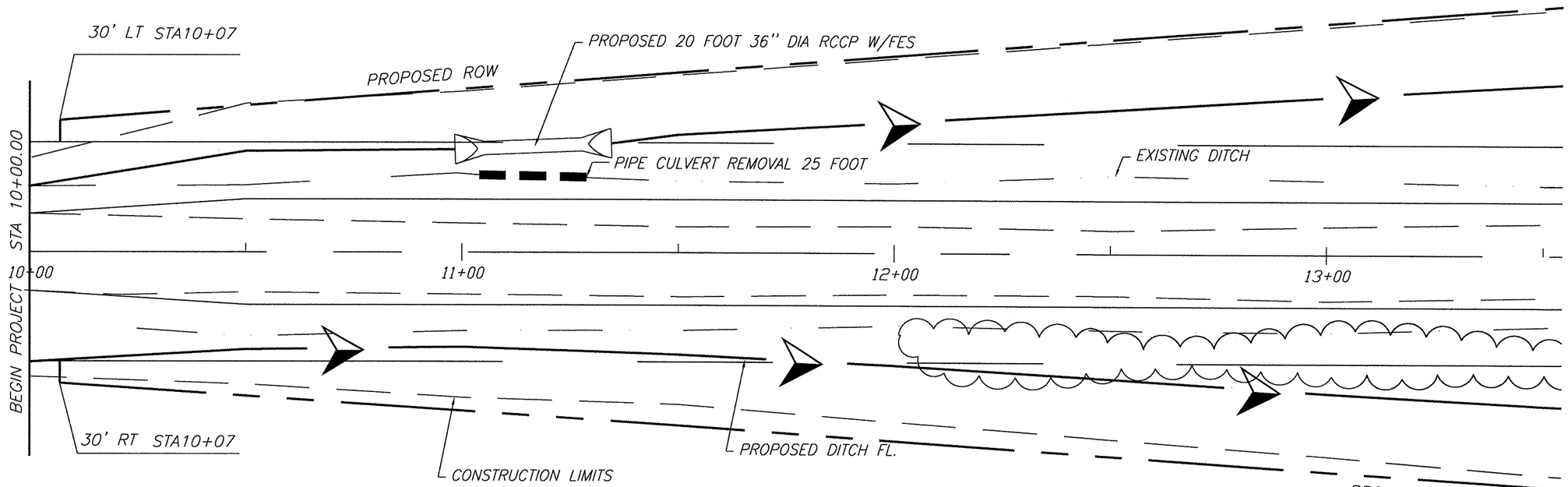
f'c = 3,500 psi
fy = 60,000 psi

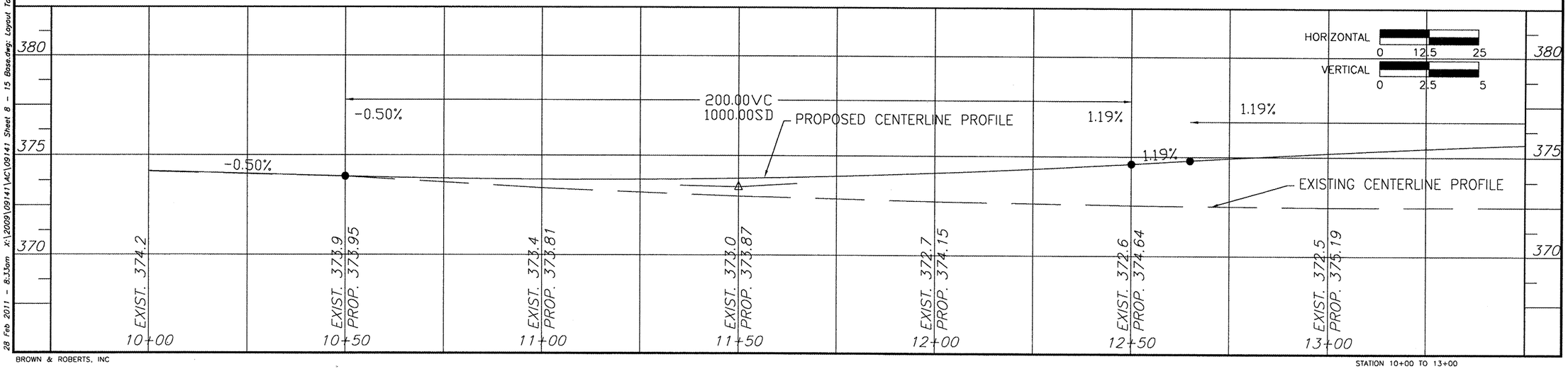
PILE BENT ABUTMENT

24' RDWY.	27" BMS.	

STRUCTURE NO. 083-3238

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	8
MITCHELLSVILLE ROAD				





28 Feb 2011 - 8:33am X:\2009\09141\AC\09141 Sheet 8 - 15 Base.dwg: Layout Tab PLAN VIEW 1'

BROWN & ROBERTS, INC

STATION 10+00 TO 13+00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	9
MITCHELLSVILLE ROAD				

PROPOSED ROW

CONSTRUCTION LIMITS

PROPOSED DITCH FL.

EXISTING ROW 25' LT

70' LT STA15+25

35' LT STA16+00

PROPOSED ROW

15°

13+00

14+00

℄ ABUT STA 14+70.46

15+00

℄ ABUT STA 15+29.54

16+00

EXISTING ROW 25' RT

40' RT STA16+00

PROPOSED ROW

62' RT STA14+80

200.00VC 660.33SD

PROPOSED DECK ELEV. 376.00 0.00%

200.00VC 619.20SD

PROPOSED CENTERLINE PROFILE

EXISTING CENTERLINE FROFILE

OHWE 372.5

EXIST. 374.20
PROP. 376.00

1:2

2:1

363.0

18.5'

HORIZONTAL
0 12.5 25

VERTICAL
0 2.5 5

	13+00	13+50	14+00	14+50	15+00	15+50	16+00	16+50
EXIST.		372.5	372.5	373.6		373.4	372.6	372.5
PROP.		375.61	375.87	375.99		376.00	375.92	375.68

375 370 365

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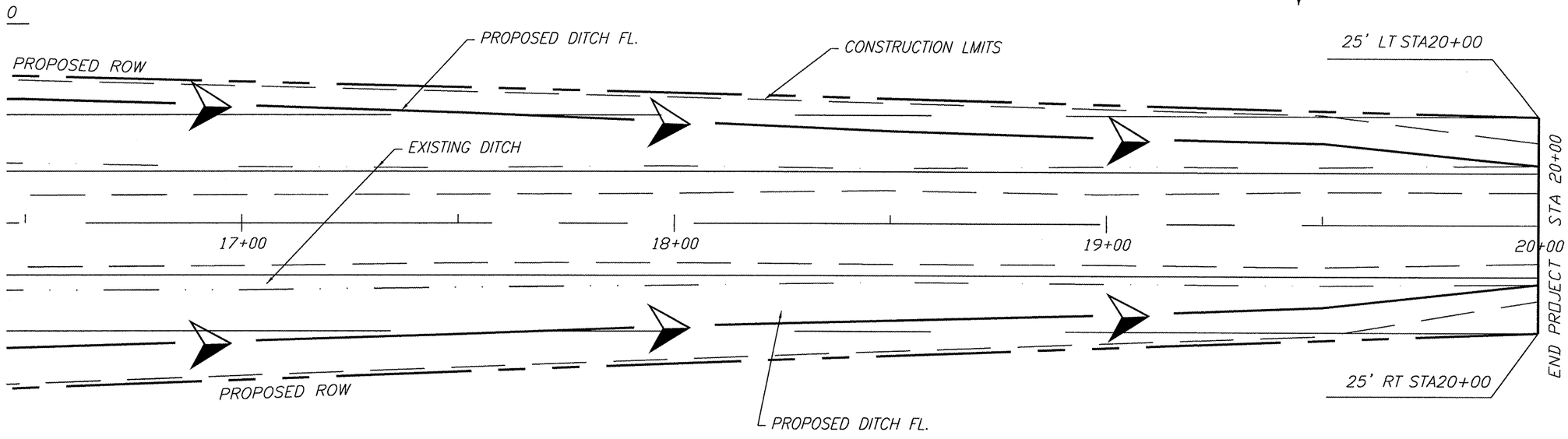
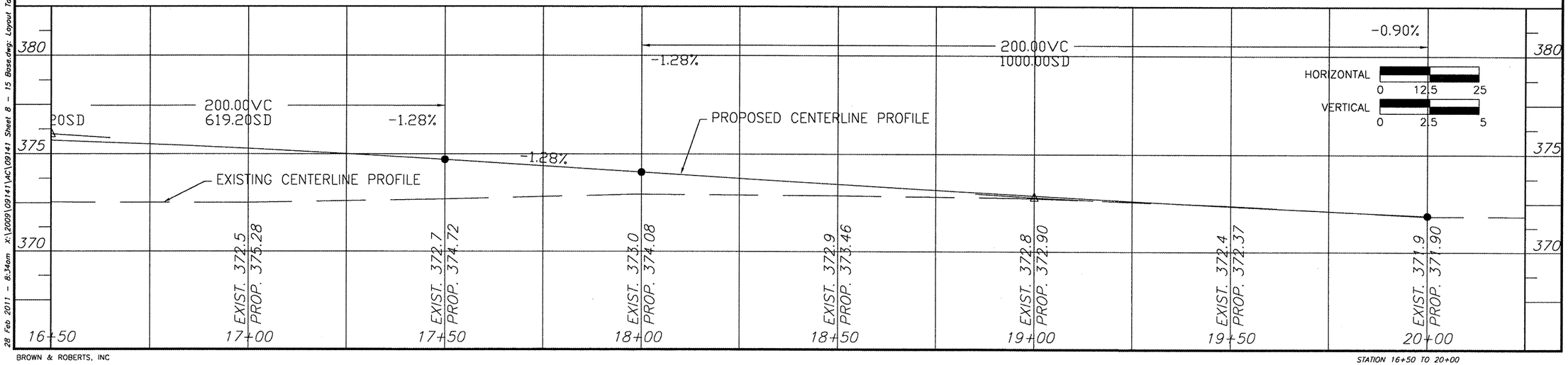
BROWN & ROBERTS, INC

STATION 13+00 TO 16+50

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	10
MITCHELLSVILLE ROAD				





STATION 16+50 TO 20+00

BROWN & ROBERTS, INC

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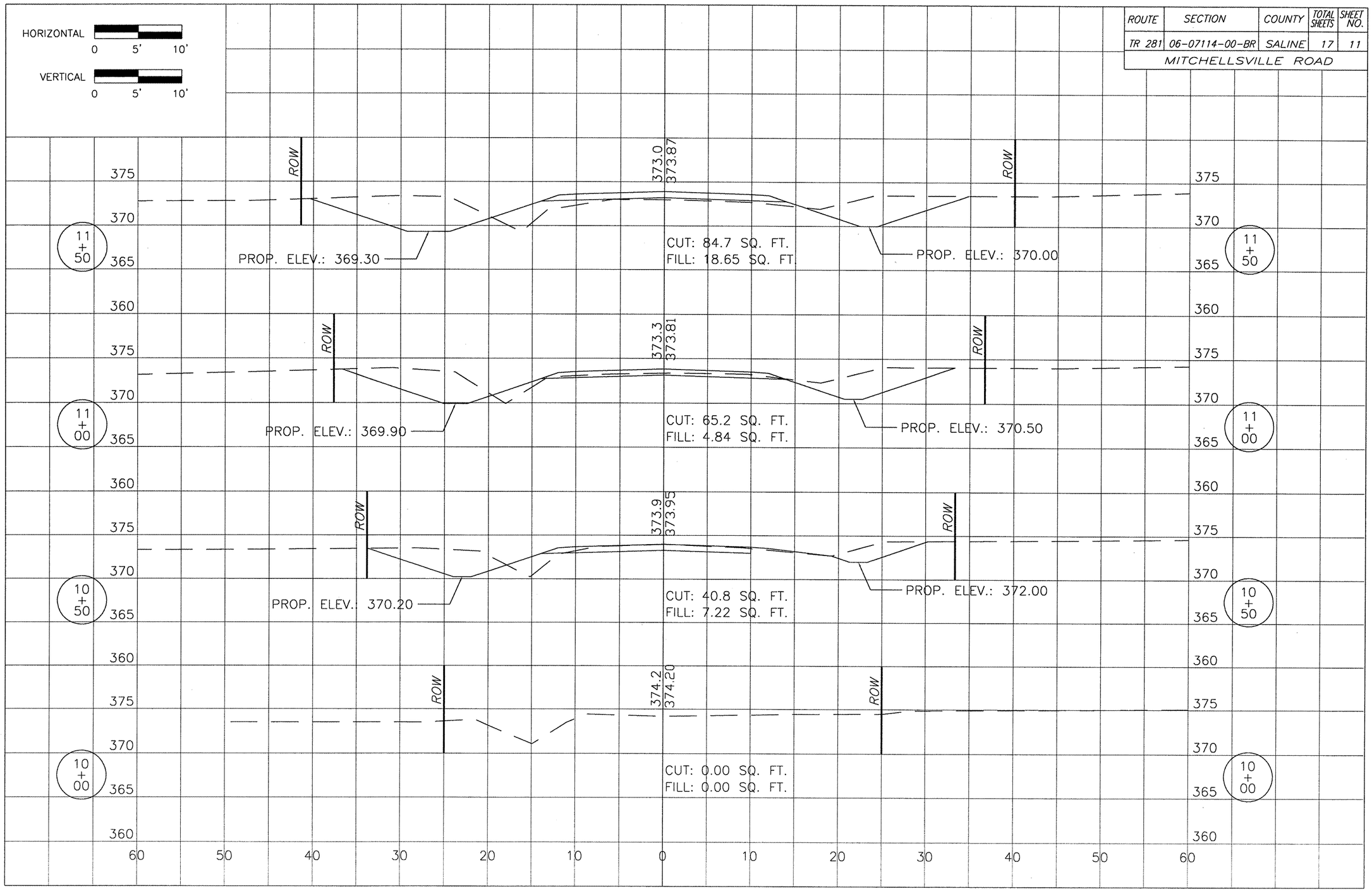
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	11
MITCHELLSVILLE ROAD				

HORIZONTAL
0 5' 10'

VERTICAL
0 5' 10'



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	12
MITCHELLSVILLE ROAD				

HORIZONTAL 0 5' 10'

VERTICAL 0 5' 10'

13 + 50

372.5
375.61

CUT: 171.9 SQ. FT.
FILL: 120.74 SQ. FT.

PROP. ELEV.: 367.30

PROP. ELEV.: 368.00

ROW

13 + 00

372.5
375.19

CUT: 153.9 SQ. FT.
FILL: 98.28 SQ. FT.

PROP. ELEV.: 367.80

PROP. ELEV.: 368.50

12 + 50

372.6
374.64

CUT: 137.0 SQ. FT.
FILL: 69.30 SQ. FT.

PROP. ELEV.: 368.30

PROP. ELEV.: 369.00

12 + 00

372.7
374.15

CUT: 109.7 SQ. FT.
FILL: 41.46 SQ. FT.

PROP. ELEV.: 368.80

PROP. ELEV.: 369.50

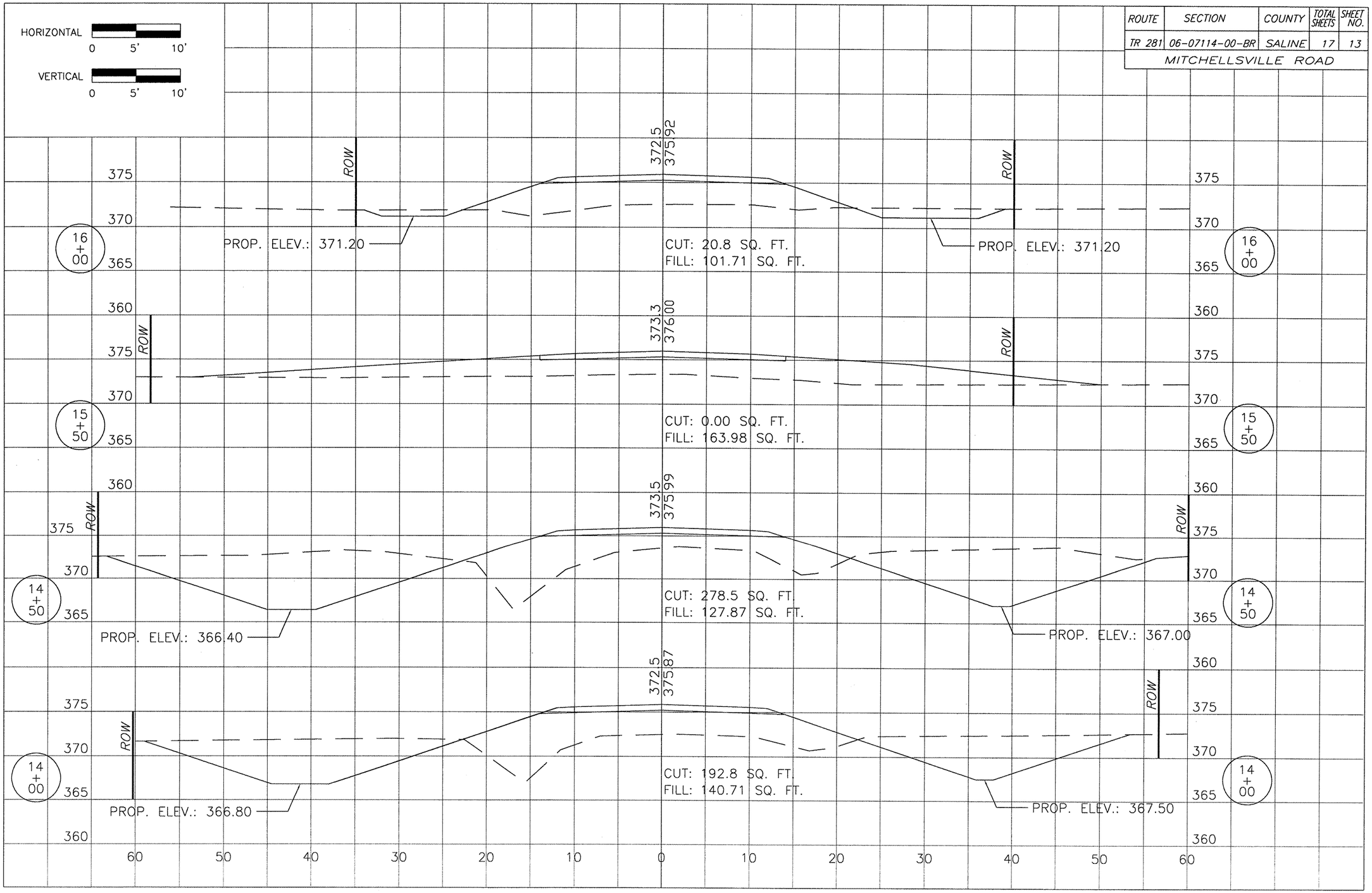
375
370
365
360

60 50 40 30 20 10 0 10 20 30 40 50 60

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	13
MITCHELLSVILLE ROAD				

HORIZONTAL
0 5' 10'

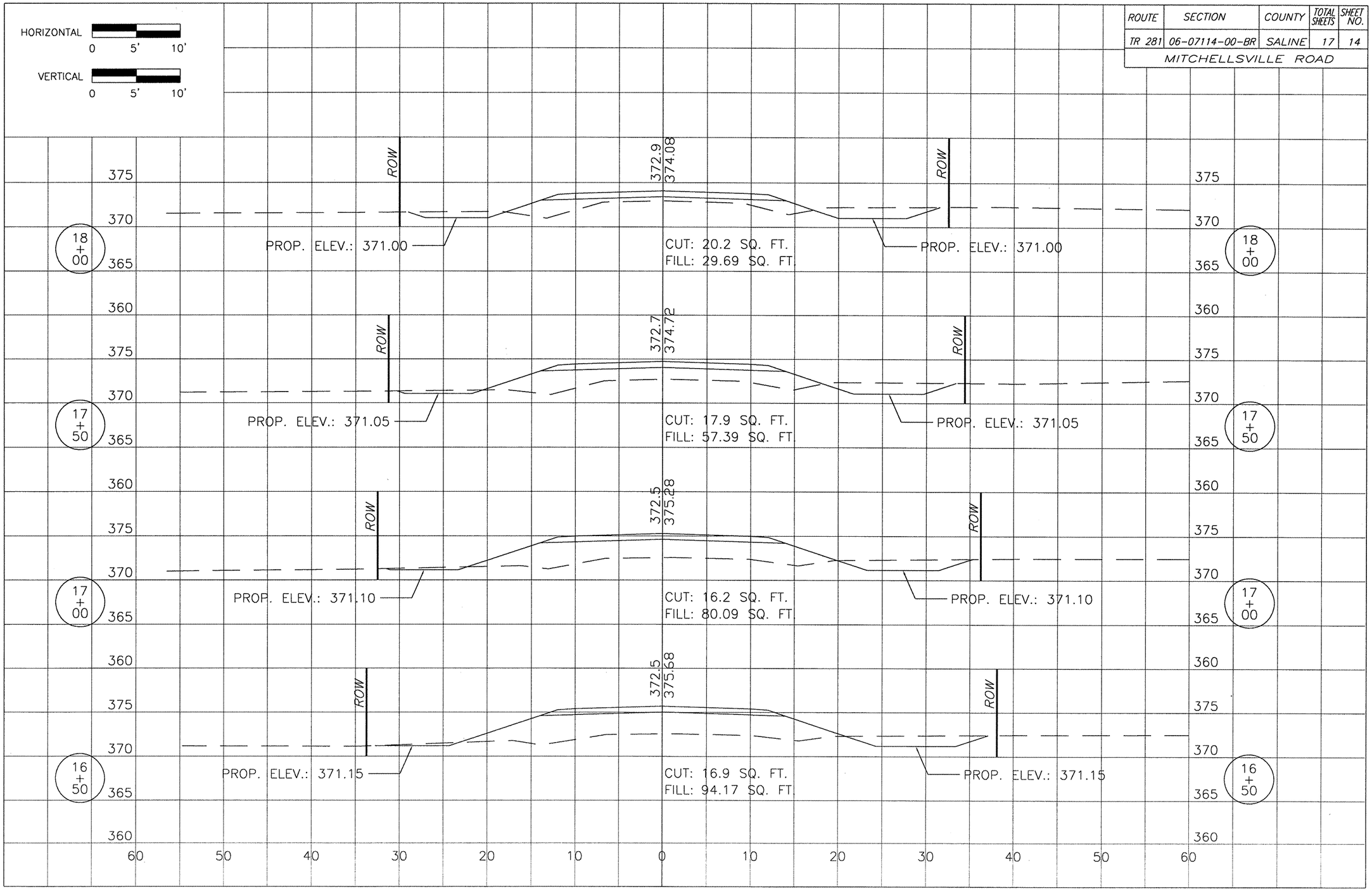
VERTICAL
0 5' 10'



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	14
MITCHELLSVILLE ROAD				

HORIZONTAL
0 5' 10'

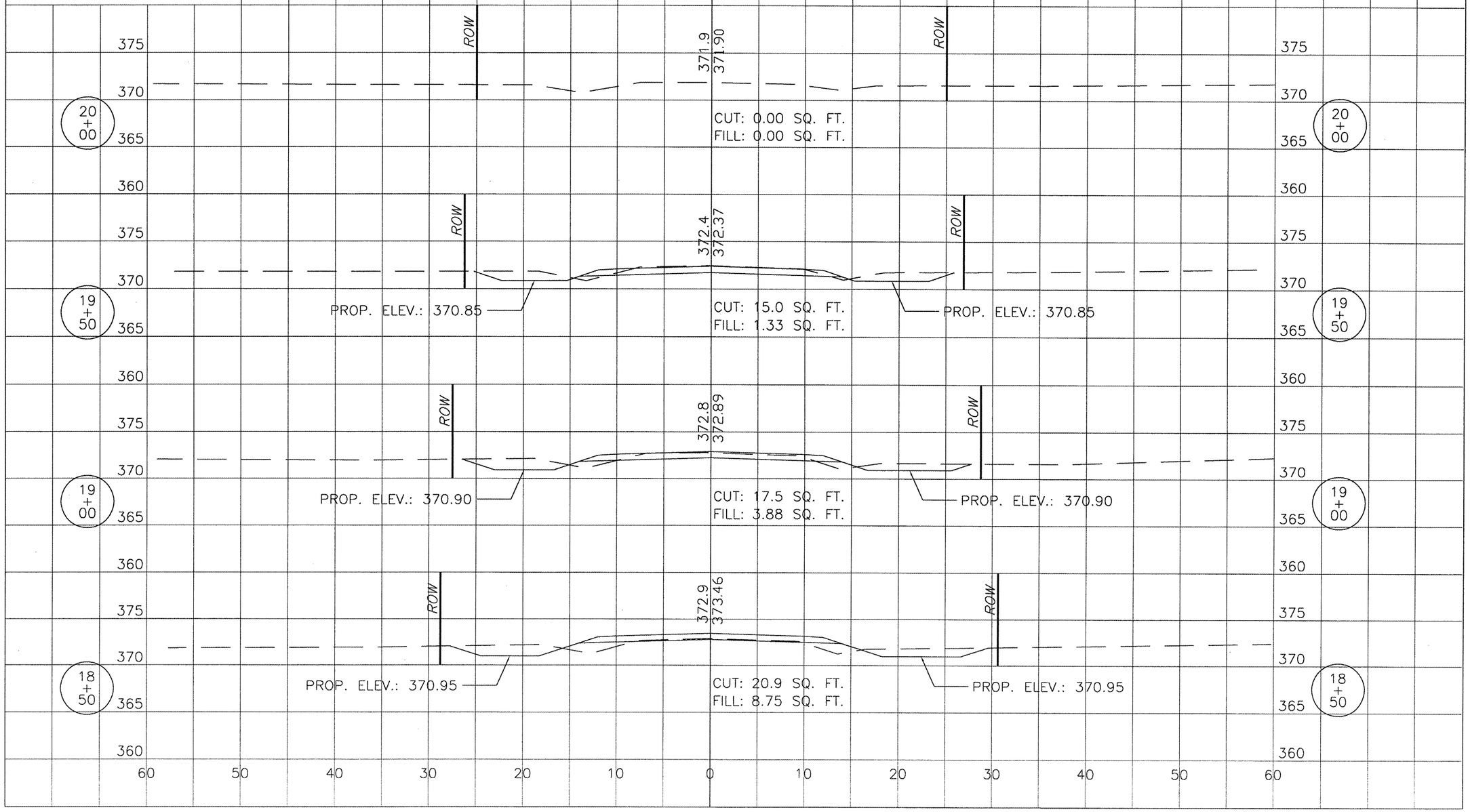
VERTICAL
0 5' 10'



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	15
MITCHELLSVILLE ROAD				

HORIZONTAL
0 5' 10'

VERTICAL
0 5' 10'



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	16
MITCHELLSVILLE ROAD				

CONTRACT NO. 99437

STORM WATER POLLUTION PREVENTION PLAN

The following Plan is established and incorporated in the project to direct the Contractor in the placement of temporary erosion control systems and to provide a storm water pollution prevention plan for compliance under NPDES.

The purpose of this plan is to minimize erosion within the construction site and to limit sediments leaving the construction site by utilizing proper temporary erosion control systems and providing ground cover within a reasonable amount of time.

Certain erosion control facilities shall be installed by the Contractor at the beginning of construction. Other items shall be installed as directed by the Engineer on a case by case situation depending on the Contractor's sequence of activities, time of year and expected weather conditions.

The Contractor shall construct permanent erosion control systems and seeding within a time frame specified herein and as directed by the Engineer, therefore minimizing the amount of area susceptible to erosion and reducing the amount of temporary seeding. The engineer will determine if any temporary erosion control systems shown in the plans can be deleted and if any additional temporary erosion control systems, which are not included in the plans, shall be added. The contractor shall perform all work as directed by the Engineer and as shown in STANDARD 280001.

Section 280, Temporary Erosion Control, of the Standard Specifications additionally supplements this plan.

DESCRIPTION OF CONSTRUCTION ACTIVITIES

1. Temporary ditch checks shall be located at every 1.5 feet of fall/rise in ditch grade.

INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES

1. Isolated tree removal. Trees to remain will be protected against damage.

2. Excavation and grading.

3. Construction of Bridge & Riprap

4. Placement of Aggregate Base Course.

5. Seeding and permanent erosion control systems.

AREA OF CONSTRUCTION SITE

1. The total area of the construction site is estimated to be 1.7 Acres of which approximately 1.7 Acres will be disturbed.

OTHER REPORTS, STUDIES AND PLANS WHICH AID IN THE DEVELOPMENT OF THE SWPPP AS REFERENCED DOCUMENTS.

1. Information of the terrain was obtained from topographic maps.

2. Project plan documents, specifications and special provisions and plan drawings indicating the drainage patterns and location of existing drainage features were utilized in the preparation of the proposed placement of temporary erosion control systems.

DRAINAGE TRIBUTARIES AND SENSITIVE AREAS RECEIVING RUNOFF

1. Proposed storm sewer outlets are tributary to existing roadside ditches. No new discharge points will be constructed.

CONTROLS - EROSION CONTROLS AND SEDIMENT CONTROLS

1. Existing vegetation will be preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices will include temporary seeding, permanent seeding, mulching, protection of trees, preservation of mature vegetation and other appropriate measures as directed by the Engineer. Stabilization measures shall be initiated as soon as practical in those areas of the site where construction activities have ceased, but in no case more than 7 days after the construction activity for an area has temporarily or permanently ceased.

2. Areas outside the construction limits shall be protected from construction activities.

3. Dead, diseased or unsuitable vegetation within the site shall be removed as directed by the Engineer.

4. As soon as is reasonable, the temporary erosion control system shall be installed as indicated in the plans or as directed by the engineer.

This plan has been prepared with the intent to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from construction site activities.

I certify under penalty of law that this plan was prepared at my direction in accordance with a system that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

JEFFREY M. JONES, COUNTY ENGINEER MARCH 1, 2011

BROWN & ROBERTS, INC.

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ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 281	06-07114-00-BR	SALINE	17	17
MITCHELLSVILLE ROAD				

CONTRACT NO. 99437

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION

1. During construction, areas outside the construction limits shall be protected.

2. Within the construction limits, areas which may be susceptible to erosion as determined by the Engineer shall remain undisturbed until full scale construction is underway.

3. Earth stockpiles shall be temporary seeded if they are to remain unused for more than 14 days.

4. As soon as construction proceeds, the contractor shall institute the following as directed by the Engineer:

A) Place temporary erosion control facilities at locations shown in the plans.

B) Temporarily seed erodable bare earth on a weekly basis to minimize the amount of erodable surface area within the contract limits.

C) Construct roadside ditches and provide temporary erosion control systems.

D) Temporarily divert water around proposed culvert locations.

5. Excavated areas shall be permanently seeded immediately after final grading. If not, they shall be temporarily seeded if no construction in the area is planned for 7 days.

6. All necessary measures shall be taken by the contractor to contain any fuel or pollutant in accordance with EPA water quality regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site.

7. The Resident Engineer shall inspect the project daily during construction activities. Inspection shall also be done weekly and after rains of 0.5 inches or greater or equivalent snowfall and during any winter shutdown period.

8. Sediment collected during the construction by the various temporary erosion control systems shall be disposed of on site on a regular basis as directed by the Resident Engineer. The cost of this maintenance shall be considered incidental to the erosion control system.

9. The temporary erosion control systems shall be removed as directed by the Engineer after use is no longer needed or no longer functioning. The cost of removal shall be included in the unit bid price for various temporary erosion control pay items.

DESCRIPTION OF STRUCTURAL PRACTICES AFTER FINAL GRADING

1. Temporary seeding shall be left in place with proper maintenance until permanent erosion control and all proposed turf areas seeded and established.

2. Once permanent erosion control systems as proposed in the plans are functional and established, temporary items shall be removed, cleaned up and disturbed turf areas reseeded.

MAINTENANCE AFTER CONSTRUCTION

1. Construction is complete after FINAL acceptance by I.D.O.T. final inspection. Maintenance up to this date will be by the contractor.

MISCELLANEOUS

1. Temporary ditch checks shall be located at every 1.5 feet of fall/rise in ditch grade.

2. Temporary erosion control seeding shall be applied at the rate of 100 lbs/acre.

3. Straw bales, hay bales, perimeter erosion control barrier and silt fences will not be permitted for temporary or permanent ditch checks. Ditch checks shall be composed of aggregate, silt panels, rolled excelsior, urethane foam geotextile (silt wedges) and/or other material approved by the erosion and sediment control coordinator.

4. All erosion control products furnished shall be specifically recommended by the manufacturer for the use specified in the erosion control plan. Prior to the approval and use of the product, the contractor shall submit to the Engineer a notarized certification by the producer stating the intended use of the product and the physical properties required for this application are met or exceeded. The contractor shall provide manufacturer installation procedures to facilitate the Engineer in construction inspection.

5. All items shall be constructed as shown on STANDARD 280001 and as directed by the Engineer. Maintenance and cleaning of erosion control items shall be considered part of the respective erosion control pay item.