

EXISTING STRUCTURE NO. 032-3361

THREE SPAN (29'. 30'. 29') PRECAST CONCRETE DECK BEAM  
BRIDGE 94' 6- 3/4" BACK TO BACK OF ABUTMENT. 26'-3"  
FACE TO FACE OF RAIL.

EXISTING SUPERSTRUCTURE TO BE  
REMOVED AND REPLACED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED  
TOWNSHIP BRIDGE PROGRAM PROJECT  
(GOODFARM ROAD OVER MURRAY SLOUGH)  
SECTION 17-09132-00-BR  
GRUNDY COUNTY  
HIGHLAND TOWNSHIP

INDEX OF SHEETS

1	COVER SHEET
2	GENERAL NOTES, TYPICAL SECTIONS, TRAFFIC CONTROL AND SUMMARY OF QUANTITIES
3	PLAN AND PROFILE
4	GENERAL PLAN AND ELEVATION
5-7	STRUCTURE DETAILS
8	CROSS SECTIONS

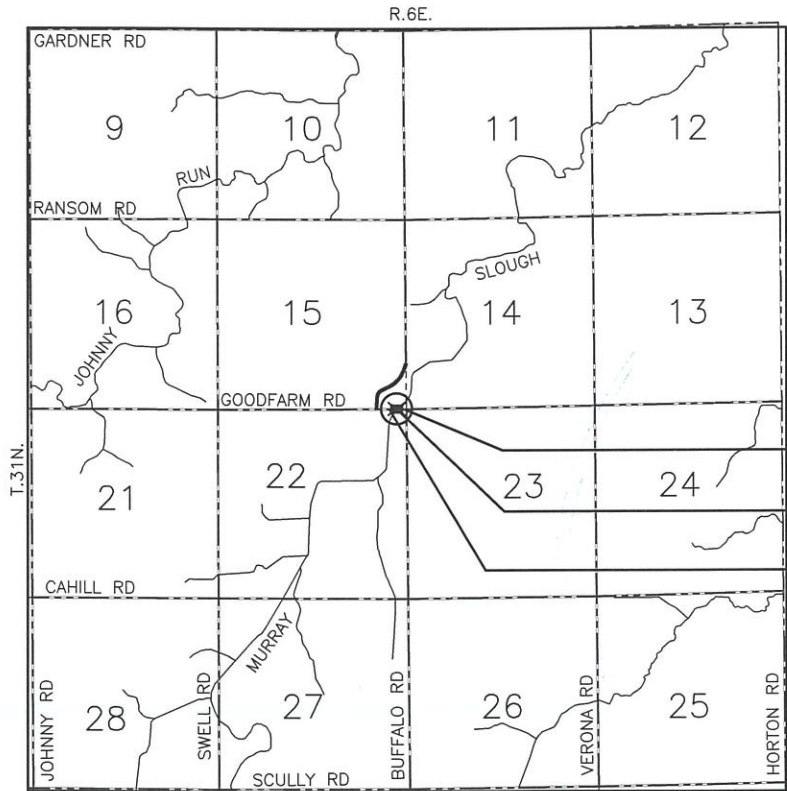
HIGHWAY STANDARDS

000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
515001-04	NAME PLATE FOR BRIDGES
701901-08	TRAFFIC CONTROL DEVICES
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

STRUCTURAL DESIGN DATA

FUNCTION CLASSIFICATION: LOCAL ROAD/STREET  
ADT <150

DESIGN SPEED 30 MPH



LOCATION SKETCH

NOT TO SCALE

GROSS LENGTH= 102.56 FT (0.019 MI) NET LENGTH= 102.56 FT (0.019 MI)



LOCATION OF SECTION INDICATED THUS:

END PROJECT STA. 3+48.72  
S.N. 032-3361  
BEGIN PROJECT STA. 4+51.28

JULIE 1-800-892-0123



APPROVED	6-16-20	20
TOWNSHIP COMMISSIONER		
APPROVED	06/12/20	20
COUNTY ENGINEER		
PASSED	June 23,	20 20
DISTRICT ENGINEER OF LOCAL ROADS & STREETS		
APPROVED	June 23,	20 20
REGION 2 ENGINEER		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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CHECKED BY: JKC	DATE: 06/2020	DATE BY	FILE NO.: 111224.00Y-	OF 8

GENERAL NOTES

1.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR (4) SAND BAGS PER BARRICADE.
2.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED IN THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THESE PLANS.
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 MONUMENTS UNTIL AN AUTHORIZED SURVEY OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR REESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
4.

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

GRANULAR MATERIALS

2.05

TONS / CU YD

HMA SURFACING

112

LBS/SQ YD/IN
5.

MEMBERS OF JULIE KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE:

COMED

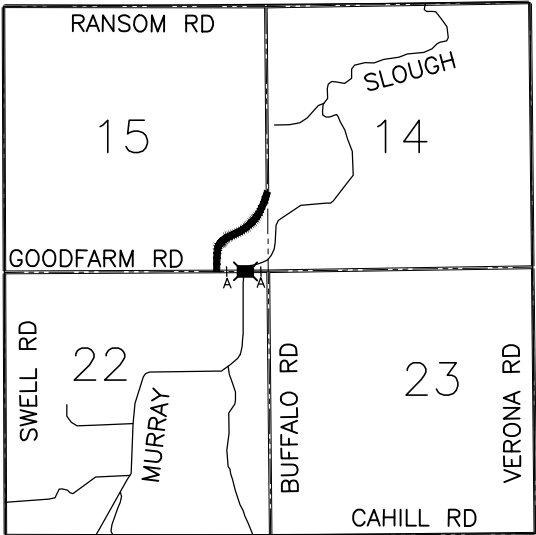
AT&T

BLACKSTONE WIND FARM, LLC

KINSMAN MUTUAL TELEPHONE

NICOR

THE CONTRACTOR SHALL CONTACT JULIE AT LEAST 48 HOURS PRIOR TO EXCAVATION TO DETERMINE WHICH UTILITIES ARE IN THE AREA.



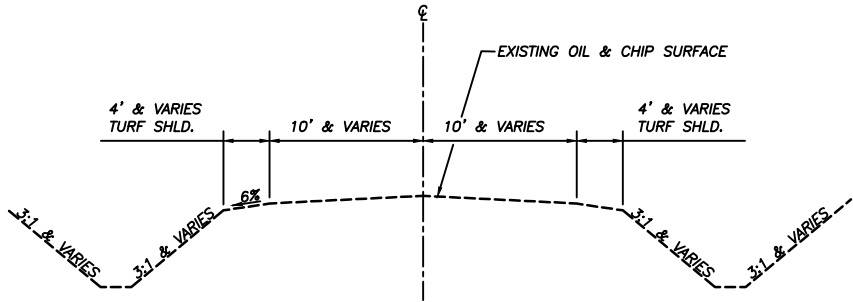
TRAFFIC CONTROL PLAN

NOT TO SCALE

- Ⓐ

ERECT TYPE III BARRICADES AT STA. 1+50 AND 7+00 AND "ROAD CLOSED 500 FT" AND "ROAD CLOSED AHEAD" SIGNS IN ACCORDANCE WITH HIGHWAY STD. BLR-21.\*
- \*

THIS WORK WILL NOT BE PAID FOR SEPARATELY. THE COST SHALL BE CONSIDERED INCLUDED IN OTHER WORK.



EXISTING TYPICAL SECTION

NOT TO SCALE

HMA MIXTURE REQUIREMENT TABLE

LOCATION(S)	BRIDGE DECK AND APPROACHES	
MIXTURE USE(S):	INCIDENTAL HMA	
BINDER GRADE (PG):	PG64-22	
DESIGN AIR VOIDS:	4.0% @ N50	
MIXTURE COMPOSITION (MIXTURE GRADATION):	IL 9.5	
FRICTION AGGREGATE	MIXTURE C	
MIXTURE WEIGHT:	112#/Sq. Yd./In.	
QUALITY MANAGEMENT PROGRAM:	QC/QA	
SUBLOT SIZE:	N/A	
DENSITY TEST METHOD:	CORES	

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
28100107	STONE RIPRAP, CLASS A4	SQ YD	486
28100111	STONE RIPRAP, CLASS A6	SQ YD	368
28200200	FILTER FABRIC	SQ YD	854
35101400	AGGREGATE BASE COURSE, TYPE B	TON	17
40800025	BITUMINOUS MATERIALS (PRIME COAT)	POUND	50
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	8
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
50400105	PRECAST CONCRETE BRIDGE SLAB	SQ FT	2414
50900205	STEEL RAILING, TYPE S1	FOOT	184
Z0013798	CONSTRUCTION LAYOUT	L SUM	1

\* SEE SPECIAL PROVISIONS

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CHECKED BY: JKC	LEVEL	BY	DATE	DESCRIPTION
DATE: 02/18				

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ASSOCIATES, INC.

PERU MORRIS

ILLINOIS

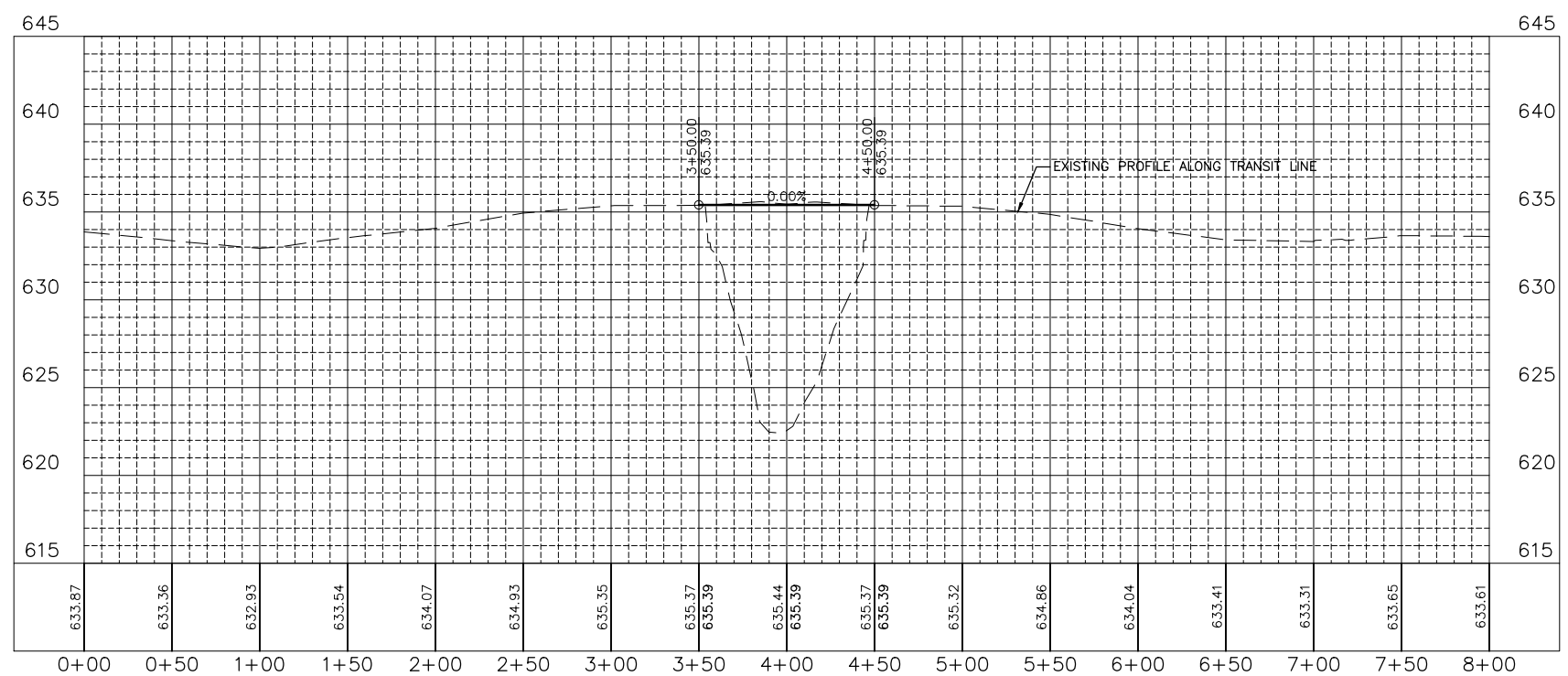
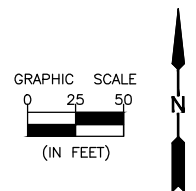
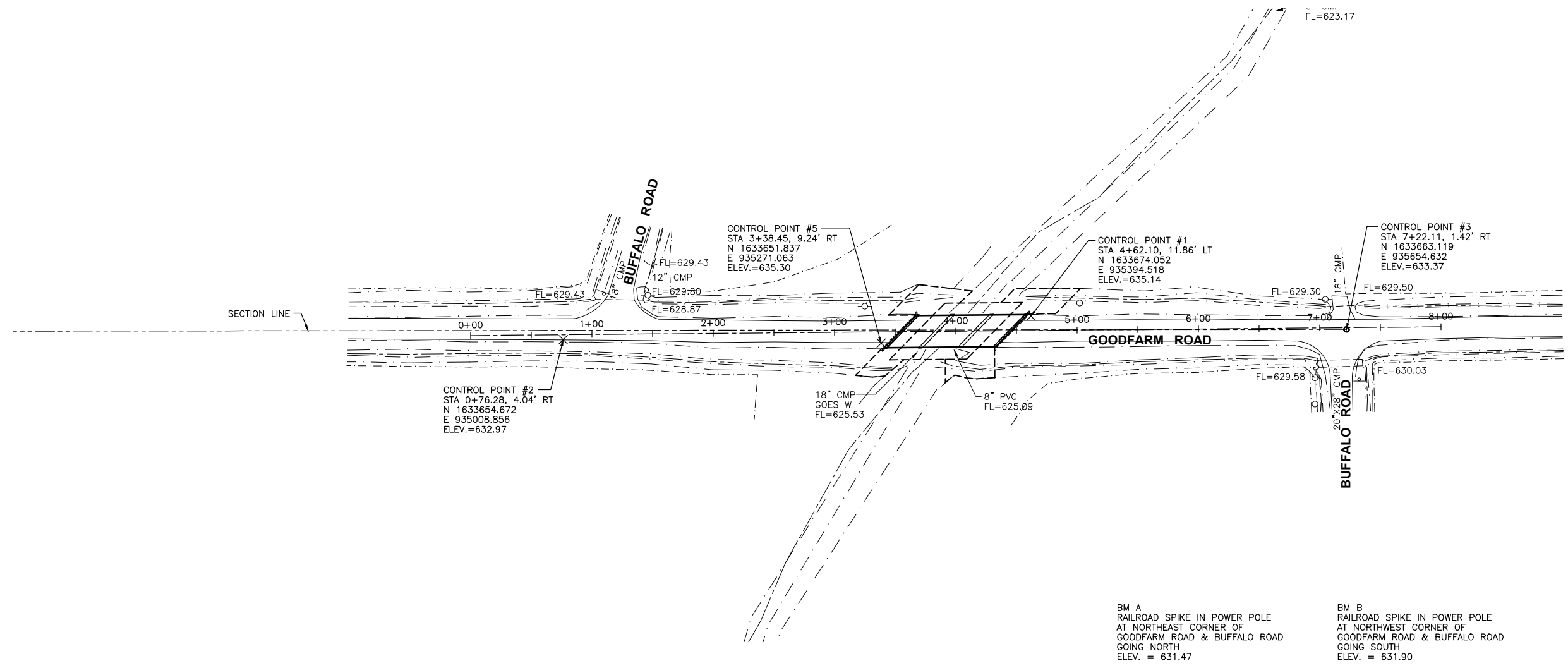
GOODFARM ROAD  
SECTION 17-09132-00-BR  
GRUNDY COUNTY

GENERAL NOTES, TYPICAL SECTION,  
AND TRAFFIC CONTROL

CONSTRUCTION  
PLANS

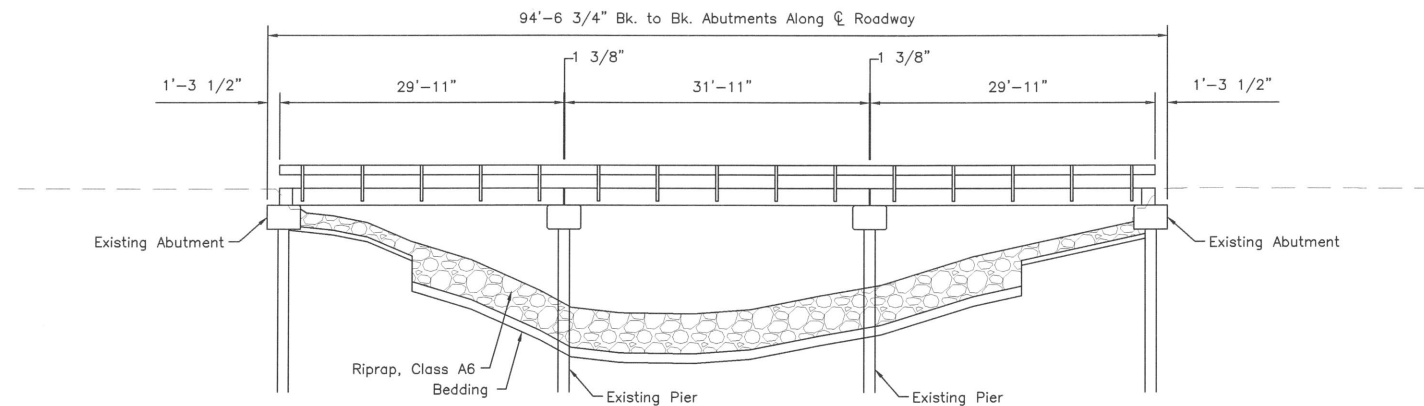
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CHECKED BY: JKC		LEVEL	BY	DATE	DESCRIPTION						SCALE: AS NOTED	SHEET 3
DATE: 08/2017											FILE NO.: 111224.00 Y-	OF 8



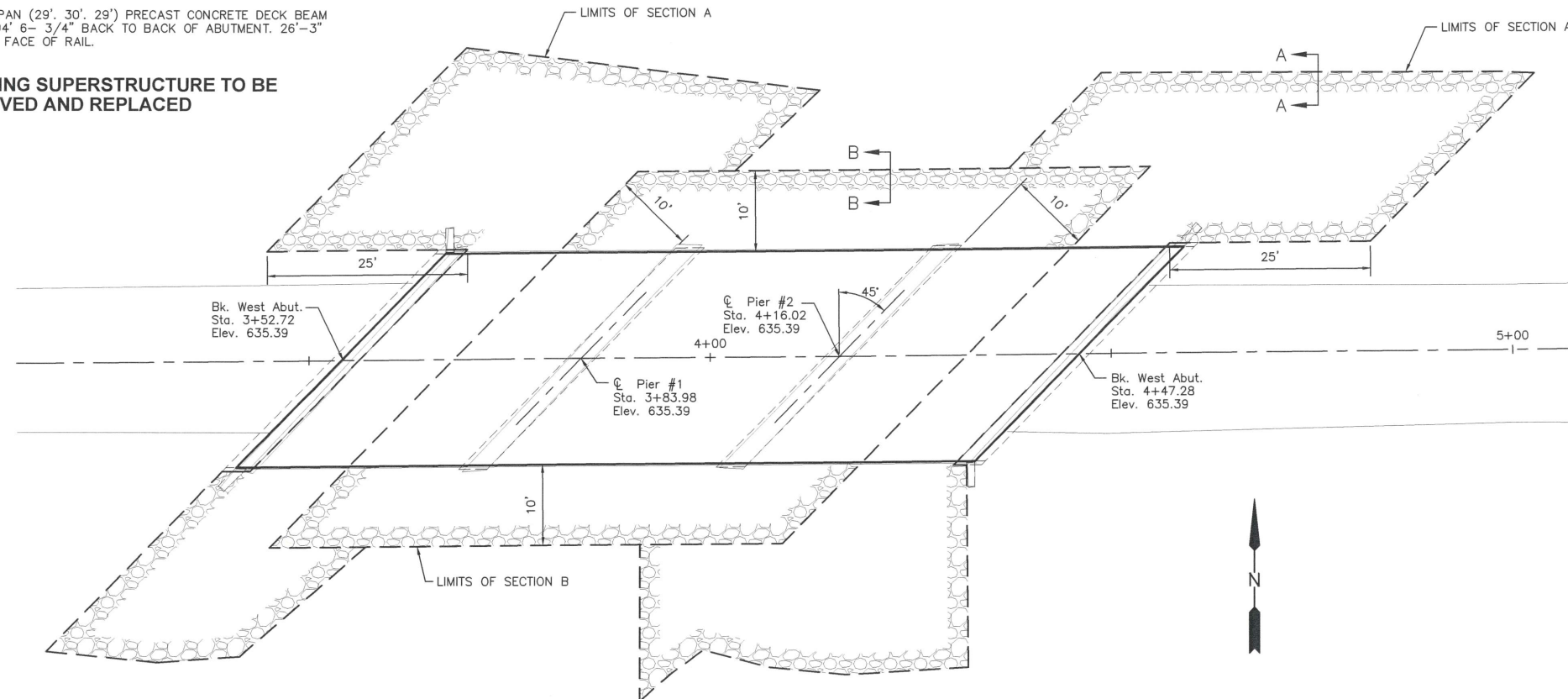


ELEVATION

EXISTING STRUCTURE NO. 032-3361

THREE SPAN (29'-30'-29') PRECAST CONCRETE DECK BEAM BRIDGE 94'-6 3/4" BACK TO BACK OF ABUTMENT. 26'-3" FACE TO FACE OF RAIL.

EXISTING SUPERSTRUCTURE TO BE REMOVED AND REPLACED



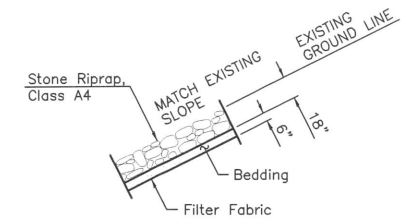
PLAN

GENERAL NOTES

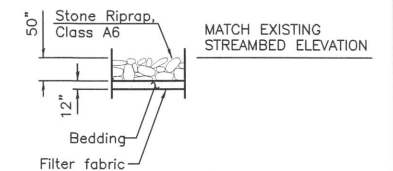
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

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

Existing Name Plate shall be cleaned and relocated next to the new Name Plate. Cost included with Name Plates.



SECTION A-A



SECTION B-B

BILL OF MATERIAL

Item	Unit	Quantity
Stone Riprap, Class A4	Sq Yd	486
Stone Riprap, Class A6	Sq Yd	368
Filter Fabric	Sq Yd	854
Removal of Existing Superstructures	Each	1
Precast Concrete Bridge Slab	Sq Ft	2414
Steel Railing, Type S1	Foot	184

LOADING HL-93 (SUPERSTRUCTURE ONLY)

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications

DESIGN STRESSES

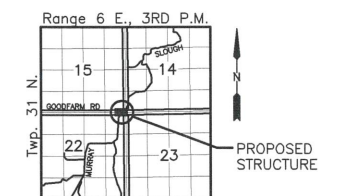
FIELD UNITS

f'c = 4,500 psi  
fy = 60,000 psi (Reinforcement)

MURRAY SLOUGH  
RE-BUILT 20\_\_ BY  
GRUNDY COUNTY  
SEC 17-09132-00-BR  
COUNTY HIGHWAY 25 STA 4+00  
STR. NO. 032-3361 LOADING HL93

NAME PLATE

See Std. 515001



LOCATION SKETCH

WATERWAY INFORMATION TABLE

Drainage Area = 16.2 Square Miles		Overtopping Elev.=632.93'/632.93' (Exist/Prop.) @ STA 1+00									
Flood	Freq. Yr.	Q C.F.S.	Bridge O.T.R.	Exist.	Total	Bridge Prop.	Total	Nat. H.W.E.	Head - Ft. Headwater El.	Exist.	Prop.
Design	10	869	272	0	272	272	0	272	631.0	0.6	0.6
Design	15	976	272	0	272	272	0	272	631.0	0.7	0.7
Design	100	1490	295	0	295	295	0	295	631.5	0.9	0.9
Base											
Overtopping											
Max. Calc.	500	1930	305	0	305	305	0	305	631.7	1.3	1.3

Max. H.W.E.: N/A (ft.)  
Exist. 10 Year Velocity: 3.4 (ft./sec.)  
Prop. 10 Year Velocity: 3.4 (ft./sec.)

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.)				Item 113
	W. Abut.	Pier 1	Pier 2	E. Abut.	
Q100	Not Computed	618.15	617.71	Not Computed	7
Q200	Not Computed	Not Computed	Not Computed	Not Computed	
Design	631.14	623.89	623.89	631.14	
Check	631.14	623.89	623.89	631.14	

Design and check elevations for abutments taken as bottom of cap. Design and check elevations for pile bent piers taken as existing plan stream bed elevation. abutment scour elevations not computed since abutments will be protected with riprap. Item 113 rating based upon retrofit with riprap to mitigate the q200 flood.

PROFILE GRADE



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

6/13/2020  
date

JAMES K. CLINARD  
LICENSED STRUCTURAL ENGINEER  
NO. 081-004655  
STATE OF ILLINOIS  
expires 11-30-2020  
signature  
PROFESSIONAL DESIGN FIRM  
LICENSE NO. 184-001717

GENERAL PLAN & ELEVATION

GOODFARM ROAD  
OVER MURRAY SLOUGH  
COUNTY HIGHWAY 25  
SEC. 17-09132-00-BR  
GRUNDY COUNTY  
STATION 4+00  
STRUCTURE NO. 032-3361

DRAWN BY: NV	LEVEL	BY	DATE	REVISIONS	DESCRIPTION
CHECKED BY: JKC					
DATE: 02/18					

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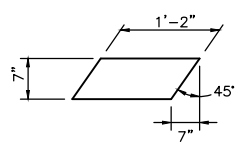
GOODFARM ROAD  
SECTION 17-09132-00-BR  
GRUNDY COUNTY

GENERAL PLAN AND ELEVATION

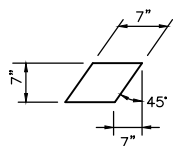
CONSTRUCTION  
PLANS

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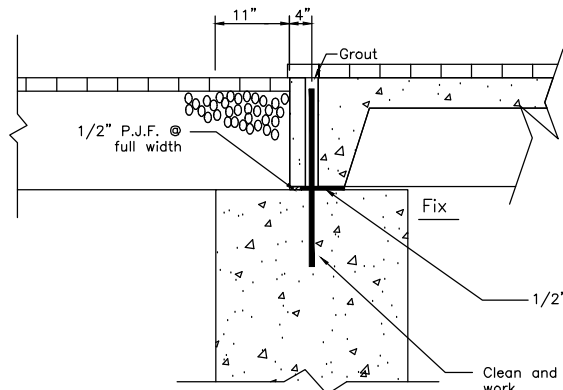


**1/2" FABRIC BEARING PAD**  
(Interior) 36 REQ'D

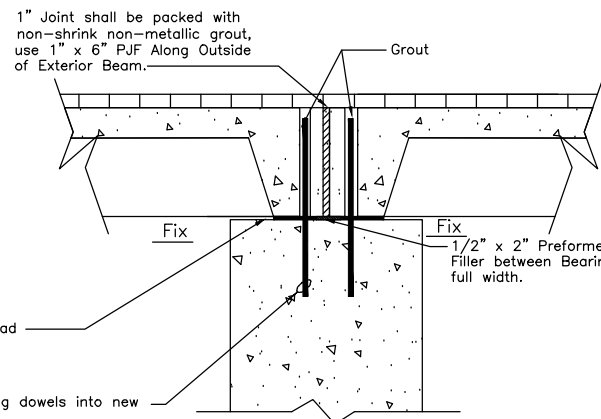


**1/2" FABRIC BEARING PAD**  
(Exterior) 12 REQ'D

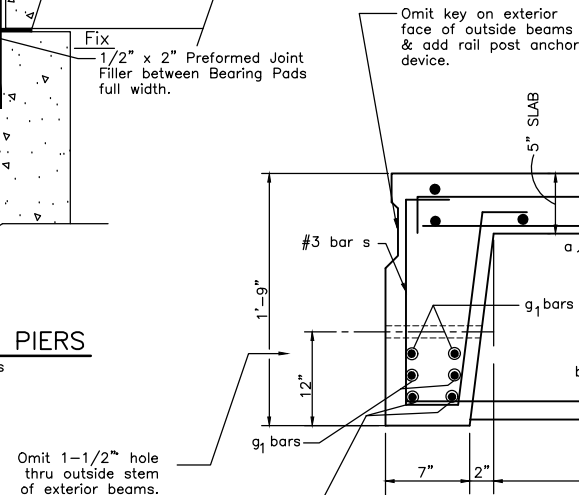
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**SECTION AT ABUTMENTS**  
at Rt L's

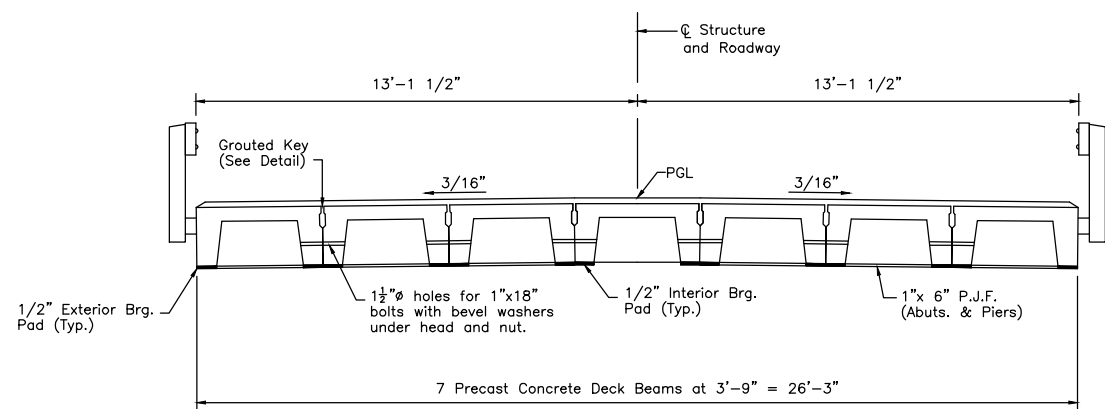


**SECTION AT PIERS**  
at Rt L's

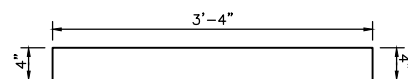


**TYPICAL SECTION**

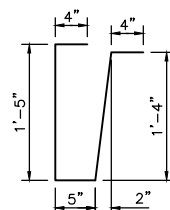
**NOTE:**  
Tack welding of stirrups to the bottom longitudinal rebars will not be permitted except as otherwise authorized in writing by the engineer.



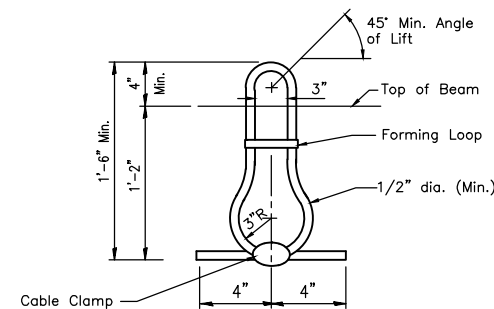
**CROSS SECTION**



**a BARS**

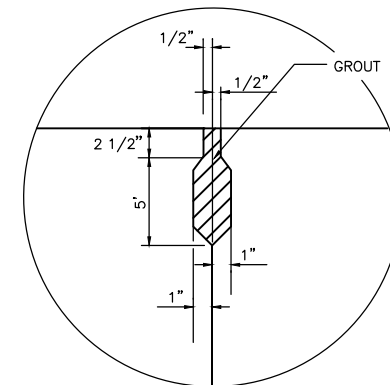


**s BARS**



**LIFTING LOOP DETAIL**  
84 REQ'D

**NOTE:**  
Lifting Loops shall be 6x25 class wire rope with fiber core. Min. ultimate tensile strength shall be 21,000 lbs. Loops shall be burned off after beams have been erected.



**KEY DETAIL**

**NOTES**

The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8 inch fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

**PRECAST NOTES:**

This work shall be done and paid for in accordance with section 504 of the Standard Specifications effective April 1, 2016, including current supplemental specifications. In case of conflict these notes shall take precedence.

All transverse tie assemblies (nuts, bolts, and washers) shall be hot dipped galvanized in accordance with AASHTO M 232.

Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels, of furnishing and assembling of 1 inch diameter bolts, and of grouting longitudinal shear key is included in unit bid price for "Precast Concrete Bridge Slab."

**SUPERSTRUCTURE DETAILS**  
**GOODFARM ROAD**  
**OVER MURRAY SLOUGH**  
**COUNTY HIGHWAY 25**  
**SEC. 17-09132-00-BR**  
**GRUNDY COUNTY**  
**STATION 4+00**  
**STRUCTURE NO. 032-3361**

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ILLINOIS

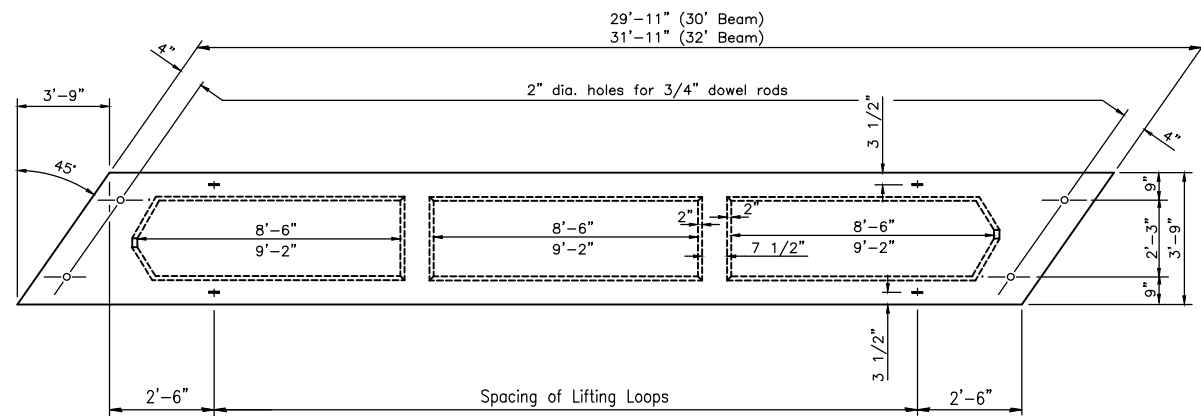
**GOODFARM ROAD**  
**SECTION 17-09132-00-BR**  
**GRUNDY COUNTY**

**SUPERSTRUCTURE DETAILS**

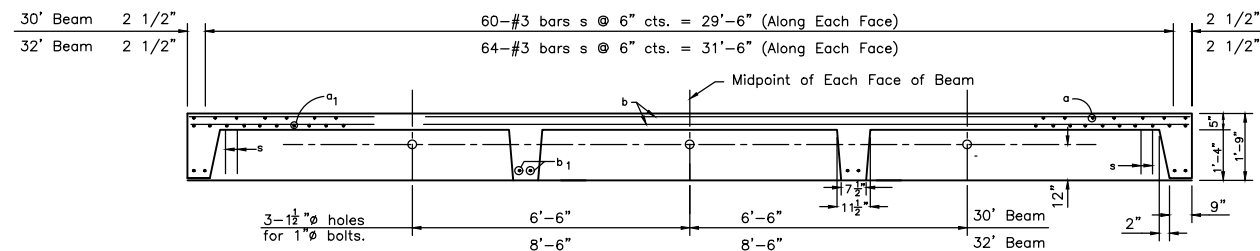
**CONSTRUCTION**  
**PLANS**

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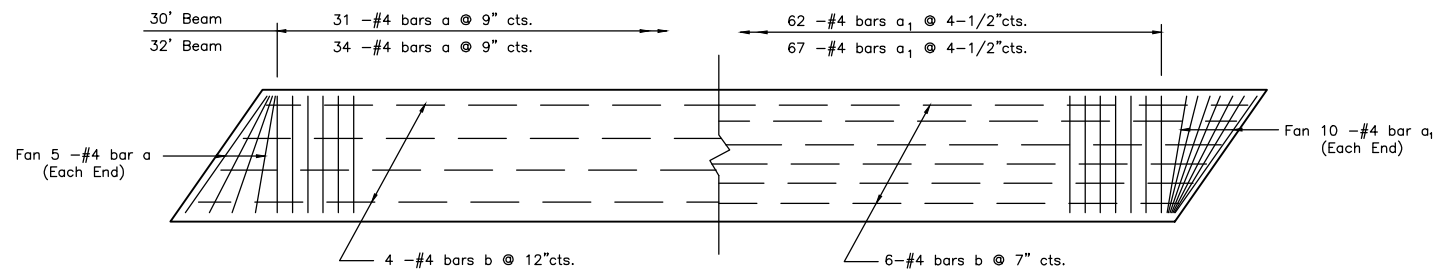
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DIMENSION PLAN



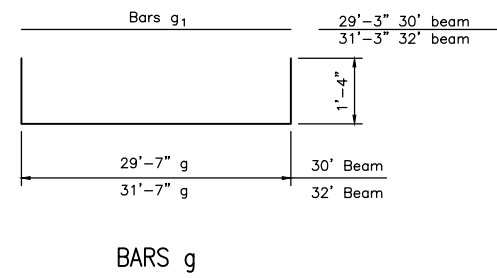
SECTION ALONG C OF BEAMS



TOP

BOTTOM

REINFORCEMENT PLAN



\*BILL OF MATERIAL- FOR (30' BEAM) PRECAST BEAM

BAR	NO.	SIZE	LENGTH	SHAPE
a	41	#4	4'-0"	
a <sub>1</sub>	82	#4	3'-3"	
b	10	#4	29'-7"	
b <sub>1</sub>	8	#4	3'-6"	
g	4	#8	32'-3"	
g <sub>1</sub>	8	#8	29'-3"	
s	120	#3	3'-10"	
CLASS PC CONCRETE			CU. YD.	4.4
REINFORCEMENT BARS			Pound	1646

\* FOR PRECAST MFR. INFO. ONLY  
(14 BEAMS REQUIRED)

NOTE:  
See Sheet 5 for additional  
information.

\*BILL OF MATERIAL- FOR (32' BEAM) PRECAST BEAM

BAR	NO.	SIZE	LENGTH	SHAPE
a	44	#4	4'-0"	
a <sub>1</sub>	87	#4	3'-3"	
b	10	#4	31'-7"	
b <sub>1</sub>	8	#4	3'-6"	
g	4	#8	34'-3"	
g <sub>1</sub>	8	#8	31'-3"	
s	128	#3	3'-10"	
CLASS PC CONCRETE			CU. YD.	4.7
REINFORCEMENT BARS			Pound	1754

\* FOR PRECAST MFR. INFO. ONLY  
(7 BEAMS REQUIRED)

BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq Ft	2414

**PRECAST BEAM DETAILS**  
**GOODFARM ROAD**  
**OVER MURRAY SLOUGH**  
**COUNTY HIGHWAY 25**  
**SEC. 17-09132-00-BR**  
**GRUNDY COUNTY**  
**STATION 4+00**  
**STRUCTURE NO. 032-3361**

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DATE: 07/18				



PERU MORRIS  
ILLINOIS

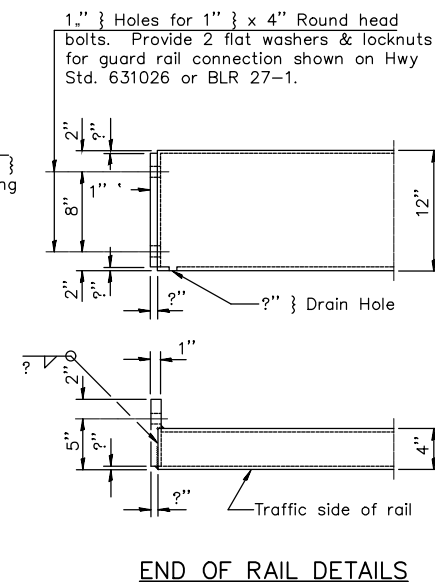
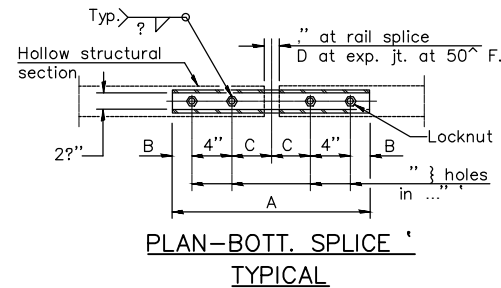
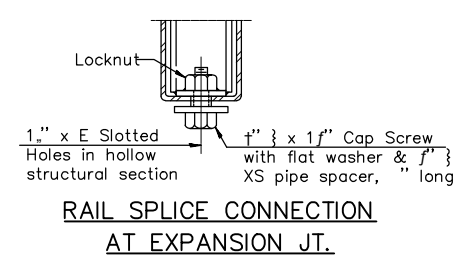
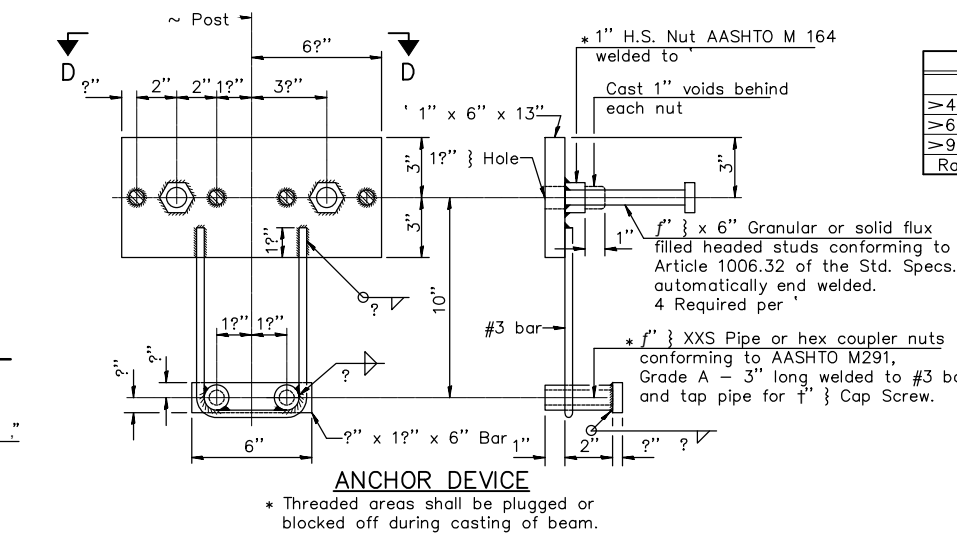
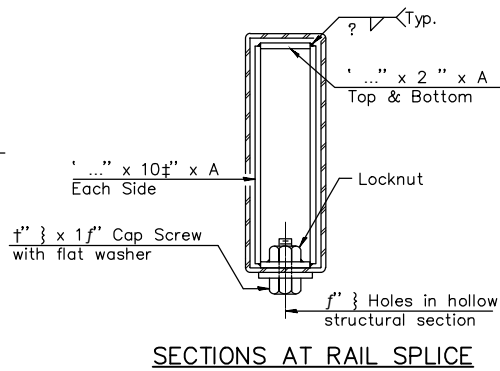
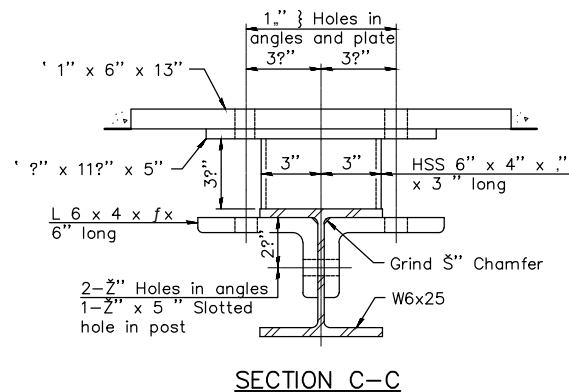
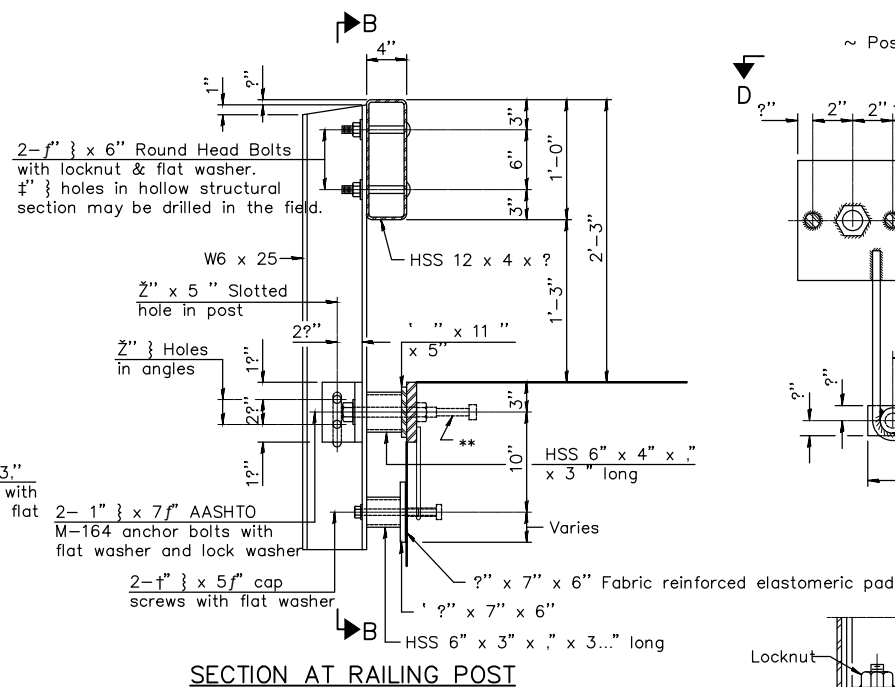
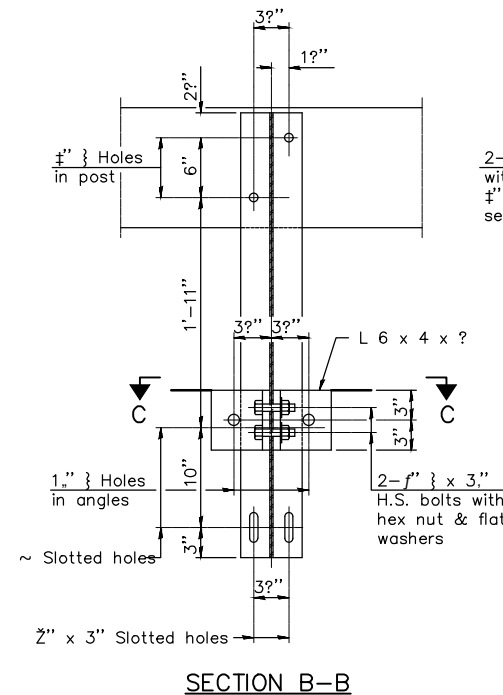
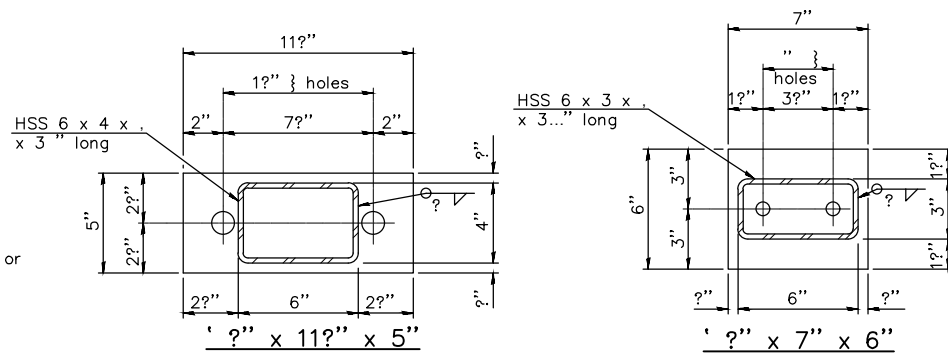
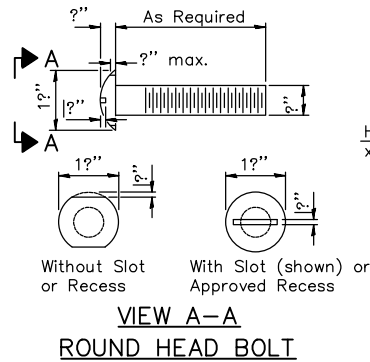
**GOODFARM ROAD**  
**SECTION 17-09132-00-BR**  
**GRUNDY COUNTY**

**PRECAST BEAM DETAILS**

**CONSTRUCTION**  
**PLANS**

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SCALE: AS NOTED	SHEET 6
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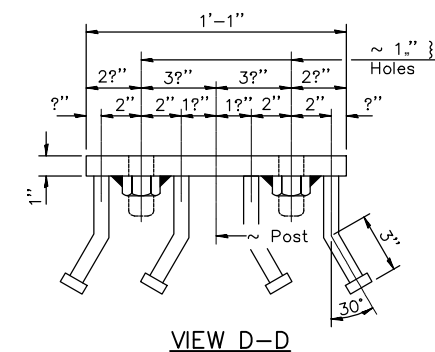




SPlice DIMENSIONS					
T	D	A	B	C	E
≤ 4"	2"	1'-8"	2"	4"	2"
> 4" ≤ 6"	3"	2'-0"	2"	5"	3"
> 6" ≤ 9"	5"	2'-4"	3"	6"	9"
> 9" ≤ 13"	7"	2'-10"	4"	8"	11"
Rail Splice	?"	1'-8"	2"	4"	?"

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

For multi-span bridges, sufficient 1" 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.



BILL OF MATERIAL		
Item	Unit	Quantity
Steel Railing, Type S-1 Foot		184

R-23A

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

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Drawing Name: C:\Users\1111224-00-6CHD-Cocofarm-Road-over-Murray-Stough-CAD\C3D\007-RAILING.dwg Last Modified: Jun 12, 2020 - 3:26pm Plotted on: Jun 15, 2020 - 7:21am by nanciv

DRAWN BY: NV	REVISIONS			
	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: JKC				
DATE: 07/18				

**CHAMLIN & ASSOCIATES, INC.**

PERU MORRIS  
ILLINOIS

**GOODFARM ROAD**  
**SECTION 17-09132-00-BR**  
**GRUNDY COUNTY**

**STEEL RAILING, TYPE S-1**

**CONSTRUCTION PLANS**

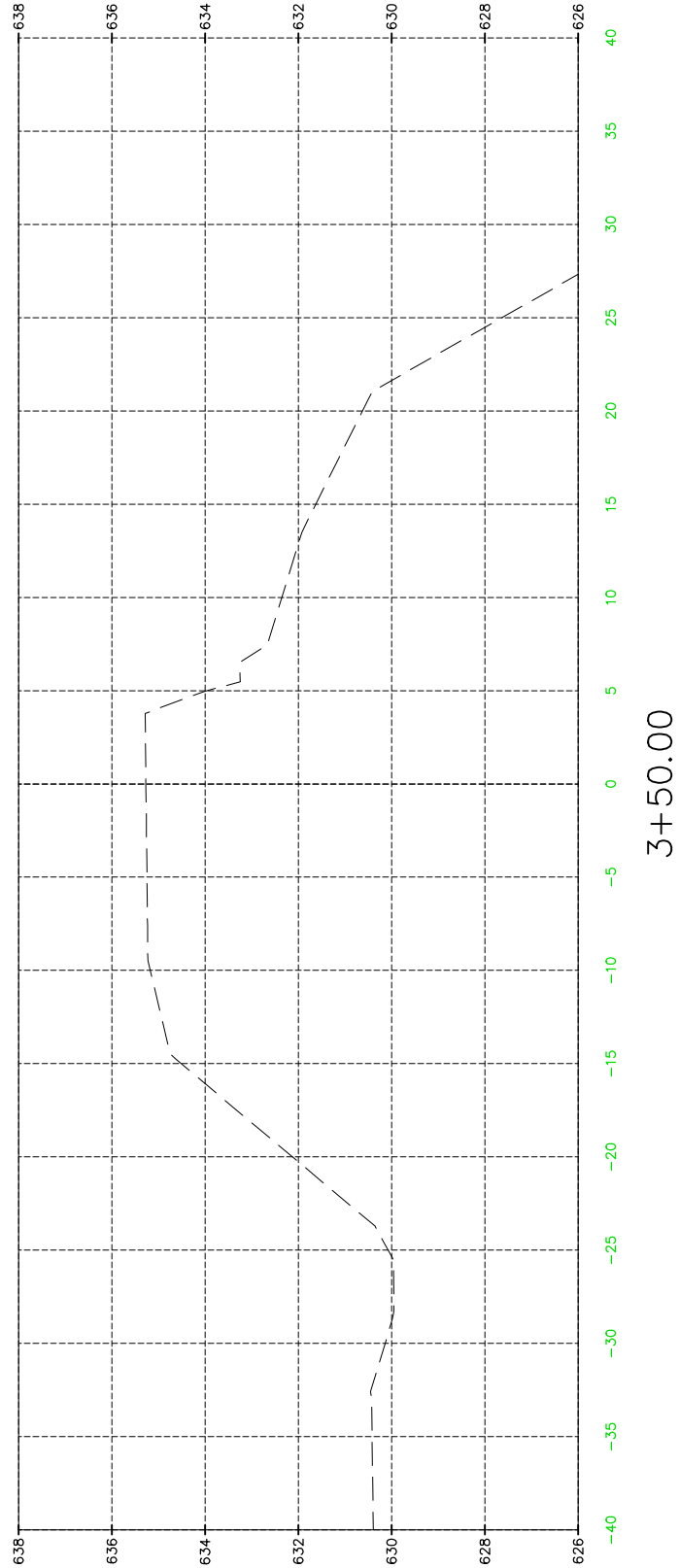
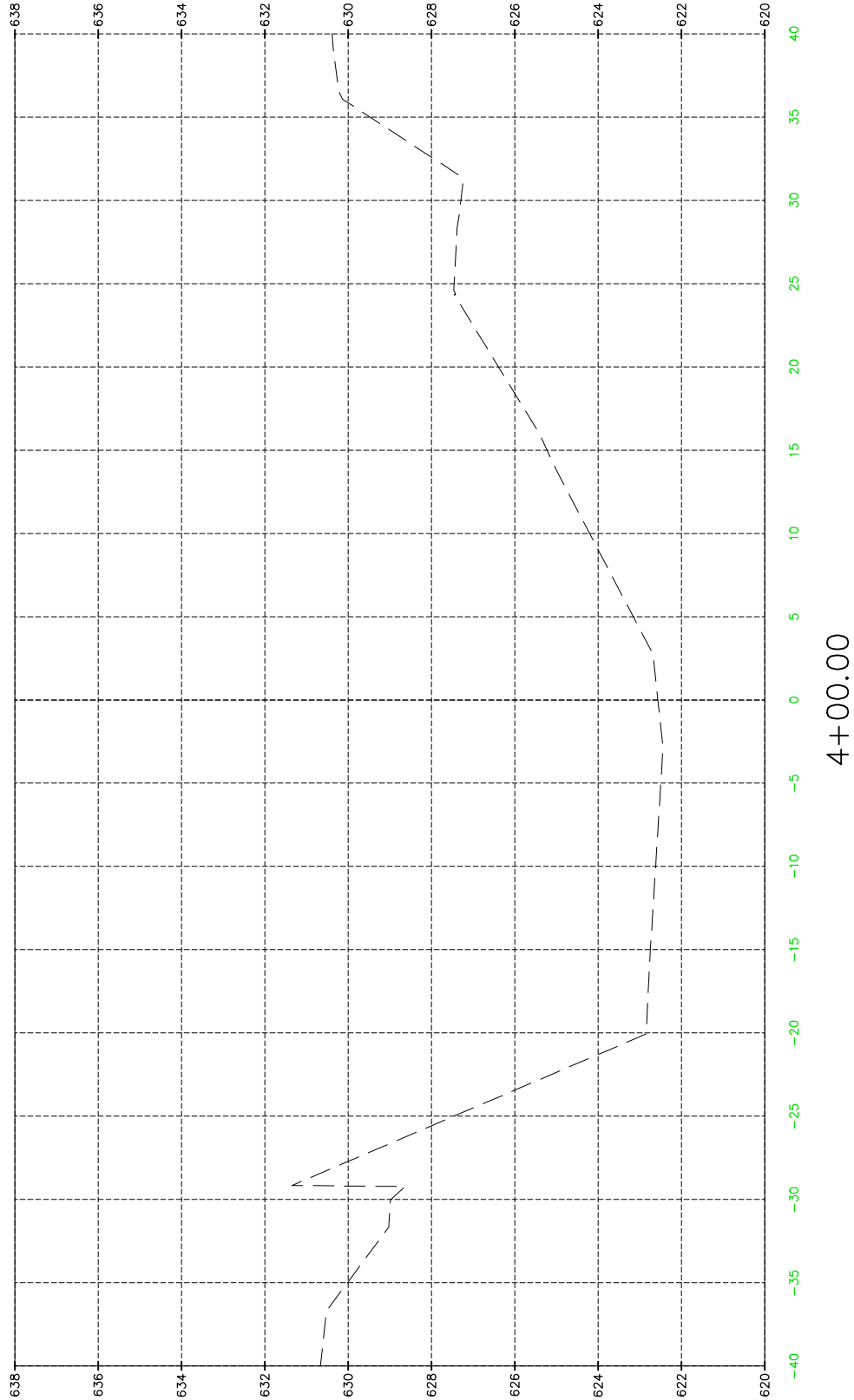
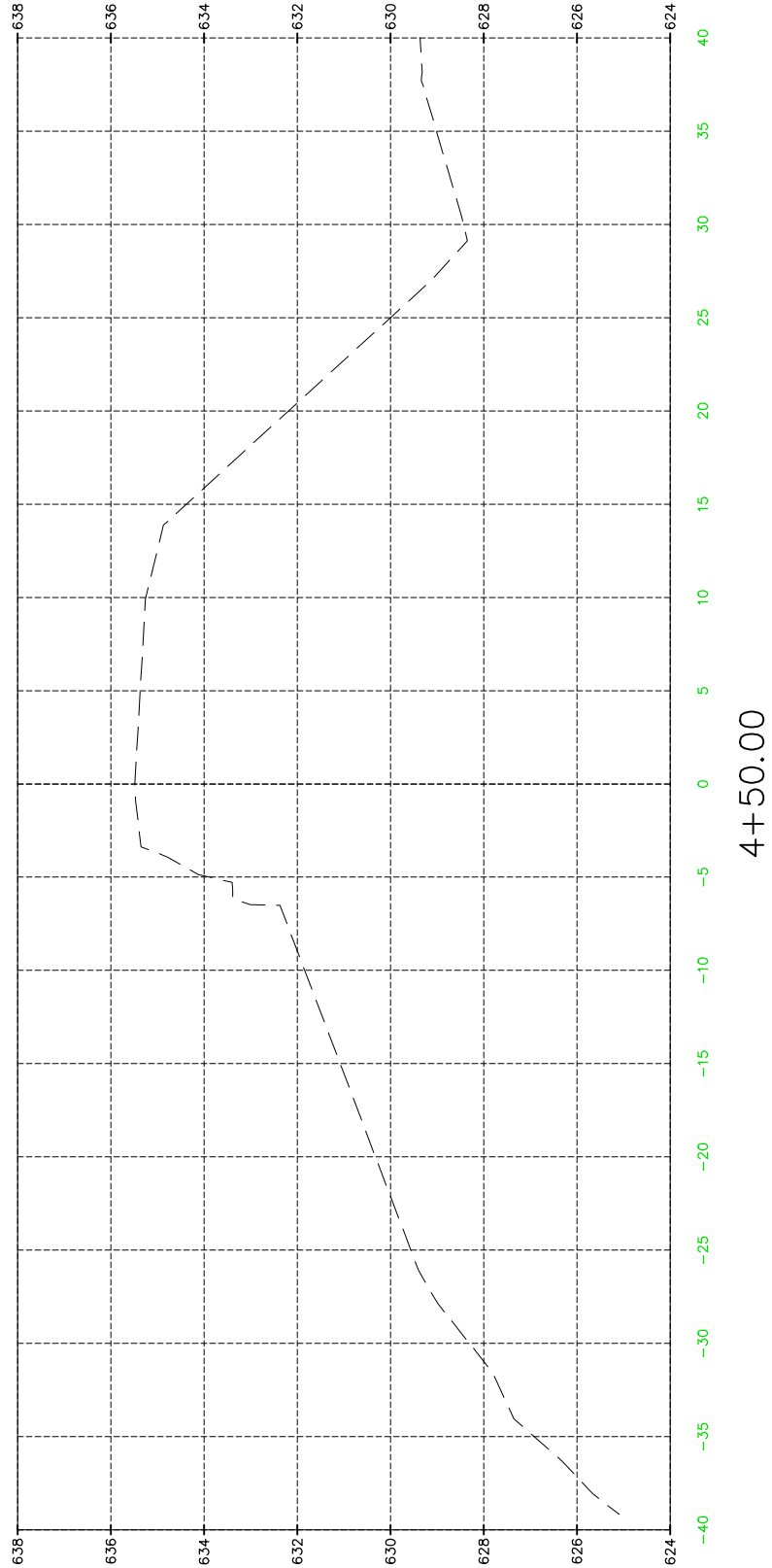
CURRENT AS OF: 06/12/2020

SCALE: AS NOTED

FILE NO.: 111224.00 Y-

SHEET 7 OF 8

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Drawing Name: G:\Users\11\11224-00-SCD-Goodfarm-Road-over-Murray-Stough\CAD\C3D\008 - CROSS SECTIONS.dwg Last Modified: Jun 12, 2020 - 3:26pm Plotted on: Jun 15, 2020 - 7:22am by nanciv



FOR INFORMATION ONLY

DRAWN BY: LAG	REVISIONS			
CHECKED BY: JKC	LEVEL	BY	DATE	DESCRIPTION
DATE: 08/2017				

11224-00-SCD-Goodfarm-Road-over-Murray-Stough.dwg

PERU MORRIS  
ILLINOIS

GOODFARM ROAD  
SECTION 17-09132-00-BR  
GRUNDY COUNTY

CROSS SECTIONS

CONSTRUCTION  
PLANS

CURRENT AS OF: 06/12/2020	
SCALE: AS NOTED	SHEET 8
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