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UTILITY COMPANIES

CommED
JOLIET, ILLINOIS

AGL RESOURCES
NAPERVILLE, ILLINOIS

MEDIACOM
ELBURN, ILLINOIS

FRONTIER
NORMAL, ILLINOIS

MARSEILLES TELEPHONE
METAMORA, ILLINOIS

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

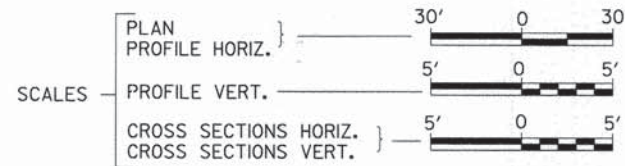
CONTRACT NO. 87587

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM - BRIDGE
LASALLE COUNTY
SECTION 16-00731-00-BR
F.A.S. 272 (CH 6) OVER COVEL CREEK
PROJECT NO. BRS-0272(111)
JOB NUMBER C-93-077-14

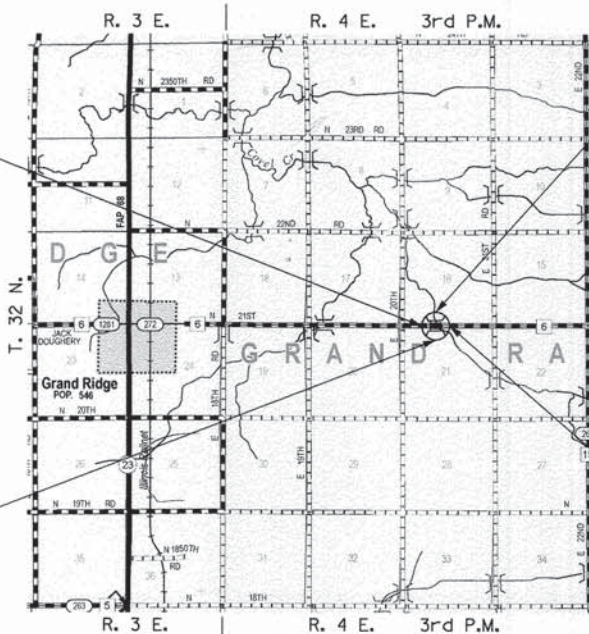
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	16-00731-00-BR	LASALLE	43	1
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 87587	



PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS



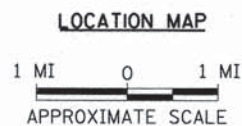
SECTION 16-00731-00-BR
BEGINS
STATION 35+00.00



EXISTING STRUCTURE SN 050-3465
SINGLE SPAN PRECAST PRESTRESSED CONCRETE
DECK BEAM SUPERSTRUCTURE SUPPORTED ON
TIMBER PILE CLOSED ABUTMENTS WITH
REINFORCED CONCRETE CAPS. 45'-0" BK. TO BK.,
AND 40'-0" O. TO O., NO SKEW (TO BE REMOVED)

PROPOSED STRUCTURE NO. 050-3613
SINGLE SPAN 42" P.P.C. I-BEAM WITH
CONCRETE DECK SUPERSTRUCTURE
ON CONC. INTEGRAL ABUTMENTS,
66'-0" BK. TO BK. AND 35'-0" O. TO O.,
NO SKEW.

SECTION 16-00731-00-BR
ENDS
STATION 45+00.00

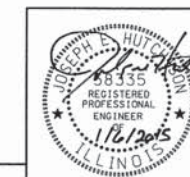


NET LENGTH OF PROJECT = 1,000.00 FEET = 0.189 MILES
DESIGN CLASSIFICATION: MAJOR-COLLECTOR (NON-URBAN)
DESIGN ADT = 1,410 (2035)
DESIGN SPEED = 50 MPH

Hutchison Engineering, Inc.
JACKSONVILLE-SHOREWOOD-PEORIA

2015

JOB#3459



Li. Exp. 11/30/2015
SIGNATURE

ENGINEER'S SEAL

PLANS DESIGNED IN ACCORDANCE WITH BUREAU
OF LOCAL ROADS AND STREETS MANUAL GUIDELINES
FOR TWO LANE RURAL COLLECTORS - RECONSTRUCTION

APPROVED 1-8 2015

Janessa A. King
LASALLE COUNTY ENGINEER

PASSED 1-20 2015

David B. Edwards
DISTRICT THREE ENGINEER OF
LOCAL ROADS & STREETS

Released For
Bid Based on
Limited Review 1-20 2015

Paul A. Weber
DEPUTY DIRECTOR OF HIGHWAYS,
REGION TWO ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

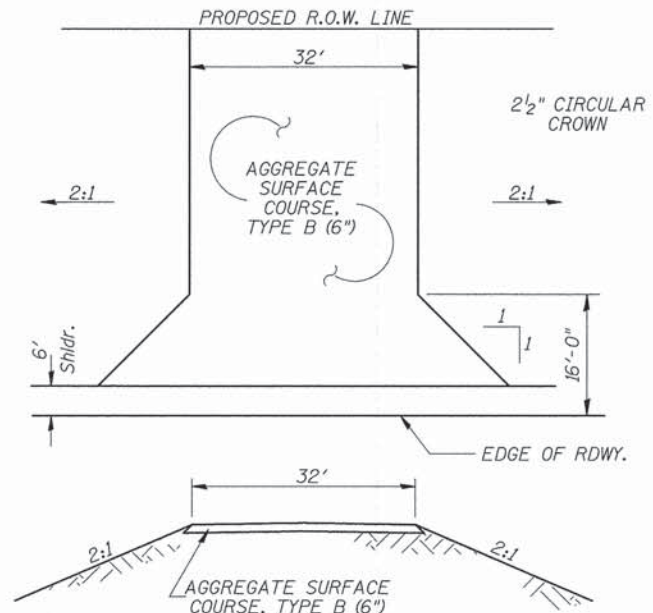
HOT-MIX ASPHALT MIXTURE REQUIREMENTS

	HMA BINDER	HMA SURFACE
PG GRADE**	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4% @ N50	4% @ N50
MIXTURE COMPOSITION*	IL-19.0 FG	IL-9.5
FRICTION AGGREGATE		MIXTURE C
DENSITY TEST METHOD	CORES	CORES

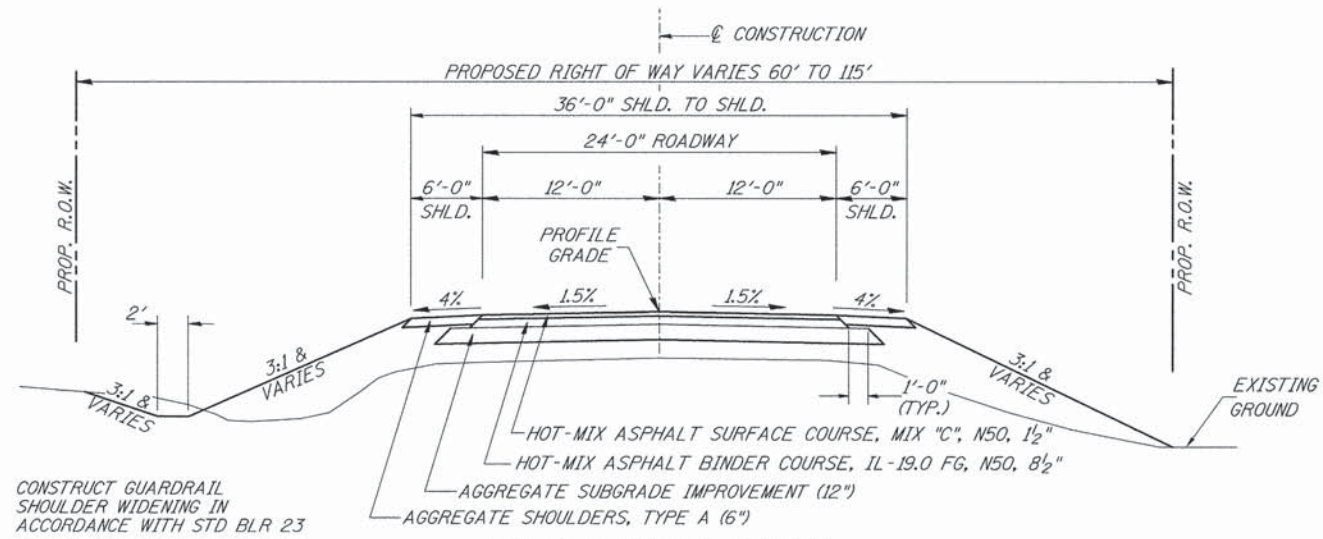
- * OTHER MIXES CAN BE USED WITH WRITTEN PERMISSION FROM THE ENGINEER.
- ** WHEN RAP/RAS ABR EXCEEDS 20 PERCENT, THE HIGH AND LOW VIRGIN ASPHALT BINDER GRADES SHALL EACH BE REDUCED BY ONE GRADE (i.e. 25% ABR WOULD REQUIRE A VIRGIN ASPHALT BINDER GRADE OF PG 64-22 TO BE REDUCED TO PG 58-28).

**STRUCTURAL DESIGN INFORMATION
COUNTY HIGHWAY 6**

ROAD CLASSIFICATION: CLASS III 80,000 lb./20 YEAR DESIGN
STRUCTURAL DESIGN TRAFFIC:
PV = 1,185 SU = 94 MU = 67
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:
P = 88% S = 7% M = 5%
MINIMUM SUBGRADE SUPPORT RATING: FAIR
FLEXIBLE PAVEMENT DESIGN: MINIMUM TF = 0.36
ASPHALT PAVEMENT THICKNESS: 10"
AGGREGATE SUBGRADE IMPROVEMENT: 12"



PROPOSED FIELD ENTRANCE
STA 41+84 LT



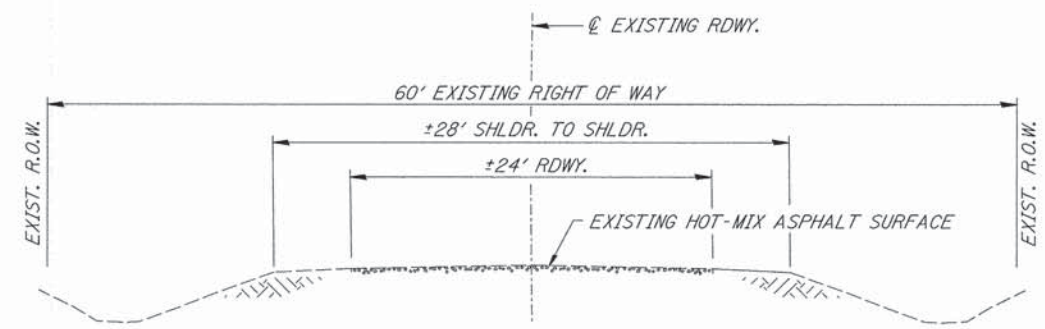
PROPOSED TYPICAL SECTION
STA. 35+00.00 TO STA. 39+33.00
STA. 40+67.00 TO STA. 45+00.00
EXCEPT TRANSITIONS

BRIDGE APPROACH PAVEMENT CONNECTOR
STA. 39+33.00 TO STA. 39+38.00
STA. 40+62.00 TO STA. 40+67.00

BRIDGE APPROACH PAVEMENT
STA. 39+38.00 TO STA. 39+68.00
STA. 40+32.00 TO STA. 40+62.00

BRIDGE OMISSION
STA. 39+68.00 TO STA. 40+32.00

CONSTRUCT GUARDRAIL
SHOULDER WIDENING IN
ACCORDANCE WITH STD. BLR 23



EXISTING TYPICAL SECTION

GENERAL NOTES

THE REMOVAL OF EXISTING ASPHALT SURFACE AND GRAVEL OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE PROJECT SHALL BE REMOVED AS EARTH EXCAVATION AND NO COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

ALL EXISTING DRAINAGE STRUCTURES NOT BEING REMOVED BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE FINAL SURFACE OF ALL DISTURBED/EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDING AREAS SHALL BE COHESIVE VEGETATION SUSTAINING SOIL 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 FURNISHED EXCAVATION. TOPSOIL MAY BE STRIPPED AND STOCKPILED FROM THE SITE OR HAULED IN FROM AN ALTERNATE LOCATION AS APPROVED BY THE ENGINEER.

ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

FILE NAME = V:\Bridge\3459-Lasalle\3459t001.dgn	USER NAME = cthomas	DESIGNED -	REVISED -	LASALLE COUNTY COUNTY HIGHWAY 6 OVER COVEL CREEK	GENERAL NOTES, DETAILS, TYPICAL SECTIONS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE = 1:8000' / in.	DRAWN -	REVISED -			272	16-00731-00-BR	LASALLE	43	2	
	PLOT DATE = 1/5/2015	CHECKED -	REVISED -			SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA. 35+00.00 TO STA. 45+00.00	
		DATE -	REVISED -			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR5-0272(11)					

SUMMARY OF QUANTITIES

Main summary of quantities table with columns: CODE NO., ITEM, UNIT, QUANTITY. Includes items like Earth Excavation, Channel Excavation, Guardrail Removal, etc.

① SEE SPECIAL PROVISIONS ② SPECIALTY ITEMS CONSTRUCTION CODE TYPE: 0011

EARTHWORK SUMMARY

Summary of earthwork quantities table with columns: STATION TO STATION, EARTH EXCAVATION, CHANNEL EXCAVATION, STRUCTURE EXCAVATION, FILL, WASTE (SHORTAGE).

(@ 25% SHRINKAGE)

AGGREGATE SHOULDERS, TYPE A

Table for Aggregate Shoulders, Type A with columns: STATION TO STATION, SIDE, WIDTH, LENGTH, TON.

* AGGREGATE SHOULDER EXTENDS TO THE EDGE OF THE GUARDRAIL SHOULDER WIDENING.

FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS

Table for Right-of-Way Markers with columns: STATION, SIDE, OFFSET, EACH.

GUARDRAIL MARKERS, TYPE A

Table for Guardrail Markers, Type A with columns: STATION TO STATION, SIDE, GUARDRAIL MARKERS (EACH).

ALL GUARDRAIL MARKERS SHALL BE BI-DIRECTIONAL

GUARDRAIL REMOVAL

Table for Guardrail Removal with columns: STATION TO STATION, SIDE, FOOT.

EROSION CONTROL BLANKET

Table for Erosion Control Blanket with columns: STATION TO STATION, SIDE, WIDTH, LENGTH, AREA (SQ YD).

TEMPORARY DITCH CHECKS

Table for Temporary Ditch Checks with columns: STATION, SIDE, FOOT.

TRAFFIC BARRIER TERMINAL, TYPE 1

Table for Traffic Barrier Terminal, Type 1 with columns: SIDE, STATION TO STATION, EACH.

TRAFFIC BARRIER TERMINAL, TYPE 6A

Table for Traffic Barrier Terminal, Type 6A with columns: SIDE, STATION TO STATION, EACH.

INLET AND PIPE PROTECTION

Table for Inlet and Pipe Protection with columns: STATION, SIDE, EACH.

PIPE CULVERTS, CLASS D, TYPE 1 24"

Table for Pipe Culverts, Class D, Type 1 24" with columns: STATION, SIDE, FOOT.

PIPE CULVERT REMOVAL

Table for Pipe Culvert Removal with columns: STATION, SIZE, SIDE, FOOT.

AGGREGATE SURFACE COURSE, TYPE B

Table for Aggregate Surface Course, Type B with columns: STATION TO STATION, THICKNESS, WIDTH, LENGTH, TON.

PAINT PAVEMENT MARKING - LINE 4"

Table for Paint Pavement Marking - Line 4" with columns: STATION TO STATION, SIDE, DESCRIPTION, FOOT.

PERIMETER EROSION BARRIER

Table for Perimeter Erosion Barrier with columns: STATION TO STATION, SIDE, FOOT.

PAVEMENT SCHEDULE

Large table for Pavement Schedule with columns: STATION TO STATION, WIDTH, LENGTH, PRIME COAT, HOT-MIX ASPHALT BINDER CSE, HOT-MIX ASPHALT SURF CSE, AGGREGATE SUBGRADE IMPROVEMENT, BRIDGE APPROACH PAVEMENT CONNECTOR.



- 1 ROAD CLOSED
3 1/4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 2 ROAD CLOSED
1 1/2 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 3 ROAD CLOSED
1 1/4 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 4 ROAD CLOSED
1/2 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 5 ROAD CLOSED
AHEAD
W20-3
- 6 ROAD CLOSED
500 FT
W20-3
- 7 TYPE III BARRICADES

SEE STANDARDS BLR 21 & BLR 22
AND SPECIAL PROVISIONS

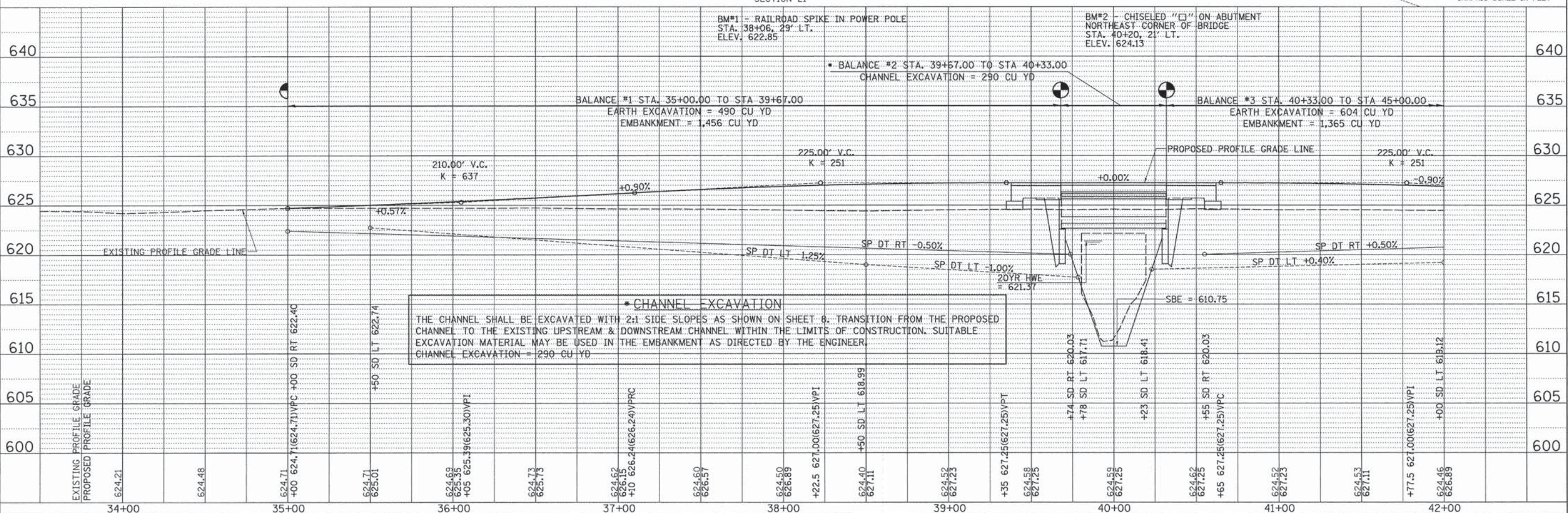
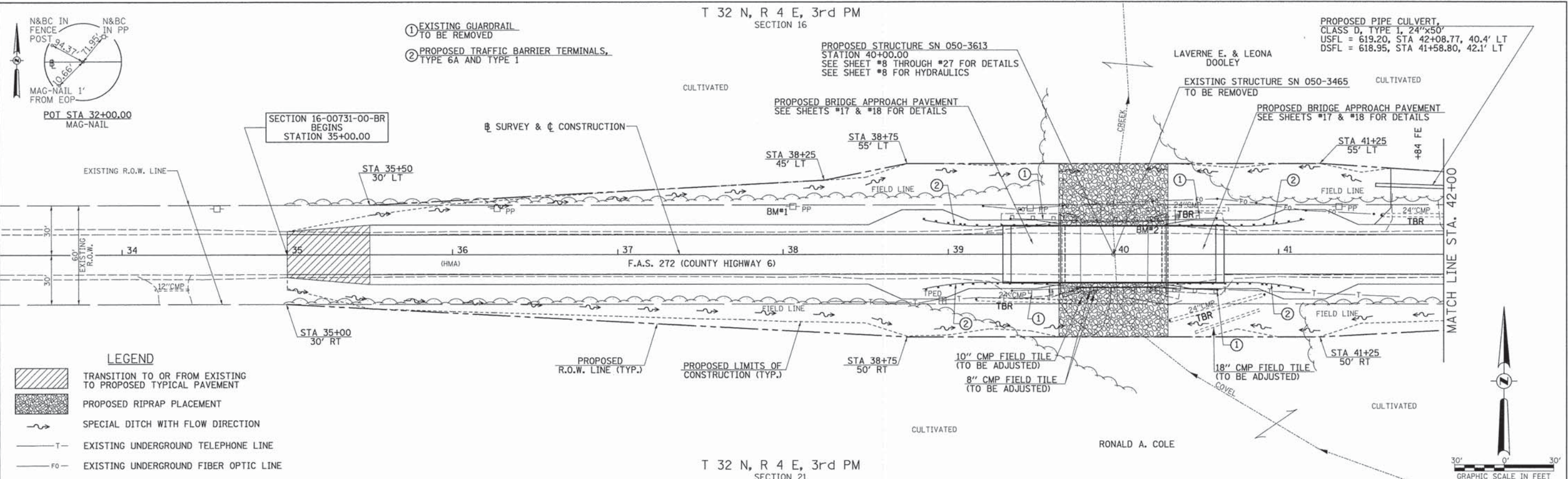
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	PLOT DATE = 1/5/2015	DATE -	REVISED -

**LASALLE COUNTY
COUNTY HIGHWAY 6
OVER COVELL CREEK**

TRAFFIC CONTROL PLAN

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. 35+00.00 TO STA. 45+00.00

F.A.S. ROUTE 272	SECTION 16-00731-00-BR	COUNTY LASALLE	TOTAL SHEETS 43	SHEET NO. 4
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)	
CONTRACT NO. 87587				








DATE	
BY	
SURVEYED	
PLOTTED	
CHECKED	
NO. OF WAY CHECKED	
CADD FILE NAME	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
CHECKED	
NO. OF WAY CHECKED	
STRUCTURE NOTATIONS CHKD	
NO.	

FILE NAME =	USER NAME = JHutchison	DESIGNED -	REVISED -	LASALLE COUNTY COUNTY HIGHWAY 6 OVER COVEL CREEK	F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
V:\Bridge\3459-LaSalle\3459p001.dgn		DRAWN	REVISED		272	16-00731-00-BR	LASALLE	43	6
PLOT SCALE = 30.0000' / 1"		CHECKED	REVISED		PLAN AND PROFILE				
PLOT DATE = 1/30/2015		DATE	REVISED		SCALE: 1"=30'	SHEET NO. 1 OF 2 SHEETS	STA. 35+00.00 TO STA. 42+00.00	FED. ROAD DIST. NO. 7 (ILLINOIS)	FED. AID PROJECT BR5-0272(111)

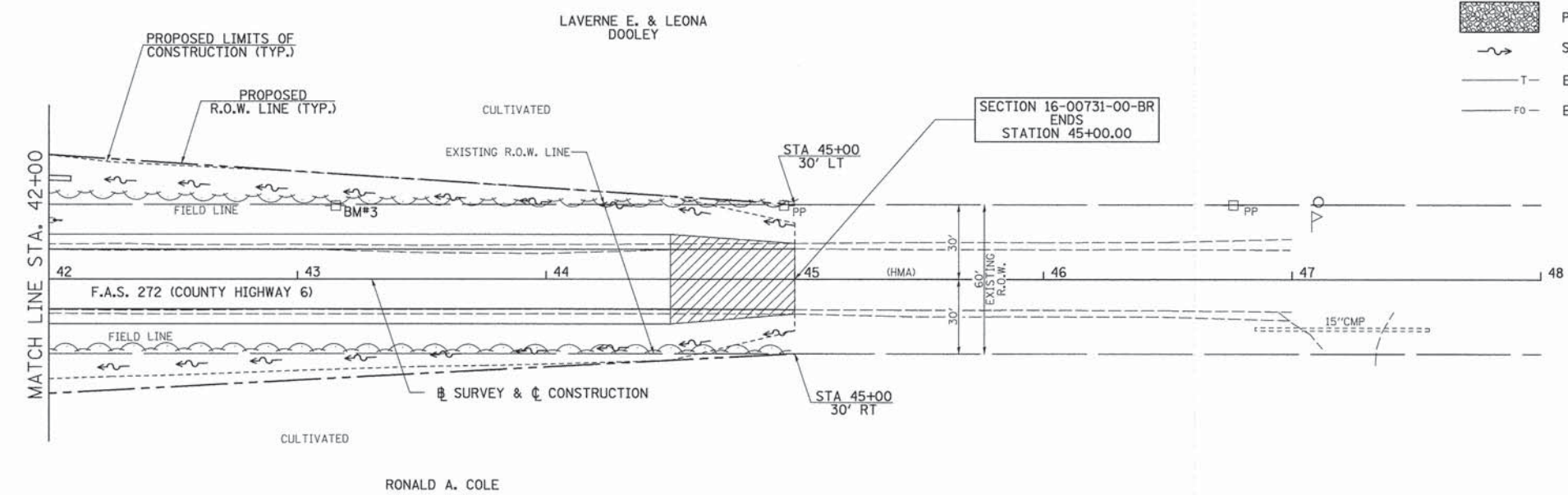
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SECTION 16

LEGEND

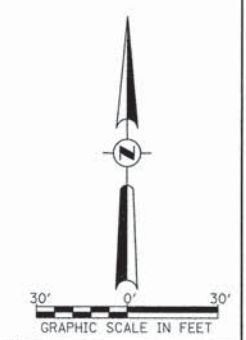
-  TRANSITION TO OR FROM EXISTING TO PROPOSED TYPICAL PAVEMENT
-  PROPOSED RIPRAP PLACEMENT
-  SPECIAL DITCH WITH FLOW DIRECTION
-  EXISTING UNDERGROUND TELEPHONE LINE
-  EXISTING UNDERGROUND FIBER OPTIC LINE



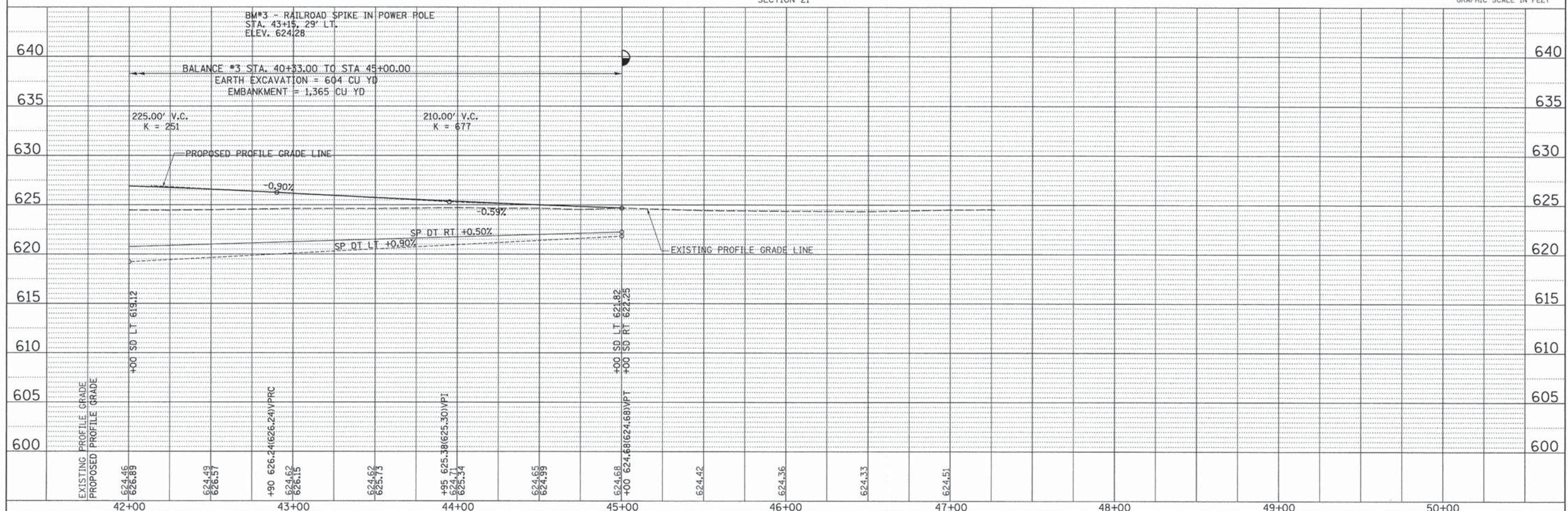
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	PLOTTED	
	CHECKED	
	BY	
	NOTE BOOK NO.	
	ADD FILE NAME	



T 32 N, R 4 E, 3rd PM
SECTION 21



PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NOTE BOOK NO.	
	STRUCTURE NOTATION CHD	



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PLOT SCALE = 38.0000' / in.	DRAWN -	REVISED -	SCALE: 1"=30'			SHEET NO. 2 OF 2 SHEETS	STA. 42+00.00 TO STA. 45+00.00	FED. ROAD DIST. NO. 7 [ILLINOIS]	FED. AID PROJECT BR5-0272(111)	
PLOT DATE = 1/30/2015	CHECKED -	REVISED -								
DATE -	DATE -	REVISED -								

B.M.: RR Spike in Power Pole Sta. 38+06, 29' Lt. Elev. 622.85
 RR Spike in Power Pole Sta. 43+15, 29' Lt. Elev. 624.28

Existing Structure:

Single span precast prestressed concrete deck beam superstructure supported on timber pile closed abutments with reinforced concrete caps. The structure is 45'-0" back to back of abutments, 40'-0" out to out deck, and is not skewed. The structure was constructed in 1980. Str. No. 050-3465

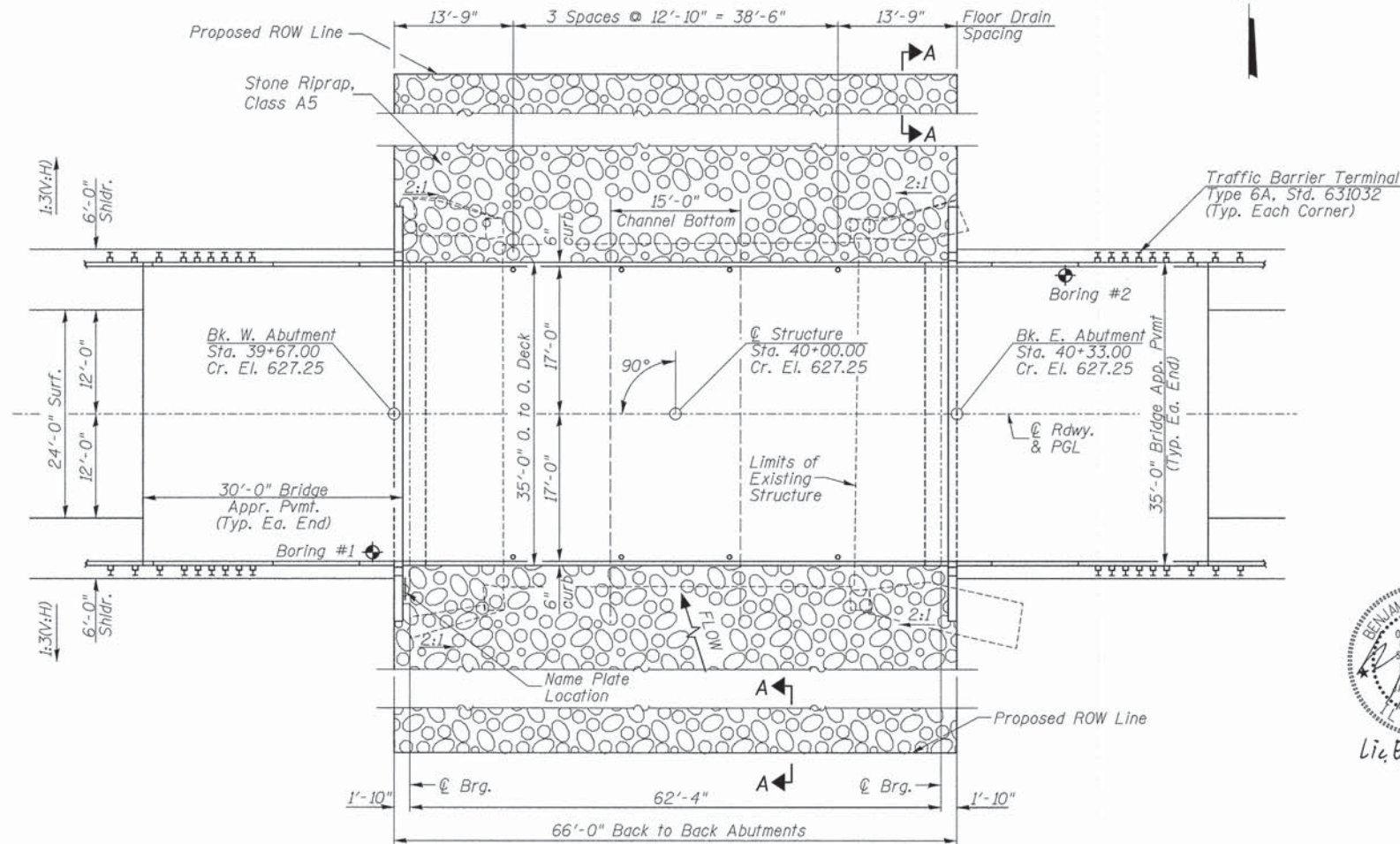
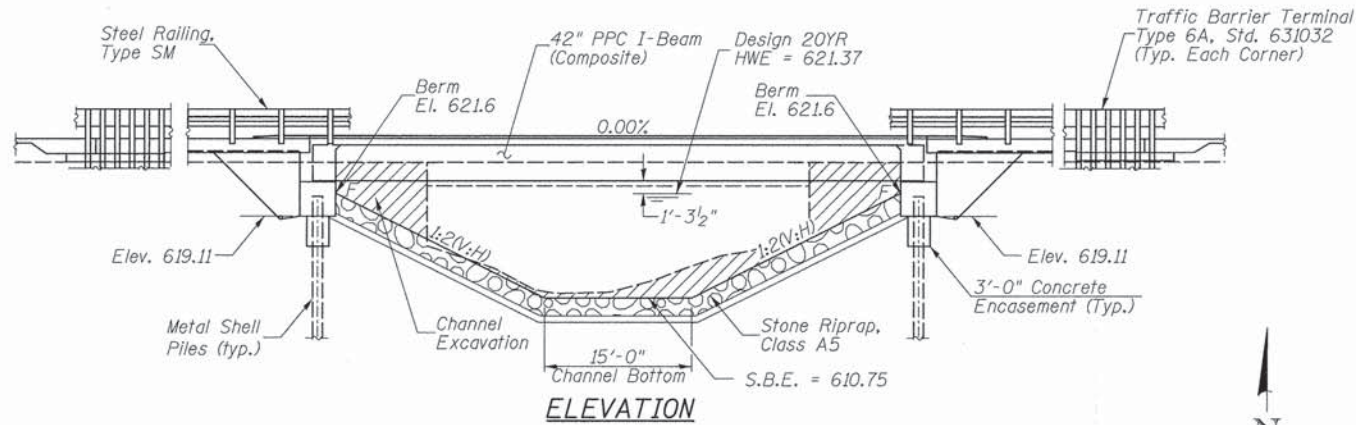
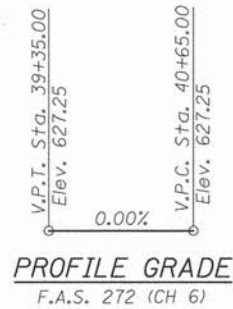
Salvage: None

Road to be closed to traffic during construction.

**COVEL CREEK
 BUILT 20L BY
 LASALLE COUNTY
 SEC. 16-00731-00-BR
 C.H. 6 STATION 40+00.00
 F.A. PROJ. BRS-0272(111)
 STR. NO. 050-3613 LOADING HL-93**

NAME PLATE

Locate Name Plate on Wingwall S.W. Corner of Bridge (See Std. 515001)



PLAN

DESIGN SCOUR TABLE

Design Scour Elevation				
Flood	Freq. Yr.	W. Abut. E.	Abut.	Location
Base	100	619.11	619.11	
Max Calc.	500	619.11	619.11	

WATERWAY INFORMATION

Drainage Area = 7.51 Sq. Mi. Low Grade Elev. = 624.21 @ Sta. 34+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.
			Exist.	Prop.		Exist.	Prop.	
Design	20	1,732	299	386	621.37	0.00	0.00	621.37
Base	100	2,580	320	417	621.90	0.53	0.14	622.43

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications 6th Edition with 2013 Interims

DESIGN STRESSES

(FIELD UNITS)
 f'c = 5,000 p.s.i. (superstructure)
 f'c = 3,500 p.s.i. (substructure)
 fy = 60,000 p.s.i. (Rein.)

(PRECAST PRESTRESSED UNITS)

f'c = 6,000 p.s.i.
 f'ci = 5,000 p.s.i.
 f's = 270,000 p.s.i. (1/2" Strands)
 f'sl = 201,960 p.s.i. (1/2" Strands)

LOADING HL-93

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

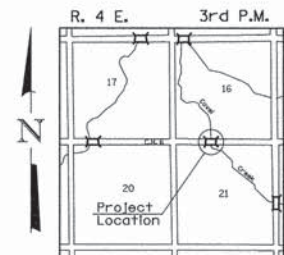
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S₀₁) = 0.10g
 Design Spectral Acceleration at 0.2 sec. (S₀₅) = 0.17g
 Soil Site Class = D



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

Benjamin A. Neer 11/8/15
 Illinois Structural No. 6527
 Expires 11/30/2016



LOCATION SKETCH

GENERAL PLAN & ELEVATION

INDEX OF SHEETS

SHEET #'s	DESCRIPTION
1	General Plan & Elevation
2	Bill of Material, Details and General Notes
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5-6	Top of Approach Slab Elevations
7	Superstructure
8	Superstructure Details
9	Diaphragm Details
10-11	Bridge Approach Slab Details
12	Steel Railing Type SM
13	Framing Plan and Details
14	42" PPC I-Beam
15	42" PPC I-Beam Details
16	Abutments
17	Metal Shell Pile Details
18-20	Soil Boring Logs

DESIGNED	S.T.M.
CHECKED	B.A.N.
DRAWN	S.T.M.
CHECKED	B.A.N./C.T.M.

Hutchison Engineering, Inc.
 JACKSONVILLE-SHOREWOOD-PEORIA

SHEET NO. 1
 20 SHEETS

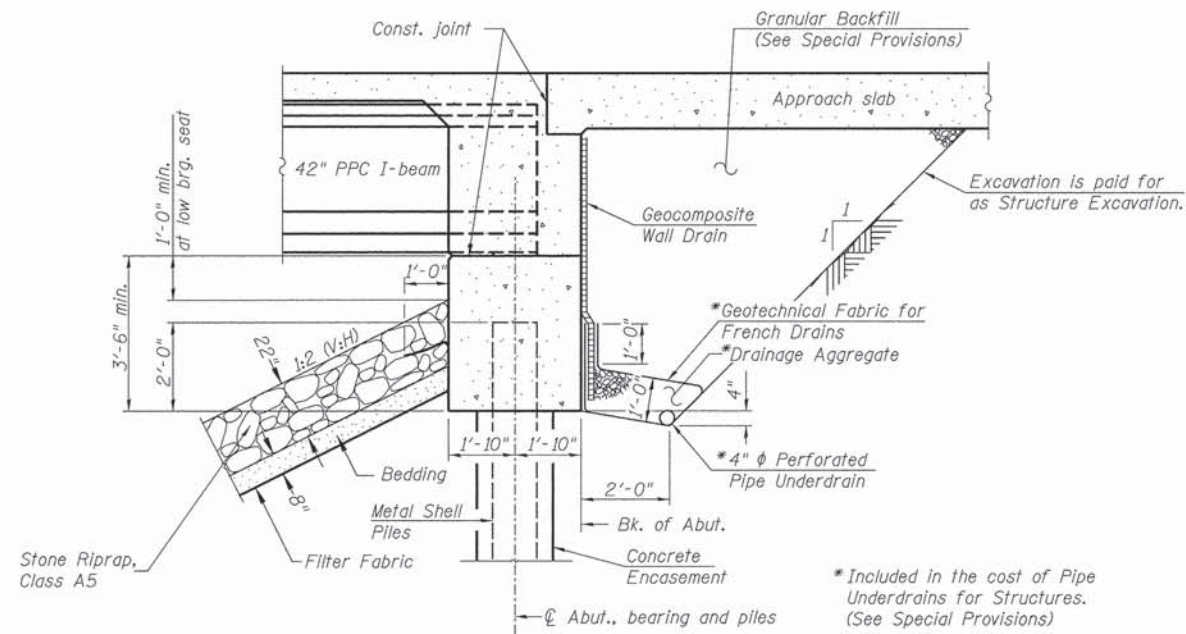
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	16-00731-00-BR	LASALLE	43	8
S.N. 050-3613		CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0272(111)		

2014

JOB#3459

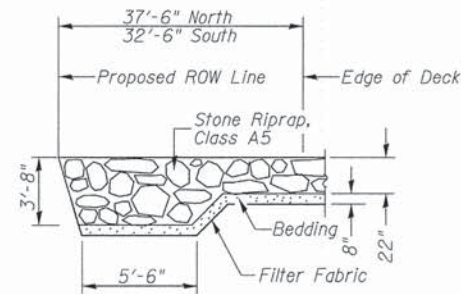
GENERAL NOTES

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.
 Reinforcement bars designated (E) shall be epoxy coated.
 Layout of slope protection system may be varied in the field to suit ground conditions as directed by the engineer.
 Protective Coat shall be applied to the top of the deck, approach pavement, and face and top of curbs.
 Bridge Deck Grooving is figured 1'-0" from curb face and 1'-0" from the edge of approach pavement when the curb is omitted. It shall be applied to the bridge deck and the approach pavements.
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.
 Portions of the existing structure's tie rods and timber deadman may need to be removed to allow driving of new piles. Cost included with the Removal of Existing Structures. See Sheets 28 thru 32 of 43 for existing structure plans. See Sheets 18 thru 20 of 20 for Soil Boring Logs.



SECTION THRU INTEGRAL ABUTMENT

Note:
 All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)



SECTION A-A

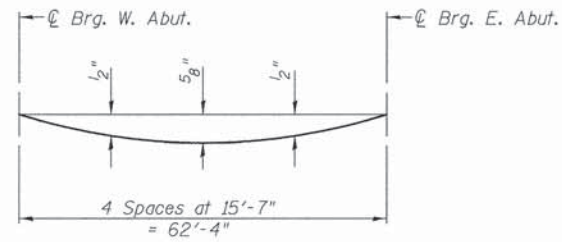
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	—	290	290
Granular Backfill For Structures	CU YD	—	135	135
Stone Riprap, Class A5	SQ YD	—	805	805
Filter Fabric	SQ YD	—	805	805
Removal of Existing Structures	EACH	—	—	1
Structure Excavation	CU YD	—	210	210
Concrete Structures	CU YD	—	63.2	63.2
Concrete Superstructure	CU YD	198.4	—	198.4
Bridge Deck Grooving	SQ YD	446	—	446
Protective Coat	SQ YD	488	—	488
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42"	FOOT	317	—	317
Reinforcement Bars, Epoxy Coated	POUND	48,340	6,160	54,500
Steel Railing, Type SM	FOOT	188	—	188
Furnishing Metal Shell Piles 14"x0.250"	FOOT	—	352	352
Driving Piles	FOOT	—	352	352
Test Pile Metal Shells	EACH	—	2	2
Pile Shoes	EACH	—	10	10
Concrete Encasement	CU YD	—	4.3	4.3
Name Plates	EACH	—	1	1
Geocomposite Wall Drain	SQ YD	—	67	67
Pipe Underdrains for Structures, 4"	FOOT	—	128	128
Floor Drains	EACH	8	—	8

① See Special Provisions

BILL OF MATERIALS, DETAILS AND GENERAL NOTES

SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	9
20 SHEETS	S.N. 050-3613		CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0272(111)		

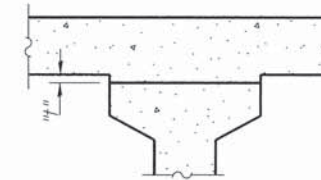


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

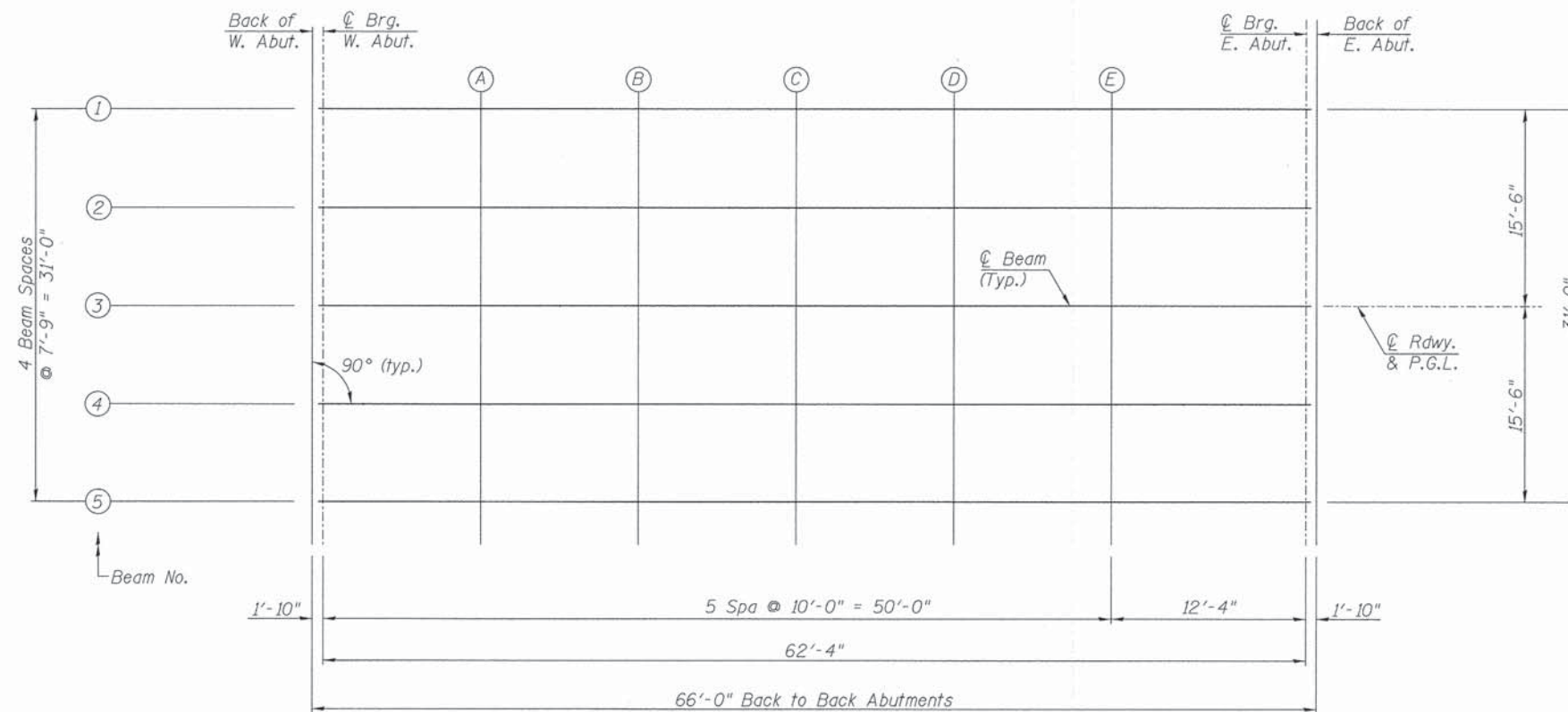
Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheet 4 of 20.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet 4 of 20, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS



PLAN

TOP OF SLAB ELEVATIONS

SHEET NO. 3	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	10
20 SHEETS	S.N. 050-3613		CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0272(111)		

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	39+67.00	-15.50	626.99	626.99
CL Brg. W. Abut.	39+68.83	-15.50	626.99	626.99
A	39+78.83	-15.50	626.99	627.02
B	39+88.83	-15.50	626.99	627.04
C	39+98.83	-15.50	626.99	627.05
D	40+08.83	-15.50	626.99	627.04
E	40+18.83	-15.50	626.99	627.02
CL Brg. E. Abut.	40+31.17	-15.50	626.99	626.99
Bk. E. Abutment	40+33.00	-15.50	626.99	626.99

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	39+67.00	-7.75	627.13	627.13
CL Brg. W. Abut.	39+68.83	-7.75	627.13	627.13
A	39+78.83	-7.75	627.13	627.16
B	39+88.83	-7.75	627.13	627.18
C	39+98.83	-7.75	627.13	627.18
D	40+08.83	-7.75	627.13	627.18
E	40+18.83	-7.75	627.13	627.16
CL Brg. E. Abut.	40+31.17	-7.75	627.13	627.13
Bk. E. Abutment	40+33.00	-7.75	627.13	627.13

ROADWAY, PROFILE GRADE, & BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	39+67.00	0.00	627.25	627.25
CL Brg. W. Abut.	39+68.83	0.00	627.25	627.25
A	39+78.83	0.00	627.25	627.28
B	39+88.83	0.00	627.25	627.30
C	39+98.83	0.00	627.25	627.31
D	40+08.83	0.00	627.25	627.30
E	40+18.83	0.00	627.25	627.28
CL Brg. E. Abut.	40+31.17	0.00	627.25	627.25
Bk. E. Abutment	40+33.00	0.00	627.25	627.25

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	39+67.00	7.75	627.13	627.13
CL Brg. W. Abut.	39+68.83	7.75	627.13	627.13
A	39+78.83	7.75	627.13	627.16
B	39+88.83	7.75	627.13	627.18
C	39+98.83	7.75	627.13	627.18
D	40+08.83	7.75	627.13	627.18
E	40+18.83	7.75	627.13	627.16
CL Brg. E. Abut.	40+31.17	7.75	627.13	627.13
Bk. E. Abutment	40+33.00	7.75	627.13	627.13

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	39+67.00	15.50	626.99	626.99
CL Brg. W. Abut.	39+68.83	15.50	626.99	626.99
A	39+78.83	15.50	626.99	627.02
B	39+88.83	15.50	626.99	627.04
C	39+98.83	15.50	626.99	627.05
D	40+08.83	15.50	626.99	627.04
E	40+18.83	15.50	626.99	627.02
CL Brg. E. Abut.	40+31.17	15.50	626.99	626.99
Bk. E. Abutment	40+33.00	15.50	626.99	626.99

TOP OF SLAB ELEVATIONS

SHEET NO. 4	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	11
20 SHEETS	S.N. 050-3613		CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0272(111)		

NORTH EDGE OF APPR. SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	39+38.00	-17.50	626.95
A	39+48.00	-17.50	626.95
B	39+58.00	-17.50	626.95
E. End of West Appr. Pav't.	39+68.00	-17.50	626.95

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	39+38.00	-12.00	627.06
A	39+48.00	-12.00	627.06
B	39+58.00	-12.00	627.06
E. End of West Appr. Pav't.	39+68.00	-12.00	627.06

PROFILE GRADE & C ROADWAY

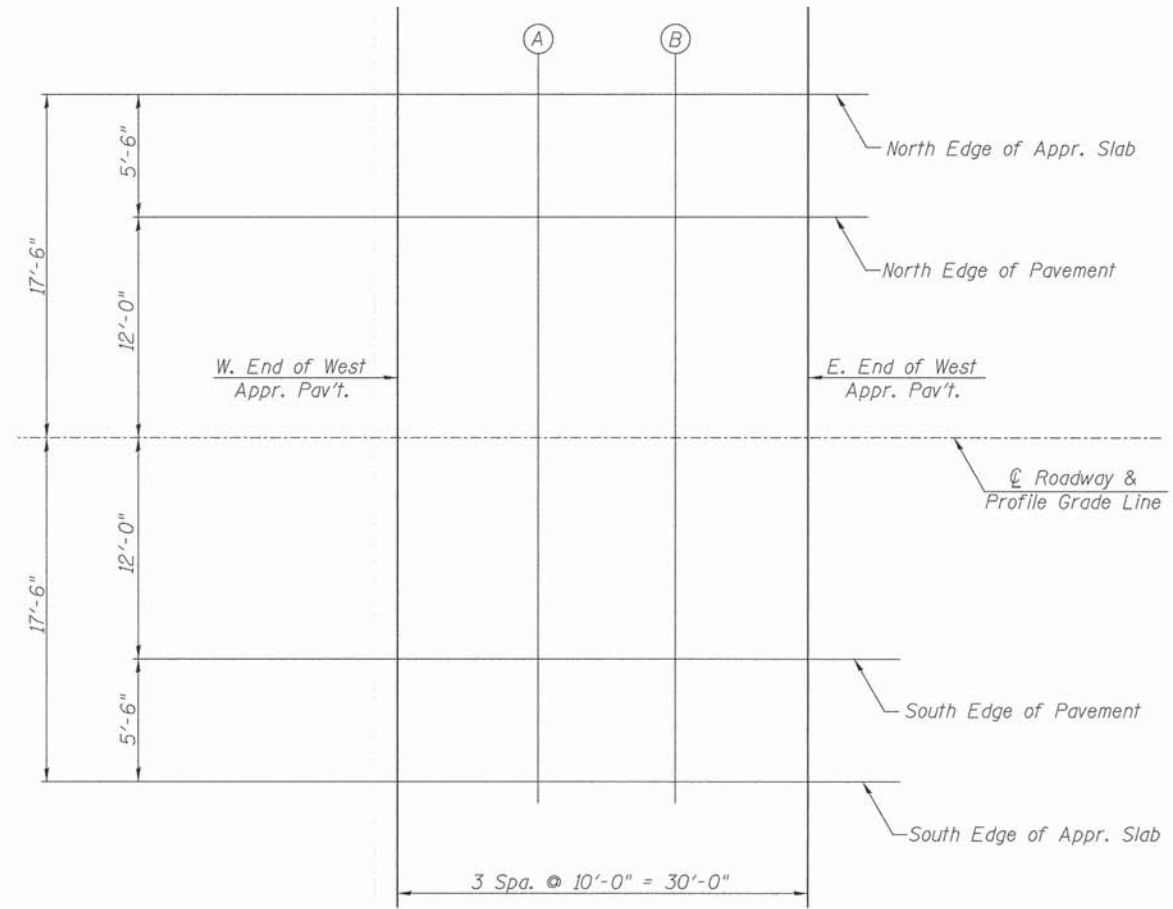
Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	39+38.00	0.00	627.25
A	39+48.00	0.00	627.25
B	39+58.00	0.00	627.25
E. End of West Appr. Pav't.	39+68.00	0.00	627.25

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	39+38.00	12.00	627.06
A	39+48.00	12.00	627.06
B	39+58.00	12.00	627.06
E. End of West Appr. Pav't.	39+68.00	12.00	627.06

SOUTH EDGE OF APPR. SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	39+38.00	17.50	626.95
A	39+48.00	17.50	626.95
B	39+58.00	17.50	626.95
E. End of West Appr. Pav't.	39+68.00	17.50	626.95



PLAN WEST APPROACH PAVEMENT

TOP OF WEST APPROACH SLAB ELEVATIONS

SHEET NO. 5	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	12
20 SHEETS	S.N. 050-3613		CONTRACT NO. 87587		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT BRS-0272(111)		

NORTH EDGE OF APPR. SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	40+32.00	-17.50	626.95
A	40+42.00	-17.50	626.95
B	40+52.00	-17.50	626.95
E. End of East Appr. Pav't.	40+62.00	-17.50	626.95

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	40+32.00	-12.00	627.06
A	40+42.00	-12.00	627.06
B	40+52.00	-12.00	627.06
E. End of East Appr. Pav't.	40+62.00	-12.00	627.06

PROFILE GRADE & C ROADWAY

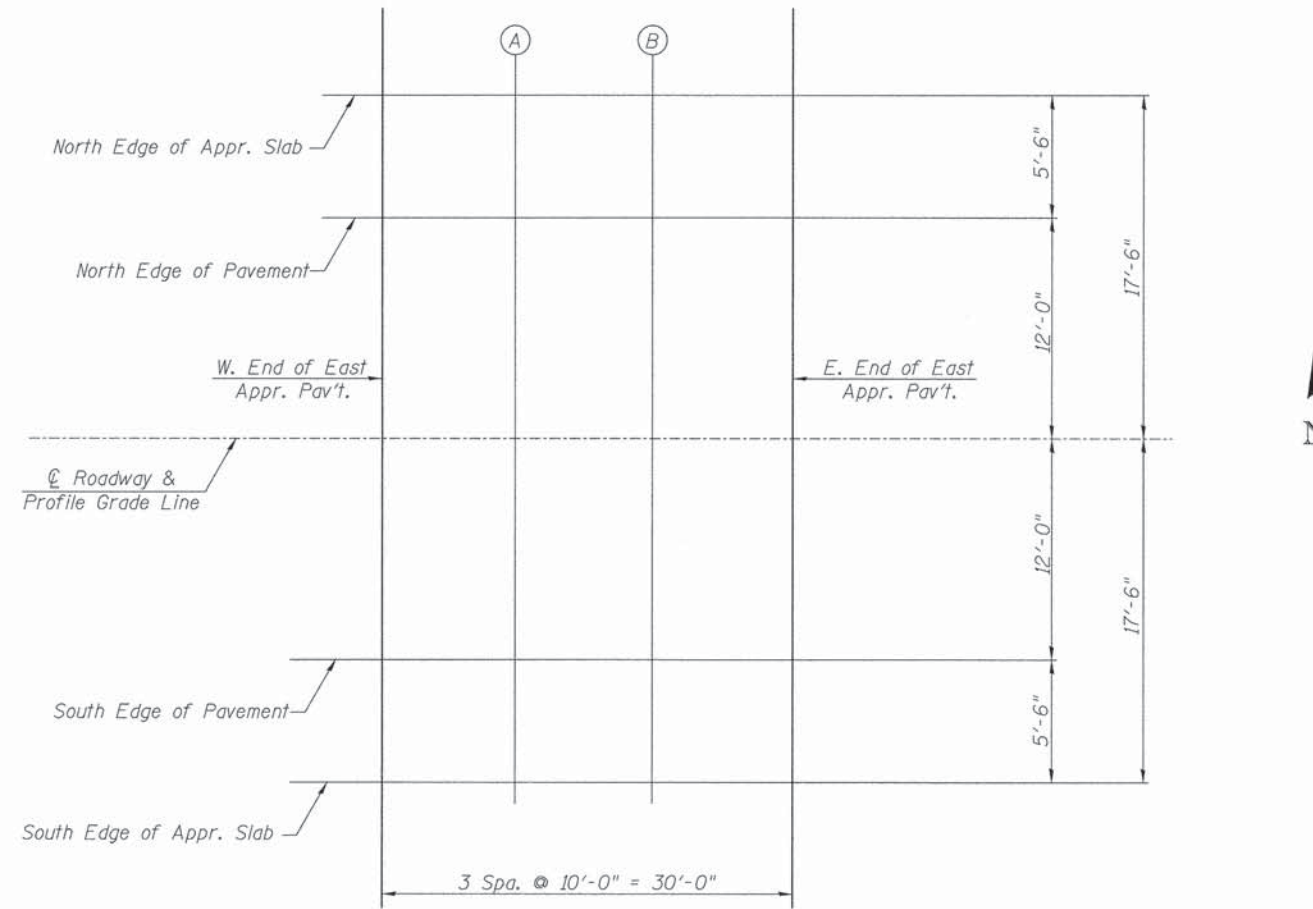
Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	40+32.00	0.00	627.25
A	40+42.00	0.00	627.25
B	40+52.00	0.00	627.25
E. End of East Appr. Pav't.	40+62.00	0.00	627.25

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	40+32.00	12.00	627.06
A	40+42.00	12.00	627.06
B	40+52.00	12.00	627.06
E. End of East Appr. Pav't.	40+62.00	12.00	627.06

SOUTH EDGE OF APPR. SLAB

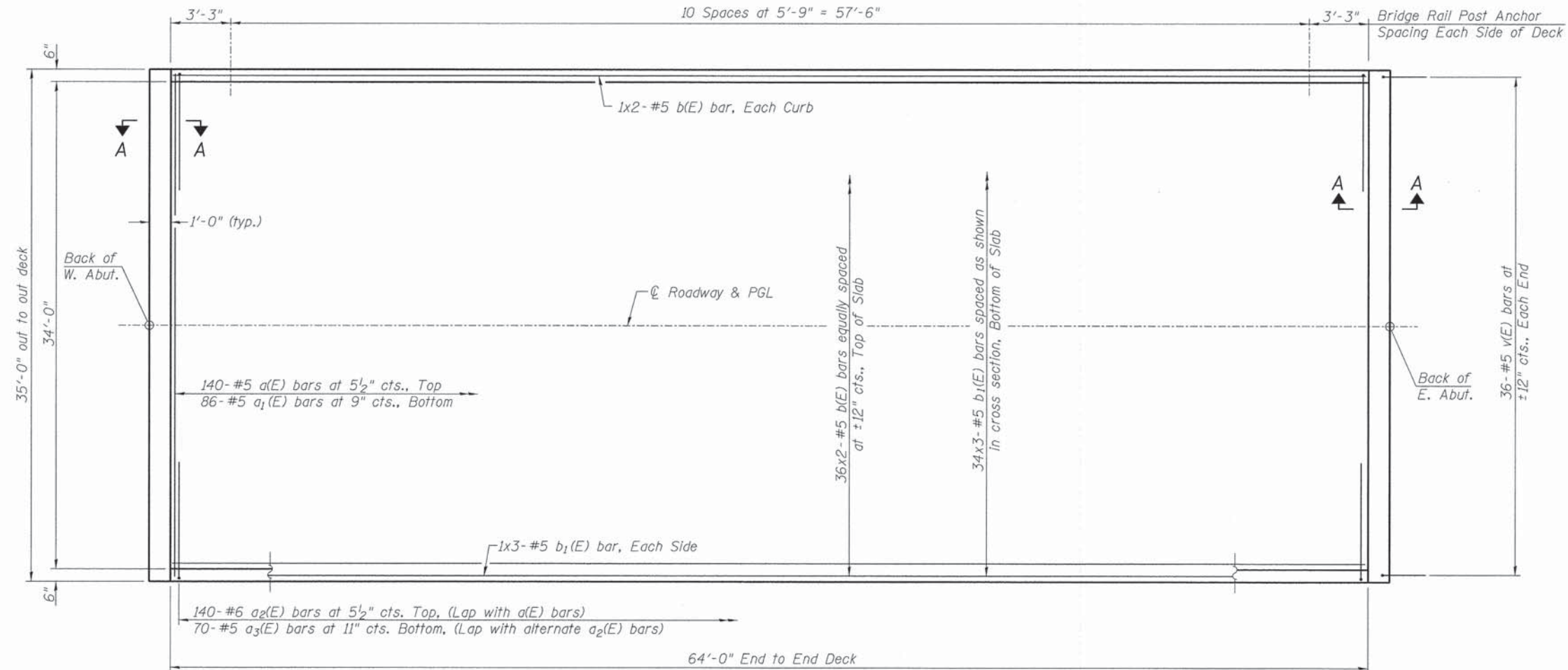
Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	40+32.00	17.50	626.95
A	40+42.00	17.50	626.95
B	40+52.00	17.50	626.95
E. End of East Appr. Pav't.	40+62.00	17.50	626.95



PLAN EAST APPROACH PAVEMENT

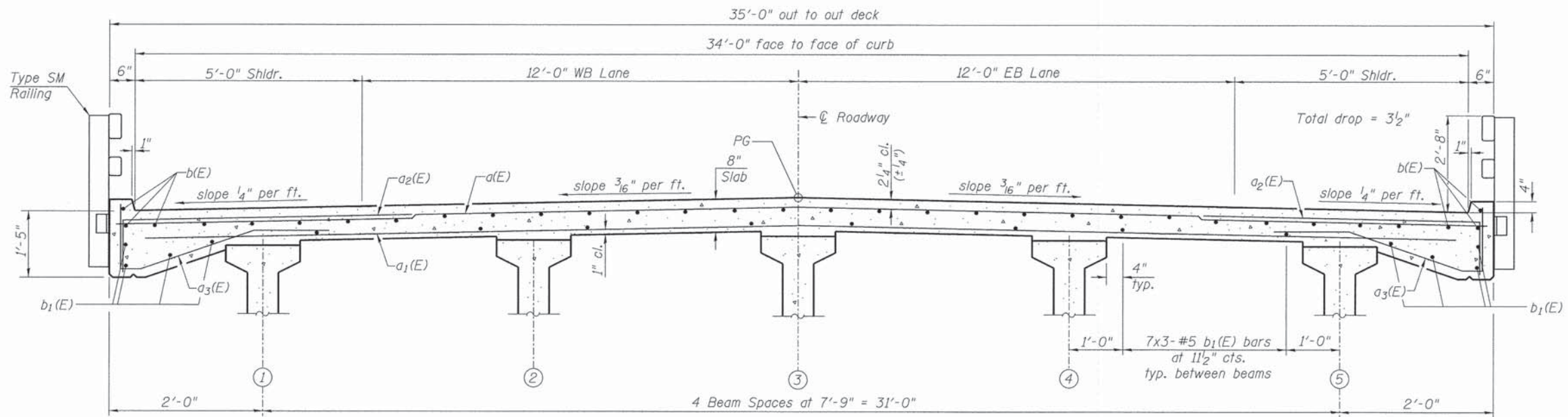
TOP OF EAST APPROACH SLAB ELEVATIONS

SHEET NO. 6 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	13
S.N. 050-3613			CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0272(111)			



PLAN

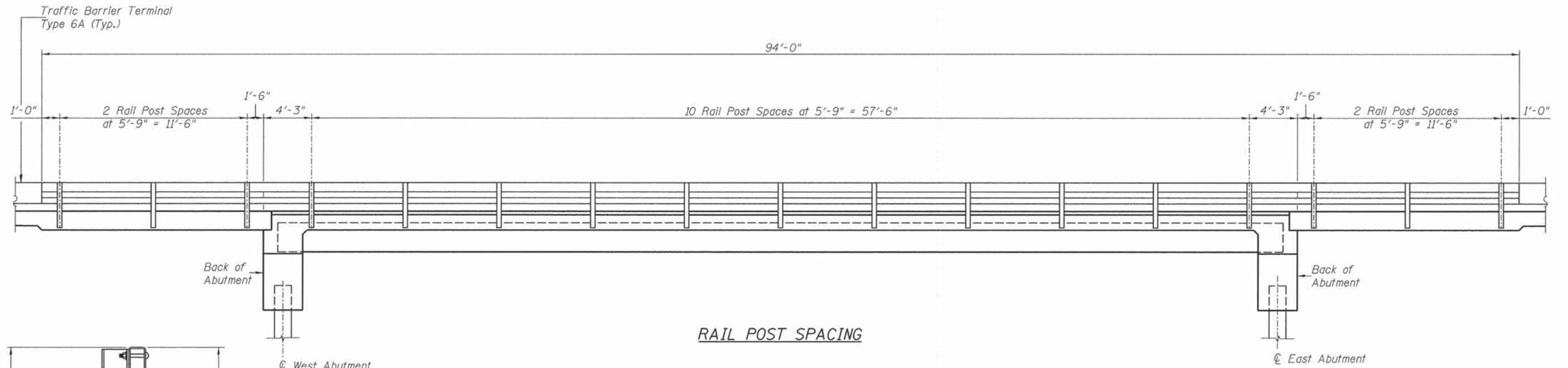
Notes:
See Sheet 8 of 20 for superstructure details and Bill of Material.
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 9 of 20 for Section A-A & Diaphragm Details.
See Sheet 12 of 20 for Rail Post Anchor Details.



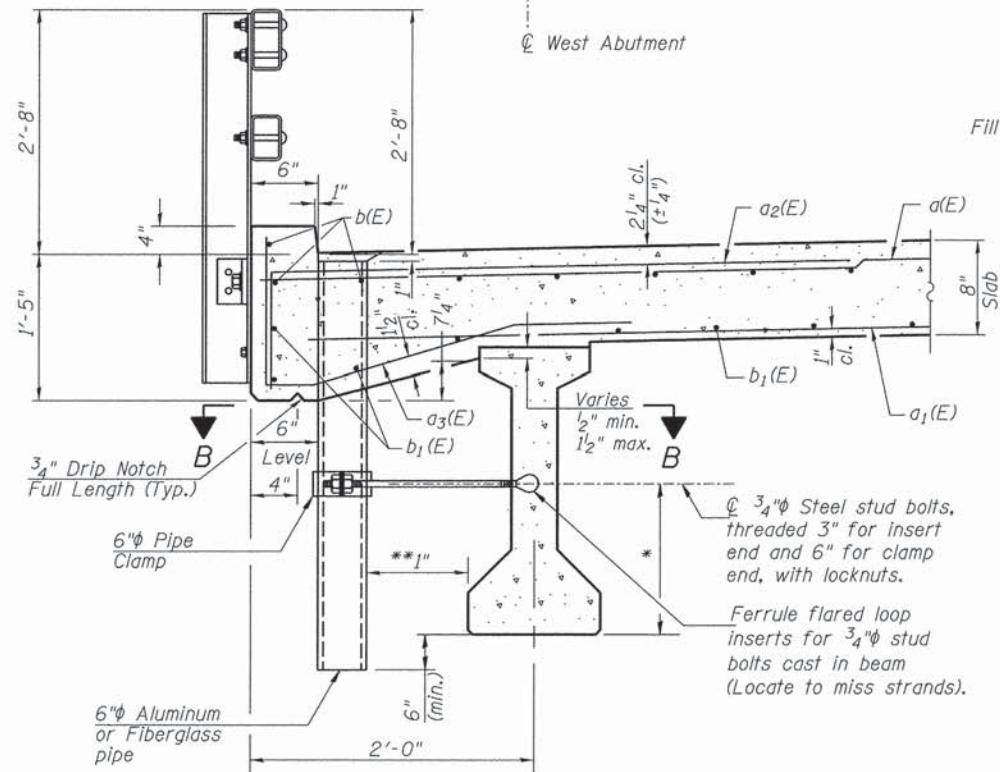
CROSS SECTION
(Looking East)

SUPERSTRUCTURE

SHEET NO. 7 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	14
S.N. 050-3613			CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)		



RAIL POST SPACING



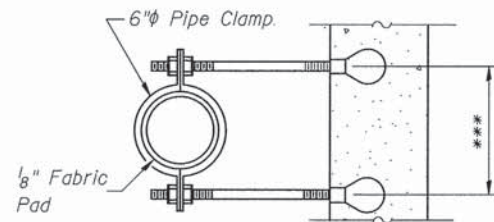
* See Sheet 14 of 20 for insert locations.
 ** Tilt Floor Drain as necessary to maintain clearance.

SECTION THRU DECK OVERHANG

See Sheet 12 of 20 for Rail Post Anchor Details.

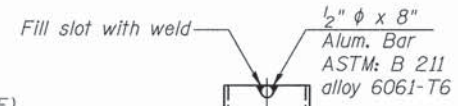
Notes:
 Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
 The exterior surfaces of the floor drains shall be coated or pigmented by the manufacturer with a color that matches the concrete.

The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device and galvanizing included with Floor Drains.

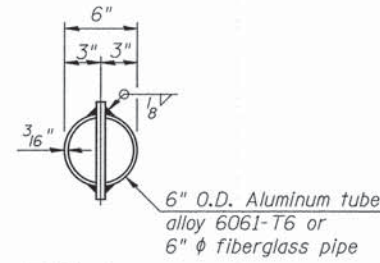


SECTION B-B

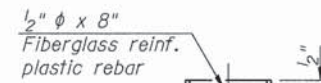
***Dimension as required by Pipe Clamp



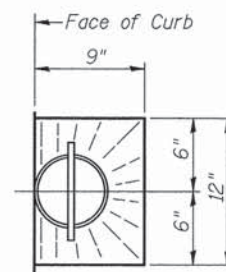
ALUMINUM TUBE



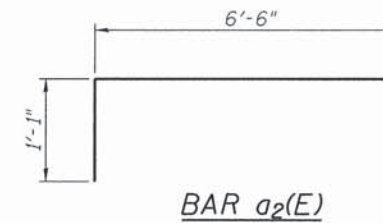
TOP PLAN (Showing aluminum tube)



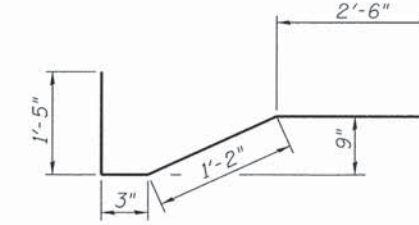
FIBERGLASS PIPE



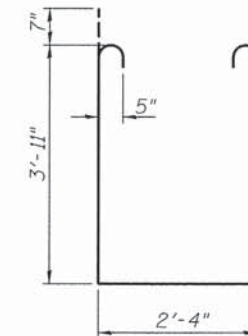
TOP PLAN



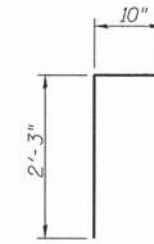
BAR a2(E)



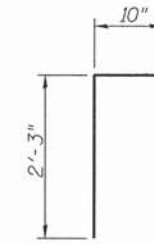
BAR a3(E)



BAR s(E)



BAR s1(E)



BAR v(E)

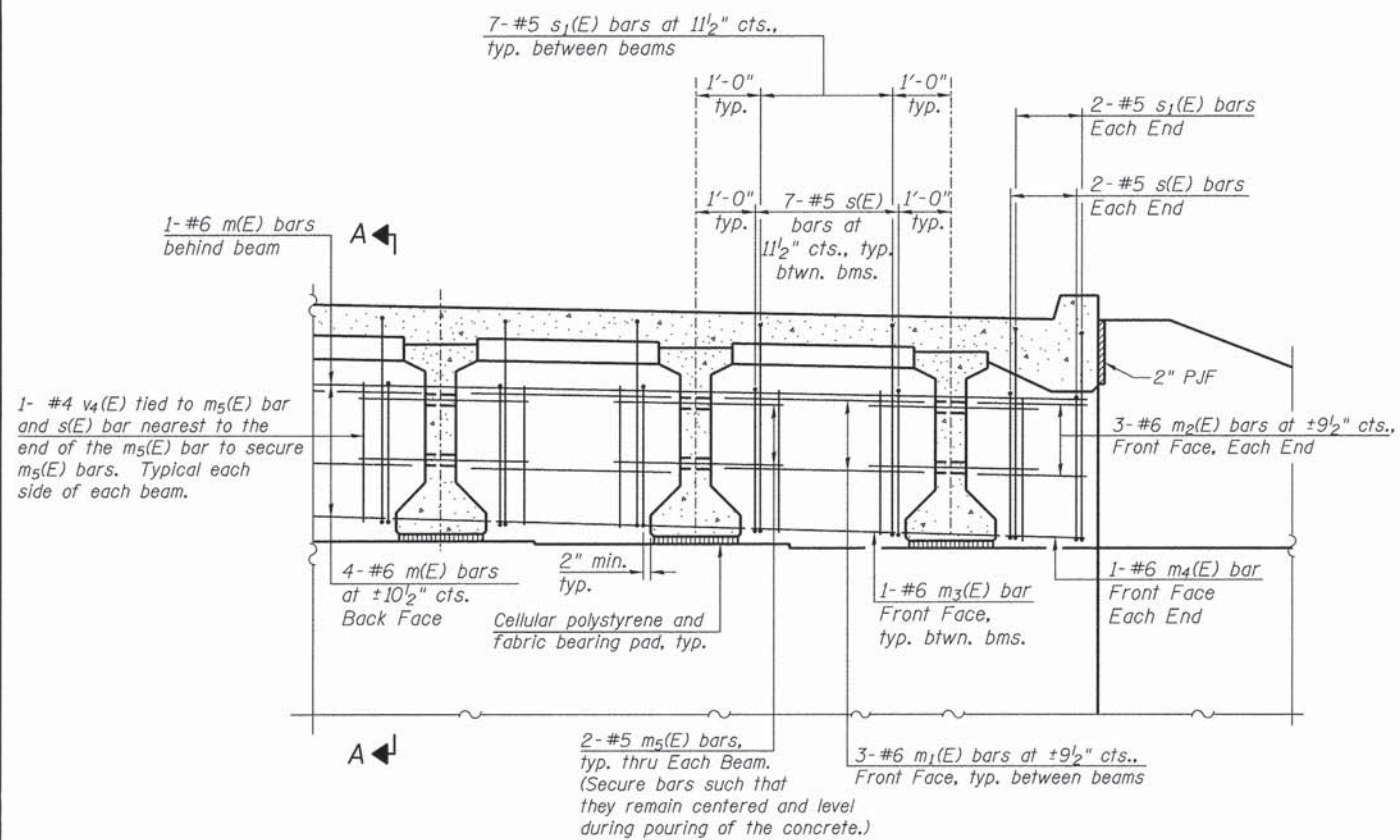
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	140	#5	34'-9"	—
a1(E)	86	#5	33'-9"	—
a2(E)	280	#6	7'-7"	—
a3(E)	140	#5	5'-4"	—
b(E)	76	#5	33'-2"	—
b1(E)	108	#5	23'-0"	—
m(E)	10	#6	34'-9"	—
m1(E)	24	#6	7'-0"	—
m2(E)	12	#6	1'-6"	—
m3(E)	8	#6	5'-8"	—
m4(E)	4	#6	0'-10"	—
m5(E)	20	#5	4'-0"	—
s(E)	64	#5	8'-3"	□
s1(E)	64	#5	11'-4"	□
v(E)	72	#5	3'-1"	—
v4(E)	20	#4	2'-8"	—
Reinforcement Bars, Epoxy Coated			POUND	19,820
Concrete Superstructure			CU YD	91.1

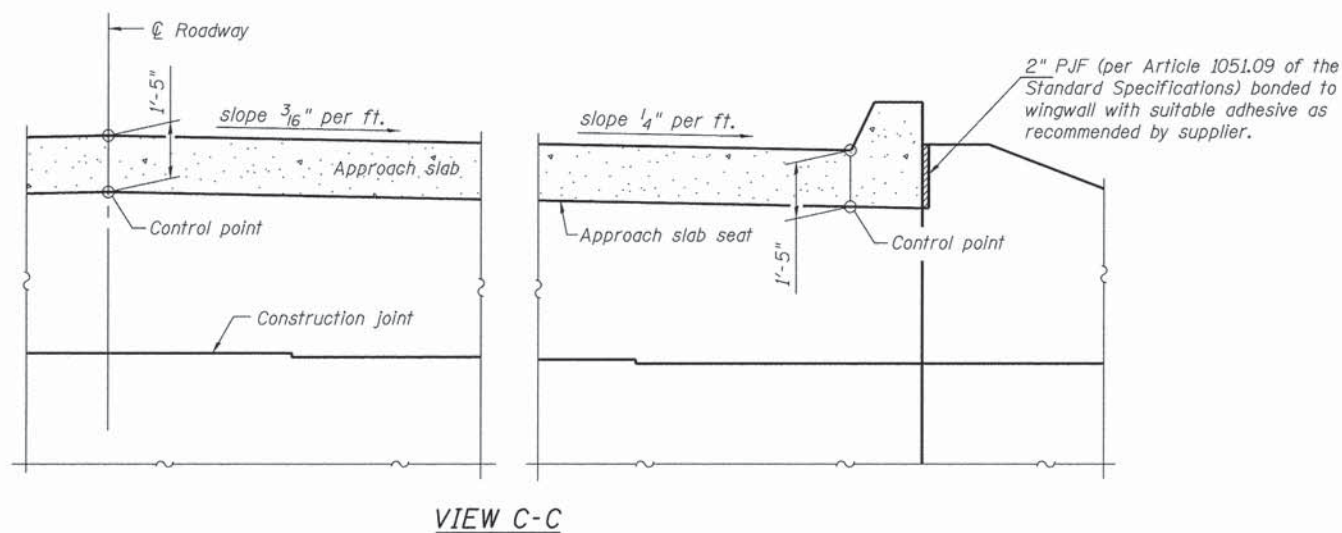
① See Special Provisions

SUPERSTRUCTURE DETAILS

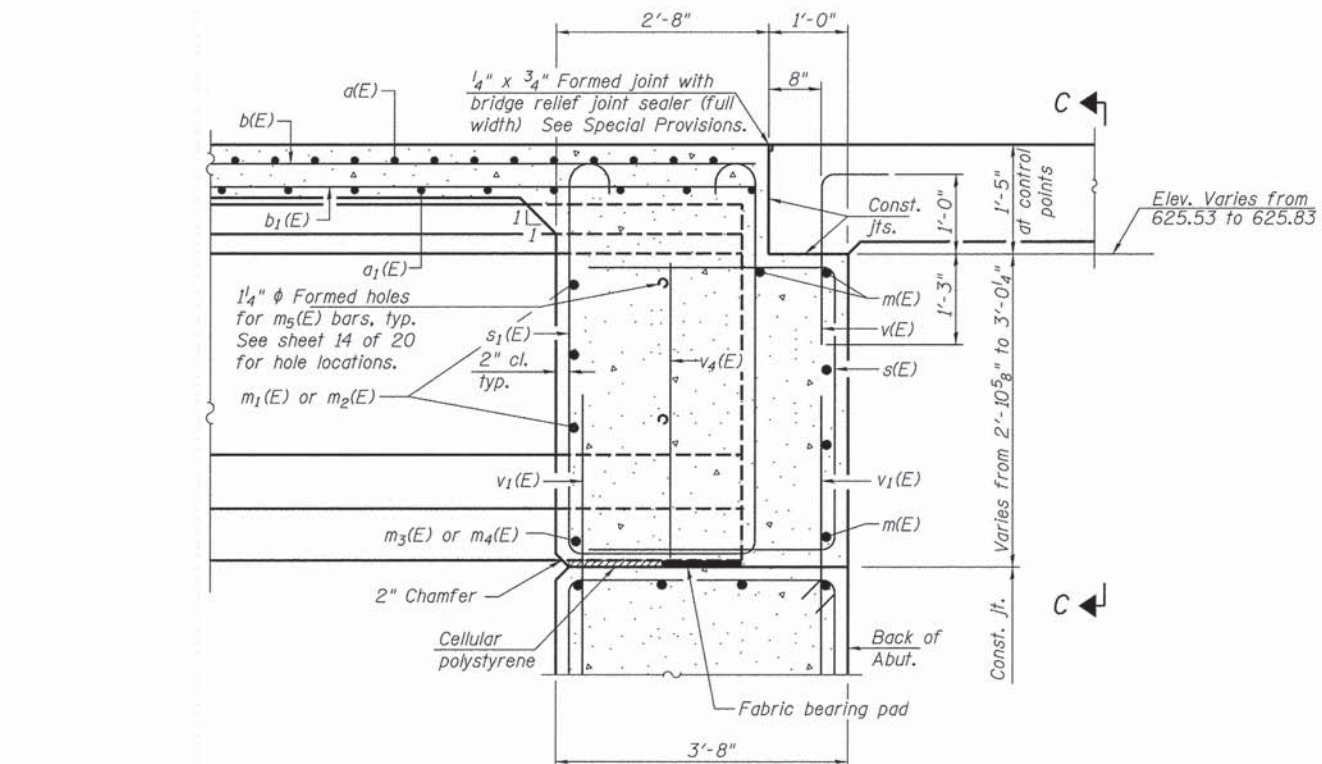
SHEET NO. 8 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	15
S.N. 050-3613			CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0272(111)			



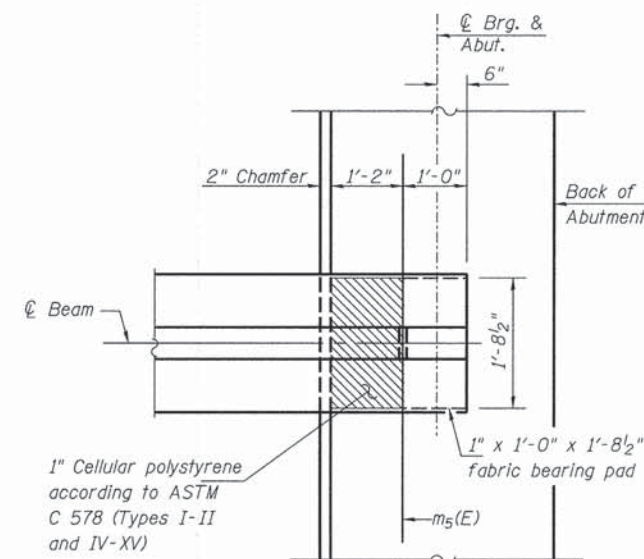
DIAPHRAGM ELEVATION AT ABUTMENT



VIEW C-C



SECTION A-A



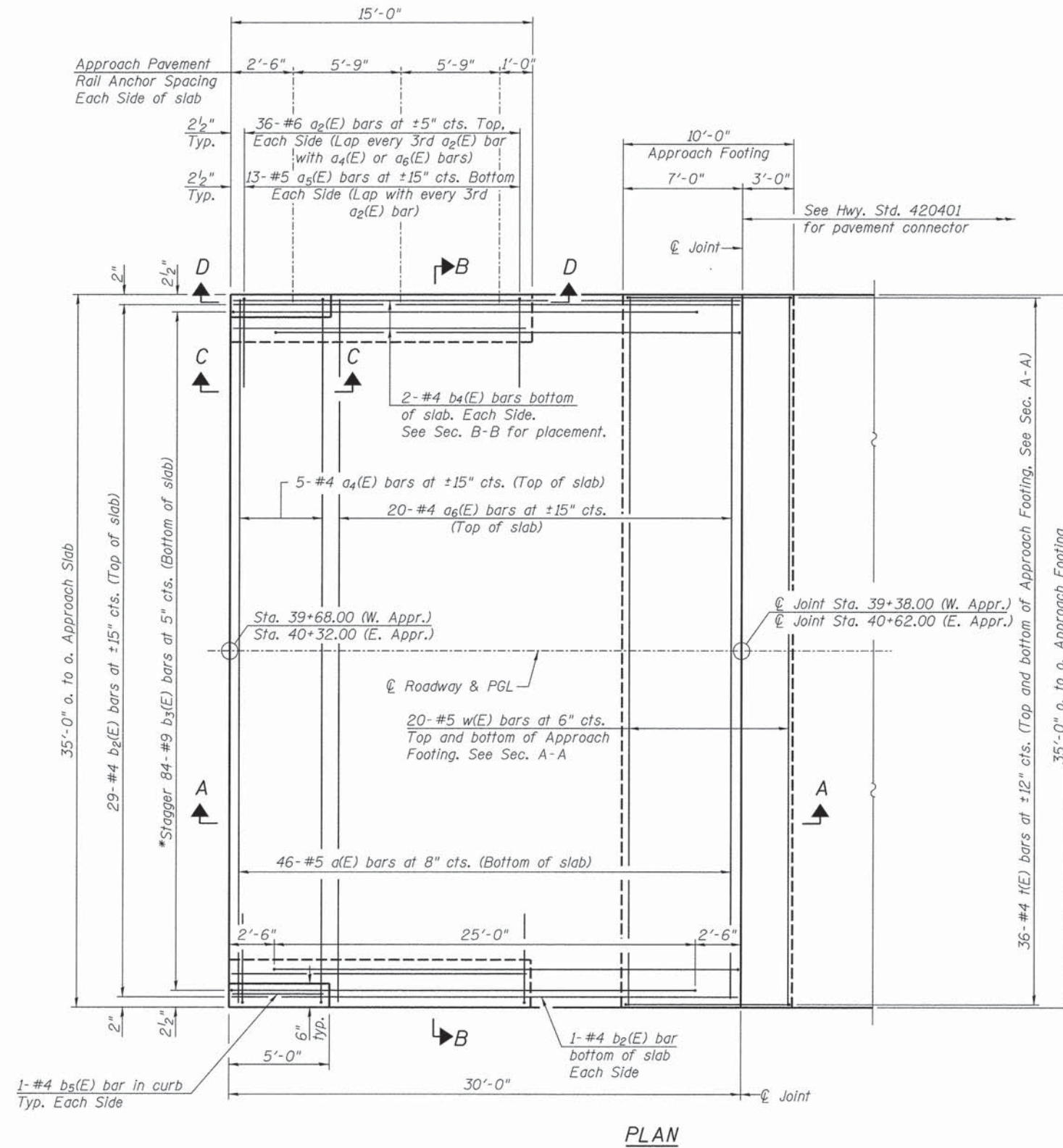
PARTIAL PLAN AT ABUTMENT
(Showing bottom flange of beam)

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 20.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 20.
 See sheet 8 of 20 for details of bar s(E), s1(E), and v(E).
 The approach slab seat shall have a constant slope determined from the control points shown.
 Cost of cellular polystyrene is included with Concrete Superstructure.
 See sheet 16 of 20 for v1(E) bar placement.

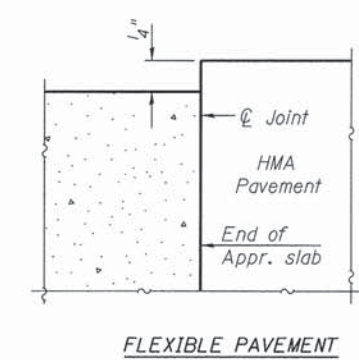
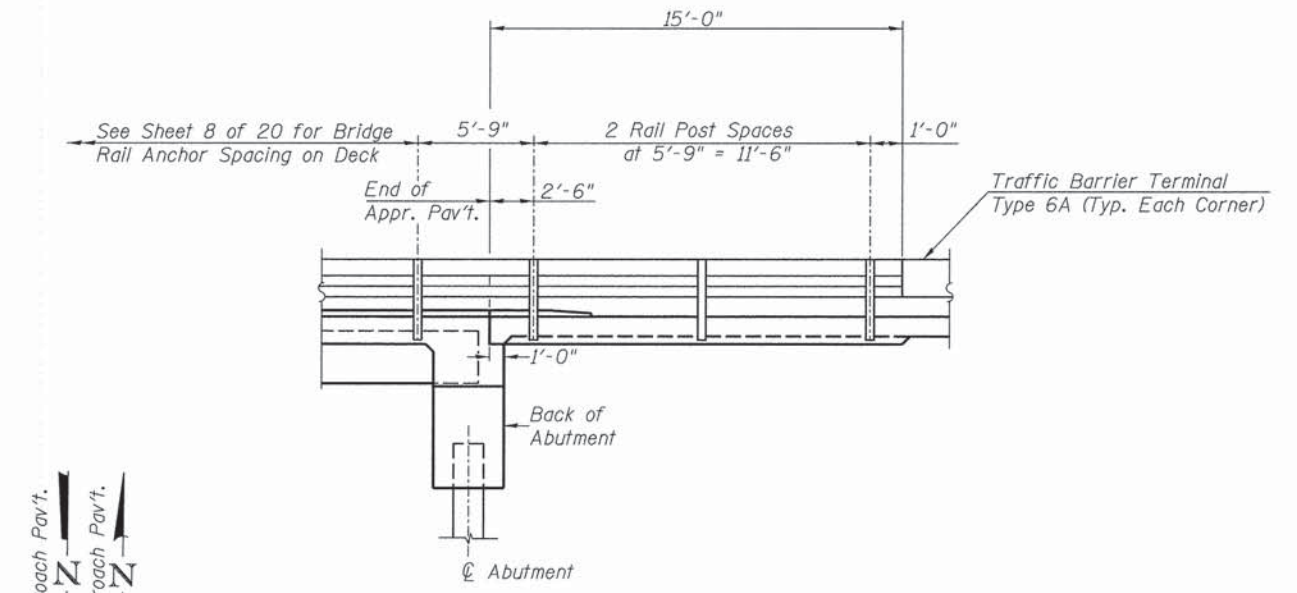
DIAPHRAGM DETAILS

SHEET NO. 9 20 SHEETS	F.A.S. RTE. 272	SECTION 16-00731-00-BR	COUNTY LASALLE	TOTAL SHEETS 43	SHEET NO. 16
	S.N. 050-3613		CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)		

Notes:
 See Sheet 11 of 20 for Sections A-A, B-B, D-D and View C-C.
 a(E), a₂(E), a₄(E), a₅(E), and a₆(E) bar spacings measured along $\text{\textcircled{C}}$ Rdwy.
 See Sheet 12 of 20 for Rail Post Anchor Details.



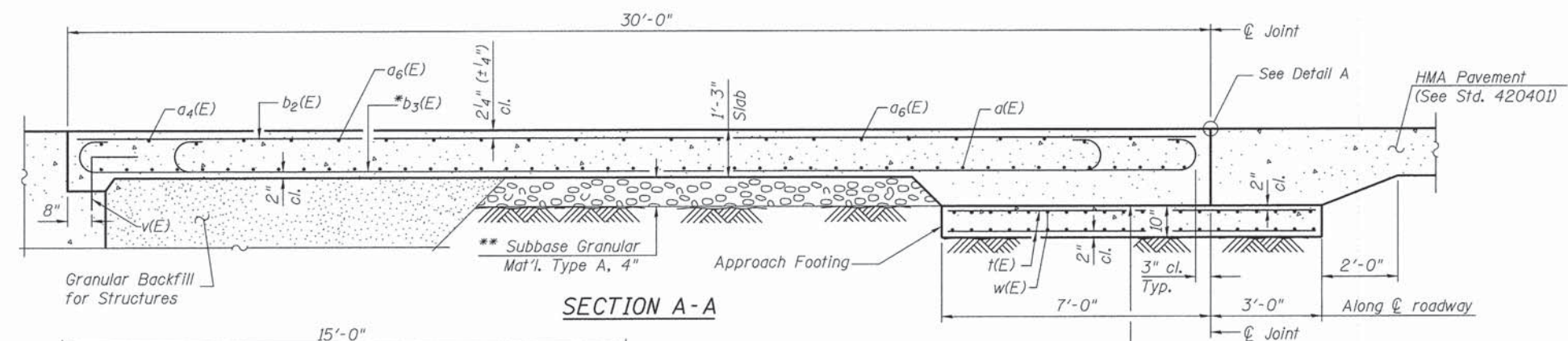
* Tilt #9 b₃(E) bars as required to maintain clearance.



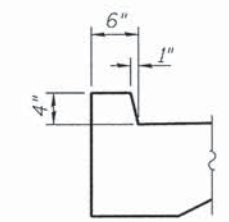
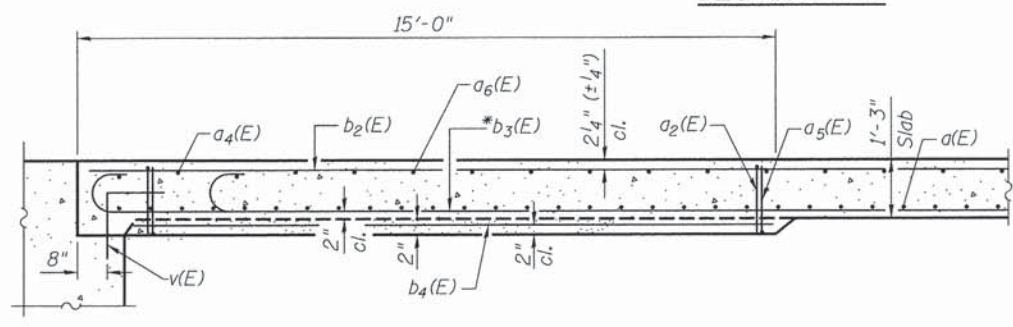
(Sheet 1 of 2)

BRIDGE APPROACH SLAB DETAILS

SHEET NO. 10	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
20 SHEETS	272	16-00731-00-BR	LASALLE	43	17
S.N. 050-3613			CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)		

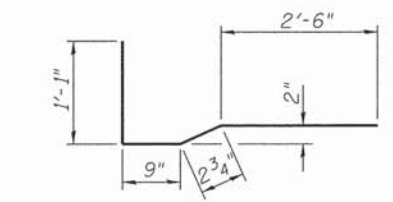
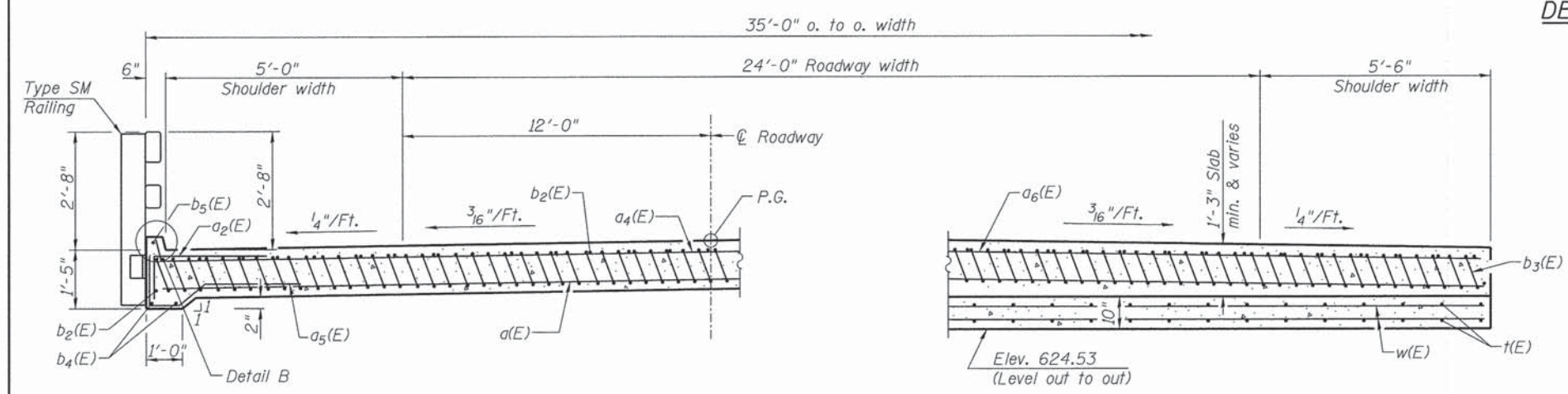


Notes:
 See Sheet 10 of 20 for Detail A.
 Approach slab and curb shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 See Sheet 8 of 20 for v(E) bar details.
 The approach footing maximum applied service bearing pressure (σ_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 See Sheet 2 of 20 for Granular Backfill and drainage treatment details.

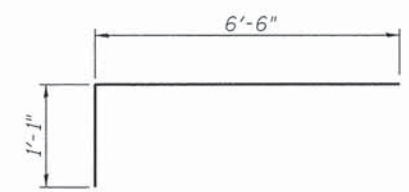


* Tilt #9 b3(E) bars as required to maintain clearance.
 ** Cost included with Concrete Superstructure

DETAIL B



BAR a5(E)



BAR a2(E)

TWO APPROACHES
 BILL OF MATERIAL

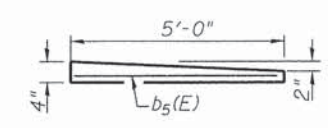
Bar	No.	Size	Length	Shape
a(E)	92	#5	34'-9"	—
a2(E)	144	#6	7'-7"	┌
a4(E)	10	#4	35'-3"	┌
a5(E)	52	#5	4'-7"	┌
a6(E)	40	#4	34'-9"	—
b2(E)	62	#4	29'-8"	—
b3(E)	168	#9	29'-9"	┌
b4(E)	8	#4	14'-8"	—
b5(E)	4	#4	4'-9"	—
t(E)	144	#4	9'-8"	—
w(E)	80	#5	34'-8"	—
Concrete Superstructure			CU YD	107.3
Concrete Structures			CU YD	21.6
Reinforcement Bars, Epoxy Coated			POUND	28,520

① See Special Provisions

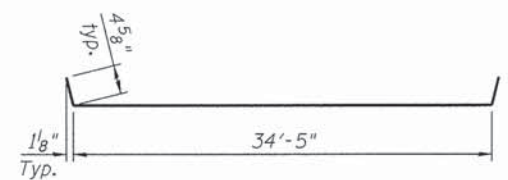
NEAR ABUTMENT

SECTION B-B
 (See Plan for dimensions not shown)

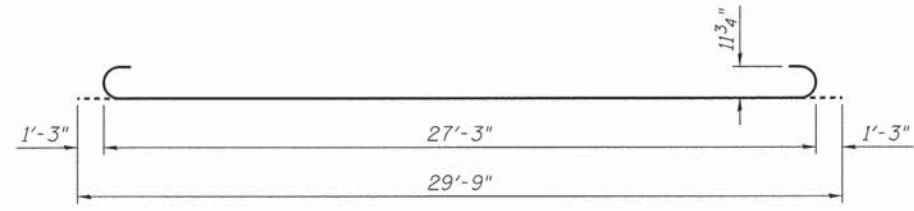
AT APPROACH FOOTING



VIEW C-C



BAR a4(E)



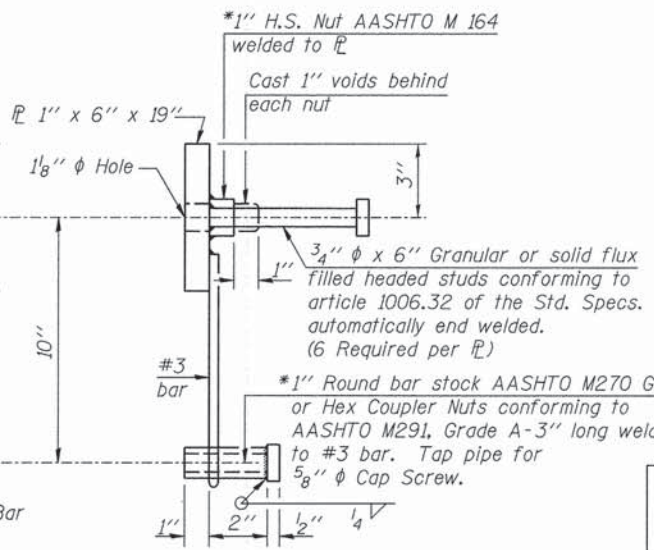
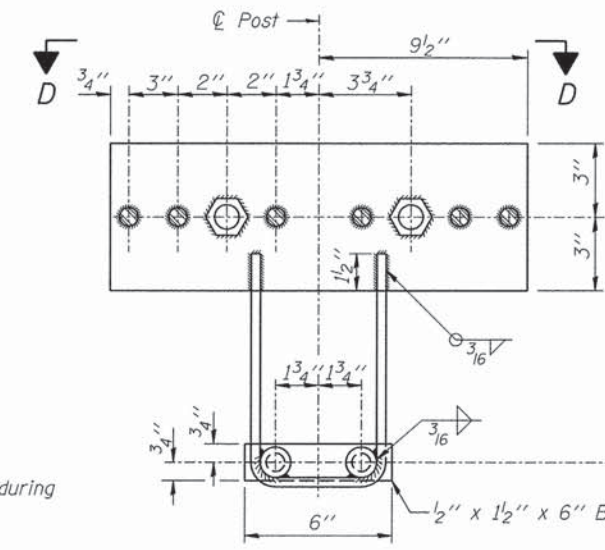
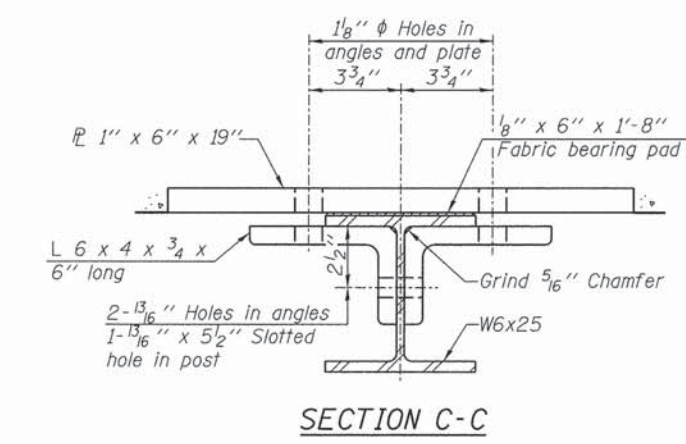
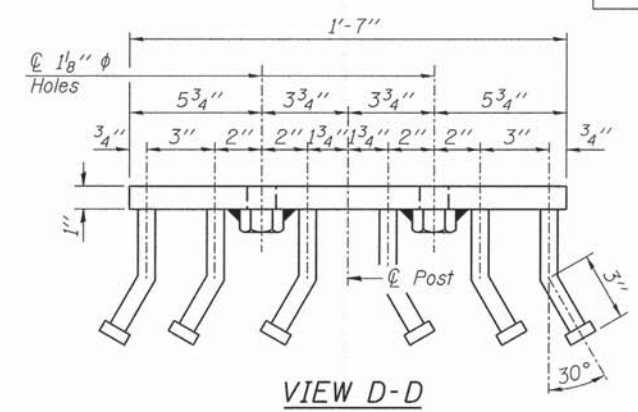
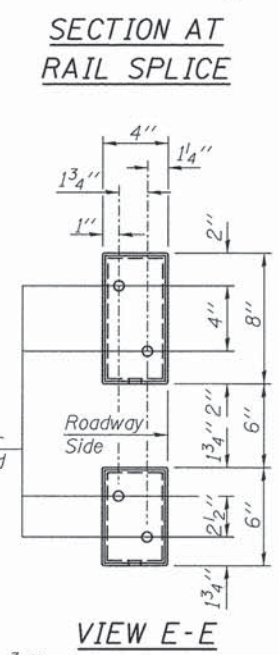
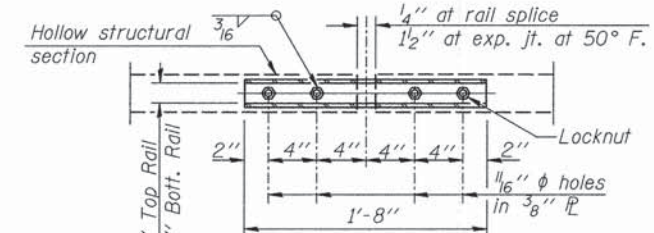
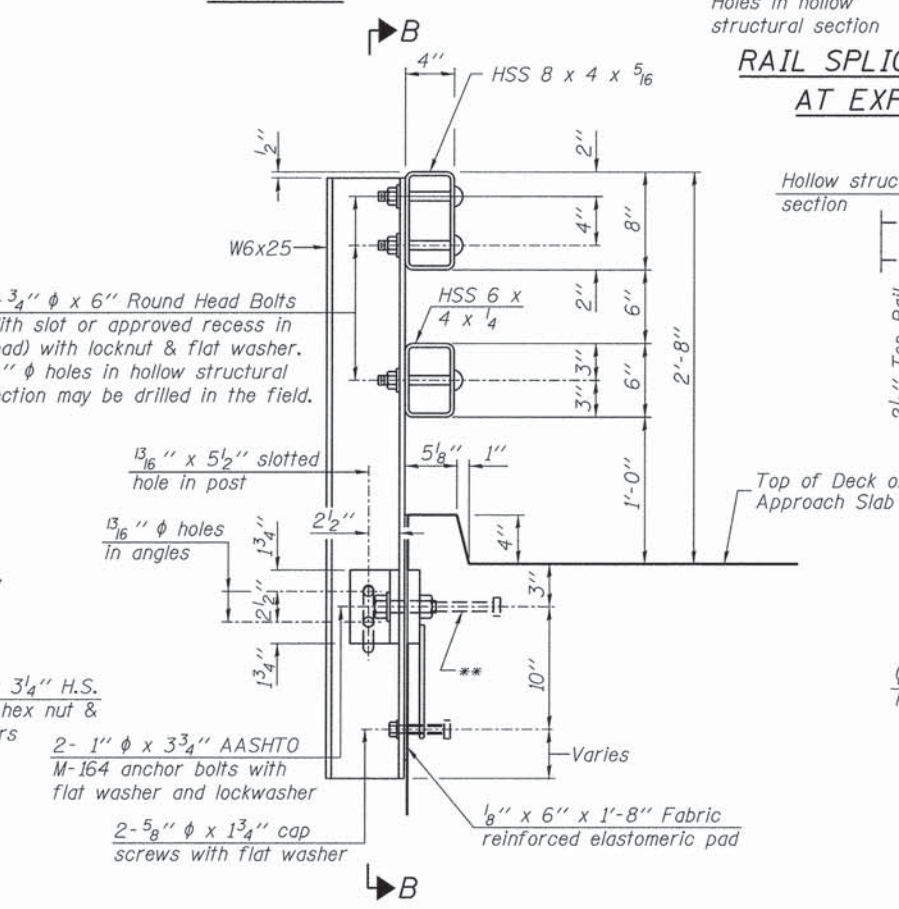
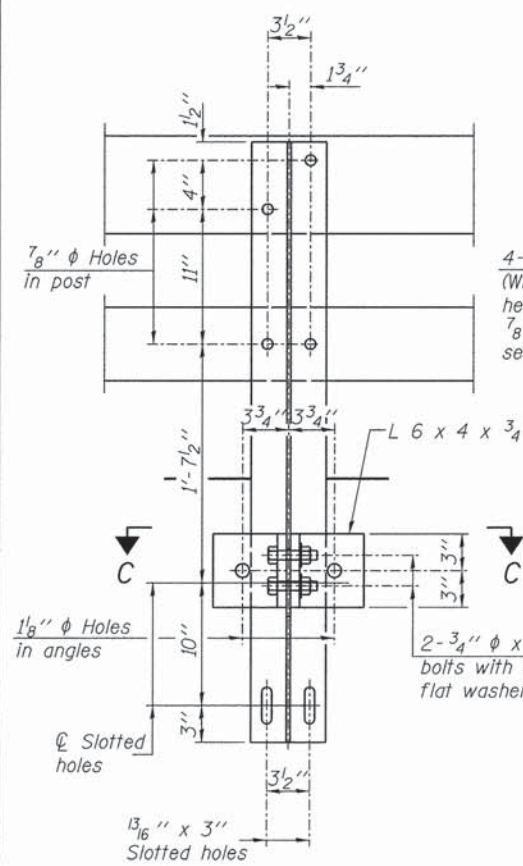
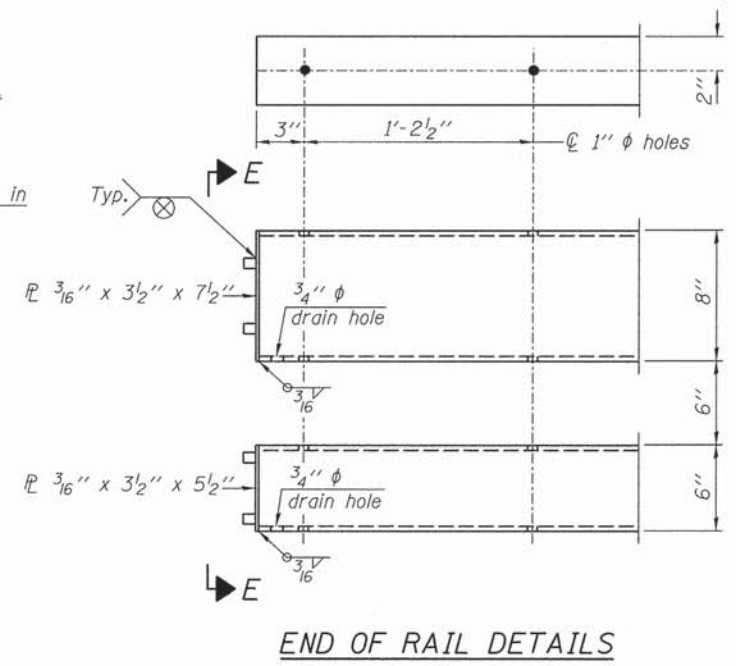
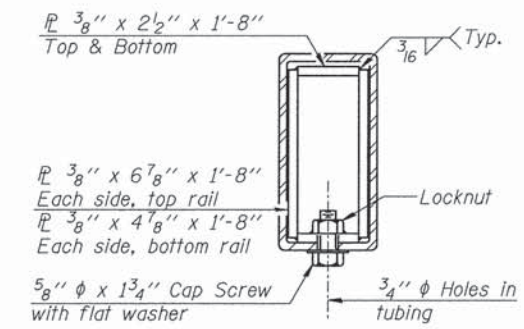
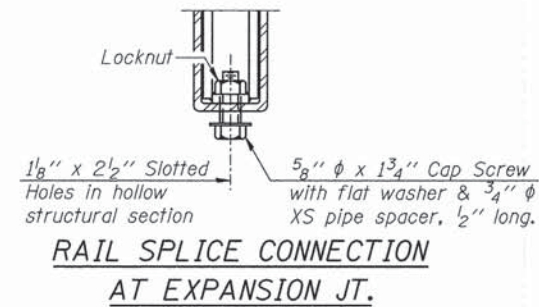
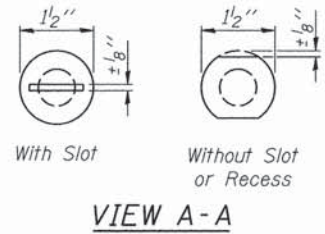
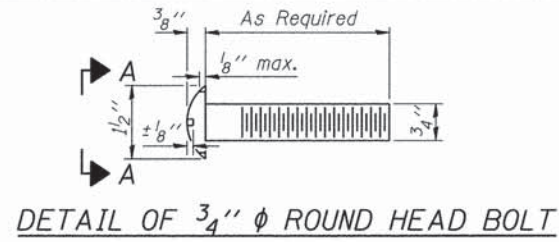
BAR b3(E)

(Sheet 2 of 2)

BRIDGE APPROACH SLAB DETAILS

SHEET NO. 11 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	18
		S.N. 050-3613	CONTRACT NO. 87587		
		FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT BRS-0272(111)		

FOR RAIL POST SPACING SEE SHEET #8 OF 20.



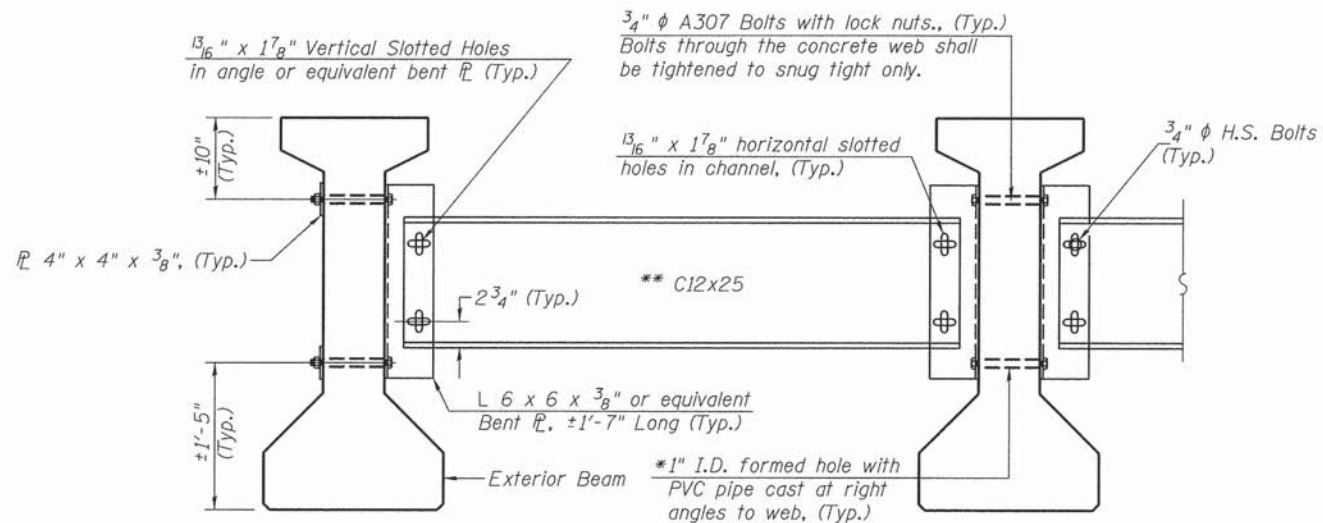
Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
 All steel railing elements 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 SM	FOOT	188

STEEL RAILING TYPE SM

SHEET NO. 12	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
20 SHEETS	272	16-00731-00-BR	LASALLE	43	19
S.N. 050-3613			CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)		



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
 Two hardened washers are required for each set of oversized holes.
 All holes shall be 1 5/16 inch unless otherwise noted.
 5/16 inch x 3 inch x 3 inch plate washers are required over all slotted holes.
 All bolts shall be galvanized according to AASHTO M232.
 Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
 Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.
 All structural steel for permanent bracing shall be AASHTO M270 Gr. 50.

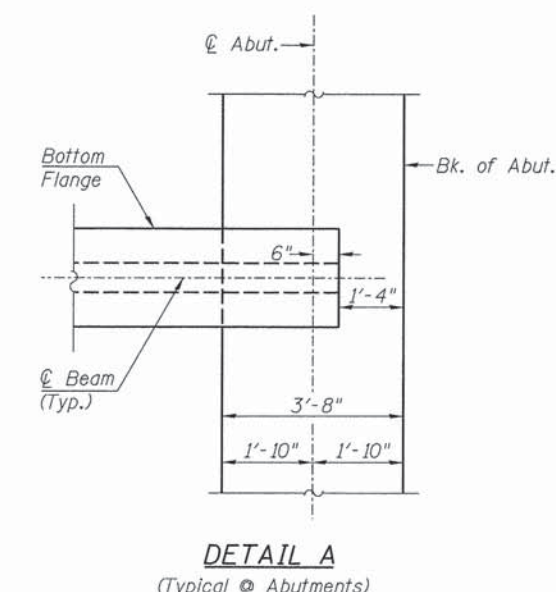
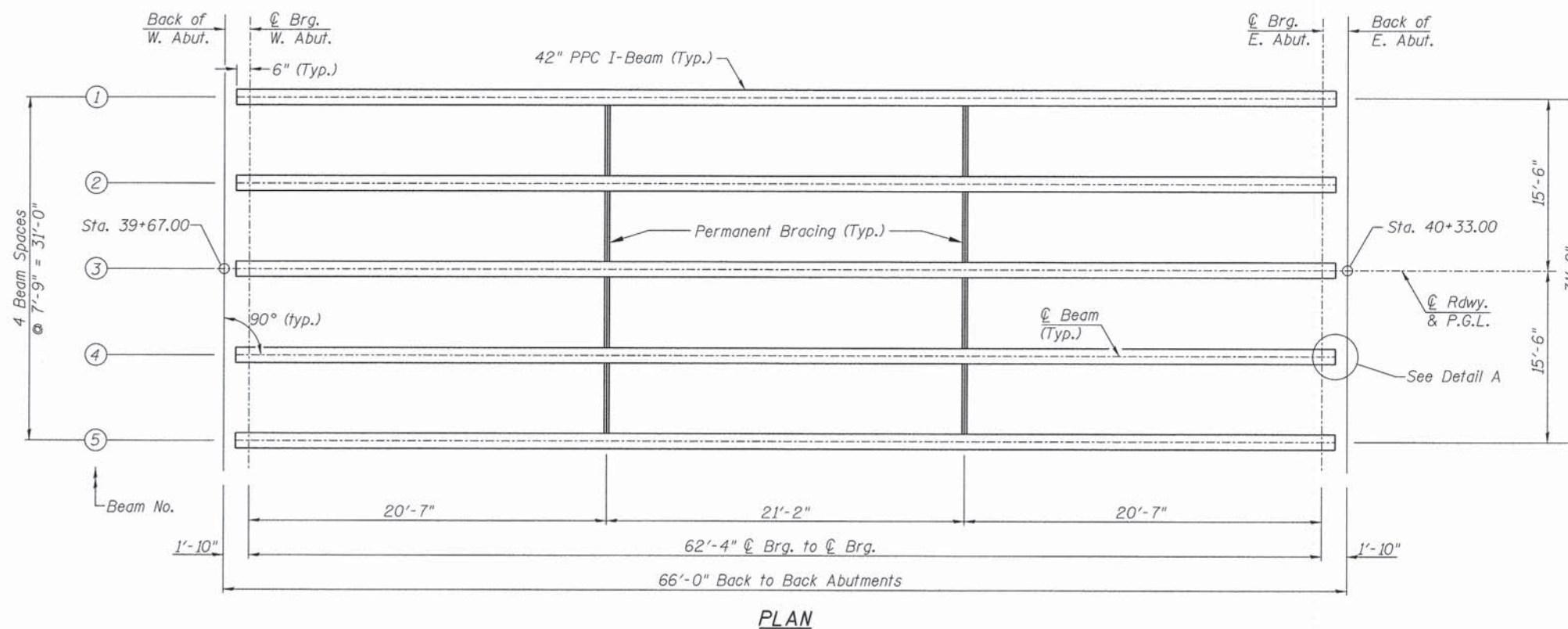
- * Fabricator shall locate to miss strands within permissible tolerances.
- ** Alternate C12x30 channels are permitted to facilitate material acquisition.

- I: Non-composite moment of inertia of beam section (in.⁴).
- I': Composite moment of inertia of beam section (in.⁴).
- S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
- S_b': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
- S_t: Non-composite section modulus for the top fiber of the prestressed beam (in.³).
- S_t': Composite section modulus for the top fiber of the prestressed beam (in.³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M_{L + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

INTERIOR BEAM MOMENT TABLE		
		0.5 Sp. 1
I	(in ⁴)	90,956
I'	(in ⁴)	311,329
S _b	(in ³)	5,153
S _b '	(in ³)	9,124
S _t	(in ³)	3,736
S _t '	(in ³)	39,528
DC1	(k/ft)	1.302
M _{DC1}	(k)	632
DC2	(k/ft)	0.04
M _{DC2}	(k)	19
DW	(k/ft)	0.388
M _{DW}	(k)	188
M _{L + IM}	(k)	1,031

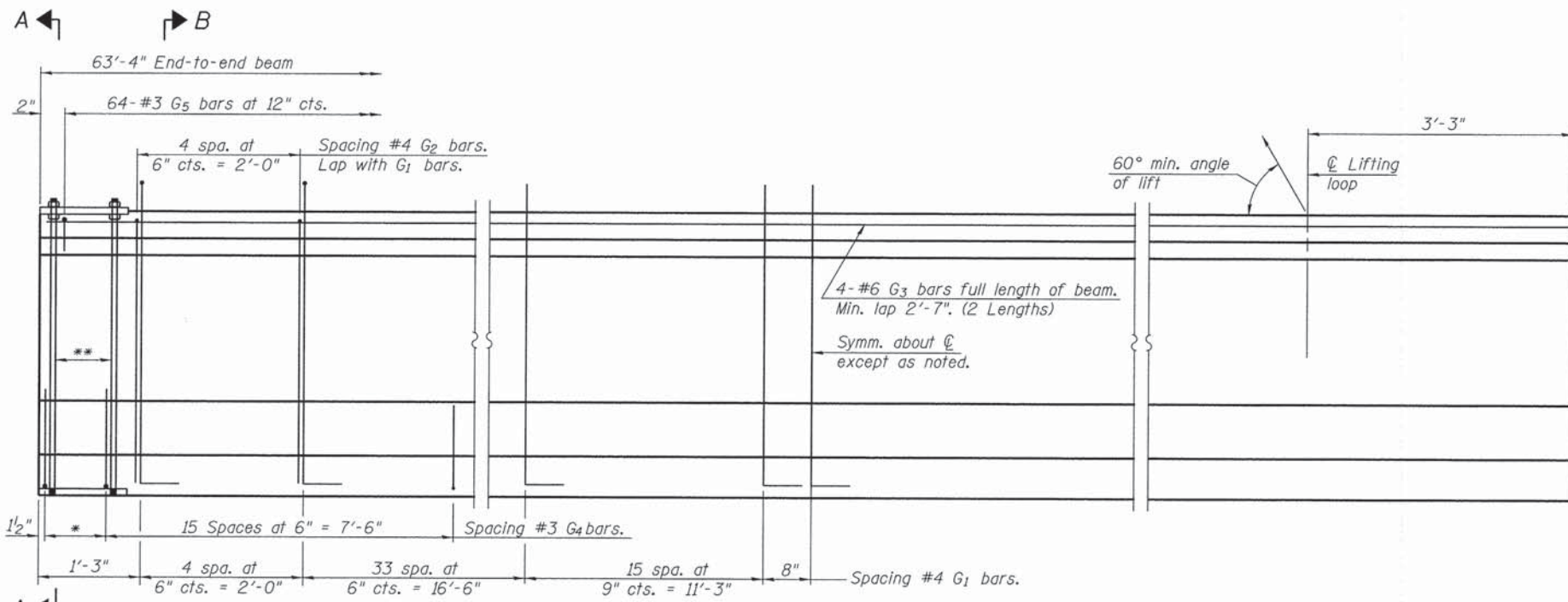
INTERIOR BEAM REACTION TABLE		
		Abut.
R _{DC1}	(k)	40.6
R _{DC2}	(k)	1.2
R _{DW}	(k)	12.1
R _{L + IM}	(k)	80.8
R _{Total}	(k)	134.7

PERMANENT BRACING DETAILS FOR 42" PPC I-BEAMS



FRAMING PLAN AND DETAILS

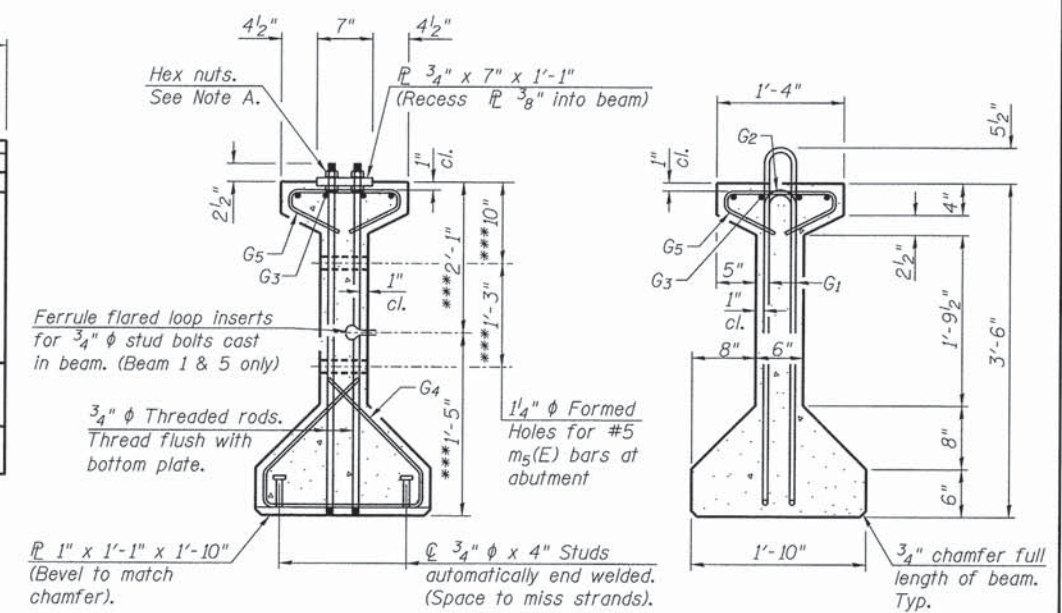
SHEET NO. 13 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	20
	S.N. 050-3613		CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)		



ELEVATION OF BEAM
(Showing reinforcement & dimensions)

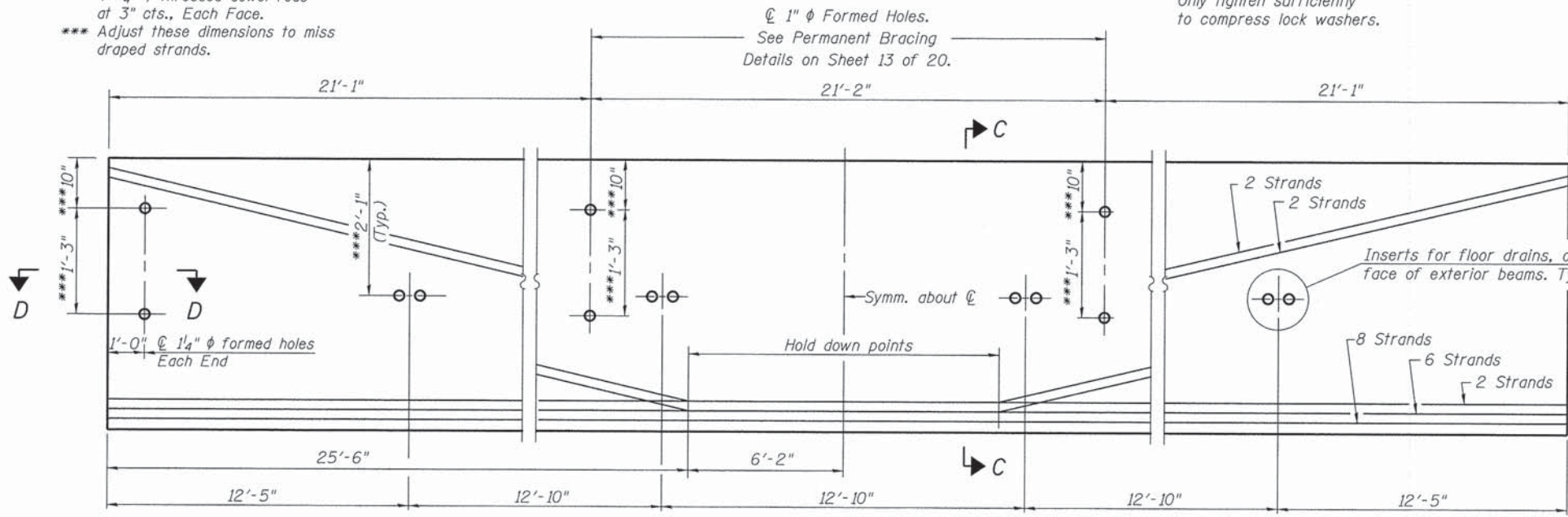
- * 3 spaces at 3" = 9".
- ** 4-3/8" φ threaded dowel rods at 3" cts., Each Face.
- *** Adjust these dimensions to miss draped strands.

Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.

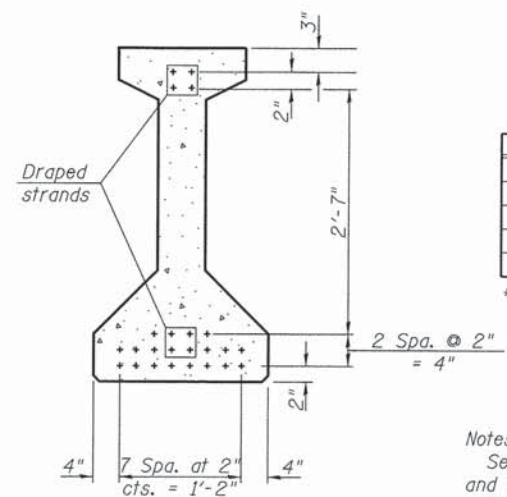


SECTION A-A

SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



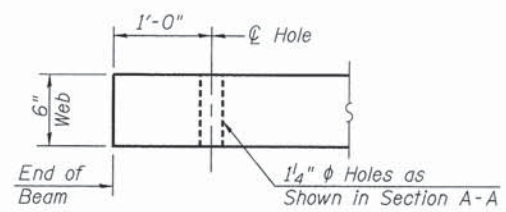
SECTION C-C

******BAR LIST
ONE BEAM ONLY**

Bar	No.	Size	Length	Shape
G ₁	107	#4	8'-7"	∩
G ₂	10	#4	6'-8"	∩
G ₃	8	#6	32'-10"	—
G ₄	38	#3	4'-11"	∩
G ₅	64	#3	2'-6"	∩

****For information only

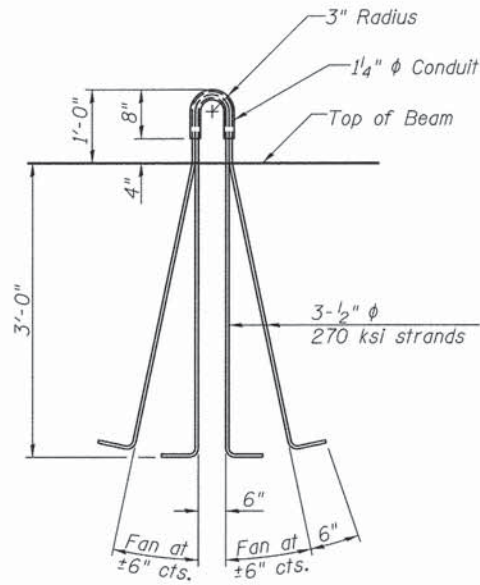
Notes:
See sheet 15 of 20 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5,000 psi.



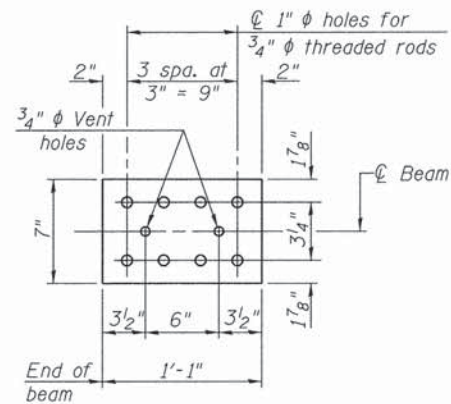
SECTION D-D

42" PPC I-BEAM

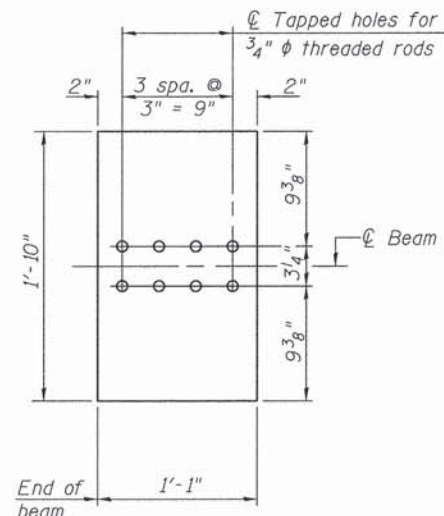
SHEET NO. 14 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	21
S.N. 050-3613			CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)		



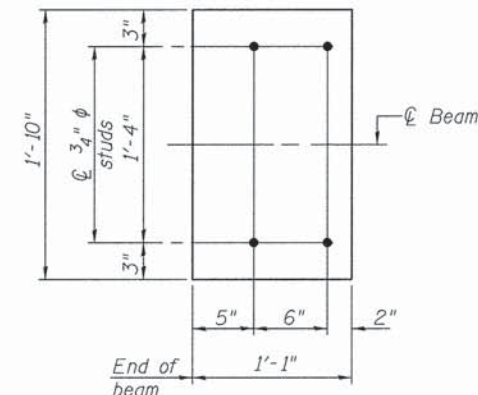
LIFTING LOOP DETAIL



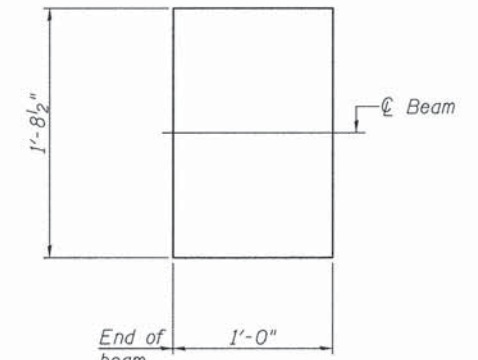
TOP PLATE



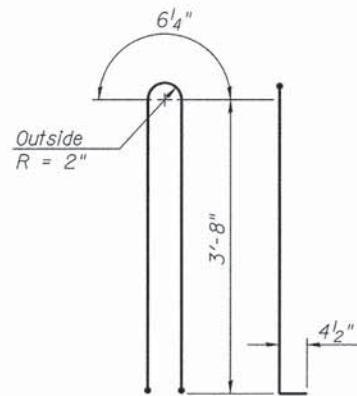
BOTTOM PLATE
(Showing threaded rods)



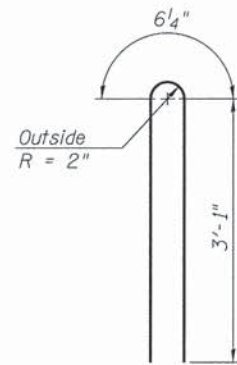
BOTTOM PLATE
(Showing studs)



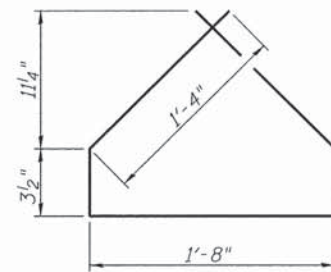
1" FABRIC BEARING PAD



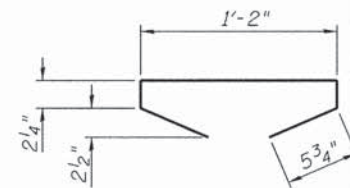
BAR G1



BAR G2



BAR G4



BAR G5

NOTES

Inserts for 3/4" ϕ threaded dowel rods, when specified, are to be two strut ferrule type for interior beams and single ferrule, flared loop type for exterior beams.
 Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
 A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.
 The top and bottom plates shall be AASHTO M270 Grade 50.
 The bottom plates and studs shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized.
 Threaded rods shall be ASTM F 1554 Grade 55.

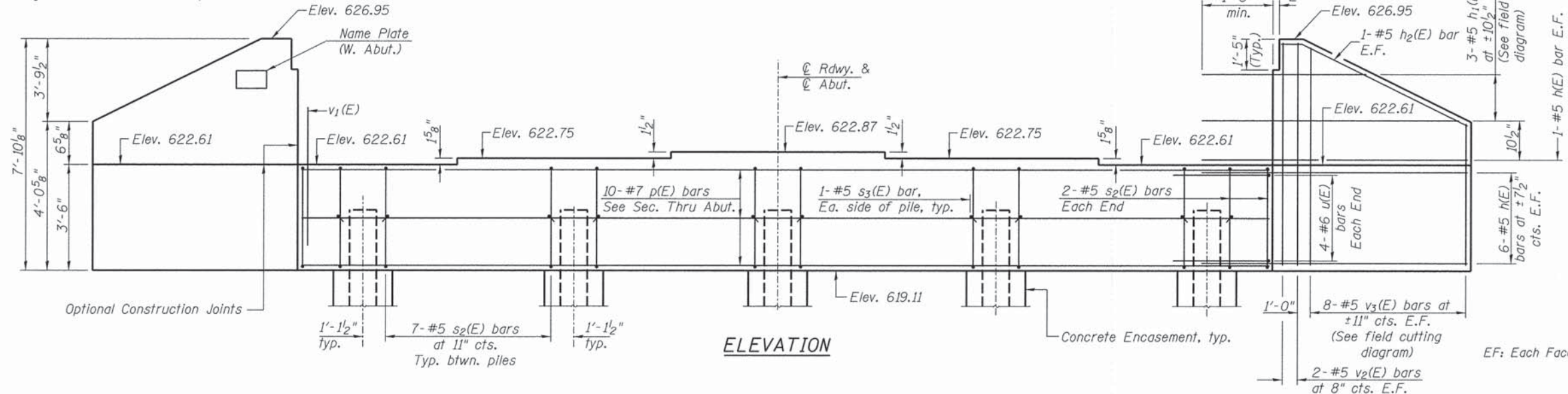
BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42"	FOOT	317

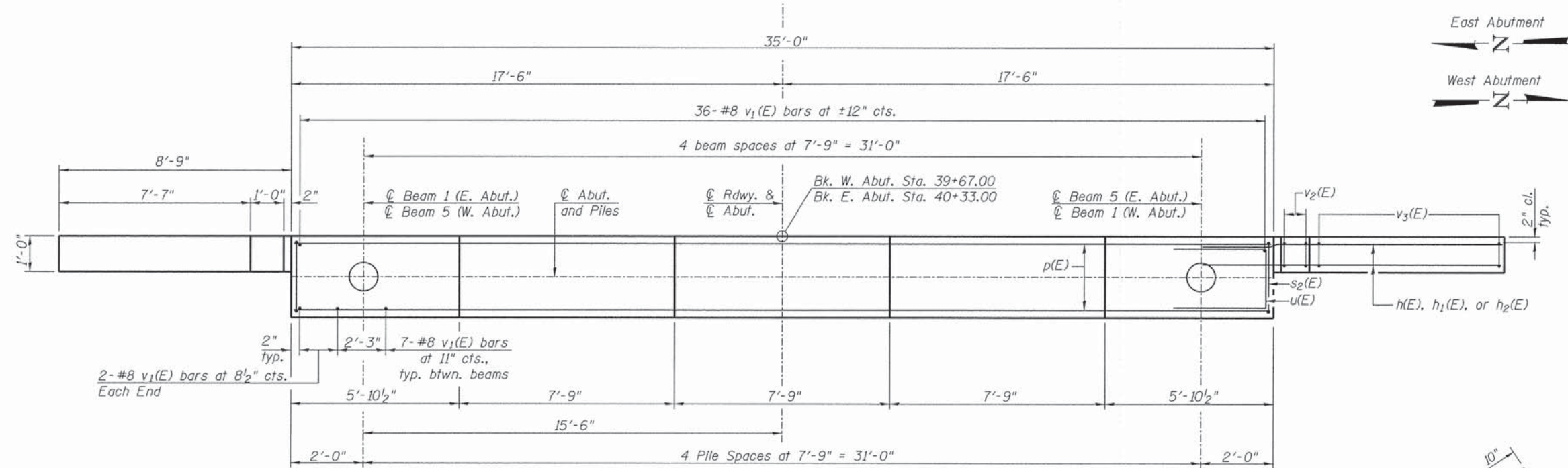
42" PPC I-BEAM DETAILS

SHEET NO. 15	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
20 SHEETS	272	16-00731-00-BR	LASALLE	43	22
		S.N. 050-3613	CONTRACT NO. 87587		
		FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT BRS-0272(111)		

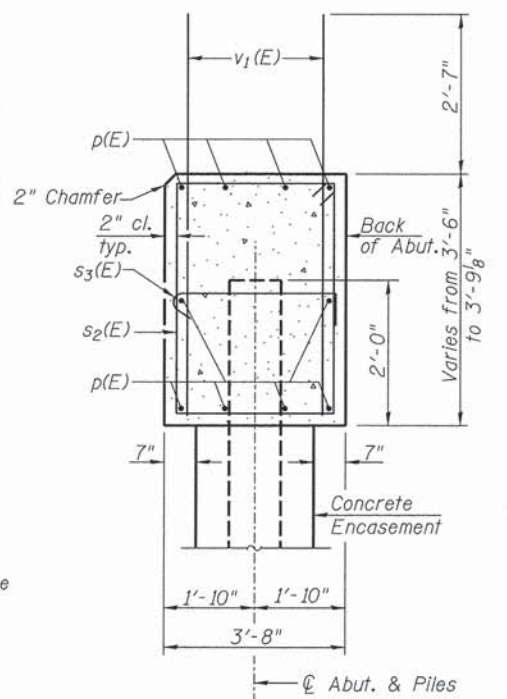
Notes:
 Pour steps monolithically with cap.
 All edges shall have standard 3/4" chamfer.



ELEVATION



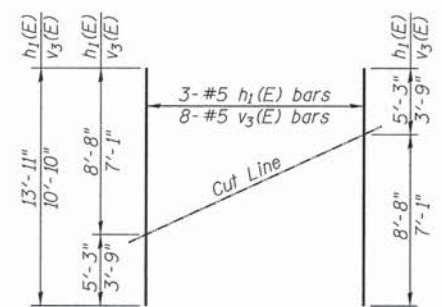
PLAN



SEC. THRU ABUT.

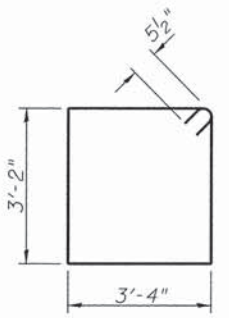
PILE DATA

Type: Metal Shell 14"x0.250" w/ Pile Shoes
 Nominal Required Bearing: 416 kips
 Factored Resistance Available: 229 kips
 Est. Length: 44' W. Abutment
 44' E. Abutment
 No. Required: 10 (Includes 1 Test Pile at Each Abut.)

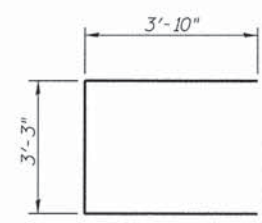


FIELD CUTTING DIAGRAM

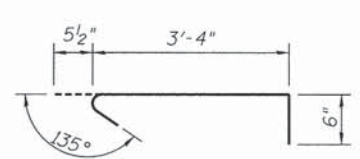
Order h1(E) and v3(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)



BAR s3(E)

BAR h2(E)

**BILL OF MATERIALS
 TWO ABUTMENTS**

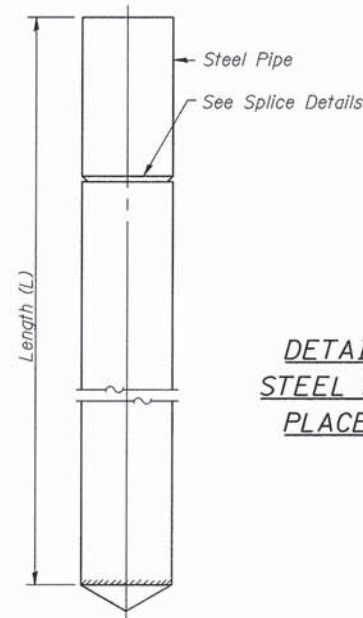
Bar No.	Size	Length	Shape
h(E)	56 #5	9'-10"	—
h1(E)	12 #5	13'-11"	—
h2(E)	8 #5	9'-2"	—
p(E)	20 #7	34'-9"	—
s2(E)	64 #5	13'-11"	□
s3(E)	20 #5	4'-4"	└┘
u(E)	16 #6	10'-11"	—
v1(E)	136 #8	5'-11"	—
v2(E)	16 #5	7'-6"	—
v3(E)	32 #5	10'-10"	—
Structure Excavation	CU YD	210	
Concrete Structures	CU YD	41.6	
Reinforcement Bars, Epoxy Coated	POUND	6,160	
Name Plates	EACH	1	
Furnishing Metal Shell Piles 14"x0.250"	FOOT	352	
Driving Piles	FOOT	352	
Test Pile Metal Shells	EACH	2	
Pile Shoes	EACH	10	
Concrete Encasement	CU YD	4.3	

① See Special Provisions
 See Sheet 17 of 20 for details of Piles and Concrete Encasement.

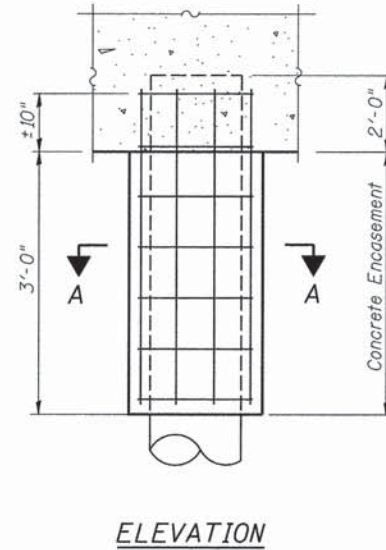
ABUTMENTS

SHEET NO.	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	272	16-00731-00-BR	LASALLE	43	23
20 SHEETS		S.N. 050-3613	CONTRACT NO. 87587		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT BRS-0272(111)		

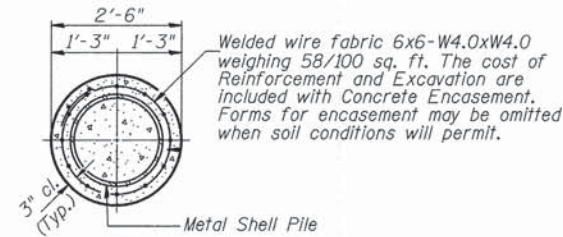
Notes: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.25 inches with a tolerance of 5%. The shell shall be according to Article 1006.05(a) of the Standard Specifications, and shall be ASTM A252 Grade 3.



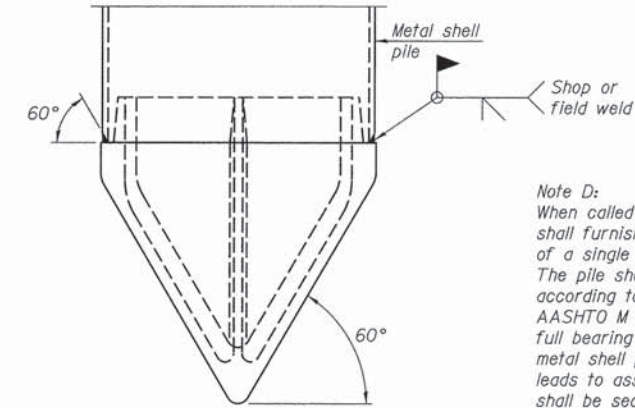
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



ELEVATION



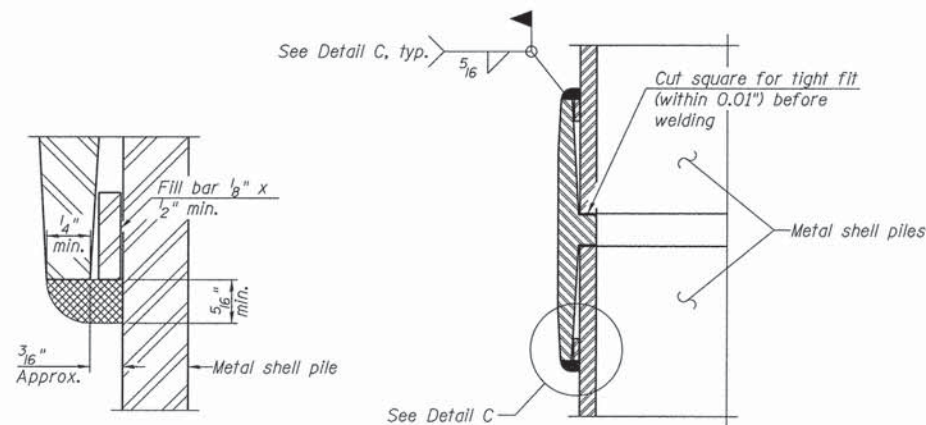
**SECTION A-A
DETAIL OF METAL SHELL PILE ENCASMENT AT ABUTMENTS**



METAL SHELL PILE SHOE ATTACHMENT

(See Note D)

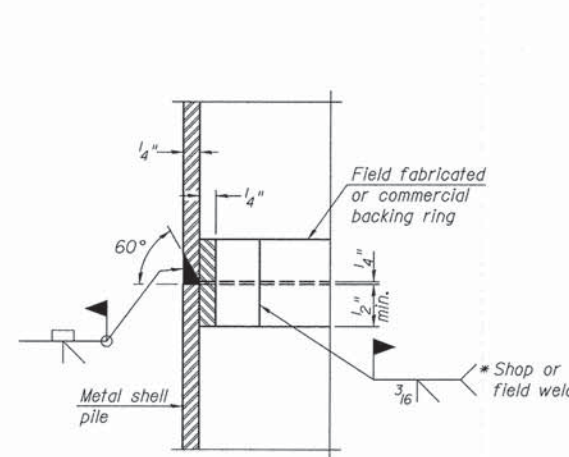
Note D: When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.



DETAIL C

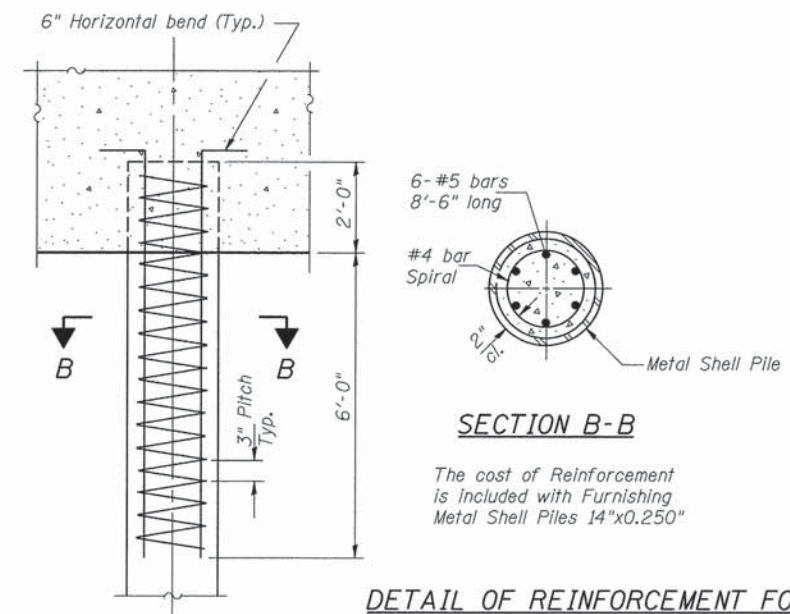
WELDED COMMERCIAL SPLICE

Notes: The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them. Pile segments shall be driven to solid contact with splicer before welding.



COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



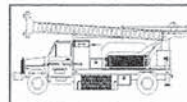
SECTION B-B

The cost of Reinforcement is included with Furnishing Metal Shell Piles 14"x0.250"

DETAIL OF REINFORCEMENT FOR METAL SHELLS AT ABUTMENTS

METAL SHELL PILE DETAILS

SHEET NO. 17	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	24
20 SHEETS	S.N. 050-3613		CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0272(111)		



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Sheet 1 of 3

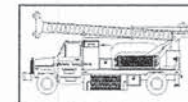
Client: Hutchison Engineering Inc.
Project Name: CH-6 over Covell Creek
Project Site: Section 16-00731-00-BR

Boring No. B-1
Surface Elev. 624.30
Auger Depth 61' Rotary Depth NA
Start Date 03/18/14 Finish Date 03/18/14

Location: 16' South of centerline of road
& 35' West of center of existing bridge

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
624.30										Jeff Safranski D-120	
623.30	Stiff Brownish Gray Clay (Fill)		1								
622.30			2								
621.30			3	1	SS	1.7	11	B	20		
620.30	Medium Brown Clay w/ Concret Fragments (Fill)		4								
619.30			5	2	SS	-	25	-	-		
618.30			6								
617.30	Very Stiff to Stiff Clay mixed with Gravel (Fill)		7								
616.30			8	3	SS	2.0	14	B	18		
615.30			9								
614.30			10	4	SS	1.8	13	B	22		
613.30			11								
612.30	Concrete Fragments or Limestone Cobbles (Fill)		12								
611.30			13	5	SS	-	-	-	-		
610.30			14								
609.30	Stiff Black & Brown Clay		15								
608.30			16	6	SS	1.2	8	B	20		
607.30			17								
606.30	Medium Brown Fine Sand		18	7	SS	-	16	-	-		
605.30			19								
604.30			20	8	SS	-	22	-	-		

Groundwater Data: Static water level after auger removal - 608.5
Comments:



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Sheet 2 of 3

Client: Hutchison Engineering Inc.
Project Name: CH-6 over Covell Creek
Project Site: Section 16-00731-00-BR

Boring No. B-1
Surface Elev. 624.30
Auger Depth 61' Rotary Depth NA
Start Date 03/18/14 Finish Date 03/18/14

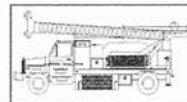
Location: 16' South of centerline of road
& 35' West of center of existing bridge

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
603.30										Jeff Safranski D-120	
602.30	Medium Brown Fine Sand		22								
601.30			23	9	SS	-	20	-	-		
600.30			24								
599.30			25								
598.30			26	10	SS	-	22	-	-		
597.30			27								
596.30			28	11	SS	-	18	-	-		
595.30			29								
594.30			30								
593.30			31	12	SS	-	24	-	-		
592.30		Very Stiff Brownish Gray Clay Till		32							
591.30				33							
590.30				34							
589.30				35	13	SS	3.9	20	B	13	
588.30			36								
587.30			37								
586.30			38								
585.30			39								
584.30		40	14	SS	3.6	20	B	14			
583.30		41									

Groundwater Data: Static water level after auger removal - 608.5
Comments:

SOIL BORING LOGS

SHEET NO. 18 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	25
	S.N. 050-3613		CONTRACT NO. 87587		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0272(111)		



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

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Sheet 3 of 3

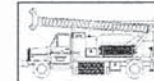
Client: Hutchison Engineering Inc.
Project Name: CH-6 over Covell Creek
Project Site: Section 16-00731-00-BR
0

Boring No. B-1
Surface Elev. 624.30
Auger Depth 61' Rotary Depth NA
Start Date 03/18/14 Finish Date 03/18/14

Location: 16' South of centerline of road
& 35' West of center of existing bridge

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear		
582.30									Jeff Safranski D-120	
581.30			43							
580.30			44							
579.30	Hard Brownish Gray Clay Till		45	15	SS	4.3	26	B	12	
578.30			46							
577.30			47							
576.30			48							
575.30			49							
574.30			50	16	SS	4.2	24	B	14	
573.30			51							
572.30			52							
571.30			53							
570.30			54							
569.30			55	17	SS	-	37	-	12	
568.30	Dense to Very Dense Light Brown Loam Till		56							
567.30			57							
566.30			58							
565.30			59							
564.30			60	18	SS	-	63	-	9	
563.30	Boring Terminated		61							
562.30			62							

Groundwater Data: Static water level after auger removal - 608.5
Comments:



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

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Fax: 815-223-6659
e-mail: mts37@comcast.net

Sheet 1 of 3

Client: Hutchison Engineering Inc.
Project Name: CH-6 over Covell Creek
Project Site: Section 06-00731-00-BR

Boring No. B-2
Surface Elev. 624.20
Auger Depth 61' Rotary Depth NA
Start Date 03/18/14 Finish Date 03/18/14

Location: 16' North of Centerline of road
& 45' East of center of existing bridge

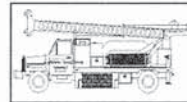
(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear		
624.20									Jeff Safranski D-120	
623.20			1							
622.20			2							
621.20	Stiff Brown to Black Clay (Fill)		3	1	SS	1.4	8	B	22	
620.20			4							
619.20			5	2	SS	1.8	10	B	20	
618.20			6							
617.20			7							
616.20	Stiff Brown Clay		8	3	SS	1.6	7	B	23	
615.20			9							
614.20			10	4	SS	1.3	9	B	20	
613.20			11							
612.20			12							
611.20			13	5	SS	1.5	8	B	21	
610.20			14							
609.20			15							
608.20			16	6	SS	1.3	8	B	22	
607.20			17							
606.20	Medium Brown Fine Sand		18	7	SS	-	17	-	-	
605.20			19							
604.20			20	8	SS	-	20	-	-	

Groundwater Data: Static Water Level after auger removal - Elevation 608.0

Comments: Unable to penetrate fill material 35' East of centerline of bridge due to large cobbles or broken concrete fragments - moved to 45' East of centerline of bridge.

SOIL BORING LOGS

SHEET NO. 19 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	26
S.N. 050-3613			CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)		



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Sheet 2 of 3

Client: Hutchison Engineering Inc.
Project Name: CH-6 over Covell Creek
Project Site: Section 16-00731-00-BR
0

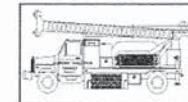
Boring No. B-2
Surface Elev. 624.20
Auger Depth 61' Rotary Depth NA
Start Date 03/18/14 Finish Date 03/18/14

Location: 16' South of centerline of road
& 45' East of center of existing bridge

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
603.20									Jeff Safranski D-120		
602.20			22								
601.20			23	9	SS	-	21	-			
600.20			24								
599.20	Medium Brown Fine Sand		25								
598.20			26	10	SS	-	18	-			
597.20			27								
596.20			28	11	SS	-	22	-			
595.20			29								
594.20			30								
593.20			31								
592.20			32								
591.20			33								
590.20	Hard Brownish Gray Clay Till		34								
589.20			35	13	SS	4.3	22	B 12			
588.20			36								
587.20			37								
586.20			38								
585.20			39								
584.20			40								
583.20			41	14	SS	4.5	24	B 13			

Groundwater Data: Static water level after auger removal - 608.5

Comments: *Unable to penetrate fill material 35' East of centerline of bridge due to large cobbles or broken concrete fragments - moved to 45' East of centerline of bridge.*



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

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Fax: 815-223-6659
e-mail: mts37@comcast.net

Sheet 3 of 3

Client: Hutchison Engineering Inc.
Project Name: CH-6 over Covell Creek
Project Site: Section 16-00731-00-BR

Boring No. B-2
Surface Elev. 624.20
Auger Depth 61' Rotary Depth NA
Start Date 03/18/14 Finish Date 03/18/14

Location: 16' South of centerline of road
& 45' East of center of existing bridge

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
582.20									Jeff Safranski D-120		
581.20			43								
580.20	Very Stiff Brownish Gray Clay Till		44								
579.20			45	15	SS	3.5	21	B 16			
578.20			46								
577.20			47								
576.20			48								
575.20	Hard Brownish Gray Clay Till		49								
574.20			50	16	SS	4.5	26	B 18			
573.20			51								
572.20			52								
571.20			53								
570.20			54								
569.20			55								
568.20	Very Dense Light Brown Loam Till		56	17	SS	-	53	- 9			
567.20			57								
566.20			58								
565.20			59								
564.20			60								
563.20			61	18	SS	-	86	- 8			
562.20	⚡ Boring Terminated		62								

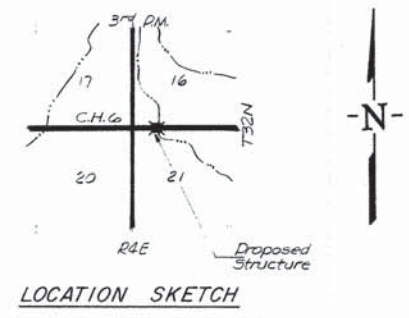
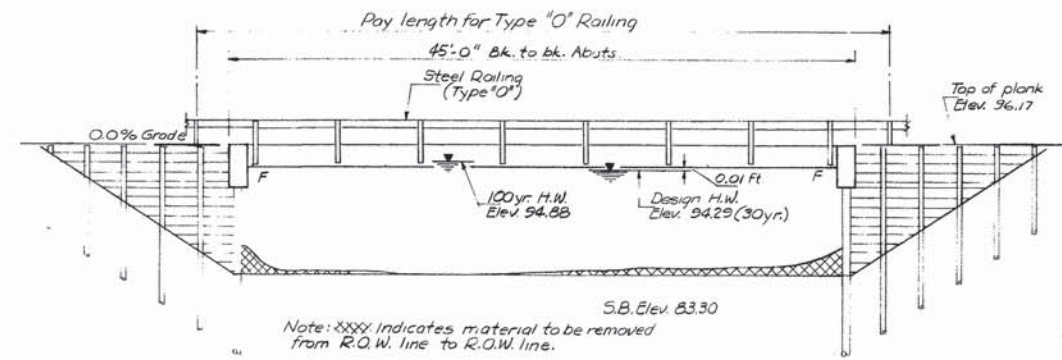
Groundwater Data: Static water level after auger removal - 608.5

Comments: *Unable to penetrate fill material 35' East of centerline of bridge due to large cobbles or broken concrete fragments - moved to 45' East of centerline of bridge.*

SOIL BORING LOGS

SHEET NO. 20 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	27
	S.N. 050-3613		CONTRACT NO. 87587		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0272(111)		

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
72	7	LASALLE	43	3
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	
# SEC. 79-00024-01-BR				



GENERAL NOTES SHEET 1 OF 5

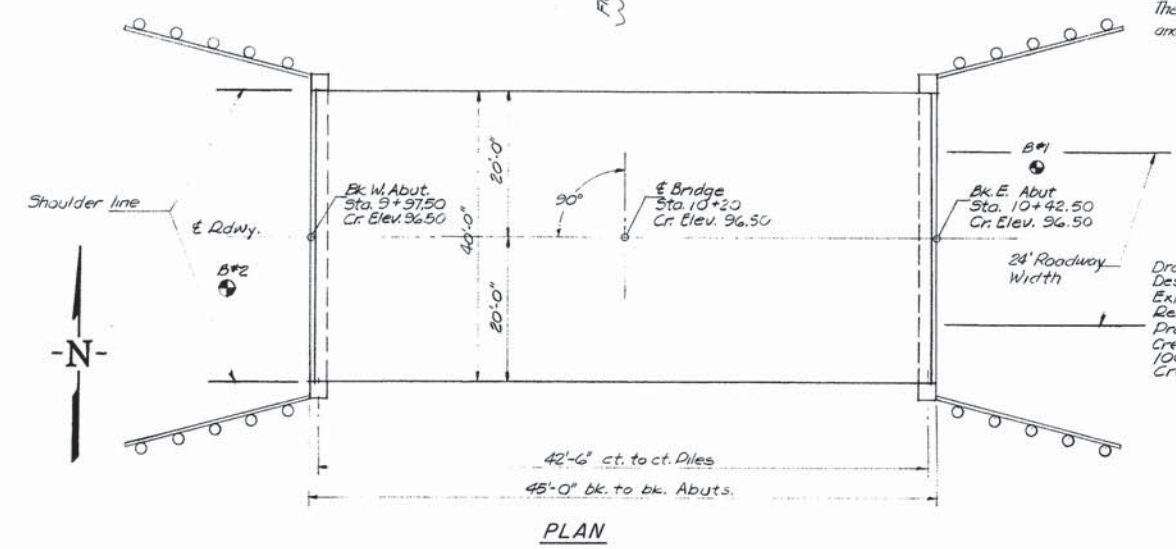
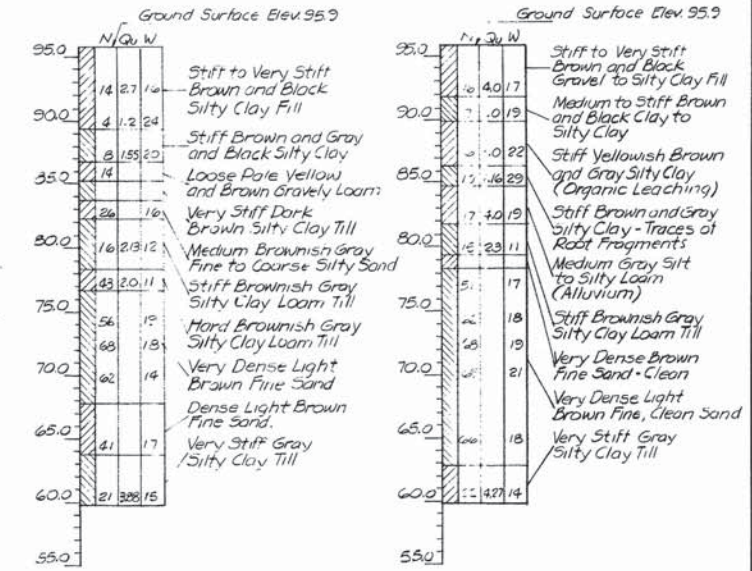
- All work shall comply with the "Standard Specifications for Road and Bridge Construction" adopted 11/1/1979.
- The Contractor shall drive 1" timber test pile in permanent location at the West Abutment prior to ordering the remaining piles. See Special Provisions for Metal Plate Bridge Rail, Name Plate and Waterproofing Membrane System requirements.
- Channel excavated material will not be classified for payment but shall be considered incidental to the contract.
- All hardware shall be hot-dipped galvanized.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M31 or M53 Grade 60.

- B.M. #1 - On the top gate hinge, set in concrete post 31' Rt. Sta. 0+00, Elev. 100.00.
- B.M. #2 - Chiseled X on top of N.W. Wingwall left of Sta. 9+30, Elev. 95.32.

ELEVATION

Existing structure consists of a two span reinforced concrete slab bridge with reinforced concrete abutments, pier, and wing walls. It is assumed that the structure is supported by concrete spread footings, Bk. to bk. Abut. 42' Width = 27'.
The contractor shall remove the existing superstructure and substructure prior to construction of new bridge.

BORING DATA



WATERWAY DATA

Drainage Area: 9.0 sq. mi.
Design Discharge (30 yr.): 1,620 c.f.s.
Existing Opening (below 30 yr. H.W.E.): 342 sq. ft.
Required Opening (below 30 yr. H.W.E.): 439 sq. ft.
Proposed Opening (below 30 yr. H.W.E.): 440 sq. ft.
Created Head for Design Flood 100 yr. Discharge: 2.090 c.f.s.
Created Head for 100 yr Flood: .23 ft.



DESIGN STRESSES

SUPERSTRUCTURE
 $f'_c = 5,000$ psi. $f'_s = 270,000$ psi. (2" # Strands)
 $f_y = 60,000$ psi. $f'_s = 183,000$ psi. (" ")
 $f_{ci} = 4,000$ psi.

SUBSTRUCTURE
 $f'_c = 3,500$ psi.
 $f_y = 60,000$ psi.

Designed using 1977 A.A.S.H.T.O. Specification & 1978 Interim Specifications.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Conc. Deck Beams 21"	Sq. ft.	1,747		1,747
Class X Concrete	cu yd.	19.5		19.5
Reinforcement Bars	lbs.	5,455		5,455
Treated Timber	f.b.m.	7,512		7,512
Hardware	lbs.	4,756		4,056*
Steel Railing (Type "O")	lin.ft.	103.2		103.2
Test Pile (Timber)	ea.	1		1
Furnishing Creosoted Piles (20.1' to 33')	lin.ft.	1,135		1,135
Driving Timber Piles	lin.ft.	1,135		1,135
Name Plate	ea.	1		1
Removal of Existing Structure	ea.	1		1
Portland Cement Mortar Finishing Course	lin.ft.	393		393
Waterproofing Membrane System	sq.yd.	194.1		194.1

STATION 10+20
 SEC. 79-00024-01-BR
 F.A.S. RTE. 272
 LASALLE COUNTY
 BUILT 198__
 LOADING HS20 BRIDGE NO. 050-34-__

LETTERING FOR NAME PLATE

Locate Name Plate at N.W. corner of Structure
 (The complete structure number will be furnished to the contractor after award of contract.)

H.S.20-44 LOADING
 plus .23 p.s.f. future wearing surface
 * includes 3/2% for galvanizing

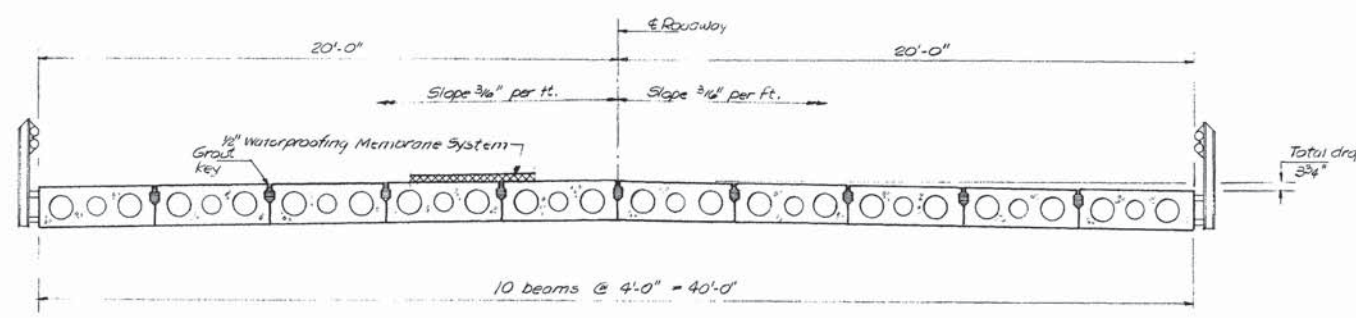
GENERAL PLAN & ELEVATION
 F.A.S. RTE. 272 - COUNTY HWY. 6
 SECTION 79-00024-01-BR
 LASALLE COUNTY
 STATION 10+20



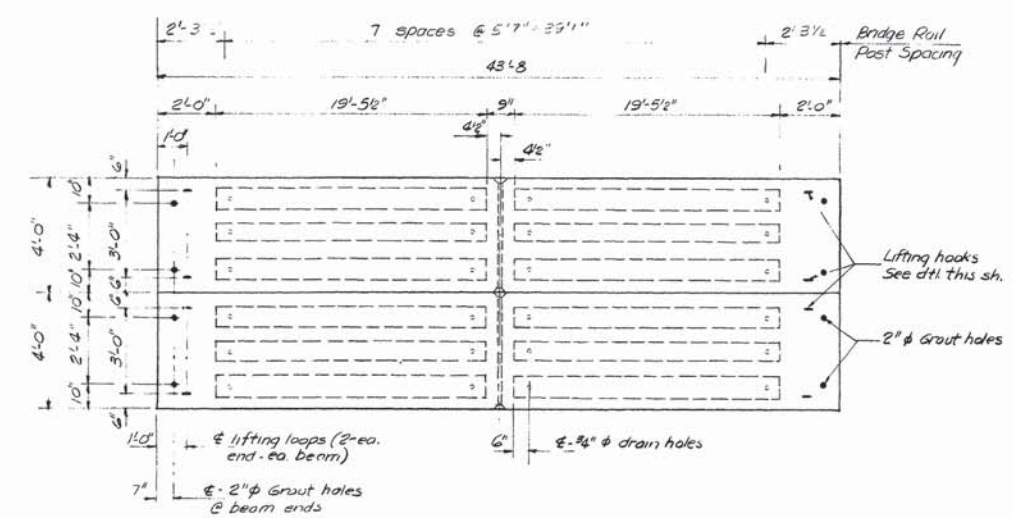
EXISTING STRUCTURE PLANS

SHEET NO. 1	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	28
5 SHEETS	S.N. 050-3613		CONTRACT NO. 87587		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0272(111)		

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
79-0024	01	LASALLE	43	29
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



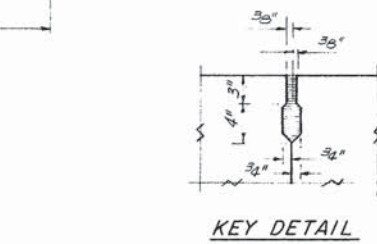
CROSS SECTION



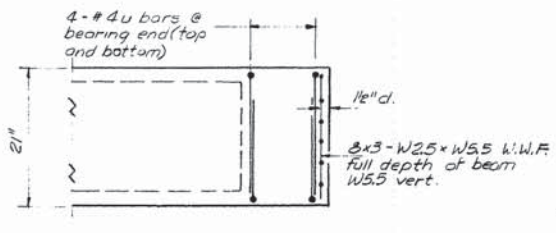
PLAN - DECK BEAMS

PRECAST NOTES

Pre-stressing steel shall be non-galvanized, extra strength, stress relieved 7-wire strand, Grade 270. The nominal diameter shall be 2" and the nominal cross-sectional area shall be 0.153 sq. in.
 Lifting loops shall be 3/8" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 33,000 lbs.
 The 1" rod in the transverse tie assembly shall be tightened to a snug fit and the threads set. Dockets that receive transverse tie rods on outside shall be filled with grout after transverse tie assembly is in place.
 Longitudinal shear keys shall be packed with a very dry mix of 2:1 sand and PC mortar. After beams have been erected, holes for the dowel anchors shall be drilled into the substructure and the anchor dowels shall be grouted in place.
 Cost of reinforcement and accessories cast into the beams, of bearing pads, and of grouting longitudinal shear keys is included in the unit price for "Precast Prestressed Concrete Deck Beams."
 After fabrication the transverse tie assembly (tie rods, nuts, washers and sleeves) shall be hot dipped galvanized in accordance with A.A.S.H.T.O. M232.
 Reinforcement bars shall conform to A.A.S.H.T.O. M31 or M53, Grade 60.



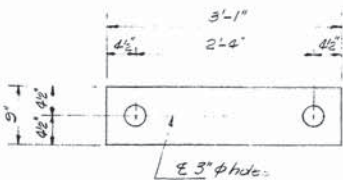
KEY DETAIL



END BLOCK REINF.

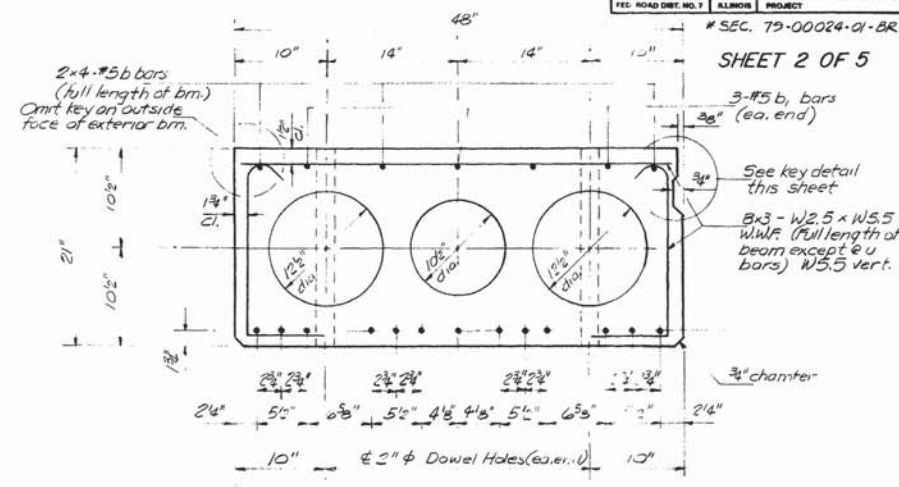


BAR U

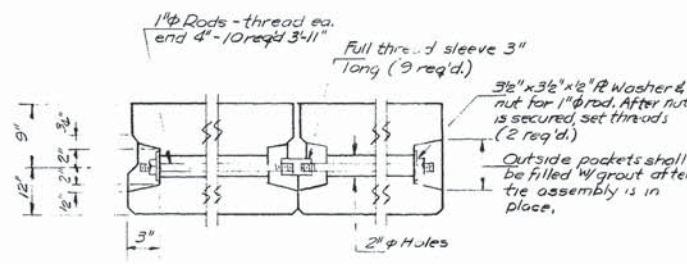


FABRIC BEARING PAD

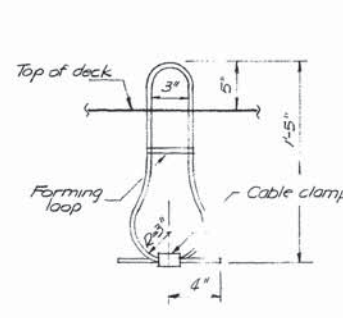
1/2" thick
(20 Reqd. - J)



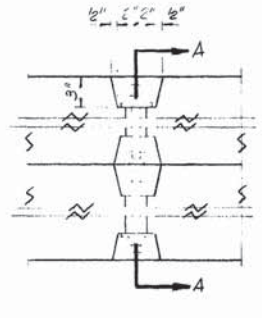
TYPICAL SECTION



SECTION A-A



LIFTING LOOP DETAIL



TRANSVERSE TIE ASSEMBLY

BILL OF MATERIALS (10-48" BEAMS)

BAR	NO	SIZE	LENGTH	SHAPE	
D	80	#5	22'-6"		
b	60	#5	5'-3"		
U	100	#4	6'-5"		
Precast Prestressed Conc Deck Beams				21" sq. ft.	1,747

SUPERSTRUCTURE
 F.A.S. RTE. 272 - COUNTY HWY. 6
 SECTION 79-00024-01-BR
 LASALLE COUNTY
 STATION 10+20

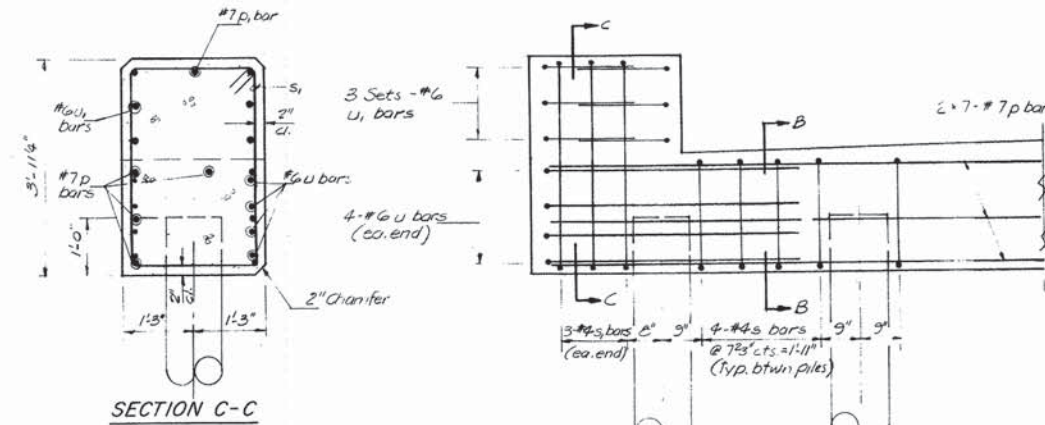
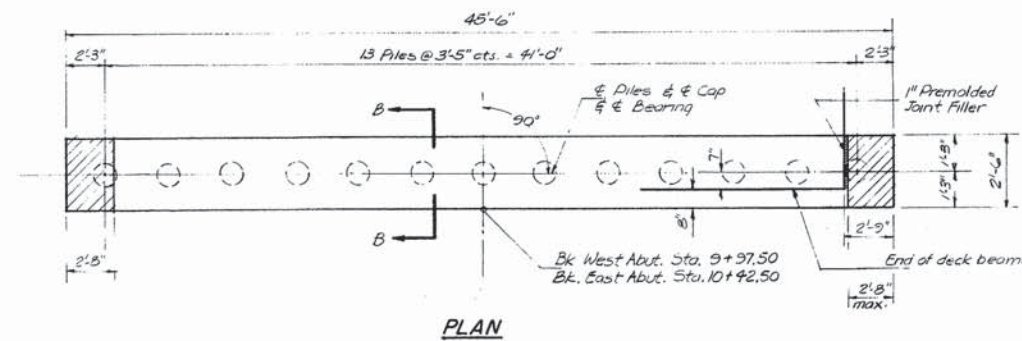
 HANSON ENGINEERS INCORPORATED SPRINGFIELD, ILLINOIS PEORIA, ILLINOIS	PLAN NO. 79005 DATE 3-27-77
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EXISTING STRUCTURE PLANS

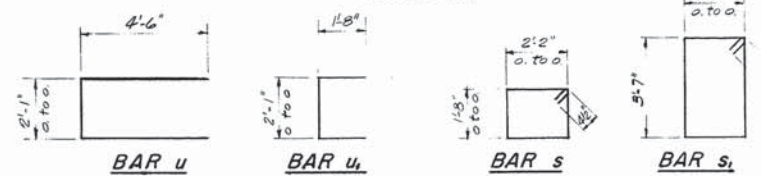
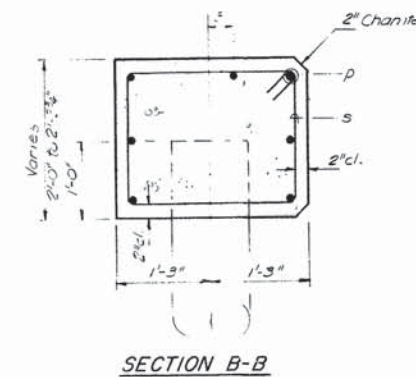
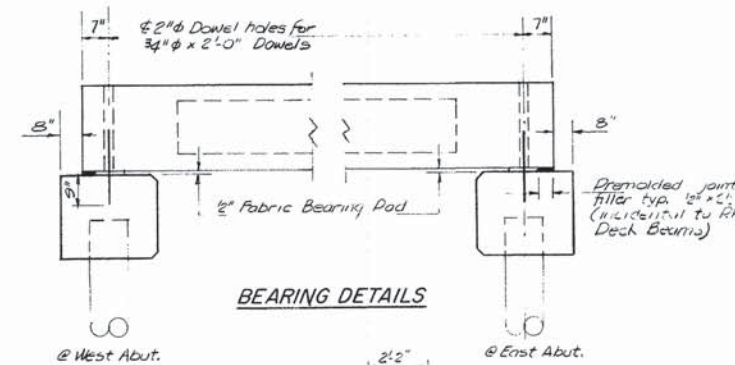
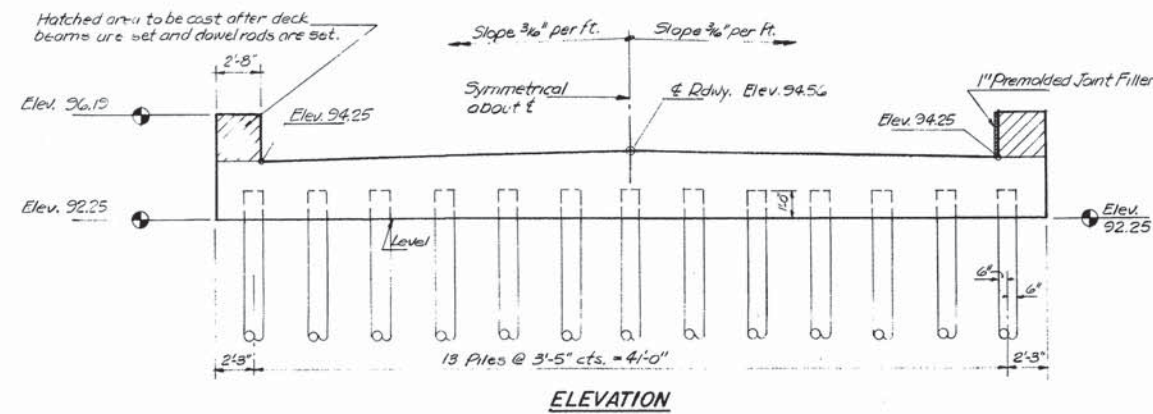
SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	29
5 SHEETS	S.N. 050-3613		CONTRACT NO. 87587		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0272(111)		

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 272	#	LASALLE	7	5
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	
+ SEC. 79-00024-01-BR				

SHEET 3 OF 5



REINFORCEMENT DETAIL



BILL OF MATERIAL (2 ABUTMENTS)

ITEM	UNIT	TOTAL
Class X Concrete	cu. yd.	19.9
Reinforcement Bar	lbs.	2,483
Treated Timber	f.b.m.	7,512
Hardware	lbs.	4,056*
Furn. Creosoted Piles (20' to 38')	lin. ft.	1,135
Driving Timber Piles	lin. ft.	1,135
Test Pile (Timber)	ea.	1

* Includes 3/2% for galvanizing

PILE DATA

Abutments
 Type Creosoted Timber
 No. Req'd. #26
 Est. Length 23
 Capacity 18 tons

Wingwalls
 Type Creosoted Timber
 No. Req'd. 20
 Est. Length 28
 Capacity Min. tp elev. 68.3

Note: Prepare a 10" diameter hole a minimum of 12'-0" below streambed, then drive to capacity.
 * includes 1 - test pile.

BILL OF MATERIAL (2 PILE CAPS)

BAR	NO	SIZE	LENGTH	SHAPE
P	28	#7	23'-10"	—
A	4	#7	2'-4"	—
S	96	#4	5'-5"	□
S	12	#4	18'-3"	□
U	16	#6	11'-1"	—
U	24	#6	5'-6"	—
Class X Concrete	cu. yd.		19.9	
Reinforcement Bars	lbs.		2,483	

PILE CAP DETAILS
 F.A.S. RTE. 272 - COUNTY HWY. 6
 SECTION 79-00024-01-BR
 LASALLE COUNTY
 STATION 10+20

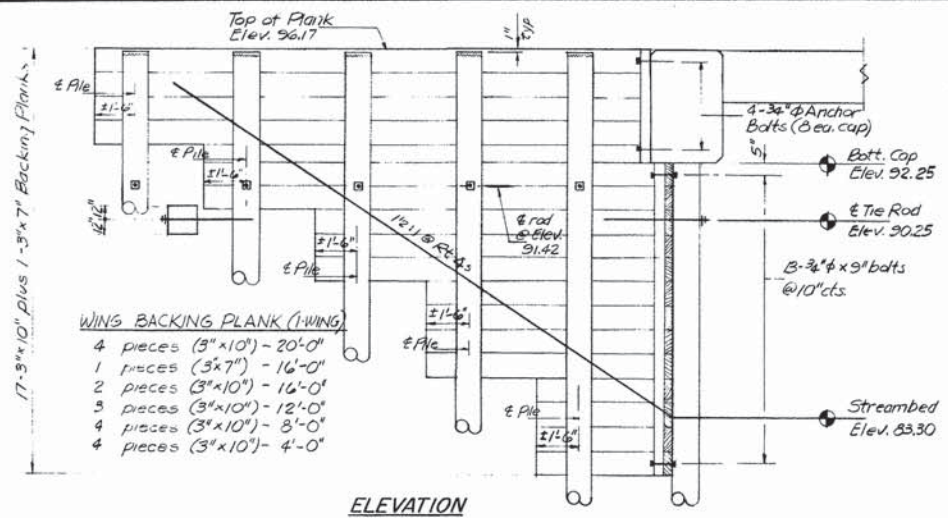
DESIGNED: DNF
 CHECKED: FEE
 DRAWN: S.D.B.
 APPROVED: N.F.

HANSON ENGINEERS
 INCORPORATED
 SPRINGFIELD, ILLINOIS
 PEORIA, ILLINOIS

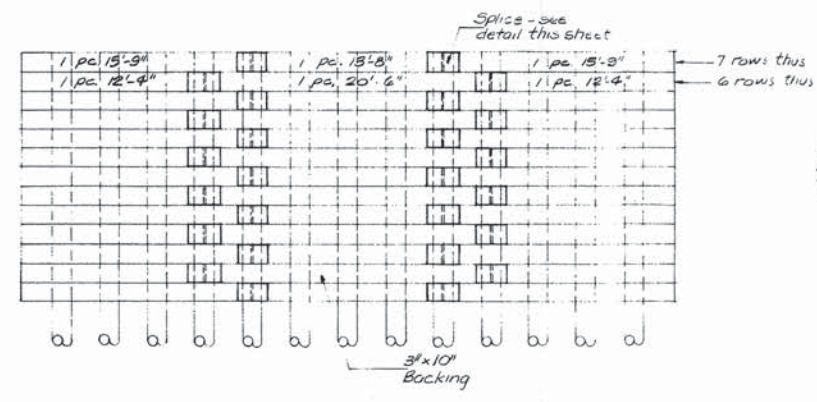
FILE NO. 78095
 DATE 5-27-79

EXISTING STRUCTURE PLANS

SHEET NO. 3	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	16-00731-00-BR	LASALLE	43	30
5 SHEETS	S.N. 050-3613		CONTRACT NO. 87587		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0272(111)		

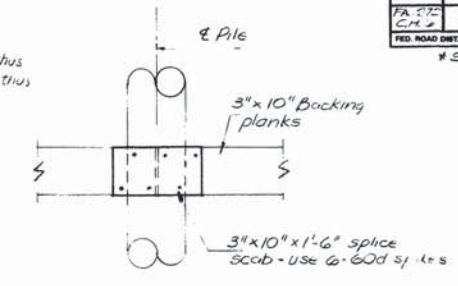


ELEVATION



ELEVATION-BACKING PLANK

Note: Backing plank shall be fastened to each pile and nailer with 3-60d nails.

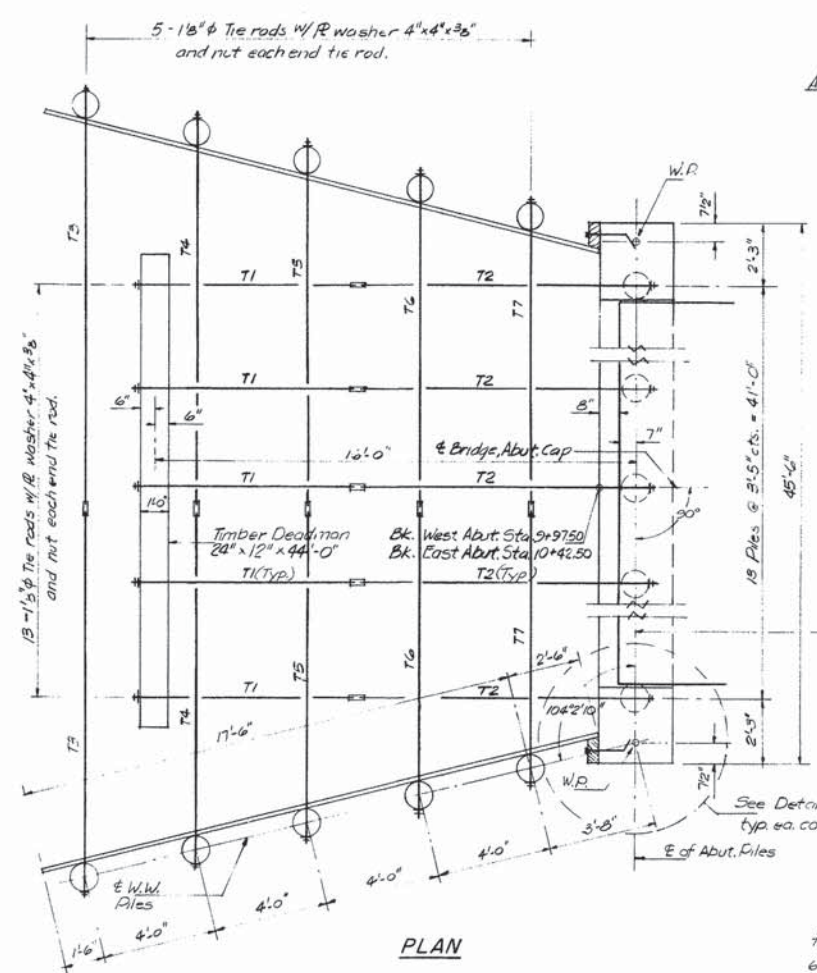


SPLICE DETAIL

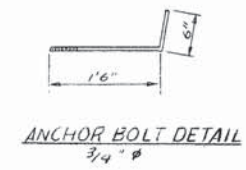
HARDWARE

ITEM	NO.	SIZE
Plate Washers	72	6" x 1" x 3/4"
Cut Washers	120	3/4" φ
Anchor Bolts w/nut	16	3/4" φ
Bolts w/ nuts	52	3/4" φ x 0-9"
Turnbuckles	36	1-1/2" φ x 12"
Spikes	2,324	60d
T-1	26	1-1/2" φ x 8'-10"
T-2	26	1-1/2" φ x 8'-10"
T-3	4	1-1/2" φ x 27'-9"
T-4	4	1-1/2" φ x 26'-9"
T-5	4	1-1/2" φ x 25'-10"
T-6	4	1-1/2" φ x 24'-10"
T-7	4	1-1/2" φ x 23'-10"
Total		43,117 lbs.

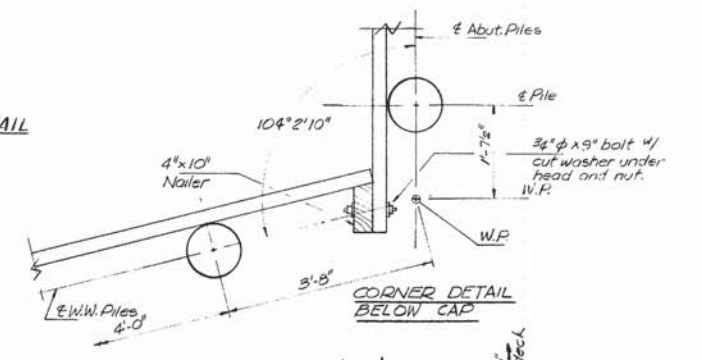
P.L. Item 1-Ea. Lump Sum



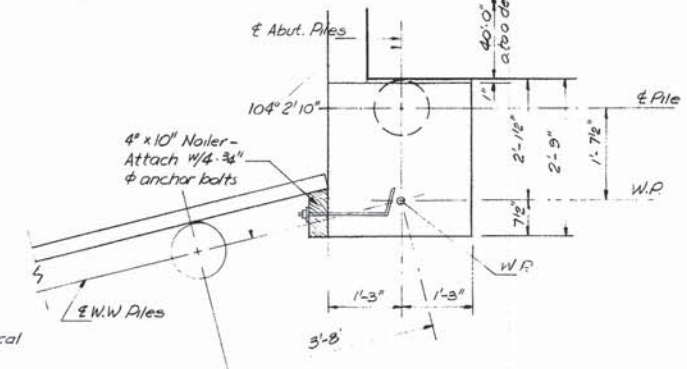
PLAN



ANCHOR BOLT DETAIL

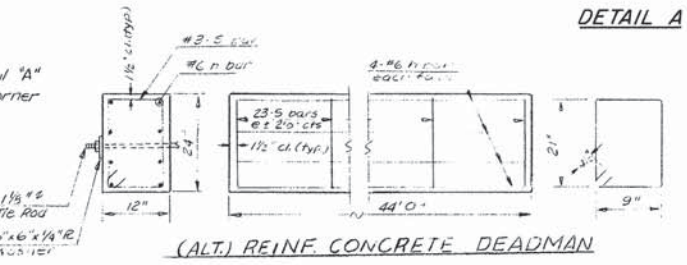


CORNER DETAIL BELOW CAP



CORNER DETAIL AT CAP

DETAIL A



BAR SIZE MATERIALS

BAR SIZE	NO.	LENGTH	SHAPE
5 #3	23	5'-9"	□
1 #6	16	42'-9"	□

REINFORCEMENT IN 100' 596
CLAS. & CONCRETE G. V. 2.3
* for one concrete deadman only

LUMBER

ITEM	PCS	LENGTH	SIZE
Abutment Backing	28	15'-2"	3" x 10"
	14	13'-8"	3" x 10"
	24	12'-4"	3" x 10"
	12	20'-6"	3" x 10"
Wing Backing	16	20'-0"	3" x 10"
	4	16'-0"	3" x 7"
	3	16'-0"	3" x 10"
	12	12'-0"	3" x 10"
	16	8'-0"	3" x 10"
	16	4'-0"	3" x 10"
Nailers	4	14'-9"	4" x 10"
Splice Scab	52	1'-6"	3" x 10"
* Deadman	2	44'-0"	24" x 12"
Total			7512 RBM

* A precast-in-place reinforced concrete deadman may be used in place of the treated timber deadman. A lump sum will be paid for all the unit prices bid for Class "X" Concrete and Reinforcement bars. (See Detail this sheet)

ABUTMENT & WINGWALL DETAILS
F.A.S. RTE. 272 - COUNTY HWY 6
SECTION 79-00024-01-BR
LASALLE COUNTY
STATION 10+20

DESIGNED DNF
CHECKED PER
DRAWN GDZ
CHECKED DNF

HANSON ENGINEERS
INCORPORATED
SPRINGFIELD ILLINOIS PERDIA ILLINOIS

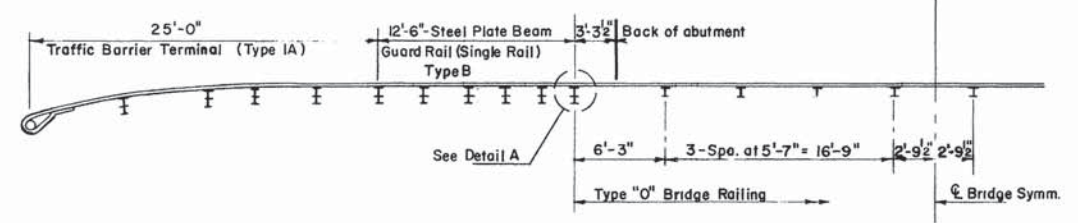
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DATE 5-27-75

EXISTING STRUCTURE PLANS

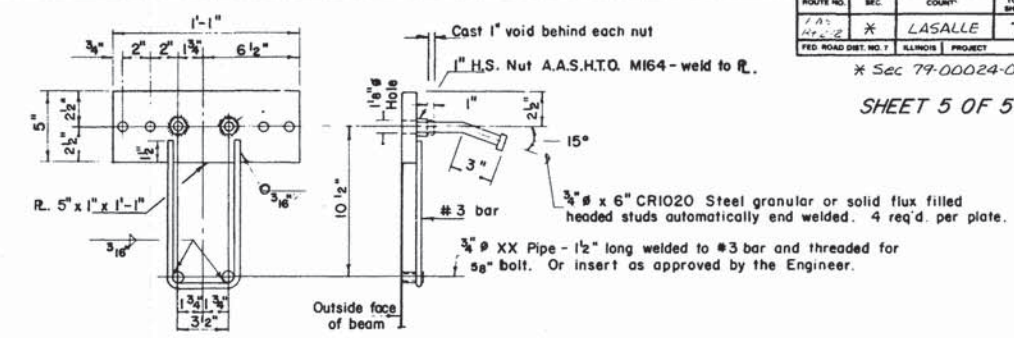
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5 SHEETS	272	16-00731-00-BR	LASALLE	43	31
S.N. 050-3613			CONTRACT NO. 87587		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)		

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
7A	272	LASALLE	7	7
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT				

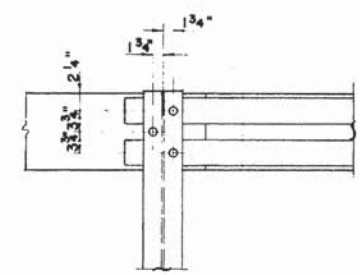
* Sec 79-00024-01-BR
SHEET 5 OF 5



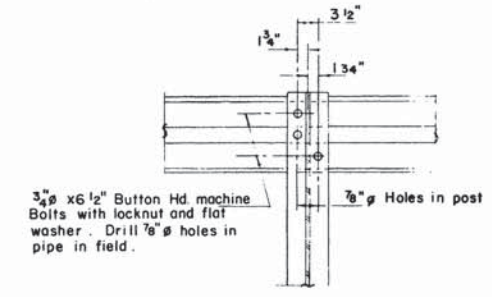
TYPICAL APPROACH GUARD RAIL & BRIDGE RAIL LAYOUT
 See Std. 2230-11 & 2336



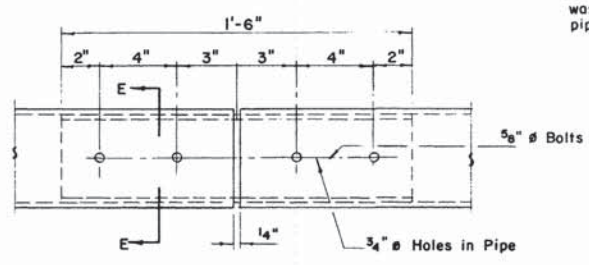
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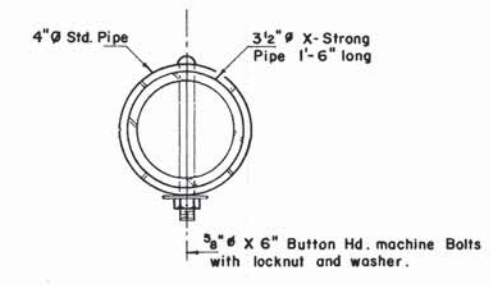
DETAIL A



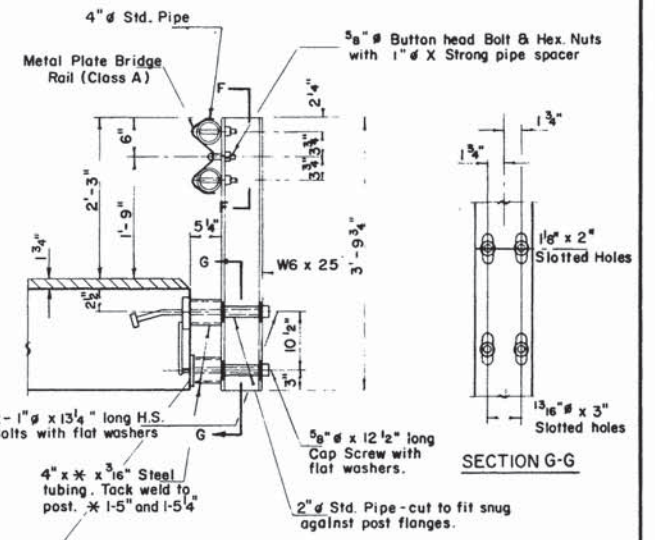
SECTION F-F



TOP VIEW AT RAIL SPLICE



SECTION AT RAIL SPLICE E-E



TYPICAL SECTION AT RAIL POST

GENERAL NOTES

- Steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. M-183 except as noted. Posts shall conform to A.A.S.H.T.O. M-223, Grade 50
- Bolts, cap screws, and nuts shall conform to the requirements of A.S.T.M. designation A-307 except for high strength bolts, nuts, and washers noted shall conform to A.A.S.H.T.O. M-164
- All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with A.A.S.H.T.O. M-232
- All posts, railing, rail splices, anchor devices and angles shall be galvanized in accordance with A.A.S.H.T.O. M-111 and A.S.T.M. A-385 after shop fabrication. Galvanized rail shall not be painted.
- All field drilled holes shall be coated with an approved zinc rich paint before erection.
- The lower portion of the post flange or spacer in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place 1/8" fabric bearing pad between the post and concrete.
- Steel railing shall be in accordance with Section 508 of the Std. Spec. except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE O.
- Steel tubing for rails shall conform to A.S.T.M. A-500 Grade B.
- The 1" high strength bolts connecting the post to the concrete shall be tightened to a snug fit and given an additional 1/8 turn.

RAILING DETAIL
 F.A.S. RTE. 272 - COUNTY HWY. 6
 SECTION 79-00024-01-BR
 LASALLE COUNTY
 STATION 10+20

DESIGNED BY DNF
 CHECKED BY PEB
 DRAWN BY J.L.H.
 CHECKED BY DNF

HANSON ENGINEERS
 INCORPORATED
 PEORIA, ILLINOIS

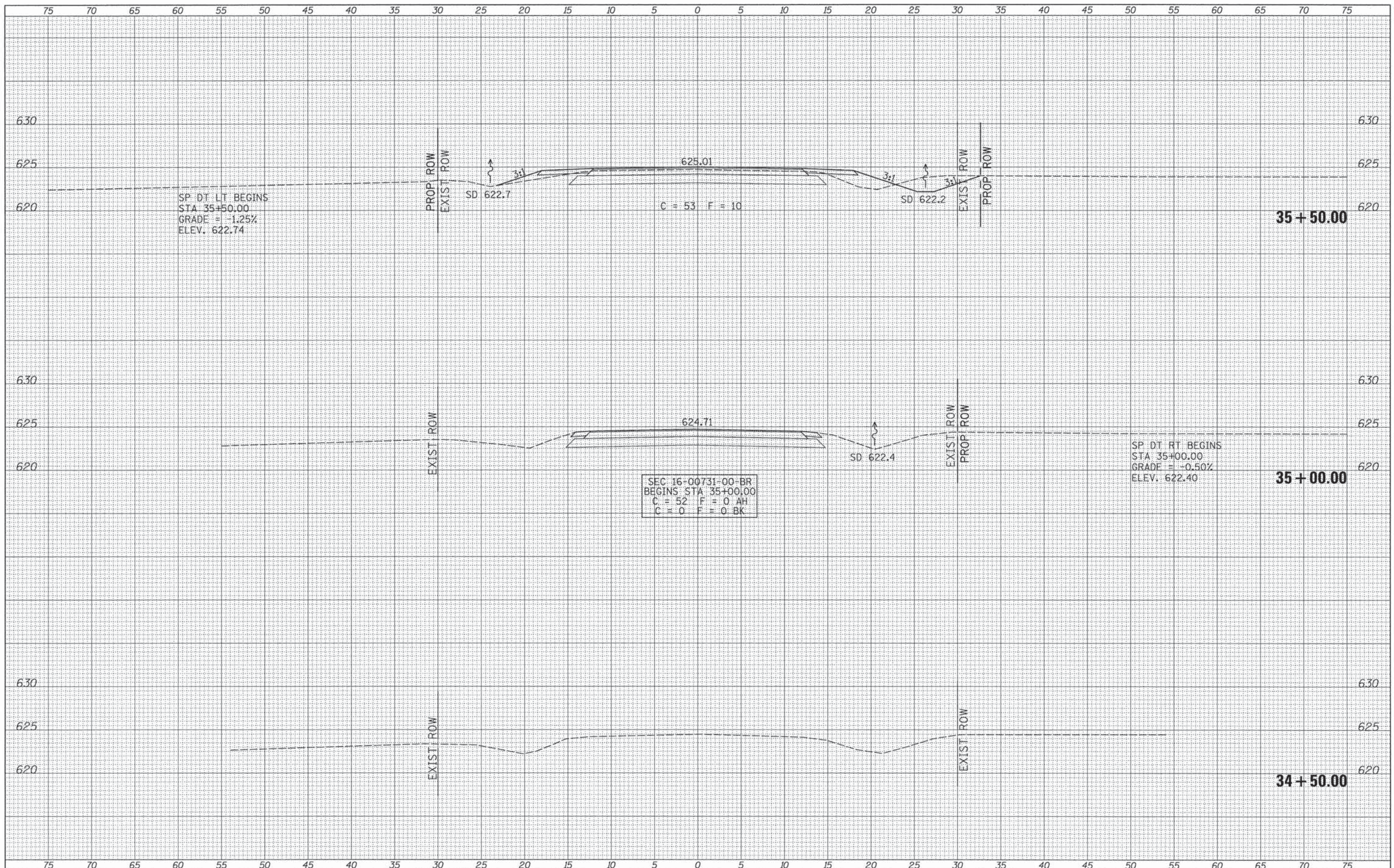
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SHEET NO. 5		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5 SHEETS		272	16-00731-00-BR	LASALLE	43	32
		S.N. 050-3613		CONTRACT NO. 87587		
		FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT BRS-0272(111)			

EXISTING STRUCTURE PLANS

DATE	
BY	
FINISHED SURVEY	
NOTED BOOK	
NO.	
SUBMITTED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NOTED BOOK	
NO.	
SUBMITTED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	



SP. DT. LT. BEGINS
 STA. 35+50.00
 GRADE = -1.25%
 ELEV. 622.74

SEC. 16-00731-00-BR
 BEGINS STA. 35+00.00
 C = 52 F = 0 AH
 C = 0 F = 0 BK

SP. DT. RT. BEGINS
 STA. 35+00.00
 GRADE = -0.50%
 ELEV. 622.40

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	DATE -	REVISED -

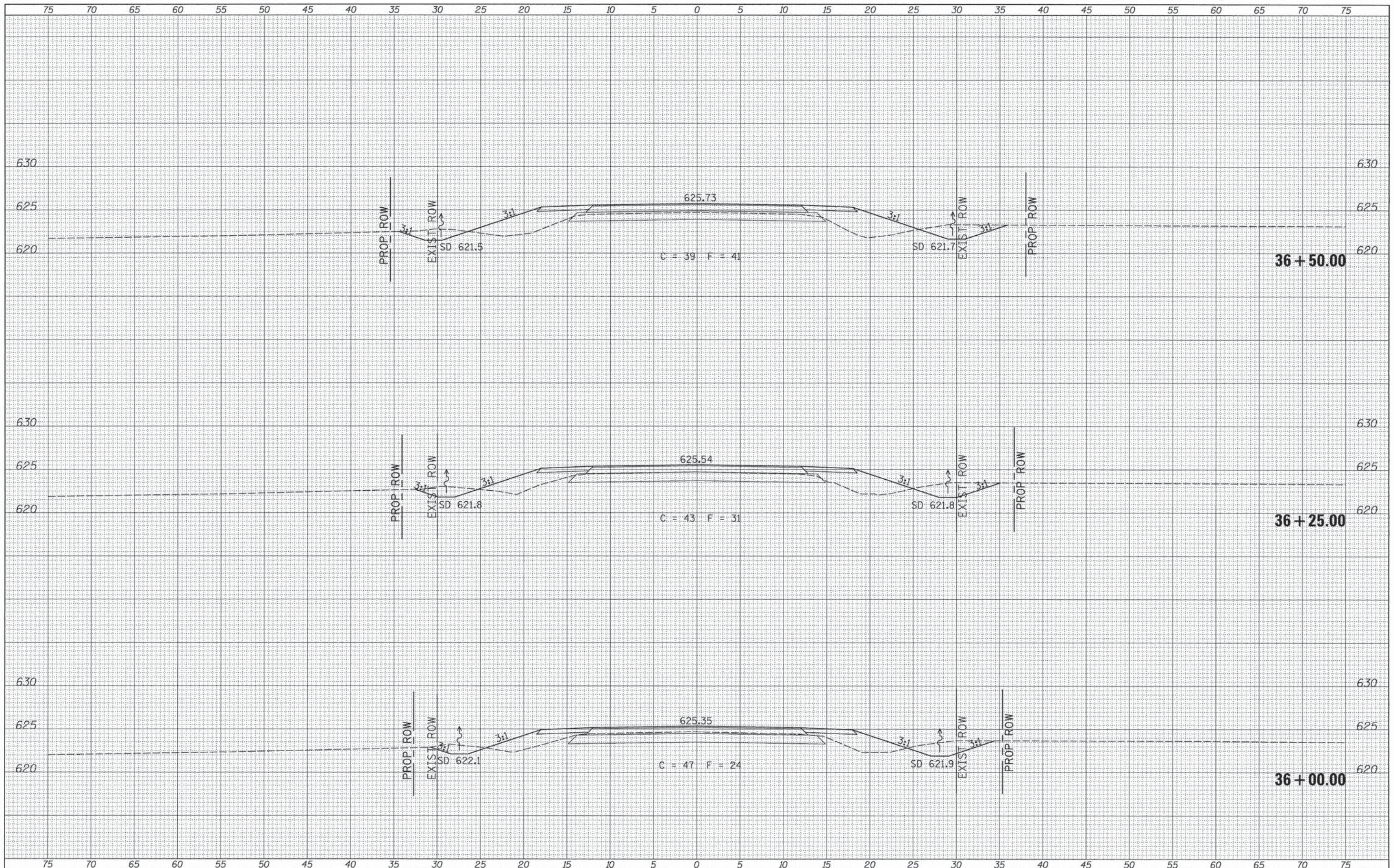
**LASALLE COUNTY
 COUNTY HIGHWAY 6
 OVER COVELL CREEK**

CROSS SECTIONS
 SCALE: 1"=5'
 SHEET 1 OF 11 SHEETS
 STA. 34+50.00 TO STA. 35+50.00

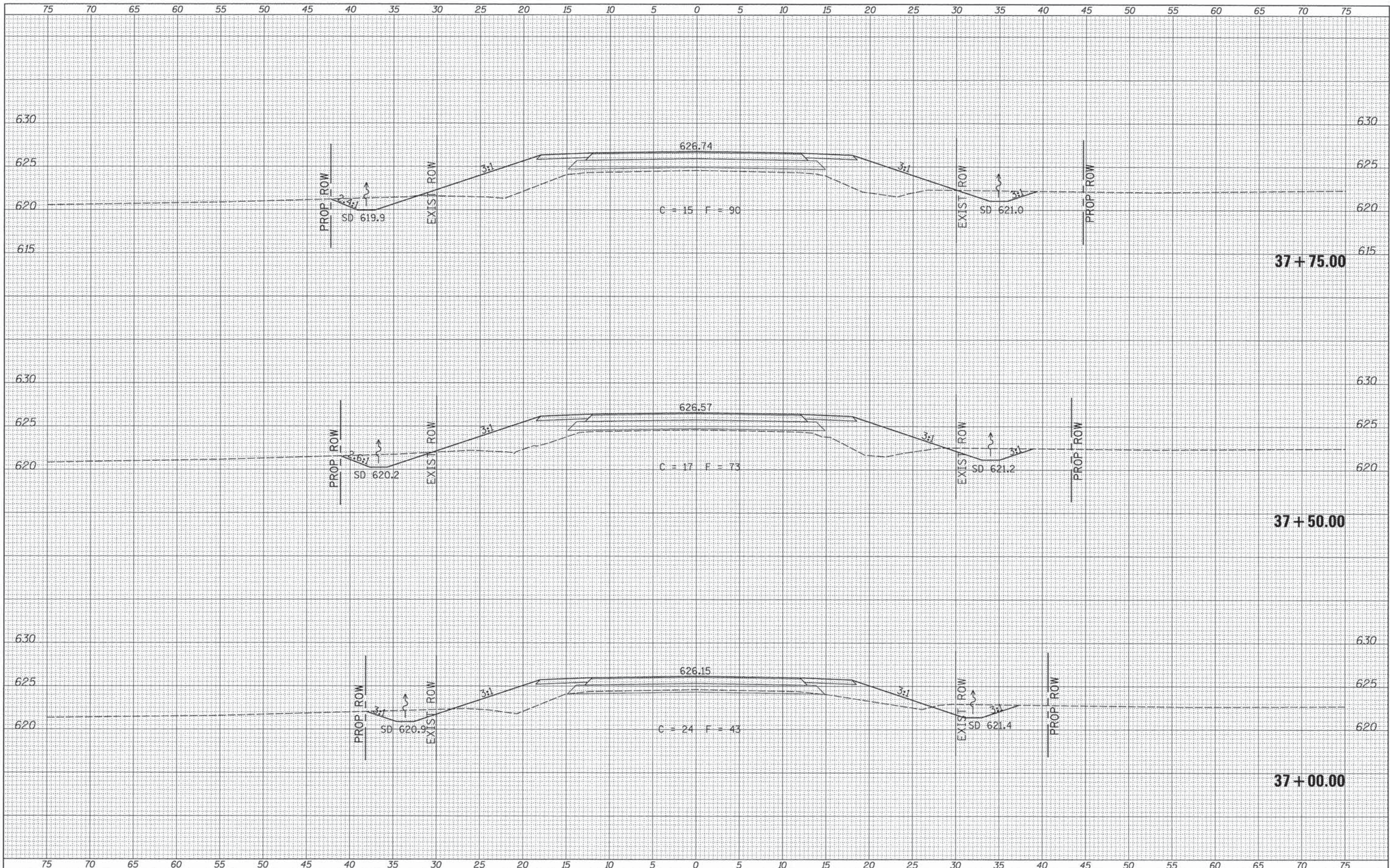
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FED. ROAD DIST. NO. 7 [ILLINOIS]			CONTRACT NO. 87587	
FED. AID PROJECT BRS-0272(111)				

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		DATE -	REVISED -			FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BR5-0272(111)			



DATE	
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NOTE BOOK	PLOTTED
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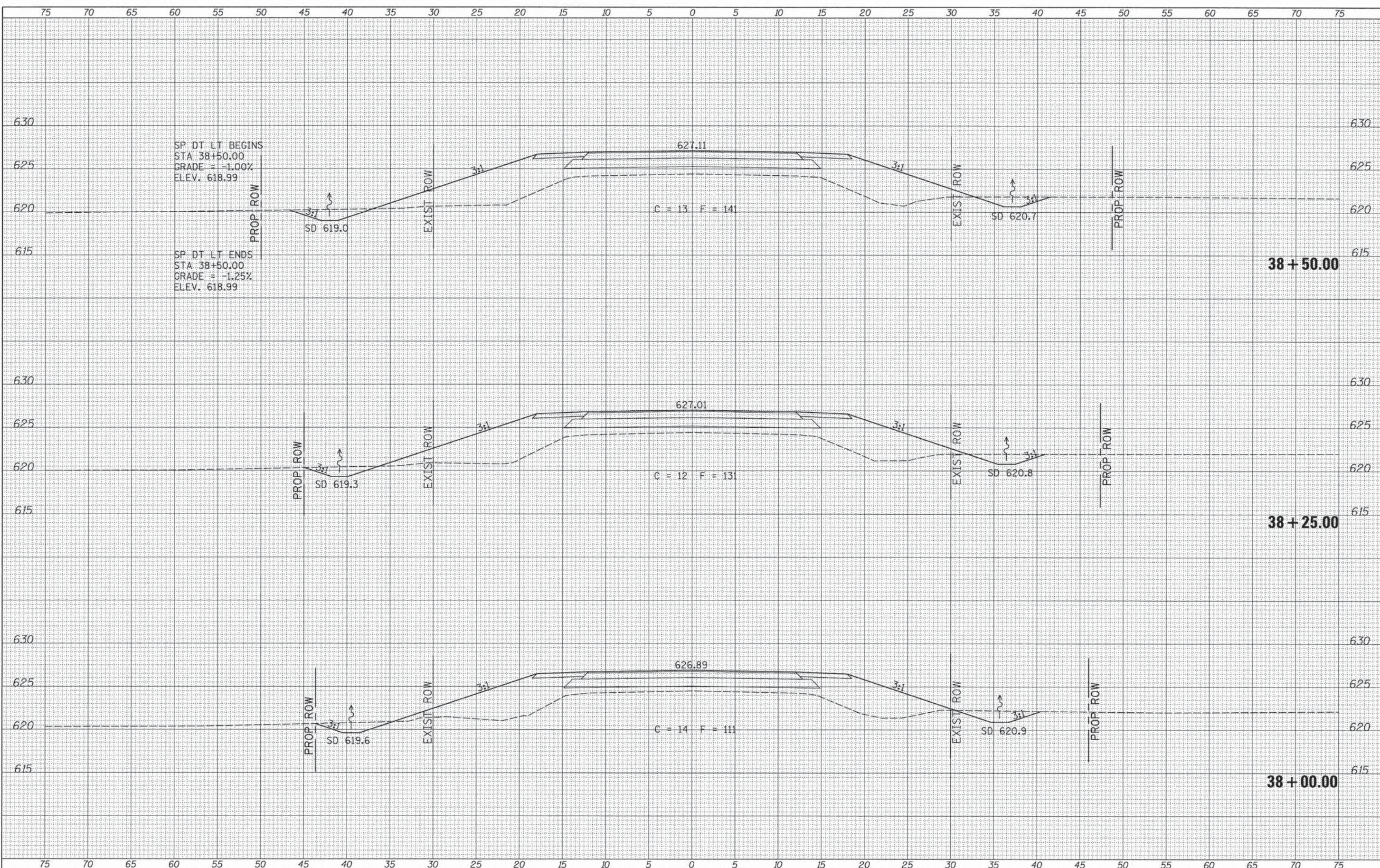
**LASALLE COUNTY
COUNTY HIGHWAY 6
OVER COVEL CREEK**

CROSS SECTIONS			
SCALE: 1"=5'	SHEET 3	OF 11 SHEETS	STA. 37+00.00 TO STA. 37+75.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	16-00731-00-BR	LASALLE	43	35
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BR5-0272111D	

DATE	
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SURVEY	
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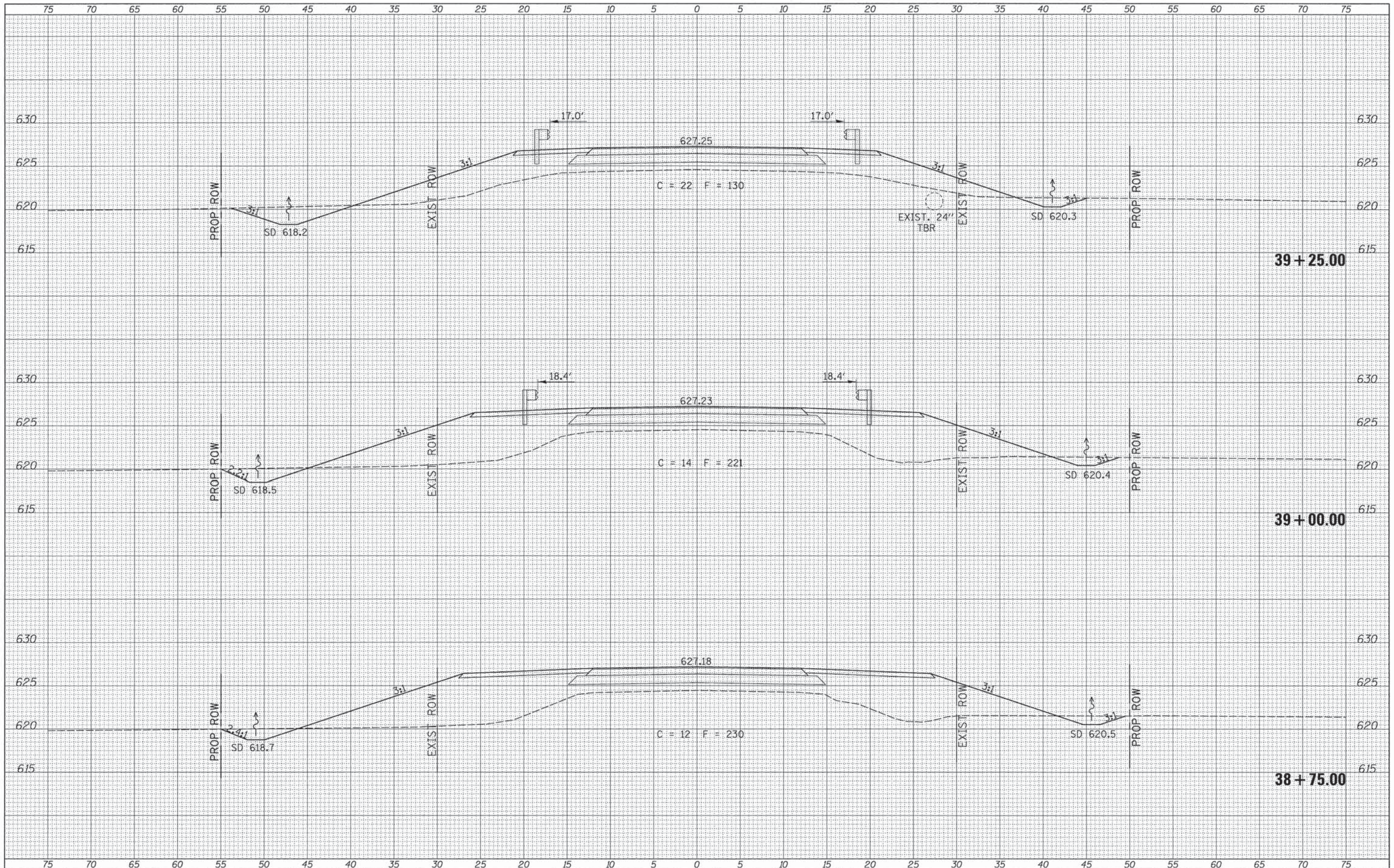
**LASALLE COUNTY
 COUNTY HIGHWAY 6
 OVER COVEL CREEK**

CROSS SECTIONS
 SCALE: 1"=5'
 SHEET 4 OF 11 SHEETS
 STA. 38+00.00 TO STA. 38+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	16-00731-00-BR	LASALLE	43	36
CONTRACT NO. 87587			FED. ROAD DIST. NO. 7 ILLINOIS	
FED. AID PROJECT BR5-0272(11)				

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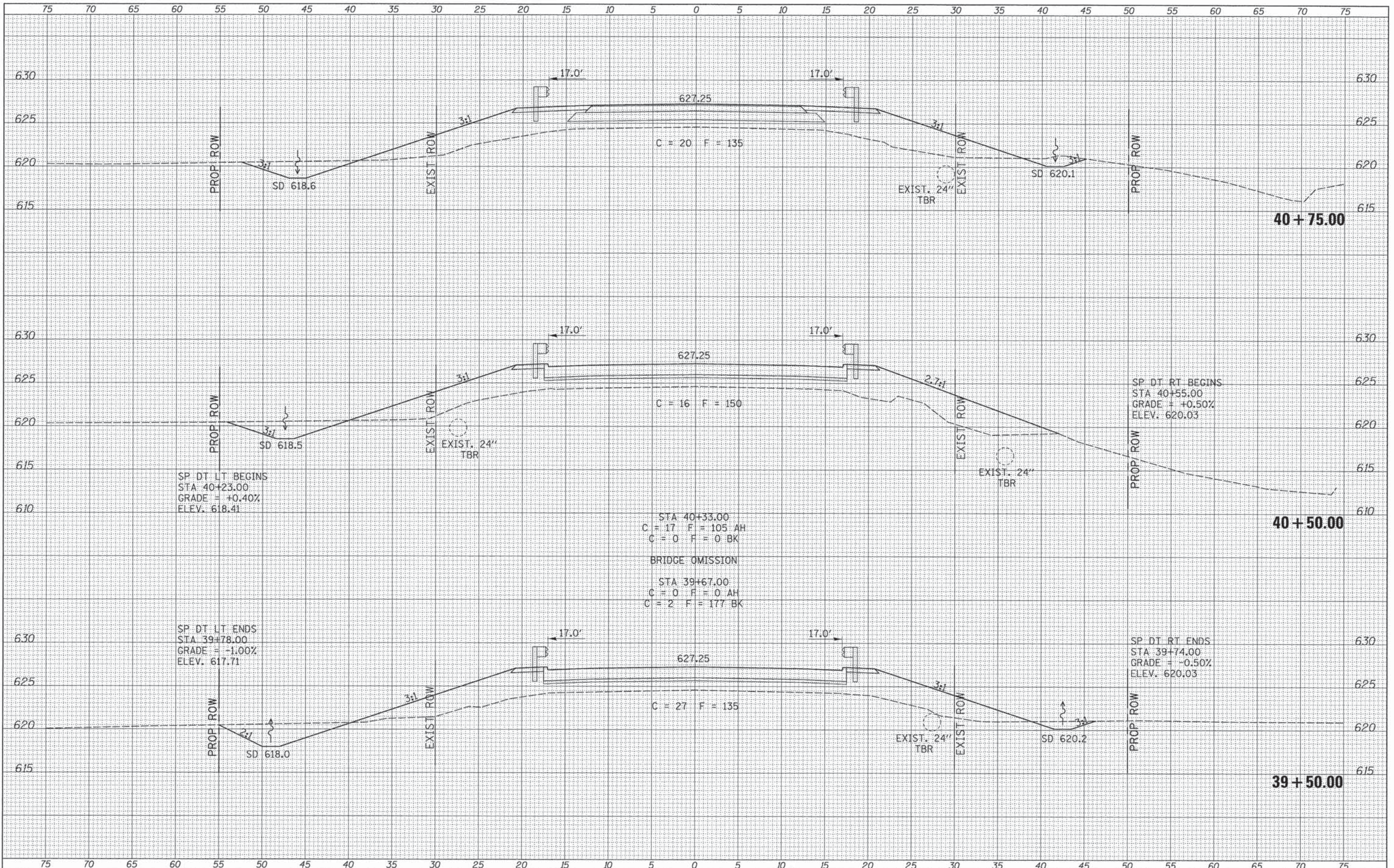
**LASALLE COUNTY
 COUNTY HIGHWAY 6
 OVER COVEL CREEK**

CROSS SECTIONS
 SCALE: 1"=5'
 SHEET 5 OF 11 SHEETS
 STA. 38+75.00 TO STA. 39+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	16-00731-00-BR	LASALLE	43	37
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0272(111)	

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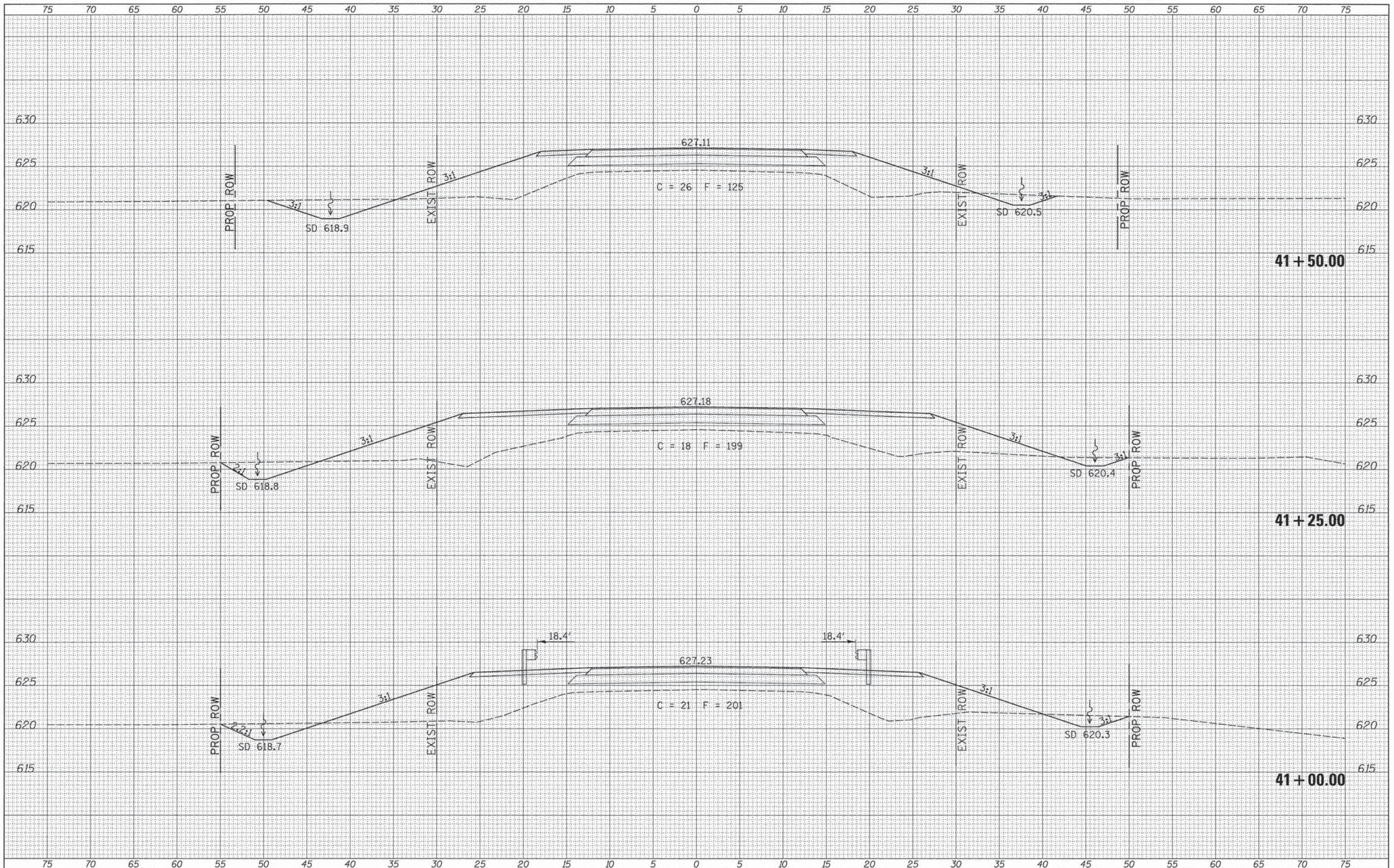
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	PLOT DATE = 1/29/2015	DATE -	REVISED -			FED. ROAD DIST. NO. 7 ILLINOIS						
						FED. AID PROJECT BR5-0272(11)						

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NOTE BOOK	
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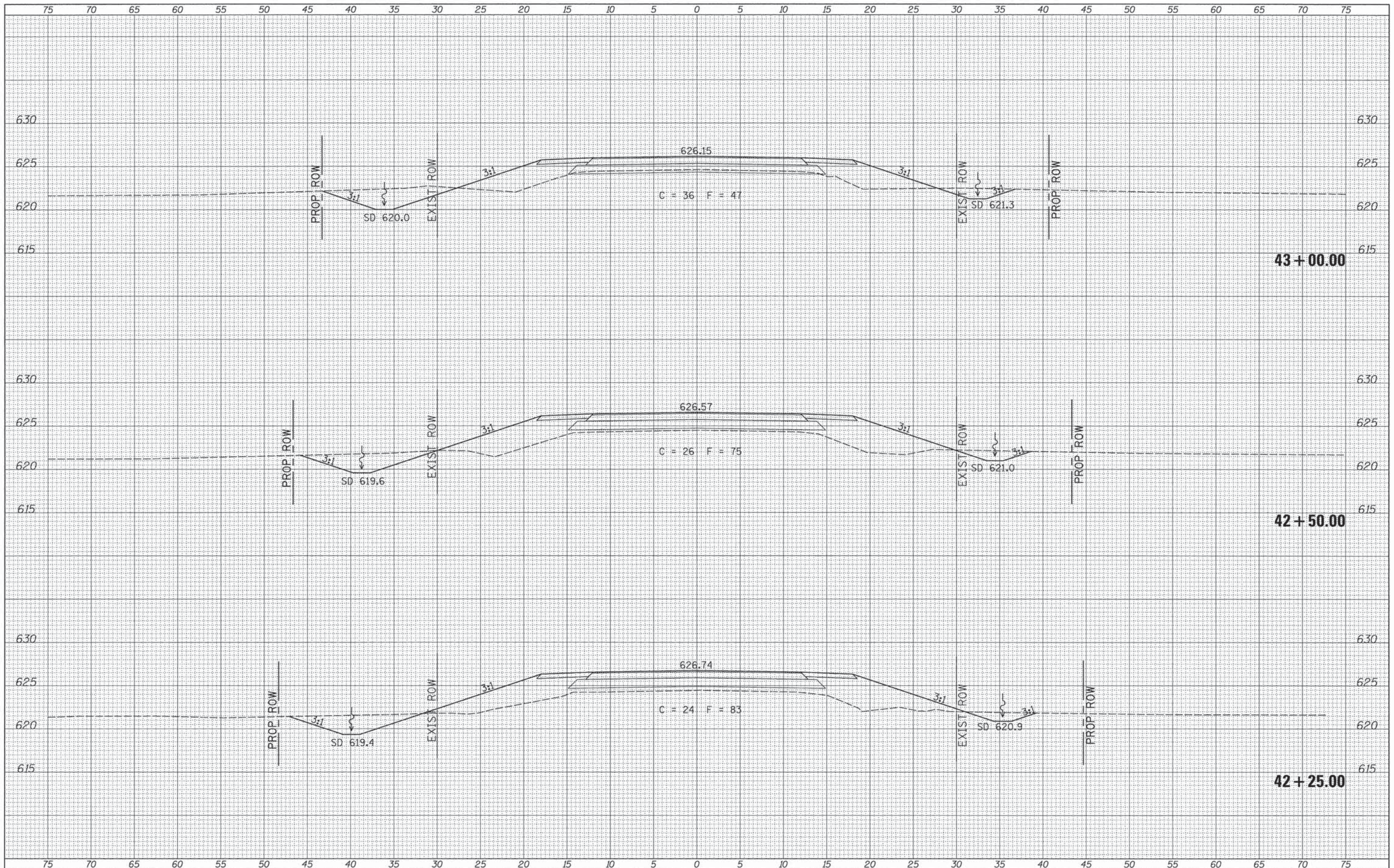
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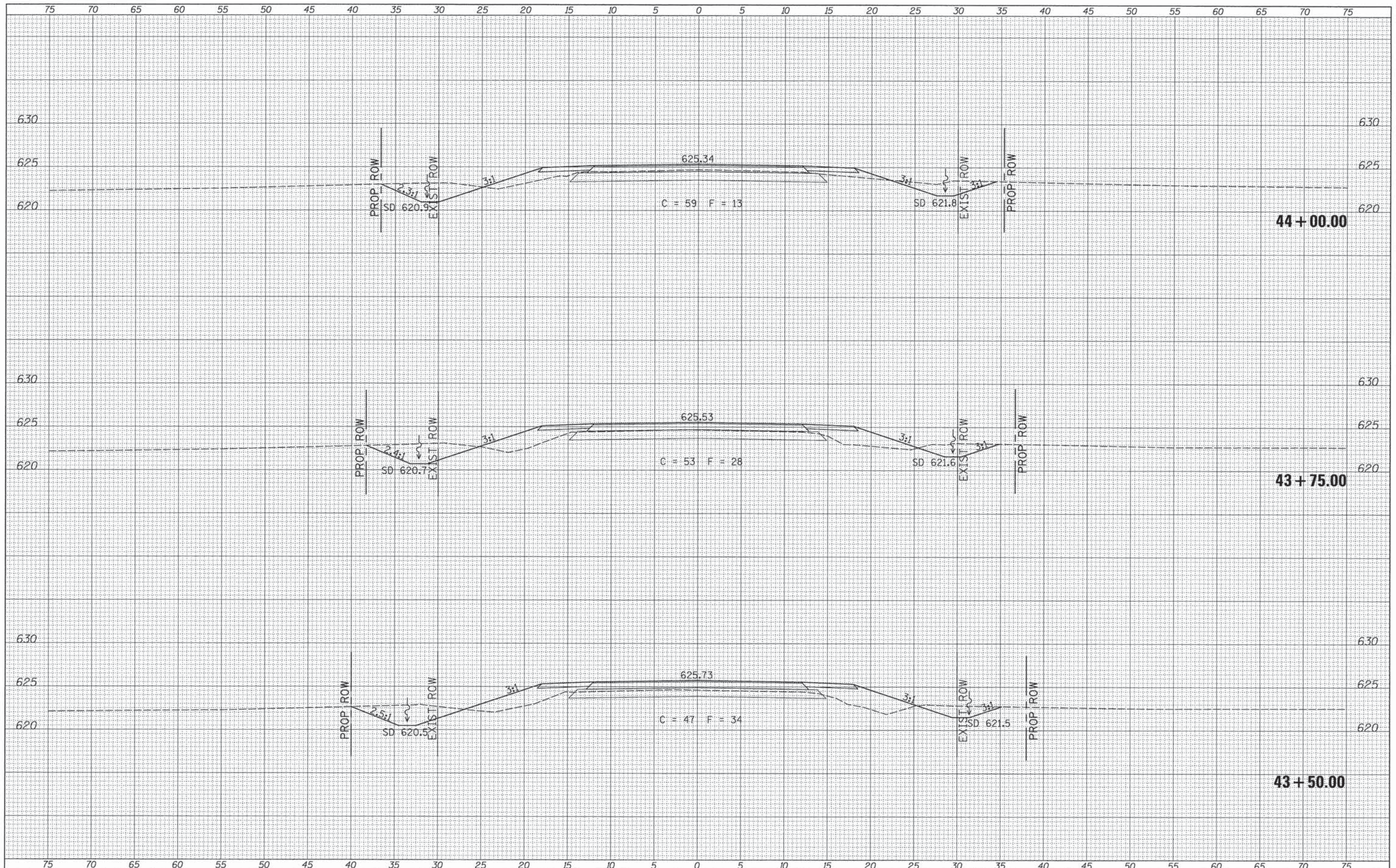
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		DATE -	REVISED -			FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BR5-0272(111)			

DATE	
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SUBMITTED	
PLOTTED	
TEMPLATE	
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FINAL SURVEY	
NOTE BOOK	
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ORIGINAL SURVEY	
NOTE BOOK	
NO.	



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PLOT DATE = 1/29/2015		

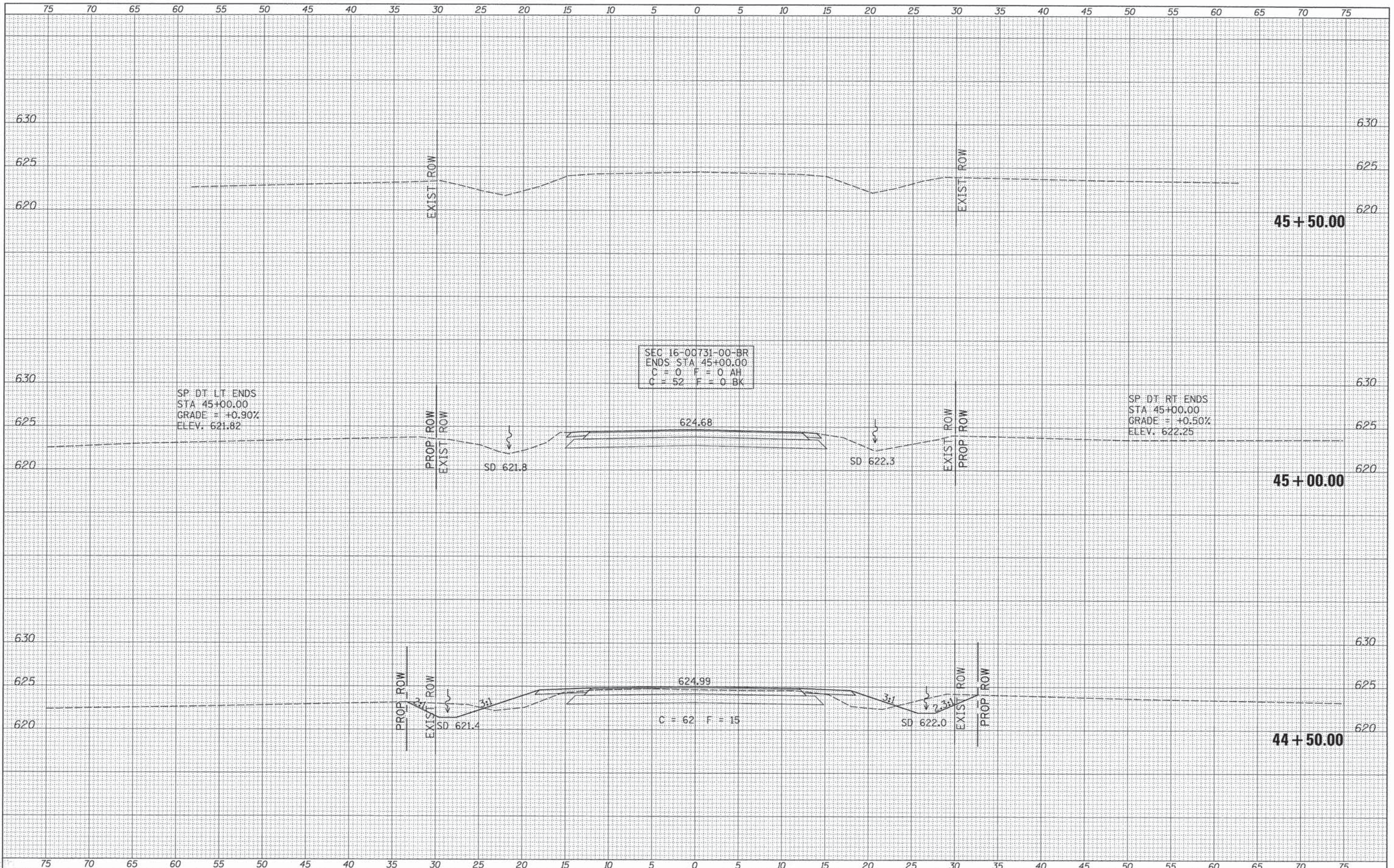
**LASALLE COUNTY
 COUNTY HIGHWAY 6
 OVER COVEL CREEK**

CROSS SECTIONS
 SCALE: 1"=5'
 SHEET 10 OF 11 SHEETS
 STA. 43+50.00 TO STA. 44+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	16-00731-00-BR	LASALLE	43	42
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BR5-0272(111)	
CONTRACT NO. 87587				

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 =	USER NAME = JHutchison	DESIGNED -	REVISED -	LASALLE COUNTY COUNTY HIGHWAY 6 OVER COVELL CREEK	CROSS SECTIONS		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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Default		CHECKED -	REVISED -		SCALE: 1"=5'		SHEET 11 OF 11 SHEETS		STA. 44+50.00 TO STA. 45+50.00		CONTRACT NO. 87587	
		DATE -	REVISED -		FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BR5-0272(11)					