

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6141	10-00649-00-BR	LASALLE	43	1
FED. ROAD DIST. NO. 7	ILLINOIS	CONTRACT NO. 87430		

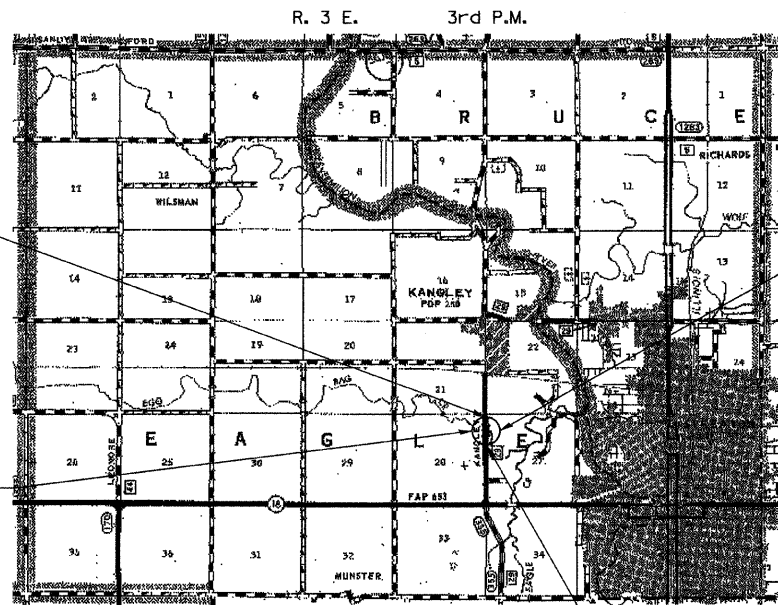
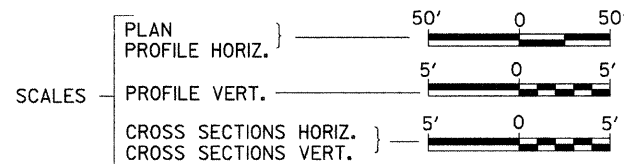
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM
LASALLE COUNTY
SECTION 10-00649-00-BR
F.A.U. 6141 (CH 29) OVER
EGG BAG CREEK
PROJECT NO. BRS-0099(043)
JOB NUMBER C-93-164-09

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES, DETAILS, TYPICAL SECTIONS
3.-4.	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
5.	TRAFFIC CONTROL PLAN
6.	EROSION CONTROL PLAN
7.	PLAN AND PROFILE
8.-28.	STRUCTURE PLANS
29.-33.	EXISTING STRUCTURE PLANS
34.-43.	CROSS SECTIONS

REQUIRED HIGHWAY STANDARDS

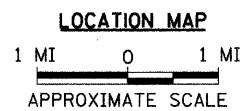
000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
442101-07	CLASS B PATCHES
515001-03	NAME PLATE FOR BRIDGES
542401-01	METAL END SECTION FOR PIPE CULVERTS
601101-01	CONCRETE HEADWALL FOR PIPE DRAIN
609006-05	BRIDGE APPROACH PAVEMENT (DRAIN DETAIL)
630001-08	STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-05	TRAFFIC BARRIER TERMINAL, TYPE 6A
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701901-01	TRAFFIC CONTROL DEVICES
780001-02	TYPICAL PAVEMENT MARKINGS
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



SECTION 10-00649-00-BR ENDS STATION 45+00.00

EXISTING STRUCTURE 050-3054 SINGLE SPAN 21" PPC DECK BEAM SUPERSTRUCTURE ON CONCRETE CAP WITH CONCRETE PLANK CLOSED ABUTMENTS ON STEEL PILES, 54'-4" BK. TO BK., AND 36'-0" O. TO O., NO SKEW (TO BE REMOVED)

PROPOSED STRUCTURE NO. 050-3593 SINGLE SPAN 48" P.P.C. I-DECK BEAM WITH CONCRETE DECK SUPERSTRUCTURE ON CONC. INTEGRAL ABUTMENTS, 87'-0" BK. TO BK. AND 37'-0" O. TO O., NO SKEW



NET LENGTH OF PROJECT = 850.00 FEET = 0.16 MILES
 DESIGN CLASSIFICATION: MAJOR-COLLECTOR (NON-URBAN)
 DESIGN ADT = 2650 (2029)
 DESIGN SPEED = 60 MPH

SECTION 10-00649-00-BR BEGINS STATION 36+50.00

UTILITY COMPANIES

- CommED
JOLIET, ILLINOIS
- NICOR GAS
OTTAWA, ILLINOIS
- MEDIACOM
ELBURN, ILLINOIS
- VERIZON
STREATOR, ILLINOIS
- ILLINOIS AMERICAN WATER CO.
STREATOR, ILLINOIS

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

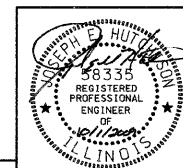
CONTRACT NO. 87430

PLANS DESIGNED IN ACCORDANCE WITH BUREAU OF LOCAL ROADS AND STREETS MANUAL 3R GUIDELINES FOR TWO LANE RURAL LOCAL ROADS

APPROVED Oct. 8 2009
Lawrence J. Kruger
 LASALLE COUNTY ENGINEER

PASSED 10-13 2009
Kenneth E. Ly
 DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS

Released For Bld Based on Limited Review 10-13 2009



George E. Ryan
 SIGNATURE

ENGINEER'S SEAL

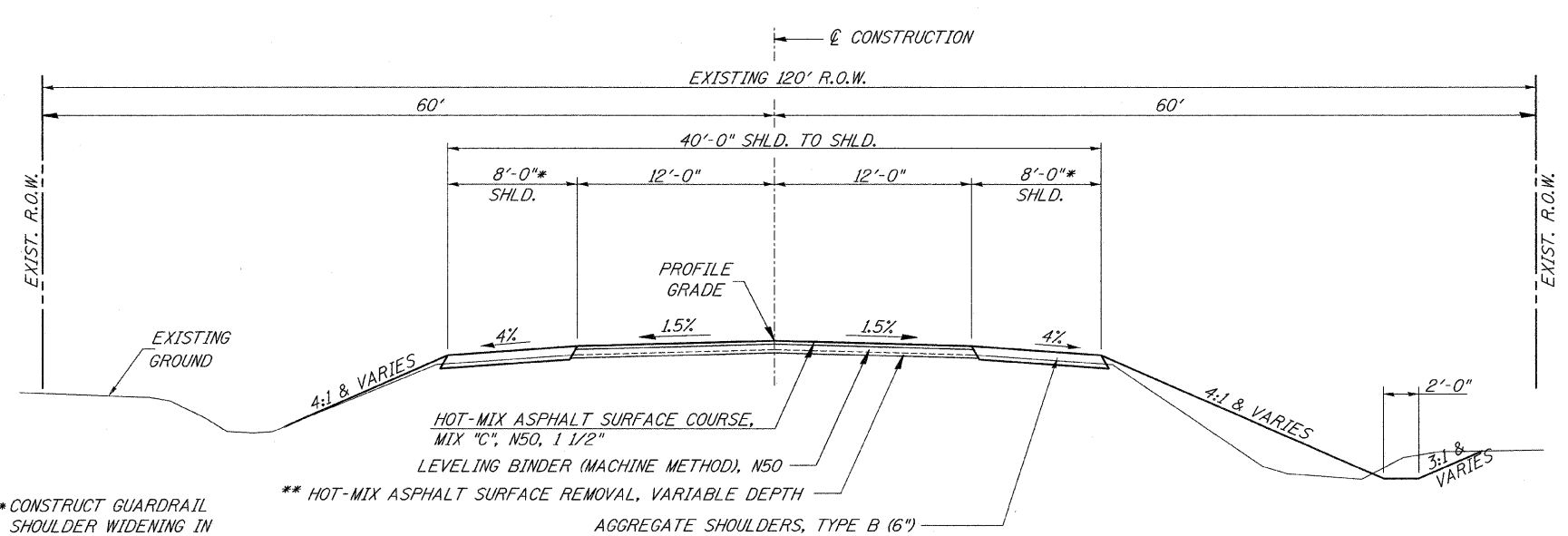
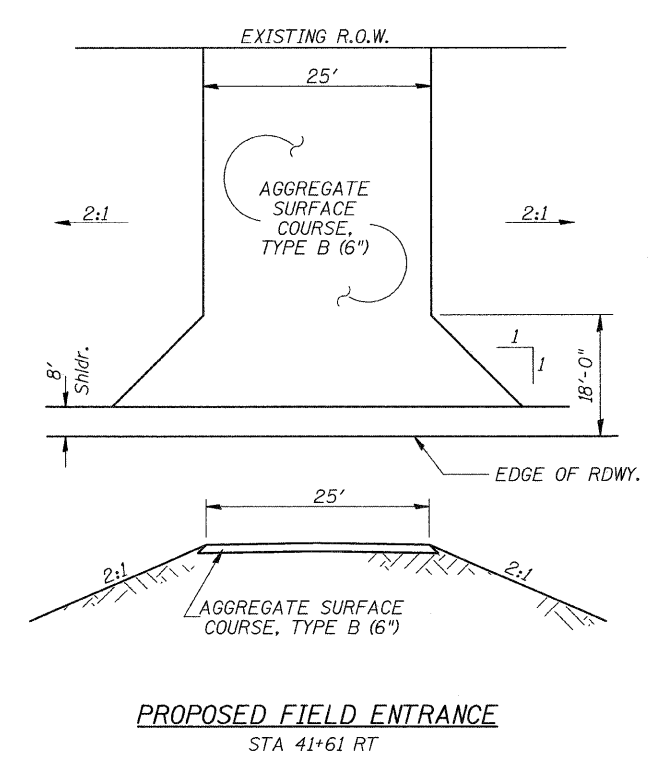
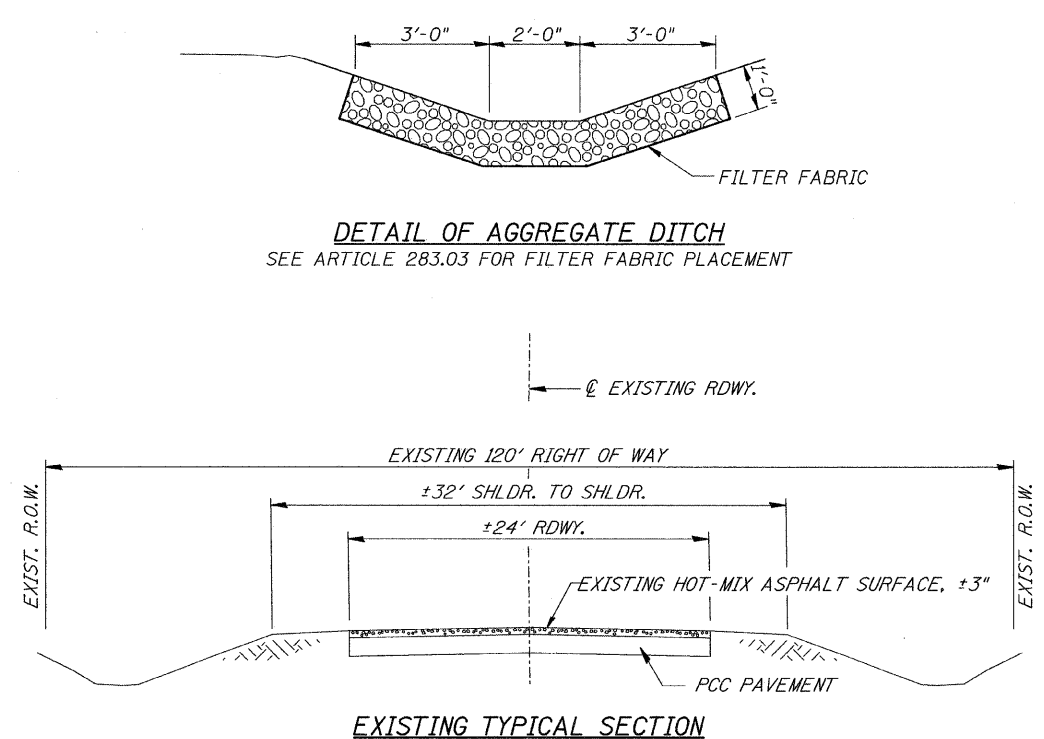
George E. Ryan
 DEPUTY DIRECTOR OF HIGHWAYS,
 REGION TWO ENGINEER

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

Hutchison Engineering, Inc.
 JACKSONVILLE ILLINOIS
 SHOREWOOD ILLINOIS

2009

JOB#2656



* CONSTRUCT GUARDRAIL SHOULDER WIDENING IN ACCORDANCE WITH STD 630301

** REQUIRED TO PROVIDE A MINIMUM 1 1/2" RESURFACING:
STA 36+50.00 TO STA 37+50.00
STA 43+25.00 TO STA 45+00.00

PROPOSED TYPICAL SECTION
STA. 36+50.00 TO STA. 39+21.42
STA. 40+80.42 TO STA. 45+00.00
EXCEPT TRANSITIONS
STA. 39+21.42 TO STA. 39+27.42
STA. 40+74.42 TO STA. 40+80.42
BRIDGE APPROACH PAVEMENT CONNECTOR
STA. 39+27.42 TO STA. 39+57.42
STA. 40+44.42 TO STA. 40+74.42
BRIDGE APPROACH PAVEMENT
BRIDGE OMISSION
STA. 39+57.42 TO STA. 40+44.42

GENERAL NOTES

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.

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

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

	HMA LEVEL BINDER	HMA SURFACE
PG GRADE	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4% @ N50	4% @ N50
MIXTURE COMPOSITION	IL-9.5	IL-12.5 OR IL-9.5
FRICITION AGGREGATE		MIXTURE C
DENSITY TEST METHOD	SATISFACTION OF ENGINEER	CORES

WHEN MORE THAN 20% RAP IS USED, A SOFTER ASPHALT BINDER (PG 58-22) MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	165
20300100	CHANNEL EXCAVATION	CU YD	840
① 20400800	FURNISHED EXCAVATION	CU YD	60
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	160
① 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	300
28000305	TEMPORARY DITCH CHECKS	FOOT	99
28000400	PERIMETER EROSION BARRIER	FOOT	1,540
28000500	INLET AND PIPE PROTECTION	EACH	1
28000510	INLET FILTERS	EACH	2
28100109	STONE RIPRAP, CLASS A5	SQ YD	1,015
28200200	FILTER FABRIC	SQ YD	1,155
28300400	AGGREGATE DITCH	TON	71
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	37
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	188
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	192
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	157
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	247
42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD	50
44000100	PAVEMENT REMOVAL	SQ YD	283
① 44000198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	739
44004000	PAVED DITCH REMOVAL	FOOT	148
44200970	CLASS B PATCHES, TYPE II, 10 INCH	SQ YD	13
48101200	AGGREGATE SHOULDERS, TYPE B	TON	403
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
① 50105220	PIPE CULVERT REMOVAL	FOOT	38
50200100	STRUCTURE EXCAVATION	CU YD	250
50300225	CONCRETE STRUCTURES	CU YD	35.6
50300255	CONCRETE SUPERSTRUCTURE	CU YD	119.2
50300260	BRIDGE DECK GROOVING	SQ YD	601
50300280	CONCRETE ENCASEMENT	CU YD	15.4
50300300	PROTECTIVE COAT	SQ YD	664
50401005	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 48 IN.	FOOT	513
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	27,880
50800515	BAR SPLICERS	EACH	74
* 50901050	STEEL RAILING, TYPE SM	FOOT	174
51201610	FURNISHING STEEL PILES HP12X63	FOOT	258
51500100	NAME PLATES	EACH	1
54207801	PIPE CULVERTS, TYPE 1, CORRUGATED STEEL OR ALUMINUM, EQUIVALENT ROUND-SIZE 36"	FOOT	40
54215547	METAL END SECTIONS 12"	EACH	2
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	82
① 60100945	PIPE DRAINS 12"	FOOT	50
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	154
60900315	TYPE D INLET BOX, STANDARD 609006	EACH	2
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	416
67100100	MOBILIZATION	L SUM	1
① 70103700	TRAFFIC CONTROL COMPLETE	L SUM	1
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,913
* 78200405	GUARDRAIL MARKERS	EACH	8
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
Z0013798	CONSTRUCTION LAYOUT	L SUM	1
① Z0065000	SETTING PILES IN ROCK	EACH	12

① SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

CONSTRUCTION CODE TYPE: X081-2A

EARTHWORK SUMMARY

STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	FILL	WASTE (SHORTAGE)
	CU YD	CU YD	CU YD	CU YD	CU YD
RDWY 36+50.00 - 39+57.42	33			92	(67)
RDWY 40+44.42 - 45+00.00	130			92	6
CHANNEL		840			
STRUCTURE			250		
TOTAL	163	840	250	184	(61)
USE	165	840	250	-	(60)

Ⓢ 25% SHRINKAGE

APPROACH PAVEMENT DRAINS

STATION	SIDE	METAL END SECTIONS 12" (EACH)	PIPE DRAINS 12" (FOOT)	TYPE D INLET BOX, STANDARD 609006 (EACH)
39+43.00	RIGHT	1	23	1
39+43.00	LEFT	1	27	1
TOTAL		2	50	2

PAINT PAVEMENT MARKING - LINE 4"

STATION TO STATION	SIDE	DESCRIPTION	FOOT
36+50 - 45+00	LEFT	WHITE EDGE LINE	850
36+50 - 45+00	℄	YELLOW SKIP-DASH	213
36+50 - 45+00	RIGHT	WHITE EDGE LINE	850
TOTAL			1,913

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

SIDE	STATION TO STATION	EACH
LEFT	38+63.67 - 39+13.67	1
RIGHT	38+63.67 - 39+13.67	1
LEFT	40+88.17 - 41+38.17	1
RIGHT	40+88.17 - 41+38.17	1
TOTAL		4

TRAFFIC BARRIER TERMINAL, TYPE 6A

SIDE	STATION TO STATION	EACH
LEFT	39+13.67 - 39+57.42	1
RIGHT	39+13.67 - 39+57.42	1
LEFT	40+44.42 - 40+88.17	1
RIGHT	40+44.42 - 40+88.17	1
TOTAL		4

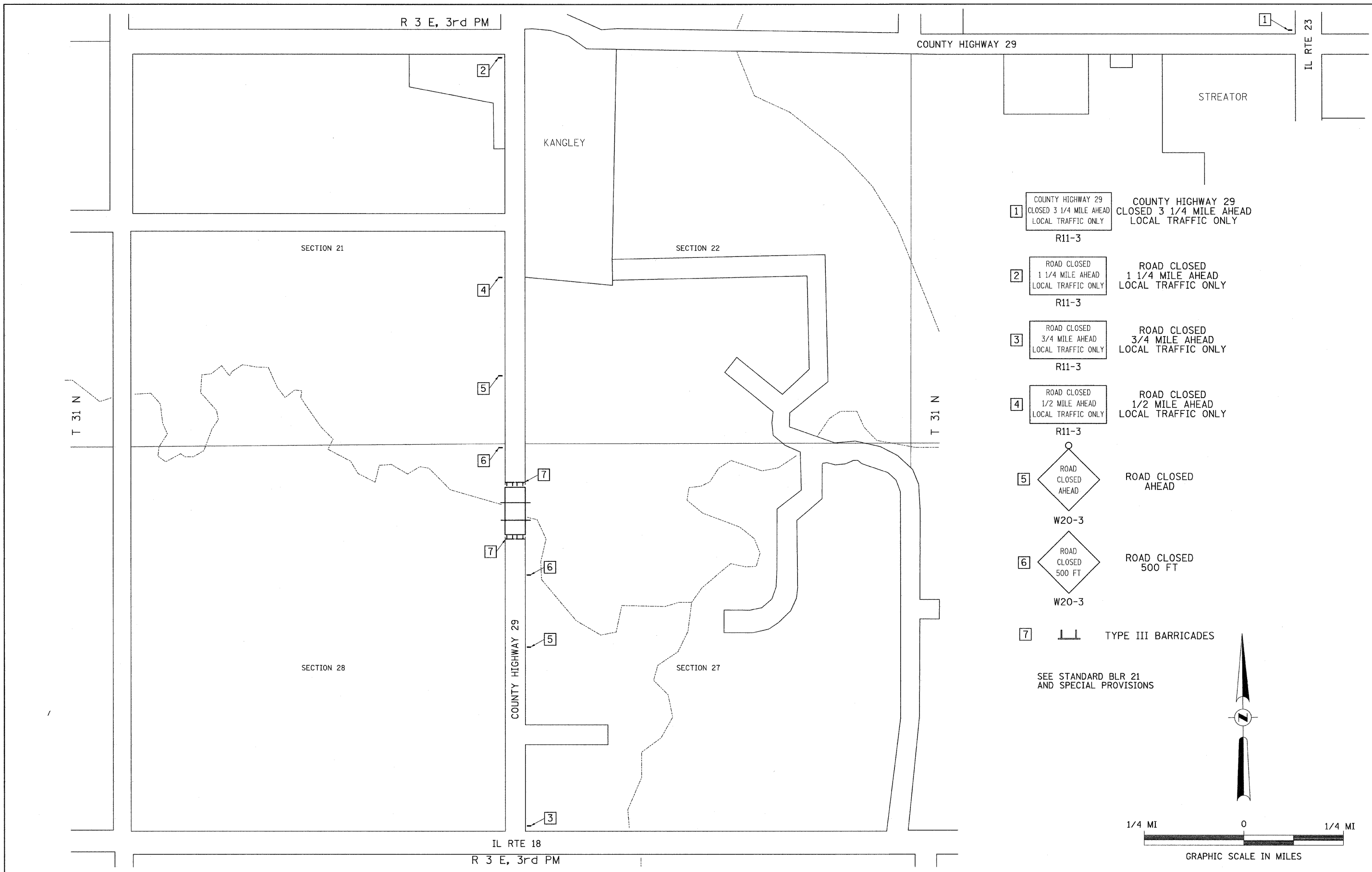
PIPE CULVERTS

STATION	SIDE	CS/A 36" ERS (FOOT)
41+61	RT	40
TOTAL		40

GUARDRAIL MARKERS

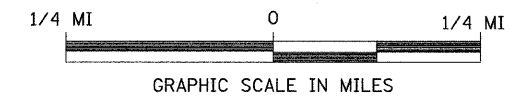
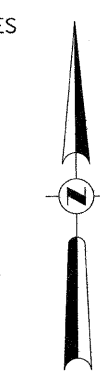
STATION TO STATION	SIDE	GUARDRAIL MARKERS (EACH)
38+63.67 - 41+38.17	LEFT	4
38+63.67 - 41+38.17	RIGHT	4
TOTAL		8

ALL GUARDRAIL MARKERS SHALL BE BI-DIRECTIONAL



- | | | |
|-------|--|--|
| 1 | COUNTY HIGHWAY 29
CLOSED 3 1/4 MILE AHEAD
LOCAL TRAFFIC ONLY | COUNTY HIGHWAY 29
CLOSED 3 1/4 MILE AHEAD
LOCAL TRAFFIC ONLY |
| R11-3 | | |
- | | | |
|-------|---|---|
| 2 | ROAD CLOSED
1 1/4 MILE AHEAD
LOCAL TRAFFIC ONLY | ROAD CLOSED
1 1/4 MILE AHEAD
LOCAL TRAFFIC ONLY |
| R11-3 | | |
- | | | |
|-------|---|---|
| 3 | ROAD CLOSED
3/4 MILE AHEAD
LOCAL TRAFFIC ONLY | ROAD CLOSED
3/4 MILE AHEAD
LOCAL TRAFFIC ONLY |
| R11-3 | | |
- | | | |
|-------|---|---|
| 4 | ROAD CLOSED
1/2 MILE AHEAD
LOCAL TRAFFIC ONLY | 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 |
|---|--|---------------------|

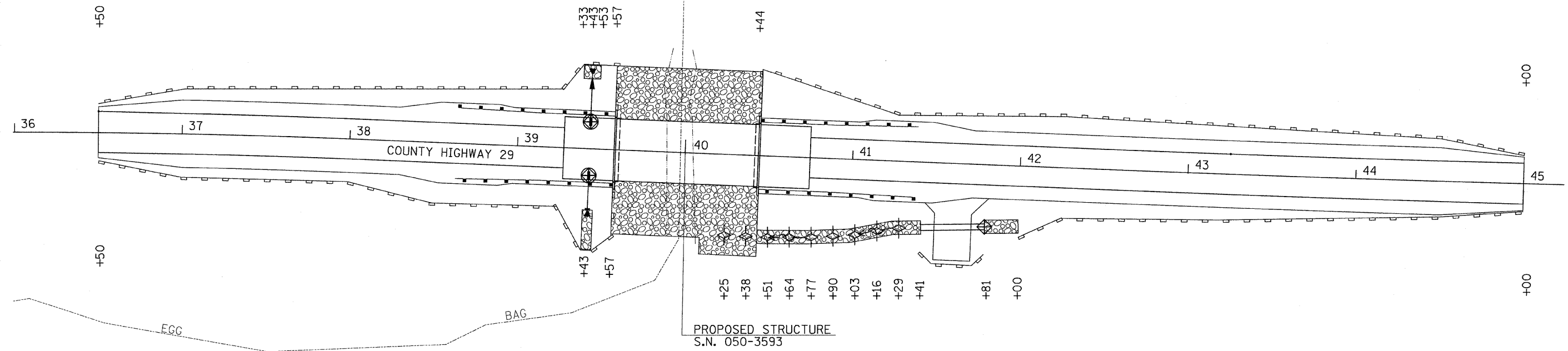
SEE STANDARD BLR 21
AND SPECIAL PROVISIONS









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	PLOT SCALE = 1,000' / 1" IN.	CHECKED -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. 36+50.00 TO STA. 45+00.00	CONTRACT NO. 87430				
	PLOT DATE = 9/30/2009	DATE -	REVISED -				FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-00990431			
IL RTE 18 R 3 E, 3rd PM												

T 31 N, R 3 E, 3rd PM
SECTION 28

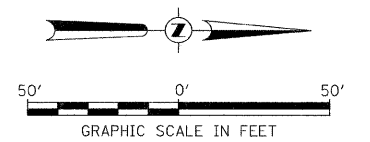
NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS.



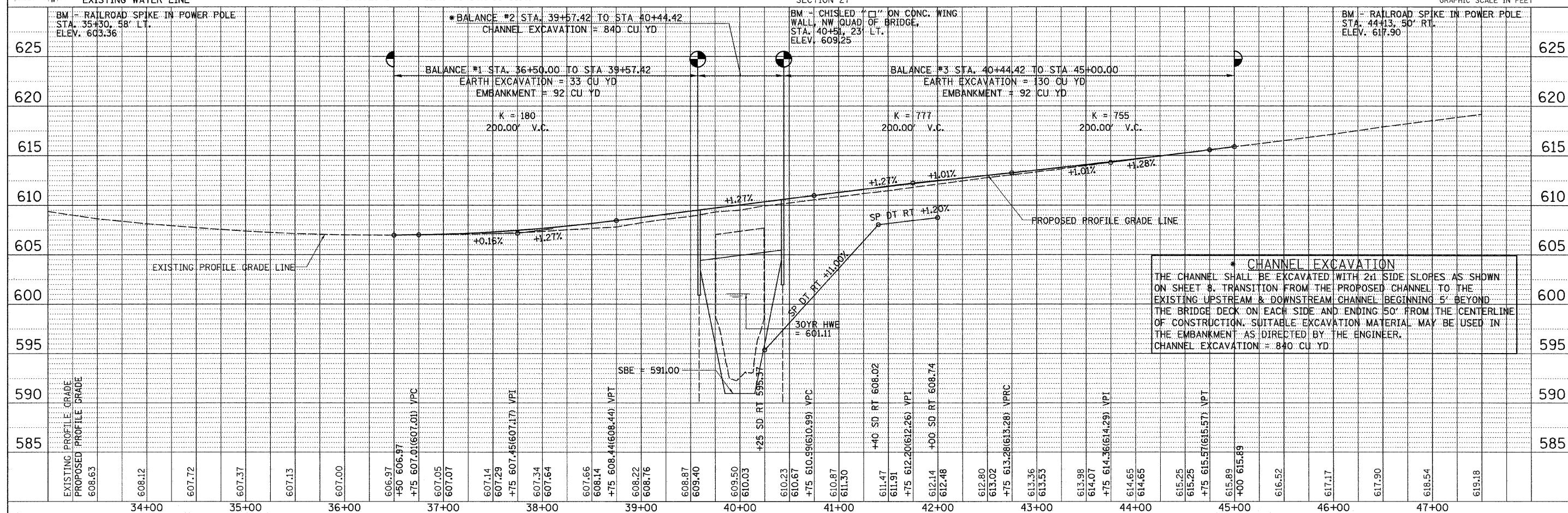
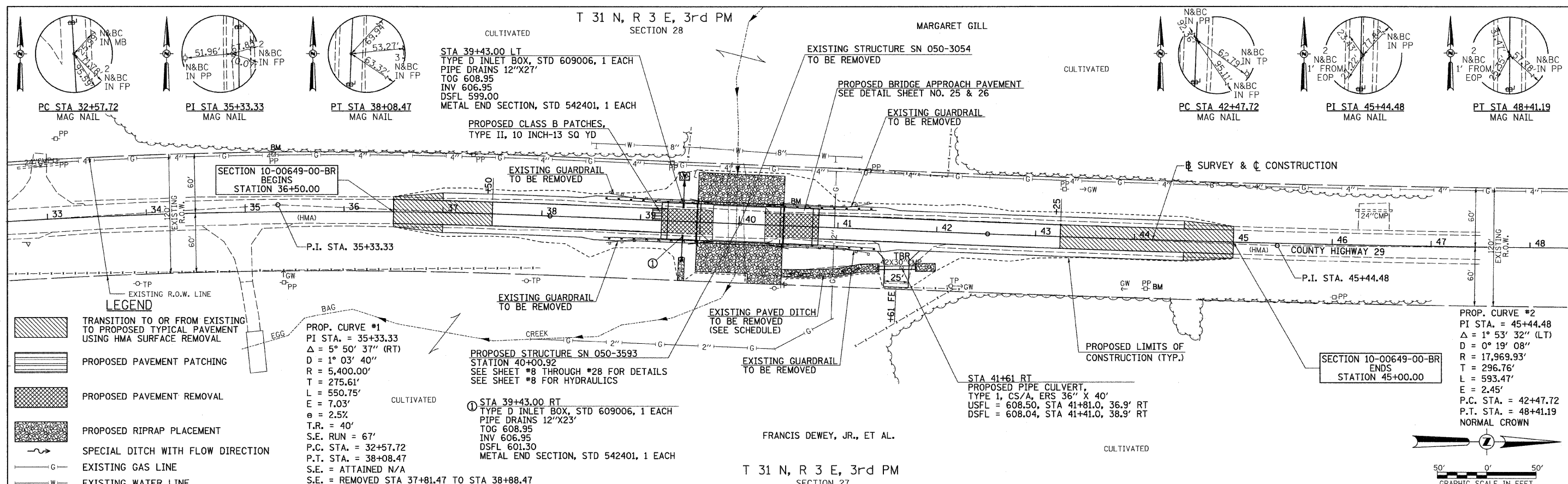
LEGEND

-  PERIMETER EROSION BARRIER
-  TEMPORARY DITCH CHECK
-  INLET & PIPE PROTECTION
-  INLET FILTERS
-  SPECIAL DITCH - FLOW LINE AND DIRECTION
-  PROPOSED RIPRAP / AGGREGATE DITCH PLACEMENT

T 31 N, R 3 E, 3rd PM
SECTION 27



FILE NAME = V:\Bridge\2656 LaSalle\2656S001.dgn	USER NAME = othomas	DESIGNED -	REVISED -	LASALLE COUNTY COUNTY HIGHWAY 29 OVER EGG BAG CREEK	EROSION CONTROL PLAN	F.A.U. RTE. 6141	SECTION 10-00649-00-BR	COUNTY LASALLE	TOTAL SHEETS 43	SHEET NO. 6	
PLOT SCALE = 30,000' / IN.		CHECKED -	REVISED -			SCALE: 1" = 30'-0" SHEET NO. 1 OF 1 SHEETS STA. 36+50.00 TO STA. 45+00.00		FED. ROAD DIST. NO. 7 ILLINOIS		CONTRACT NO. 87430	
PLOT DATE = 9/30/2009		DATE -	REVISED -			FED. AID PROJECT BRS-00990431					



PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. OF WAY CHECKED	
	NO.	
	PAID FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. OF WAY CHECKED	
	NO.	
	STRUCTURE NOTATION CHRD	

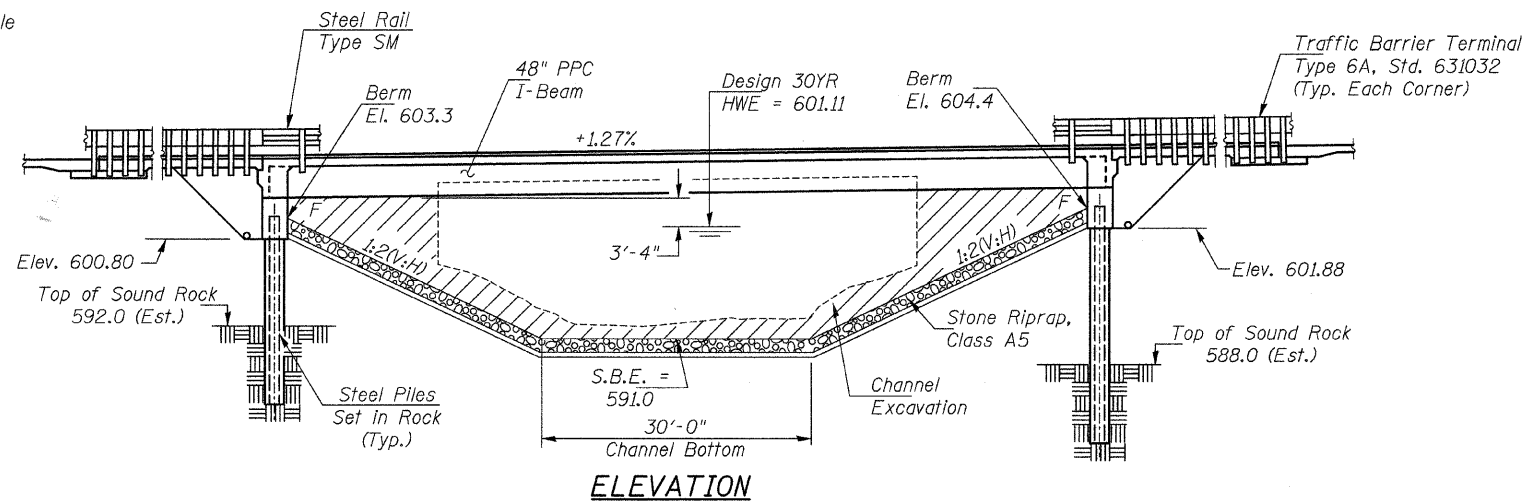
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		DRAWN -	REVISED -			6141	10-00649-00-BR	LASALLE	43	7
		CHECKED -	REVISED -			CONTRACT NO. 87430				
		DATE = 03/03/09	REVISED -			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR5-0099(043)				

BM: Railroad Spike in Power Pole Sta. 35+30, 58' Lt. Elev. 603.36
 BM: Railroad Spike in Power Pole Sta. 44+13, 50' Rt. Elev. 617.90

Existing Structure:
 Single span 21' PPC deck beam superstructure with steel rail with curb supported on concrete cap with concrete plank closed abutments on steel piles. The structure is 54'-4" back to back of abutments, 36'-0" out to out of deck, with a ±35' driving surface, and is not skewed.
 Str. No. 050-3054

Salvage: None

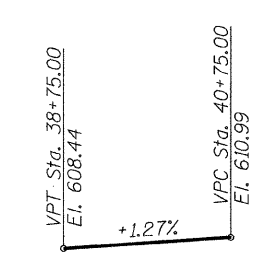
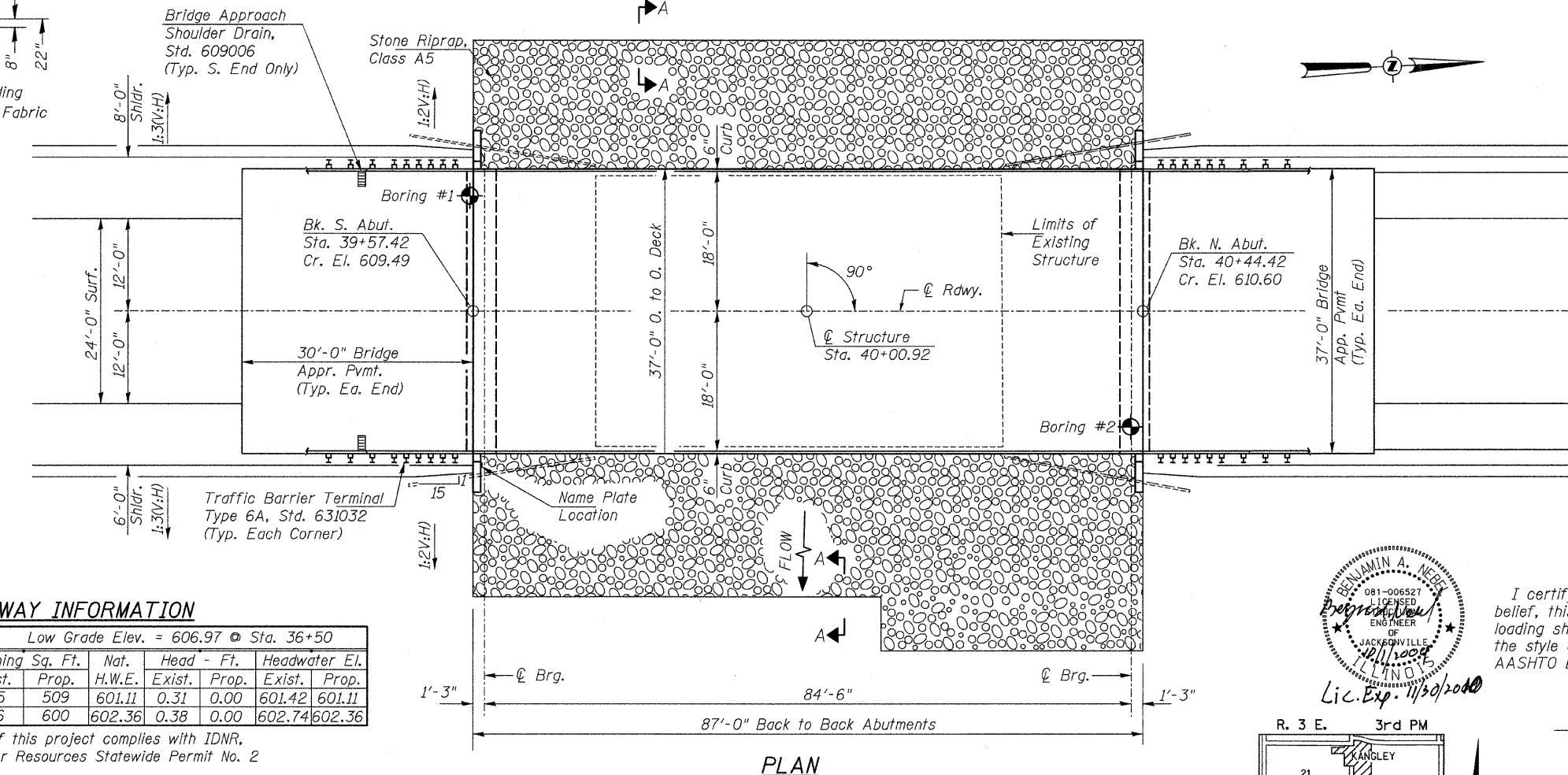
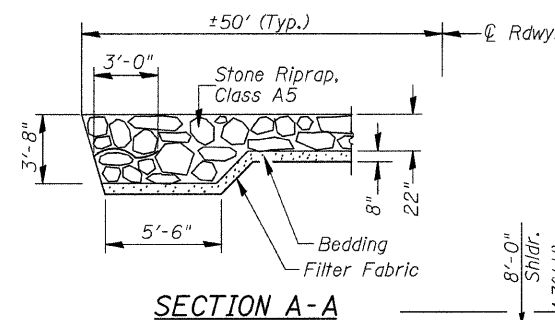
Road to be closed to traffic during construction.



NOTE:
 For Bill of Material and General Notes, See Sheet 2 of 21.

**EGG BAG CREEK
 BUILT 20__ BY
 LASALLE COUNTY
 SEC. 10-00649-00-BR
 C.H. 29 STATION 40+00.92
 F.A. PROJ. BRS-0099(043)
 STR. NO. 050-3593 LOADING HL-93**

NAME PLATE
 Locate Name Plate on Wingwall S.E. Corner of Bridge (See Std. 515001)



PROFILE GRADE

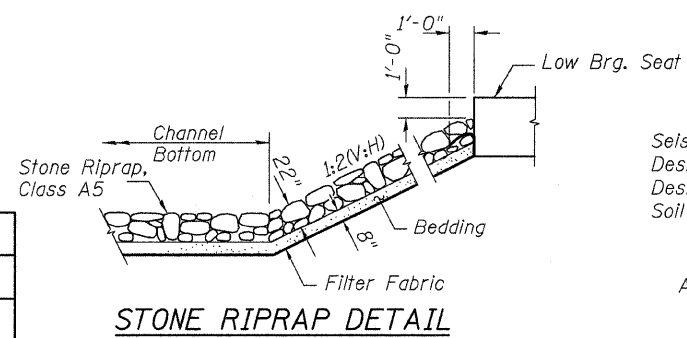
DESIGN SCOUR TABLE

Location	S. Abut	N. Abut
Design Scour Elevation	600.8	601.9

WATERWAY INFORMATION

Drainage Area = 15.71 Sq. Mi.		Low Grade Elev. = 606.97 @ Sta. 36+50							
Flood Yr.	Freq.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	30	2,202	325	509	601.11	0.31	0.00	601.42	601.11
Base	100	2,890	386	600	602.36	0.38	0.00	602.74	602.36

Construction of this project complies with IDNR, Office of Water Resources Statewide Permit No. 2



STONE RIPRAP DETAIL

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.07g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.13g
 Soil Site Class = C

LOADING HL-93

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

DESIGN SPECIFICATIONS

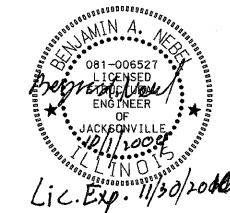
2007 AASHTO LRFD Bridge Design Specifications
 4th Edition with Interims

DESIGN STRESSES

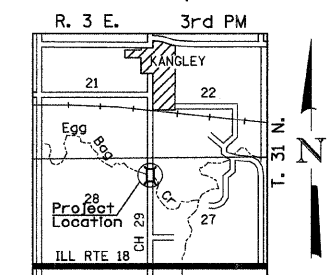
FIELD UNITS
 f'_c = 3,500 psi
 f_y = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'_c = 7,000 p.s.i.
 f'_{ci} = 6,000 p.s.i.
 f'_s = 270,000 p.s.i. ($\frac{1}{2}$ " ϕ low relaxation strands)
 f'_{si} = 201,960 p.s.i. ($\frac{1}{2}$ " ϕ low relaxation strands)



Lic. Exp. 11/30/2010



LOCATION SKETCH

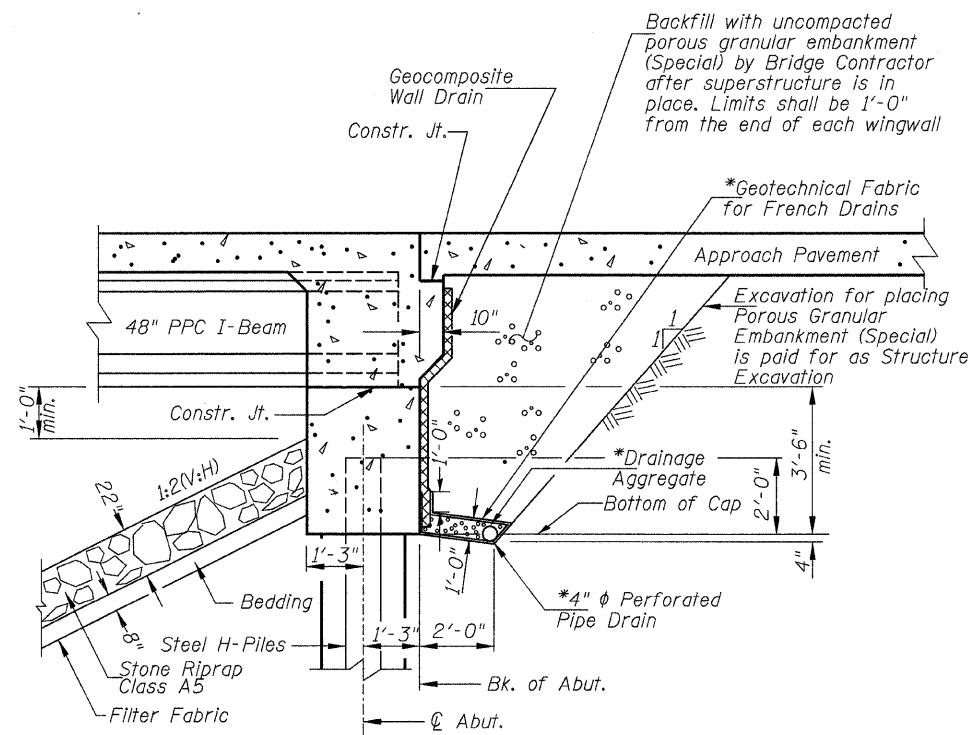
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications.

Ben A. Nebra 12/1/2009
 Illinois Structural No. 6527
 Expires 11/30/2010

DESIGNED	B.A.N
CHECKED	J.O.H.
DRAWN	T.A.C.
CHECKED	B.A.N.

GENERAL PLAN & ELEVATION

SHEET NO. 1	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	8
21 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)			



*Included in the cost of Pipe Underdrains for Structures. 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 THRU INTEGRAL ABUTMENTS

GENERAL NOTES

For Soil Boring Logs, See Sheet #'s 20 & 21 of 21.
 Reinforcement Bars shall conform to the requirements of ASTM A706 Grade 60. See Special Provisions.
 Reinforcement Bars designated (E) shall be epoxy coated.
 Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
 All embedded and separate bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 (as applicable).
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

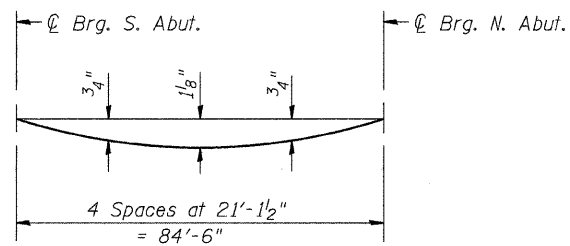
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
① Removal of Existing Structures	EACH	—	—	1
Channel Excavation	CU YD	—	840	840
Structure Excavation	CU YD	—	250	250
Concrete Structures	CU YD	—	35.6	35.6
Concrete Superstructure	CU YD	119.2	—	119.2
Bridge Deck Grooving	SQ YD	555	—	555
Protective Coat	SQ YD	615	—	615
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48"	FOOT	513	—	513
① Reinforcement Bars, Epoxy Coated	POUND	22,420	5,460	27,880
Steel Railing, Type SM	FOOT	174	—	174
Name Plates	EACH	—	1	1
Furnishing Steel Piles HP12x63	FOOT	—	258	258
① Setting Piles in Rock	EACH	—	12	12
① Porous Granular Embankment (Special)	CU YD	—	160	160
① Pipe Underdrains for Structures, 4"	FOOT	—	154	154
Geocomposite Wall Drain	SQ YD	—	82	82
Concrete Encasement	CU YD	—	15.4	15.4
Stone Riprap, Class A5	SQ YD	—	1,015	1,015
Filter Fabric	SQ YD	—	1,015	1,015
Bar Splicers	EACH	74	—	74
Bridge Approach Pavement	SQ YD	—	—	247

① See Special Provisions

GENERAL NOTES, DETAILS, AND BILL OF MATERIALS

SHEET NO. 2	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS	CH 29	10-00649-00-BR	LASALLE	43	9
S.N. 050-3593			CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0099(043)		

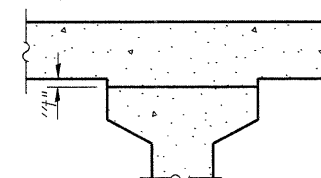


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

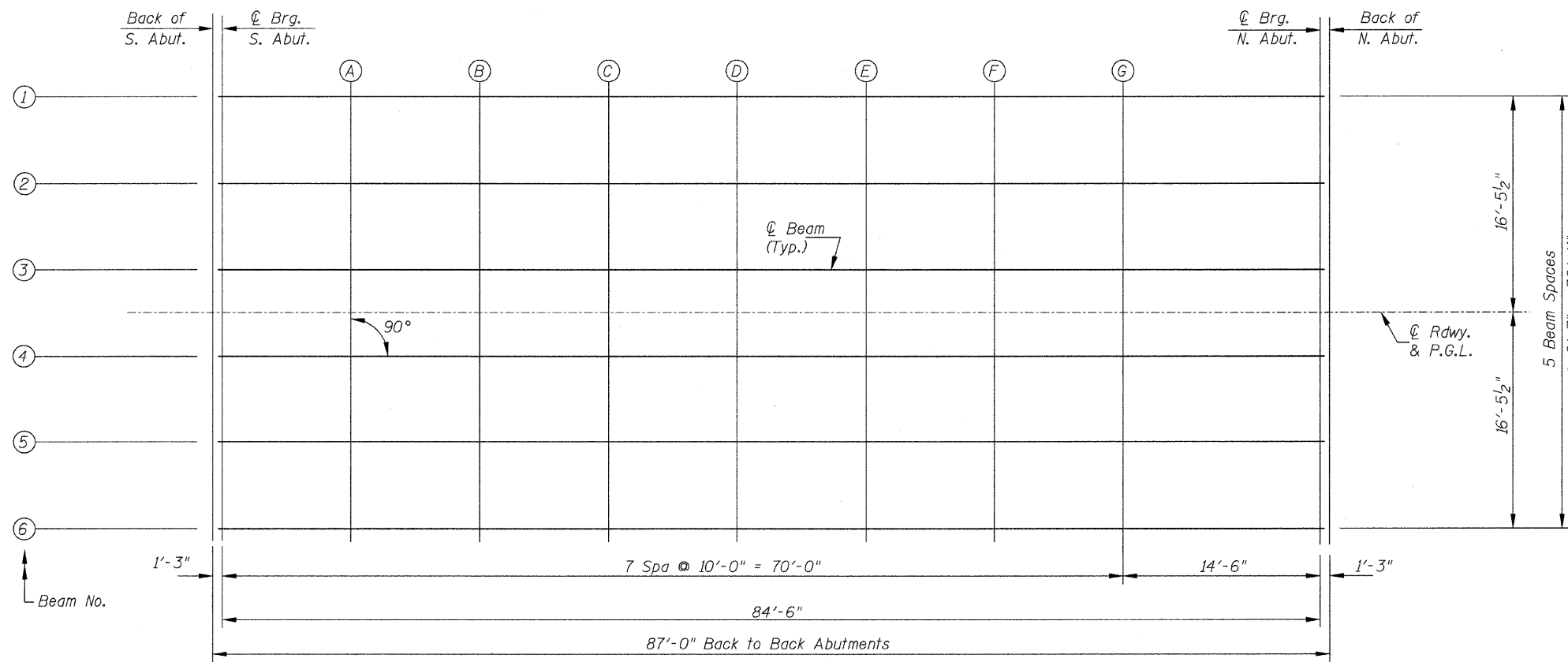
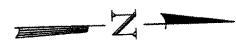
Note:

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 below.



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 Deflections" shown on Sh.#4 of 21, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS



PLAN (DECK ELEVATIONS)

TOP OF SLAB ELEVATIONS

SHEET NO. 3	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	10
21 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	3957.42	-16.46	609.21	609.21
CL Brg S. Abut.	3958.67	-16.46	609.23	609.23
A	3968.67	-16.46	609.35	609.39
B	3978.67	-16.46	609.48	609.55
C	3988.67	-16.46	609.61	609.69
D	3998.67	-16.46	609.74	609.83
E	4008.67	-16.46	609.86	609.96
F	4018.67	-16.46	609.99	610.07
G	4028.67	-16.46	610.12	610.17
CL Brg N. Abut.	4043.17	-16.46	610.30	610.30
Bk. N. Abutment	4044.42	-16.46	610.32	610.32

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	3957.42	-9.88	609.34	609.34
CL Brg S. Abut.	3958.67	-9.88	609.35	609.35
A	3968.67	-9.88	609.48	609.52
B	3978.67	-9.88	609.61	609.67
C	3988.67	-9.88	609.73	609.82
D	3998.67	-9.88	609.86	609.96
E	4008.67	-9.88	609.99	610.08
F	4018.67	-9.88	610.12	610.19
G	4028.67	-9.88	610.24	610.29
CL Brg N. Abut.	4043.17	-9.88	610.43	610.43
Bk. N. Abutment	4044.42	-9.88	610.45	610.45

BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	3957.42	-3.29	609.44	609.44
CL Brg S. Abut.	3958.67	-3.29	609.46	609.46
A	3968.67	-3.29	609.58	609.62
B	3978.67	-3.29	609.71	609.78
C	3988.67	-3.29	609.84	609.92
D	3998.67	-3.29	609.97	610.06
E	4008.67	-3.29	610.09	610.18
F	4018.67	-3.29	610.22	610.30
G	4028.67	-3.29	610.35	610.40
CL Brg N. Abut.	4043.17	-3.29	610.53	610.53
Bk. N. Abutment	4044.42	-3.29	610.55	610.55

☉ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	3957.42	0.00	609.49	609.49
CL Brg S. Abut.	3958.67	0.00	609.51	609.51
A	3968.67	0.00	609.63	609.67
B	3978.67	0.00	609.76	609.83
C	3988.67	0.00	609.89	609.98
D	3998.67	0.00	610.02	610.11
E	4008.67	0.00	610.14	610.24
F	4018.67	0.00	610.27	610.35
G	4028.67	0.00	610.40	610.45
CL Brg N. Abut.	4043.17	0.00	610.58	610.58
Bk. N. Abutment	4044.42	0.00	610.60	610.60

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	3957.42	3.29	609.44	609.44
CL Brg S. Abut.	3958.67	3.29	609.46	609.46
A	3968.67	3.29	609.58	609.62
B	3978.67	3.29	609.71	609.78
C	3988.67	3.29	609.84	609.92
D	3998.67	3.29	609.97	610.06
E	4008.67	3.29	610.09	610.18
F	4018.67	3.29	610.22	610.30
G	4028.67	3.29	610.35	610.40
CL Brg N. Abut.	4043.17	3.29	610.53	610.53
Bk. N. Abutment	4044.42	3.29	610.55	610.55

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	3957.42	9.88	609.34	609.34
CL Brg S. Abut.	3958.67	9.88	609.35	609.35
A	3968.67	9.88	609.48	609.52
B	3978.67	9.88	609.61	609.67
C	3988.67	9.88	609.73	609.82
D	3998.67	9.88	609.86	609.96
E	4008.67	9.88	609.99	610.08
F	4018.67	9.88	610.12	610.19
G	4028.67	9.88	610.24	610.29
CL Brg N. Abut.	4043.17	9.88	610.43	610.43
Bk. N. Abutment	4044.42	9.88	610.45	610.45

BEAM #6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	3957.42	16.46	609.21	609.21
CL Brg S. Abut.	3958.67	16.46	609.23	609.23
A	3968.67	16.46	609.35	609.39
B	3978.67	16.46	609.48	609.55
C	3988.67	16.46	609.61	609.69
D	3998.67	16.46	609.74	609.83
E	4008.67	16.46	609.86	609.96
F	4018.67	16.46	609.99	610.07
G	4028.67	16.46	610.12	610.17
CL Brg N. Abut.	4043.17	16.46	610.30	610.30
Bk. N. Abutment	4044.42	16.46	610.32	610.32

TOP OF SLAB ELEVATIONS

SHEET NO. 4 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	11
	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0099(043)		

WEST CURB LINE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvmt.	3927.42	-18.00	608.69
A	3937.42	-18.00	608.85
B	3947.42	-18.00	609.02
Bk. S. Abutment	3957.42	-18.00	609.18

WEST EDGE OF ROADWAY PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvmt.	3927.42	-12.00	608.93
A	3937.42	-12.00	609.05
B	3947.42	-12.00	609.18
Bk. S. Abutment	3957.42	-12.00	609.30

☉ ROADWAY & PROFILE GRADE

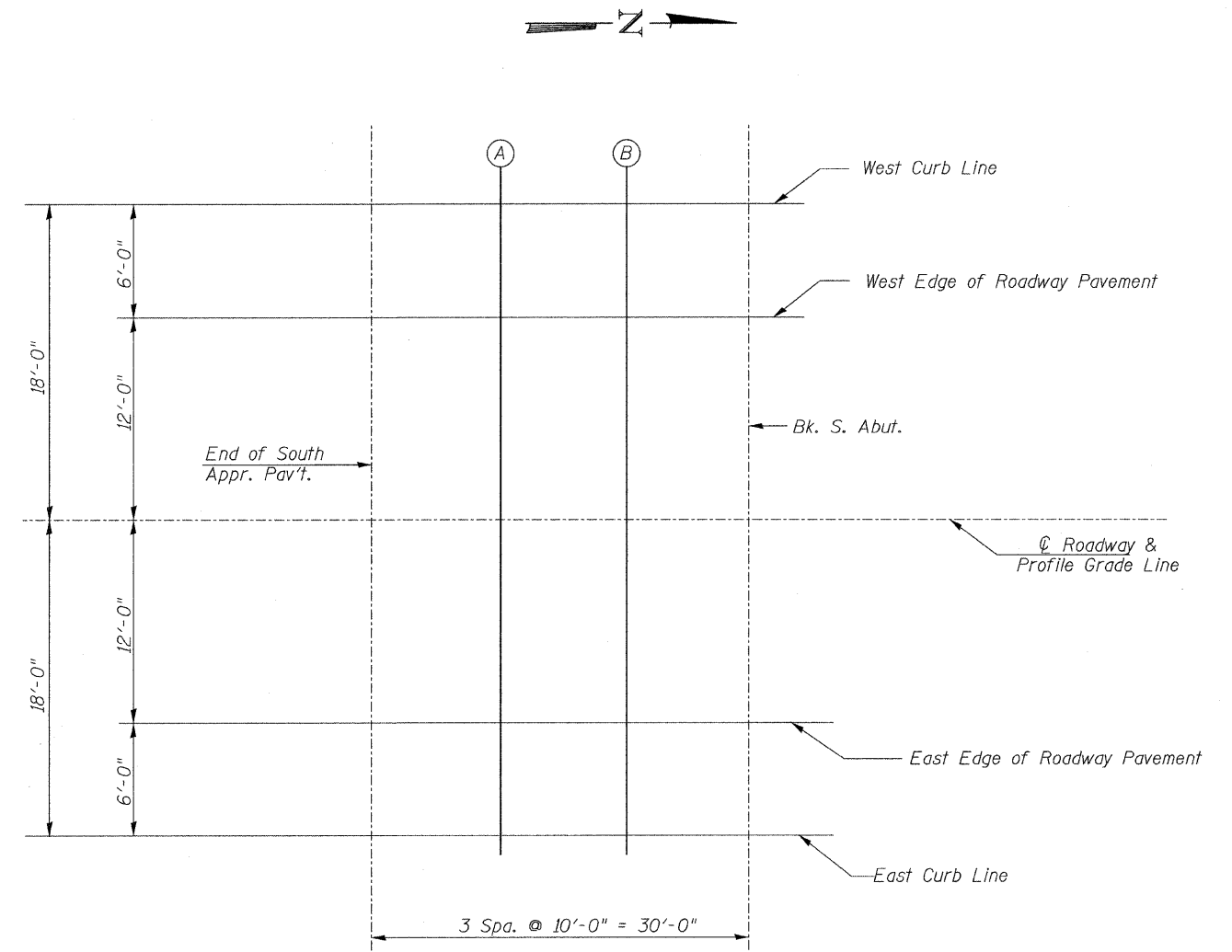
Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvmt.	3927.42	0.00	609.11
A	3937.42	0.00	609.24
B	3947.42	0.00	609.36
Bk. S. Abutment	3957.42	0.00	609.49

EAST EDGE OF ROADWAY PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvmt.	3927.42	12.00	608.93
A	3937.42	12.00	609.05
B	3947.42	12.00	609.18
Bk. S. Abutment	3957.42	12.00	609.30

EAST CURB LINE OF APPROACH PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvmt.	3927.42	18.00	608.69
A	3937.42	18.00	608.85
B	3947.42	18.00	609.02
Bk. S. Abutment	3957.42	18.00	609.18



PLAN SOUTH APPROACH PAVEMENT

TOP OF SOUTH APPROACH SLAB ELEVATIONS

SHEET NO. 5	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	12
21 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		

WEST CURB LINE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	4044.42	-18.00	610.29
A	4054.42	-18.00	610.38
B	4064.42	-18.00	610.47
End N. App. Pvmt.	4074.42	-18.00	610.56

WEST EDGE OF ROADWAY PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	4044.42	-12.00	610.41
A	4054.42	-12.00	610.54
B	4064.42	-12.00	610.67
End N. App. Pvmt.	4074.42	-12.00	610.80

☉ ROADWAY & PROFILE GRADE

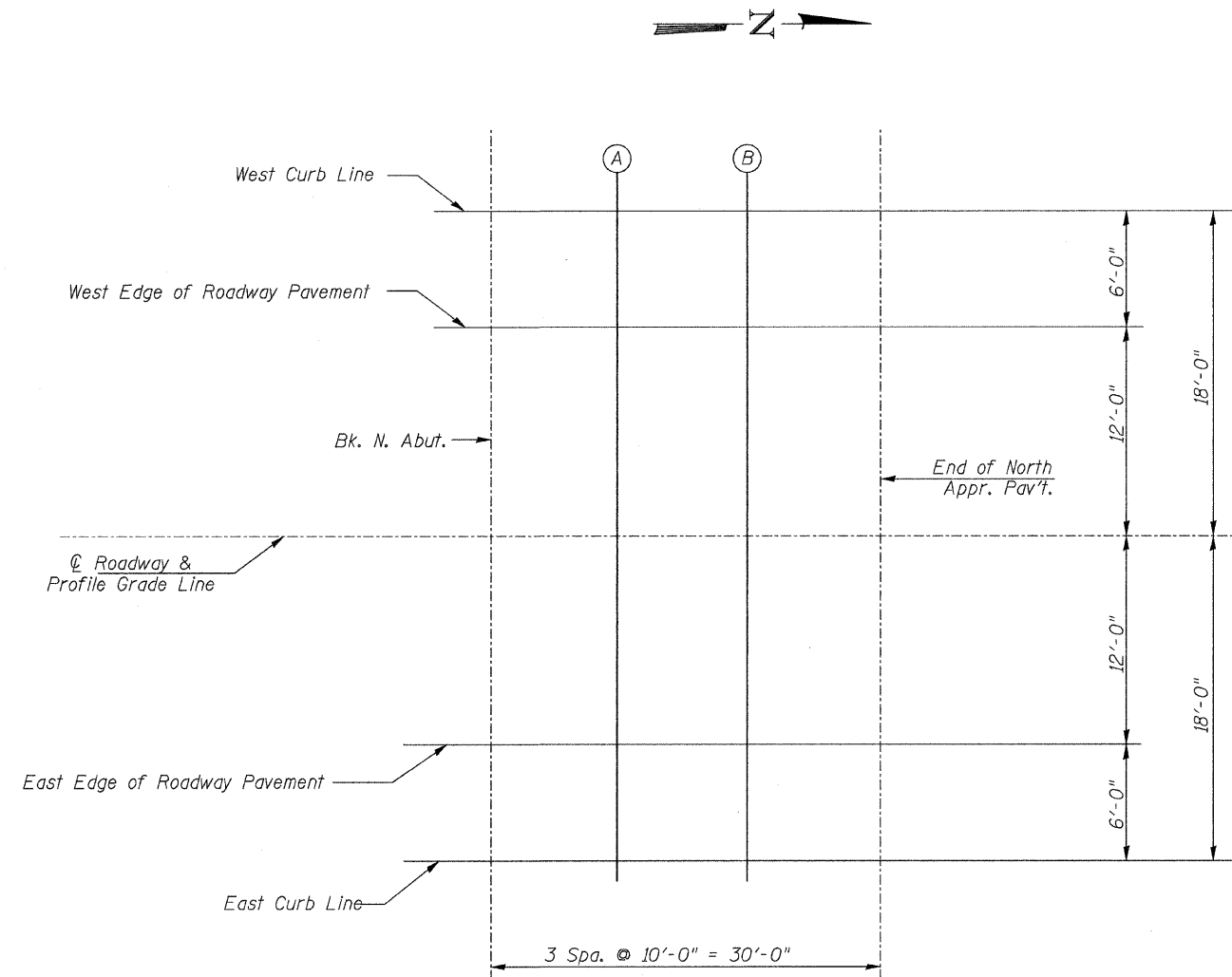
Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	4044.42	0.00	610.60
A	4054.42	0.00	610.73
B	4064.42	0.00	610.86
End N. App. Pvmt.	4074.42	0.00	610.98

EAST EDGE OF ROADWAY PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	4044.42	12.00	610.41
A	4054.42	12.00	610.54
B	4064.42	12.00	610.67
End N. App. Pvmt.	4074.42	12.00	610.80

EAST CURB LINE OF APPROACH PAVEMENT

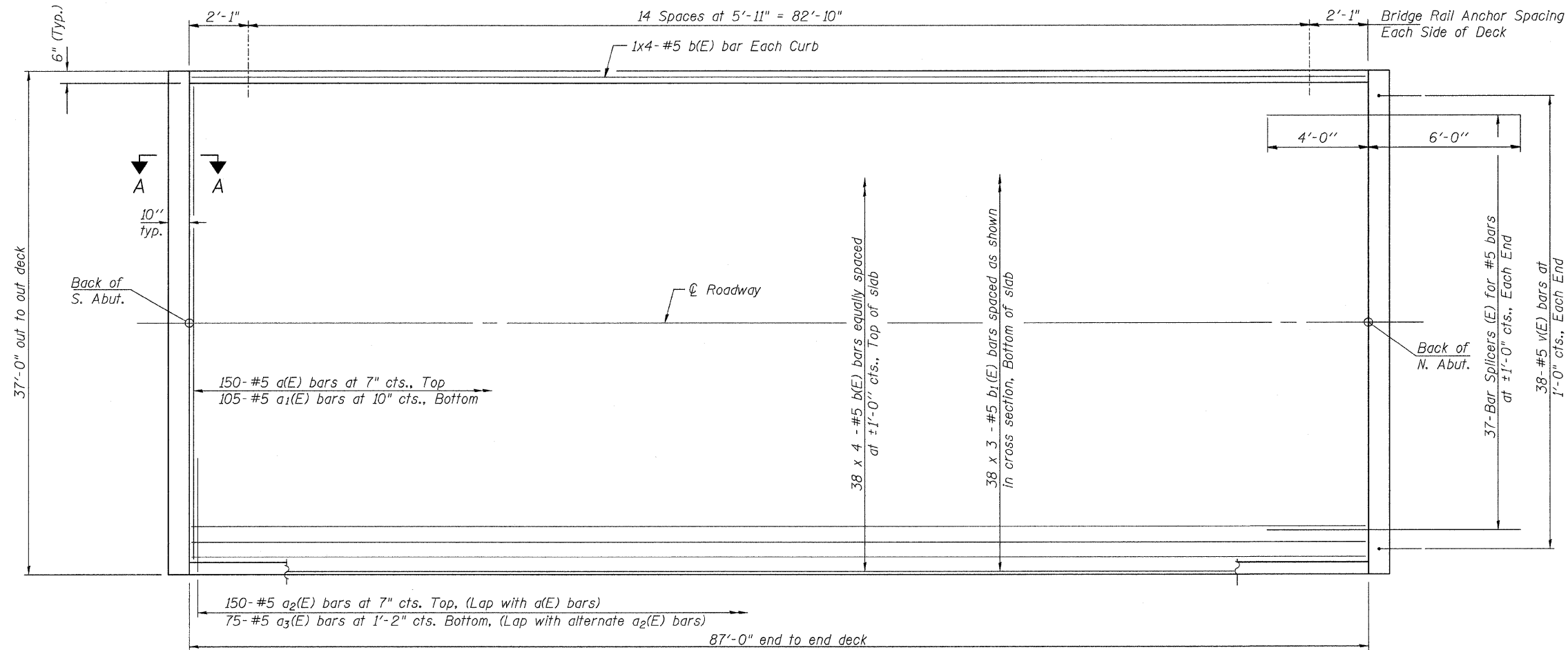
Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	4044.42	18.00	610.29
A	4054.42	18.00	610.38
B	4064.42	18.00	610.47
End N. App. Pvmt.	4074.42	18.00	610.56



PLAN NORTH APPROACH PAVEMENT

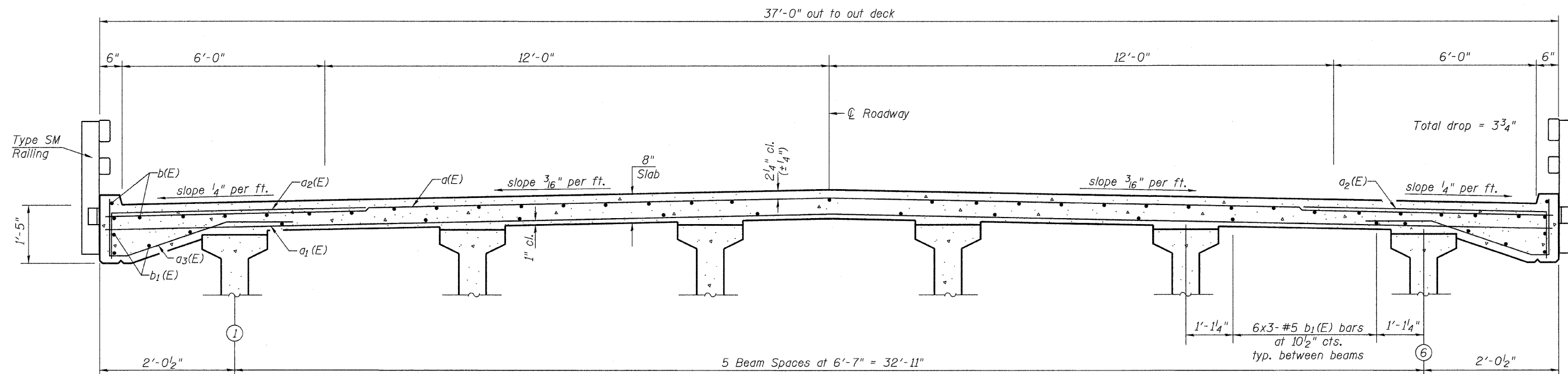
TOP OF NORTH APPROACH SLAB ELEVATIONS

SHEET NO. 6 21 SHEETS	ROUTE NO. CH 29	SECTION 10-00649-00-BR	COUNTY LASALLE	TOTAL SHEETS 43	SHEET NO. 13
	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)			



PLAN

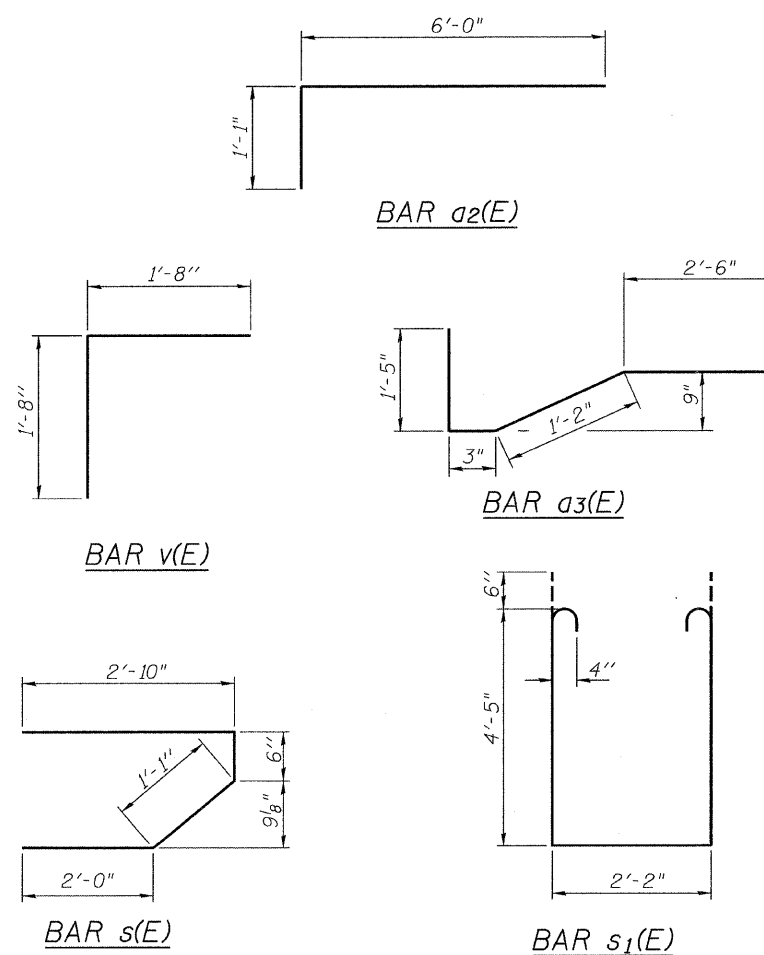
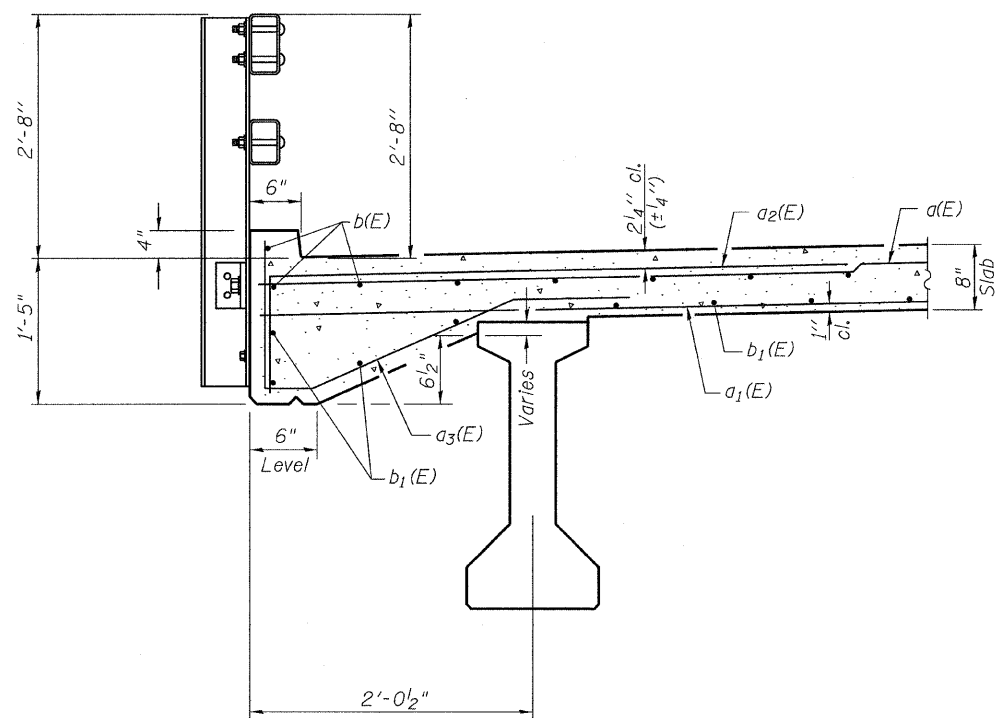
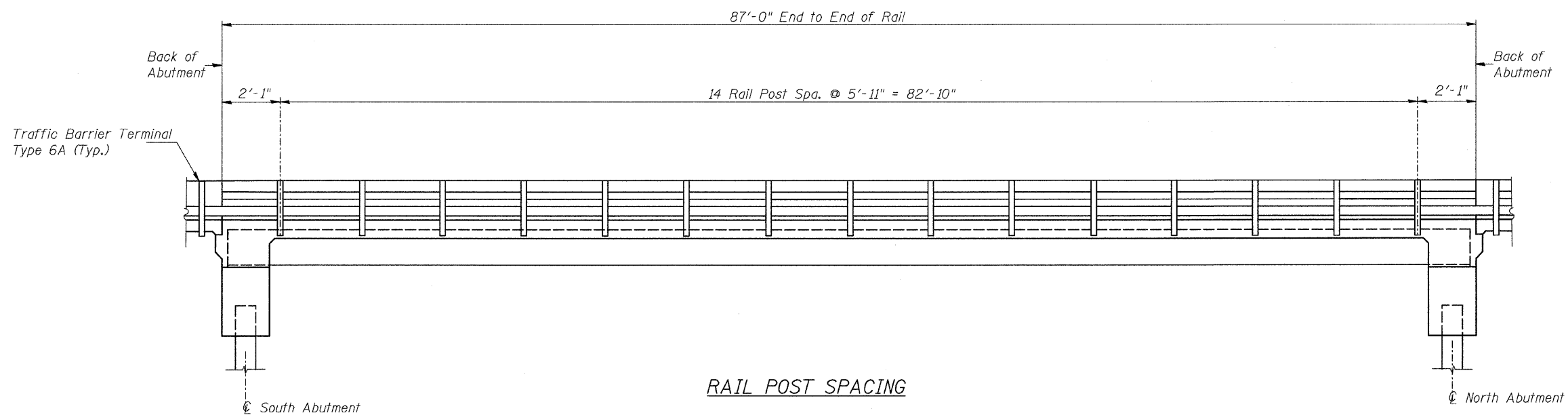
Notes:
 See Sheet 8 of 21 for superstructure details and Bill of Material.
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
 See Sheet 9 of 21 for Section A-A & Diaphragm Details.



CROSS SECTION
 (Looking North)

SUPERSTRUCTURE

SHEET NO. 7 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	14
S.N. 050-3593			CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0099(043)		



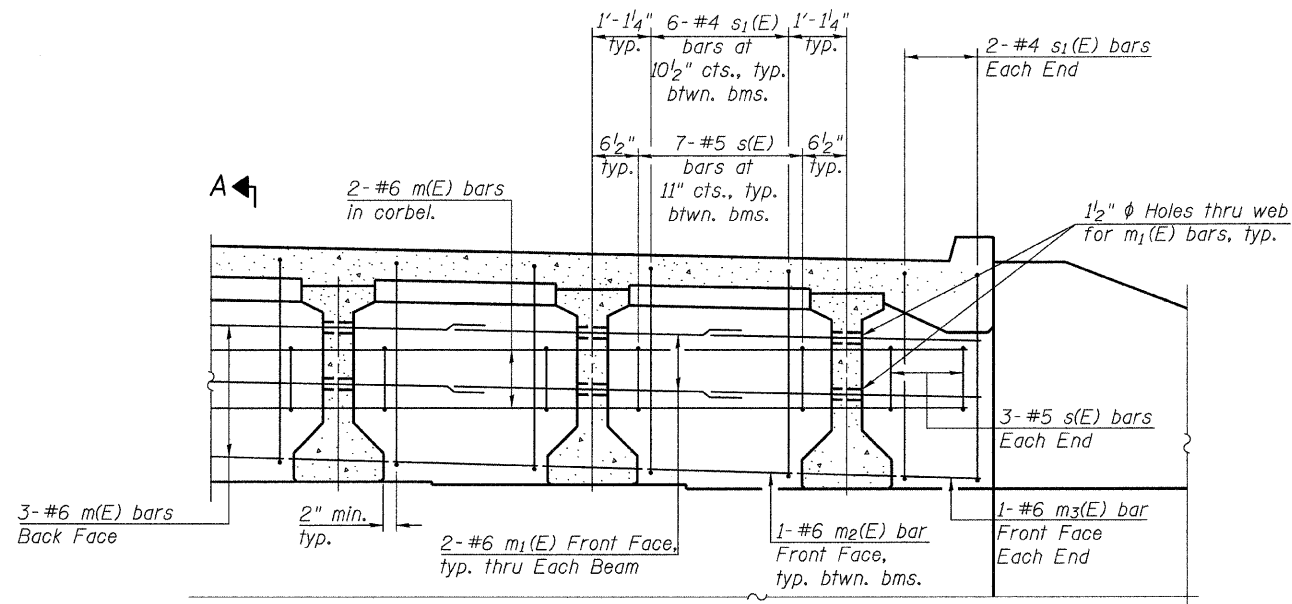
**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	150	#5	36'-9"	—
a ₁ (E)	105	#5	35'-9"	—
a ₂ (E)	300	#5	7'-1"	┌
a ₃ (E)	150	#5	5'-4"	└
b(E)	160	#5	23'-0"	—
b ₁ (E)	114	#5	30'-1"	—
m(E)	10	#6	36'-8"	—
m ₁ (E)	24	#6	8'-5"	—
m ₂ (E)	10	#6	4'-5"	—
m ₃ (E)	4	#6	0'-9"	—
s(E)	82	#5	6'-5"	└
s ₁ (E)	68	#4	12'-0"	└
v(E)	76	#5	3'-4"	┌
① Reinforcement Bars, Epoxy Coated			Pound	22,420
Concrete Superstructure			Cu. Yd.	119.2

① See Special Provisions

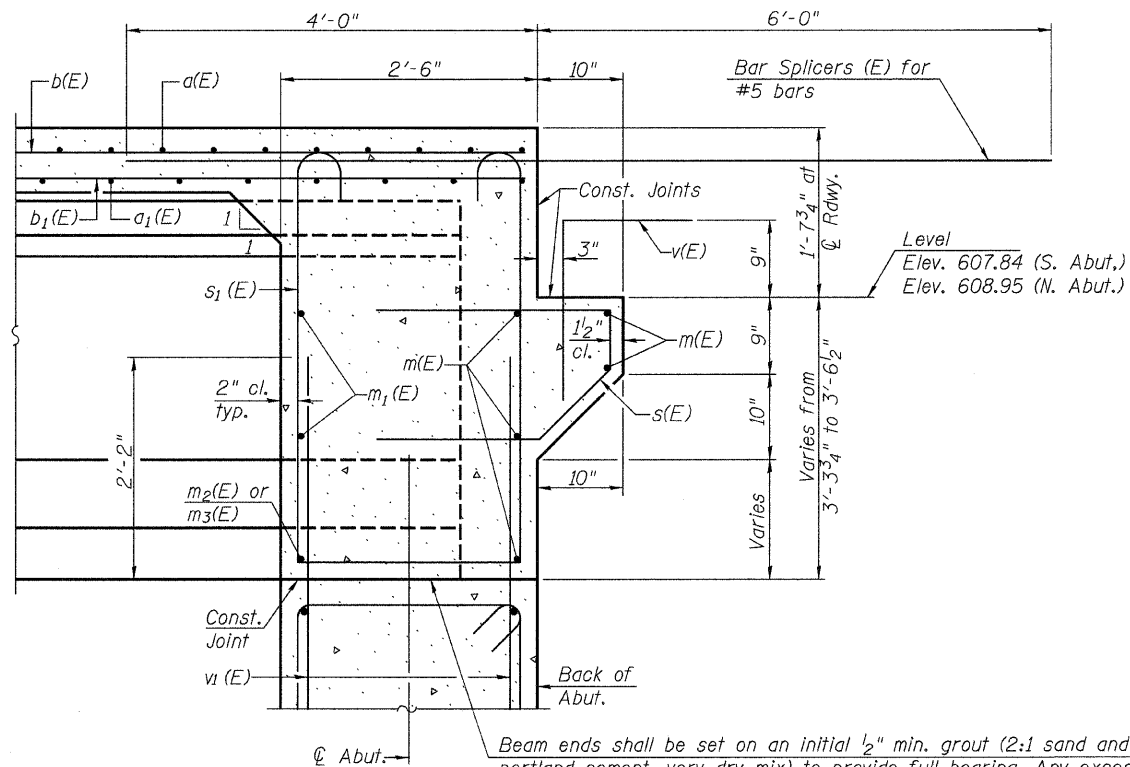
SUPERSTRUCTURE DETAILS

SHEET NO. 8 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	15
	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		



DIAPHRAGM ELEVATION AT ABUTMENT

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 21.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 21.
 For details of bar s(E) see sheet 8 of 21.
 For placement of v(E) bars see sheet 14 and 15 of 21.



SECTION A-A

Dimensions at right angles to abutment

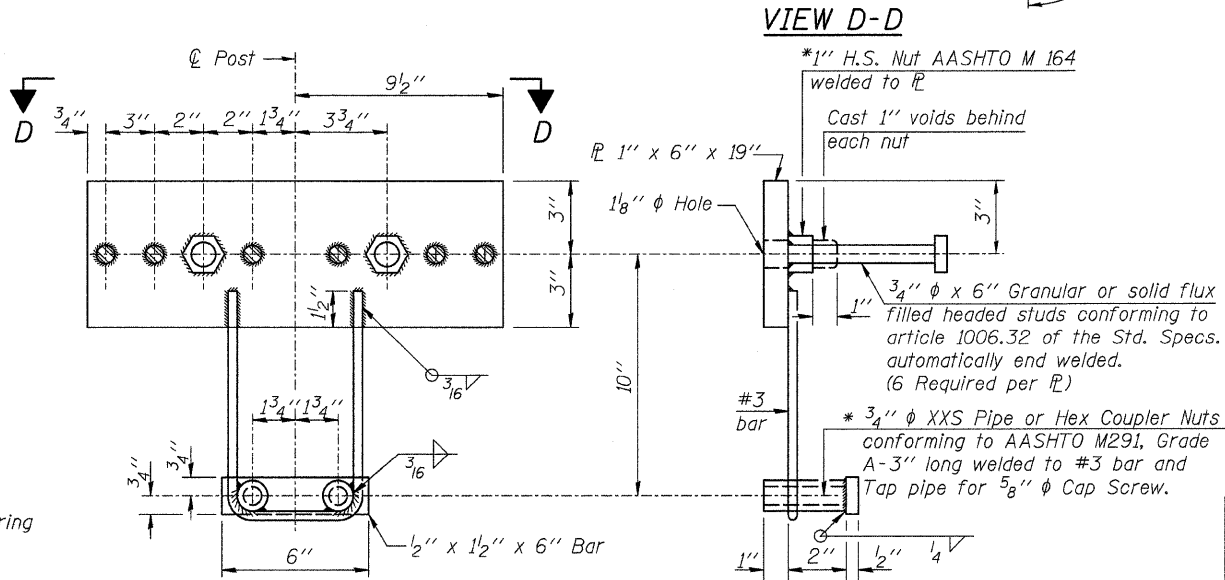
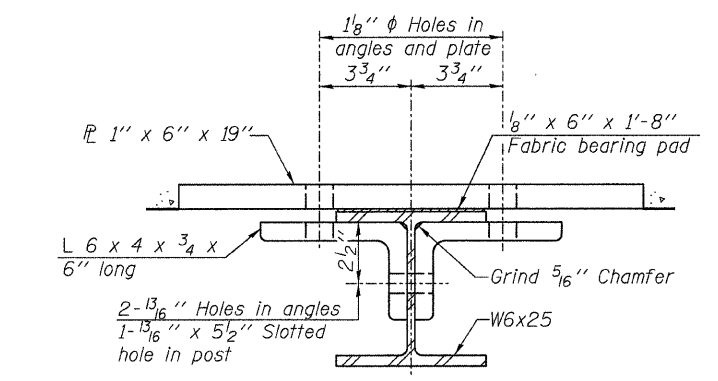
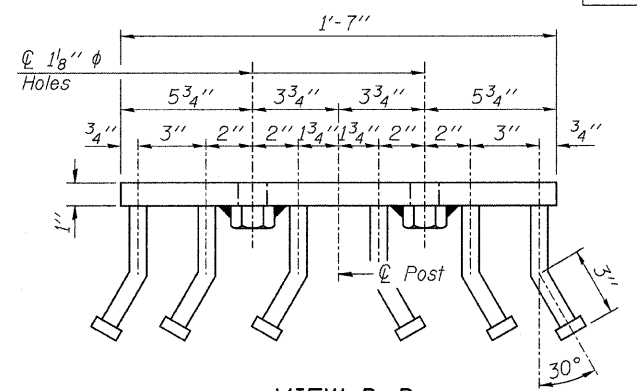
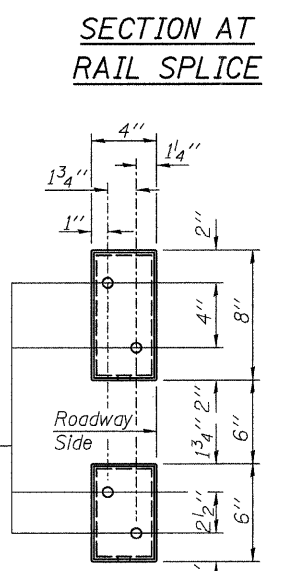
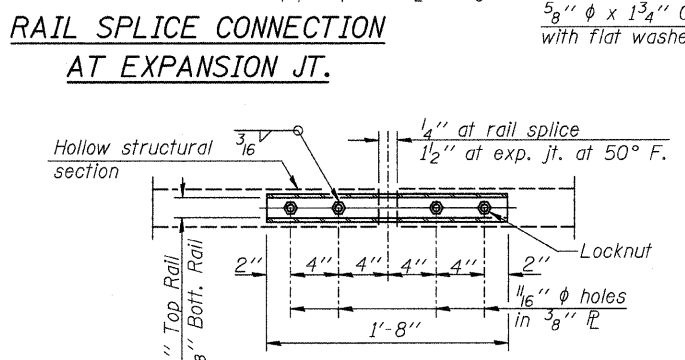
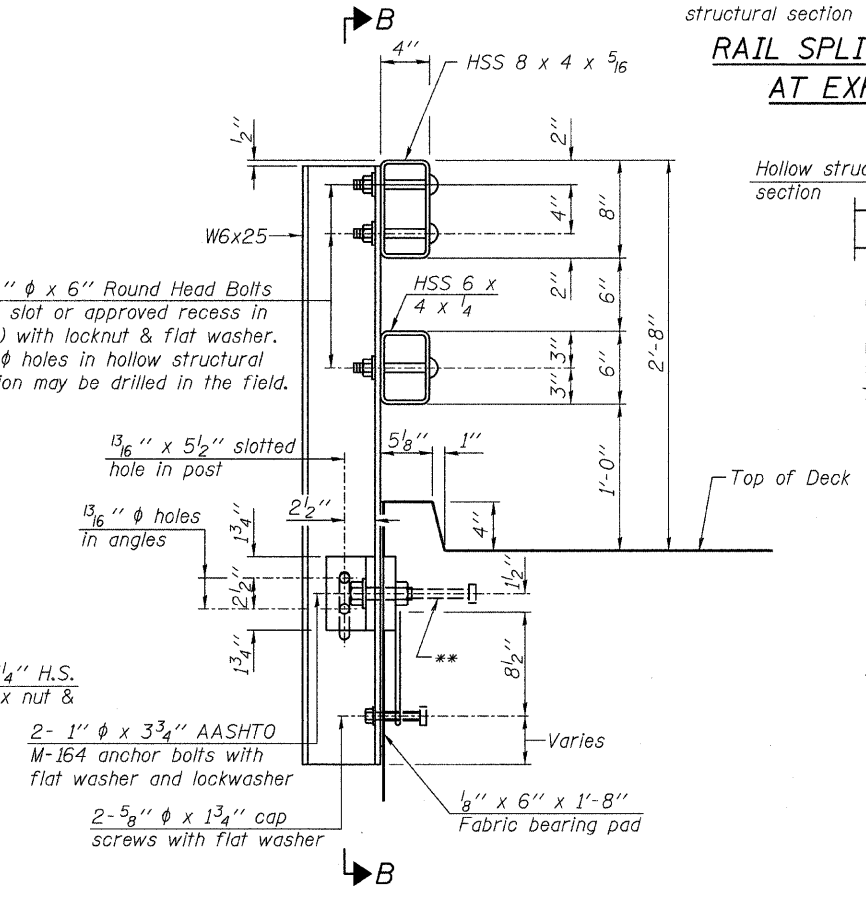
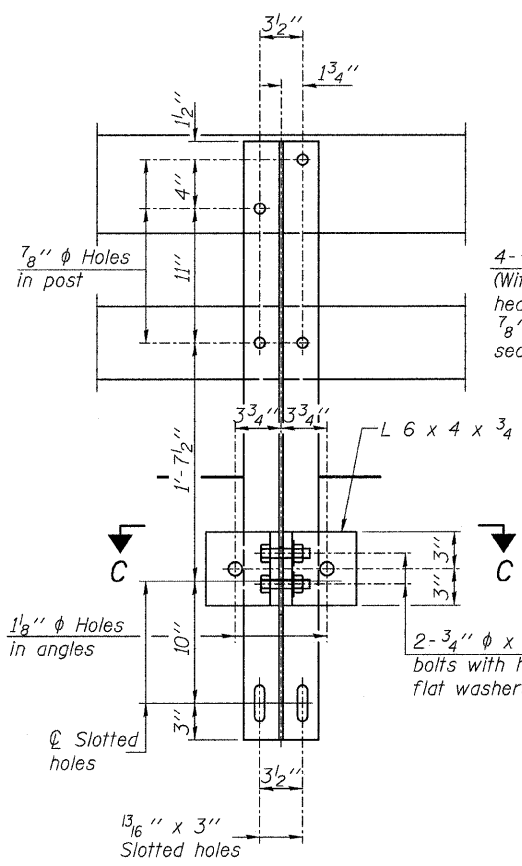
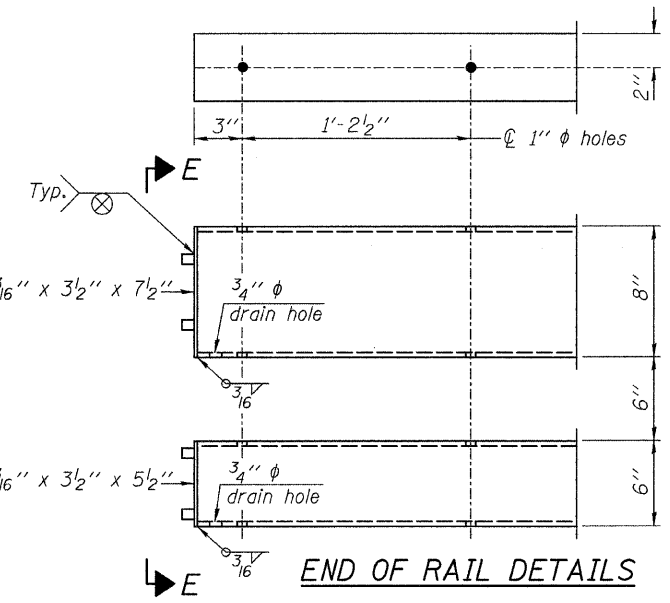
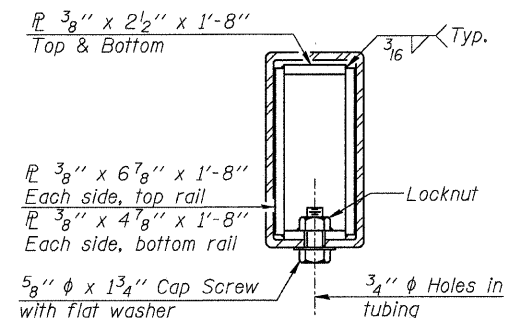
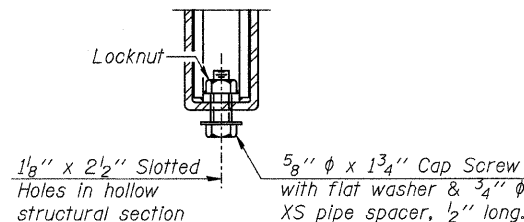
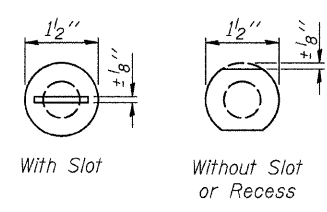
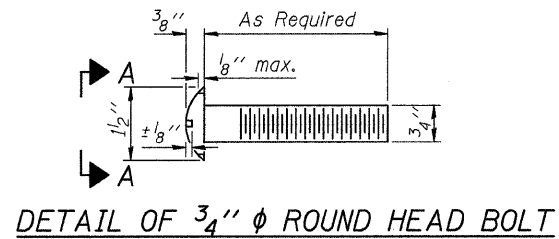
MIN. BAR LAP

#6 bar = 2'-9"

DIAPHRAGM DETAILS

SHEET NO. 9	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	16
21 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)			

FOR RAIL POST SPACING SEE SH.#8 OF 21.



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	174

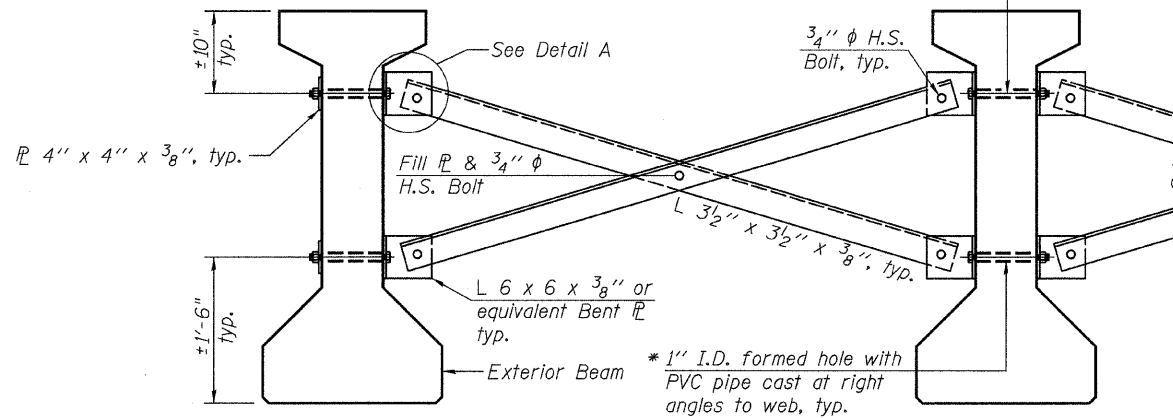
STEEL RAILING TYPE SM, WITH CONCRETE CURB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 29	10-00649-00-BR	LASALLE	43	17
S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		

* Threaded areas shall be plugged or blocked off during pouring of deck. Galvanized after fabrication.

* Fabricator shall locate to miss strands within permissible tolerances.

$\frac{3}{4}$ " ϕ A307 Bolts with lock nuts., typ.
Bolts through the concrete web shall be tightened to snug tight only.

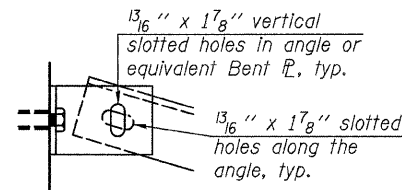


Notes:

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 $\frac{1}{16}$ " ϕ unless otherwise noted. $\frac{5}{16}$ " x 3" x 3" 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.



DETAIL A

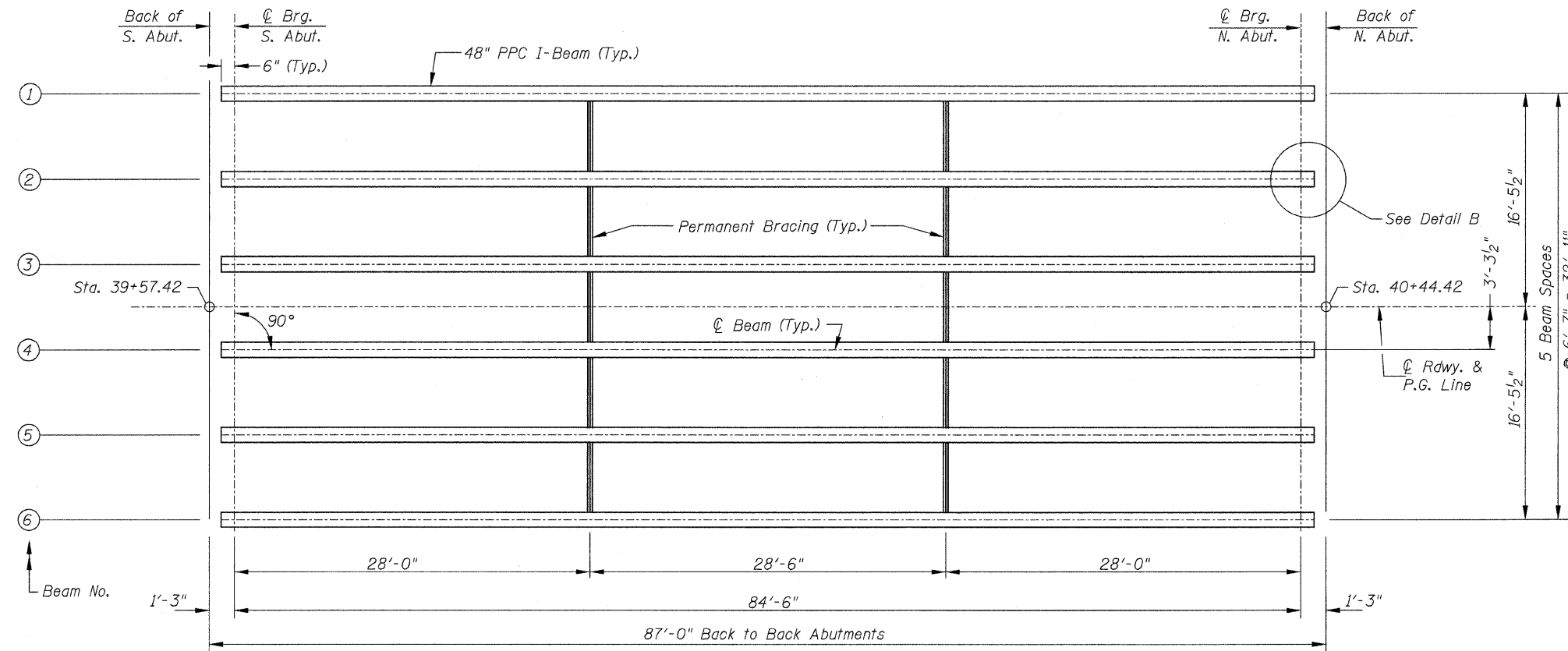
PERMANENT BRACING DETAILS

Permanent bracing shall not be paid for separately but shall be included in the cost of Furnishing and Erecting Precast Prestressed I-Beams, 48".

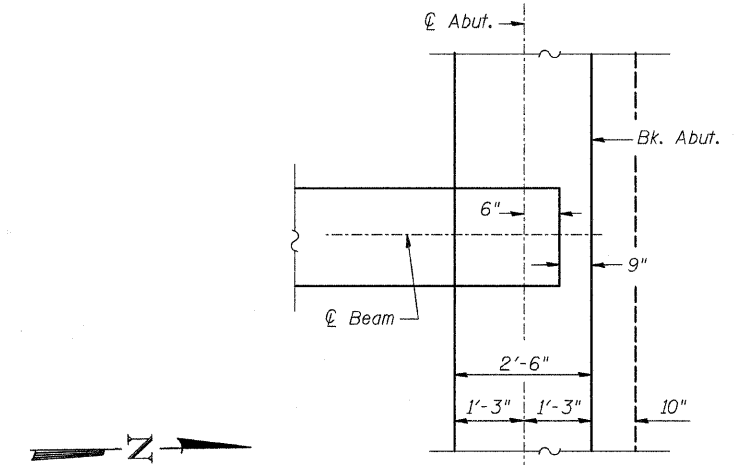
- I: Non-composite moment of inertia of beam section (in.⁴).
- I': Composite moment of inertia of beam section (in.⁴).
- S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
- S_b': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
- S_t: 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 + Imp}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

INTERIOR BEAM MOMENT TABLE		
		0.5 Sp. 1
I	(in. ⁴)	144,117
I'	(in. ⁴)	385,826
S _b	(in. ³)	6,834
S _b '	(in. ³)	11,127
S _t	(in. ³)	5,355
S _t '	(in. ³)	28,956
DC1	(k/ft.)	1.29
M _{DC1}	(k)	1,157
DC2	(k/ft.)	0.03
M _{DC2}	(k)	30
DW	(k/ft.)	0.33
M _{DW}	(k)	294
M _{L + Imp}	(k)	1,347

INTERIOR BEAM REACTION TABLE		
		Abut.
R _{DC1}	(k)	54.5
R _{DC2}	(k)	1.4
R _{DW}	(k)	13.9
R _{L + Imp}	(k)	80.0
R _{Total}	(k)	149.8



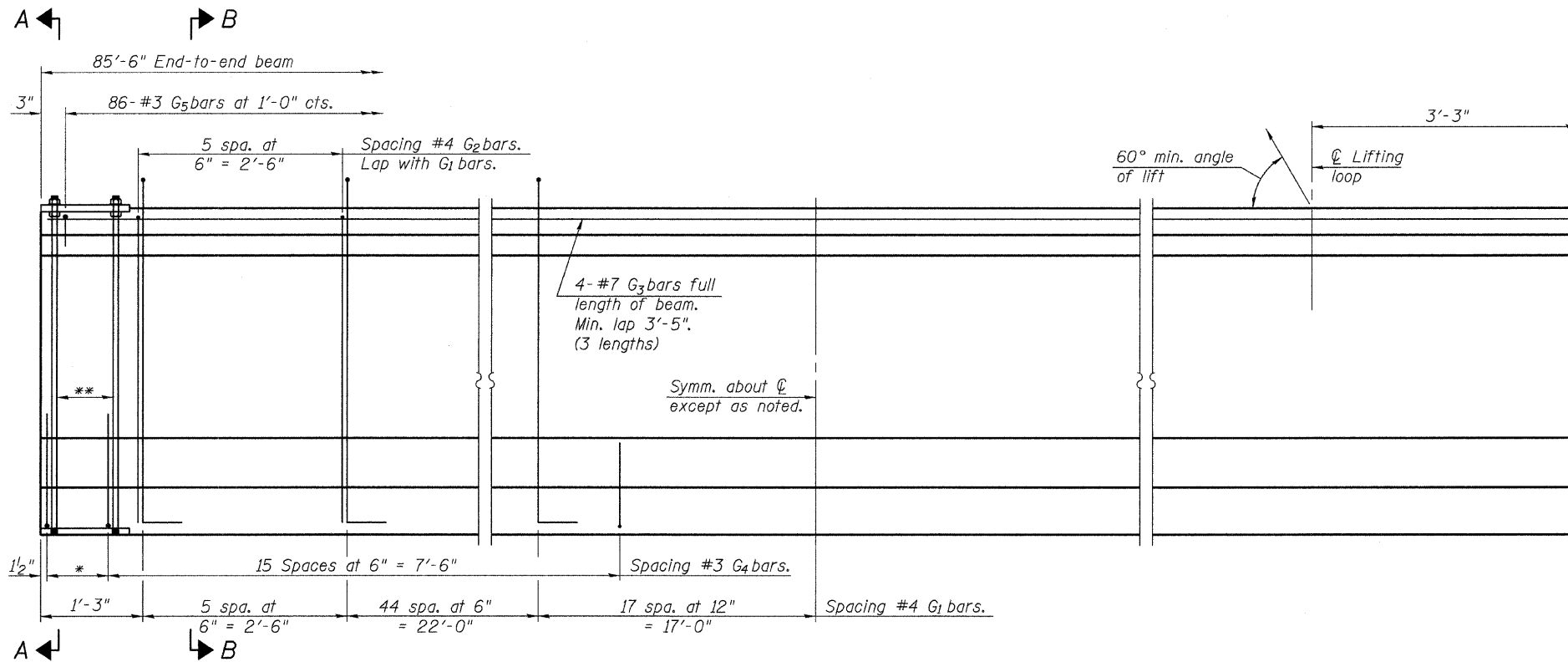
FRAMING PLAN



DETAIL B
(Typical @ Abutments)

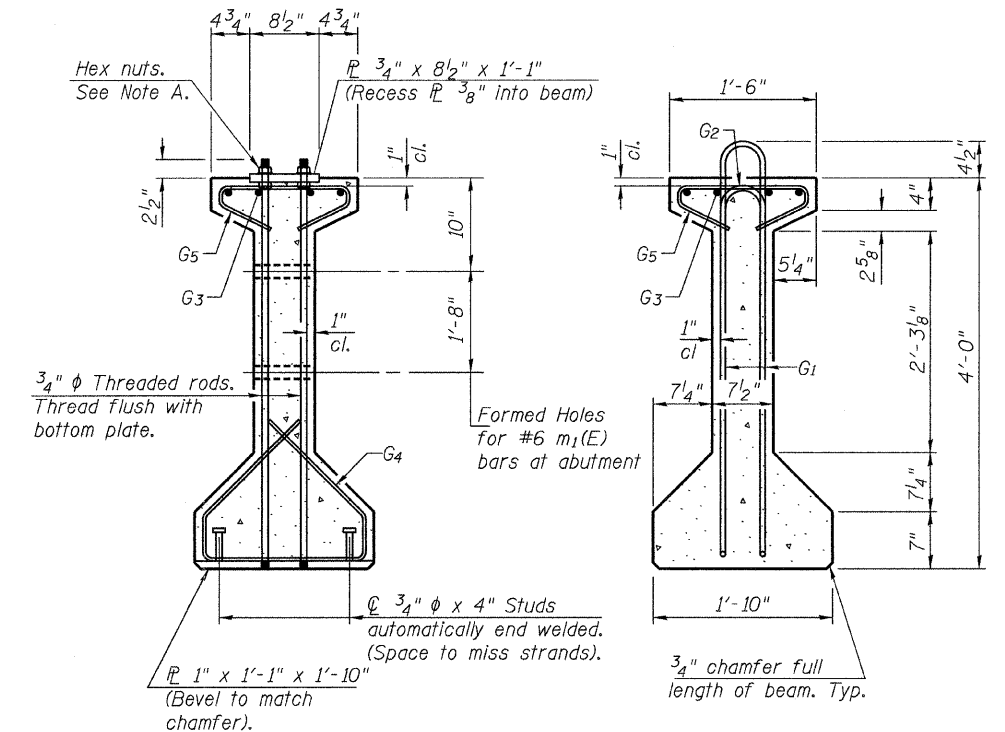
FRAMING PLAN

SHEET NO. 11 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	18
	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)			



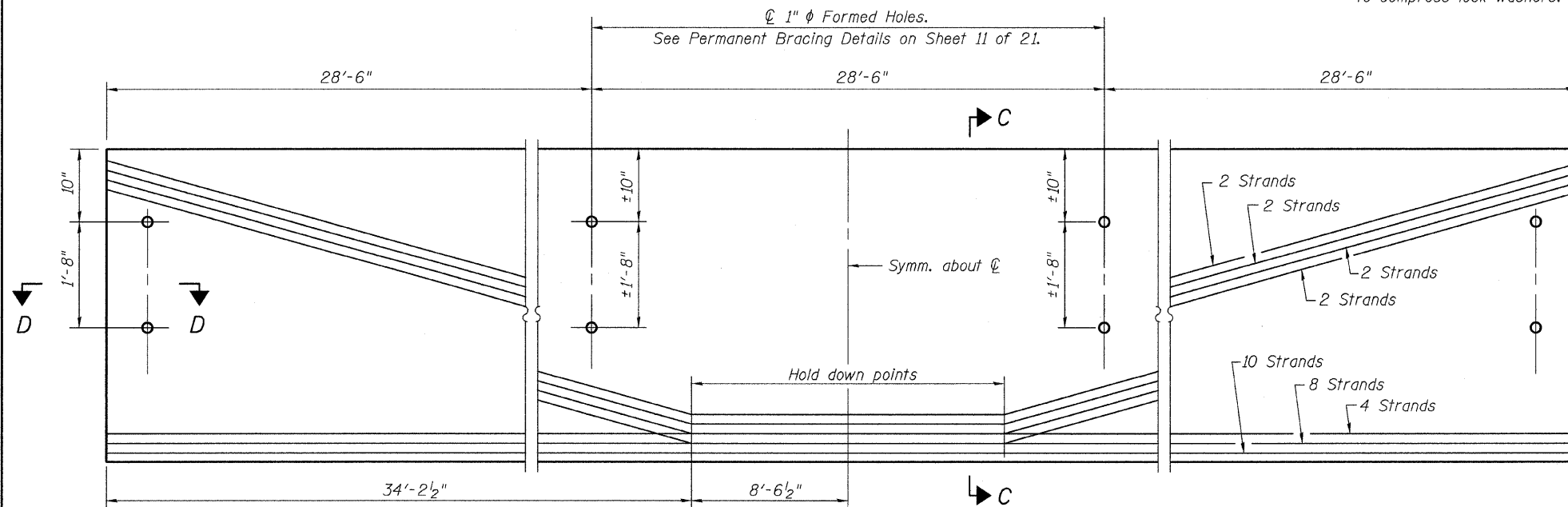
ELEVATION OF BEAM
(Showing reinforcement & dimensions)

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

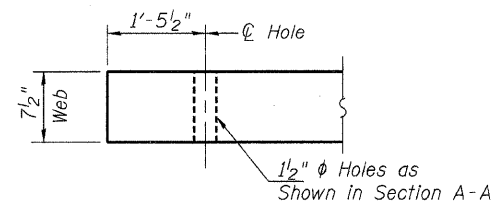


SECTION A-A

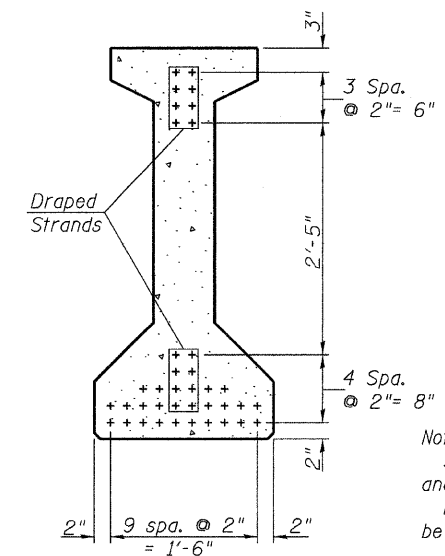
SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION D-D



SECTION C-C

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

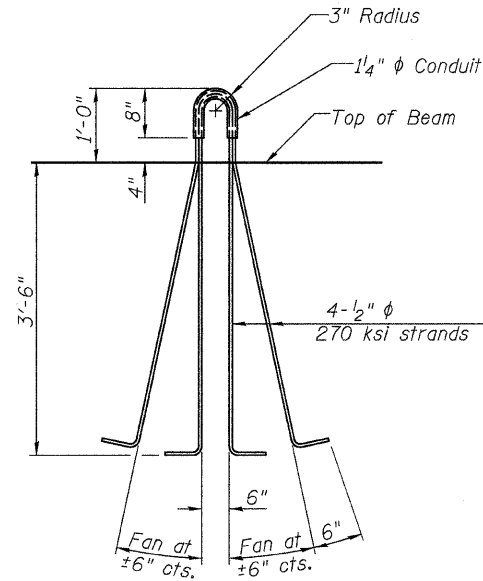
Bar	No.	Size	Length	Shape
G ₁	133	#4	9'-6"	∩L
G ₂	12	#4	7'-11"	∩
G ₃	12	#7	30'-9"	—
G ₄	38	#3	5'-3"	∩
G ₅	86	#3	2'-9"	∩

***For information only

Notes:
See sheet 12 of 21 for additional details and Bill of Material.
Required release strength, $f'ci$, shall be 6,000 psi.

48" PPC I-BEAM

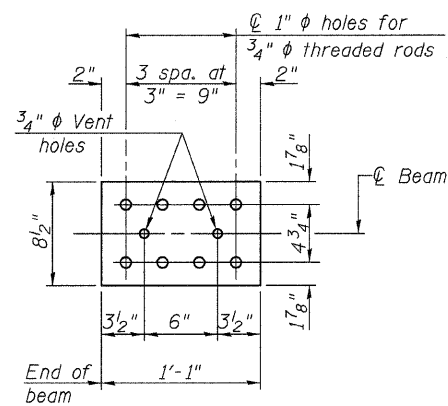
SHEET NO. 12 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	19
	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0091043		



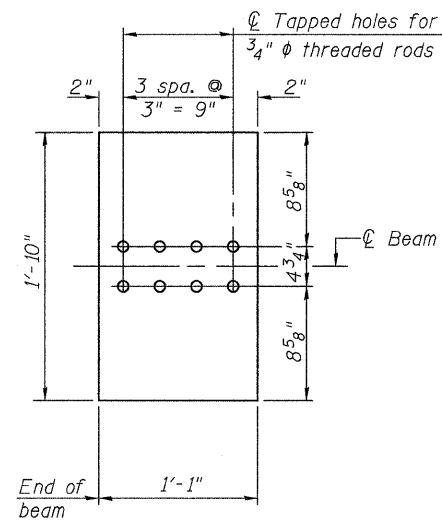
LIFTING LOOP DETAIL

NOTES

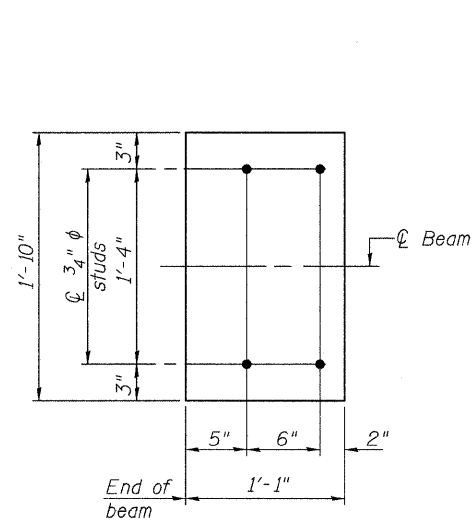
Inserts for 3/4" ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.
 Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
 Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.
 Tilt G₆ bars when necessary to maintain 1/2" clearance.
 The top and bottom plates shall be AASHTO M270 Grade 50.
 The bottom plates and studs shall be galvanized according to AASHTO M111.
 Threaded rods shall be ASTM F 1554 Grade 55.



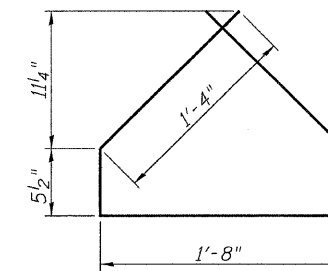
TOP PLATE



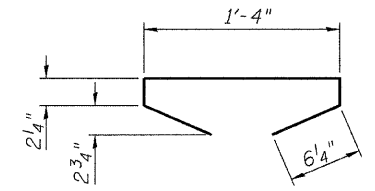
BOTTOM PLATE
(Showing threaded rods)



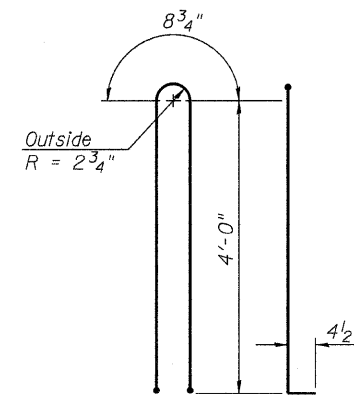
BOTTOM PLATE
(Showing studs)



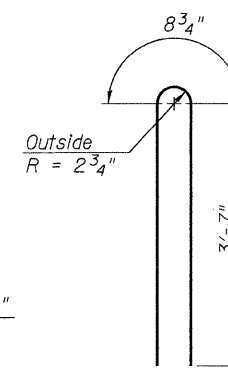
BAR G4



BAR G5



BAR G1



BAR G2

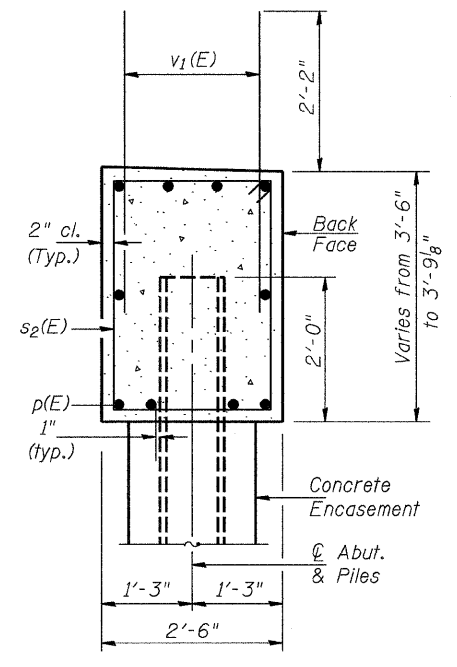
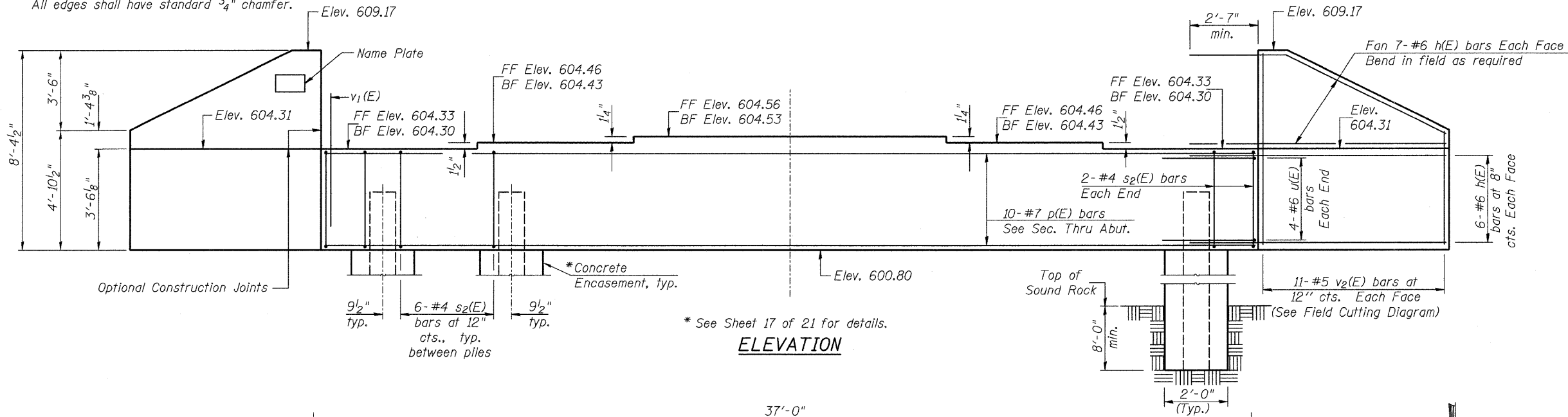
BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48"	Ft.	513

48" PPC I-BEAM DETAILS

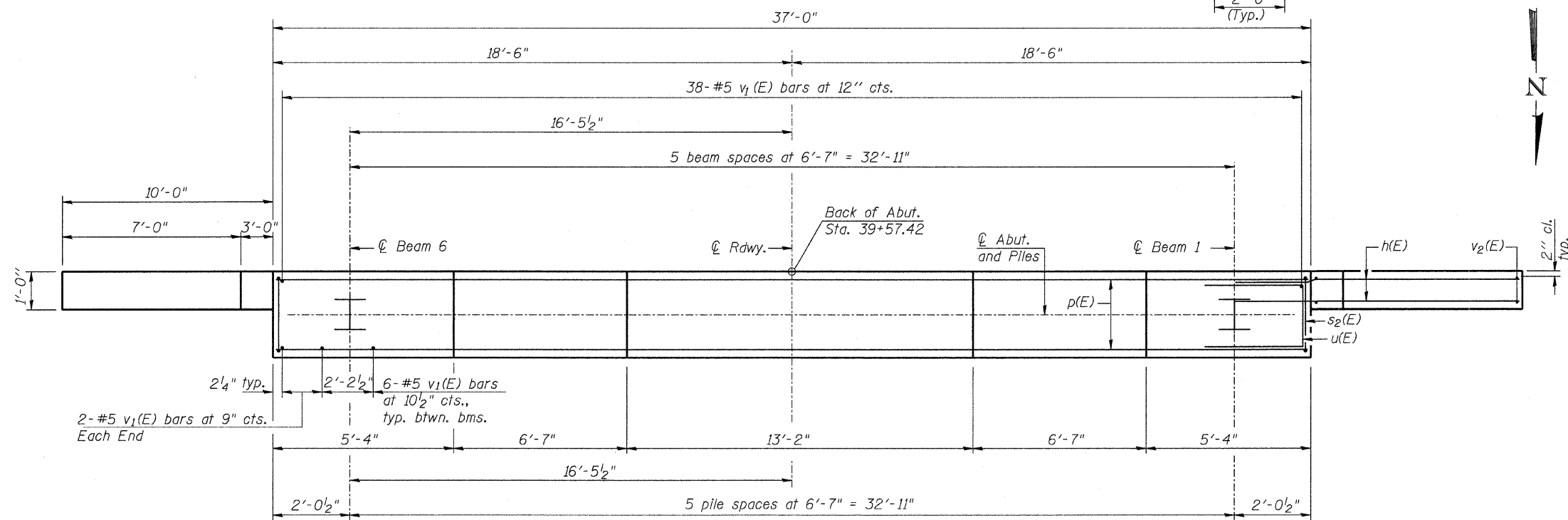
SHEET NO. 13 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	20
	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)			

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



ELEVATION

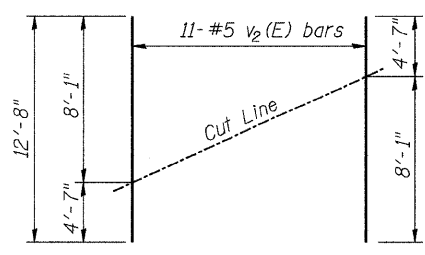
SEC. THRU ABUT.



PLAN

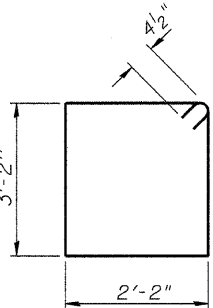
PILE DATA

Type: HP12x63
 Nominal Required Bearing: Set in Rock (497k)
 Factored Resistance Available: (249k)
 Est. Length: 19'
 No. Required: 6

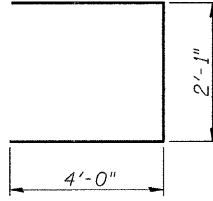


FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)

BILL OF MATERIAL SOUTH ABUTMENT

Bar	No.	Size	Length	Shape
h(E)	52	#6	12'-6"	—
p(E)	10	#7	36'-9"	—
s2(E)	34	#4	11'-5"	□
u(E)	8	#6	10'-1"	□
v1(E)	72	#5	4'-4"	—
v2(E)	22	#5	12'-8"	—

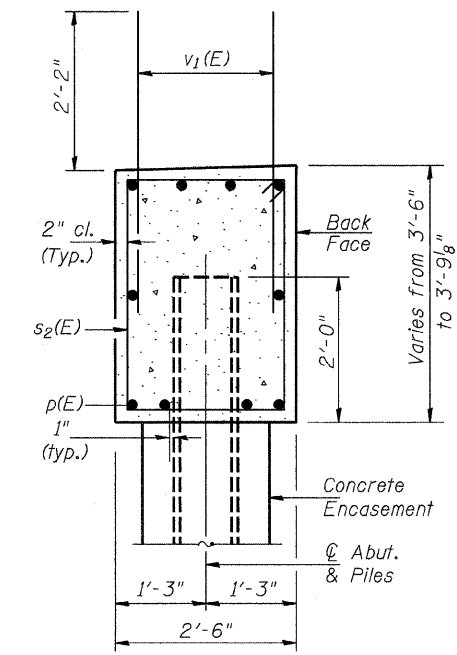
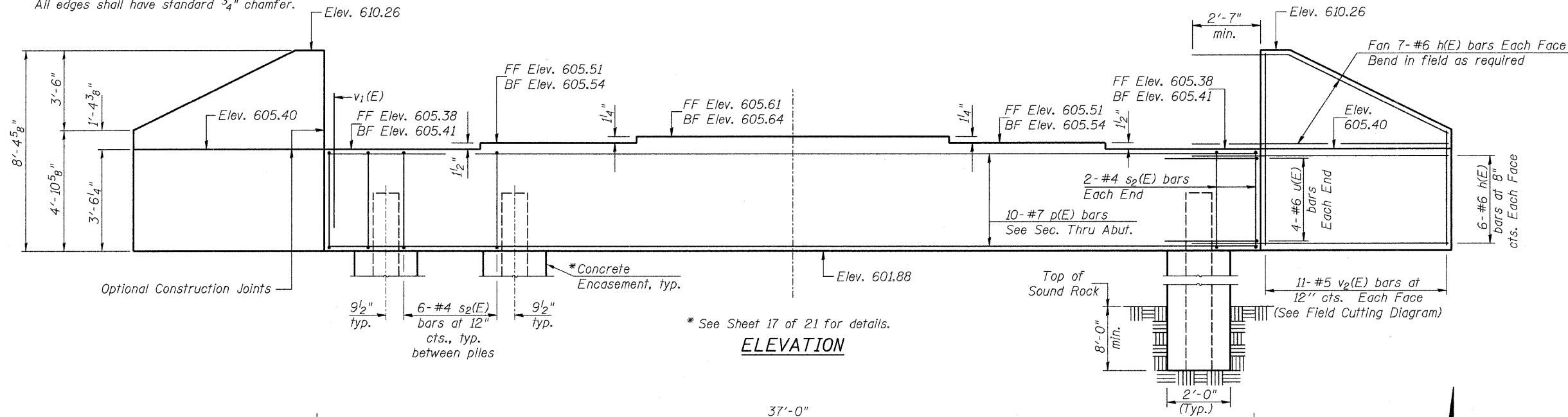
Structure Excavation	Cu. Yd.	125
Concrete Structures	Cu. Yd.	17.8
① Reinforcement Bars, Epoxy Coated	Pound	2,730
Name Plates	Each	1
Furnishing Steel Piles HP12x63	Foot	114
Concrete Encasement	Cu. Yd.	6.3
① Setting Piles in Rock	Each	6

① See Special Provisions
 For details of Piles and Concrete Encasement, see sheet 17 of 21.

SOUTH ABUTMENT

SHEET NO. 14	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	21
21 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)			

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



* See Sheet 17 of 21 for details.

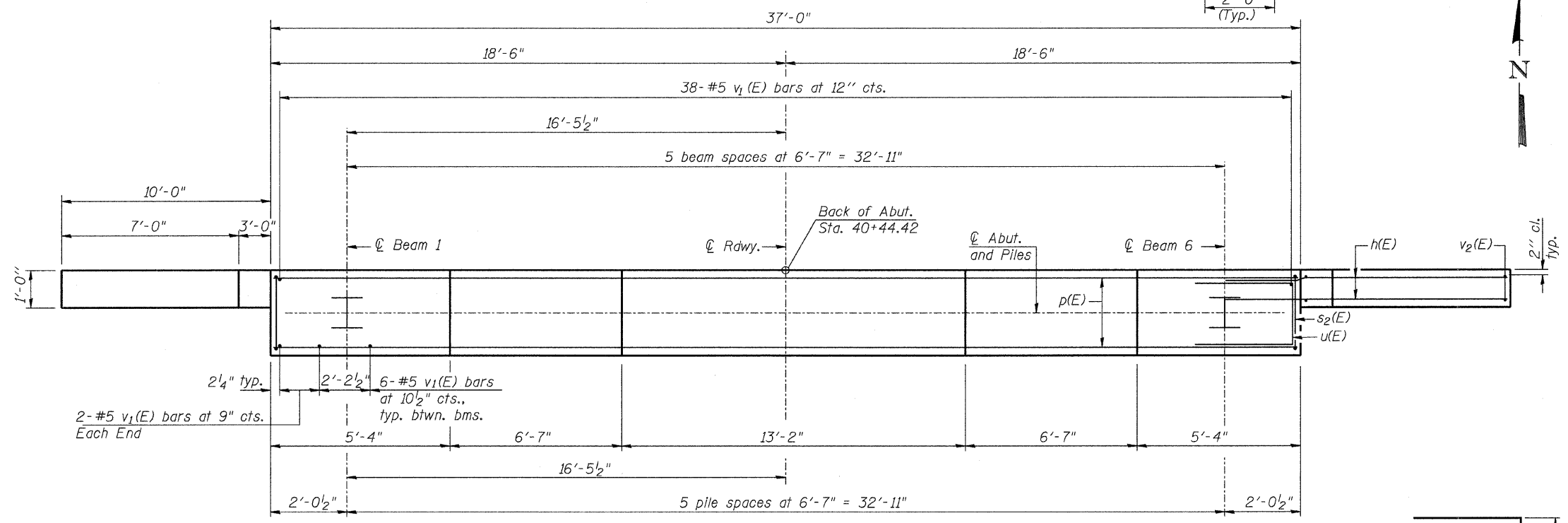
ELEVATION

SEC. THRU ABUT.

**BILL OF MATERIAL
 NORTH ABUTMENT**

Bar	No.	Size	Length	Shape
h(E)	52	#6	12'-6"	—
p(E)	10	#7	36'-9"	—
s2(E)	34	#4	11'-5"	□
u(E)	8	#6	10'-1"	□
v1(E)	72	#5	4'-4"	—
v2(E)	22	#5	12'-8"	—
Structure Excavation		Cu. Yd.	125	
Concrete Structures		Cu. Yd.	17.8	
① Reinforcement Bars, Epoxy Coated		Pound	2,730	
Furnishing Steel Piles HP12x63		Foot	144	
① Concrete Encasement		Cu. Yd.	9.1	
① Setting Piles in Rock		Each	6	

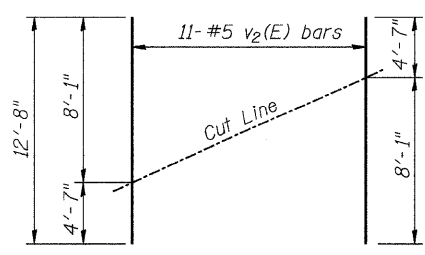
① See Special Provisions
 For details of Piles and Concrete Encasement, see sheet 17 of 21.



PLAN

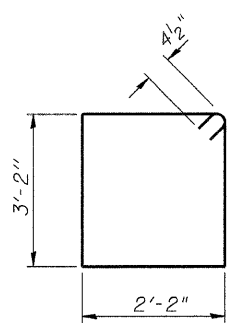
PILE DATA

Type: HP12x63
 Nominal Required Bearing: Set in Rock (497k)
 Factored Resistance Available: (249k)
 Est. Length: 24'
 No. Required: 6

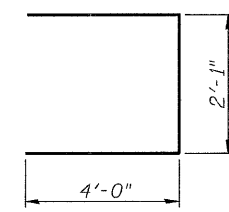


FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)

SHEET NO. 15		ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS		CH 29	10-00649-00-BR	LASALLE	43	22
			S.N. 050-3593	CONTRACT NO. 87430		
		FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT BRS-0099(043)		

NORTH ABUTMENT

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

The diameter of this part is the same as the diameter of the bar spliced.

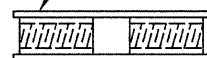
The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



**** ONE PIECE**

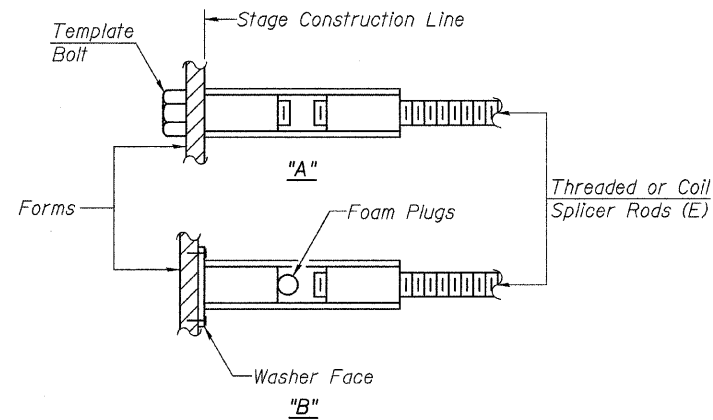
Wire Connector



WELDED SECTIONS

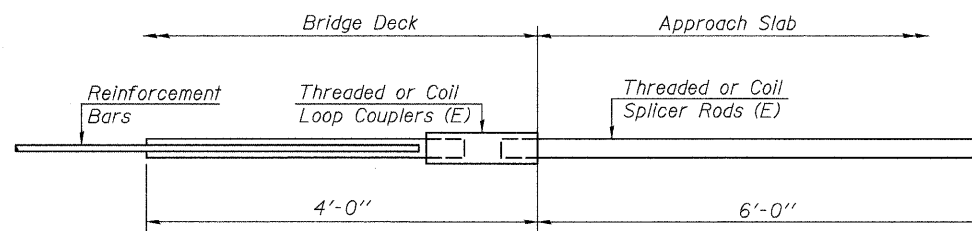
BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



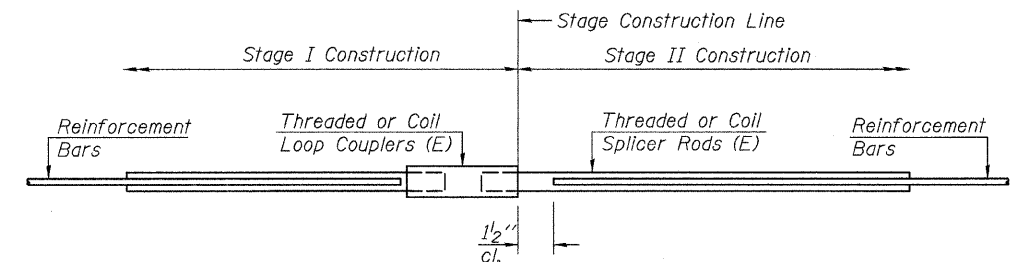
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	12.3 kips - tension
No. Required =	74

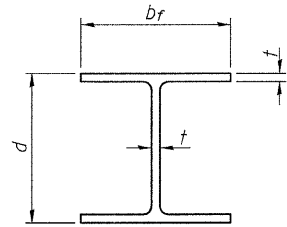


STANDARD

Bar Size	No. Assemblies Required	Location

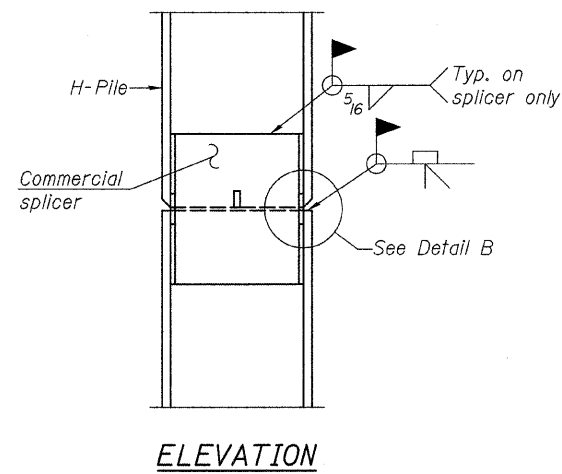
BAR SPLICER ASSEMBLY DETAILS

SHEET NO. 16	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	23
21 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT BRS-0099(043)		

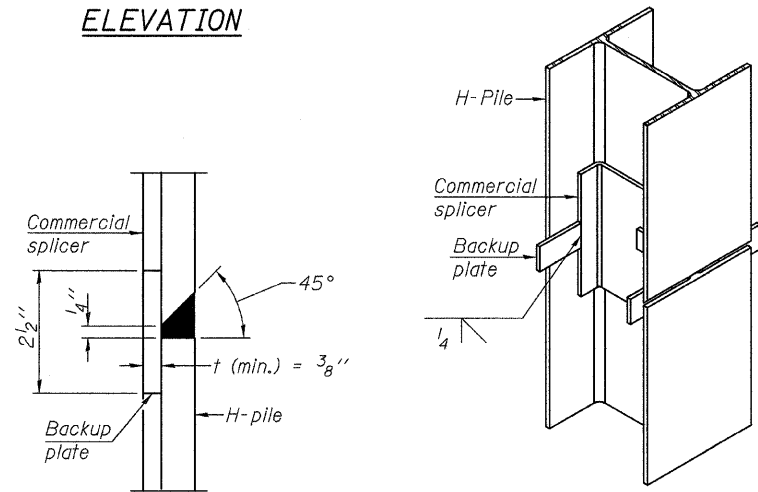


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 $\frac{1}{4}$ "	14 $\frac{7}{8}$ "	1 $\frac{3}{16}$ "	30"
x102	14"	14 $\frac{3}{4}$ "	1 $\frac{1}{16}$ "	30"
x89	13 $\frac{7}{8}$ "	14 $\frac{3}{4}$ "	5 $\frac{5}{8}$ "	30"
x73	13 $\frac{5}{8}$ "	14 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "	30"
HP 12x84	12 $\frac{1}{4}$ "	12 $\frac{1}{4}$ "	1 $\frac{1}{16}$ "	24"
x74	12 $\frac{1}{8}$ "	12 $\frac{1}{4}$ "	5 $\frac{5}{8}$ "	24"
x63	12"	12 $\frac{1}{8}$ "	1 $\frac{1}{2}$ "	24"
x53	11 $\frac{3}{4}$ "	12"	7 $\frac{1}{16}$ "	24"
HP 10x57	10"	10 $\frac{1}{4}$ "	9 $\frac{1}{16}$ "	24"
x42	9 $\frac{3}{4}$ "	10 $\frac{1}{8}$ "	7 $\frac{1}{16}$ "	24"
HP 8x36	8"	8 $\frac{1}{8}$ "	7 $\frac{1}{16}$ "	18"

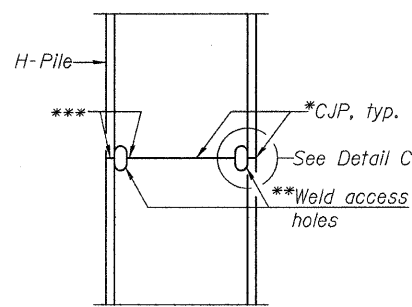


ELEVATION

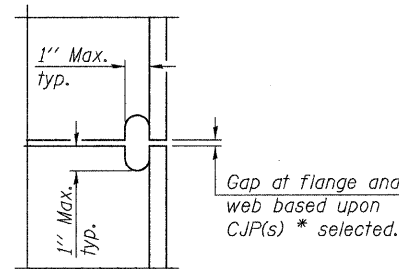


DETAIL "B"

WELDED COMMERCIAL SPLICE



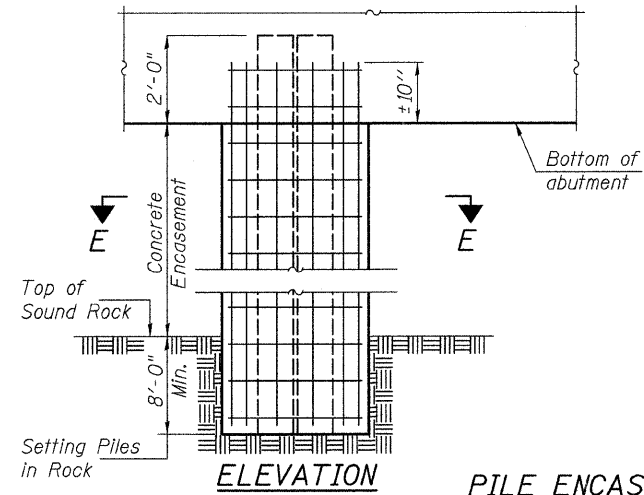
ELEVATION



DETAIL C

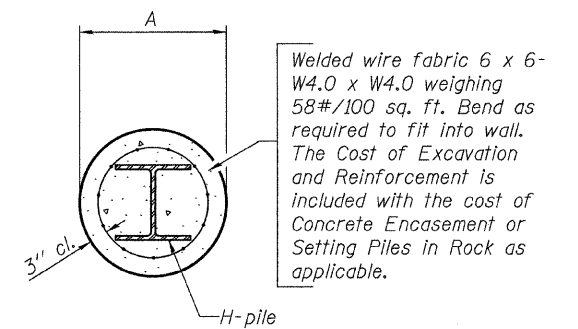
COMPLETE PENETRATION WELD SPLICE

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.



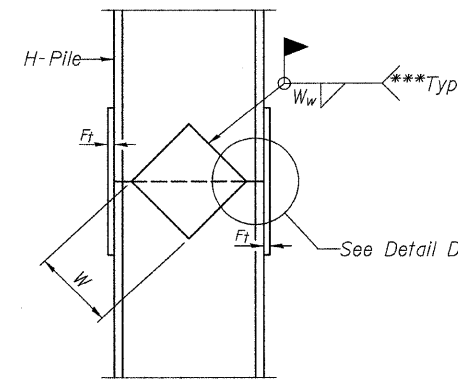
ELEVATION

PILE ENCASUREMENT

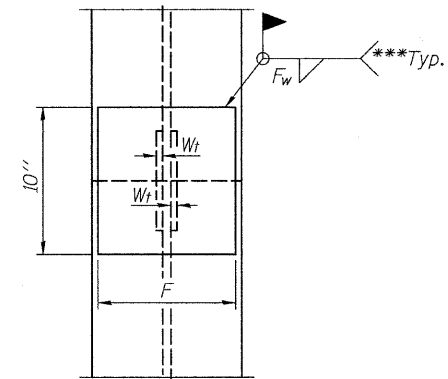


SECTION E-E

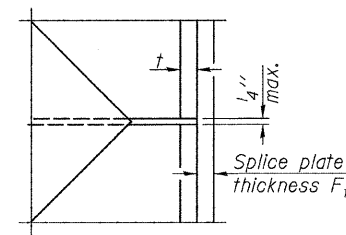
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



END VIEW



DETAIL D

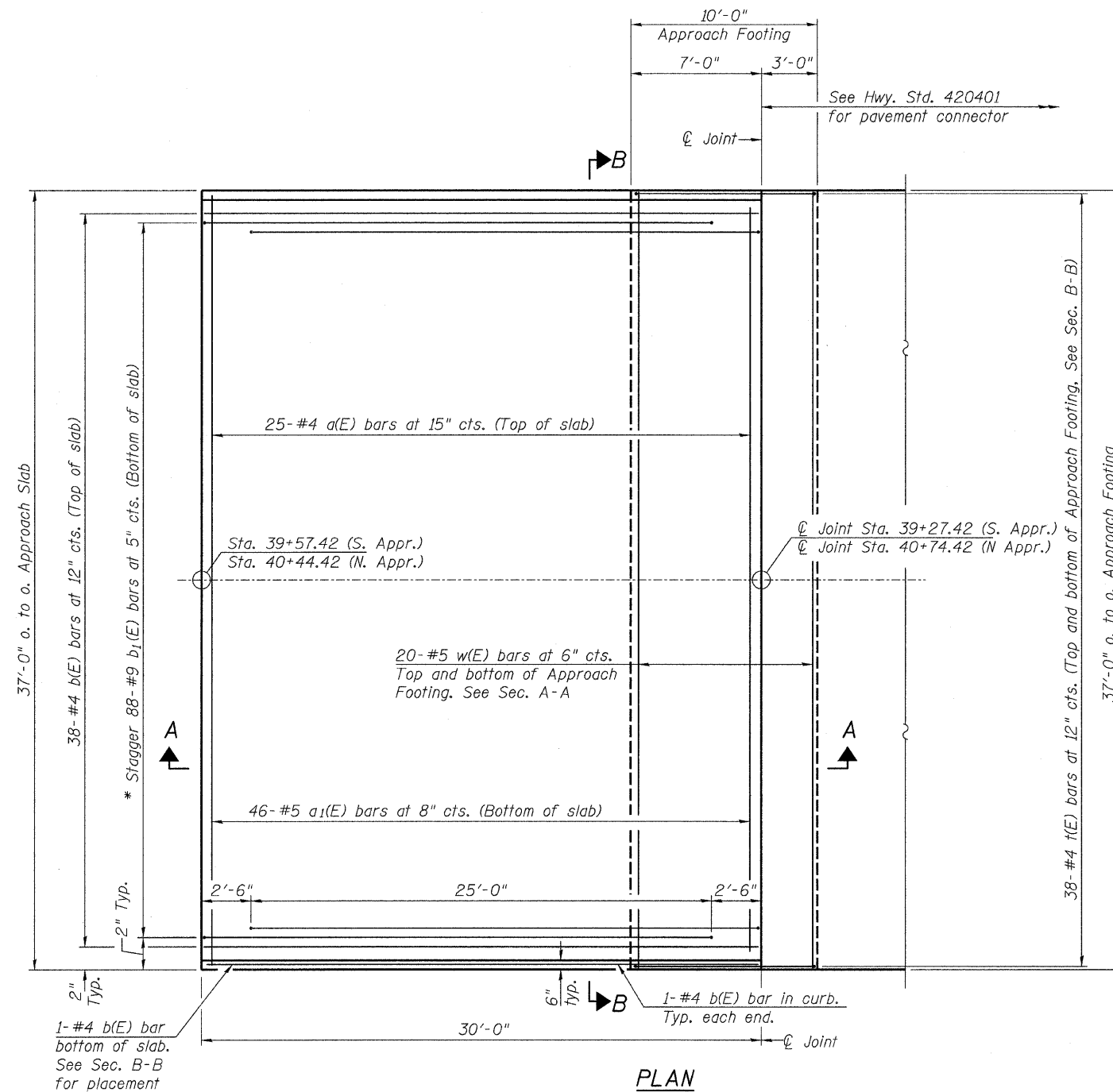
WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 $\frac{1}{2}$ "	1"	7 $\frac{7}{8}$ "	7 $\frac{3}{4}$ "	5 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "
x102	12 $\frac{1}{2}$ "	7 $\frac{7}{8}$ "	3 $\frac{3}{4}$ "	7 $\frac{3}{4}$ "	5 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "
x89	12 $\frac{1}{2}$ "	3 $\frac{3}{4}$ "	1 $\frac{1}{16}$ "	7 $\frac{3}{4}$ "	5 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "
x73	12 $\frac{1}{2}$ "	5 $\frac{5}{8}$ "	9 $\frac{1}{16}$ "	7 $\frac{3}{4}$ "	5 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "
HP 12x84	10"	7 $\frac{7}{8}$ "	1 $\frac{1}{16}$ "	6 $\frac{1}{2}$ "	5 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "
x74	10"	7 $\frac{7}{8}$ "	1 $\frac{1}{16}$ "	6 $\frac{1}{2}$ "	5 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "
x63	10"	5 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "
x53	10"	5 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "
HP 10x57	8"	3 $\frac{3}{4}$ "	9 $\frac{1}{16}$ "	5 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "
x42	8"	5 $\frac{5}{8}$ "	9 $\frac{1}{16}$ "	5 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "
HP 8x36	7"	5 $\frac{5}{8}$ "	7 $\frac{1}{16}$ "	4 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "

HP PILE DETAILS

SHEET NO. 17 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	24
	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		

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

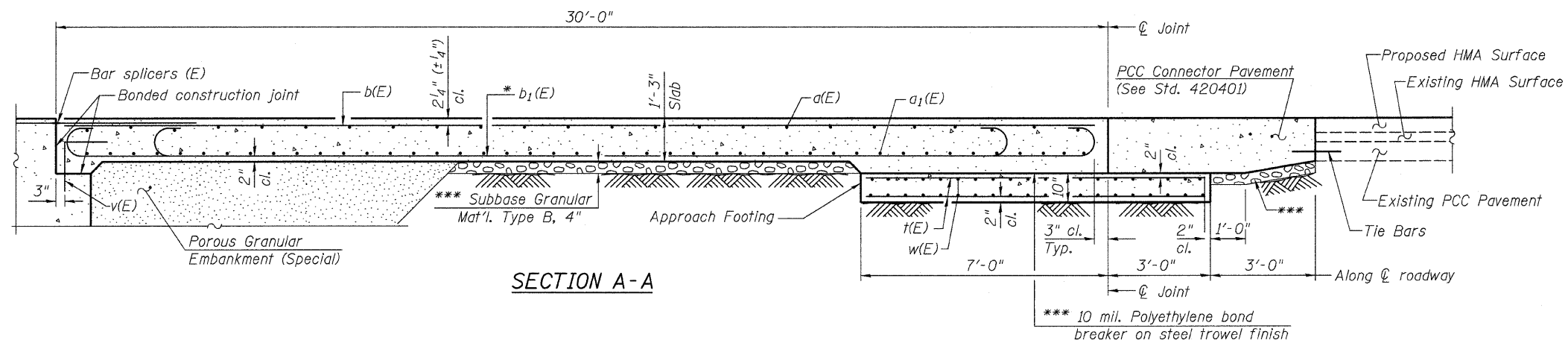


* Tilt #9 b₁(E) bars as required to maintain clearance.

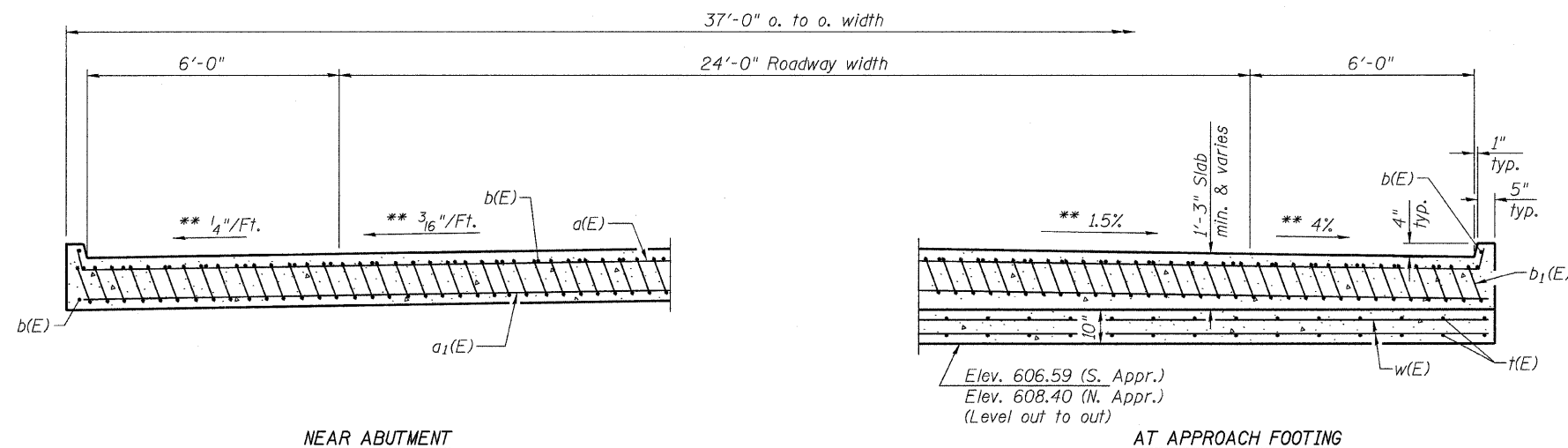
Notes:
See sheet 19 of 21 for Sections A-A & B-B.
a(E), a₁(E), and w(E) bar spacings measured perpendicular to ⊕ Rdwy.

(Sheet 1 of 2)
BRIDGE APPROACH SLAB DETAILS

SHEET NO. 18	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	25
21 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		



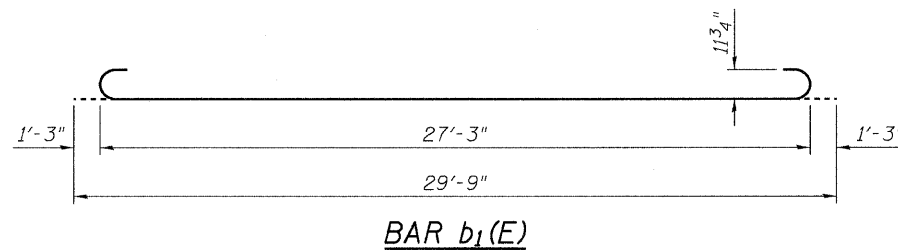
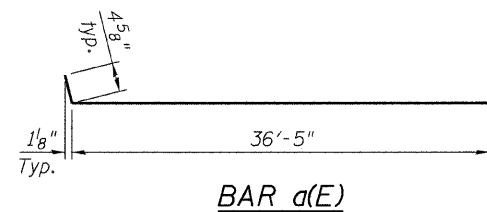
Notes:
 For v(E) bar details, see sheet 8 of 21.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 For bar splicer details, see sheet 16 of 21.
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 21.
 Approach slab concrete shall be Class BS.
 Approach footing concrete shall be Class SI.
 The cost of concrete and reinforcement in approach slab and footing are included with Bridge Approach Pavement.
 The cost of Excavation for approach footing is included with Bridge Approach Pavement.
 The cost of tie bars between the existing and connector pavements is included with Bridge Approach Pavement Connector (PCC).



* Tilt #9 b₁(E) bars as required to maintain clearance.
 ** Slopes transition on approach slab from 3/16"/Ft. to 1.5% on lanes and from 1/4"/Ft. to 4% on shoulders.
 *** Cost included with Bridge Approach Pavement or Bridge Approach Pavement Connector (PCC), as applicable.

BAR LIST
ONE APPROACH PAVEMENT

Bar	No.	Size	Length	Shape
a(E)	25	#4	37'-3"	—
a ₁ (E)	46	#5	36'-8"	—
b(E)	41	#4	29'-8"	—
b ₁ (E)	88	#9	29'-9"	—
t(E)	76	#4	9'-8"	—
w(E)	40	#5	36'-8"	—

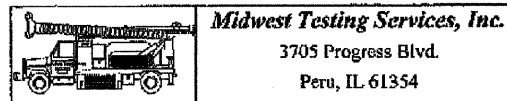


TWO APPROACHES
BILL OF MATERIAL

Item	Unit	Total
Bridge Approach Pavement	Sq Yd	247

(Sheet 2 of 2)
BRIDGE APPROACH SLAB DETAILS

SHEET NO. 19	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	26
21 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0099(043)		



BORING LOG

Sheet 1 of 2

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

Client: Hutchison Engineering, Inc.
 Project Name: Sec 10-00649-00-BR CH-29 Over Egg Bag Creek
 Project Site: LaSalle County, Illinois

Boring No. B-1
 Surface Elev. 609.05
 Auger Depth 41' Rotary Depth NA
 Start Date 11/23/08 Finish Date 11/23/08

Location: 15' Left of Station 39+57

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Q _u (TSF)	N Value (Blows)	Bludge / Shear	Moisture (%)	Dry Density (PCF)	
609.05											
608.05			1								
607.05			2								
606.05			3	1	SS	1.7	14	S	16		
605.05			4								
604.05	Stiff Brown And Gray Gravelly Clay (Fill)		5	2	SS	1.4	12	S	19		
603.05			6								
602.05			7								
601.05			8	3	SS	1.9	12	B	21		
600.05			9								
599.05			10	4	SS	1.5	10	B	23		
598.05	Stiff Black Silty Clay		11								
597.05			12								
596.05			13	5	SS	---	76	---	13		
595.05			14								
594.05			15	6	SS	---	83	---	13		
593.05	Very Dense Gray Shale		16								
592.05			17								
591.05			18	7	SS	---	100 10"	---	12		
590.05			19								
589.05			20	8	SS	---	100 8"	---	10		

Groundwater Data: No groundwater encountered at time of subsurface investigation.
 Comments:



BORING LOG

Sheet 2 of 2

Phone: 815-223-6696
 Fax: 815-223-6659
 e-mail: midwest.07@insightbb.com

Client: Hutchison Engineering, Inc.
 Project Name: Sec 10-00649-00-BR CH-29 Over Egg Bag Cre
 Project Site: LaSalle County, Illinois

Boring No. B-1
 Surface Elev. 609.05
 Auger Depth 41' Rotary Depth NA
 Start Date 11/23/08 Finish Date 11/23/08

Location: 15' Left of Station 39+57

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Q _u (TSF)	N Value (Blows)	Bludge / Shear	Moisture (%)	Dry Density (PCF)	
588.05											
587.05			22								
586.05			23	9	SS	---	100 7"	---	12		
585.05			24								
584.05			25	10	SS	---	100 8"	---	13		
583.05			26								
582.05			27								
581.05			28	11	SS	---	100 6"	---	11		
580.05			29								
579.05	Very Dense Gray Shale With Concretions		30	12	SS	---	100 6"	---	10		
578.05			31								
577.05			32								
576.05			33								
575.05			34								
574.05			35	13	SS	---	100 4"	---	10		
573.05			36								
572.05			37								
571.05			38								
570.05			39								
569.05			40	14	SS	---	100 3"	---	10		
568.05	Bottom of Boring		41								

Groundwater Data: No groundwater encountered at time of subsurface investigation.
 Comments:

SOIL BORING LOGS

SHEET NO. 20 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	27
	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		

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

BORING LOG

Sheet 1 of 2

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

Client: Hatchison Engineering, Inc.
 Project Name: Sec 10-00649-00-BR CH-29 Over Egg Bag Creek
 Project Site: LaSalle County, Illinois

Boring No. B-2
 Surface Elev. 610.04
 Auger Depth 41' Rotary Depth NA
 Start Date 11/23/08 Finish Date 11/23/08

Location: 13' Right of Station 40+43

(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 (%)	Dry Density (PCF)	Randy Saffranski	
610.04			1									
609.04			2									
608.04			3	1	SS	2.2	15	8	15			
607.04	Very Stiff To Stiff Black, Brown And Gray Clay To Gravely Clay (Fill)		4									
606.04			5									
605.04			6	2	SS	1.8	11	B	20			
604.04			7									
603.04			8	3	SS	1.1	8	B	24			
602.04			9									
601.04			10	4	SS	2.3	14	8	18			
600.04			11									
599.04	Stiff Brownish Gray Silty Clay		12									
598.04			13	5	SS	1.8	12	B	20			
597.04			14									
596.04			15									
595.04	Dense Brown And Gray Fine Coarse Sand		16	6	SS	--	33	--	--			
594.04			17									
593.04			18	7	SS	--	38	--	--			
592.04			19									
591.04	Dense Olive Brown And Gray Weathered Shale		20									
590.04				8	SS	--	47	--	--			

Groundwater Data: Seepage encountered at 17' depth.
 Comments: Static water level after auger removal 17' depth.

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

BORING LOG

Sheet 2 of 2

Phone: 815-223-6696
 Fax: 815-223-6659
 e-mail: midwest.07@msightbb.com

Client: Hatchison Engineering, Inc.
 Project Name: Sec 10-00649-00-BR CH-29 Over Egg Bag Cre
 Project Site: LaSalle County, Illinois

Boring No. B-2
 Surface Elev. 610.04
 Auger Depth 41' Rotary Depth NA
 Start Date 11/23/08 Finish Date 11/23/08

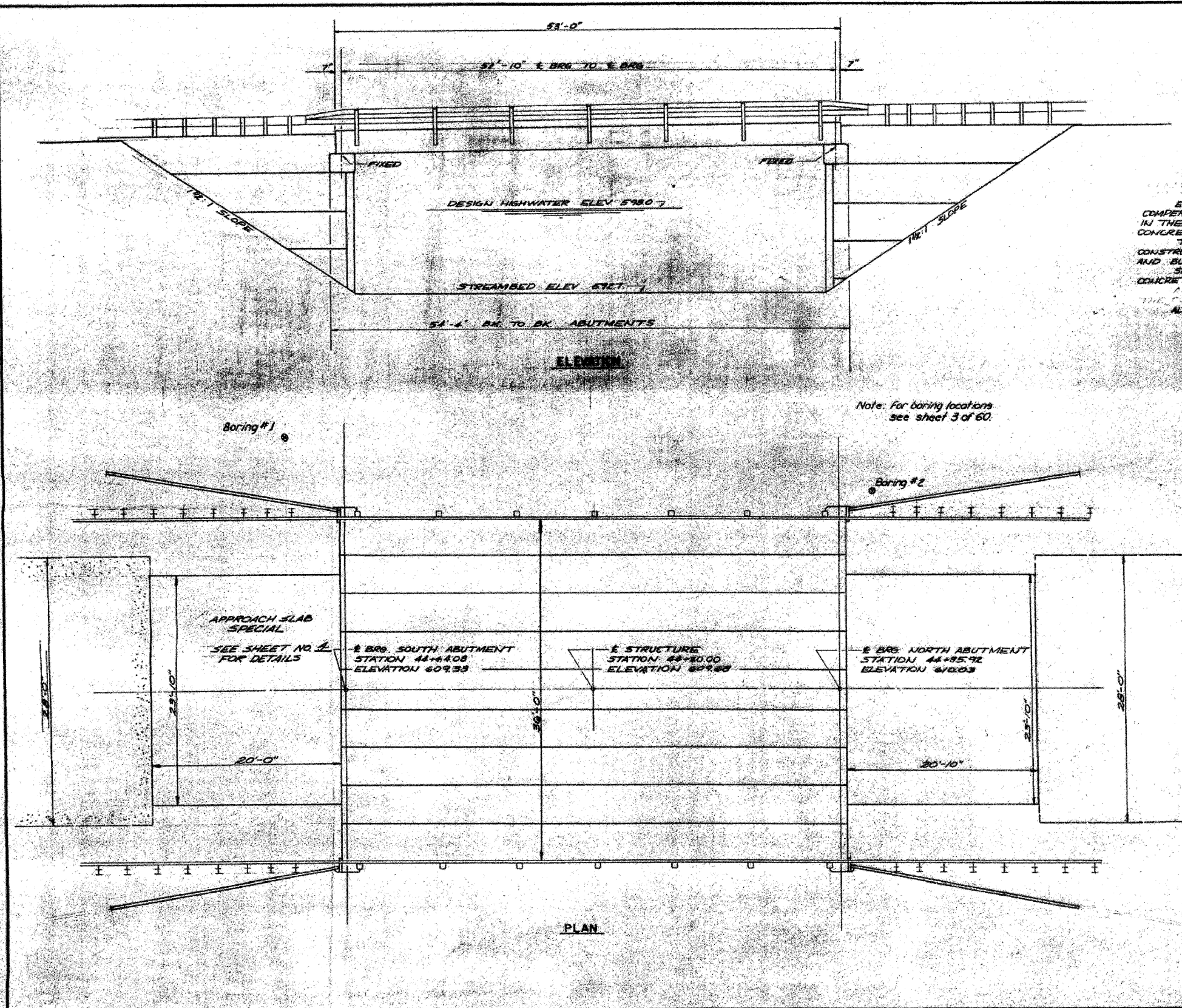
Location: 13' Right of Station 40+43

(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 (%)	Dry Density (PCF)	Randy Saffranski	
589.04			22									
588.04			23	9	SS	100	9"	--	12			
587.04			24									
586.04			25									
585.04			26	10	SS	100	6"	--	12			
584.04			27									
583.04			28	11	SS	100	5"	--	11			
582.04	Very Dense Gray Shale With Concretions		29									
581.04			30									
580.04			31	12	SS	100	7"	--	11			
579.04			32									
578.04			33									
577.04			34									
576.04			35									
575.04			36	13	SS	100	4"	--	10			
574.04			37									
573.04			38									
572.04		39										
571.04		40										
570.04		41	14	SS	100	2"	--	9				
569.04	Bottom of Boring											

Groundwater Data: Seepage encountered at 17' depth.
 Comments: Static water level after auger removal 17' depth.

SOIL BORING LOGS

SHEET NO. 21 21 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	28
	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)			



GENERAL NOTES

EXCAVATION FOR STRUCTURES SHALL NOT BE CLASSIFIED COMPENSATION FOR SUCH SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT UNIT PRICE FOR PRECAST PRESTRESSED CONCRETE PLANK.
 THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED BY THE DEPARTMENT OF PUBLIC WORKS AND BUILDINGS ON JANUARY 2, 1976 SHALL APPLY TO THIS WORK.
 SEE SPECIAL PROVISIONS FOR THE ITEM PRECAST PRESTRESSED CONCRETE PLANK.
 ALL DIMENSIONS SHALL BE NOT-DIPPED UNLESS NOTED.

PILE DATA

TYPE	STEEL PIPE	NO. 24
NUMBER REQUIRED	36	(19 Abut Piles) (17 Wing Piles)
ESTIMATED LENGTH		
MINIMUM CAPACITY		As Detailed

WATERWAY INFORMATION

DRAINAGE AREA	15.9	SQ MILES
EXISTING OPENING	202	30 FT
REQUIRED OPENING	260	30 FT
PROPOSED OPENING	260	30 FT
DESIGN FREQUENCY	25	YEARS
DESIGN DISCHARGE	1441	C.F.S

NAME PLATE

STATION 44+70.00
 EGG BAG CREEK
 BUILT 197
 FAS RTE 1284 SEC 138-G
 FAS PROJ. S-1284(106)
 LOADING HS 20

**GENERAL PLAN
 &
 ELEVATION
 EGG BAG CREEK
 SECTION 138-G
 LASALLE COUNTY
 STATION 44+70.00**

Note: For boring locations see sheet 3 of 60.

Boring #1

Boring #2

APPROACH SLAB SPECIAL
 SEE SHEET NO. 1 FOR DETAILS

E BRG. SOUTH ABUTMENT
 STATION 44+44.08
 ELEVATION 609.33

E STRUCTURE
 STATION 44+70.00
 ELEVATION 609.33

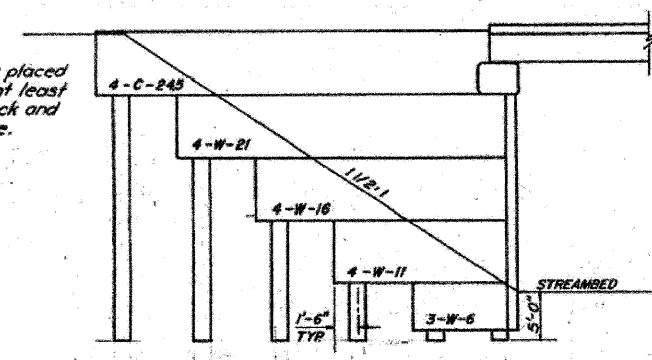
E BRG. NORTH ABUTMENT
 STATION 44+85.92
 ELEVATION 610.03

PLAN

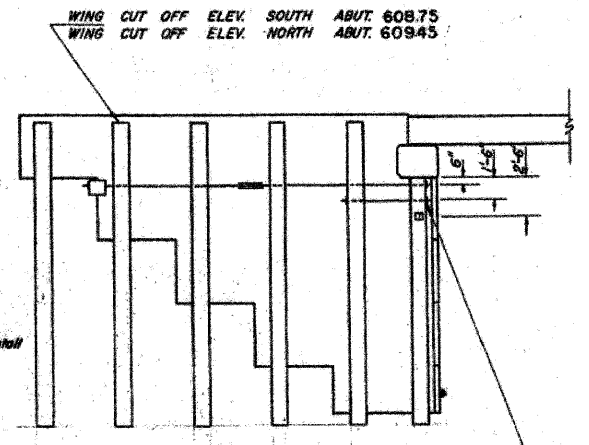
EXISTING STRUCTURE PLANS

SHEET NO. 1 5 SHEETS	ROUTE NO. CH 29	SECTION 10-00649-00-BR	COUNTY LASALLE	TOTAL SHEETS 43	SHEET NO. 29
	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		

NOTE: All steel piles to be placed in precored holes at least 5'-0" into sound rock and filled with concrete.



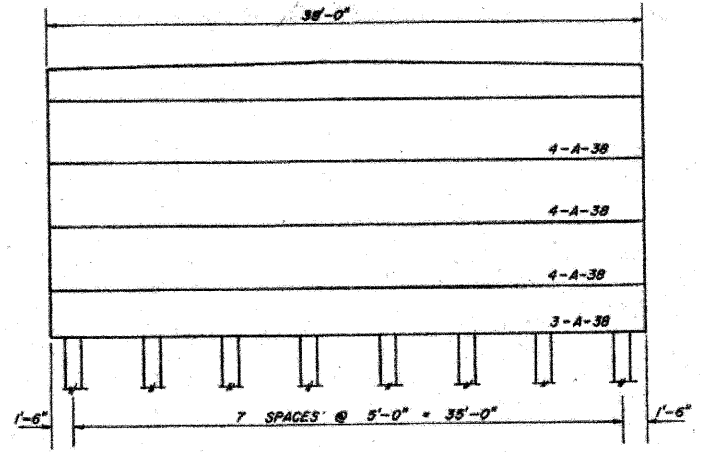
WING ELEVATION



SECTION A-A

NOTE: See Sheet No. 40 for Pile Encasement Detail

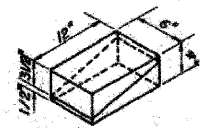
NOTE: HOLES FOR TIE RODS ARE TO BE CUT IN THE STEEL PILES BEFORE PILES ARE ENCASED. (COST INCIDENTAL)



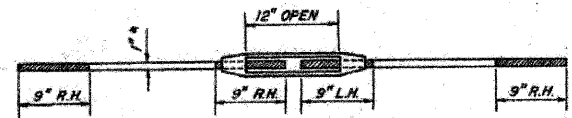
ABUTMENT ELEVATION

NOTE: SEE SHEET NO. 41 FOR PLANK HANGING DETAIL.

Note: Planks 4-W-11 & 3-W-6 may be omitted if sound rock is encountered in the field.

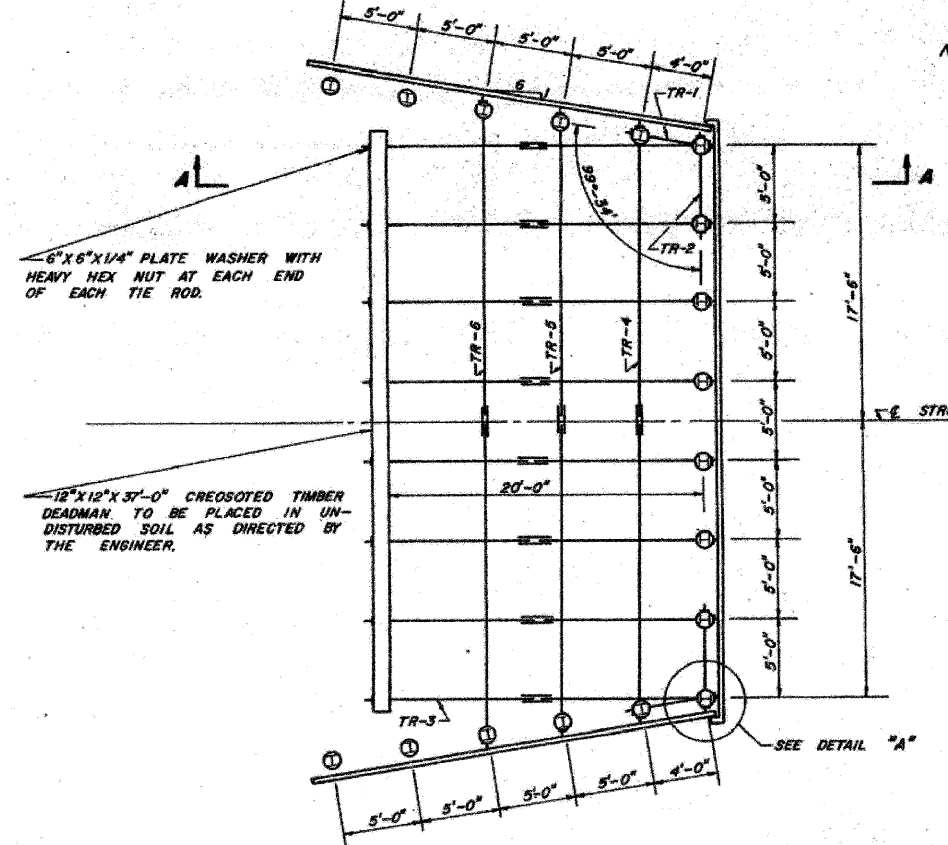


TIMBER WEDGES



TR-1	6'-0"
TR-2	7'-0"
TR-3	11'-3"
TR-4	19'-3"
TR-5	20'-3"
TR-6	21'-3"

TIE RODS



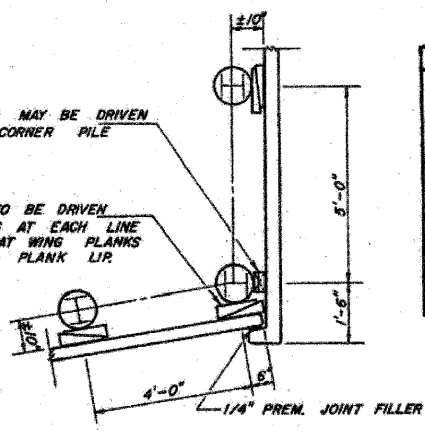
PLAN

6"x6"x1/4" PLATE WASHER WITH HEAVY HEX NUT AT EACH END OF EACH TIE ROD.

12"x12"x3'-0" CREOSOTED TIMBER DEADMAN TO BE PLACED IN UN-DISTURBED SOIL AS DIRECTED BY THE ENGINEER.

TIMBER WEDGES MAY BE DRIVEN VERTICAL ON CORNER PILE

TIMBER WEDGES TO BE DRIVEN HORIZ. AND SNUG AT EACH LINE OF CONN. SO THAT WING PLANKS BEAR FIRMLY ON PLANK L/R.



DETAIL "A"

HARDWARE

NO.	ITEM	LENGTH
4	TIE RODS 1" TR-1	6'-0"
4	TIE RODS 1" TR-2	7'-0"
16	TIE RODS 1" TR-3	22'-6"
2	TIE RODS 1" TR-4	38'-6"
2	TIE RODS 1" TR-5	40'-6"
2	TIE RODS 1" TR-6	42'-6"
22	TURNBUCKLES 1"	
60	6"x6"x1/4" PLATE WASHERS	
60	HEAVY HEX NUTS	
TOTAL POUNDS		2068

INCLUDES 3/2% FOR GALVANIZING

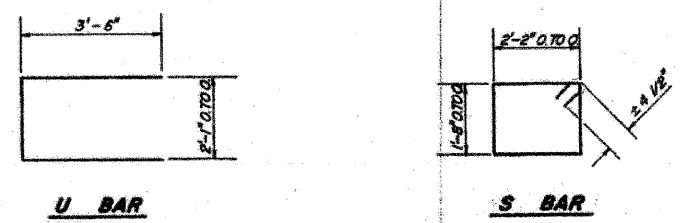
TREATED TIMBER

NO.	ITEM	SIZE	LENGTH
2	DEADMEN	12"x12"	3'-0"
248	WEDGES (PAIR)	4"x6"	1'-0"
TOTAL F.B.M.			1408

**ABUTMENT DETAIL
EGG BAG CREEK
SECTION 138-G
LASALLE COUNTY
STATION 44+70.00**

EXISTING STRUCTURE PLANS

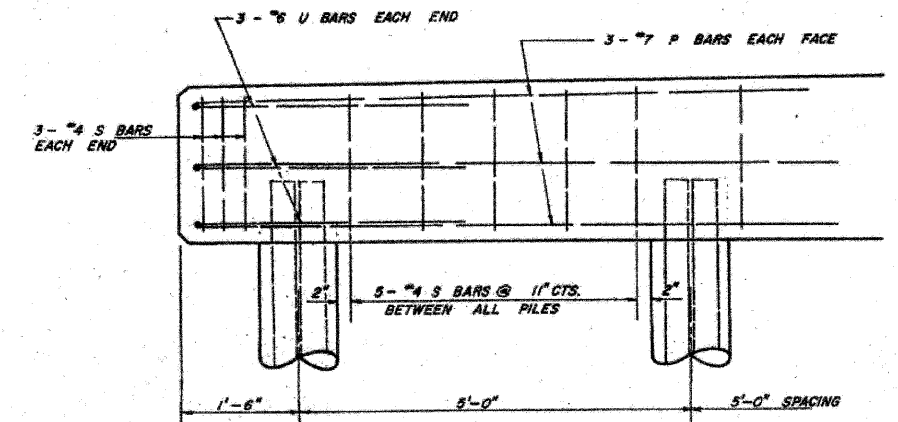
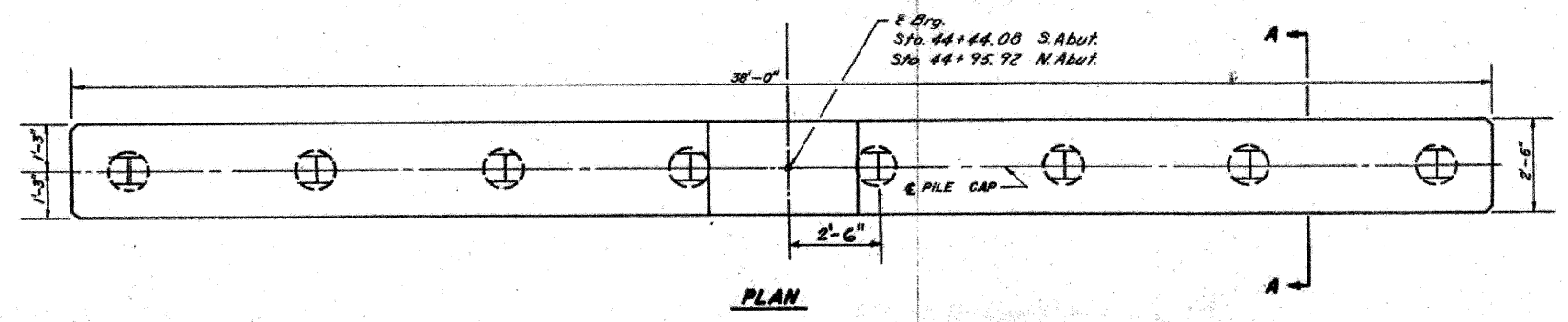
SHEET NO. 2 5 SHEETS	ROUTE NO. CH 29	SECTION 10-00649-00-BR	COUNTY LASALLE	TOTAL SHEETS 43	SHEET NO. 30
	S.N. 050-3593		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)			



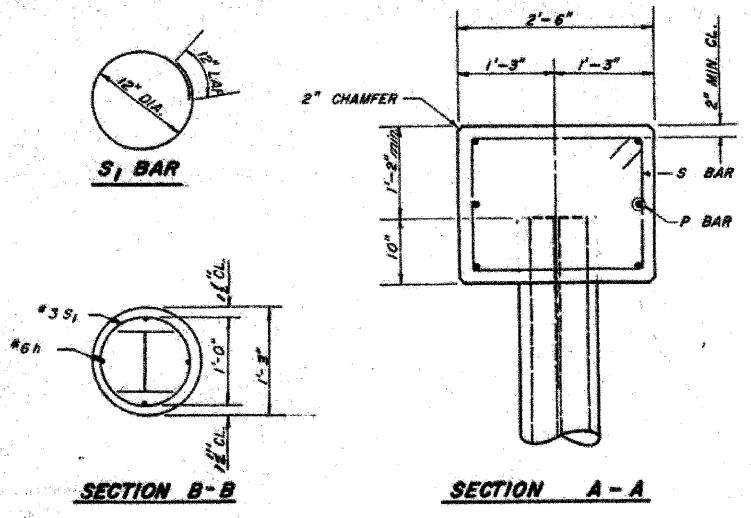
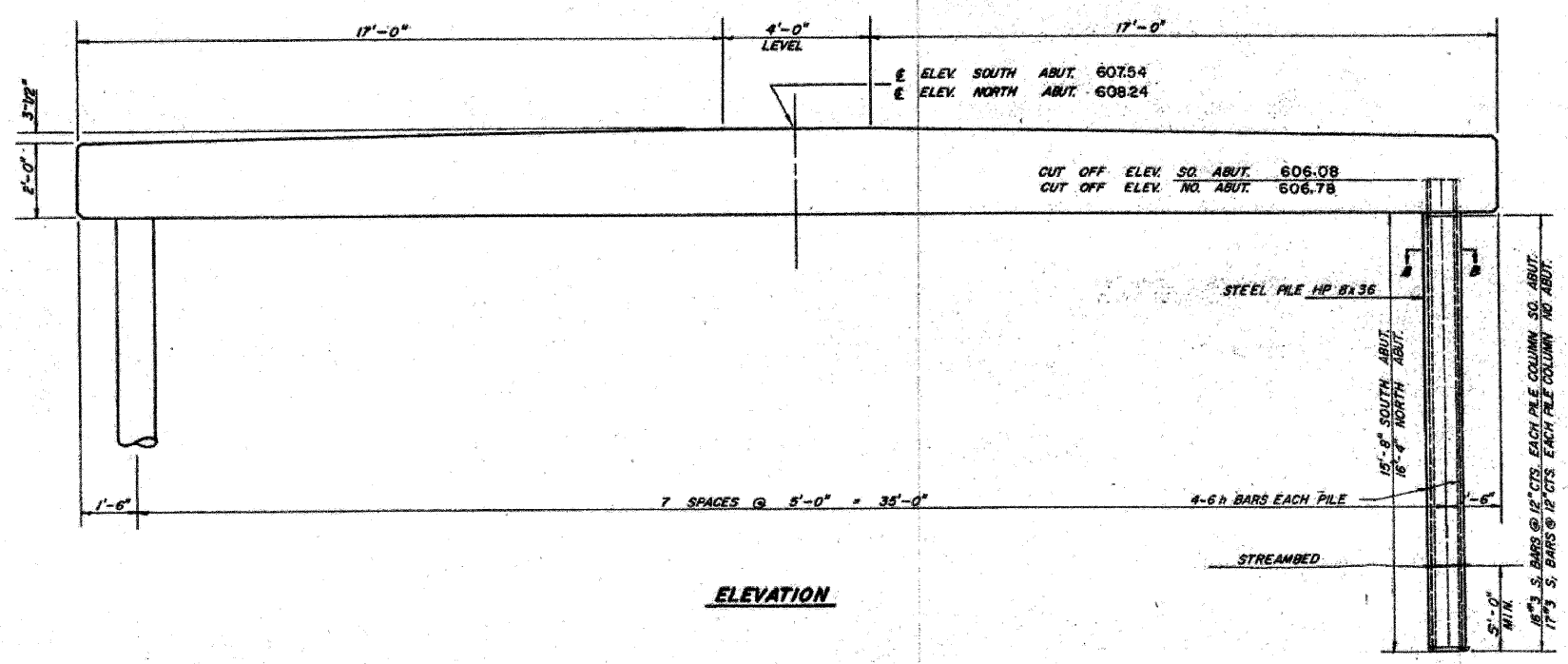
BILL OF MATERIAL *

BAR	NO.	SIZE	LENGTH	SHAPE
P	6	#7	37'-9"	—
S	41	#4	8'-5"	⊞
U	6	#6	9'-1"	⊞
REINFORCEMENT BARS			LBS.	775
CLASS X CONCRETE			CU. YD.	7.3

* QUANTITY IS FOR ONE CAP ONLY



NOTE: ALL REINFORCEMENT BARS SHALL BE LAPPED A MINIMUM OF 24 BAR DIA.

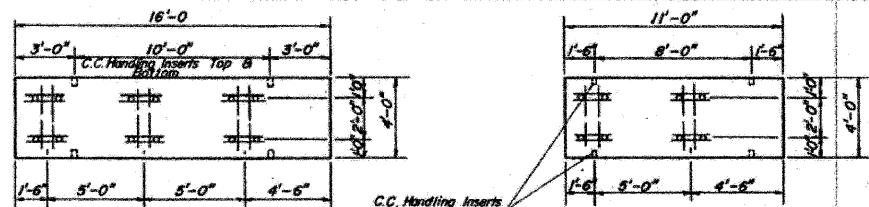


Note: For setting of piles in rock see Special Provisions.

**CONCRETE PILE CAP
EGG BAG CREEK
SECTION 138-G
LASALLE COUNTY
STATION 44+00.00**

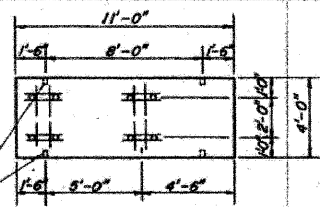
EXISTING STRUCTURE PLANS

SHEET NO. 3 5 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	31
S.N. 050-3593			CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0099(043)		

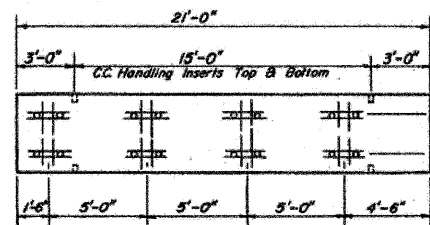


4-W-16
4 - Required

C.C. Handling Inserts
Top & Bottom Each
End

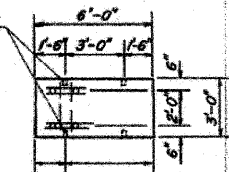


4-W-11
4 - Required

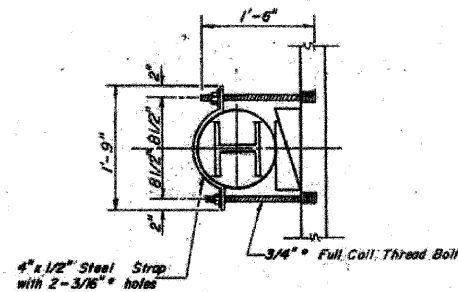


4-W-21
4 - Required

C.C. Handling Inserts
Top & Bottom Each
End



3-W-6
4 - Required



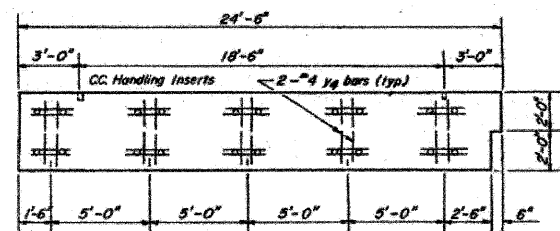
HANGING DETAIL

**BILL OF MATERIAL
CONCRETE PLANK - 2 ABUTMENTS ***

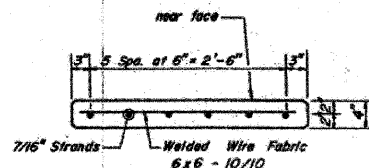
Bar	Number	Size	Length	Shape
Y ₃	44	"4	2'-10"	—
Y ₄	220	"4	5'-10"	—
Z	88	"3	4'-8"	—

Concrete	Cu. Yd.	29.6
Reinforcement Bars	Lbs.	900
7/16" Strands	Lbs.	1898
Welded Wire Fabric	Lbs.	494
3/4" Coll Hanger Frames	Each	248
3/4" Coll Loops (Handling Inserts)	Each	88
3/4" Full Coil Thread Bolt	Each	496
3/4" Coll Washers	Each	496
1/2" x 4" Steel Straps	Each	248

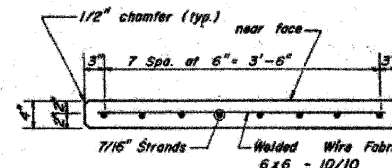
* This information for fabrication of Plank only. Payment for all items to be in the contract unit price per sq. ft. of Precast Prestressed Concrete Plank.



4-C-24.5
2 - Required (Right Hand)
2 - Required (Left Hand)



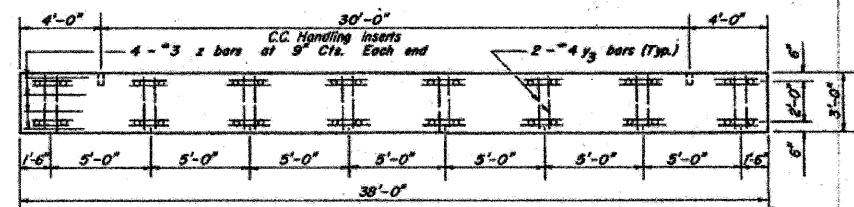
SECTION 3' PLANK
Shown in casting position



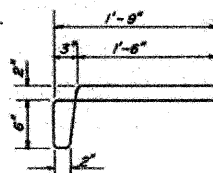
SECTION 4' PLANK
Shown in casting position

BILL OF CONCRETE PLANK

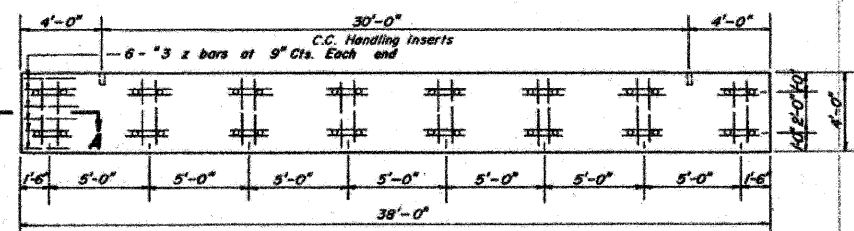
Mk.	No.	Width	Sq. Ft. Ea.	Total Sq. Ft.
4-A-38	6	4'	152	912
3-A-38	2	3'	114	228
4-C-24.5	4	4'	97	388
4-W-21	4	4'	84	336
4-W-16	4	4'	64	256
4-W-11	4	4'	44	176
3-W-6	4	3'	18	72
Total Sq. Ft.				2360



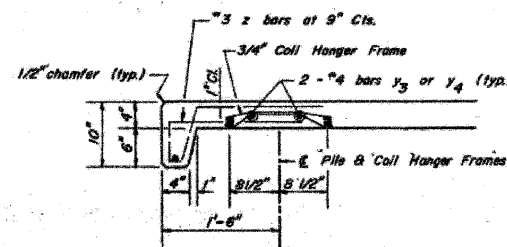
3-A-38
2 - Required



Z BAR



4-A-38
6 - Required

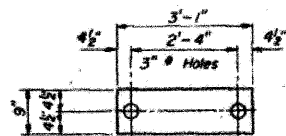


SECTION A-A

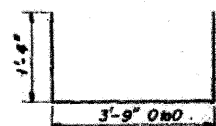
**CONCRETE PLANK DETAIL
EGG BAG CREEK
SECTION 138-G
LASALLE COUNTY
STATION 44+70.00**

EXISTING STRUCTURE PLANS

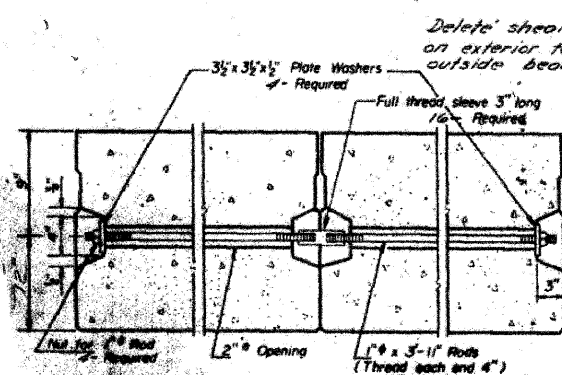
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5 SHEETS	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BR5-0099(043)		



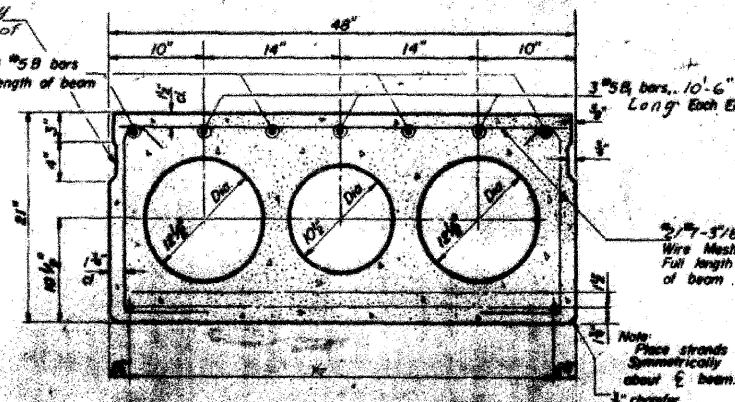
FABRIC BEARING PAD



U BAR

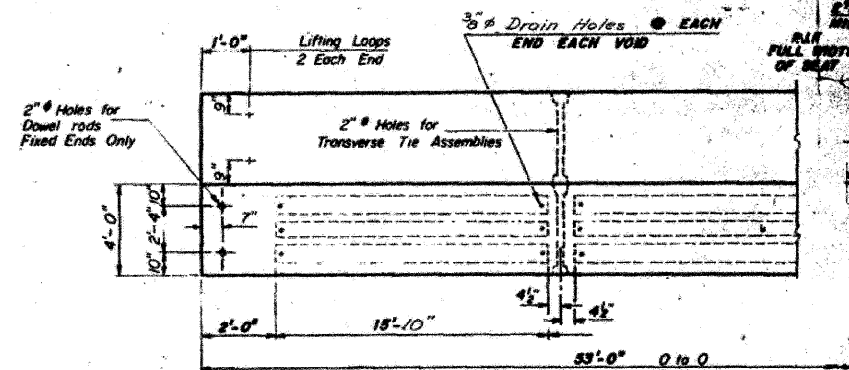


TYPICAL TRANSVERSE TIE ASSEMBLY

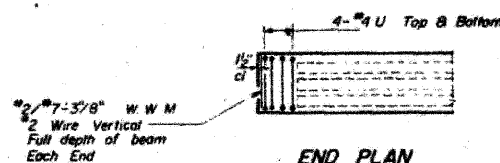


TYPICAL SECTION

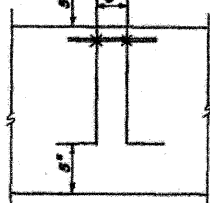
20-#5 Strands, 20# Strand Stressed to 16,000 psi
 10-#5 Strands 10# 10-#5 Strands 10#
 2-#7-3/8 W.M. 2-#7-3/8 W.M.



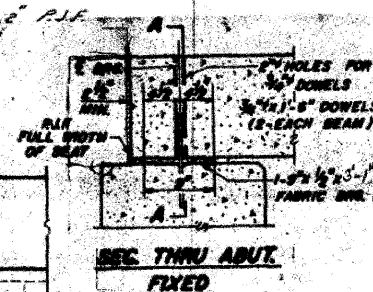
PLAN



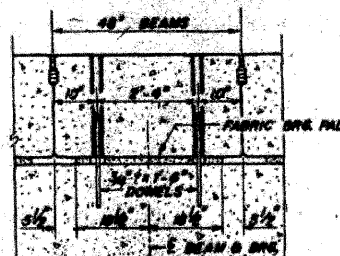
END PLAN



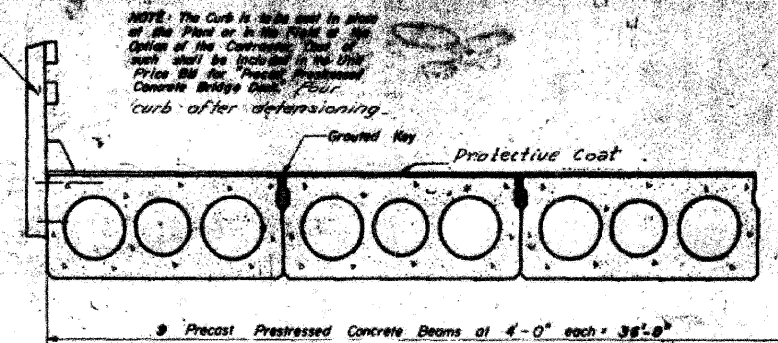
LIFTING LOOP DETAIL



SECTION A-A



SECTION A-A



HALF CROSS SECTION

BILL OF MATERIAL

PRECAST PRESTRESSED CONCRETE BRIDGE DECK	SQ. FT. 1908
Protective Coat	Sq. Yd. 216

GENERAL NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand.
 The nominal diameter shall be 7/8" and the nominal cross-sectional area shall be 0.109 sq. in.
 LIFTING LOOPS SHALL BE MULTIPLE OF 3 1/8" OR 1/2" STRANDS AT EACH POINT OF LIFTING.
 The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside beam shall be filled with grout after transverse tie assembly is in place.
 Longitudinal shear keys shall be packed with a very dry mix of 1-1 sand and P.C. mortar.
 After beams have been erected, holes for the dowel anchors shall be drilled into the sub-structure and the anchor dowels shall be grouted in place.
 Steel for dowel rods, transverse tie rods, shall be S.A.E. 1020, structural steel A.S.T.M. Designation A-306, Grade 70-80.
 After fabrication the transverse tie assemblies (the rods, nuts, washers and sleeves) shall be hot-dipped galvanized in accordance with A.S.T.M. Designation A-153.
 Cost of reinforcement and accessories cast into the beam, of bearing pads, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Bridge Deck."
 AN ALTERNATE STRAND PATTERN USING EXTRA HIGH PRESTRESSING STRAND (270 KSI) IS PERMITTED.

DECK DETAIL
 EGG BAG CREEK
 SECTION 138-G
 LASALLE COUNTY
 STATION 44+70.00

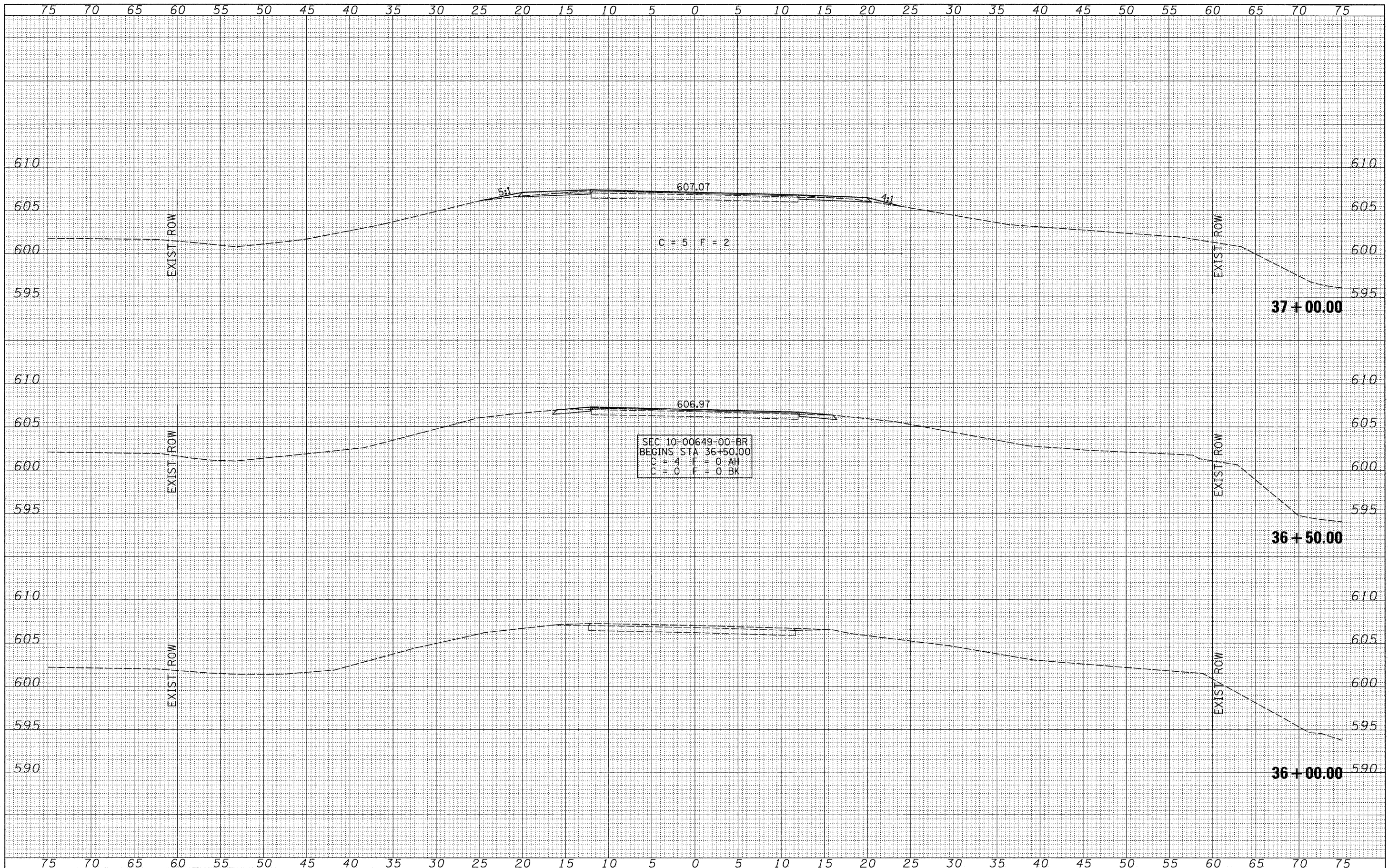
PD-2-5 11-19-65

EXISTING STRUCTURE PLANS

SHEET NO. 5 5 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 29	10-00649-00-BR	LASALLE	43	33
	S.N. 050-3593		CONTRACT NO. 87430		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT BRS-0099(043)		

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

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



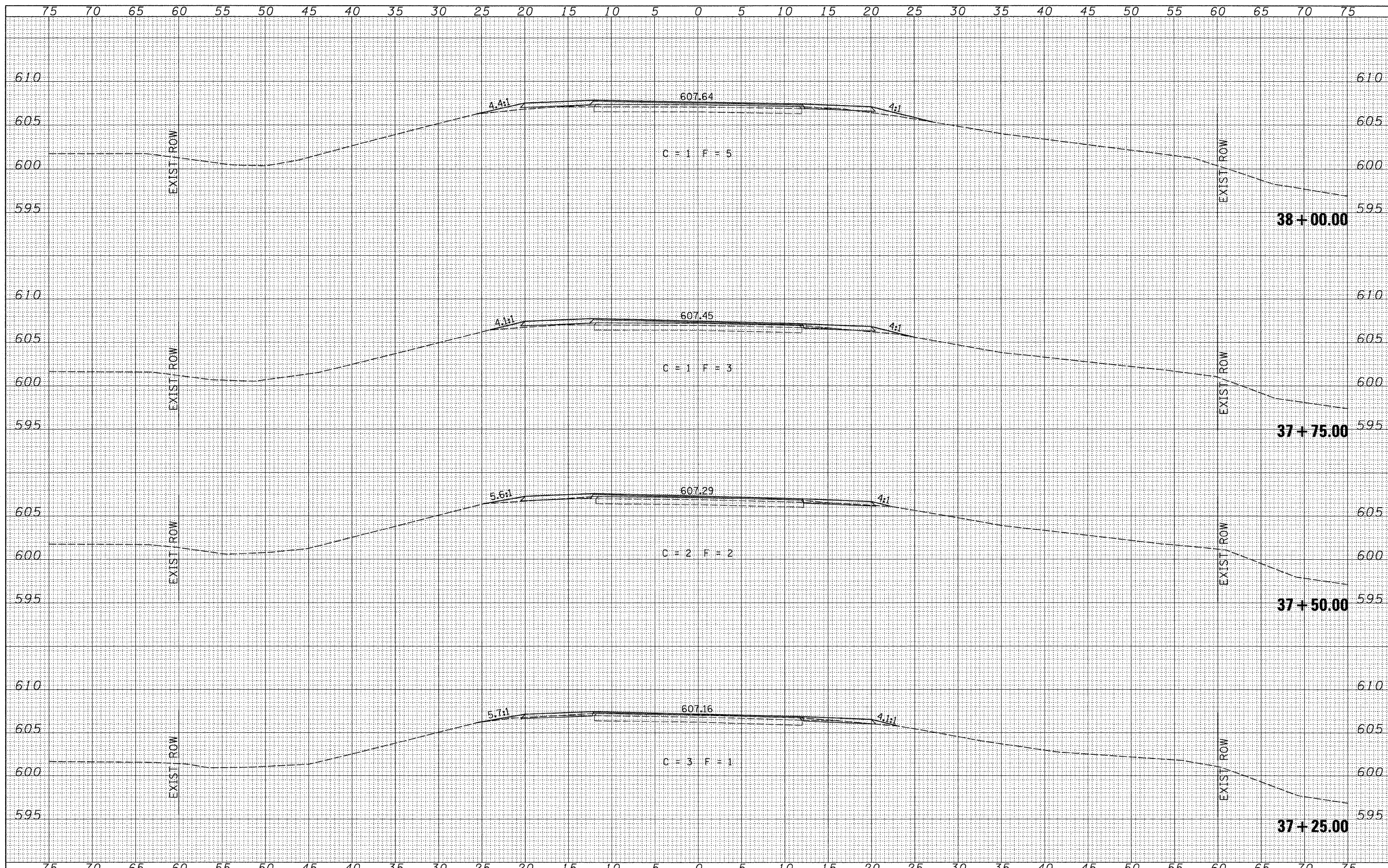
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PLOT DATE = 9/30/2009	CHECKED -	REVISED -
	DATE -	REVISED -

**LASALLE COUNTY
 COUNTY HIGHWAY 29 OVER
 EGG BAG CREEK**

CROSS SECTIONS
 SCALE: 1" = 5'-0" SHEET NO. 1 OF 10 SHEETS STA. 36+00.00 TO STA. 37+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6141	10-00649-00-BR	LASALLE	43	34
FED. ROAD DIST. NO. 7 [ILLINOIS]			CONTRACT NO. 87430	
FED. AID PROJECT BRS-0099(043)				



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

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

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	DATE -	REVISED -

**LASALLE COUNTY
 COUNTY HIGHWAY 29 OVER
 EGG BAG CREEK**

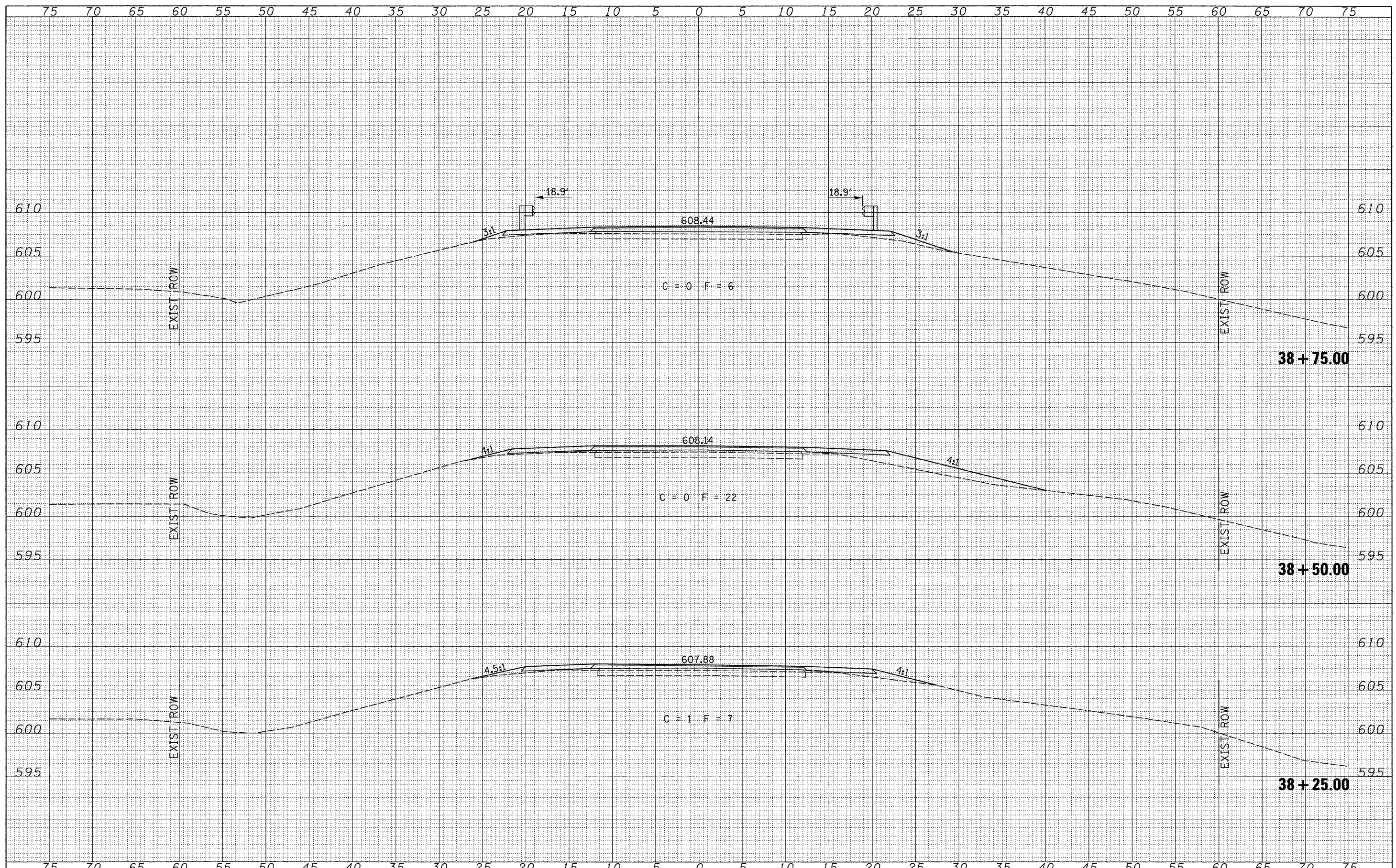
CROSS SECTIONS

SCALE: 1" = 5'-0" | SHEET NO. 2 OF 10 SHEETS | STA. 37+25.00 TO STA. 38+00.00

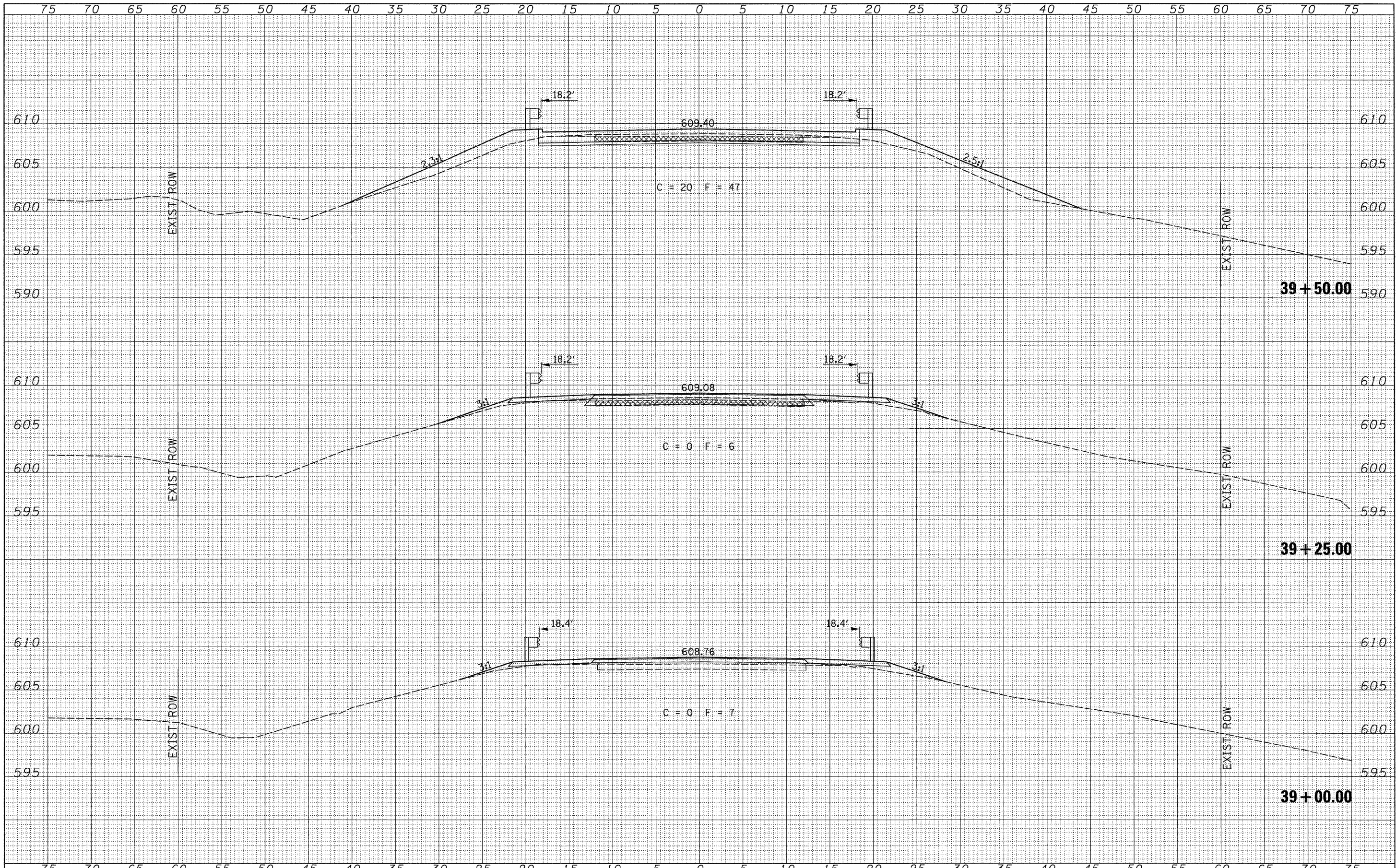
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6141	10-00649-00-BR	LASALLE	43	35
		CONTRACT NO. 87430		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		

BY	DATE

BY	DATE



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PLOT DATE = 9/30/2009	DATE -	REVISED -	REVISED -		SCALE: 1" = 5'-0"		SHEET NO. 3 OF 10 SHEETS		STA. 38+25.00 TO STA. 38+75.00		FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT BRS-0099(043)



DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK NO.	PLOTTED
	TEMPLATE
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DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK NO.	PLOTTED
	TEMPLATE
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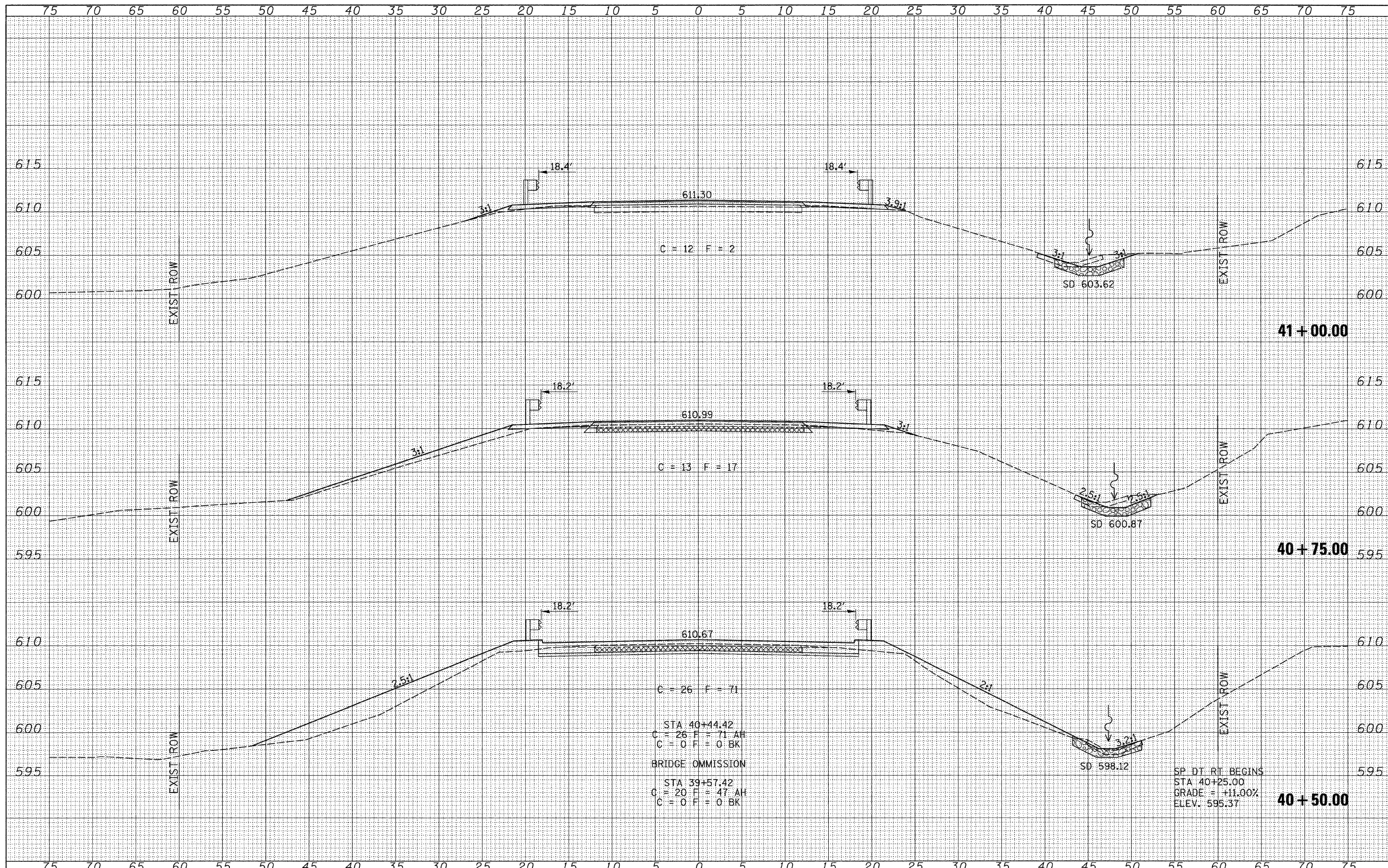
DESIGNED -
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**LASALLE COUNTY
 COUNTY HIGHWAY 29 OVER
 EGG BAG CREEK**

CROSS SECTIONS
 SCALE: 1" = 5'-0" SHEET NO. 4 OF 10 SHEETS STA. 39+00.00 TO STA. 39+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6141	10-00649-00-BR	LASALLE	43	37
CONTRACT NO. 87430				
FED. ROAD DIST. NO. 7 [ILLINOIS]				FED. AID PROJECT BRS-0099(043)



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

BY	DATE
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
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**LASALLE COUNTY
 COUNTY HIGHWAY 29 OVER
 EGG BAG CREEK**

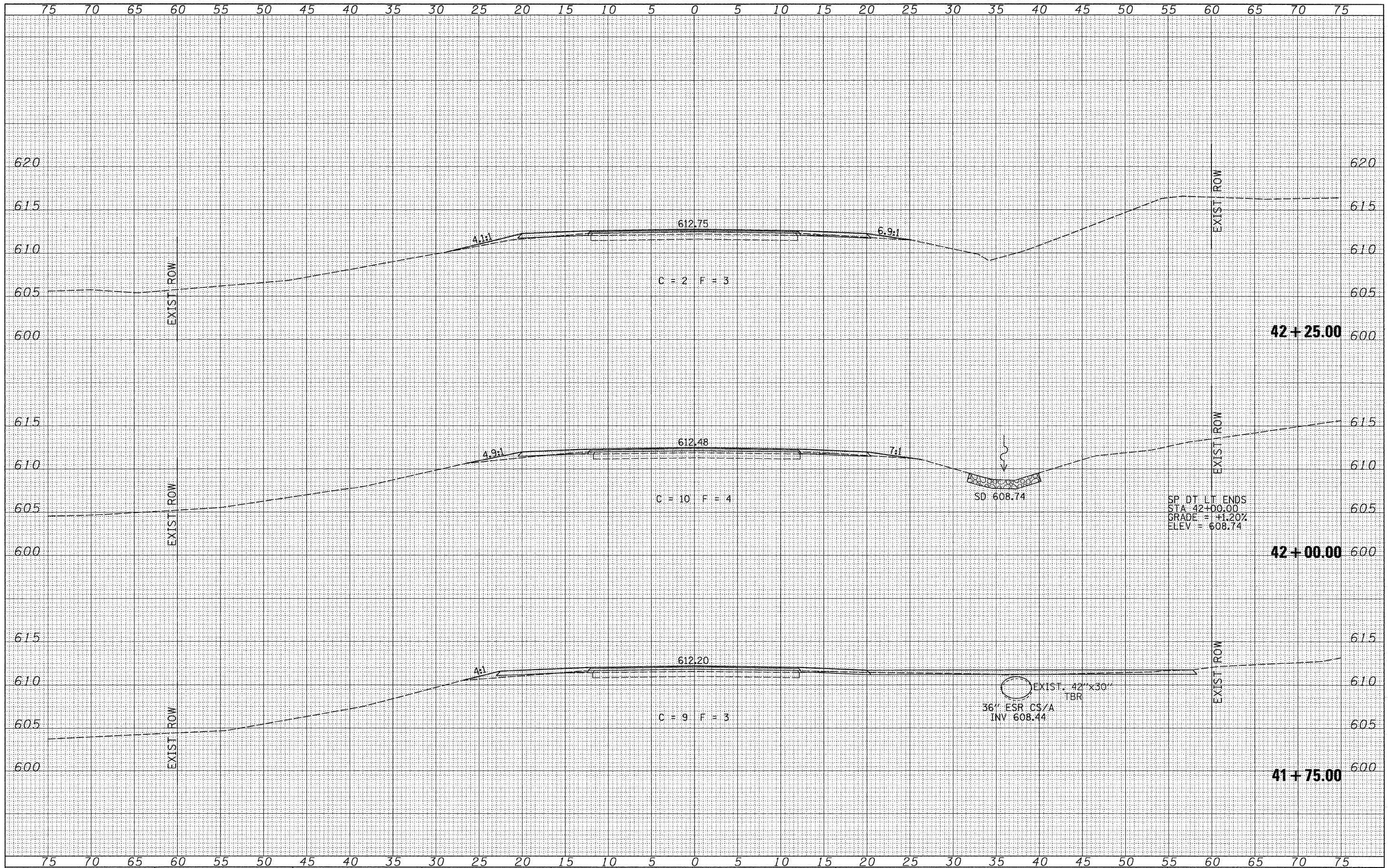
CROSS SECTIONS
 SCALE: 1" = 5'-0" SHEET NO. 5 OF 10 SHEETS STA. 40+50.00 TO STA. 41+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6141	10-00649-00-BR	LASALLE	43	38
CONTRACT NO. 87430				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-00990431	

SP. DT. RT. BEGINS
 STA 40+25.00
 GRADE = +11.00%
 ELEV. 595.37

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

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
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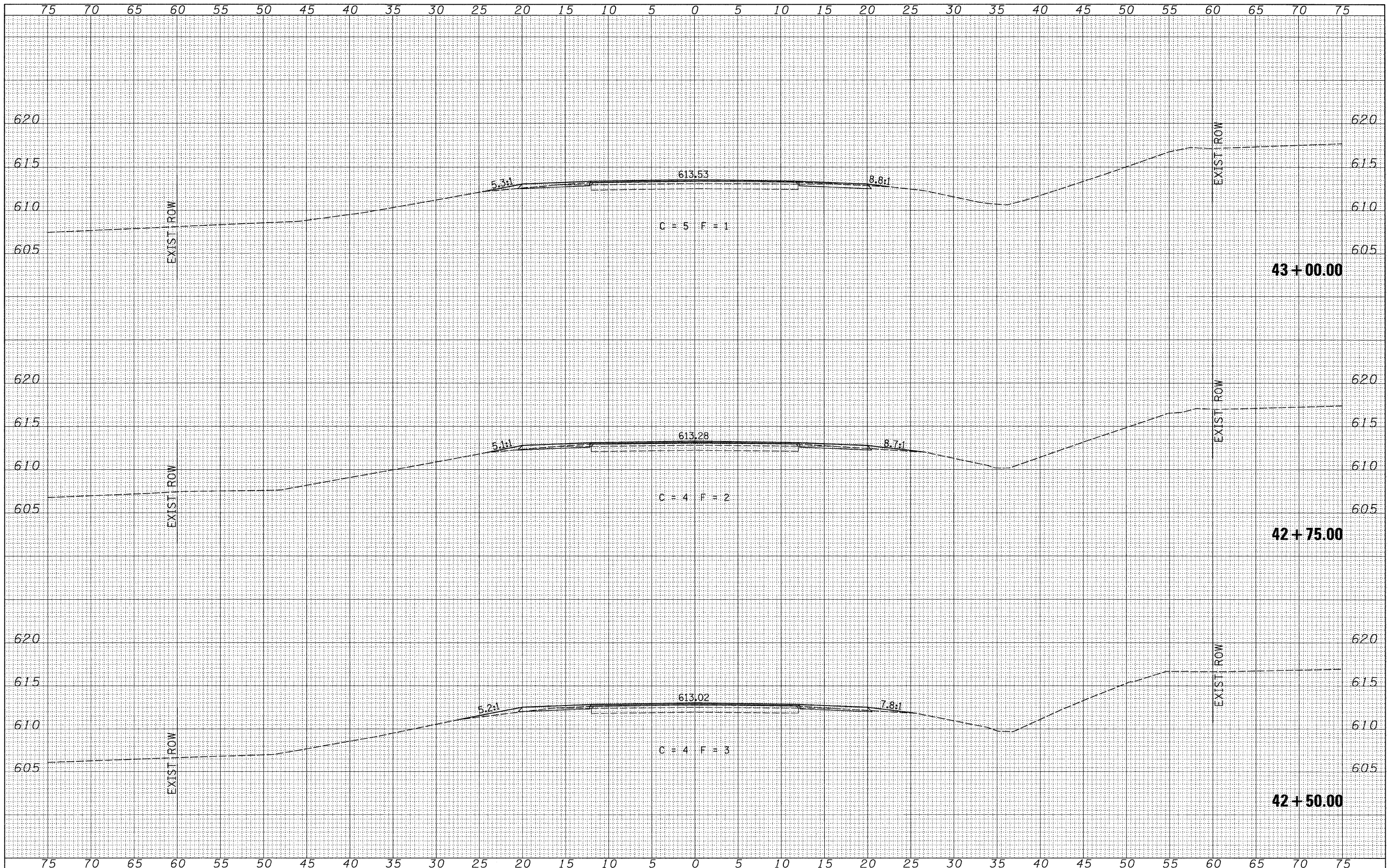
SP DT LT ENDS
 STA 42+00.00
 GRADE = +1.20%
 ELEV = 608.74

EXIST. 42"x30"
 TBR
 36" ESR CS/A
 INV 608.44

FILE NAME - W:\bridge\2856 LaSalle\2856xshsta.dgn	USER NAME - othomas	DESIGNED -	REVISED -	LASALLE COUNTY COUNTY HIGHWAY 29 OVER EGG BAG CREEK	CROSS SECTIONS			F.A.U. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
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		DATE -	REVISED -		SCALE: 1" = 5'-0" SHEET NO. 7 OF 10 SHEETS STA. 41+75.00 TO STA. 42+25.00			
						FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099043

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

BY	DATE
ORIGINAL SURVEY	SURVEYED
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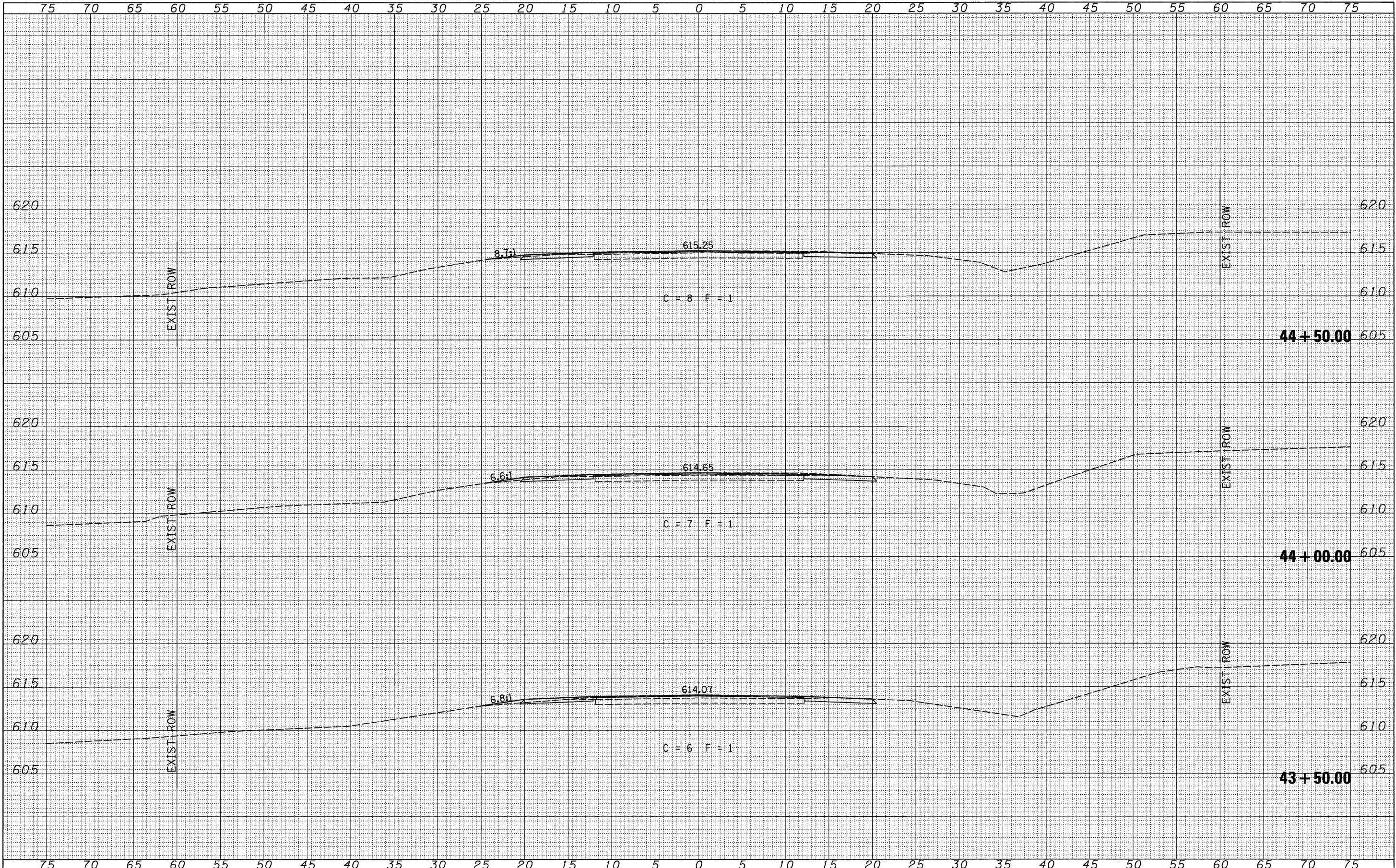
**LASALLE COUNTY
 COUNTY HIGHWAY 29 OVER
 EGG BAG CREEK**

CROSS SECTIONS
 SCALE: 1" = 5'-0" SHEET NO. 8 OF 10 SHEETS STA. 42+50.00 TO STA. 43+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6141	10-00649-00-BR	LASALLE	43	41
CONTRACT NO. 87430				
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0099(043)		

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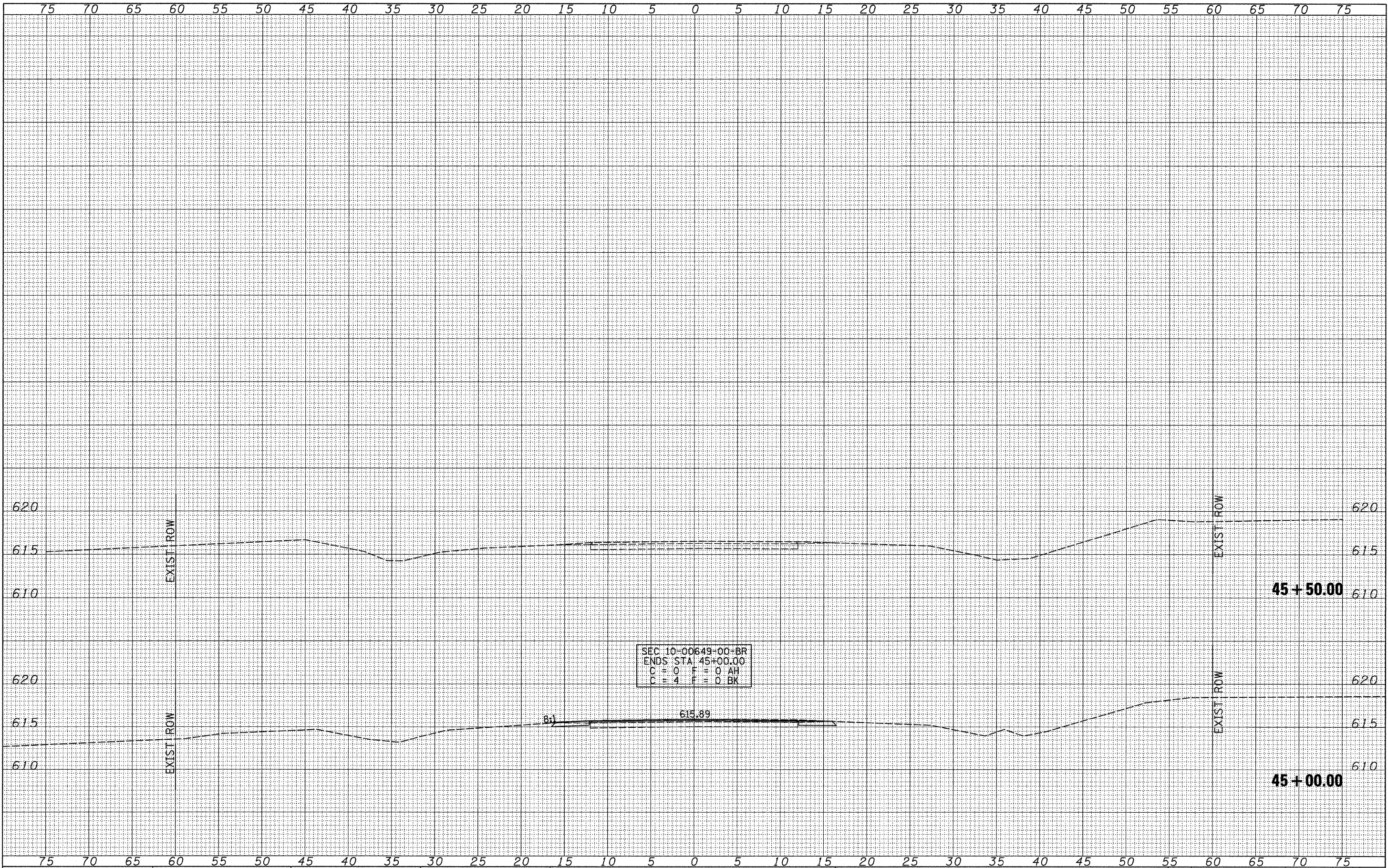
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NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	CHECKED		



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PLOT SCALE = 5,0000 ' / IN.	CHECKED -	REVISED -	SCALE: 1" = 5'-0"			SHEET NO. 9 OF 10 SHEETS	STA. 43+50.00 TO STA. 44+50.00	FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT BRS-00990431	
PLOT DATE = 10/1/2009	DATE -	REVISED -				CONTRACT NO. 87430				

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

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	BY
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PLOT DATE = 10/1/2009	CHECKED -	REVISED -
	DATE -	REVISED -

**LASALLE COUNTY
COUNTY HIGHWAY 29 OVER
EGG BAG CREEK**

CROSS SECTIONS
SCALE: 1" = 5'-0" SHEET NO. 10 OF 10 SHEETS STA. 45+00.00 TO STA. 45+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6141	10-00649-00-BR	LASALLE	43	43
CONTRACT NO. 87430				
FED. ROAD DIST. NO. 7 [ILLINOIS]			FED. AID PROJECT BR5-00990431	