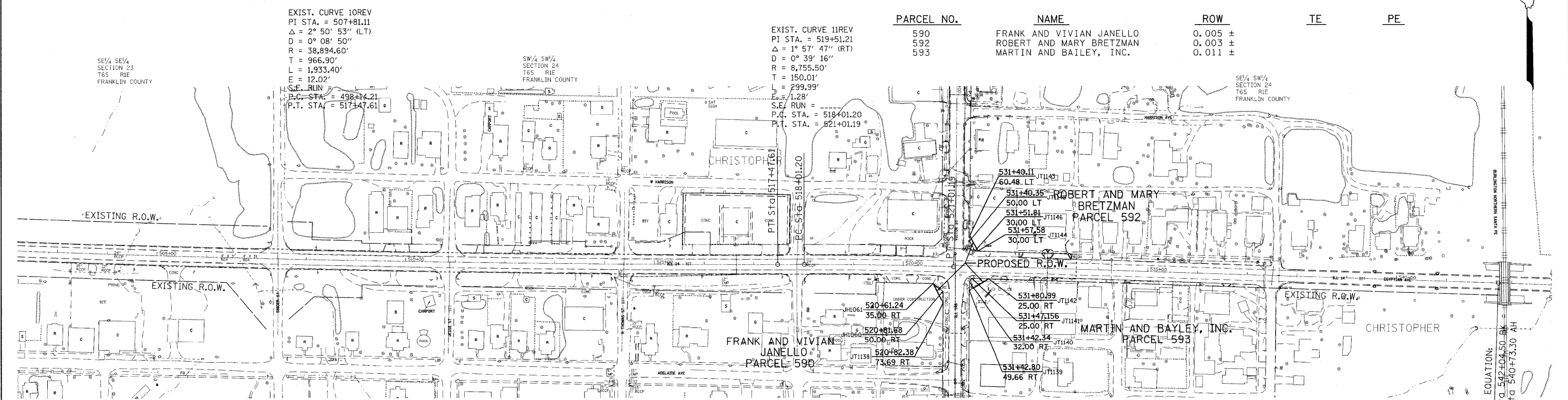


P+	JH1032	X	772860.6698	Y	478955.6293
P+	JH1033	X	772858.2678	Y	478985.5330
P+	JH1034	X	772959.9892	Y	478992.5857
P+	JH1035	X	772961.4456	Y	478967.6282
P+	JH1036	X	772870.2781	Y	478836.0146
P+	JH1037	X	772870.6784	Y	478831.0306
P+	JH1076	X	774636.3837	Y	478798.2304
P+	JH1077	X	774586.4051	Y	478800.3654
P+	JH1078	X	774286.5441	Y	478814.4236
P+	JH1079	X	774236.5635	Y	478816.8622
P+	JH1080	X	773991.8746	Y	478828.8006
P+	JH1081	X	773989.1859	Y	478813.9139

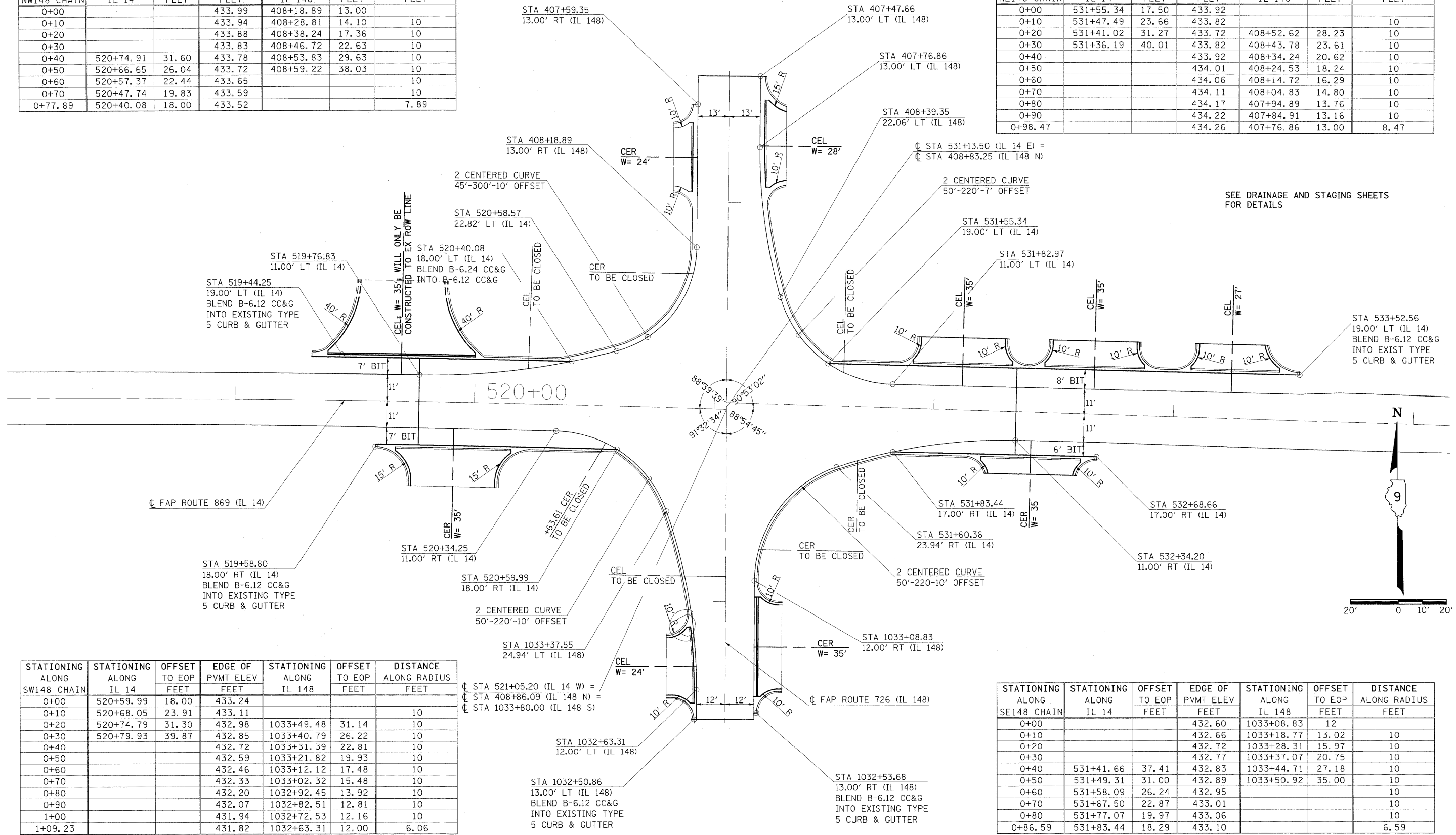


P+	JT1138	X	776643.1825	Y	478735.9749
P+	JT1139	X	776695.9638	Y	478761.1438
P+	JT1140	X	776696.0831	Y	478778.8085
P+	JT1141	X	776701.1277	Y	478785.6437
P+	JT1142	X	776734.9402	Y	478784.5297
P+	JT1143	X	776696.8963	Y	478871.3079
P+	JT1144	X	776713.3527	Y	478940.2708
P+	JT1145	X	776696.7940	Y	478860.8272
P+	JT1146	X	776707.5928	Y	478840.4606
P+	JH1060	X	776643.2262	Y	478759.6741
P+	JH1061	X	776623.3431	Y	478775.2757

FILE NAME #FILEL#	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RIGHT OF WAY PLANS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -		PROJECT D901803	JOB NO. R-99-022-02	869	(1-1,3,6)R-1,RS-3(1,3,6)B-2	*	299	101
		CHECKED -	REVISED -		SHEET NO. 6 OF 6 SHEETS	STA. 473+00 TO STA. 543+00	* FRANKLIN AND PERRY		CONTRACT NO. 98797		
		DATE -	REVISED -		SCALE: 100	FED. ROAD DIST. NO.	ILLINOIS		FED. AID PROJECT		

STATIONING ALONG NW148 CHAIN	STATIONING ALONG IL 14	OFFSET TO EOP FEET	EDGE OF PVMT ELEV FEET	STATIONING ALONG IL 148	OFFSET TO EOP FEET	DISTANCE ALONG RADIUS FEET
0+00			433.99	408+18.89	13.00	
0+10			433.94	408+28.81	14.10	10
0+20			433.88	408+38.24	17.36	10
0+30			433.83	408+46.72	22.63	10
0+40	520+74.91	31.60	433.78	408+53.83	29.63	10
0+50	520+66.65	26.04	433.72	408+59.22	38.03	10
0+60	520+57.37	22.44	433.65			10
0+70	520+47.74	19.83	433.59			10
0+77.89	520+40.08	18.00	433.52			7.89

STATIONING ALONG NE148 CHAIN	STATIONING ALONG IL 14	OFFSET TO EOP FEET	EDGE OF PVMT ELEV FEET	STATIONING ALONG IL 148	OFFSET TO EOP FEET	DISTANCE ALONG RADIUS FEET
0+00	531+55.34	17.50	433.92			
0+10	531+47.49	23.66	433.82			10
0+20	531+41.02	31.27	433.72	408+52.62	28.23	10
0+30	531+36.19	40.01	433.82	408+43.78	23.61	10
0+40			433.92	408+34.24	20.62	10
0+50			434.01	408+24.53	18.24	10
0+60			434.06	408+14.72	16.29	10
0+70			434.11	408+04.83	14.80	10
0+80			434.17	407+94.89	13.76	10
0+90			434.22	407+84.91	13.16	10
0+98.47			434.26	407+76.86	13.00	8.47



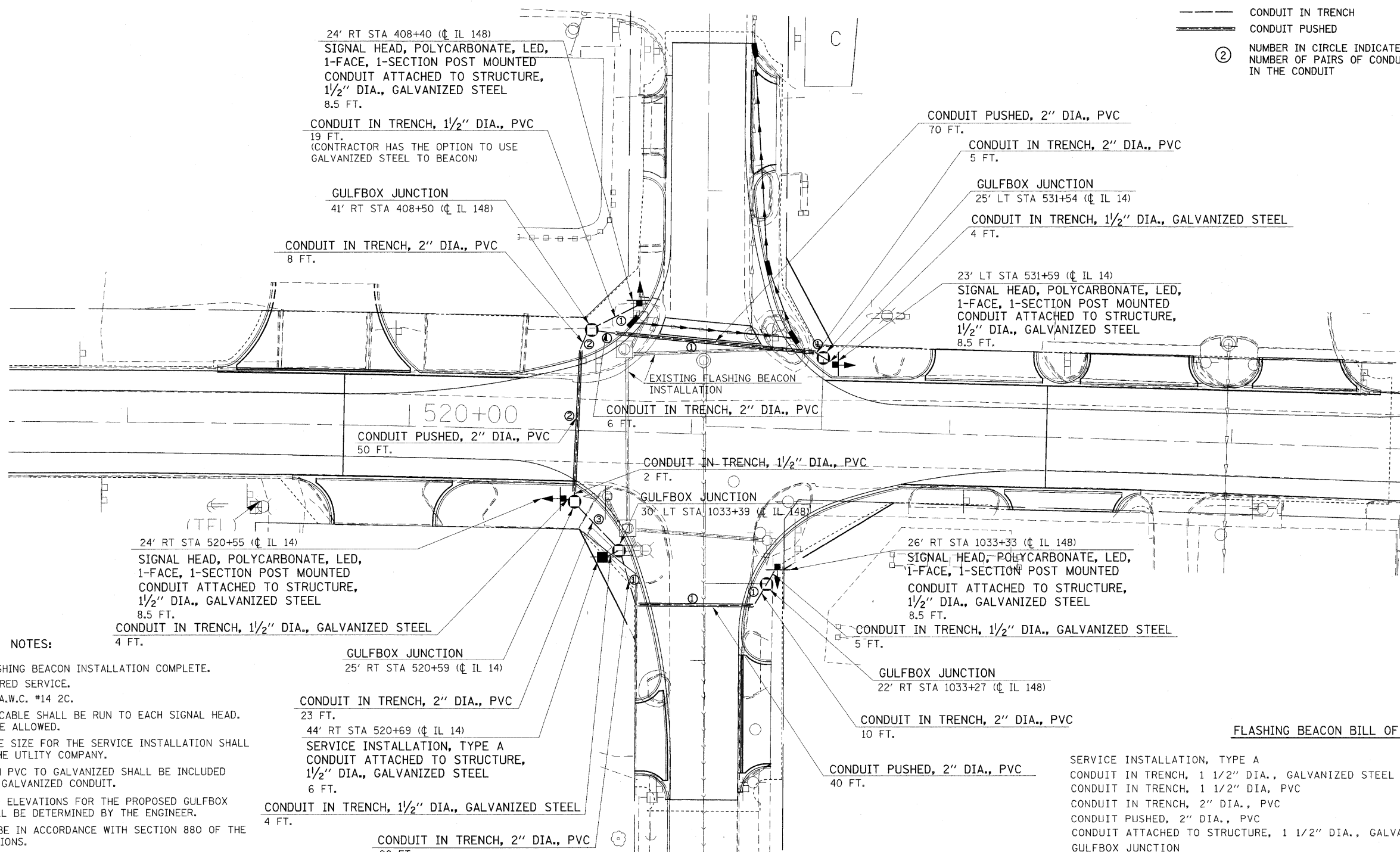
SEE DRAINAGE AND STAGING SHEETS FOR DETAILS

STATIONING ALONG SW148 CHAIN	STATIONING ALONG IL 14	OFFSET TO EOP FEET	EDGE OF PVMT ELEV FEET	STATIONING ALONG IL 148	OFFSET TO EOP FEET	DISTANCE ALONG RADIUS FEET
0+00	520+59.99	18.00	433.24			
0+10	520+68.05	23.91	433.11			10
0+20	520+74.79	31.30	432.98	1033+49.48	31.14	10
0+30	520+79.93	39.87	432.85	1033+40.79	26.22	10
0+40			432.72	1033+31.39	22.81	10
0+50			432.59	1033+21.82	19.93	10
0+60			432.46	1033+12.12	17.48	10
0+70			432.33	1033+02.32	15.48	10
0+80			432.20	1032+92.45	13.92	10
0+90			432.07	1032+82.51	12.81	10
1+00			431.94	1032+72.53	12.16	10
1+09.23			431.82	1032+63.31	12.00	6.06

STATIONING ALONG SE148 CHAIN	STATIONING ALONG IL 14	OFFSET TO EOP FEET	EDGE OF PVMT ELEV FEET	STATIONING ALONG IL 148	OFFSET TO EOP FEET	DISTANCE ALONG RADIUS FEET
0+00			432.60	1033+08.83	12	
0+10			432.66	1033+18.77	13.02	10
0+20			432.72	1033+28.31	15.97	10
0+30			432.77	1033+37.07	20.75	10
0+40	531+41.66	37.41	432.83	1033+44.71	27.18	10
0+50	531+49.31	31.00	432.89	1033+50.92	35.00	10
0+60	531+58.09	26.24	432.95			10
0+70	531+67.50	22.87	433.01			10
0+80	531+77.07	19.97	433.06			10
0+86.59	531+83.44	18.29	433.10			6.59

LEGEND

- SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION POST MOUNTED
- SERVICE INSTALLATION, TYPE A
- GULFBOX JUNCTION
- CONDUIT IN TRENCH
- CONDUIT PUSHED
- ② NUMBER IN CIRCLE INDICATES THE NUMBER OF PAIRS OF CONDUCTORS IN THE CONDUIT



NOTES:

1. REMOVE EXISTING FLASHING BEACON INSTALLATION COMPLETE.
2. INSTALL 30 AMP METERED SERVICE.
3. ALL CABLE SHALL BE A.W.C. #14 2C.
4. A SEPARATE PAIR OF CABLE SHALL BE RUN TO EACH SIGNAL HEAD. NO SPLICING SHALL BE ALLOWED.
5. THE CONDUIT AND WIRE SIZE FOR THE SERVICE INSTALLATION SHALL BE DETERMINED BY THE UTILITY COMPANY.
6. ALL CONNECTORS FROM PVC TO GALVANIZED SHALL BE INCLUDED IN THE COST OF THE GALVANIZED CONDUIT.
7. THE PROPOSED GROUND ELEVATIONS FOR THE PROPOSED GULFBOX JUNCTION BOXES SHALL BE DETERMINED BY THE ENGINEER.
8. SIGNAL HEADS SHALL BE IN ACCORDANCE WITH SECTION 880 OF THE STANDARD SPECIFICATIONS.
9. PINNACLE FLASHERS INSTALLED IN THE SIGNAL HEAD ARE TO BE INCLUDED IN THE COST OF LED.
10. THE ACTUAL LOCATION OF THE SERVICE INSTALLATION TYPE A SHALL BE AS DIRECTED BY THE ENGINEER, TO BEST FIT THE RELOCATED UTILITIES. THE COST OF THE CABLE TO JUNCTION BOX SHALL BE INCLUDED IN THE SERVICE INSTALLATION COST, NOT PAID FOR SEPARATELY.
11. REPLACE ALL EXISTING STOP SIGNS AND POSTS WITH NEW.

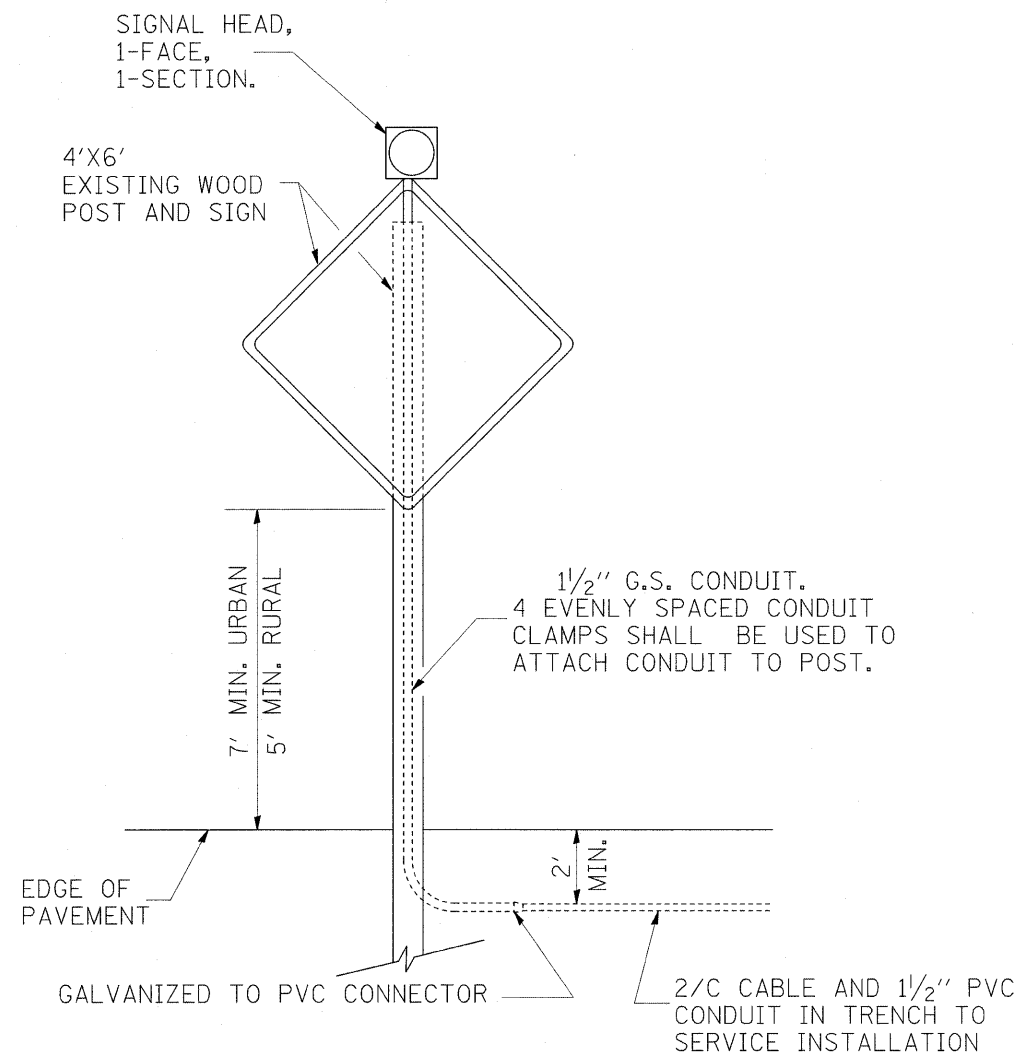
FLASHING BEACON BILL OF MATERIALS:

SERVICE INSTALLATION, TYPE A	1 EACH
CONDUIT IN TRENCH, 1 1/2" DIA., GALVANIZED STEEL	17 FOOT
CONDUIT IN TRENCH, 1 1/2" DIA, PVC	19 FOOT
CONDUIT IN TRENCH, 2" DIA., PVC	72 FOOT
CONDUIT PUSHED, 2" DIA., PVC	160 FOOT
CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., GALVANIZED STEEL	34 FOOT
GULFBOX JUNCTION	5 EACH
TRENCH AND BACKFILL FOR ELECTRICAL WORK	196 FOOT
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	346 FOOT
SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION, POST MOUNTED	4 EACH
REMOVE EXISTING FLASHING BEACON INSTALLATION COMPLETE	1 EACH
SIGN PANEL - TYPE 1 (STOP)	36 SQ FT
SIGN PANEL - TYPE 1 (ALL WAY)	5.25 SQ FT
WOOD SIGN SUPPORT	56 FT

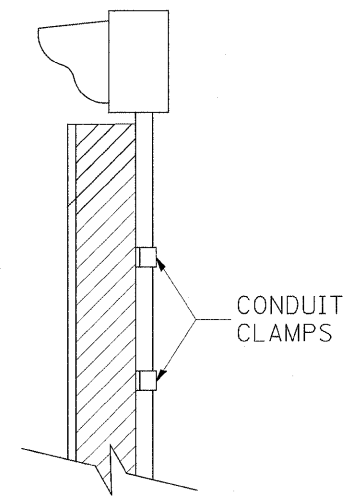


FILE NAME =	USER NAME = colemm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FLASHING BEACON PLAN - IL 14 AND IL 148			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwork\dot\colemm\dms43654\d90183p2.m32		DRAWN -	REVISED -		869	(1-1,1,3,6)R-1,RS-3(1,3,6)B-2	*	299	103			
PLOT SCALE = 20.0000' / IN.		CHECKED -	REVISED -		* PERRY & FRANKLIN COUNTIES			CONTRACT NO. 98797				
PLOT DATE = 3/24/2011		DATE -	REVISED -		ILLINOIS FED. AID PROJECT							
					SCALE: 20	SHEET NO.	OF	SHEETS	STA.	TO STA.		

FLASHING BEACON DETAIL



POST MOUNTED FLASHING BEACON



MOUNTING DETAIL

FILE NAME =	USER NAME = colemm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FLASHING BEACON DETAIL			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pwork\pwork\colemm\dms43654\d9018	3p2.m32	DRAWN -	REVISED -		SCALE: 20	SHEET NO.	OF	SHEETS	STA.	TO STA.	*	299	104
	PLOT SCALE = 20.0000' / IN.	CHECKED -	REVISED -					* PERRY & FRANKLIN COUNTIES			CONTRACT NO. 98797		
	PLOT DATE = 3/24/2011	DATE -	REVISED -					ILLINOIS FED. AID PROJECT					

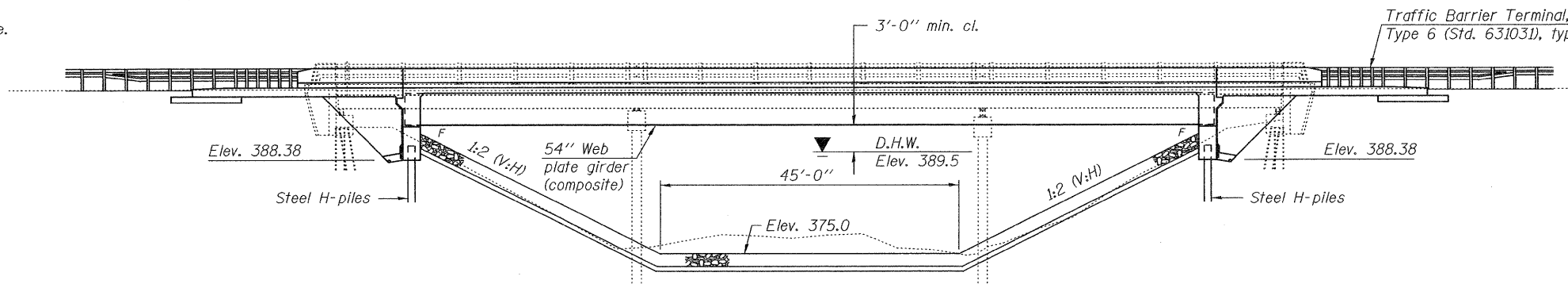
Bench Mark: Cut "□" on top of the SW corner of the SW end of a parapet extension of 073-0013, South side of Route 14 at Sta. 190+28 and 17 ft. right. Elev. 398.69

Existing structure: Struct. No. 073-0013, originally built in 1955 as S.B.I. Rt. 14, Section 2-B2. The existing structure consists of a 3 span continuous steel superstructure supported by pile bent piers and abutments. 137'-0" back to back abutments and 33'-8" out to out of deck. Structure to be removed and replaced. Traffic to be maintained utilizing stage construction.

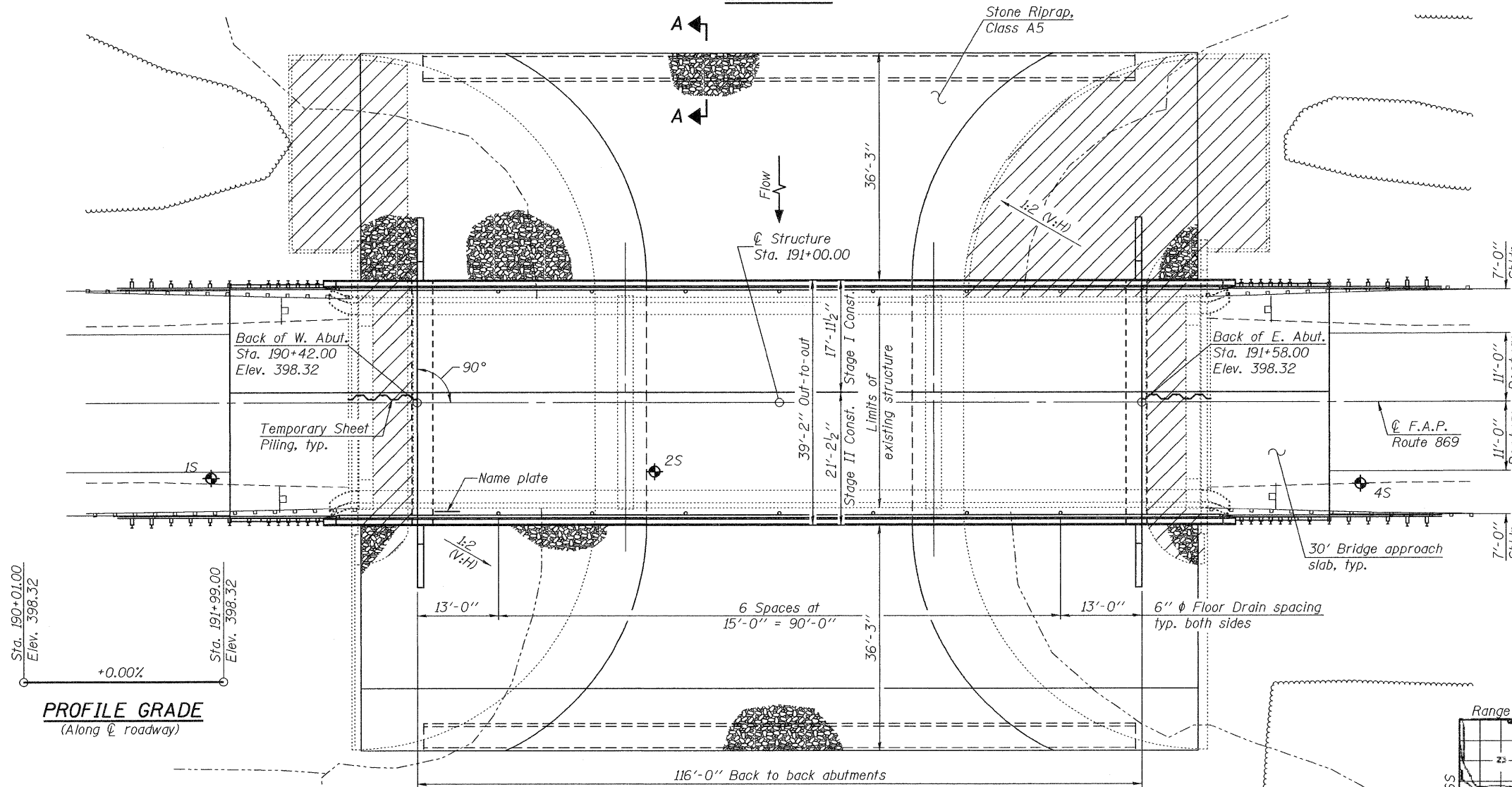
No salvage.

INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 General Data
- 3 Stage Construction & Temporary Sheet Piling Details
- 4 Steel Railing (Temporary)
- 5 Temporary Concrete Barrier for Stage Construction
- 6-8 Top of Slab Elevations
- 9 Top of West Approach Slab Elevations
- 10 Top of East Approach Slab Elevations
- 11 Superstructure
- 12 Superstructure Details
- 13 Diaphragm Details
- 14-15 Bridge Approach Slab Details
- 16 Structural Steel
- 17 Structural Steel Details
- 18 West Abutment
- 19 East Abutment
- 20 HP Pile Details
- 21 Bar Splicer Assembly & Mechanical Splicer Details
- 22-24 Soil Boring Logs



ELEVATION



PLAN

PROFILE GRADE
(Along centerline of roadway)

STATION 191+00.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 869 SEC. 1B-2
LOADING HL-93
STRUCTURE NO. 073-0036

NAME PLATE
See Std. 515001

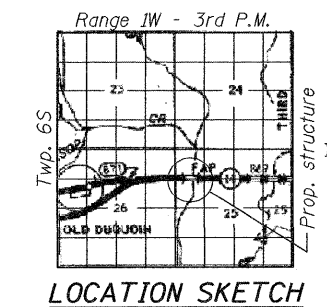
LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA
Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.324
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.755
Soil Site Class = D

DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications
with 2008 and 2009 Interims

DESIGN STRESSES

FIELD UNITS
 f_c = 3,500 psi
 f_y = 60,000 psi (reinforcement)
 f_y = 50,000 psi (M270 Grade 50W)



LOCATION SKETCH

Note: For Section A-A, see sheet 2 of 21.



DESIGNED - <i>Michael D. Ryan</i>	EXAMINED - <i>Thomas J. ...</i>	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		GENERAL PLAN & ELEVATION STRUCTURE NO. 073-0036		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - <i>Jessica Forrest</i>	PASSED - <i>David Puzev</i>						869	1B-2	PERRY	272	105
DRAWN - <i>h.t. duong</i>	ENGINEER OF BRIDGES AND STRUCTURES		SHEET NO. 1 OF 24 SHEETS		CONTRACT NO. 98797		ILLINOIS FED. AID PROJECT				
CHECKED - <i>MDR/JCF</i>											

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 3. Bolts 3/4" φ, holes 5/16" φ, unless otherwise noted.
 Calculated weight of Structural Steel = 197160 lbs.
 All structural steel shall be AASHTO M 270 Grade 50W. All structural steel shall be cleaned as specified in the special provision for "Surface Preparation and Painting Requirements for Weathering Steel".
 No field welding is permitted except as specified in the contract documents.
 Reinforcement bars shall conform to the requirements of ASTM A 706, Gr. 60. Reinforcement bars designated (E) shall be epoxy coated.
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
 Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
 Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

WATERWAY INFORMATION

Flood	Freq. Yr.	Structure Number	Q - C.F.S.		Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	073-0013 (E) 073-0036 (P) **Total	6015	6365	900	952	388.3	0.8	0.7	389.1	389.0
Design	50	073-0013 (E) 073-0036 (P) **Total	9090	9155	1020	1073	389.5	1.5	1.2	391.0	390.7
Base	100	073-0013 (E) 073-0036 (P) **Total	10490	10615	1075	1125	390.0	1.9	1.5	391.9	391.5
Max. Calc.	500	073-0013 (E) 073-0036 (P) **Total	13860	14250	1190	1243	391.1	2.8	2.3	393.9	393.4

Existing Low Grade Elev. 396.29 @ Sta. 238+00
 Proposed Low Grade Elev. 396.39 @ Sta. 238+00
 10 year velocity through existing bridge = 6.7 ft/s
 10 year velocity through proposed bridge = 6.8 ft/s

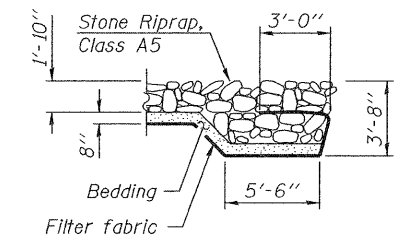
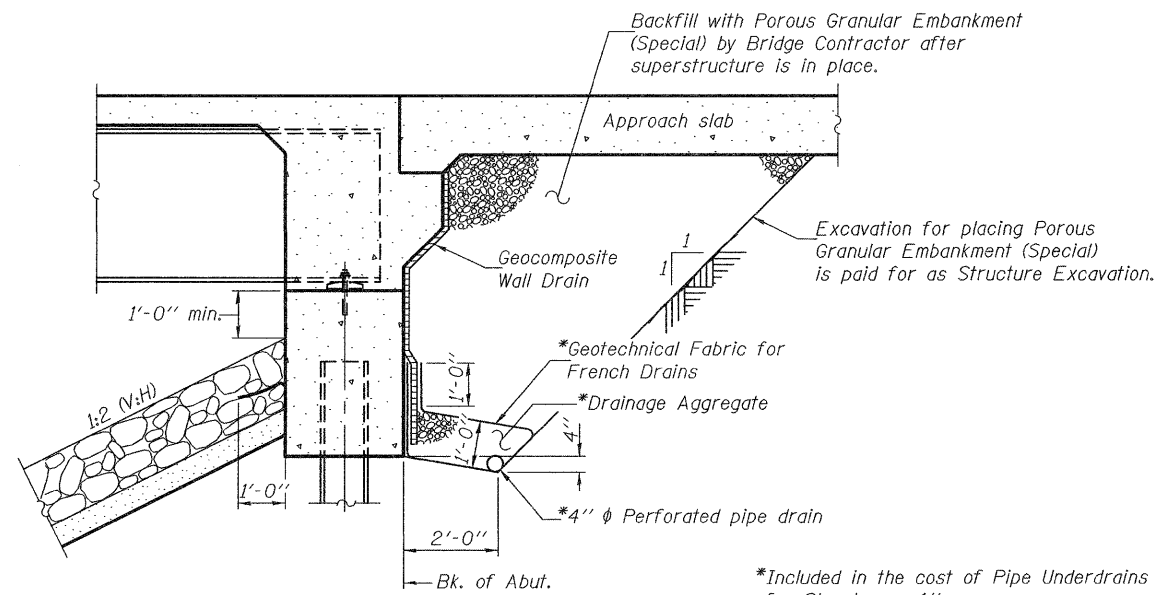
**Three additional structures (SN 028-0015 (E), SN 073-2000 (E), and SN 028-2005 (E) contribute to the flow conveyance of this drainage area.

DESIGN SCOUR ELEVATION TABLE

Design scour elevation (ft.)	W. Abut.	E. Abut.
	385.35	385.35

TOTAL BILL OF MATERIAL

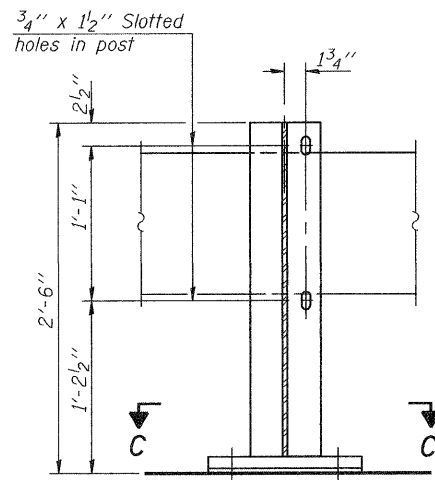
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		226.2	226.2
Stone Riprap, Class A5	Sq. Yd.		1024	1024
Filter Fabric	Sq. Yd.		1024	1024
Removal of Existing Structures No. 1	Each		1	1
Structure Excavation	Cu. Yd.		226	226
Floor Drains	Each	14		14
Concrete Structures	Cu. Yd.		64.8	64.8
Concrete Superstructure	Cu. Yd.	301		301
Bridge Deck Grooving	Sq. Yd.	668		668
Concrete Encasement	Cu. Yd.		6.6	6.6
Protective Coat	Sq. Yd.	834		834
Furnishing and Erecting Structural Steel	L. Sum	0.5		0.5
Stud Shear Connectors	Each	1242		1242
Reinforcement Bars, Epoxy Coated	Pound	67650	7220	74870
Bar Splicers	Each	679	22	701
Steel Railing (Temporary)	Foot	188		188
Furnishing Steel Piles HP14x73	Foot		1044	1044
Driving Piles	Foot		1044	1044
Temporary Sheet Piling	Sq. Ft.		619	619
Name Plates	Each	1		1
Anchor Bolt 1" φ	Each		24	24
Geocomposite Wall Drain	Sq. Yd.		106	106
Pipe Underdrains for Structures, 4"	Foot		160	160
Slopedwall Removal	Sq. Yd.		324	324



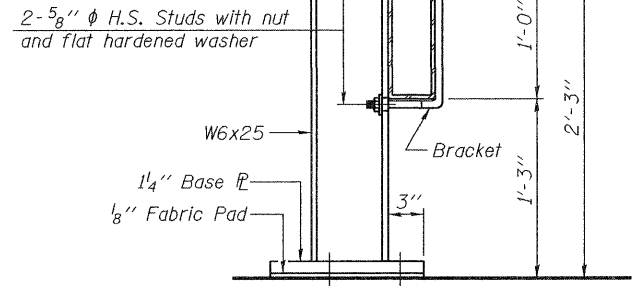
SECTION A-A

SECTION THRU INTEGRAL ABUTMENT

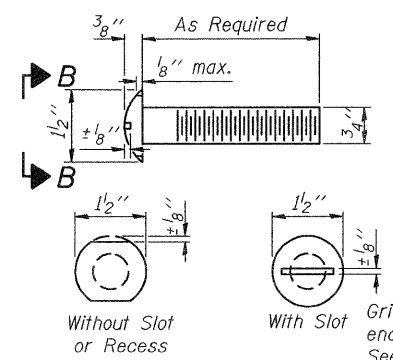
Note: All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Std. Specs. & Highway Standard 601101).



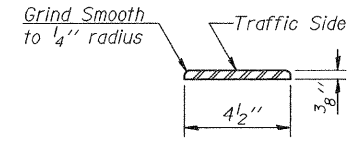
SECTION A-A



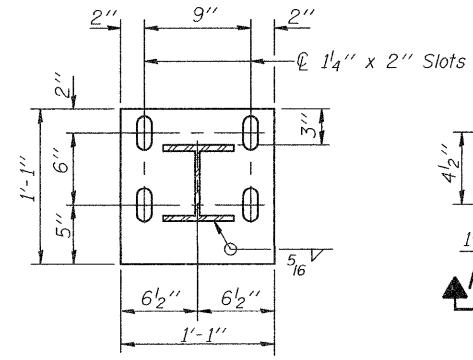
SECTION AT RAIL POST



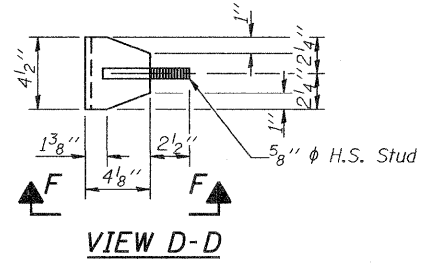
VIEW B-B
ROUND HEAD BOLT



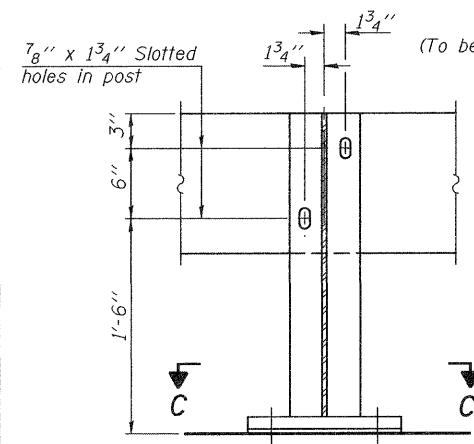
DETAIL A



SECTION C-C



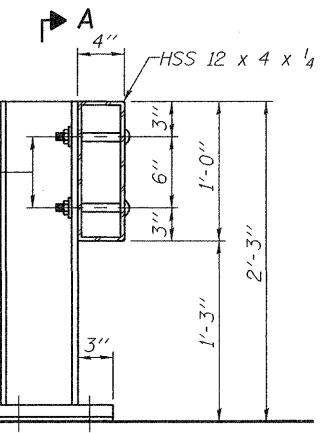
VIEW D-D



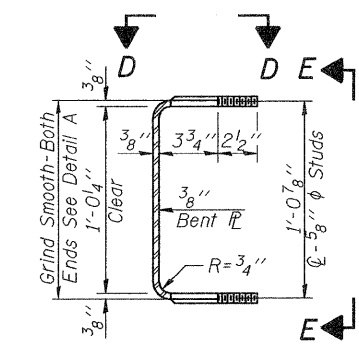
SECTION A-A

ALTERNATE I
(To be used only for Roadway width $\geq 12'$)

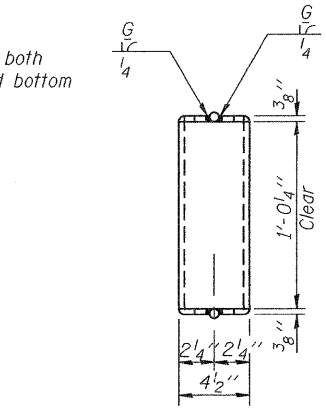
2-3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat hardened washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



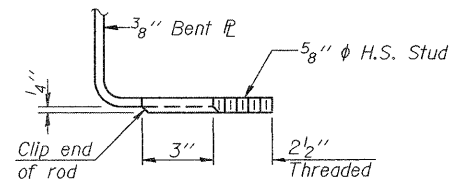
SECTION AT RAIL POST



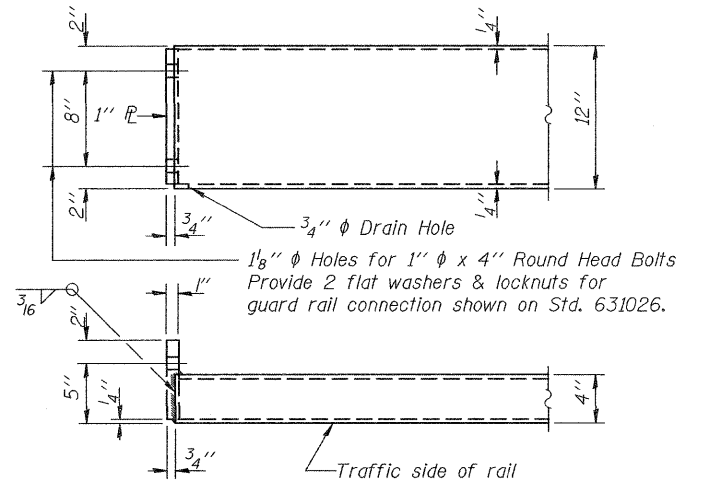
SECTION THRU BRACKET



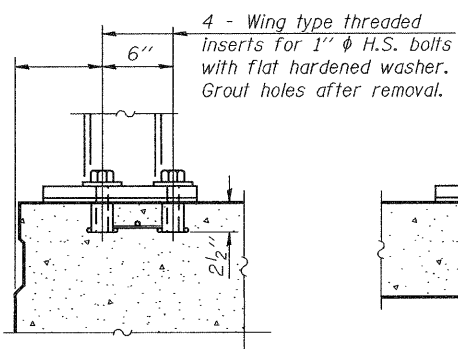
VIEW E-E



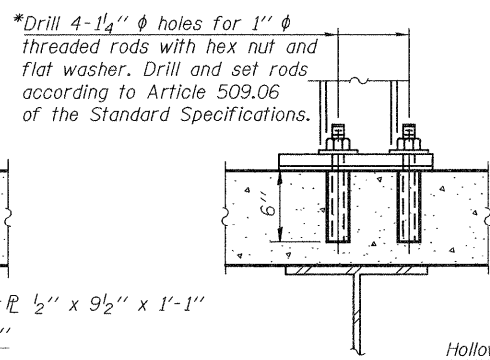
VIEW F-F



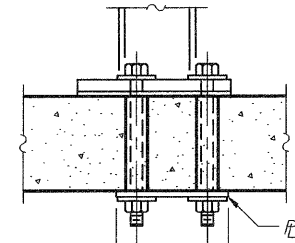
END OF RAIL DETAILS



P.P.C. DECK BEAMS

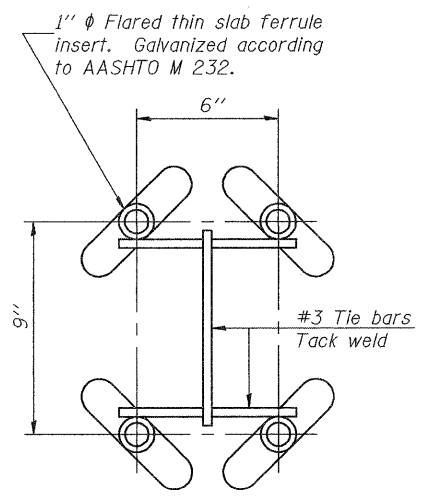


NEW & EXISTING DECKS

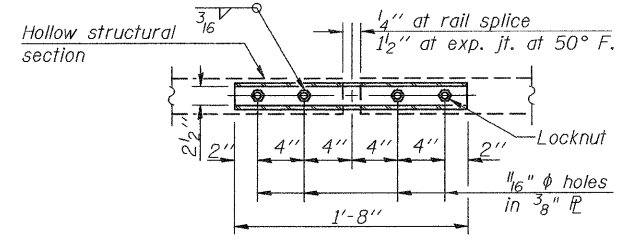


ANCHORAGE DETAILS

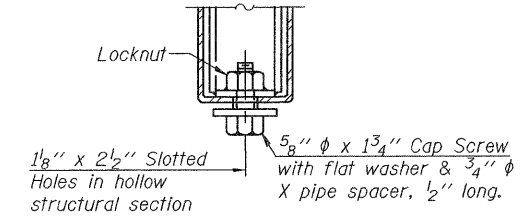
*Drilled holes for existing deck.



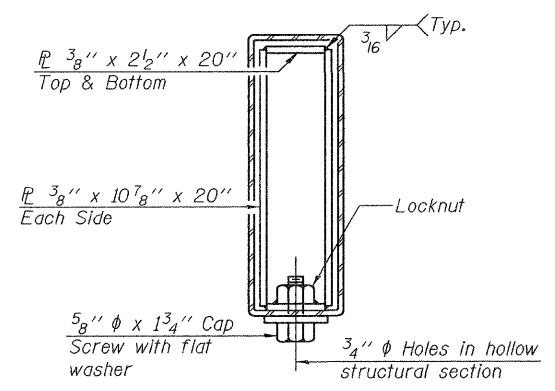
INSERT DETAIL



PLAN-BOTT. SPLICE R
TYPICAL



RAIL SPLICE CONNECTION
AT EXPANSION JT.



SECTION AT RAIL SPLICE

Notes:
The contact surfaces between post flange, rail and inside face of bracket for Alternate I shall be free of all lubricants. The nut for 5/8" ϕ high strength studs used in Alternate I to connect bracket to post shall be tightened to a snug fit and given an additional one half turn. The quantity for steel railing (temporary) includes the length of bridge, bridge approach slabs and PCC connectors.

TEMPORARY BRIDGE RAIL POST SPACING

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing (Temporary)	Foot	188

R-25 7-1-10 (10'-9" Maximum Post Spacing)

DESIGNED - Michael D. Rolape
CHECKED - Jessica C. Forrest
DRAWN - h.f. duong
CHECKED - MDR/JCF

EXAMINED - Thomas J. Demagala
ENGINEER OF BRIDGE DESIGN
PASSED - [Signature]
ENGINEER OF BRIDGES AND STRUCTURES

DATE - 5/10/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

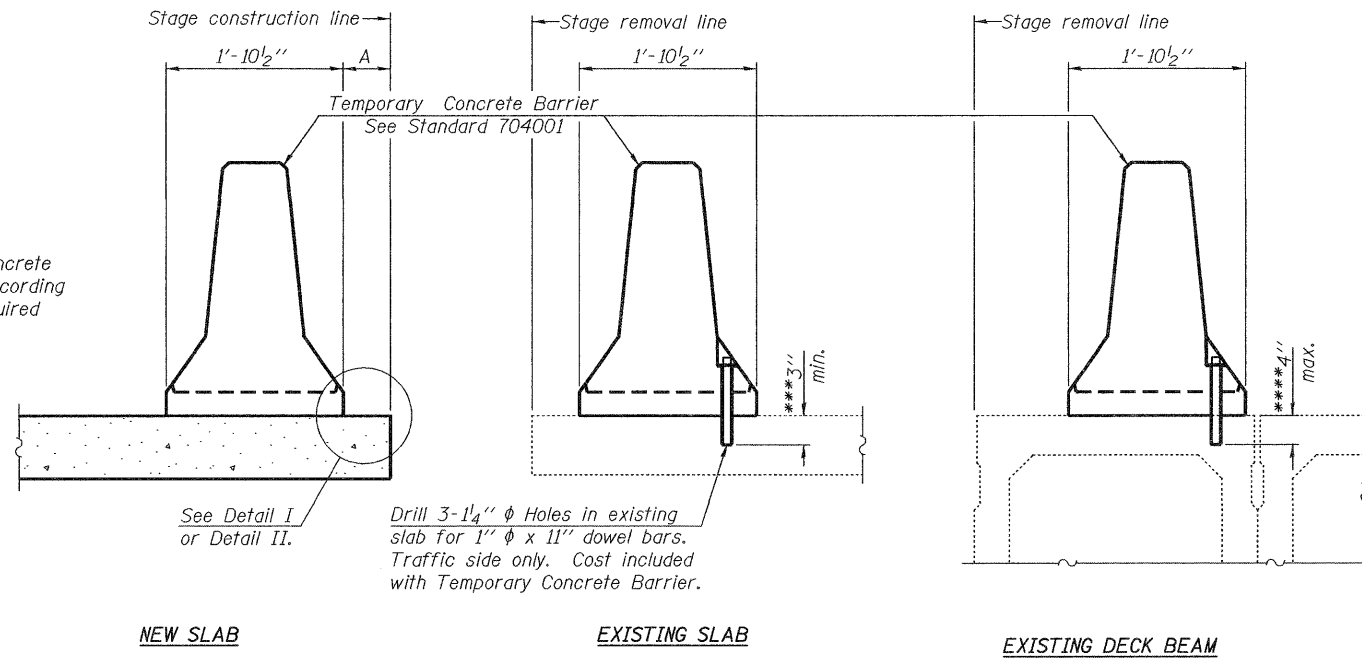
STEEL RAILING (TEMPORARY)
STRUCTURE NO. 073-0036

SHEET NO. 4 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	239	108

CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

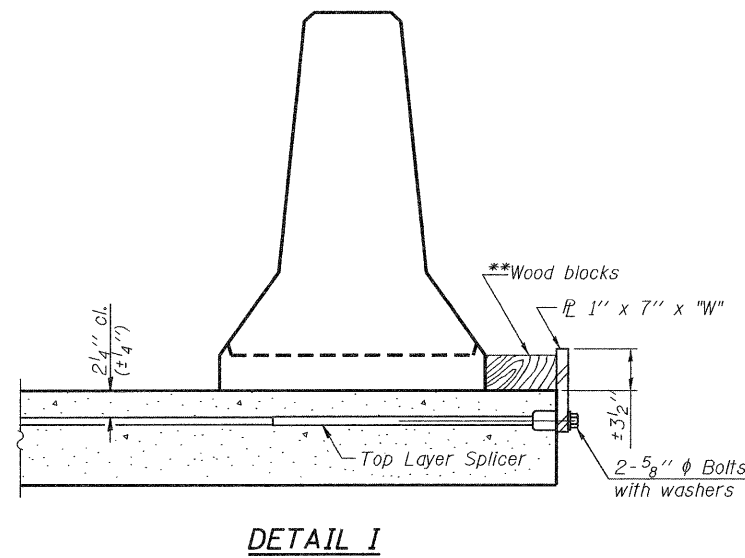
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

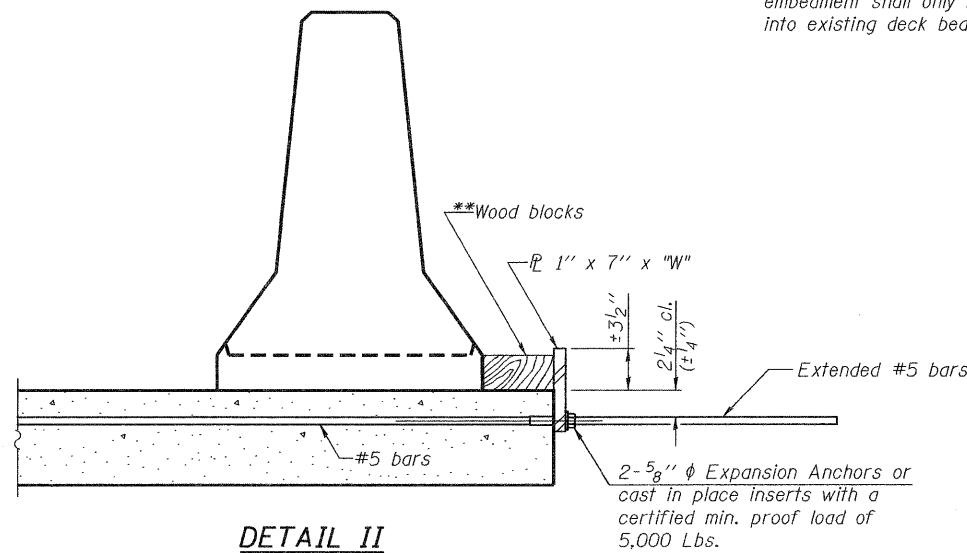
Cost of anchorage is included with Temporary Concrete Barrier.
The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete.
If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

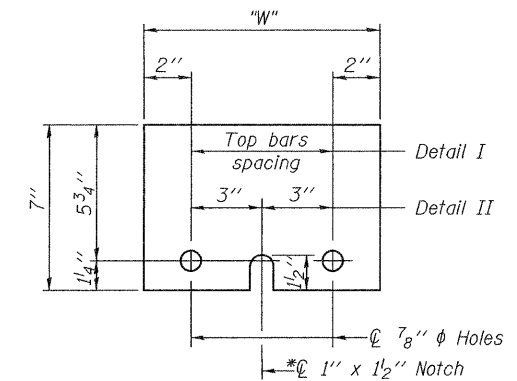
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1" x 7" x "W"

* Required only with Detail II

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

R-27

7-1-10

DESIGNED - Michael D. Rolape
CHECKED - Jessica C. Forrest
DRAWN - h.t. duong
CHECKED - MDR/JCF

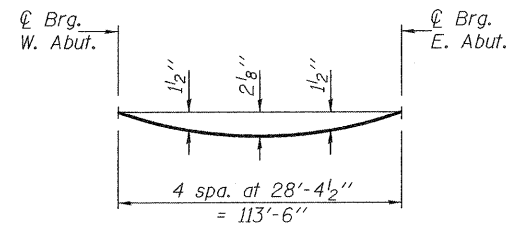
EXAMINED
PASSED
Thomas Damagala
ENGINEER OF BRIDGE DESIGN
DATE - 5/10/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 073-0036

SHEET NO. 5 OF 24 SHEETS

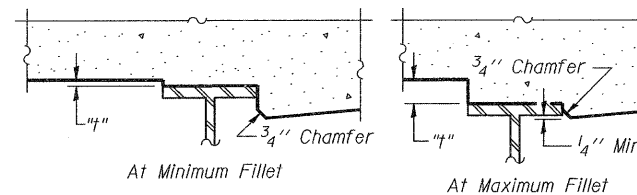
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	237	169
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	



DEAD LOAD DEFLECTION DIAGRAM

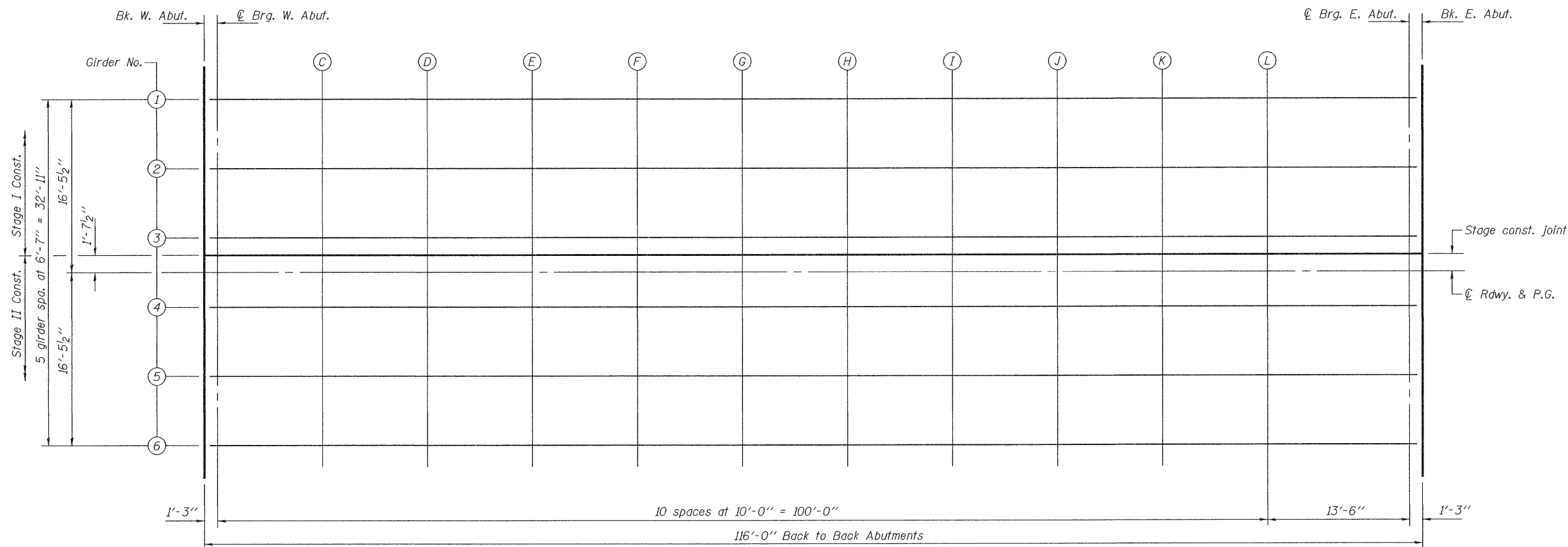
(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 7 & 8 of 24.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 7 & 8 of 24, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

DESIGNED - Michael D. Rolape	EXAMINED - <i>Thomas J. Danagalabid</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		TOP OF SLAB ELEVATIONS STRUCTURE NO. 073-0036		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Jessica C. Forrest	PASSED - <i>h. t. duong</i> ENGINEER OF BRIDGES AND STRUCTURES						869	1B-2	PERRY	239	110
DRAWN - h. t. duong			SHEET NO. 6 OF 24 SHEETS		ILLINOIS FED. AID PROJECT		CONTRACT NO. 98797				

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	19042.00	-16.46	398.04	398.04
CL. BRG. W. ABUT.	19043.25	-16.46	398.04	398.04
C	19053.25	-16.46	398.04	398.09
D	19063.25	-16.46	398.04	398.13
E	19073.25	-16.46	398.04	398.17
F	19083.25	-16.46	398.04	398.19
G	19093.25	-16.46	398.04	398.21
H	19103.25	-16.46	398.04	398.22
I	19113.25	-16.46	398.04	398.20
J	19123.25	-16.46	398.04	398.18
K	19133.25	-16.46	398.04	398.15
L	19143.25	-16.46	398.04	398.10
CL. BRG. E. ABUT.	19156.75	-16.46	398.04	398.04
BK. E. ABUT.	19158.00	-16.46	398.04	398.04

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	19042.00	-9.88	398.17	398.17
CL. BRG. W. ABUT.	19043.25	-9.88	398.17	398.17
C	19053.25	-9.88	398.17	398.21
D	19063.25	-9.88	398.17	398.26
E	19073.25	-9.88	398.17	398.30
F	19083.25	-9.88	398.17	398.32
G	19093.25	-9.88	398.17	398.34
H	19103.25	-9.88	398.17	398.34
I	19113.25	-9.88	398.17	398.32
J	19123.25	-9.88	398.17	398.31
K	19133.25	-9.88	398.17	398.27
L	19143.25	-9.88	398.17	398.23
CL. BRG. E. ABUT.	19156.75	-9.88	398.17	398.17
BK. E. ABUT.	19158.00	-9.88	398.17	398.17

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	19042.00	-3.29	398.27	398.27
CL. BRG. W. ABUT.	19043.25	-3.29	398.27	398.27
C	19053.25	-3.29	398.27	398.31
D	19063.25	-3.29	398.27	398.36
E	19073.25	-3.29	398.27	398.40
F	19083.25	-3.29	398.27	398.42
G	19093.25	-3.29	398.27	398.44
H	19103.25	-3.29	398.27	398.45
I	19113.25	-3.29	398.27	398.43
J	19123.25	-3.29	398.27	398.41
K	19133.25	-3.29	398.27	398.38
L	19143.25	-3.29	398.27	398.33
CL. BRG. E. ABUT.	19156.75	-3.29	398.27	398.27
BK. E. ABUT.	19158.00	-3.29	398.27	398.27

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	19042.00	-1.63	398.29	398.29
CL. BRG. W. ABUT.	19043.25	-1.63	398.29	398.29
C	19053.25	-1.63	398.29	398.34
D	19063.25	-1.63	398.29	398.39
E	19073.25	-1.63	398.29	398.43
F	19083.25	-1.63	398.29	398.45
G	19093.25	-1.63	398.29	398.47
H	19103.25	-1.63	398.29	398.47
I	19113.25	-1.63	398.29	398.45
J	19123.25	-1.63	398.29	398.44
K	19133.25	-1.63	398.29	398.40
L	19143.25	-1.63	398.29	398.36
CL. BRG. E. ABUT.	19156.75	-1.63	398.29	398.29
BK. E. ABUT.	19158.00	-1.63	398.29	398.29

☉ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	19042.00	0.00	398.32	398.32
CL. BRG. W. ABUT.	19043.25	0.00	398.32	398.32
C	19053.25	0.00	398.32	398.37
D	19063.25	0.00	398.32	398.41
E	19073.25	0.00	398.32	398.45
F	19083.25	0.00	398.32	398.47
G	19093.25	0.00	398.32	398.49
H	19103.25	0.00	398.32	398.50
I	19113.25	0.00	398.32	398.48
J	19123.25	0.00	398.32	398.46
K	19133.25	0.00	398.32	398.43
L	19143.25	0.00	398.32	398.38
CL. BRG. E. ABUT.	19156.75	0.00	398.32	398.32
BK. E. ABUT.	19158.00	0.00	398.32	398.32

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	19042.00	3.29	398.27	398.27
CL. BRG. W. ABUT.	19043.25	3.29	398.27	398.27
C	19053.25	3.29	398.27	398.31
D	19063.25	3.29	398.27	398.36
E	19073.25	3.29	398.27	398.40
F	19083.25	3.29	398.27	398.42
G	19093.25	3.29	398.27	398.44
H	19103.25	3.29	398.27	398.45
I	19113.25	3.29	398.27	398.43
J	19123.25	3.29	398.27	398.41
K	19133.25	3.29	398.27	398.38
L	19143.25	3.29	398.27	398.33
CL. BRG. E. ABUT.	19156.75	3.29	398.27	398.27
BK. E. ABUT.	19158.00	3.29	398.27	398.27

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	19042.00	9.87	398.17	398.17
CL. BRG. W. ABUT.	19043.25	9.87	398.17	398.17
C	19053.25	9.87	398.17	398.21
D	19063.25	9.87	398.17	398.26
E	19073.25	9.87	398.17	398.30
F	19083.25	9.87	398.17	398.32
G	19093.25	9.87	398.17	398.34
H	19103.25	9.87	398.17	398.34
I	19113.25	9.87	398.17	398.32
J	19123.25	9.87	398.17	398.31
K	19133.25	9.87	398.17	398.27
L	19143.25	9.87	398.17	398.23
CL. BRG. E. ABUT.	19156.75	9.87	398.17	398.17
BK. E. ABUT.	19158.00	9.87	398.17	398.17

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	19042.00	16.46	398.04	398.04
CL. BRG. W. ABUT.	19043.25	16.46	398.04	398.04
C	19053.25	16.46	398.04	398.09
D	19063.25	16.46	398.04	398.13
E	19073.25	16.46	398.04	398.17
F	19083.25	16.46	398.04	398.19
G	19093.25	16.46	398.04	398.21
H	19103.25	16.46	398.04	398.22
I	19113.25	16.46	398.04	398.20
J	19123.25	16.46	398.04	398.18
K	19133.25	16.46	398.04	398.15
L	19143.25	16.46	398.04	398.10
CL. BRG. E. ABUT.	19156.75	16.46	398.04	398.04
BK. E. ABUT.	19158.00	16.46	398.04	398.04

DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.t. duong
 CHECKED - MDR/JCF

EXAMINED *Thomas J. Demagala* DATE - 5/10/2011
 PASSED *John C. ...*
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS
 STRUCTURE NO. 073-0036**

SHEET NO. 8 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	299	112
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	19012.00	-18.00	398.01
A	19022.00	-18.00	398.01
B	19032.00	-18.00	398.01
East end of W. Appr. Slab	19042.00	-18.00	398.01

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	19012.00	-12.00	398.13
A	19022.00	-12.00	398.13
B	19032.00	-12.00	398.13
East end of W. Appr. Slab	19042.00	-12.00	398.13

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	19012.00	-1.63	398.29
A	19022.00	-1.63	398.29
B	19032.00	-1.63	398.29
East end of W. Appr. Slab	19042.00	-1.63	398.29

☉ ROADWAY & PROFILE GRADE

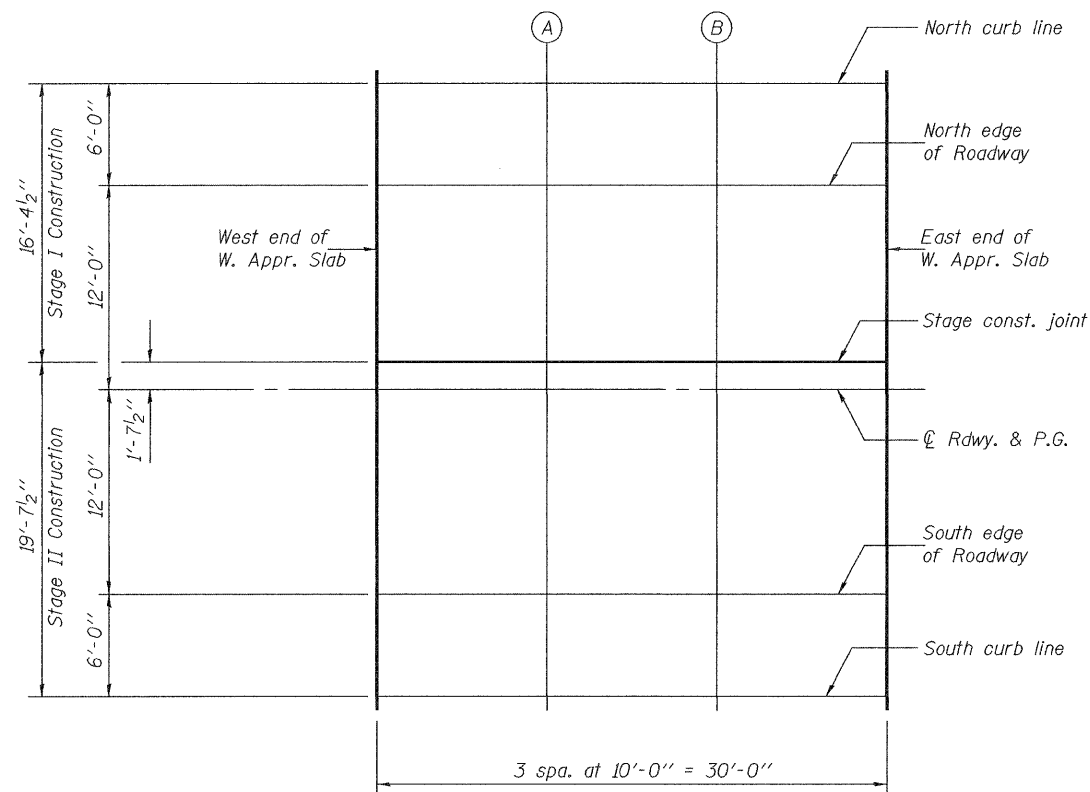
Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	19012.00	0.00	398.32
A	19022.00	0.00	398.32
B	19032.00	0.00	398.32
East end of W. Appr. Slab	19042.00	0.00	398.32

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	19012.00	12.00	398.13
A	19022.00	12.00	398.13
B	19032.00	12.00	398.13
East end of W. Appr. Slab	19042.00	12.00	398.13

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	19012.00	18.00	398.01
A	19022.00	18.00	398.01
B	19032.00	18.00	398.01
East end of W. Appr. Slab	19042.00	18.00	398.01



PLAN

DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.f. duong
 CHECKED - MDR/JCF

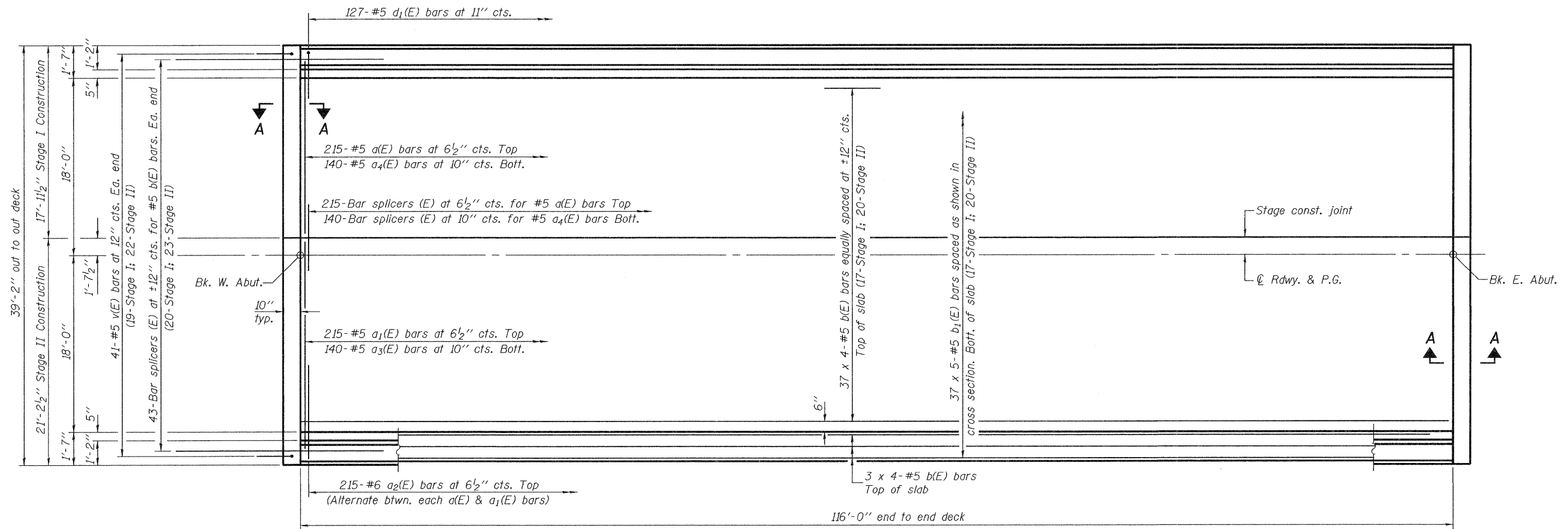
EXAMINED *Thomas J. Domagalak* DATE - 5/10/2011
 ENGINEER OF BRIDGE DESIGN
 PASSED *David C. ...*
 ENGINEER OF BRIDGES AND STRUCTURES

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TOP OF WEST APPROACH SLAB ELEVATIONS
 STRUCTURE NO. 073-0036**

SHEET NO. 9 OF 24 SHEETS

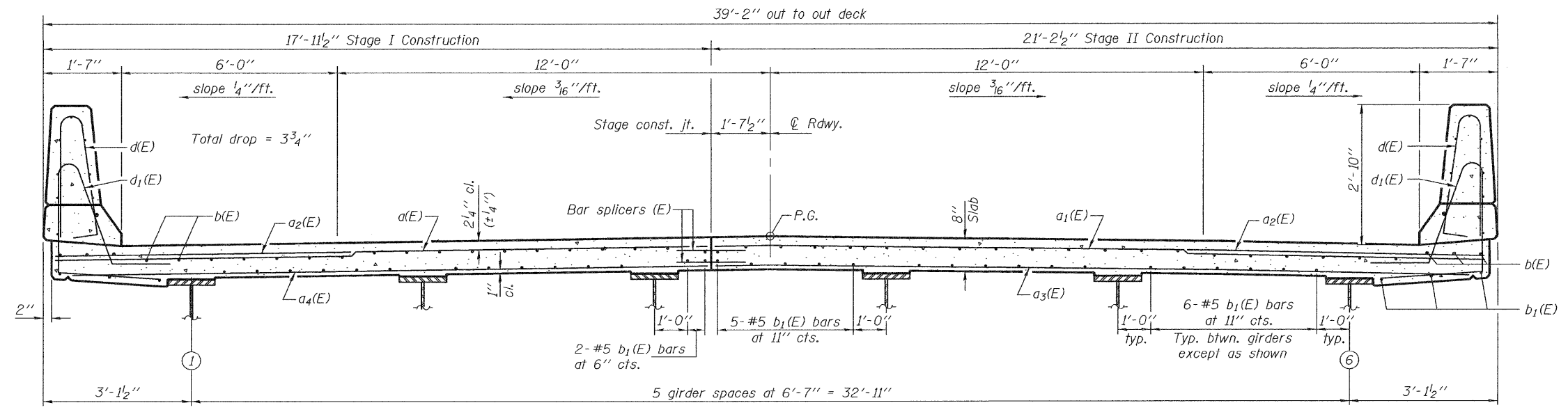
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	299	113
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				



PLAN

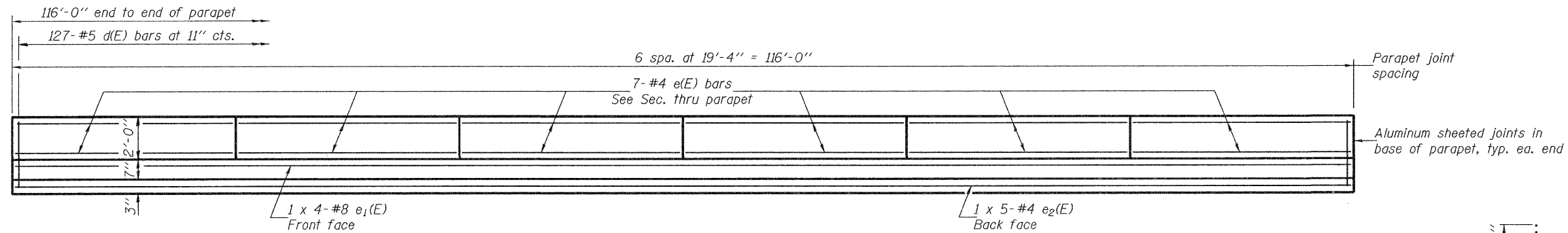
MIN. BAR LAP
#5 bar = 3'-3"

Notes: See sheet 12 of 24 for superstructure details and Bill of Material.
Bars indicated thus 41 x 3-#5 etc. indicates 41 lines of bars with 3 lengths per line.
See sheet 12 of 24 for parapet reinforcement.
See sheet 13 of 24 for Section A-A.
See sheet 21 of 24 for bar splicer details.

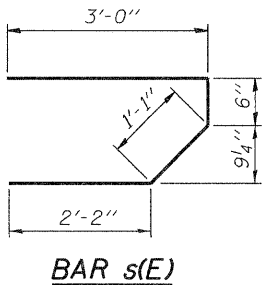


CROSS SECTION
(Looking East)

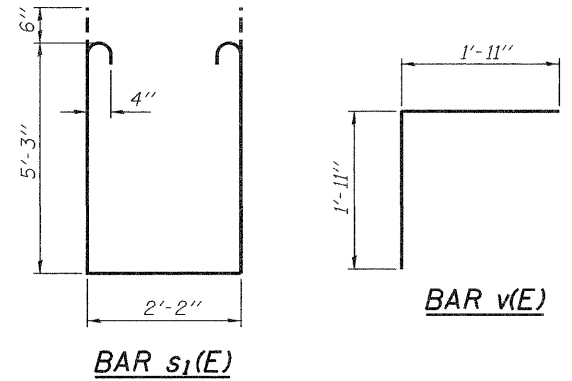
DESIGNED - Michael D. Rolape	EXAMINED - <i>Thomas J. Damagala</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		SUPERSTRUCTURE STRUCTURE NO. 073-0036		F.A.P. RTE. 869	SECTION 1B-2	COUNTY PERRY	TOTAL SHEETS 299	SHEET NO. 115
CHECKED - Jessica C. Forrest	PASSED - <i>Carl Perry</i> ENGINEER OF BRIDGES AND STRUCTURES						SHEET NO. 11 OF 24 SHEETS		ILLINOIS FED. AID PROJECT		CONTRACT NO. 98797
DRAWN - h.t. duong											
CHECKED - MDR/JCF											



INSIDE ELEVATION OF PARAPET



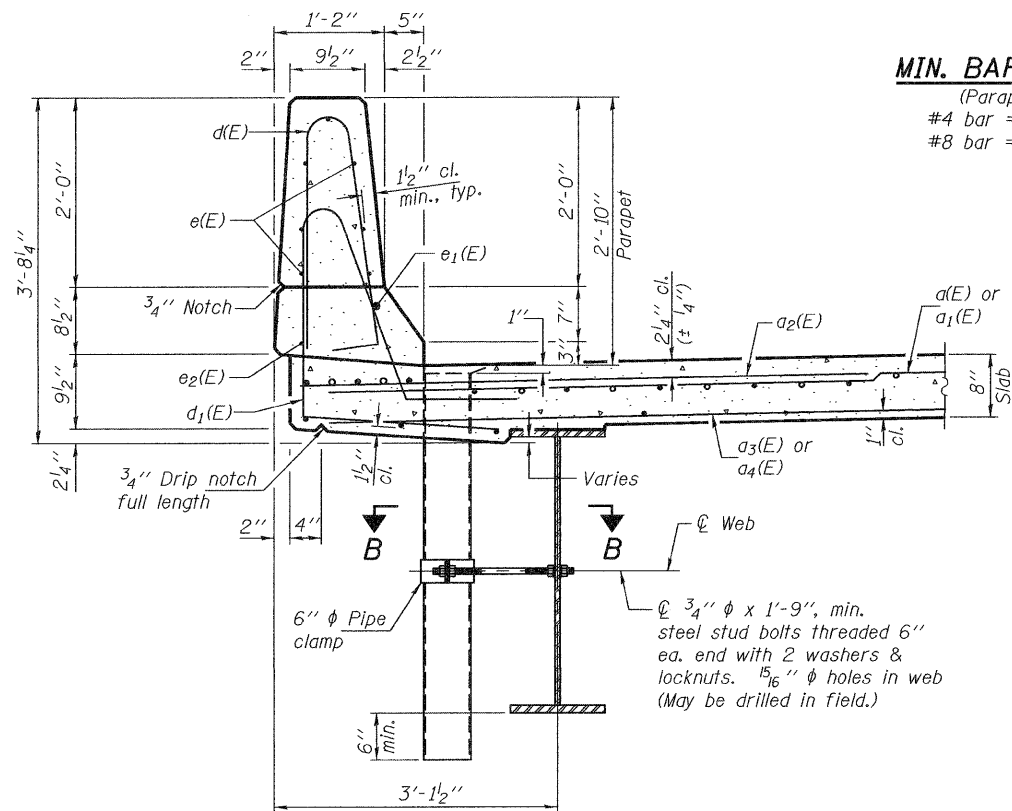
BAR s(E)



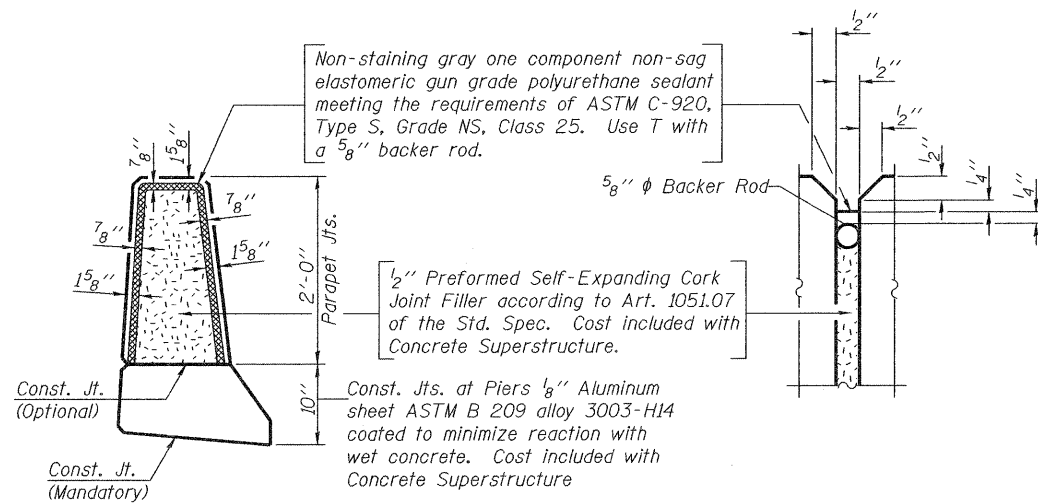
BAR v(E)

MIN. BAR LAPS

(Parapet)
 #4 bar = 2'-0"
 #8 bar = 5'-2"



SECTION THRU PARAPET



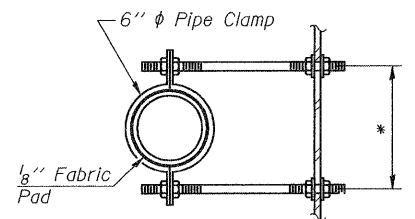
PARAPET JOINT DETAILS

Notes:
 Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
 Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.
 Floor drains need not be painted.

SUPERSTRUCTURE BILL OF MATERIAL

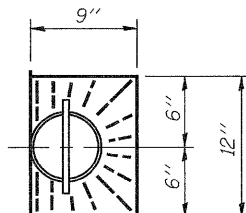
Bar	No.	Size	Length	Shape
d(E)	215	#5	17'-6"	—
a1(E)	215	#5	20'-9"	—
a2(E)	430	#6	6'-6"	—
a3(E)	140	#5	20'-1"	—
a4(E)	140	#5	16'-8"	—
b(E)	172	#5	31'-5"	—
b1(E)	185	#5	25'-9"	—
d(E)	254	#5	5'-7"	┌
d1(E)	254	#5	7'-8"	┌
e(E)	84	#4	19'-0"	—
e1(E)	8	#8	32'-10"	—
e2(E)	10	#4	24'-9"	—
m(E)	10	#6	17'-7"	—
m1(E)	10	#6	20'-10"	—
m2(E)	10	#6	6'-4"	—
m3(E)	4	#6	2'-10"	—
m4(E)	8	#6	8'-2"	—
m5(E)	12	#6	10'-5"	—
m6(E)	4	#6	6'-9"	—
s(E)	82	#5	6'-9"	┌
s1(E)	74	#4	13'-8"	┌
v(E)	82	#5	3'-10"	┌
Reinforcement Bars, Epoxy Coated		Pound		36790
Concrete Superstructure		Cu. Yds.		179.7

Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.

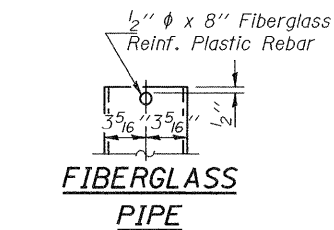


SECTION B-B

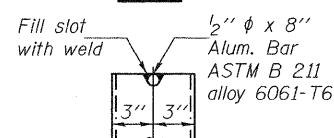
*Dimension as required by Pipe Clamp



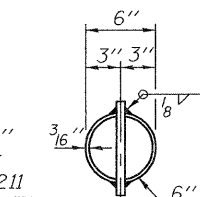
TOP PLAN



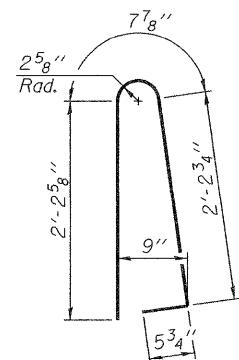
FIBERGLASS PIPE



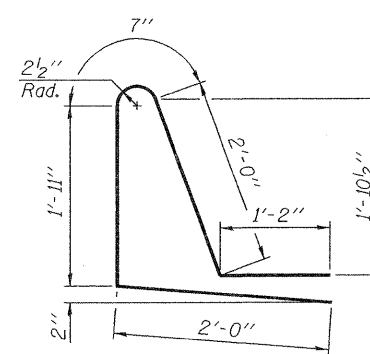
ALUMINUM TUBE



TOP PLAN (Showing Aluminum Tube)



BAR d(E)



BAR d1(E)

DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.f. duong
 CHECKED - MDR/JCF

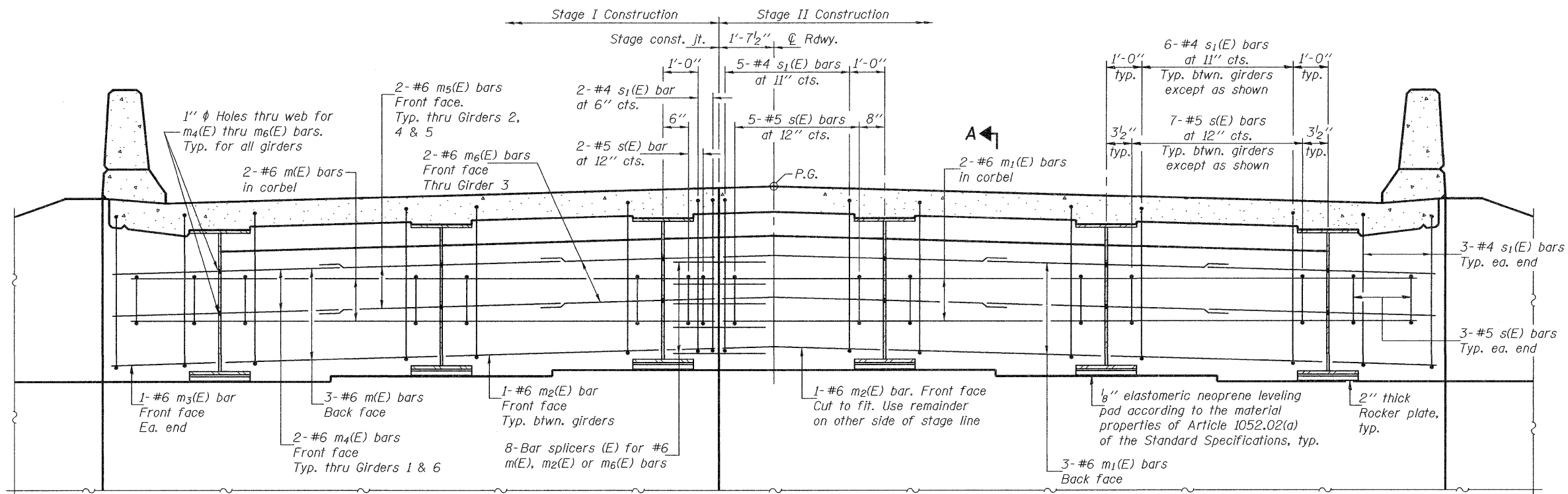
EXAMINED - *Thomas J. Damagala*
 ENGINEER OF BRIDGE DESIGN
 PASSED - *h. Carl Perry*
 ENGINEER OF BRIDGES AND STRUCTURES
 DATE - 5/10/2011

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS STRUCTURE NO. 073-0036

SHEET NO. 12 OF 24 SHEETS

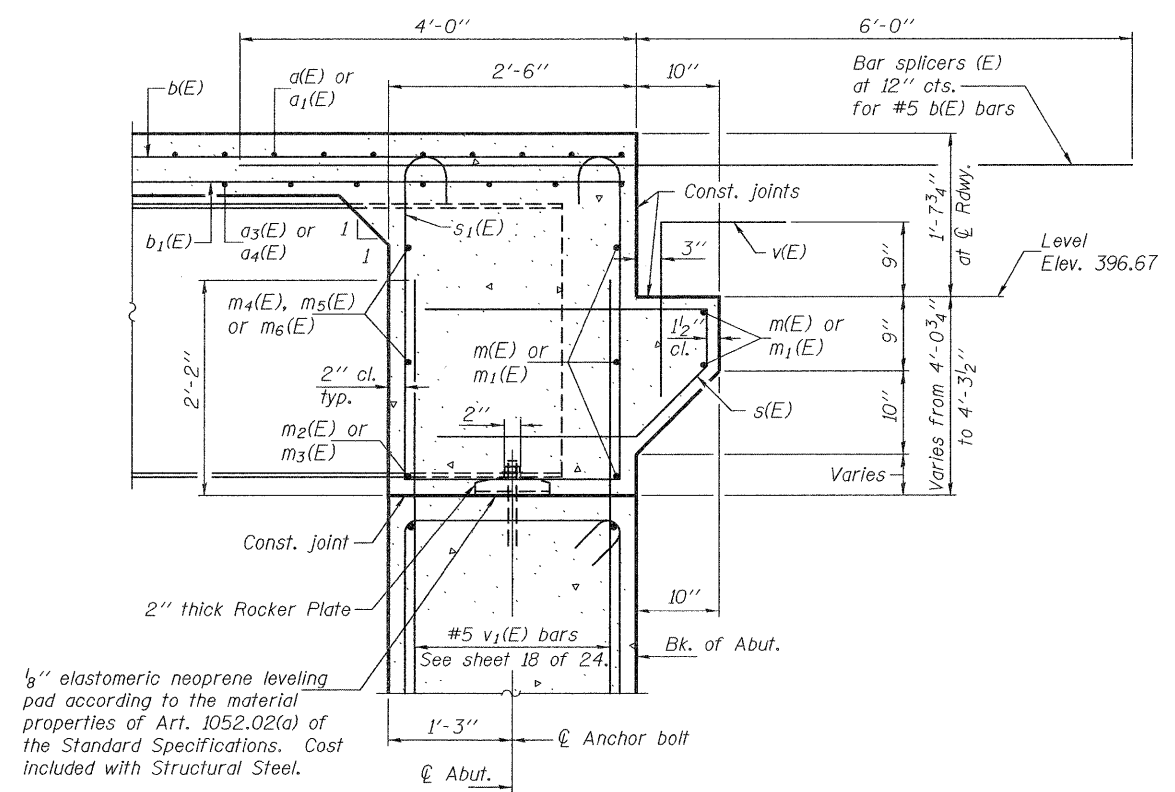
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	299	116
			CONTRACT NO. 98797	
ILLINOIS FED. AID PROJECT				



DIAPHRAGM ELEVATION AT EAST ABUTMENT

(Looking east - West abutment similar)

Notes: Reinforcement bars in diaphragm are billed with superstructure on sheet 12 of 24.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 12 of 24.
 For details of bars s(E) & s₁(E) see sheet 12 of 24.
 For bar splicer (E) details see sheet 21 of 24.



MIN. BAR LAP
 #6 bar = 3'-10"

SECTION A-A

DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.t. duong
 CHECKED - MDR/JCF

EXAMINED
 PASSED
 Thomas Damagala
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - 5/10/2011

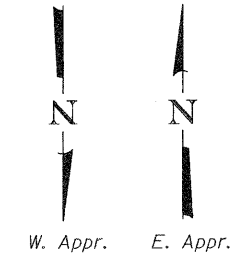
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
STRUCTURE NO. 073-0036

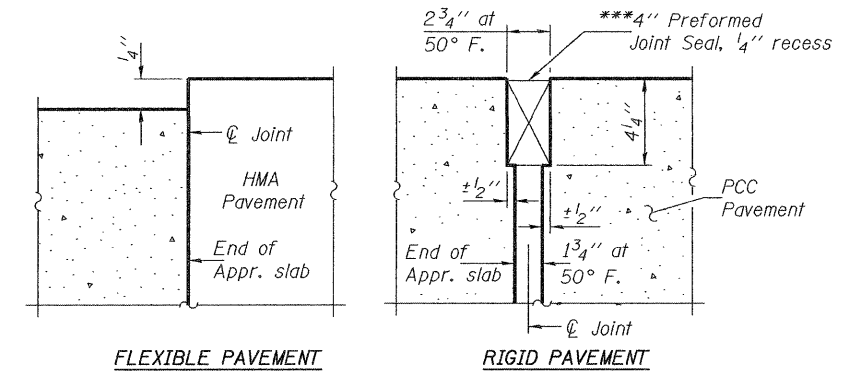
SHEET NO. 13 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	299	117
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				

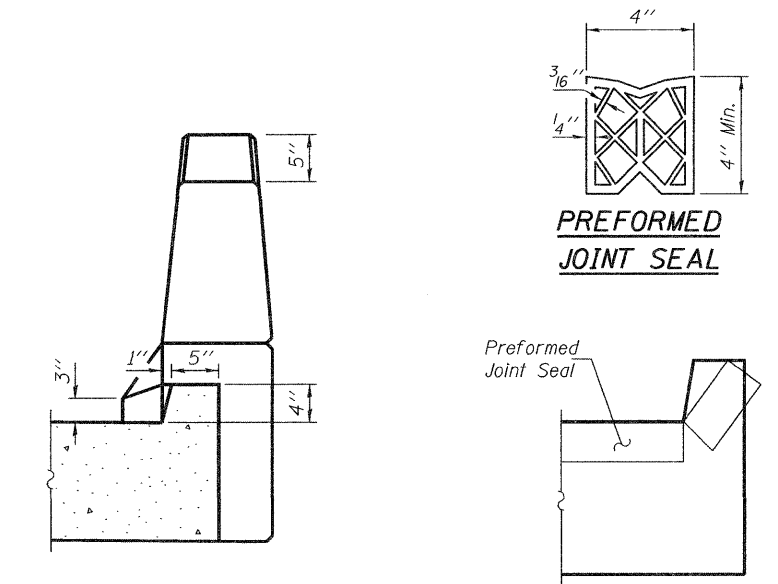
Notes: See sheet 15 of 24 for Sections C-C & D-D and View E-E.
 a_{100} (E), a_{101} (E), a_{102} (E), a_{103} (E), w_{100} (E) and w_{101} (E) bar spacings measured perpendicular to ϕ Rdwy.



***Cost included with Concrete Superstructure.



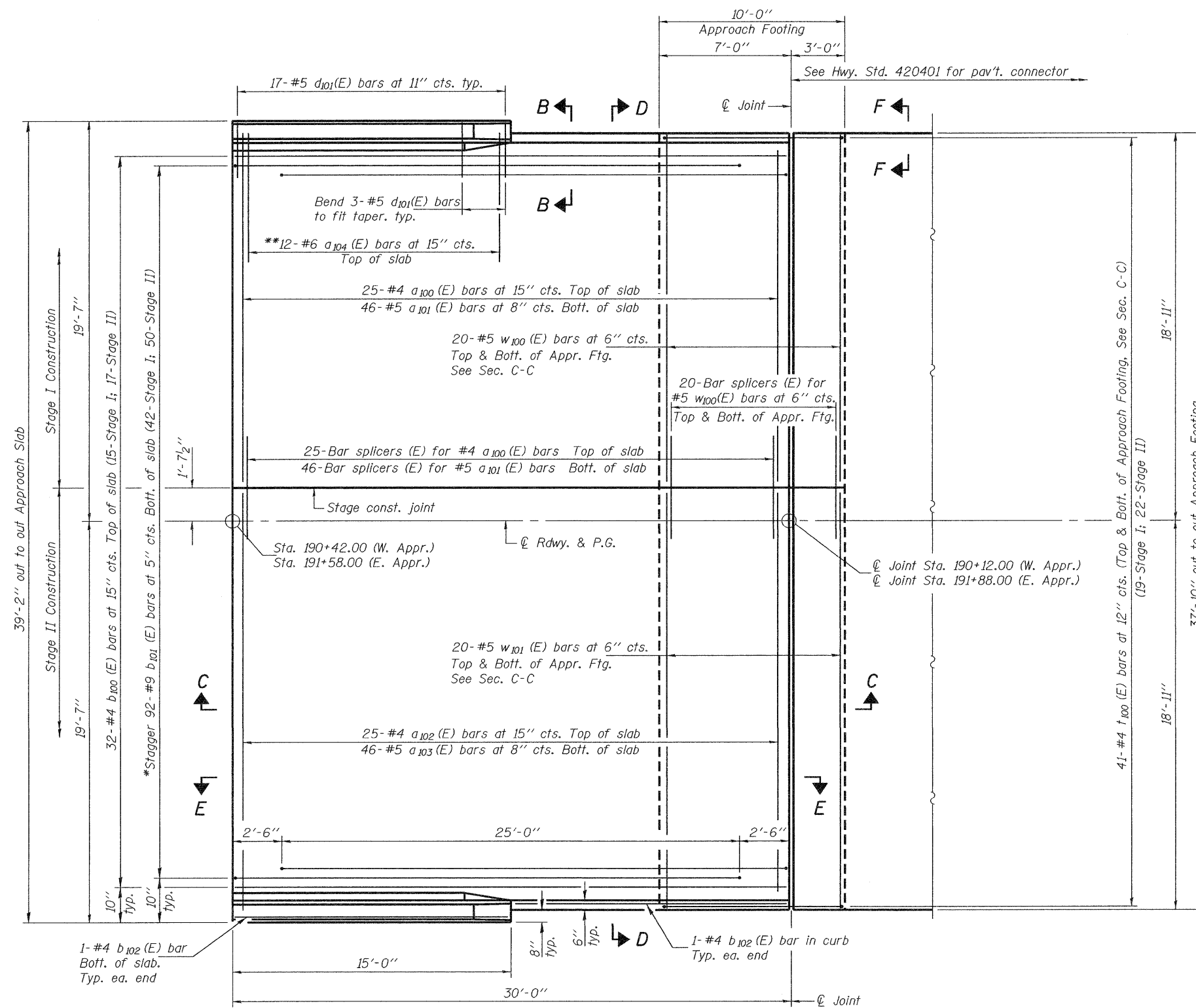
DETAIL A



VIEW B-B

VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



PLAN

(East Approach shown - West Approach similar by mirror image)

*Tilt #9 b_{101} (E) bars as required to maintain clearance.
 **Spaced between a_{100} (E) & a_{102} (E) bars, typ. ea. parapet.

BA-0 7-1-10

DESIGNED - Michael D. Rolape	EXAMINED - Thomas J. Damagala	DATE - 5/10/2011
CHECKED - Jessica C. Forrest	PASSED - [Signature]	
DRAWN - h.f. duong		
CHECKED - MDR/JCF		

ENGINEER OF BRIDGE DESIGN	ENGINEER OF BRIDGES AND STRUCTURES
---------------------------	------------------------------------

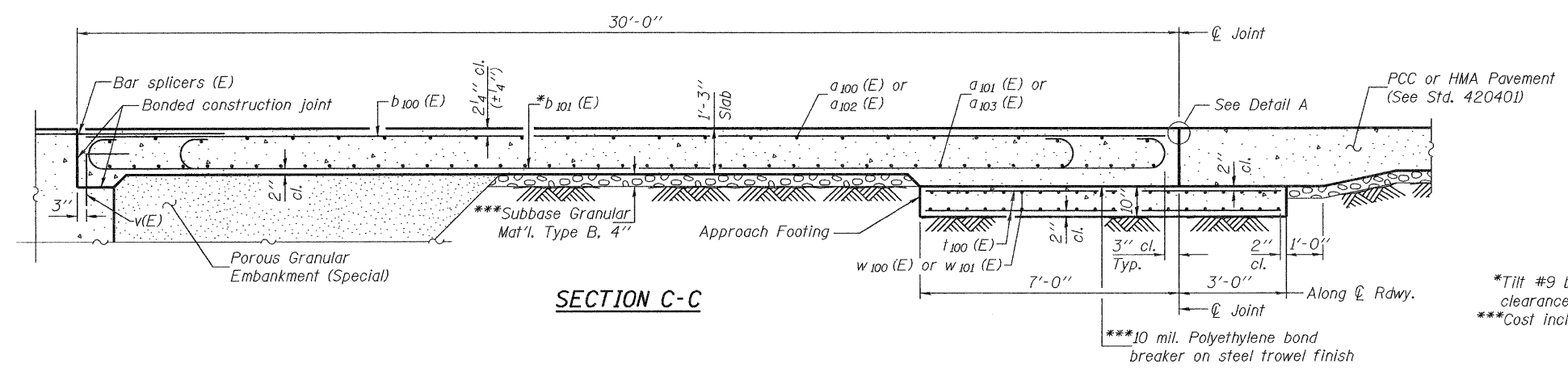
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 073-0036

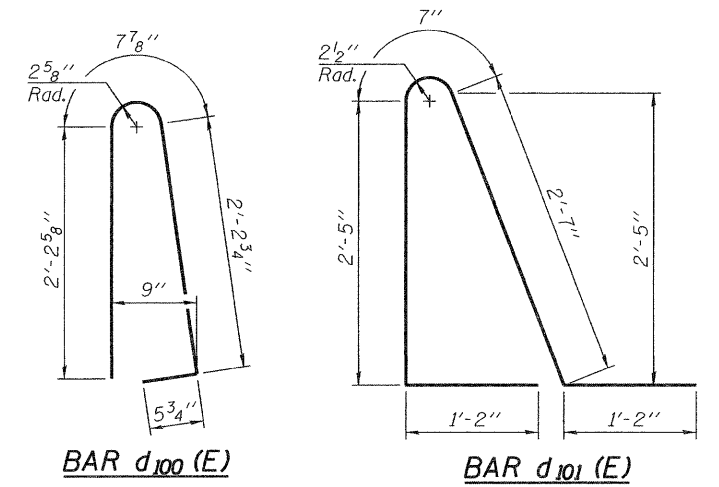
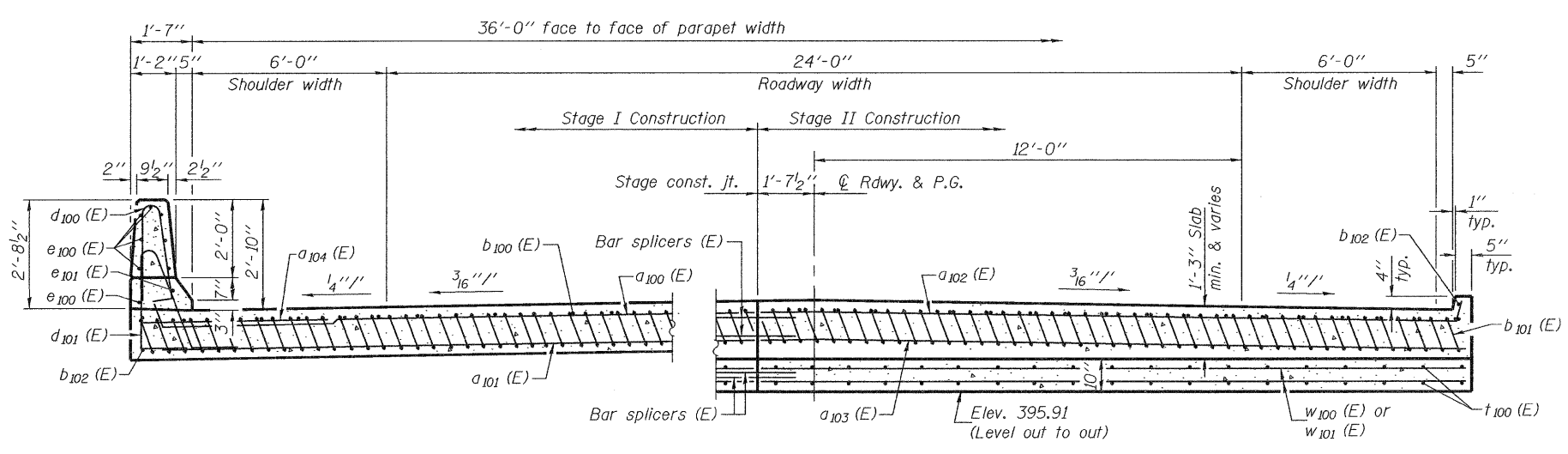
SHEET NO. 14 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	2-99	118
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

Notes:
 See sheet 14 of 24 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet 12 of 24.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 For bar splicer details, see sheet 21 of 24.
 Cost of excavation for approach footing included with Concrete Structures.
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 24.
 For additional parapet details, see sheet 12 of 24.



*Tilt #9 b101 (E) bars as required to maintain clearance.
 ***Cost included with Concrete Superstructure.



NEAR ABUTMENT

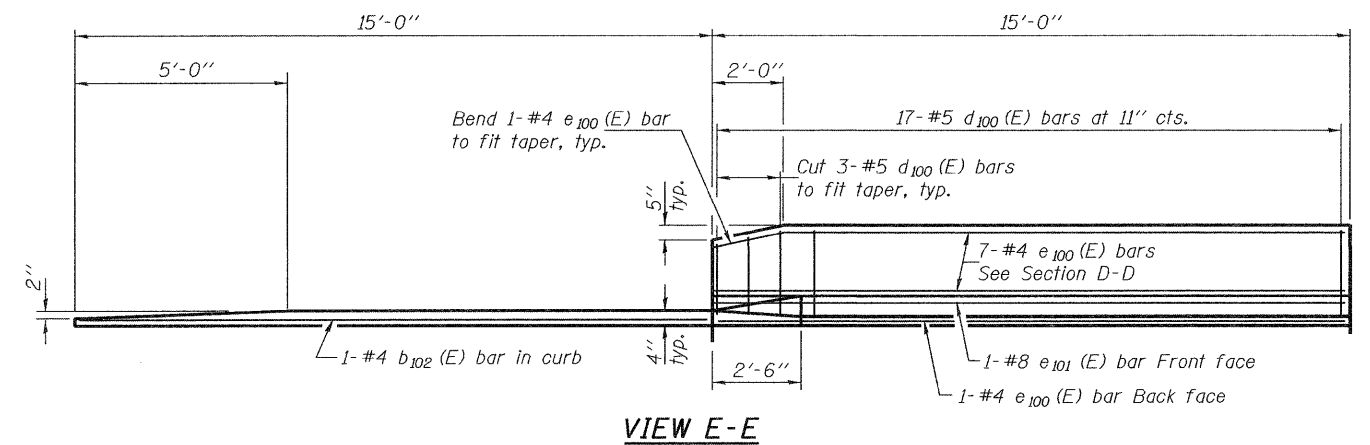
AT APPROACH FOOTING

SECTION D-D

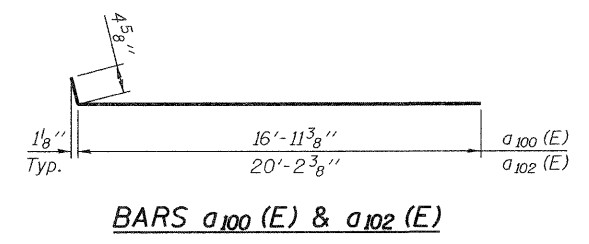
(See Plan for dimensions not shown)

**TWO APPROACHES
 BILL OF MATERIAL**

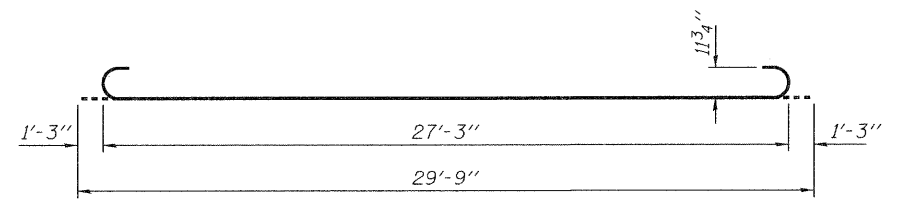
Bar	No.	Size	Length	Shape
a100 (E)	50	#4	17'-4"	┌───┐
a101 (E)	92	#5	17'-0"	┌───┐
a102 (E)	50	#4	20'-7"	┌───┐
a103 (E)	92	#5	20'-3"	┌───┐
a104 (E)	48	#6	6'-6"	┌───┐
b100 (E)	64	#4	29'-8"	┌───┐
b101 (E)	184	#9	29'-9"	┌───┐
b102 (E)	8	#4	14'-8"	┌───┐
d100 (E)	68	#5	5'-7"	┌───┐
d101 (E)	68	#5	7'-11"	┌───┐
e100 (E)	32	#4	14'-8"	┌───┐
e101 (E)	4	#8	14'-8"	┌───┐
t100 (E)	164	#4	9'-8"	┌───┐
w100 (E)	80	#5	17'-0"	┌───┐
w101 (E)	80	#5	20'-3"	┌───┐
Concrete Superstructure			Cu. Yd.	121.3
Concrete Structures			Cu. Yd.	23.4
Reinforcement Bars, Epoxy Coated			Pound	30860



VIEW E-E



BARS a100 (E) & a102 (E)



BAR b101 (E)

BA-0

7-1-10

DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.t. duong
 CHECKED - MDR/JCF

EXAMINED
 PASSED
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES

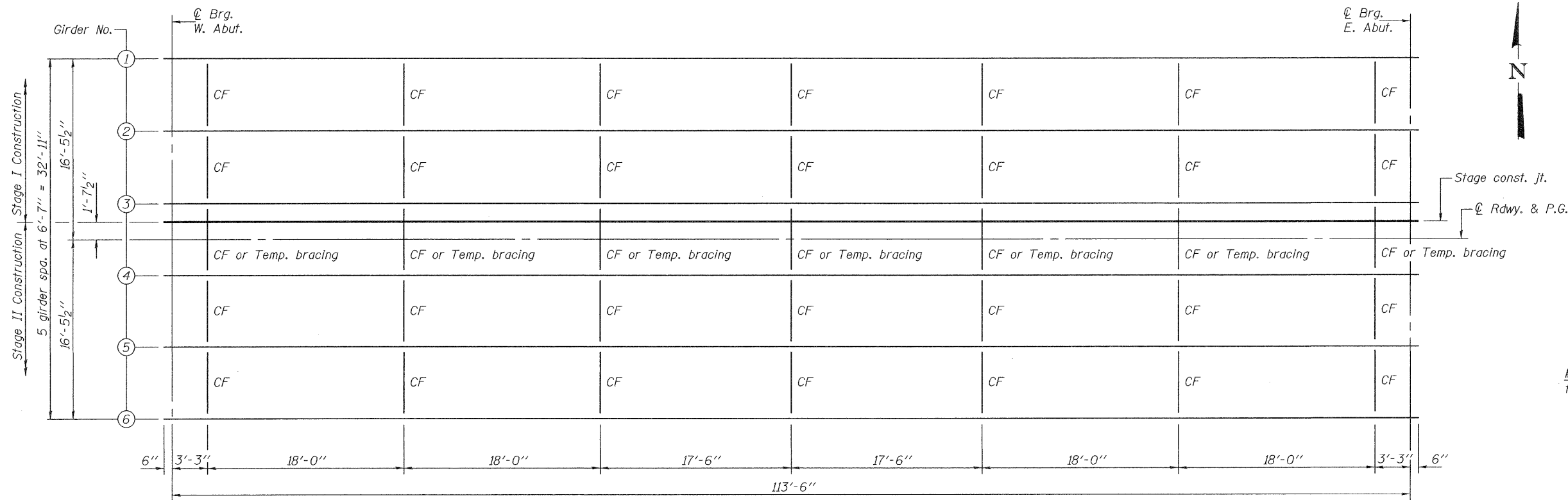
DATE - 5/10/2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

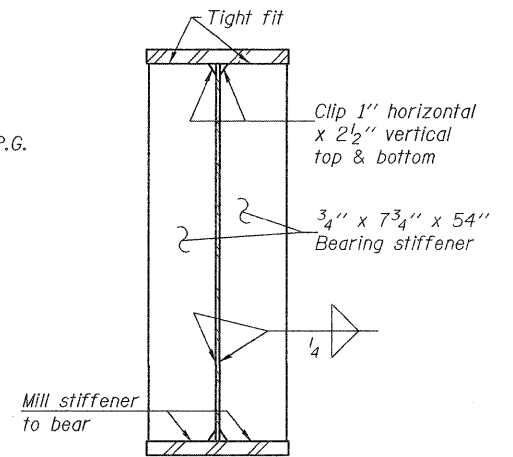
BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 073-0036

SHEET NO. 15 OF 24 SHEETS

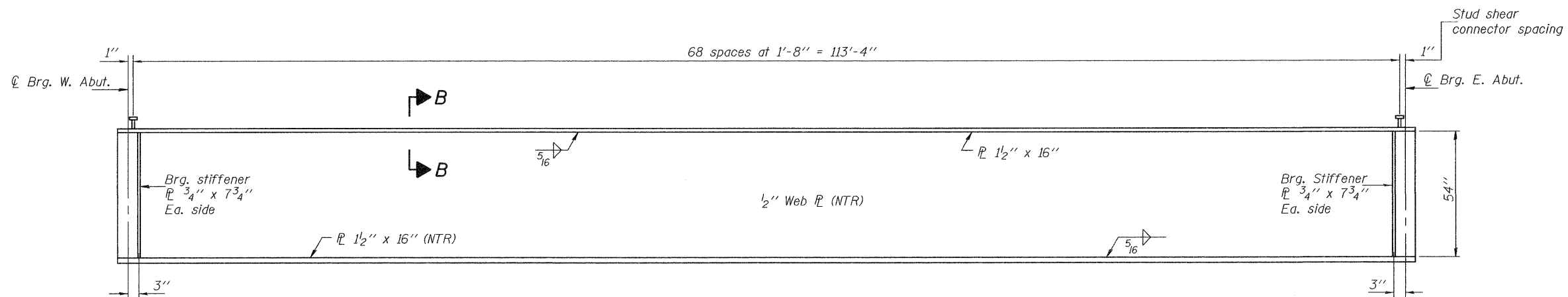
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	27	119
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				



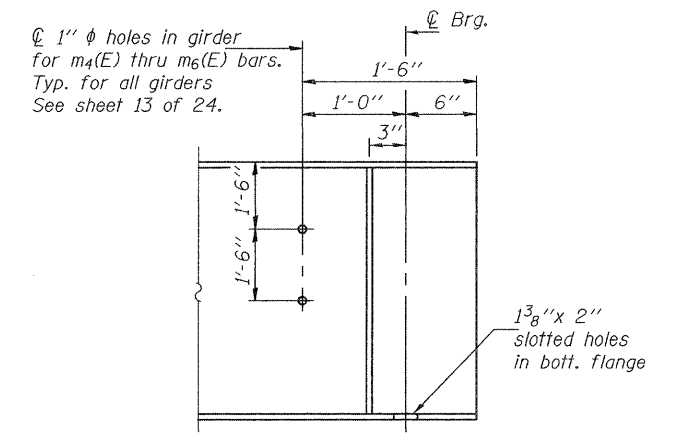
PLAN



SECTION AT ABUTMENT

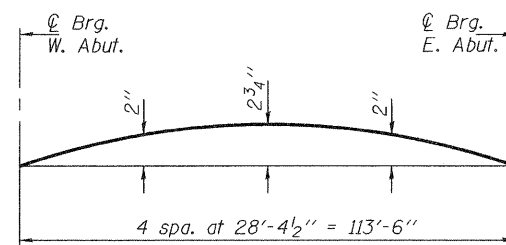


GIRDER ELEVATION

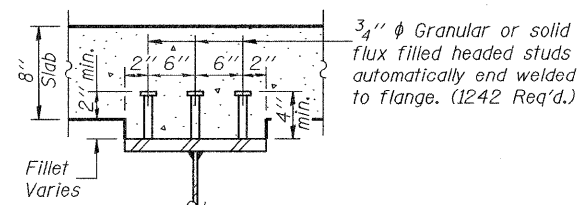


END OF GIRDER ELEVATION

Notes: Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2. Omit connecting plates on exterior side of exterior girder. All structural steel shall be AASHTO M 270, Grade 50W. All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts.



CAMBER DIAGRAM



SECTION B-B

DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.t. duong
 CHECKED - MDR/JCF

EXAMINED
 PASSED
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES

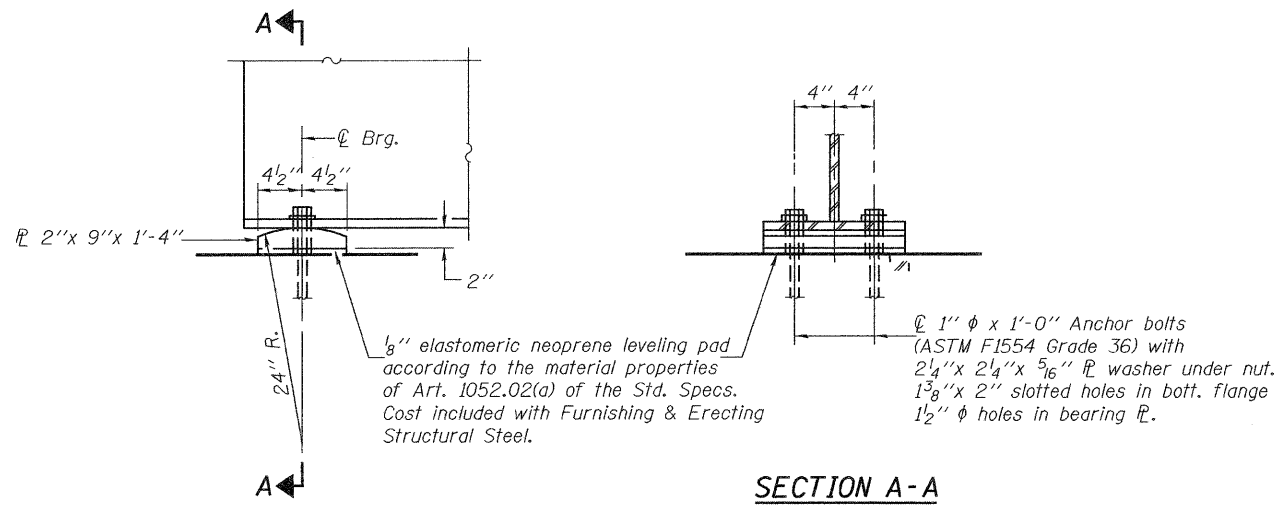
DATE - 5/10/2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
 STRUCTURE NO. 073-0036

SHEET NO. 16 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	299	129
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				



ELEVATION AT ABUTMENTS

ABUTMENT BEARING
(12 Required)

INTERIOR GIRDER MOMENT TABLE	
	0.5 Sp.
I_s	(in ⁴) 43533
$I_c(n)$	(in ⁴) 84218
$I_c(3n)$	(in ⁴) 63575
S_s	(in ³) 1527
$S_c(n)$	(in ³) 1884
$S_c(3n)$	(in ³) 1742
DC1	(k/ft) 0.963
M _{DC1}	(k) 1550.7
DC2	(k/ft) 0.15
M _{DC2}	(k) 241.5
DW	(k/ft) 0.329
M _{DW}	(k) 529.8
$M_L + IM$	(k) 1863.2
M_u (Strength I)	(k) 6295.6
$\phi_r M_n$	(k) 9321.3
f_s DC1	(ksi) 12.2
f_s DC2	(ksi) 1.7
f_s DW	(ksi) 3.6
f_s 1.3(L+IM)	(ksi) 15.4
f_s (Service II)	(ksi) 32.9
V_f	(k) 27.1

*Compact sections

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in⁴ and in³).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_L + IM$: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).

$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

$\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).

$M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_L + IM$

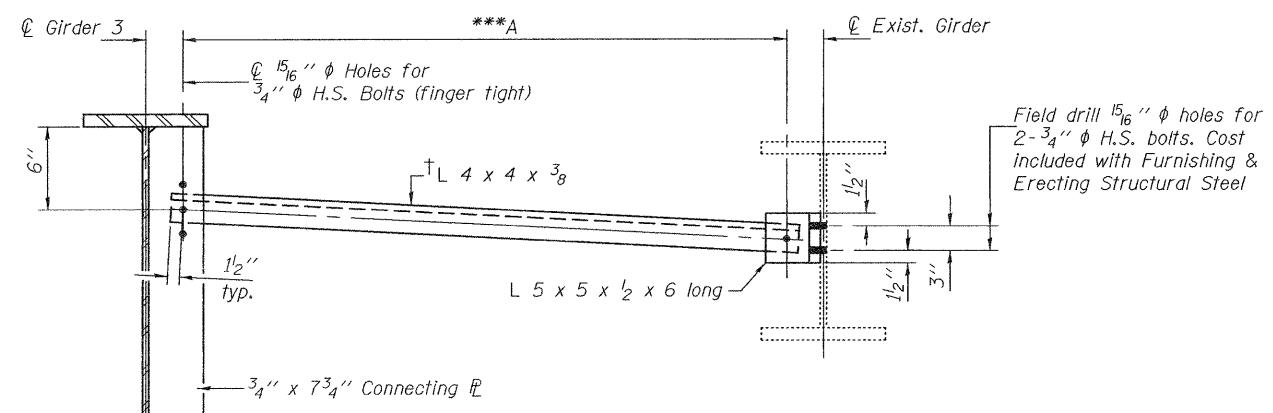
V_f : Maximum factored shear range in span computed according to Article 6.10.10.

INTERIOR GIRDER REACTION TABLE	
	Abuts.
R _{DC1}	(k) 54.7
R _{DC2}	(k) 8.5
R _{DW}	(k) 18.7
$R_L + IM$	(k) 88.6
R _{Total}	(k) 170.5

TOP OF WEB ELEVATIONS

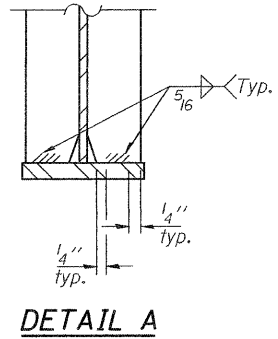
	W. Abut.	E. Abut.
Girder 1	397.19	397.19
Girder 2	397.32	397.32
Girder 3	397.42	397.42
Girder 4	397.42	397.42
Girder 5	397.32	397.32
Girder 6	397.19	397.19

†† For fabrication use only.

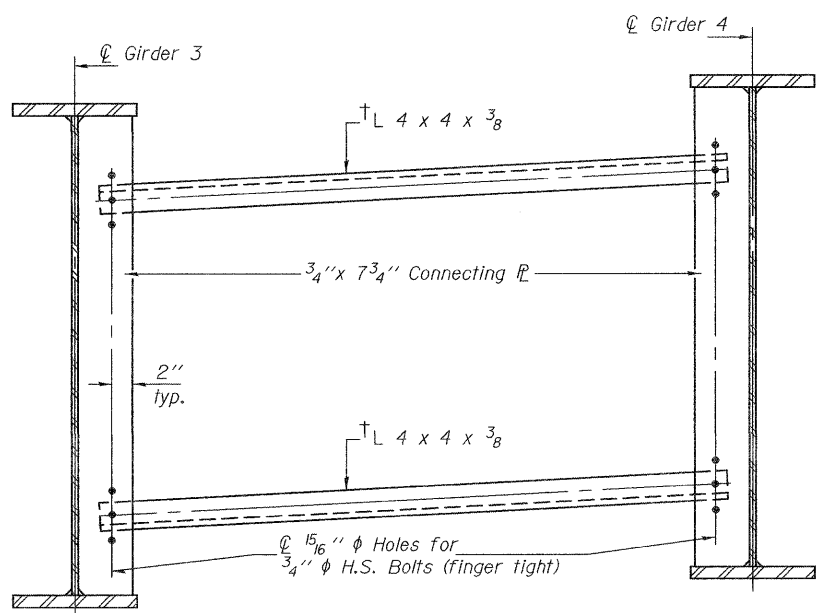


TEMPORARY BRACING FOR STAGE I CONSTRUCTION
(7 Required)

***The horizontal dimension A between the holes in the cross frame connection plate and L 5 x 5 shall be measured in the field. The holes in the L 5 x 5 shall be field drilled at this dimension. Cost included with Furnishing & Erecting Structural Steel.

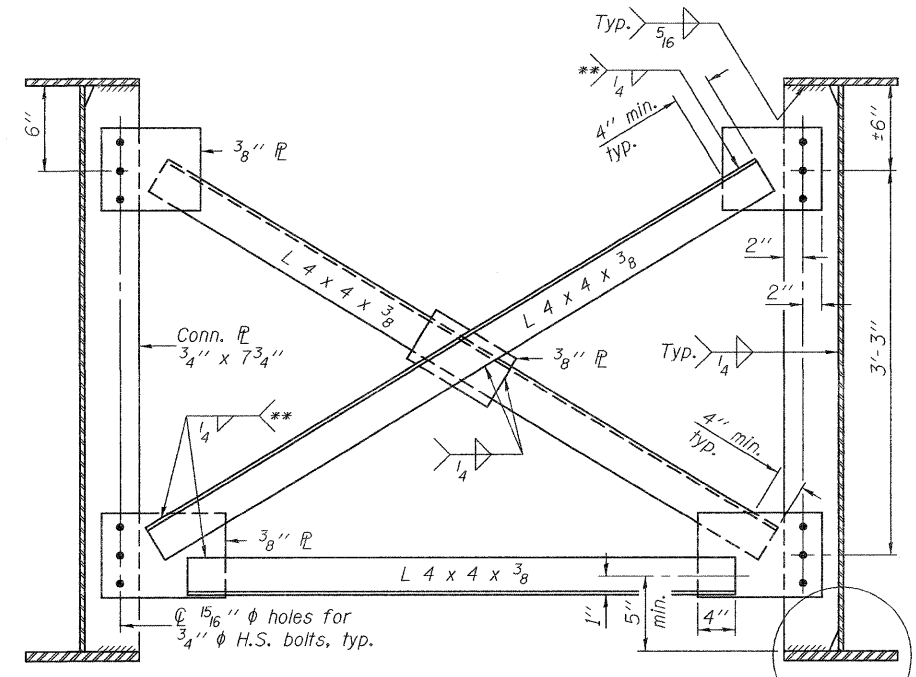


DETAIL A



TEMPORARY BRACING FOR STAGE II CONSTRUCTION
(7 Required)

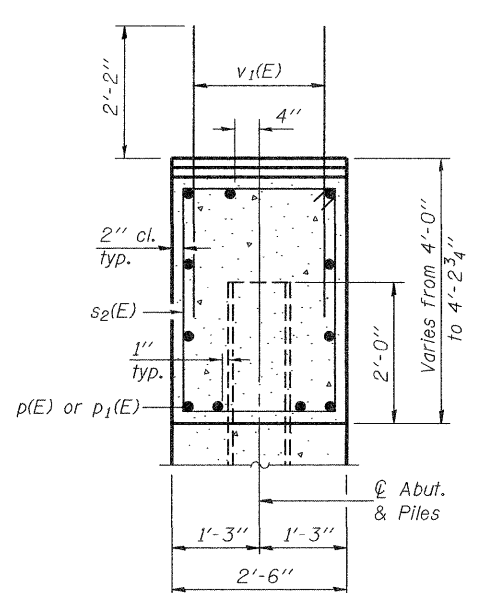
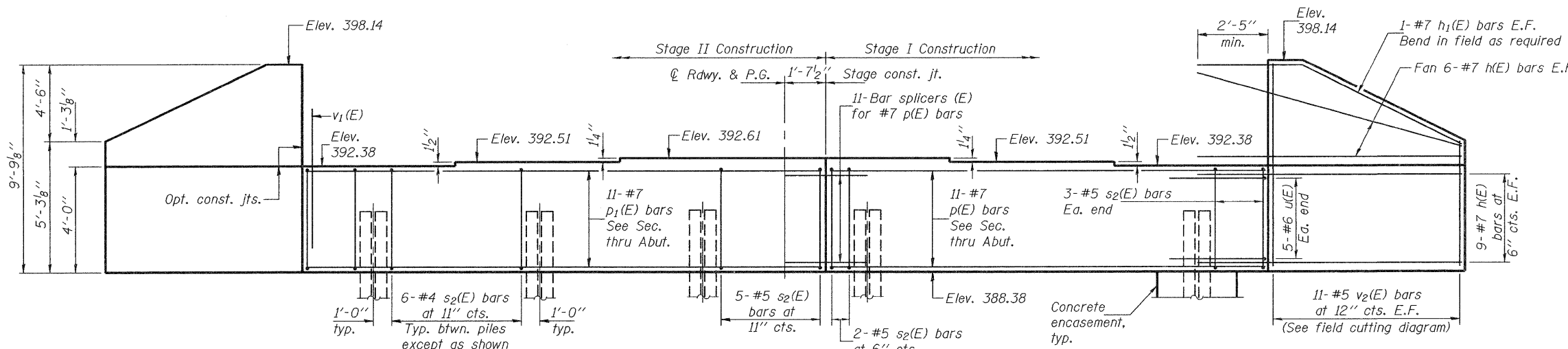
† L 4 x 4 x 3/8 to be used as temporary during Stage I and Stage II deck pour. Remove and replace with cross frame CF after Stage II deck pour is complete. Use between Girders 3 and 4 only. Cost included with Furnishing and Erecting Structural Steel.



CROSS FRAME, CF
(35 Required)

See Detail A

Notes: All bearing plates shall be AASHTO M 270, Grade 50W.
Two hardened washers shall be required for each set of oversized holes.
**Fillet weld angles along 3 sides on one face of gusset plate.
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M 314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

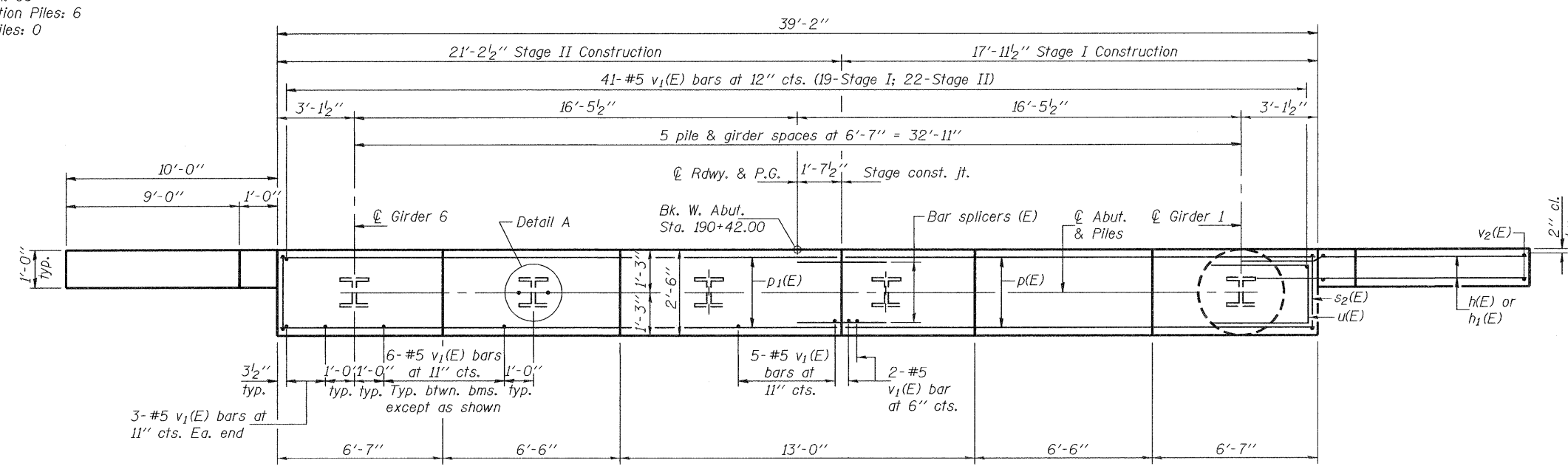


SEC. THRU ABUT.

PILE DATA

Type: Steel HP 14x73
 Nominal Required Bearing: 578 Kips
 Factored Resistance Available: 289 Kips
 Est. Length: 83'
 No. Production Piles: 6
 No. Test Piles: 0

ELEVATION
 (Looking west)

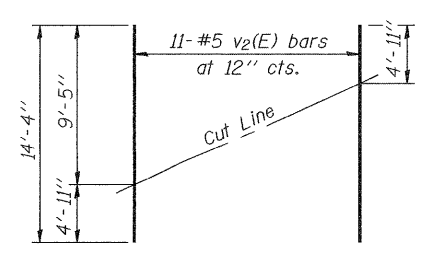


PLAN

BILL OF MATERIAL

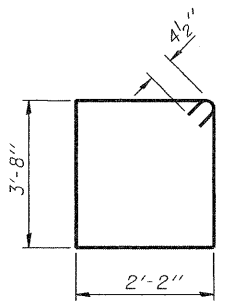
Bar	No.	Size	Length	Shape
h(E)	60	#7	12'-3"	—
h1(E)	4	#7	13'-4"	—
p(E)	11	#7	17'-7"	—
p1(E)	11	#7	20'-10"	—
s2(E)	37	#4	12'-5"	□
u(E)	10	#6	9'-9"	□
v1(E)	78	#5	4'-4"	—
v2(E)	22	#5	14'-4"	—
Structure Excavation		Cu. Yd.	113	
Concrete Structures		Cu. Yd.	20.7	
Reinforcement Bars, Epoxy Coated		Pound	3610	
Furnishing Steel Piles HP14x73		Foot	498	
Driving Piles		Foot	498	
Concrete Encasement		Cu. Yd.	3.3	
Anchor Bolts, 1" φ		Each	12	

Notes: Four steps monolithically with cap.
 For details of piles and concrete encasement, see sheet 20 of 24.
 For bar splicer details, see sheet 21 of 24.

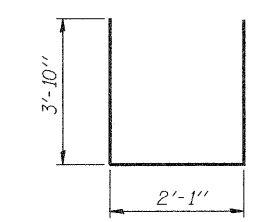


FIELD CUTTING DIAGRAM

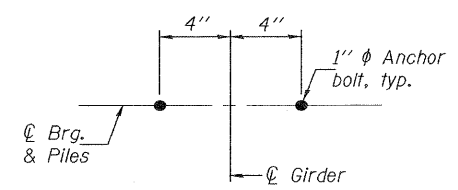
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)



DETAIL A

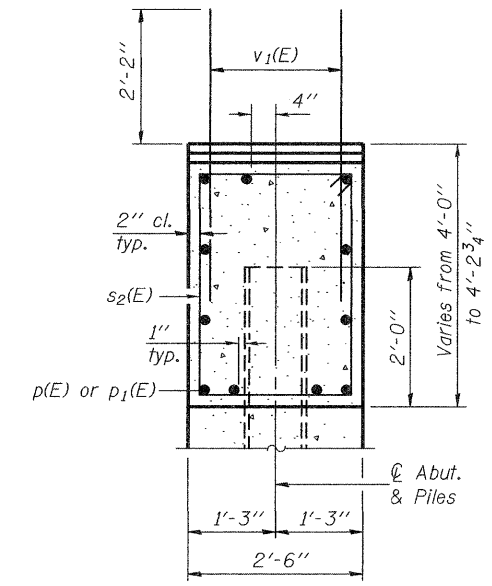
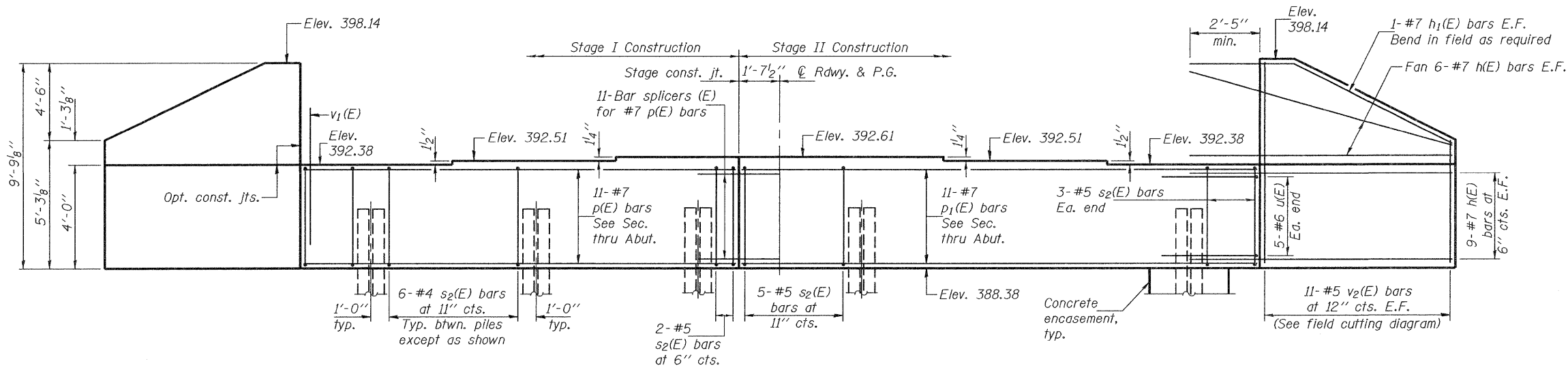
DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.t. duong
 CHECKED - MDR/JCF

EXAMINED *Thomas J. Demagala* DATE - 5/10/2011
 PASSED *John C. ...*
 ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 073-0036
 SHEET NO. 18 OF 24 SHEETS

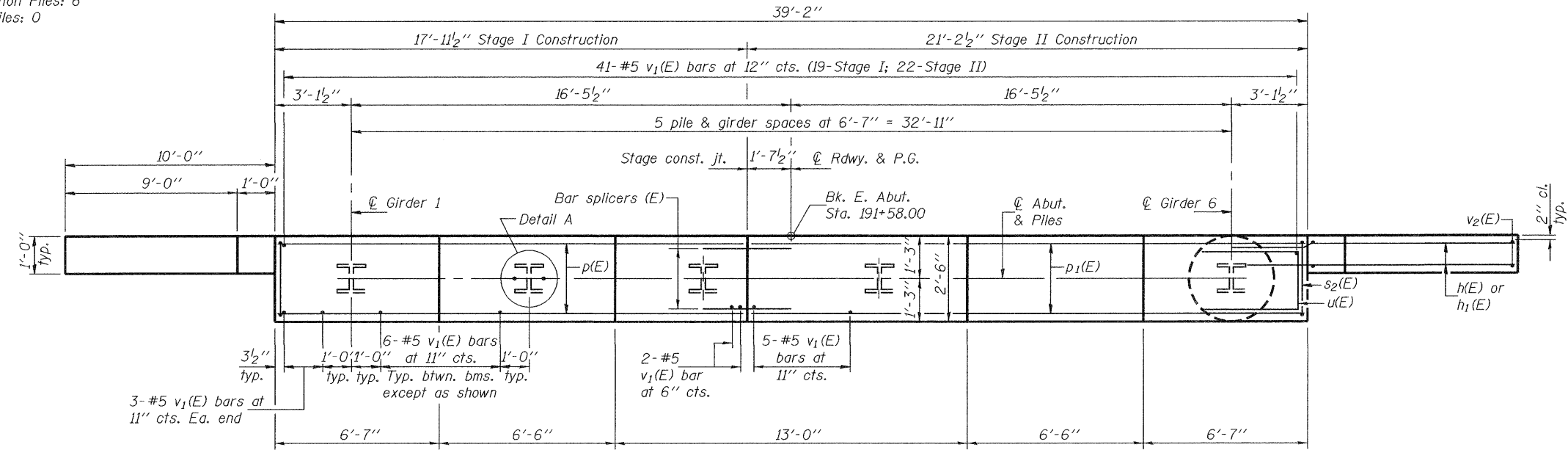
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	299	122
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				



PILE DATA

Type: Steel HP 14x73
 Nominal Required Bearing: 578 Kips
 Factored Resistance Available: 289 Kips
 Est. Length: 91'
 No. Production Piles: 6
 No. Test Piles: 0

ELEVATION
 (Looking east)

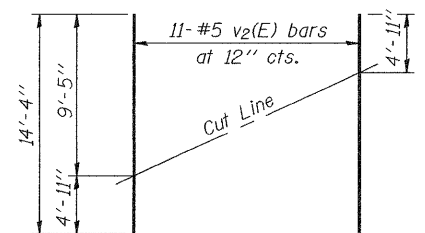


PLAN

BILL OF MATERIAL

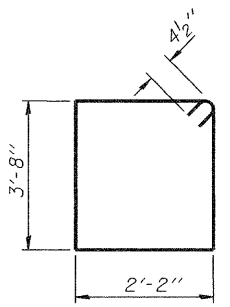
Bar	No.	Size	Length	Shape
h(E)	60	#7	12'-3"	—
h1(E)	4	#7	13'-4"	—
p(E)	11	#7	17'-7"	—
p1(E)	11	#7	20'-10"	—
s2(E)	37	#4	12'-5"	□
u(E)	10	#6	9'-9"	□
v1(E)	78	#5	4'-4"	—
v2(E)	22	#5	14'-4"	—
Structure Excavation		Cu. Yd.	113	
Concrete Structures		Cu. Yd.	20.7	
Reinforcement Bars, Epoxy Coated		Pound	3610	
Furnishing Steel Piles HP14x73		Foot	546	
Driving Piles		Foot	546	
Concrete Encasement		Cu. Yd.	3.3	
Anchor Bolts, 1" φ		Each	12	

Notes: Four steps monolithically with cap.
 For details of piles and concrete encasement, see sheet 20 of 24.
 For bar splicer details, see sheet 21 of 24.

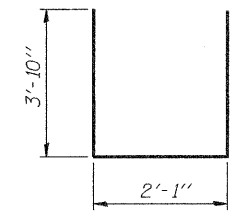


FIELD CUTTING DIAGRAM

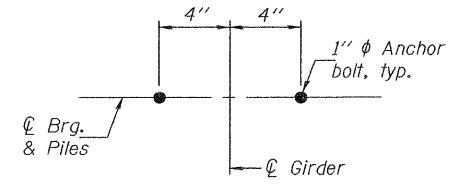
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)



DETAIL A

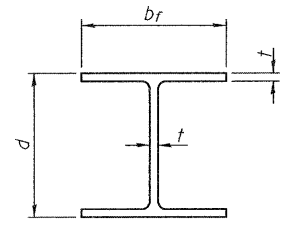
DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.t. duong
 CHECKED - MDR/JCF

EXAMINED - *Thomas J. Donagale*
 ENGINEER OF BRIDGE DESIGN
 PASSED - *Paul...*
 ENGINEER OF BRIDGES AND STRUCTURES
 DATE - 5/10/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

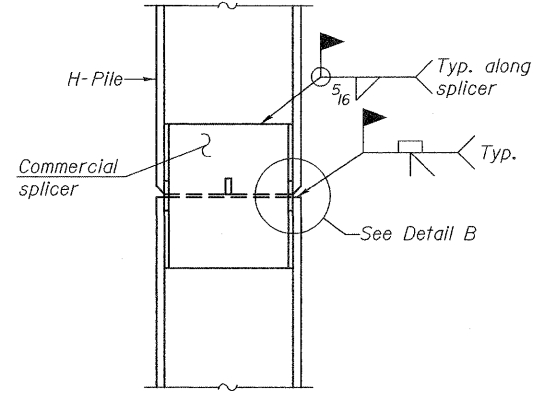
EAST ABUTMENT
STRUCTURE NO. 073-0036
 SHEET NO. 19 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	299	123
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				

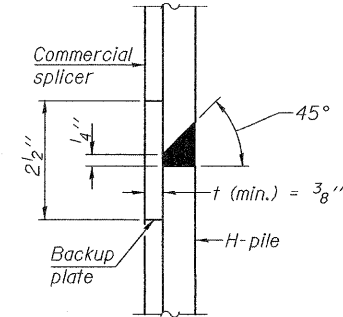


STEEL PILE TABLE

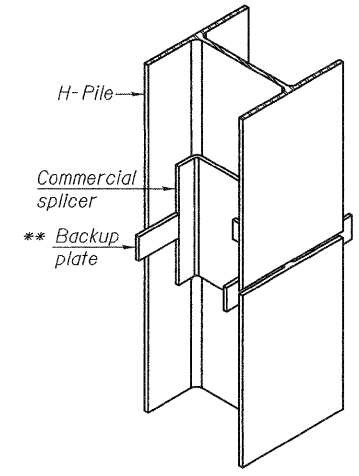
Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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



ELEVATION

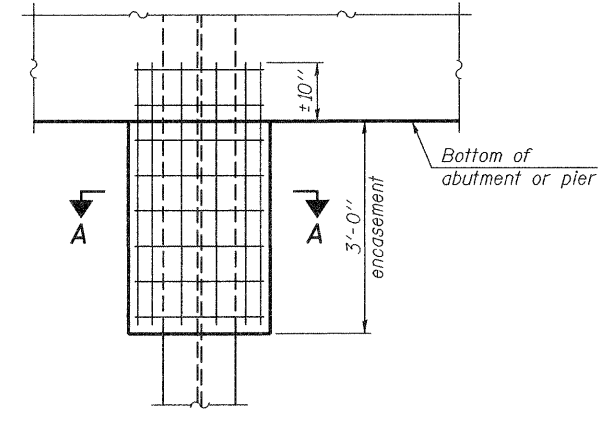


DETAIL "B"



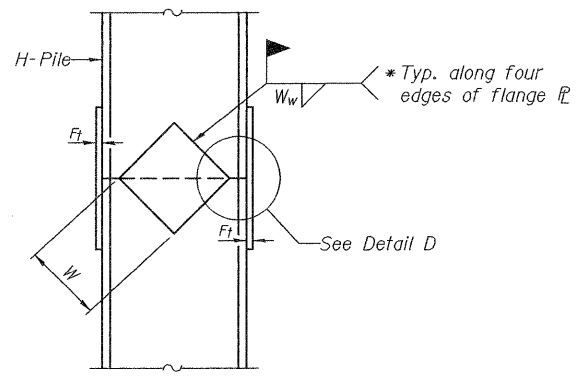
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

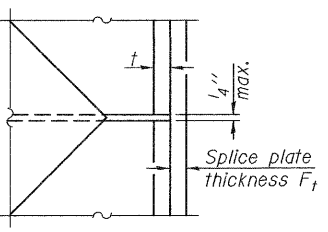


ELEVATION

PILE ENCASEMENT

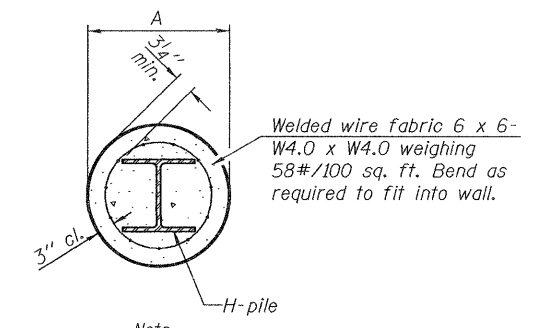


ELEVATION

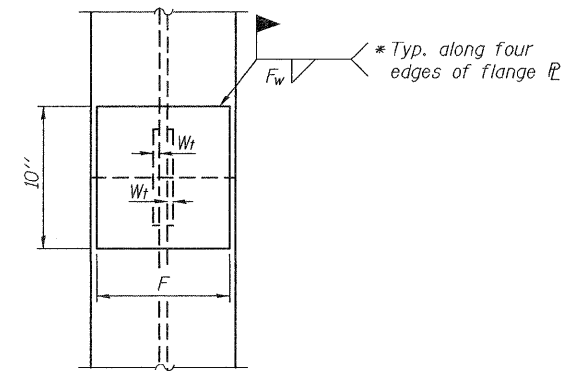


DETAIL D

WELDED PLATE FIELD SPLICE

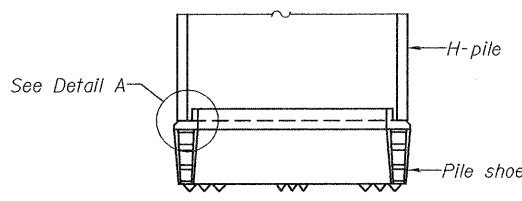


SECTION A-A



END VIEW

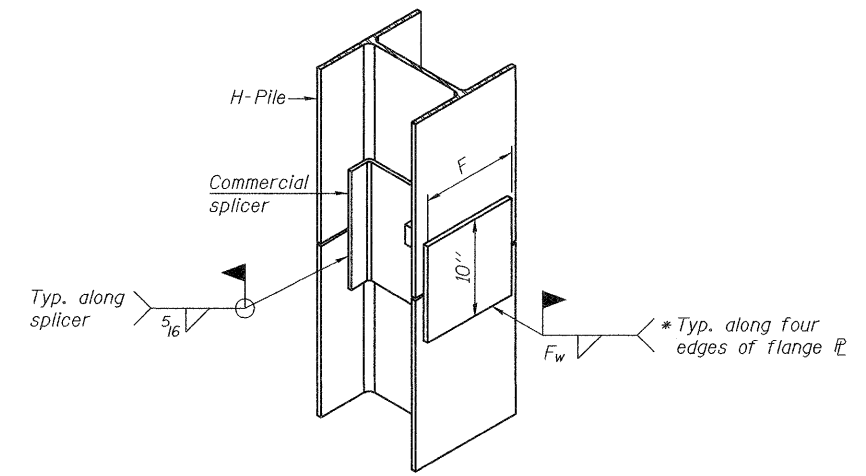
Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"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



ELEVATION

DETAIL A

H-PILE SHOE ATTACHMENT



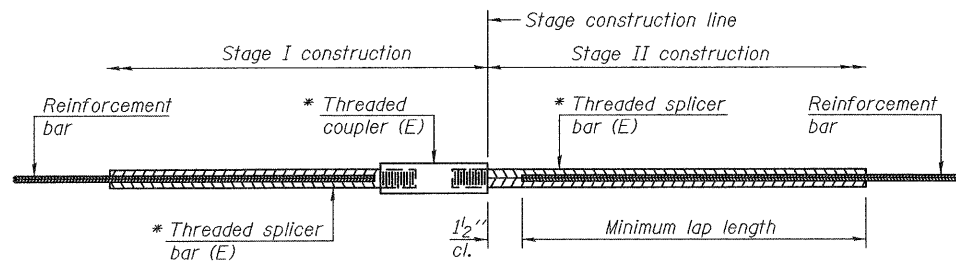
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

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

F-HP 7-1-10



STANDARD BAR SPLICER ASSEMBLY

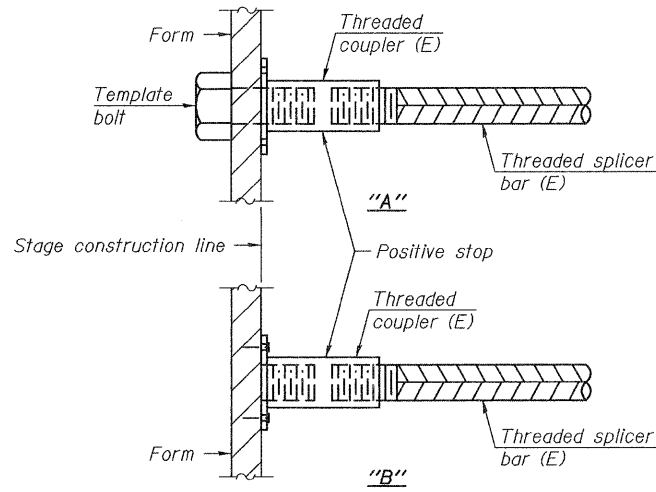
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1/2" + thread length

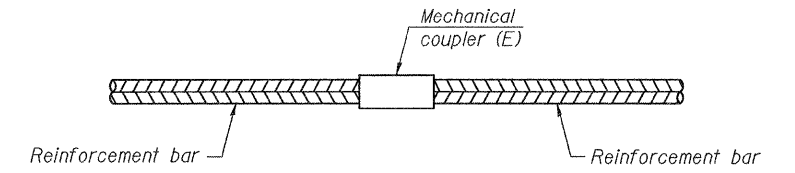
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Approach	#4	50	4
Deck, Approach & Approach Footing	#5	527	3
Abutment	#6	16	4
Pile Cap	#7	22	4



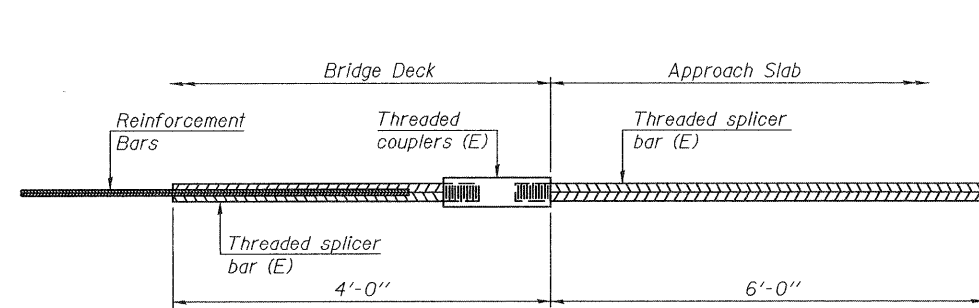
INSTALLATION AND SETTING METHODS

- "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.



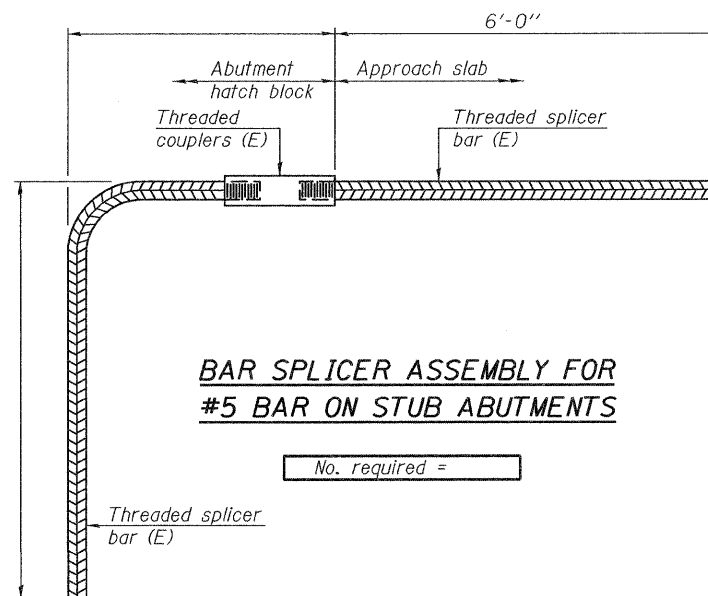
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 86



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

- Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
- All reinforcement shall be lapped and tied to the splicer bars.
- Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
- See special provision for Mechanical Splicers.
- See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

7-1-10

DESIGNED - Michael D. Rolape
 CHECKED - Jessica C. Forrest
 DRAWN - h.t. duong
 CHECKED - MDR/JCF

EXAMINED *Thomas J. Domagalaki*
 ENGINEER OF BRIDGE DESIGN
 PASSED *Paul Perry*
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - 5/10/2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 073-0036

SHEET NO. 21 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	1B-2	PERRY	249	125
CONTRACT NO. 98797				ILLINOIS FED. AID PROJECT

Illinois Department of Transportation
Division of Highways
District Nine Materials

SOIL BORING LOG

Page 1 of 3
Date 6/15/2004

ROUTE IL 14 DESCRIPTION IL 14 over Reese Creek LOGGED BY Bryan Keller

SECTION (13)RS-1; 2B-2 LOCATION 3.7 MILE of US 51

COUNTY Perry DRILLING METHOD HAMMER TYPE

STRUCT. NO. 073-0013
Station 191+00

BORING NO. 1-S
Station 190+08
Offset 12.00ft Rt
Ground Surface Elev. 398.5 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE
0	Crushed Aggregate				0	Surface Water Elev. 381.0 ft			
0	Very stiff, moist, brown, Silty Clay loam A-6				0	Stream Bed Elev. _____ ft			
1					0	Groundwater Elev.: _____ ft			
3			3.4	21	0	First Encounter _____ ft			
5			S		0	Upon Completion _____ ft			
394.0	Medium, very moist, brown, Silty Clay Loam A-6				0	After _____ Hrs. _____ ft			
6			2	0.9	25				
2			B		25				
391.5	Medium, very moist, grey, Silty Clay to Silty Clay Loam A-6 with some Cinders				25				
1			1	0.9	23				
3			B						
10		WH							
1			1	0.7	23				
2			B						
366.5	Medium, moist, brown, Silty Clay Loam A-6 with some Sand and Gravel								
1		WH							
3			1	0.6	25				
3			S						
384.0	Medium, very moist, grey, Silty Clay A7-6								
15		WH							
6			6	0.8	30				
8			B						
381.5	Stiff, very moist, grey mottled brown, Silty Clay A7-6								
1			1	1.1	22				
3			B						
2									
379.0									
20		WH							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208) BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Nine Materials

SOIL BORING LOG

Page 2 of 3
Date 6/15/2004

ROUTE IL 14 DESCRIPTION IL 14 over Reese Creek LOGGED BY Bryan Keller

SECTION (13)RS-1; 2B-2 LOCATION 3.7 MILE of US 51

COUNTY Perry DRILLING METHOD HAMMER TYPE

STRUCT. NO. 073-0013
Station 191+00

BORING NO. 1-S
Station 190+08
Offset 12.00ft Rt
Ground Surface Elev. 398.5 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE
24	Very stiff, moist, grey, Silt Loam A-4 (continued)		2.3	20	0	Surface Water Elev. 381.0 ft			
29			B		0	Stream Bed Elev. _____ ft			
354.0	Hard, moist, grey, Clay A7-6				0	Groundwater Elev.: _____ ft			
46			6	4.1	22	First Encounter _____ ft			
9			B		22	Upon Completion _____ ft			
329.0	Loose to medium, wet, grey, very fine Silty Sand 90% Sand 5% Silt 5% Clay				22	After _____ Hrs. _____ ft			
2			2						
10			10	4.9	19				
17			S						
323.5	Dense, wet, grey, very fine Silty Sand 90% Sand 5% Silt 5% Clay								
7			7						
10			10						
319.0									
60			60						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208) BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Nine Materials

SOIL BORING LOG

Page 3 of 3
Date 6/15/2004

ROUTE IL 14 DESCRIPTION IL 14 over Reese Creek LOGGED BY Bryan Keller

SECTION (13)RS-1; 2B-2 LOCATION 3.7 MILE of US 51

COUNTY Perry DRILLING METHOD HAMMER TYPE

STRUCT. NO. 073-0013
Station 191+00

BORING NO. 1-S
Station 190+08
Offset 12.00ft Rt
Ground Surface Elev. 398.5 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE
5	Stiff, very moist, grey, Clay Loam A-6 (continued)		1.3	24	0	Surface Water Elev. 381.0 ft			
6			B		0	Stream Bed Elev. _____ ft			
315.5	Hard, dry, grey, Clay Shale				0	Groundwater Elev.: _____ ft			
85			85	1009	0	First Encounter _____ ft			
313.0	Bottom of hole: 85.5 ft.				0	Upon Completion _____ ft			
Free water observed at 14.5 ft.					0	After _____ Hrs. _____ ft			
Elevation referenced to Center of Existing Structure: Elevation = 398.5 ft. Sta. 191+00.									
To convert "N" values to "N60" values, multiply by 1.25.									
90									
96									
100									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208) BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Nine Materials

SOIL BORING LOG

Page 1 of 3
Date 5/10/2004

ROUTE IL 14 DESCRIPTION IL 14 over Reese Creek LOGGED BY Bryan Keller

SECTION (1,3)RS-1; 2B-2 LOCATION 3.7 MILE OF US 51

COUNTY Perry DRILLING METHOD HAMMER TYPE

STRUCT. NO. 073-0013
Station 191+00

BORING NO. 4-S
Station 191+94
Offset 13.00ft
Ground Surface Elev. 398.5 ft

DEPTH (ft)	DRILLING METHOD	SOIL DESCRIPTION	TESTS	REMARKS
0		Surface Water Elev. 382.2 ft Stream Bed Elev. _____ ft		
		Groundwater Elev.: First Encounter _____ ft Upon Completion _____ ft After _____ Hrs. _____ ft		
1	WH	Medium, very moist, grey, Clay to Silty Clay A7-6 (continued)	0.9 28	
2	WH	Stiff, very moist, brown mottled grey, Silty Clay A-6	1.1 25	
3	S			
394.0				
1	WH	Stiff, very moist, grey mottled brown, Silty Clay Loam A-6	1.1 26	
2	P			
391.5				
1	WH	Stiff, very moist, grey, Clay to Silty Clay A7-6	1.1 30	
2	S			
389.0				
1	WH	Medium, very moist, grey, clay to Silty Clay A7-6	0.9 28	
2	B	Soft, very moist, grey, Clay to Silty Clay A7-6	0.4 31	
386.5				
1	WH	Medium, very moist, grey, Clay to Silty Clay A7-6 with Coal Chips	0.9 31	
1	WH			
384.0				
1	WH	Stiff, wet, grey, Clay A7-6	1.1 43	
1	B			
381.5				
1	WH	Stiff, very moist, grey, Clay to Silty Clay A7-6	1.9 26	
2	S	Soft to medium, very moist, grey, Clay to Silty Clay A7-6	0.5 29	
379.0				
1	WH			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Nine Materials

SOIL BORING LOG

Page 2 of 3
Date 5/10/2004

ROUTE IL 14 DESCRIPTION IL 14 over Reese Creek LOGGED BY Bryan Keller

SECTION (1,3)RS-1; 2B-2 LOCATION 3.7 MILE OF US 51

COUNTY Perry DRILLING METHOD HAMMER TYPE

STRUCT. NO. 073-0013
Station 191+00

BORING NO. 4-S
Station 191+94
Offset 13.00ft
Ground Surface Elev. 398.5 ft

DEPTH (ft)	DRILLING METHOD	SOIL DESCRIPTION	TESTS	REMARKS
0		Surface Water Elev. 382.2 ft Stream Bed Elev. _____ ft		
		Groundwater Elev.: First Encounter _____ ft Upon Completion _____ ft After _____ Hrs. _____ ft		
1	WH	Medium, very moist, grey, Silty Clay A7-6 (continued)	0.8 28	
2	B			
334.0				
1	WH	Very loose, wet, grey, very fine Silty Sand with Clay Seams and some Gravel	0.8 22	
2	B	Washed 5' blow in. 73% Sand 9% Silt 5% Clay 13% Gravel		
349.0				
1	WH	Stiff, very moist, grey, Silty Clay Loam A-6	1.3 24	
2	B	Dense, wet, grey, very fine Silty Sand with Clay Seams and some Gravel	0.4 31	
344.0				
1	WH	Stiff, very moist, brown, Clay to Silty Clay A7-6	1.7 26	
4	B			
339.0				
3	WH			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Nine Materials

SOIL BORING LOG

Page 3 of 3
Date 5/10/2004

ROUTE IL 14 DESCRIPTION IL 14 over Reese Creek LOGGED BY Bryan Keller

SECTION (1,3)RS-1; 2B-2 LOCATION 3.7 MILE OF US 51

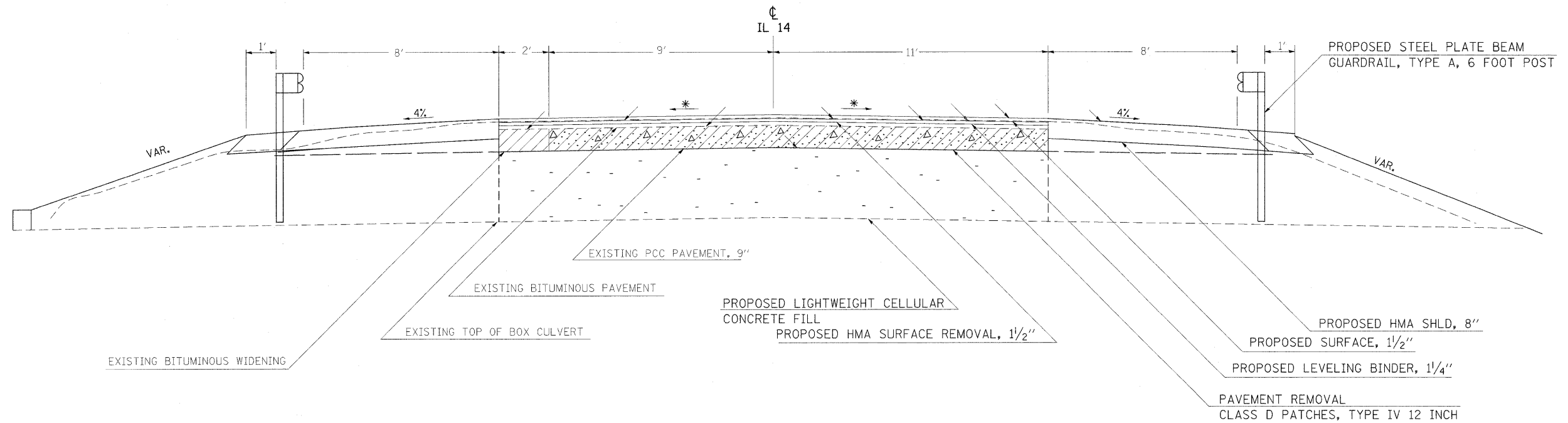
COUNTY Perry DRILLING METHOD HAMMER TYPE

STRUCT. NO. 073-0013
Station 191+00

BORING NO. 4-S
Station 191+94
Offset 13.00ft
Ground Surface Elev. 398.5 ft

DEPTH (ft)	DRILLING METHOD	SOIL DESCRIPTION	TESTS	REMARKS
11		Medium, wet, grey, very fine Silty Sand with some Gravel		
12		75% Sand; 7% Silt; 3% Clay; 15% Gravel (continued)		
316.0				
		Hard, dry, grey, Clay Shale		
313.5				
1009'		Cored from 85.0 ft. to 90.0 ft.		
		Hard, dry, grey Clay Shale		
		87% Recovery		
		88% ROD		
308.5				
		Cored from 90.0 ft. to 92.5 ft.		
		80% Recovery		
		21% ROD		
306.0				
		Bottom of hole = 92.5 ft.		
		Free water observed at 29.5 ft.		
		Elevation referenced to Center of Existing Structure Cr Elevation = 398.5 ft. Sta. 191+24		
		To convert "N" values to "N80" values, multiply by 1.25.		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)



* MATCH EXISTING LANE CONDITIONS.

TO BE USED:

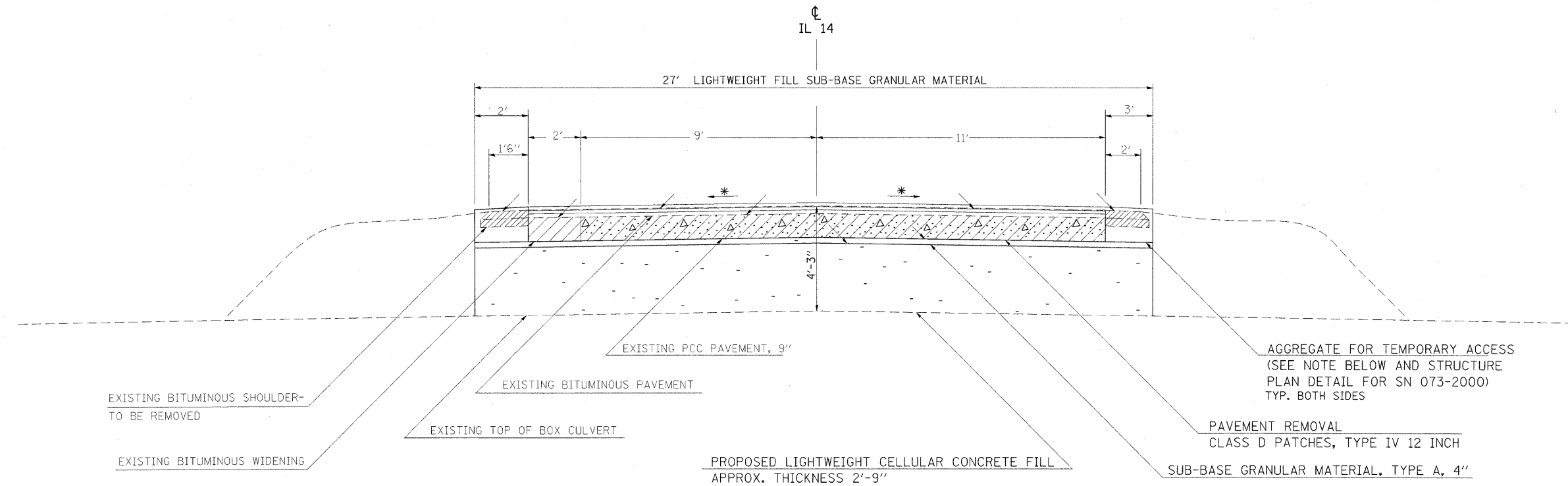
SN 073-2000 STA 222+25 TO STA 222+75

NOTES:

THE EXCAVATION FOR THE LIGHTWEIGHT FILL TO BE PAID FOR PER CU. YD. FOR EARTH EXCAVATION.

AGGREGATE FOR TEMPORARY ACCESS SHALL BE USED FOR TEMPORARY SHOULDER MATERIAL, MATCHING THE CLASS D PATCH THICKNESS OR AS DIRECTED BY THE ENGINEER. TO BE EXCAVATED AS REQUIRED FOR THE PROPOSED SHOULDER THICKNESS PLACED DURING THE SHOULDER IMPROVEMENTS OF THE CONTRACT. THE COST FOR THIS EXCAVATION TO BE INCLUDED IN THE COST PER TON FOR AGGREGATE FOR TEMPORARY ACCESS.

FILE NAME =	USER NAME = colemm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL: LIGHTWEIGHT FILL AT SN 073-2000		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\work\pav\dot\colemm\dms43654\d90183pl.m32		DRAWN -	REVISED -		869	(1-1,1,3,6)R-1,RS-3;(1,3,6)B-2	.	299	129	CONTRACT NO. 98797	
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -		SCALE: 50	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
PLOT DATE = 3/25/2011		DATE -	REVISED -		* PERRY & FRANKLIN COUNTY						



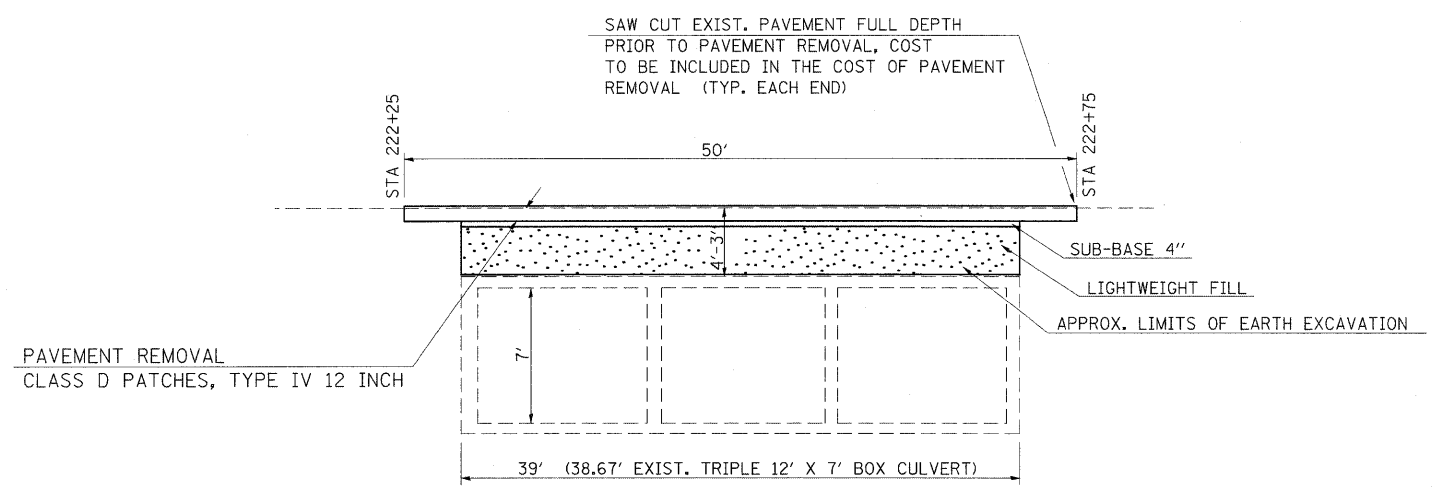
* MATCH EXISTING LANE CONDITIONS.

TO BE USED:

SN 073-2000 STA 222+25 TO STA 222+75

NOTES:

THE EXCAVATION FOR THE LIGHTWEIGHT FILL TO BE PAID FOR PER CU. YD. FOR EARTH EXCAVATION.
 AGGREGATE FOR TEMPORARY ACCESS SHALL BE USED FOR TEMPORARY SHOULDER MATERIAL, MATCHING THE CLASS D PATCH THICKNESS OR AS DIRECTED BY THE ENGINEER.



SECTION ALONG ROADWAY CENTERLINE

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL: LIGHTWEIGHT FILL AT SN 073-2000		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILEL#		DRAWN -	REVISED -		869	(1-1,1,3,6)R-1,RS-3(1,3,6)B-2	.	299	130		
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -		CONTRACT NO. 98797						
	PLOT DATE = #DATE#	DATE -	REVISED -		SCALE: 50	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	*PERRY & FRANKLIN COUNTY	

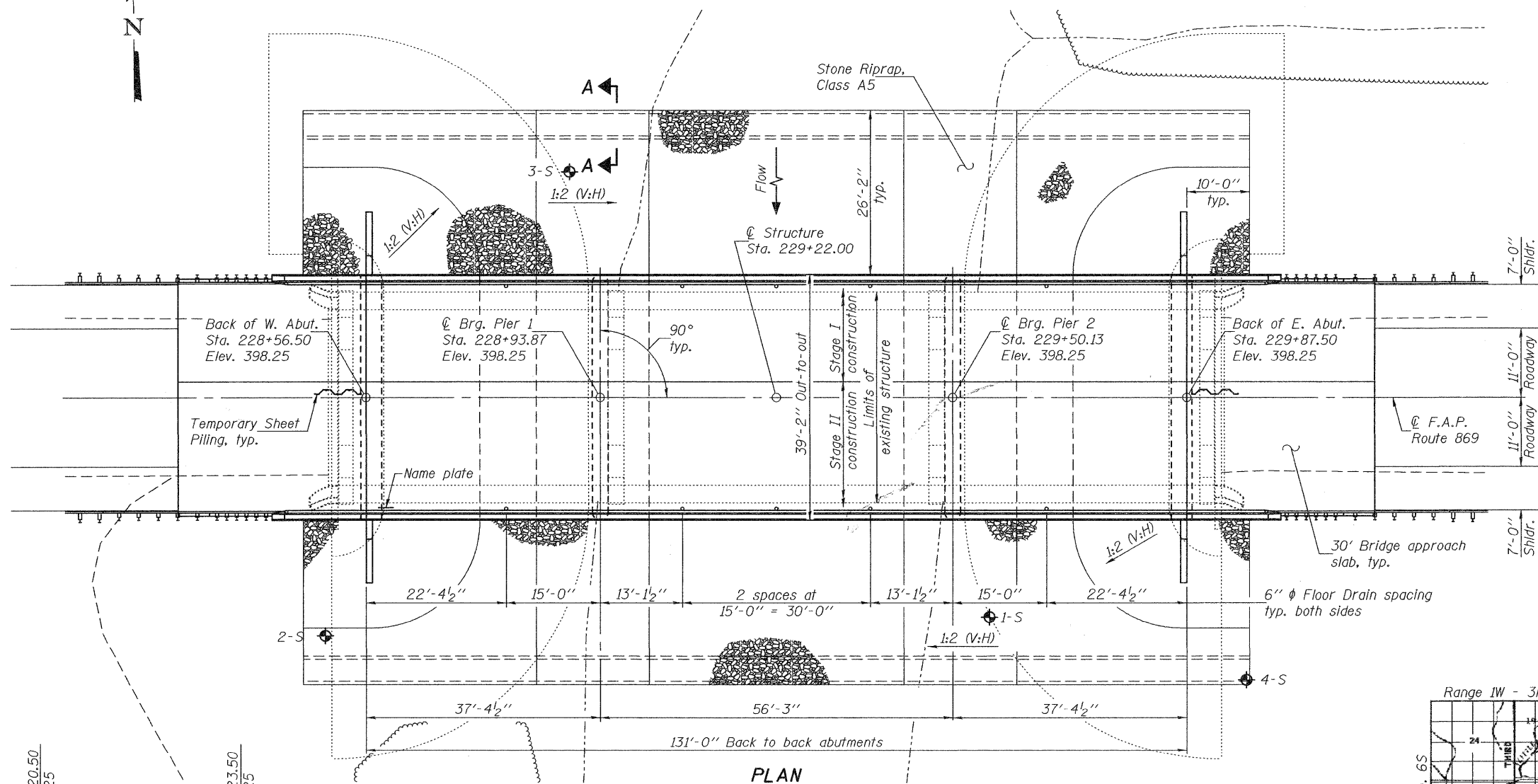
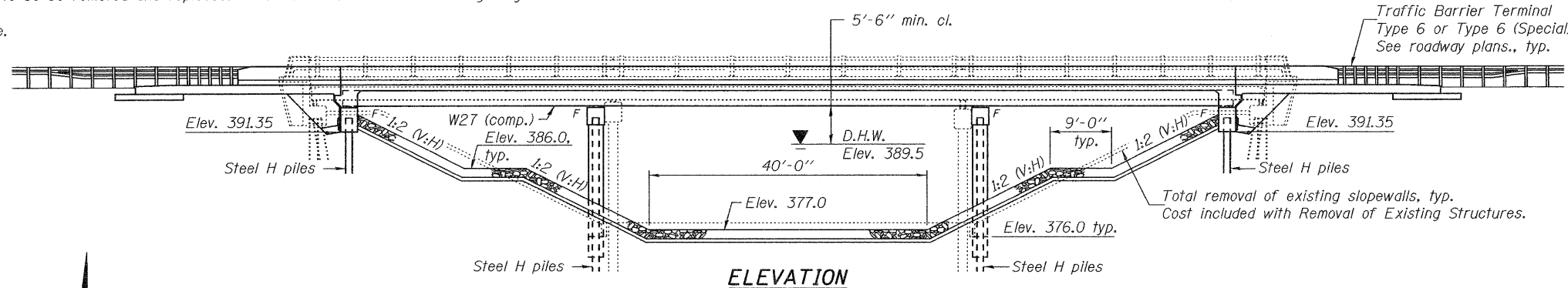
Bench Mark: Cut "□" on top of the NW wingwall of 028-0015; North side of Route 14 at Sta. 228+52 and 17 ft. left. Elev. 398.62.

Existing structure: Struct. No. 028-0015, originally built in 1955 as S.B.I. Rt. 14, Section 2B-2. The existing structure consists of a 3 span continuous steel superstructure supported by pile bent piers and abutments. 142'-0" back to back abutments and 33'-8" out to out of deck. Structure to be removed and replaced. Traffic to be maintained utilizing stage construction.

No salvage.

INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 General Data
- 3 Stage Construction & Temporary Sheet Piling Details
- 4 Temporary Concrete Barrier Details
- 5-7 Top of Slab Elevations
- 8 Top of West Approach Slab Elevations
- 9 Top of East Approach Slab Elevations
- 10 Superstructure
- 11 Superstructure Details
- 12 Diaphragm Details
- 13-14 Bridge Approach Slab Details
- 15 Structural Steel
- 16 Bearing Details
- 17 West Abutment
- 18 East Abutment
- 19 Piers 1 & 2
- 20 Bar Splicer Assembly Details
- 21 Steel H Pile Details
- 22 Cantilever Forming Brackets for Superstructures with W27 Beams and Smaller
- 23-26 Soil Boring Logs



STATION 229+22.00
 BUILT 20 BY
 STATE OF ILLINOIS
 F.A.P. RTE. 869 SEC. 6B-2
 LOADING HL93
 STRUCTURE NO. 073-0038

NAME PLATE
 See Std. 515001

LOADING HL-93
 Allow 50#/sq. ft. for future wearing surface.

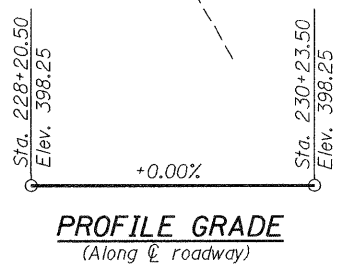
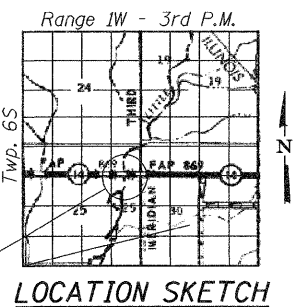
SEISMIC DATA
 Seismic Performance Zone (SPZ) = 3
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.325 g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.759 g
 Soil Site Class = D

DESIGN SPECIFICATIONS
 2007 AASHTO LRFD Bridge Design Specifications
 with 2008 and 2009 Interims

DESIGN STRESSES

FIELD UNITS
 f'_c = 3,500 psi
 f_y = 60,000 psi (reinforcement)
 f_y = 50,000 psi (M270 Grade 50W)

GENERAL PLAN & ELEVATION
IL. RTE. 14 OVER LITTLE MUDDY RIVER
F.A.P. RTE. 869 - SECTION 6B-2
PERRY/FRANKLIN COUNTY
STATION 229+22.00
STRUCTURE NO. 073-0038



DAVID CARL PUZEY
 081-005470
 SPRINGFIELD ILLINOIS
 STATE OF ILLINOIS
 Expires 11/30/2012

DESIGNED - <i>Jenica C. Forest</i>	EXAMINED - <i>Thomas J. ...</i>	DATE - 5/10/2011
CHECKED - <i>...</i>	PASSED - <i>...</i>	
DRAWN - h.t. duong		
CHECKED - JCF / NRB		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 073-0038
 SHEET NO. 1 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	299	131
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

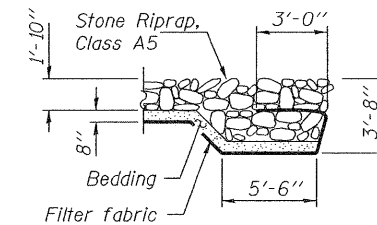
*PERRY/FRANKLIN

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		95	95
Stone Riprap, Class A5	Sq. Yd.		1465	1465
Filter Fabric	Sq. Yd.		1465	1465
Removal of Existing Structures No. 2	Each	1		1
Structure Excavation	Cu. Yd.		250	250
Floor Drains	Each	10		10
Concrete Structures	Cu. Yd.		165.0	165.0
Concrete Superstructure	Cu. Yd.	297.0		297.0
Bridge Deck Grooving	Sq. Yd.	724.0		724.0
Concrete Encasement	Cu. Yd.		9.1	9.1
Protective Coat	Sq. Yd.	907		907
Furnishing and Erecting Structural Steel	L. Sum	0.5		0.5
Stud Shear Connectors	Each	2772		2772
Reinforcement Bars, Epoxy Coated	Pound	73950	15950	89900
Bar Splicers	Each	707	92	799
Furnishing Steel Piles HP12x53	Foot		1193	1193
Driving Piles	Foot		1193	1193
Test Pile Steel HP12x53	Each		4	4
Temporary Sheet Piling	Sq. Ft.		339	339
Name Plates	Each	1		1
Anchor Bolts, 1" ϕ	Each		28	28
Anchor Bolts, 1/2" ϕ	Each		28	28
Geocomposite Wall Drain	Sq. Yd.		58	58
Pipe Underdrains for Structures, 4"	Foot		139	139
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1
Mechanical Splicers	Each		84	84

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 3. Bolts 7/8" ϕ , holes 15/16" ϕ , unless otherwise noted.
 Calculated weight of Structural Steel = 93120 lbs. (M 270 Gr. 50W).
 All structural steel shall be AASHTO M 270 Grade 50W. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
 No field welding is permitted except as specified in the contract documents.
 Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
 Reinforcement bars designated (E) shall be epoxy coated.
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
 Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
 Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
 Slipforming of parapets is not allowed.



SECTION A-A

WATERWAY INFORMATION

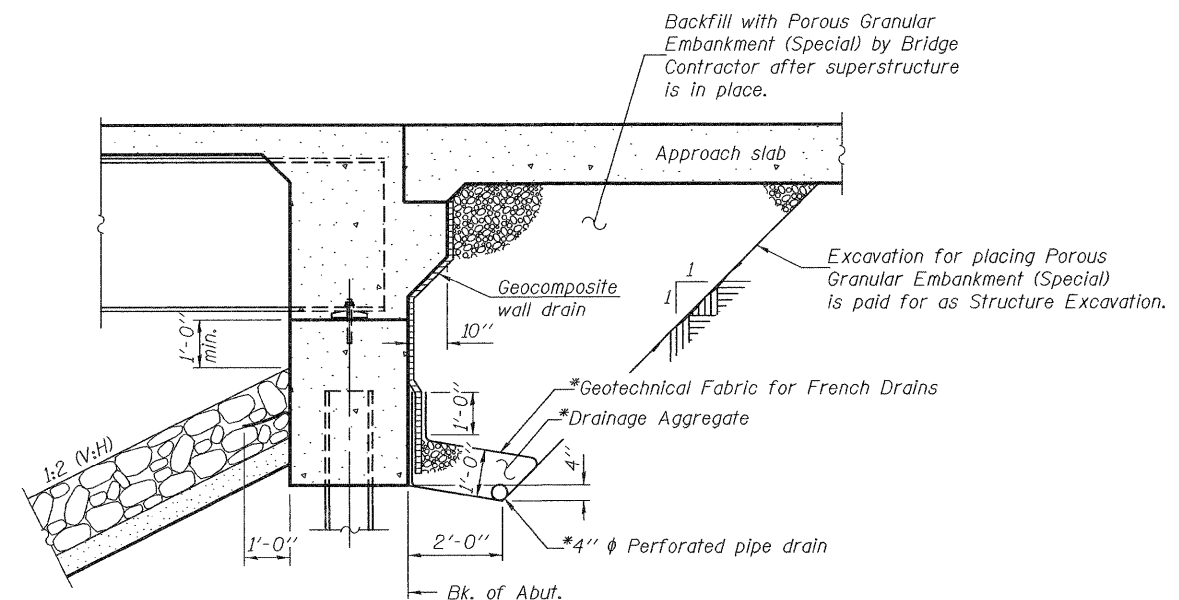
Flood	Freq. Yr.	Structure Number	Q - C.F.S.		Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	028-0015 (E)	4500	4195	665	720	388.3	0.8	0.7	389.1	389.0
		073-0038 (P)									
		*Total	11130	1661.0	1768.0						
Design	50	028-0015 (E)	6550	6630	785	840	389.5	1.5	1.2	391.0	390.7
		073-0038 (P)									
		*Total	17010	1968.0	2076.0						
Base	100	028-0015 (E)	7315	7380	840	895	390.0	1.9	1.5	391.9	391.5
		073-0038 (P)									
		*Total	19540	2106.0	2211.0						
Max. Calc.	500	028-0015 (E)	9380	9265	955	1015	391.1	2.8	2.3	393.9	393.4
		073-0038 (P)									
		*Total	26040	2398.0	2511.0						

10 year velocity through existing bridge = 6.8 ft/s
 10 year velocity through proposed bridge = 6.1 ft/s

*Three additional structures (SN 073-0013 (E), SN 073-2000 (E), and SN 028-2005 (E)) contribute to the flow conveyance of this drainage area.

DESIGN SCOUR ELEVATION TABLE

Design scour elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	391.3	364.0	364.0	391.3



SECTION THRU INTEGRAL ABUTMENT

*Included in the cost of Pipe Underdrains for Structures.

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

DESIGNED - Jessica C. Forrest
 CHECKED - Nicholas R. Barnett
 DRAWN - h.t. duong
 CHECKED - JCF/NRB

EXAMINED *Thomas J. Domagalala* DATE - 5/10/2011
 PASSED *Paul Perry*
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES

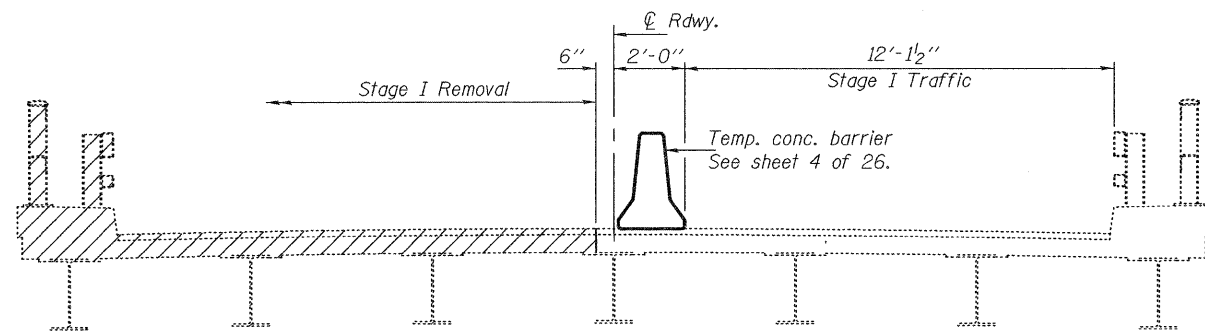
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
 STRUCTURE NO. 073-0038**

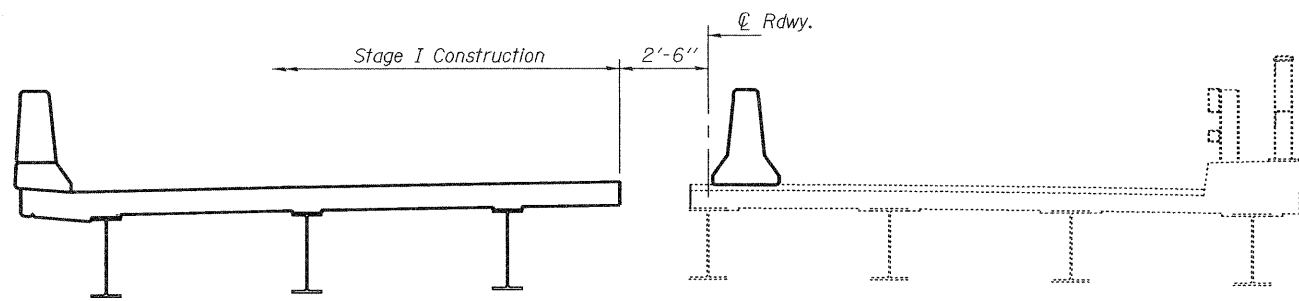
SHEET NO. 2 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	299	132
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				

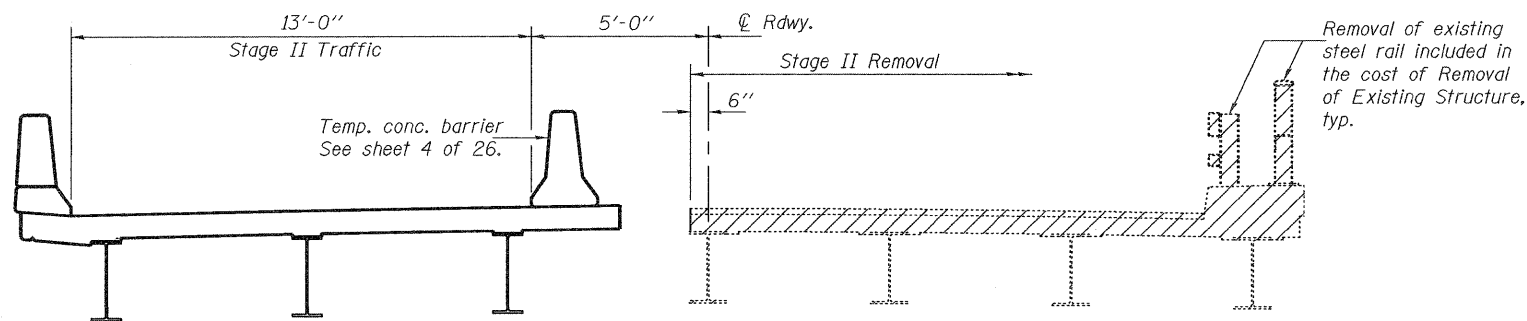
*PERRY/FRANKLIN



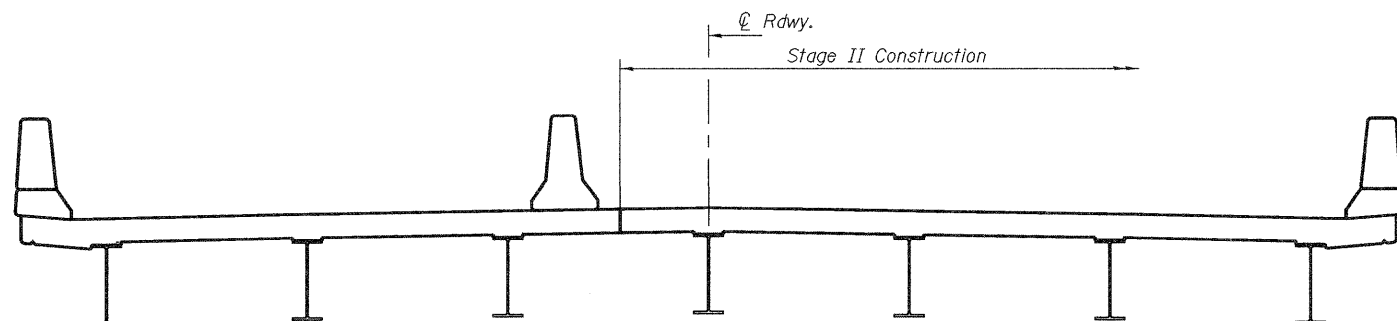
STAGE I REMOVAL



STAGE I CONSTRUCTION

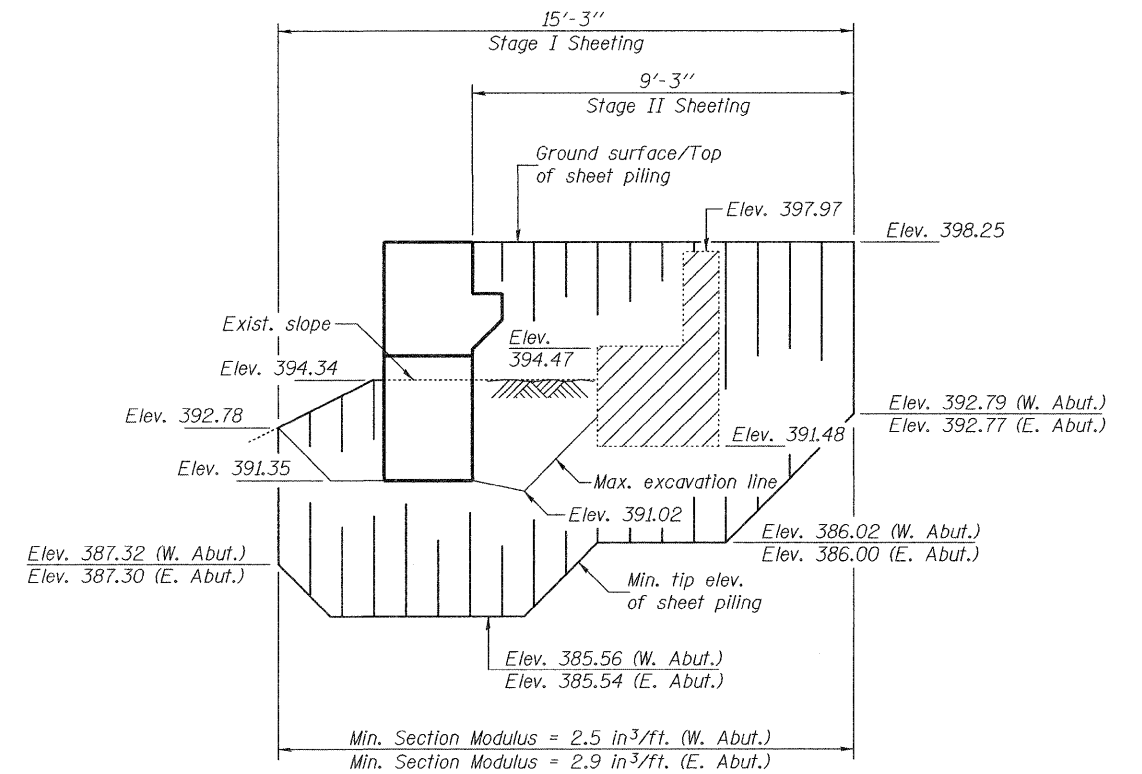


STAGE II REMOVAL



STAGE II CONSTRUCTION

Notes: Hatched areas indicate removal of existing structures.
For quantity of temporary concrete barrier, see Roadway Plans.
All cross sections are looking east.



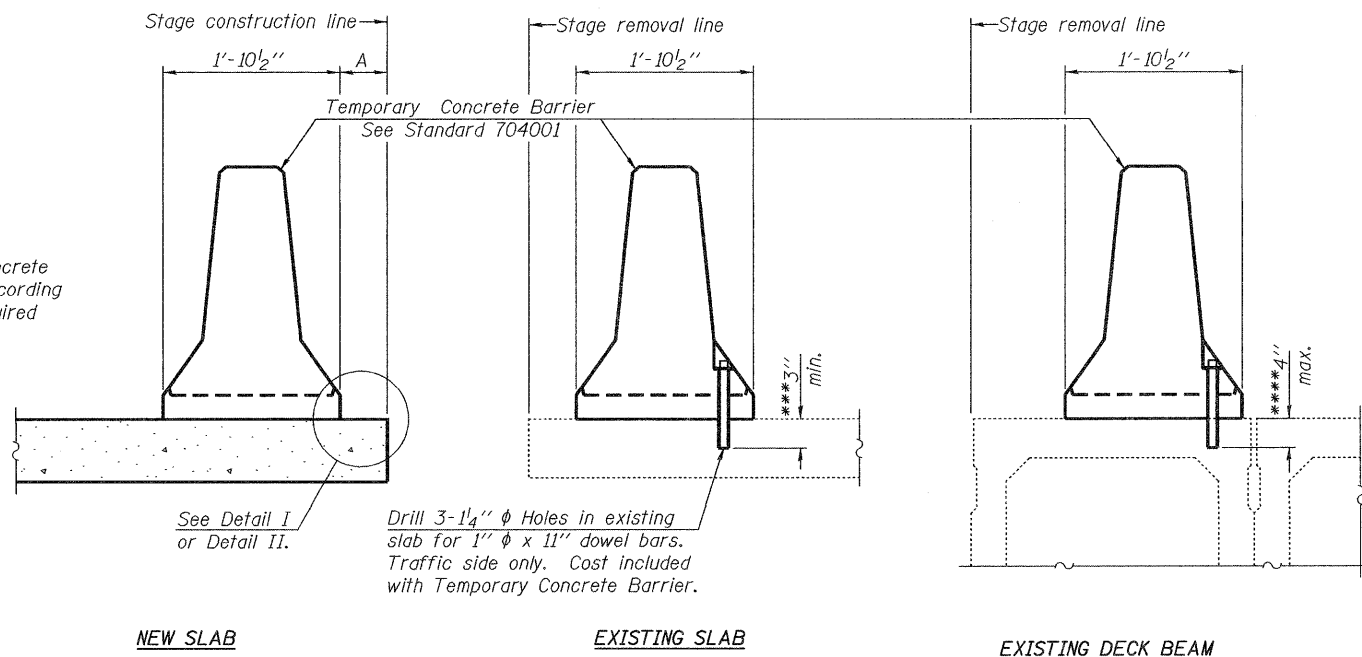
TEMPORARY SHEET PILING AT ABUTMENTS

Note: If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

DESIGNED - Jessica C. Forrest	EXAMINED - <i>Thomas J. Demagala</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION & TEMPORARY SHEET PILING DETAILS STRUCTURE NO. 073-0038	F.A.P. RTE. 869	SECTION 6B-2	COUNTY *	TOTAL SHEETS 299	SHEET NO. 133
CHECKED - Nicholas R. Barnett	PASSED - <i>Carl Perry</i> ENGINEER OF BRIDGES AND STRUCTURES				SHEET NO. 3 OF 26 SHEETS	CONTRACT NO. 98797	ILLINOIS FED. AID PROJECT		

*PERRY/FRANKLIN

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

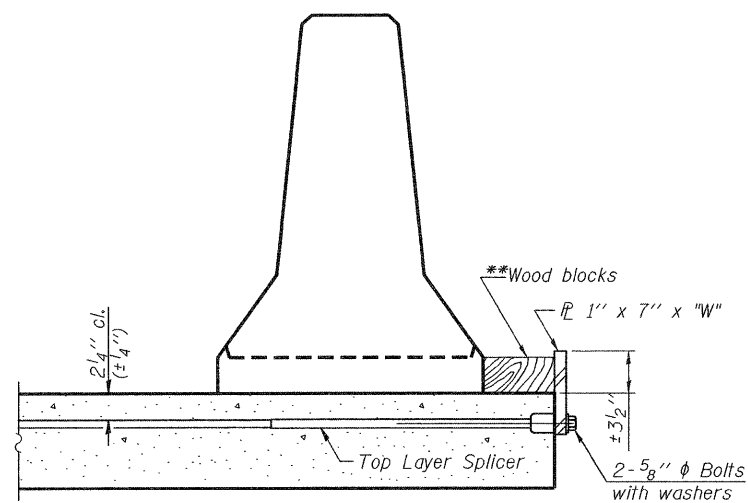
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

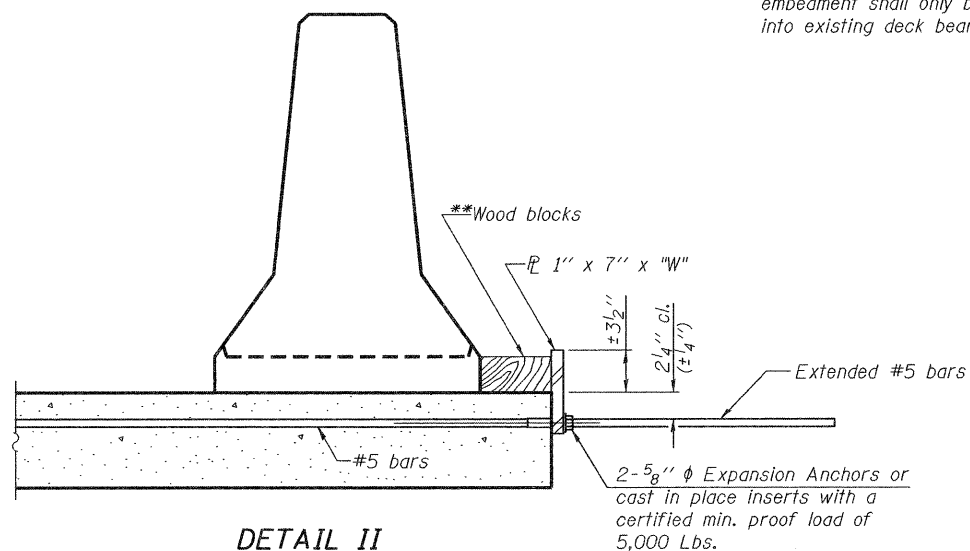
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



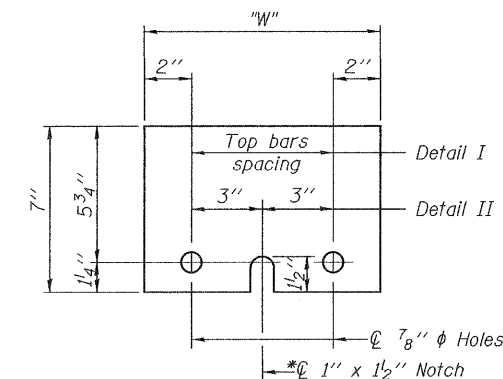
DETAIL I



DETAIL II

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"



STEEL RETAINER PL 1" x 7" x "W"

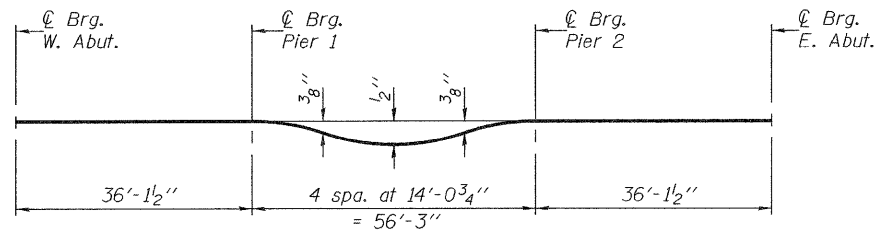
* Required only with Detail II

R-27

7-1-10

*PERRY/FRANKLIN

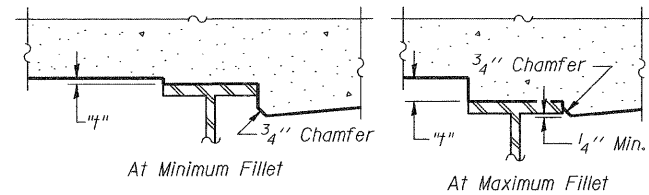
DESIGNED - Jessica C. Forrest	EXAMINED - <i>Thomas J. Damagalak</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 073-0038		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED - <i>h. t. duong</i> ENGINEER OF BRIDGES AND STRUCTURES						869	6B-2	*	299	134
DRAWN - h. t. duong					SHEET NO. 4 OF 26 SHEETS		CONTRACT NO. 98797				
CHECKED - JCF/NRB							ILLINOIS FED. AID PROJECT				



DEAD LOAD DEFLECTION DIAGRAM

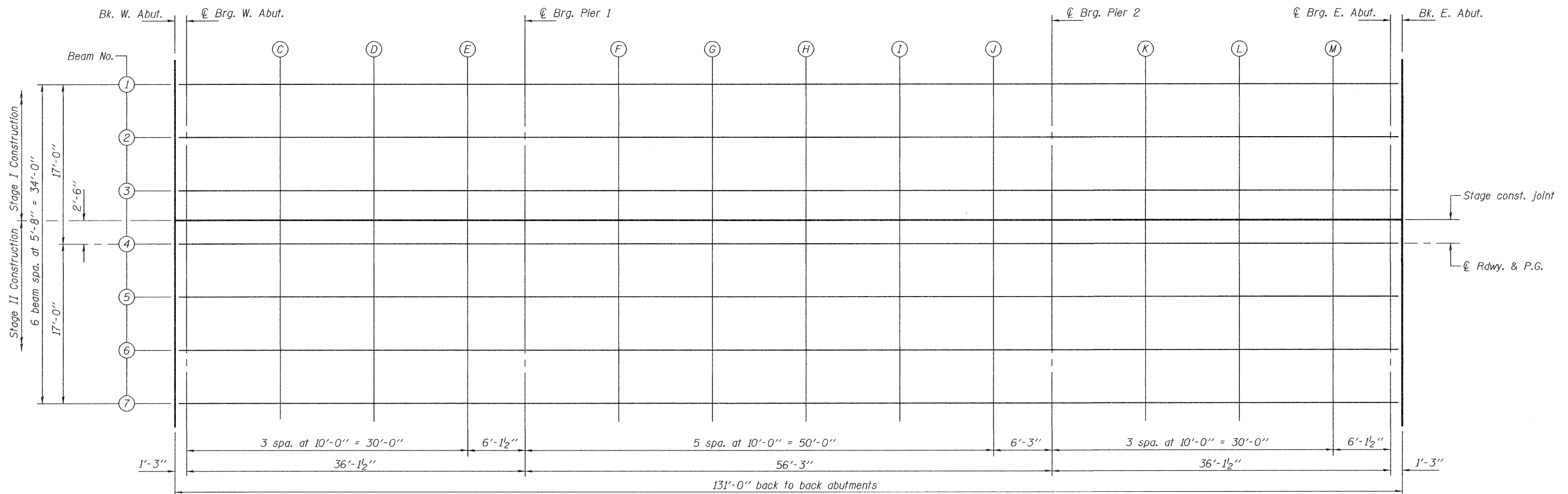
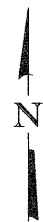
(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 6 & 7 of 26.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 6 & 7 of 26, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

DESIGNED - Jessica C. Forrest	EXAMINED - <i>Thomas J. Damagala</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		TOP OF SLAB ELEVATIONS STRUCTURE NO. 073-0038		F.A.P. RTE. 869	SECTION 6B-2	COUNTY *	TOTAL SHEETS 299	SHEET NO. 135
CHECKED - Nicholas R. Barnett	PASSED - <i>Paul H. ...</i> ENGINEER OF BRIDGES AND STRUCTURES						SHEET NO. 5 OF 26 SHEETS		CONTRACT NO. 98797		ILLINOIS FED. AID PROJECT

*PERRY/FRANKLIN

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22856.50	-17.00	397.96	397.96
CL Brg. W. Abut.	22857.75	-17.00	397.96	397.96
C	22867.75	-17.00	397.96	397.96
D	22877.75	-17.00	397.96	397.96
E	22887.75	-17.00	397.96	397.96
CL Brg. Pier 1	22893.88	-17.00	397.96	397.96
F	22903.88	-17.00	397.96	397.98
G	22913.88	-17.00	397.96	397.99
H	22923.88	-17.00	397.96	398.00
I	22933.88	-17.00	397.96	397.99
J	22943.88	-17.00	397.96	397.97
CL Brg. Pier 2	22950.13	-17.00	397.96	397.96
K	22960.13	-17.00	397.96	397.96
L	22970.13	-17.00	397.96	397.96
M	22980.13	-17.00	397.96	397.96
CL Brg. E. Abut.	22986.25	-17.00	397.96	397.96
BK. E. Abut.	22987.50	-17.00	397.96	397.96

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22856.50	-11.33	398.07	398.07
CL Brg. W. Abut.	22857.75	-11.33	398.07	398.07
C	22867.75	-11.33	398.07	398.08
D	22877.75	-11.33	398.07	398.08
E	22887.75	-11.33	398.07	398.07
CL Brg. Pier 1	22893.88	-11.33	398.07	398.07
F	22903.88	-11.33	398.07	398.09
G	22913.88	-11.33	398.07	398.11
H	22923.88	-11.33	398.07	398.11
I	22933.88	-11.33	398.07	398.10
J	22943.88	-11.33	398.07	398.08
CL Brg. Pier 2	22950.13	-11.33	398.07	398.07
K	22960.13	-11.33	398.07	398.07
L	22970.13	-11.33	398.07	398.08
M	22980.13	-11.33	398.07	398.08
CL Brg. E. Abut.	22986.25	-11.33	398.07	398.07
BK. E. Abut.	22987.50	-11.33	398.07	398.07

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22856.50	-5.67	398.16	398.16
CL Brg. W. Abut.	22857.75	-5.67	398.16	398.16
C	22867.75	-5.67	398.16	398.17
D	22877.75	-5.67	398.16	398.16
E	22887.75	-5.67	398.16	398.16
CL Brg. Pier 1	22893.88	-5.67	398.16	398.16
F	22903.88	-5.67	398.16	398.18
G	22913.88	-5.67	398.16	398.19
H	22923.88	-5.67	398.16	398.20
I	22933.88	-5.67	398.16	398.19
J	22943.88	-5.67	398.16	398.17
CL Brg. Pier 2	22950.13	-5.67	398.16	398.16
K	22960.13	-5.67	398.16	398.16
L	22970.13	-5.67	398.16	398.17
M	22980.13	-5.67	398.16	398.16
CL Brg. E. Abut.	22986.25	-5.67	398.16	398.16
BK. E. Abut.	22987.50	-5.67	398.16	398.16

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22856.50	-2.50	398.21	398.21
CL Brg. W. Abut.	22857.75	-2.50	398.21	398.21
C	22867.75	-2.50	398.21	398.22
D	22877.75	-2.50	398.21	398.21
E	22887.75	-2.50	398.21	398.21
CL Brg. Pier 1	22893.88	-2.50	398.21	398.21
F	22903.88	-2.50	398.21	398.23
G	22913.88	-2.50	398.21	398.24
H	22923.88	-2.50	398.21	398.25
I	22933.88	-2.50	398.21	398.24
J	22943.88	-2.50	398.21	398.22
CL Brg. Pier 2	22950.13	-2.50	398.21	398.21
K	22960.13	-2.50	398.21	398.21
L	22970.13	-2.50	398.21	398.21
M	22980.13	-2.50	398.21	398.21
CL Brg. E. Abut.	22986.25	-2.50	398.21	398.21
BK. E. Abut.	22987.50	-2.50	398.21	398.21

*PERRY/FRANKLIN

DESIGNED - Jessica C. Forrest	EXAMINED - <i>Thomas J. Demagalabi</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS STRUCTURE NO. 073-0038	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED - <i>JCF</i> ENGINEER OF BRIDGES AND STRUCTURES				869	6B-2	*	277	136
DRAWN - h.t. duong			SHEET NO. 6 OF 26 SHEETS		CONTRACT NO. 98797				
CHECKED - JCF/NRB					ILLINOIS FED. AID PROJECT				

BEAM 4, C ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22856.50	0.00	398.25	398.25
CL Brg. W. Abut.	22857.75	0.00	398.25	398.25
C	22867.75	0.00	398.25	398.25
D	22877.75	0.00	398.25	398.25
E	22887.75	0.00	398.25	398.25
CL Brg. Pier 1	22893.88	0.00	398.25	398.25
F	22903.88	0.00	398.25	398.27
G	22913.88	0.00	398.25	398.28
H	22923.88	0.00	398.25	398.29
I	22933.88	0.00	398.25	398.28
J	22943.88	0.00	398.25	398.26
CL Brg. Pier 2	22950.13	0.00	398.25	398.25
K	22960.13	0.00	398.25	398.25
L	22970.13	0.00	398.25	398.25
M	22980.13	0.00	398.25	398.25
CL Brg. E. Abut.	22986.25	0.00	398.25	398.25
BK. E. Abut.	22987.50	0.00	398.25	398.25

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22856.50	5.67	398.16	398.16
CL Brg. W. Abut.	22857.75	5.67	398.16	398.16
C	22867.75	5.67	398.16	398.17
D	22877.75	5.67	398.16	398.16
E	22887.75	5.67	398.16	398.16
CL Brg. Pier 1	22893.88	5.67	398.16	398.16
F	22903.88	5.67	398.16	398.18
G	22913.88	5.67	398.16	398.19
H	22923.88	5.67	398.16	398.20
I	22933.88	5.67	398.16	398.19
J	22943.88	5.67	398.16	398.17
CL Brg. Pier 2	22950.13	5.67	398.16	398.16
K	22960.13	5.67	398.16	398.16
L	22970.13	5.67	398.16	398.17
M	22980.13	5.67	398.16	398.16
CL Brg. E. Abut.	22986.25	5.67	398.16	398.16
BK. E. Abut.	22987.50	5.67	398.16	398.16

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22856.50	11.34	398.07	398.07
CL Brg. W. Abut.	22857.75	11.34	398.07	398.07
C	22867.75	11.34	398.07	398.08
D	22877.75	11.34	398.07	398.08
E	22887.75	11.34	398.07	398.07
CL Brg. Pier 1	22893.88	11.34	398.07	398.07
F	22903.88	11.34	398.07	398.09
G	22913.88	11.34	398.07	398.11
H	22923.88	11.34	398.07	398.11
I	22933.88	11.34	398.07	398.10
J	22943.88	11.34	398.07	398.08
CL Brg. Pier 2	22950.13	11.34	398.07	398.07
K	22960.13	11.34	398.07	398.07
L	22970.13	11.34	398.07	398.08
M	22980.13	11.34	398.07	398.08
CL Brg. E. Abut.	22986.25	11.34	398.07	398.07
BK. E. Abut.	22987.50	11.34	398.07	398.07

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22856.50	17.00	397.96	397.96
CL Brg. W. Abut.	22857.75	17.00	397.96	397.96
C	22867.75	17.00	397.96	397.96
D	22877.75	17.00	397.96	397.96
E	22887.75	17.00	397.96	397.96
CL Brg. Pier 1	22893.88	17.00	397.96	397.96
F	22903.88	17.00	397.96	397.98
G	22913.88	17.00	397.96	397.99
H	22923.88	17.00	397.96	398.00
I	22933.88	17.00	397.96	397.99
J	22943.88	17.00	397.96	397.97
CL Brg. Pier 2	22950.13	17.00	397.96	397.96
K	22960.13	17.00	397.96	397.96
L	22970.13	17.00	397.96	397.96
M	22980.13	17.00	397.96	397.96
CL Brg. E. Abut.	22986.25	17.00	397.96	397.96
BK. E. Abut.	22987.50	17.00	397.96	397.96

*PERRY/FRANKLIN

DESIGNED - Jessica C. Forrest
 CHECKED - Nicholas R. Barnett
 DRAWN - h.f. duong
 CHECKED - JCF/NRB

EXAMINED *Thomas J. Damagala*
 ENGINEER OF BRIDGE DESIGN
 PASSED *Paul Perry*
 ENGINEER OF BRIDGES AND STRUCTURES
 DATE - 5/10/2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
 STRUCTURE NO. 073-0038

SHEET NO. 7 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	299	137
CONTRACT NO. 98797				ILLINOIS FED. AID PROJECT

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22826.50	-18.00	397.94
A	22836.50	-18.00	397.94
B	22846.50	-18.00	397.94
East end of W. Appr. Slab	22856.50	-18.00	397.94

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22826.50	-12.00	398.06
A	22836.50	-12.00	398.06
B	22846.50	-12.00	398.06
East end of W. Appr. Slab	22856.50	-12.00	398.06

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22826.50	-2.50	398.21
A	22836.50	-2.50	398.21
B	22846.50	-2.50	398.21
East end of W. Appr. Slab	22856.50	-2.50	398.21

☉ ROADWAY & PROFILE GRADE

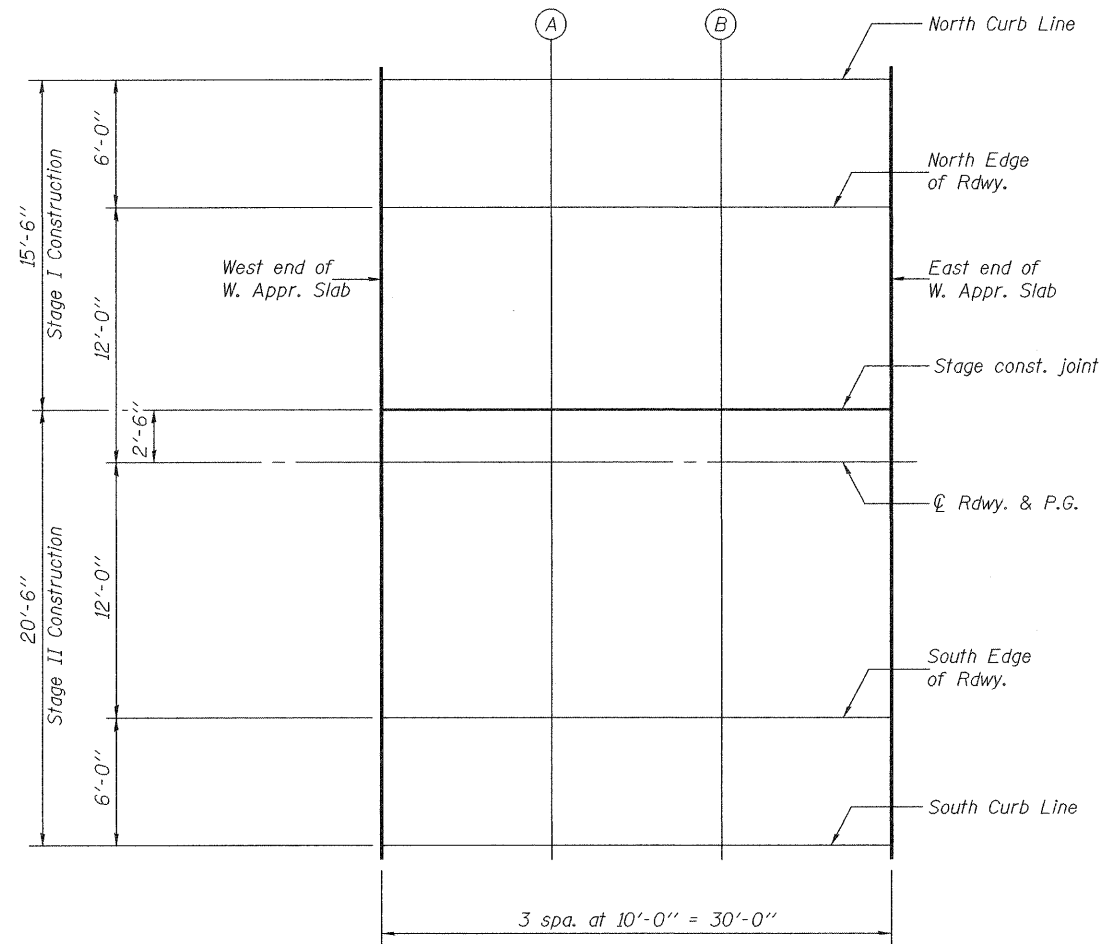
Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22826.50	0.00	398.25
A	22836.50	0.00	398.25
B	22846.50	0.00	398.25
East end of W. Appr. Slab	22856.50	0.00	398.25

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22826.50	12.00	398.06
A	22836.50	12.00	398.06
B	22846.50	12.00	398.06
East end of W. Appr. Slab	22856.50	12.00	398.06

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22826.50	18.00	397.94
A	22836.50	18.00	397.94
B	22846.50	18.00	397.94
East end of W. Appr. Slab	22856.50	18.00	397.94



PLAN

*PERRY/FRANKLIN

DESIGNED - Jessica C. Forrest	EXAMINED - <i>Thomas J. Donagale</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF WEST APPROACH SLAB ELEVATIONS STRUCTURE NO. 073-0038	F.A.P. RTE. 869	SECTION 6B-2	COUNTY *	TOTAL SHEETS 273	SHEET NO. 138
CHECKED - Nicholas R. Barnett	PASSED - <i>Carl Perry</i> ENGINEER OF BRIDGES AND STRUCTURES				SHEET NO. 8 OF 26 SHEETS	CONTRACT NO. 98797 ILLINOIS FED. AID PROJECT			

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22987.50	-18.00	397.94
N	22997.50	-18.00	397.94
O	23007.50	-18.00	397.94
East end of E. Appr. Slab	23017.50	-18.00	397.94

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22987.50	-12.00	398.06
N	22997.50	-12.00	398.06
O	23007.50	-12.00	398.06
East end of E. Appr. Slab	23017.50	-12.00	398.06

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22987.50	-2.50	398.21
N	22997.50	-2.50	398.21
O	23007.50	-2.50	398.21
East end of E. Appr. Slab	23017.50	-2.50	398.21

☉ ROADWAY & PROFILE GRADE

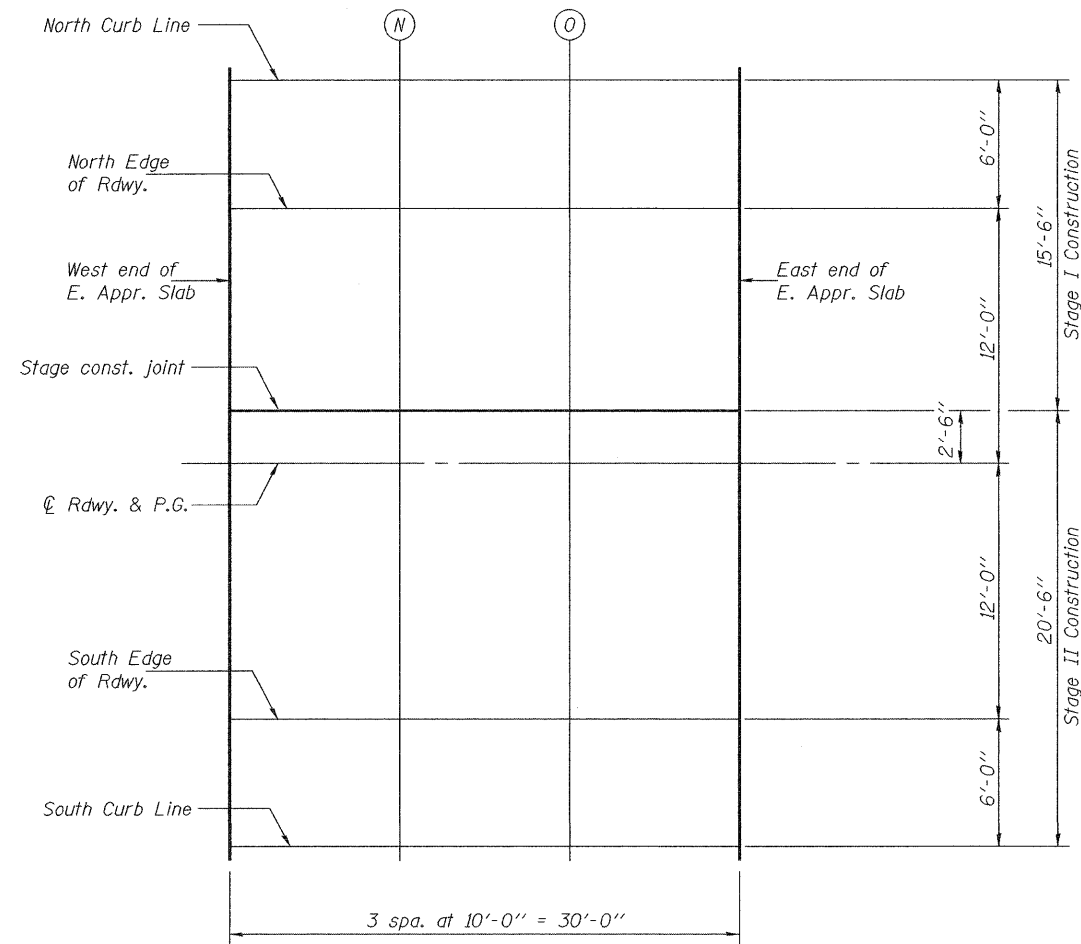
Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22987.50	0.00	398.25
N	22997.50	0.00	398.25
O	23007.50	0.00	398.25
East end of E. Appr. Slab	23017.50	0.00	398.25

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22987.50	12.00	398.06
N	22997.50	12.00	398.06
O	23007.50	12.00	398.06
East end of E. Appr. Slab	23017.50	12.00	398.06

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22987.50	18.00	397.94
N	22997.50	18.00	397.94
O	23007.50	18.00	397.94
East end of E. Appr. Slab	23017.50	18.00	397.94



PLAN

DESIGNED - Jessica C. Forrest
 CHECKED - Nicholas R. Barnett
 DRAWN - h.t. duong
 CHECKED - JCF/NRB

EXAMINED *Thomas J. Demagalab* DATE - 5/10/2011
 PASSED *Paul [Signature]*
 ENGINEER OF BRIDGES AND STRUCTURES

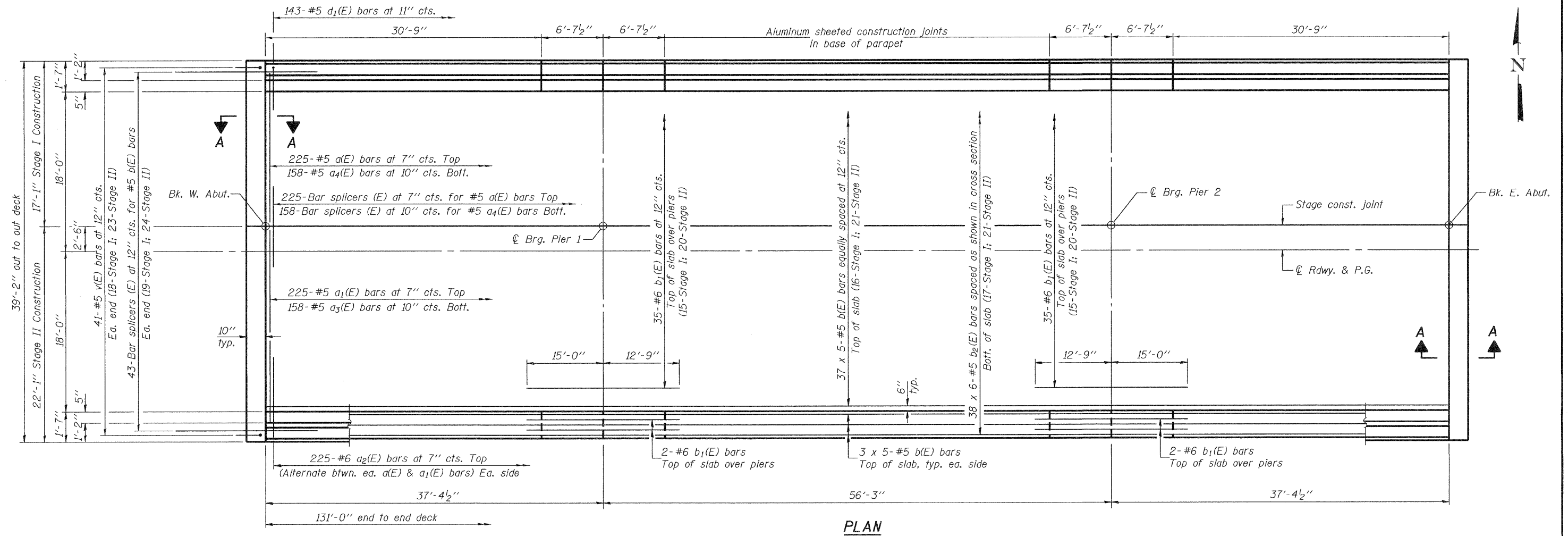
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TOP OF EAST APPROACH SLAB ELEVATIONS
 STRUCTURE NO. 073-0038**

SHEET NO. 9 OF 26 SHEETS

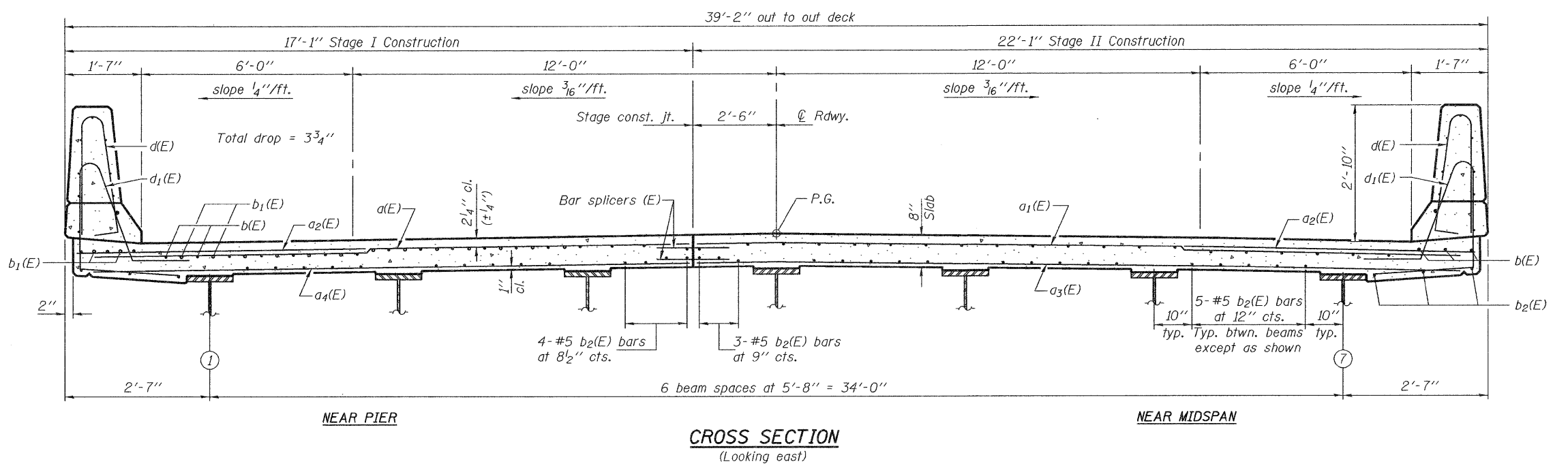
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	299	139
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

*PERRY/FRANKLIN

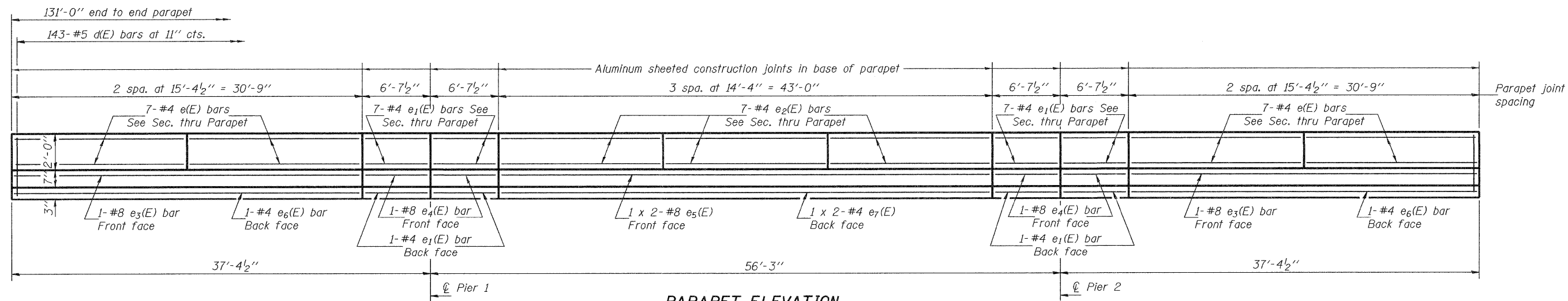


MIN. BAR LAPS
 #5 bar = 3'-3"

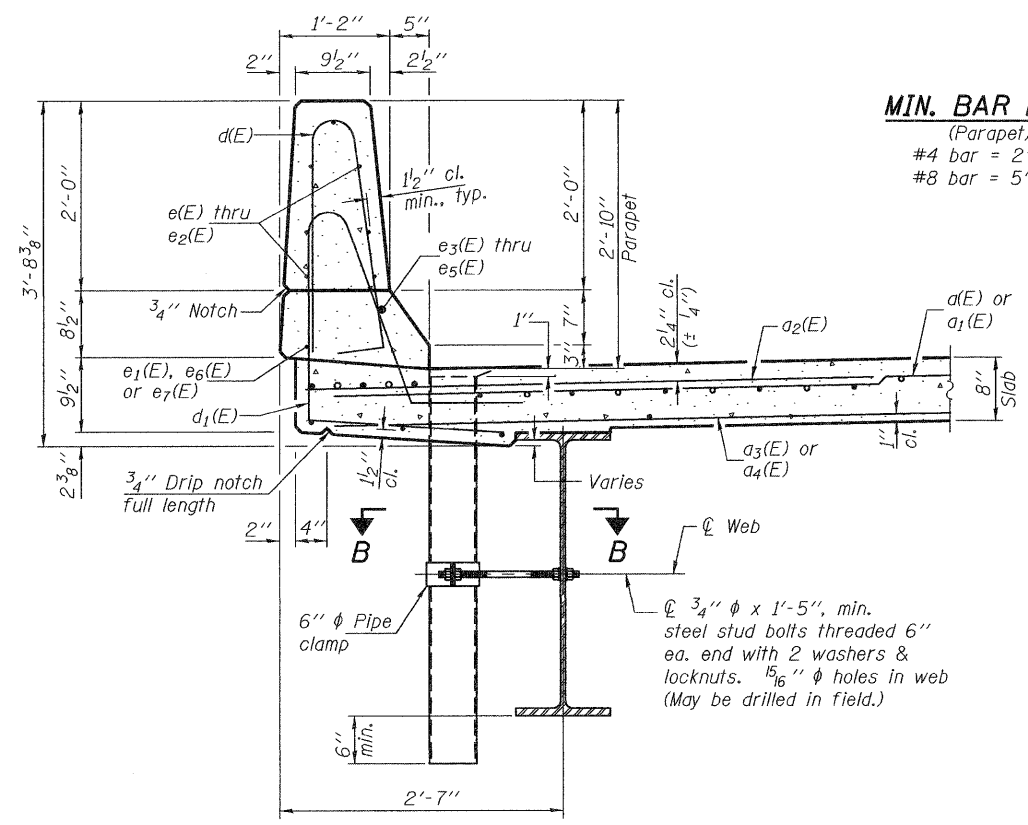
Notes: See sheet 11 of 26 for superstructure details and Bill of Material.
 Bars indicated thus 36 x 5-#5 etc. indicates 36 lines of bars with 5 lengths per line.
 See sheet 11 of 26 for parapet reinforcement.
 See sheet 12 of 26 for Section A-A.
 See sheet 20 of 26 for bar splicer details.



DESIGNED - Jessica C. Forrest	EXAMINED - <i>Thomas J. Damagala</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		SUPERSTRUCTURE STRUCTURE NO. 073-0038		F.A.P. RTE. 869	SECTION 6B-2	COUNTY *	TOTAL SHEETS 299	SHEET NO. 140
CHECKED - Nicholas R. Barnett	PASSED - <i>h.t. duong</i> ENGINEER OF BRIDGES AND STRUCTURES						SHEET NO. 10 OF 26 SHEETS		CONTRACT NO. 98797		ILLINOIS FED. AID PROJECT

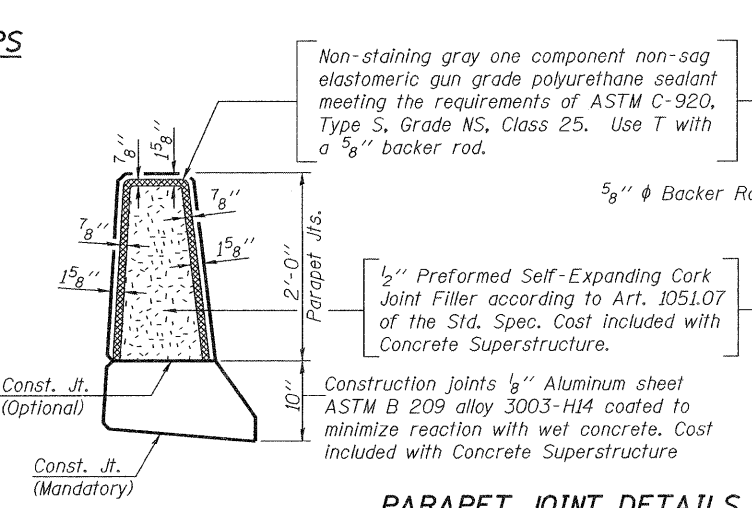


PARAPET ELEVATION
(Measured along inside face)



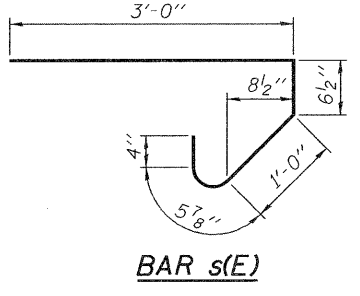
SECTION THRU PARAPET

MIN. BAR LAPS
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

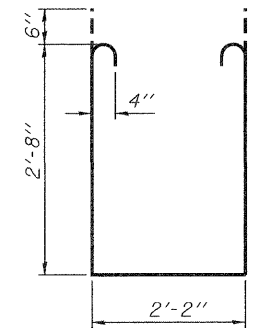


PARAPET JOINT DETAILS

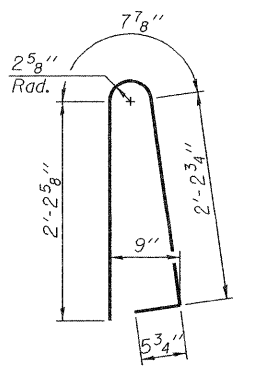
Notes:
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.
Floor drains need not be painted.



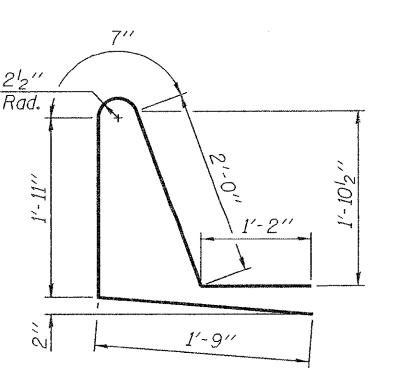
BAR s(E)



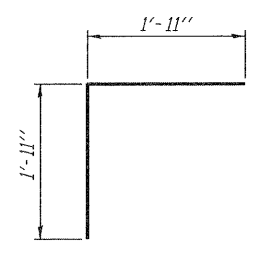
BAR s1(E)



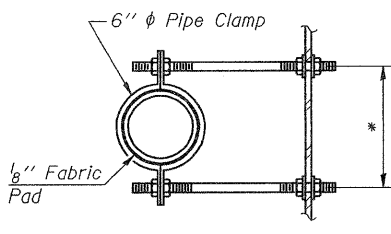
BAR d(E)



BAR d1(E)

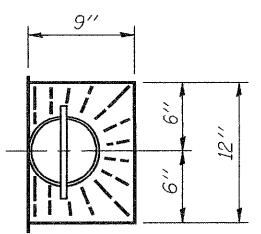


BAR v(E)

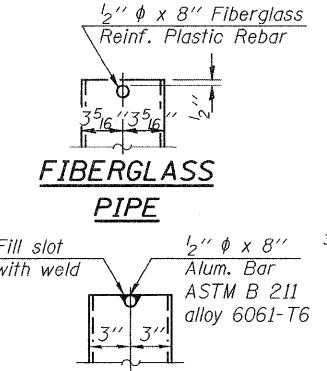


SECTION B-B

*Dimension as required by Pipe Clamp

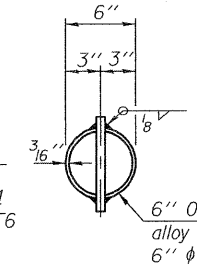


TOP PLAN



FIBERGLASS PIPE

ALUMINUM TUBE



TOP PLAN
(Showing Aluminum Tube)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	225	#5	16'-7"	—
a1(E)	225	#5	21'-7"	—
a2(E)	450	#6	6'-6"	—
a3(E)	158	#5	20'-9"	—
a4(E)	158	#5	15'-9"	—
b(E)	215	#5	28'-10"	—
b1(E)	78	#6	27'-9"	—
b2(E)	228	#5	24'-7"	—
d(E)	286	#5	5'-7"	U
d1(E)	286	#5	7'-5"	U
e(E)	56	#4	15'-1"	—
e1(E)	64	#4	6'-4"	—
e2(E)	42	#4	14'-0"	—
e3(E)	4	#8	30'-5"	—
e4(E)	8	#8	6'-4"	—
e5(E)	4	#8	23'-11"	—
e6(E)	4	#4	30'-5"	—
e7(E)	4	#4	22'-6"	—
m(E)	10	#6	16'-10"	—
m1(E)	10	#6	21'-10"	—
m2(E)	4	#6	2'-3"	—
m3(E)	12	#6	5'-4"	—
m4(E)	16	#6	7'-6"	—
m5(E)	12	#6	9'-0"	—
s(E)	86	#5	5'-5"	U
s1(E)	76	#4	8'-6"	U
v(E)	82	#5	3'-10"	T
Reinforcement Bars, Epoxy Coated Concrete Superstructure		Pound	43170	
		Cu. Yds.	181.0	

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

DESIGNED - Jessica C. Forrest
CHECKED - Nicholas R. Barnett
DRAWN - h.t. duong
CHECKED - JCF/NRB

EXAMINED - *Thomas J. Demagalabi*
PASSED - *Thomas J. Demagalabi*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES
DATE - 5/10/2011

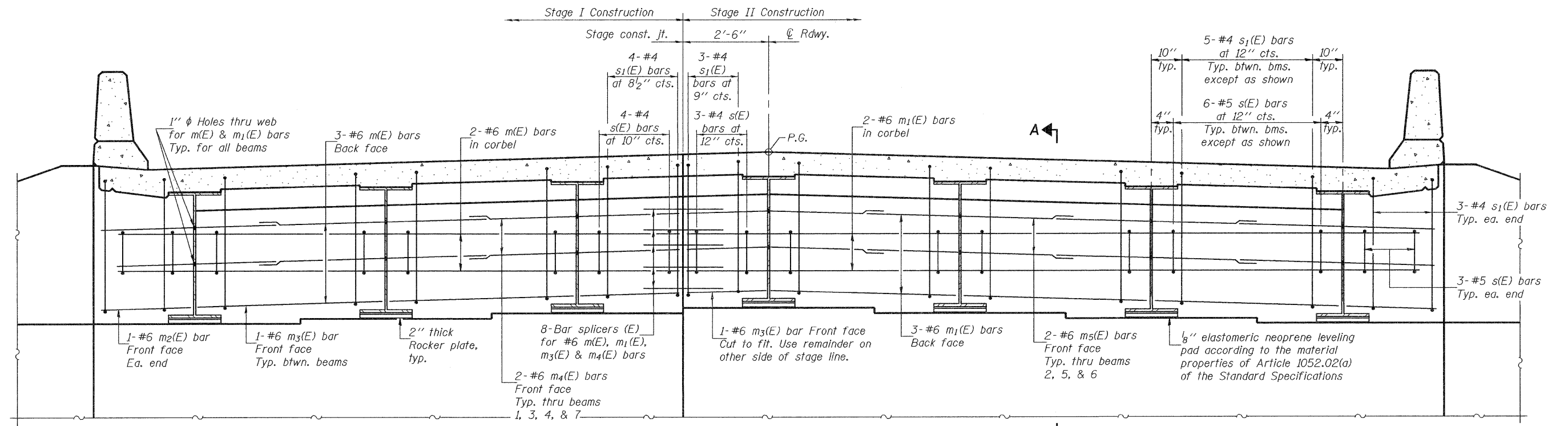
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 073-0038

SHEET NO. 11 OF 26 SHEETS

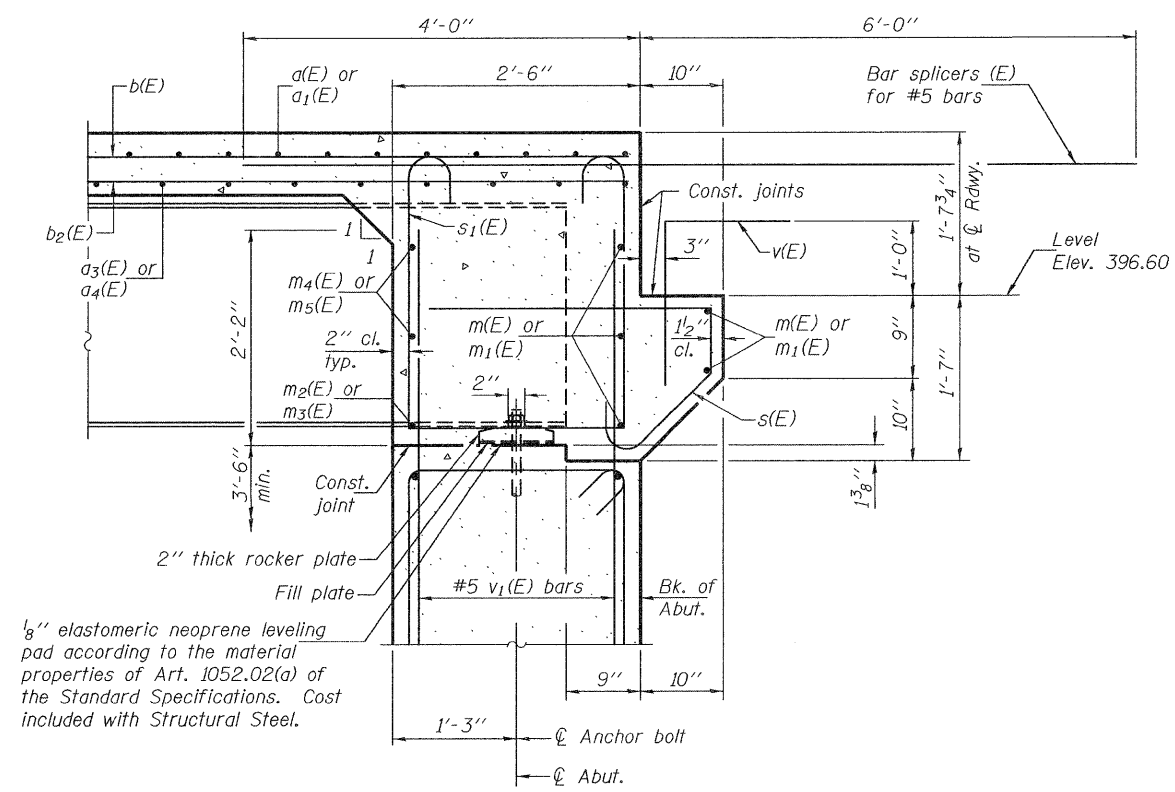
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2		299	141
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				

*PERRY/FRANKLIN



DIAPHRAGM ELEVATION AT EAST ABUTMENT
(Looking east - West abutment similar)

Notes: Reinforcement bars in diaphragm are billed with superstructure on sheet 11 of 26.
Concrete in diaphragm is included with Concrete Superstructure on sheet 11 of 26.
For details of bars $s(E)$ & $s_1(E)$ see sheet 11 of 26.
For bar splicer (E) details see sheet 20 of 26.



MIN. BAR LAP
#6 bar = 3'-4"

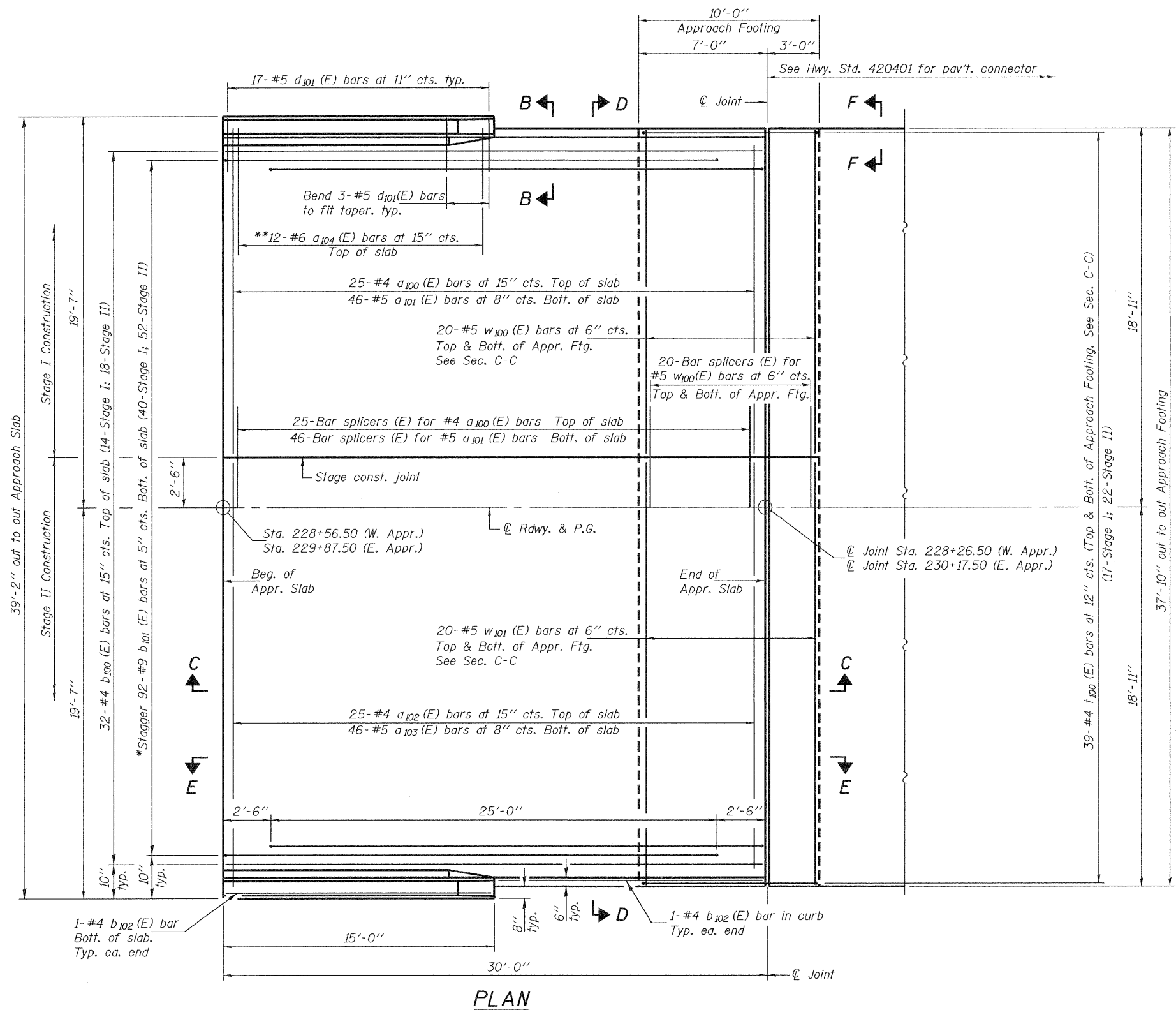
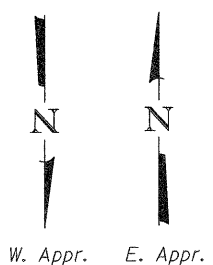
SECTION A-A

DESIGNED - Jessica C. Forrest	EXAMINED - <i>Thomas J. Demagala</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		DIAPHRAGM DETAILS STRUCTURE NO. 073-0038		F.A.P. RTE. 869	SECTION 6B-2	COUNTY *	TOTAL SHEETS 293	SHEET NO. 142
CHECKED - Nicholas R. Barnett	PASSED - <i>Carl Perry</i> ENGINEER OF BRIDGES AND STRUCTURES				SHEET NO. 12 OF 26 SHEETS		CONTRACT NO. 98797		ILLINOIS FED. AID PROJECT		

*PERRY/FRANKLIN

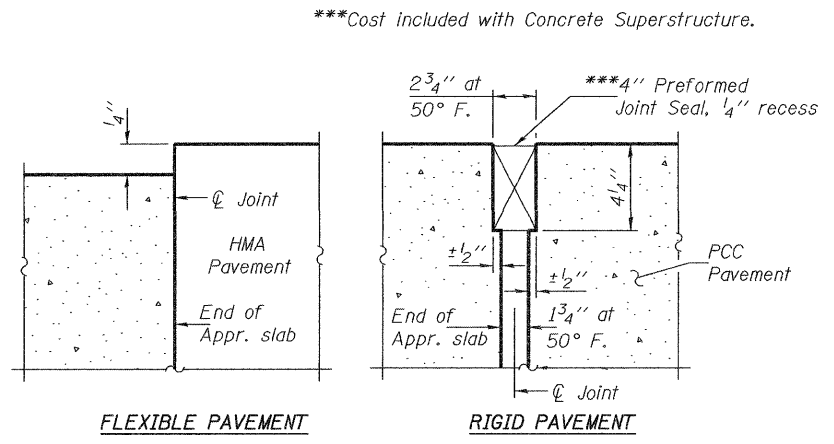
Notes: See sheet 14 of 26 for Sections C-C & D-D and View E-E.

a₁₀₀ (E), a₁₀₁ (E), a₁₀₂ (E), a₁₀₃ (E), w₁₀₀ (E) and w₁₀₁ (E) bar spacings measured along \varnothing Rdwy.

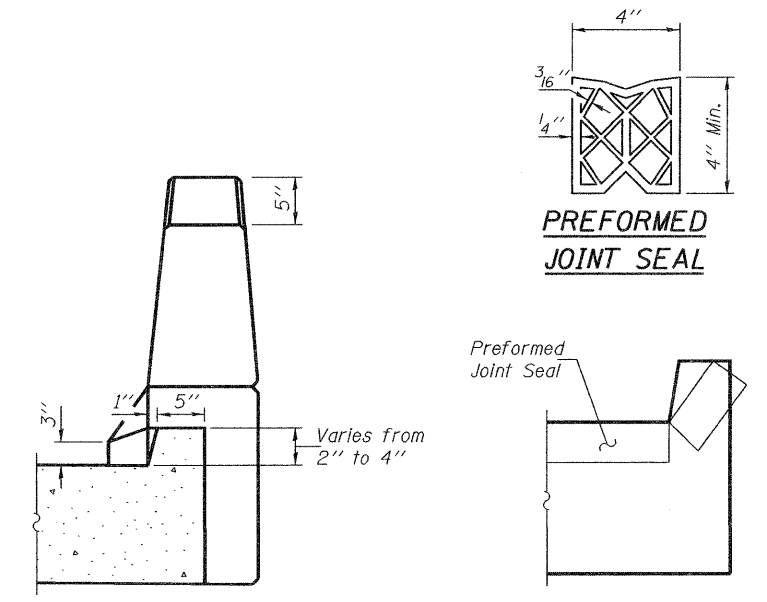


PLAN
(East Approach shown - West Approach similar by mirror image)

*Tilt #9 b₁₀₁ (E) bars as required to maintain clearance.
**Spaced between a₁₀₀ (E) & a₁₀₂ (E) bars, typ. ea. parapet.



DETAIL A



VIEW B-B

VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.

DESIGNED - Jessica C. Forrest	EXAMINED - Thomas J. Damagala	DATE - 5/10/2011
CHECKED - Nicholas R. Barnett	PASSED - [Signature]	
DRAWN - h.t. duong		
CHECKED - JCF/NRB		

ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

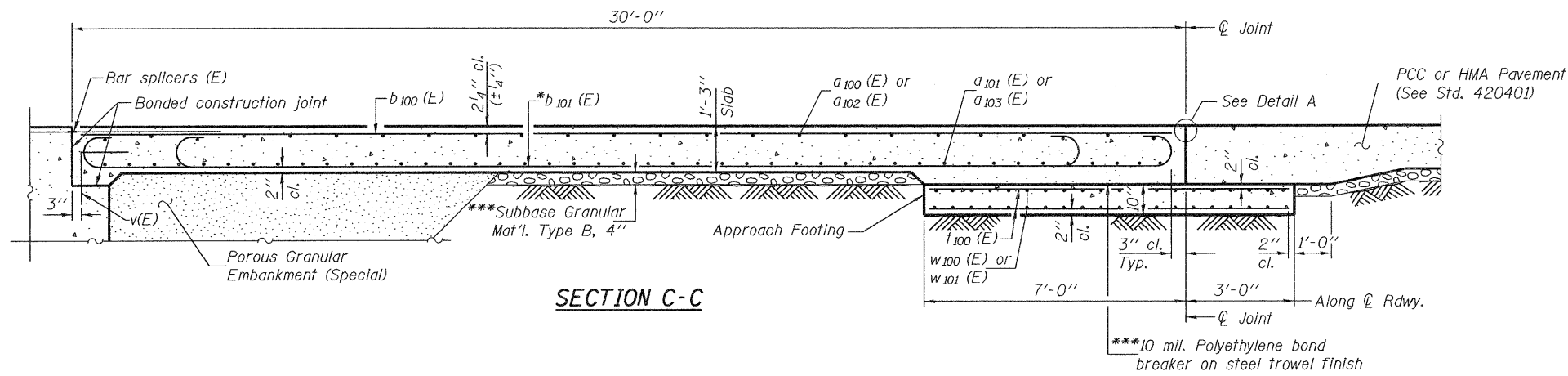
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 073-0038**

SHEET NO. 13 OF 26 SHEETS

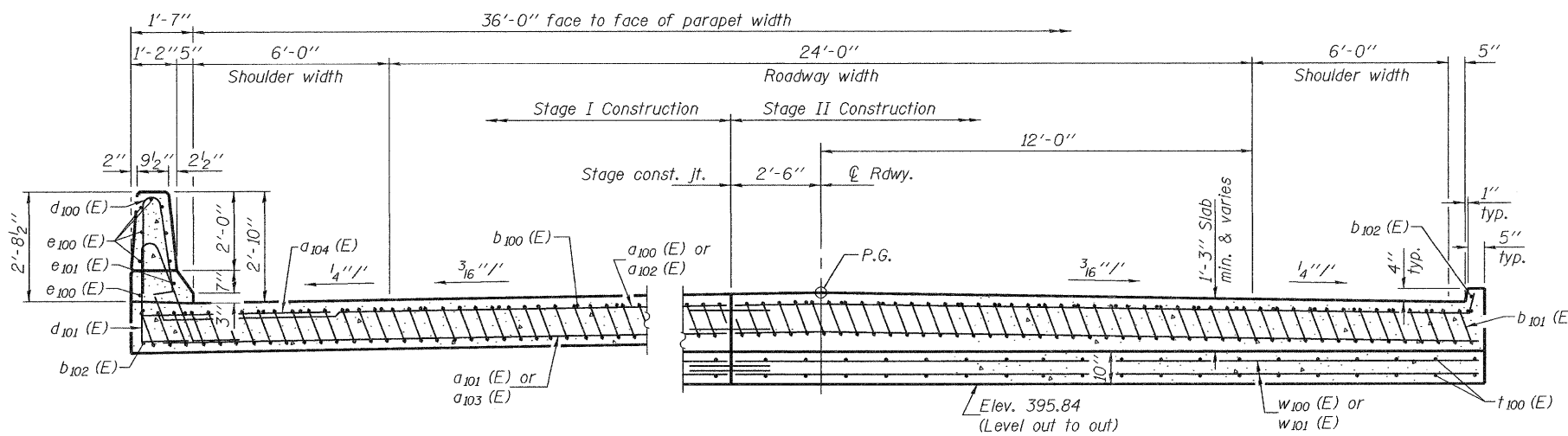
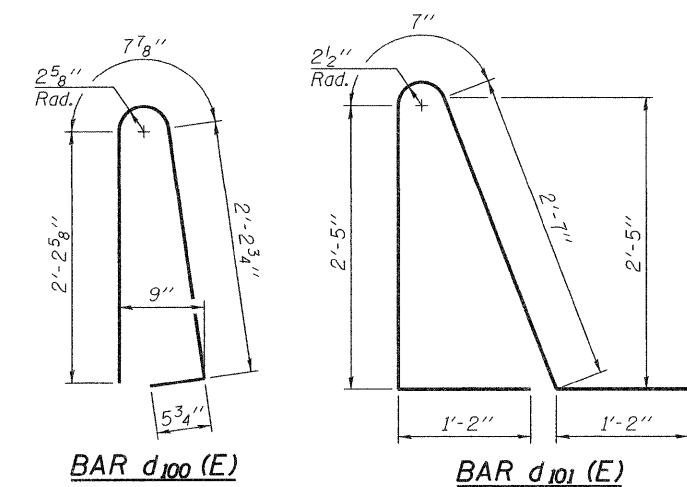
F.A.P. RTE. 869	SECTION 6B-2	COUNTY *	TOTAL SHEETS 271	SHEET NO. 143
			CONTRACT NO. 98797	
ILLINOIS FED. AID PROJECT				

*PERRY/FRANKLIN



Notes:

See sheet 13 of 26 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet 11 of 26.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 For bar splicer details, see sheet 20 of 26.
 Cost of excavation for approach footing included with Concrete Structures.
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 26.
 For additional parapet details, see sheet 11 of 26.

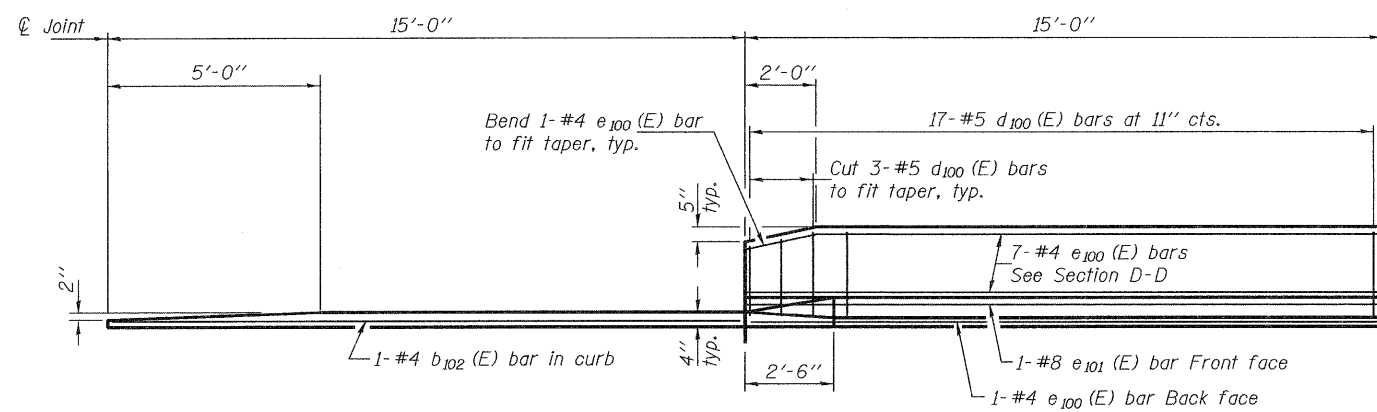


NEAR ABUTMENT

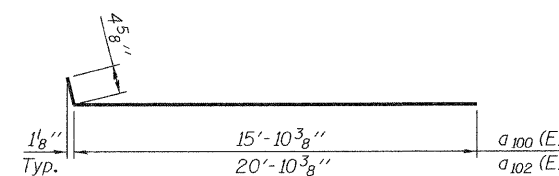
SECTION D-D

(See Plan for dimensions not shown)

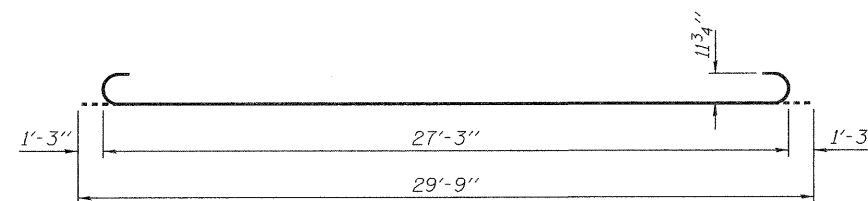
AT APPROACH FOOTING



VIEW E-E



BARS a100 (E) & a102 (E)



BAR b101 (E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a100 (E)	50	#4	16'-3"	—
a101 (E)	92	#5	16'-1"	—
a102 (E)	50	#4	21'-3"	—
a103 (E)	92	#5	21'-1"	—
a104 (E)	48	#6	6'-6"	—
b100 (E)	64	#4	29'-8"	—
b101 (E)	184	#9	29'-9"	—
b102 (E)	8	#4	14'-8"	—
d100 (E)	68	#5	5'-7"	—
d101 (E)	68	#5	7'-11"	—
e100 (E)	32	#4	14'-8"	—
e101 (E)	4	#8	14'-8"	—
t100 (E)	156	#4	9'-8"	—
w100 (E)	80	#5	16'-1"	—
w101 (E)	80	#5	21'-1"	—
Concrete Superstructure		Cu. Yd.	116.0	
Concrete Structures		Cu. Yd.	23.4	
Reinforcement Bars, Epoxy Coated		Pound	30780	

DESIGNED - Jessica C. Forrest
 CHECKED - Nicholas R. Barnett
 DRAWN - h.f. duong
 CHECKED - JCF/NRB

EXAMINED - *Thomas J. Damagala*
 ENGINEER OF BRIDGE DESIGN
 PASSED - *Paul Perry*
 ENGINEER OF BRIDGES AND STRUCTURES

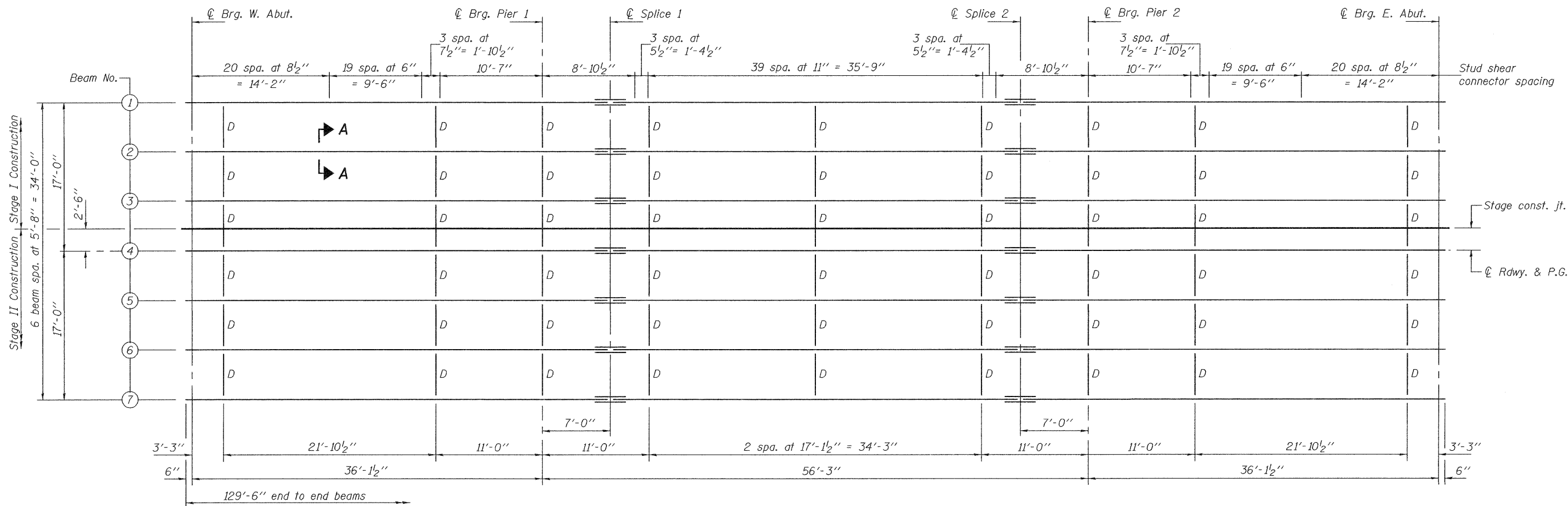
DATE - 5/10/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 073-0038

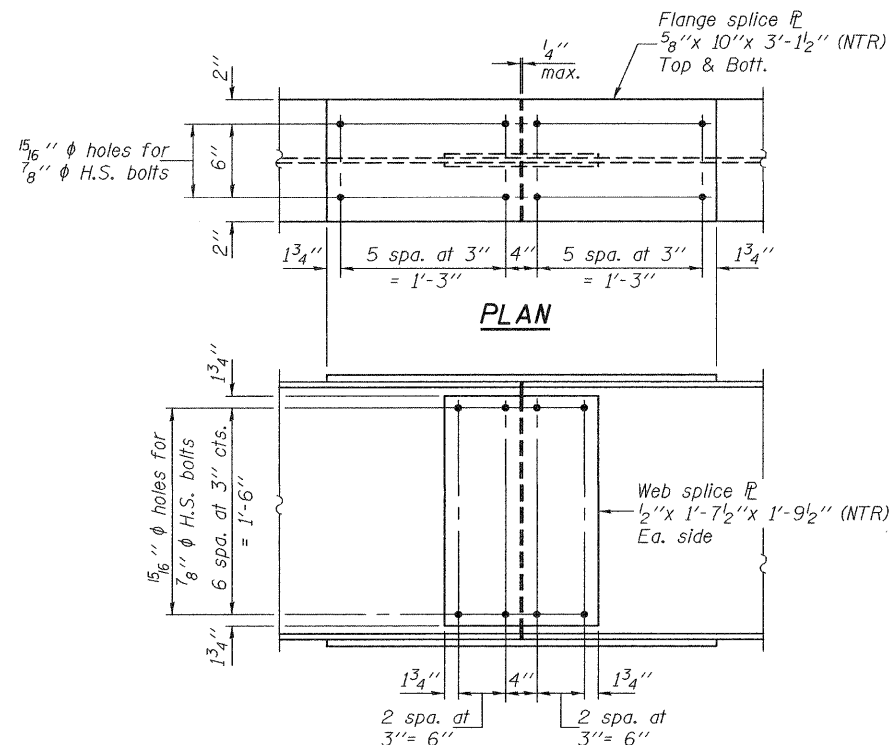
SHEET NO. 14 OF 26 SHEETS

*PERRY/FRANKLIN
 F.A.P. RTE. 869 SECTION 68-2 COUNTY TOTAL SHEETS 299 SHEET NO. 144 CONTRACT NO. 98797 ILLINOIS FED. AID PROJECT

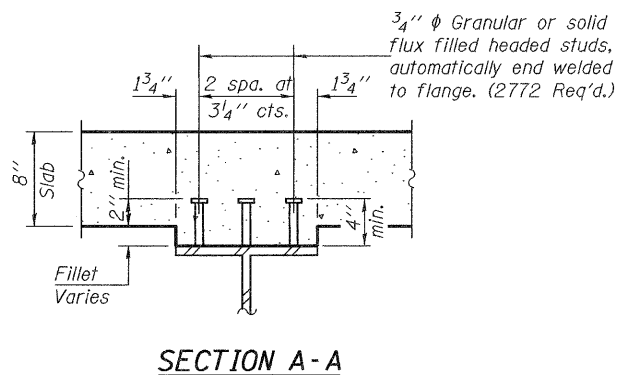


PLAN

All beams are W27x84 AASHTO M270 Grade 50W (NTR)

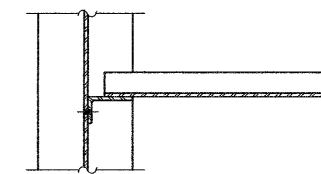


**ELEVATION
SPLICE DETAIL**
(14 Required)

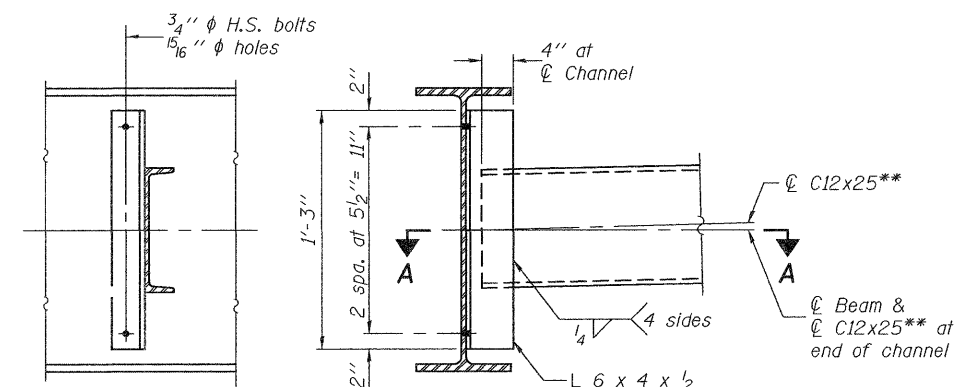


SECTION A-A

Notes: Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
Two hardened washers required for each set of oversized holes.
All splice plates shall be AASHTO M 270 Grade 50W.



SECTION A-A



DIAPHRAGM D
(54 Required)

**Alternate channel C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no extra cost to the Department.

DESIGNED - Jessica C. Forrest
CHECKED - Nicholas R. Barnett
DRAWN - h.t. duong
CHECKED - JCF/NRB

EXAMINED - *Thomas J. Damagala*
ENGINEER OF BRIDGE DESIGN
PASSED - *Carl*
ENGINEER OF BRIDGES AND STRUCTURES

DATE - 5/10/2011

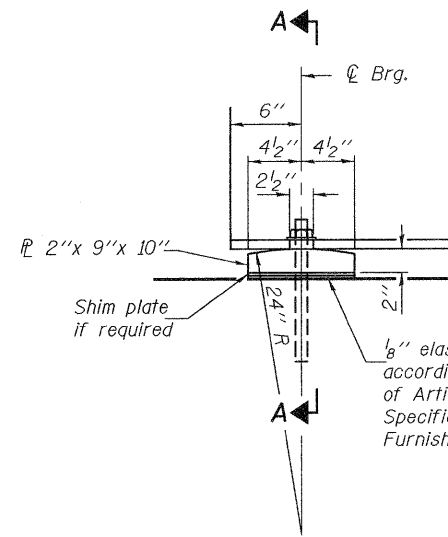
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL
STRUCTURE NO. 073-0038**

SHEET NO. 15 OF 26 SHEETS

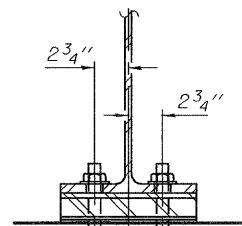
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	279	145
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

*PERRY/FRANKLIN



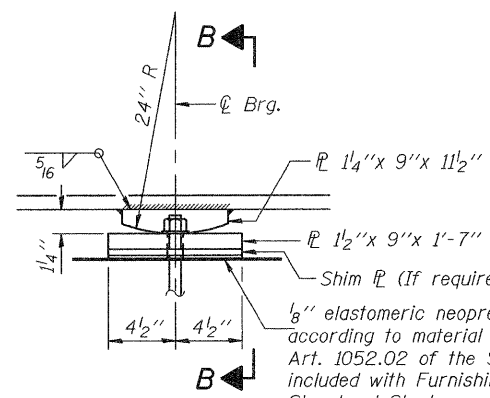
ELEVATION AT ABUTMENTS

1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02 of the Standard Specifications. Cost included with Furnishing & Erecting Structural Steel.



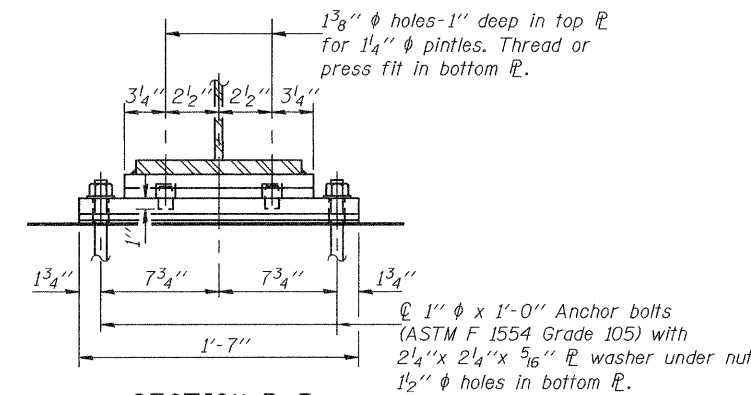
SECTION A-A

1/2" x 1'-6" anchor bolts (ASTM F 1554 grade 105) with 3" x 3" x 5/16" plate washer under nut. 1 7/8" x 2 1/2" slotted hole in flange. 2" diameter holes in bearing plate.



ELEVATION AT PIERS

1/8" elastomeric neoprene leveling pad according to material properties of Art. 1052.02 of the Std. Specs. Cost included with Furnishing & Erecting Structural Steel.



SECTION B-B

1" x 1'-0" Anchor bolts (ASTM F 1554 Grade 105) with 2 1/4" x 2 1/4" x 5/16" plate washer under nut. 1 1/2" diameter holes in bottom plate.

FIXED BEARING

(14 Required)

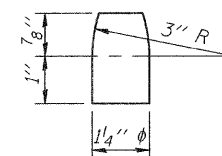
FIXED BEARING

(14 Required)

*TOP OF BEAM ELEVATIONS

Location	Centerline W. Abut.	Centerline Pier 1	Centerline Splice 1	Centerline Splice 2	Centerline Pier 2	Centerline E. Abut.
Beam 1	397.25	397.21	397.20	397.20	397.21	397.25
Beam 2	397.36	397.32	397.31	397.31	397.32	397.36
Beam 3	397.45	397.41	397.40	397.40	397.41	397.45
Beam 4	397.54	397.50	397.49	397.49	397.50	397.54
Beam 5	397.45	397.41	397.40	397.40	397.41	397.45
Beam 6	397.36	397.32	397.31	397.31	397.32	397.36
Beam 7	397.25	397.21	397.20	397.20	397.21	397.25

*For fabrication use only.

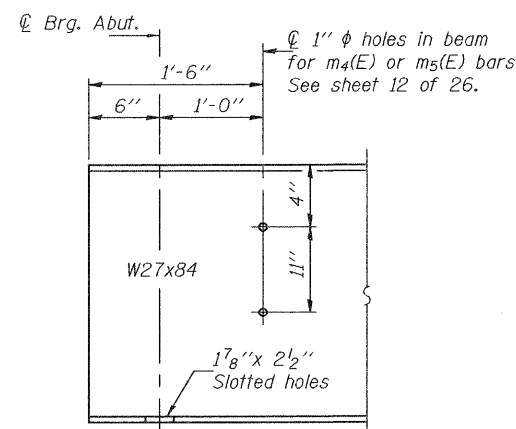


PINTLE

	0.4 Sp. 1 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	2850	2850	2850
$I_c(n)$	8775	—	8775
$I_c(3n)$	6500	—	6500
S_s	213	213	213
$S_c(n)$	337	—	337
$S_c(3n)$	304	—	304
DC1	0.67	0.67	0.67
M_{DC1}	42.5	157.2	109
DC2	0.13	0.13	0.13
M_{DC2}	11.3	22.3	28.8
DW	0.28	0.28	0.28
M_{DW}	24.8	48.8	63.1
$M_{\xi} + Imp$	300.6	211	424.4
M_u (Strength I)	629.7	668.6	1007.7
$\phi_r M_n$	1850.37	—	1850.37
f_s DC1	2.39	8.86	6.14
f_s DC2	0.45	1.26	1.14
f_s DW	0.98	2.75	2.49
f_s 1.3($\xi + I$)	13.92	15.45	19.65
f_s (Service II)	17.74	28.32	29.42
f_s (Total)(Strength I)	—	37.57	—
V_f	17.3	—	16.7

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in.⁴ and in.³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in.⁴ and 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.).
- $M_{\xi} + Imp$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
1.25 ($M_{DC1} + M_{DC2}$) + 1.5 M_{DW} + 1.75 $M_{\xi} + Imp$
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- f_s (Service II): Sum of stresses as computed from the moments below (ksi).
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{\xi} + Imp$
- f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.25 ($M_{DC1} + M_{DC2}$) + 1.5 M_{DW} + 1.75 $M_{\xi} + Imp$
- V_f : Factored shear range computed according to Article 6.10.10.

	Abutments	Piers
R_{DC1}	7.8	35.4
R_{DC2}	1.7	6.6
R_{DW}	3.8	14.4
$R_{\xi} + Imp$	50.9	78.7
R_{Total}	64.2	135.1



TYP. END OF BEAM ELEVATION

Notes:
Anchor bolts shall be ASTM F1554 Grade 105. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
All bearing plates and pintles shall be AASHTO M270 Grade 50W.
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

DESIGNED - Jessica C. Forrest
CHECKED - Nicholas R. Barnett
DRAWN - h.t. duong
CHECKED - JCF/NRB

EXAMINED - Thomas J. Domagalaki
PASSED - [Signature]
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

DATE - 5/10/2011

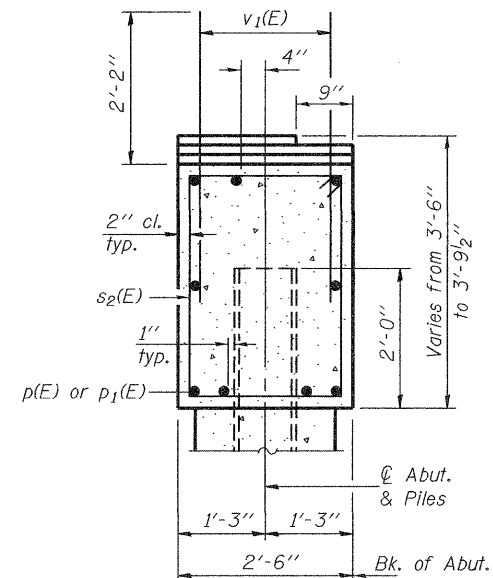
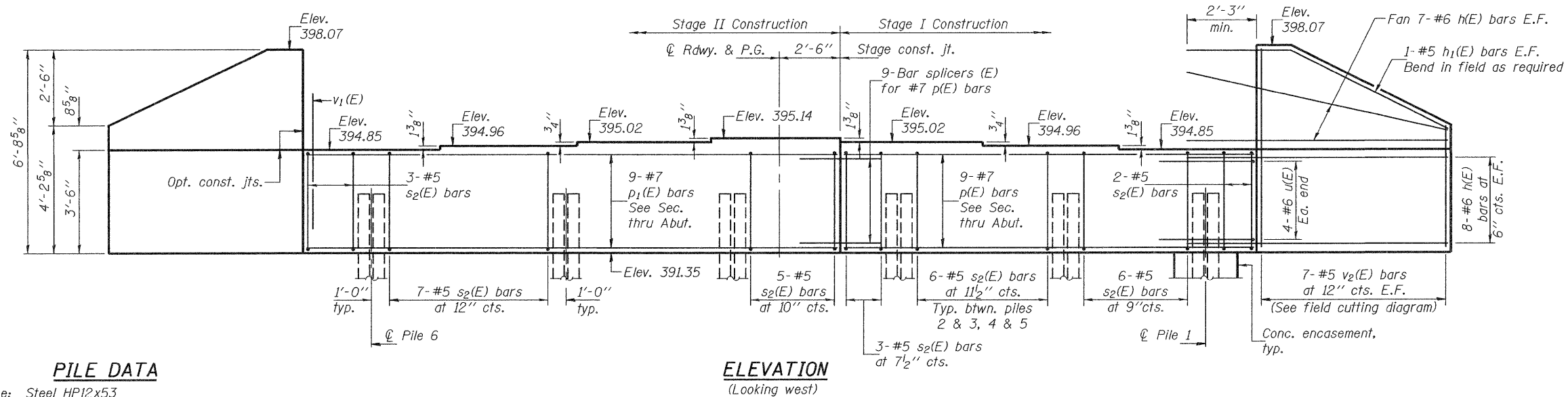
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 073-0038

SHEET NO. 16 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2		299	146
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

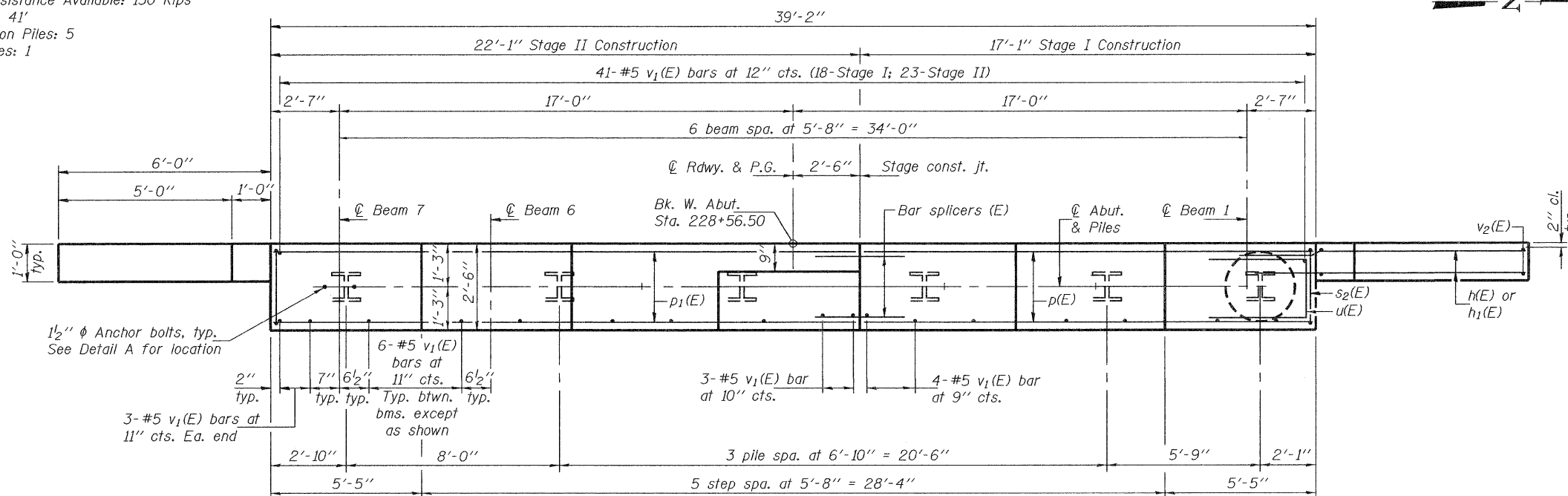
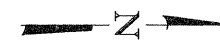
*PERRY/FRANKLIN



PILE DATA

Type: Steel HP12x53
 Nominal Required Bearing: 237 Kips
 Factored Resistance Available: 130 Kips
 Est. Length: 41'
 No. Production Piles: 5
 No. Test Piles: 1

ELEVATION
 (Looking west)

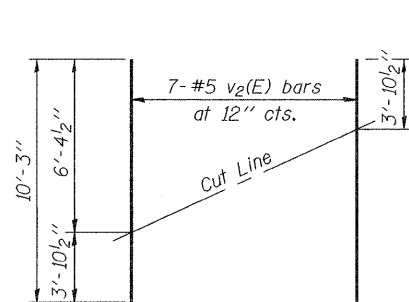


PLAN

BILL OF MATERIAL

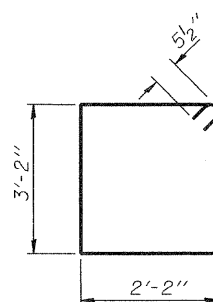
Bar	No.	Size	Length	Shape
h(E)	60	#6	8'-1"	—
h1(E)	4	#5	8'-8"	—
p(E)	9	#7	16'-9"	—
p1(E)	9	#7	21'-9"	—
s2(E)	38	#5	11'-7"	□
u(E)	8	#6	8'-1"	—
v1(E)	84	#5	4'-4"	—
v2(E)	14	#5	10'-3"	—
Structure Excavation		Cu. Yd.	79	
Concrete Structures		Cu. Yd.	15.6	
Reinforcement Bars, Epoxy Coated		Pound	2560	
Furnishing Steel Piles HP12x53		Foot	205	
Driving Piles		Foot	205	
Test Pile Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	
Anchor Bolts, 1 1/2" φ		Each	14	

Notes: Four steps monolithically with cap.
 For details of piles and concrete encasement, see sheet 21 of 26.
 For bar splicer details, see sheet 20 of 26.
 If h(E) bars interfere with steel H Piles bend h(E) bars to fit, otherwise maintain minimum of 2'-3" embedment.

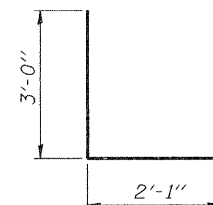


FIELD CUTTING DIAGRAM

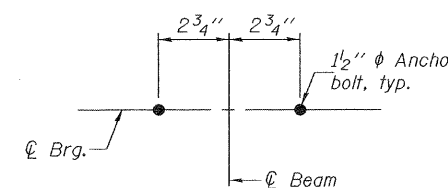
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)



DETAIL A

DESIGNED - Jessica C. Forrest
 CHECKED - Nicholas R. Barnett
 DRAWN - h.t. duong
 CHECKED - JCF/NRB

EXAMINED - Thomas J. Demagala
 ENGINEER OF BRIDGE DESIGN
 PASSED - [Signature]
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - 5/10/2011

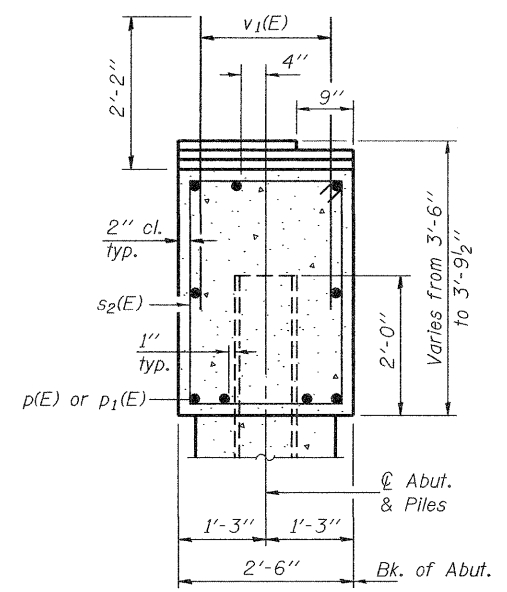
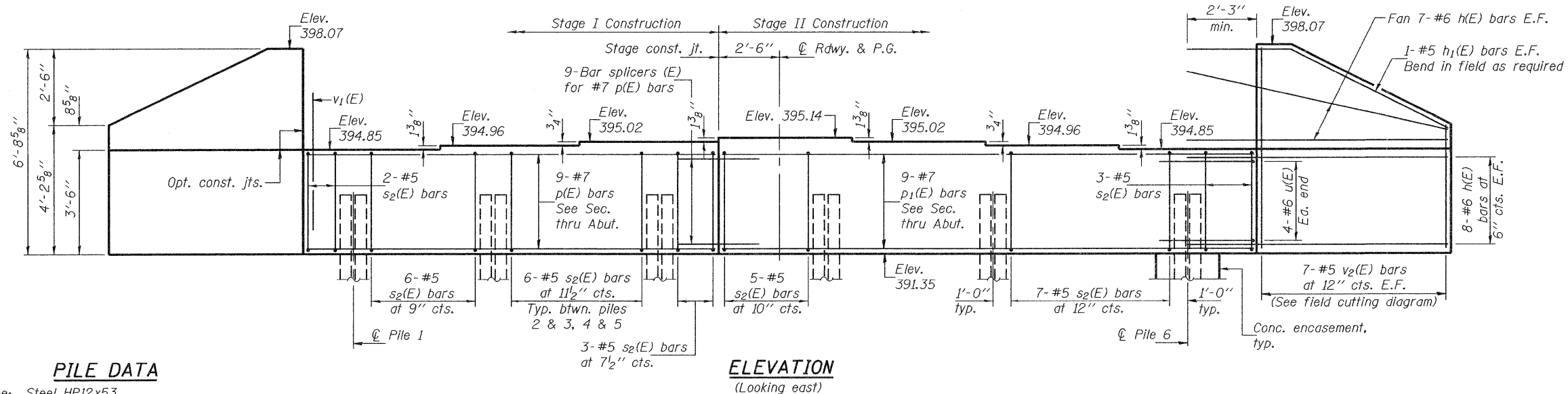
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
 STRUCTURE NO. 073-0038

SHEET NO. 17 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	299	147
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				

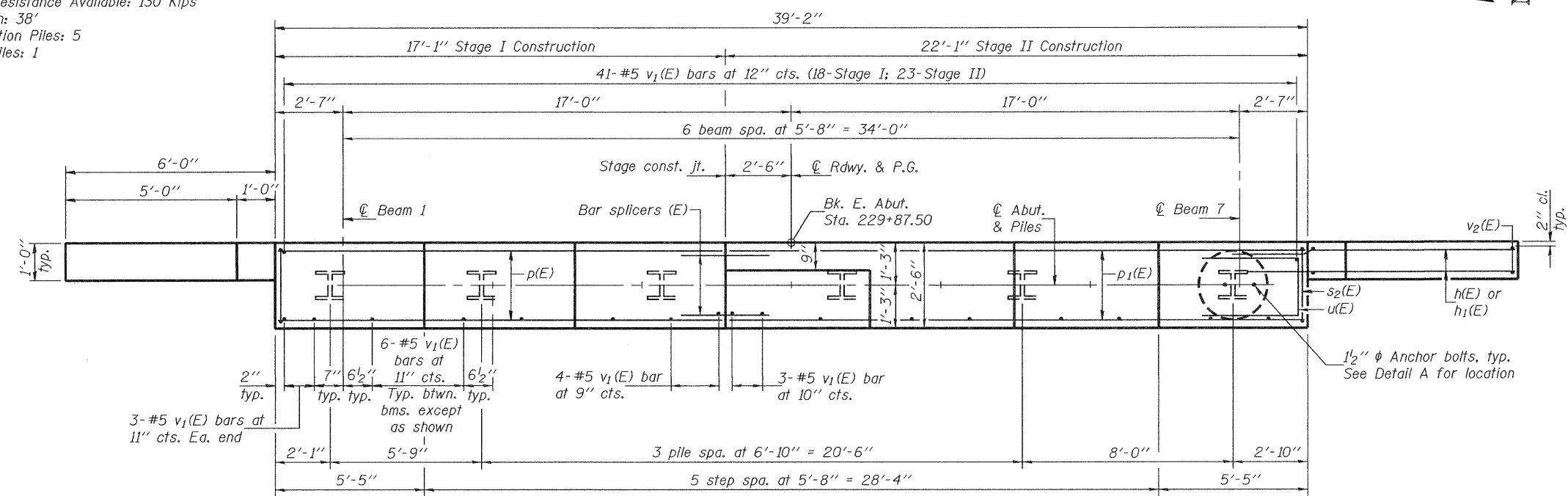
*PERRY/FRANKLIN



PILE DATA

Type: Steel HP12x53
 Nominal Required Bearing: 236 Kips
 Factored Resistance Available: 130 Kips
 Est. Length: 38'
 No. Production Piles: 5
 No. Test Piles: 1

ELEVATION
 (Looking east)

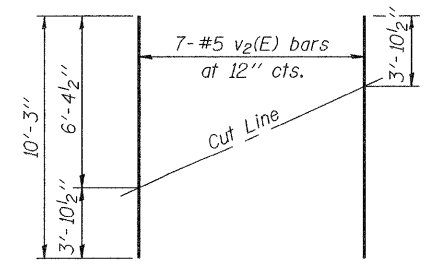


PLAN

BILL OF MATERIAL

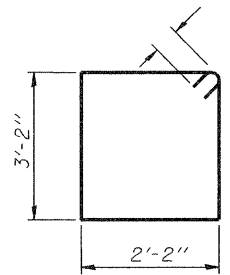
Bar	No.	Size	Length	Shape
h(E)	60	#6	8'-1"	—
h1(E)	4	#5	8'-8"	—
p(E)	9	#7	16'-9"	—
p1(E)	9	#7	21'-9"	—
s2(E)	38	#5	11'-7"	□
u(E)	8	#6	8'-1"	—
v1(E)	84	#5	4'-4"	—
v2(E)	14	#5	10'-3"	—
Structure Excavation		Cu. Yd.	79	
Concrete Structures		Cu. Yd.	15.6	
Reinforcement Bars, Epoxy Coated		Pound	2560	
Furnishing Steel Piles HP12x53		Foot	190	
Driving Piles		Foot	190	
Test Pile Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	
Anchor Bolts, 1/2" φ		Each	14	

Notes: Four steps monolithically with cap.
 For details of piles and concrete encasement, see sheet 21 of 26.
 For bar splicer details, see sheet 20 of 26.
 If h(E) bars interfere with steel H Piles bend h(E) bars to fit, otherwise maintain minimum of 2'-3" embedment.

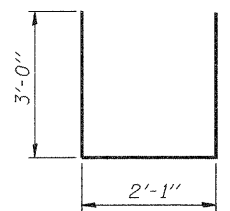


FIELD CUTTING DIAGRAM

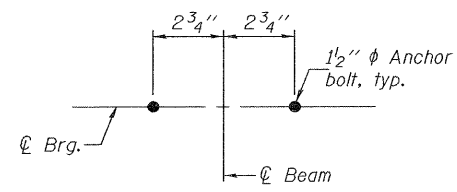
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)



DETAIL A

DESIGNED - Jessica C. Forrest
 CHECKED - Nicholas R. Barnett
 DRAWN - h.t. duong
 CHECKED - JCF/NRB

EXAMINED - *Thomas Damagala*
 ENGINEER OF BRIDGE DESIGN
 PASSED - *Carl Perry*
 ENGINEER OF BRIDGES AND STRUCTURES
 DATE - 5/10/2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
 STRUCTURE NO. 073-0038

SHEET NO. 18 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	273	143
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				

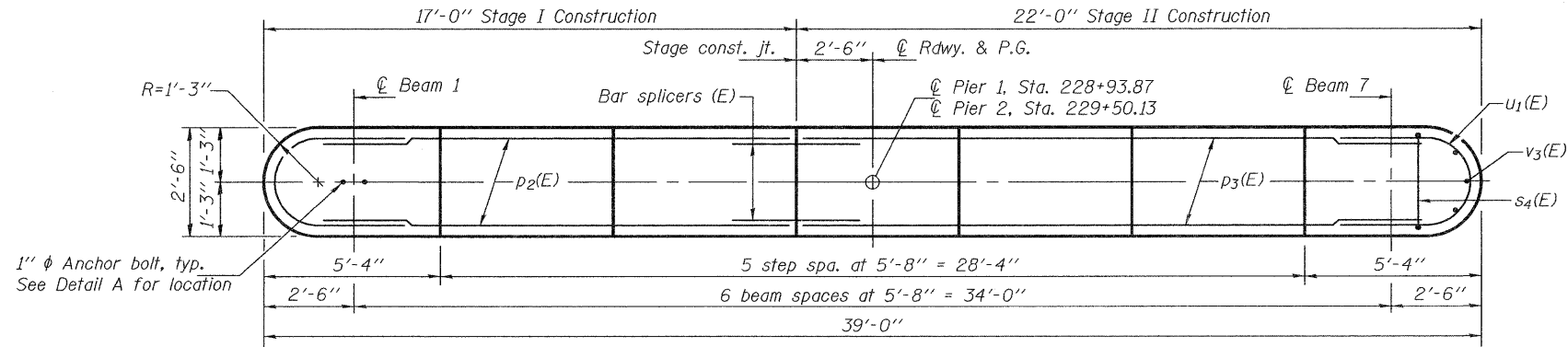
*PERRY/FRANKLIN

PILE DATA-PIER 1

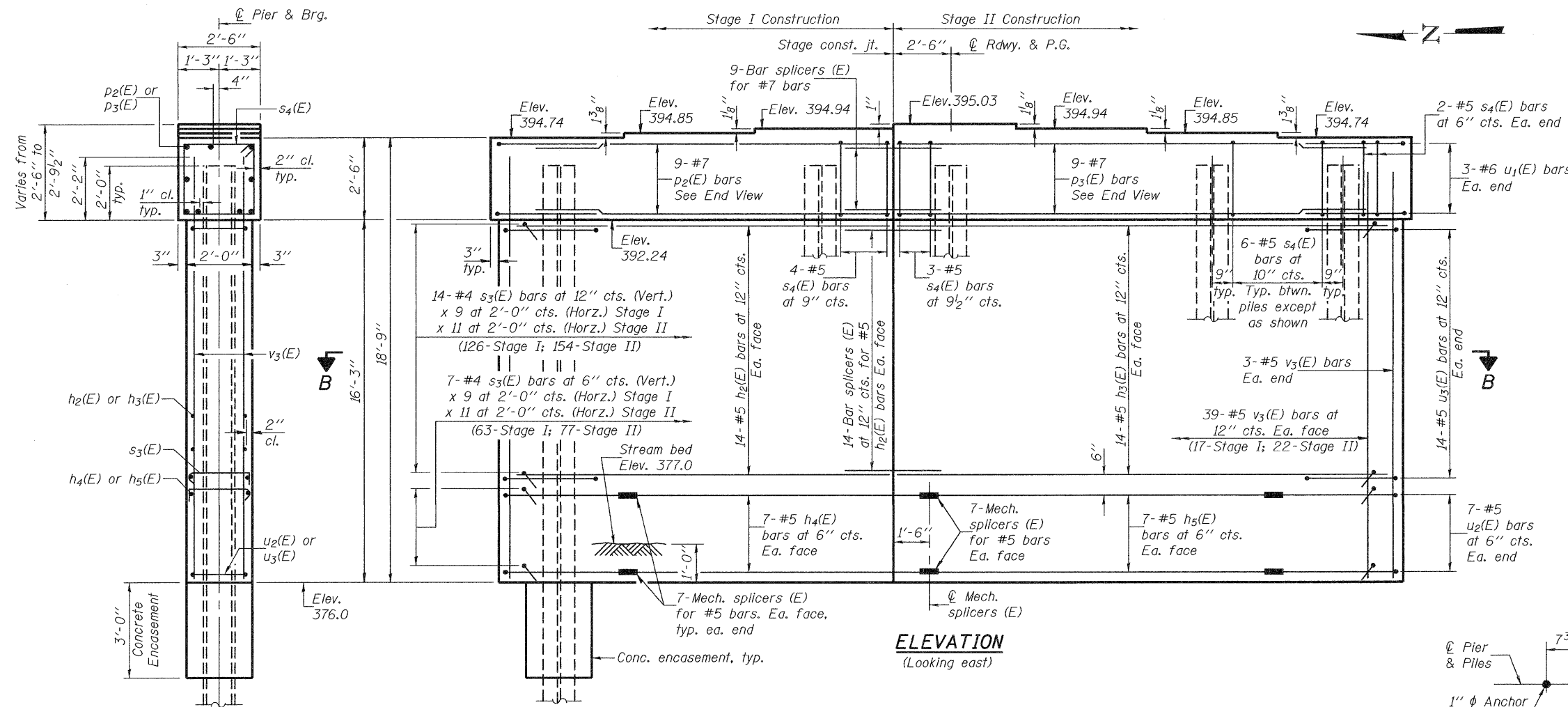
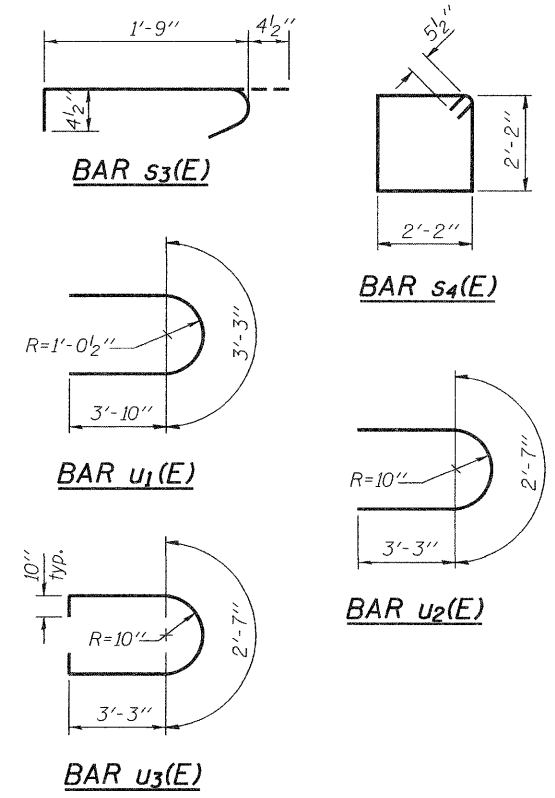
Type: Steel HP12x53
 Nominal Required Bearing: 391 Kips
 Factored Resistance Available: 192 Kips
 Est. Length: 71'
 No. Production Piles: 6
 No. Test Piles: 1

PILE DATA-PIER 2

Type: Steel HP12x53
 Nominal Required Bearing: 350 Kips
 Factored Resistance Available: 192 Kips
 Est. Length: 62'
 No. Production Piles: 6
 No. Test Piles: 1

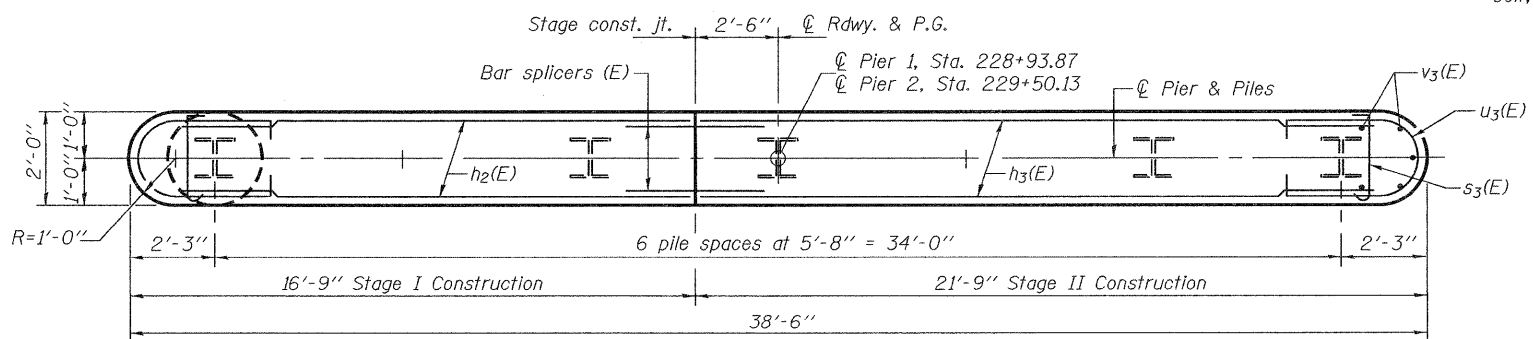


TOP PLAN



ELEVATION
(Looking east)

END VIEW

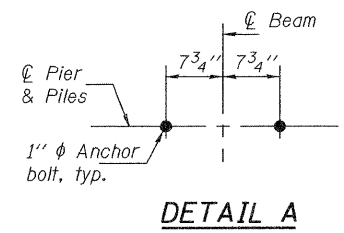


SECTION B-B

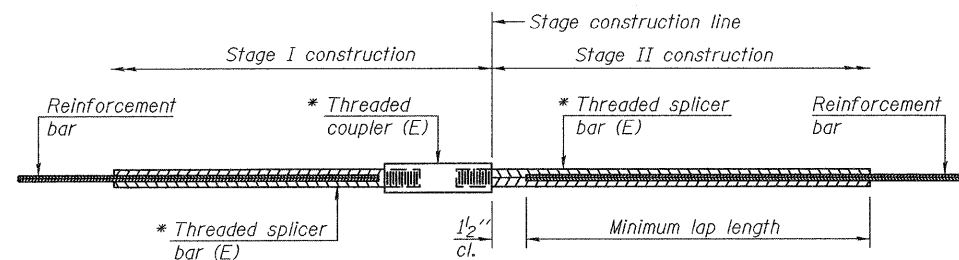
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 21 of 26.
 If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Art. 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.
 For bar splicer details, see sheet 20 of 26.

PIERS 1 & 2
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₂ (E)	56	#5	15'-7"	—
h ₃ (E)	56	#5	20'-7"	—
h ₄ (E)	28	#5	14'-0"	—
h ₅ (E)	28	#5	16'-0"	—
p ₂ (E)	18	#7	15'-7"	—
p ₃ (E)	18	#7	20'-7"	—
s ₃ (E)	840	#4	2'-6"	U
s ₄ (E)	82	#5	9'-7"	□
u ₁ (E)	12	#6	10'-11"	U
u ₂ (E)	28	#5	9'-1"	U
u ₃ (E)	56	#5	10'-9"	U
v ₃ (E)	168	#5	18'-3"	—
Structure Excavation		Cu. Yd.	92	
Concrete Structures		Cu. Yd.	110.4	
Reinforcement Bars, Epoxy Coated		Pound	10830	
Furnishing Steel Piles HP12x53		Foot	798	
Driving Piles		Foot	798	
Test Pile Steel HP12x53		Each	2	
Anchor Bolts, 1"		Each	28	
Concrete Encasement		Cu. Yd.	4.9	
Underwater Structure Excavation Protection, Location 1		Each	1	
Underwater Structure Excavation Protection, Location 2		Each	1	
Mechanical Splicers		Each	84	



DETAIL A



STANDARD BAR SPLICER ASSEMBLY

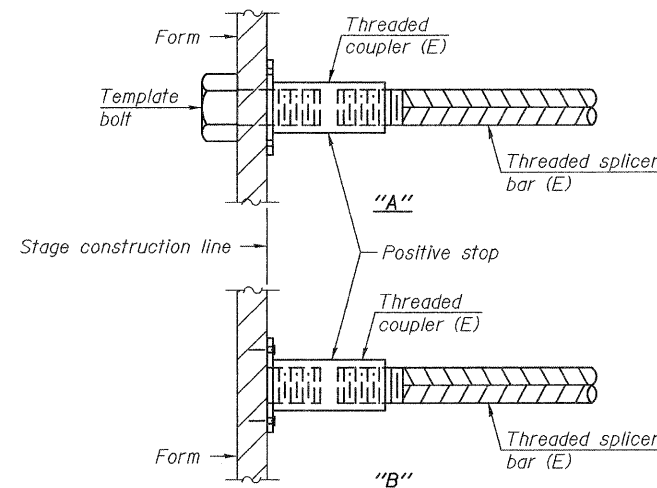
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

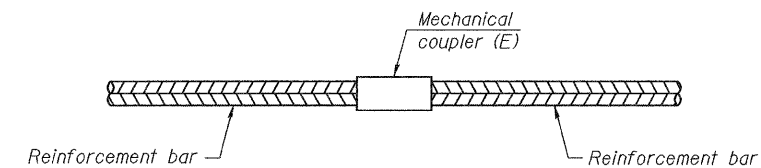
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Approach	#4	50	4
Deck	#5	383	3
Approach	#5	172	3
Pier Wall	#5	56	4
Abutment	#7	18	4
Diaphragm	#6	16	4
Pier Cap	#7	18	4



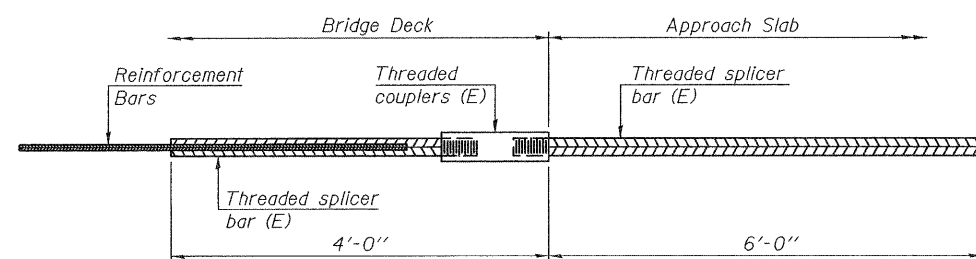
INSTALLATION AND SETTING METHODS

- "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.



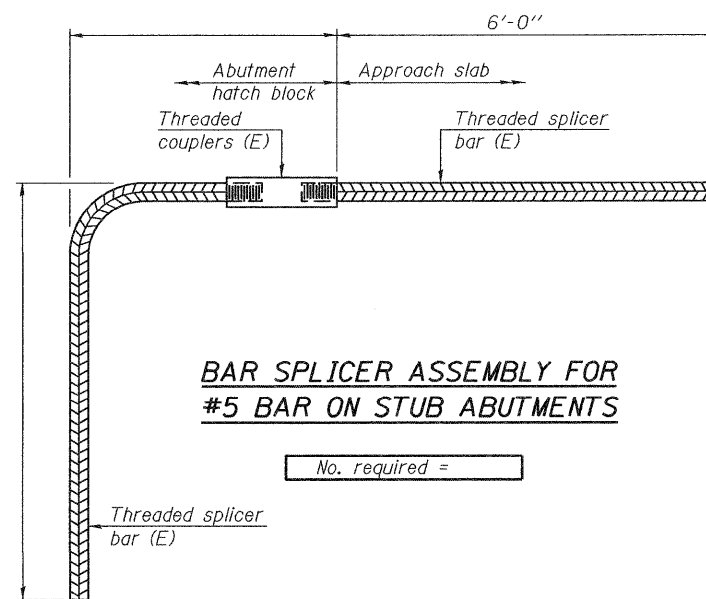
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Piers	#5	84



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 86



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

- Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
- All reinforcement shall be lapped and tied to the splicer bars.
- Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
- See special provision for Mechanical Splicers.
- See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

7-1-10

*PERRY/FRANKLIN

DESIGNED - Jessica C. Forrest
 CHECKED - Nicholas R. Barnett
 DRAWN - h.t. duong
 CHECKED - JCF/NRB

EXAMINED
 PASSED
 Thomas Damagala
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES

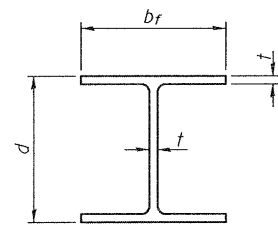
DATE - 5/10/2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 073-0038

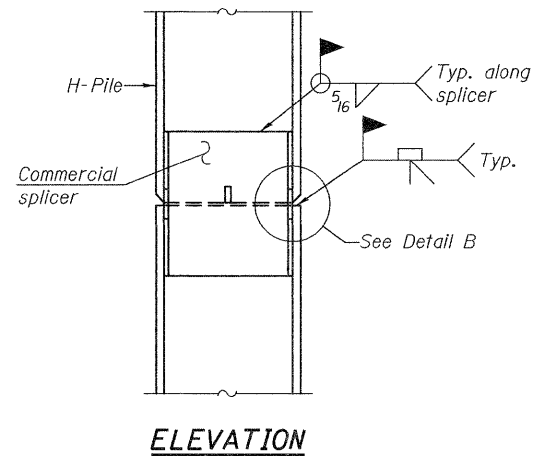
SHEET NO. 20 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	299	150
				CONTRACT NO. 98797
ILLINOIS FED. AID PROJECT				

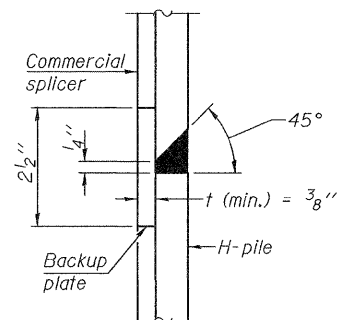


STEEL PILE TABLE

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

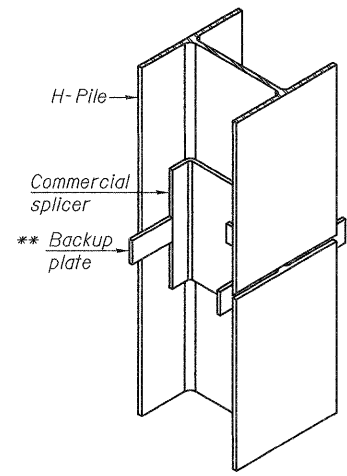


ELEVATION

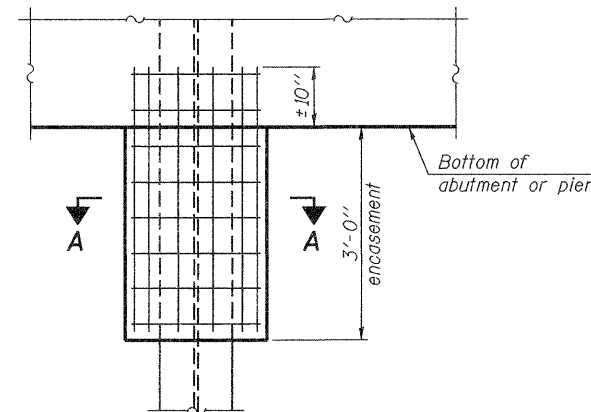


DETAIL "B"

WELDED COMMERCIAL SPLICE

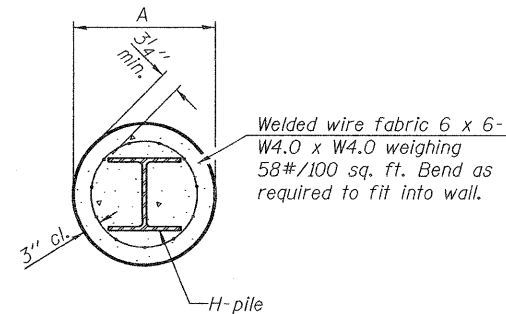


ISOMETRIC VIEW



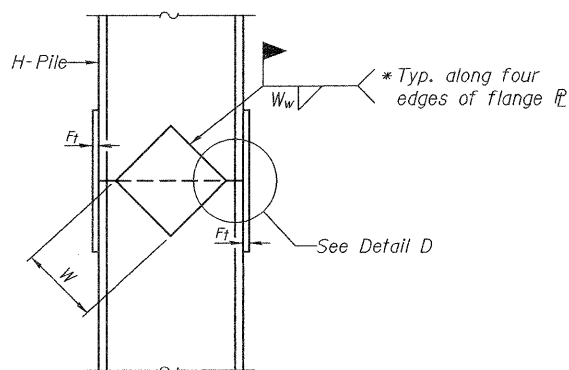
ELEVATION

PILE ENCASEMENT

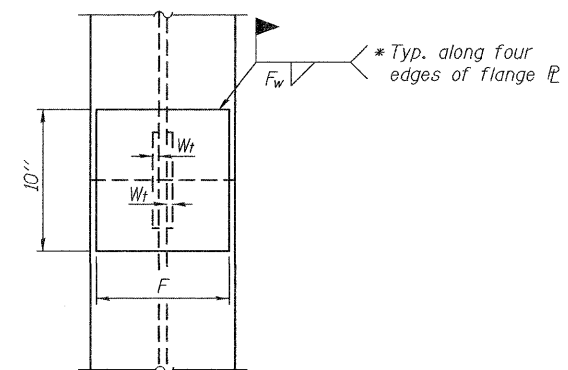


SECTION A-A

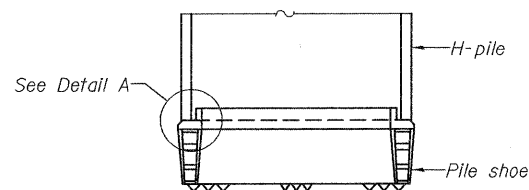
Note:
Forms for encasement may be omitted when soil conditions permit.



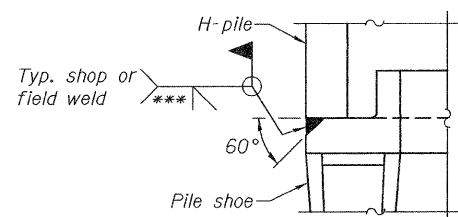
ELEVATION



END VIEW

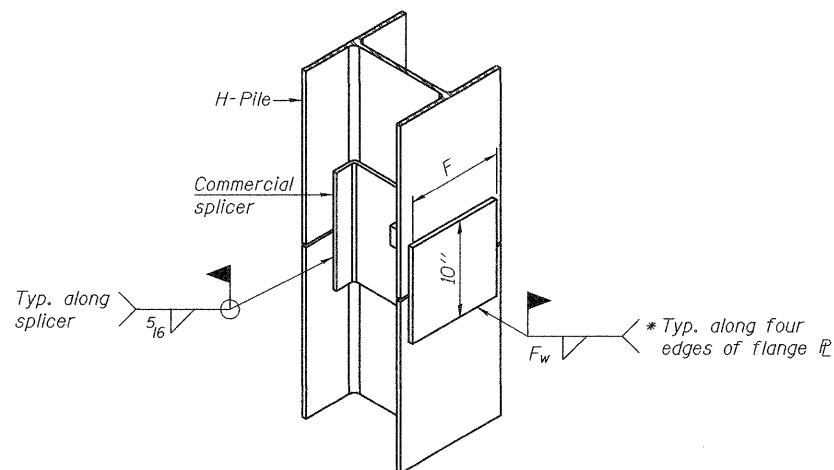


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT

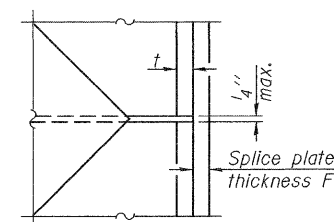


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

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



DETAIL D

WELDED PLATE FIELD SPLICE

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

F-HP 7-1-10

DESIGNED - Jessalca C. Forrest
 CHECKED - Nicholas R. Barnett
 DRAWN - h.t. duong
 CHECKED - JCF/NRB

EXAMINED
 PASSED
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - 5/10/2011

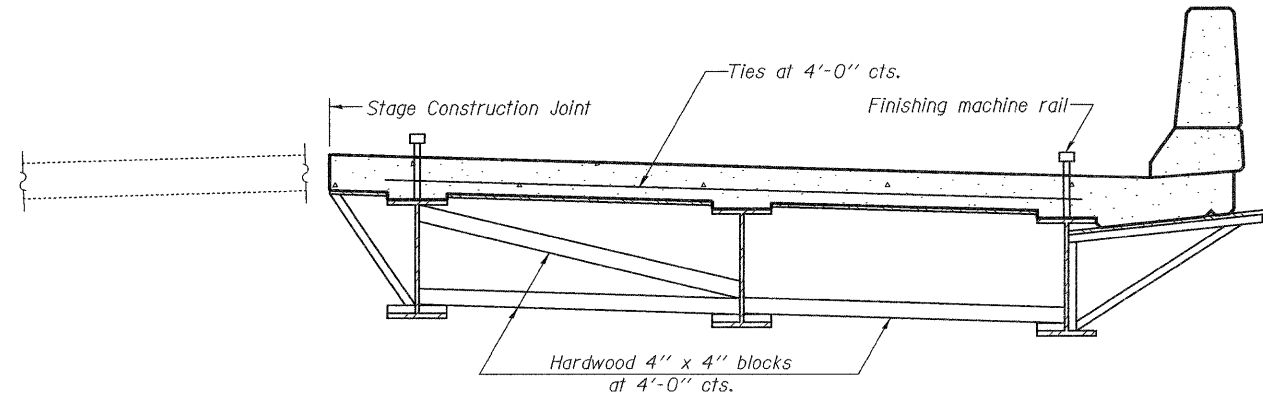
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
 STRUCTURE NO. 073-0038

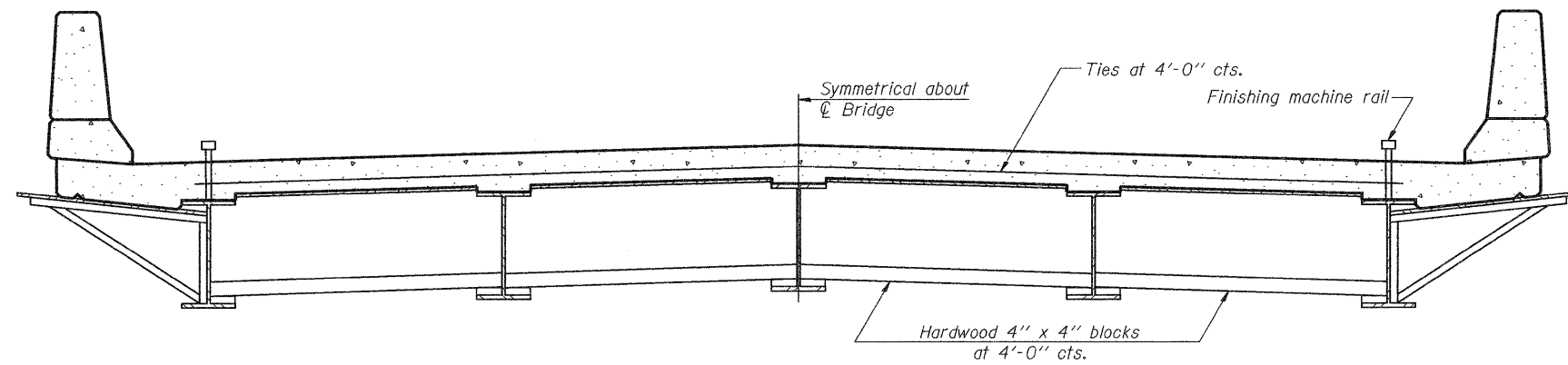
SHEET NO. 21 OF 26 SHEETS

*PERRY/FRANKLIN
 F.A.P. RTE. 869
 SECTION 6B-2
 COUNTY *
 TOTAL SHEETS 299
 SHEET NO. 151
 CONTRACT NO. 98797
 ILLINOIS FED. AID PROJECT

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.
 The finishing machine rails shall be placed on the top flange of the exterior beams.
 The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.
 For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



**FORM BRACES FOR
STAGE CONSTRUCTION**



**FORM BRACES FOR
STANDARD CONSTRUCTION**

SB-1

7-1-10

*PERRY/FRANKLIN

DESIGNED - Jessica C. Forrest	EXAMINED - <i>Thomas J. Domagalaki</i> ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CANTILEVER FORMING BRACKETS FOR SUPERSTRUCTURES WITH W27 BEAMS AND SMALLER STRUCTURE NO. 073-0038	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED - <i>Carl Perry</i> ENGINEER OF BRIDGES AND STRUCTURES				869	6B-2	*	297	152
DRAWN - h.t. duong			SHEET NO. 22 OF 26 SHEETS		CONTRACT NO. 98797 ILLINOIS FED. AID PROJECT				
CHECKED - JCF/NRB									

Illinois Department of Transportation
Division of Highways
District Five Materials

SOIL BORING LOG

Page 1 of 2
Date 9/04

ROUTE ILL 14 DESCRIPTION Route 14 over Little Muddy River LOGGED BY Bryan Keller
SECTION (1,3) RS-1; 2B-2 LOCATION Perry Co Line, SEC. 23, TWP. 6S, RNG. 1W, 3 PM
COUNTY Franklin DRILLING METHOD _____ HAMMER TYPE _____

STRUCT. NO. 028-0015
Station 229+22
BORING NO. 1-S
Station 229+56
Offset 35.00ft Rt
Ground Surface Elev. 387.4 ft (ft) (6") (blf) (%)

SOIL DESCRIPTION	DEPTH (ft)	BLOWS (6")	BLF	PERCENT	TEST TYPE	DEPTH (ft)	BLOWS (6")	BLF	PERCENT
Surface Water Elev. _____ ft						382.8			
Stream Bed Elev. _____ ft									
Groundwater Elev.: _____ ft									
First Encounter _____ ft						372.9			
Upon Completion _____ ft									
After _____ Hrs. _____ ft									
Medium, very moist, brown, Silty Clay A-6					WH	0.5	24		
Soft to medium, very moist, grey Clay to Silty Clay A7-6 (continued)					WH				
						365.4			
Medium, very moist, grey, Clay to Silty Clay A7-6					WH				
						2	0.9	25	
						2	B		
						362.9			
Medium, wet, grey, fine, Silty Sand with Silty Clay Layers and Gravel					WH	1	0.9	31	
71% Sand; 15% Silt; 5% Clay; 9% Gravel						1	B		
						360.4			
Soft, very moist to wet, grey, Silty Clay to Silty Clay Loam A-6					WH	0.3	38		
					WH	B			
						377.9			
Stiff, very moist, grey, Silty Clay Loam A-6 with Rotten Vegetation					WH	1.1	38		
					WH	B			
						375.4			
Very soft, very moist, grey, Silty Clay Loam A-6 with Coal, Sand and Rotten Wood Layers						1	0.2	40	
						2	B		
						372.9			
Stiff, very moist, grey, Clay A7-6					WH	2	1.6	26	
						3	B		
						370.4			
Soft, very moist, grey, Clay Silty Clay A7-6					WH	1	0.4	27	
						3	B		
						367.9			
					WH				
						-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Five Materials

SOIL BORING LOG

Page 2 of 2
Date 9/04

ROUTE ILL 14 DESCRIPTION Route 14 over Little Muddy River LOGGED BY Bryan Keller
SECTION (1,3) RS-1; 2B-2 LOCATION Perry Co Line, SEC. 23, TWP. 6S, RNG. 1W, 3 PM
COUNTY Franklin DRILLING METHOD _____ HAMMER TYPE _____

STRUCT. NO. 028-0015
Station 229+22
BORING NO. 1-S
Station 229+56
Offset 35.00ft Rt
Ground Surface Elev. 387.4 ft (ft) (6") (blf) (%)

SOIL DESCRIPTION	DEPTH (ft)	BLOWS (6")	BLF	PERCENT	TEST TYPE	DEPTH (ft)	BLOWS (6")	BLF	PERCENT
Surface Water Elev. _____ ft						382.8			
Stream Bed Elev. _____ ft									
Groundwater Elev.: _____ ft									
First Encounter _____ ft						372.9			
Upon Completion _____ ft									
After _____ Hrs. _____ ft									
Hard, moist, brown, Silty Clay A7-6 (continued)						9	4.5	19	
						14	S		
						324.9			
Cored from 57.5 ft to 62.5 ft Hard, dry, grey, Clay shale 97% Recovery 75% ROD (continued)									
						342.9			
Cored from 62.5 ft to 67.5 ft. Hard, dry, Clay Shale 97% Recovery 59% ROD									
						342.9			
Stiff, moist, grey, Silt loam A-4 with Sand Lenses						10	1.9	12	
						30	S		
						32	S		
						319.9			
Bottom of hole = 67.5 ft. Free water observed at 14.5 ft.									
						337.9			
Very stiff, moist, grey, Silt Loam A-4						6	2.7	16	
						12	S		
						15	S		
						332.9			
Medium to stiff, very moist, grey, Clay loam A-4 with Sand layers						6	1.0	26	
						17	S		
						31	S		
						330.4			
Hard, dry, grey, Clay Shale						1002"			
Cored from 57.5 ft to 62.5 ft Hard, dry, grey, Clay shale 97% Recovery 75% ROD									
						329.9			
						-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Nine Eastmoline

SOIL BORING LOG

Page 1 of 3
Date 9/14/04

ROUTE ILL 14 DESCRIPTION Route 14 over Little Muddy River LOGGED BY Bryan Keller

SECTION (1.3) RS-1; 2B-2 LOCATION Perry Co. Line, SEC. 23, TWP. 6S, RNG. 1W, 3 PM

COUNTY Franklin DRILLING METHOD HAMMER TYPE

STRUCT. NO. 028-0015
Station 229+22

BORING NO. 2-S
Station 228+50
Offset 38.00ft Rt
Ground Surface Elev. 391.8 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE
0	Surface Water Elev. 379.8 ft				0	Surface Water Elev. 379.8 ft			
0	Stream Bed Elev. _____ ft				0	Stream Bed Elev. _____ ft			
0	Groundwater Elev.: _____ ft				0	Groundwater Elev.: _____ ft			
0	First Encounter _____ ft				0	First Encounter _____ ft			
0	Upon Completion _____ ft				0	Upon Completion _____ ft			
0	After 24 Hrs. 379.5 ft				0	After 24 Hrs. 379.5 ft			
0	Stiff, moist, brown, Silty Clay A-6				0	Stiff, very moist, brown mottled grey, Clay to Silty Clay A7-6 (continued)			
2					2				
5					5				
8					8				
11					11				
14					14				
17					17				
20					20				
23					23				
26					26				
29					29				
32					32				
35					35				
38					38				
41					41				
44					44				
47					47				
50					50				
53					53				
56					56				
59					59				
62					62				
65					65				
68					68				
71					71				
74					74				
77					77				
80					80				
83					83				
86					86				
89					89				
92					92				
95					95				
98					98				
101					101				
104					104				
107					107				
110					110				
113					113				
116					116				
119					119				
122					122				
125					125				
128					128				
131					131				
134					134				
137					137				
140					140				
143					143				
146					146				
149					149				
152					152				
155					155				
158					158				
161					161				
164					164				
167					167				
170					170				
173					173				
176					176				
179					179				
182					182				
185					185				
188					188				
191					191				
194					194				
197					197				
200					200				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Nine Eastmoline

SOIL BORING LOG

Page 2 of 3
Date 9/14/04

ROUTE ILL 14 DESCRIPTION Route 14 over Little Muddy River LOGGED BY Bryan Keller

SECTION (1.3) RS-1; 2B-2 LOCATION Perry Co. Line, SEC. 23, TWP. 6S, RNG. 1W, 3 PM

COUNTY Franklin DRILLING METHOD HAMMER TYPE

STRUCT. NO. 028-0015
Station 229+22

BORING NO. 2-S
Station 228+50
Offset 38.00ft Rt
Ground Surface Elev. 391.8 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE
0	Surface Water Elev. 379.8 ft				0	Surface Water Elev. 379.8 ft			
0	Stream Bed Elev. _____ ft				0	Stream Bed Elev. _____ ft			
0	Groundwater Elev.: _____ ft				0	Groundwater Elev.: _____ ft			
0	First Encounter _____ ft				0	First Encounter _____ ft			
0	Upon Completion _____ ft				0	Upon Completion _____ ft			
0	After 24 Hrs. 379.5 ft				0	After 24 Hrs. 379.5 ft			
0	Hard, damp, grey, Clay Loam A-6 (continued)				0	Medium, wet, grey, Silty Clay Loam A-6 with sand Seams (continued)			
13					13				
17					17				
21					21				
25					25				
29					29				
33					33				
37					37				
41					41				
45					45				
49					49				
53					53				
57					57				
61					61				
65					65				
69					69				
73					73				
77					77				
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125					125				
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141					141				
145					145				
149					149				
153					153				
157					157				
161					161				
165					165				
169					169				
173					173				
177					177				
181					181				
185					185				
189					189				
193					193				
197					197				
201					201				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District Nine Eastmoline

SOIL BORING LOG

Page 3 of 3
Date 9/14/04

ROUTE ILL 14 DESCRIPTION Route 14 over Little Muddy River LOGGED BY Bryan Keller

SECTION (1.3) RS-1; 2B-2 LOCATION Perry Co. Line, SEC. 23, TWP. 6S, RNG. 1W, 3 PM


COUNTY Franklin DRILLING METHOD HAMMER TYPE

STRUCT. NO. 028-0015
Station 229+22

BORING NO. 2-S
Station 228+50
Offset 38.00ft Rt
Ground Surface Elev. 391.8 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	BLOWS (6")	SOIL TYPE
0	Surface Water Elev. 379.8 ft				0	Surface Water Elev. 379.8 ft			
0	Stream Bed Elev. _____ ft				0	Stream Bed Elev. _____ ft			
0	Groundwater Elev.: _____ ft				0	Groundwater Elev.: _____ ft			
0	First Encounter _____ ft				0	First Encounter _____ ft			
0	Upon Completion _____ ft				0	Upon Completion _____ ft			
0	After 24 Hrs. 379.5 ft				0	After 24 Hrs. 379.5 ft			
0	Hard, damp, grey, Clay Loam A-6 (continued)				0	Medium, wet, grey, Silty Clay Loam A-6 with sand Seams (continued)			
13					13				
17					17				
21					21				
25					25				
29					29				
33					33				
37					37				
41					41				
45					45				
49					49				
53					53				
57					57				
61					61				
65					65				
69					69				
73					73				
77					77				
81					81				
85					85				
89					89				
93					93				
97					97				
101					101				
105					105				
109					109				
113					113				
117					117				
121					121				
125					125				
129					129				
133									

Page 1 of 2



Illinois Department of Transportation
 Division of Highways
 District Nine Materials

SOIL BORING LOG
 Date 9/14/04

ROUTE ILL 14 DESCRIPTION Route 14 over Little Muddy River LOGGED BY Bryan Keller


SECTION (1,3) RS-1; 2B-2 LOCATION Perry Co Line, SEC. 23, TWP. 6S, RNG. 1W, 3 PM

COUNTY Franklin DRILLING METHOD _____ HAMMER TYPE _____

STRUCT. NO.	Station	DEPTH (ft)	SOIL TYPE	U (blows)	B (blows)	C (blows)	M (blows)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter (ft)	Upon Completion (ft)	After 24 Hrs. (ft)
028-0015	229+22		Stiff, moist to very moist, brown, Silty Clay A-6					379.8					
		1											
		2											
		2											
		362.2											
		1											
		2											
		2											
		362.2											
		1											
		2											
		1											
		379.7											
		1											
		1											
		10											
		WH											
		WH											
		WH											
		374.7											
		2											
		1											
		372.2											
		1											
		2											
		1											
		369.7											
		1											
		2											
		2											
		367.2											
		1											

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)

Page 2 of 2



Illinois Department of Transportation
 Division of Highways
 District Nine Materials

SOIL BORING LOG
 Date 9/14/04

ROUTE ILL 14 DESCRIPTION Route 14 over Little Muddy River LOGGED BY Bryan Keller

SECTION (1,3) RS-1; 2B-2 LOCATION Perry Co Line, SEC. 23, TWP. 6S, RNG. 1W, 3 PM

COUNTY Franklin DRILLING METHOD _____ HAMMER TYPE _____

STRUCT. NO.	Station	DEPTH (ft)	SOIL TYPE	U (blows)	B (blows)	C (blows)	M (blows)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter (ft)	Upon Completion (ft)	After 24 Hrs. (ft)
028-0015	229+22		Hard, moist, brown, Clay A7-6 (continued)					379.8					
		11											
		19											
		324.2											
		342.2											
		45											
		19											
		32											
		342.2											
		11											
		19											
		321.7											
		65											
		100.2											
		337.2											
		6											
		6											
		332.2											
		1											
		4											
		4											
		327.2											
		60											

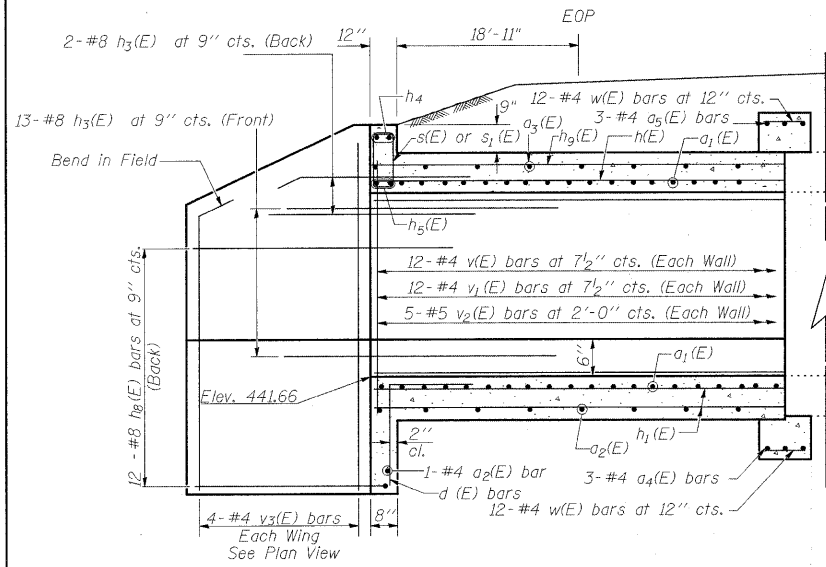
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)

DESIGNED -	EXAMINED _____ DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOIL BORING LOGS STRUCTURE NO. 073-0038	F.A.P. RTE. 869	SECTION 6B-2	COUNTY *	TOTAL SHEETS 299	SHEET NO. 155
CHECKED -	ENGINEER OF BRIDGE DESIGN _____			CONTRACT NO. 98797		ILLINOIS FED. AID PROJECT		
DRAWN -	PASSED _____		SHEET NO. 25 OF 26 SHEETS					
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES _____							

*PERRY/FRANKLIN

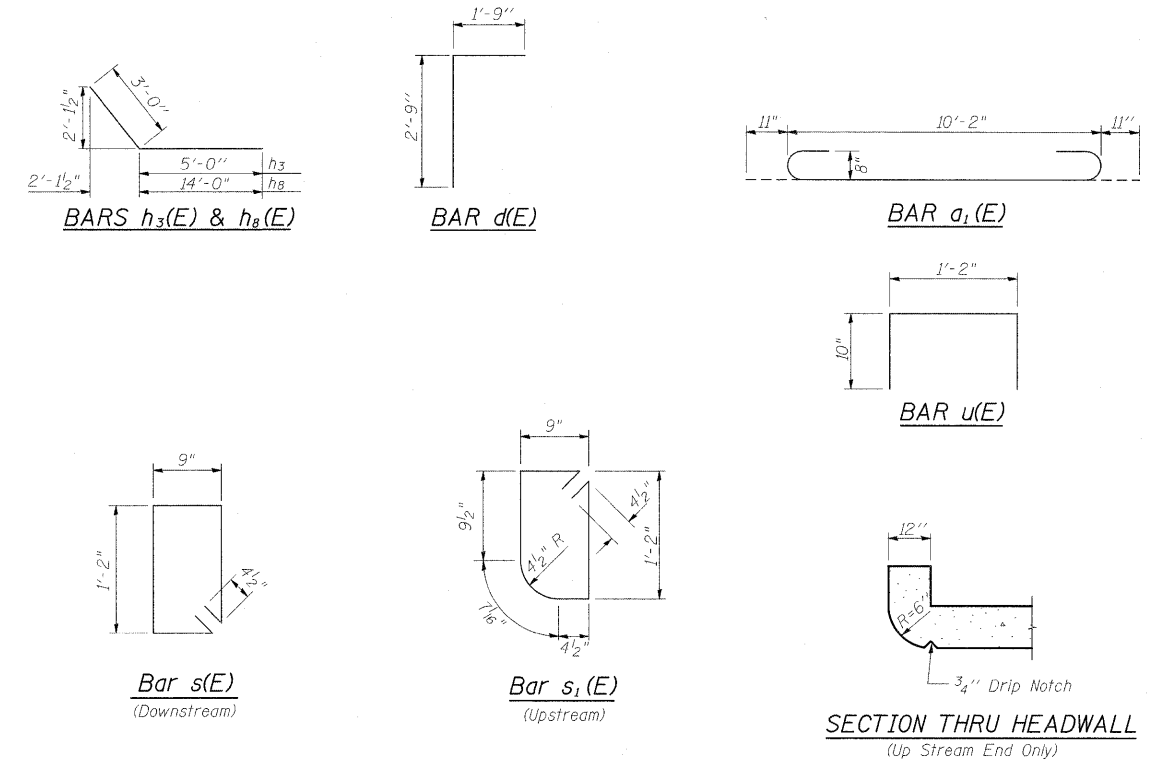
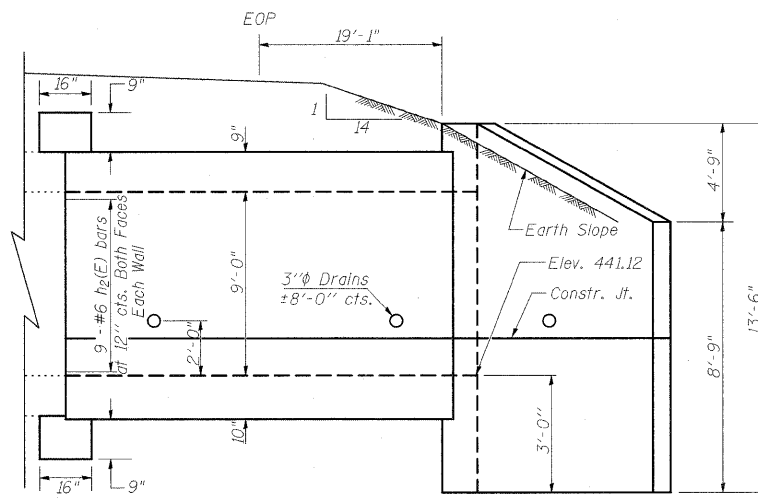
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Max. Fill at \perp Roadway = $\pm 2'-0"$



ELEVATION

Dimensions at Rt. L's to \perp Roadway

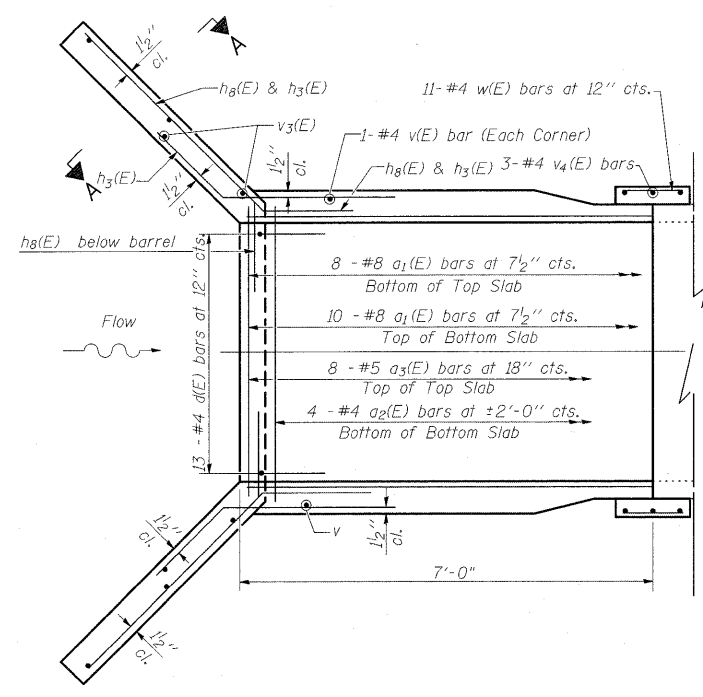


BILL OF MATERIAL

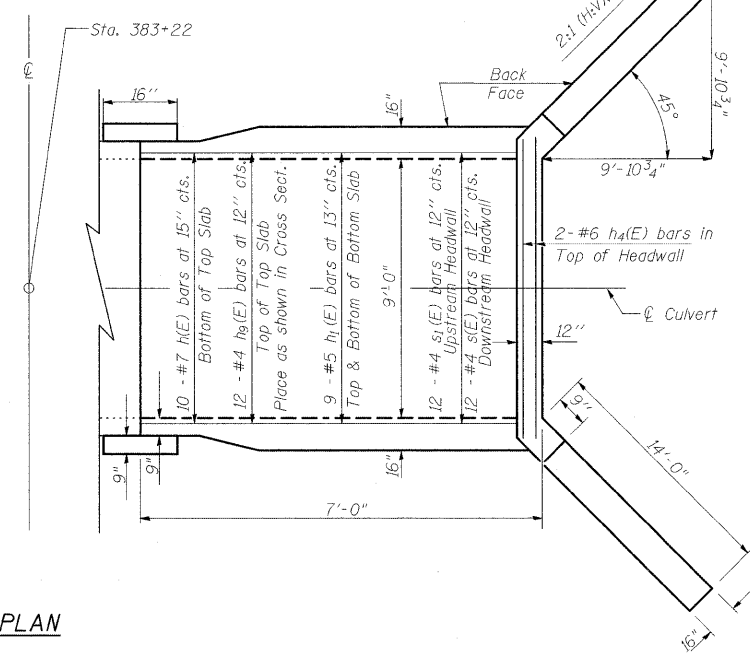
(For Both Extensions)

Bar No.	Size	Length	Shape
a ₁ (E)	36 #8	12'-0"	U
a ₂ (E)	10 #4	9'-3"	U
a ₃ (E)	16 #5	10'-2"	U
a ₄ (E)	4 #4	11'-4"	U
a ₅ (E)	12 #4	14'-10"	U
d(E)	26 #4	4'-6"	U
h(E)	20 #7	6'-8"	U
h ₁ (E)	36 #5	6'-8"	U
h ₂ (E)	72 #6	6'-8"	U
h ₃ (E)	60 #8	8'-0"	U
h ₄ (E)	4 #6	10'-8"	U
h ₅ (E)	4 #8	10'-8"	U
h ₈ (E)	48 #8	17'-0"	U
h ₉ (E)	24 #4	6'-8"	U
s(E)	12 #4	4'-7"	U
s ₁ (E)	12 #4	4'-5"	U
u(E)	24 #4	2'-10"	U
v(E)	52 #4	9'-1"	U
v ₁ (E)	48 #4	2'-4"	U
v ₂ (E)	20 #5	10'-2"	U
v ₃ (E)	16 #4	13'-3"	U
v ₄ (E)	12 #4	10'-3"	U
w(E)	92 #4	1'-0"	U
Concrete Box Culverts	Cu. Yd.	57.8	
Reinforcement Bars, Epoxy Coated	Pound	7520	

BOX CULVERT EXTENSION
F.A.P. 869 (IL 14)
FRANKLIN COUNTY
STA. 383+22
SN 028-7119



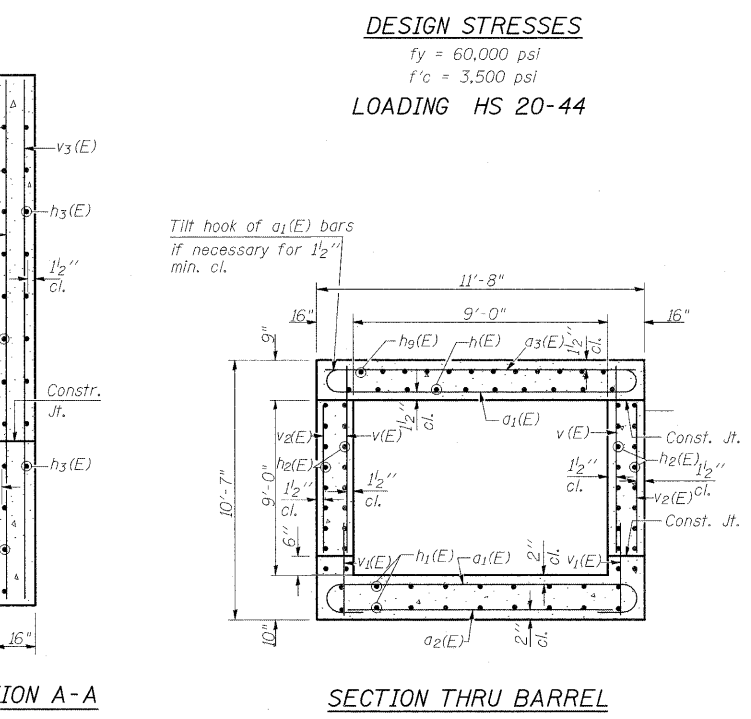
PLAN



NOTES

Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.
A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

All construction joints shall be bonded.
Reinforcement bars designated (E) shall be epoxy coated.



DESIGN STRESSES

$f_y = 60,000$ psi
 $f'_c = 3,500$ psi
LOADING HS 20-44

Tilt hook of a₁(E) bars if necessary for 1 1/2" min. cl.

REVISIONS

DRAWN	2-04
REVISED	5-09 SHT CELL
REVISED	
REVISED	

BASED ON: SSB-H-0 6-1-2000

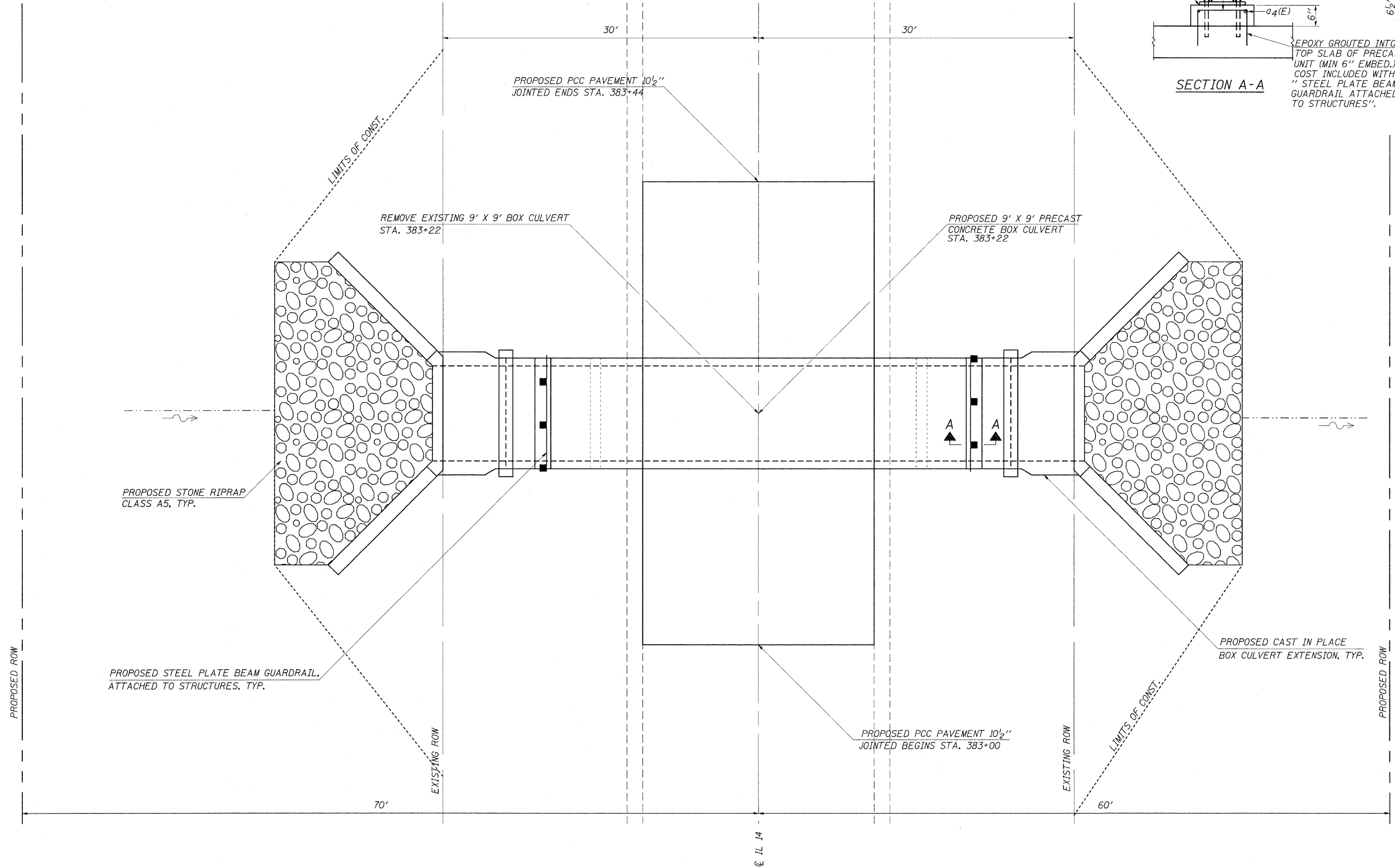
FILE NAME =	USER NAME = colemm	DESIGNED -	REVISED -
c:\pwwork\pwsdot\colemm\dms43654\billb\culvert.dgn		DRAWN -	REVISED -
PLOT SCALE = 4.0000 "/td> <td></td> <td>CHECKED -</td> <td>REVISED -</td>		CHECKED -	REVISED -
PLOT DATE = 3/24/2011		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

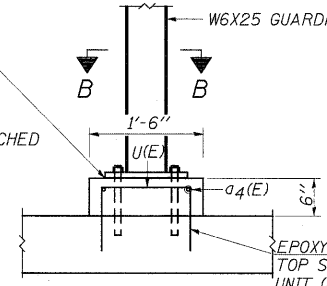
GENERAL PLAN AND ELEVATION
SN 028-7119

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

F.A. RTE. 869	SECTION *	COUNTY FRANKLIN	TOTAL SHEETS 299	SHEET NO. 157
* (1-1,1,3,6)R-1,RS-3,(1,3,6)B-2			CONTRACT NO. 98797	
ILLINOIS FED. AID PROJECT				

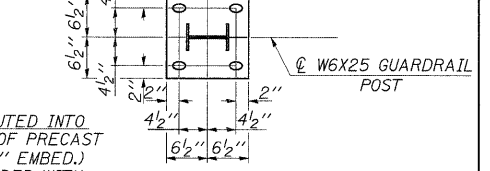


1/8" ELASTOMERIC NEOPRENE LEVELING PAD ACCORDING TO ARTICLE 1052.02 OF THE STANDARD SPECIFICATIONS. COST INCLUDED WITH "STEEL PLATE BEAM GUARDRAIL ATTACHED TO STRUCTURES".



SECTION A-A

P 13" X 1" X 1'-1" W/
4 - 1 1/4" X 2" SLOTTED HOLES & 4 - 1" EPOXY GROUTED ANCHOR BOLTS (9" MIN. EMBED.) COST INCLUDED WITH "STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURES".



SECTION B-B

EPOXY GROUTED INTO TOP SLAB OF PRECAST UNIT (MIN 6" EMBED.) COST INCLUDED WITH "STEEL PLATE BEAM GUARDRAIL ATTACHED TO STRUCTURES".

FILE NAME =	USER NAME = colemm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN SN 028-7119		F.A. RTE. 869	SECTION *	COUNTY FRANKLIN	TOTAL SHEETS 299	SHEET NO. 159
cr\pw_work\pwsdot\colemm\dms43654\bill-culvert.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	* (1-1,1,3,6)R-1,RS-3(1,3,6)B-2		CONTRACT NO. 98797	
		CHECKED -	REVISED -					ILLINOIS FED. AID PROJECT			
		DATE -	REVISED -								

DETAIL OF PRECAST CONCRETE BOX CULVERT SECTION

(WITH COVER 2 FEET OR GREATER -
AASHTO DESIGNATION M259)
DESIGN LOADING: HS-20-44

GENERAL NOTES

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 504.04 OF THE STANDARD SPECIFICATIONS.

MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED WITH MASTIC IN ACCORDANCE WITH ARTICLE 1055.01 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

LIFTING HOLES SHALL BE FILLED WITH CONCRETE PLUGS AND MASTIC AFTER THE BOX SECTIONS ARE IN PLACE.

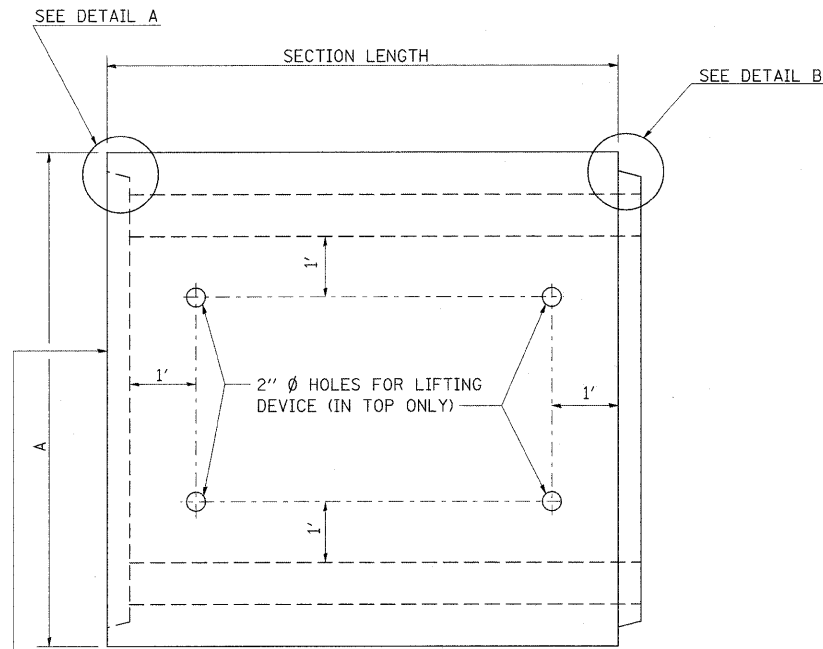
THE TERMS AS1, AS2, & AS3 DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN AASHTO M259. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO M55-81.

DRAINAGE OPENINGS SHALL BE PROVIDED IN ACCORDANCE WITH ARTICLE 503.11 OF THE STANDARD SPECIFICATIONS. LOCATION AND SPACING OF THE OPENINGS SHALL BE SHOWN ON THE SHOP DRAWINGS.

DIMENSIONS

SPAN X RISE	T (INCHES)	A (FT.-IN.)	B (FT.-IN.)	C (INCHES)
2' X 2'	4	2-8	2-8	4
3' X 2'	4	3-8	2-8	4
3' X 3'	4	3-8	3-8	4
4' X 2'	5	4-10	2-10	5
4' X 3'	5	4-10	3-10	5
4' X 4'	5	4-10	4-10	5
5' X 2'	6	6-0	3-0	6
5' X 3'	6	6-0	4-0	6
5' X 4'	6	6-0	5-0	6
5' X 5'	6	6-0	6-0	6
6' X 2'	7	7-2	3-2	7
6' X 3'	7	7-2	4-2	7
6' X 4'	7	7-2	5-2	7
6' X 5'	7	7-2	6-2	7
6' X 6'	7	7-2	7-2	7
7' X 4'	8	8-4	5-4	8
7' X 5'	8	8-4	6-4	8
7' X 6'	8	8-4	7-4	8
7' X 7'	8	8-4	8-4	8
8' X 4'	8	9-4	5-4	8
8' X 5'	8	9-4	6-4	8
8' X 6'	8	9-4	7-4	8
8' X 7'	8	9-4	8-4	8
8' X 8'	8	9-4	9-4	8

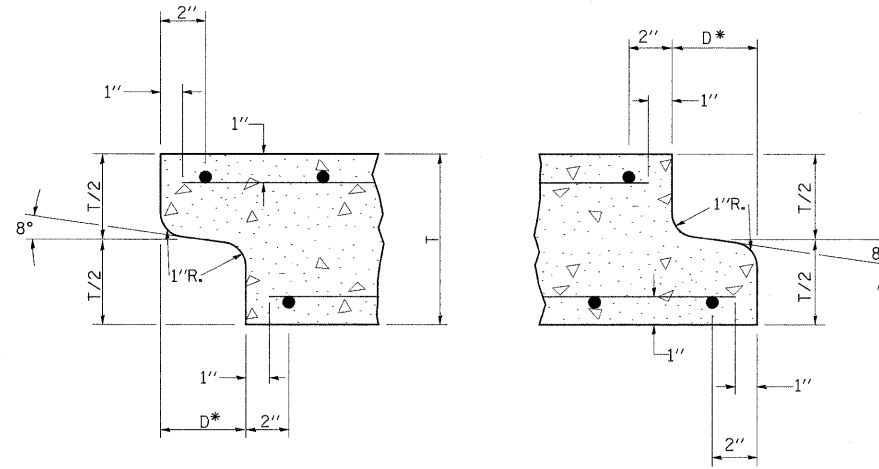
SPAN X RISE	T (INCHES)	A (FT.-IN.)	B (FT.-IN.)	C (INCHES)
9' X 5'	9	10-6	6-6	9
9' X 6'	9	10-6	7-6	9
9' X 7'	9	10-6	8-6	9
9' X 8'	9	10-6	9-6	9
9' X 9'	9	10-6	10-6	9
10' X 5'	10	11-8	6-8	10
10' X 6'	10	11-8	7-8	10
10' X 7'	10	11-8	8-8	10
10' X 8'	10	11-8	9-8	10
10' X 9'	10	11-8	10-8	10
10' X 10'	10	11-8	11-8	10
11' X 4'	11	12-10	5-10	11
11' X 6'	11	12-10	7-10	11
11' X 8'	11	12-10	9-10	11
11' X 10'	11	12-10	11-10	11
11' X 11'	11	12-10	12-10	11
12' X 4'	12	14-0	6-0	12
12' X 6'	12	14-0	8-0	12
12' X 8'	12	14-0	10-0	12
12' X 10'	12	14-0	12-0	12
12' X 12'	12	14-0	14-0	12



WHEN EXTENDING AN EXISTING BOX, PLACE THIS END AGAINST THE EXISTING HEADWALL

PLAN

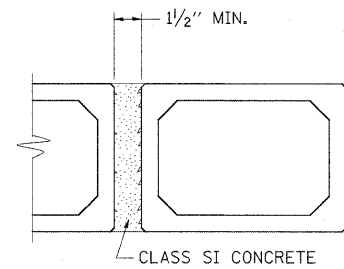
LOCATION OF LIFTING HOLES MAY BE VARIED AS NEEDED TO CLEAR REINFORCEMENT.



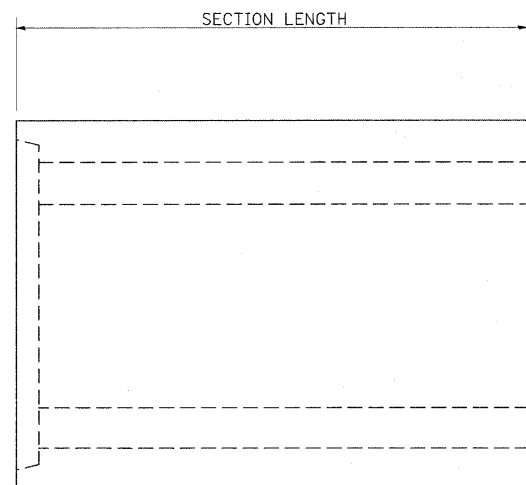
DETAIL A
(TYP. INLET END)

DETAIL B
(TYP. OUTLET END)

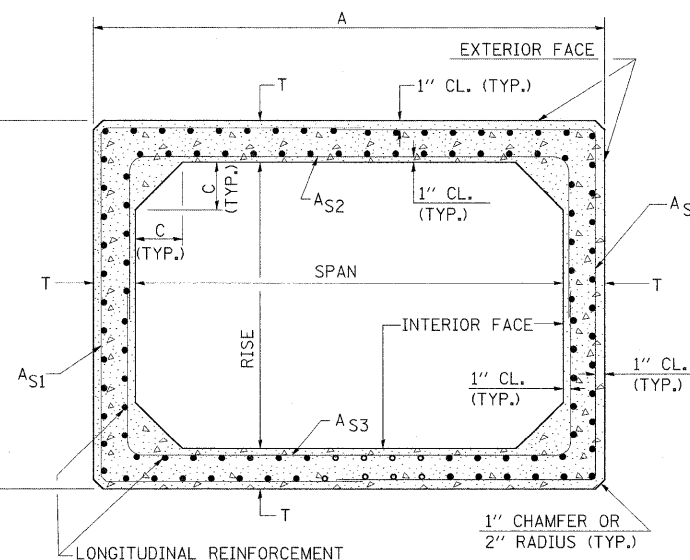
NOTE: INLET AND OUTLET ENDS SHALL BE COMPATIBLE.
*THE D DIMENSION SHALL CONFORM TO THE MANUFACTURER'S STANDARDS.



MULTIPLE UNIT PLACEMENT



ELEVATION



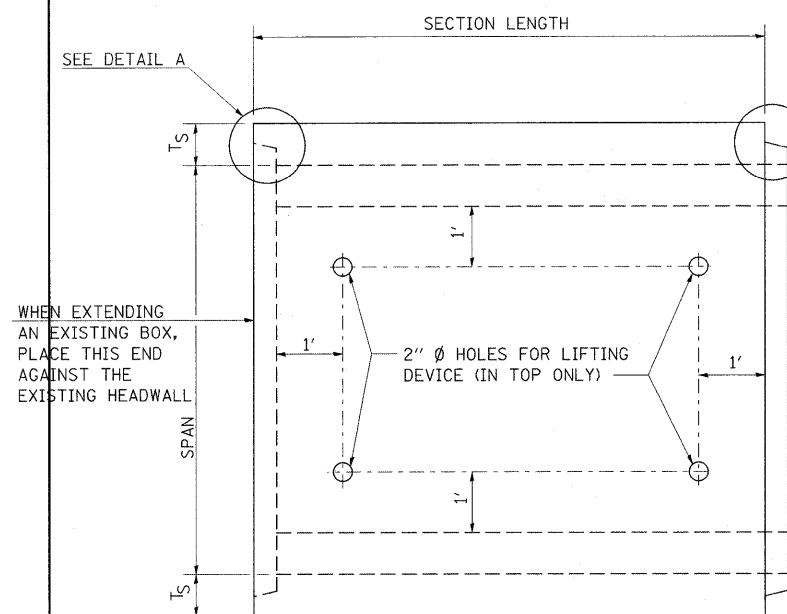
CROSS SECTION

REVISIONS	
DRAWN	9-7-89
REVISED	3-27-90
REVISED	8-16-94
REVISED	01-10-07
RESIZED	5-6-08

STD. 9-48

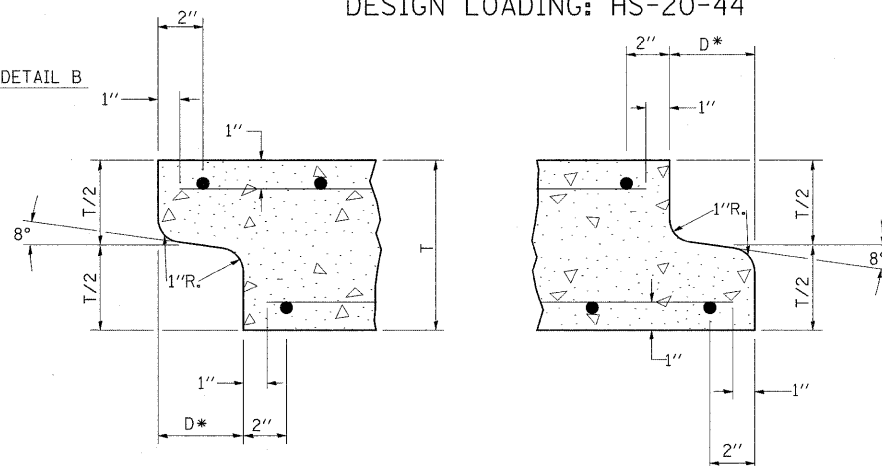
DETAIL OF PRECAST CONCRETE BOX CULVERT SECTION

(WITH LESS THAN 2 FEET OF COVER
AASHTO DESIGNATION M273)
DESIGN LOADING: HS-20-44



PLAN

LOCATION OF LIFTING HOLES MAY BE VARIED
AS NEEDED TO CLEAR REINFORCEMENT.



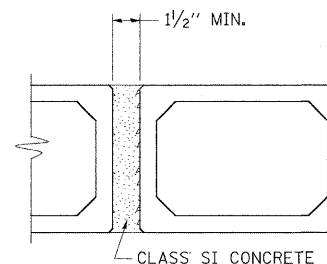
DETAIL A

(TYP. INLET END)

DETAIL B

(TYP. OUTLET END)

NOTE: INLET AND OUTLET ENDS SHALL BE COMPATIBLE.
* THE D DIMENSION SHALL CONFORM TO THE
MANUFACTURER'S STANDARDS.



MULTIPLE UNIT PLACEMENT

GENERAL NOTES

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 504.04 OF THE STANDARD SPECIFICATIONS.

MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED WITH MASTIC IN ACCORDANCE WITH ARTICLE 1055.01 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

LIFTING HOLES SHALL BE FILLED WITH CONCRETE PLUGS AND MASTIC AFTER THE BOX SECTIONS ARE IN PLACE.

THE TERMS AS1, AS2, ETC. DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN AASHTO M273.

REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO ASTM SPECIFICATIONS A 185 OR A 497. LONGITUDINAL DISTRIBUTION REINFORCEMENT MAY CONSIST OF WELDED WIRE FABRIC OR DEFORMED BILLET-STEEL BARS CONFORMING TO AASHTO M-31, M-42, GRADE 60.

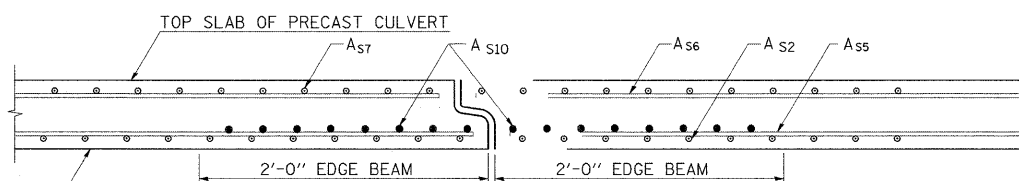
DRAINAGE OPENINGS SHALL BE PROVIDED IN ACCORDANCE WITH ARTICLE 503.11 OF THE STANDARD SPECIFICATIONS. LOCATION AND SPACING OF THE OPENINGS SHALL BE SHOWN ON THE SHOP DRAWINGS.

DIMENSIONS & EDGE BEAM REINFORCEMENT

SPAN X RISE	DIMENSIONS (INCHES)			EDGE BEAM REINF. AREA (IN. ² /FT.) A _{S10}
	T _T	T _B	T _S	
3' X 2'	7	6	4	0.42
3' X 3'	7	6	4	0.42
4' X 2'	7 1/2	6	5	0.59
4' X 3'	7 1/2	6	5	0.59
4' X 4'	7 1/2	6	5	0.59
5' X 3'	8	7	6	0.59
5' X 4'	8	7	6	0.59
5' X 5'	8	7	6	0.59
6' X 3'	8	7	7	0.73
6' X 4'	8	7	7	0.73
6' X 5'	8	7	7	0.73
6' X 6'	8	7	7	0.73
7' X 4'	8	8	8	0.85
7' X 5'	8	8	8	0.85
7' X 6'	8	8	8	0.85
7' X 7'	8	8	8	0.85
8' X 4'	8	8	8	1.00
8' X 5'	8	8	8	1.00
8' X 6'	8	8	8	1.00
8' X 7'	8	8	8	1.00
8' X 8'	8	8	8	1.00

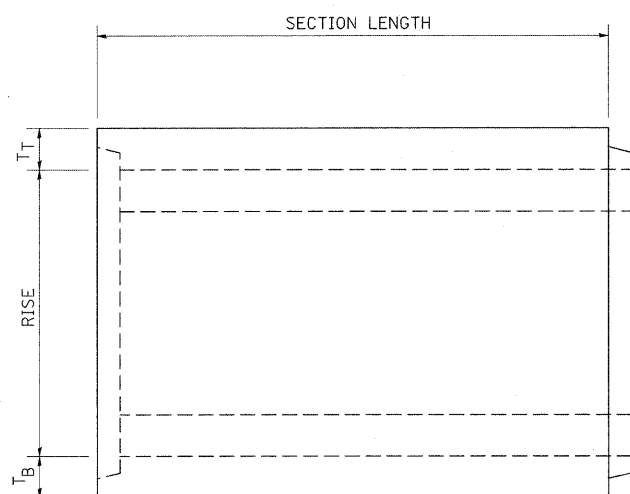
SPAN X RISE	DIMENSIONS (INCHES)			EDGE BEAM REINF. AREA (IN. ² /FT.) A _{S10}
	T _T	T _B	T _S	
9' X 5'	9	9	9	1.00
9' X 6'	9	9	9	1.00
9' X 7'	9	9	9	1.00
9' X 8'	9	9	9	1.00
9' X 9'	9	9	9	1.00
* 10' X 4'	10	10	10	0.89
* 10' X 5'	10	10	10	0.89
* 10' X 6'	10	10	10	0.89
* 10' X 7'	10	10	10	0.89
* 10' X 8'	10	10	10	0.89
* 10' X 9'	10	10	10	0.89
* 10' X 10'	10	10	10	0.89
11' X 4'	11	11	11	0.89
11' X 6'	11	11	11	0.89
11' X 8'	11	11	11	0.89
11' X 10'	11	11	11	0.89
11' X 11'	11	11	11	0.89
12' X 4'	12	12	12	0.89
12' X 6'	12	12	12	0.89
12' X 8'	12	12	12	0.89
12' X 10'	12	12	12	0.89
12' X 12'	12	12	12	0.89

* NOT PART OF AASHTO DESIGNATION M273 NEEDS MANUFACTURED DESIGN

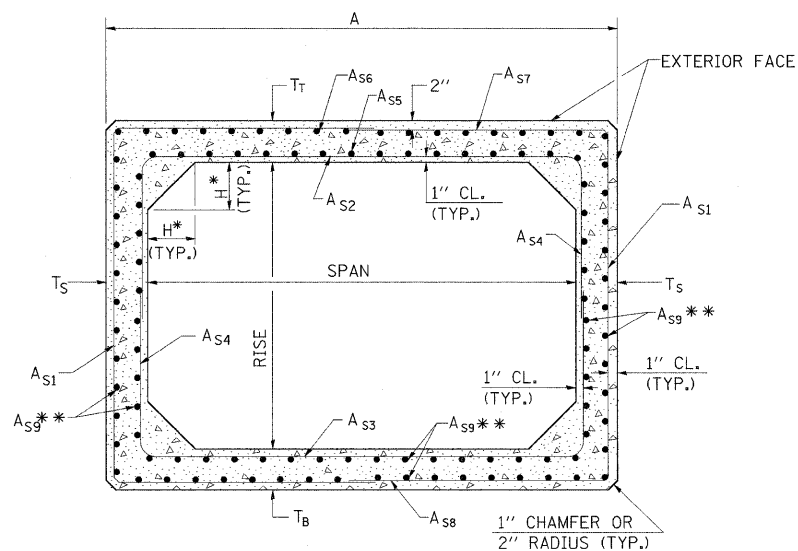


DETAIL OF EDGE BEAM

NOTE: THE A_{S10} REINFORCEMENT SHALL BE
THE SAME LENGTH AS THE A_{S2}.



ELEVATION



CROSS SECTION

* THE HAUNCH DIMENSION, H, IS EQUAL TO THE
WALL THICKNESS, T_S.
** THE AREA OF A_{S9} REINFORCEMENT SHALL BE
A MINIMUM OF 0.12 SQ. IN./FT.

MODIFIED STD. 9-49
REVISIONS

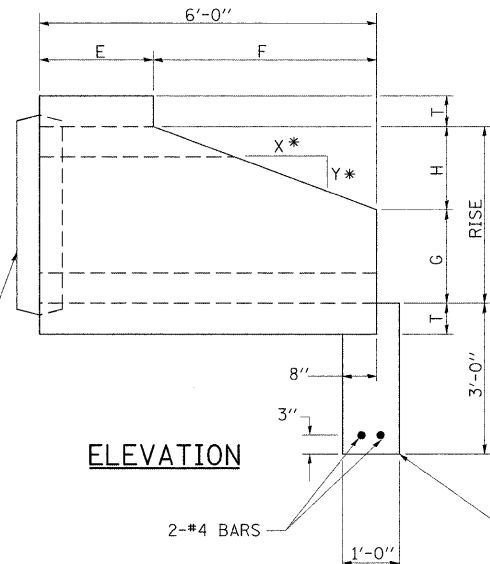
DRAWN	9-8-89	REVISED	12-17-01
REVISED	3-27-90	REVISED	01-10-07
REVISED	3-11-92	REVISED	
REVISED	8-16-94	REVISED	

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL: PRECAST CONCRETE BOX CULVERT SECTION (WITH LESS THAN 2' OF COVER)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -			869	(1-1,3,6)R-1,RS-3(1,3,6)B-2	*	299	161
		PLOT SCALE = #SCALE#	CHECKED -			* PERRY & FRANKLIN COUNTIES		CONTRACT NO. 98797		
		PLOT DATE = #DATE#	DATE -			ILLINOIS FED. AID PROJECT				
					SCALE: 50	SHEET NO. OF SHEETS STA. TO STA.				

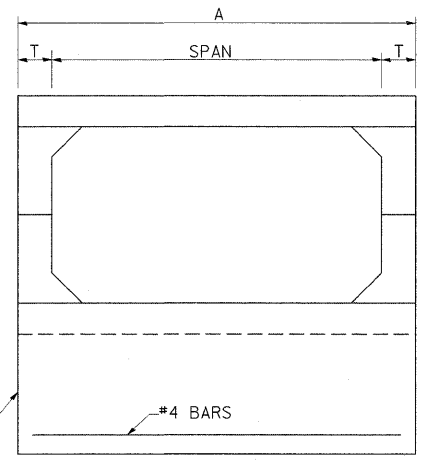
DETAIL OF PRECAST CONCRETE BOX CULVERT END SECTION

DIMENSIONS **

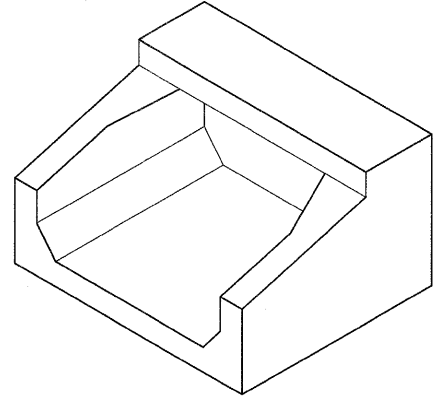
SPAN X RISE	T (INCHES)	A (FT.-IN.)	B (FT.-IN.)	C (INCHES)	E (FT.-IN.)	F (FT.-IN.)	G (FT.-IN.)	H (FT.-IN.)	SLOPE (X:Y)
2' X 2'	4	2-8	2-8	4	3-0	3-0	1-0	1-0	3:1
3' X 2'	4	3-8	2-8	4	3-0	3-0	1-0	1-0	3:1
3' X 3'	4	3-8	3-8	4	2-0	4-0	1-8	1-4	3:1
4' X 2'	5	4-10	2-10	5	3-0	3-0	1-0	1-0	3:1
4' X 3'	5	4-10	3-10	5	2-0	4-0	1-8	1-4	3:1
4' X 4'	5	4-10	4-10	5	2-0	4-0	2-0	2-0	2:1
5' X 2'	6	6-0	3-0	6	3-0	3-0	1-0	1-0	3:1
5' X 3'	6	6-0	4-0	6	2-0	4-0	1-8	1-4	3:1
5' X 4'	6	6-0	5-0	6	2-0	4-0	2-0	2-0	2:1
5' X 5'	6	6-0	6-0	6					
6' X 2'	7	7-2	3-2	7	3-0	3-0	1-0	1-0	3:1
6' X 3'	7	7-2	4-2	7	2-0	4-0	1-8	1-4	3:1
6' X 4'	7	7-2	5-2	7	2-0	4-0	2-0	2-0	2:1
6' X 5'	7	7-2	6-2	7	2-0	4-0	3-0	2-0	2:1
6' X 6'	7	7-2	7-2	7	2-0	4-0	4-0	2-0	2:1
7' X 4'	8	8-4	5-4	8	2-0	4-0	2-0	2-0	2:1
7' X 5'	8	8-4	6-4	8					
7' X 6'	8	8-4	7-4	8					
7' X 7'	8	8-4	8-4	8					
8' X 4'	8	9-4	5-4	8	2-0	4-0	2-0	2-0	2:1
8' X 5'	8	9-4	6-4	8					
8' X 6'	8	9-4	7-4	8					
8' X 7'	8	9-4	8-4	8					
8' X 8'	8	9-4	9-4	8					
9' X 5'	9	10-6	6-6	9					
9' X 6'	9	10-6	7-6	9					
9' X 7'	9	10-6	8-6	9					
9' X 8'	9	10-6	9-6	9					
9' X 9'	9	10-6	10-6	9					
10' X 4'	10	11-8	4-10	10					
10' X 5'	10	11-8	6-8	10					
10' X 6'	10	11-8	7-8	10					
10' X 7'	10	11-8	8-8	10					
10' X 8'	10	11-8	9-8	10					
10' X 9'	10	11-8	10-8	10					
10' X 10'	10	11-8	11-8	10					
11' X 4'	11	12-10	5-10	11					
11' X 6'	11	12-10	7-10	11					
11' X 8'	11	12-10	9-10	11					
11' X 10'	11	12-10	11-10	11					
11' X 11'	11	12-10	12-10	11					
12' X 4'	12	14-0	6-0	12					
12' X 6'	12	14-0	8-0	12					
12' X 8'	12	14-0	10-0	12					
12' X 10'	12	14-0	12-0	12					
12' X 12'	12	14-0	14-0	12					



ELEVATION

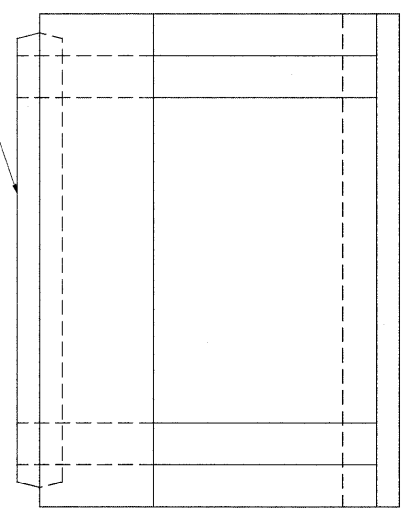


END VIEW

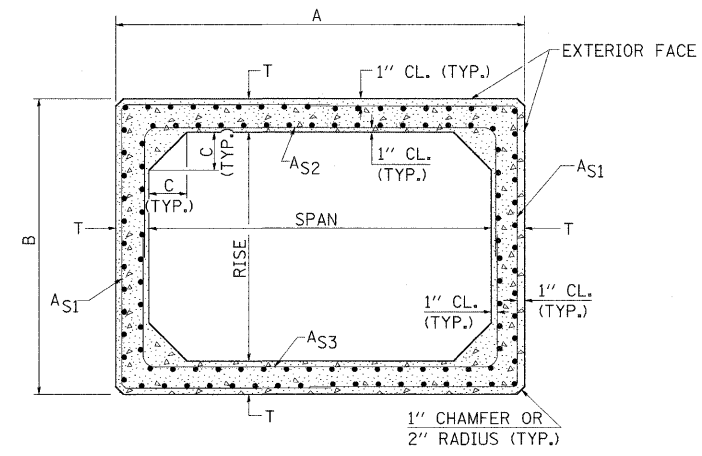


ISOMETRIC

END CONNECTION TO FIT PRECAST BOX CULVERT (BELL OR SPIGOT MAY BE OMITTED WHEN COLLARING TO AN EXISTING BOX OR HEADWALL.)



PLAN



CROSS SECTION

GENERAL NOTES

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 504.04 OF THE STANDARD SPECIFICATIONS.

MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED WITH MASTIC IN ACCORDANCE WITH ARTICLE 1055.01 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE TERMS AS1, AS2, & AS3 DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN AASHTO M259. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO M55-81.

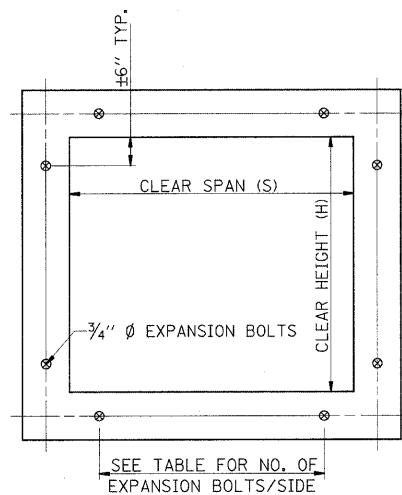
**** NOTE:**

THE DIMENSIONS INDICATED ARE FOR END SECTIONS THAT ARE TO BE USED WITH PRECAST BOX CULVERT SECTIONS DESIGNED FOR 2' OR MORE OF FILL. THE DIMENSIONS MUST BE MODIFIED FOR THE END SECTION TO BE COMPATIBLE WITH PRECAST CULVERT SECTIONS DESIGNED FOR LESS THAN 2' OF FILL.

REVISIONS	
DRAWN	9-8-89
REVISED	3-27-90
REVISED	6-14-94
REVISED	8-16-94
REVISED	01-10-07

MODIFIED STD. 9-50

EXPANSION BOLTS REQUIRED FOR CULVERT EXTENSIONS



CROSS SECTION THRU BARREL

FOR ANCHOR BOLT REQUIREMENTS,
SEE ARTICLE 1006.09 OF THE
STANDARD SPECIFICATIONS.

EXPANSION BOLTS SHALL CON-
SIST OF SELF DRILLING EXPAN-
SION SHIELDS AND 3/4" Ø
HOOKED BOLTS. HOOKED BOLTS
SHALL EXTEND A MINIMUM OF
9" INTO NEW CONCRETE.

MINIMUM CERTIFIED PROOF
LOAD=7,500 LBS.

BOLTS SHALL BE PAID FOR
AT THE CONTRACT UNIT PRICE
EACH FOR EXPANSION BOLTS,
3/4 INCH.

H OR S	NO. EXPANSION BOLTS REQ'D/SIDE			
	EXTENSION ≤ 15'		EXTENSION > 15'	
	NO.	SPACING	NO.	SPACING
2.0	*	*	*	*
2.5	2	18"	2	18"
3.0	2	24"	2	24"
4.0	3	18"	3	18"
5.0	4	16"	3	24"
6.0	5	15"	4	20"
7.0	5	18"	4	24"
8.0	6	17"	5	21"
9.0	6	19"	5	24"
10.0	7	18"	6	21"
11.0	8	17"	6	24"
12.0	8	19"	7	22"

* NOTE: USE MINIMUM OF 1 EXPANSION
BOLT AT EACH CORNER.

EXAMPLE:

6' X 4' BOX CULVERT TO BE
EXTENDED 18' AT ONE END
ONLY.

FROM TABLE FIND

6' SIDE REQUIRES (4)-3/4" Ø
EXPANSION BOLTS AT
20" CENTERS

4' SIDE REQUIRES (3)-3/4" Ø
EXPANSION BOLTS AT
18" CENTERS

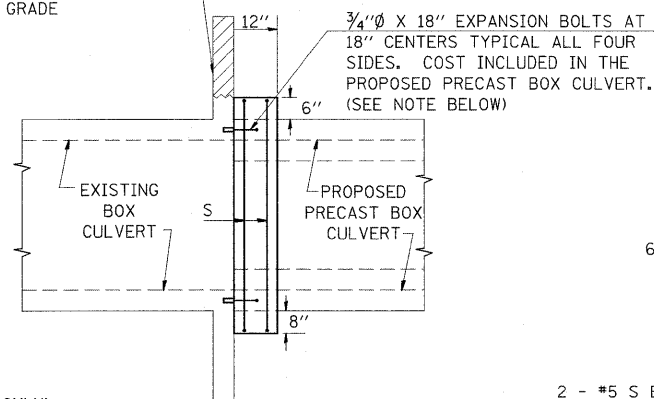
TOTAL NO. REQUIRED

(4+3)2 = (14)-3/4" Ø EXPAN. BOLTS

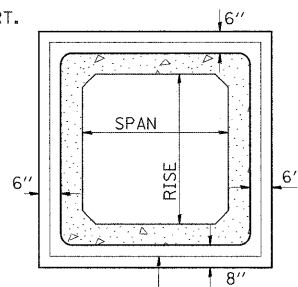


DETAILS OF CONCRETE COLLAR FOR PRECAST BOX CULVERT

REMOVE PORTION OF EXISTING
HEADWALL DOWN TO 12" BELOW
FINISHED GRADE



SIDE VIEW



END VIEW

2 - #5 S BARS TYPICAL
COST INCLUDED IN THE
PROPOSED PRECAST BOX
CULVERT.

THE CONCRETE COLLAR SHALL BE CONSIDERED
INCLUDED IN PRECAST CONCRETE BOX CULVERT,
WHICH PRICE SHALL INCLUDE THE REMOVAL OF
SUCH PORTIONS OF THE EXISTING HEADWALLS
AS MAY BE REQUIRED. CLASS SI CONCRETE SHALL
BE USED THROUGHOUT.

NOTE: ANCHOR BOLTS, MEETING THE REQUIREMENTS OF
ARTICLE 1006.09 OF THE STANDARD SPECIFICATIONS,
SHALL EXTEND A MINIMUM OF 9 INCHES INTO THE
NEW CONCRETE. EXPANSION SHIELDS SHALL PROVIDE
A MINIMUM CERTIFIED PROOF LOAD OF 4080
POUNDS.



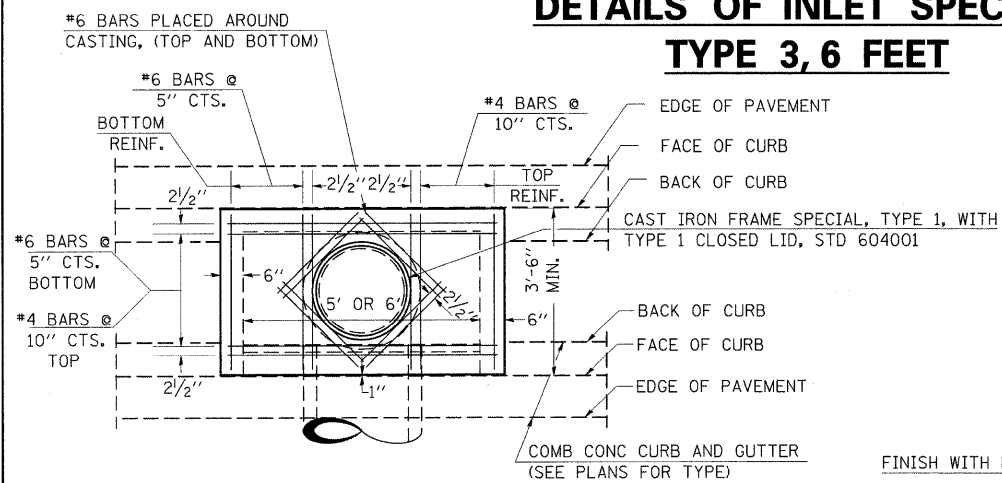
TABULATION

(FOR INFORMATION PURPOSES ONLY)

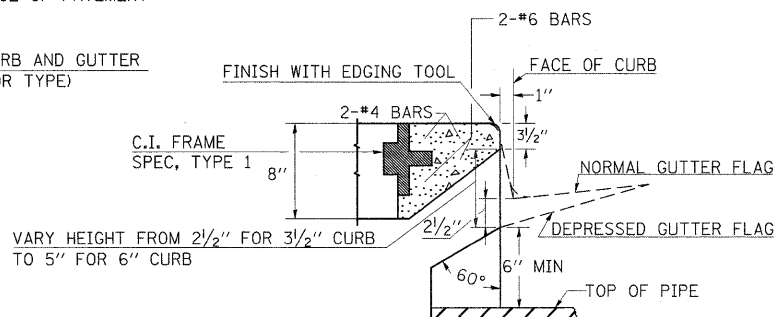
SPAN X RISE	CLASS SI CONC. CU. YD. (EST.)
2' X 2'	0.26
3' X 2'	0.30
3' X 3'	0.34
4' X 2'	0.36
4' X 3'	0.39
4' X 4'	0.43
5' X 2'	0.41
5' X 3'	0.45
5' X 4'	0.49
6' X 2'	0.47
6' X 3'	0.51
6' X 4'	0.54
10' X 4'	0.76

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS: EXPANSION BOLTS; CONCRETE COLLAR FOR PRECAST BOX CULVERT	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILEL#		DRAWN -	REVISED -			869	(1-1,1,3,6)R-1,RS-3;(1,3,6)B-2	*	299	163	
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -			* PERRY & FRANKLIN COUNTIES		CONTRACT NO. 98797			
	PLOT DATE = #DATE#	DATE -	REVISED -			SCALE: 50	SHEET NO. OF SHEETS	STA.	TO STA.		
						ILLINOIS FED. AID PROJECT					

DETAILS OF INLET SPECIAL, TYPE 3, 6 FEET

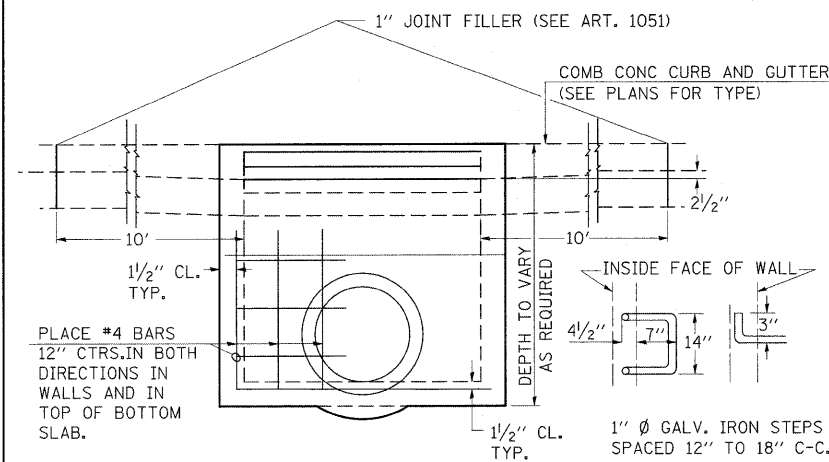


PLAN



SECTION AT WEIR

DESIGN	PIPE DIA	"D"
A	18" X LESS	2'-6"
B	21" X 24"	3'-0"
C	27" X 30"	3'-7"
D	33" X 36"	4'-2"
E	42"	4'-9"
F	48"	5'-0"
G	54"	6'-1"



ELEVATION

1" Ø GALV. IRON STEPS **
SPACED 12" TO 18" C-C.
USE WHEN INLET IS OVER
4' DEEP.

NOTES:

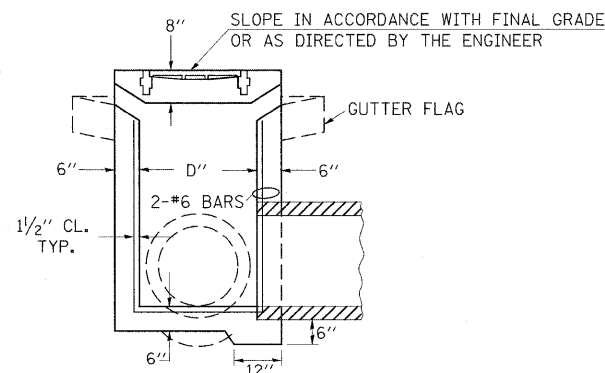
PROVIDE 1/2" CLEARANCE TYP. ALL REINFORCEMENT UNLESS OTHERWISE SPECIFIED.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT. SET FACE OF INLET 1" BEHIND FACE OF CURB. DEPRESS GUTTER FLOWLINE AT INLET 2 1/2" BELOW NORMAL GUTTER FLOWLINE. CONSTRUCT TRANSITION IN FLOWLINE IN 10 FEET EACH SIDE OF INLET. PIPES TO BE CONNECTED TO INLET AS SHOWN ON STORM SEWER LAYOUT.

INLETS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR **INLETS SPECIAL, OR INLETS SPECIAL, NO. ---** WHICH PRICE SHALL INCLUDE THE CAST IRON FRAME, SPECIAL, TYPE 1 WITH TYPE 1 CLOSED LID, THE REINFORCEMENT BARS, METAL STEPS AND JOINT FILLER.

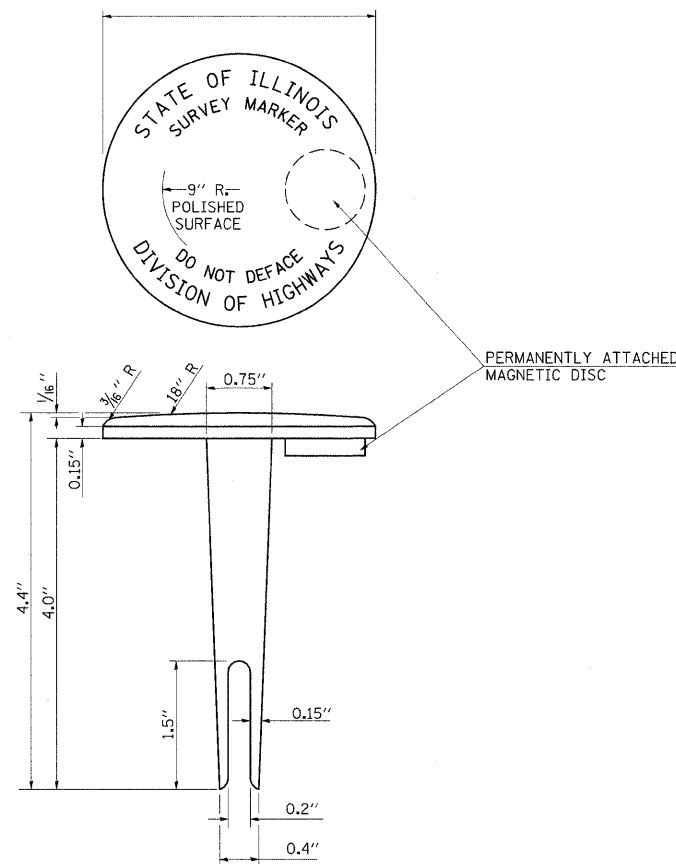
**THE GALVANIZED IRON STEPS AS DETAILED HEREON ARE TYPICAL. STEPS OF OTHER DESIGN AND MATERIAL THAT WILL CONFORM TO THE MINIMUM REQUIREMENTS OF THE STEPS SHOWN, MAY BE USED WHEN APPROVED BY THE ENGINEER.

IF THE INLET IS NOT CAST IN PLACE THEN THE INLET SHALL BE PRODUCED ACCORDING TO THE DEPARTMENT'S CURRENT POLICY MEMORANDUM, "QUALITY CONTROL/QUALITY ASSURANCE PROGRAM FOR PRECAST CONCRETE PRODUCTS".



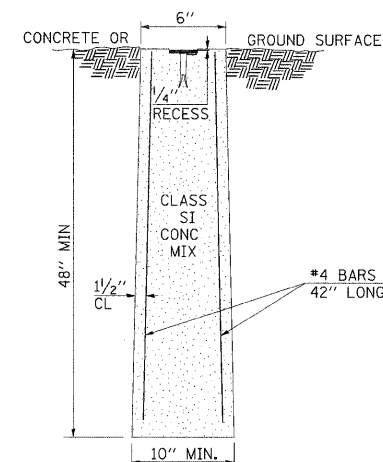
SECTION

DETAILS OF PERMANENT SURVEY MARKERS

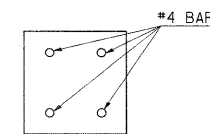


TABLET - BRONZE OR ALUMINUM

PRECAST MARKER



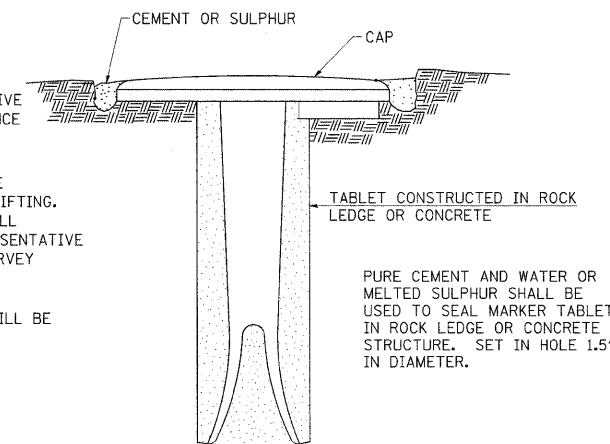
SECTION



PLAN

NOTES

- ACTUAL LOCATIONS TO BE DETERMINED BY THE ENGINEER AND A REPRESENTATIVE FROM THE BUREAU OF DESIGN AFTER GRADING IS COMPLETE AND SIGHT DISTANCE CAN BE DETERMINED BETWEEN SURVEY MARKER LOCATIONS.
- THE MARKERS SHALL BE PRECAST AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER IN ORDER THAT THERE BE NO FUTURE SETTLEMENT OR HORIZONTAL SHIFTING. THE MONUMENT SHALL BE PLACED IN A WAY THAT THE SURVEY POINT WILL FALL WITHIN THE PORTION OF THE PLAQUE PROVIDED FOR THAT PURPOSE. A REPRESENTATIVE FROM THE BUREAU OF PROGRAM DEVELOPMENT WILL LOCATE AND ETCH THE SURVEY POINT ON THE TABLET.
- THE CONTRACT UNIT PRICE FOR PERMANENT SURVEY MARKERS TYPE II WILL BE PAYMENT IN FULL FOR FURNISHING AND INSTALLING THE MARKER.



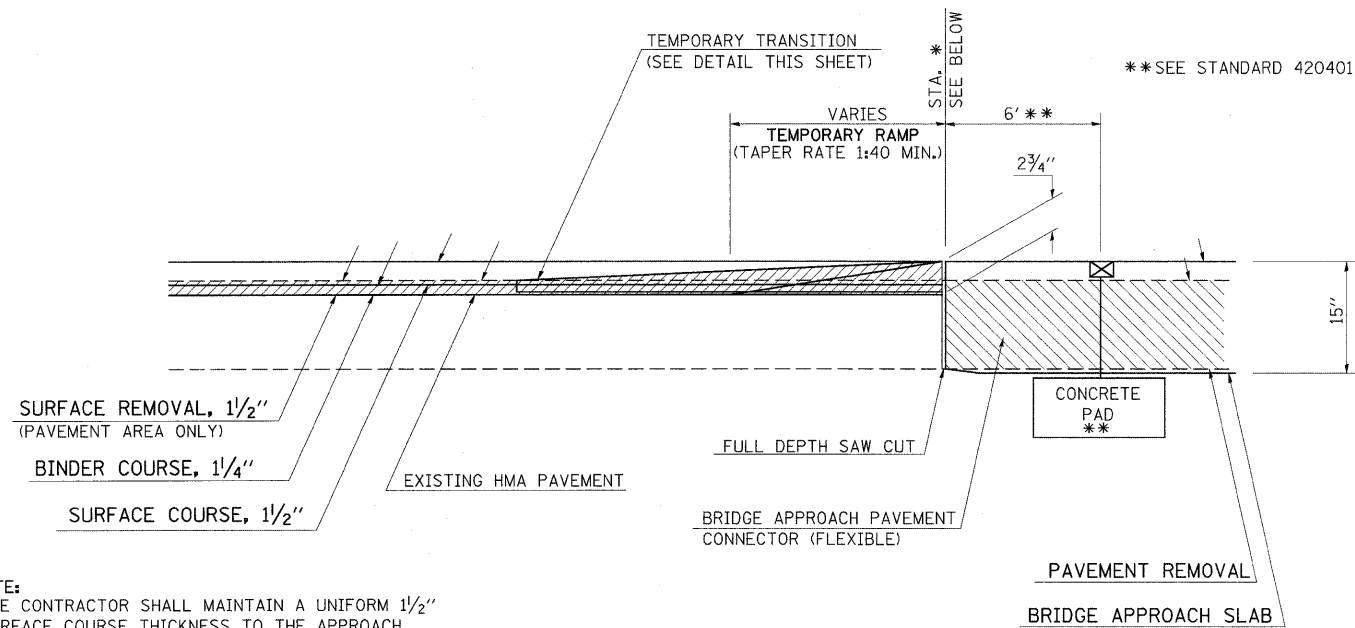
TOTAL QUANTITY FOR
PERMANENT SURVEY MARKERS= 23

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
REVISED	1-19-95
REVISED	5-6-04
RESIZED	5-6-08

STD. 9-1

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS: INLET SPECIAL, TYPE 3, 6 FEET, PERMANENT SURVEY MARKERS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -			869	(1-1,1,3,6)R-1,RS-3(1,3,6)B-2	*	299	164	
		CHECKED -	REVISED -			CONTRACT NO. 98797					
		DATE -	REVISED -			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT		
						*PERRY & FRANKLIN COUNTIES					

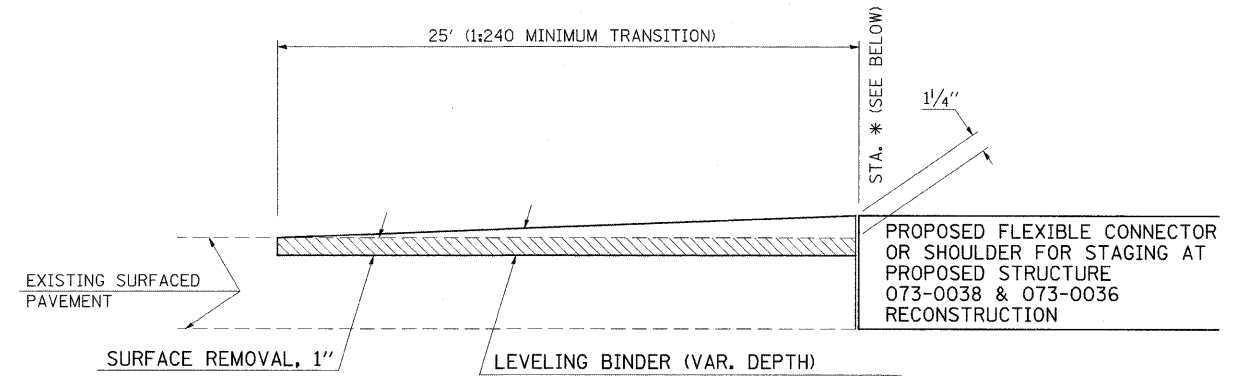
**BUTT JOINTS AT
PROPOSED BRIDGE**
(PAVEMENT RESURFACING STAGE)



NOTE:
THE CONTRACTOR SHALL MAINTAIN A UNIFORM 1/2" SURFACE COURSE THICKNESS TO THE APPROACH PAVEMENT. THE ENGINEER MAY REQUIRE THE SURFACE REMOVAL TO BE VARIABLE DEPTH. THE COST FOR THIS WILL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST PER SQ. YD. FOR HMA SURFACE REMOVAL, 1".

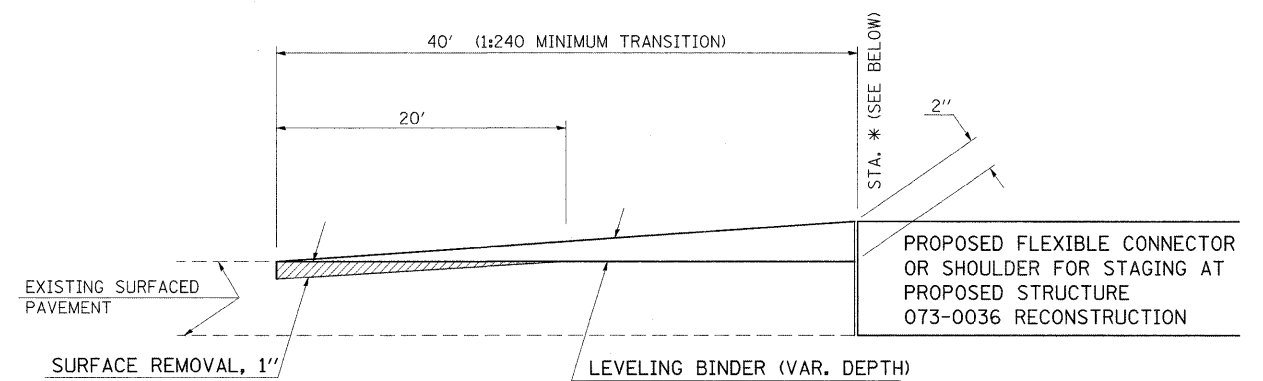
*** TO BE USED:**
STA 228+20.50
STA 230+23.50
STA 191+94.00
STA 190+06.00

TEMPORARY TRANSITION AT PROPOSED BRIDGE
(STAGE 1 AND 2 CONSTRUCTION)



*** TO BE USED:**
STA 228+20.50
STA 230+23.50
STA 191+94.00

TEMPORARY TRANSITION AT PROPOSED BRIDGE
(STAGE 1 AND 2 CONSTRUCTION)

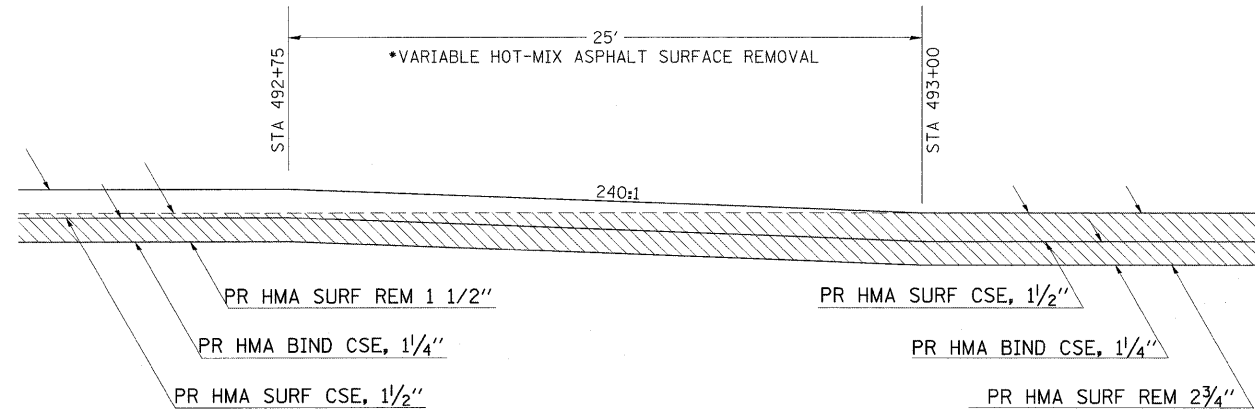


*** TO BE USED:**
STA 190+06.00

NOTE:
SURFACE REMOVAL WILL BE VARIABLE DEPTH. THE COST FOR THIS WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE COST PER SQ. YD. FOR HMA SURFACE REMOVAL, 1".

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS: BUTT JOINTS; THICKNESS TRANSITIONS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -			869 (1-1,1,3,6)R-1,RS-3;(1,3,6)B-2	*	299	165	
		CHECKED -	REVISED -			* PERRY & FRANKLIN COUNTIES		CONTRACT NO. 98797		
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				
				SCALE: 50	SHEET NO. OF SHEETS	STA.	TO STA.			

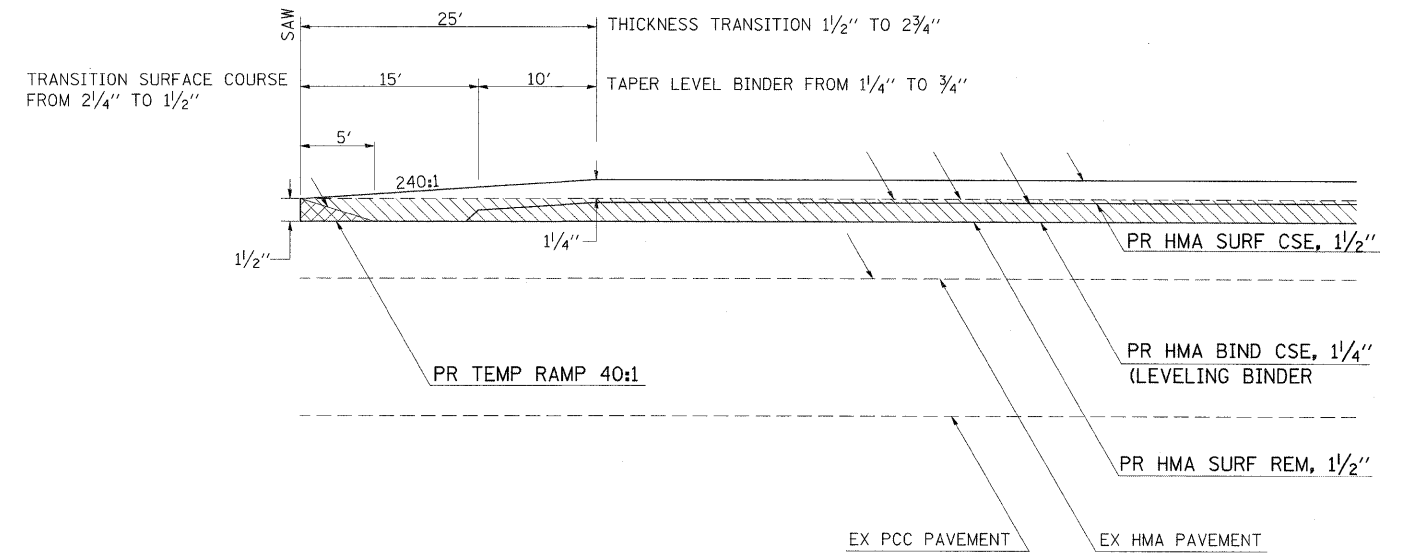
MILLING TAPER DETAIL
TRANSITION INTO AND OUT OF INLAY SECTIONS



* VARIABLE DEPTH HOT-MIX ASPHALT SURFACE REMOVAL WILL BE PAID FOR AS HOT-MIX ASPHALT SURFACE REMOVAL 1 1/2"

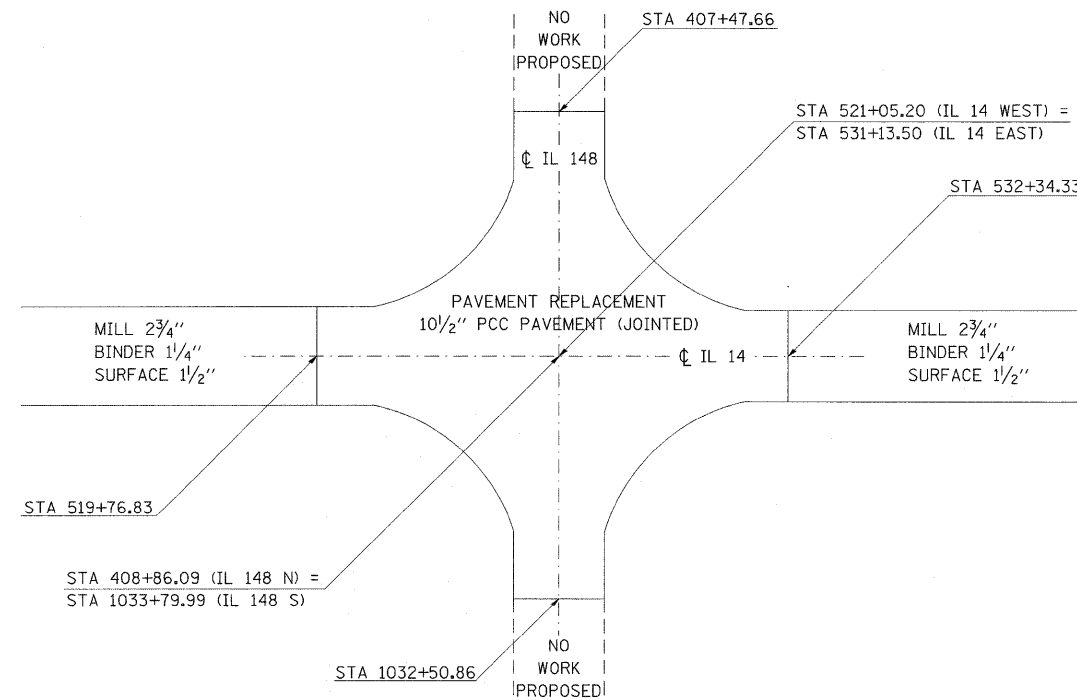
TO BE USED:
STA 492+75 TO STA 493+00
BEGINNING OF INLAY THROUGH CHRISTOPHER

BUTT JOINT DETAIL
IL 14

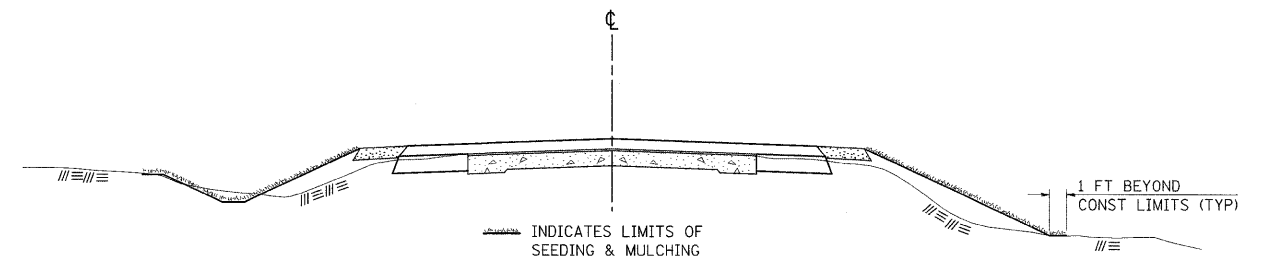


TO BE USED:
BEGINNING OF PROJECT (STA 177+00)
ILLINOIS CENTRAL RAILROAD (CL STA 326+46)

IL 14 & IL 148 INTERSECTION



SEEDING & MULCHING



GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -
#FILEL#		DRAWN -	REVISED -
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -
	PLOT DATE = #DATE#	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS: MILLING TRANSITION TO INLAY AREA, BUTT
JOINT DETAIL, IL 14 INTERSECTION, SEEDING & MULCHING

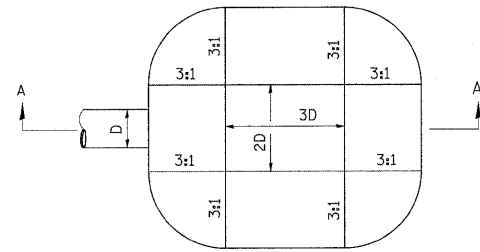
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	(1-1,1,3,6)R-1,RS-3;(1,3,6)B-2		299	166
CONTRACT NO. 98797				
ILLINOIS FED. AID PROJECT				

*PERRY & FRANKLIN COUNTIES

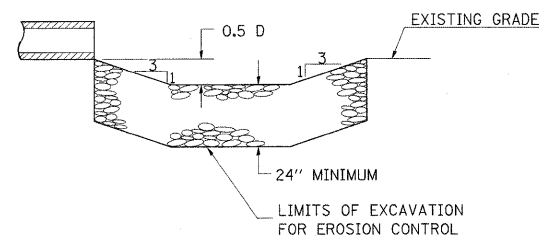
ENERGY DISSIPATOR

EARTH EXCAVATION FOR ENERGY DISSIPATOR



D = INSIDE DIAMETER OF PIPE CULVERT
OR CLEAR HEIGHT OF BOX CULVERT

PLAN



SECTION A-A

THIS WORK INVOLVES THE EXCAVATION OF EARTH AS SHOWN IN THE SKETCH TO THE LENGTH, WIDTH, AND DEPTH AS SPECIFIED. THE EARTH EXCAVATION WILL BE UTILIZED IN THE ROADWAY EMBANKMENT OR WASTED AS DIRECTED BY THE ENGINEER. THE EXCAVATION SHALL BE PERFORMED AT THE SAME TIME AS THE CULVERT OR DITCH IS CONSTRUCTED TO SERVE AS A TEMPORARY SEDIMENT TRAP.

EARTHWORK WILL BE CONSIDERED INCLUDED IN THE COST OF THE RIPRAP.

ENERGY DISSIPATOR IS TO BE CONSTRUCTED AT THE LOCATION INDICATED ON THE PLAN AND PROFILE SHEETS.

RIPRAP FOR ENERGY DISSIPATOR

RIPRAP FOR ENERGY DISSIPATOR SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 281 OF THE STANDARD SPECIFICATIONS EXCEPT AS REVISED HEREIN.

THE LENGTH, WIDTH, AND DEPTH FOR RIPRAP PLACEMENT SHALL BE AS SPECIFIED IN THESE DETAILS UNLESS OTHERWISE SPECIFIED IN THE PLANS.

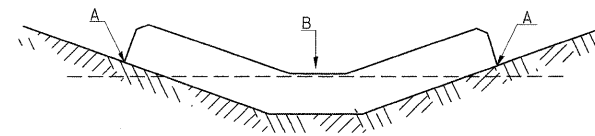
THE RIPRAP FOR THE ENERGY DISSIPATOR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR **STONE RIPRAP, CLASS A4**.

THE STONE DUMPED RIPRAP SHALL CONFORM TO THE QUALITY AND GRADATION REQUIREMENTS OF STONE RIPRAP, CLASS A4.

BEDDING MATERIAL AS SPECIFIED IN SECTION 281 OF THE STANDARD SPECIFICATIONS WILL NOT BE REQUIRED.

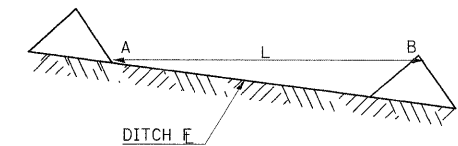
TEMPORARY DITCH CHECKS

PLACEMENT OF TEMPORARY DITCH CHECK IN DRAINAGE WAY



POINTS A SHOULD BE HIGHER THAN POINT B

SPACING BETWEEN TEMPORARY DITCH CHECKS



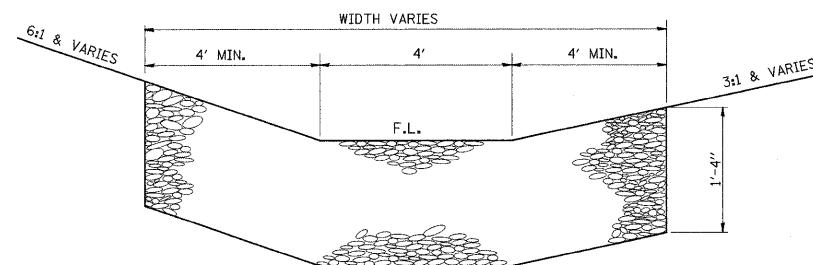
L = THE DISTANCE SUCH THAT POINTS
A AND B ARE OF EQUAL ELEVATION

B = THE LOW POINT
IN CENTER OF CHECK

REVISIONS	
DRAWN	9-01-99
REVISED	10-3-01
RESIZED	5-8-08
REVISED	05-04-10

STD. 9-108

TYPICAL DETAIL OF STONE RIPRAP DITCH LINING



NOTES

THIS WORK INCLUDES THE EARTH EXCAVATION REQUIRED TO PLACE THE RIPRAP AS SHOWN. THE MATERIAL RESULTING FROM THE EARTH EXCAVATION SHALL BE PLACED IN THE ROADWAY EMBANKMENT, OR WASTED AS DIRECTED BY THE ENGINEER. THE EARTHWORK SHALL BE CONSIDERED INCLUDED IN THE COST OF THE DITCH.

THE RIPRAP DITCH SHALL BE CONSTRUCTED AT THE LOCATIONS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. CONSTRUCTION OF THE STONE RIPRAP DITCH SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A4 RIPRAP AS INDICATED IN SECTION 281 OF STANDARD SPECIFICATIONS.

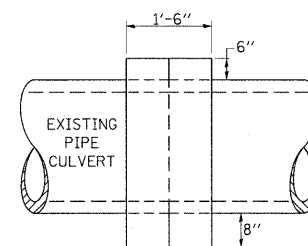
THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SO YD FOR **STONE RIPRAP, CLASS A4**, WHICH PRICE SHALL INCLUDE ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK IN PLACE AS SHOWN.

BEDDING MATERIAL AND FILTER FABRIC AS SPECIFIED IN SECTION 281 OF THE STANDARD SPECIFICATIONS WILL NOT BE REQUIRED.

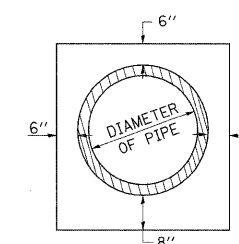
THE WIDTH OF THE RIPRAP DITCH WILL BE AS SPECIFIED IN THE RIPRAP SCHEDULE OR AS DIRECTED BY THE ENGINEER.

DETAILS OF CONCRETE COLLAR

PIPE TO PIPE



SIDE VIEW



END VIEW

TABULATION

DIAMETER OF PIPE	CL SI CONC CU YDS EST
12"	0.24
15"	0.29
18"	0.32
24"	0.44
30"	0.56
36"	0.66
42"	0.80
48"	0.93
54"	1.07
60"	1.22
72"	1.55

THE CONCRETE COLLAR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR **CONCRETE COLLAR**, AS SHOWN ON THE PLANS, WHICH PRICE SHALL INCLUDE THE REMOVAL OF SUCH PORTIONS THE EXISTING HEADWALLS AS MAY BE REQUIRED.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS: ENERGY DISSIPATOR, TEMPORARY DITCH CHECKS, STONE RIPRAP DITCH LINING, CONCRETE COLLAR	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILEL\$		DRAWN -	REVISED -			869	(1-1,1,3,6)R-1,RS-3;(1,3,6)B-2	*	299	167	
		CHECKED -	REVISED -			CONTRACT NO. 98797					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	*PERRY & FRANKLIN COUNTIES	

RURAL SIDE APPROACH DETAILS

PRIVATE AND COMMERCIAL ENTRANCES

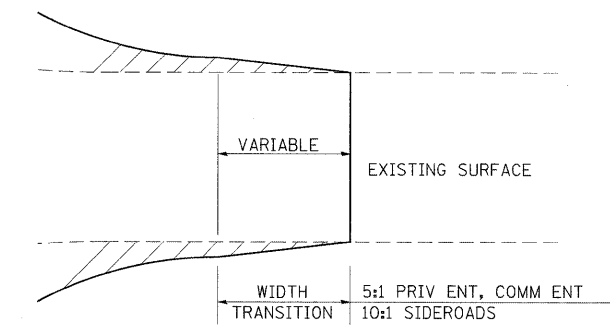
SIDEROADS

SIDEROAD DIMENSIONS (MIN.)

ADT	A (FT)	B (FT)
0 TO 250	18'	2'
250 TO 400	20'	2'
GREATER THAN 400	22'	4'

WIDTH TRANSITION DETAIL TO EXISTING

(IF APPLICABLE)

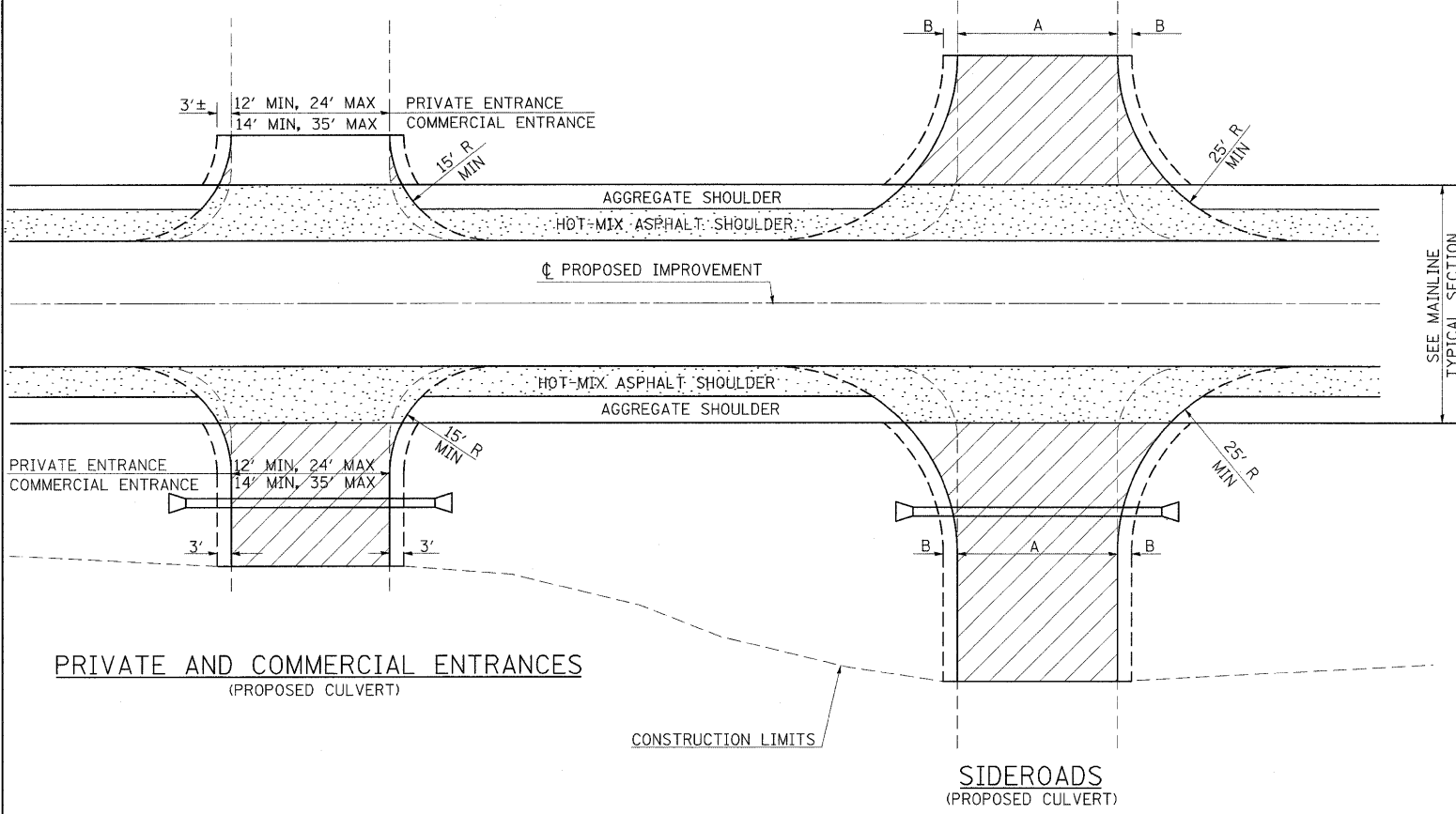
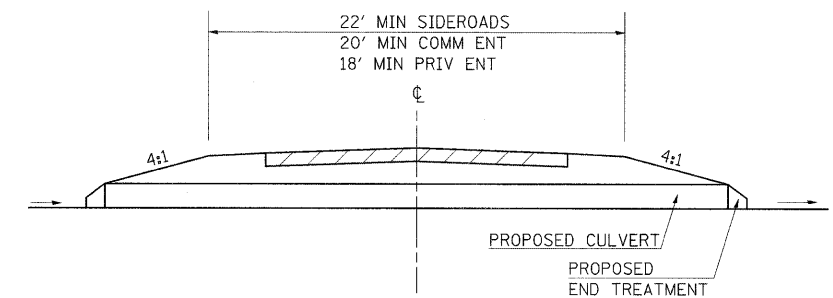


FIELD ENTRANCE TREATMENT

CONSTRUCT MAINLINE HOT-MIX ASPHALT AND AGGREGATE SHOULDERS THROUGH FIELD ENTRANCES.

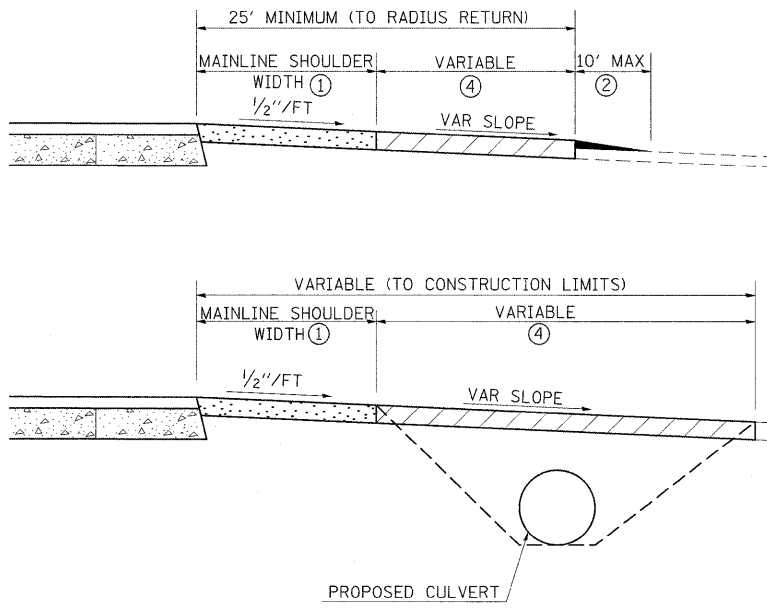
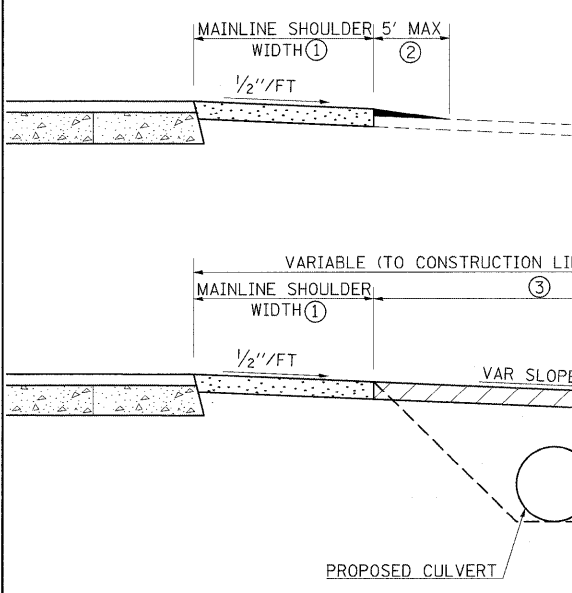
IF A PIPE IS REQUIRED, PROVIDE A 22' WIDE EARTH EMBANKMENT WITH 15' RADII AT THE INTERSECTION.

DETAIL FOR CALCULATING CULVERT LENGTH



PRIVATE AND COMMERCIAL ENTRANCES

SIDEROADS



LEGEND

- ① CONSTRUCT HOT-MIX ASPHALT SHOULDER "FULL SHOULDER WIDTH" THROUGH ENTRANCE/INTERSECTION UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- ② IF REQUIRED, AGGREGATE TAPER FOR EXISTING GRAVEL SURFACE; HOT-MIX ASPHALT TAPER FOR EXISTING HIGHER TYPE SURFACES.
- ③ 6" AGGREGATE SURFACE COURSE FOR EXISTING GRAVEL SURFACE; 2" HOT-MIX ASPHALT RESURFACING ON 4" AGGREGATE BASE COURSE FOR EXISTING HOT-MIX ASPHALT SURFACE; PCC DRIVEWAY PAVEMENT (6" - PE; 7" - CE) FOR EXISTING CONCRETE SURFACE.
- ④ 3" MINIMUM HOT-MIX ASPHALT RESURFACING ON 8" MINIMUM AGGREGATE BASE COURSE FOR EXISTING GRAVEL SURFACE OR OIL & CHIP SURFACE; MATCH EXISTING FOR EXISTING HIGHER TYPE SURFACES.

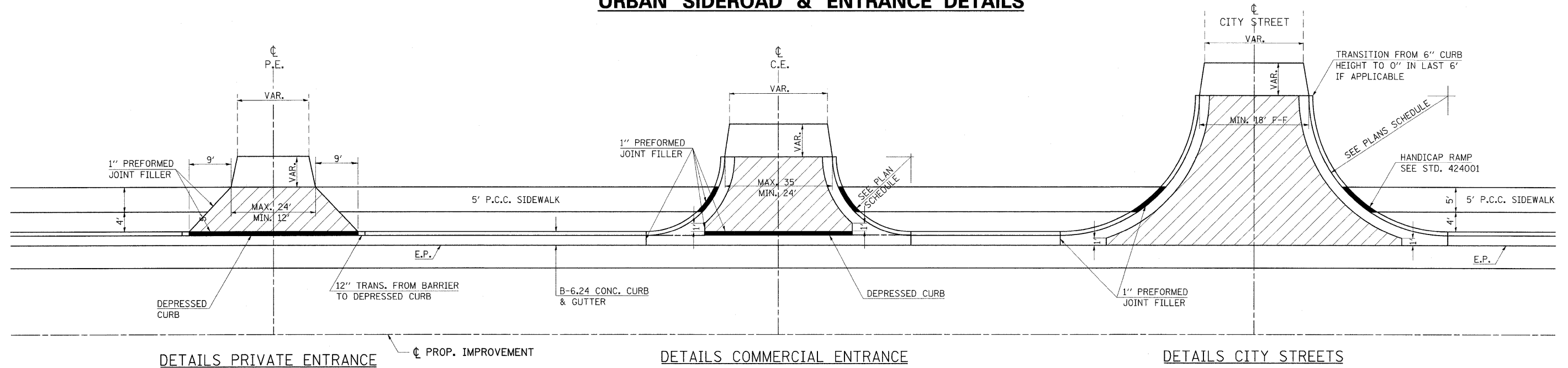
GENERAL NOTES

1. ENTRANCE LOCATIONS ARE TO COMPLY WITH IDOT'S POLICY "ACCESS TO STATE HIGHWAYS".
2. IN GENERAL, RELOCATED PRIVATE ENTRANCES ARE TO HAVE A 16' WIDE SURFACE WITH 3' WIDE SHOULDERS (22' WIDE EMBANKMENT).
3. SEE PLANS FOR PROPOSED PROFILE GRADES AT ENTRANCES/SIDEROADS. THE DESIRABLE MAXIMUM PROFILE GRADE FOR ENTRANCES ARE 12% FOR PE; 10% FOR CE.
4. ENTRANCE PIPE CULVERTS ARE TO BE A MINIMUM 15" DIAMETER AND NORMALLY REPLACED IN KIND; SIDEROAD PIPE CULVERTS ARE GENERALLY TO BE CONCRETE (18" MINIMUM DIAMETER).
5. THE INTERSECTION RADII OF SIDEROADS CONSTRUCTED TO FULL POLICY STANDARDS SHOULD COMPLY WITH THAT NOTED IN THE BUREAU OF LOCAL ROADS ADMINISTRATIVE POLICIES MANUAL (5-8-13).

REVISIONS	
DRAWN	3-15-91
REVISED	10-02-91
REVISED	5-15-92
REVISED	1-20-00
REVISED	01-11-07
RESIZED	5-7-08

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS: RURAL SIDE APPROACH	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILEL#		DRAWN -	REVISED -			869	(1-1,1,3,6)R-1,RS-3(1,3,6)B-2	*	299	168	
		CHECKED -	REVISED -			CONTRACT NO. 98797					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
						*PERRY & FRANKLIN COUNTIES					

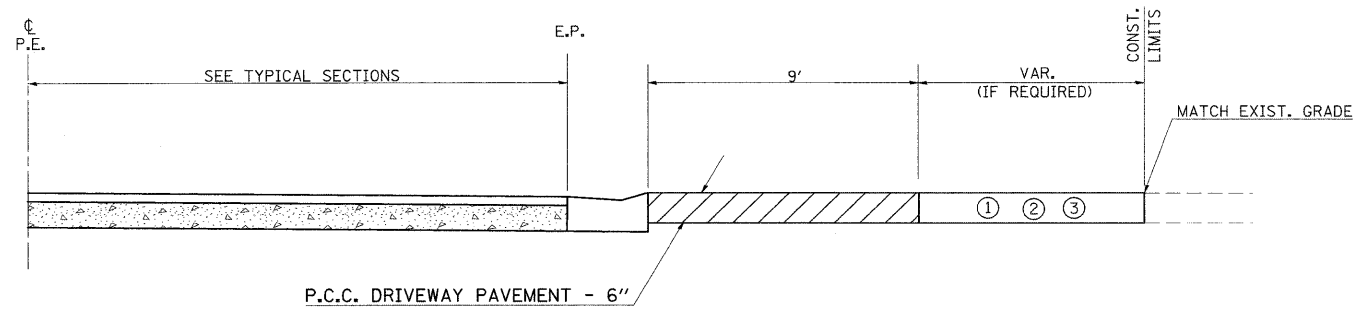
URBAN SIDEROAD & ENTRANCE DETAILS



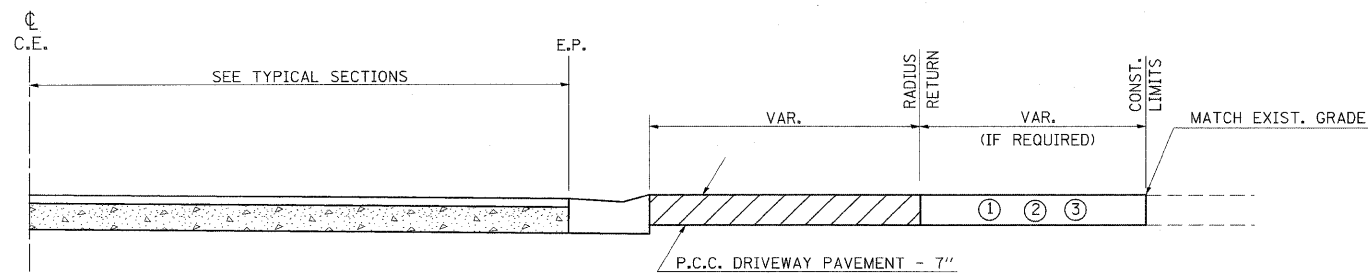
DETAILS PRIVATE ENTRANCE

DETAILS COMMERCIAL ENTRANCE

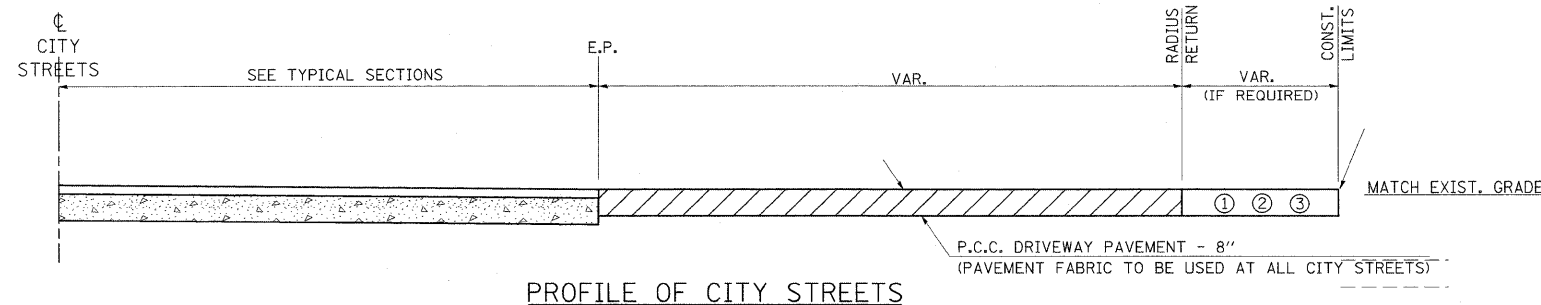
DETAILS CITY STREETS



PROFILE OF PRIVATE ENTRANCES



PROFILE OF COMMERCIAL ENTRANCES



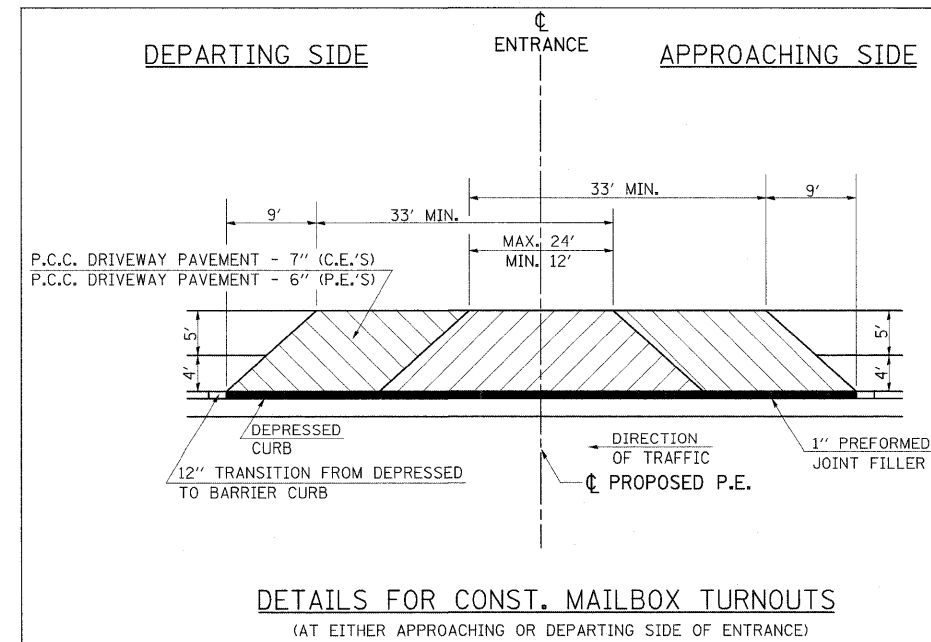
PROFILE OF CITY STREETS

GENERAL NOTES

- SEE PLAN SCHEDULES FOR DIMENSIONS AND QUANTITIES.
- SEE CROSS SECTIONS FOR PROPOSED PROFILE OF SIDEROAD AND ENTRANCES.
- IN GENERAL, WIDTH TRANSITION TAPER RATES ARE TO BE 5:1 FOR ENTRANCES, AND 10:1 FOR CITY STREETS.
- THE SAWING OF ALL JOINTS IN PCC DRIVEWAY PAVEMENT AT ALL LOCATIONS DESIGNATED BY THE ENGINEER, SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PCC DRIVEWAY PAVEMENT.

LEGEND

- EXISTING AGGREGATE SURFACE:
CONSTRUCT AGGREGATE SURFACE CSE, TYPE A WEDGE TO MATCH EXISTING GRADE. USE 6" MIN. (8" MIN. FOR CITY STREETS) THICKNESS FOR ANY REQUIRED WIDENING.
- EXISTING BITUMINOUS SURFACE:
USE 2" MIN. BITUMINOUS RESURFACING ON 4" MIN. (6" MIN. FOR CITY STREETS) AGGREGATE BASE COURSE.
- EXISTING CONCRETE SURFACE:
P.C.C. DRIVEWAY PAVEMENT 6" P.E.'S
P.C.C. DRIVEWAY PAVEMENT 7" C.E.'S
P.C.C. DRIVEWAY PAVEMENT 8" CITY STREETS



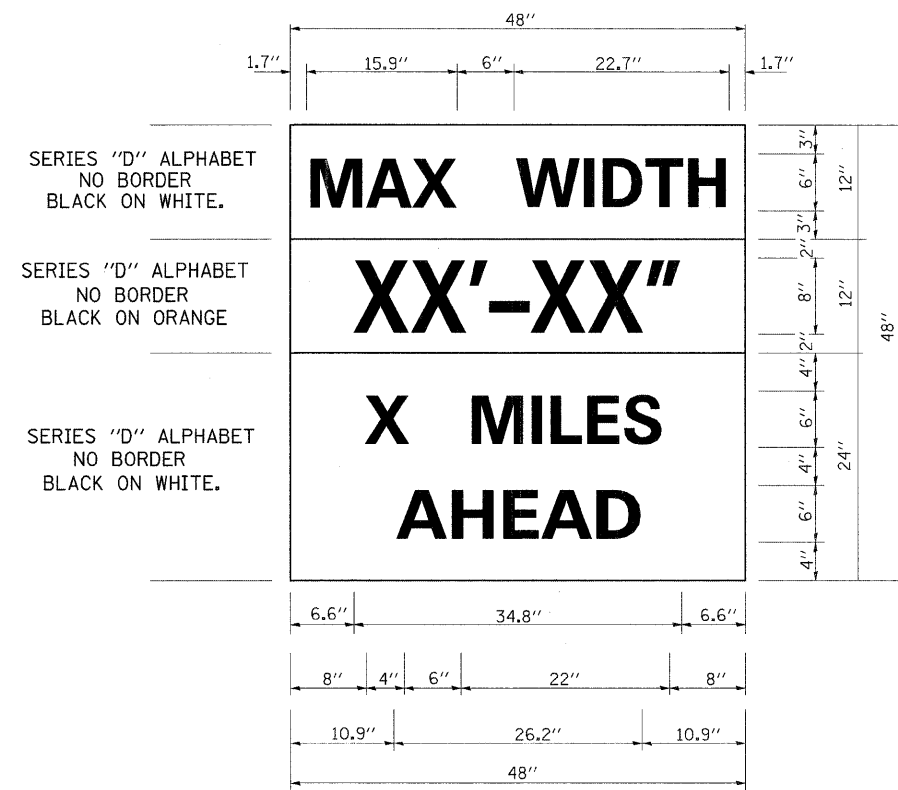
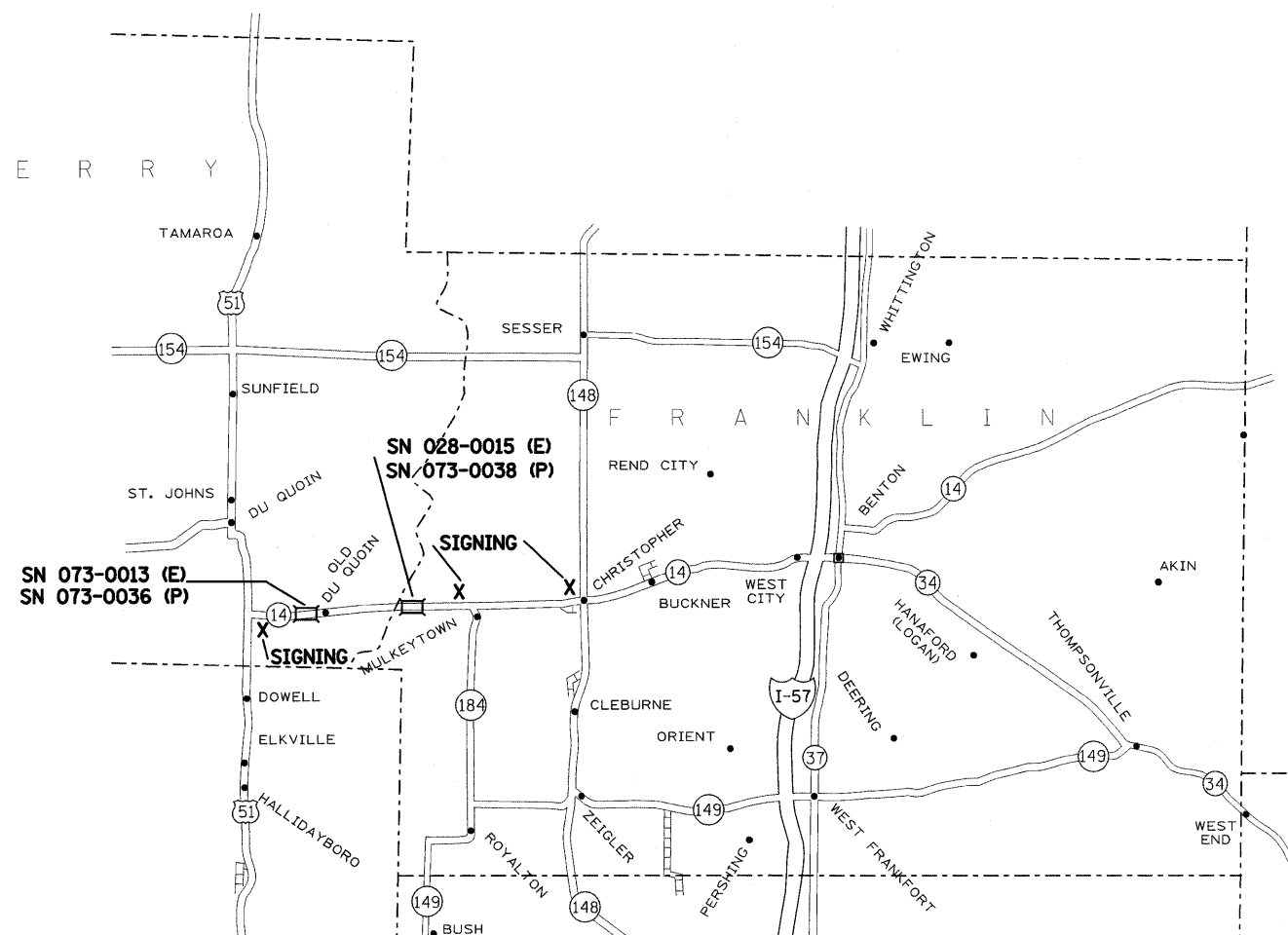
DETAILS FOR CONST. MAILBOX TURNOUTS

(AT EITHER APPROACHING OR DEPARTING SIDE OF ENTRANCE)

REVISIONS	
DRAWN	10-22-90
REVISED	9-6-91
REVISED	10-21-91
RESIZED	5-8-08

STD. 9-84

SIGNING FOR LANE WIDTH RESTRICTION



SERIES "D" ALPHABET
NO BORDER
BLACK ON WHITE.

SERIES "D" ALPHABET
NO BORDER
BLACK ON ORANGE

SERIES "D" ALPHABET
NO BORDER
BLACK ON WHITE.

MAX WIDTH

XX'-XX"

X MILES

AHEAD

RESTRICTION SIGN
(ALL MEASUREMENTS ARE IN INCHES)
W12-I103

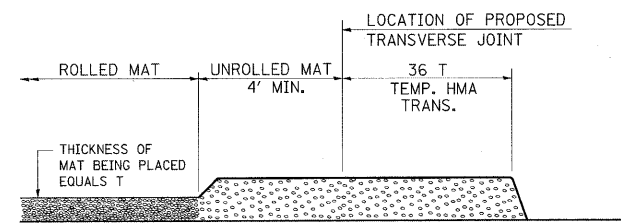
THE "X MILES" AND LOCATION AS DIRECTED BY THE ENGINEER.

NOTES

1. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, AND REMOVE THE POSTS AND SIGNS AT THE LOCATIONS SHOWN AND AS DIRECTED BY THE RESIDENT ENGR./TECH. ALL SIGNS SHALL BE POST MOUNTED.
2. THE CONTRACTOR SHALL GIVE I.D.O.T. BUREAU OF OPERATIONS, PERMITS SECTION, TWO WEEKS NOTICE BEFORE IMPLEMENTING ANY LANE WIDTH RESTRICTIONS.
3. THE ABOVE NOTED WORK, INCLUDING SIGNS, POSTS, HARDWARE, AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE, EACH, FOR TRAFFIC CONTROL AND PROTECTION, STD 701321 AND NO OTHER COMPENSATION WILL BE ALLOWED.

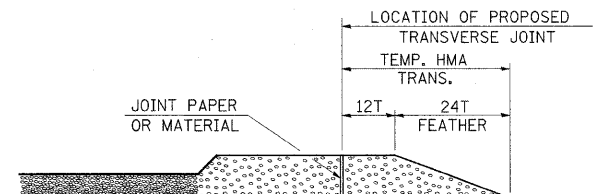
FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETOUR ROAD CLOSURE SIGNING	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -			869	(1-1,1,3,6)R-1,RS-3(1,3,6)B-2	*	299	170	
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -			* PERRY & FRANKLIN COUNTIES CONTRACT NO. 98797					
	PLOT DATE = #DATE#	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
						SCALE: 50	SHEET NO. OF SHEETS		STA. TO STA.		

TEMPORARY HOT-MIX ASPHALT TRANSITIONS



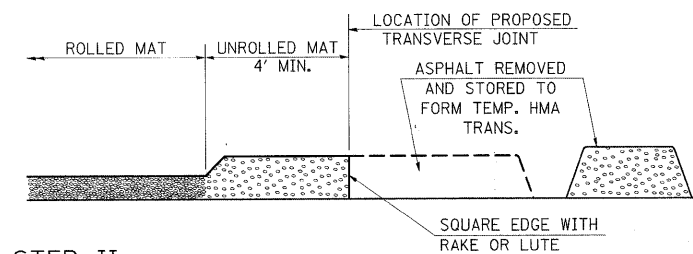
STEP I

1. PLACE HOT-MIX ASPHALT MAT, LENGTH 36 TIMES THE THICKNESS OF THE MAT BEING PLACED PAST THE PROPOSED TRANSVERSE JOINT LOCATION USING NORMAL OPERATING PROCEDURES. EXTREME CARE SHOULD BE TAKEN TO MAINTAIN ENOUGH MATERIAL IN FRONT OF THE SCREED TO MAINTAIN REQUIRED PAVING DEPTH.



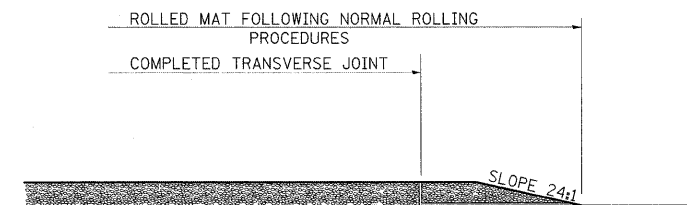
STEP III

1. JOINT PAPER OR OTHER PRESELECTED JOINT MATERIAL IS THEN PLACED IN THE CLEARED AREA AND THE EXCESS ASPHALT USED TO HAND FORM A TRANSITION TO THE DIMENSIONS SHOWN ABOVE.
2. NOTE THAT IN CONSTRUCTING THE TRANSITION, THE MAT DEPTH IS CONTINUED AS PART OF THE TRANSITION BEFORE FORMING THE FEATHER.



STEP II

1. MOVE THE PAVER OUT OF THE WAY AND REMOVE THE ASPHALT FROM THE AREA OF THE PROPOSED TEMPORARY HOT-MIX ASPHALT TRANSITION.
2. SQUARE UP THE END OF THE MAT WITH A RAKE OR LUTE.
3. NOTE THAT THE MAT WITHIN 4' OF THE END OF JOINT IS NOT TO BE ROLLED AT THIS TIME.



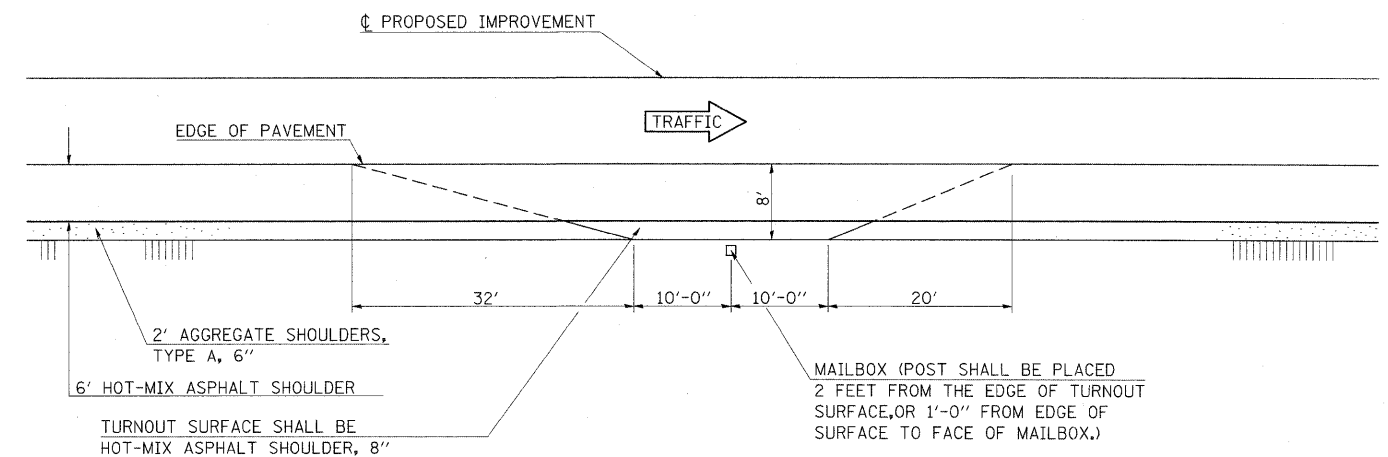
STEP IV

1. COMPLETE TEMPORARY TRANSITION BY ROLLING.
2. TO RESUME PAVING, AT THE JOINT, REMOVE TEMPORARY TRANSITION AND DISPOSE OF THE MATERIAL ACCORDING TO ART. 202.03 OF THE STD. SPECS. (COST INCLUDED IN THE CONTRACT).
3. CONSTRUCTING THE TEMPORARY TRANSITIONS WILL NOT BE PAID FOR SEPARATELY IN ACCORDANCE WITH ARTICLE 406.14 OF THE STANDARD SPECIFICATIONS.

STD. 9-26

REVISIONS	
REDRAWN	2-15-89
REVISED	8-16-94
REVISED	01-09-07
RESIZED	05-8-08

MAILBOX TURNOUT

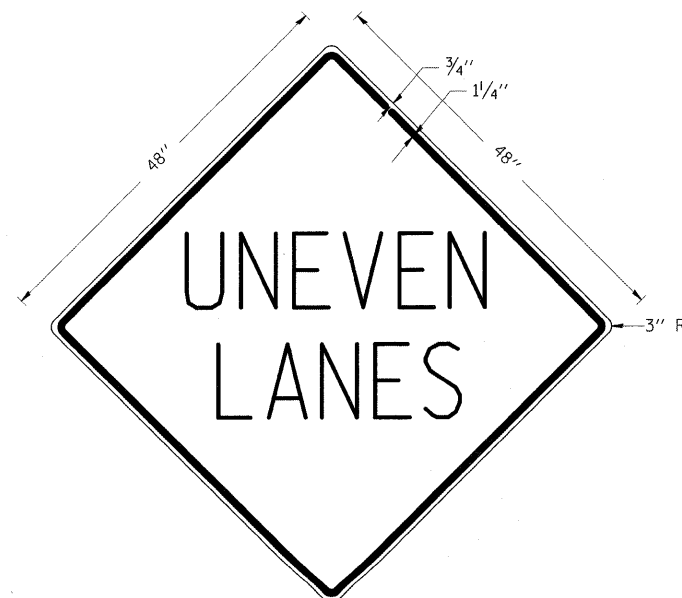


NOTE:

WHERE THERE IS MORE THAN ONE MAILBOX IN A GROUP, THE 10 FOOT DIM. SHALL BE MEASURED FROM THE FIRST AND LAST MAILBOX.

UNEVEN LANES SIGN

W8-11 (48" x 48")



COLORS:

LEGEND AND BORDER - BLACK NON-REFLECTORIZED
BACKGROUND - ORANGE REFLECTORIZED

NOTE: PRIOR TO ALLOWING TRAFFIC ON ANY PORTION OF THE ROADWAY THAT HAS BEEN COLDMILLED OR BEFORE RESURFACING OPERATIONS BEGIN, THE CONTRACTOR SHALL HAVE ERECTED "UNEVEN PAVEMENT" SIGNS THAT CONFORM TO THE ABOVE DETAILS. A MINIMUM OF ONE SIGN AT EACH END OF THE IMPROVEMENT WILL BE REQUIRED. THE CONTRACTOR SHALL MAINTAIN THE "UNEVEN PAVEMENT" SIGNS UNTIL THE RESURFACING OPERATIONS ARE COMPLETED.

IF AT ANY TIME THE SIGNS ARE IN PLACE BUT NOT APPLICABLE, THEY SHALL BE TURNED FROM THE VIEW OF MOTORISTS OR COVERED AS DIRECTED BY THE ENGINEER.

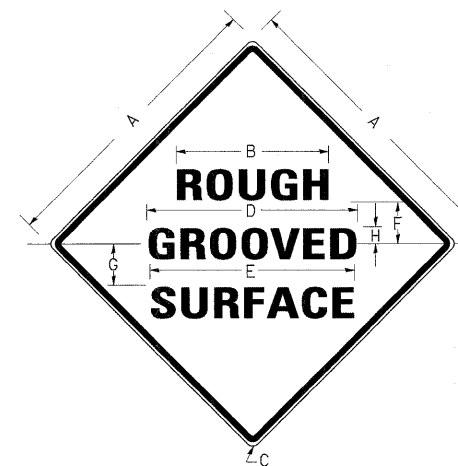
THE COST OF FURNISHING, ERECTING, MAINTAINING, AND REMOVING THE REQUIRED SIGNS SHALL BE INCLUDED IN THE CONTRACT.

REVISIONS	
DRAWN	2-15-89
REVISED	4-06-93
REDESIGNED	7-23-04
RESIZED	5-08-08

STD. 9-41

ILLINOIS STANDARD

W8-I106



COLORS:

LEGEND AND BORDER- BLACK NON-REFLECTORIZED
BACKGROUND- ORANGE REFLECTORIZED

SIGN SIZE	DIMENSIONS							
	A	B	C	D	E	F	G	H
48X48	48.0	24.1	3.0	34.0	33.0	6.0	13.0	3.5

SIGN SIZE	SERIES LINES			MAR-GIN	BOR-DER	BLANK STD.
	1	2	3			
48X48	7C	7C	7C	0.8	1.2	B4-48D

ALL DIMENSIONS IN INCHES

NOTES:

PRIOR TO ALLOWING TRAFFIC ON ANY PORTION OF THE ROADWAY THAT HAS BEEN COLDMILLED, THE CONTRACTOR SHALL HAVE ERECTED "ROUGH GROOVED SURFACE" SIGNS THAT CONFORM TO THE ABOVE DETAILS. A MINIMUM OF ONE SIGN AT EACH END OF THE IMPROVEMENT WILL BE REQUIRED. THE CONTRACTOR SHALL MAINTAIN THE "ROUGH GROOVED SURFACE" SIGNS UNTIL THE COLDMILLED SURFACE IS COVERED WITH LEVELING BINDER OR SURFACE COURSE.

IF AT ANY TIME THE SIGNS ARE IN PLACE BUT NOT APPLICABLE, THEY SHALL BE TURNED FROM THE VIEW OF MOTORISTS OR COVERED AS DIRECTED BY THE ENGINEER.

THE COST OF FURNISHING, ERECTING, MAINTAINING, AND REMOVING THE REQUIRED SIGNS SHALL BE INCLUDED IN THE CONTRACT.

REVISIONS	
REDRAWN	2-15-89
REVISED	4-6-93
REVISED	3-27-08

STD. 9-39

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -
#FILE#		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETAILS: TEMPORARY HOT-MIX ASPHALT TRANSITIONS,
MAILBOX TURNOUT, UNEVEN LANES SIGN, ROUGH
GROOVED SURFACE SIGN**

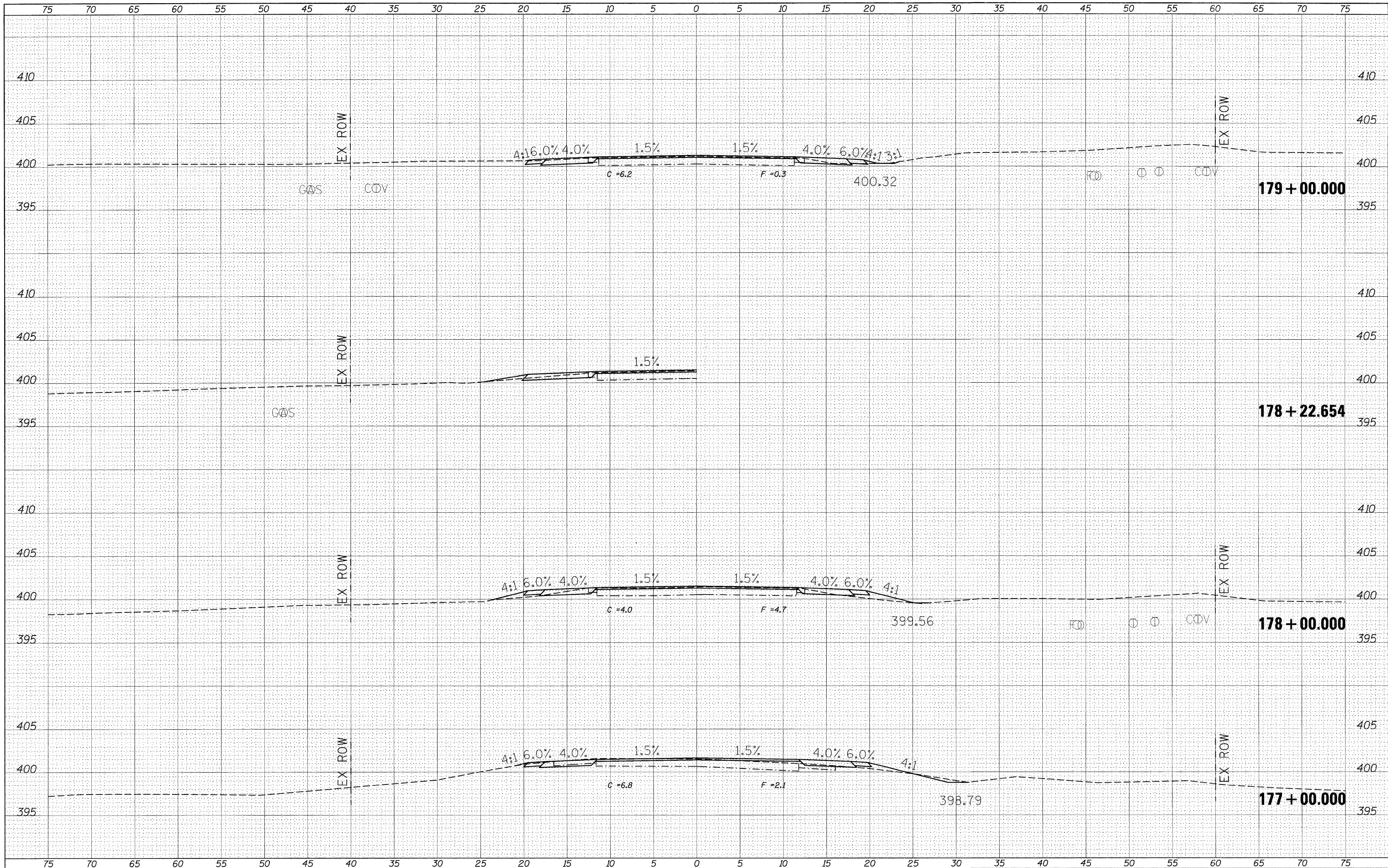
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	(1-1,1,3,6)R-1,RS-3;(1,3,6)B-2	*	299	171
			CONTRACT NO. 98797	
ILLINOIS FED. AID PROJECT				

*PERRY & FRANKLIN COUNTIES

DATE	
BY	
FINAL SURVEY	
SUBMITTED	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
SUBMITTED	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



FILE NAME =
 \$FILEL\$

USER NAME = \$USER\$	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = \$DATE\$	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTION SHEETS

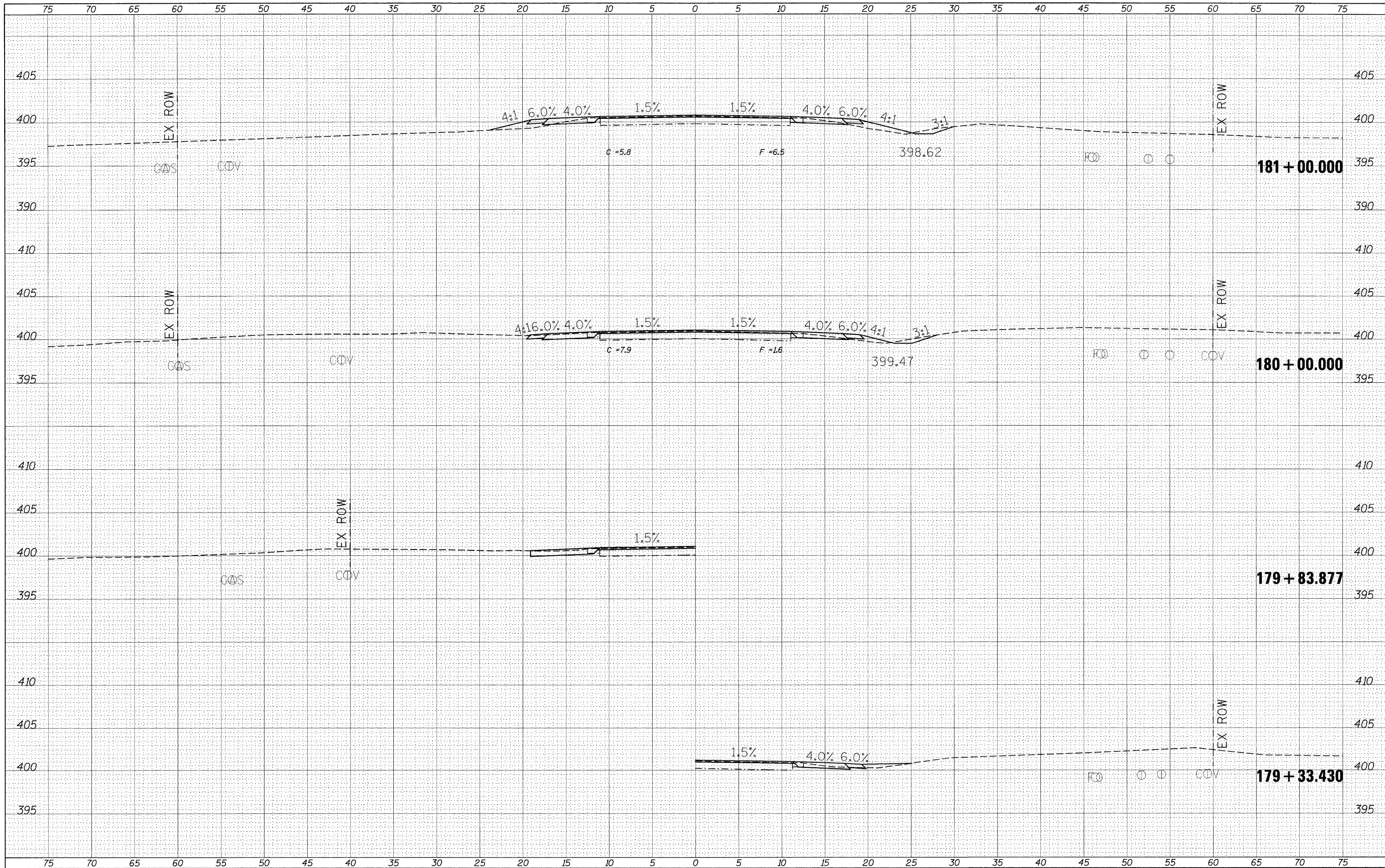
SCALE: SHEET NO. OF SHEETS STA. 177+00.000 TO STA. 179+00.000

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 172
ILLINOIS FED. AID PROJECT			CONTRACT NO. 98797	

**1-1,1,3,6)R-1,RS-3(1,3,6)B-2 *PERRY & FRANKLIN

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

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

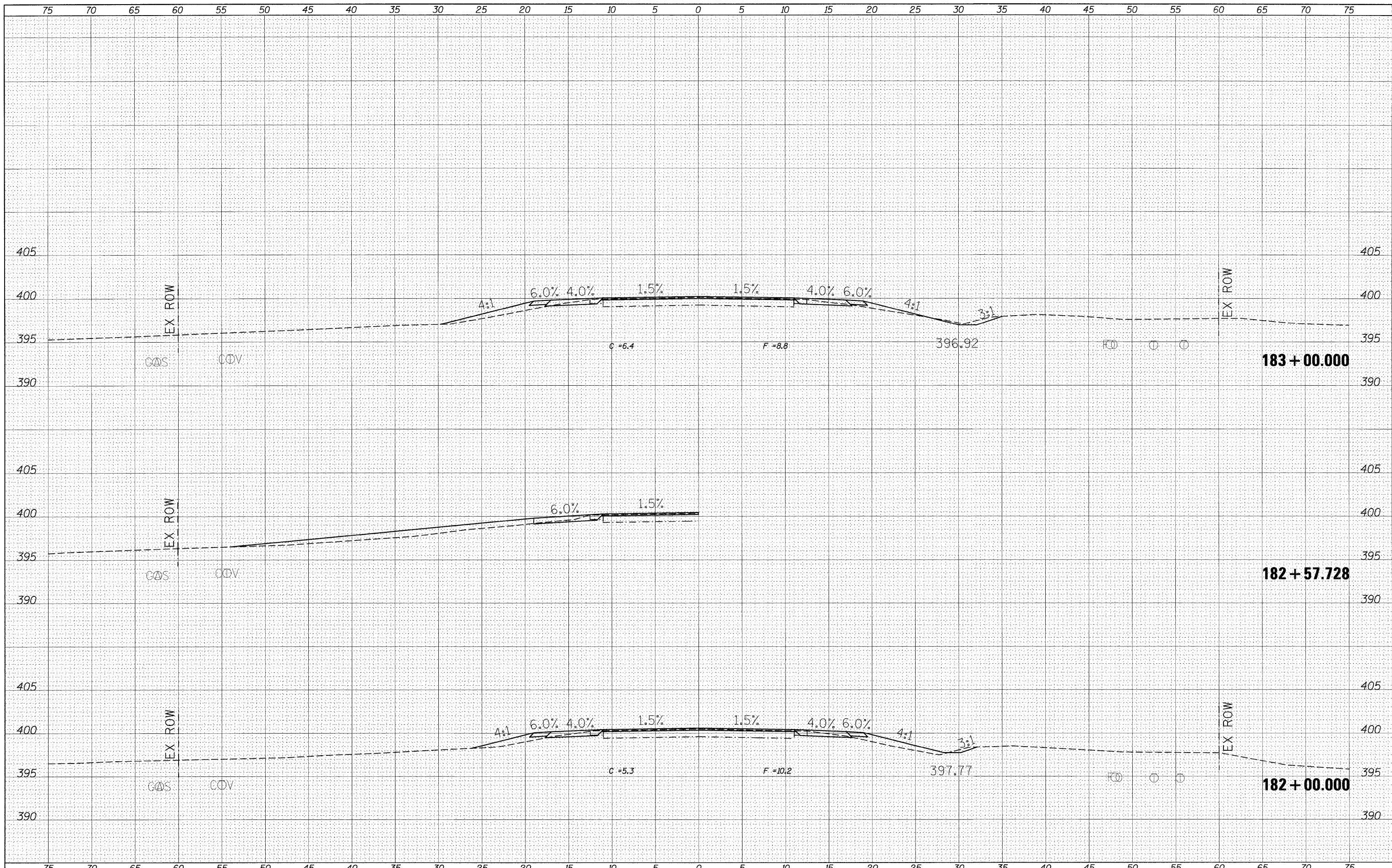


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#FILE#		DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA. 179+33.430	TO STA. 181+00.000	CONTRACT NO. 98797	
		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -		** (1-1, 3, 6) R-1, RS-3; (1, 3, 6) B-2							

*PERRY & FRANKLIN

DATE	
BY	
SUPERVISOR	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
SUPERVISOR	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

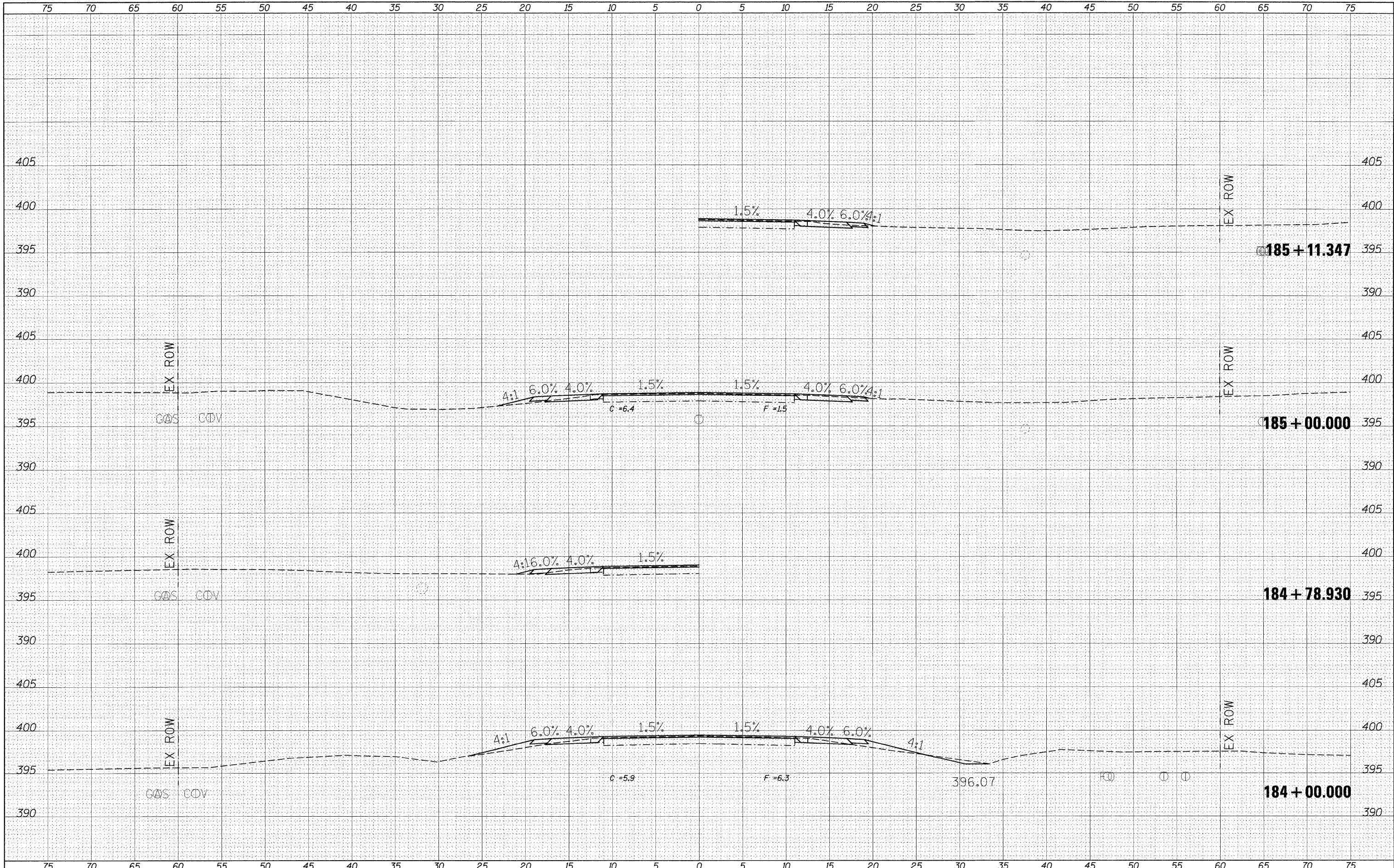


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#FILE#		DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA. 182+00.000 TO STA. 183+00.000	CONTRACT NO. 98797		
		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -		**1-1,3,6)R-1,RS-3;(1,3,6)B-2							

*PERRY & FRANKLIN

DATE	
BY	
SURVEYED	
PLOTTED	
NOTE BOOK	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
NOTE BOOK	
NO.	

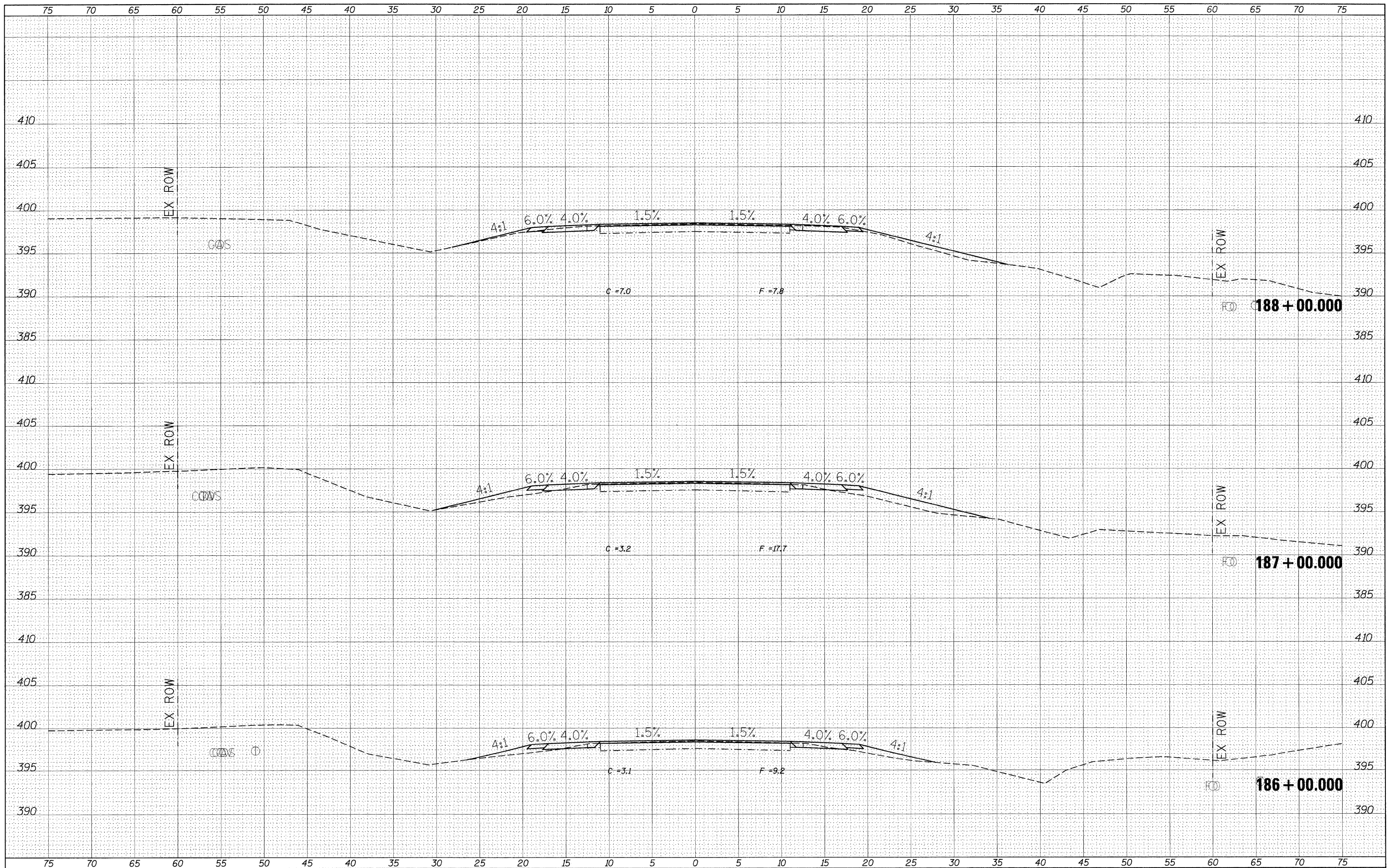


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		CHECKED -	REVISED -			CONTRACT NO. 98797					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
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*PERRY & FRANKLIN

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

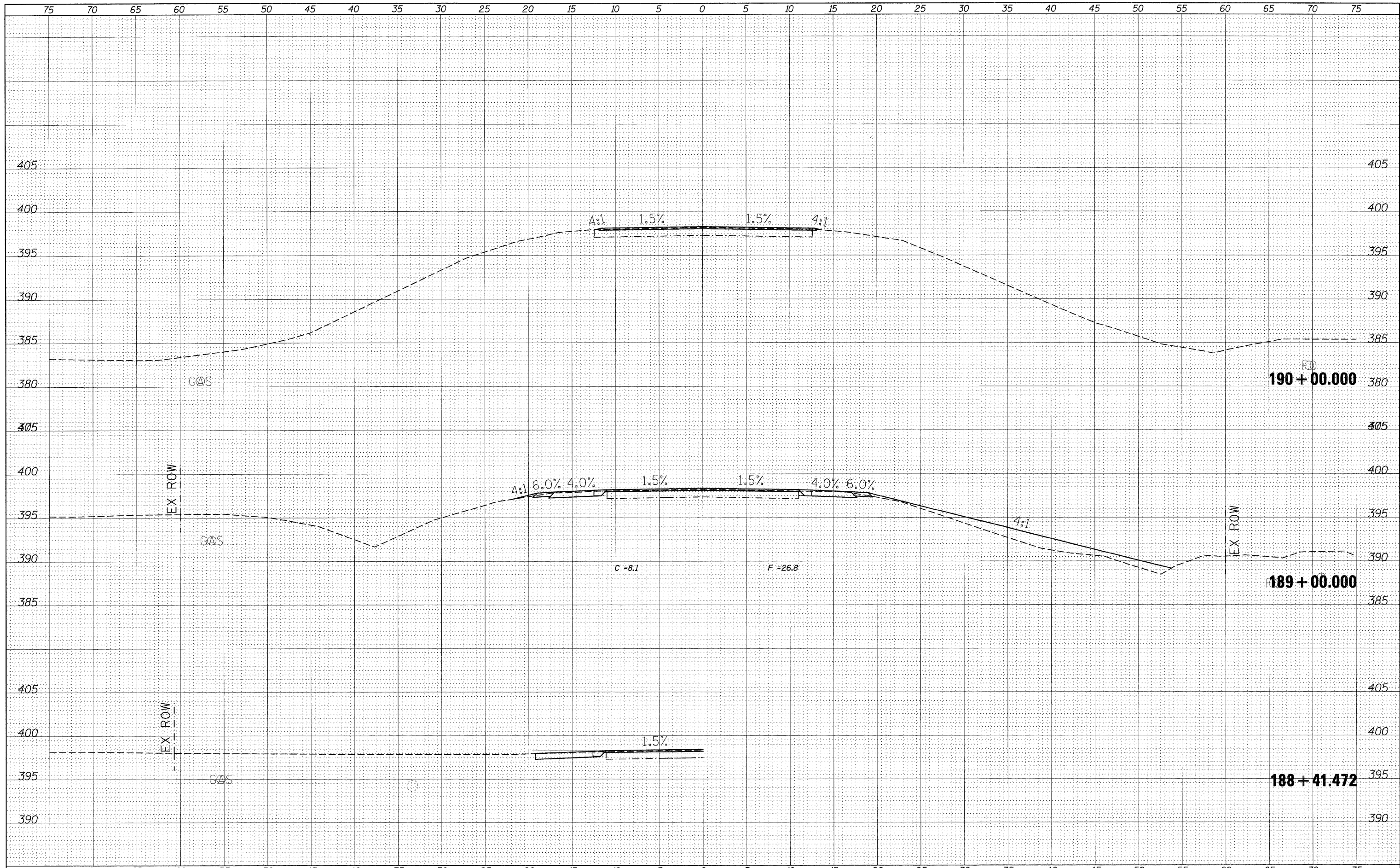
DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	
SURVEYED	
TEMPLATE	
AREAS CHECKED	



FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTION SHEETS			F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 176
#FILE#		DRAWN -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. 186+00.000 TO STA. 188+00.000	CONTRACT NO. 98797		ILLINOIS FED. AID PROJECT		
		CHECKED -	REVISED -									
		DATE -	REVISED -									

DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

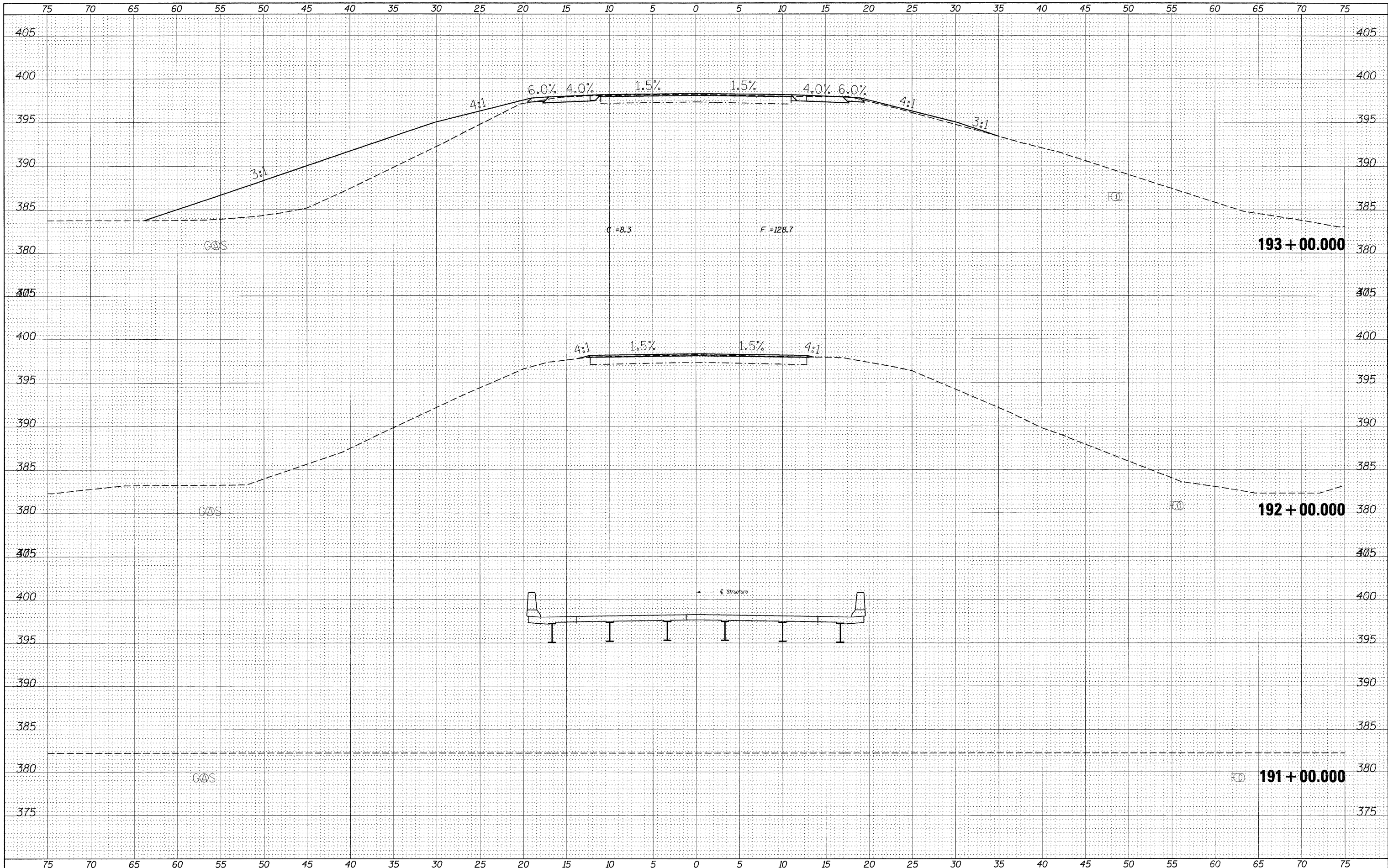
DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
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FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTION SHEETS			F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 177
#FILEL#		DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA. 188+41.472	TO STA. 190+00.000	CONTRACT NO. 98797	
		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -		**(-1,1,3,6)R-1,RS-3,(1,3,6)B-2							

DATE	
BY	
FINAL SURVEY	
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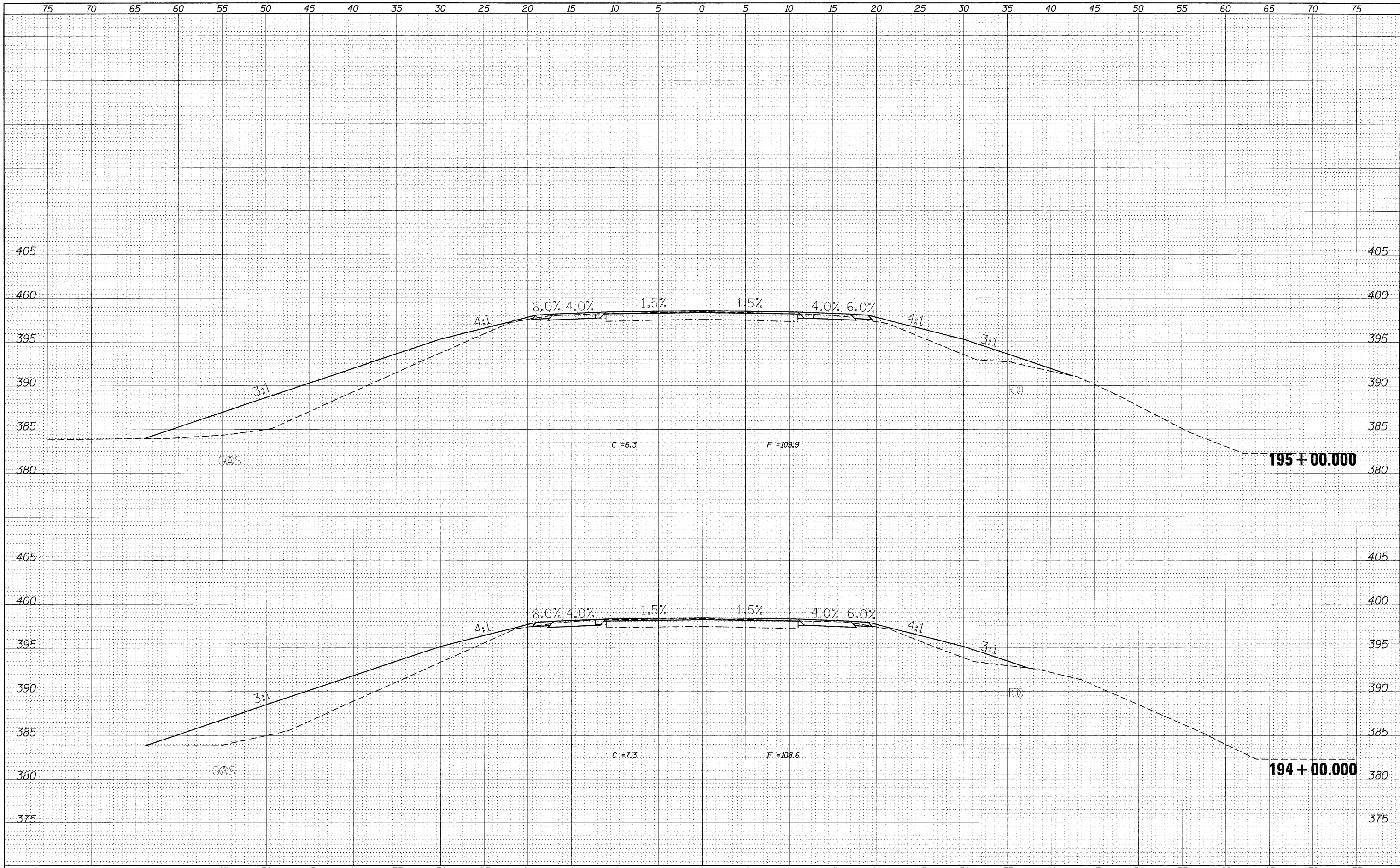
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FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTION SHEETS		F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 178	
#FILE#	PLOT SCALE = #SCALE#	DRAWN -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. 191+00.000 TO STA. 193+00.000	CONTRACT NO. 98797		ILLINOIS FED. AID PROJECT		
	PLOT DATE = #DATE#	CHECKED -	REVISED -		** (1-1, 3, 6) R-1, RS-3 (1, 3, 6) B-2							
		DATE -	REVISED -		* PERRY & FRANKLIN							

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FILE NAME =	USER NAME = #USER#
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

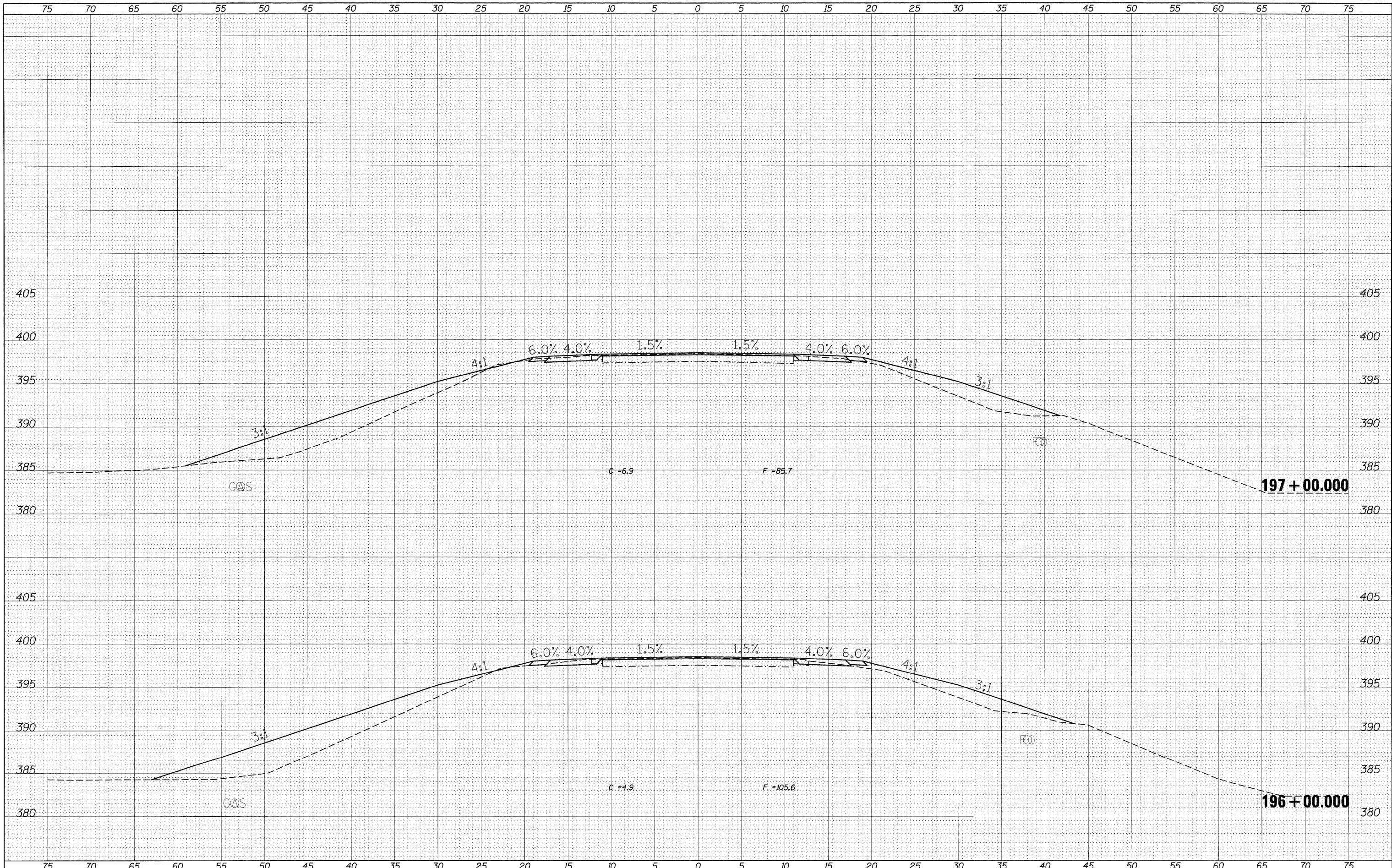
CROSS SECTION SHEETS

SCALE: SHEET NO. OF SHEETS STA. 194+00.000 TO STA. 195+00.000

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	**	*	299	179
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

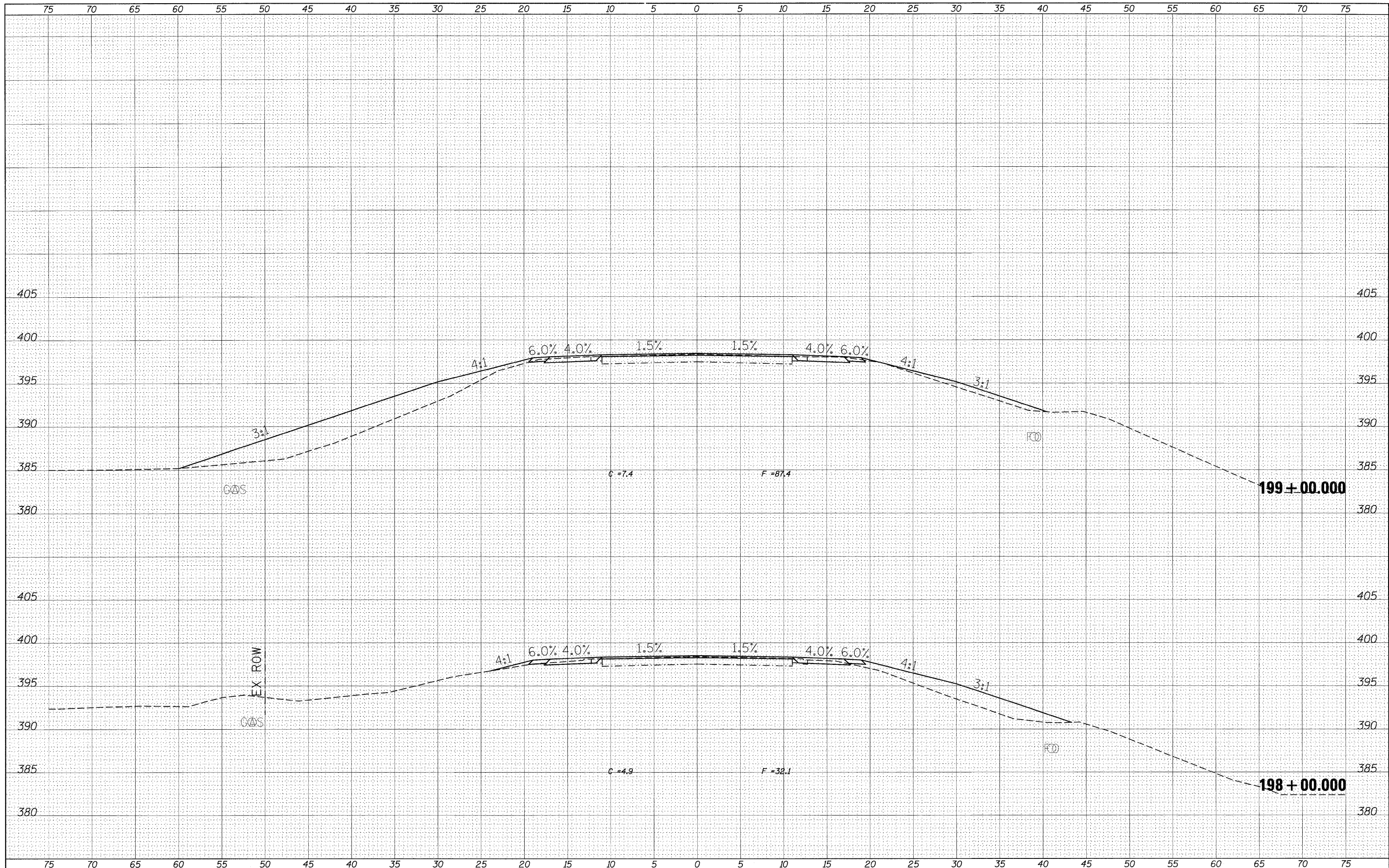
CROSS SECTION SHEETS
SCALE: SHEET NO. OF SHEETS STA. 196+00.000 TO STA. 197+00.000

F.A.P. RTE. 869	SECTION ..	COUNTY .	TOTAL SHEETS 299	SHEET NO. 180
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

••(1-1,1,3,6)R-1,RS-3(1,3,6)B-2 PERRY & FRANKLIN

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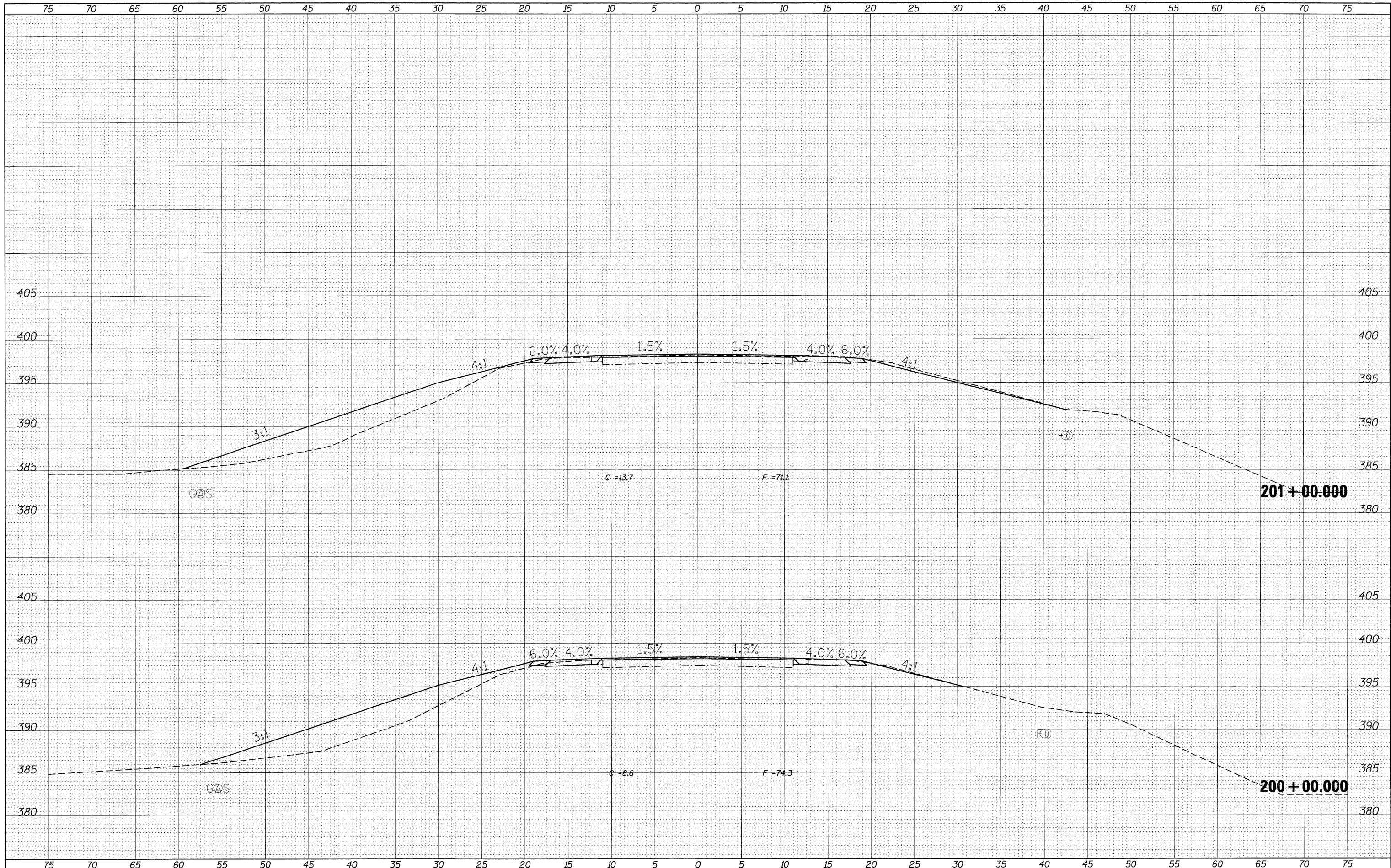
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTION SHEETS
SCALE: SHEET NO. OF SHEETS STA. 198+00.000 TO STA. 199+00.000

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 181
ILLINOIS FED. AID PROJECT			CONTRACT NO. 98797	

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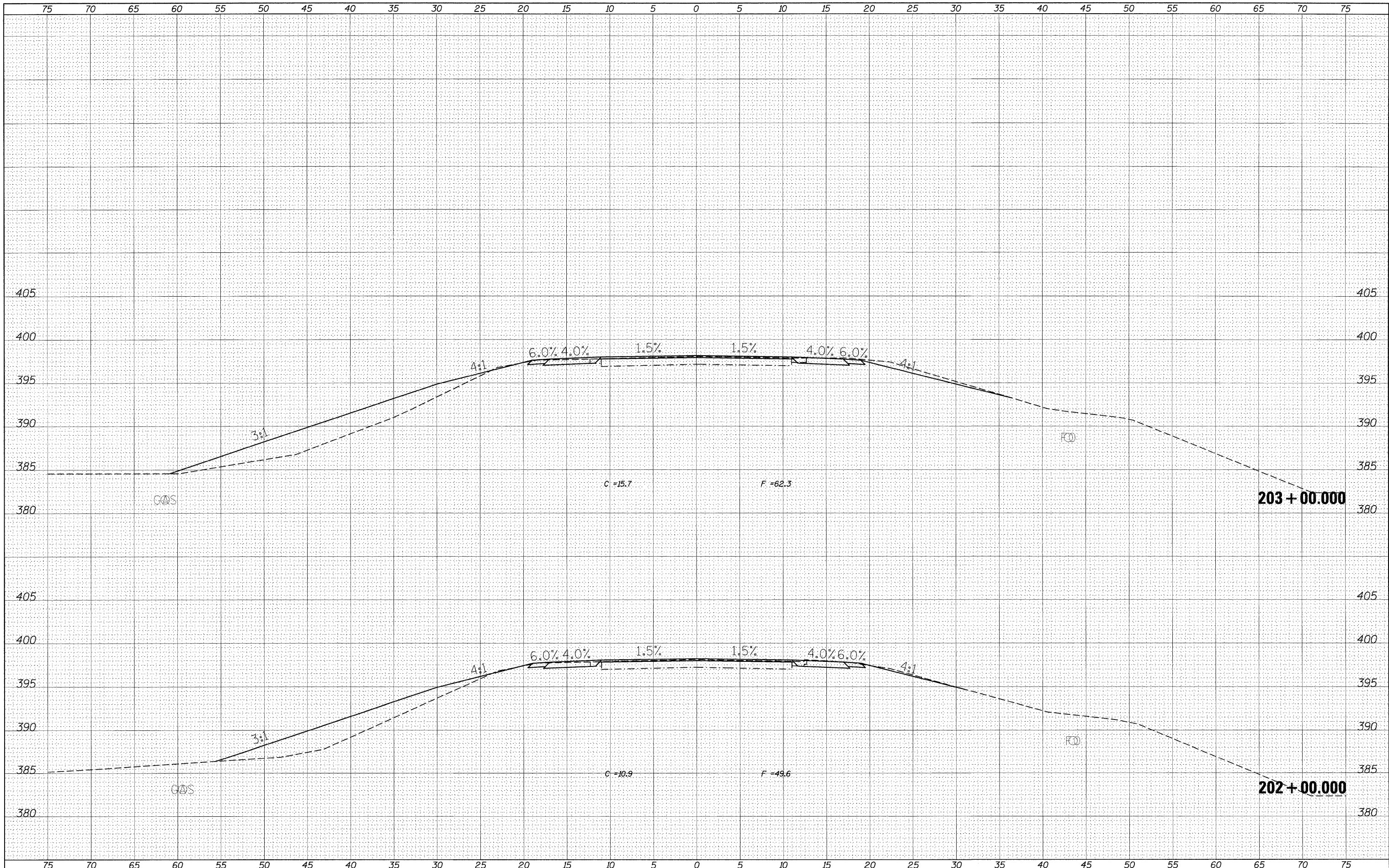
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTION SHEETS			
SCALE:	SHEET NO. OF SHEETS	STA. 200+00.000 TO STA. 201+00.000	

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 182
ILLINOIS FED. AID PROJECT			CONTRACT NO. 98797	

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

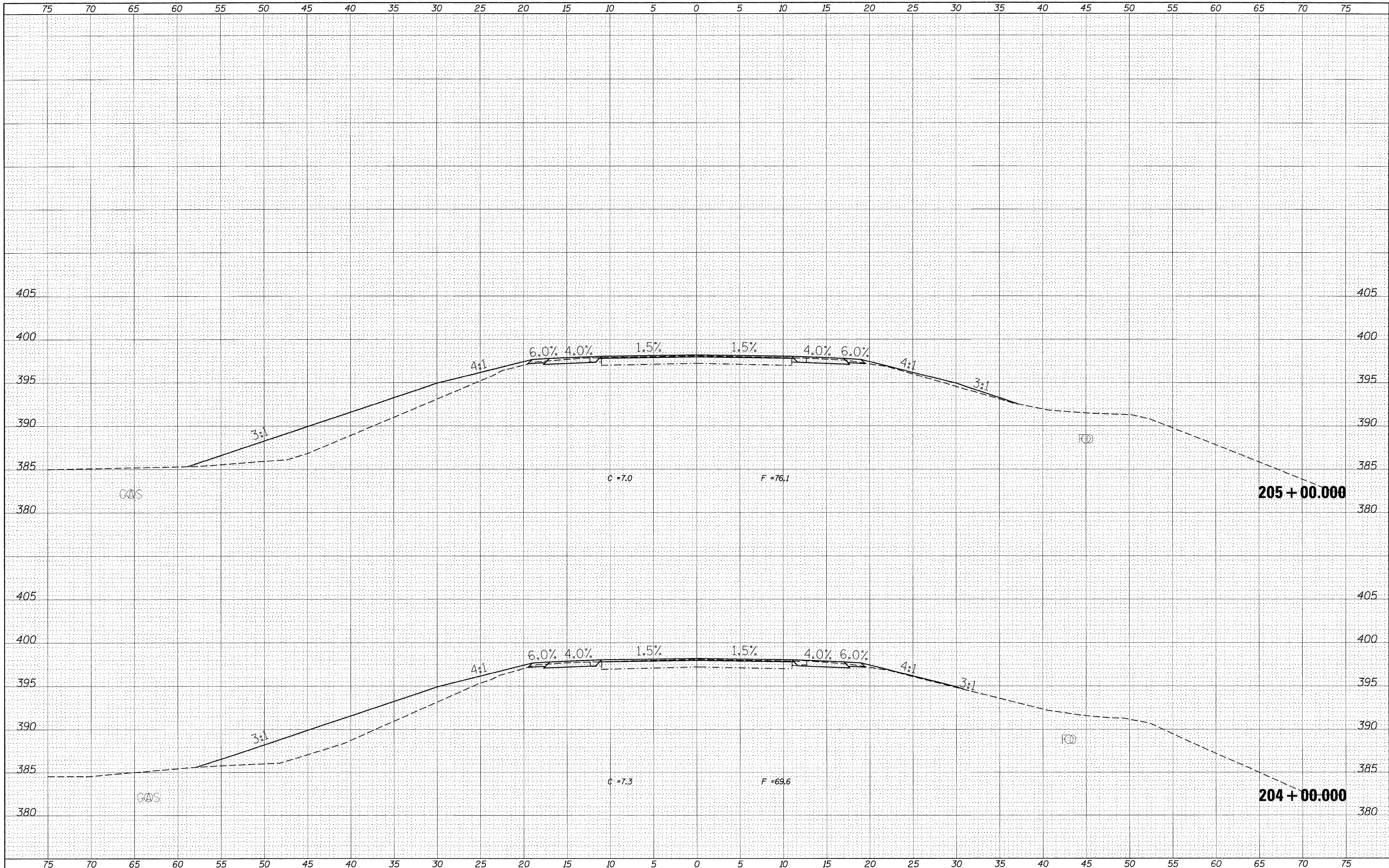
CROSS SECTION SHEETS			
SCALE:	SHEET NO.	OF SHEETS	STA. 202+00.000 TO STA. 203+00.000

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 183
			CONTRACT NO. 98797	
ILLINOIS FED. AID PROJECT				

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PLOT DATE = #DATE#	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

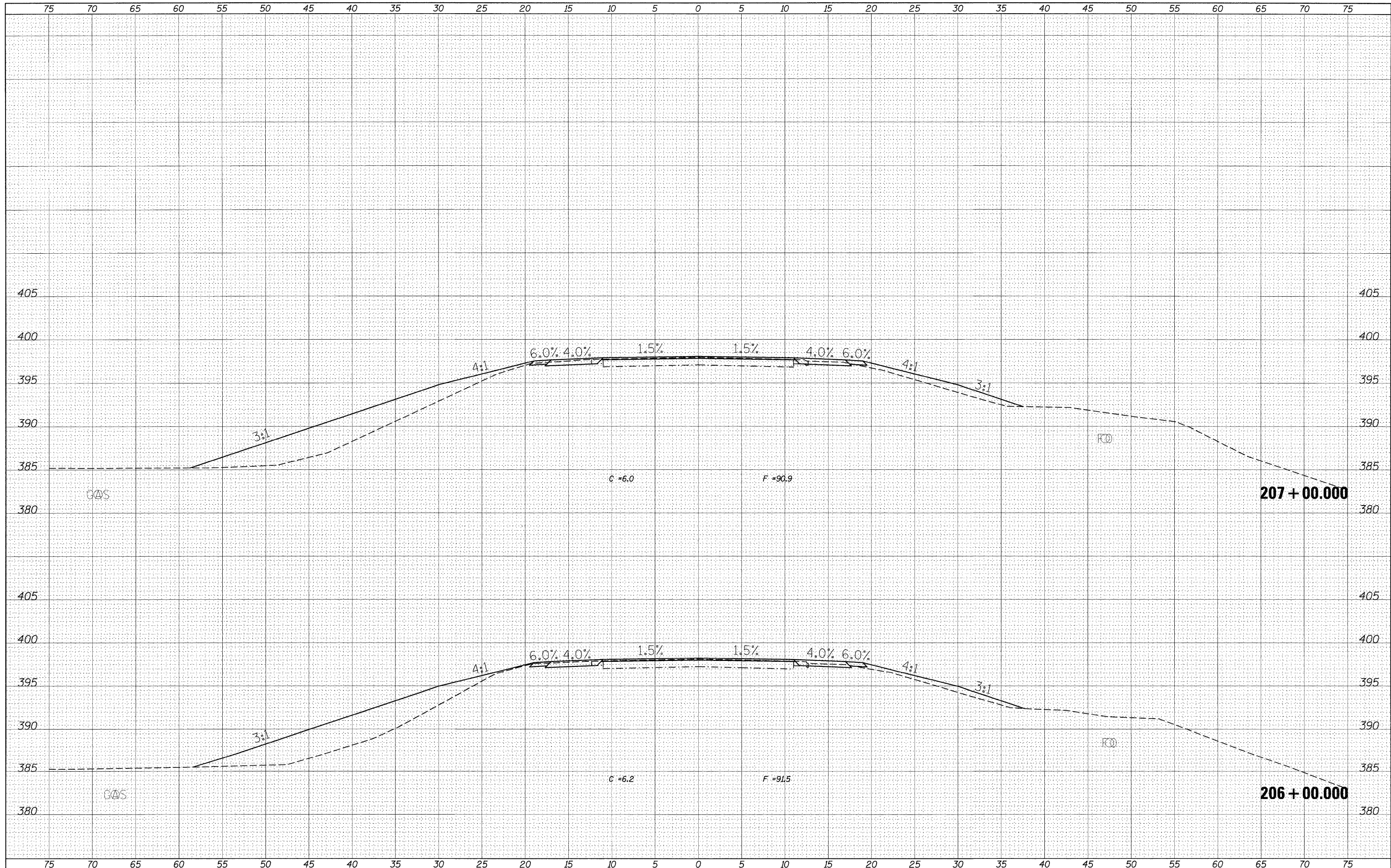
CROSS SECTION SHEETS		
SCALE:	SHEET NO. OF SHEETS	STA. 204+00.000 TO STA. 205+00.000

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 184
ILLINOIS FED. AID PROJECT			CONTRACT NO. 98797	

**1-1,3,6/R-1,R5-3/1,3,6/B-2 *PERRY & FRANKLIN

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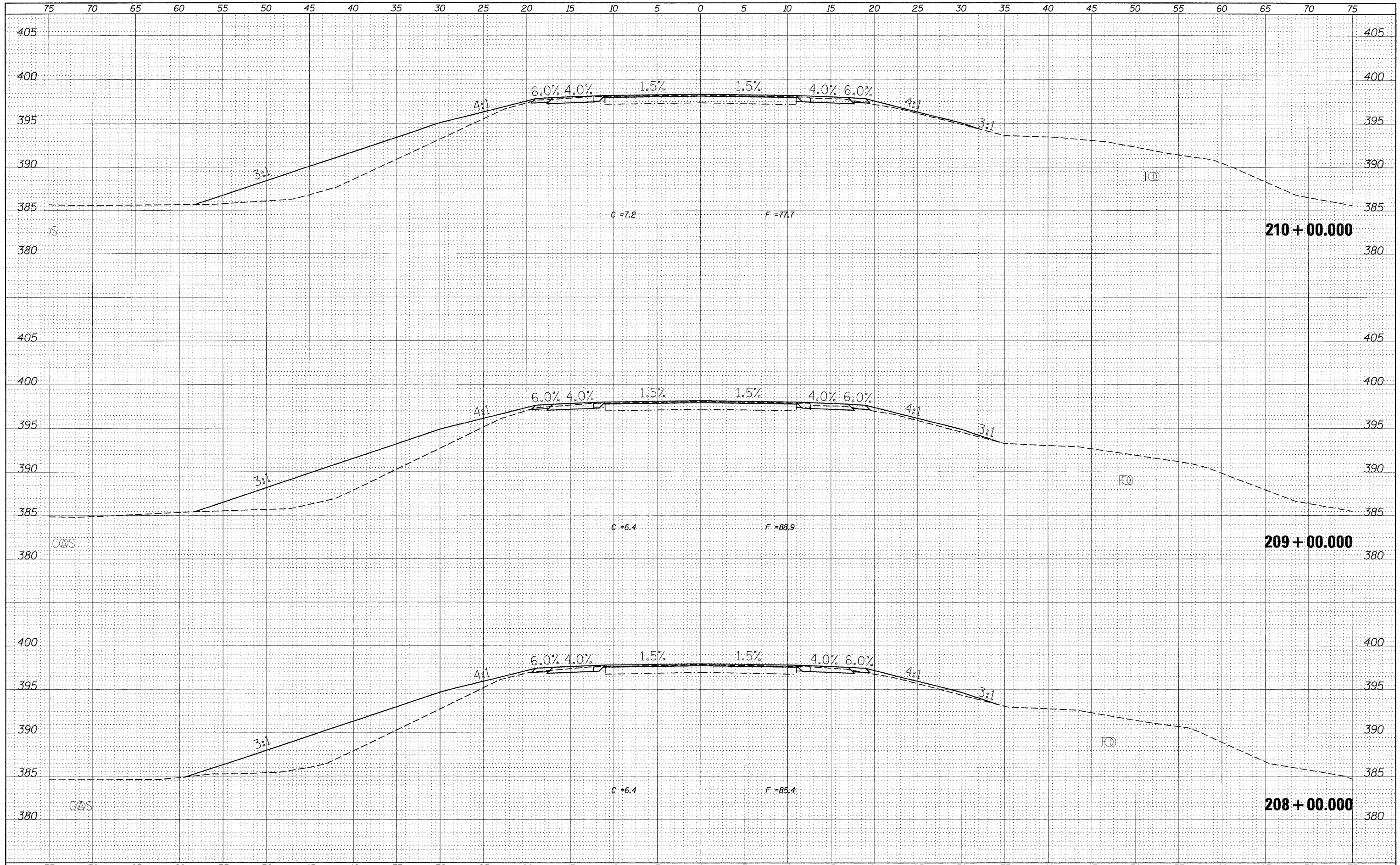
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTION SHEETS			
SCALE:	SHEET NO. OF SHEETS	STA. 206+00.000 TO STA. 207+00.000	

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 185
ILLINOIS FED. AID PROJECT			CONTRACT NO. 98797	

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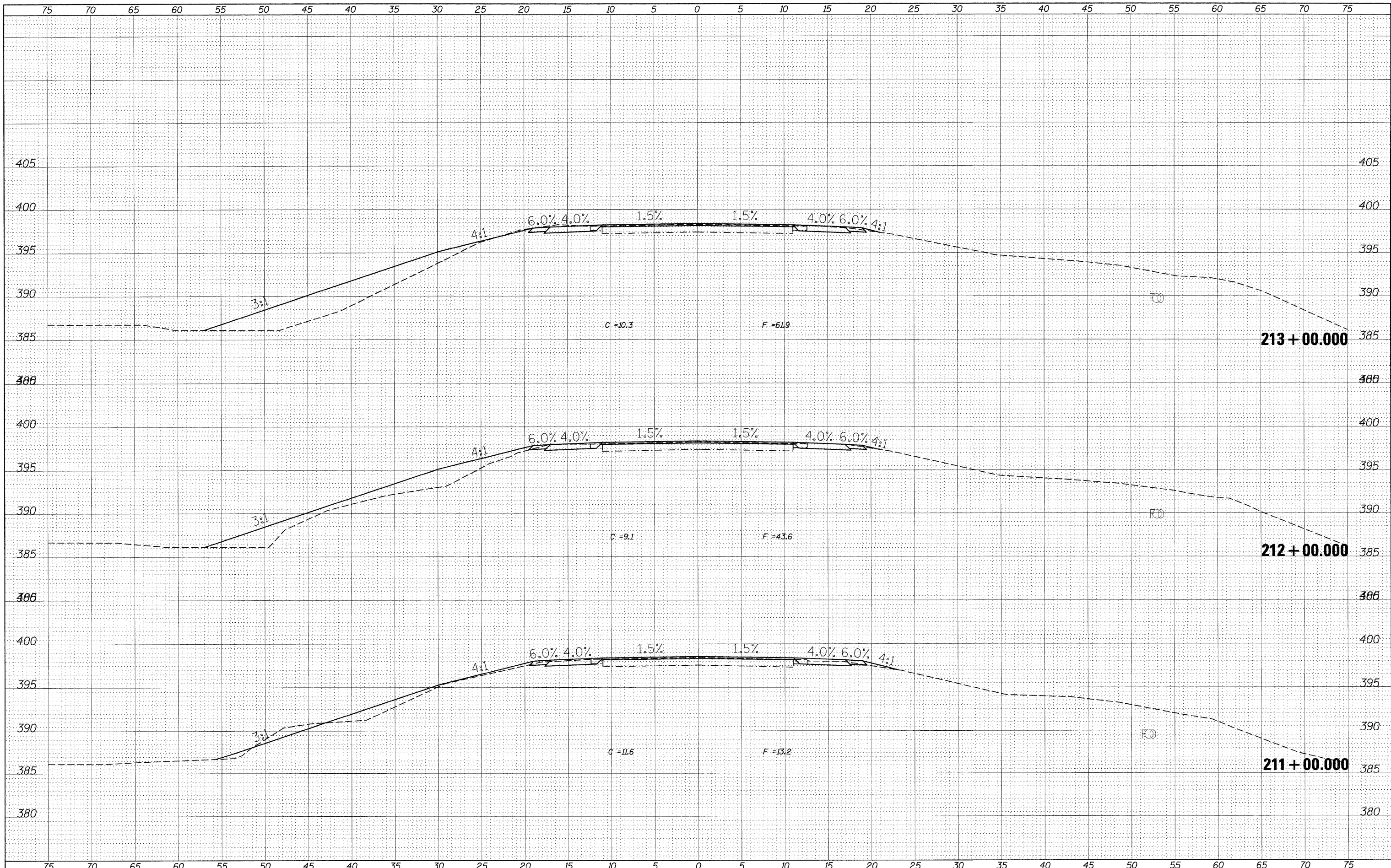
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#FILE#		DRAWN -	REVISED -		869	**	*	299	186			
		CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. 208+00.000 TO STA. 210+00.000			CONTRACT NO. 98797				
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT		**PERRY & FRANKLIN					

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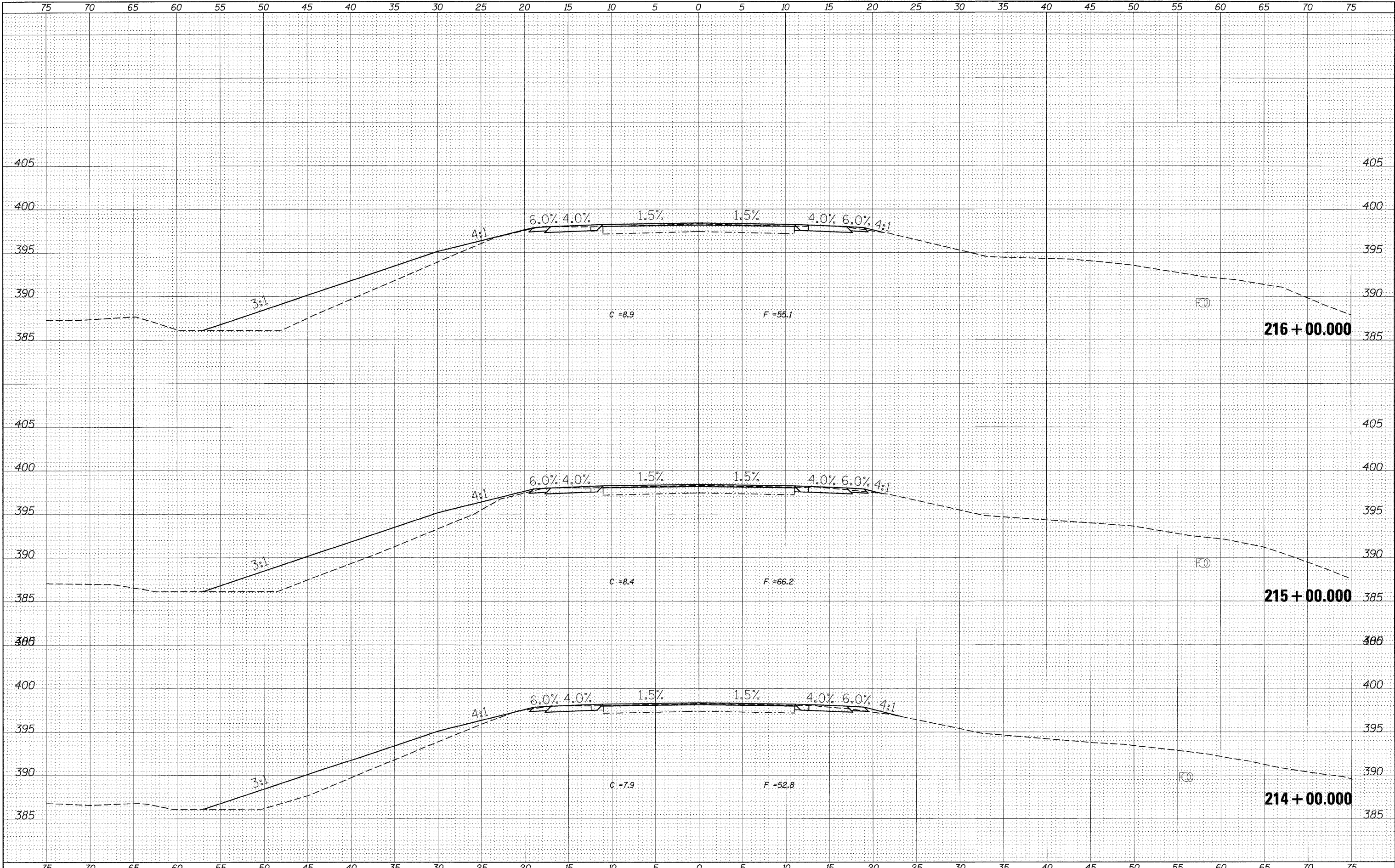
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#FILE#		DRAWN -	REVISED -			869	**	*	299	187	
		CHECKED -	REVISED -			CONTRACT NO. 98797					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

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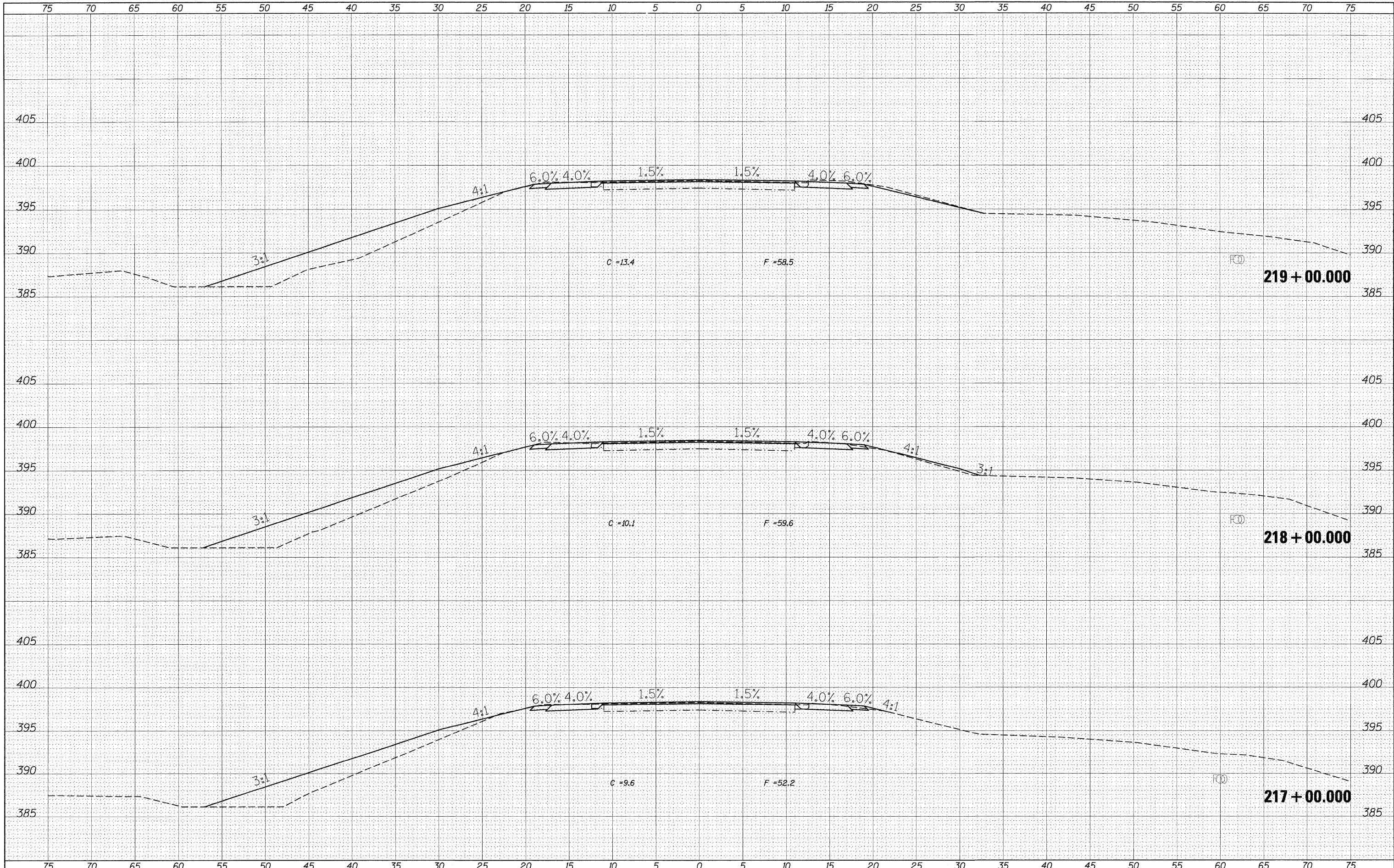


FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTION SHEETS			F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 188
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		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -		** (1-1, 3, 6) R-1, RS-3; (1, 3, 6) B-2							

*PERRY & FRANKLIN

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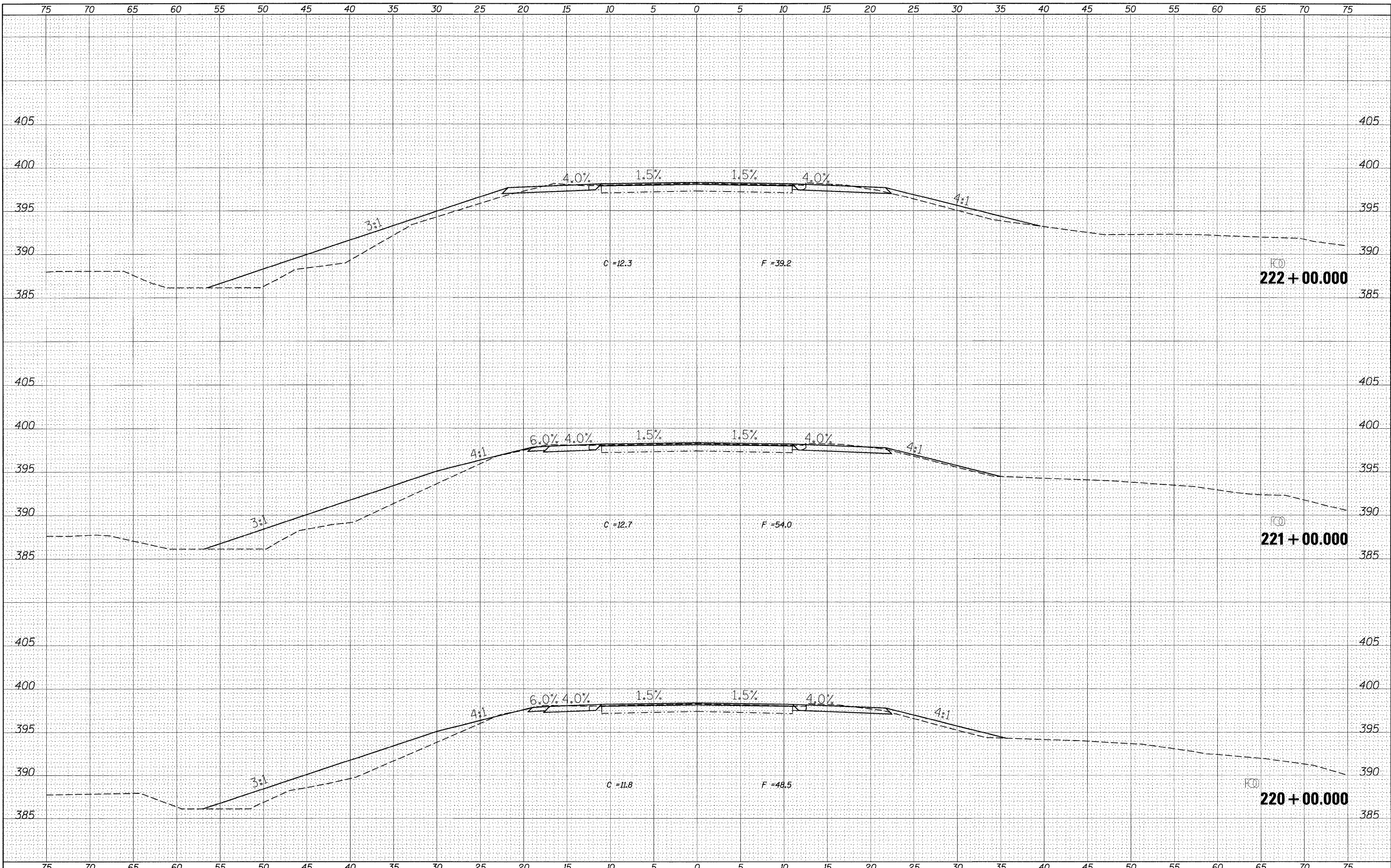
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FILE#		DRAWN -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. 217+00.000 TO STA. 219+00.000	ILLINOIS FED. AID PROJECT		CONTRACT NO. 98797	
		CHECKED -	REVISED -								
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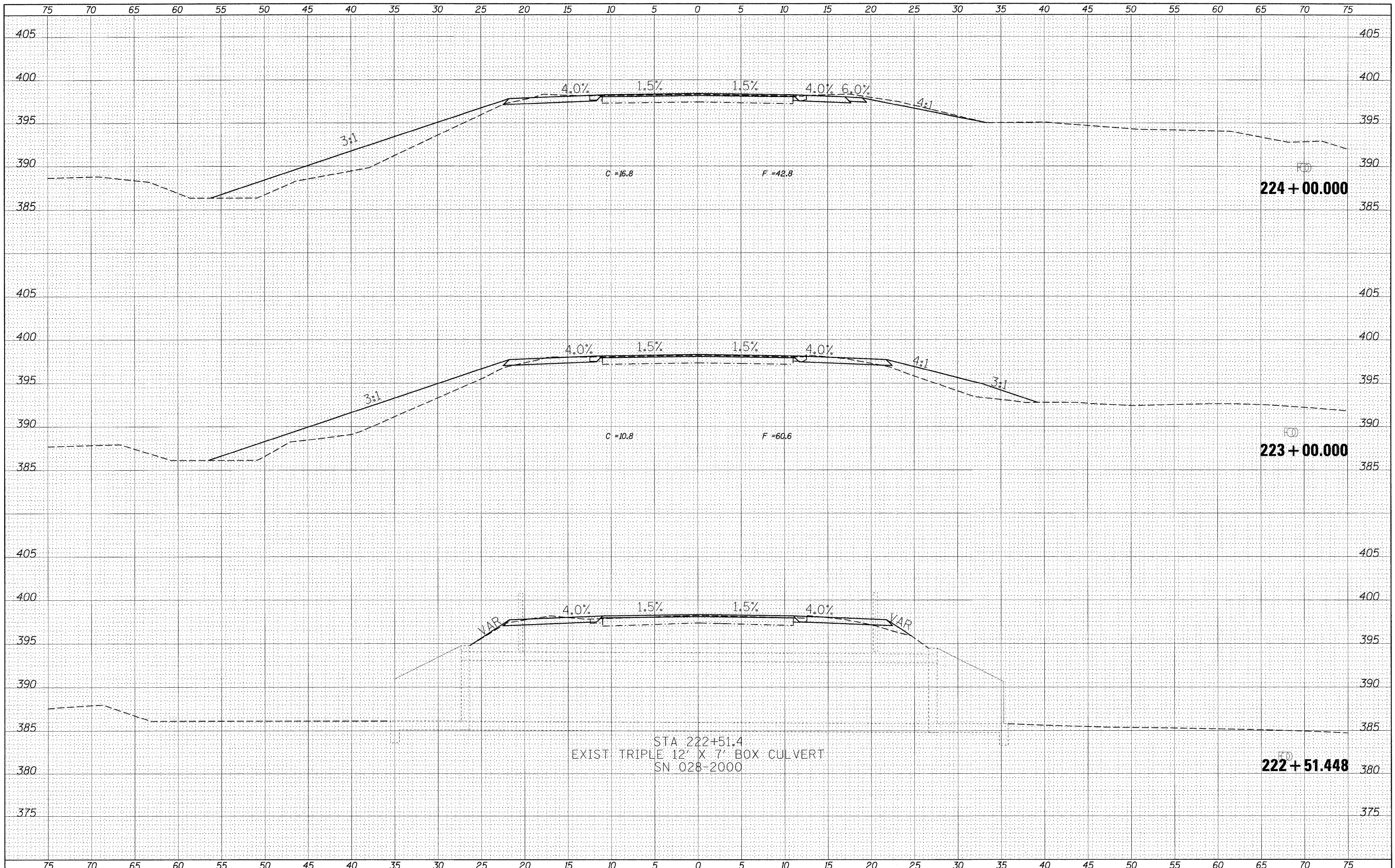
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FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTION SHEETS		F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 190
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		CHECKED -	REVISED -								
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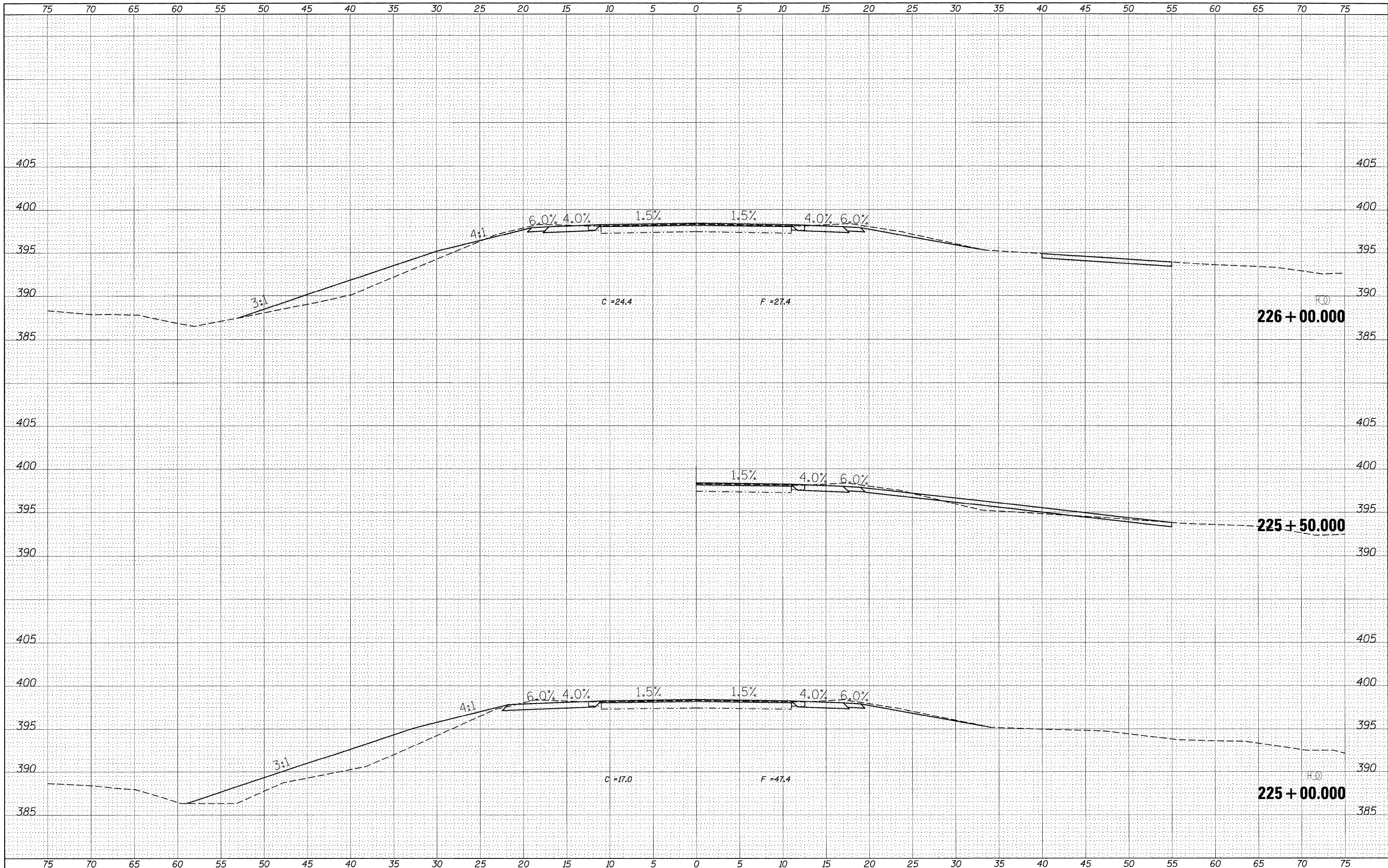
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FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTION SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
FILE#		DRAWN -	REVISED -			869	**	*	299	191	
		CHECKED -	REVISED -			CONTRACT NO. 98797					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
SCALE:						SHEET NO. OF SHEETS		STA. 222+51.448 TO STA. 224+00.000			

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PLOT SCALE = #SCALE#	CHECKED -	REVISED -
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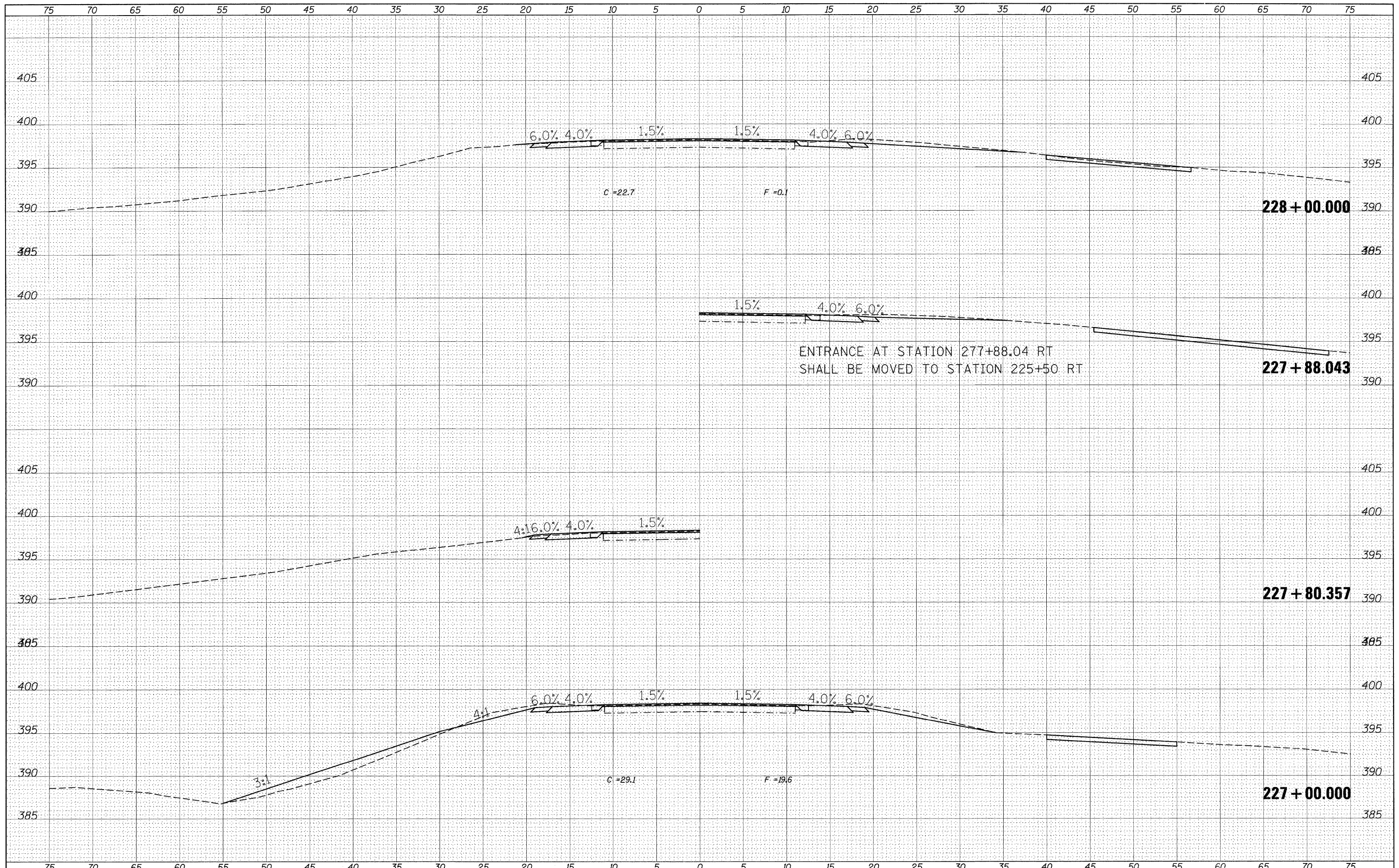
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTION SHEETS		
SCALE:	SHEET NO. OF SHEETS	STA. 225+00.000 TO STA. 226+00.000

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 192
ILLINOIS FED. AID PROJECT			CONTRACT NO. 98797	

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

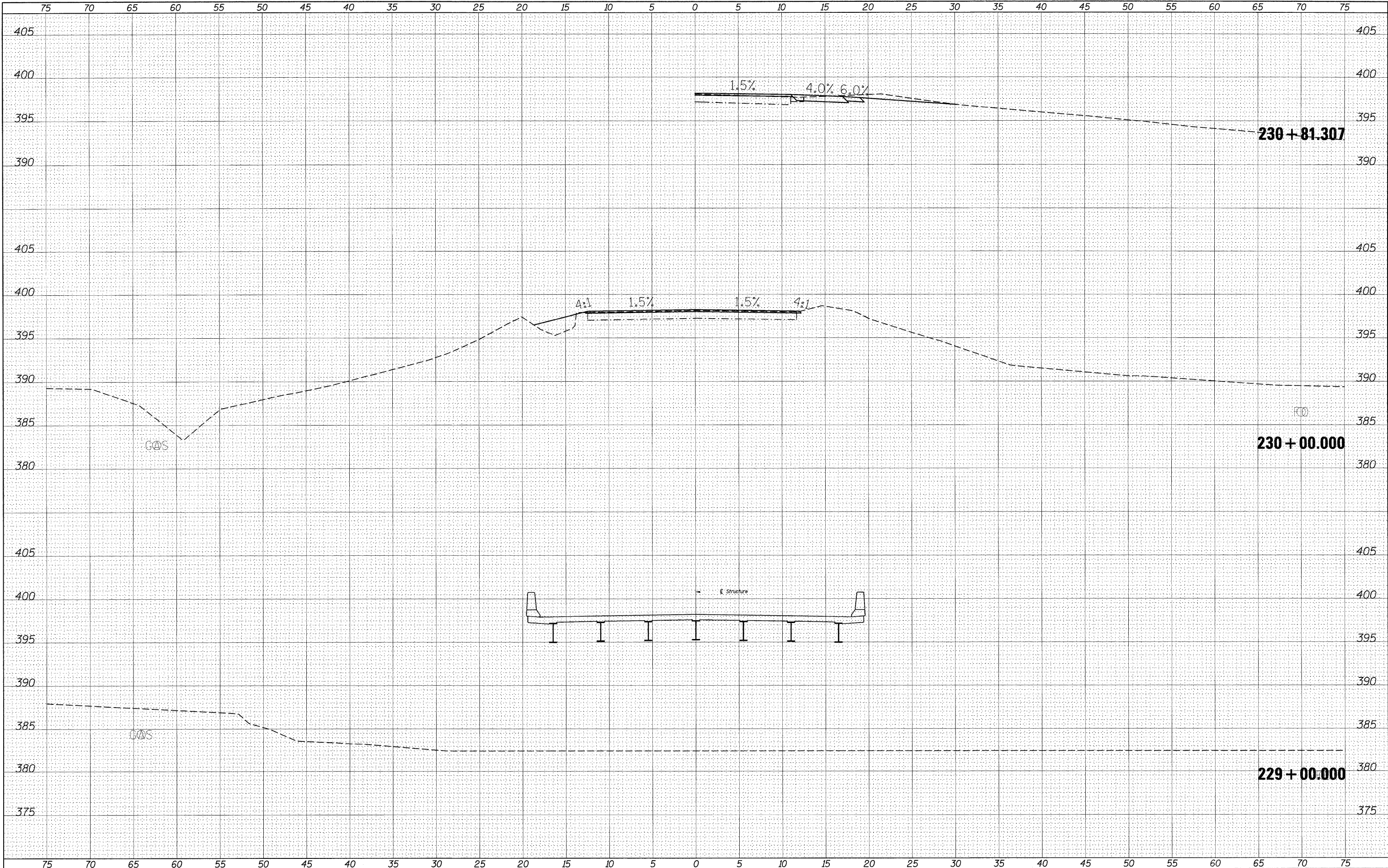
CROSS SECTION SHEETS

SCALE: SHEET NO. OF SHEETS STA. 227+00.000 TO STA. 228+00.000

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 193
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

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NOTE BOOK	PLOTTED
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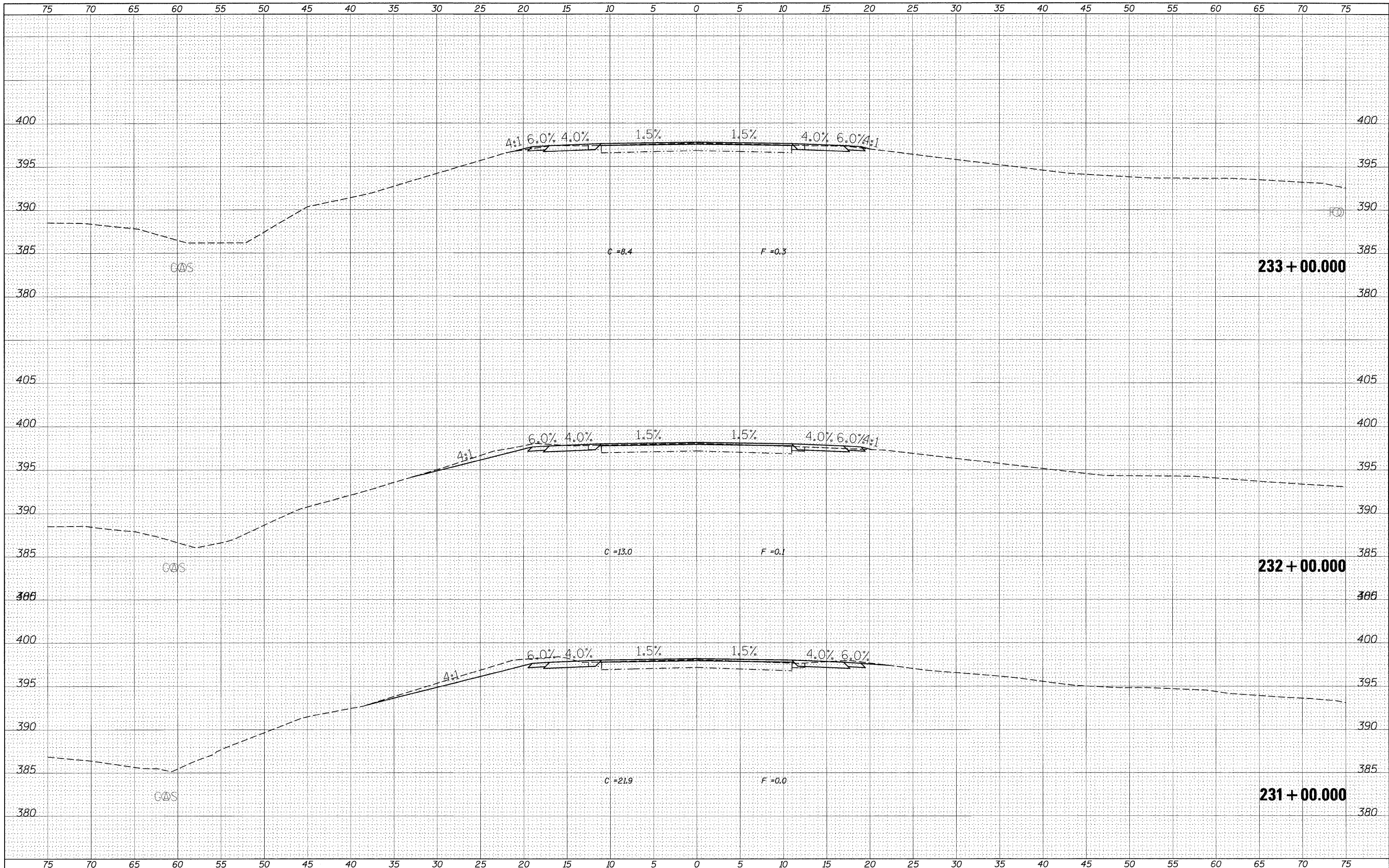
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#FILEL*		DRAWN -	REVISED -			CONTRACT NO. 98797		ILLINOIS FED. AID PROJECT			
		CHECKED -	REVISED -								
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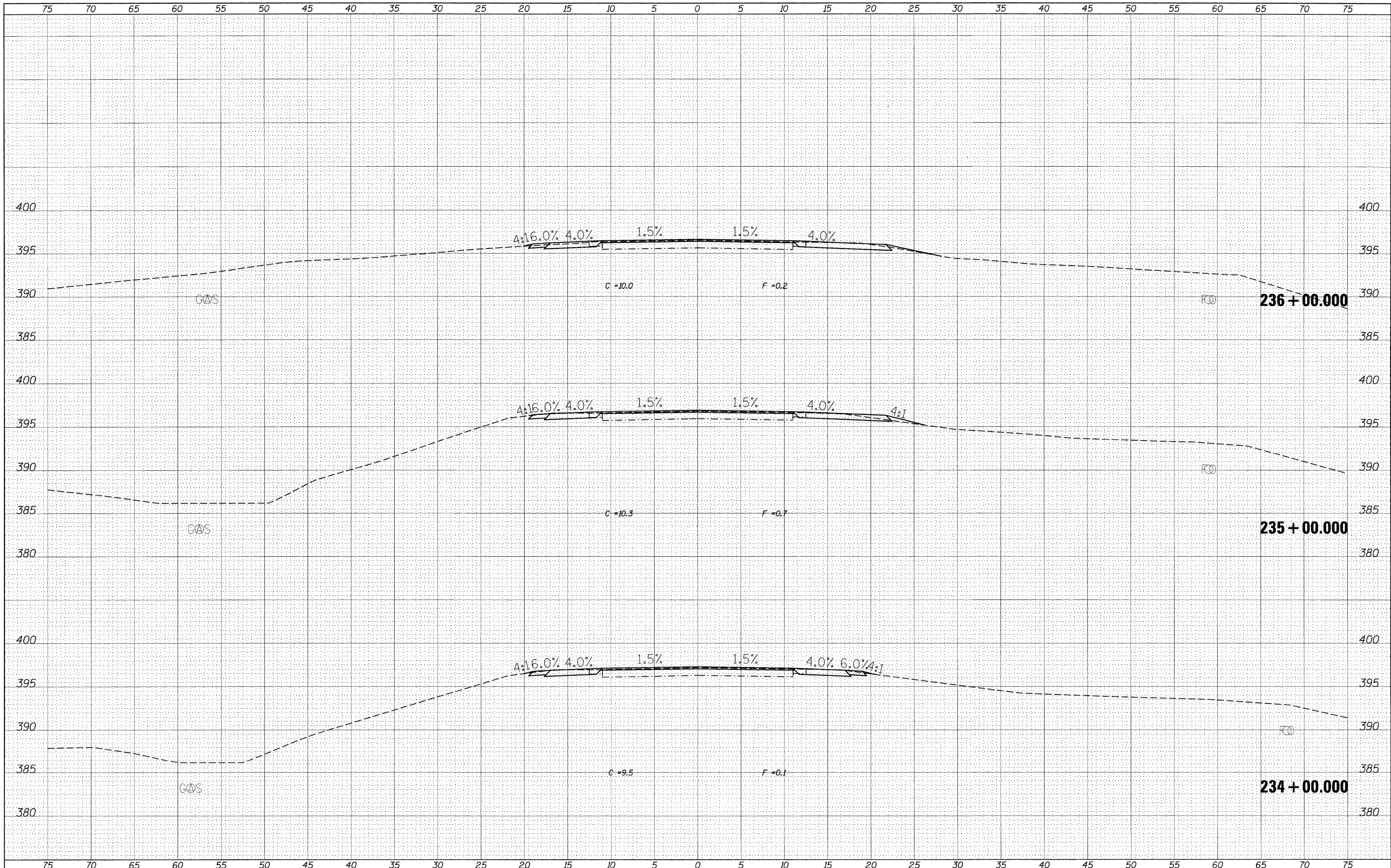
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTION SHEETS			
SCALE:	SHEET NO.	OF SHEETS	STA. 231+00.000 TO STA. 233+00.000

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 195
ILLINOIS FED. AID PROJECT			CONTRACT NO. 98797	

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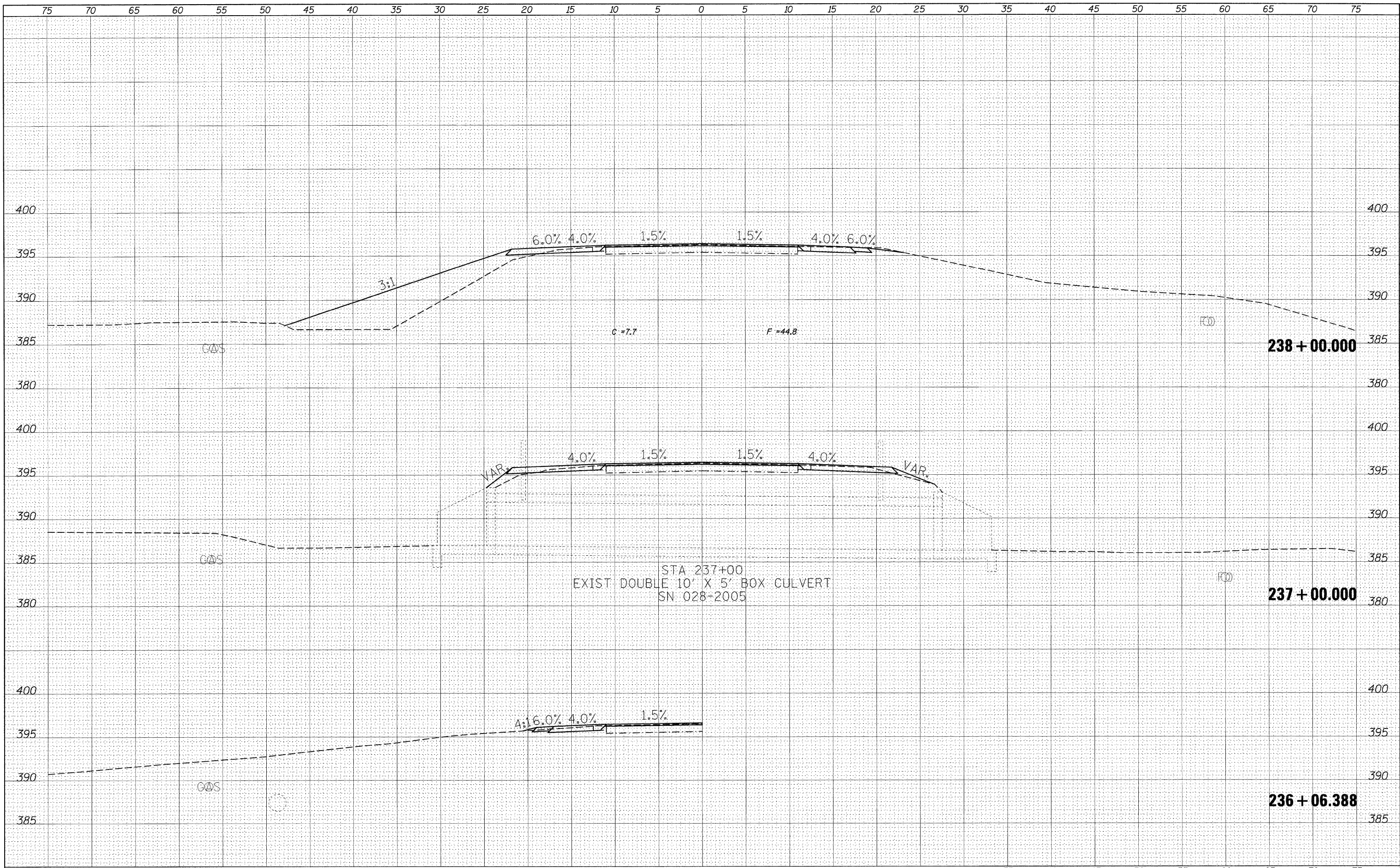
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#FILE#		DRAWN -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. 234+00.000 TO STA. 236+00.000	CONTRACT NO. 98797				
		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -		**1-1,3,6R-1,RS-3(1,3,6)B-2							

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NOTE BOOK	
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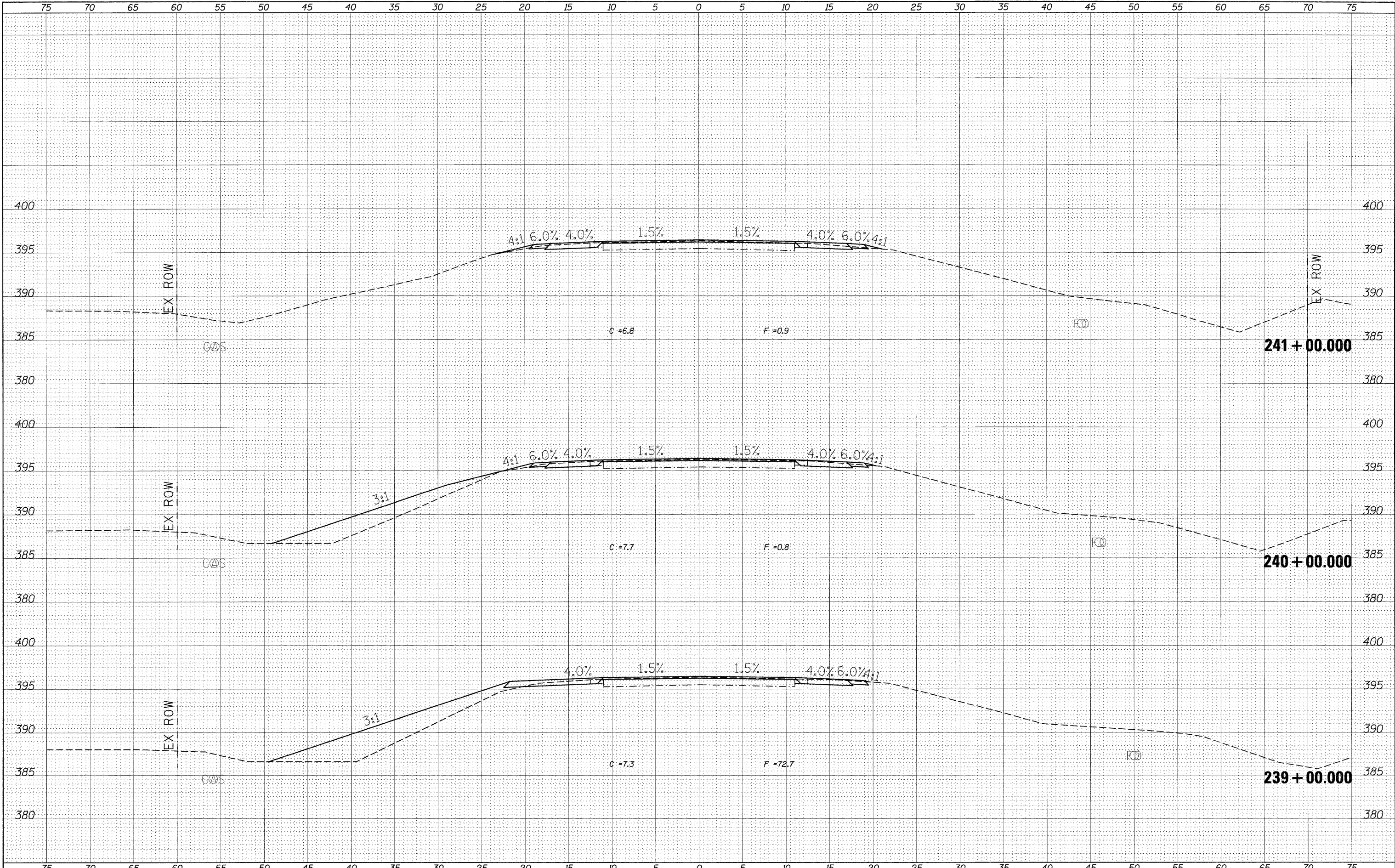
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		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -		**I-1,3,6 R-1,RS-3,I,3,6 B-2							

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

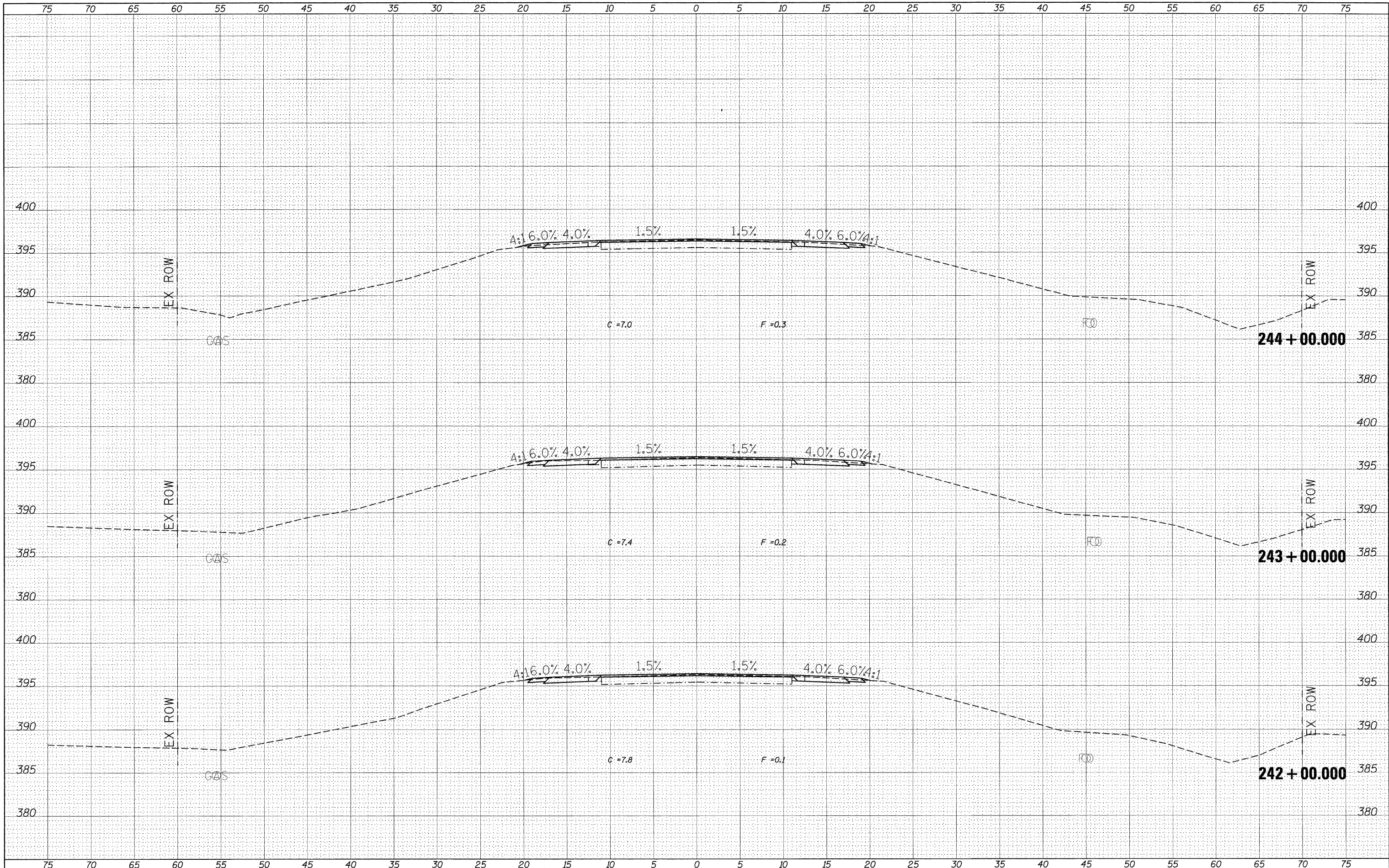
CROSS SECTION SHEETS

SCALE: SHEET NO. OF SHEETS STA. 239+00.000 TO STA. 241+00.000

F.A.P. RTE. 869	SECTION **	COUNTY *	TOTAL SHEETS 299	SHEET NO. 198
CONTRACT NO. 98797			ILLINOIS FED. AID PROJECT	

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BY	
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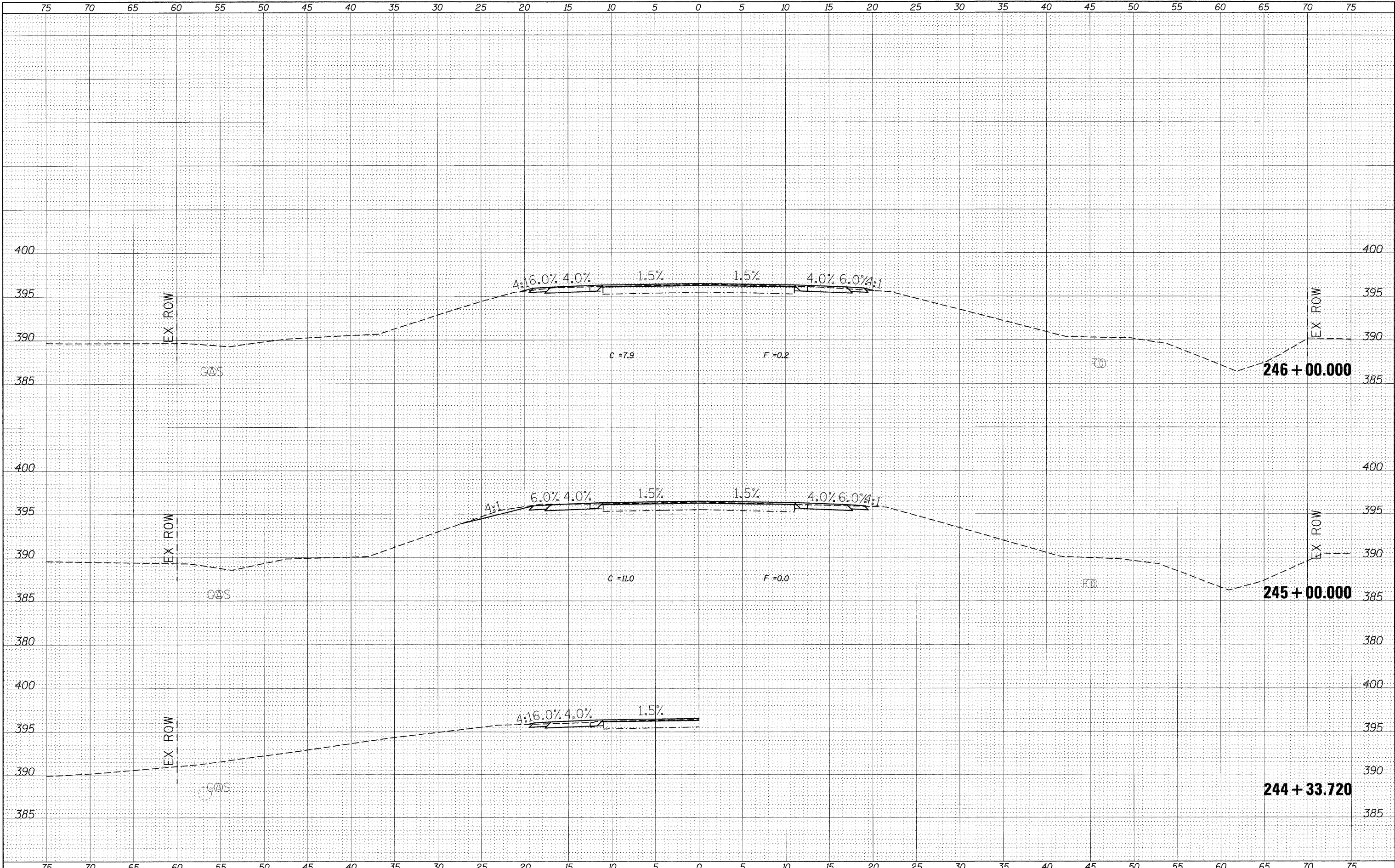
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		CHECKED -	REVISED -		**1-1,3,6/R-1,R5-3(1,3,6)B-2							
		PLOT DATE = #DATE#	DATE -		*PERRY & FRANKLIN							

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BY	
FINAL SURVEY	
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NOTE BOOK	
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FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTION SHEETS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -		869	**	*	299	200			
	PLOT SCALE = #SCALE*	CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. 244+33.720 TO STA. 246+00.000			ILLINOIS FED. AID PROJECT		CONTRACT NO. 98797		
	PLOT DATE = #DATE*	DATE -	REVISED -		** (1-1, 1, 3, 6) R-1, RS-3, (1, 3, 6) B-2							