

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

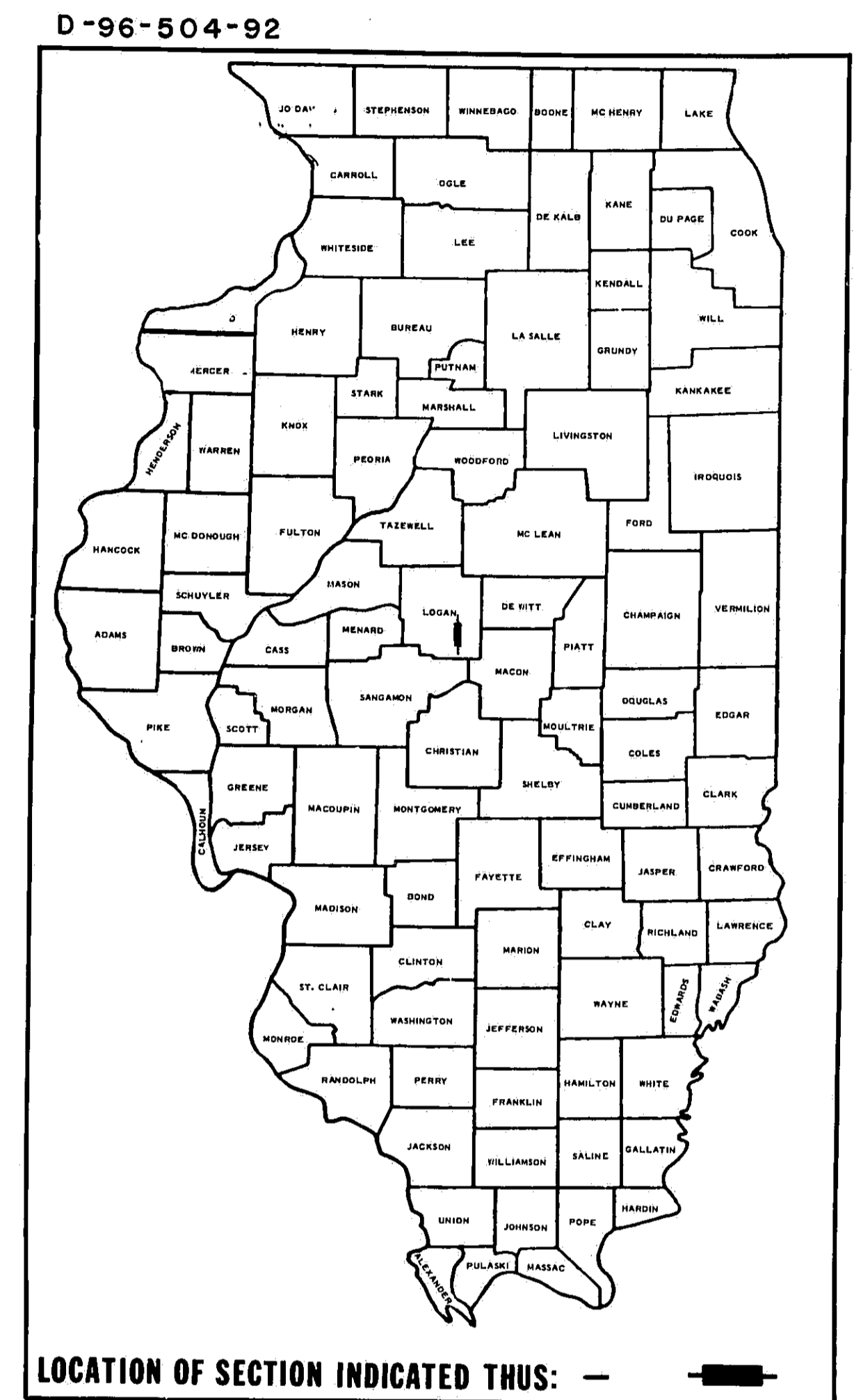
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA. 320	117 B-1	LOGAN	21	1
F.H.W.A. REG.		ILLINOIS PROJECT	BRF-320(2)	

INDEX OF SHEETS

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- 15-18. CROSS SECTION
- 19-20. TRAFFIC CONTROL AND PROTECTION STD. 2409 (SPECIAL)
21. TRAFFIC SIGNAL DETECTOR LOOP DETAILS

PLAN
PROFILE HORIZ. 1" = 40'
SCALE
PROFILE VERT. 1" = 5.0'
CROSS SECTIONS HORIZ. 1" = 5.0'
CROSS SECTIONS VERT. 1" = 5.0'

**F.A. ROUTE 320 (ILL. 121)
SECTION 117 B-1
PROJECT NO. BRF-320(2)
LOGAN COUNTY
C-96-509-93**

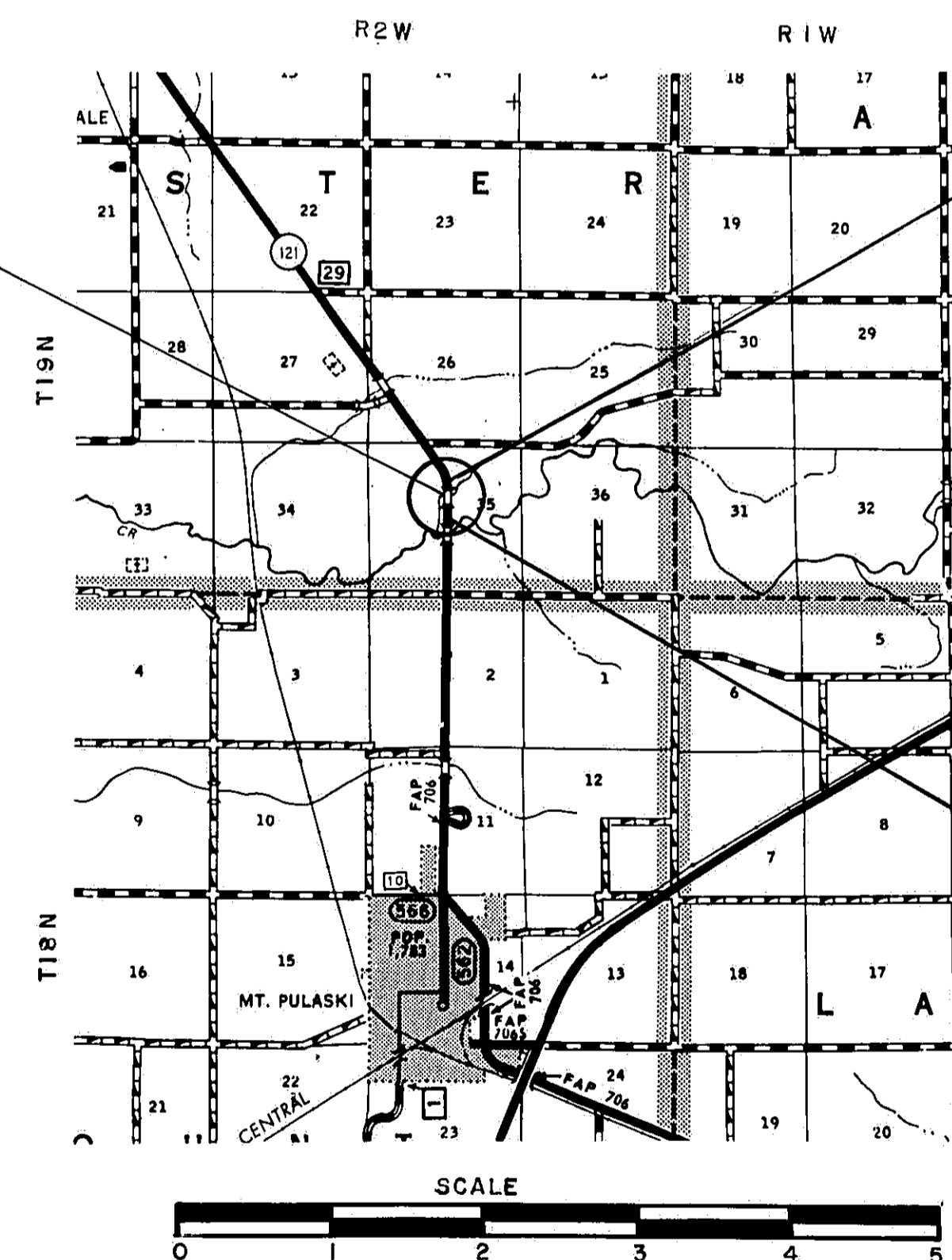


PROJECT ENGINEER: CECIL COPENHAVER 217-782-4761
SQUAD LEADER: RUSSELL JACOBS 217-524-7546

STANDARDS

1686-4	2306-6
2113-2	2308-5
2230-16	2311-8
2298-8	2325-5
2299-12	2336-4
2300-3	2345-1
	2381
2303-6	2383-2

THE EXISTING STRUCTURE (STA. 267+67) IS A FIVE BARREL 10' X 9'-10" CONCRETE BOX CULVERT 55'-4" BACK TO BACK OF WALLS.
THE PROPOSED STRUCTURE (STA. 267+67) IS A FIVE BARREL 10' X 9'-10" CONCRETE BOX CULVERT 55'-0" BACK TO BACK OF WALLS.



SECTION 117 B-1 BEGIN STA. 266+65
PROJECT BRF-320(2) BEGIN STA. 266+65

SECTION 117 B-1 ENDS STA. 274+50
PROJECT BRF-320(2) ENDS STA. 274+50

JOINT UTILITY LOCATING INFORMATION FOR EXCAVATIONS
PHONE: 800-892-0123

CONTRACT NO. 92341

TOTAL LENGTH OF PROJECT BRF-320(2) 785 FT. = 0.149 MILES
NET LENGTH OF PROJECT BRF-302(2) 785 FT. = 0.149 MILES

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

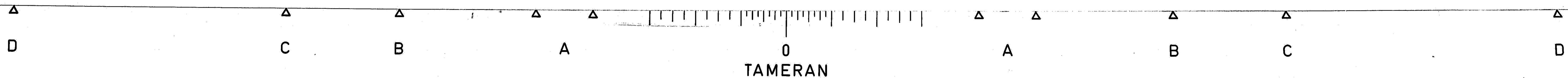
SUBMITTED: August 7, 1991
EXAMINED: 9/6/91
PASSED: 9/11/91
APPROVED: 9/11/91

DISTRICT ENGINEER
 ENGINEER OF PLANS AND CONTRACTS
 ENGINEER OF DESIGN
 DIRECTOR, DIVISION OF HIGHWAYS

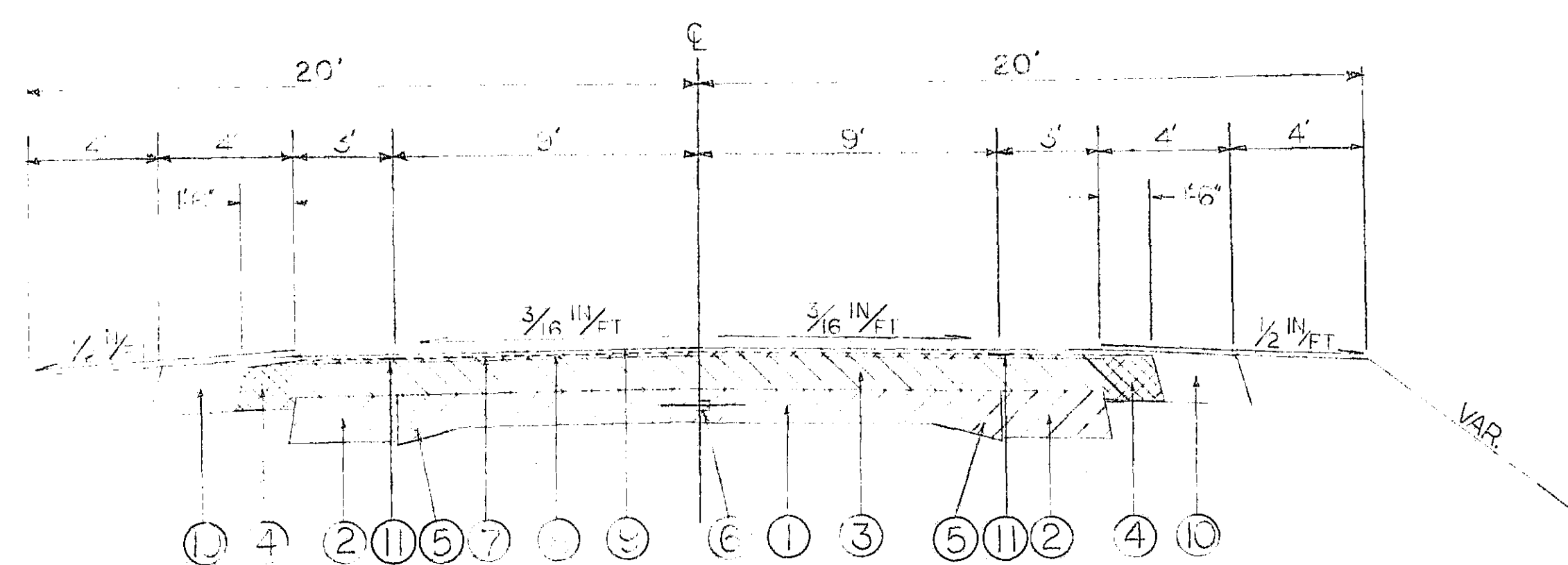
**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

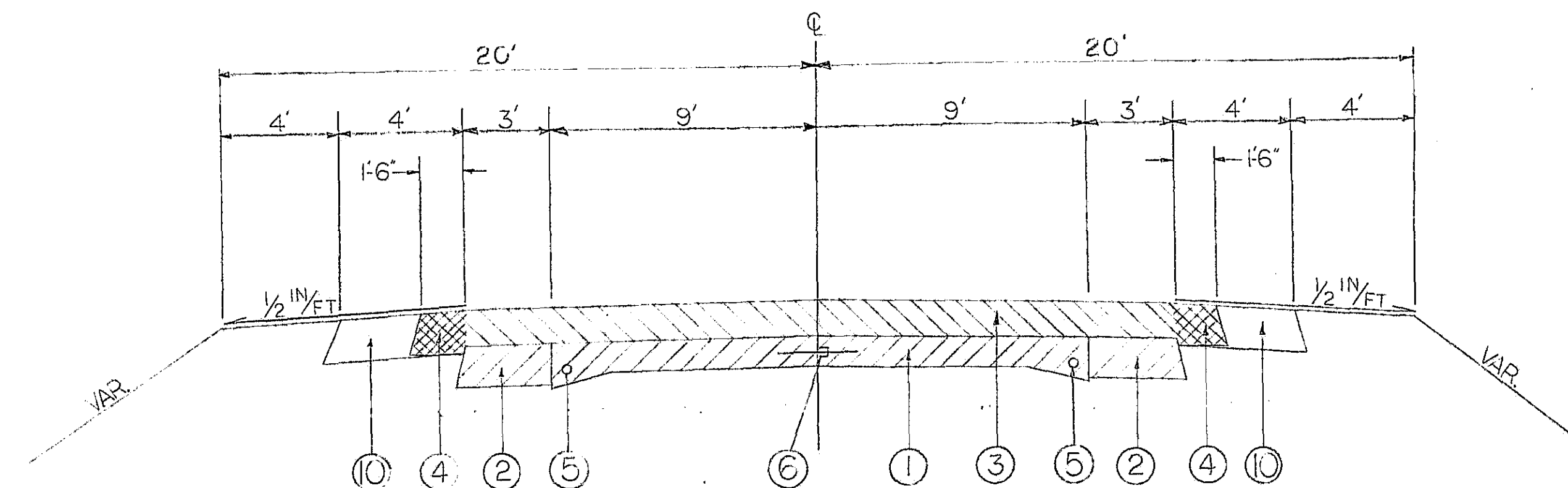
F.A. ROUTE 320 SECTION 117 B-1 LOGAN COUNTY



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 320	117B-1	LOGAN	21	2
STA. 266+65 TO STA. 274+50		ILLINOIS FED. AID PROJECT		



STA. 266+65 TO STA. 267+24.2
 STA. 268+11.5 TO STA. 274+50

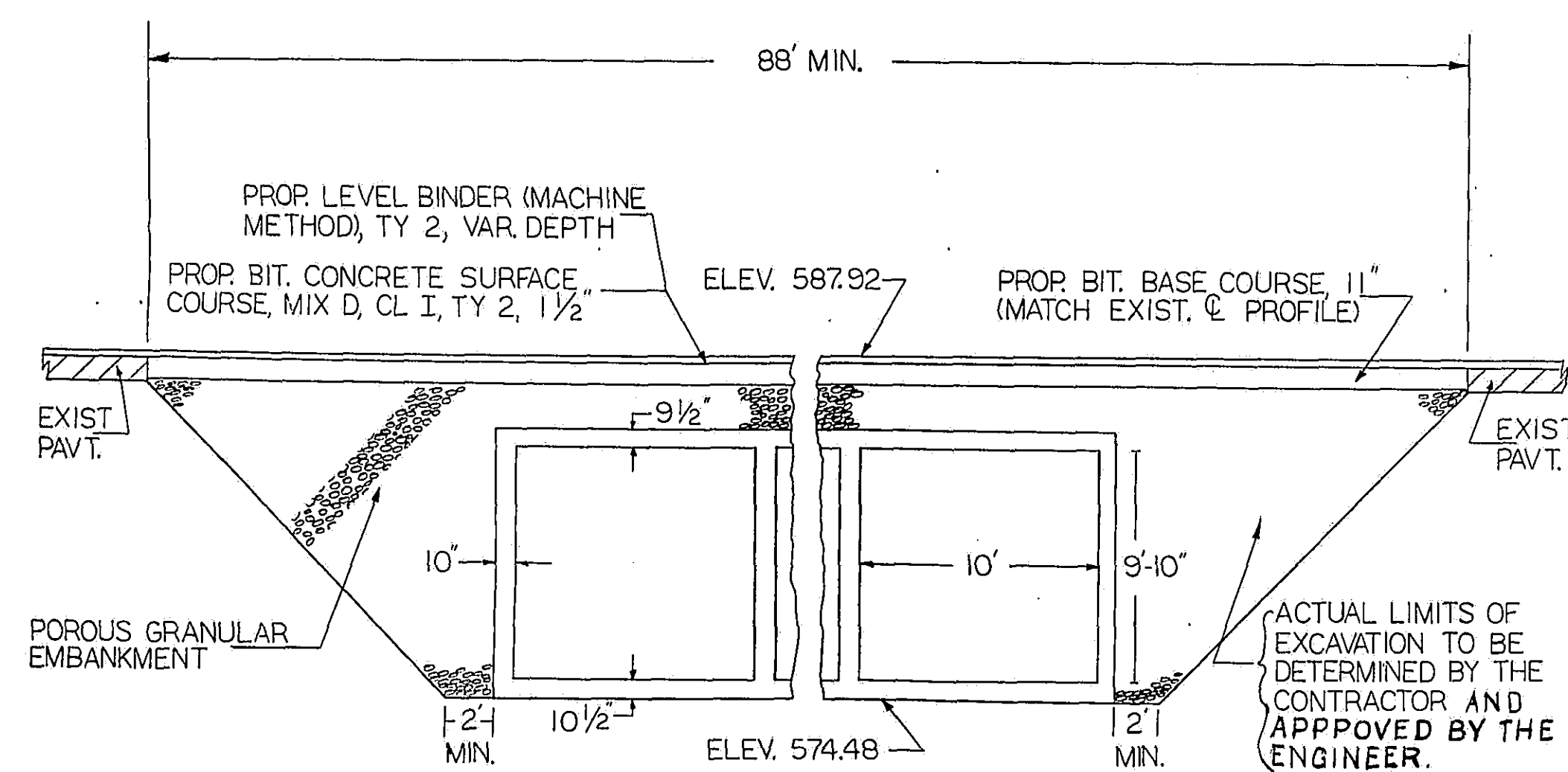


LT STA. 264+33 TO LT STA. 266+65
 RT STA. 263+83 TO RT STA. 266+65
 (SEE NOTE 1)

- ① EXISTING PCC PAVEMENT, 9" THICK
- ② EXISTING PCC WIDENING, 8"
- ③ EXISTING BITUMINOUS CONCRETE BINDER & SURFACE COURSE, 6 1/2"
- ④ EXISTING BITUMINOUS SHOULDERS, 6" (MIN) *
- ⑤ EXISTING 3/4" SMOOTH BAR
- ⑥ EXISTING LONGITUDINAL METAL JOINT # 1/2" Ø TIE BAR
- ⑦ PROPOSED BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH) **
- ⑧ PROPOSED LEVELING BINDER (MACHINE METHOD), TYPE 2, VARIABLE DEPTH
- ⑨ PROPOSED BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS I, TYPE 2, 1 1/2"
- ⑩ PROPOSED BITUMINOUS SHOULDERS, 9"
- ⑪ PROPOSED STRIP REFLECTIVE TRAFFIC CONTROL TREATMENT

FA ROUTE 320
 SEC. 117 B-1
 LOGAN COUNTY

EXAMINED	2/19/91	1991
DISTRICT TRAFFIC ENGINEER		
EXAMINED	7/11/91	1991
DISTRICT MAINTENANCE ENGINEER		
EXAMINED	8/2/91	1991
DISTRICT CONSTRUCTION ENGINEER		
EXAMINED	8/2/91	1991
DISTRICT MATERIALS ENGINEER		
EXAMINED	8/2/91	1991
DISTRICT DESIGN ENGINEER		

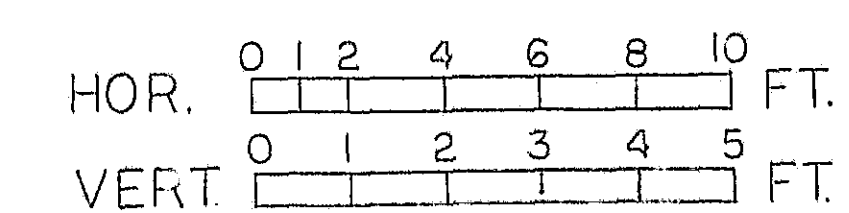


SECTION THRU BOX CULVERT

- NOTES:
1. TRANSITION SHOULDER WIDTH FROM 24" TO 48" LEFT STA. 264+33 TO LEFT STA. 264+33. RIGHT STA. 261+83 TO RIGHT STA. 263+83
 2. THE PROPOSED 5 BARREL BOX CULVERT IS 85'-0" IN LENGTH AND IS STATIONED FROM 267+39.5 TO 267+94.5
 3. BITUMINOUS BASE COURSE 11" WILL BE PLACED TO MATCH THE EXISTING PROFILE FROM STA. 267+24.2 TO 268+11.5 (SEE SHEET NO. 5)

* REMOVE EXISTING BITUMINOUS SHOULDERS WHERE NEW BITUMINOUS SHOULDERS ARE TO BE CONSTRUCTED.
 COLD MILLING EXISTING SHOULDERS, STA. 273+45 TO 274+50.

** MILLING SHALL BE 1 1/2" MINIMUM DEPTH.



TYPICAL SECTION
 FAP 320 (IL RTE. 124)
 SECTION 117B-1
 LOGAN COUNTY



TAMERAN

DAD COPY

SUMMARY OF QUANTITIES

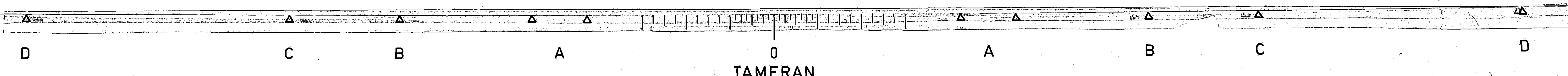
F.A. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
320	117 B-1	LOGAN	21	3
STA.		TO STA.		
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT	

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	SFTY:3Q	X028-2B
*T5020300	PAINT PAVEMENT MARKING - LINE 5"	LIN FT	1,766	1,766	
20200100	EARTH EXCAVATION	CU YD	128	128	
20700100	EMBANKMENT	CU YD	595	595	
20900200	POROUS GRANULAR EMBANKMENT	CU YD	371	371	
21900700	BITUMINOUS SHOULDERS 9"	SO YD	966	966	
30800800	BITUMINOUS BASE COURSE 11"	SO YD	233	233	
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	1.10	1.10	
40600300	AGGREGATE (PRIME COAT)	TON	4.20	4.20	
40600540	LEVELING BINDER (MACHINE METHOD), TYPE 2	TON	22	22	
40600850	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS I, TYPE 2	TON	239	239	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
50300210	CLASS X CONCRETE BOX CULVERTS	CU YD	222.4		222.4
51200200	REINFORCEMENT BARS, EPOXY COATED	POUND	40,990		40,990
51305200	TEMPORARY SHEET PILING	SO FT	1,230		1,230
51400100	NAME PLATES	EACH	1		1
61700030	BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)	SO YD	2,192	2,192	
61700100	PAVEMENT REMOVAL	SO YD	270	270	
61700920	BITUMINOUS CONCRETE SHOULDER REMOVAL	SO YD	423	423	
62800000	STEEL PLATE BEAM GUARD RAIL, TYPE A	LIN FT	675	675	
62800025	STEEL PLATE BEAM GUARD RAIL, ATTACHED TO STRUCTURES	LIN FT	125	125	
62800035	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	4	4	
62800475	TRAFFIC BARRIER TERMINAL, TYPE 8 (TEMPORARY)	EACH	2	2	
63300300	STEEL PLATE BEAM GUARD RAIL REMOVAL	LIN FT	400	400	
64600400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	
64700090	TEMPORARY PAVEMENT MARKING	LIN FT	236	236	
64800500	TRAFFIC CONTROL AND PROTECTION, STANDARD 2311	L SUM	1	1	
64801205	TRAFFIC CONTROL AND PROTECTION, STANDARD 2409 (SPECIAL)	EACH	1		1
65000100	MOBILIZATION	L SUM	1		1
65100200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	LIN FT	1,570	1,570	
65600100	TEMPORARY CONCRETE BARRIER	LIN FT	550	550	
65600200	RELOCATE TEMPORARY CONCRETE BARRIER	LIN FT	534	534	

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	SFTY:3Q	X028-2B
65600300	TEMPORARY CONCRETE BARRIER, TERMINAL SECTION	EACH	2	2	

* SPECIALITY ITEM

17-1111-01 084619 4401244
 264115 000250 0850J00N1
 LEVELS = 35.60



TAMERAN

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DAD COPY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 320	117B-1	LOGAN	21	4
STA. TO STA.				
FHWA REG. NO. 5			ILLINOIS	FED. AID PROJECT

GUARD RAIL

* STEEL PLATE BEAM GUARD RAIL, TYPE A

LT STA. 266+24.1 TO STA. 267+36.6	112.5 LIN. FT.
LT STA. 267+99.1 TO STA. 270+24.1	225.0
RT STA. 265+11.6 TO STA. 267+36.6	225.0
RT STA. 267+99.1 TO STA. 269+11.6	112.5
TOTAL	675.0 LIN. FT.

STEEL PLATE BEAM GUARD RAIL,
ATTACHED TO STRUCTURES

LT STA. 267+36.6 TO STA. 267+99.1	62.5 LIN. FT.
RT STA. 267+36.6 TO STA. 267+99.1	62.5
TOTAL	125.0 LIN. FT.

TRAFFIC BARRIER TERMINAL, TYPE I

LT STA. 265+99.1 TO STA. 266+24.1	1 EACH
LT STA. 270+24.1 TO STA. 270+49.1	1
RT STA. 264+86.6 TO STA. 265+11.6	1
RT STA. 269+11.6 TO STA. 269+36.6	1
TOTAL	4 EACH

TRAFFIC BARRIER TERMINAL, TYPE B (TEMPORARY)

RT STA. 267+11.6 TO STA. 267+65.35	1 EACH
RT STA. 267+70.35 TO STA. 269+24.1	1
TOTAL	2 EACH

STEEL PLATE BEAM GUARD RAIL REMOVAL

LT STA. 266+40.2 TO STA. 267+40.2	100 LIN. FT.
LT STA. 267+95.5 TO STA. 268+95.5	100
RT STA. 266+40.2 TO STA. 267+40.2	100
RT STA. 267+95.5 TO STA. 268+95.5	100
TOTAL	400 LIN. FT.

BITUMINOUS SHOULDERS

BITUMINOUS SHOULDERS, 9'

(FULL WIDTH 4 FT)

LT STA. 264+33 TO STA. 273+45	405 SY
RT STA. 263+83 TO STA. 273+45	427

(TAPERS 2 FT TO 4 FT)

LT STA. 262+33 TO STA. 264+33	67
RT STA. 261+83 TO STA. 263+83	67
TOTAL	966 SY

BITUMINOUS CONCRETE SHOULDER REMOVAL

(EXISTING WIDTH 1.5 FT)

LT STA. 262+33 TO STA. 267+31.4	83 SY
LT STA. 268+04.9 TO STA. 270+95	48
RT STA. 261+83 TO STA. 267+28.5	91
RT STA. 268+05.4 TO STA. 271+45	57

(EXISTING TAPERS)

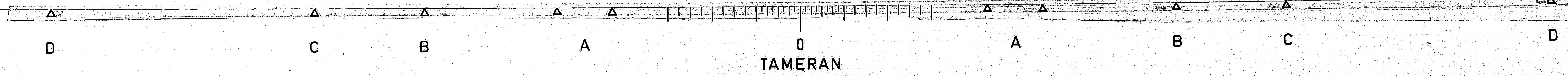
LT STA. 270+95 TO STA. 273+45	69
RT STA. 271+45 TO STA. 273+45	56

(RAMPS FOR SIDEWALK ACROSS CULVERT)

LT STA. 267+31.4 TO STA. 267+40.2	4
LT STA. 267+95.6 TO STA. 268+04.9	5
RT STA. 267+28.5 TO STA. 267+40.2	5
RT STA. 267+95.4 TO STA. 268+05.4	5
TOTAL	423 SY

* GUARD RAIL TO BE PLACED AT 16 FT. FROM \odot ACROSS THE
CULVERT AND THEN TAPERED AT A 25:1 TO 18 FT.

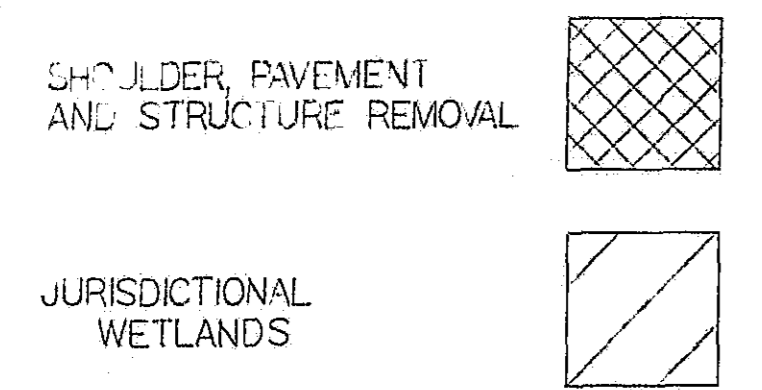
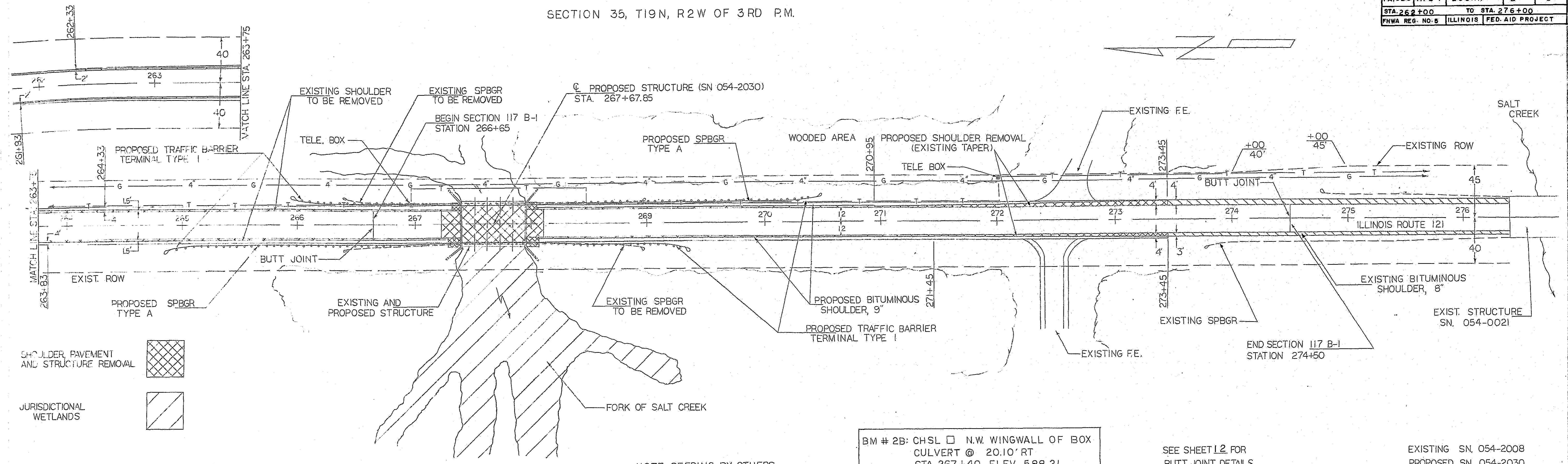
SCHEDULE OF QUANTITIES
FAP 320 (IL RTE. 121)
SECTION 117B-1
LOGAN COUNTY



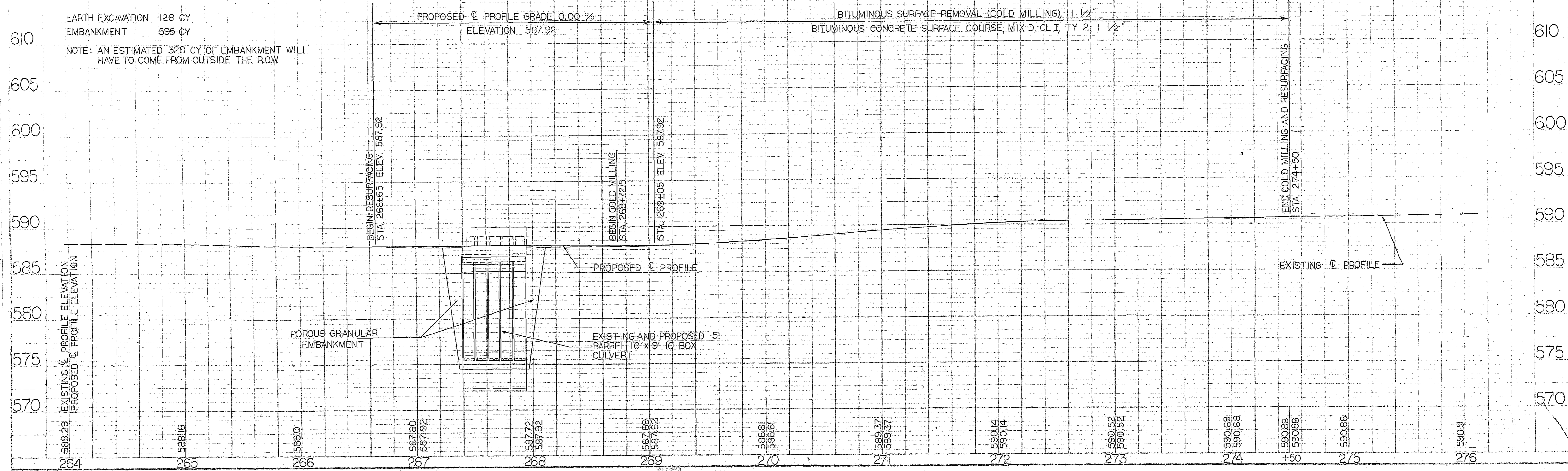
BAD COPY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 320	117 B-1	LOGAN	21	5
STA. 262+00		TO STA. 276+00		
FHWA REG. NO. 6 ILLINOIS FED. AID PROJECT				

SECTION 35, T19N, R2W OF 3RD P.M.



SCALE: 1 INCH = 40 FT.



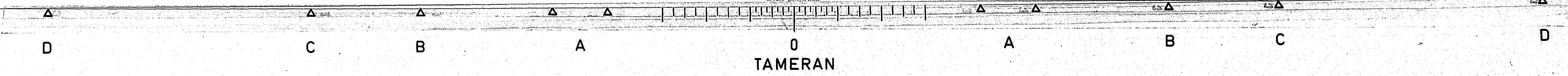
NOTE: SEEDING BY OTHERS

BM # 2B: CHSL □ N.W. WINGWALL OF BOX CULVERT @ 20.10' RT STA. 267+40 ELEV. 588.21

SEE SHEET 12 FOR BUTT JOINT DETAILS

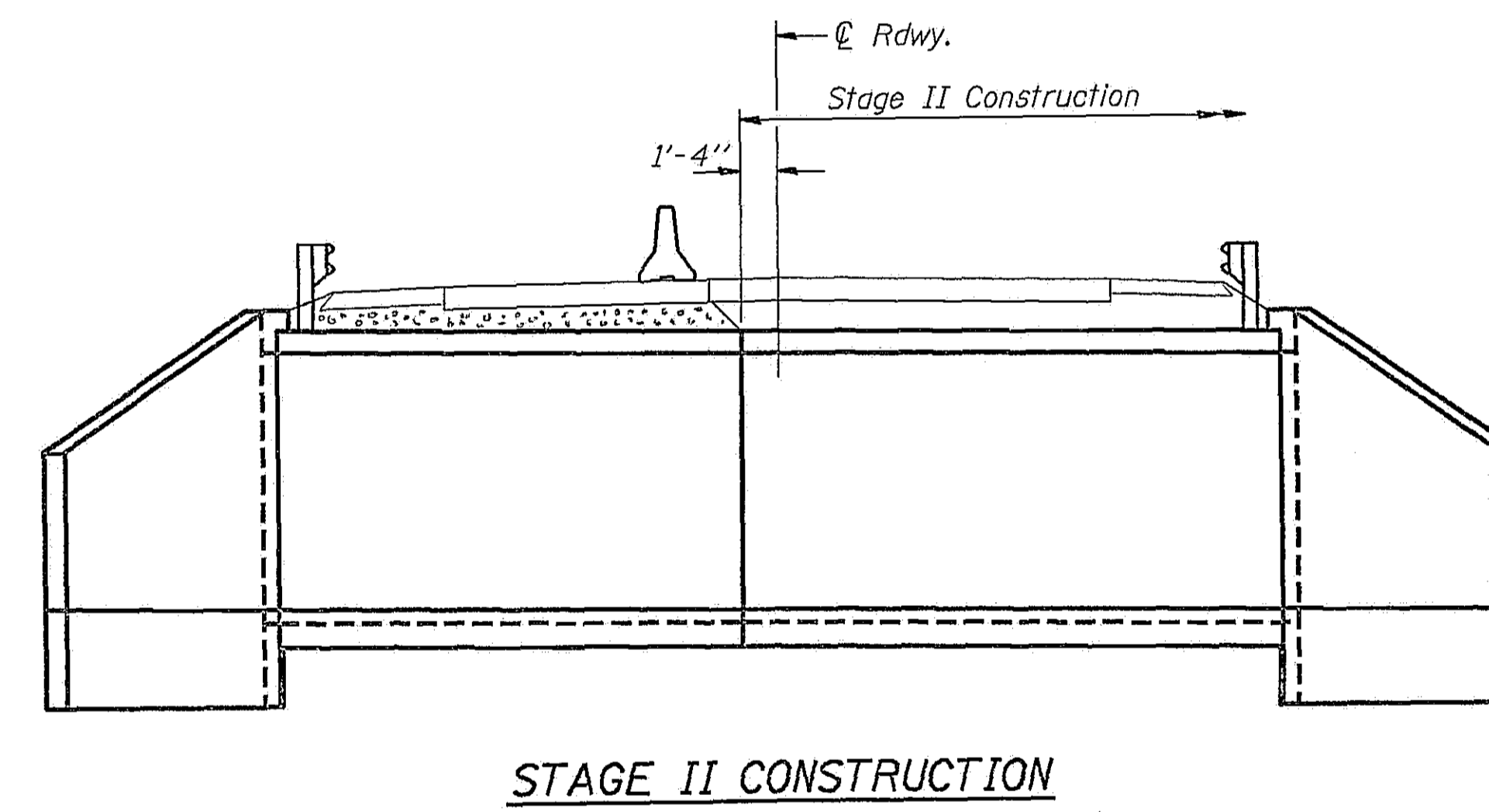
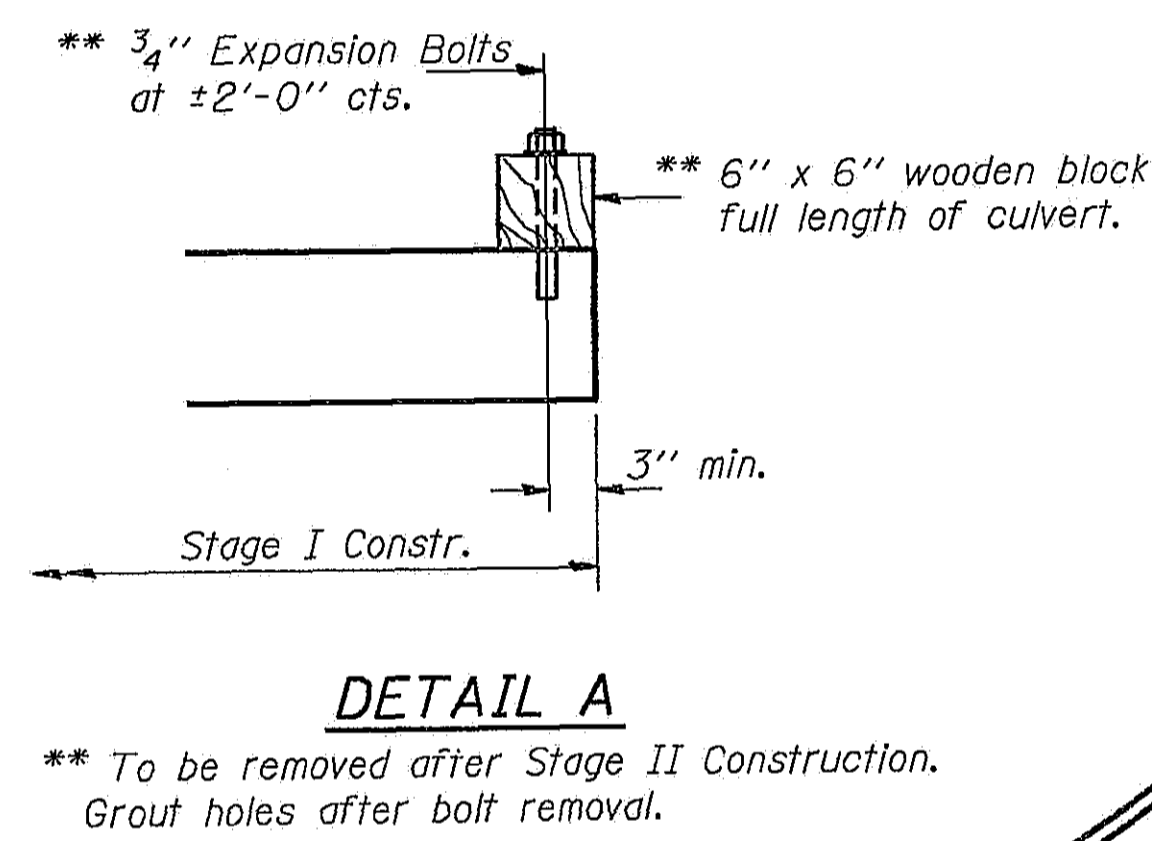
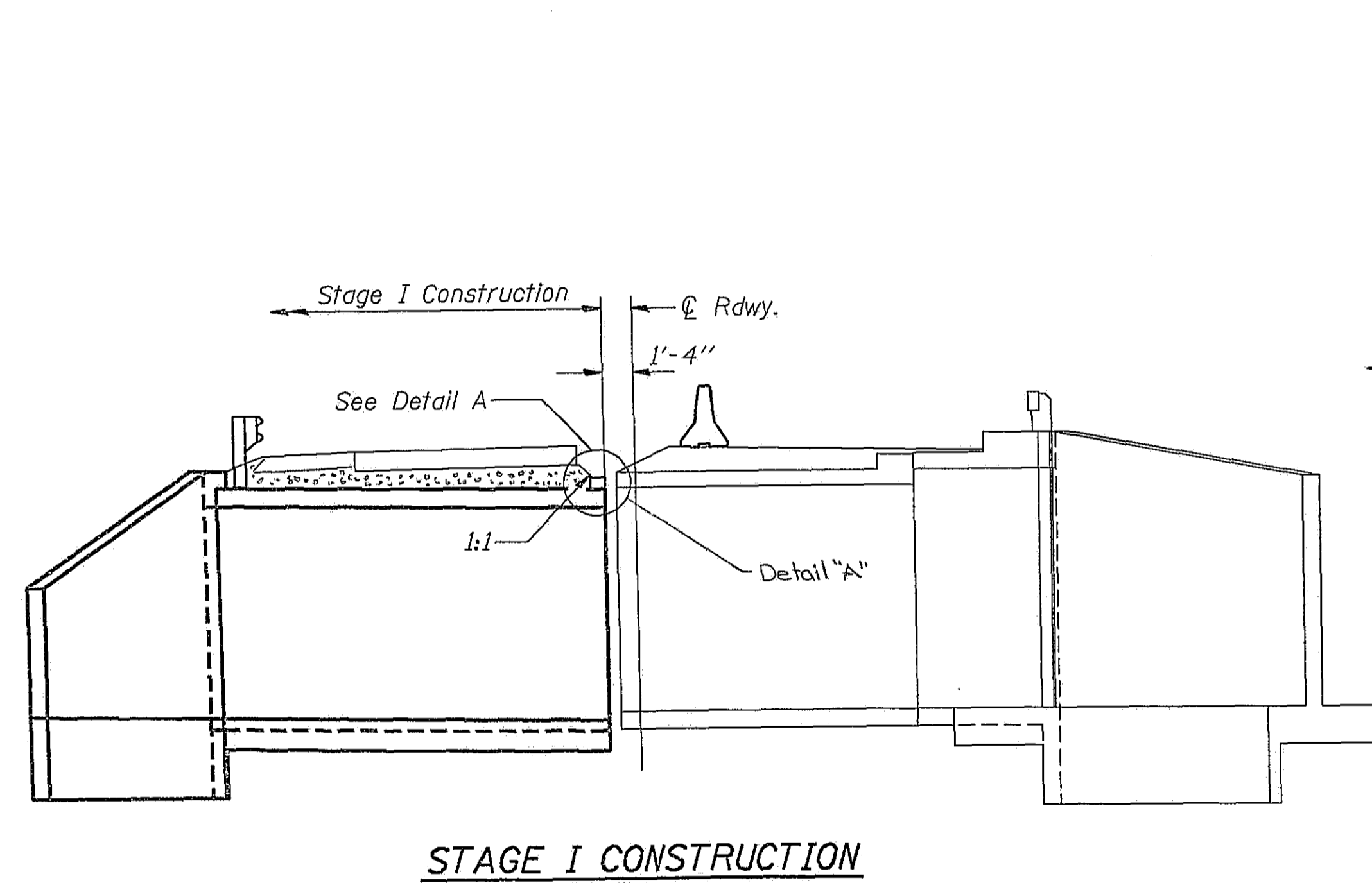
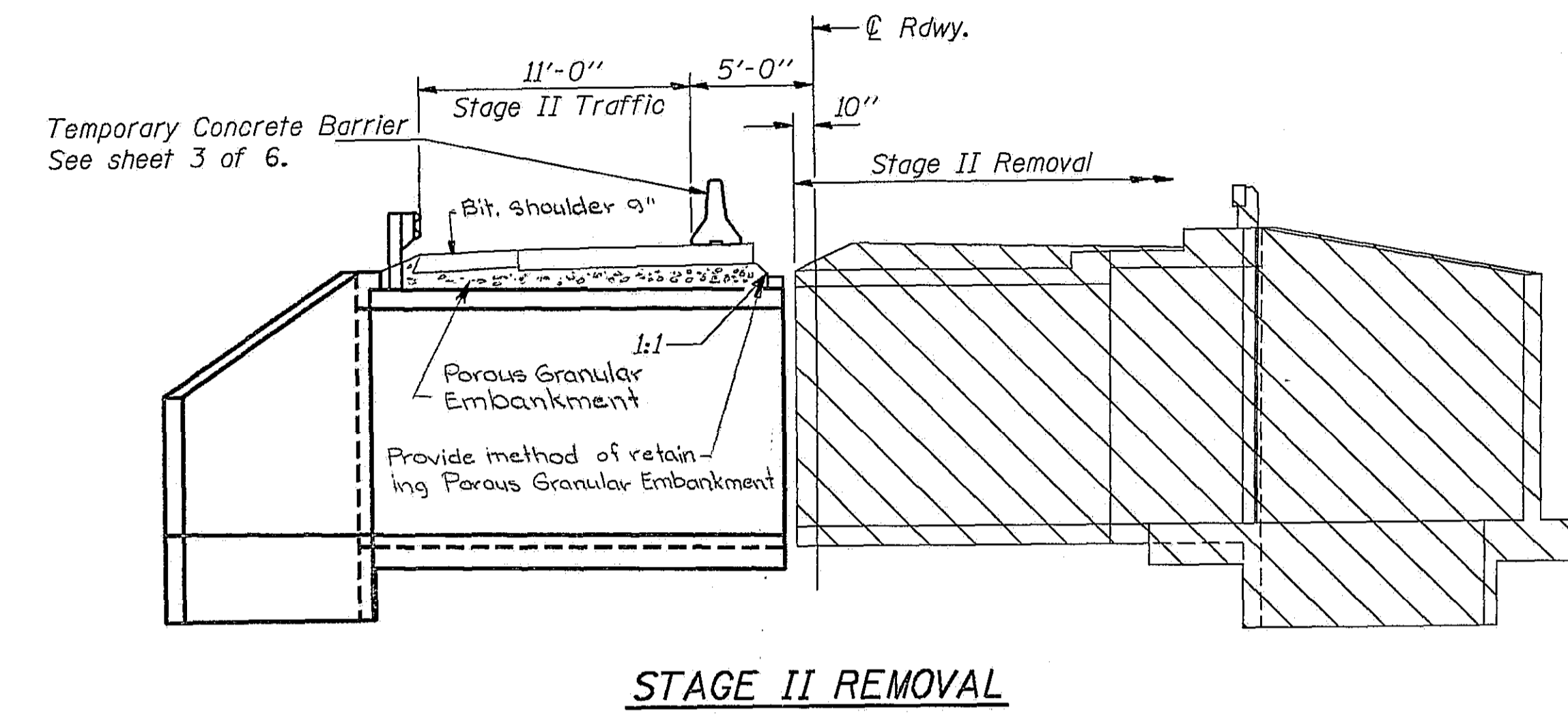
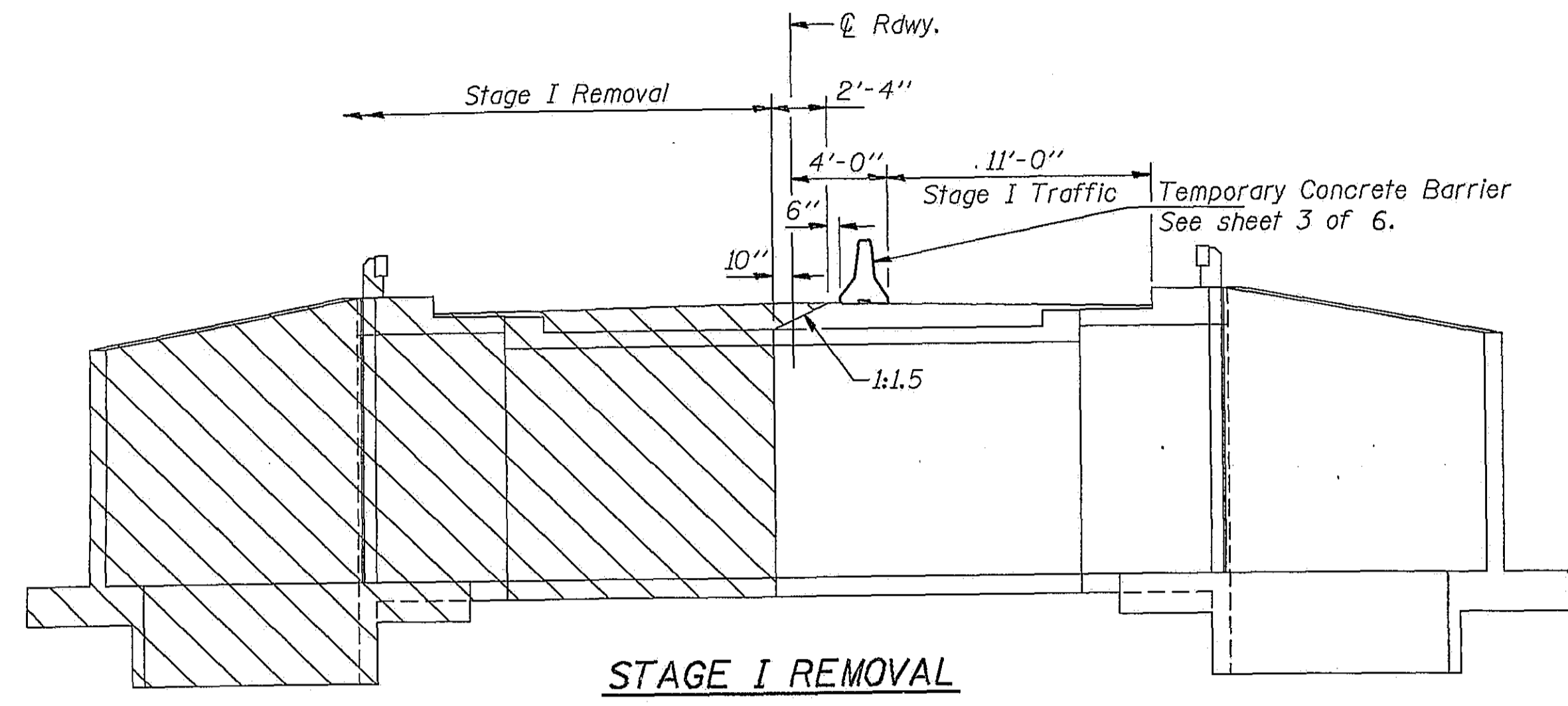
EXISTING SN. 054-2008 PROPOSED SN. 054-2030

Kaufel & Esser Company PLATE 1, PLAN-PROFILE



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO. 2
F.A.P. 320	117B-1	LOGAN	21 7	6 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		



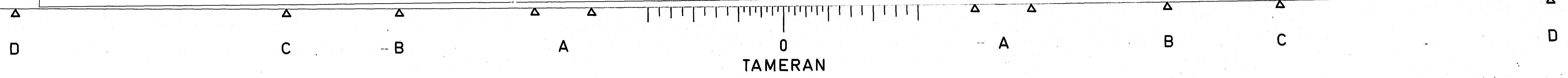
Notes: Hatched areas indicate "Removal of Existing Structures".
For quantities of Temporary Concrete Barrier see Roadway Plans.
All elevations are looking South.

DESIGNED Adrian Holloway
CHECKED D. Cook Perry
DRAWN Joe Sutherland
CHECKED A.H. DCP

August 14 1991

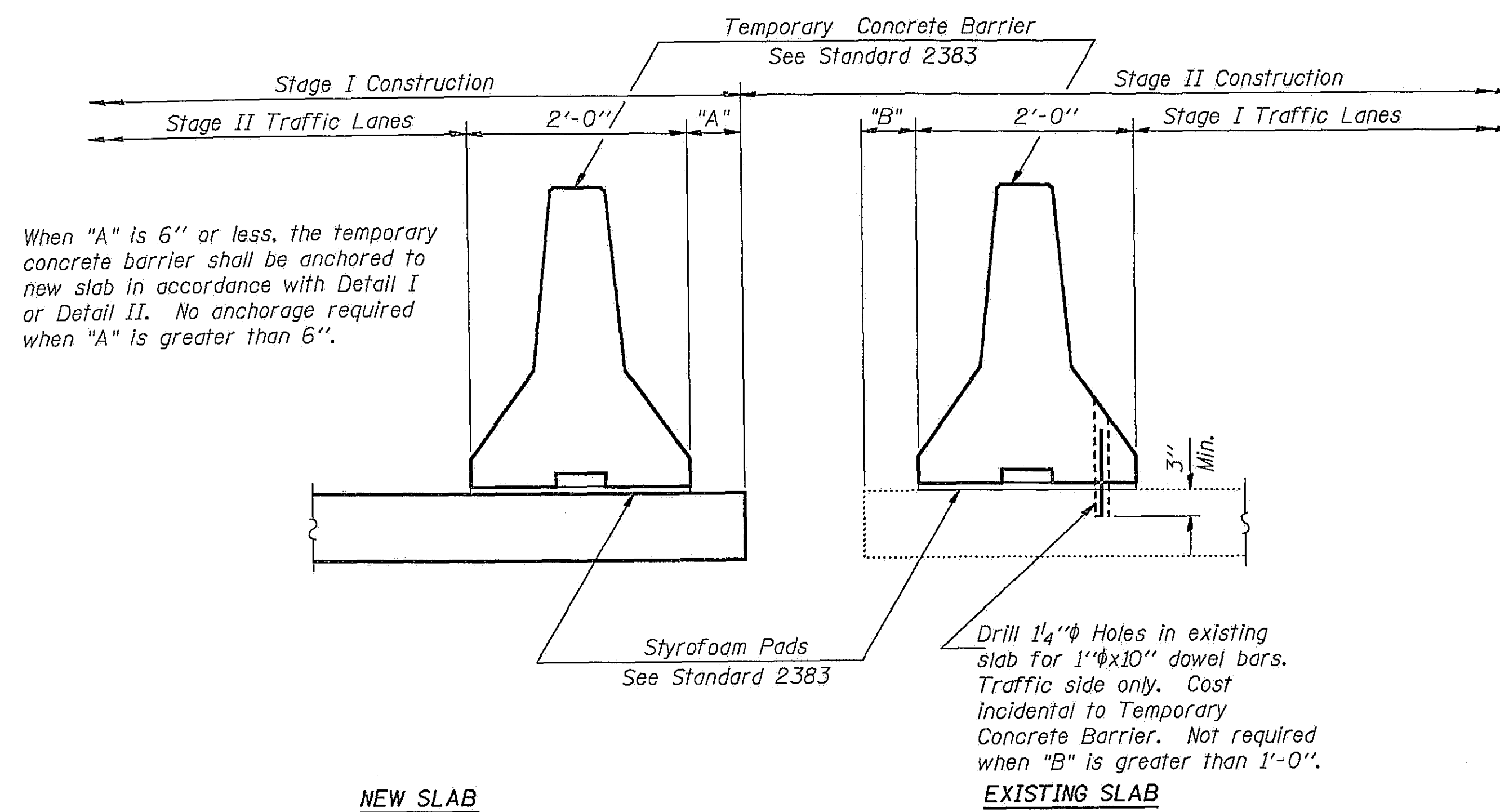
EXAMINED Raji D. Kaspar
PASSED Ralph E. Anderson
APPROVED [Signature]
DIRECTOR OF HIGHWAYS

STAGE CONSTRUCTION
F.A.P. RT. 320 SEC. 117B-1
LOGAN COUNTY
STATION 267+67.85



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 3
F.A.P. 320	117B-1	LOGAN	21 8	6 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



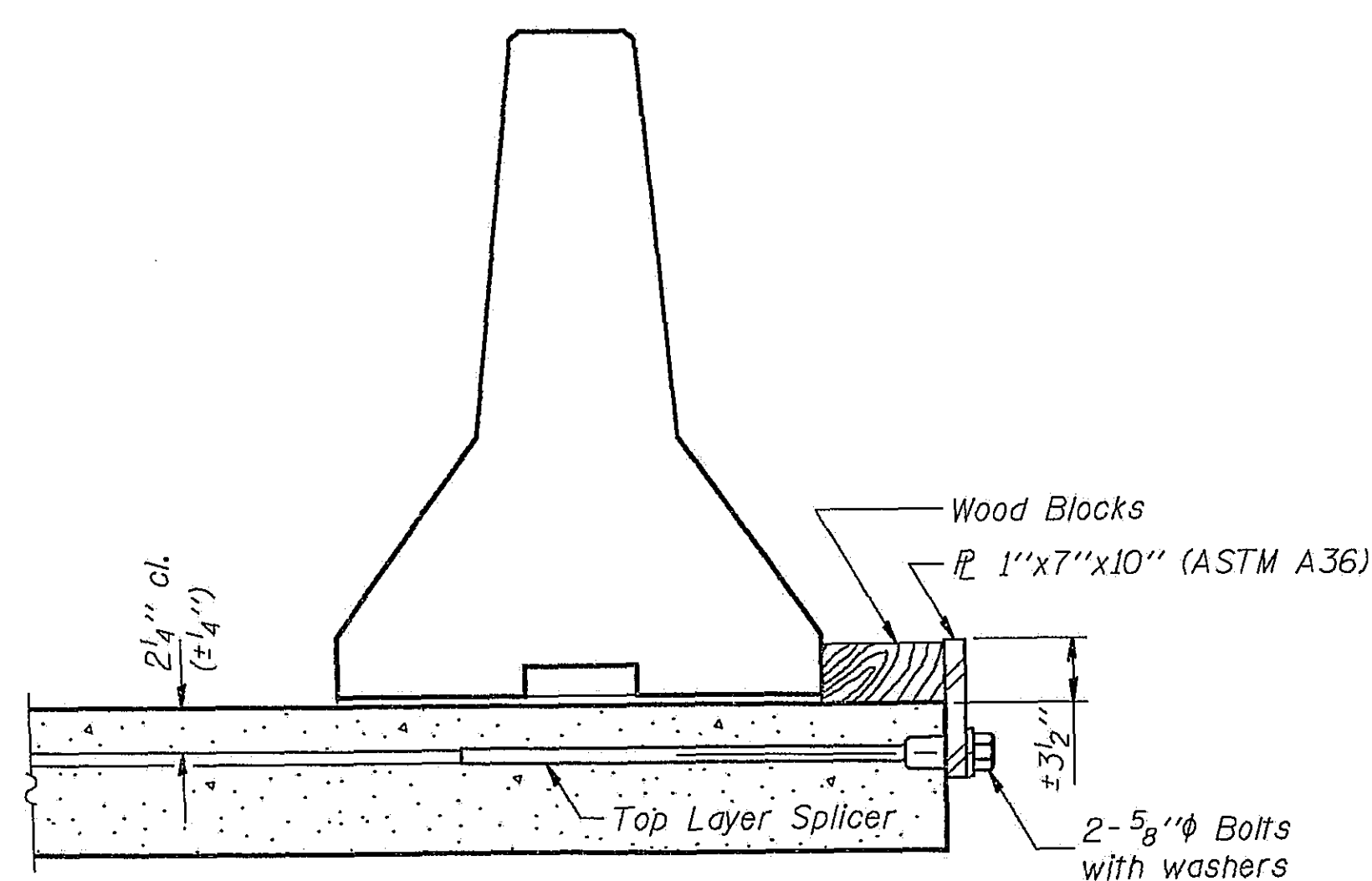
SECTIONS THRU SLAB

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x 10" steel \bar{P} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each 10'-0" barrier panel.

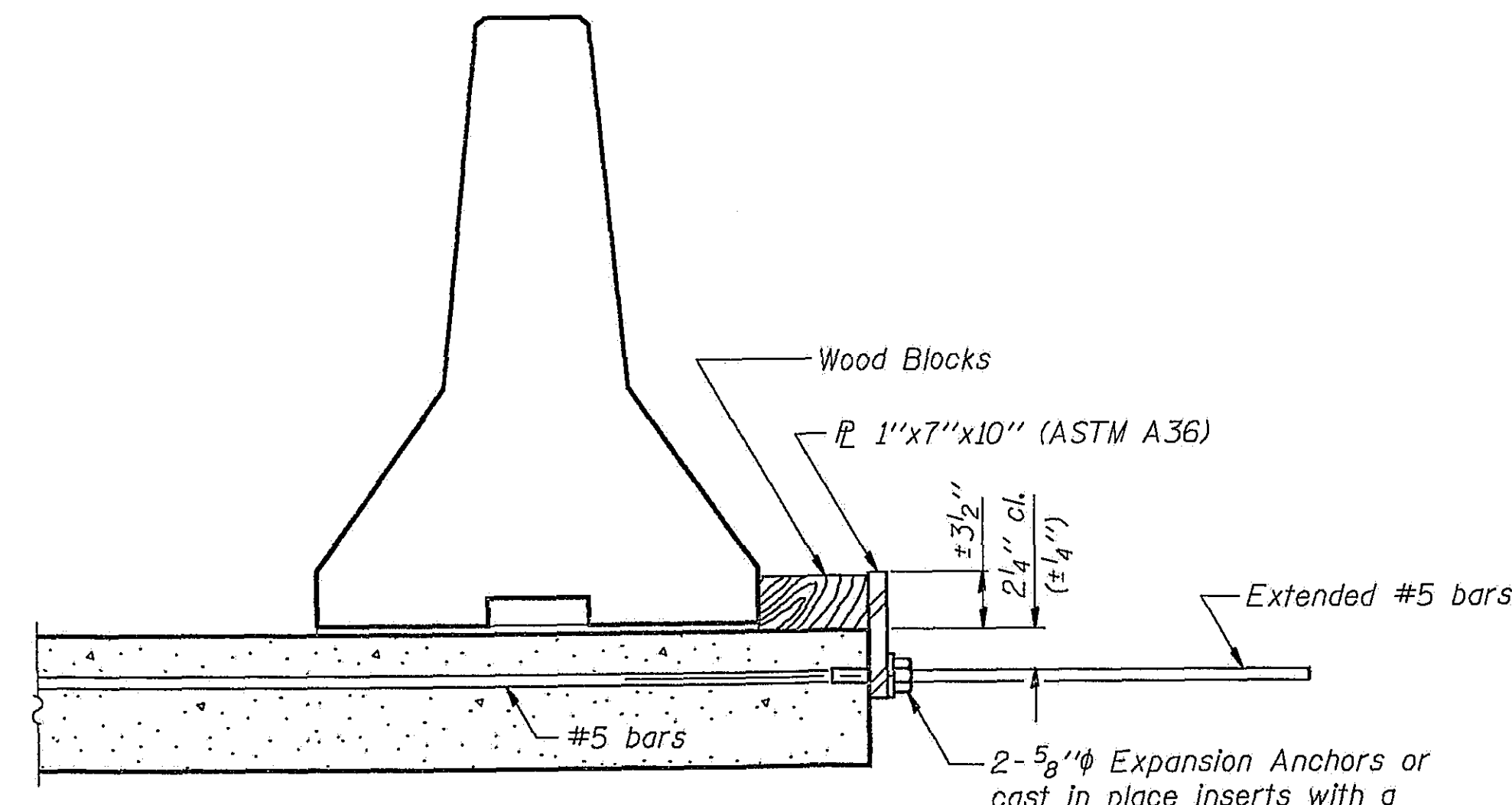
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x 10" steel \bar{P} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each 10'-0" barrier panel.

Cost of anchorage is incidental to Temporary Concrete Barrier.



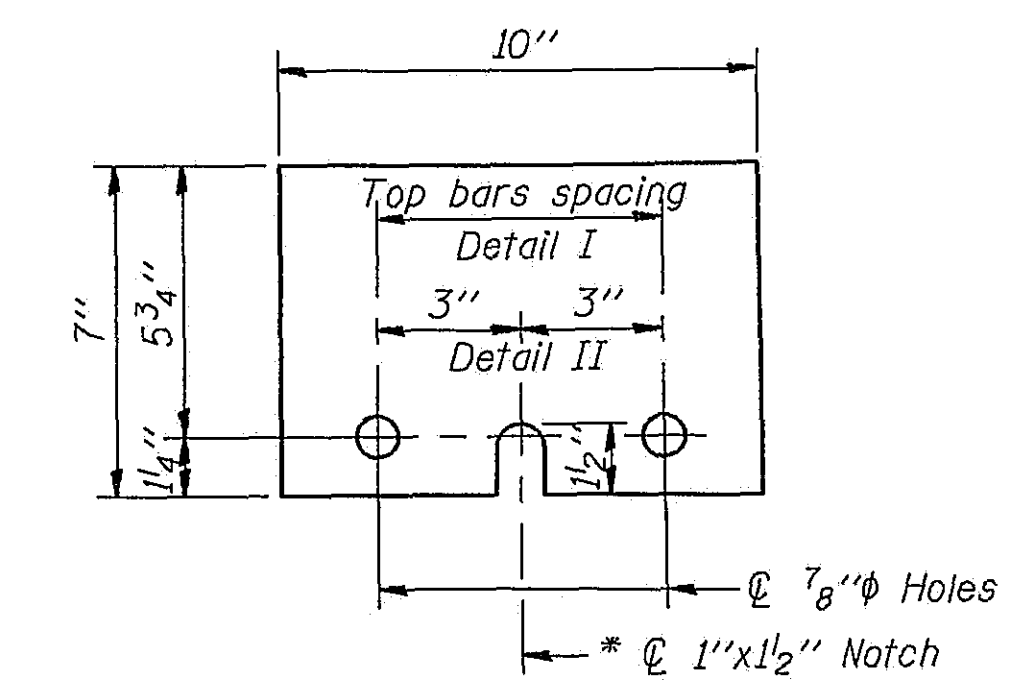
DETAIL I

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1" x 7" x 10" 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.



1" x 7" x 10"
* Required only with Detail II

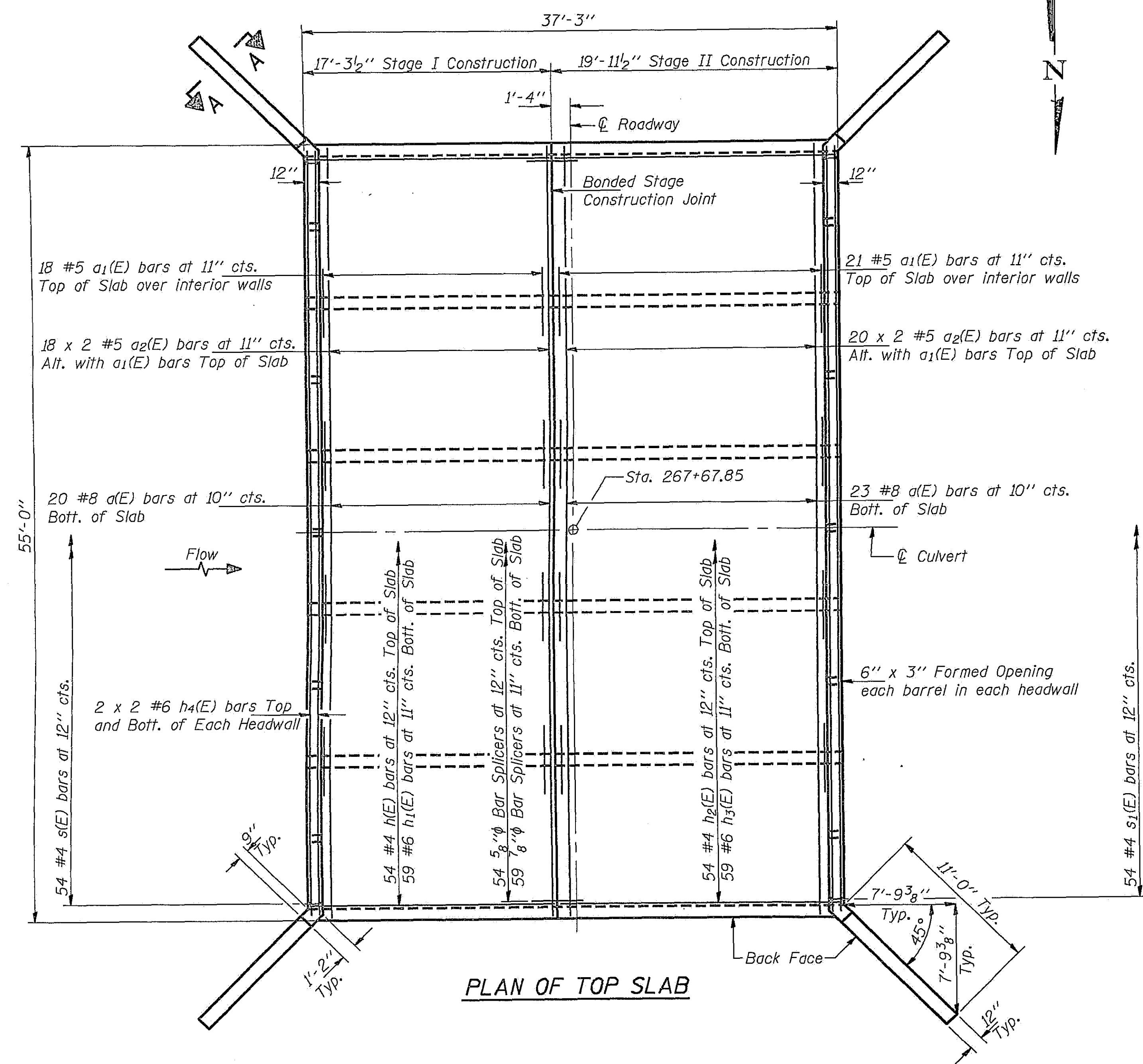
DESIGNED Adrian Holloway
CHECKED A. Carl Perry
DRAWN Joe Sutherland
CHECKED A. H. DCP
R-27 6-1-89

EXAMINED August 14 1991
PASSED [Signature]
APPROVED [Signature]
DIRECTOR OF HIGHWAYS

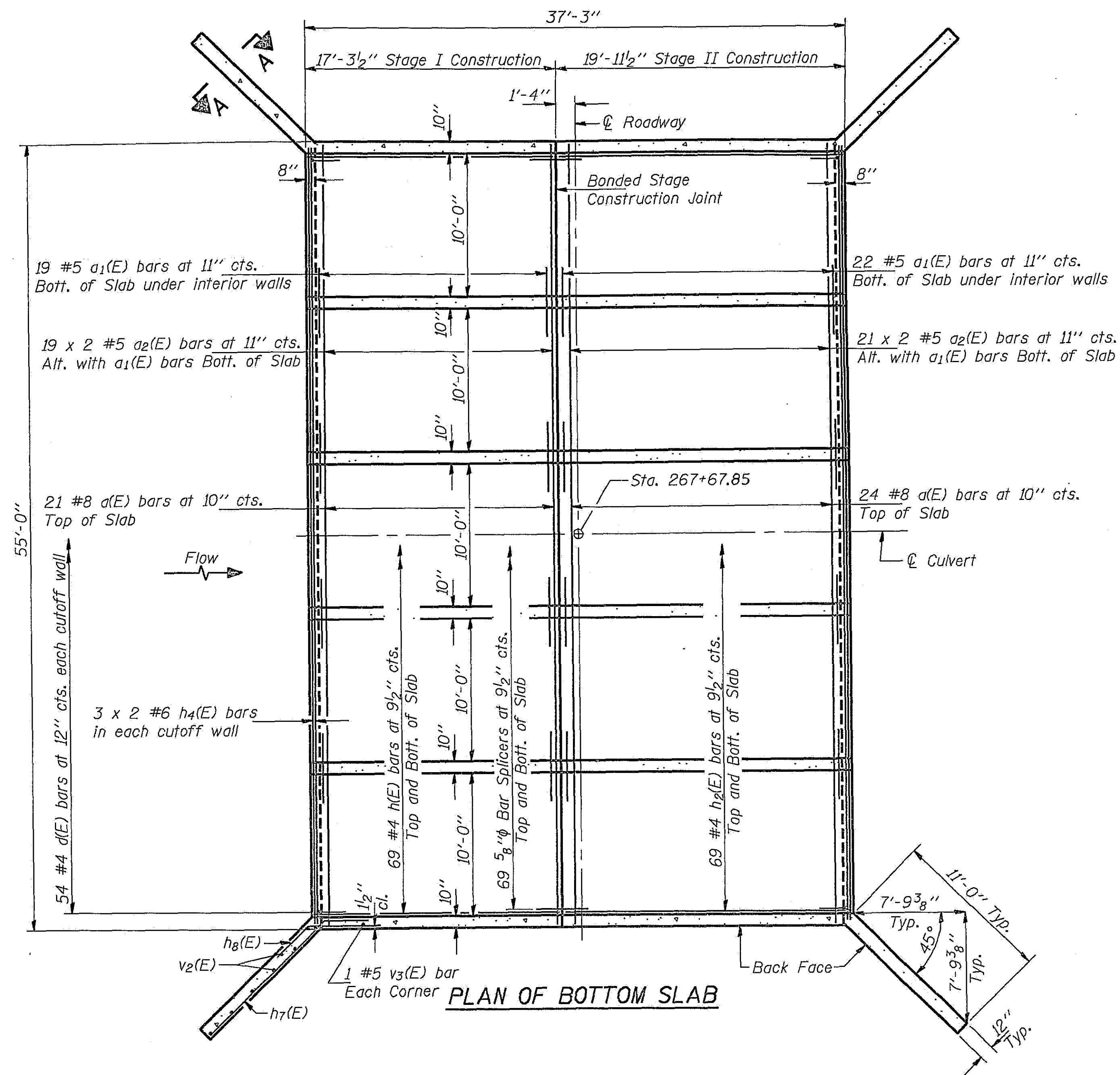
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
F.A.P. RT. 320 SEC. 117B-1
LOGAN COUNTY
STATION 267+67.85

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
F.A.P. 320	117B-1	LOGAN	21	9
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		6 SHEETS



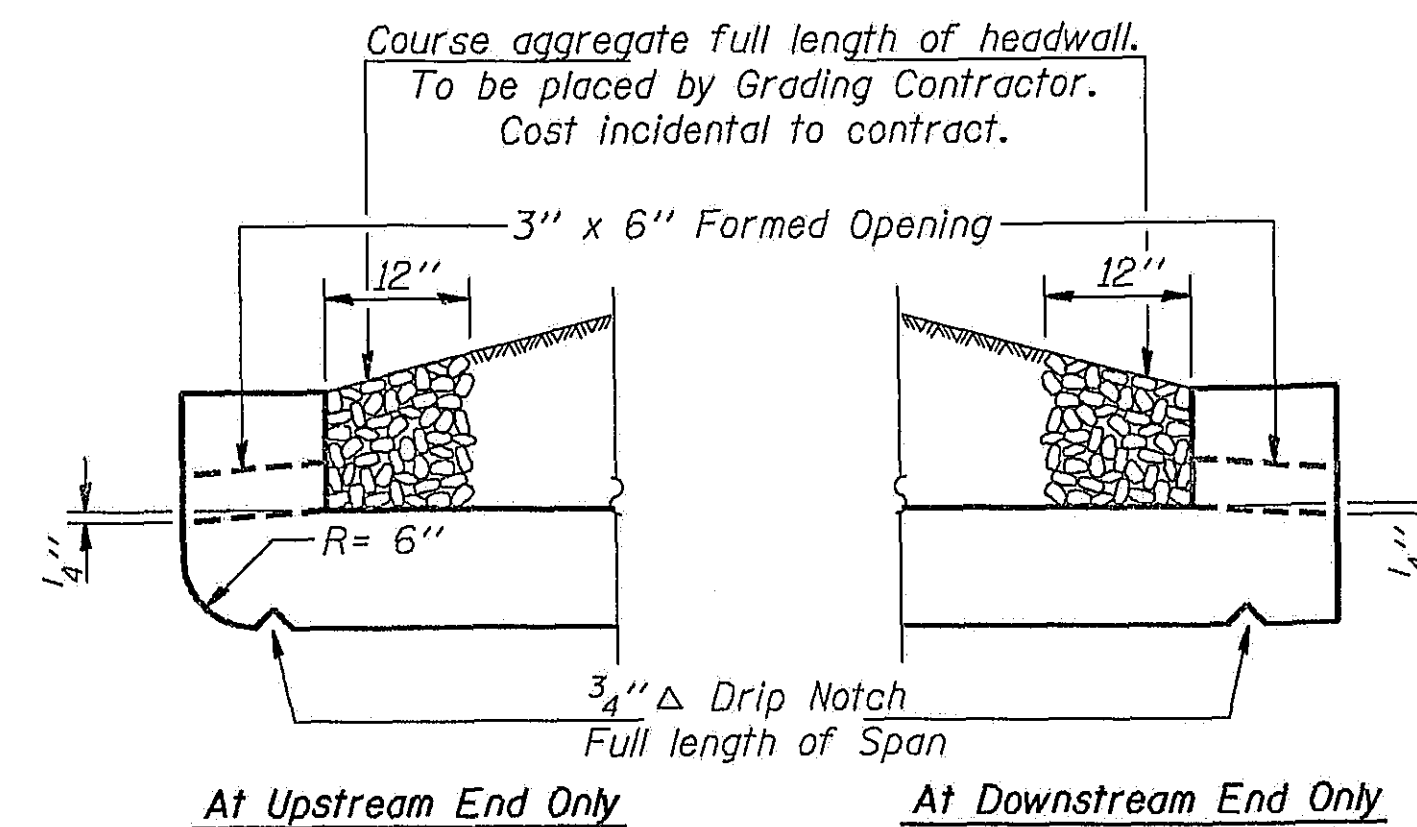
PLAN OF TOP SLAB



PLAN OF BOTTOM SLAB

MIN. BAR LAPS

#5 Bars = 2'-2"
#6 Bars = 2'-7"



DRAIN DETAILS

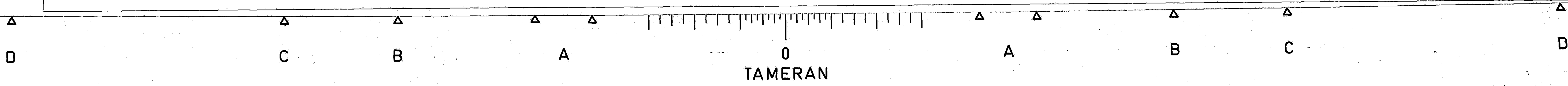
Notes: At least six feet of barrels shall be poured monolithically with wingwalls. Reinforcement bars designated (E) shall be epoxy coated. See sheet 5 of 6 for Bill of Material. Section A-A and remaining details.

DESIGNED Adrian Hallaway
CHECKED D. Carl Perry
DRAWN Joe Sutherland
CHECKED A.H. OCP

EXAMINED *Greg J. Kaspar*
PASSED *Robert E. Anderson*
APPROVED
DIRECTOR OF HIGHWAYS

August 14, 1991

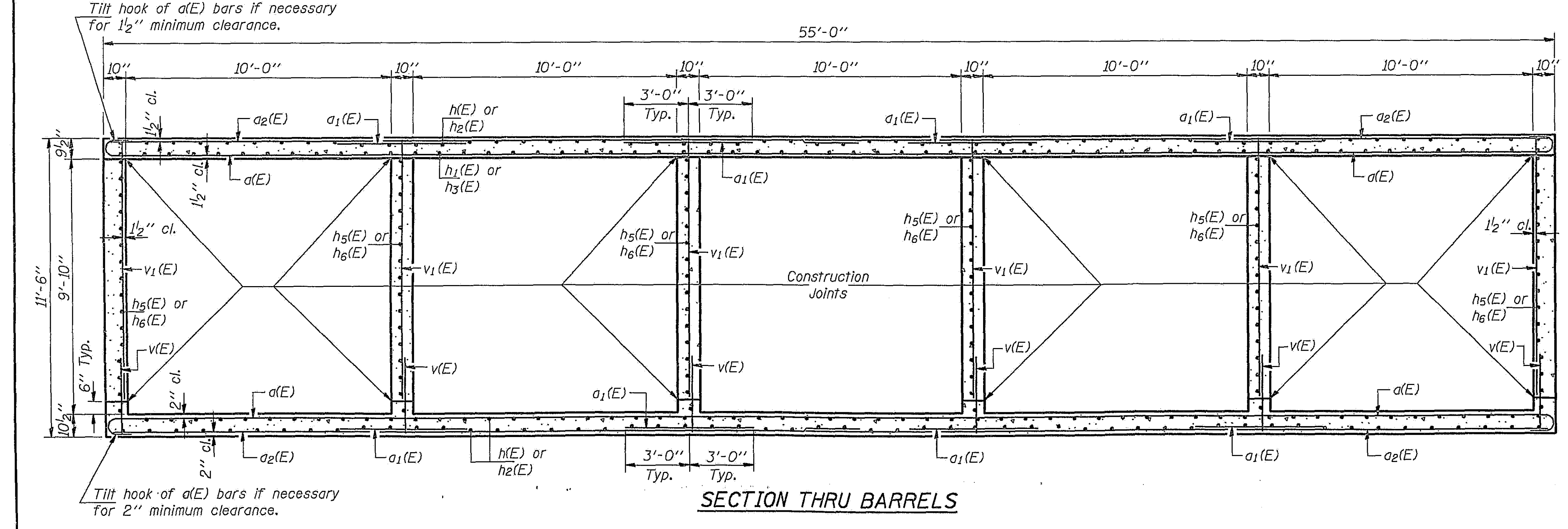
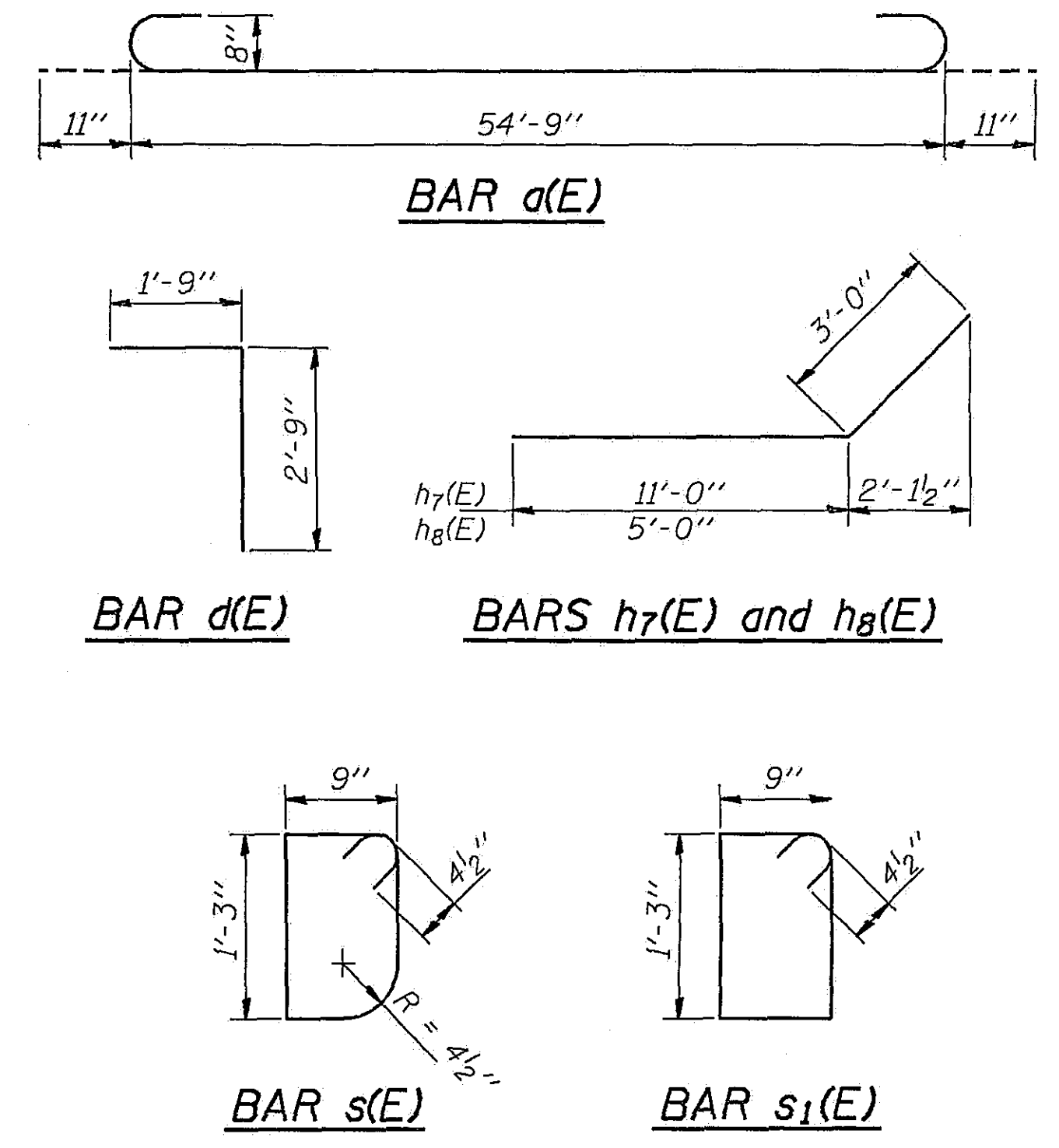
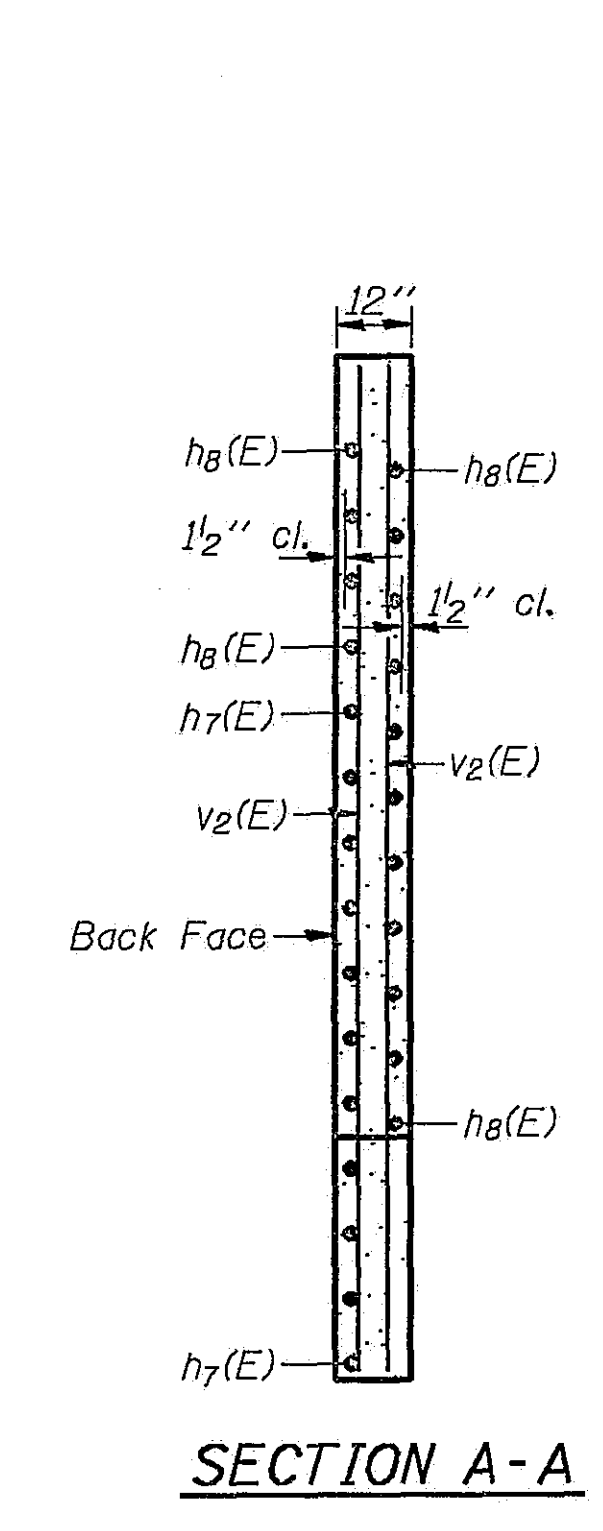
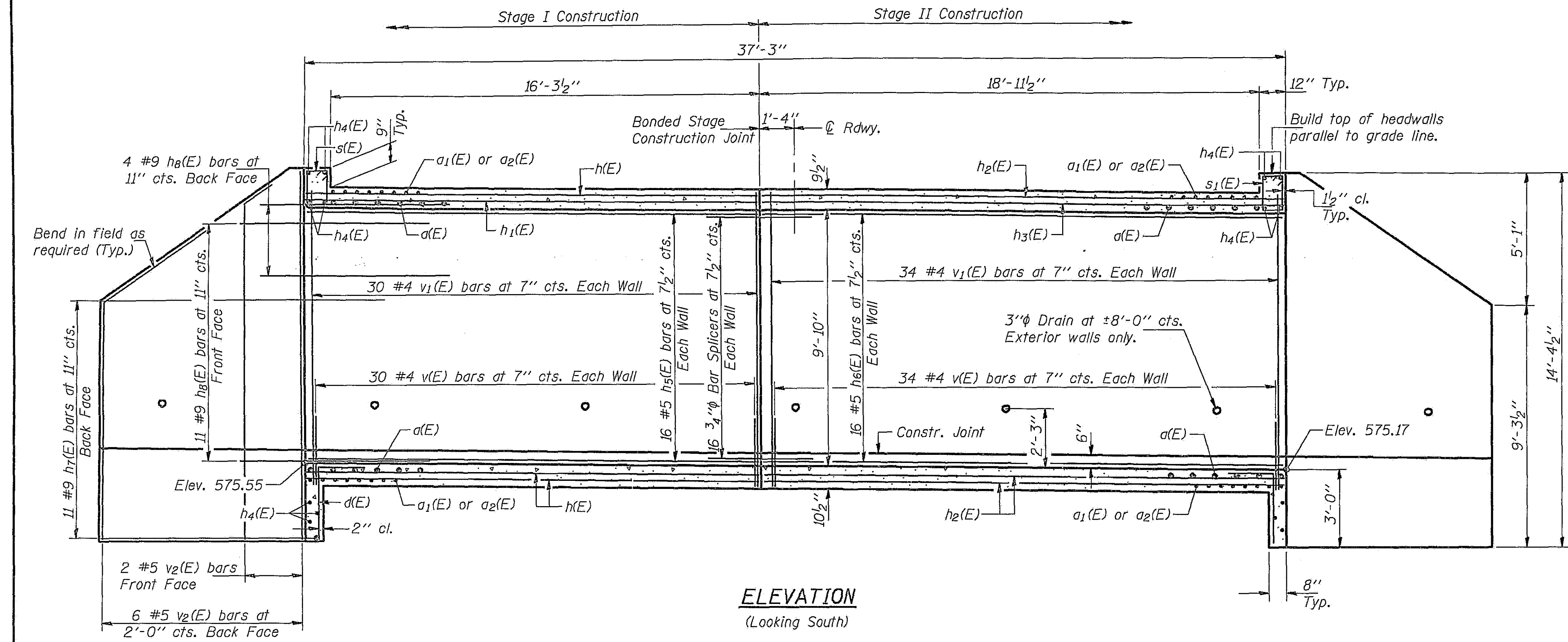
CULVERT DETAILS
F.A.P. RT. 320 SEC. 117B-1
LOGAN COUNTY
STATION 267+67.85



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.P. 320	117B-1	LOGAN	21	10
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 5
6 SHEETS



BILL OF MATERIAL

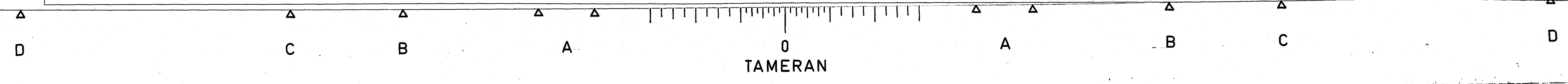
Bar	No.	Size	Length	Shape
a1(E)	88	#8	56'-7"	□
a2(E)	156	#5	28'-6"	□
d(E)	108	#4	4'-6"	└
h1(E)	192	#4	17'-0"	—
h2(E)	59	#6	17'-0"	—
h3(E)	192	#4	19'-9"	—
h4(E)	59	#6	19'-9"	—
h5(E)	28	#6	28'-8"	—
h6(E)	96	#5	17'-0"	—
h7(E)	96	#5	19'-9"	—
h8(E)	44	#9	14'-0"	—
h9(E)	60	#9	8'-0"	—
s(E)	54	#4	4'-7"	□
s1(E)	54	#4	4'-9"	□
v1(E)	384	#4	3'-0"	—
v2(E)	32	#5	14'-1"	—
v3(E)	4	#5	11'-3"	—

Class X Concrete Box Culverts Cu. Yd. 222.4
Reinforcement Bars Epoxy Coated Pound 40990

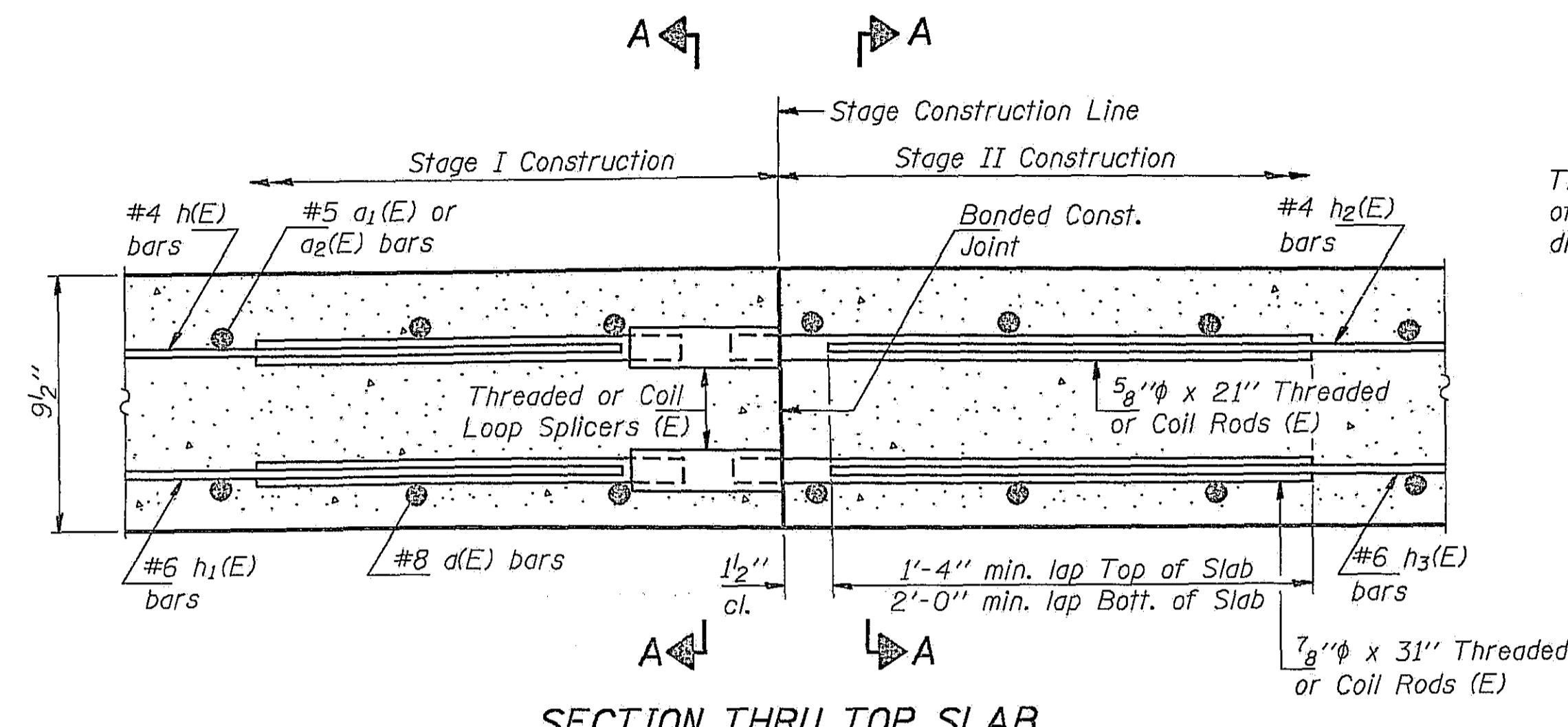
DESIGNED *Adrian Holloway*
CHECKED *R. Carl Papp*
DRAWN *Joe Sutherland*
CHECKED *A.H. DCP*

August 14 1991
EXAMINED *Greg J. Kaspar*
PASSED *Ralph E. Anderson*
APPROVED _____
DIRECTOR OF HIGHWAYS

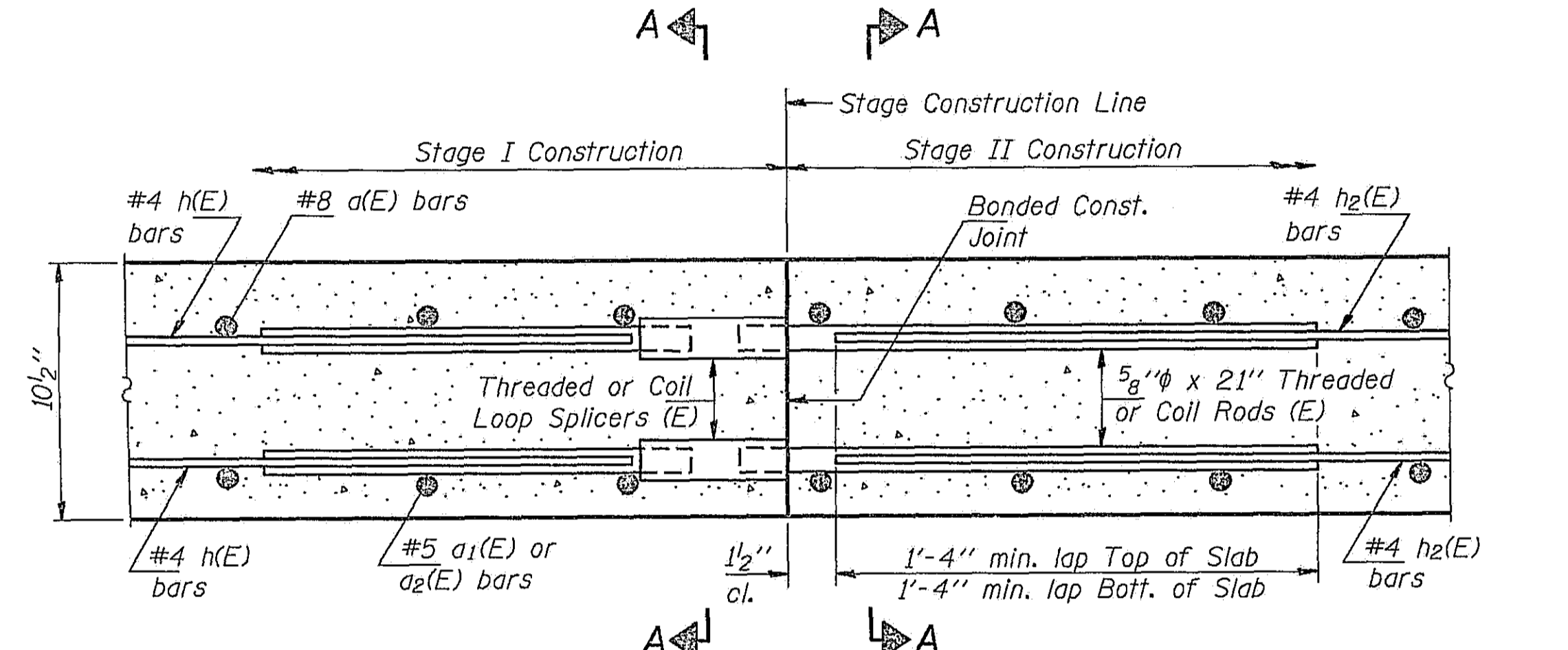
CULVERT DETAILS
F.A.P. RT. 320 SEC. 117B-1
LOGAN COUNTY
STATION 267+67.85



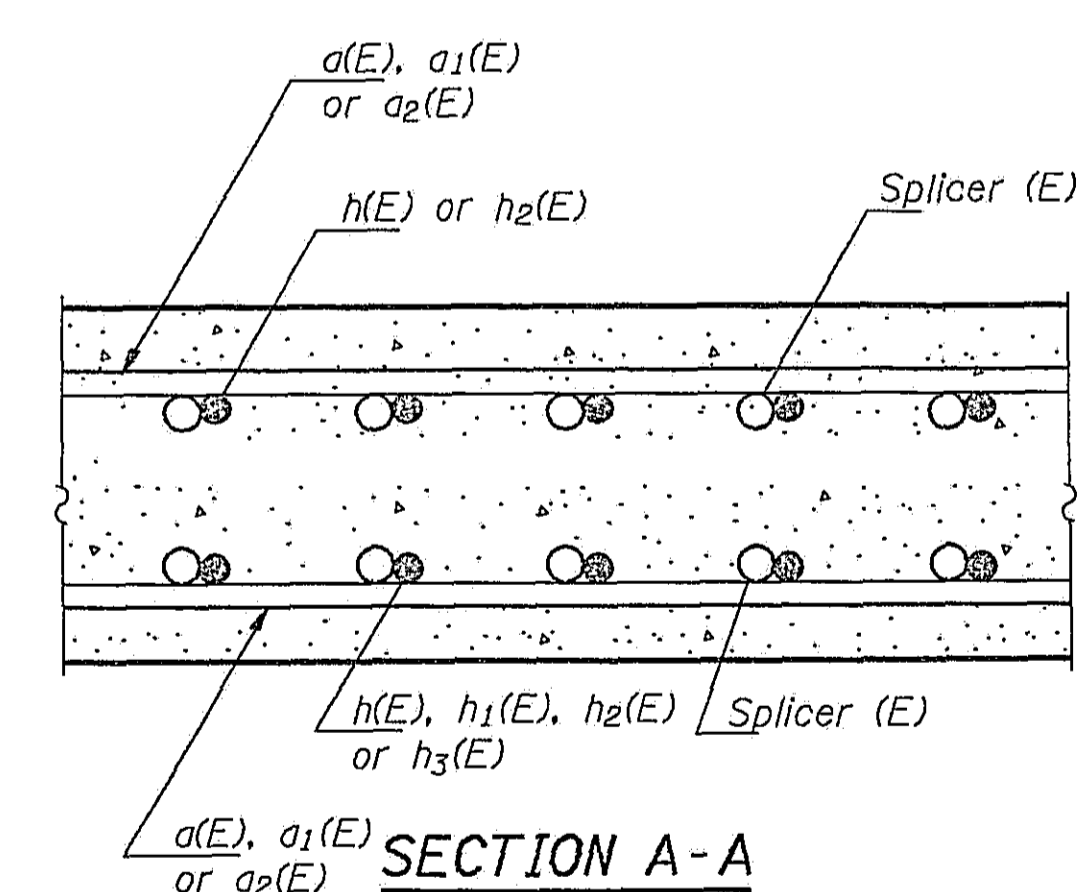
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION THRU TOP SLAB



SECTION THRU BOTT. SLAB



SECTION A-A

SPLICER DETAILS
 Top Slab: 5/8" ϕ Bar Splicers (E) (54 Required)
 7/8" ϕ Bar Splicers (E) (59 Required)
 Bott. Slab: 5/8" ϕ Bar Splicers (E) (138 Required)
 Cost incidental to Reinforcement Bars.

DESIGNED *Adrian Halloran*
 CHECKED *A. Carl Pugh*
 DRAWN *Joe Sutherland*
 CHECKED *A.H. DCP*

EXAMINED *Greg O. Kasper*
 PASSED *Ralph E. Anderson*
 APPROVED _____
 DIRECTOR OF HIGHWAYS

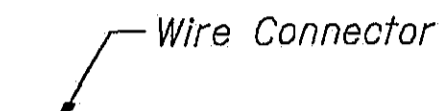
August 14 1991

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

ROLLED THREAD DOWEL BAR



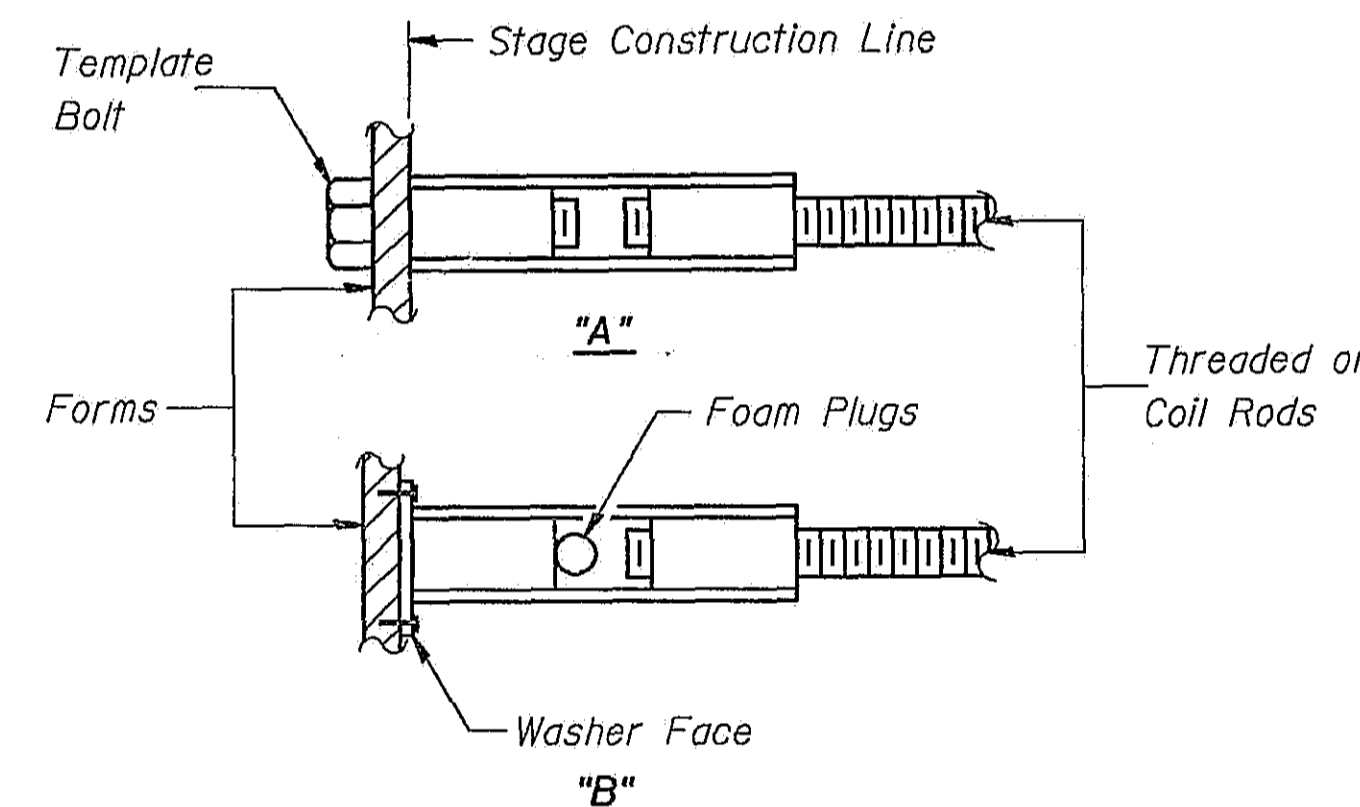
** ONE PIECE



WELDED SECTIONS

SPLICER ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

"A": Set splicer by means of a template bolt.
 "B": Set splicer by nailing to wood forms or cementing to steel forms.

(E): Indicates epoxy coating.

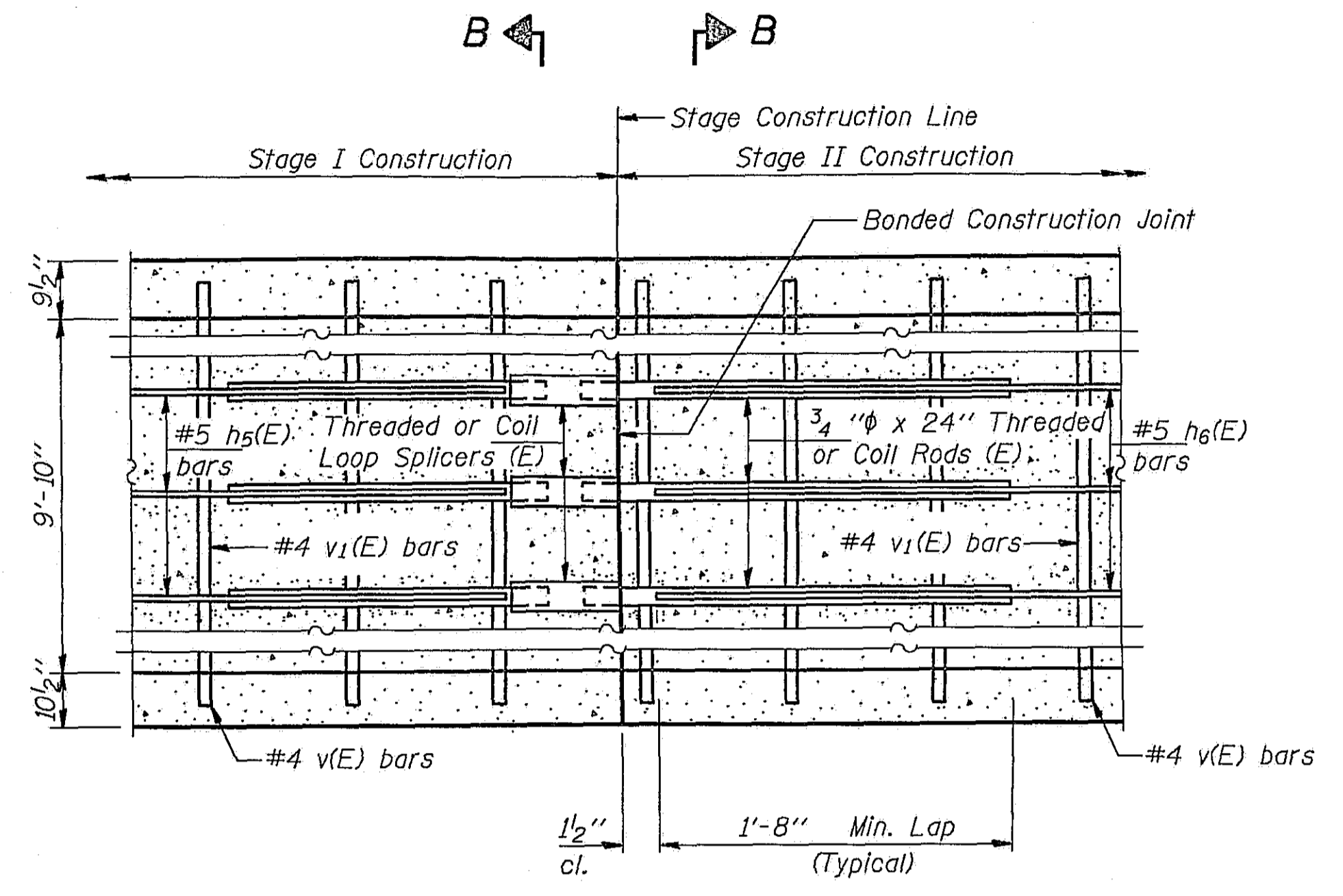
NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal to or greater than that of the lapped reinforcement bars.
 All reinforcement bars shall be lapped and tied to the splicer rods.
 Splicer (coupler) assembly in the slabs and walls shall be epoxy coated in accordance with the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

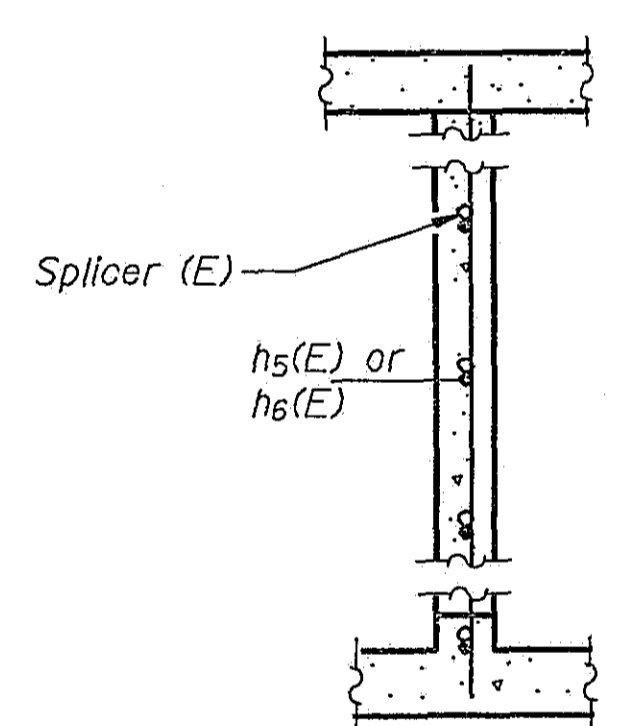
- Minimum Capacity = $1.25 \times f_y \times A_l$
(Tension in kips)
- Minimum *Pull-out Strength = $1.25 \times f_{s,allow} \times A_l$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s,allow}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_l = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:		
In Slabs	#4 bar lap with 5/8" ϕ Splicer (Coupler) x 1'-9" Splicer Rods	Minimum Capacity = 14.7 kips-tension Minimum Pull-out Strength = 5.9 kips-tension
	#6 bar lap with 7/8" ϕ Splicer (Coupler) x 2'-7" Splicer Rods	Minimum Capacity = 33.1 kips-tension Minimum Pull-out Strength = 13.3 kips-tension
In Walls	#5 bar lap with 3/4" ϕ Splicer (Coupler) x 2'-0" Splicer Rods	Minimum Capacity = 23.0 kips-tension Minimum Pull-out Strength = 9.2 kips-tension



SECTION THRU WALLS



SECTION B-B

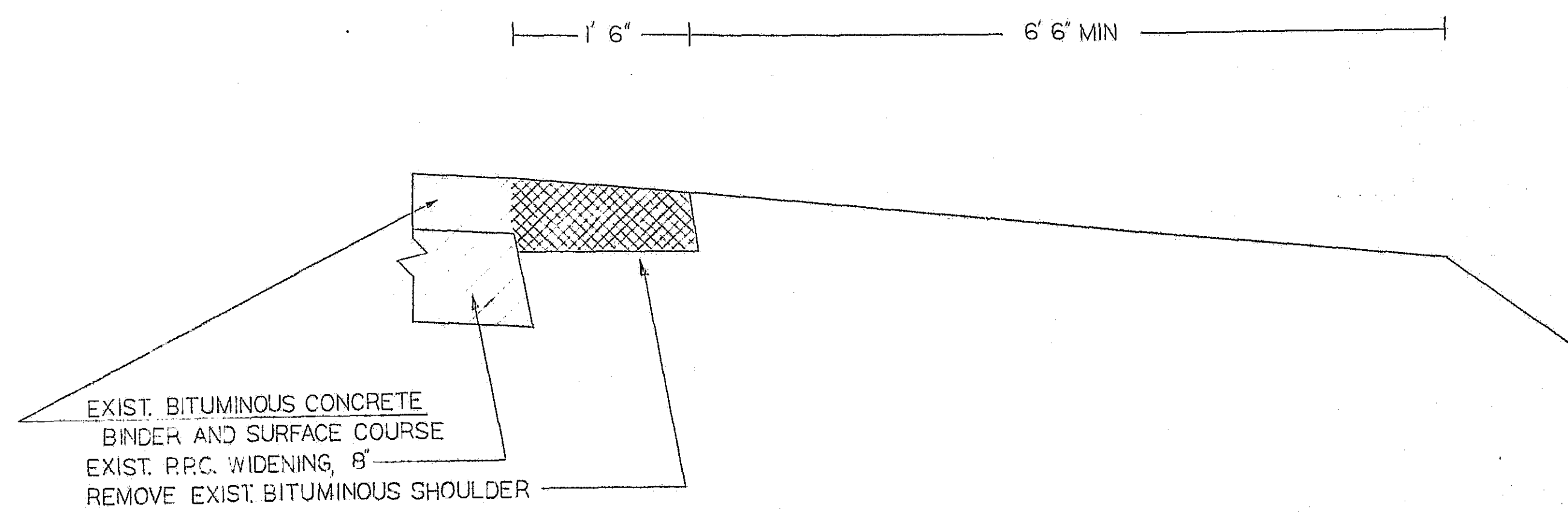
SPLICER DETAILS

(No. Req'd. 96)
 Cost incidental to Reinforcement Bars.

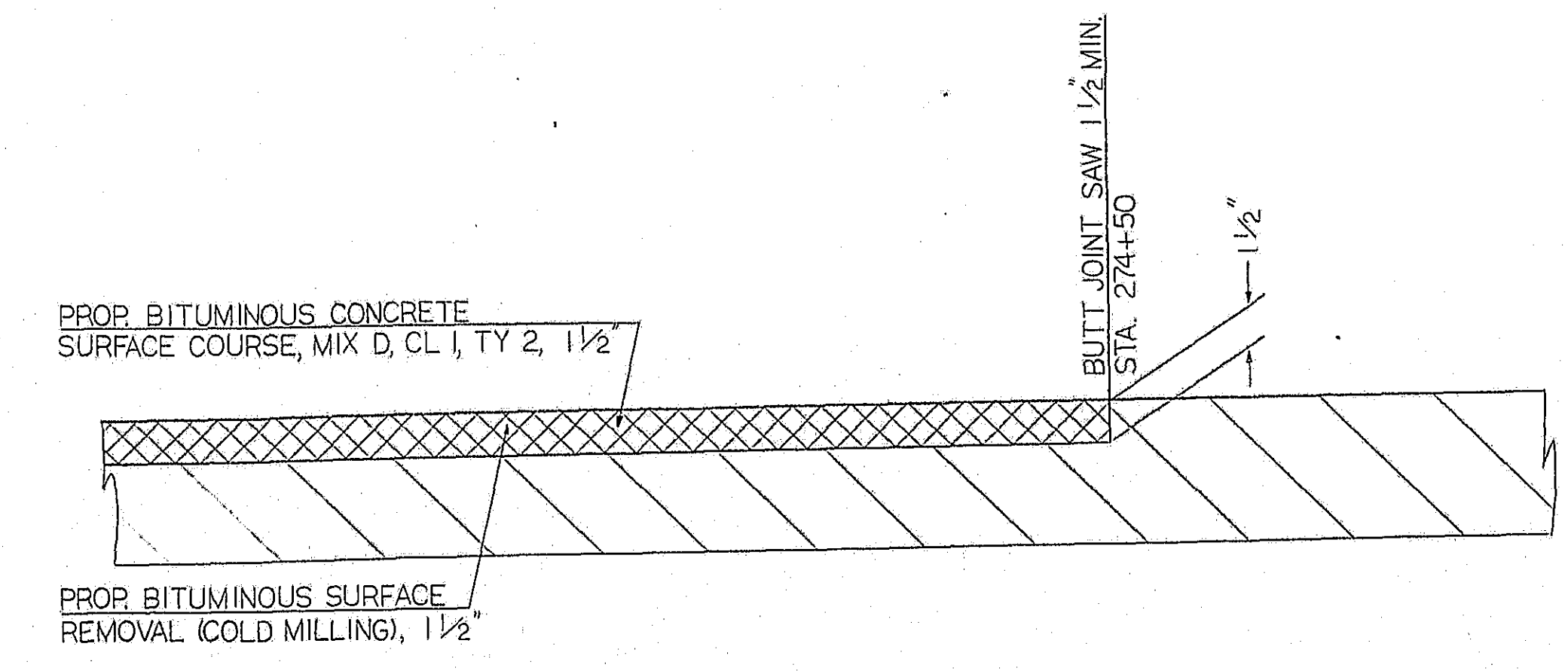
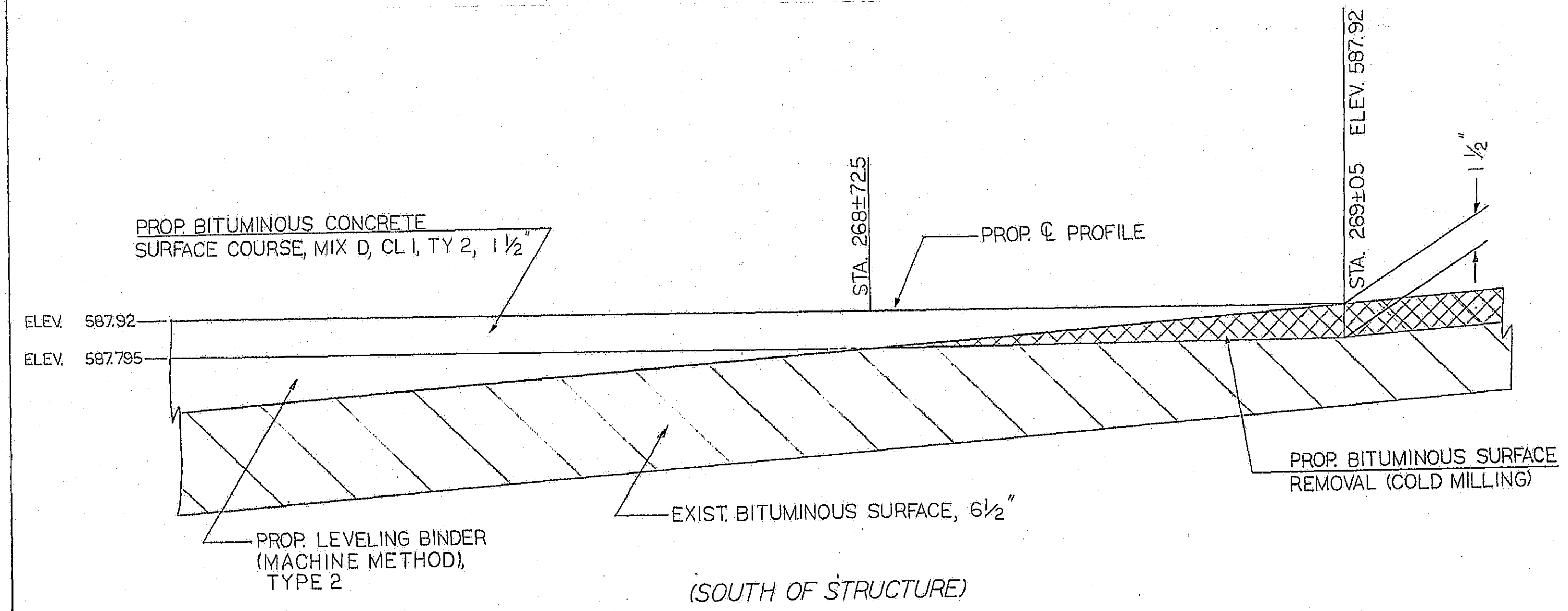
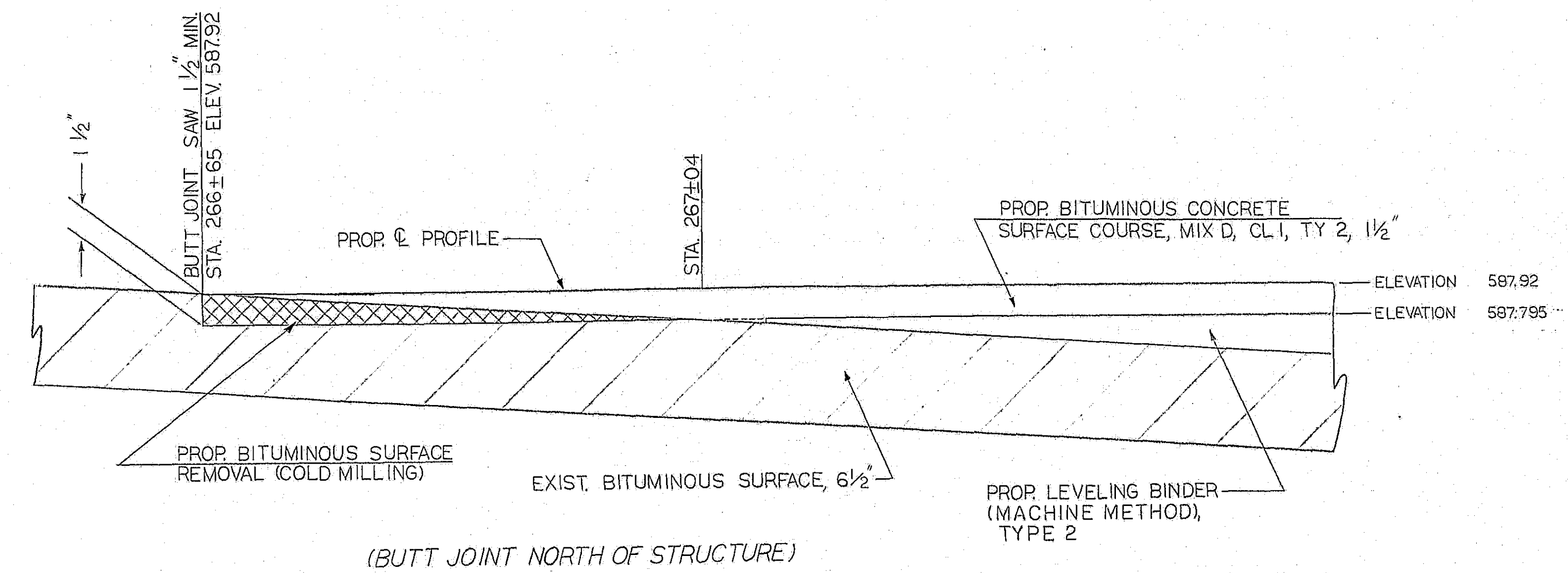
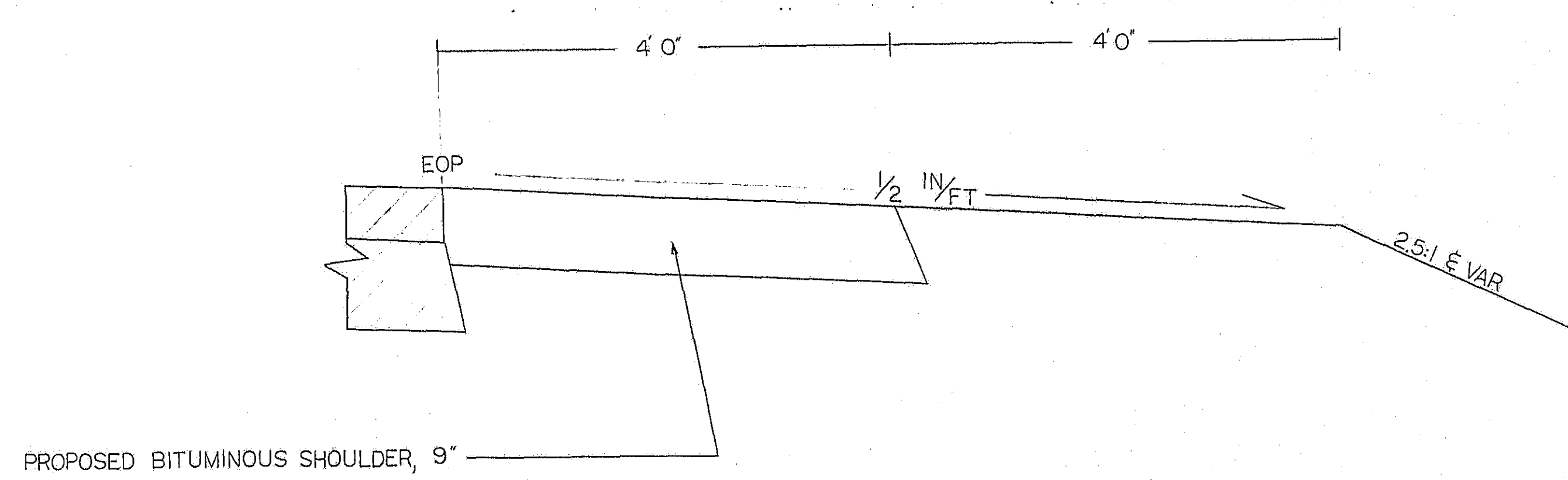
**BAR SPLICER (COUPLER) DETAILS
 AT STAGE CONSTRUCTION
 F.A.P. RT. 320 SEC. 117B-1
 LOGAN COUNTY
 STATION 267+67.85**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 320	117B-1	LOGAN	21	12
STA. 266±65		TO STA. 274±50		
FHWA. REG. NO. 5		ILLINOIS		FED. AID PROJECT

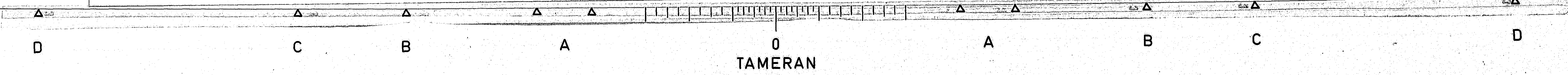
EXISTING SHOULDER CONDITIONS



PROPOSED SHOULDER DETAIL



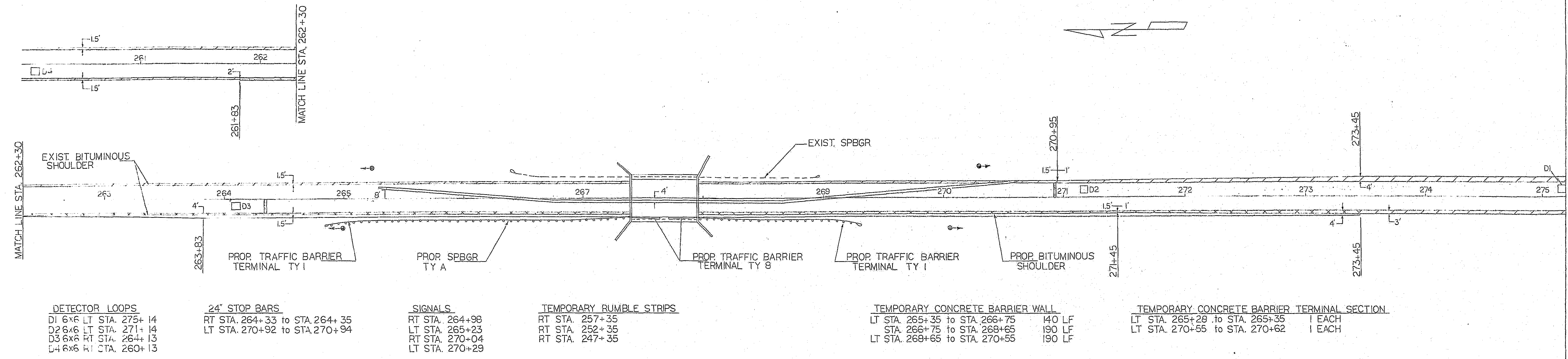
SHOULDER AND BUTT JOINT DETAILS
 FAP 320 (IL 121)
 SECTION 117 B-1
 LOGAN COUNTY



BAD COPY

STAGE I TRAFFIC CONTROL

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 320	117B-1	LOGAN	21	13
STA. 262+30 TO STA. 273+45		FHWA REG. NO. 5 ILLINOIS FED. AID PROJECT		

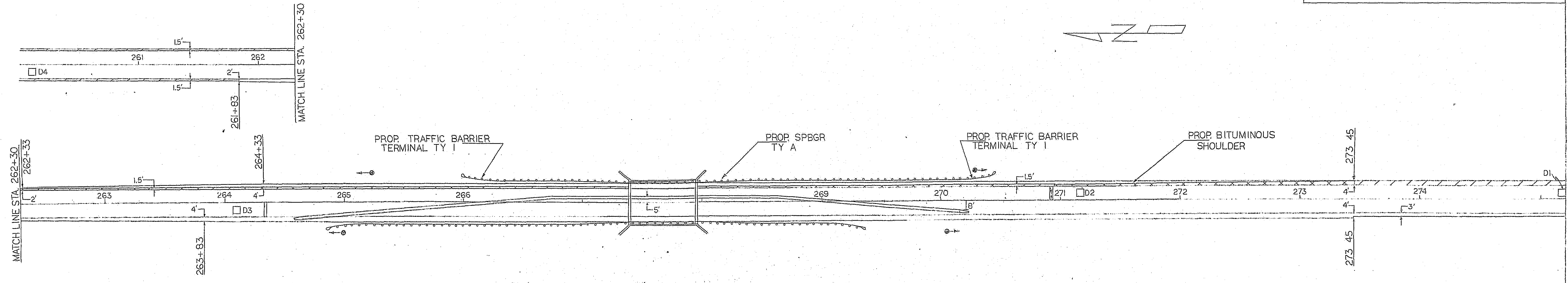


- DETECTOR LOOPS**
 D1 6x6 LT STA. 275+14
 D2 6x6 LT STA. 271+14
 D3 6x6 RT STA. 264+13
 D4 6x6 RT STA. 260+13
- 24" STOP BARS**
 RT STA. 264+33 to STA. 264+35
 LT STA. 270+92 to STA. 270+94
- SIGNALS**
 RT STA. 264+98
 LT STA. 265+23
 RT STA. 270+04
 LT STA. 270+29
- TEMPORARY RUMBLE STRIPS**
 RT STA. 257+35
 LT STA. 265+23
 RT STA. 262+35
 LT STA. 247+35
- TEMPORARY CONCRETE BARRIER WALL**
 LT STA. 265+35 to STA. 266+75 140 LF
 STA. 266+75 to STA. 268+65 190 LF
 LT STA. 268+65 to STA. 270+55 190 LF
- TEMPORARY CONCRETE BARRIER TERMINAL SECTION**
 LT STA. 265+28 to STA. 265+35 1 EACH
 LT STA. 270+55 to STA. 270+62 1 EACH

EXISTING BITUMINOUS SHOULDER

EXISTING BITUMINOUS SHOULDER (TO BE REMOVED)

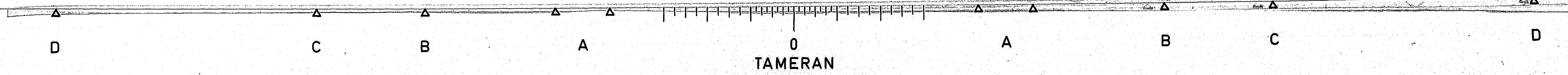
STAGE II TRAFFIC CONTROL



- NOTE:** ALL DETECTOR LOOPS, STOP BARS, SIGNALS AND TEMPORARY RUMBLE STRIPS WILL REMAIN THE SAME FOR BOTH STAGE I AND II CONSTRUCTION.
- TEMPORARY CONCRETE BARRIER WALL**
 RT STA. 264+65 to STA. 266+75 210 LF
 STA. 266+75 to STA. 268+65 190 LF
 RT STA. 268+65 to STA. 270+15 150 LF
 - TEMPORARY CONCRETE BARRIER TERMINAL SECTION**
 RT STA. 264+58 to STA. 264+65 1 EACH
 RT STA. 270+15 to STA. 270+22 1 EACH

TRAFFIC CONTROL
 STAGE CONSTRUCTION
 FAP 320 (IL RTE. 121)
 SECTION 117B-1
 LOGAN COUNTY

SCALE: 1 INCH = 40 FT.



BAD COPY

F.A. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
320	117 B-1	LOGAN	21	14
STA.		TO STA.		
FED. ROAD DIST. NO.	BLANKS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Six Materials
SW 1/4, NE 1/4, Sect. 35, T 19 N, R 2 W of the 3rd P.M.
Sh. 1 of 1
PROJECT P 96-053-89 BRIDGE over Fork of Salt Ck Date 08/22/90
ROUTE FA 320 (IL 121) SN 054-2030 (New) Bored By M. McQuillity
SEC. 117 B-1 STA. 267+67.85 Checked By T. Ripka

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Six Materials
SW 1/4, NE 1/4, Sect. 35, T 19 N, R 2 W of the 3rd P.M.
Sh. 1 of 1
PROJECT P 96-053-89 BRIDGE over Fork of Salt Ck Date 08/22/90
ROUTE FA 320 (IL 121) SN 054-2030 (New) Bored By M. McQuillity
SEC. 117 B-1 STA. 267+67.85 Checked By T. Ripka

COUNTY Logan	Boring No. 1 Sta 267+30 SW Wing O/S 38' R of EXIST	Surf Wat El. 576.1 Grndwater El. - at Compl. -				At 24 Hrs 576.5			
		EI.	N	Qu t/sf	W %	EI.	N	Qu t/sf	W %
	Ground Surface 581.5 0								
					Grey fine SAND Wet (Dense)				14
					(Medium)				22
									5
									10
									16
	Brown LOAM Moist (Medium)	-5	1	2	0.6	20			8
									11
									8
	Brown WATER	574.5	1						
	fine SAND Wet (Loose)		2						30
	Brown & Grey medium to coarse SAND & GRAVEL Wet (V. Loose)	572.5	1						
			2						
			3						
			2						
			3						
			5						35
	Grey (Medium)	-15	2						
			6						
			8						
	Grey fine to medium SAND Wet (Medium)	564.5	4						
			6						
			9						40
	Grey fine SAND Wet (Medium)	562.5	3						
			10						
			16						
			5						
			next column						45

Boring Completed 563.5

Benchmark used was centerline of the existing road at the center of bridge. The elev. is 587.80.

N-Std Penetr Test: 2" OD Sampler, 140# Hammer Falling 30" (Type Fall, B Bulge S-Shear E-Estimated P-Penetrometer)

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Six Materials
SW 1/4, NE 1/4, Sect. 35, T 19 N, R 2 W of the 3rd P.M.
Sh. 1 of 1
PROJECT P 96-053-89 BRIDGE over Fork of Salt Ck Date 08/23/90
ROUTE FA 320 (IL 121) SN 054-2030 (New) Bored By M. McQuillity
SEC. 117 B-1 STA. 267+67.85 Checked By T. Ripka

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Six Materials
SW 1/4, NE 1/4, Sect. 35, T 19 N, R 2 W of the 3rd P.M.
Sh. 1 of 1
PROJECT P 96-053-89 BRIDGE over Fork of Salt Ck Date 08/23/90
ROUTE FA 320 (IL 121) SN 054-2030 (New) Bored By M. McQuillity
SEC. 117 B-1 STA. 267+67.85 Checked By T. Ripka

COUNTY Logan	Boring No. 2 Sta 267+23 NE Wing O/S 49' L of EXIST	Surf Wat El. 576.1 Grndwater El. - at Compl. -				At 549.3			
		EI.	N	Qu t/sf	W %	EI.	N	Qu t/sf	W %
	Ground Surface 576.8 0								
					Brown to coarse medium SAND & some GRAVEL Wet (Medium)				4
									11
									14
									25
	Dark Brown SILTY CLAY LOAM Wet (Soft)	-1	1	0.3	29				10
			2						9
			2						9
	Brown WATER	570.8	3						
	fine to medium SAND Wet (loose)		4						
			5						30
	Brown fine SAND Wet (Medium)	567.8	5						
			6						
			10						
	Brown fine to medium SAND Wet (Medium)	565.8	3						
			7						
			10						
			3						
			8						
			11						
			3						
			7						
			12						
			7						
			6						
	Brown medium to coarse SAND & some GRAVEL Wet (Medium)	567.8	7						
			20						13
			5						
			9						
			14						
			next column						45

Boring Completed 549.3

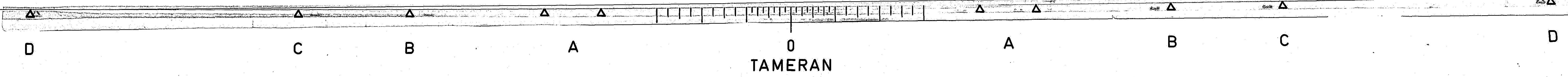
N-Std Penetr Test: 2" OD Sampler, 140# Hammer Falling 30" (Type Fall, B Bulge S-Shear E-Estimated P-Penetrometer)

10-JUL-91 11:00:55 08/14/91
LEVELS = 36.60

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SOIL BORING LOGS
F.A.P. 320 (IL 121)
SECTION 117 B-1
LOGAN COUNTY
SCALE: VERT. NO SCALE HORIZ. DRAWN BY CADD
DATE: JULY 10, 1991 CHECKED BY T. RIPKA

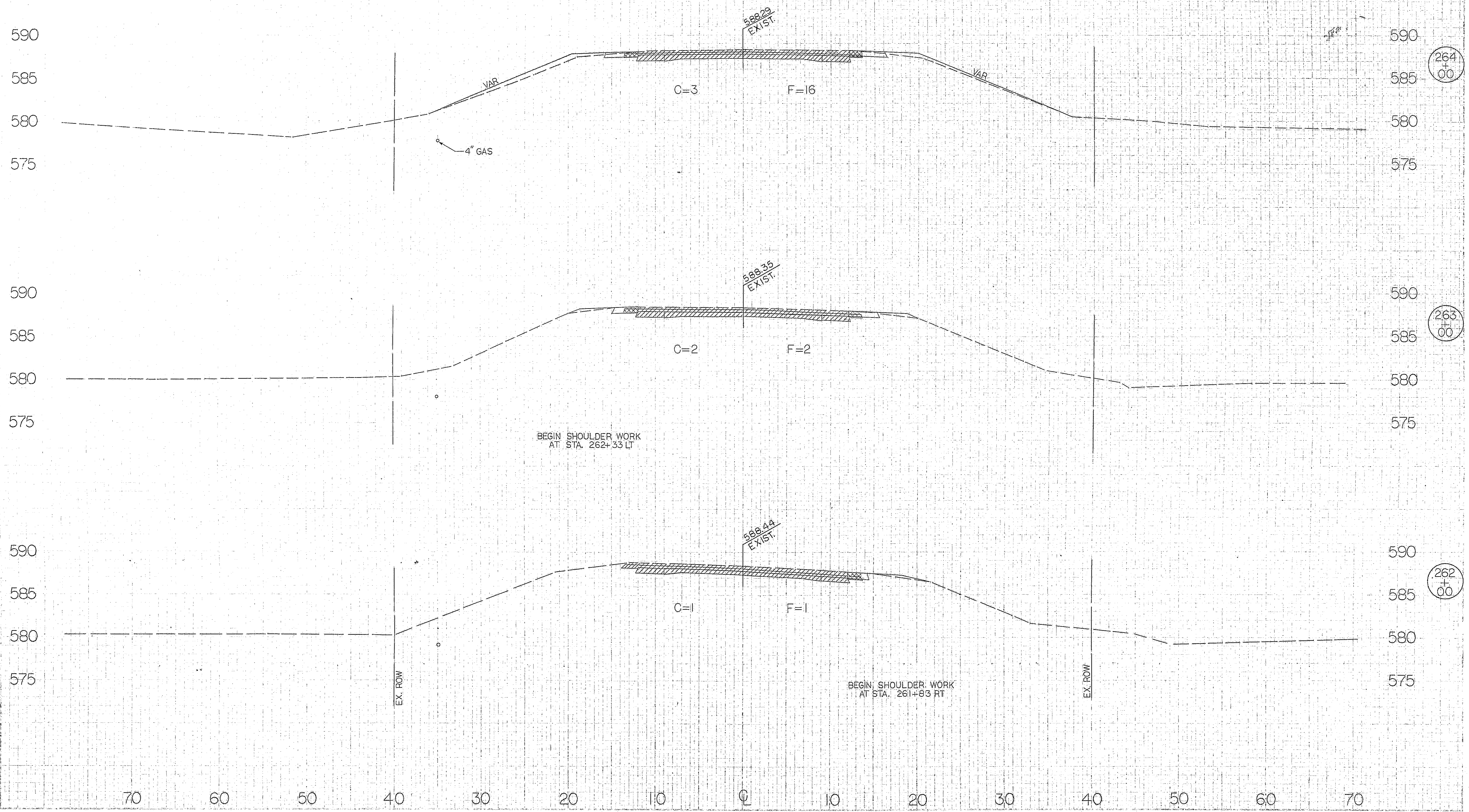
CELL-BORLOG REVISED 23-APRIL-1991



BAD COPY

70 60 50 40 30 20 10 0 10 20 30 40 50

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 320	117B-1	LOGAN	21	15
STA. TO STA.		ILLINOIS FED. AID PROJECT		



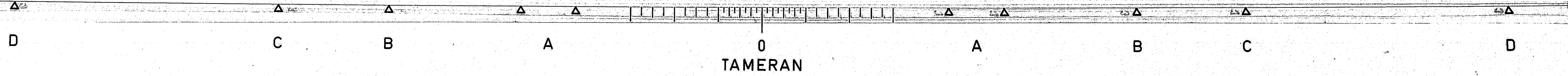
264
+
00

263
+
00

262
+
00

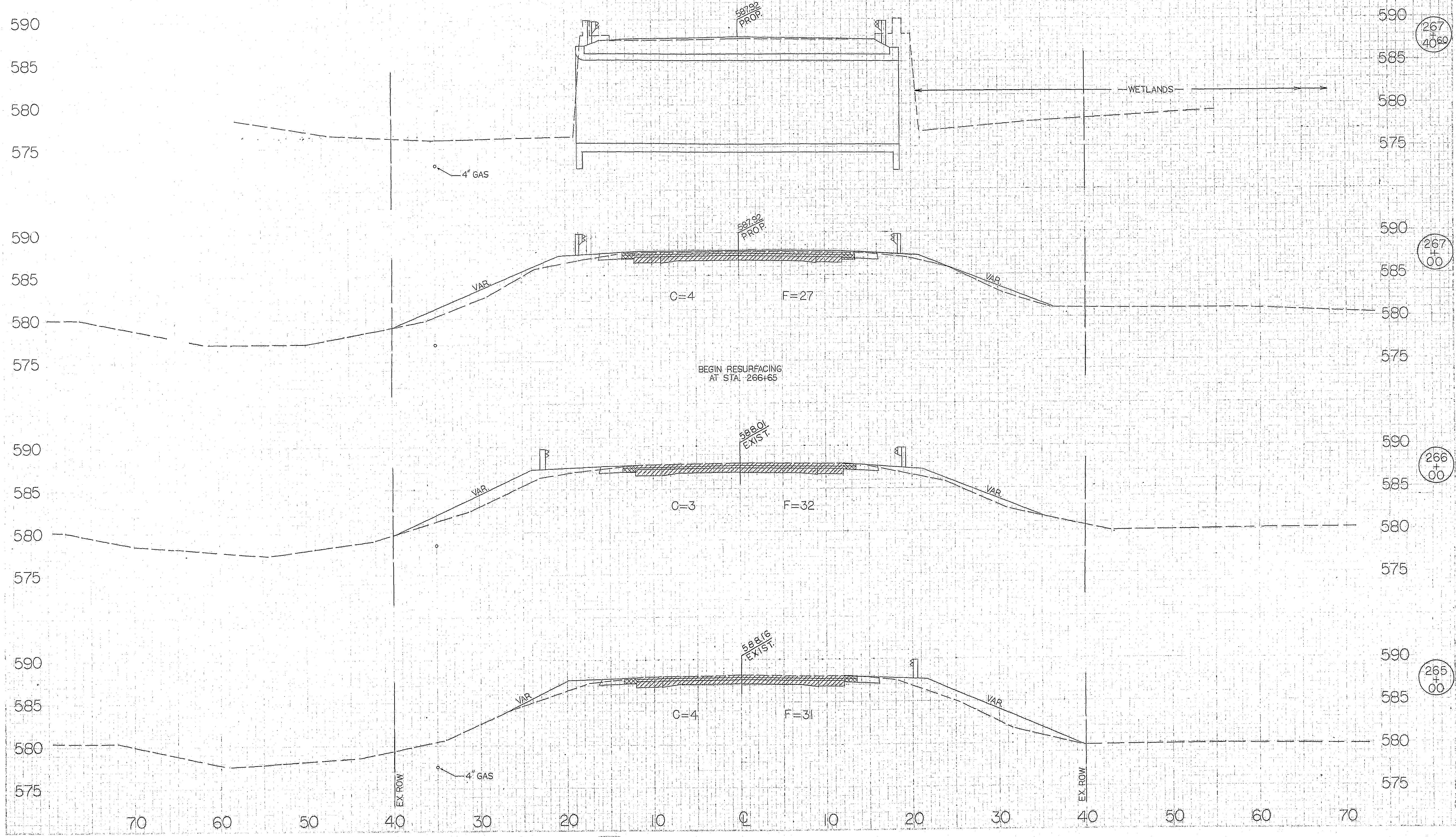
70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

WORLD ENGINEERING COMPANY PLAINFIELD, NEW JERSEY



70 60 50 40 30 20 10 0 10 20 30 40 50

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 320	117 B-1	LOGAN	21	16
STA. TO STA.		ILLINOIS FED. AID PROJECT		



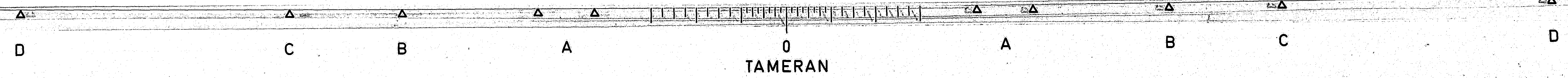
267
+
40.80

267
+
00

266
+
00

265
+
00

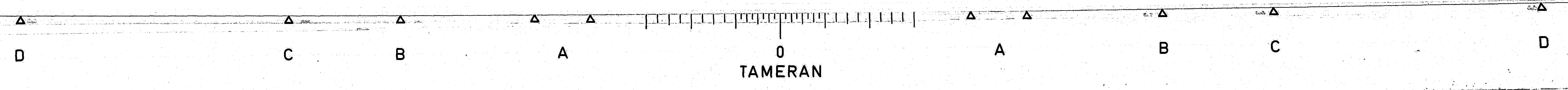
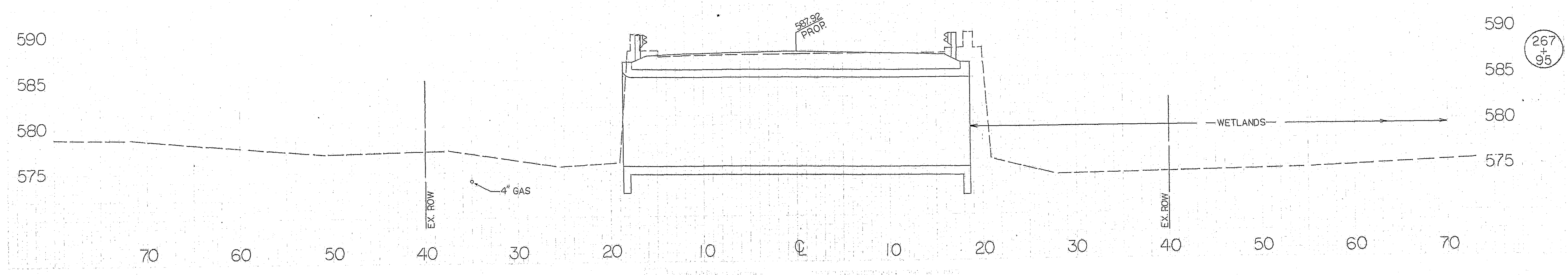
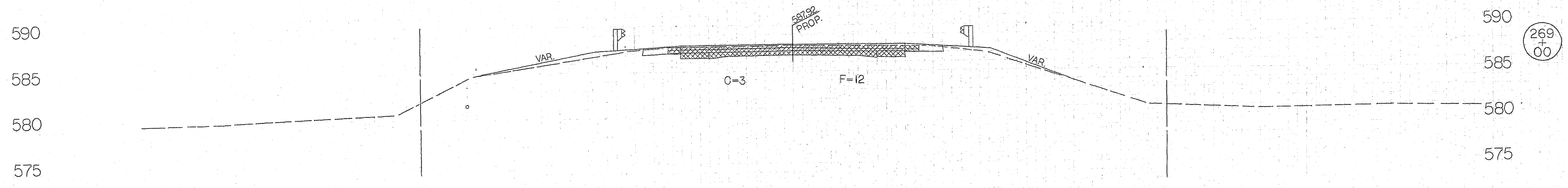
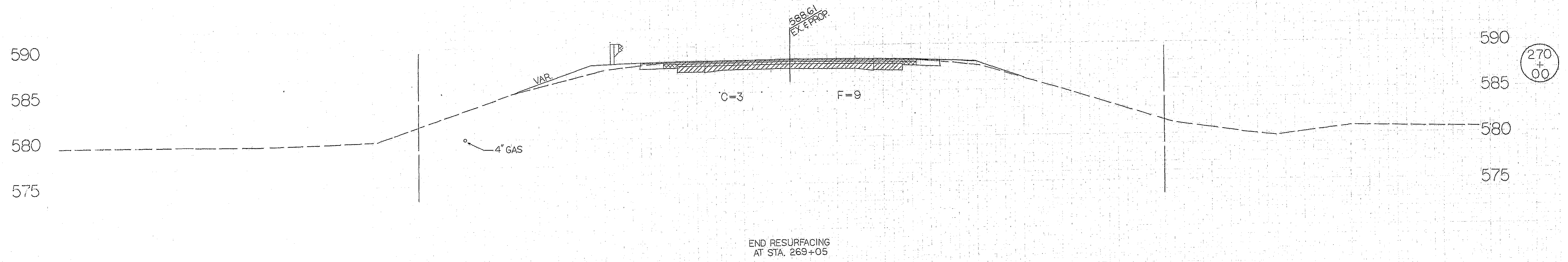
ENGINEER & SURVEYOR
PLATE 117 B-1, 117 B-2, 117 B-3, 117 B-4, 117 B-5, 117 B-6, 117 B-7, 117 B-8, 117 B-9, 117 B-10, 117 B-11, 117 B-12, 117 B-13, 117 B-14, 117 B-15, 117 B-16, 117 B-17, 117 B-18, 117 B-19, 117 B-20, 117 B-21



TAMERAN

70 60 50 40 30 20 10 0 10 20 30 40 50

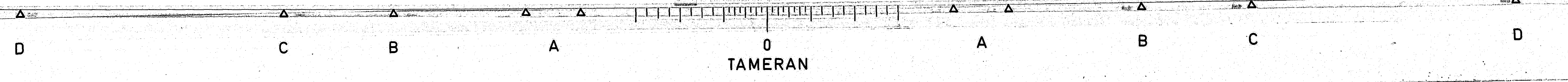
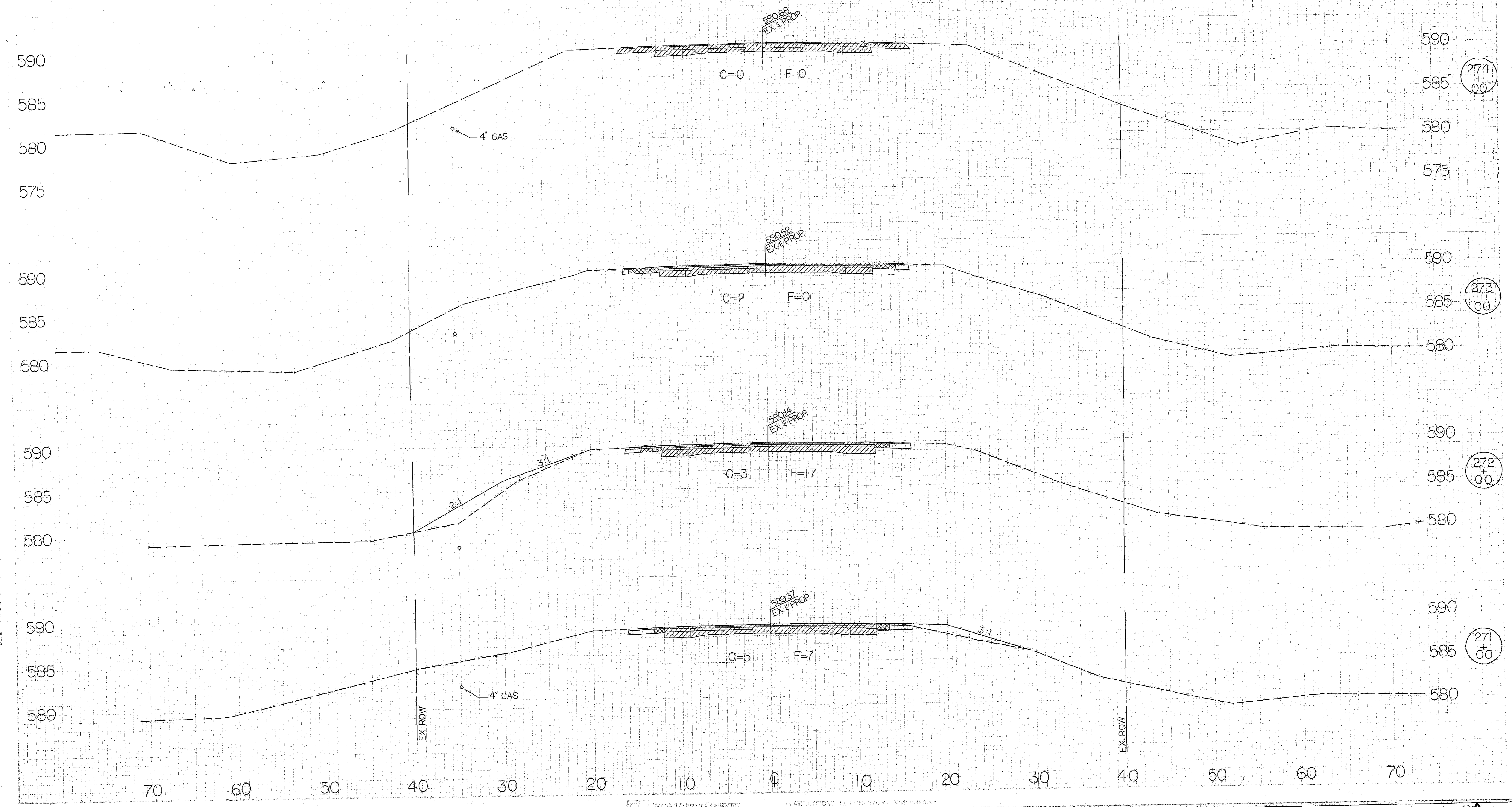
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA.320	117B-1	LOGAN	21	17
STA.		TO STA.		
FHWA REG. NO. 8		ILLINOIS		FED. AID PROJECT



70 60 50 40 30 20 10 0 10 20 30 40 50

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA.320	117 B-1	LOGAN	21	18
STA.		TO STA.		
FHWA. REG. NO. 5		ILLINOIS		FED. AID PROJECT

END RESURFACING
AT STA. 274+50

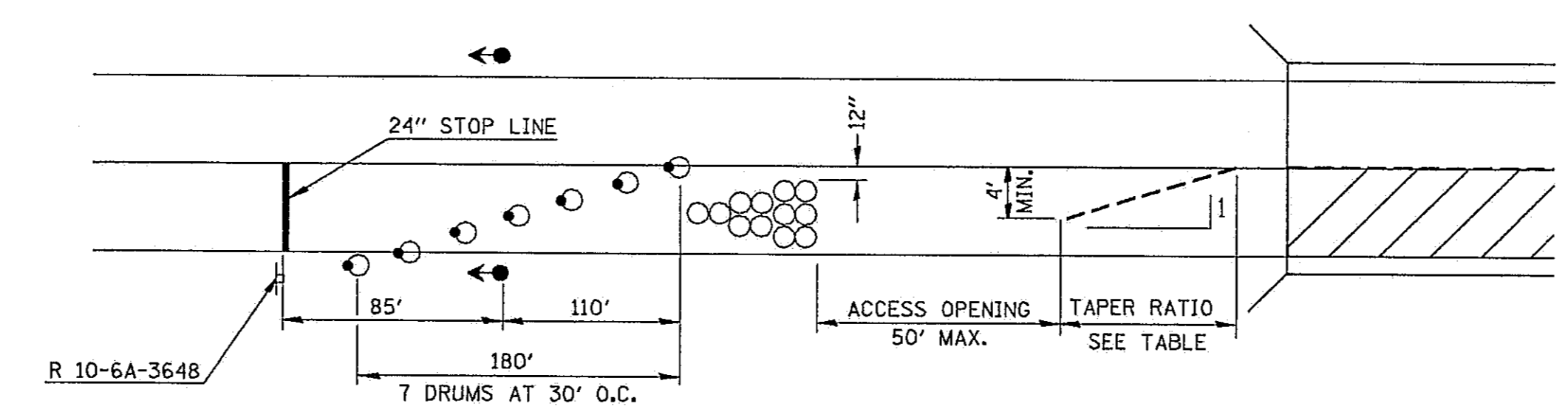


F. A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
320	117 B-1	LOGAN	21	20
STA.		TO STA.		
EXISTING CONDITIONS:				

SPECIAL DETAIL FOR TRAFFIC CONTROL BRIDGE DECK STAGE CONSTRUCTION UTILIZING TRAFFIC ACTUATED SIGNALS AND TEMPORARY BARRIERS TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

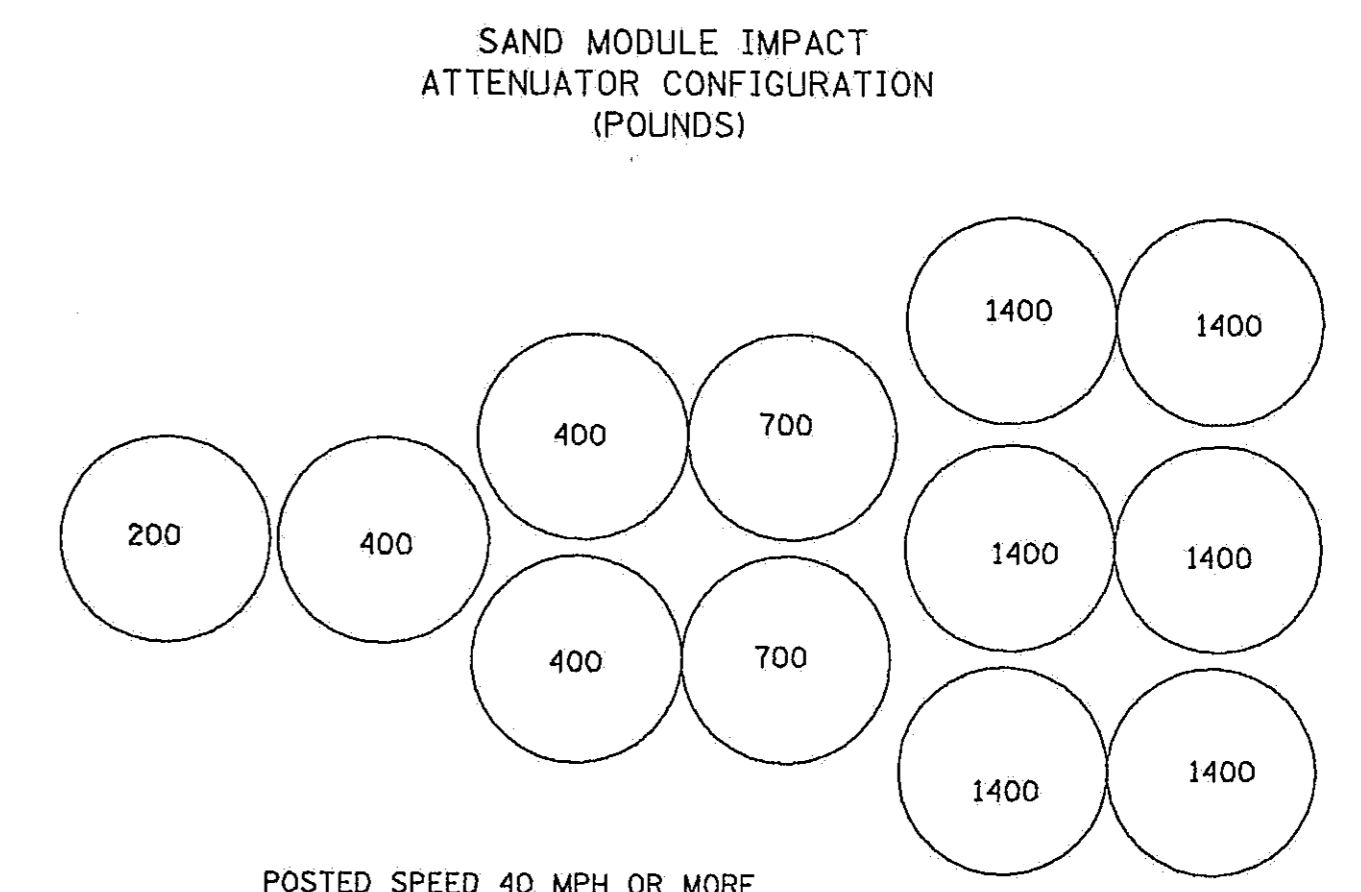
GENERAL NOTES

1. DIST. TRAFFIC DEPT. SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO PLACING THE TEMPORARY SIGNALS IN OPERATION SO THAT ARRANGEMENTS CAN BE MADE TO INSPECT THE INSTALLATION AND SET THE TIMING OF THE SIGNALS.
2. THE SIGNALS, CONTROLLER CABINET AND SERVICE POLE SHALL BE PLACED BEHIND GUARDRAIL (EXISTING OR PROPOSED) OR SHOULDER BREAK WHEN APPLICABLE. SEE TABLE ON SHEET 1 OR 2 FOR MAXIMUM SIGNAL PLACEMENT.
3. SEE TABLES ON SHEET 1 OF 2 FOR LOOP DETECTOR LOCATIONS AND NUMBER OF LOOP TURNS.
4. AT ANY TIME THAT THE SIGNALS ARE NOT OPERATING THE SIGNAL HEADS SHALL BE HOODED AND THE SIGNAL AHEAD SIGN COVERED OR REMOVED.
5. THE LEFT SIGNAL SHALL NORMALLY BE MOUNTED AT A HEIGHT OF 10 FEET ABOVE THE ROAD SURFACE MEASURED TO THE BOTTOM OF THE SIGNAL HEAD. THE RIGHT SIGNAL SHALL NORMALLY BE MOUNTED AT A HEIGHT OF 14 FEET ABOVE THE ROAD SURFACE AND MEASURED TO THE BOTTOM OF THE SIGNAL HEAD. BACKPLATES WILL BE REQUIRED ON ALL SIGNALS.
6. ALL LENSES SHALL BE 12 INCHES NOMINAL DIAMETER. THE RIGHT SIGNAL HEAD SHALL BE AIMED SO THE CENTERS OF THE LIGHT BEAMS OF THE INDICATIONS ARE DIRECTED TOWARD A POINT IN THE CENTER OF THE APPROACH LANE 500 FEET IN ADVANCE OF THE SIGNAL. THE LEFT INDICATION SHALL BE AIMED AT A POINT IN THE CENTER OF THE APPROACH LANE 100 FEET IN ADVANCE OF THE STOP LINE.
7. **ALL STAGES OF CONSTRUCTION**
THE EDGE OF EXISTING OPEN TRAFFIC LANE ON EACH APPROACH TO THE BRIDGE SHALL BE DELINEATED WITH DOUBLE VERTICAL PANELS (DETAIL B) AND WHITE BI-DIRECTIONAL TEMPORARY PAVEMENT MARKERS. THESE DEVICES SHALL BE PLACED AT 25 FT. CENTERS BETWEEN THE STOP LINE AND THE BRIDGE.
BI-DIRECTIONAL STEADY BURNING LIGHTS ATTACHED TO DOUBLE VERTICAL PANELS (DETAIL A) SHALL BE PLACED AT 25 FT. CENTERS ON THE TAPERED PORTION OF THE CONCRETE BARRIER AND AT 50 FT. CENTERS ON THE TEMPORARY BRIDGE RAIL OR PORTION OF THE BARRIER ON THE BRIDGE (3 MINIMUM).
8. DOUBLE VERTICAL PANELS (NO LIGHTS REQUIRED) SHALL BE PLACED AT 25 FT. CENTERS ON THE EXISTING PARAPET WALL OR BRIDGE RAIL (DETAIL A) ADJACENT TO THE OPEN TRAFFIC LANE. TEMPORARY WHITE BI-DIRECTIONAL PAVEMENT MARKERS (25 FT. CENTERS) SHALL BE PLACED ON TOP OF THE HUBGUARD WHEN A SIDEWALK EXISTS WITHIN ONE FOOT OF THE EDGE OF THE EXISTING OPEN TRAFFIC LANE.
9. ALL EXISTING PAVEMENT MARKINGS IN THE OPEN LANE ARE TO BE REMOVED FROM STOP LINE TO STOP LINE IN ACCORDANCE WITH ARTICLE 109.04.
10. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
11. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
12. ALL VEHICLES, EQUIPMENT, MEN AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
13. TEMPORARY BRIDGE RAIL SHALL BE USED ACROSS THE BRIDGE WHEN SPECIFIED IN THE PLANS.
14. ADVISORY SPEED PLATES SHALL BE INSTALLED WHERE THE NORMAL POSTED SPEED IS GREATER THAN 40 MILES PER HOUR. THE SPEED SHALL BE DETERMINED AT THE SITE BY THE ENGINEER.
15. DISTRICT TRAFFIC (OPERATION AND PERMIT) ENGINEERS SHALL BE NOTIFIED ONE WEEK PRIOR TO A TRAFFIC LANE WIDTH RESTRICTION OF LESS THAN 14 FT. TO ALLOW THE DEPARTMENT TO INSTALL WIDTH RESTRICTION AND WIDE LOAD DETOUR SIGNING.
16. FLASHING LIGHTS SHALL BE USED ON EACH APPROACH IN ADVANCE OF THE WORK AREA DURING HOURS OF DARKNESS AND INSTALLED ABOVE THE FIRST TWO SIGNS IN EACH SERIES.
17. WHEN SPECIFIED, TEMPORARY RUMBLE STRIPS SHALL BE INSTALLED WHERE SHOWN.
18. ON BOTH APPROACHES, EXISTING CENTER LINE PAVEMENT MARKINGS LOCATED BETWEEN THE STOP BARS AND THE TEMPORARY CONCRETE BARRIER OR BRIDGE RAIL SHALL BE REMOVED AS SOON AS THE BARRIER OR RAILS IS IN PLACE AND REPLACED WITH TEMPORARY OR PERMANENT PAVEMENT MARKING AS SOON AS THE BARRIER OR RAIL IS REMOVED.
19. SEE SPECIAL PROVISIONS FOR THE TRAFFIC SIGNAL CONTROLLER AND DETECTOR LOOP REQUIREMENTS.
20. FORM BT 725 IS REQUIRED.

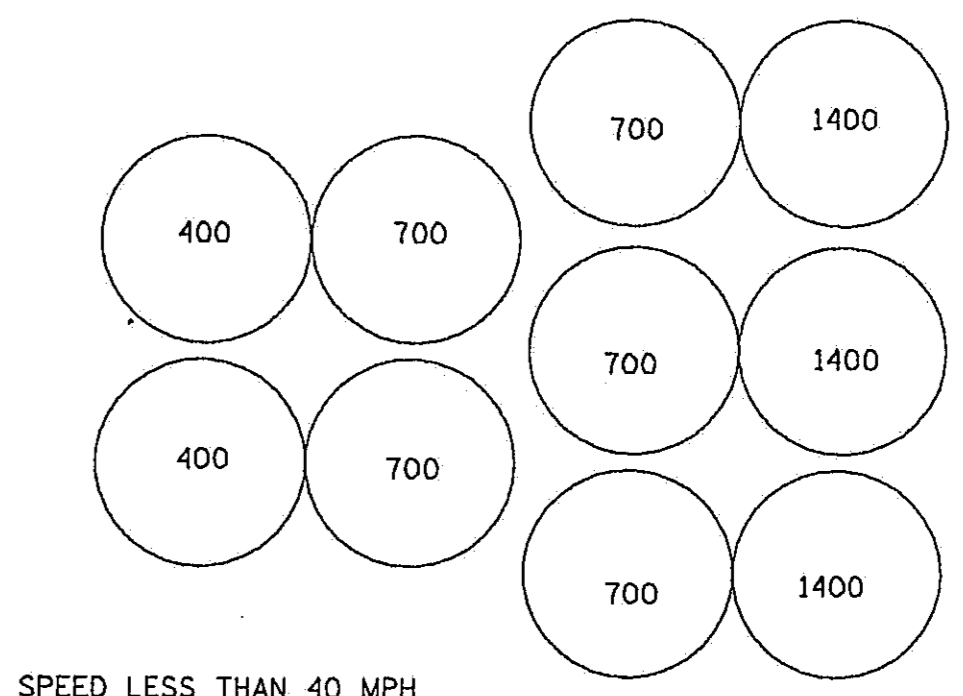


NOTES:

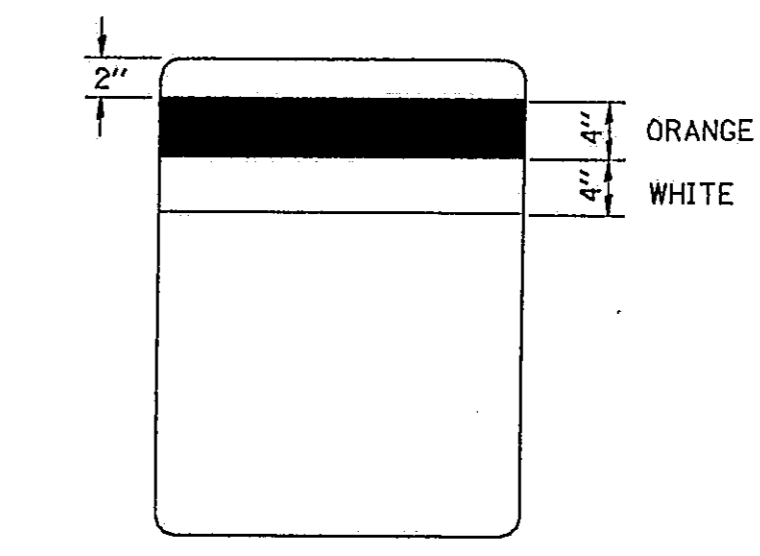
1. THE CONTRACTOR MAY USE THIS DETAIL WHERE GREATER ACCESS TO THE WORK AREA IS REQUIRED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED IF THE CONTRACTOR ELECTS TO USE THIS DETAIL.
2. THE SAND MODULES MAY BE PLACED DIRECTLY ON THE PAVEMENT OR ON PALLETS OR SKIDS (MAX. HEIGHT 2 1/4 IN.)
3. ALL SAND MODULES SHALL HAVE A MINIMUM OF ONE 4" ORANGE AND A MINIMUM OF ONE 4" WHITE REFLECTORIZED HORIZONTAL STRIPE.
4. BARRICADES OR DRUMS WITH BI-DIRECTIONAL STEADY BURNING LIGHTS DELINEATING THE CLOSED LANE SHALL BE PLACED IN THE ACCESS OPENING DURING NONWORKING HOURS (3 MINIMUM)



POSTED SPEED 40 MPH OR MORE



POSTED SPEED LESS THAN 40 MPH



TYPICAL SAND MODULE

TWO-LANE, TWO WAY TRAFFIC
ONE LANE CLOSURE ON A BRIDGE
DECK DAY OR NIGHT OPERATIONS

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL AND PROTECTION
STANDARD 2409 (SPECIAL)

REVISIONS	
NAME	DATE
R.D.C.	4-11-90
S.S.R.	7-17-90

NOT TO SCALE
DATE 04-11-90

DRAWN BY CADD
SHEET 2 OF 2

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