

IOWA
DEPARTMENT OF TRANSPORTATION
Highway Division
PLANS OF PROPOSED IMPROVEMENTS ON THE
INTERSTATE ROAD SYSTEM
POWESHIEK COUNTY

CONCRETE PAVEMENT REPAIR (PATCHING)
ON I-80 FROM 1.0 MILE EAST OF THE IA. 146 INTERCHANGE
MP 183.67 EAST TO MP 192.82.

SCALES: As Noted

The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, series of 1992, plus current Supplemental Specifications and Special Provisions shall apply to construction work on this project.

Value Engineering Saves. Refer to Standard Notation 203-4 on Sheet C-01

NO MILEAGE SUMMARY

STATE CONTROL SECTION NUMBER
79-0300, 79-0400

THIS PROJECT TO BE LET AS
IMN-80-5(173)183--0E-79

INDEX OF SHEETS

105-3
07-21-97

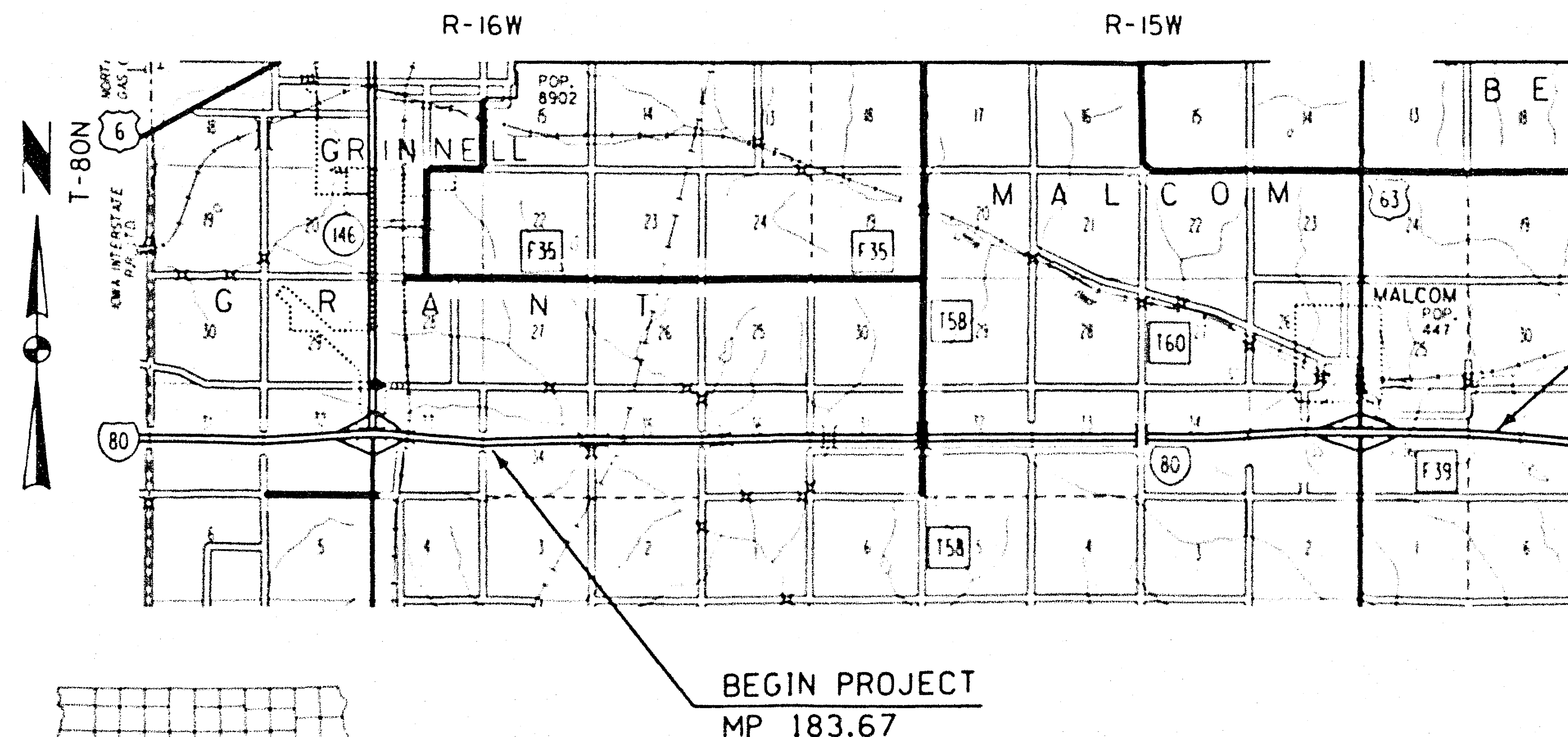
NO.	DESCRIPTION
A.01	Title Sheet
B.01-B.02	Typical Details
C.01-C.02	Estimate of Quantities, Tabulations, and General Information
U.01	500 Series, Modified Standards, and Special Details

STANDARD ROAD PLANS

105-4
06-11-97

The following Standard Road Plans shall be considered applicable to construction work on this project.

NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
		RH-50	06-15-93	RS-62	02-23-93
		RH-51	02-23-93	RS-63A	09-29-92
		RH-52	09-29-92	RS-63B	09-29-92
				RS-65A	09-29-92
				RS-65B	09-29-92



END PROJECT
MP 192.82

101-4

DESIGN DATA RURAL			
1993	AAOT	19,700	V.P.D.
20	AAOT		V.P.D.
20	DHV		V.P.H.
	TRUCKS	32	%

REVISIONS

Iowa Department
of Transportation

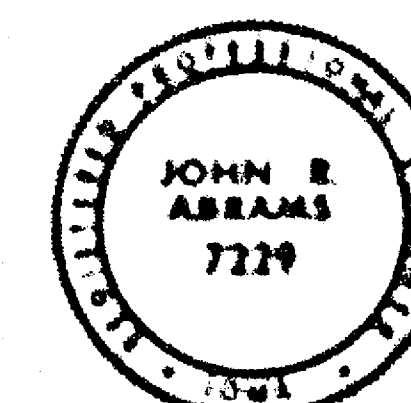
Highway Division

AUTHORIZED FOR LETTING
George V. Lissner
DEPUTY CHIEF ENGINEER

IOWA DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

FOR THE DIVISION ADMINISTRATOR DATE

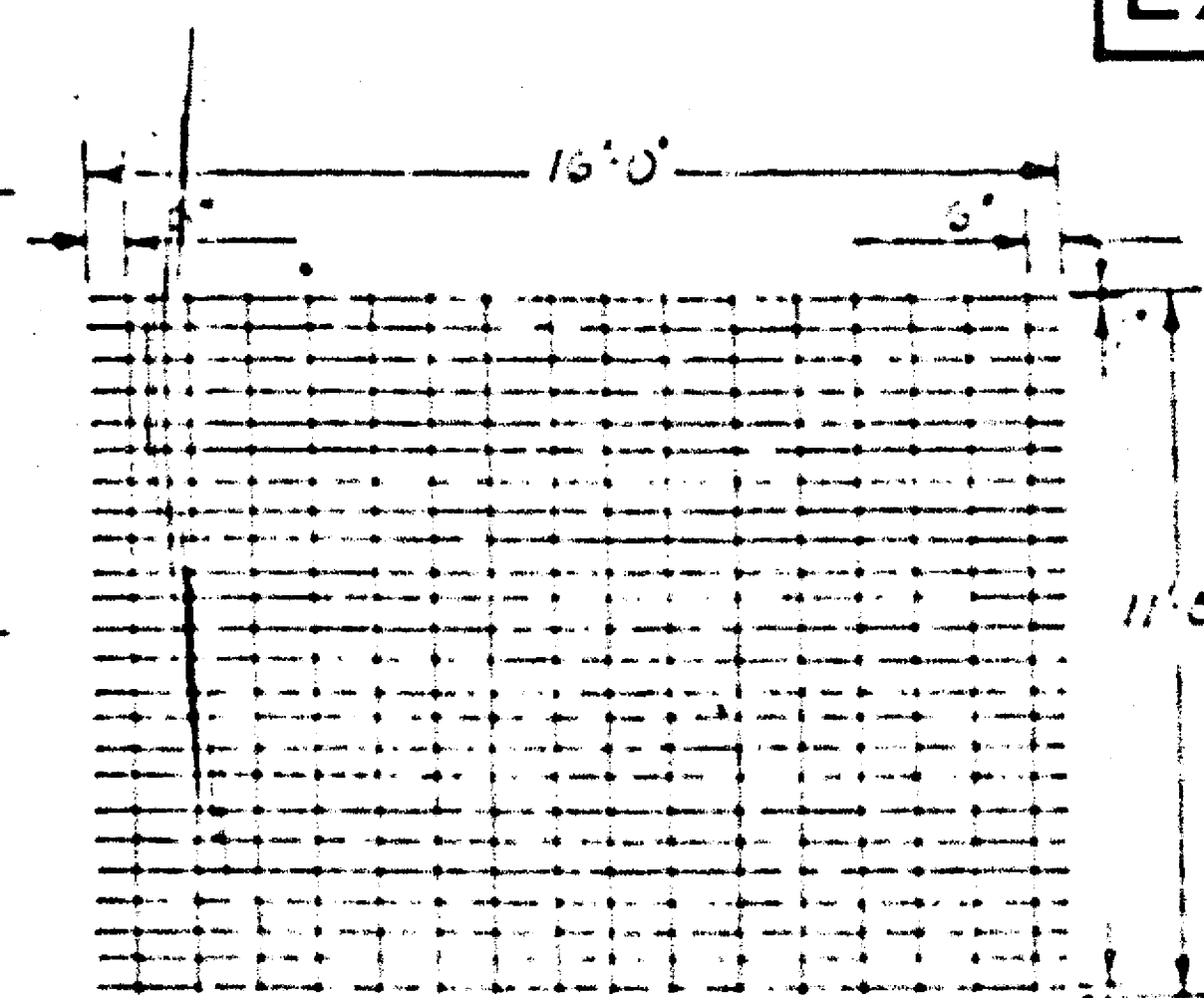
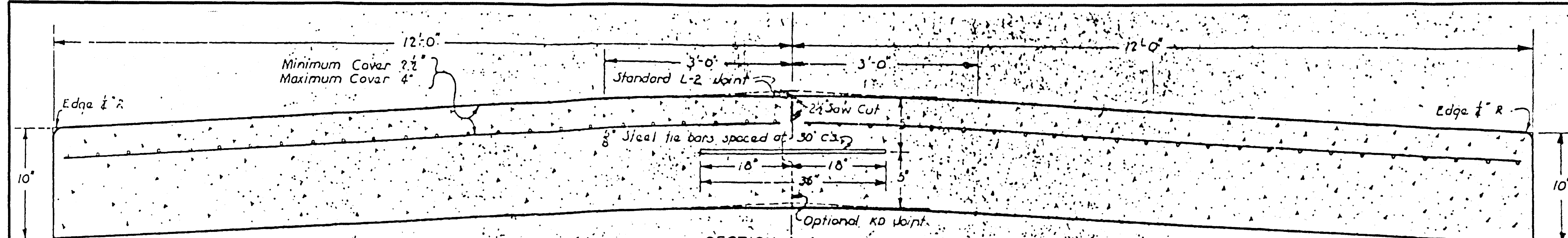
Donald L. East
ROAD DESIGN ENGINEER
Iowa Registration No. 55445 Date: 02-20-94



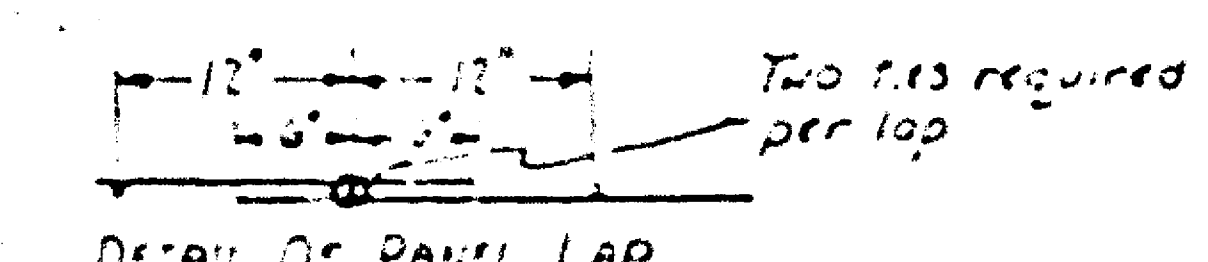
I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly Registered Professional Engineers under the laws of the State of Iowa.
John R. Abrams
Iowa Registration No. 7229 Date: 02-20-94

DESIGN NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	IOWA	20-5(173)183	13-79	5	17

EX-1



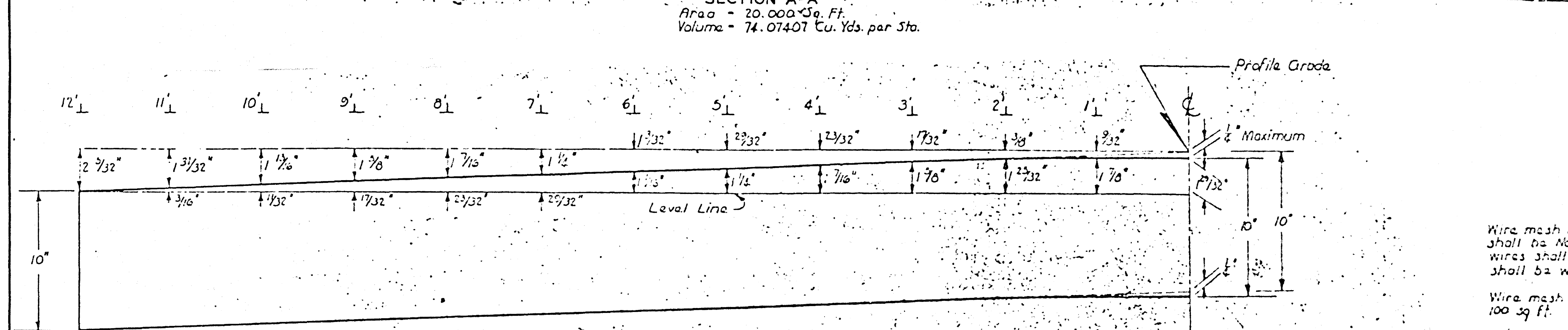
DETAIL OF REINFORCING PANEL (1) THRU (5)



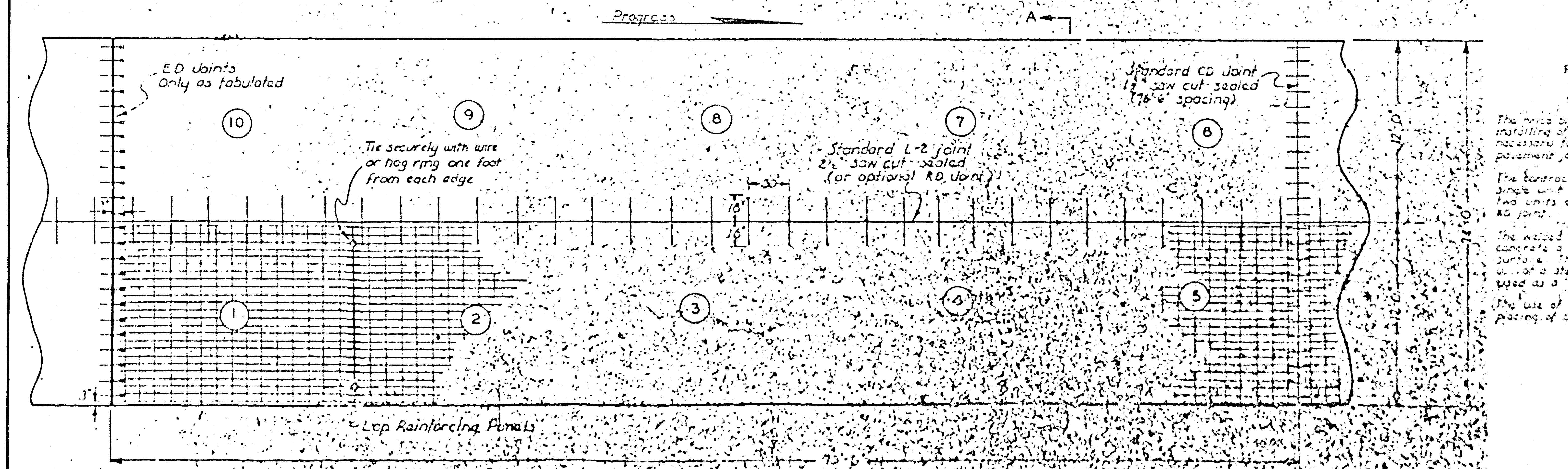
Wire mesh reinforcing shall be 612-00/2. Transverse wires shall be No. 4 gauge and spaced at 12" centers. Longitudinal wires shall be No. 6 gauge and spaced at 3" center. Wires shall be welded at each intersection of each crosswire.

Wire mesh reinforcing shall weigh approximately 73 lbs per 100 sq. ft.

10 panels (11'-6" x 12'-0") are required for each section of 24' pavement constructed at normal joint spacing (7'-6").



Standard pavement slope 0.015 ft. per ft. 3'-0" either side of E may be sloped to a parabolic crown with a maximum of 1/4" variation from actual profile grade.



UNIFORM 10" THICK - 24'-0" WIDE PORTLAND CEMENT CONCRETE PAVEMENT STEEL MESH REINFORCED

Specifications reference 2001

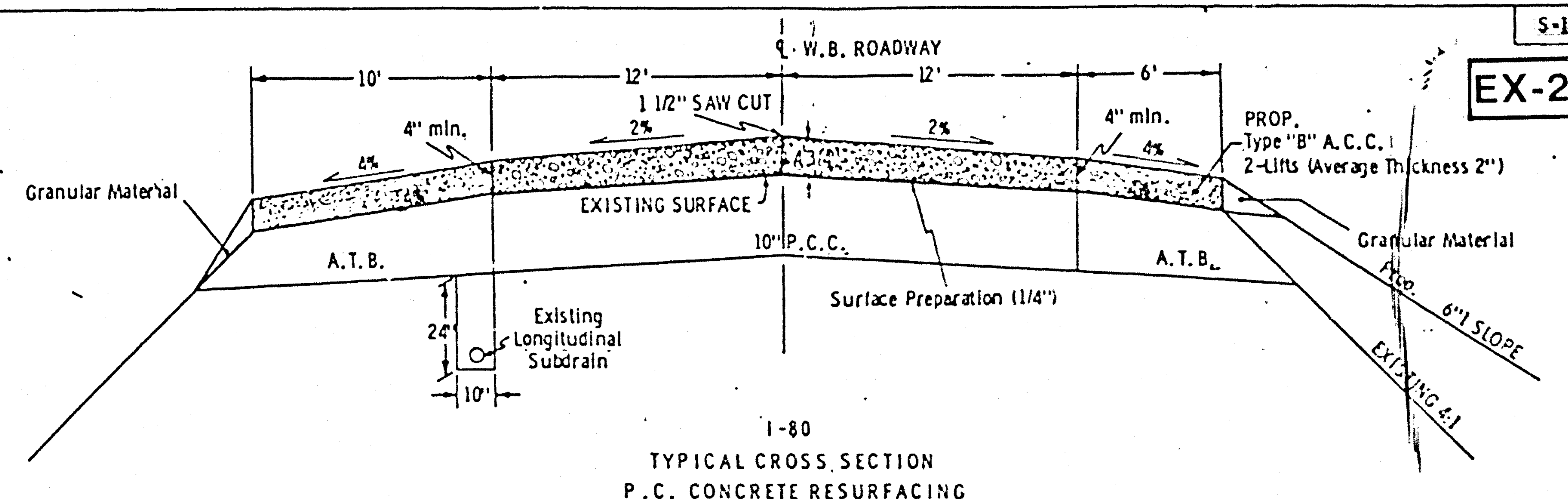
The price bid for the construction shall include the furnishing and installing of all reinforcing steel as well as any and all other materials necessary for the construction of the pavement and all required pavement joints.

The construction of this section may construct this pavement slab as a single unit 24' wide with a parabolic crown in the center with an as two units of 12' wide at a flat slope joined at the E with a standard RD joint.

The welded wire mesh reinforcing shall be installed in a full bed of concrete a minimum of 2" on a maximum of 4" below pavement surface. The supporting bed of concrete shall be provided by the use of a steel grid template spaced to the pavement crown and tied as a "curb" at the required distance down face of form.

The use of mesh supporting slabs or other devices which require the placing of concrete through the mesh will not be permitted.

EXISTING PAVEMENT FOR INFORMATION ONLY



1-80
TYPICAL CROSS SECTION
P.C. CONCRETE RESURFACING

DESIGN QUANTITIES (Per Station)		
ITEM	RATE	VOLUME
P.C.C. Overlay (Placement Only)	Sq. Yds.	266.67 Sq. yd.
P.C.C. Overlay (Furnish Only)	Cu. Yds.	32.41 Cu. Yds.
Type "B" Base	140 lb./cu. ft.	(2) 38.11 Tons
Prime & Tack Coat	0.05 gal./sq. yd.	(1) (2) 17.78 Gals.
Granular Fill	145 lbs./cu. ft.	9.63 Tons

(1) QUANTITIES FOR 2 APPLICATIONS
(2) BOTH SHOULDERS

ROAD IDENT.	STATION TO STATION	
1-80	159+53	744+00

EXISTING PAVEMENT
FOR INFORMATION ONLY

100-1A
10 01 93

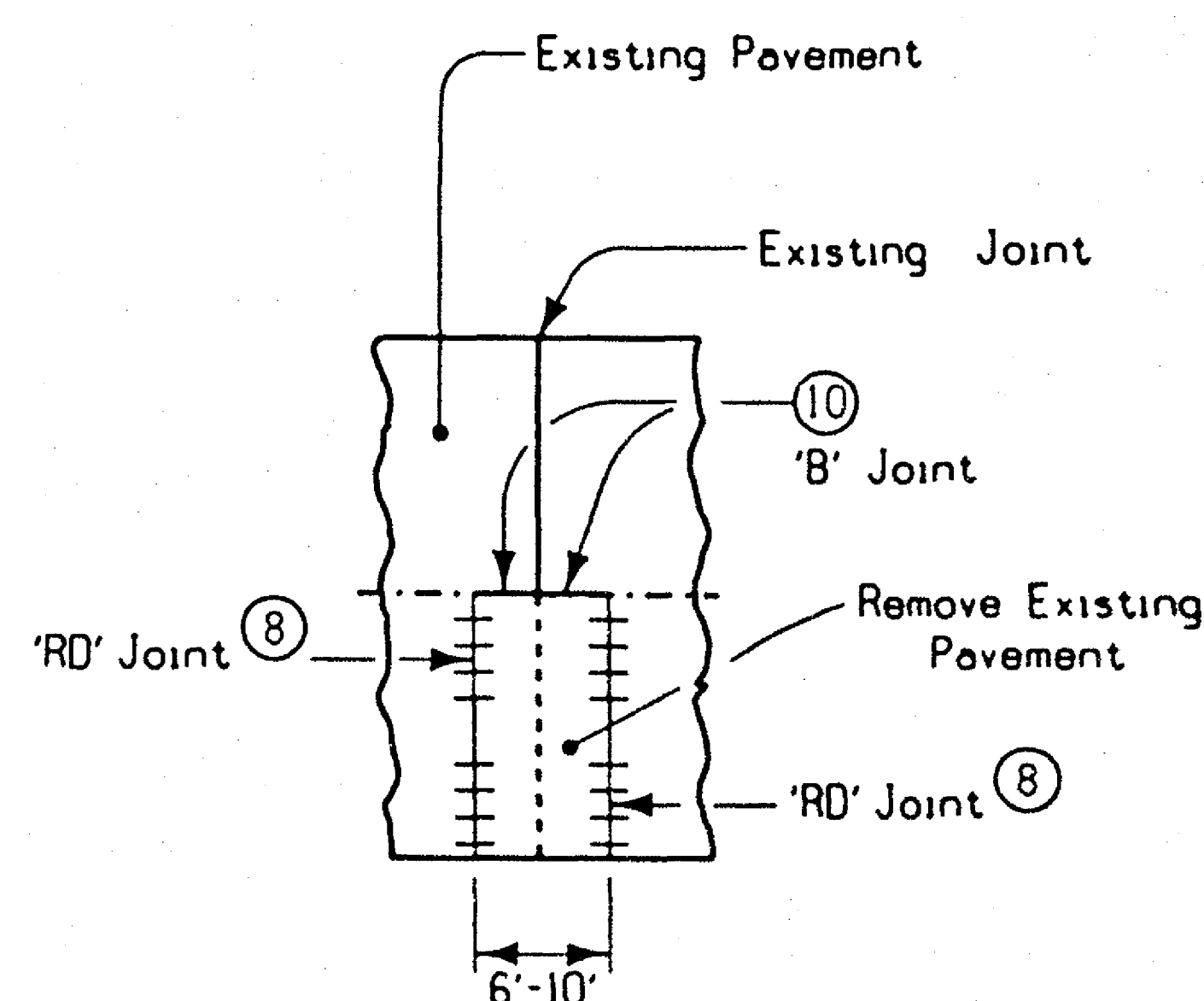
100-4
C7 XC 93

108 23
24 24 49

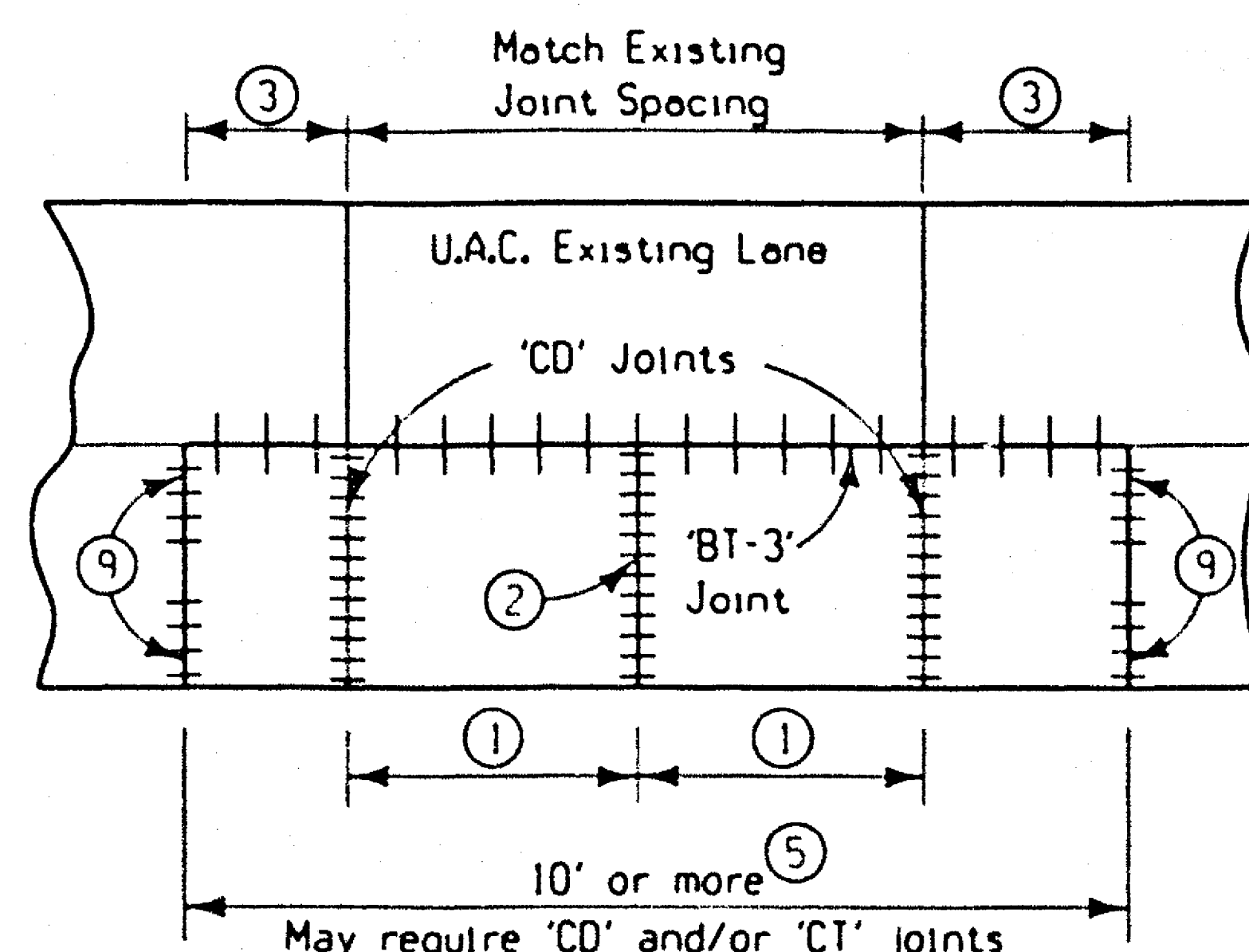
102-15
10-22-93

102-5
22-23-8

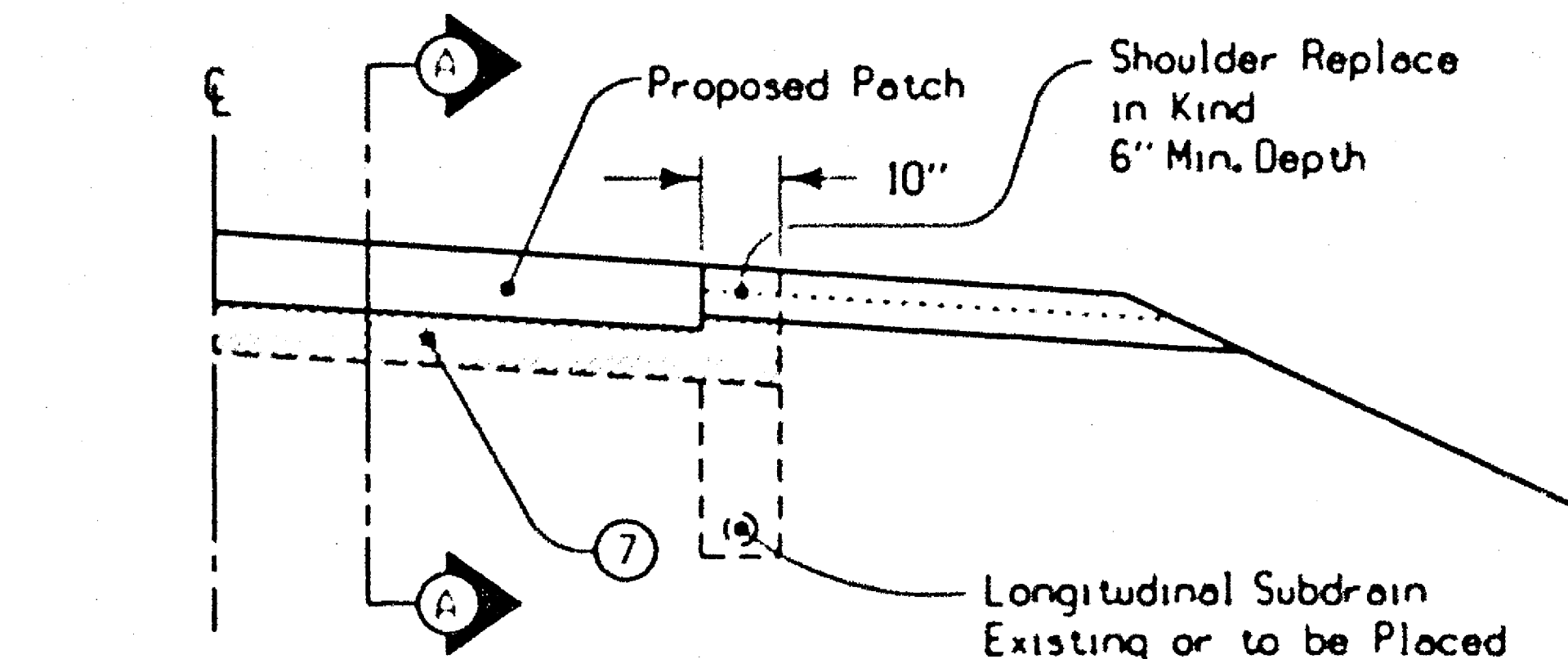
TABULATION OF FULL-DEPTH PATCHES															102-6C
															10-22-93
LOCATION			DIMENSION	PCC PATCHES			ACC	COMPOSITE	SUBBASE	3" SUBDRAIN PIPE		DOWEL ASSEMBLIES		ANCHOR	REMARKS
COUNT	STATION OR MILEPOST	LANE L, R or B	LENGTH X WIDTH Feet	WITH DOWELS Sq. Yds.	WITHOUT DOWELS Sq. Yds.	C R C Sq. Yds.	PATCHES Sq. Yds.	ACC Tons	(PATCHES) Sq. Yds.	LENGTH Lin. Ft.	OUTLETS* Number	'CD' Number	'CT' Number	LUGS REMOVAL Number	
	West Bound Lane														
1	192.75	R	6 x 12	8.00					8.00						
2	192.69	R	8 x 12	10.67					10.67						
3	192.59	R	6 x 12	8.00					8.00						
4	192.49	R	6 x 12	8.00					8.00						
5	192.19	R	10 x 12	13.33					13.33						
6	192.15	R	8 x 12	10.67					10.67						
7	192.05	R	6 x 12	8.00					8.00						
8	192.04	R	6 x 12	8.00					8.00						
9	191.78	R	6 x 12	8.00					8.00						
10	191.58	R	6 x 12	8.00					8.00						
11,12	191.35	B	6 x 24	16.00					16.00	20	1				
13	190.77	R	8 x 12	10.67					10.67						
14	190.19	L	6 x 12	8.00					8.00	20	1				
15	189.28	R	10 x 12	13.33					13.33						
16	188.64	R	8 x 12	10.67					10.67						
17	188.42	R	10 x 12	13.33					13.33						
18,19	188.23	B	10 x 24	26.67					26.67	20	1				
20	187.56	R	6 x 12	8.00					8.00						
21	187.19	R	10 x 12	13.33					13.33			1			
22	186.55	R	20 x 12	26.67					26.67						
23	186.44	R	8 x 12	10.67					10.67						
24	186.15	R	15 x 12	20.00					20.00			1			
25	186.07	R	15 x 12	20.00					20.00			1			
26	185.96	R	80 x 12	106.67					106.67			3			3/4 " SETTLEMENT E
27	185.85	R	30 x 12	40.00					40.00			1			1/2 " SETTLEMENT E
28	185.55	R	8 x 12	10.67					10.67						
29	185.35	R	10 x 12	13.33					13.33						
30	185.12	R	10 x 12	13.33					13.33						
31	184.28	L	6 x 12	8.00					8.00	20	1				
32	184.14	R	6 x 12	8.00					8.00						
33	183.71	L	8 x 12	10.67					10.67	20	1				
33				498.68					498.68	100	5	7			Total
42				623.00					623.00	125	6	9			X 1.25



ONE LANE WIDTH PATCH

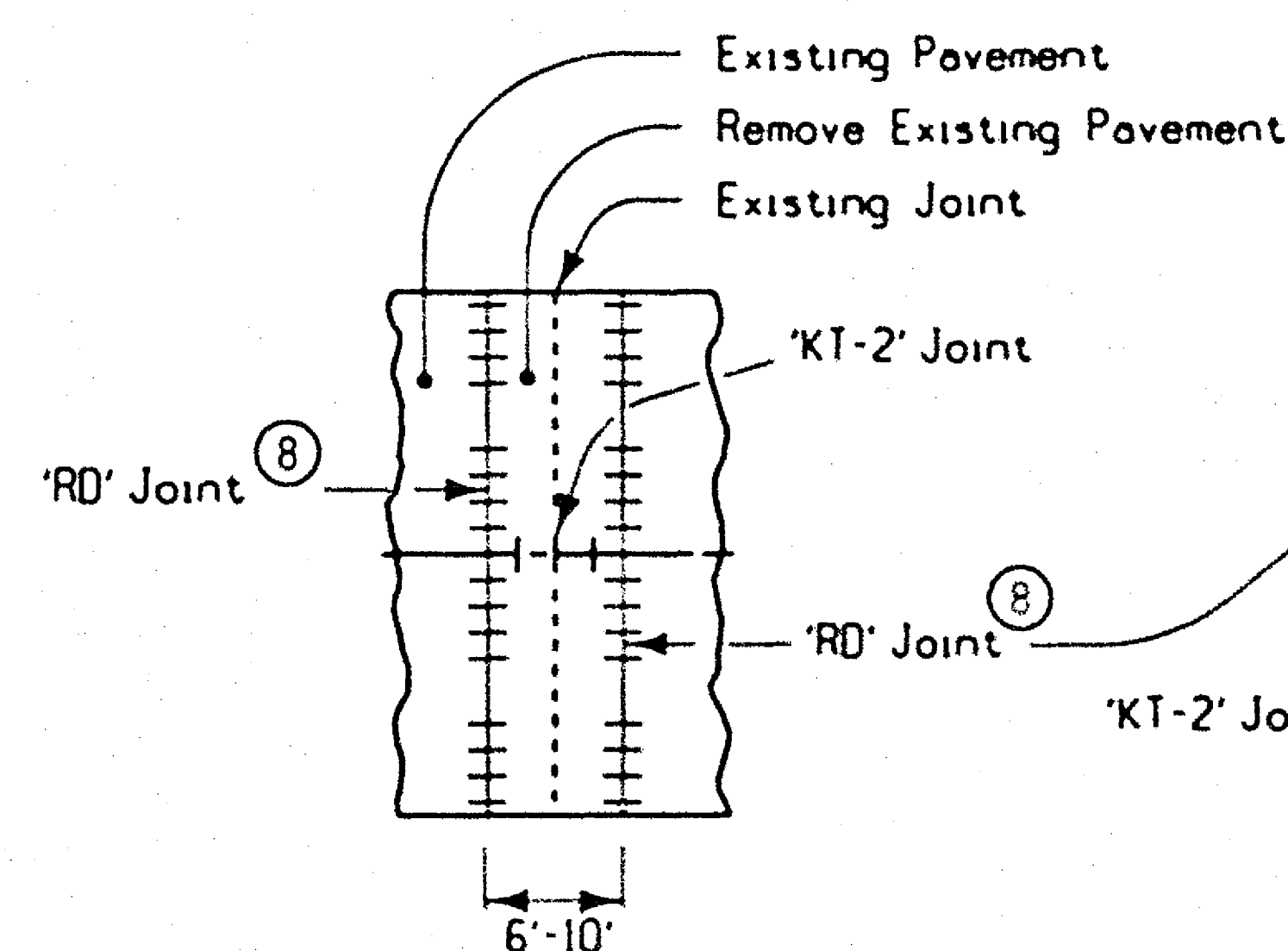


ONE LANE WIDTH PATCH

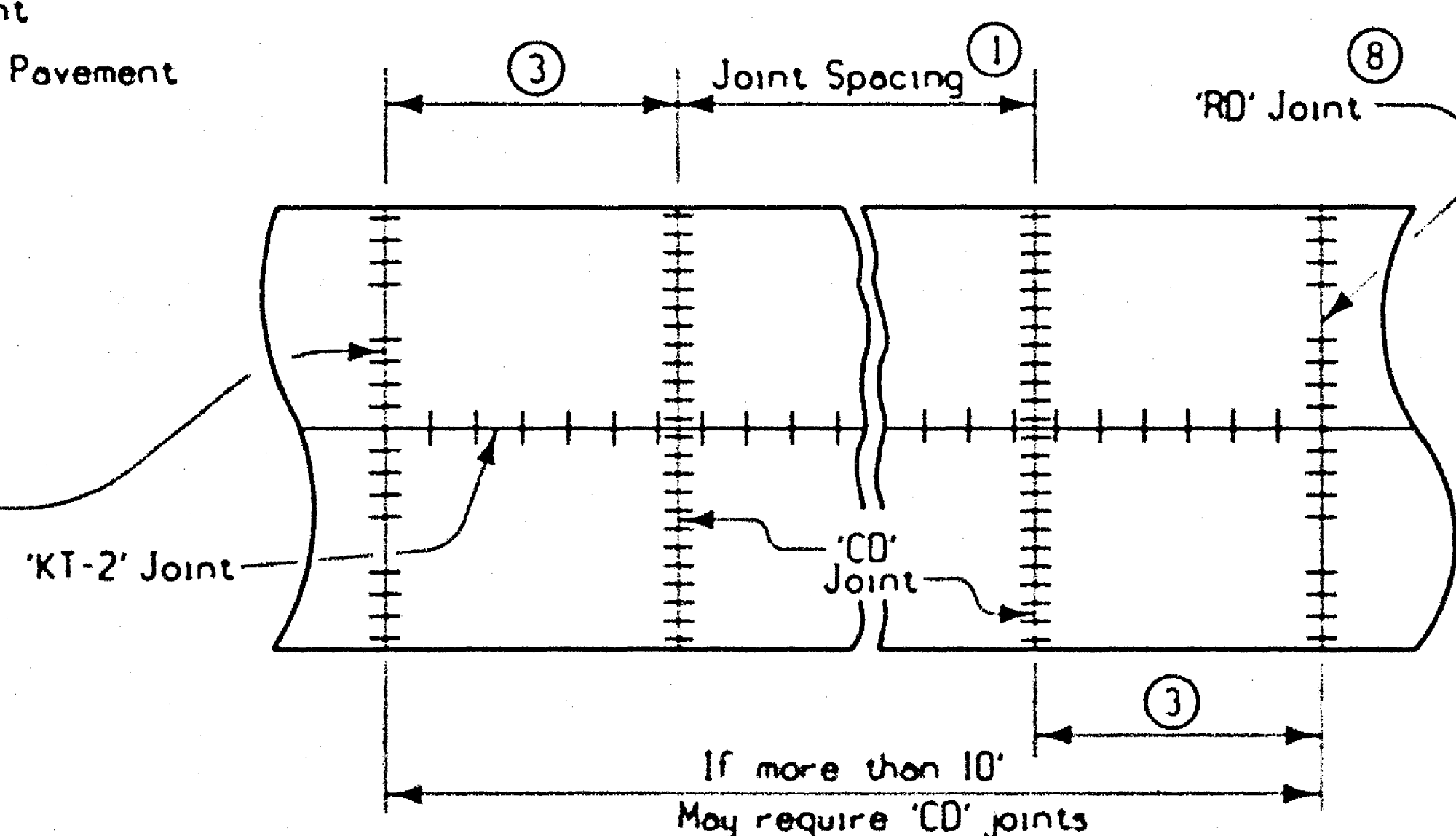


GRANULAR SUBBASE AND SUBDRAIN

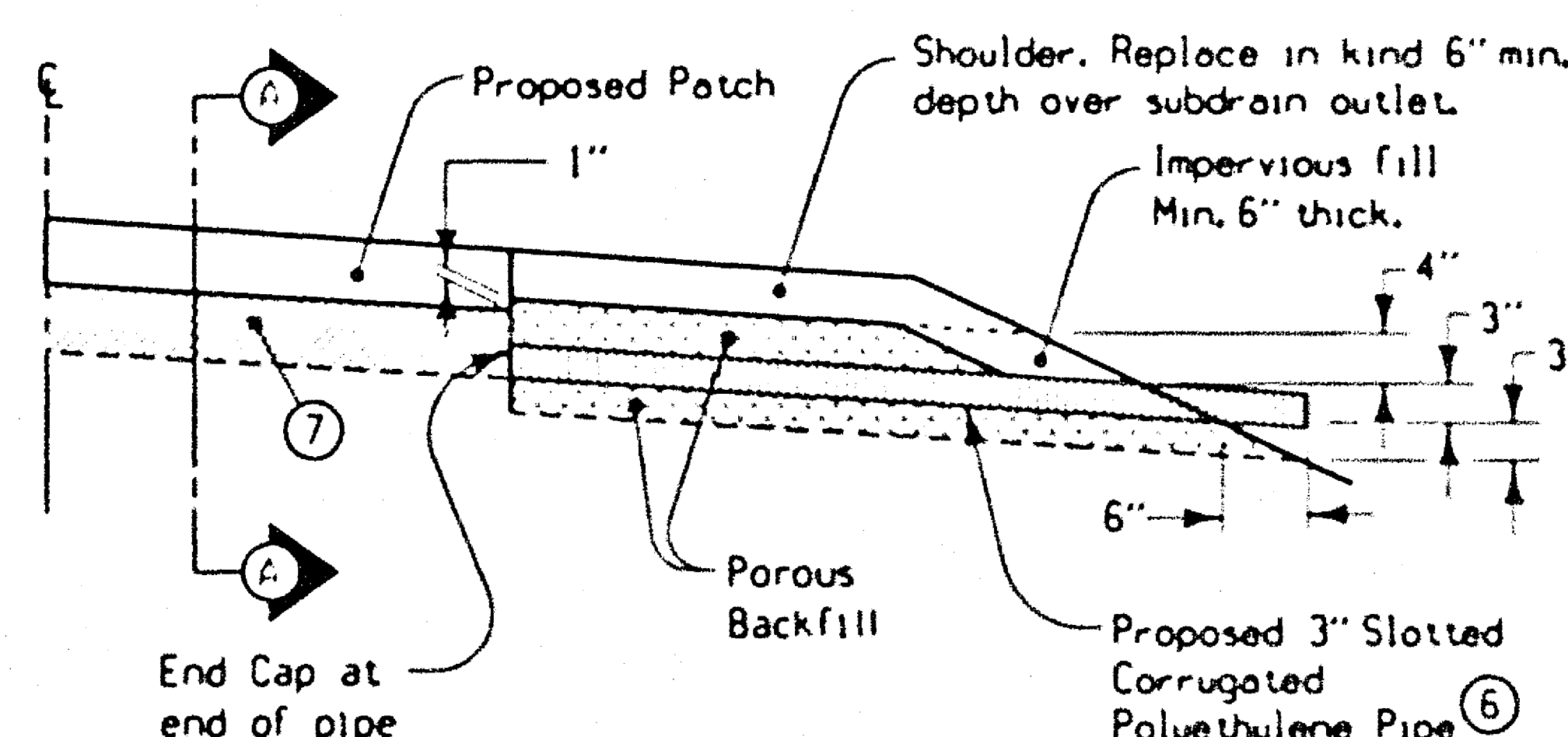
(WHEN REQUIRED BY PLAN)
IF LONGITUDINAL SUBDRAIN IS PRESENT OR IS TO BE PLACED



FULL ROADWAY WIDTH PATCH

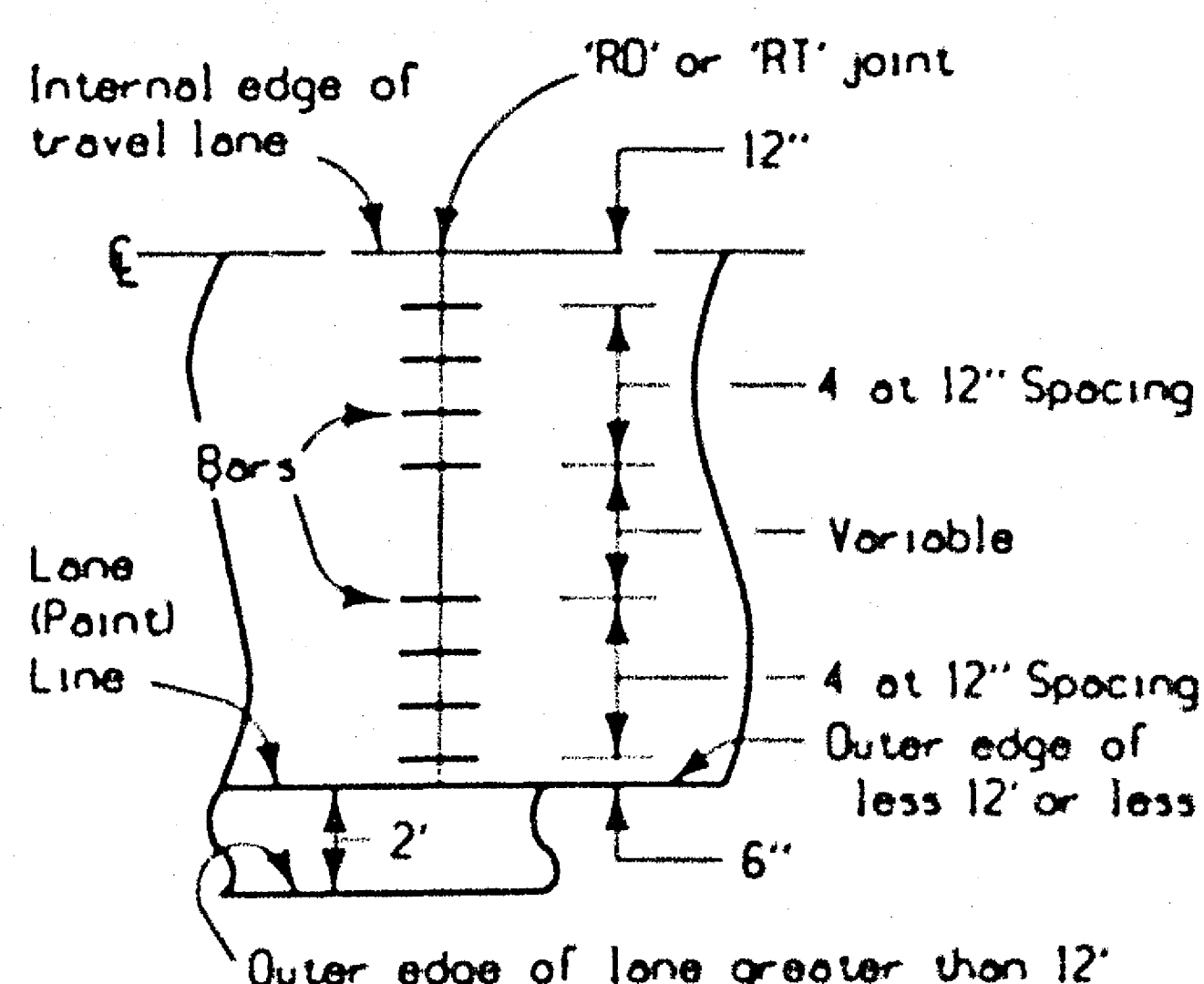


FULL ROADWAY WIDTH PATCH



GRANULAR SUBBASE AND SUBDRAIN

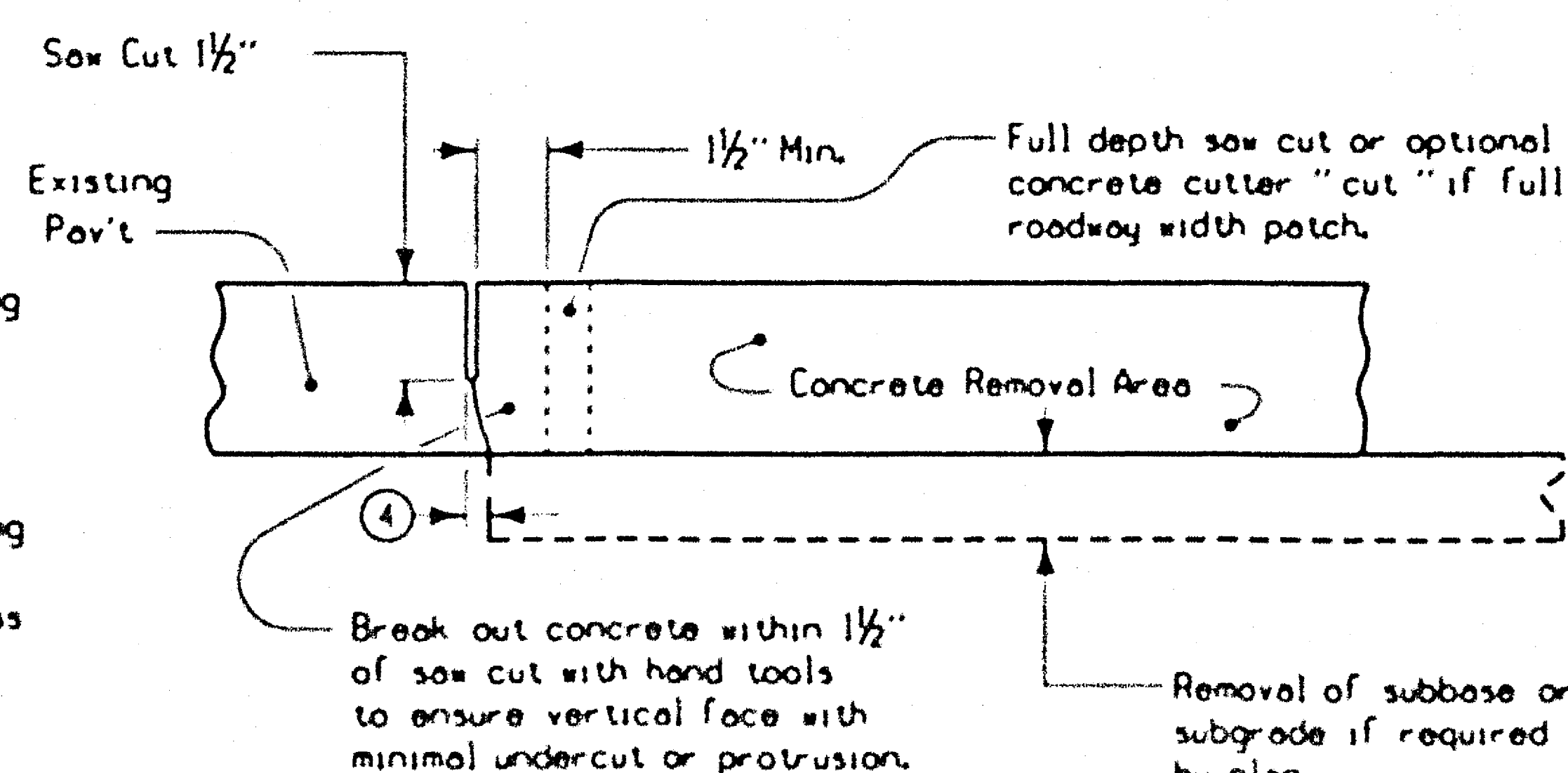
(WHEN REQUIRED BY PLAN)
WITHOUT LONGITUDINAL SUBDRAIN



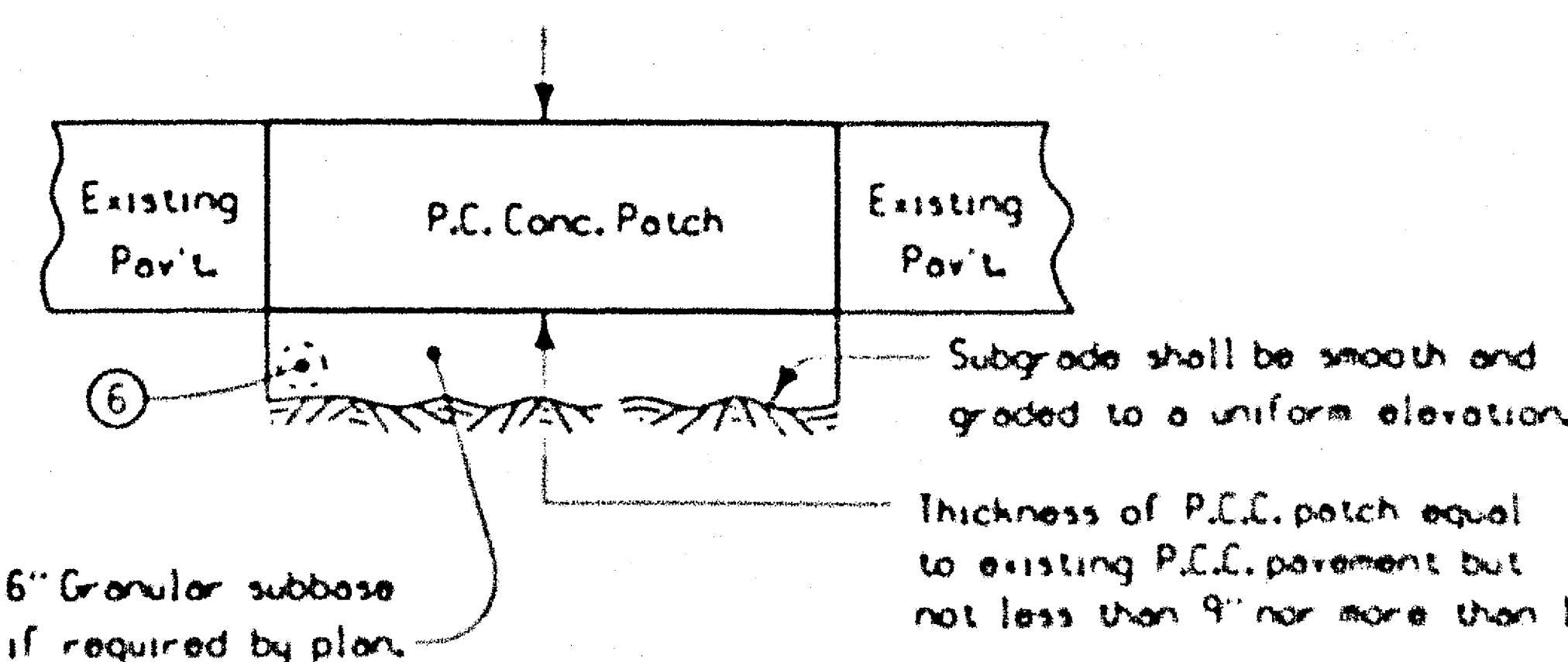
DETAIL FOR 'RT' OR 'RD' JOINT BAR SPACING

TYPICAL HALF PLAN

For interior lanes, place first bar 12" from edge of lane (slab).



PAVEMENT REMOVAL DETAILS



SECTION A-A

GENERAL NOTES:

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Refer to Standard Road Plans RH-50 and RH-51 for details of joint construction.

All patches shall be rectangular even when existing pavement joints are skewed.

- Joint spacing 10 ft. minimum, 20 ft. maximum, 15 ft. optimum.
- Mid panel joint shall be either a 'CT' or a 'CD' joint. If there is no existing joint or crack in the adjacent pavement, place a 'CT' joint. If there is an existing joint or crack in the adjacent pavement, place a 'CD' joint at the same transverse location.
- New 'CD' Joint must be a minimum 5 ft. from the patch end.
- The face of the patch should be near vertical. Protrusions less than 2 inches need not be removed if uniformly tapered from bottom of saw cut to bottom of patch. A step or ledge on this face is not allowed.
- If one lane patch exceeds 50 ft., both lanes should be considered for patching.
- If longitudinal subdrain (shoulder) is not to be placed or if not present on side of roadway to be patched, then place proposed 3 inch slotted corrugated pipe at low end of patch.
- 6 inches granular subbase if required by plan. When placed, granular subbase should extend over longitudinal subdrain, if present.
- The joint shall be sawed and sealed after patching. Refer to RH-50 for joint details.
- If this joint is across from an existing crack or joint, then use 'RD' joint, otherwise use 'RT' joint. The joint shall be sawed and sealed after patching. Refer to RH-50 for joint details.
- Requires full depth saw cut. Place 1/2" preformed joint material between patch and concrete in adjacent lane.

BAR SIZE TABLE

Existing PCC Pavement Thickness	Less than 8"	8" but less than 10"	10" or More
DOWEL SIZE	3/4"	1 1/4"	1 1/2"
TIE BAR SIZE	#6	#10	#11

Highway Division

DETAIL SHEET 532-4

FULL DEPTH PATCH
P. C. CONCRETE
WITH DOWELS