Median Crossings, Guardrail, Barriers & Earthwork

8000

SECTION

8100

MISCELLANEOUS MEDIAN CROSSING DETAILS

NO.	DATE	TITLE
8101	04-21-15	Maintenance Turnaround
8102	10-16-12	Grading for Access to Pole Lines

SECTION

8200

GUARDRAIL AND BARRIER INSTALLATIONS

NO.	DATE	TITLE
8208	04-21-15	Concrete Barrier with MSE Wall
8210	04-16-24	Temporary Concrete Barrier Layout for One-Way Traffic
8212	04-16-24	Temporary Concrete Barrier Layout for Two-Way Traffic
8250	10-21-25	Pier Protection Reinforced Paved Shoulder

SECTION

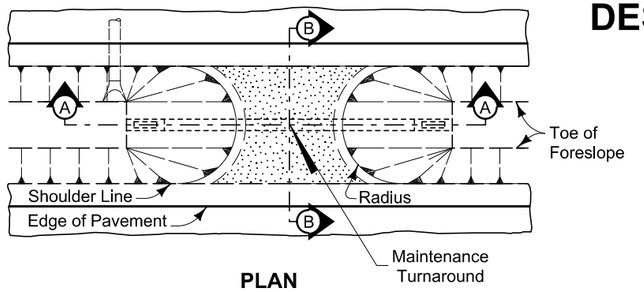
8300

EARTHWORK DETAILS

NO.	DATE	TITLE
8301	04-20-04	Typical Details of Drain for Subgrade Treatment Trench
8302	10-19-04	Subdrain Maintenance during Shouldering Activities
8303	10-22-93	Temporary Outlet for Granular Subbase Drainage

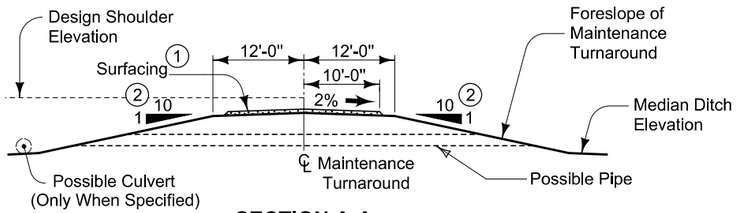
DESIGNER INFORMATION

8101
04-21-15

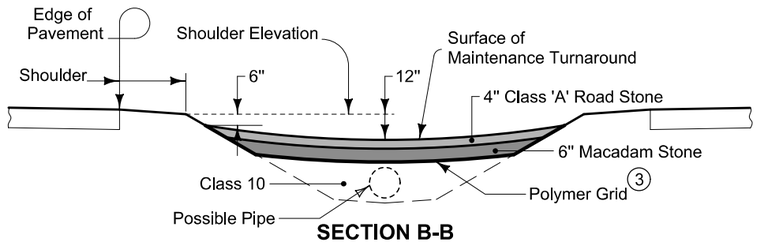


PLAN

1. Surfacing quantities based on a 6 inch layer of Macadam Stone base and a 4 inch layer of Class 'A' Road Stone. Apply surfacing as directed by the Engineer.
2. Construct 8:1 foreslope when drainage pipe is incorporated into the maintenance turnaround.
3. Install Polymer Grid between Class 10 and stone material.
4. See Standard Road Plan DR-212.



SECTION A-A

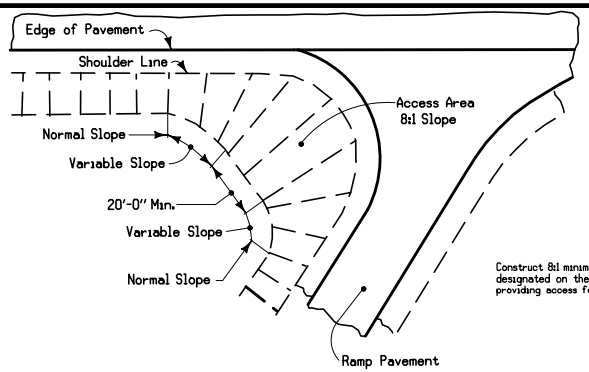


SECTION B-B

MAINTENANCE TURNAROUND

Location		Class 'A' Road Stone	Macadam Stone	Polymer Grid	Class 10	Pipe Length	Beveled Pipe & Guard (4)	Radius	Remarks
Road Identification	Station	TONS	TONS	SY	CY	LF	EACH	FT	

8102
10-16-12

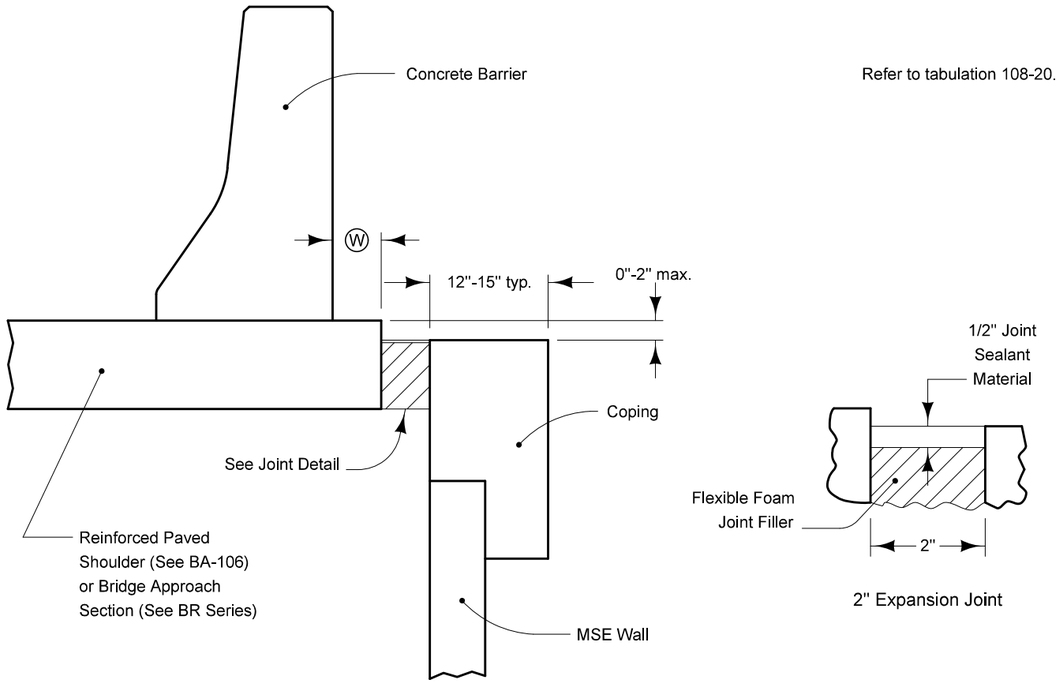


Construct 8:1 minimum slopes as needed in areas where designated on the project plans for the purpose of providing access for maintenance of utility pole lines.

GRADING FOR ACCESS TO POLE LINES

DESIGNER INFORMATION

8208
04-21-15



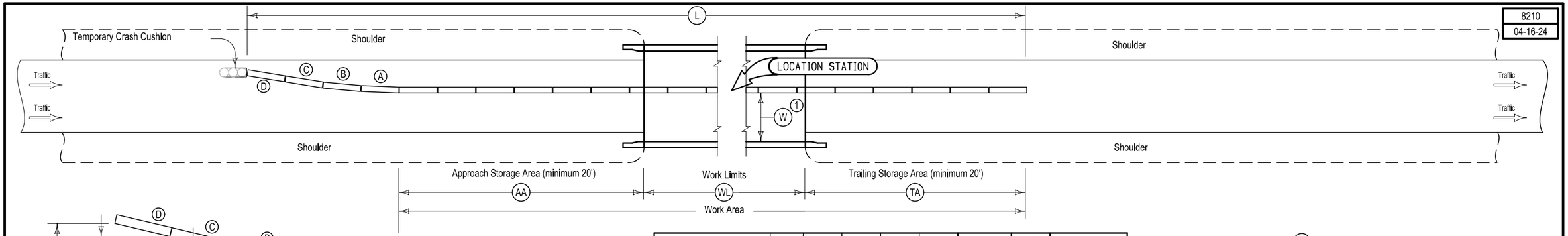
Refer to tabulation 108-20.

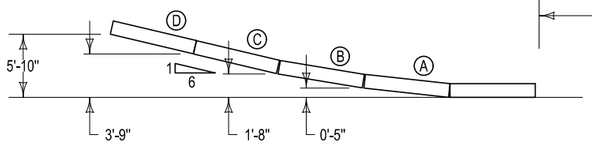
2" Expansion Joint

CONCRETE BARRIER WITH MSE WALL

DESIGNER INFORMATION

8210
04-16-24





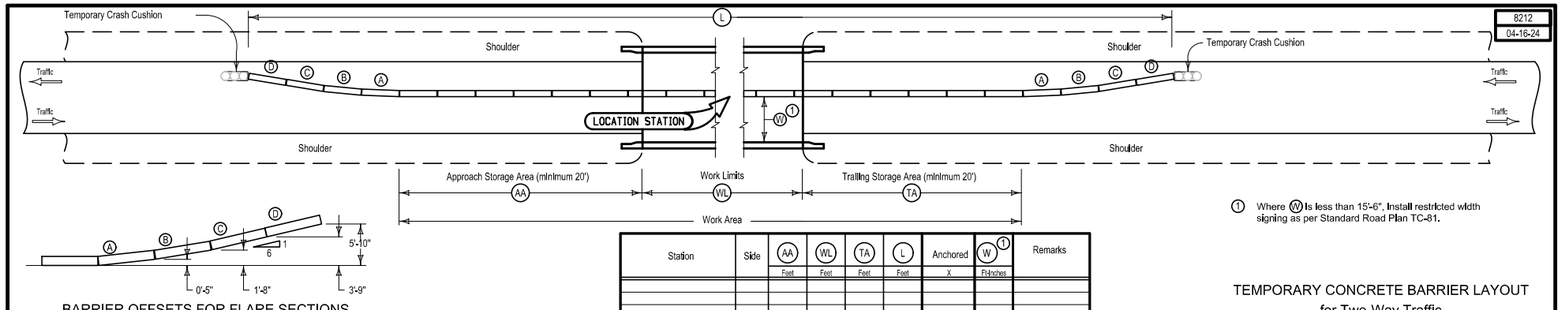
BARRIER OFFSETS FOR FLARE SECTIONS

Station	Side	AA	WL	TA	L	Anchored	W (1)	Remarks
		Feet	Feet	Feet	Feet	X	Ft-Inches	

(1) Where (W) is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.

TEMPORARY CONCRETE BARRIER LAYOUT for One-Way Traffic

DESIGNER INFORMATION



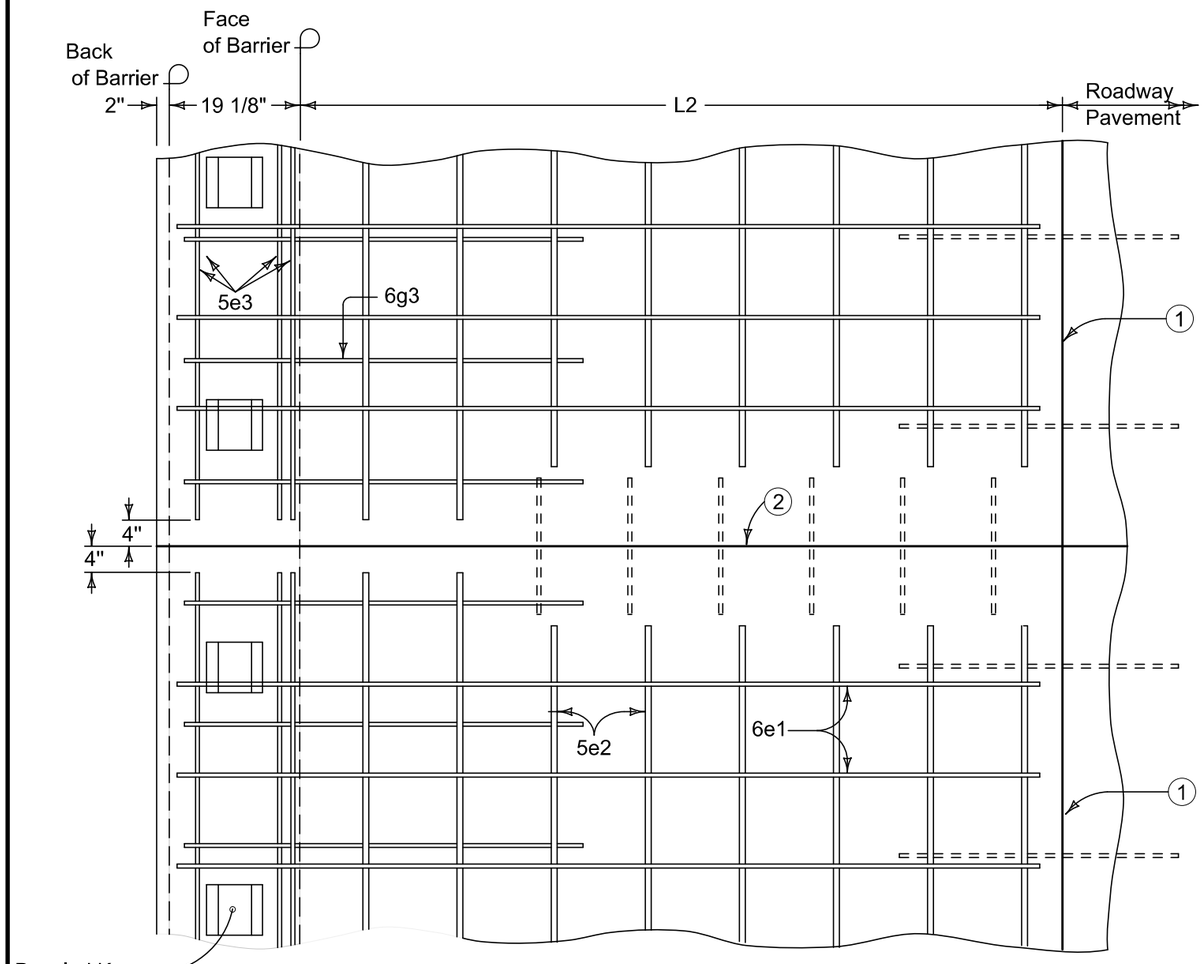
BARRIER OFFSETS FOR FLARE SECTIONS

Station	Side	AA	WL	TA	L	Anchored	W [1]	Remarks
		Feet	Feet	Feet	Feet	X	Inches	

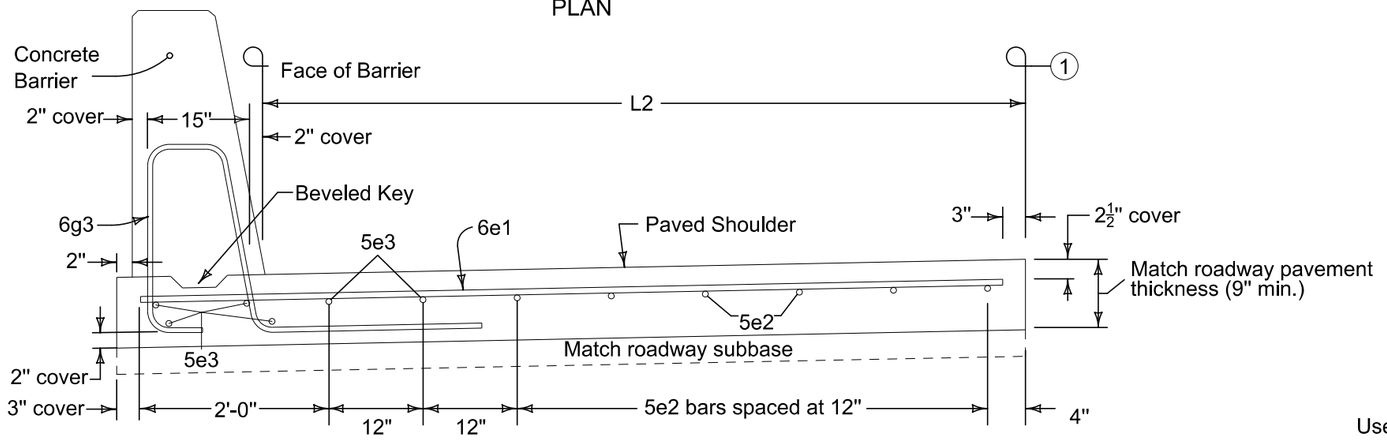
[1] Where W is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.

TEMPORARY CONCRETE BARRIER LAYOUT
for Two-Way Traffic

8250
10-21-25

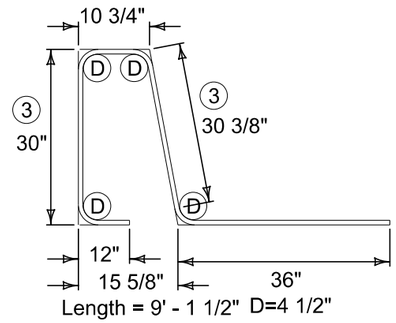


PLAN



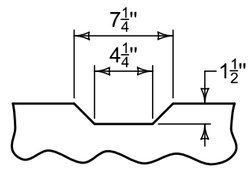
TYPICAL SECTION

REINFORCING BAR LIST Per Shoulder Panel (Approximately 17 Linear Feet)				
L2	Bar	Number of Bars	Length	Spacing
8'	6e1	15	9'-1"	12"
	5e2	8	15'-0"	12"
10'	6e1	15	11'-1"	12"
	5e2	10	15'-0"	12"
12'	6e1	15	13'-1"	12"
	5e2	12	15'-0"	12"
Applies to all Shoulder Widths	5e3	6	16'-4"	See Drawing
	6g3	varies	varies	12"



6g3

1. 'L-2' joint. When roadway pavement is existing, use 'BT-3' joint. See PV-101.
2. 'CD' joint. Match roadway joint locations. See PV-101. No 'CD' joint baskets required within 4' of outside edge of shoulder.
3. Increase these dimensions by one inch for every inch of paved shoulder thickness greater than 9 inches.



BEVELED KEY

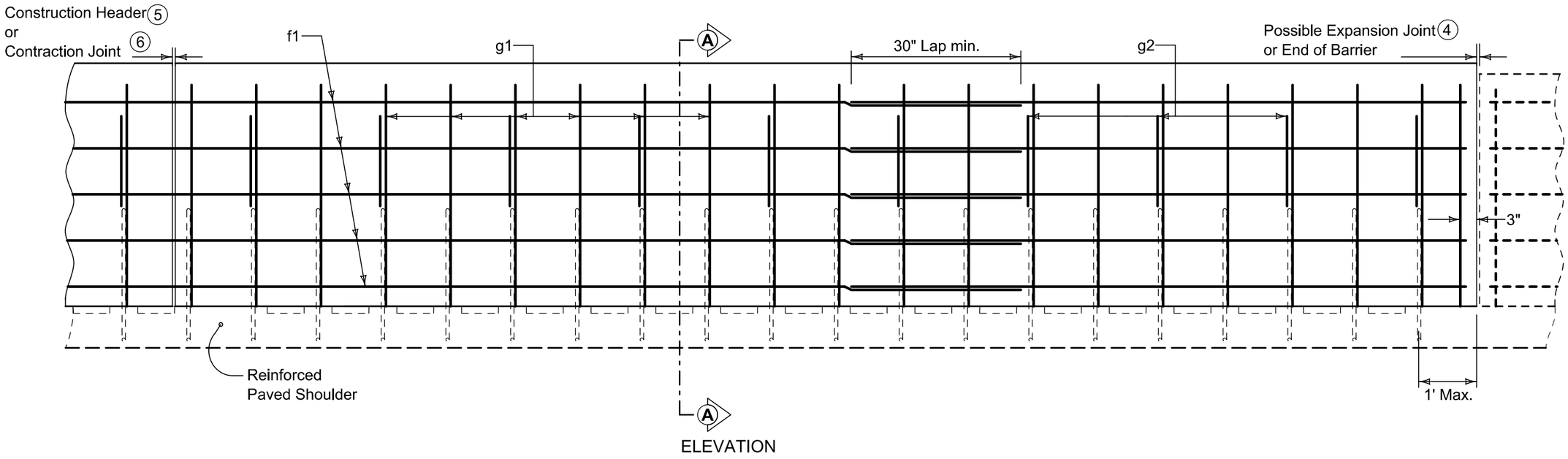
Use 2 x 8 lumber 8" long to make keys.
Place keys at 2'-8" centers.

Possible Contract Item:
Reinforced Paved Shoulder for Concrete Barrier

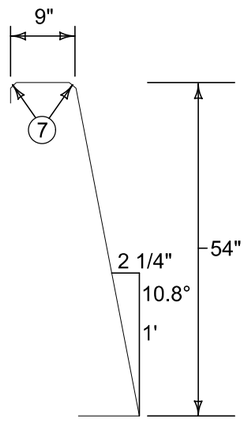
Possible Tabulation:
108-18B

PIER PROTECTION
REINFORCED PAVED SHOULDER

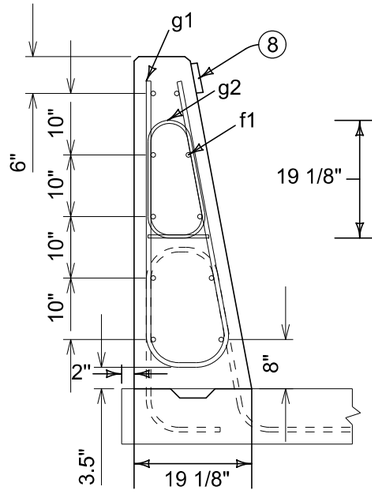
8250
10-21-25



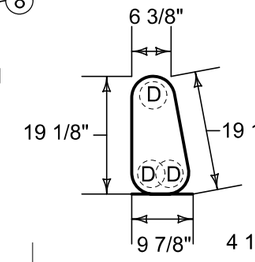
ELEVATION



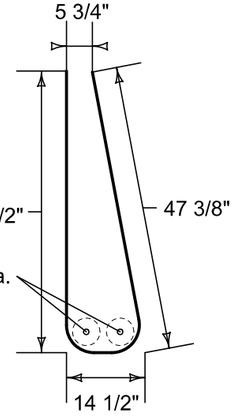
BARRIER FACE



SECTION A-A



g2
BENT BAR



g1
BENT BAR

Use Grade 60 epoxy-coated reinforcing bars. Provide 2 inches minimum cover. Anchor all reinforcement to prevent movement. Secure each section at the front, back, and at 3 foot 6 inch intervals using a method approved by the Engineer.

(4) Expansion joints are necessary only where specifically required by project plans. Conform expansion material to the shape of the barrier. No sealer is required.

(5) Where abutting sections are placed as separate pours, a butt joint may be used. Extend longitudinal reinforcement into the abutting section a minimum of 3 feet.

(6) For barrier tied to pavement, match pavement joints. For free-standing barrier with integral footings, use 17 foot maximum, 15 foot minimum joint spacing.

(7) Fillet all exposed corners with a $\frac{3}{4}$ inch dressed and beveled strip.

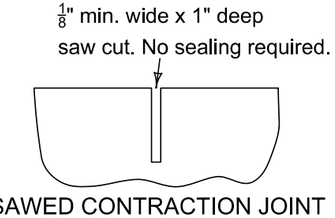
(8) Place barrier markers at 100 foot increments in areas with non-continuous lighting, or 250 foot increments in areas with continuous lighting. Marker color to be the same as adjacent edge line.

Possible Contract Item:
Concrete Barrier, BA-102 or
Concrete Barrier, BA-102 and Footing

Possible Tabulation:
108-18

REINFORCING BAR LIST
Per Section (Approx. 20 feet)

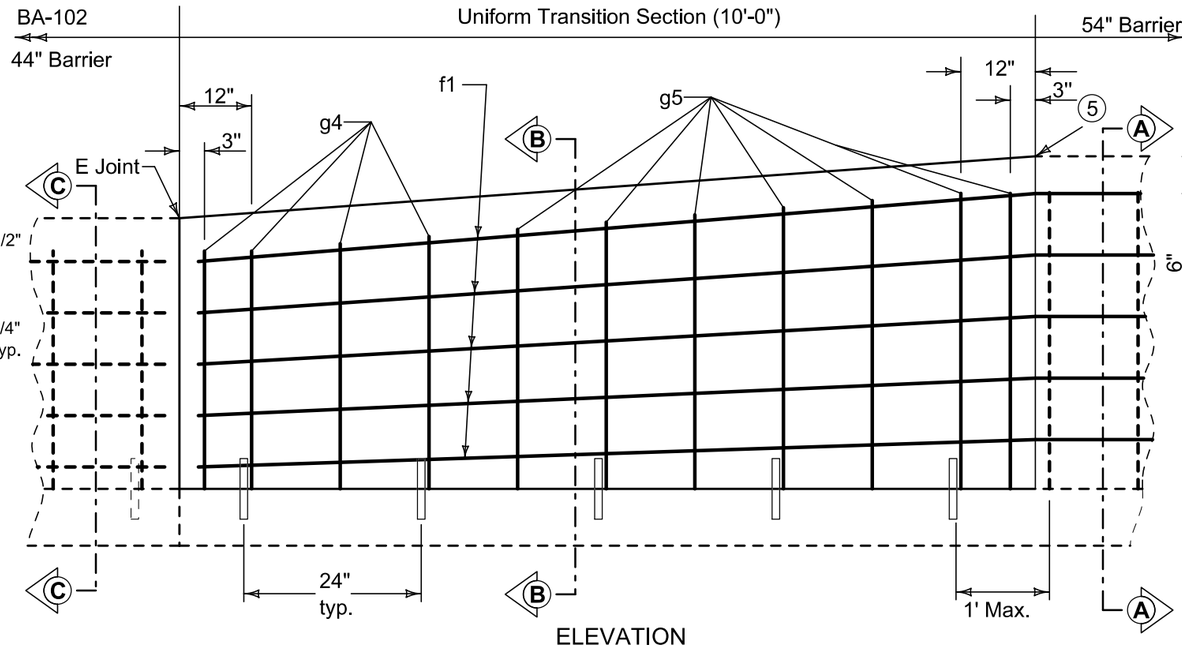
Bar	Size	Number of Bars	Length	Weight (lbs.)	Spacing
g1	6	20	8' 5"	150	12"
g2	4	10	4' 9"	150	24"
f1	6	10	20'	204	—

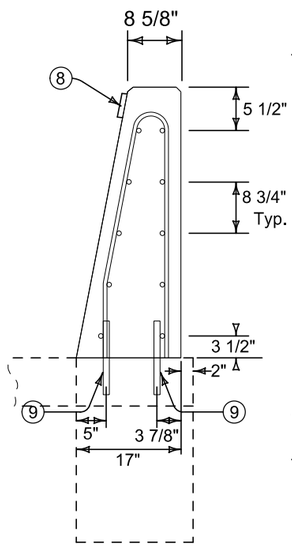


SAWED CONTRACTION JOINT
Saw cut top and front face.
Saw cut back if exposed.

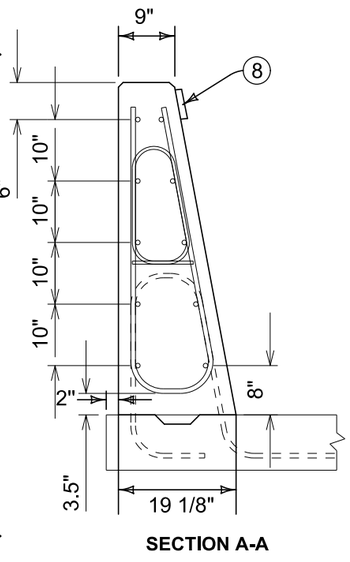
CONCRETE QUANTITIES
Per foot
0.20 cy

PIER PROTECTION
54" CONCRETE BARRIER
(HALF SECTION)





SECTION C-C



SECTION A-A

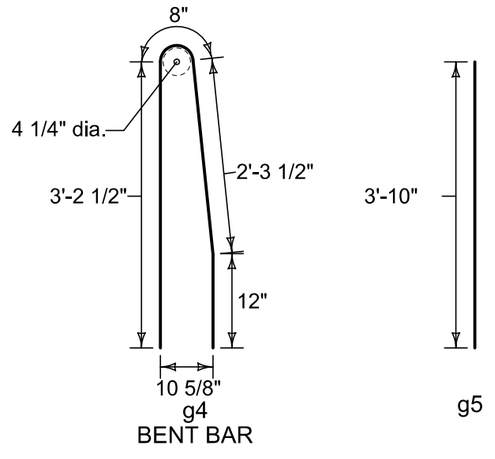
Use Grade 60 epoxy-coated reinforcing bars. Provide 2 inches minimum cover. Anchor all reinforcement to prevent movement. Secure each section at the front, back, and at 3'-6' intervals using a method approved by the Engineer.

(5) Where abutting sections are placed as separate pours, a butt joint may be used. Extend longitudinal reinforcement into the abutting section a minimum of 3 feet.

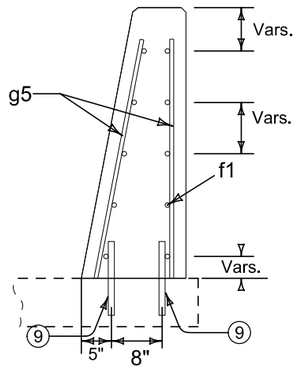
(9) Use 1 inch diameter deformed dowel bars of sufficient length to ensure 6 inch minimum embedment in barrier and supporting surface. Install dowels either in supporting surface when placed, or in drilled holes using polymer grout complying with Materials I.M. 491.11 or hydraulic cement grout complying with Materials I.M. 491.13.

(7) Fillet all exposed corners with a $\frac{3}{4}$ inch dressed and beveled strip.

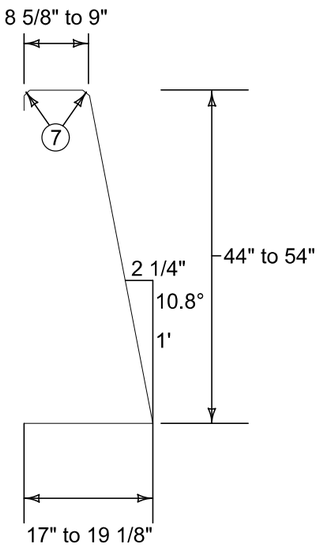
(8) Place barrier markers at 100 foot increments in areas with non-continuous lighting, or 250 foot increments in areas with continuous lighting. Marker color to be the same as adjacent edge line.



BENT BAR



SECTION B-B



BARRIER FACE

REINFORCING BAR LIST Per Section					
Bar	Size	Number of Bars	Length	Weight (lbs.)	Spacing
g4	5	4	7' 2"	22	12"
g5	5	14	3' 10"	59	12"
f1	6	10	9' 9"	101	—

Possible Contract Item:
Concrete Barrier, BA-105 or
Concrete Barrier, BA-105 and Footing

Possible Tabulation:
108-18B

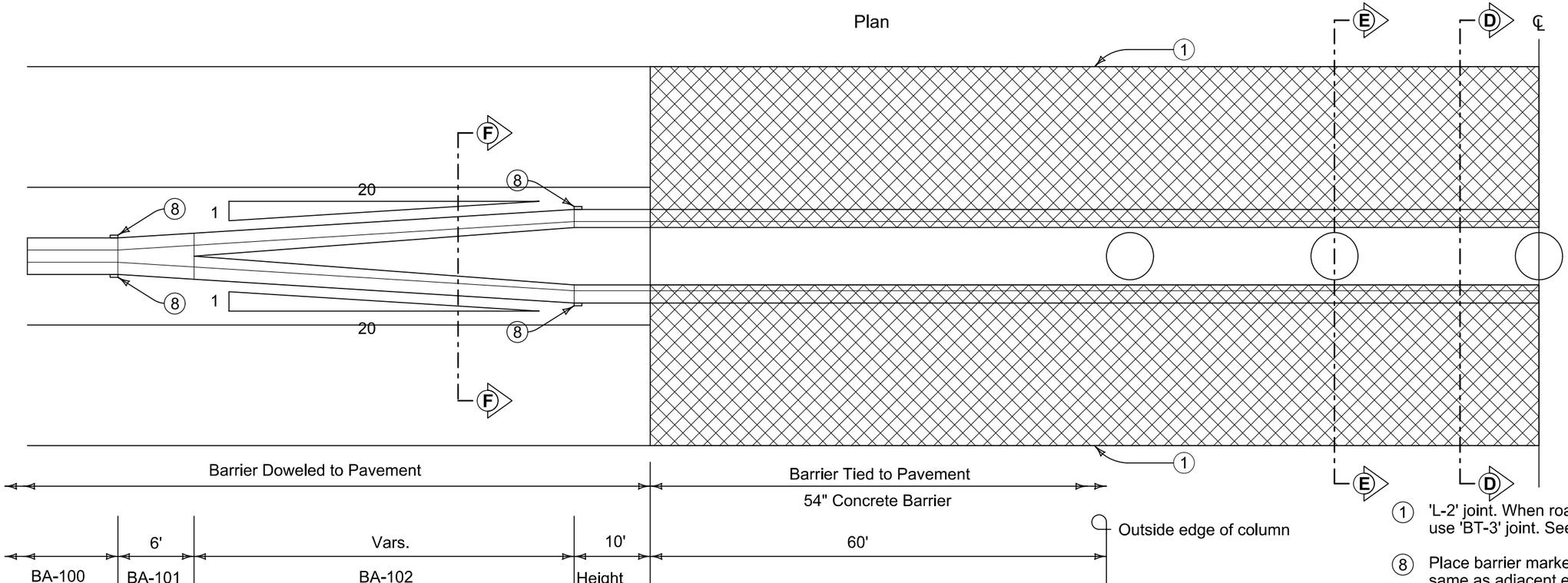
CONCRETE QUANTITIES
Per 10 ft section
1.7 cy

PIER PROTECTION
44" TO 54" CONCRETE BARRIER
HEIGHT TRANSITION SECTION

8250
10-21-25

Layout symetric about centerline.

Plan



ELEVATION

① 'L-2' joint. When roadway pavement is existing, use 'BT-3' joint. See PV-101.

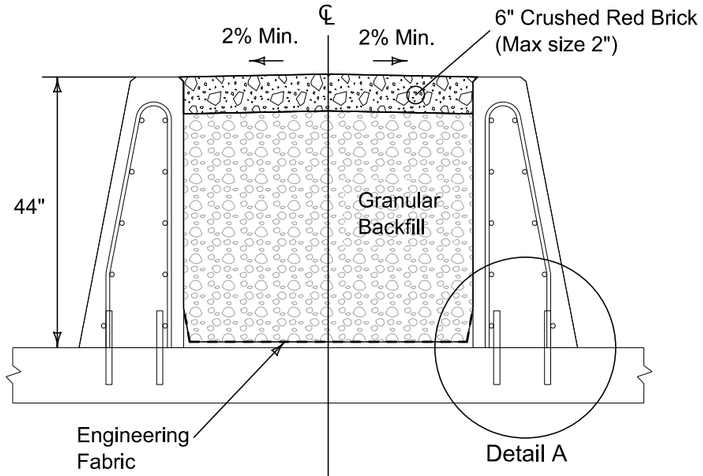
⑧ Place barrier markers. Marker color to be the same as adjacent edge line.

REINFORCED PAVED SHOULDER

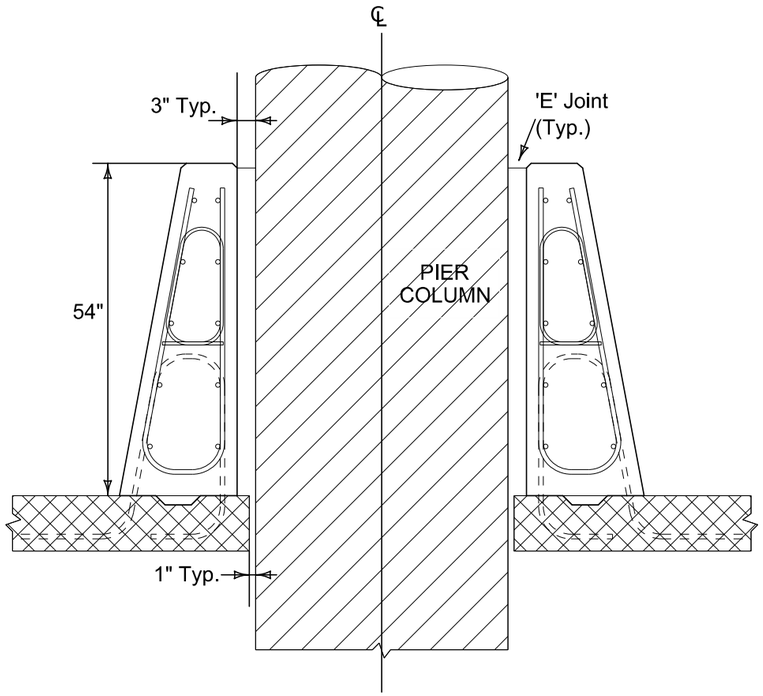
Sheet 4 of 5

PIER PROTECTION LAYOUT

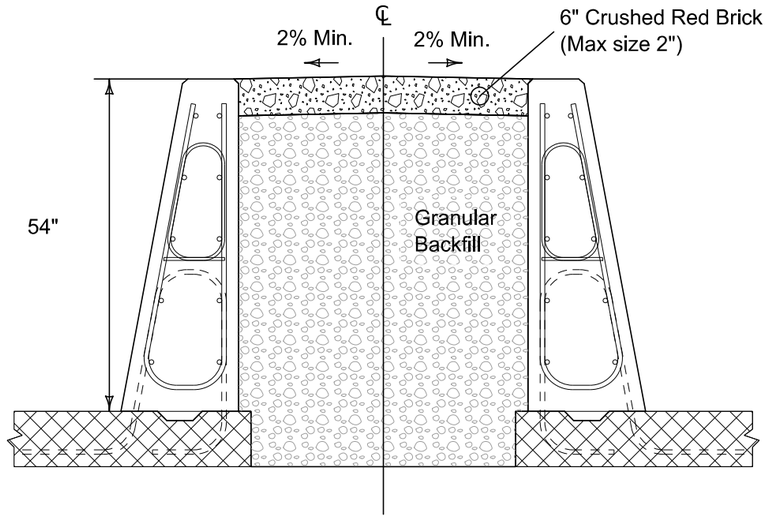
8250
10-21-25



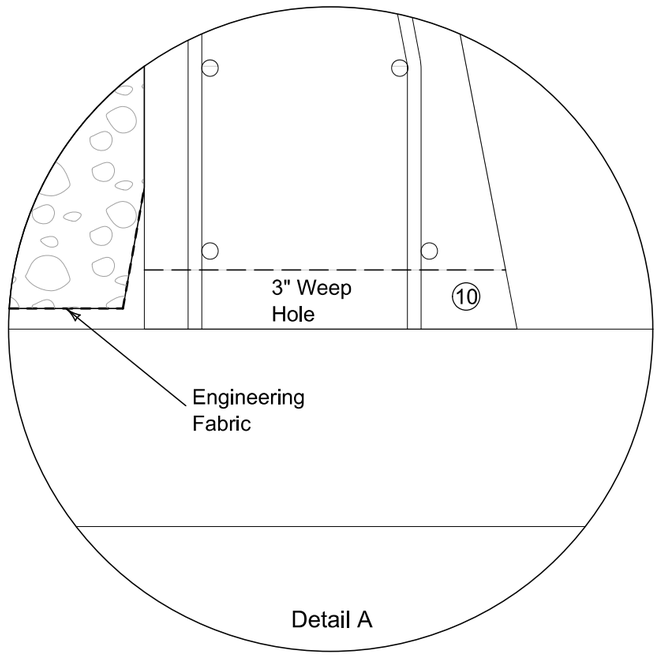
SECTION F-F



SECTION E-E



SECTION D-D

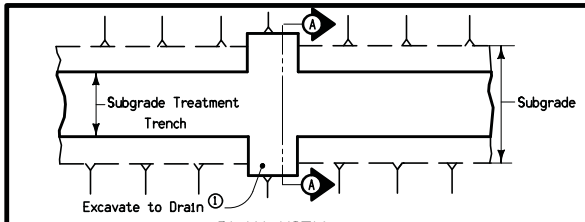


⑩ Construct weep holes from 3 inch diameter PVC pipe. Maximum spacing between weep holes is 20 feet. However, keep holes at least 5 feet from any transverse joints. Cover interior of weep holes with copper screening or galvanized hardware cloth. Attach engineering fabric at least 6 inches above top of weep holes in a manner approved by the engineer. The cost of supplying and installing weep holes, engineering fabric, and screening will be considered incidental to concrete barrier items.

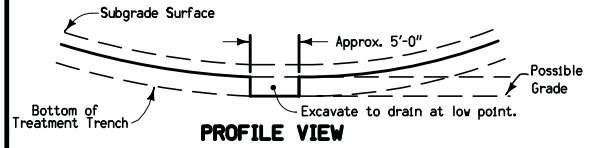
NOTE: Do not construct weep holes in areas of reinforced paved shoulder.

PIER PROTECTION LAYOUT

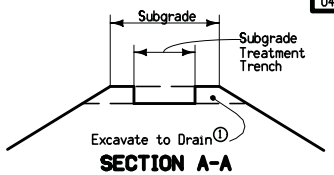
8301
04-20-04



PLAN VIEW



PROFILE VIEW



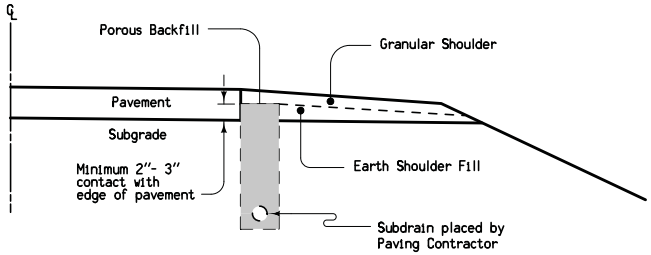
SECTION A-A

① The contractor shall excavate a portion of subgrade as necessary to provide drainage for the treatment trench. When the subgrade treatment is granular soils, the contractor shall excavate a portion of the subgrade and backfill it with the granular soils every 300 feet.

This excavation shall be considered incidental.

TYPICAL DETAILS OF DRAIN FOR SUBGRADE TREATMENT TRENCH

8302
10-19-04



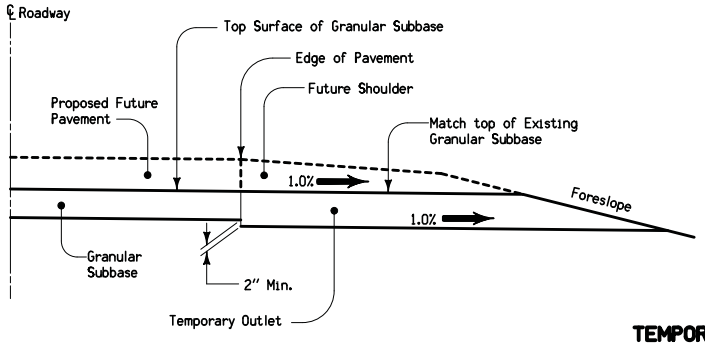
Notes:

Earth shoulder fill material generated from trimming of the subgrade before paving shall be stockpiled outside of the subdrain area. Trim off earth to expose subdrain rock. Place fillet of porous backfill (separate compaction not required) prior to placing earth shoulder fill. Any deficiency to be made up by borrow furnished by the contractor. Earth shoulder fill is followed by the placement of "Granular Shoulder Material".

Fillet Rate: 1-Ton/Sta./Shoulder Payment of "Porous Backfill" will be by tons.

SUBDRAIN MAINTENANCE
DURING SHOULDERING ACTIVITIES

8303
10-22-93



NOTES:

When granular subbase is placed under conditions where positive drainage is not present, a temporary outlet shall be constructed by placing a granular subbase 'French' drain a minimum 18" wide at the location tabulated for a future longitudinal subdrain outlet. This work shall be considered incidential to "Granular Subbase".

TEMPORARY OUTLET FOR GRANULAR SUBBASE DRAINAGE