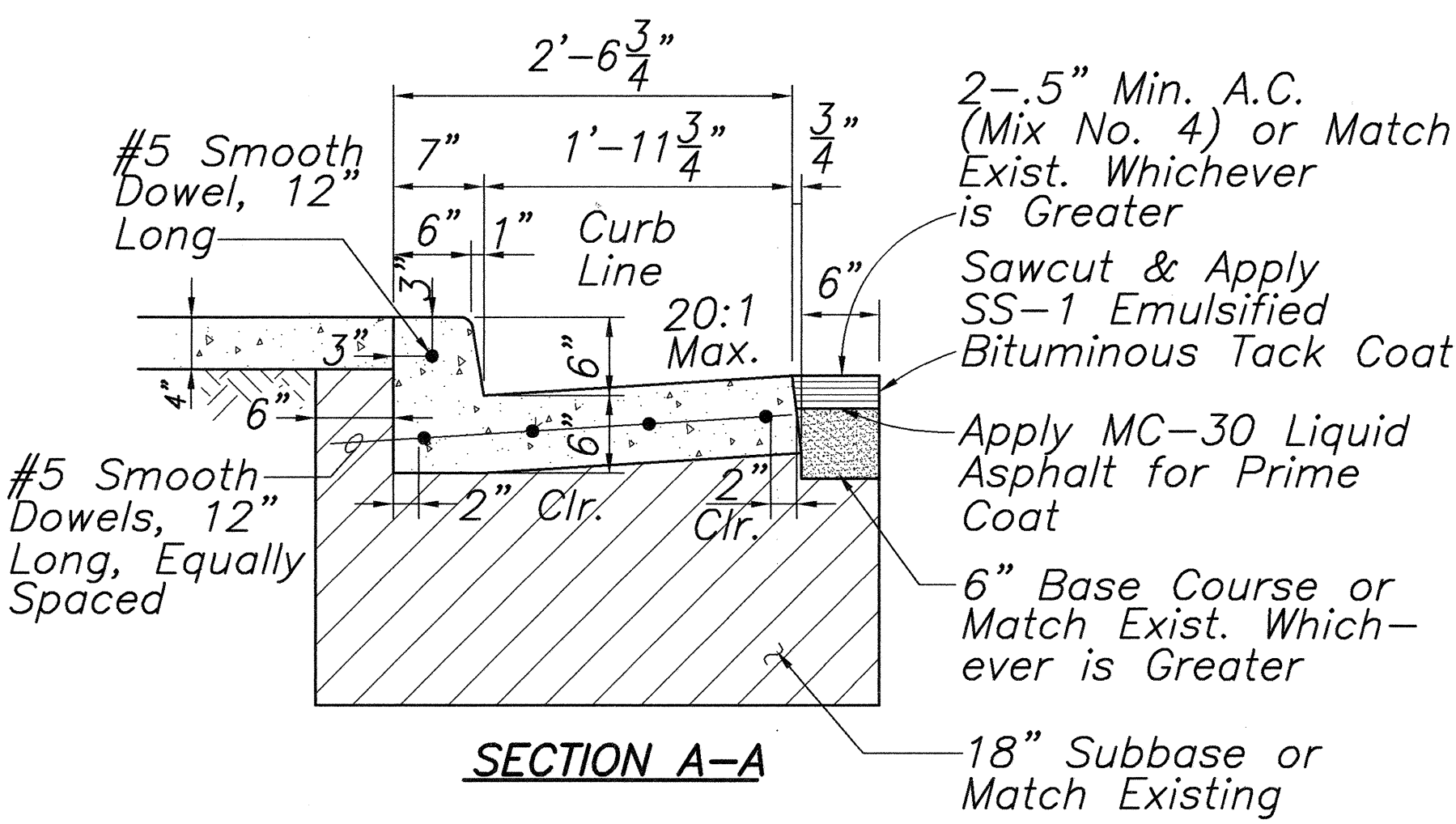
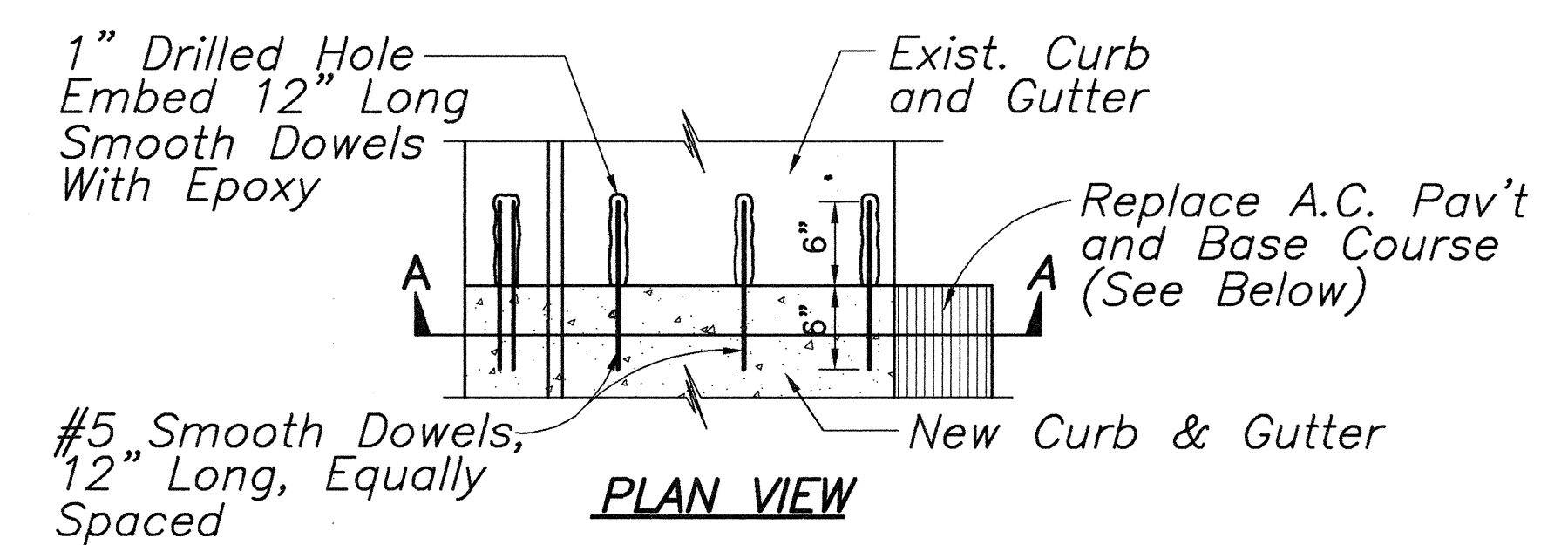
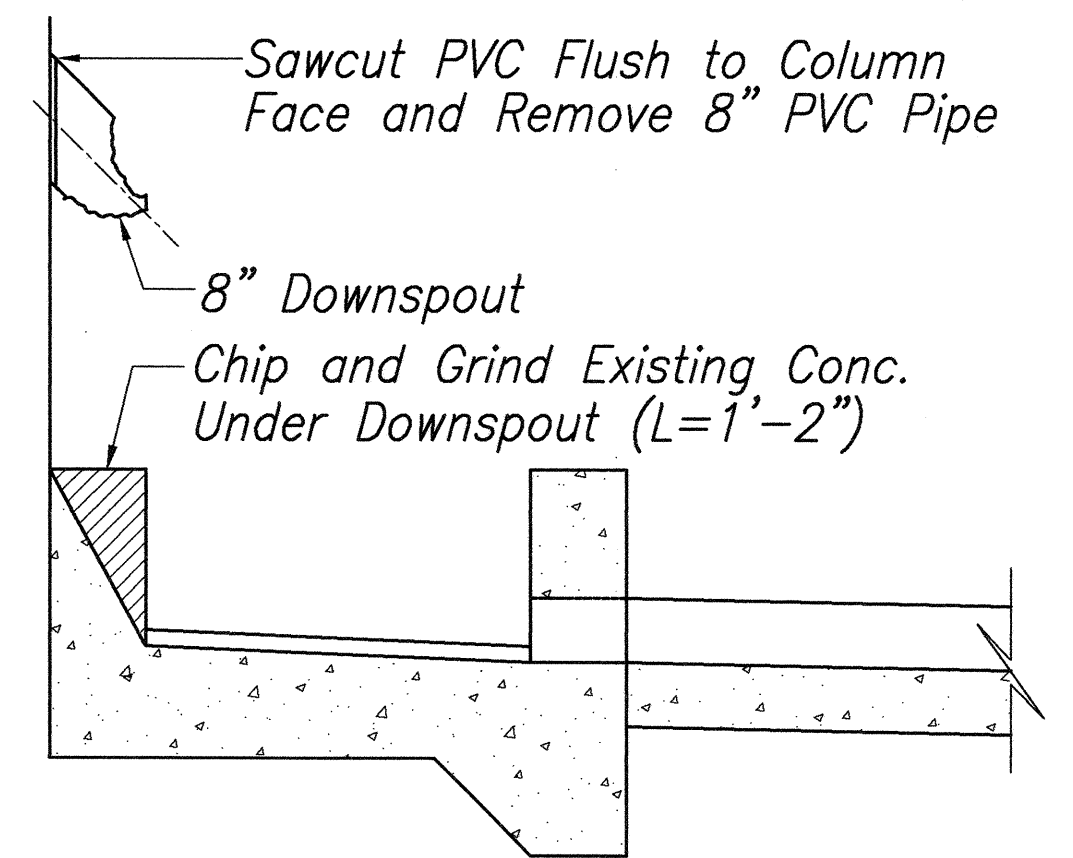


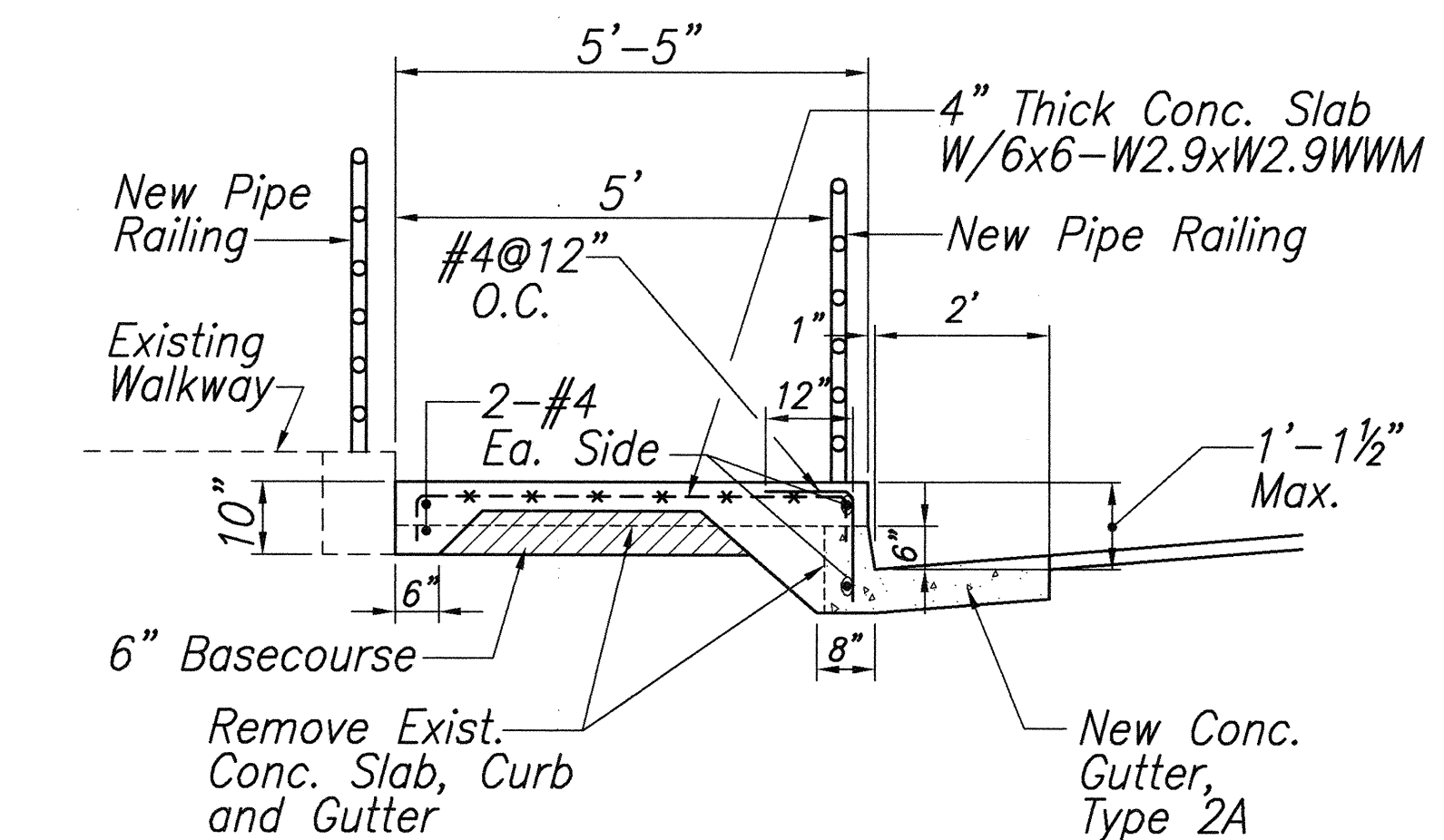
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-092-1(24)	2000	51	57



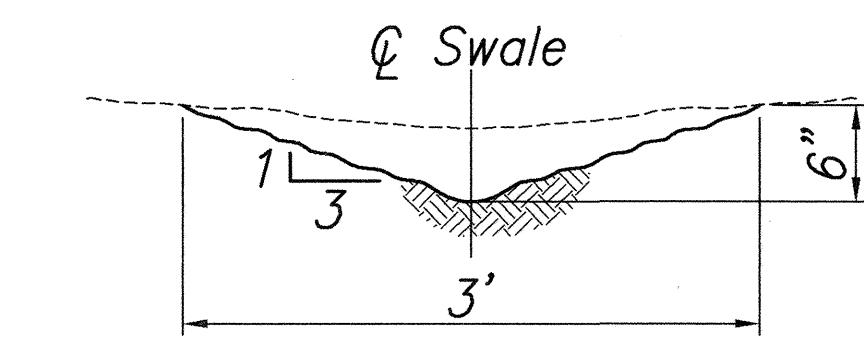
1 CURB AND GUTTER CONNECTION DETAIL
C-50 Not to Scale



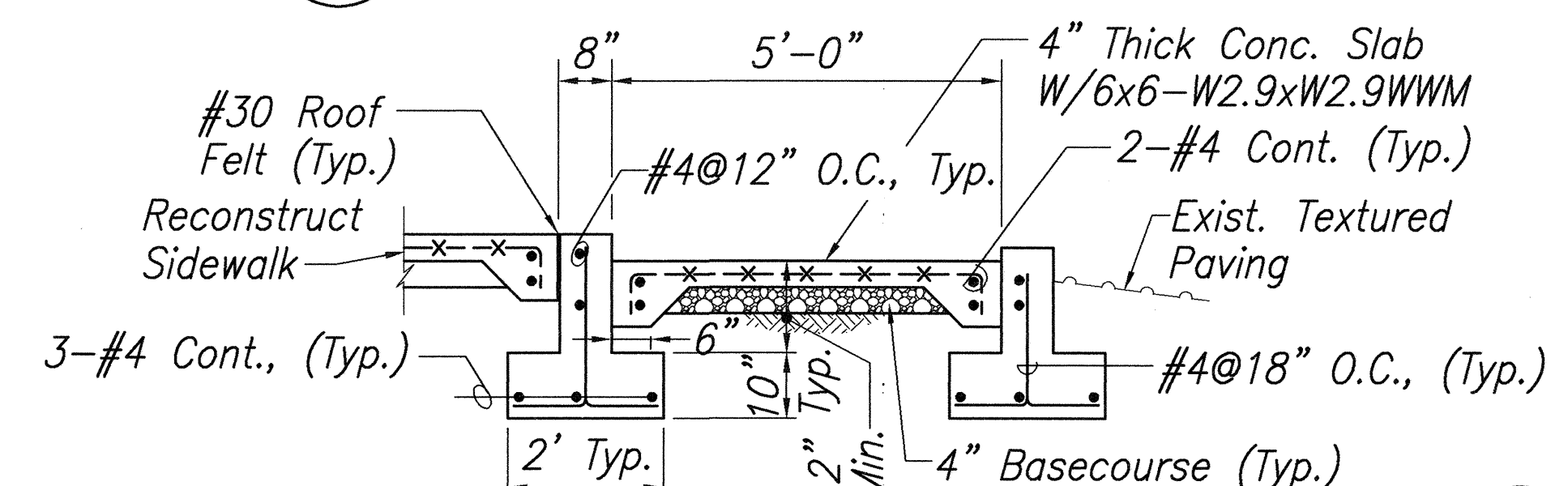
3 8" PVC DOWNSPOUT
C-50 Scale: 1" = 1'-0"



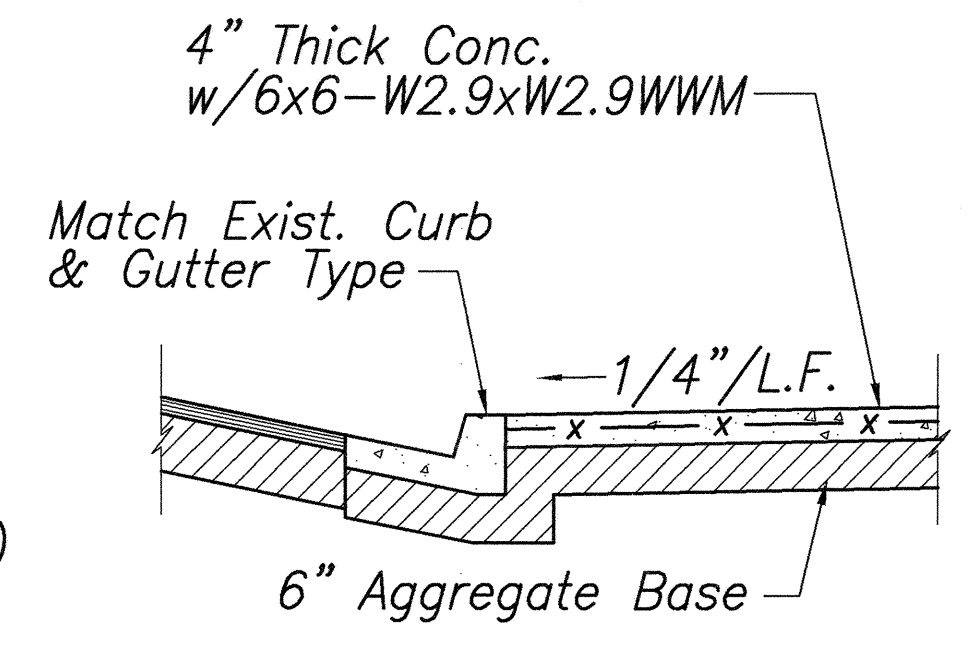
4 SECTION
C-50 Scale: 1/2" = 1'-0"



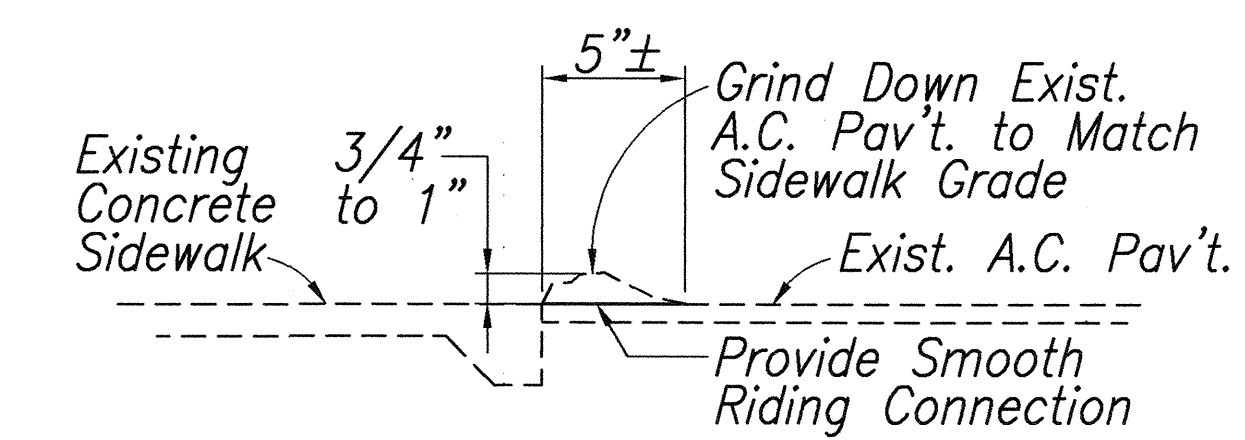
5 EARTH SWALE
C-50 Scale: 1" = 1'-0"



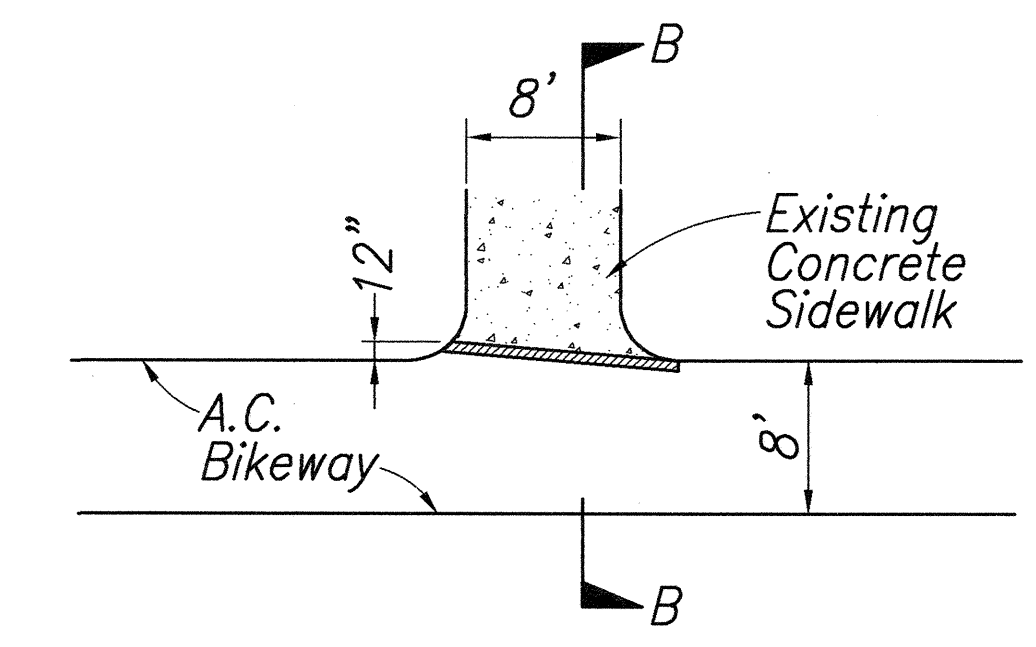
6 SECTION
C-50 Scale: 1/2" = 1'-0"



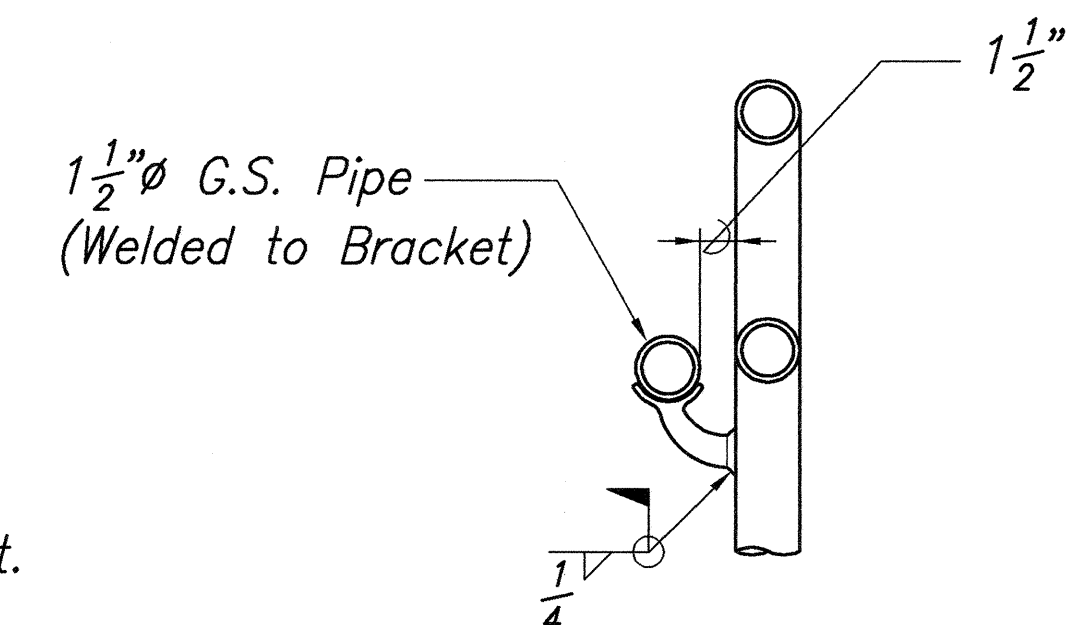
8 SIDEWALK RECONSTRUCTION
C-50 Scale: 1/2" = 1'-0"



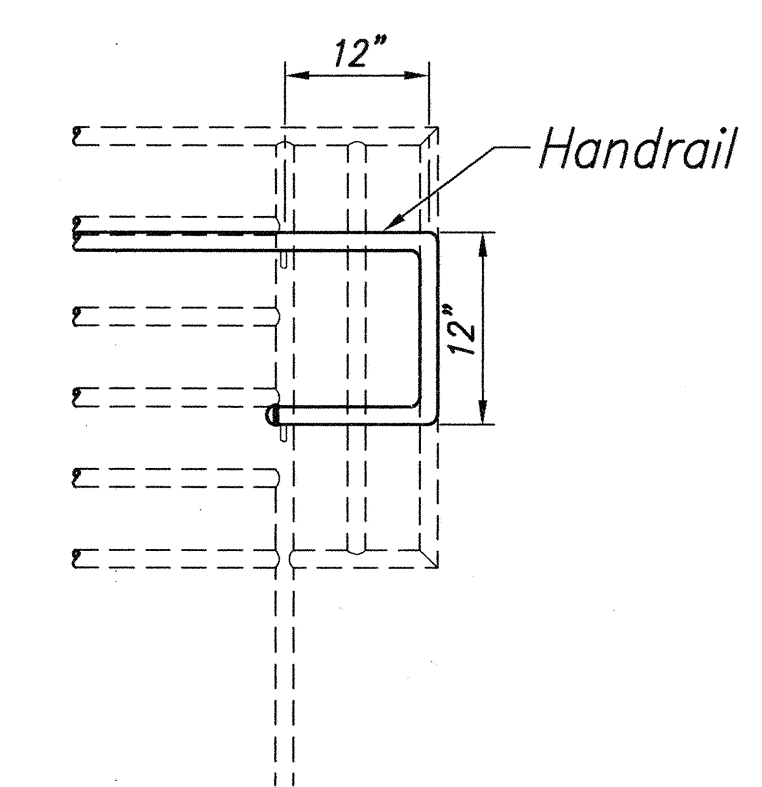
SECTION B-B



7 BIKEWAY TRANSITION
C-50 Not to Scale

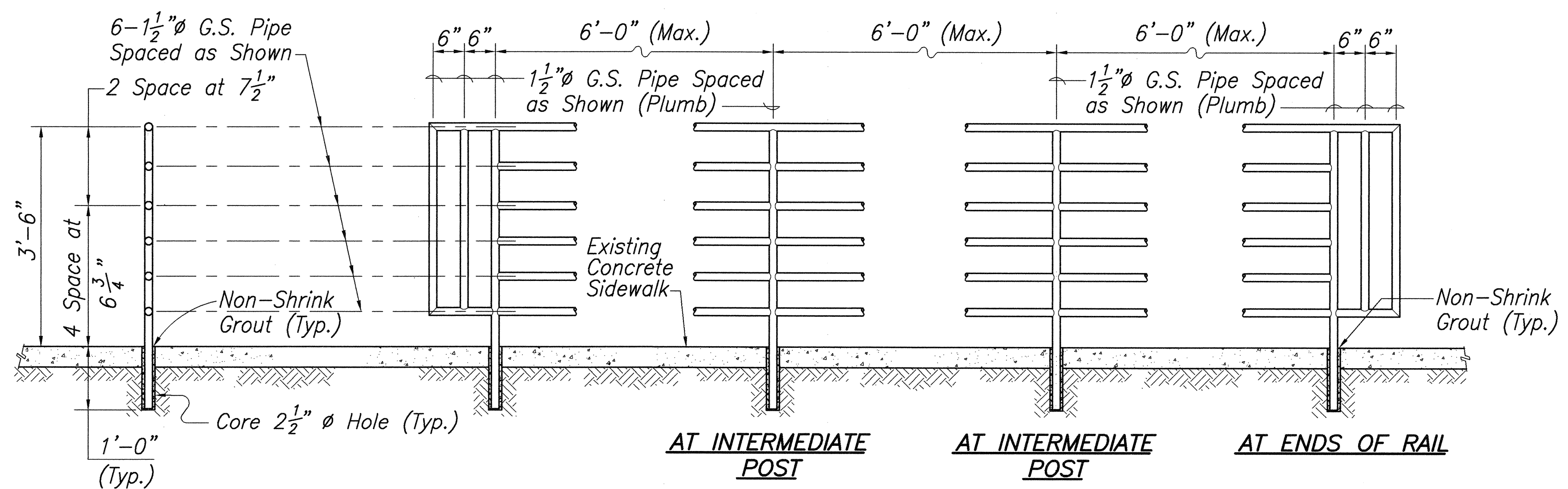


TYPICAL SECTION



AT ENDS OF RAIL

9 HANDRAIL DETAIL
C-50 Not To Scale

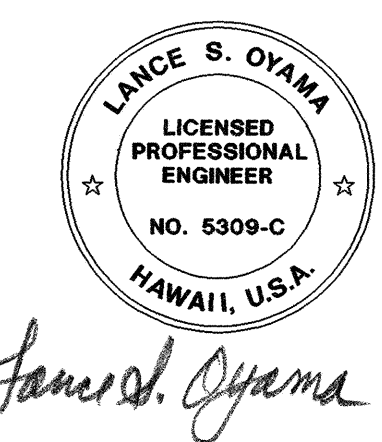
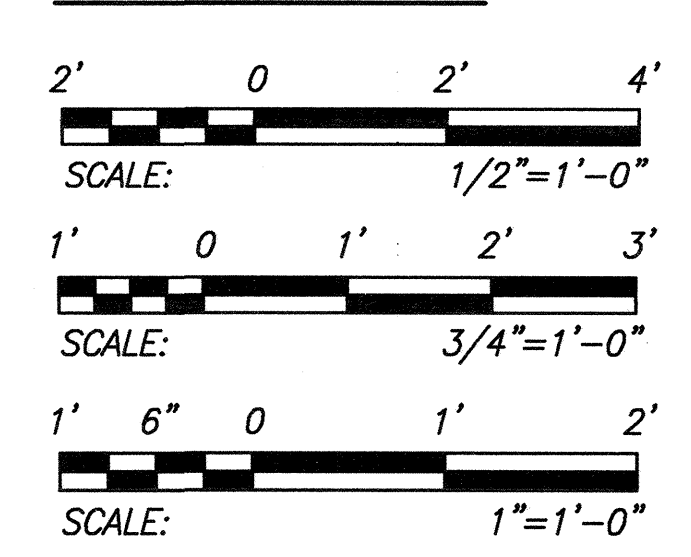


TYPICAL SECTION

2 PIPE RAILING DETAIL
C-50 Scale: 3/4" = 1'-0"

- NOTES:**
1. Cut and shape pipe for neat fit and weld all around. All welding shall conform to the current Specifications. Welds on pipes shall be ground smooth.
 2. Damage to galvanized coatings shall be repaired in accordance with Subsection 501.03G of Standard Specifications.

GRAPHIC SCALES:



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

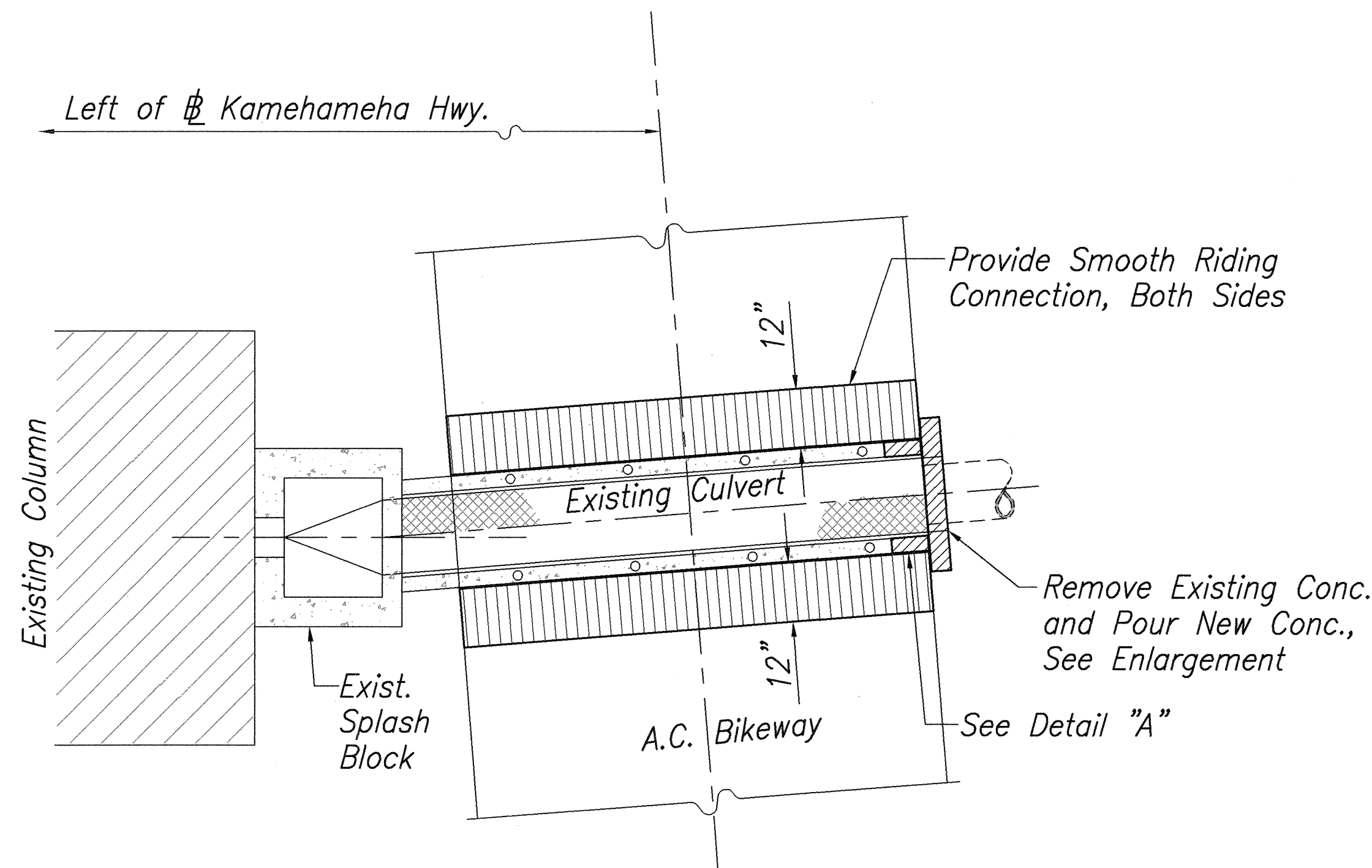
MISCELLANEOUS
DETAILS

NIMITZ HIGHWAY RESURFACING
RODGERS BOULEVARD TO AHUA STREET
FED. AID PROJECT NO. STP-092-1(24)

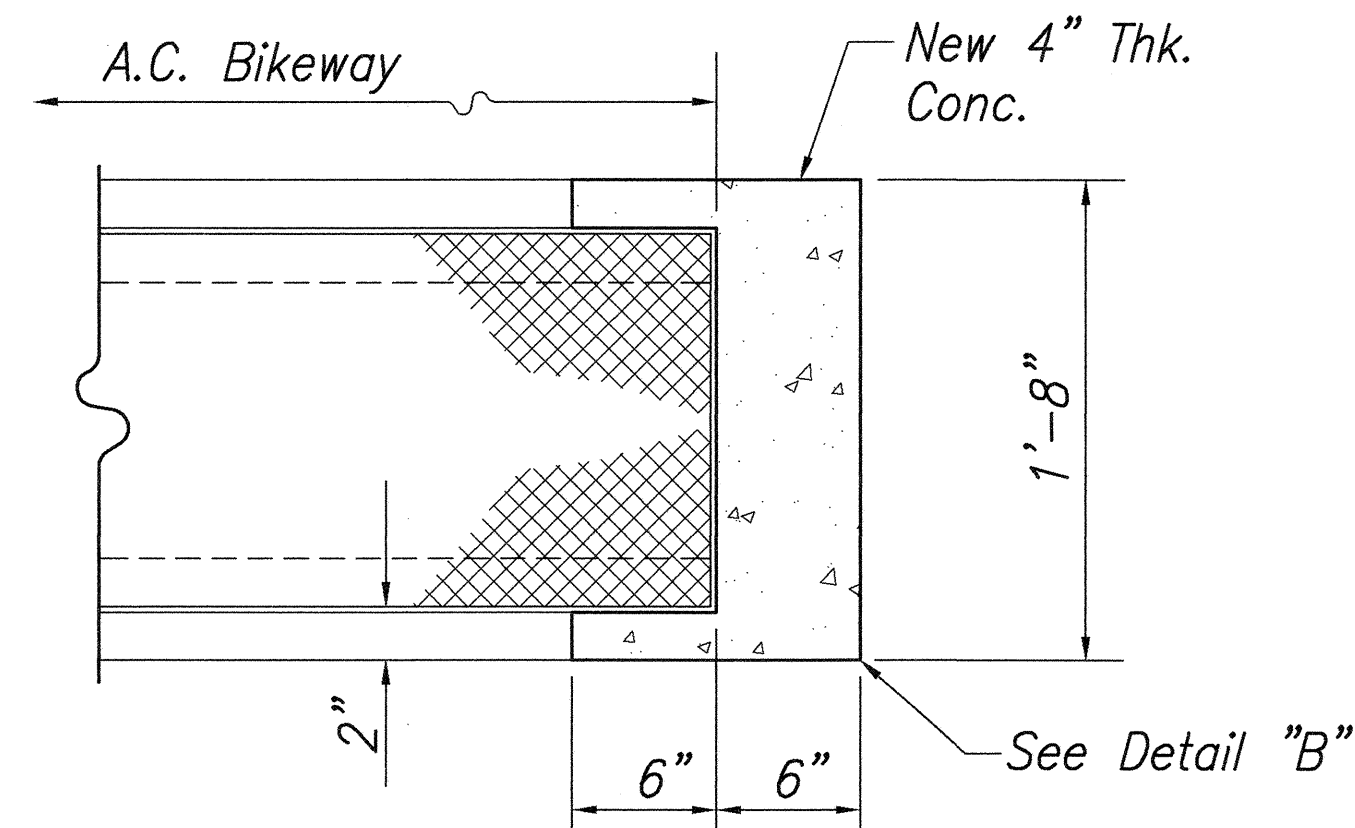
Scale: As Noted Date: Aug. 2, 1999

SHEET No. C-50 OF 57 SHEETS

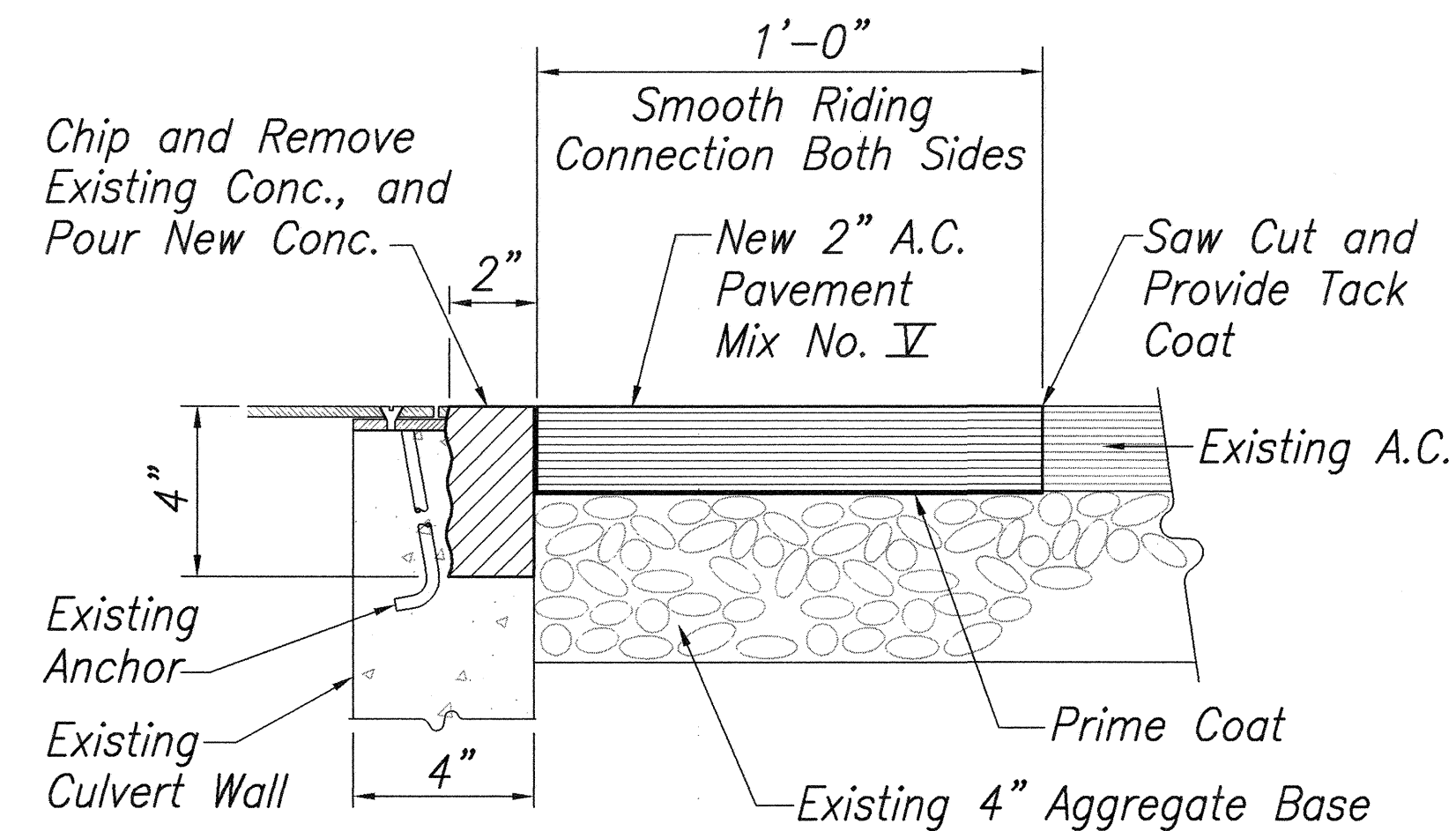
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-092-1(24)	2000	52	57



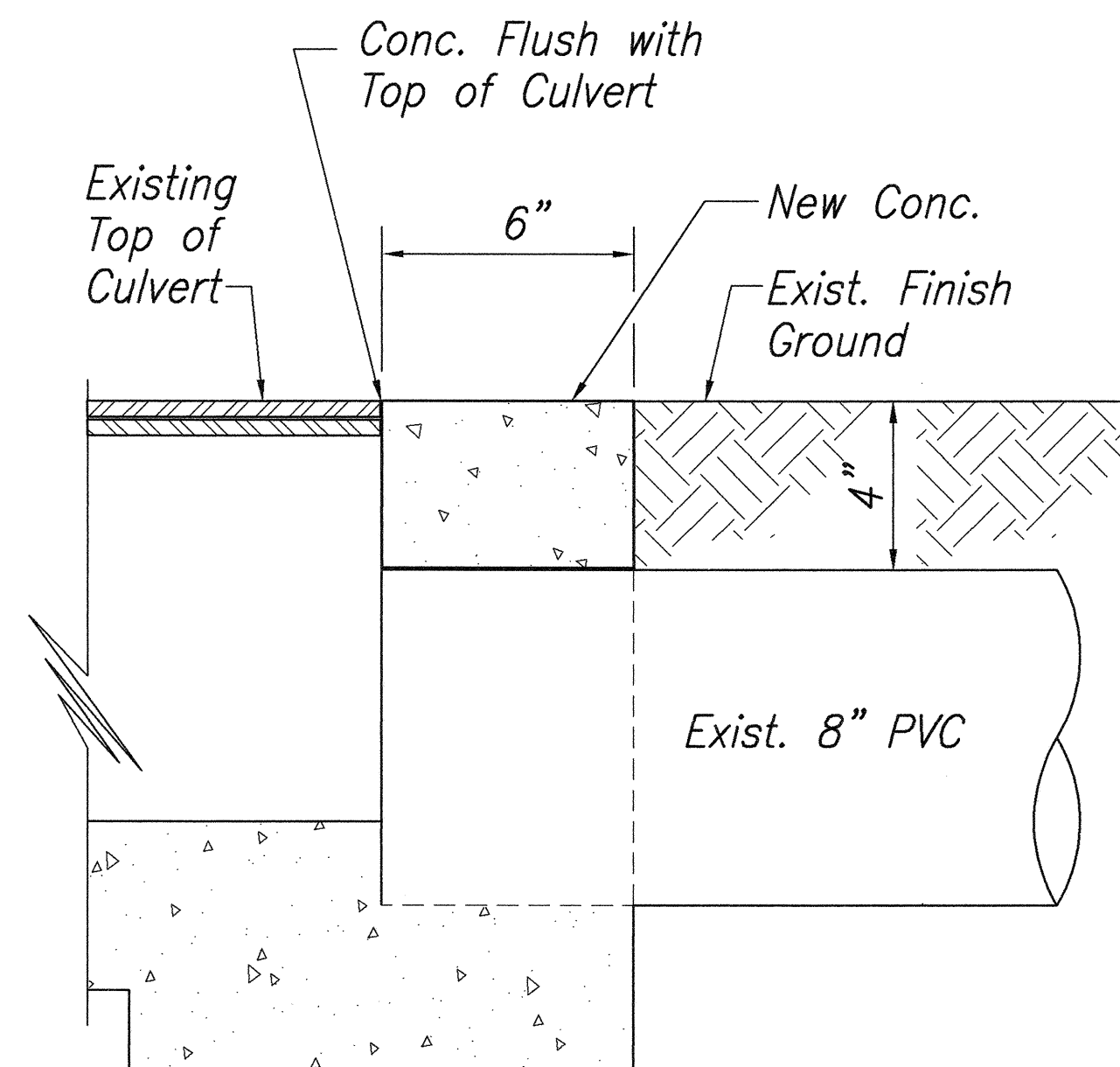
1 **PLAN**
C-51 Not to Scale



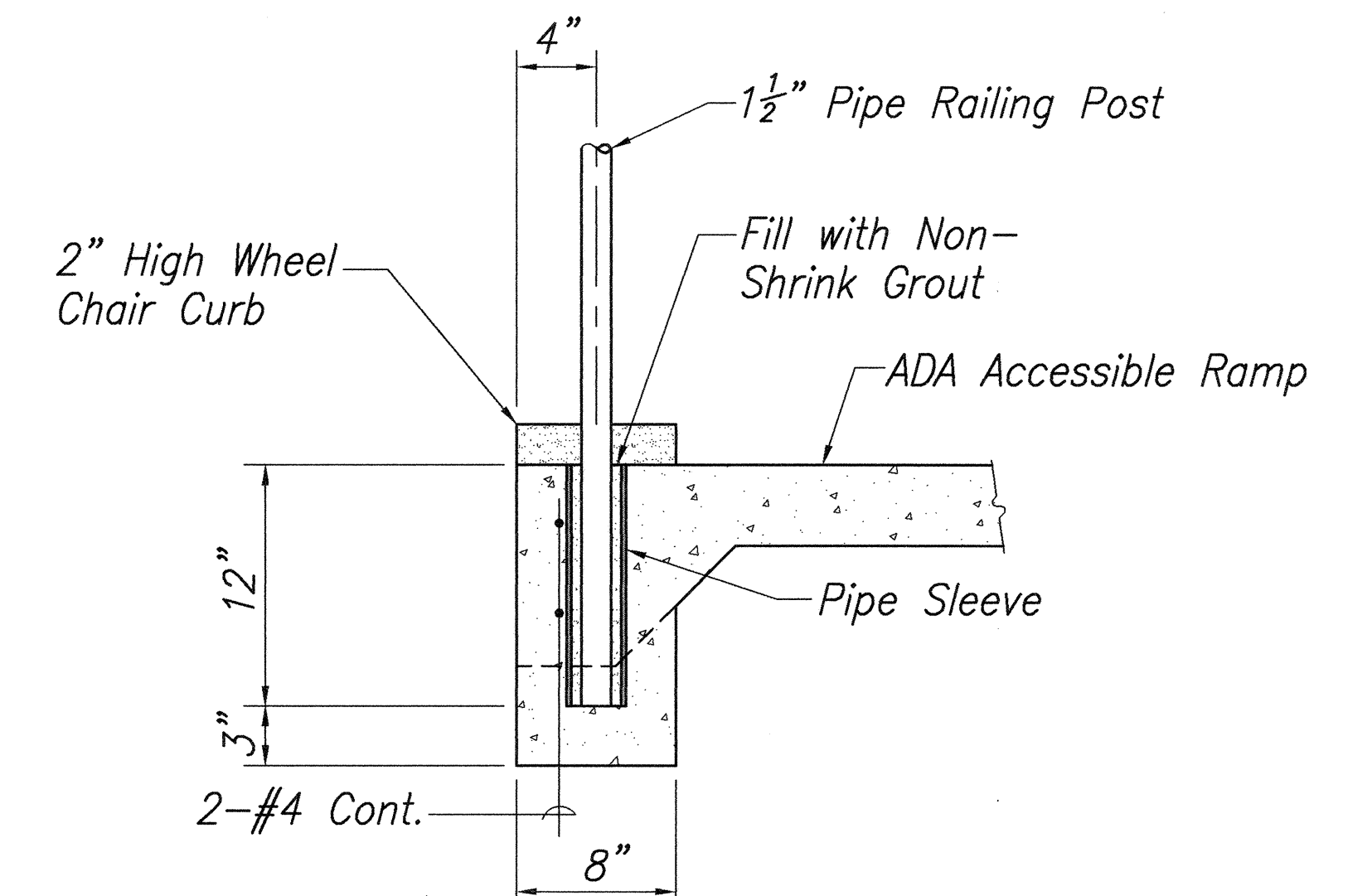
2 **ENLARGEMENT OF CULVERT END**
C-51 Not to Scale:



3 **DETAIL "A"**
C-51 Not to Scale:



4 **DETAIL "B"**
C-51 Not to Scale



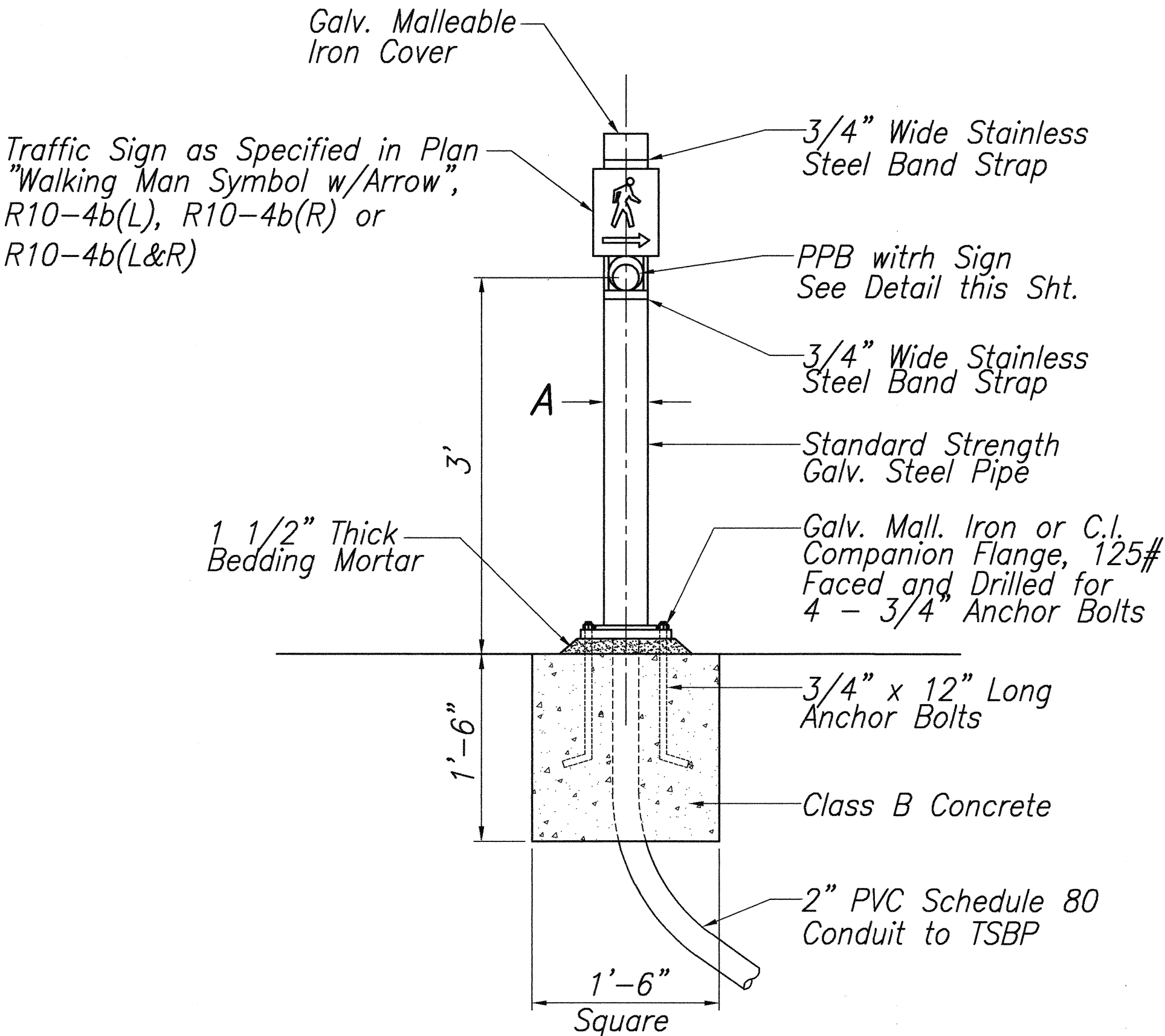
5 **PIPE RAILING POST FOOTING**
C-51 Not to Scale



Lance S. Oyama

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
MISCELLANEOUS DETAILS	
NIMITZ HIGHWAY RESURFACING RODGERS BOULEVARD TO AHUA STREET FED. AID PROJECT NO. STP-092-1(24)	
Scale: As Noted	Date: Aug. 2, 1999
SHEET No. C-51 OF 57 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-092-1(24)	2000	53	57

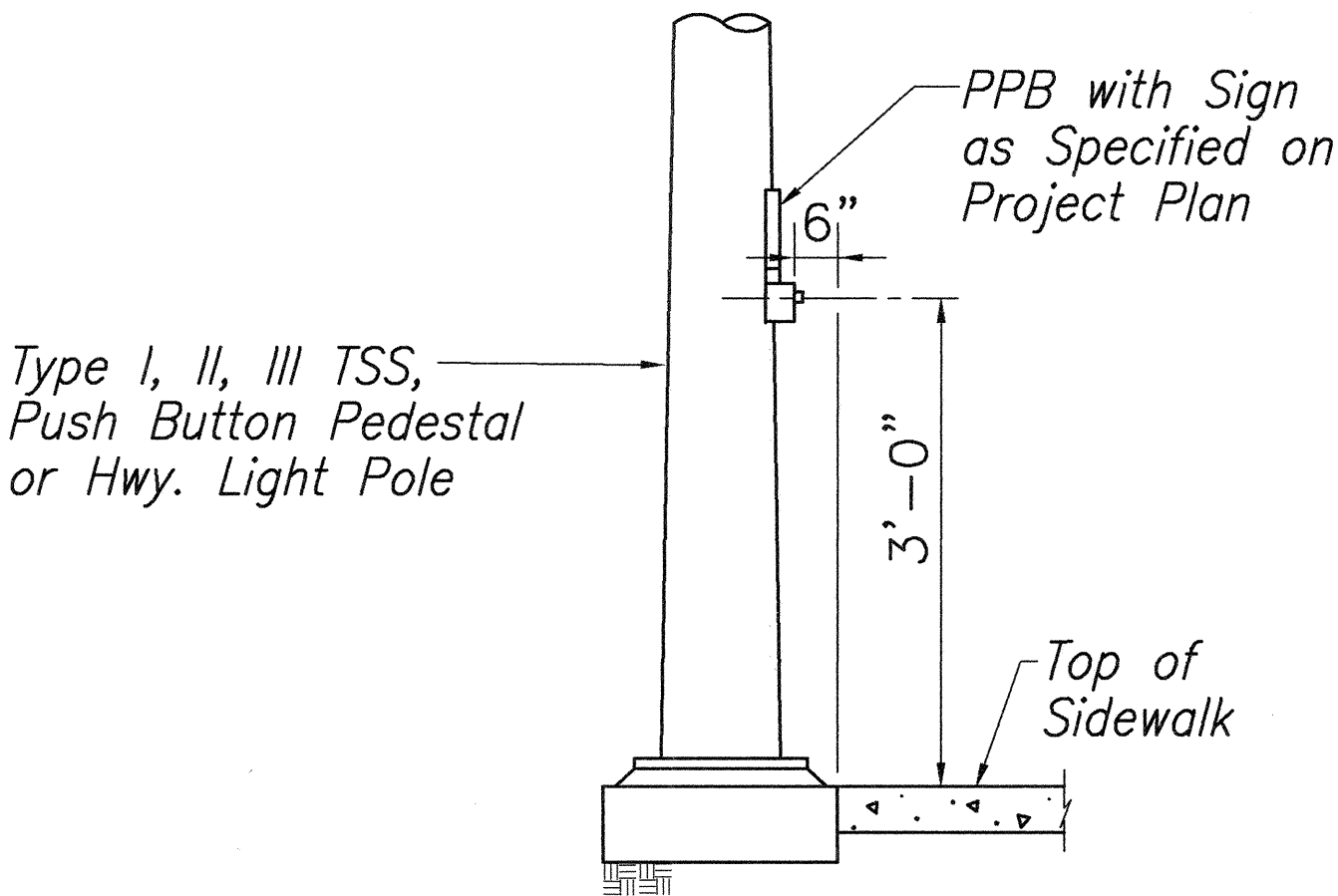


Notes:

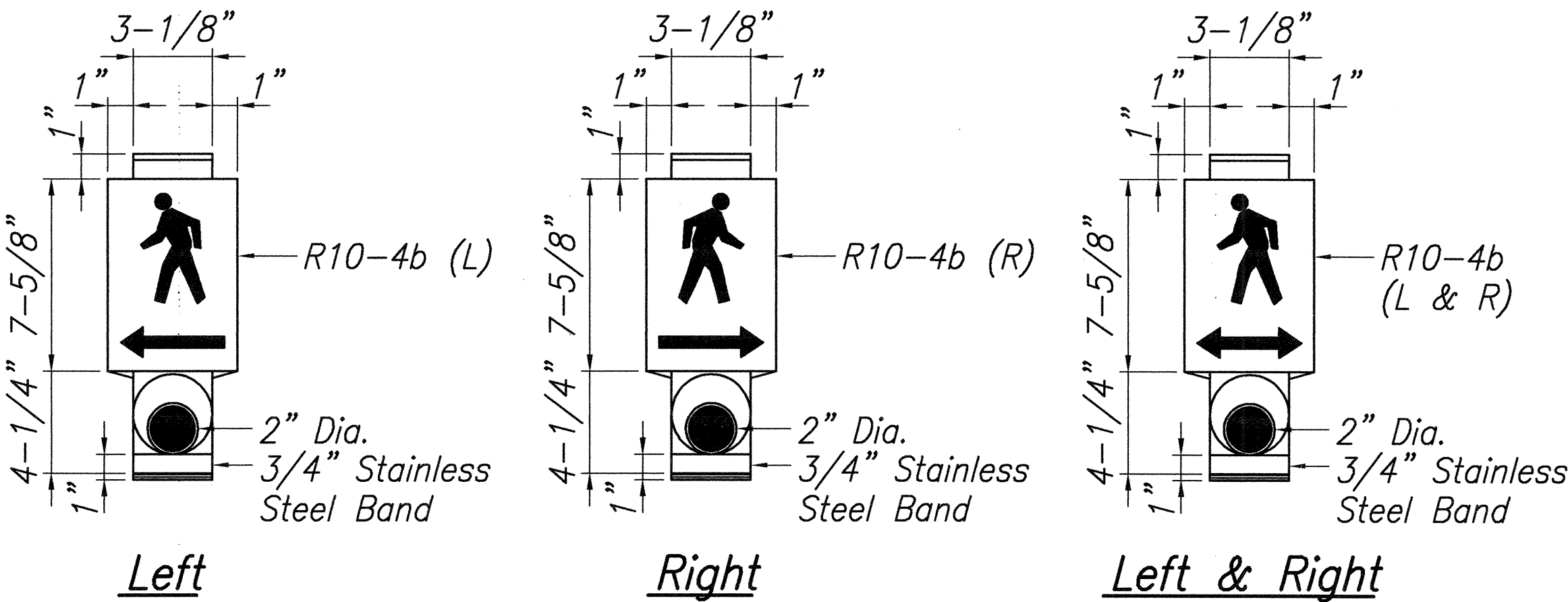
1. Conduits Shall Protrude 2" Max. Above Finish Surface of Foundation.
2. Conduits Shall Slope Away From Pedestal Foundation.

AMOUNT OF PPB	DIMENSIONS	
	A	B
1	3 1/2"	8"
2-3	4 1/2"	9"

1 PPB PEDESTAL
C-52 Not to Scale



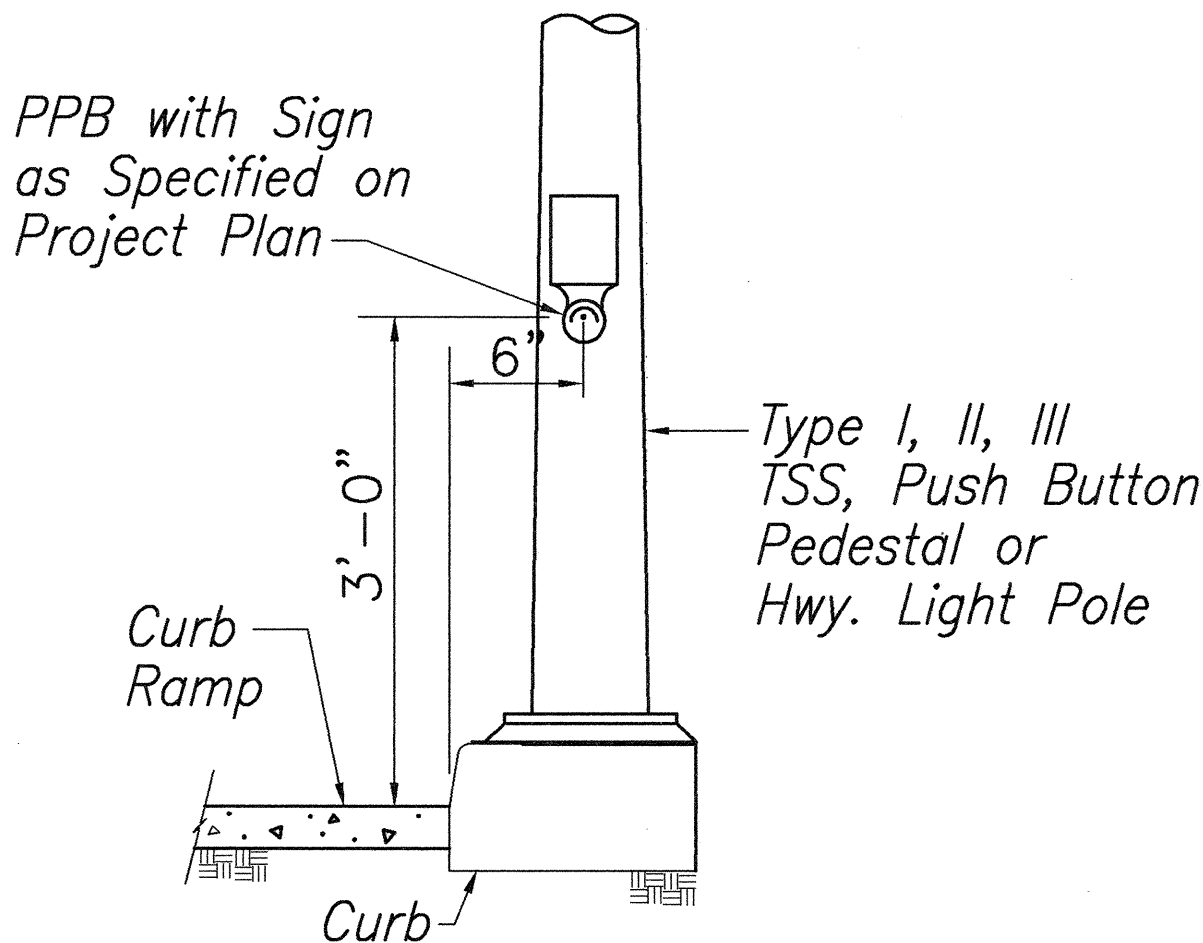
3 DETAIL "A"
C-52 Not to Scale



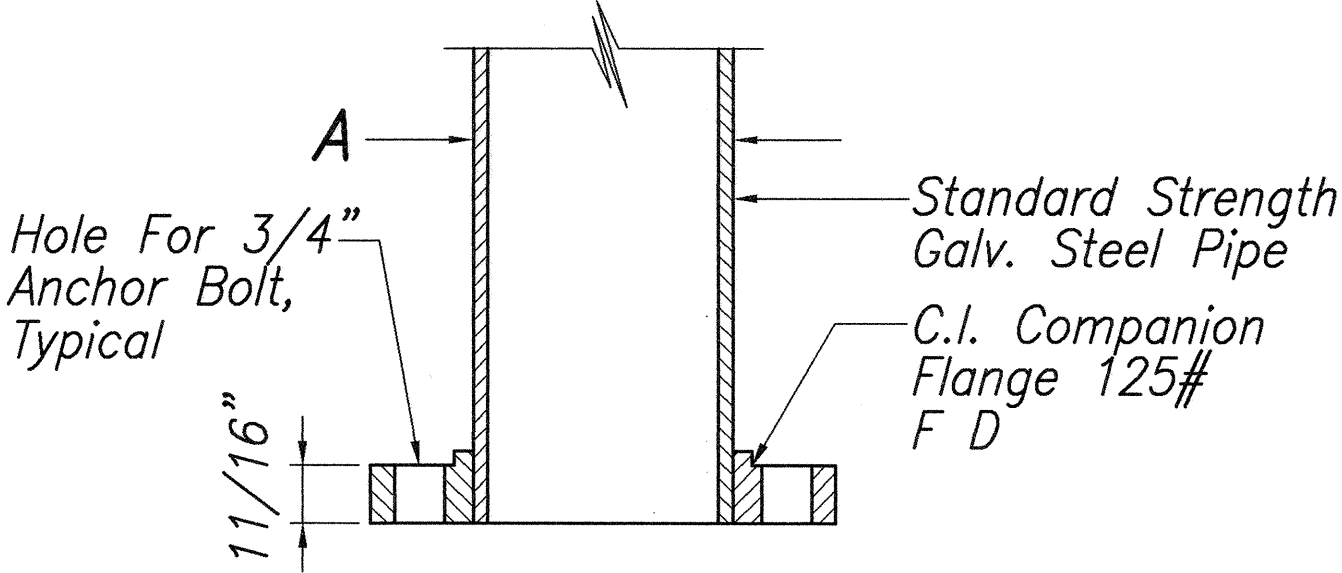
Note: On Plan Sheet, Use Applicable Detail

The Color Scheme Shall be:
White - Man, Arrow and Push Button
Black - Background

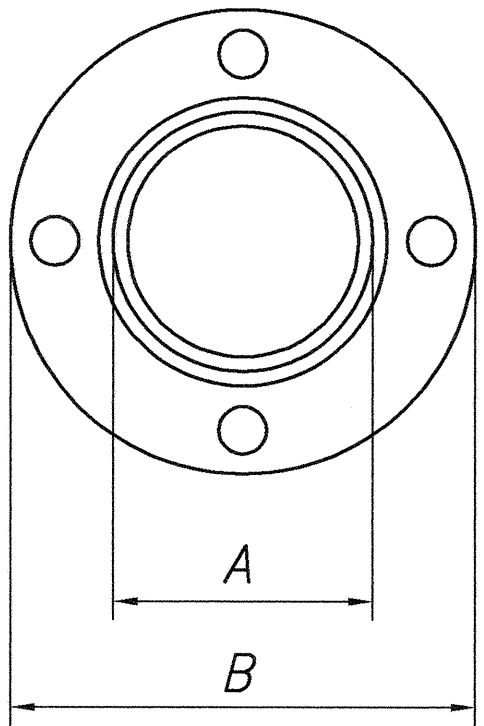
2 PEDESTRIAN PUSH BUTTON SIGN
C-52 Not to Scale



4 DETAIL "B"
C-52 Not to Scale

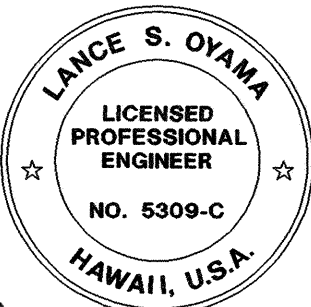


Section



Top View

5 FLANGE DETAIL
C-52 Not to Scale



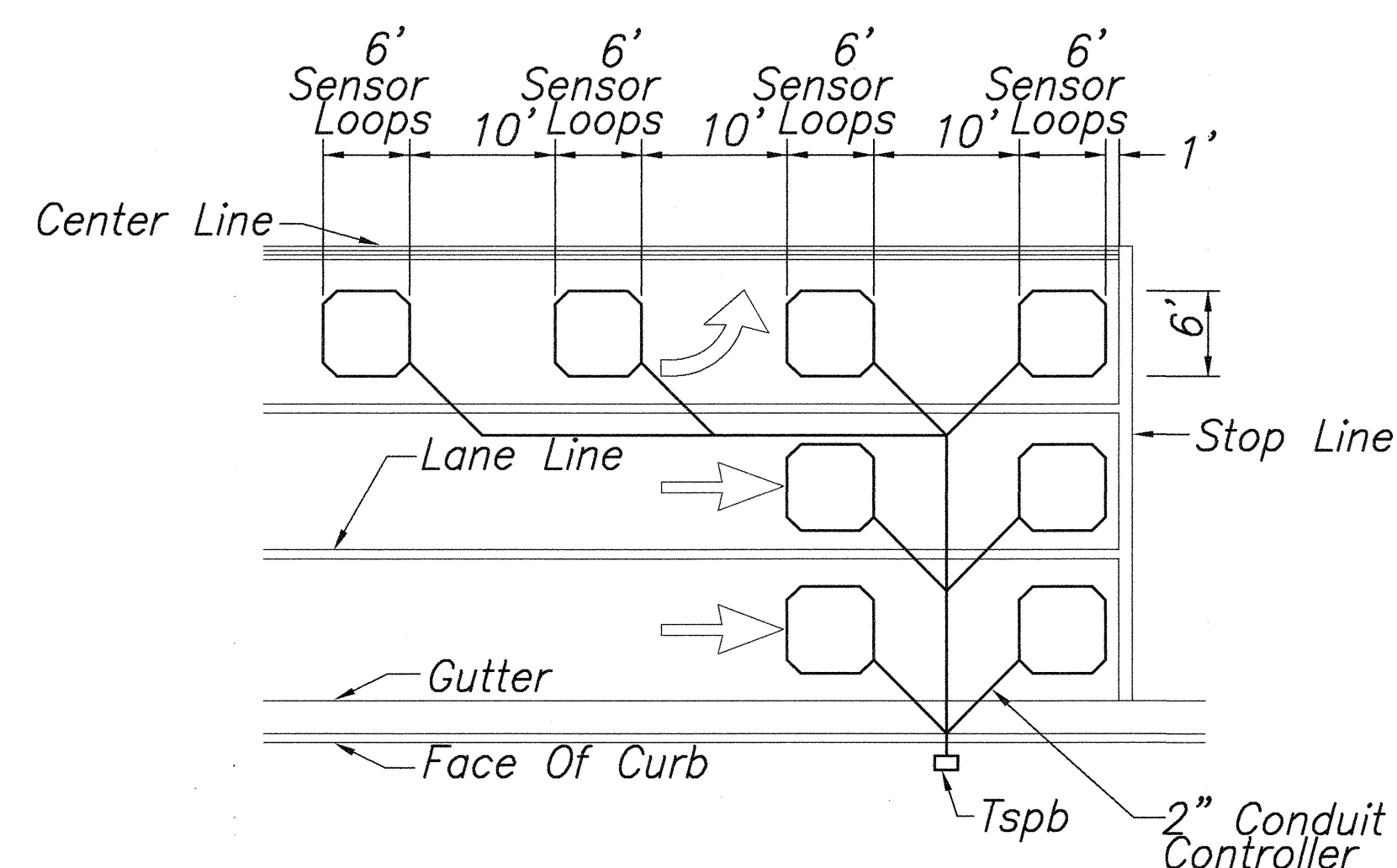
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS
DETAILS
NIMITZ HIGHWAY RESURFACING
RODGERS BOULEVARD TO AHUA STREET
FED. AID PROJECT NO. STP-092-1(24)

Scale: As Noted
Date: Aug. 2, 1999

SHEET NO. C-52 OF 57 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-092-1(24)	2000	54	57

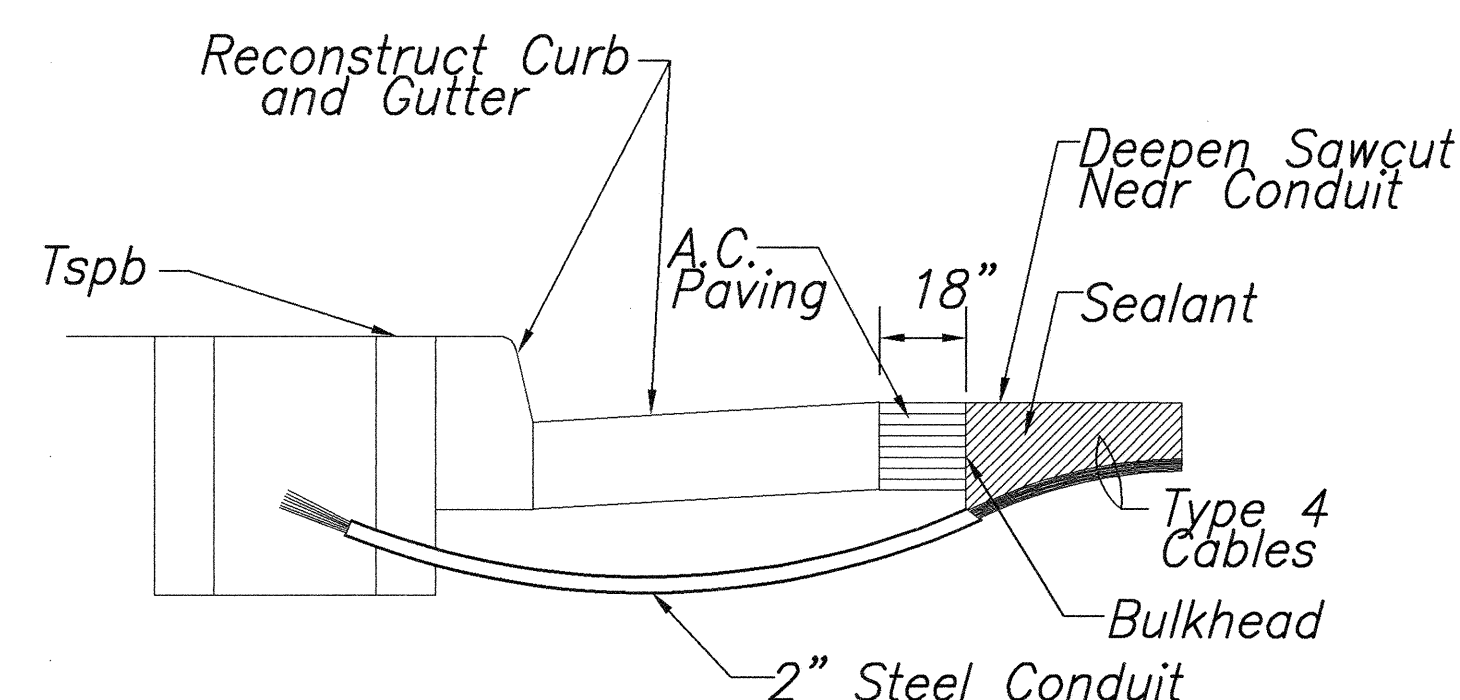


NOTES:

1. Center sensor loops in lanes.
2. Collector cables shall be twisted 2 turns per foot.
3. Number of loops and locations vary. See project plans.
4. Number and locations of collector sawcuts may be varied in the field to suit.

TYPICAL SENSOR LOOP LAYOUT

Not to Scale:

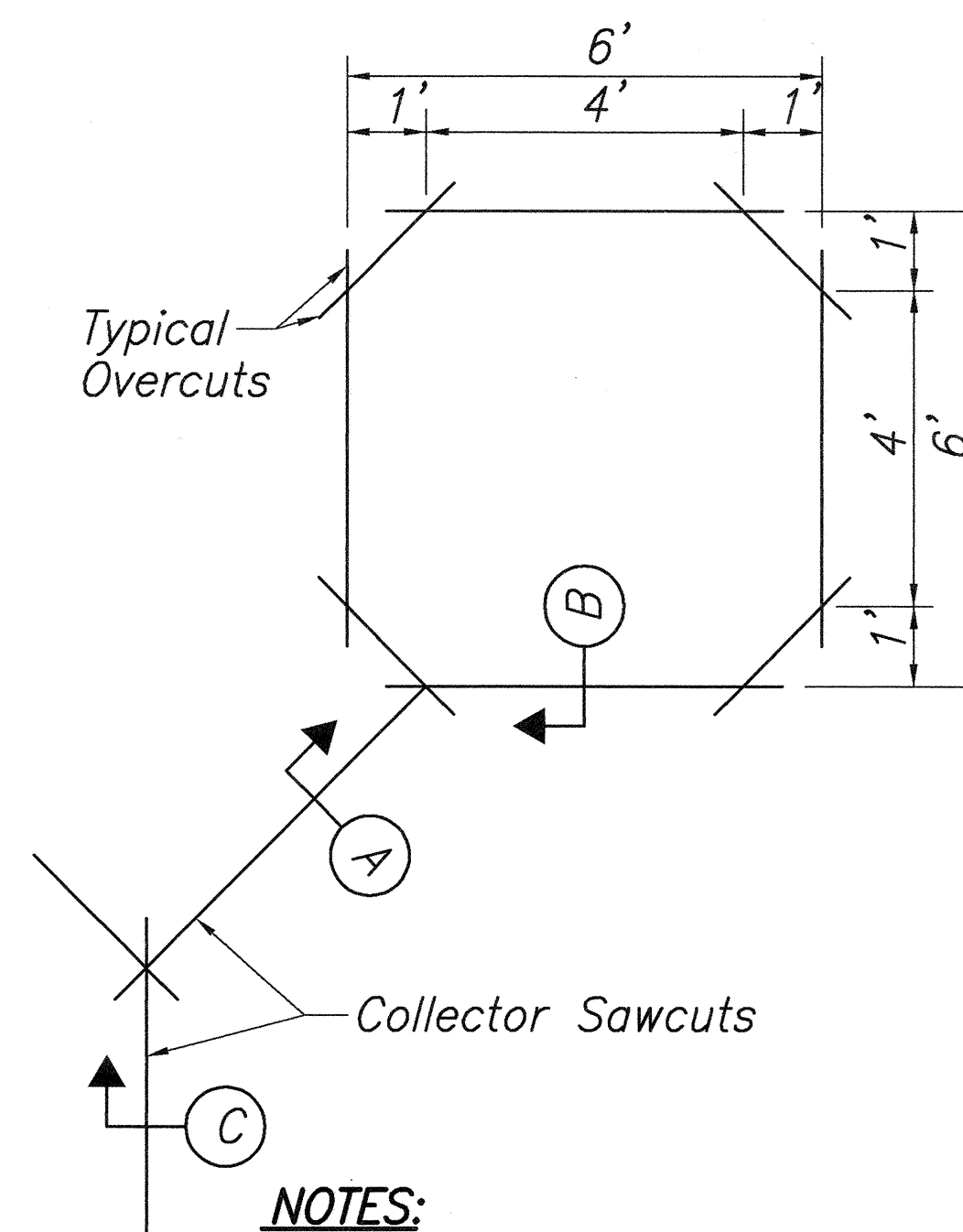


NOTES ON CONSTRUCTION AT END OF SAWCUT

1. Seal roadway end of conduit after installation of conductors.
2. Install bulkhead across conduit trench.
3. Place hot tar in sawcut.
4. Backfill over conduit with new A.C.
5. Reconstruct curb and gutter as required.

DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY

Not to Scale:

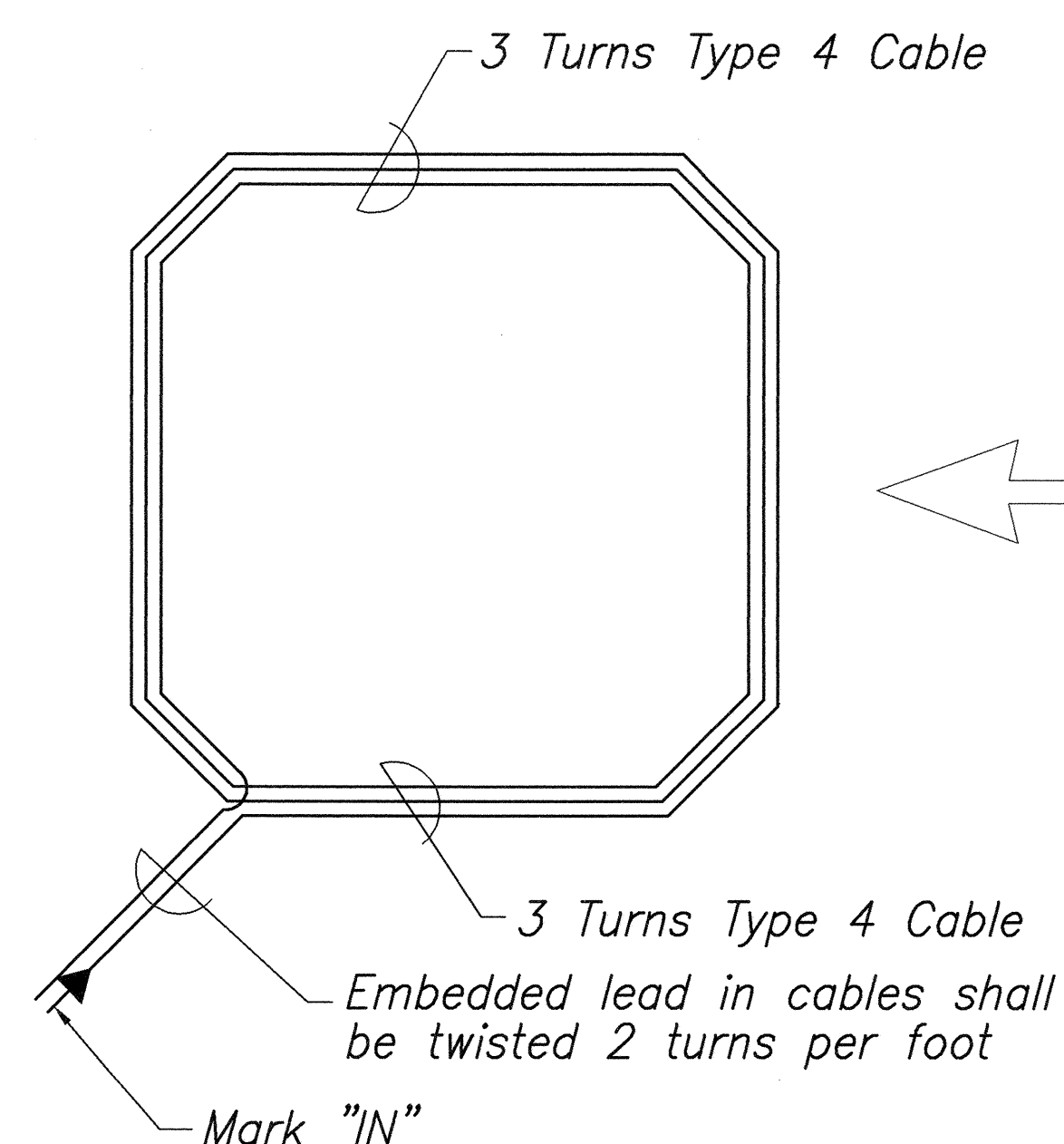


NOTES:

Length of overcuts shall be kept to a minimum.
All overcuts shall be back filled with hot tar.

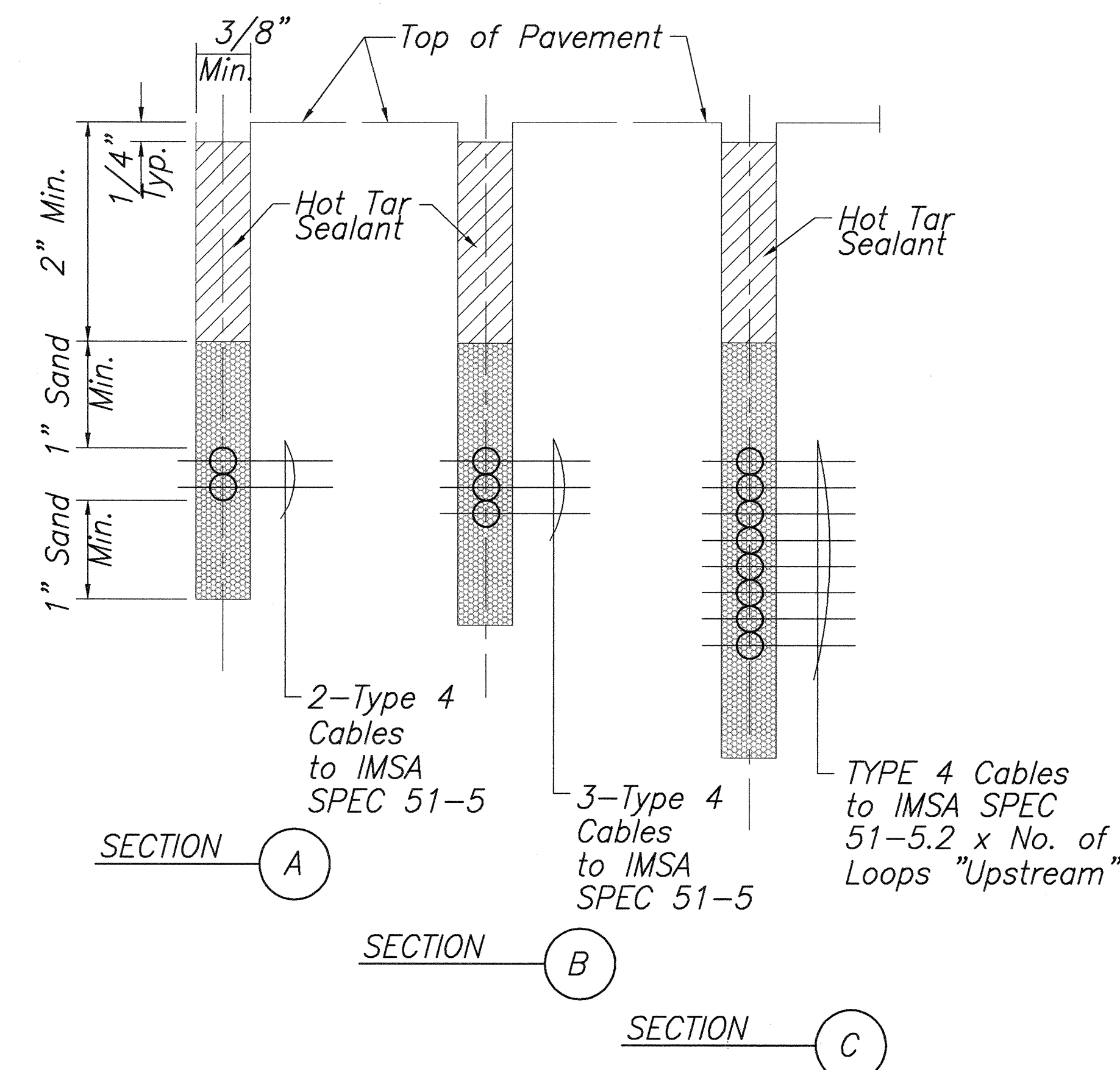
TYPICAL SENSOR SAWCUT DETAIL

Not to Scale:



TYPICAL SENSOR LOOP WIRING DIAGRAM

Not to Scale:



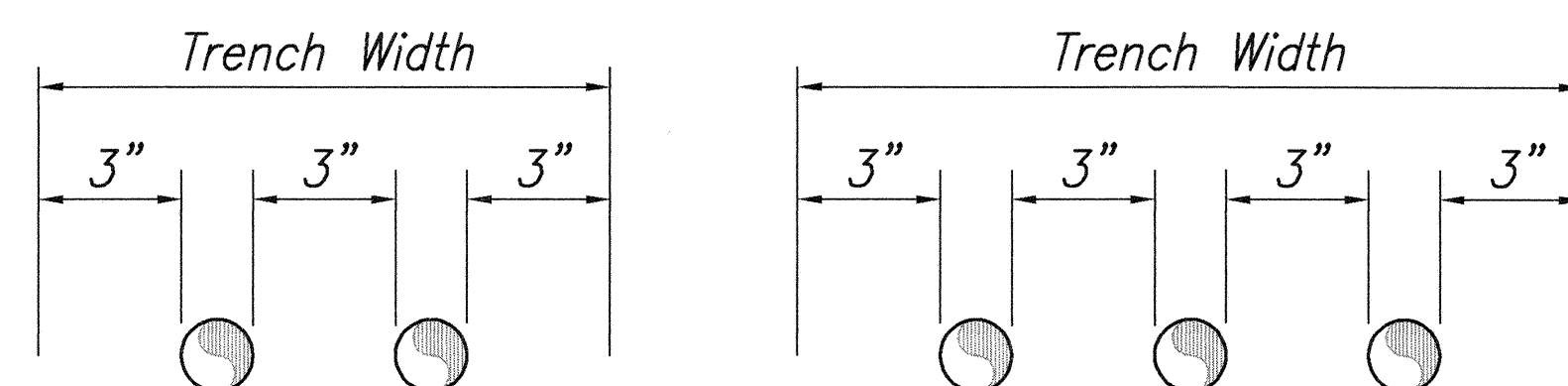
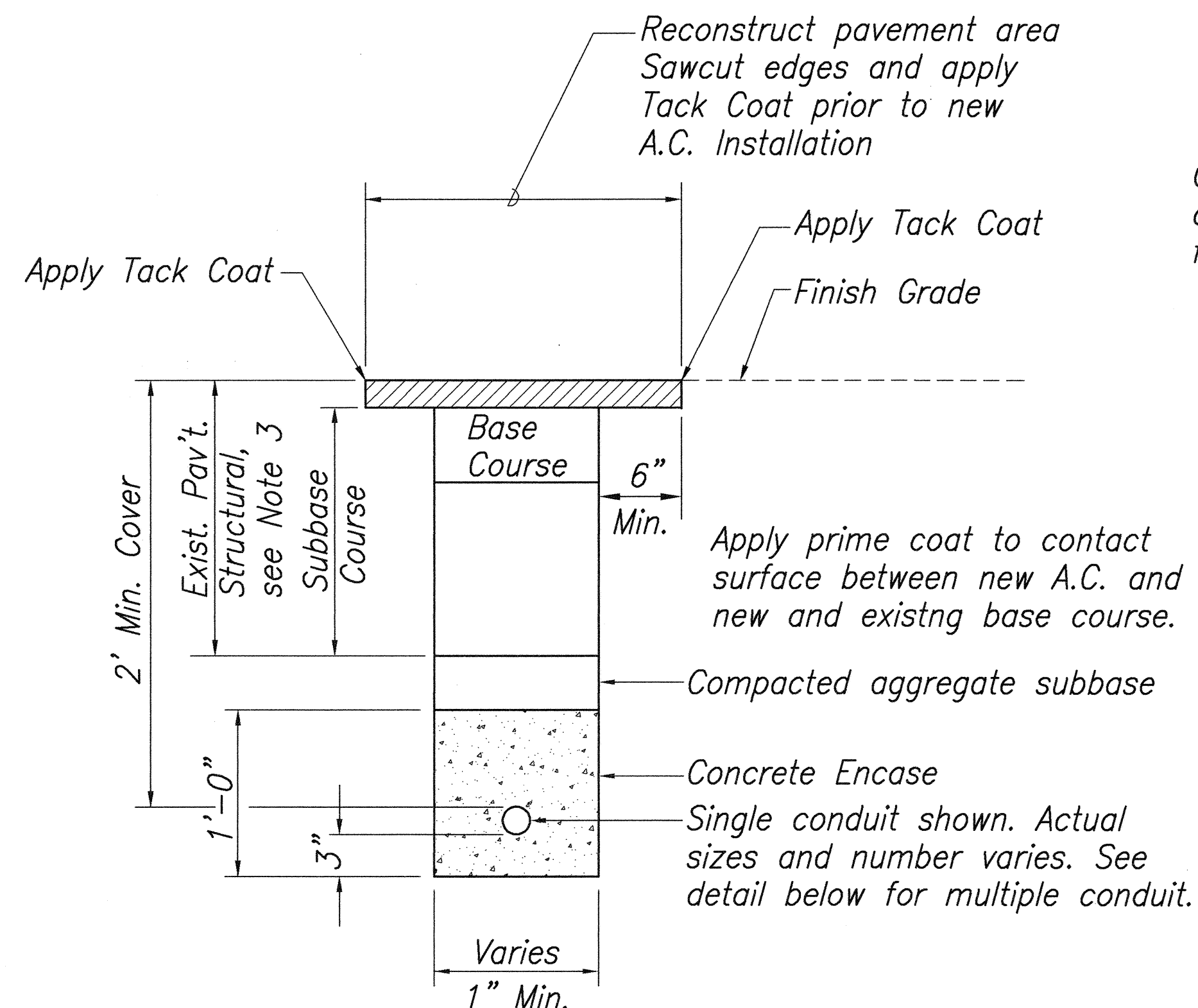
TYPICAL SECTION THROUGH SENSOR LOOP

Not to Scale:



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
LOOP DETECTOR DETAILS	
NIMITZ HIGHWAY RESURFACING RODGERS BOULEVARD TO AHUA STREET FED. AID PROJECT NO. STP-092-1(24)	
Scale: As Noted	Date: Aug. 2, 1999
SHEET No. C-53 OF 57 SHEETS	

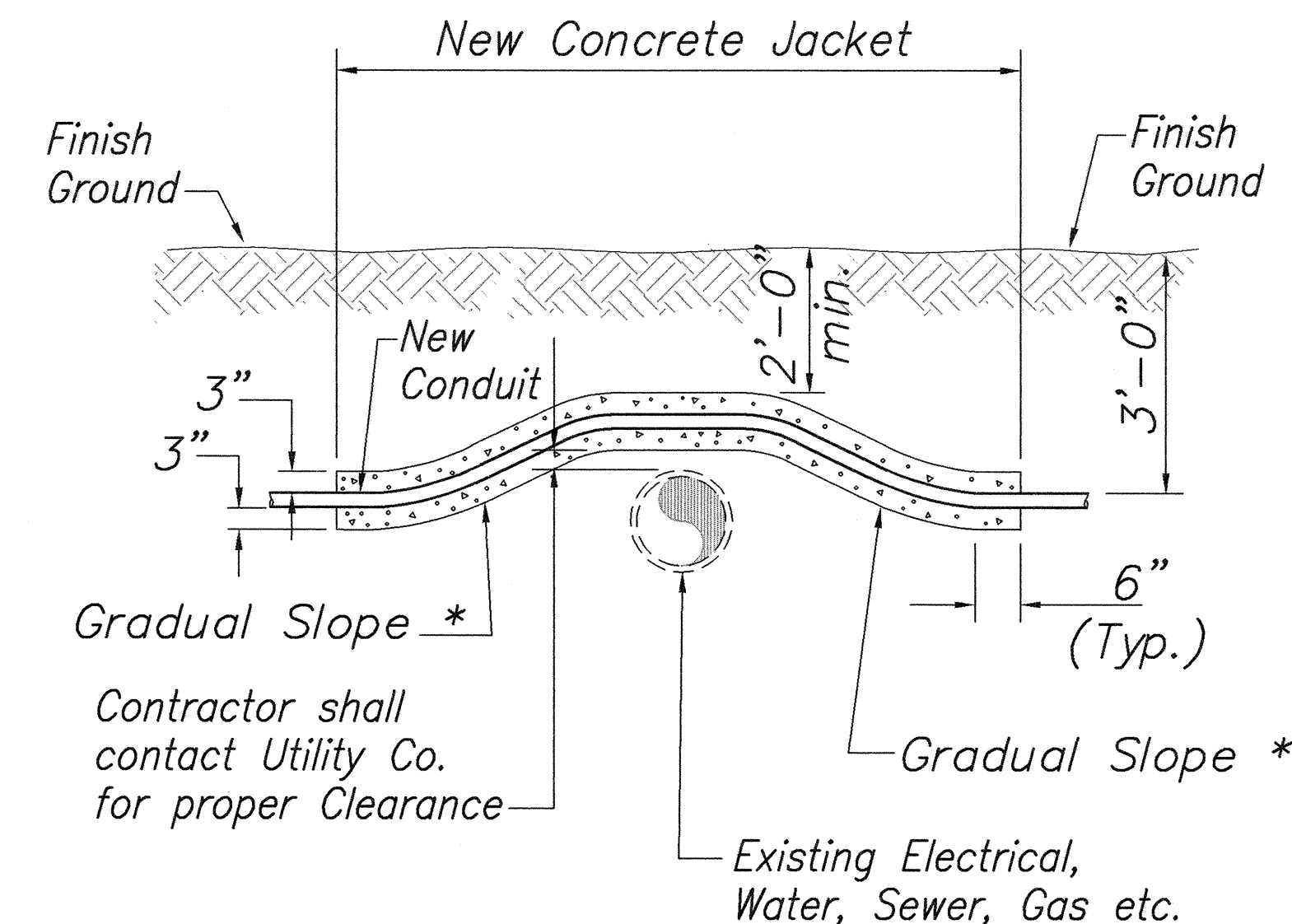
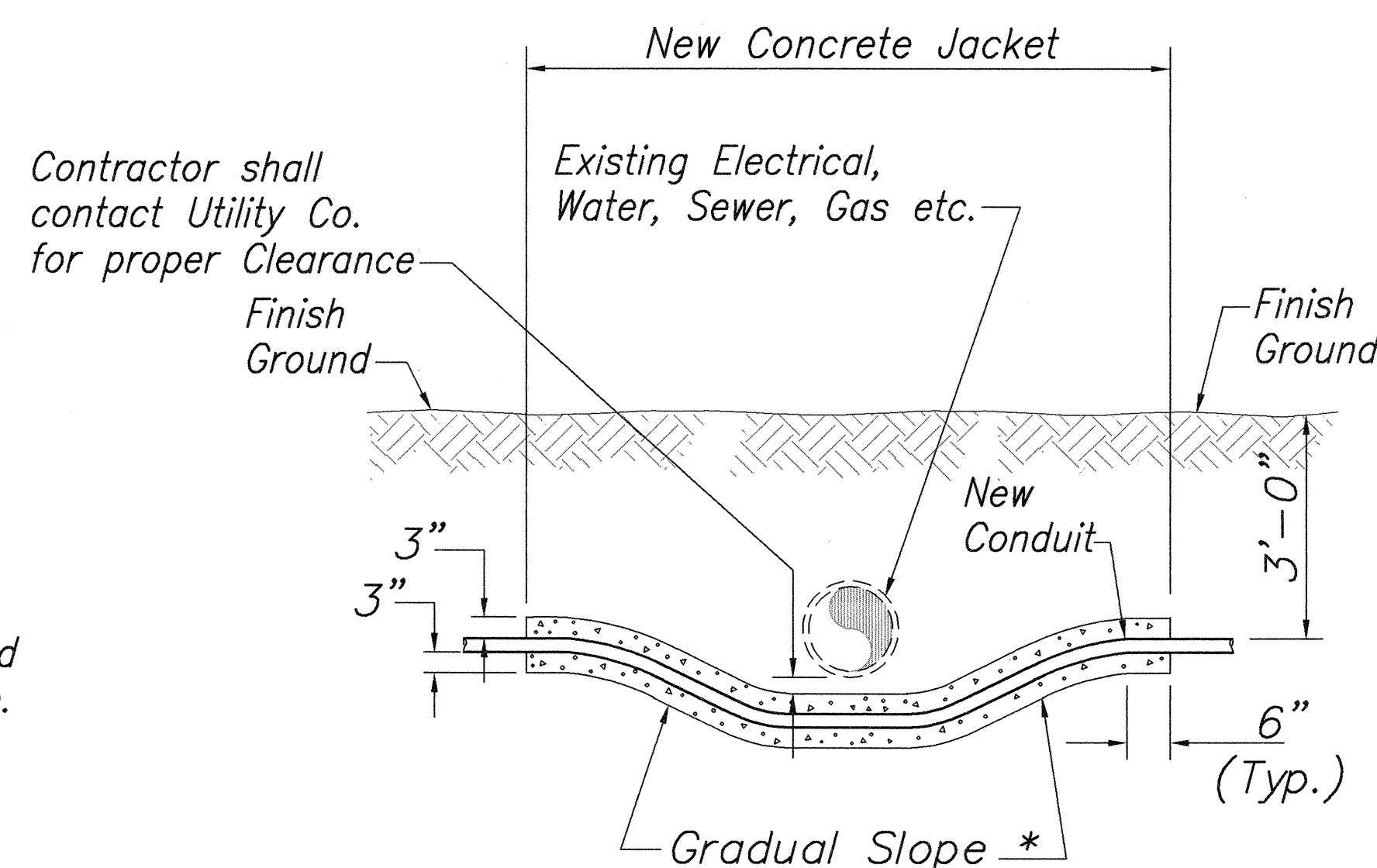
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-092-1(24)	2000	55	57



NOTES:

- Detail for multiple conduit trenches shall be similar. Provide 3" Min. clear spacing between conduits.
- Bed course material shall be black sand, beach sand, crushed rock, or finely graded coral passing a $\frac{1}{2}$ inch sieve.
- Wearing surface, base course and subbase used for repaving over trenches shall be equal to or better than the existing pavement structure in thickness and not less than the following:
3" A.C. Mix No. IV
6" Aggregate base course
18" Aggregate subbase
- The Contractor may begin backfilling the conduit trench when the concrete reaches 3000 psi Compressive strength after 3 days.
- Maximum four (4) Conduits per row for multiple conduit duct section.
- For direct buried duct section, the concrete jacket required at the conduit by-pass for various utilities, shall not be paid for separately but considered incidental to the direct buried conduits.

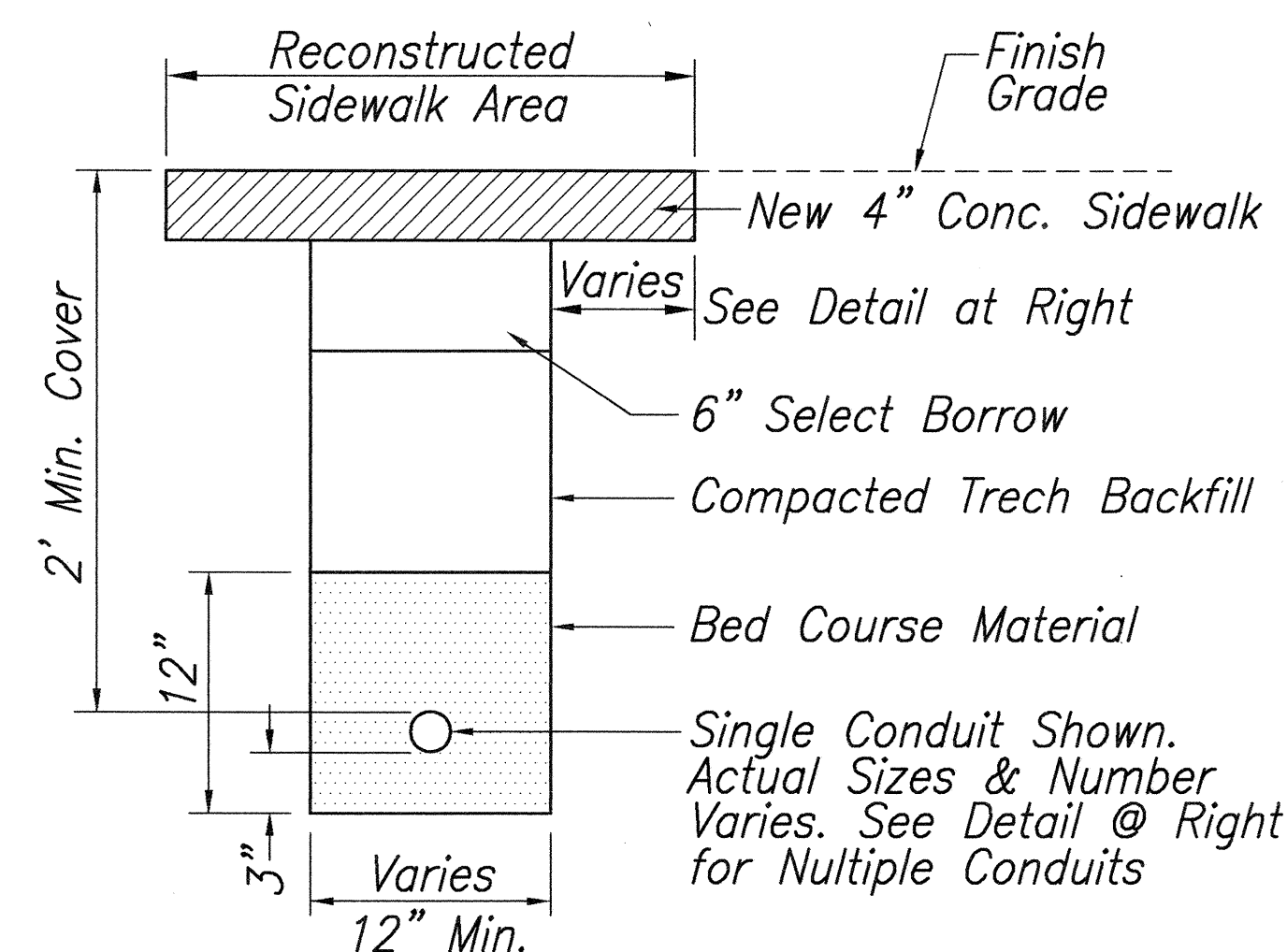
TYPICAL TRENCH DETAIL IN PAVEMENT AREAS



* To be determined by County Electrical Inspector/Engineer

CONDUIT BY-PASS DETAIL AT VARIOUS UTILITIES

Not to Scale



TYPICAL TRENCH DETAIL IN SIDEWALK AREAS

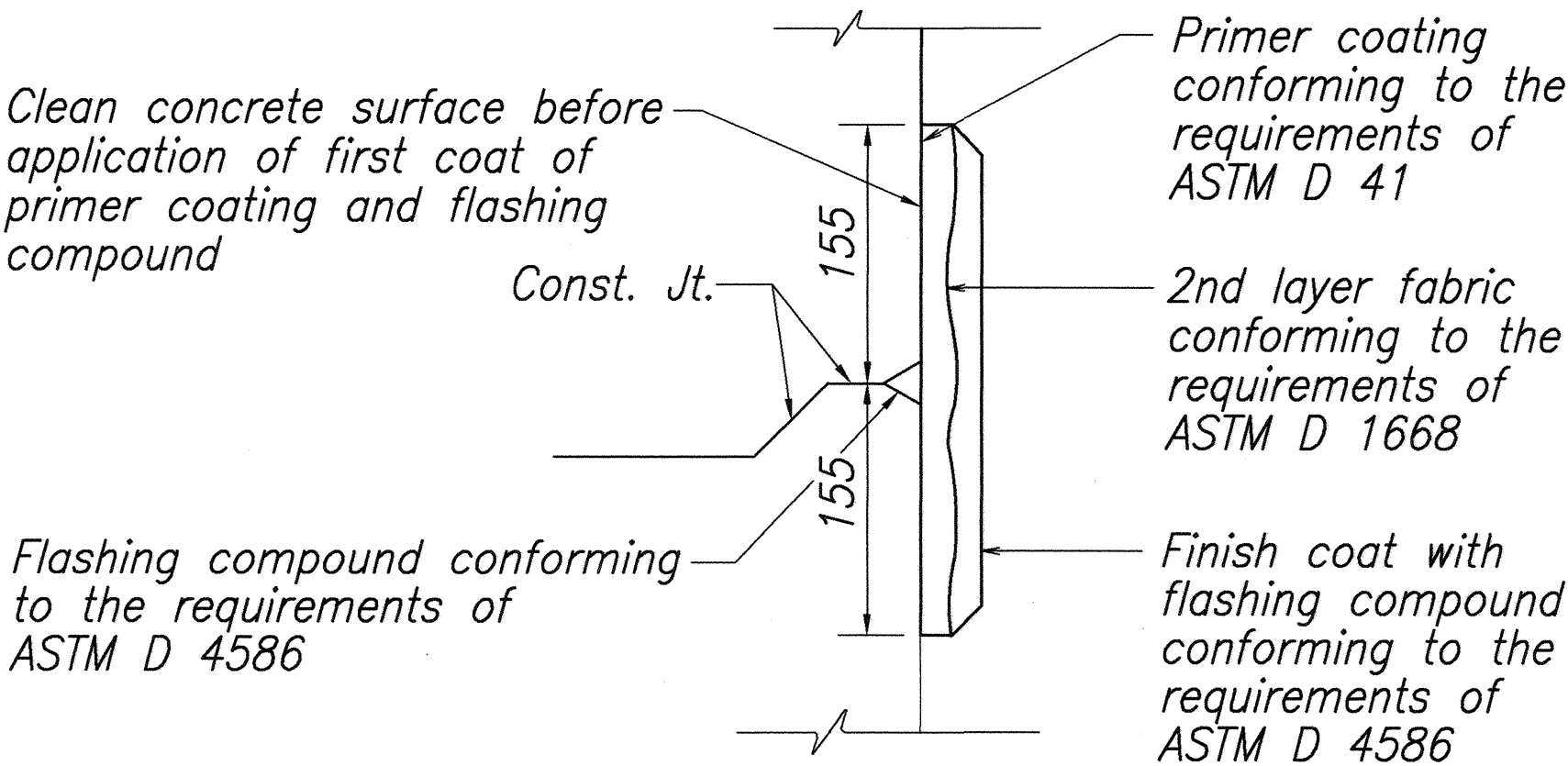


Lance S. Oyama

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
MISCELLANEOUS DETAILS	
NIMITZ HIGHWAY RESURFACING RODGERS BOULEVARD TO AHUA STREET FED. AID PROJECT NO. STP-092-1(24)	
Scale: As Noted	Date: Aug. 2, 1999
SHEET No. C-54 OF 57 SHEETS	

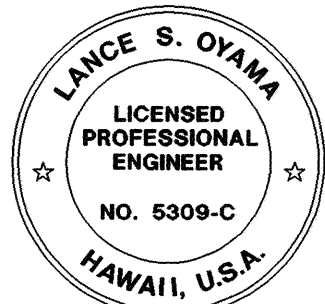
GENERAL NOTES

1. Provide a minimum of one 16 ~ x 2.5m Copperweld Ground Rod in each pullbox. When directed by the Traffic Signal Inspector/Engineer, install additional Ground Rods. Cost of Ground Rods shall be incidental to the pullboxes.
2. All pre-cast concrete pullboxes shall be manufactured in two pieces.
3. The pullbox with cover shall be capable of supporting an MS 18 Loading.
4. The maximum weight of the pullbox cover shall not exceed 27 kilograms.
5. The openings for the conduits on all pullboxes shall be pre-cast concrete knockouts.
6. After installing the conduits in the openings of the pullboxes, the Contractor shall fill the excess opening in the pre-cast knockouts with concrete mortar.
7. Prior to installing the pullboxes, the Contractor shall level the bottom of the trench and achieve a minimum of 95% relative compaction of the bottom of the trench.
8. All concrete shall be Class A (25MPa, min.)
9. Rebars shall be Grade 300 and all lapped splices shall be 360mm minimum.
10. The #57 or #67 size aggregate shall conform to latest version of AASHTO M43 (ASTM D 448).
11. Type "C" Pullbox shall be installed in a location protected from vehicular traffic (i.e. raised sidewalk, behind A.C. curbs, traffic signal standard or pipe guards).



TYPICAL FLASHING COMPOUND
WATERPROOFING DETAILS
Not to Scale

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-092-1(24)	2000	56	57



Lance S. Oyama

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

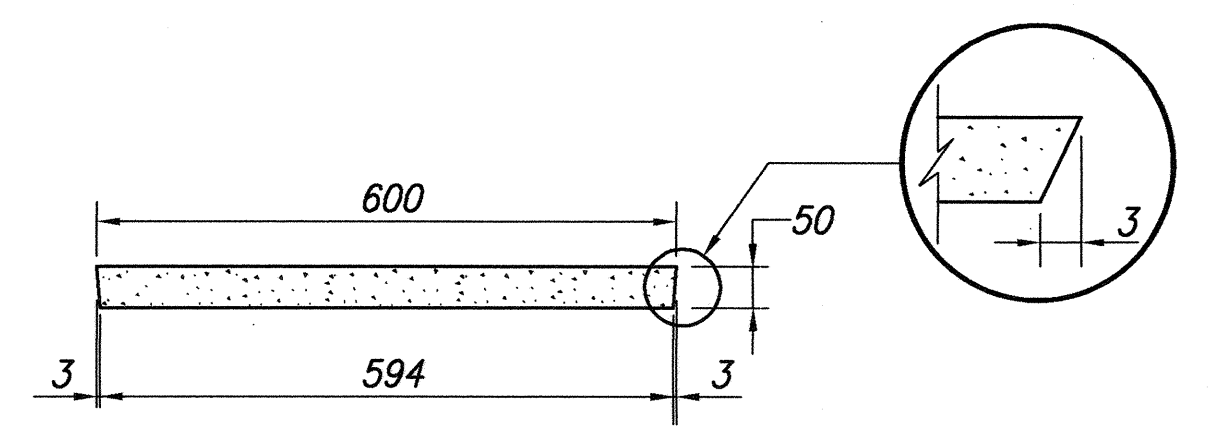
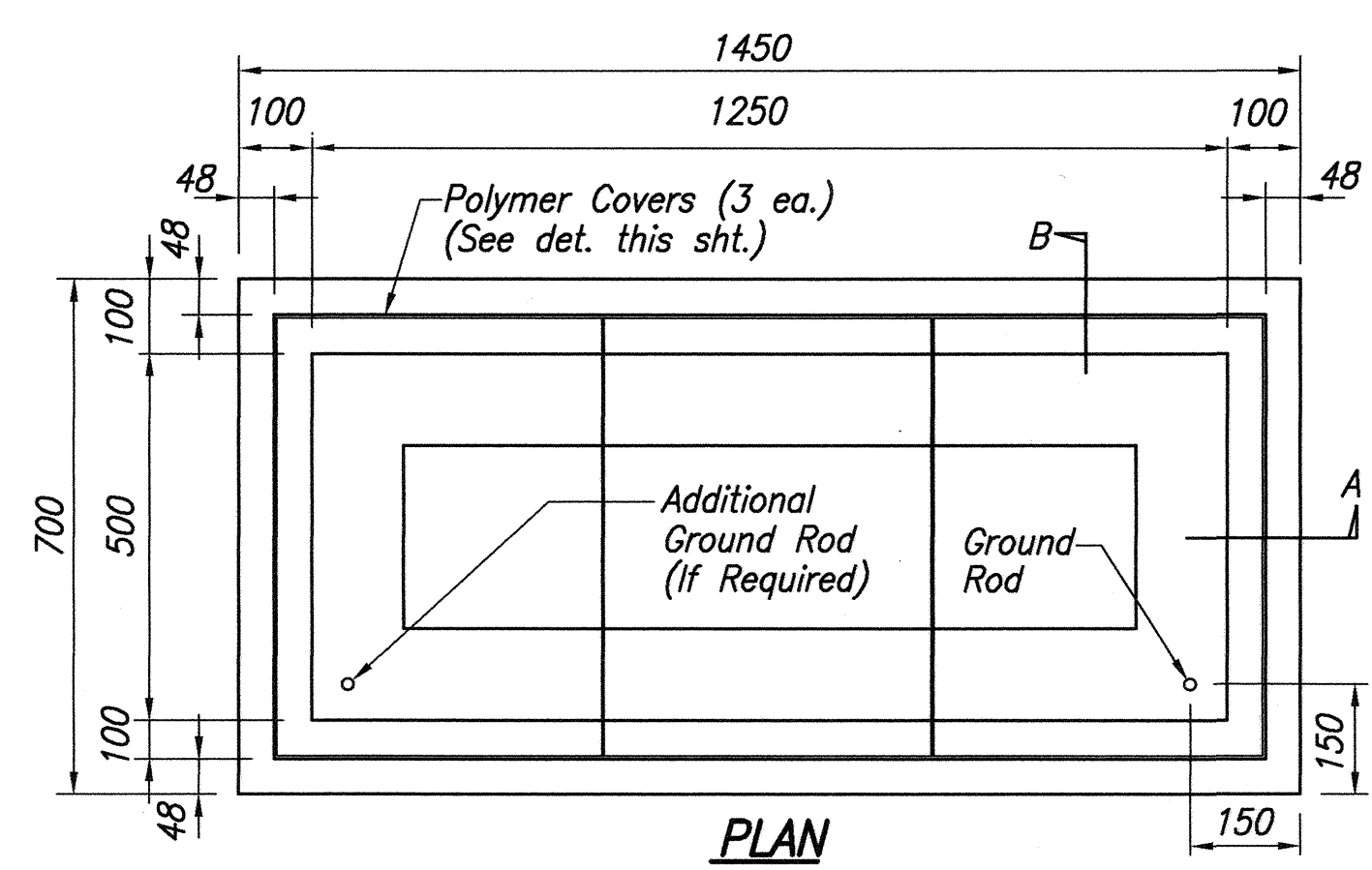
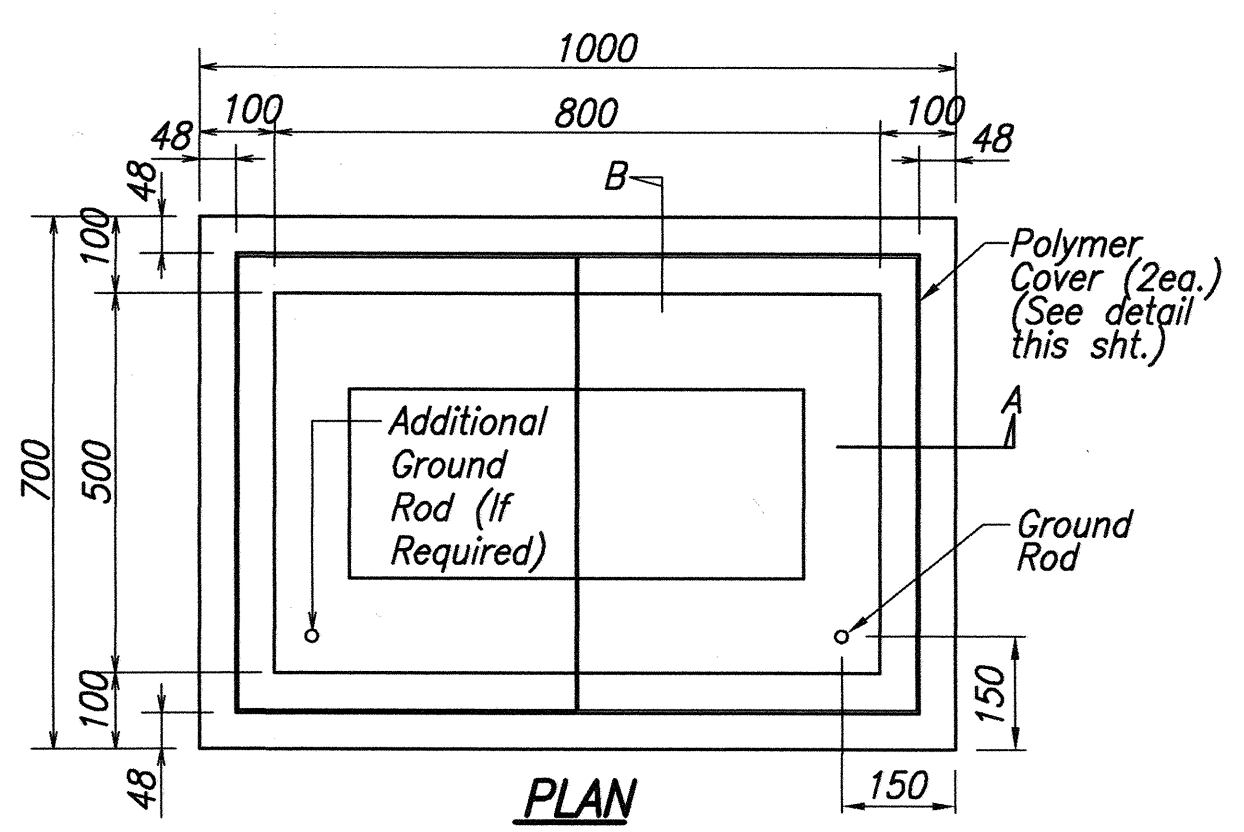
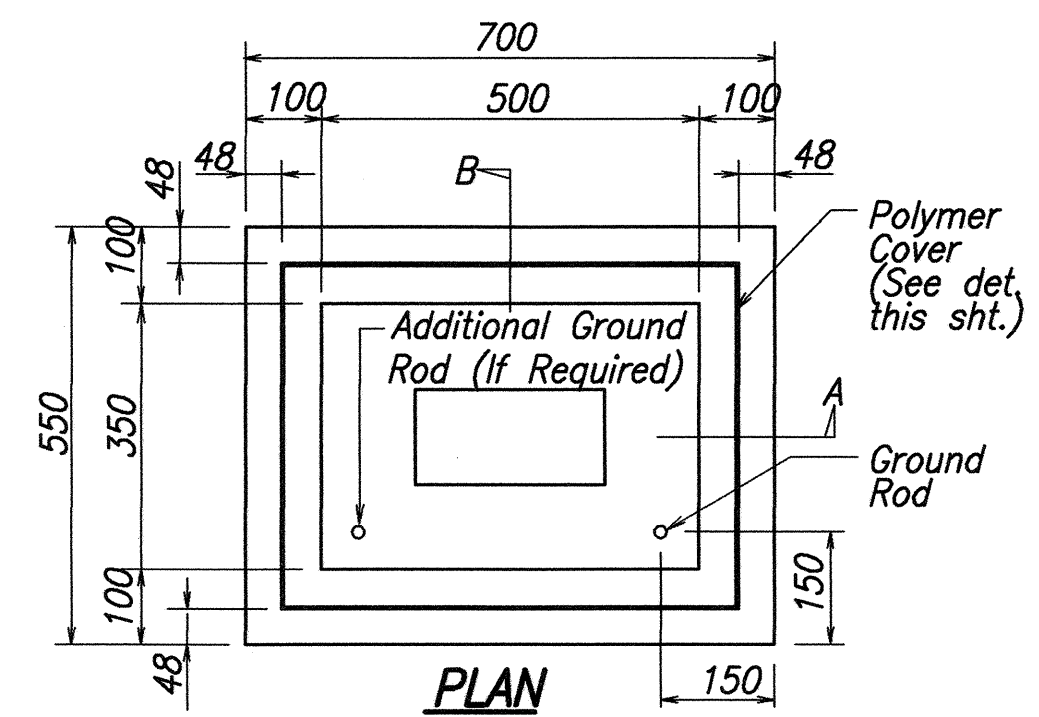
GENERAL NOTES FOR
PULLBOX AND COVER

NIMITZ HIGHWAY RESURFACING
RODGERS BOULEVARD TO AHUA STREET
FED. AID PROJECT NO. STP-092-1(24)

Scale: As Noted Date: Aug. 2, 1999

SHEET No. C-55 OF 57 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-092-1(24)	2000	57	57

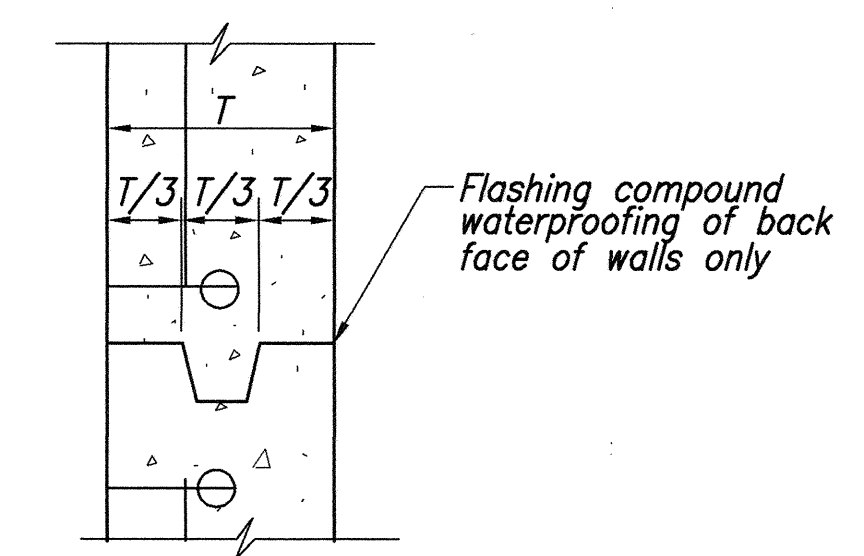
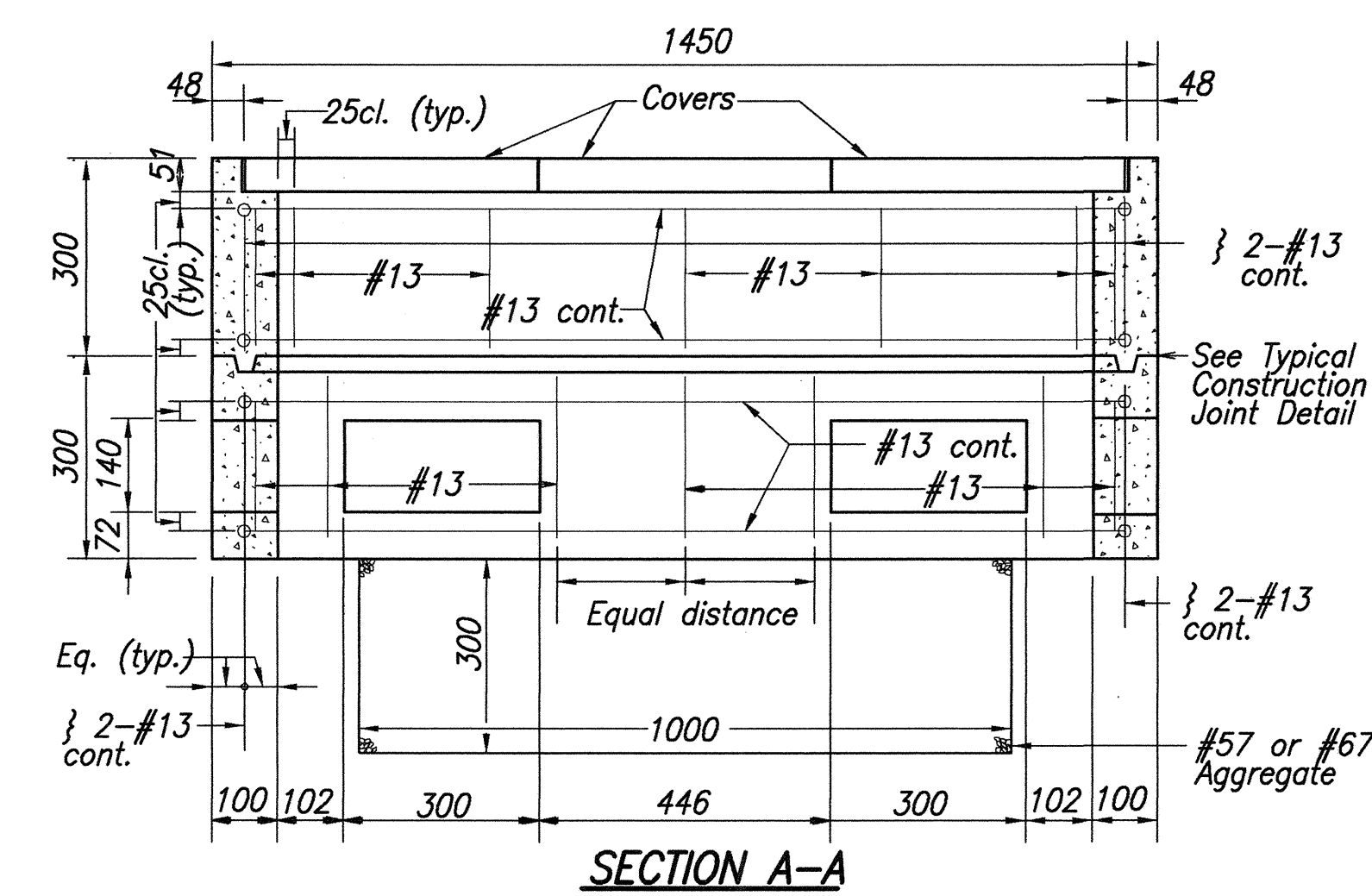
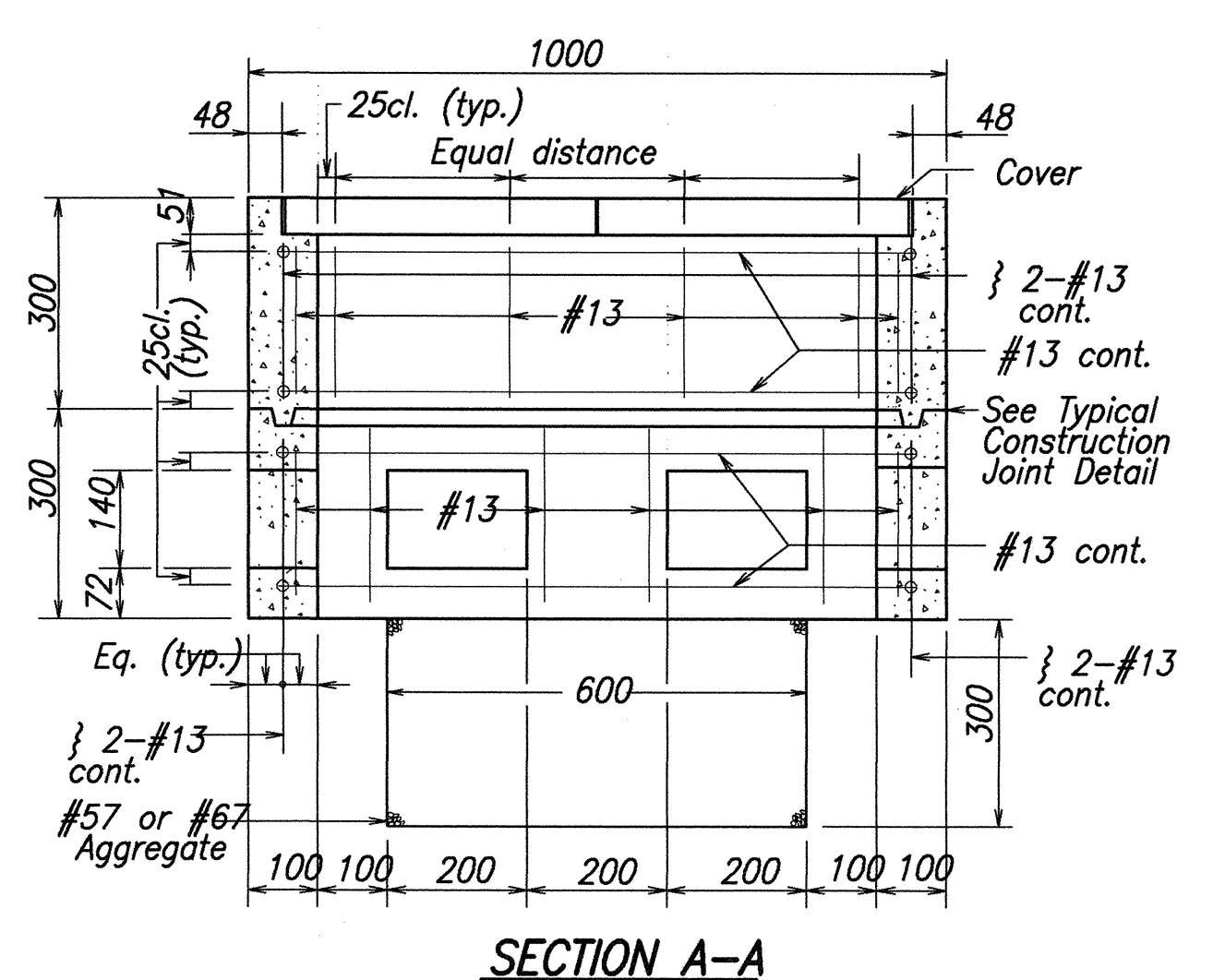
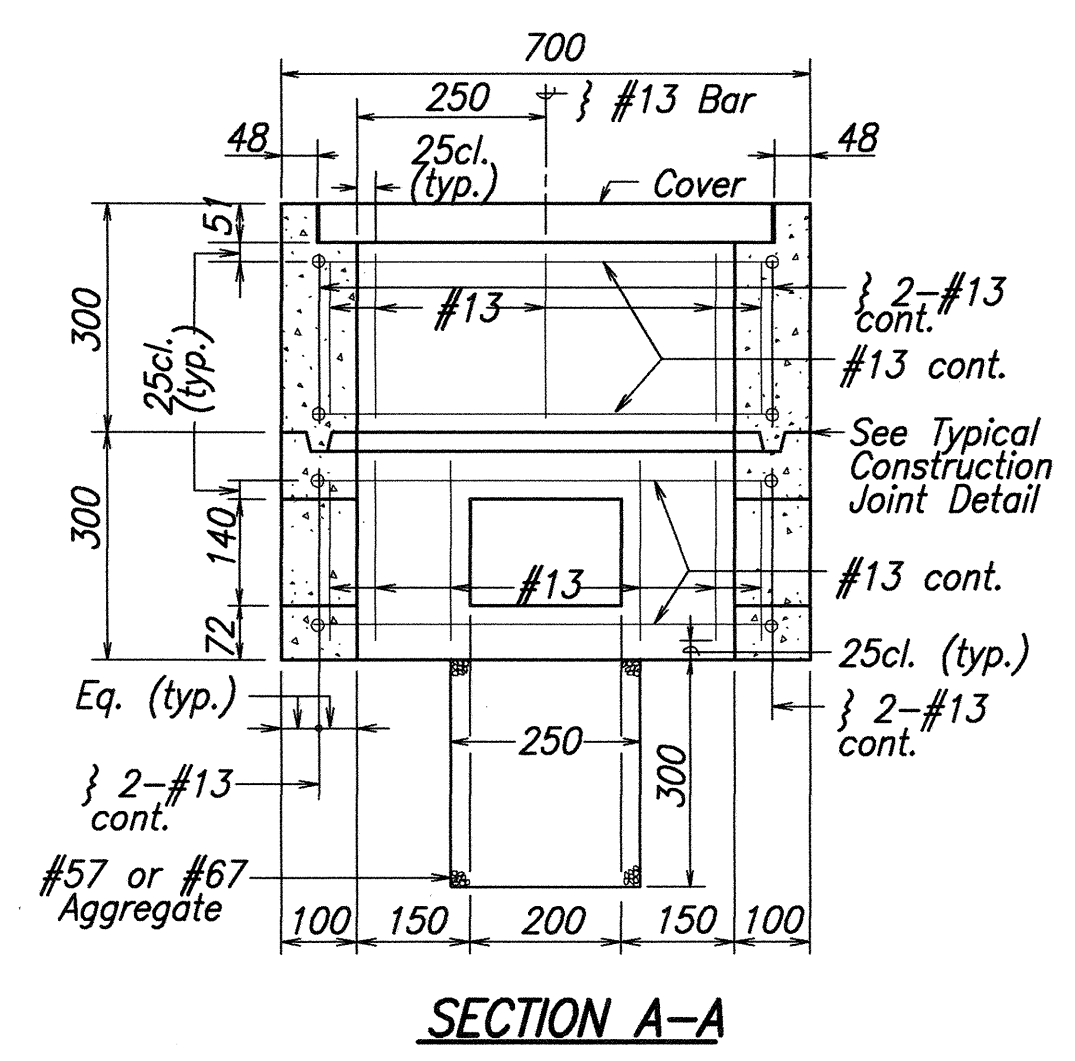


ELEVATION

PLAN VIEW

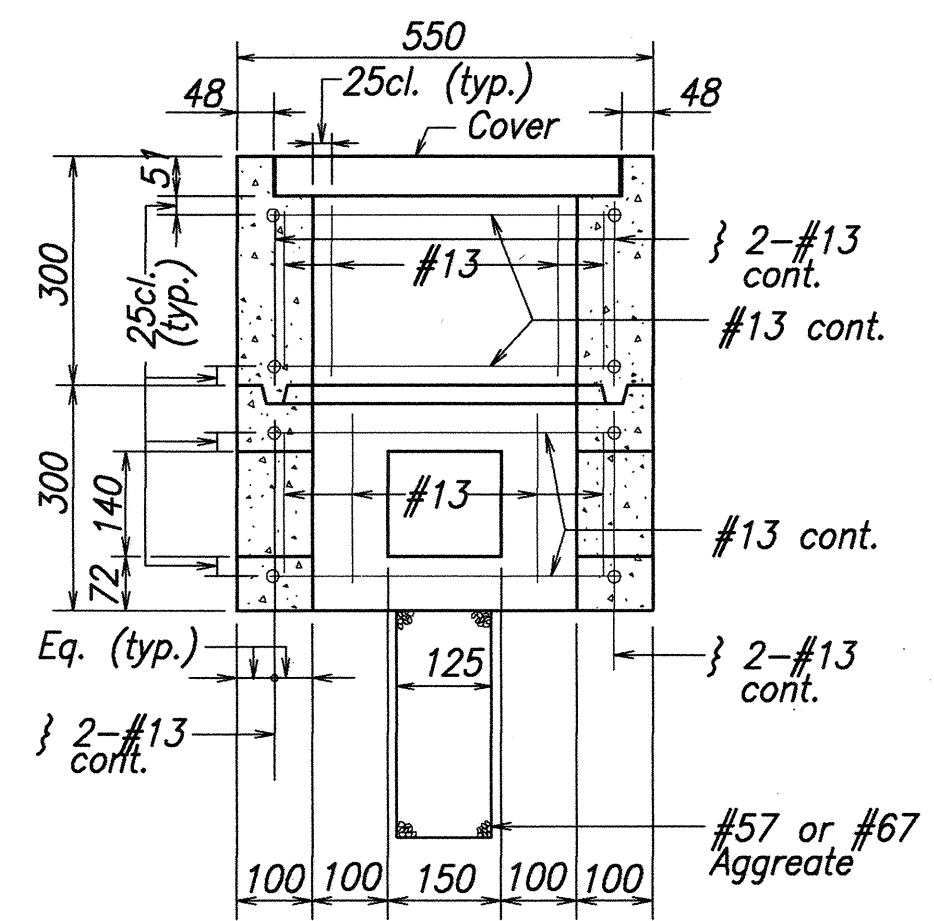
POLYMER CONCRETE COVER

Not to Scale



TYPICAL CONSTRUCTION JOINT DETAIL

Not to Scale

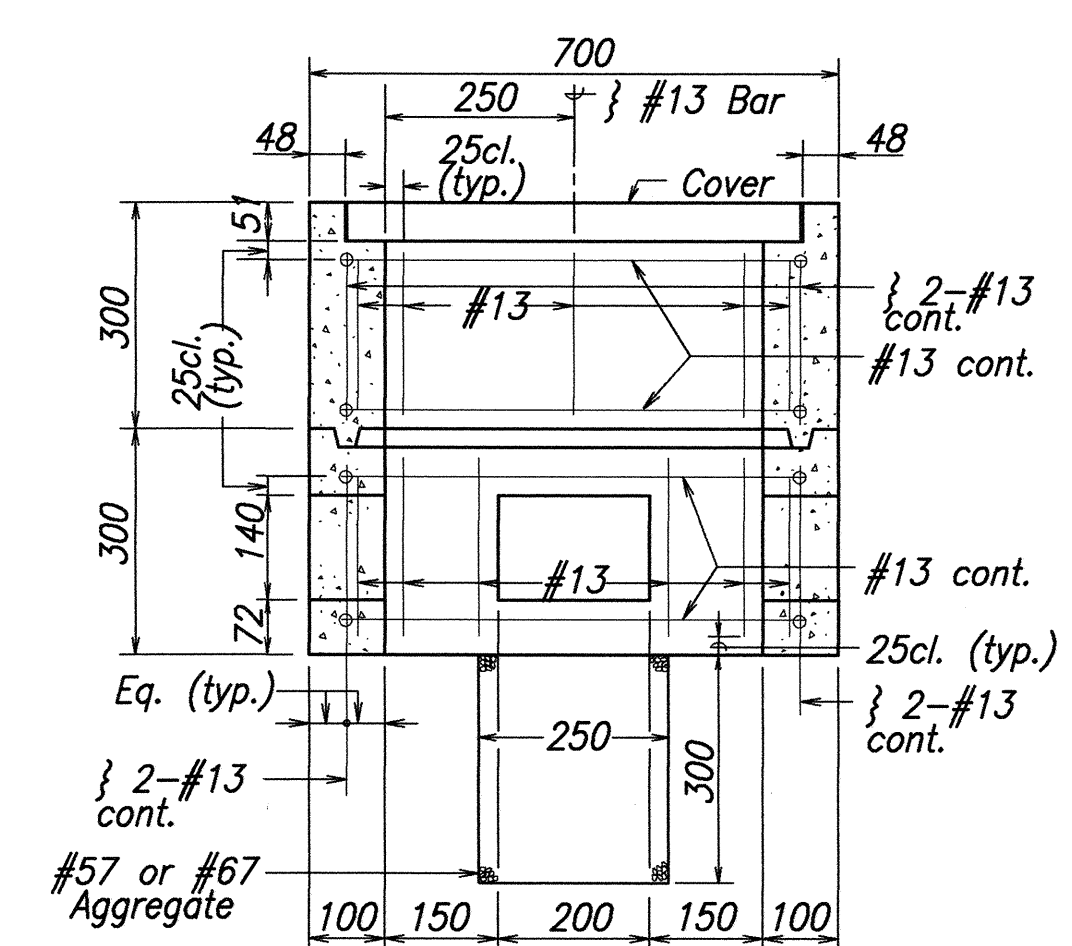


SECTION B-B

TYPE "A" PULLBOX

(Old Type "B")

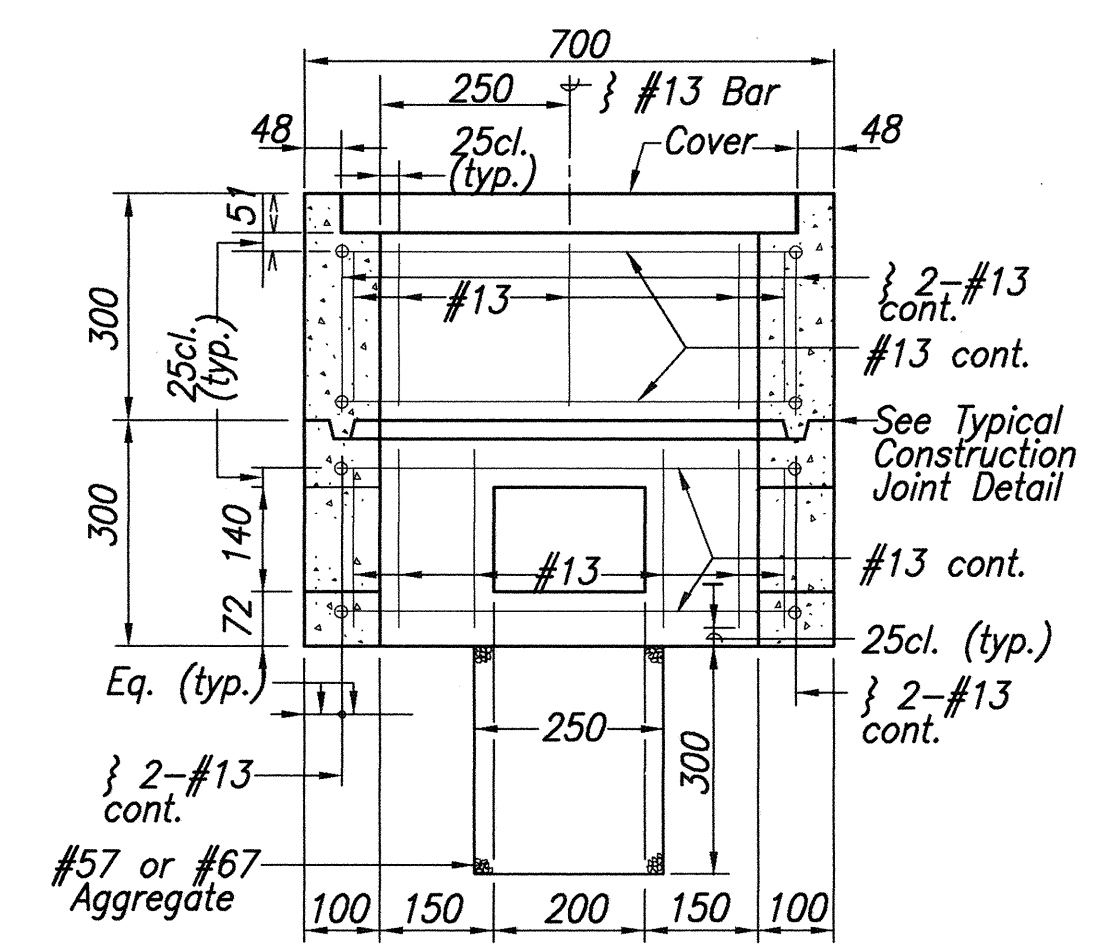
Scale: 1:10



SECTION B-B

TYPE "B" PULLBOX (Old Type "C")

Scale: 1:10



SECTION B-B

TYPE "C" PULLBOX (Old Type "D")

Scale: 1:10



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULLBOX AND COVER DETAILS

NIMITZ HIGHWAY RESURFACING
RODGERS BOULEVARD TO AHUA STREET
FED. AID PROJECT NO. STP-092-1(24)

Scale: As Noted Date: Aug. 2, 1999

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