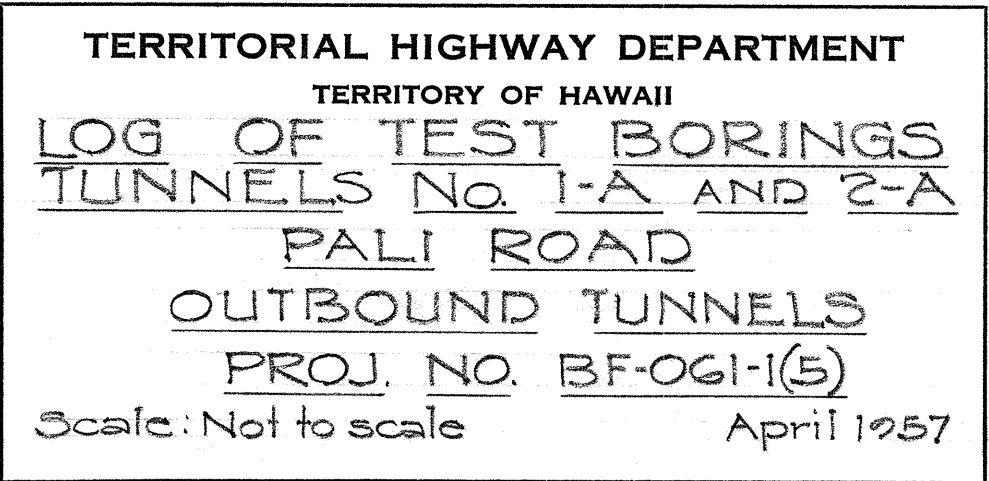
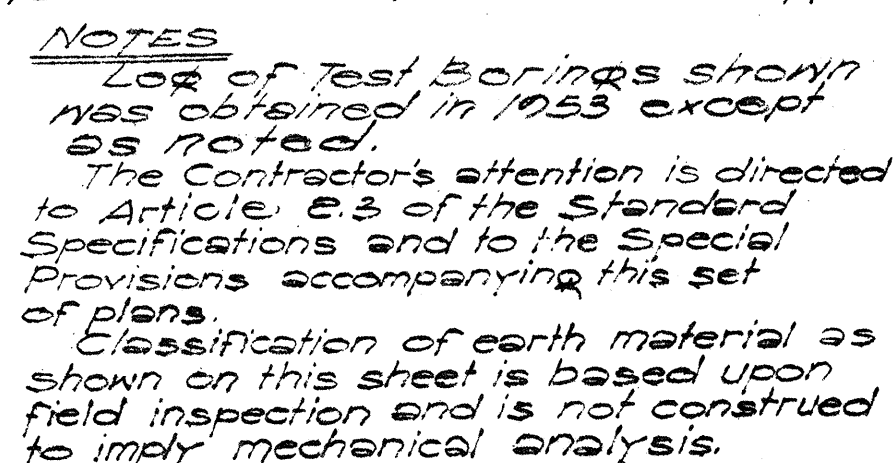


ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DESIGNED BY	"
	DRAWN BY	"
	TRACED BY	"
	QUANTITIES BY	"
	QUANTITIES CHECKED BY	"
NOTE BOOK	CHECKED BY	"
No.		"





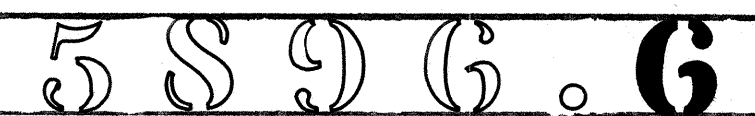
NOTE.
Test Borings are shown on
the plan thus 
No. 11
Geologic Description Code Numbers,
shown thus 

PALI ROAD
OUTBOUND TUNNELS
PROJ. No. BF-06/1 (5)

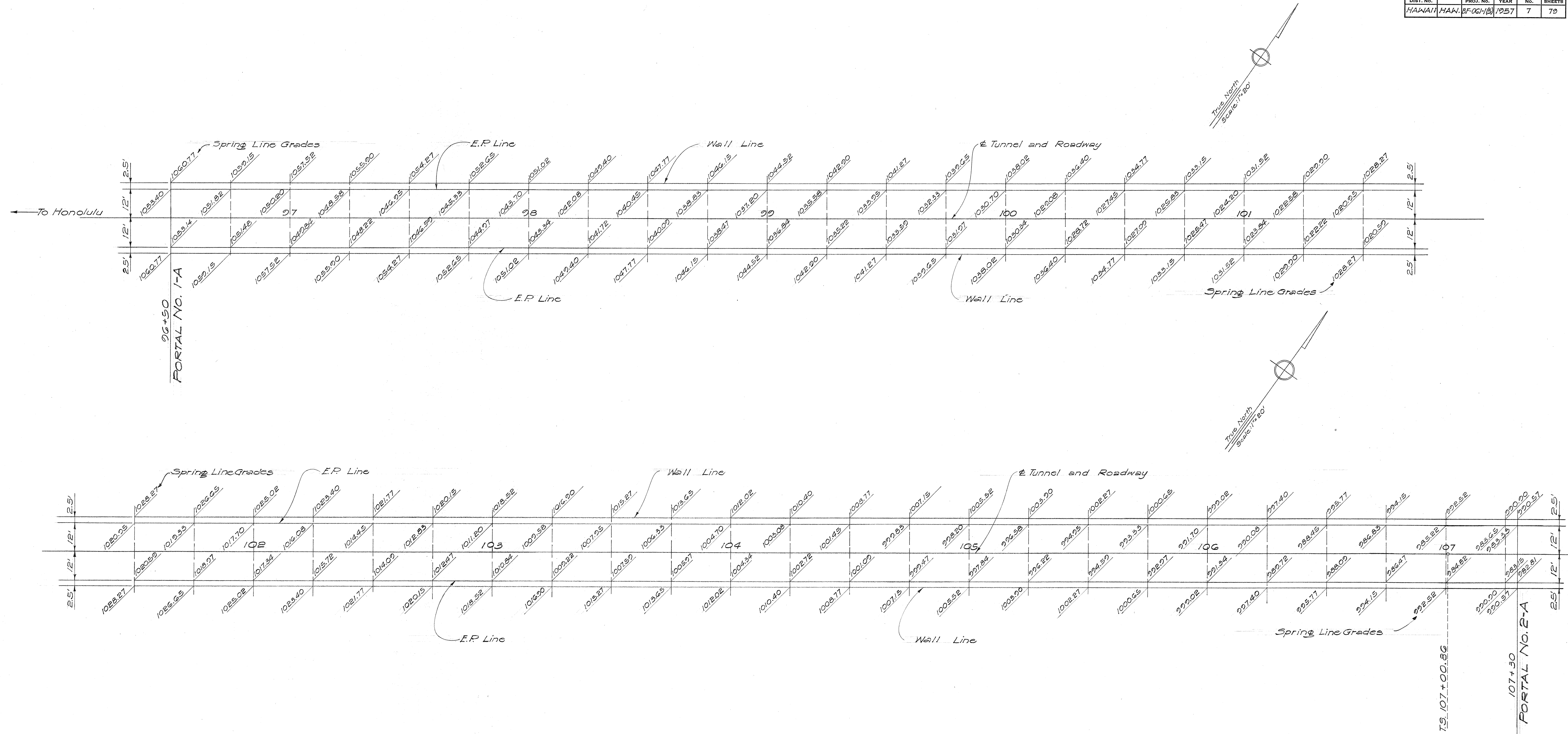
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
LOG OF TEST BORINGS
TUNNEL No 1
NUUANU PALI TUNNELS
PALI ROAD
PROJ. No. S2IG (5)
Scale: 1" = 50'-0" June 1954

SHEET No. OF SHEETS

5896.



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	BF-OGH(5)	1957	7	79



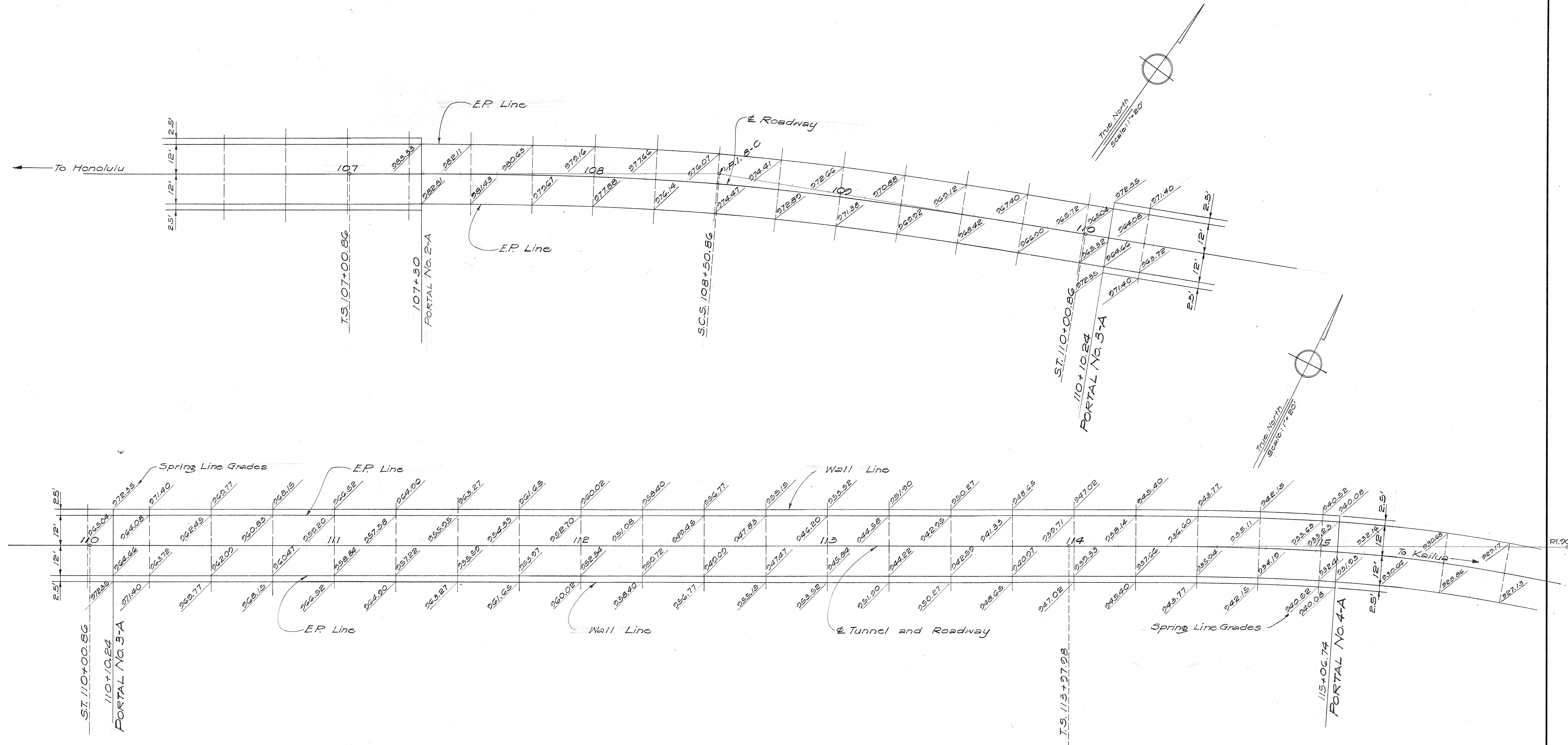
ORIGINAL PLAN	DATE
NO. 1	5-56
NOTE BOOK	5-56
CHECKED BY	7-57

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
ROADWAY GRADE
TUNNEL NO. 1-A
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-OGH(5)
Scale: 1"=20'-0" Sept. 1956

SHEET No. 7 OF 79 SHEETS

5896.7

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-061-1(B)	1957	8	79



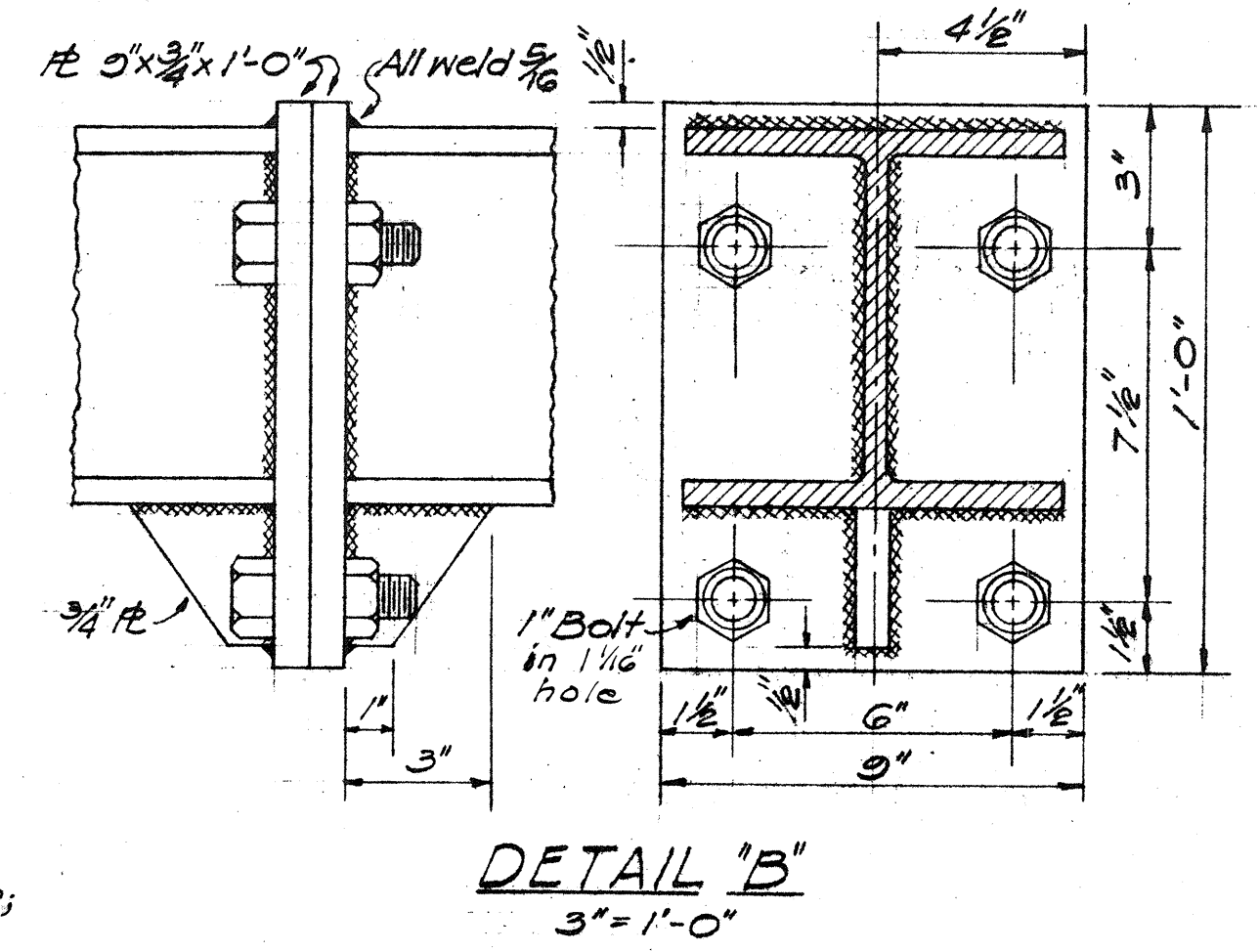
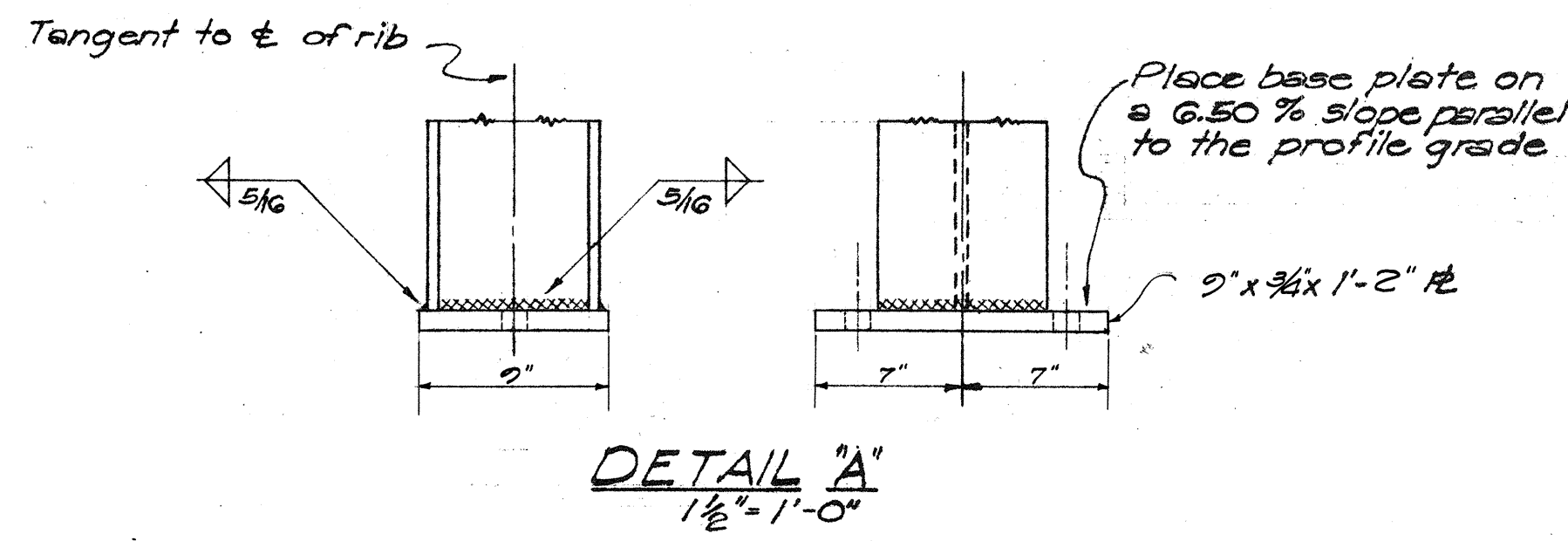
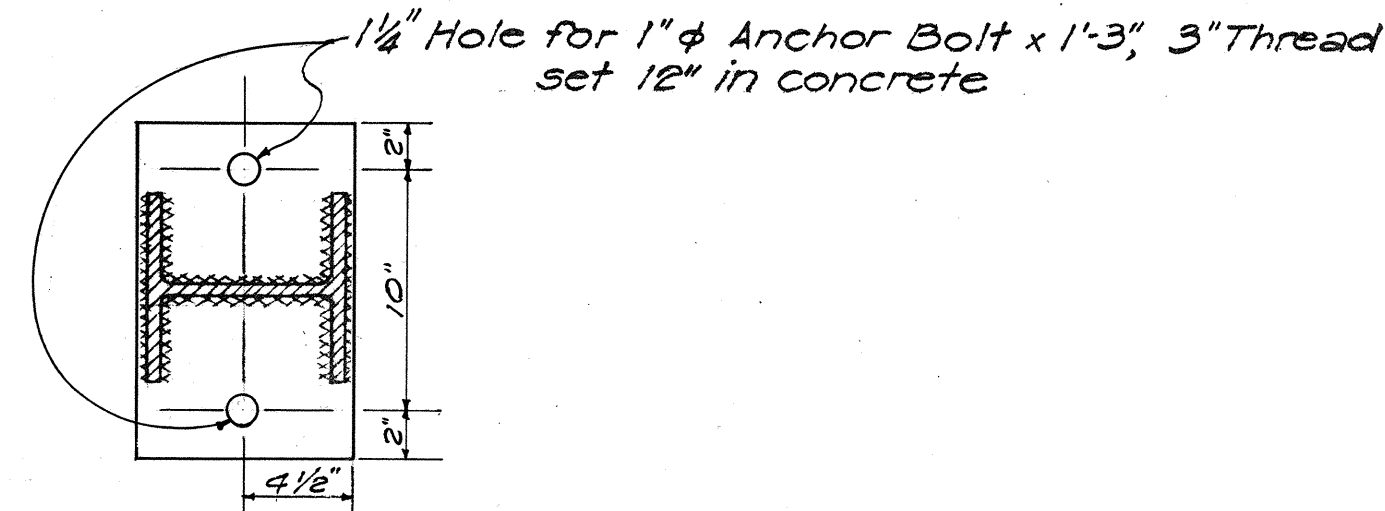
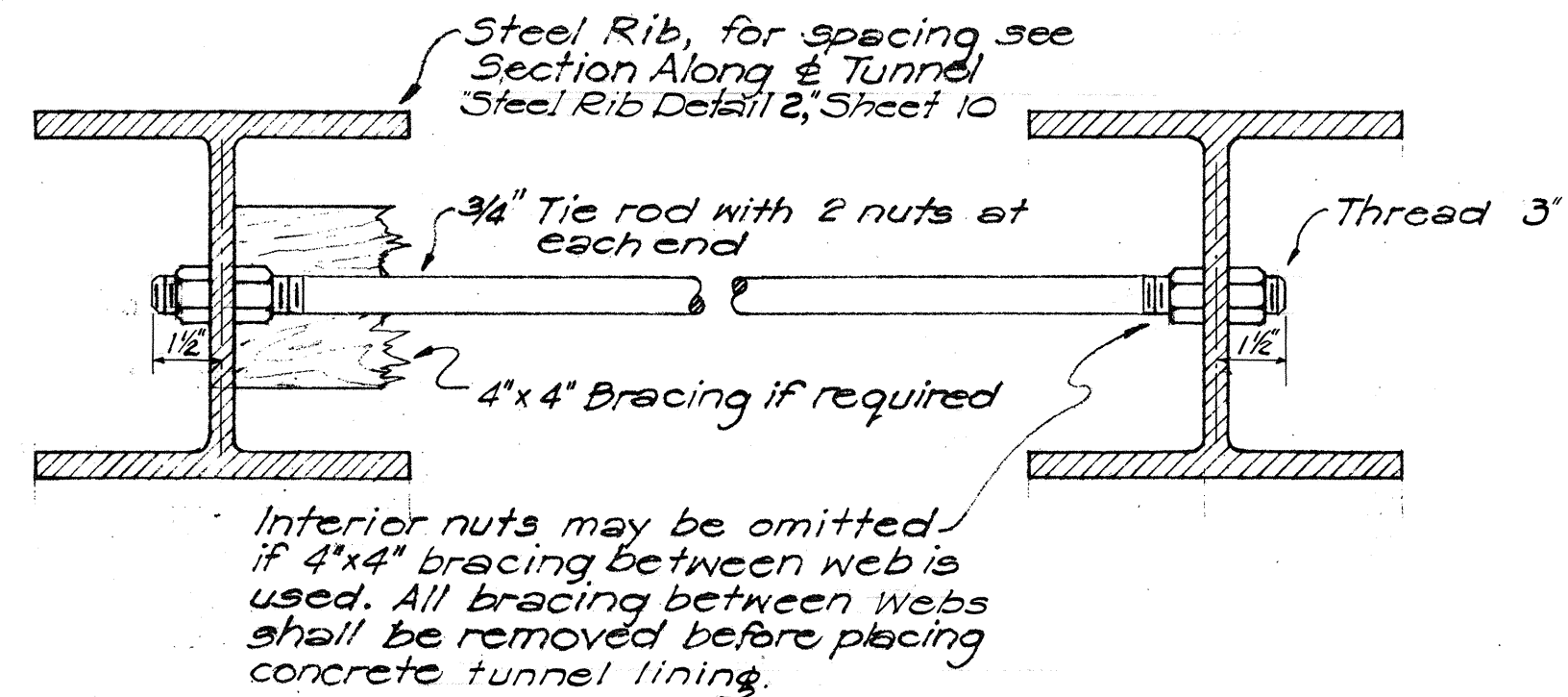
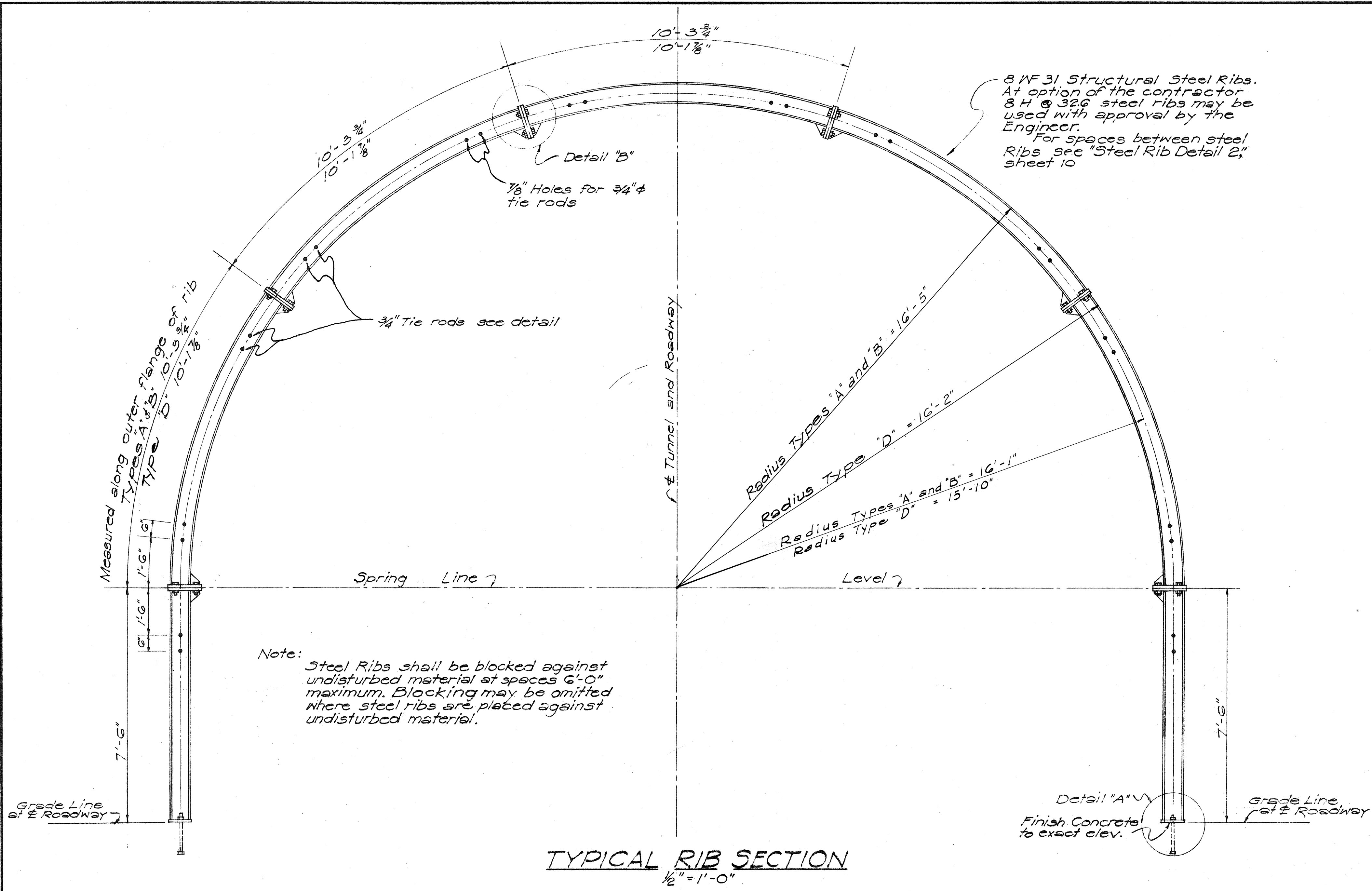
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY: B.T.	9-56
DRAWN BY: C.T.	9-56
QUANTITIES CHECKED BY: B.T.	7-57
CHECKED BY: B.T.	

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
**ROADWAY GRADE
TUNNEL NO. 2-A
PALI ROAD
OUTBOUND TUNNELS**
PROJ. NO. BF-061-1(B)
Scale: 1"=20'-0" Sept. 1956

SHEET No. 8 OF 8 SHEETS

5896.S

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BF-OGH-13	1957	2	70

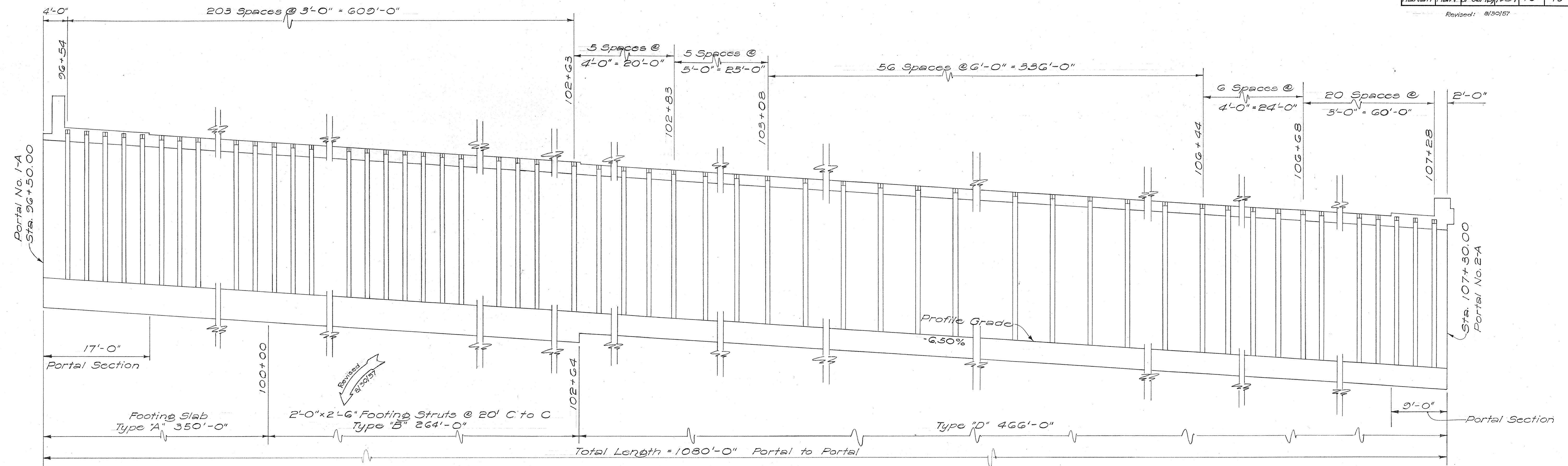


- NOTES:
1. If subsurface ground conditions during construction warrant, subject to conditions set up in Section 115.4 of the Special Provisions, the steel rib section shown on this plan sheet may be revised to include use of invert ribs and longer sidewall rib sections; plans covering rib details shall be submitted by the Contractor to the Engineer for comments and approval.
 2. Design of tunnel concrete lining, with rib supports, predicated on individual steel ribs functioning as continuous steel reinforcement; no longitudinal steel wall plate members will be permitted above sidewall rib base level, shown on Typical Rib Section; however same may be allowed provided that the continuity of ribs is restored by approved means.

DESIGNED BY	DATE
DRAWN BY	4-57
CHECKED BY	10-56
QUANTITIES CHECKED BY	10-56
NOTES CHECKED BY	7-57
NO.	

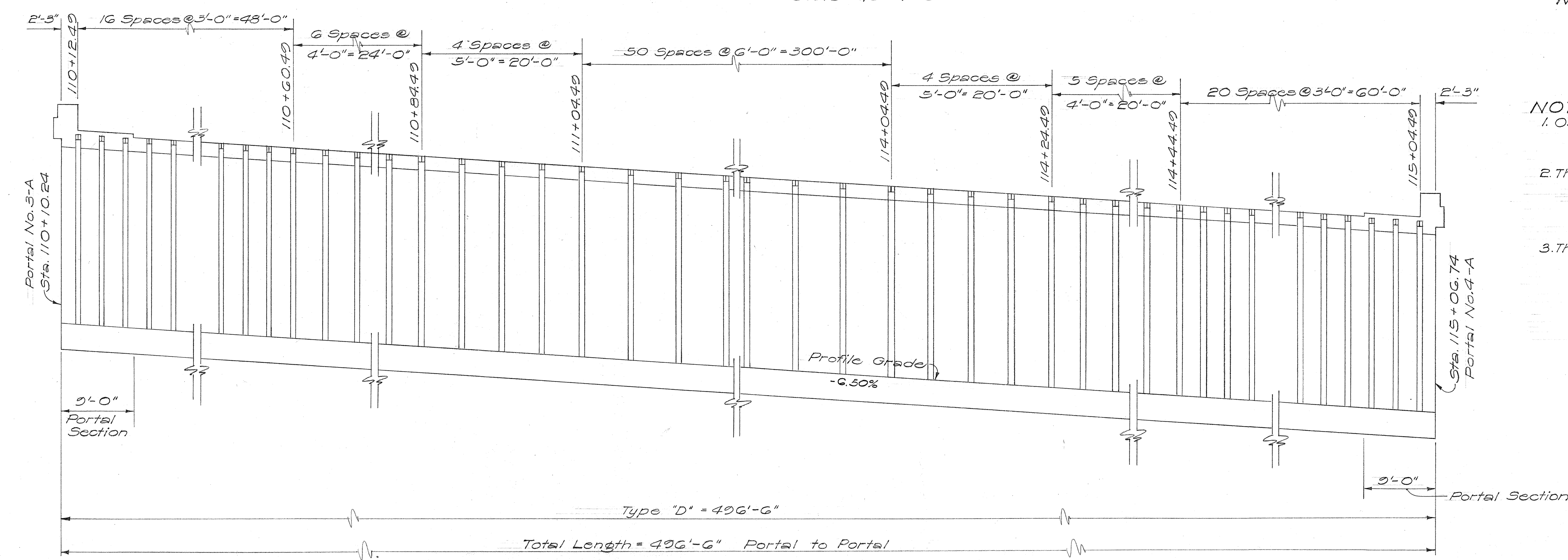
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STEEL RIB DETAIL 1
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-OGH-13
Scale: As noted Oct. 1956
SHEET No. 1 OF 2 SHEETS

Revised: 9/30/57



SECTION ALONG 1/2 OF TUNNEL
TUNNEL NO. 1-A
Scale: 1/8" = 1'-0"

NOTE: For details of Ribs, see "Steel Rib Detail 1", sheet 9.



SECTION ALONG 1/2 OF TUNNEL
TUNNEL NO. 2-A
Scale: 1/8" = 1'-0"

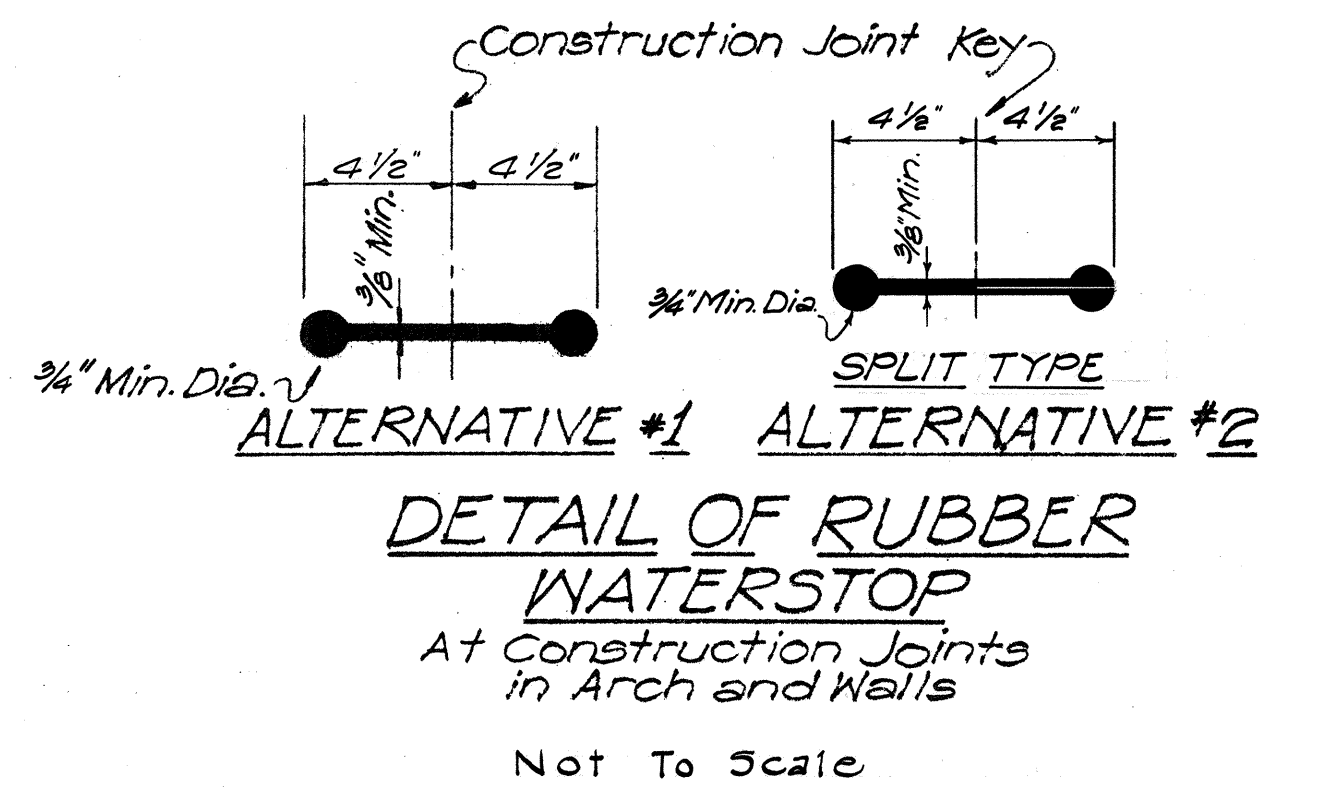
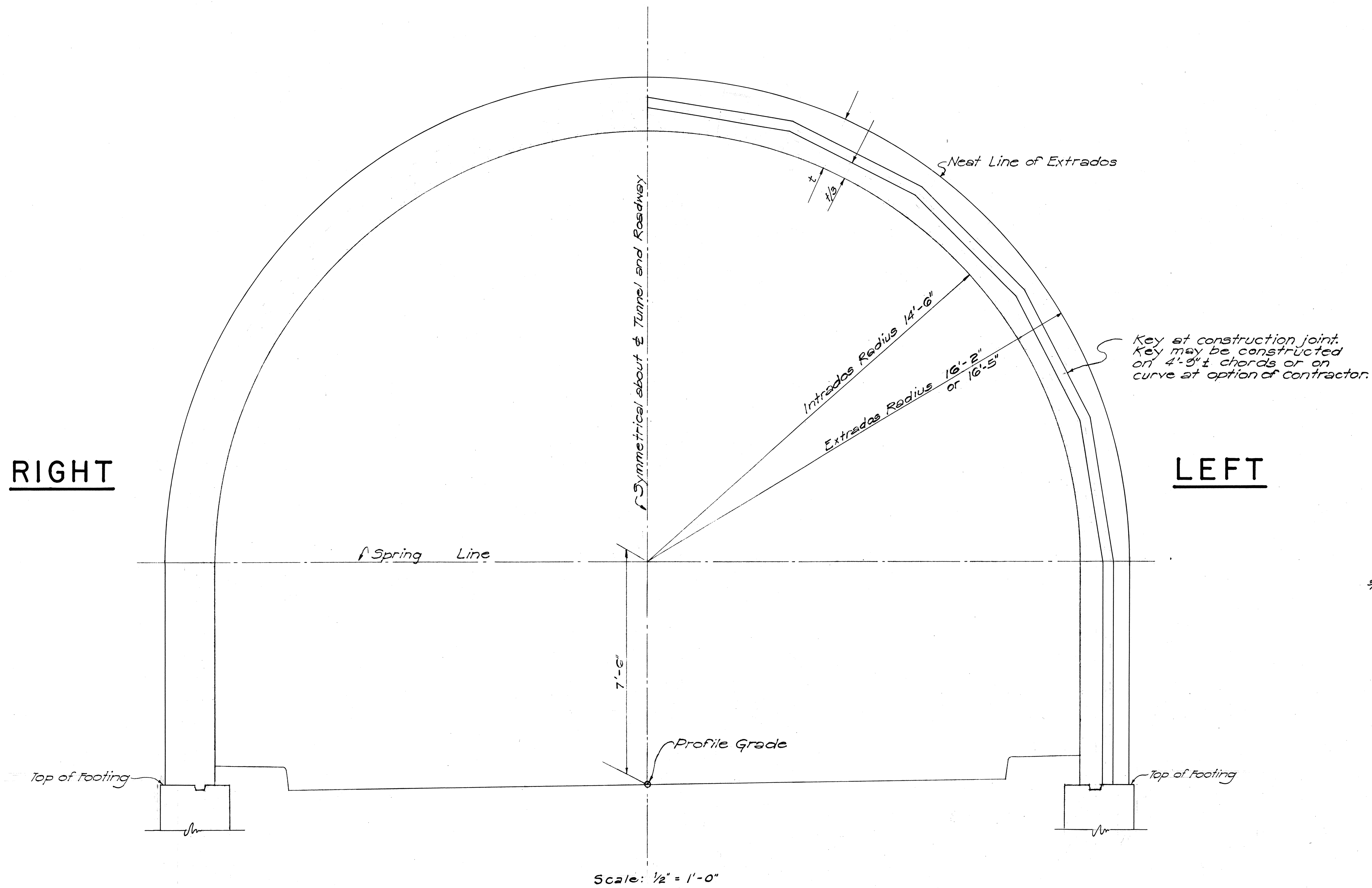
- NOTE:**
1. On this plan sheet indicated locations and limits of respective tunnel section types and spacing of steel ribs have been shown for estimating purposes only.
 2. The Engineer shall be responsible for selecting the types and limits of the respective tunnel sections used throughout the two tunnels. He may revise the locations and limits of tunnel section types, shown on this plan sheet, as considered necessary.
 3. The Contractor shall be responsible for the adequacy and sufficiency of the steel rib supports; he shall decide what rib spacings will be used, subject to conditions set up in Section 115.4 of the Special Provisions.

SURVEY PLOTTED BY: DATE: 9-20-57
DRAWN BY: C.T. SO
CHECKED BY: R.L.
NOTE BOOK No. 7-57

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STEEL RIB DETAIL 2
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-06-115
Scale: 1/8" = 1'-0" Sept. 1956

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-OG-1(5)	1957	11	79



- Notes:
1. Concrete in tunnel lining arch section shall be placed by means of pump, see Special Provisions.
 2. Arch forms may be removed when this can be done without damage to concrete lining.
 3. Grout not to be placed until concrete lining has reached a strength of 2000 psi. See Typical Section "A", "B", and "D", Sheets 12, 13 & 14 respectively.
 4. See Detail of Transverse Construction Joint on "Typical Section A", Sheet 12.

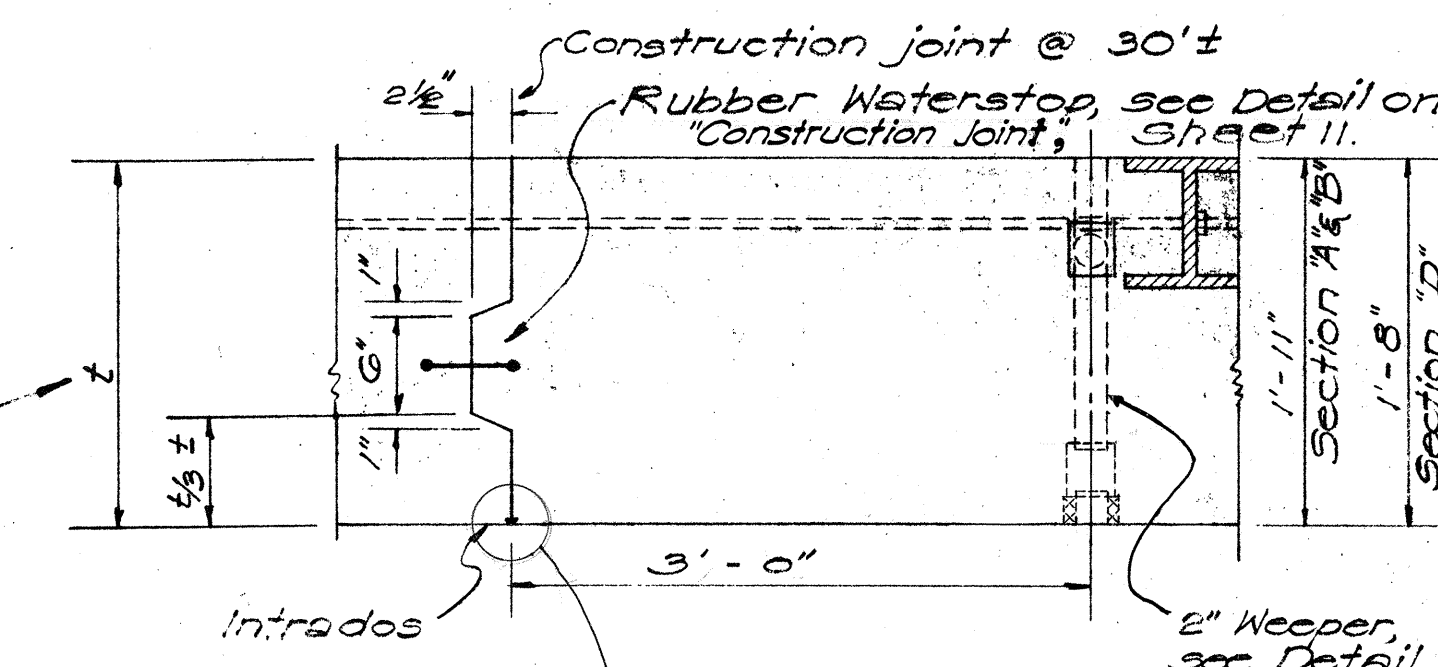
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
**CONSTRUCTION JOINT IN
TUNNEL LINING**
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-OG-1(5)
Scale: As noted Sept. 1956

SHEET No. OF SHEETS

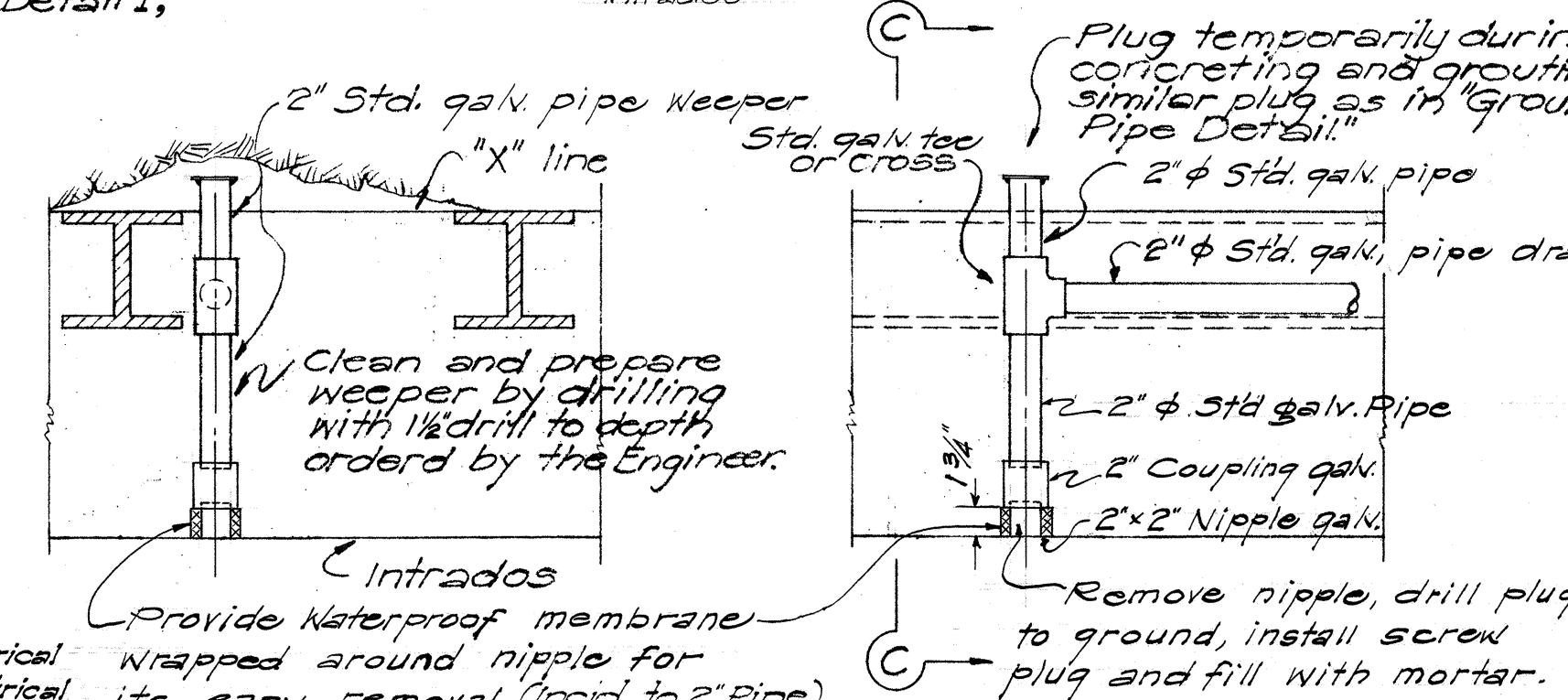
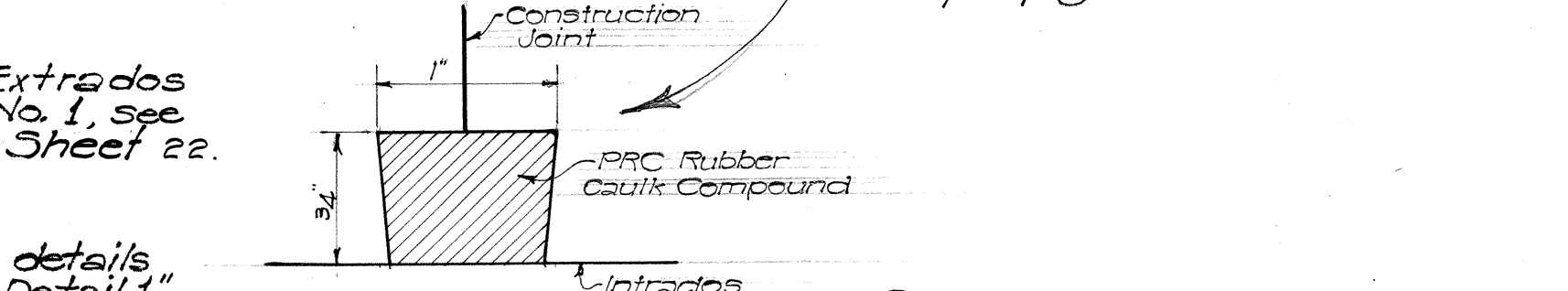
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SURVEY PLOTTED BY	DATE
PLAN	5-54
QUANTITIES CHECKED BY	5-56
CHECKED BY	7-57
NOTE BOOK	
No.	

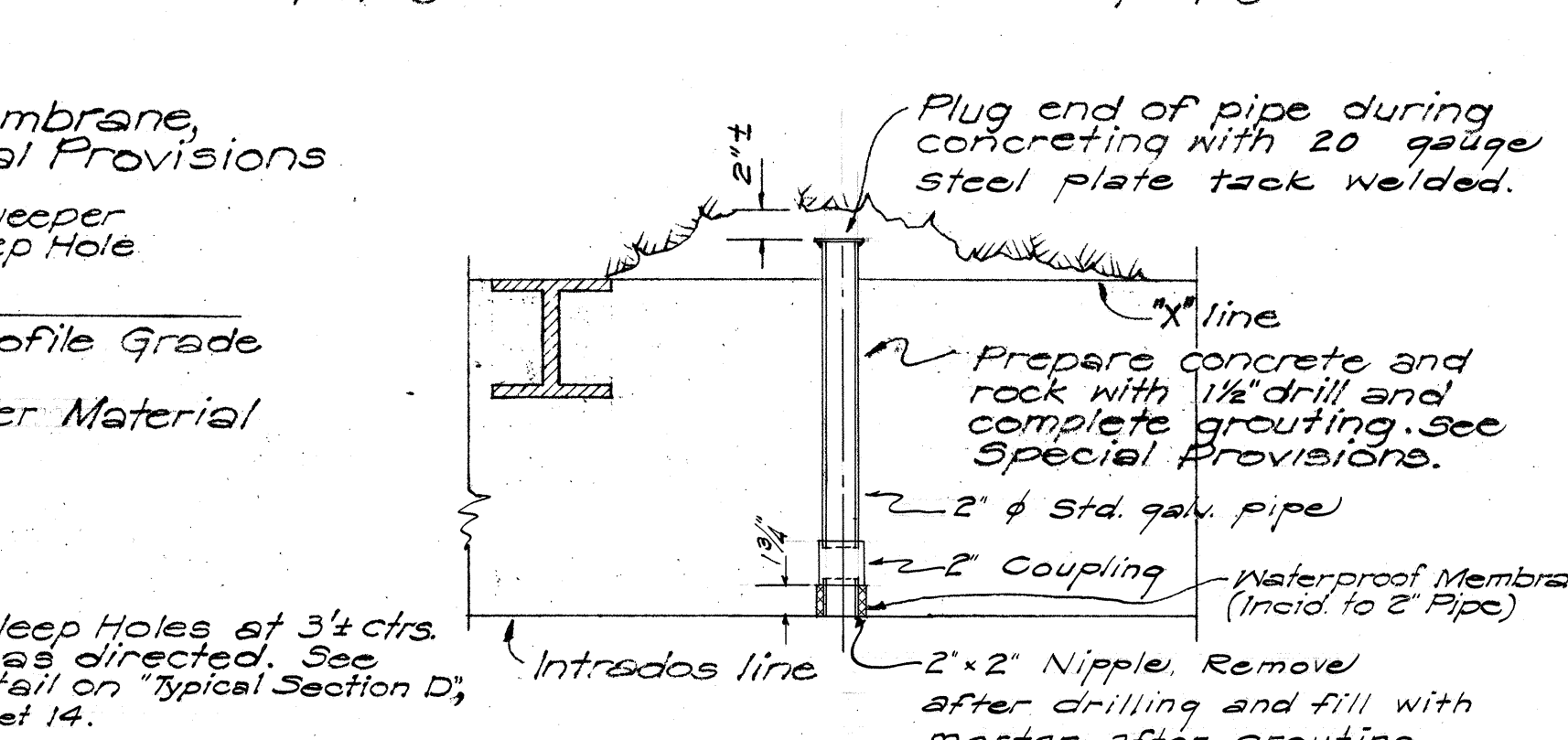
- Notes:
1. Spacing between construction joints may be increased if approved by the Engineer.
 2. For additional details of construction joint see "Construction Joint," sheet 11.



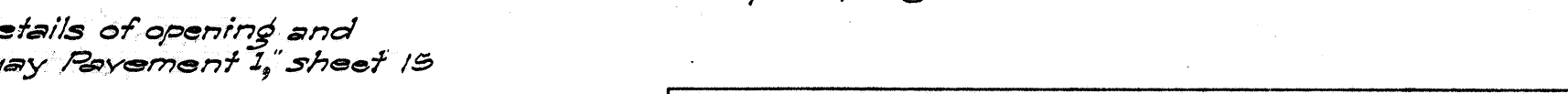
TRANSVERSE CONSTRUCTION JOINT
1" = 1'-0"



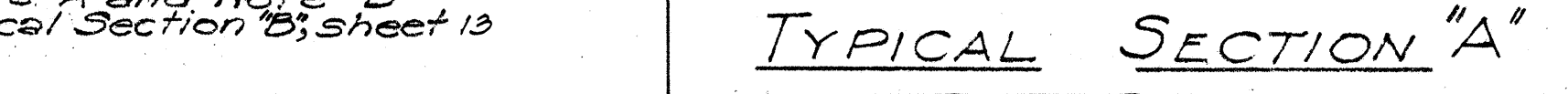
SECTION C-C
1" = 1'-0"



GROUT PIPE DETAIL
1" = 1'-0"



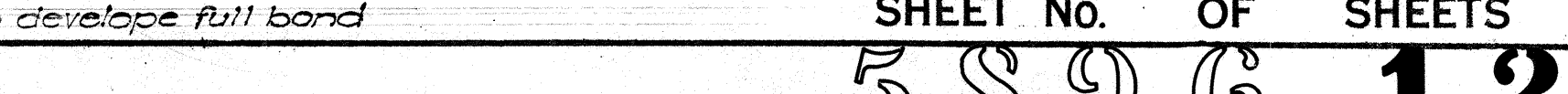
Key 6' x 15'



Paper Membrane, see Special Provisions



Filter Material



Intrados line



Profile Grade

Walkway

Class 'A' Concrete (Curb & Drain)

Weld (See Note)

All bars to be placed in one layer

Concrete to be placed against undisturbed material

Conc. Drain for details of opening and cover, see "Roadway Pavement 1," sheet 13

Note: See Note "A" and Note "B" on Typical Section "B," sheet 13

Trim line for tunnel excavation at tunnel footing and pay line for concrete tunnel footing. Trim line shall be undisturbed foundation material line.

Footings Slab 350'-0" long, see "Steel Rib Detail 2," sheet 10.

Before placing footing slab this bar may be bent up temporarily.

Tunnel Footing 33'-2"

TYPE "A"
Scale: 1/2" = 1'-0"

NOTES:
1. For general notes on Reinforcement, see "Index of Sheets," sheet 2.
2. Concrete in footing Slab will be paid at the same price as for Tunnel Footing.
3. For details of curb face, see "Typical Section D," sheet 14.
4. For details of Roadway Pavement, see "Roadway Pavement 1," sheet 13.
5. Ends of #11 bars in top of slab welded to #11 dowels of footing so as to develop full bond.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
TYPICAL SECTION "A"
PALI ROAD
OUTBOUND TUNNELS
PROJ. No. BF-OGH(15)
Scale: As noted Oct. 1956

SHEET No. OF SHEETS
5896.12

PRINTED ON DIETZEN 100% AGEPROOF

SURVEY PLOTTED BY E. J. MIN. DATE 4-57.
DRAWN BY S. J. MIN. DATE 10-56.
TRACED BY G. L. DATE 10-56.
QUANTITIES CHECKED BY H. C. DATE 7-57.
CHECKED BY B. T. DATE 7-57.

ORIGINAL PLAN No.

NOTE: Weld alternating ends of each of 350 #11 bars involved (350 bars @ 12" ca. = 350 L.F. 1/4" weld required)

Class "A" Concrete (Tunnel Lining)

Intrados Line

Spring Line

Profile Grade

Walkway

Class "A" Concrete (Curb & Drain)

Weld (See Note)

All bars to be placed in one layer

Concrete to be placed against undisturbed material

Conc. Drain for details of opening and cover, see "Roadway Pavement 1," sheet 13

Note: See Note "A" and Note "B" on Typical Section "B," sheet 13

Trim line for tunnel excavation at tunnel footing and pay line for concrete tunnel footing. Trim line shall be undisturbed foundation material line.

Footings Slab 350'-0" long, see "Steel Rib Detail 2," sheet 10.

Before placing footing slab this bar may be bent up temporarily.

Tunnel Footing 33'-2"

TYPE "A"
Scale: 1/2" = 1'-0"

NOTES:
1. For general notes on Reinforcement, see "Index of Sheets," sheet 2.
2. Concrete in footing Slab will be paid at the same price as for Tunnel Footing.
3. For details of curb face, see "Typical Section D," sheet 14.
4. For details of Roadway Pavement, see "Roadway Pavement 1," sheet 13.
5. Ends of #11 bars in top of slab welded to #11 dowels of footing so as to develop full bond.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
TYPICAL SECTION "A"
PALI ROAD
OUTBOUND TUNNELS
PROJ. No. BF-OGH(15)
Scale: As noted Oct. 1956

SHEET No. OF SHEETS
5896.12

PRINTED ON DIETZEN 100% AGEPROOF

SURVEY PLOTTED BY E. J. MIN. DATE 4-57.
DRAWN BY S. J. MIN. DATE 10-56.
TRACED BY G. L. DATE 10-56.
QUANTITIES CHECKED BY H. C. DATE 7-57.
CHECKED BY B. T. DATE 7-57.

ORIGINAL PLAN No.

NOTE: Weld alternating ends of each of 350 #11 bars involved (350 bars @ 12" ca. = 350 L.F. 1/4" weld required)

Class "A" Concrete (Tunnel Lining)

Intrados Line

Spring Line

Profile Grade

Walkway

Class "A" Concrete (Curb & Drain)

Weld (See Note)

All bars to be placed in one layer

Concrete to be placed against undisturbed material

Conc. Drain for details of opening and cover, see "Roadway Pavement 1," sheet 13

Note: See Note "A" and Note "B" on Typical Section "B," sheet 13

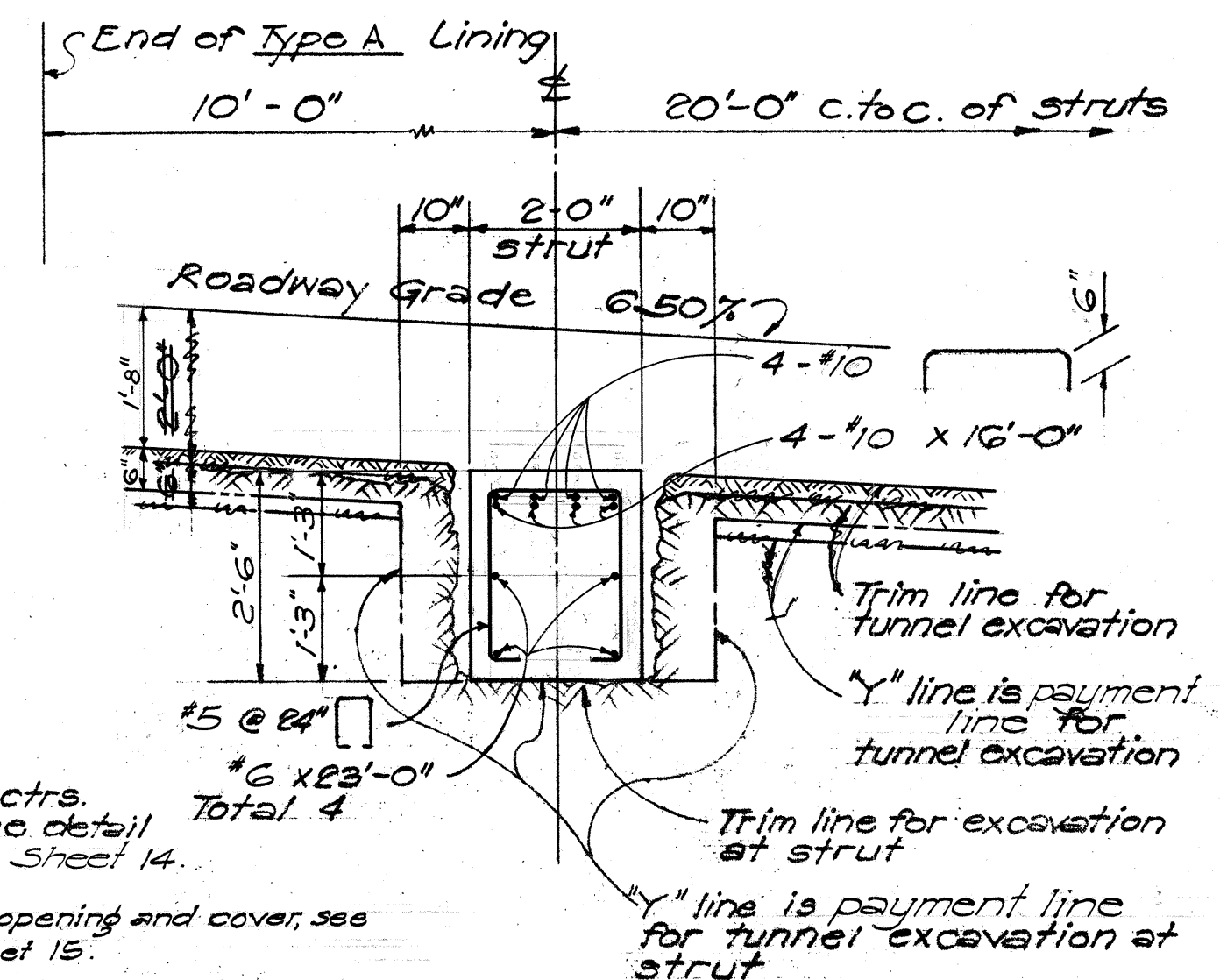
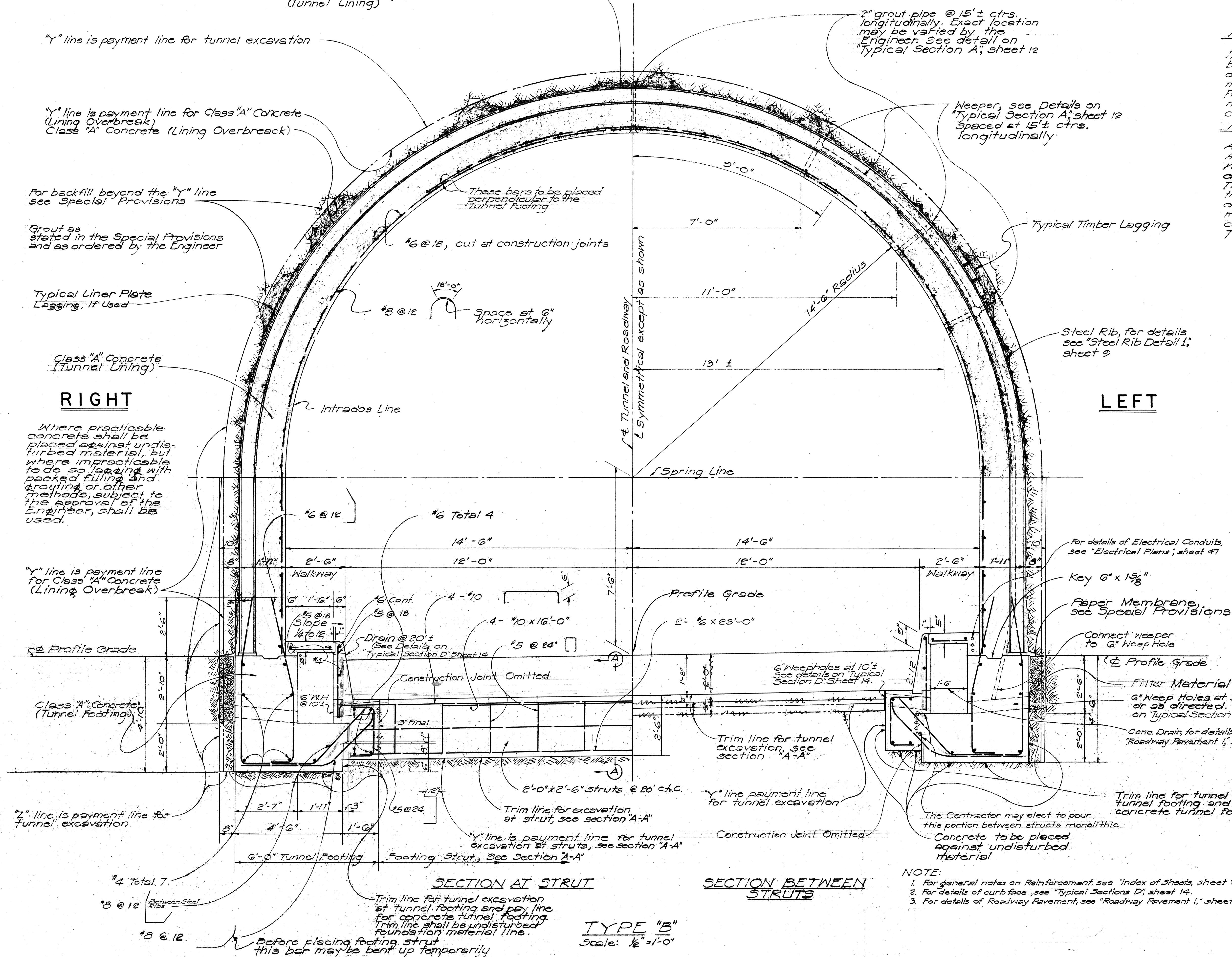
Trim line for tunnel excavation at tunnel footing and pay line for concrete tunnel footing. Trim line shall be undisturbed foundation material line.

Footings Slab 350'-0" long, see "Steel Rib Detail 2," sheet 10.

Before placing footing slab this bar may be bent up temporarily.

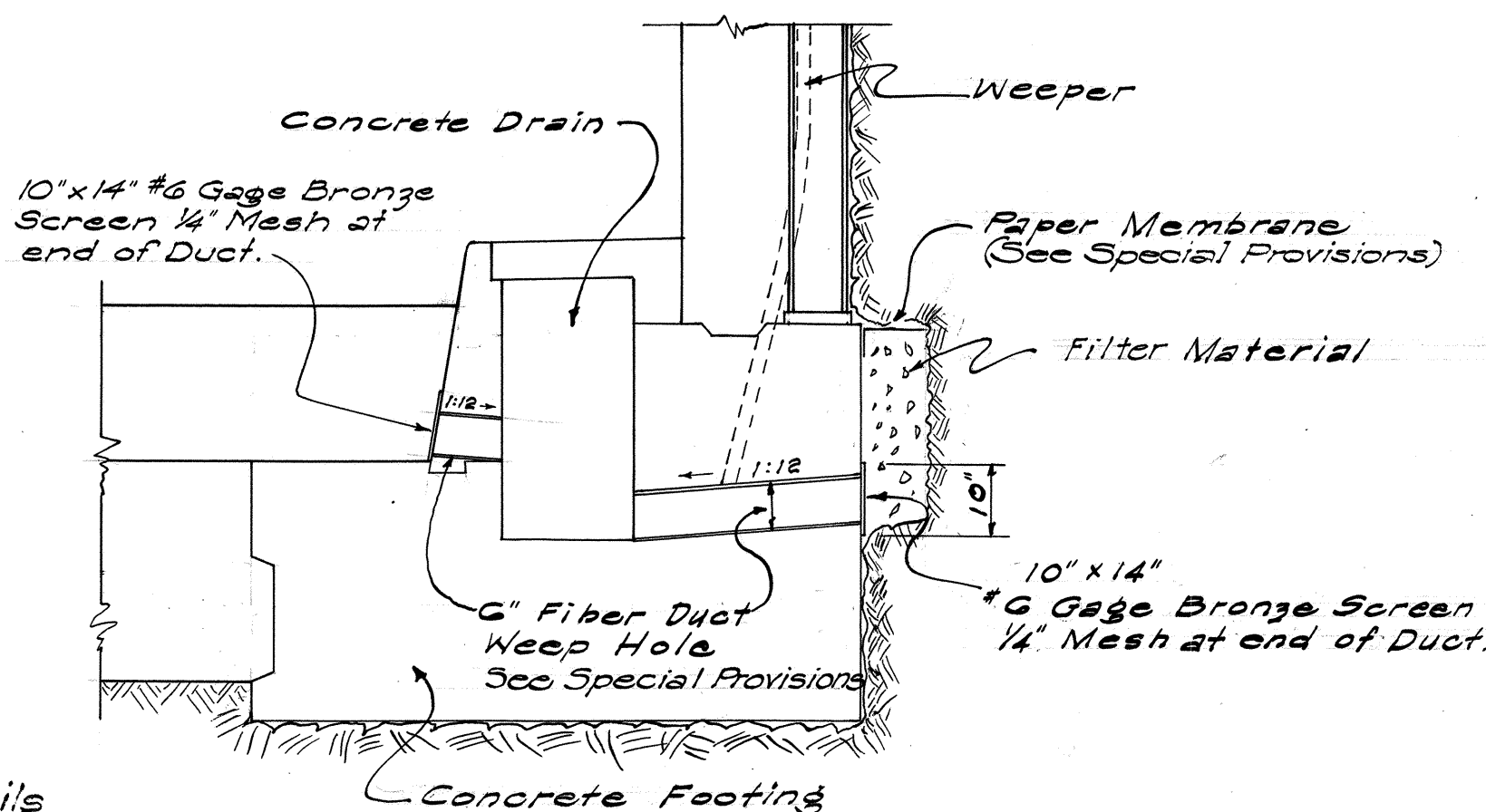
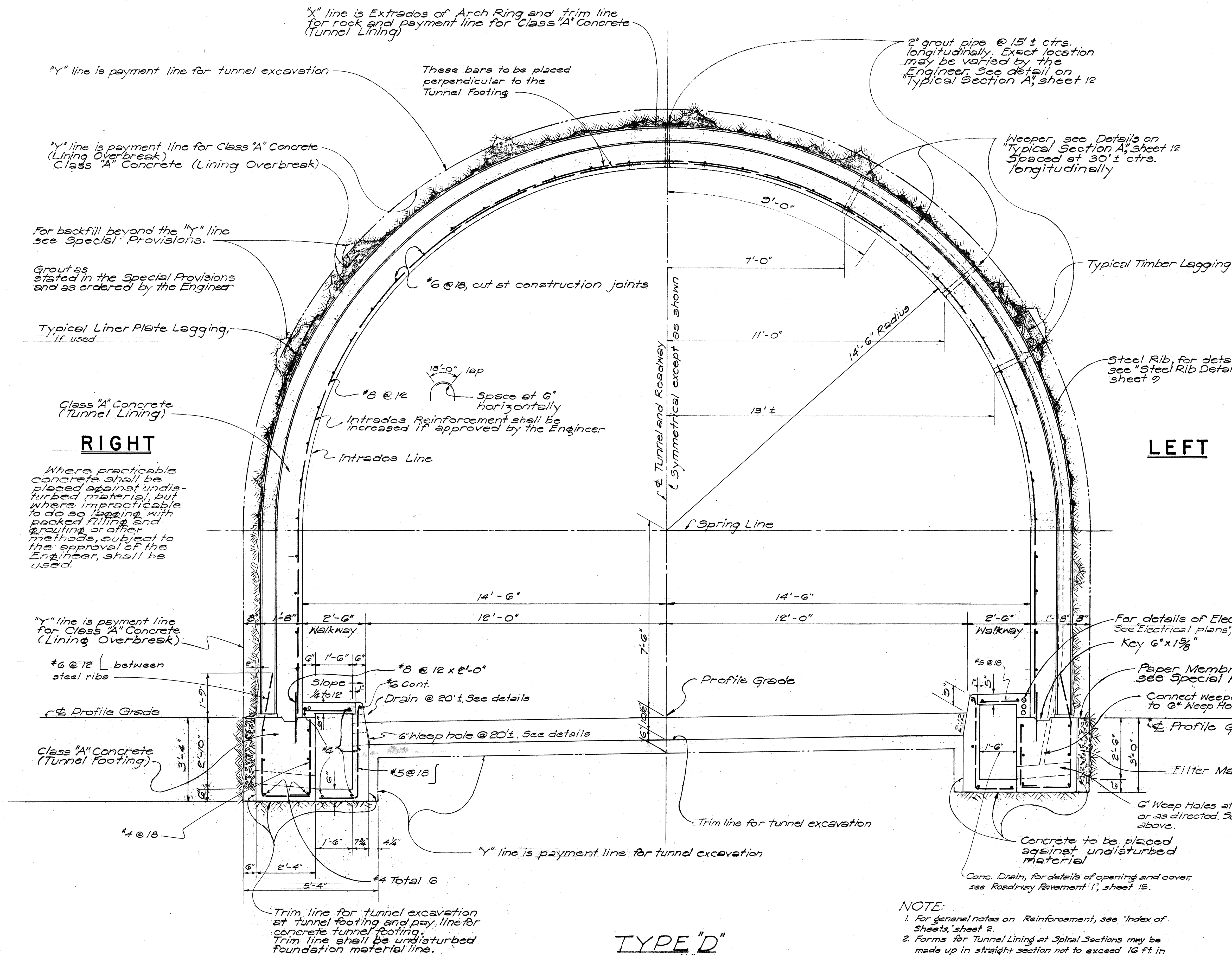
ORIGINAL PLAN	SURVEY PLOTTED BY DESIGNED BY A. A. REMIN DRAWN BY J. O. 5-54 TRACED BY DM QUANTITIES BY P.T. QUANTITIES CHECKED BY H.F.C. CHECKED BY P.T.	DATE 4-57 10-56 10-56 7-57 7-57 7-57
NOTE BOOK No.		

5896.13

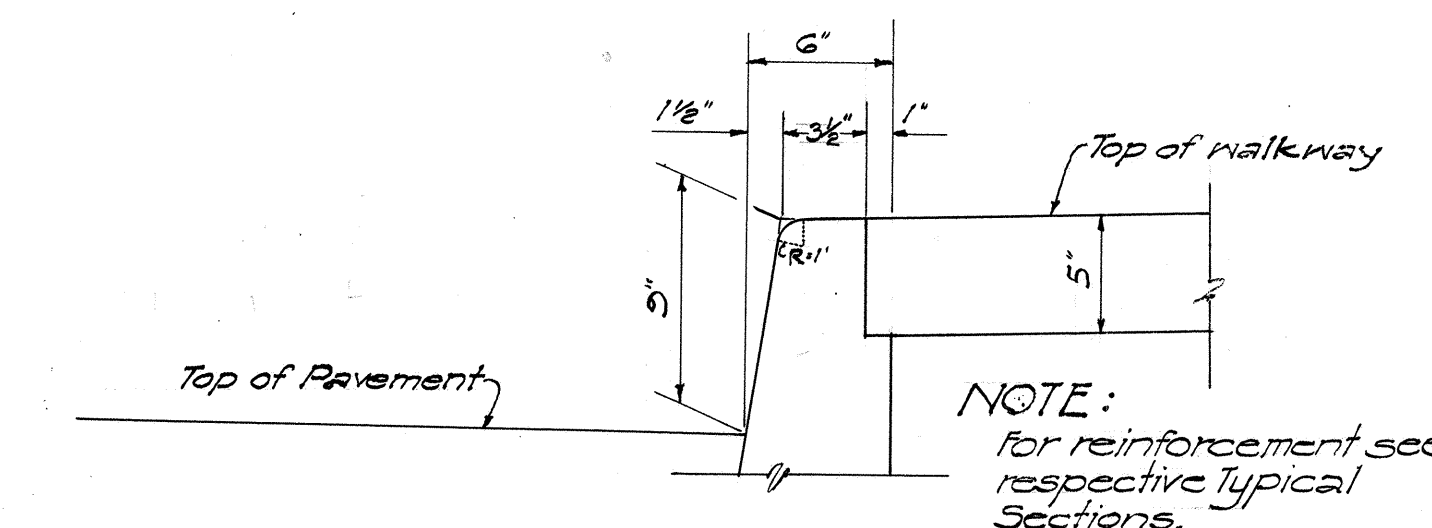


NOTE:

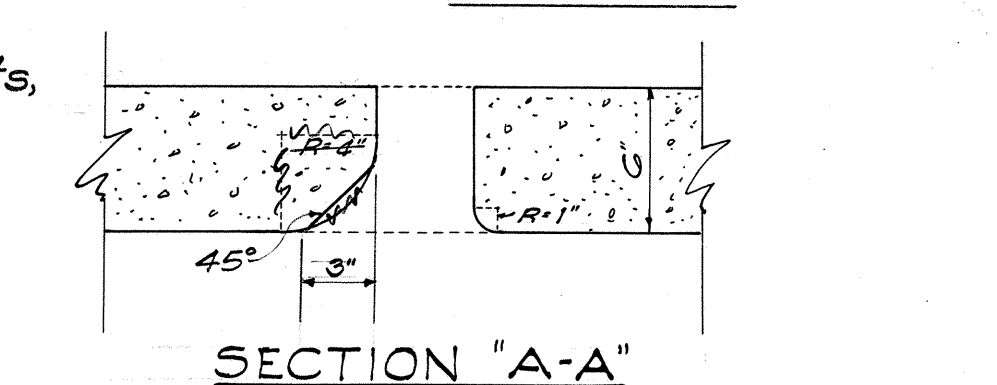
1. For general notes on Reinforcement, see "Index of Sheets, sheet 2.
2. For details of curb face, see "Typical Sections D", sheet 14.
3. For details of Roadway Pavement, see "Roadway Pavement 1," sheet 15



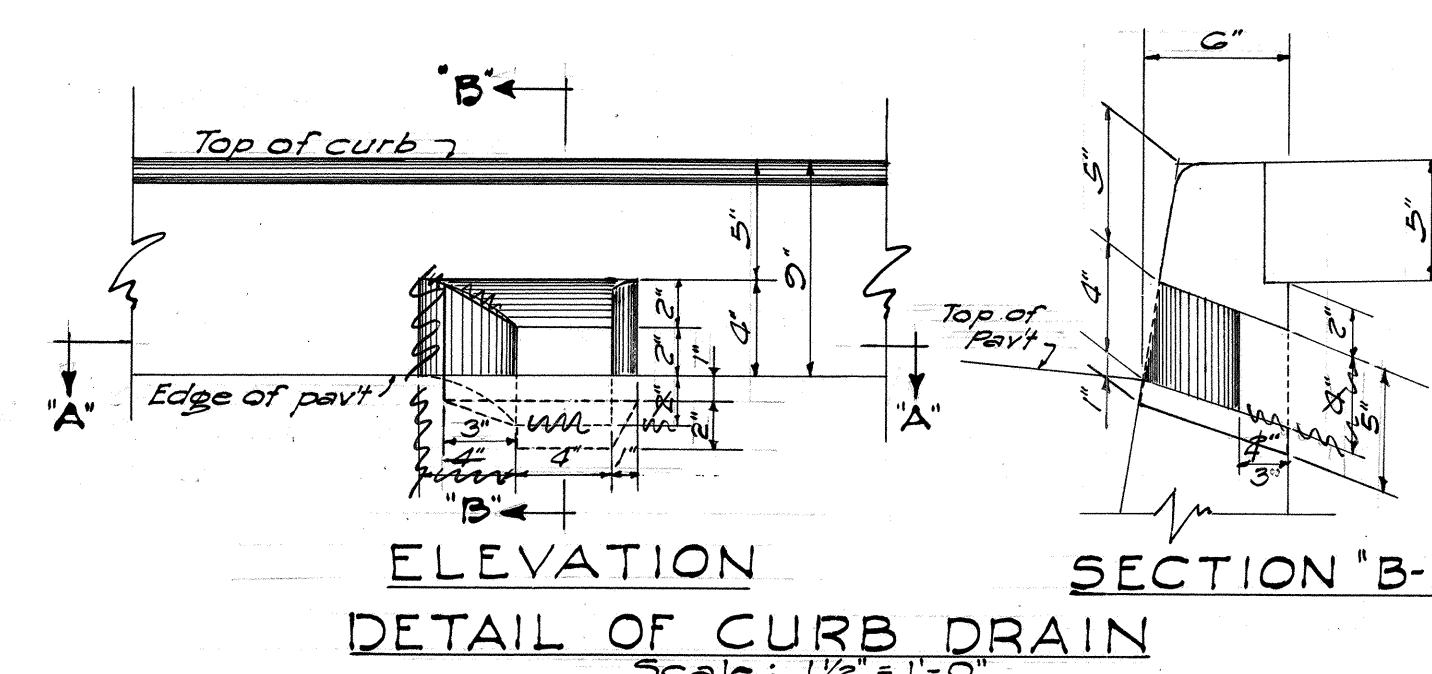
TYPICAL DETAIL OF 6" WEEP HOLES Scale: 1/2" = 1'-0"



DETAIL OF CURB FACE Scale: 1/2" = 1'-0"



SECTION "A-A"



DETAIL OF CURB DRAIN Scale: 1/2" = 1'-0"

- NOTE:
- For general notes on Reinforcement, see "Index of Sheets," sheet 2.
 - Forms for Tunnel Lining at Spiral Sections may be made up in straight section not to exceed 16 ft in length. Curbs shall be placed true to the Roadway curve.
 - For details of Roadway Pavement, see "Roadway Pavement 1 and 2," sheets 15 & 16 respectively.
 - See Note "B" on Typical Section B, sheet 13.

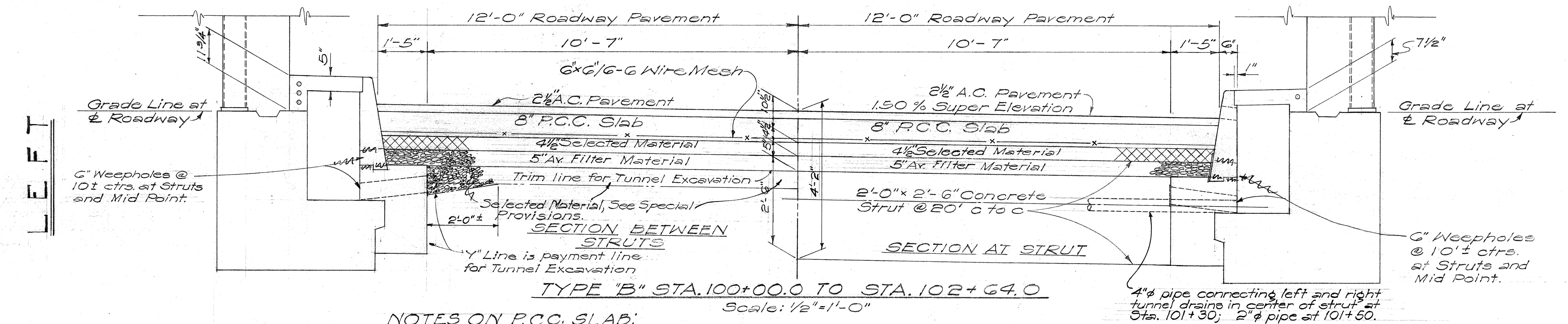
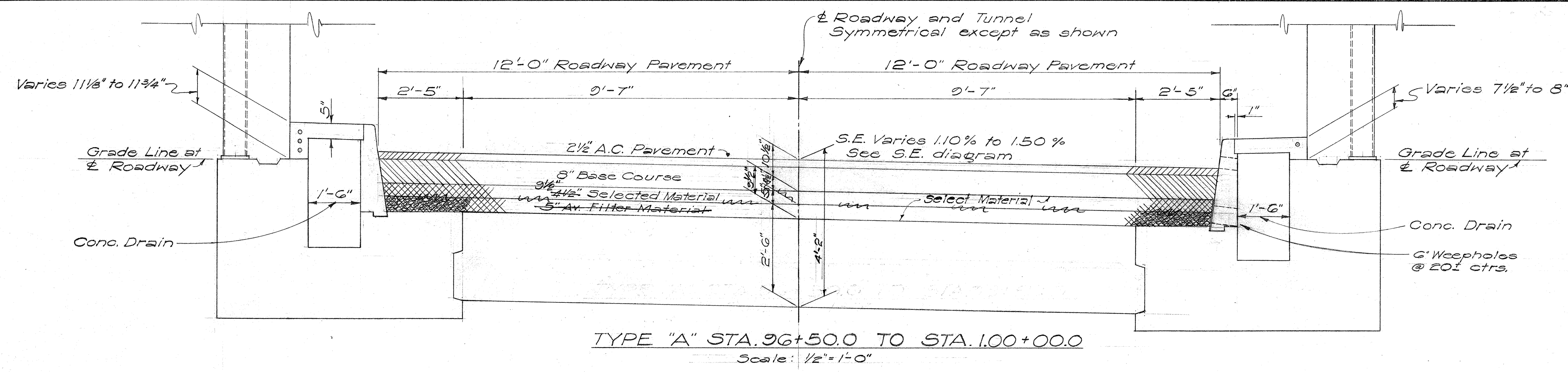
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
TYPICAL SECTION "D"
PALI ROAD
OUTBOUND TUNNELS
PROJ. No. BF-06-1(5)
Scale: As Noted Oct. 1956

SHEET No. OF SHEETS

5506.14

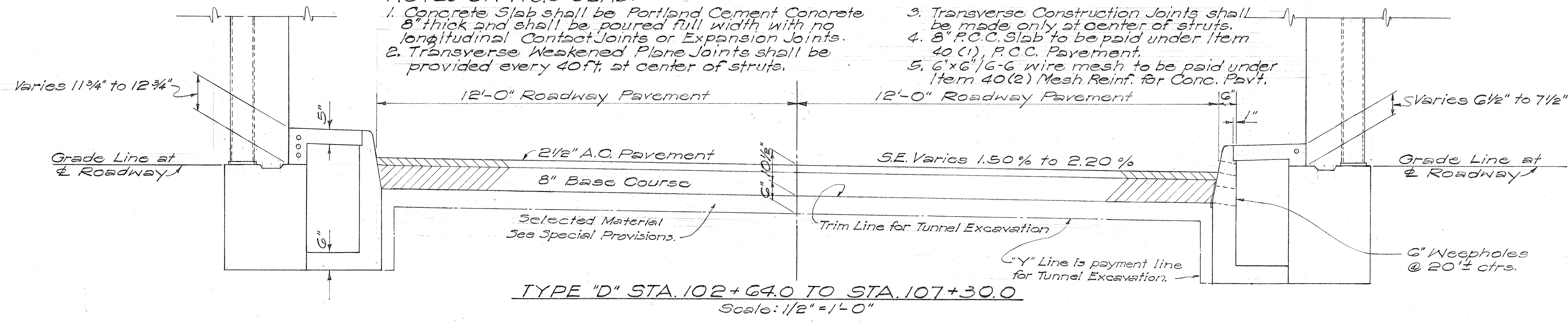
DESIGNED BY	DATE
DRAWN BY	10-57
CHECKED BY	10-57
QUANTITIES CHECKED BY	10-57
NOTED BY	10-57
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-OGH-15	1957	15	72



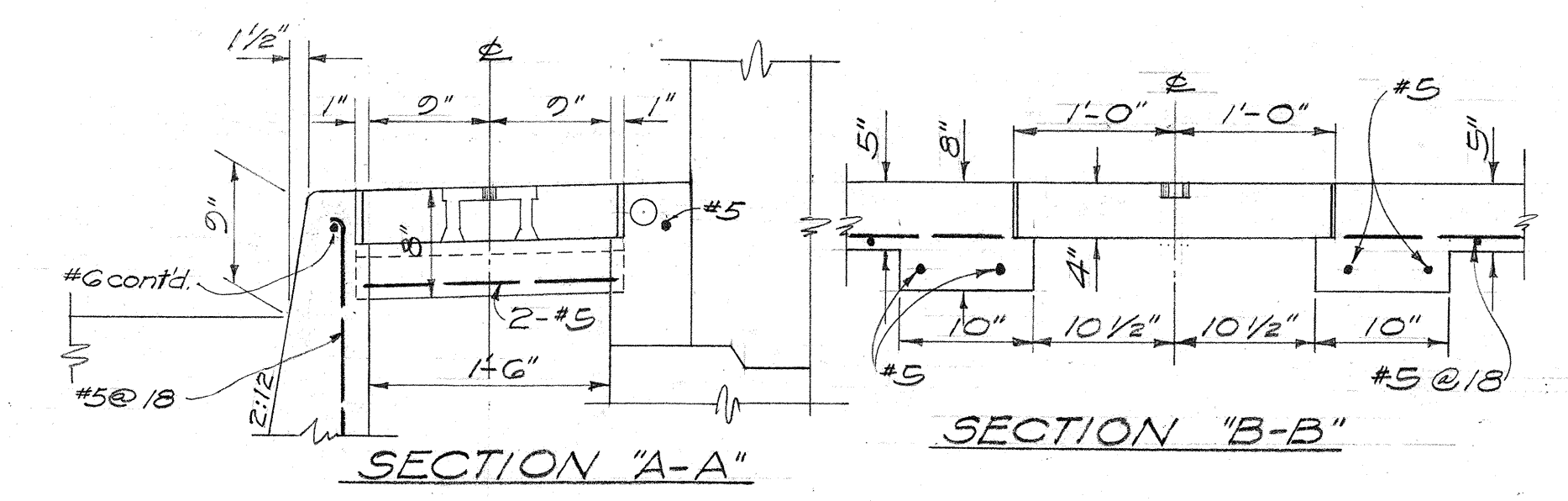
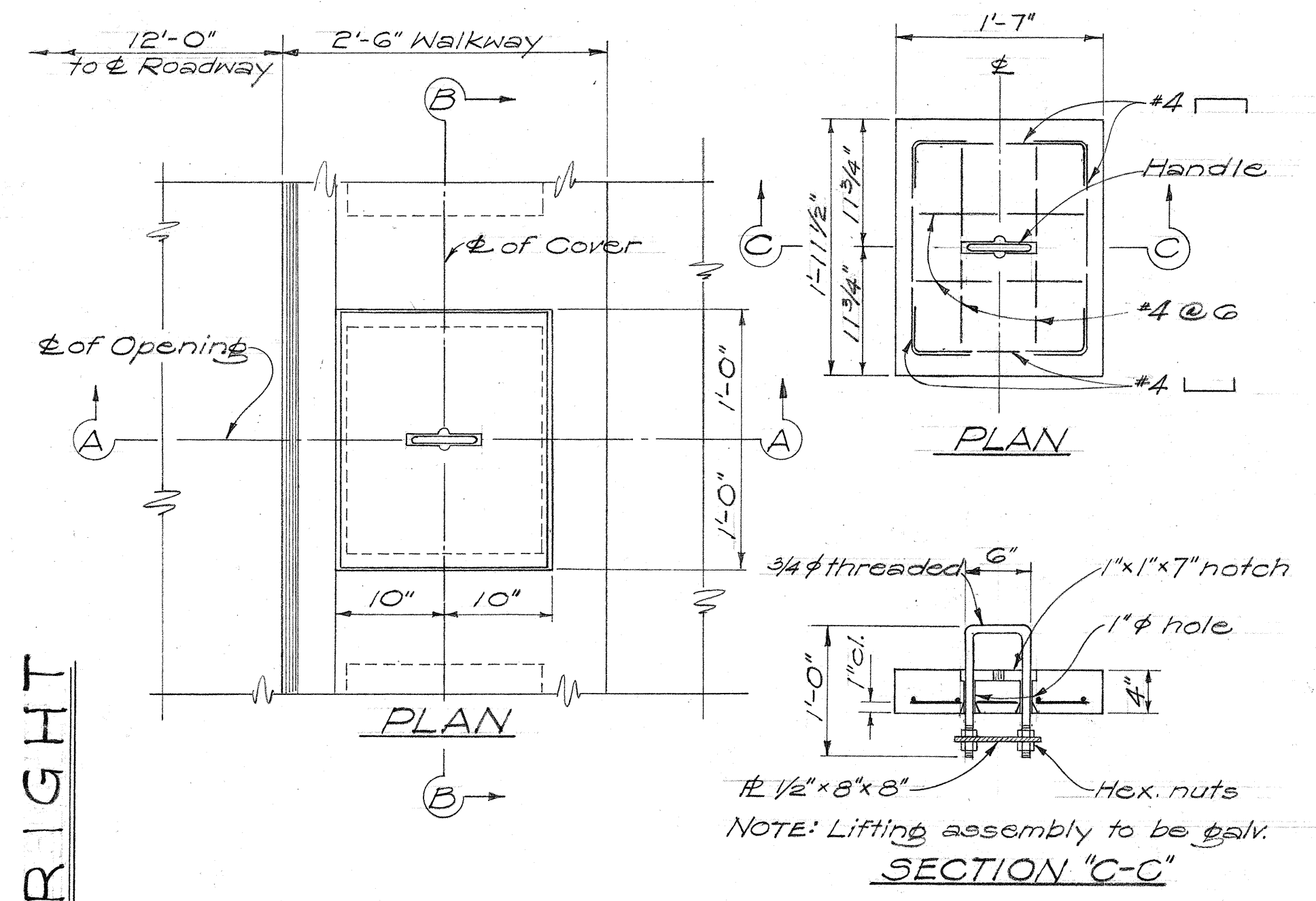
NOTES ON P.C.C. SLAB:

1. Concrete Slab shall be Portland Cement Concrete 8" thick and shall be poured full width with no longitudinal Contact Joints or Expansion Joints.
2. Transverse Weakened Plane Joints shall be provided every 40ft. at center of struts.
3. Transverse Construction Joints shall be made only at center of struts.
4. 8" P.C.C. Slab to be paid under Item 40(1), P.C.C. Pavement.
5. 6"x6"/6-G wire mesh to be paid under Item 40(2) Mesh Reinf. for Conc. Pavt.



NOTE:

1. For reinforcement, see Typical Sections A, B, and D, Sheets 12, 13 & 14 respectively.
2. For general notes on Reinforcement, see "Index of Sheet" sheet 2
3. Selected Material shall be from Roadway Excavation. See Special Provisions.



CONC. DRAIN OPENING & COVER

Scale: 1" = 1'-0"

NOTE: Spacing of Conc. Drain Covers: Space Conc. Drain Covers at approximately 30 ft. C. to C. at left and right sidewalk in tunnels. Spacing may be varied to clear junction boxes and other utilities, subject to the approval of the Engineer.

NOTE:

For trim lines and payment lines, see Typical Section A, Typical Section B, and Typical Section D, sheets 12, 13 & 14 respectively.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

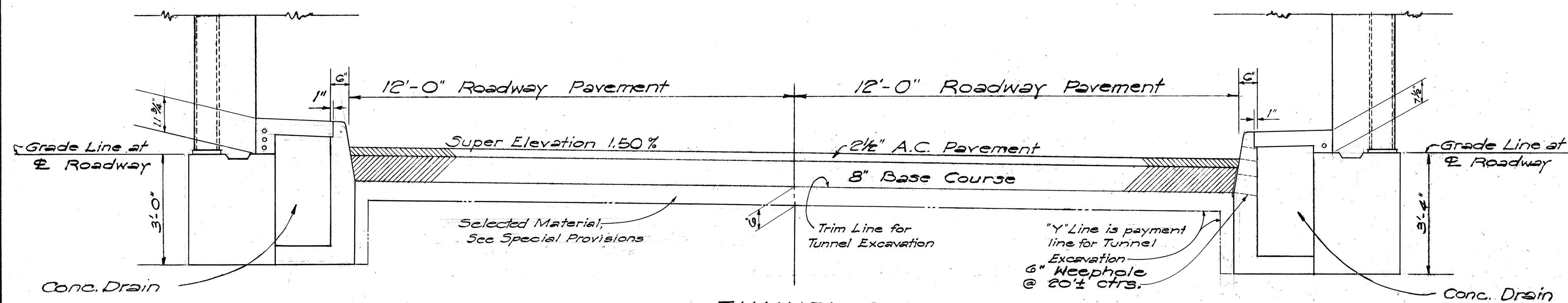
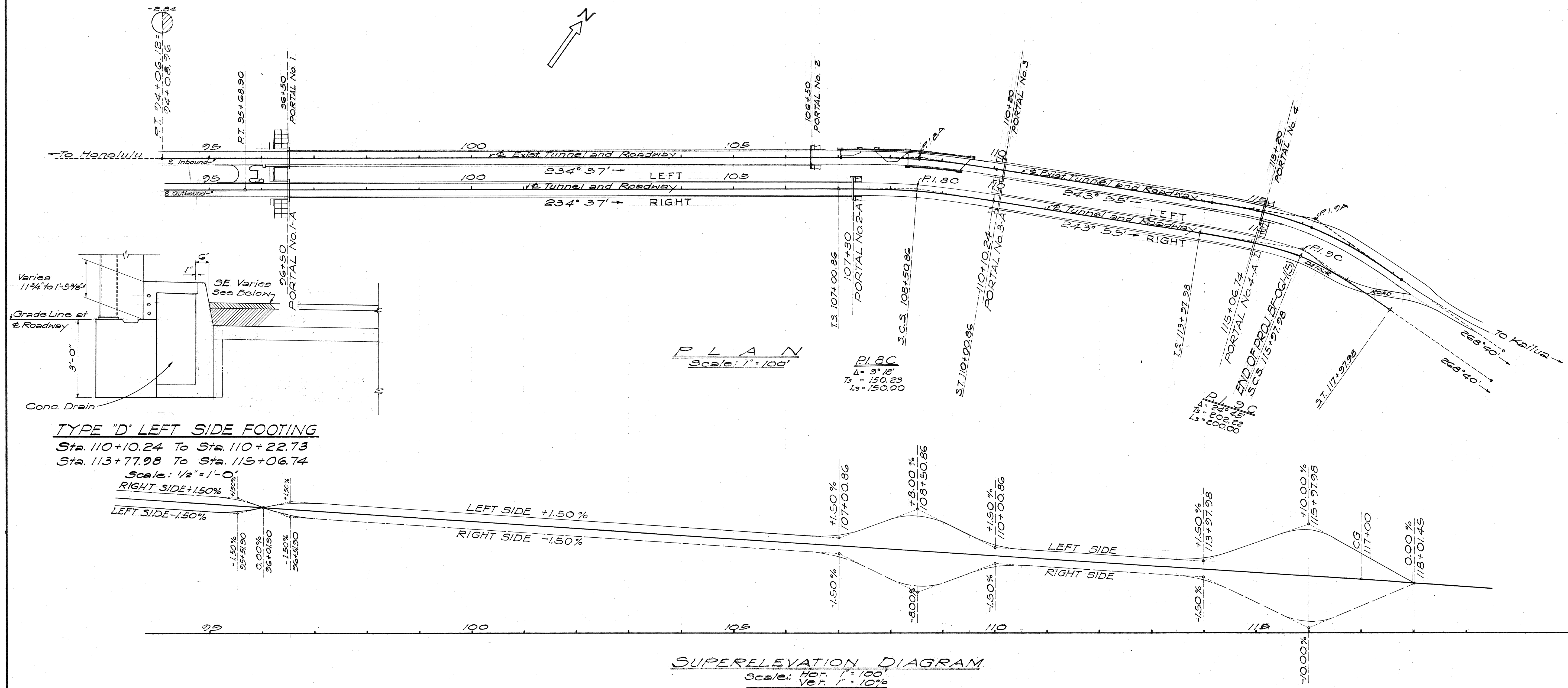
ROADWAY PAVEMENT I
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-OGH-15
Scale: As Noted Sept. 1956

SHEET No. OF SHEETS

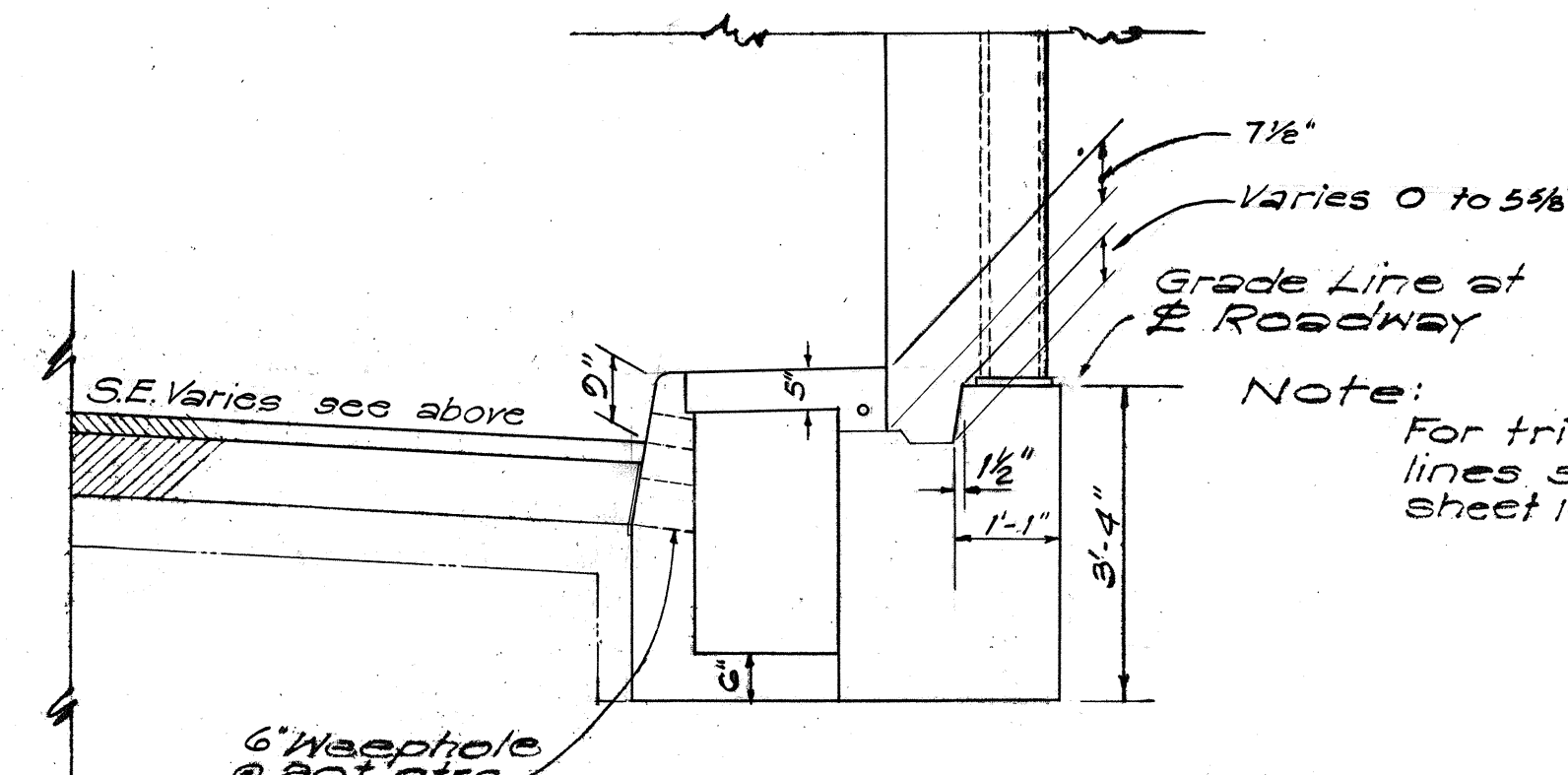
5896.15

SURVEY PLOTTED BY	DATE
PLAN	4-57
DRAWN BY	9-56
CHECKED BY	4-57
NOTE BOOK	7-57
QUANTITIES CHECKED BY	
NO.	

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	BF-061-1(5)	1957	16	79



TUNNEL 2-A
TYPE "D" STA. 110+22.73 to 113+77.98
Scale: $\frac{1}{2}'' = 1' - 0''$



TYPE "D" RIGHT SIDE FOOTING

STA 110+10.24 to 110+22.73
113+77.98 to 115+06.74

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

ROADWAY PAVEMENT 2

PALI ROAD
OUTBOUND TUNNELS

PROJ. NO. BF-061-1(5)

Scale: As noted Oct., 1956

SHEET No. OF SHEETS

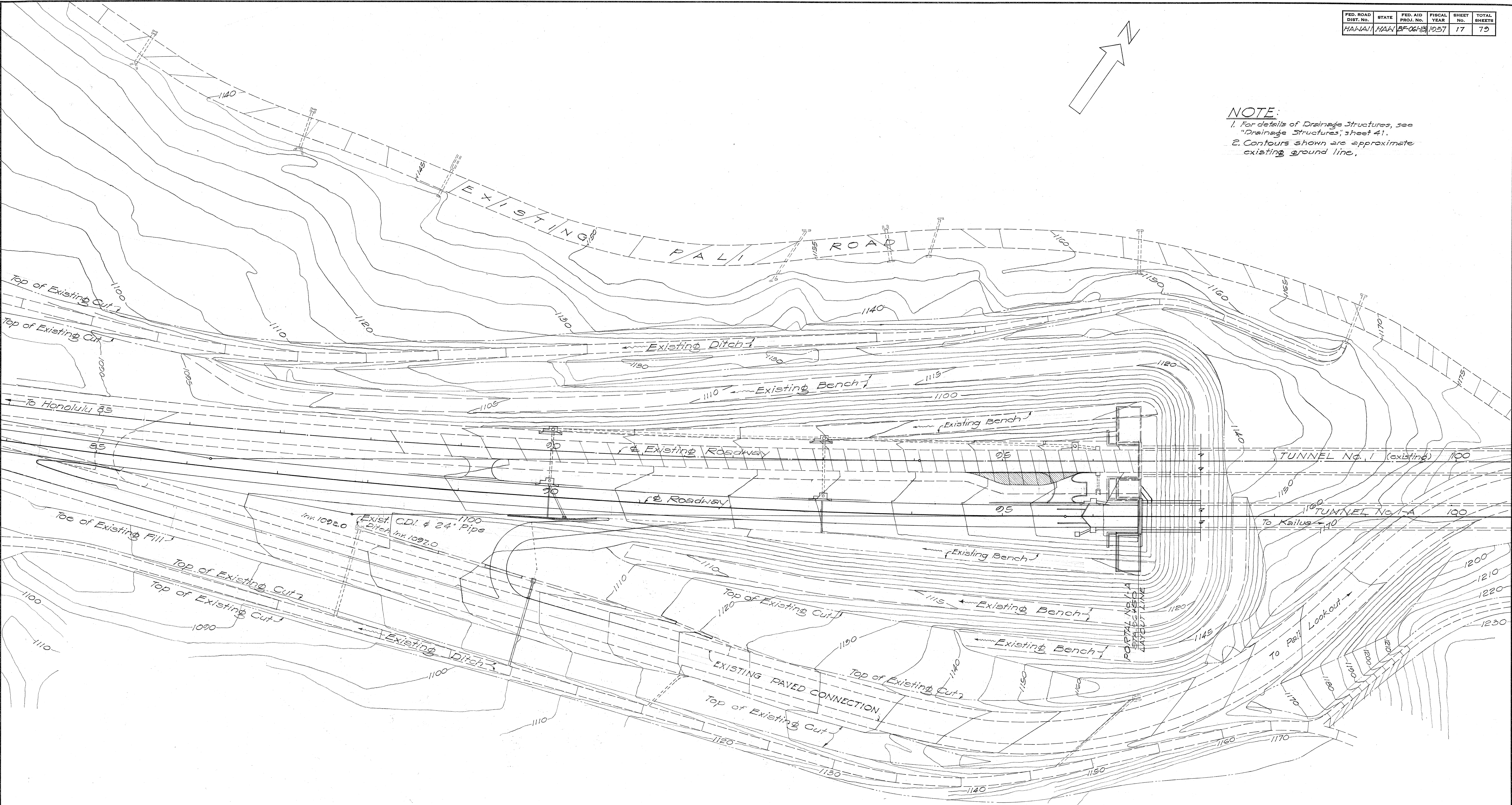
5896.16

ORIGINAL PLAN	SURVEY PLOTTED BY DESIGNED BY A.A. REIMIN 8-54		DATE
	DRAWN BY	P.T.	"
	TRACED BY	C.I. S.O.	" 10-56
	QUANTITIES BY	P.T.	" 10-56
	QUANTITIES CHECKED BY H.F.C.		" 7-57
NOTE BOOK No.	CHECKED BY	P.T.	" 7-57

Note: 1. For detail of Conic Drain cover and spacing of covers see 'Roadway Pavement', sheet 15.
2. For details not shown see 'Roadway Pavement I', sheet 15.
3. For Reinforcement See "Typical Section D", Sheet 14.
4. For general notes on Reinforcement, see 'Index of Sheets, sheet 2.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BF-061-1	1957	17	79

NOTE:
 1. For details of Drainage Structures, see "Drainage Structures," sheet 41.
 2. Contours shown are approximate existing ground line.



SURVEY PLOTTED BY	DATE
DRAWN BY	10-26
TRACED BY	10-26
QUANTITIES CHECKED BY	7-27
CHECKED BY	
ORIGINAL PLAN	No.

TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
APPROACH TO PORTAL 1-A
PALI ROAD
OUTBOUND TUNNELS
 PROJ. NO. BF-061-1(5)
 Contour Intervals 5'-0"
 Scale: 1"=50' Oct. 1956

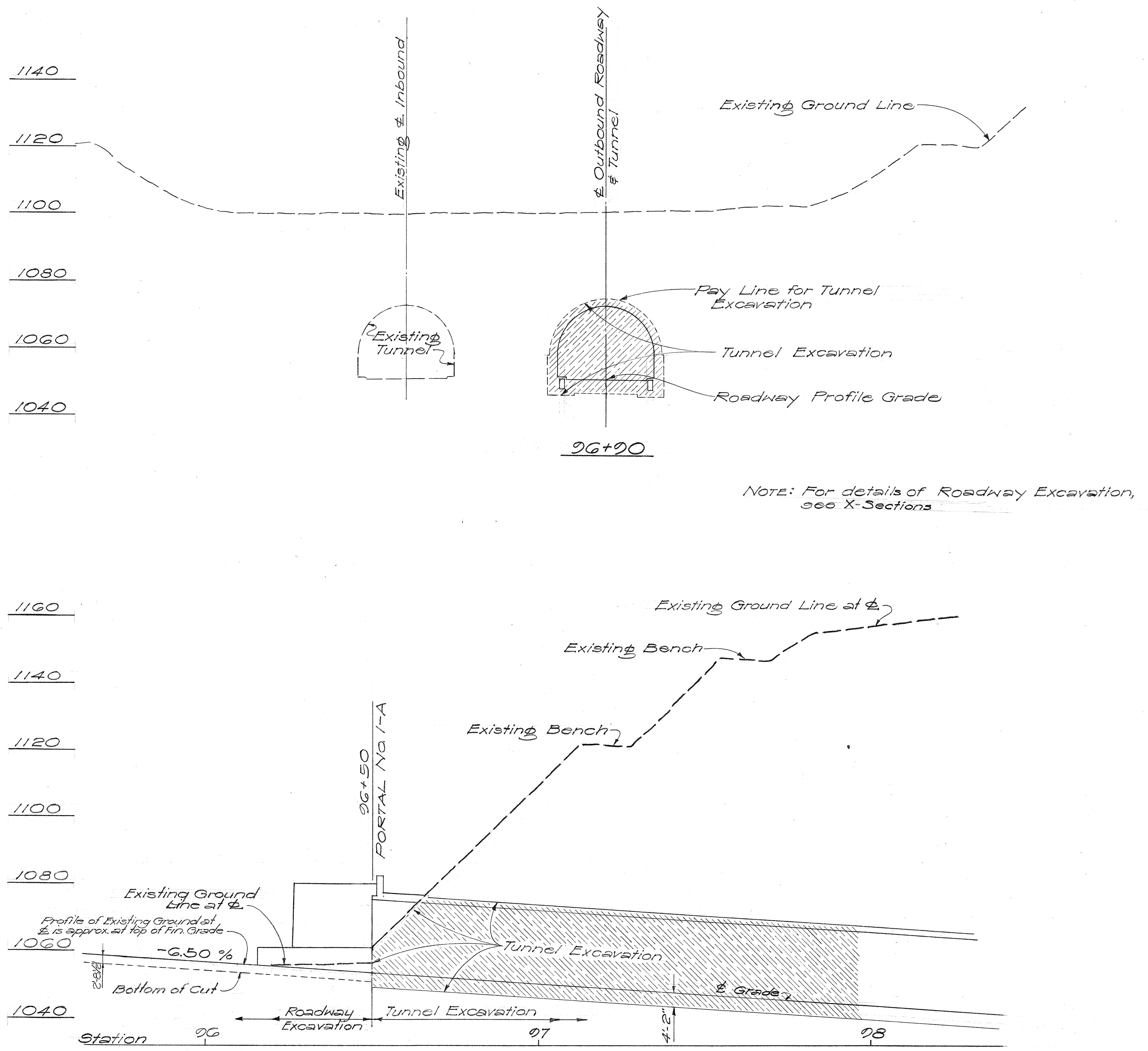
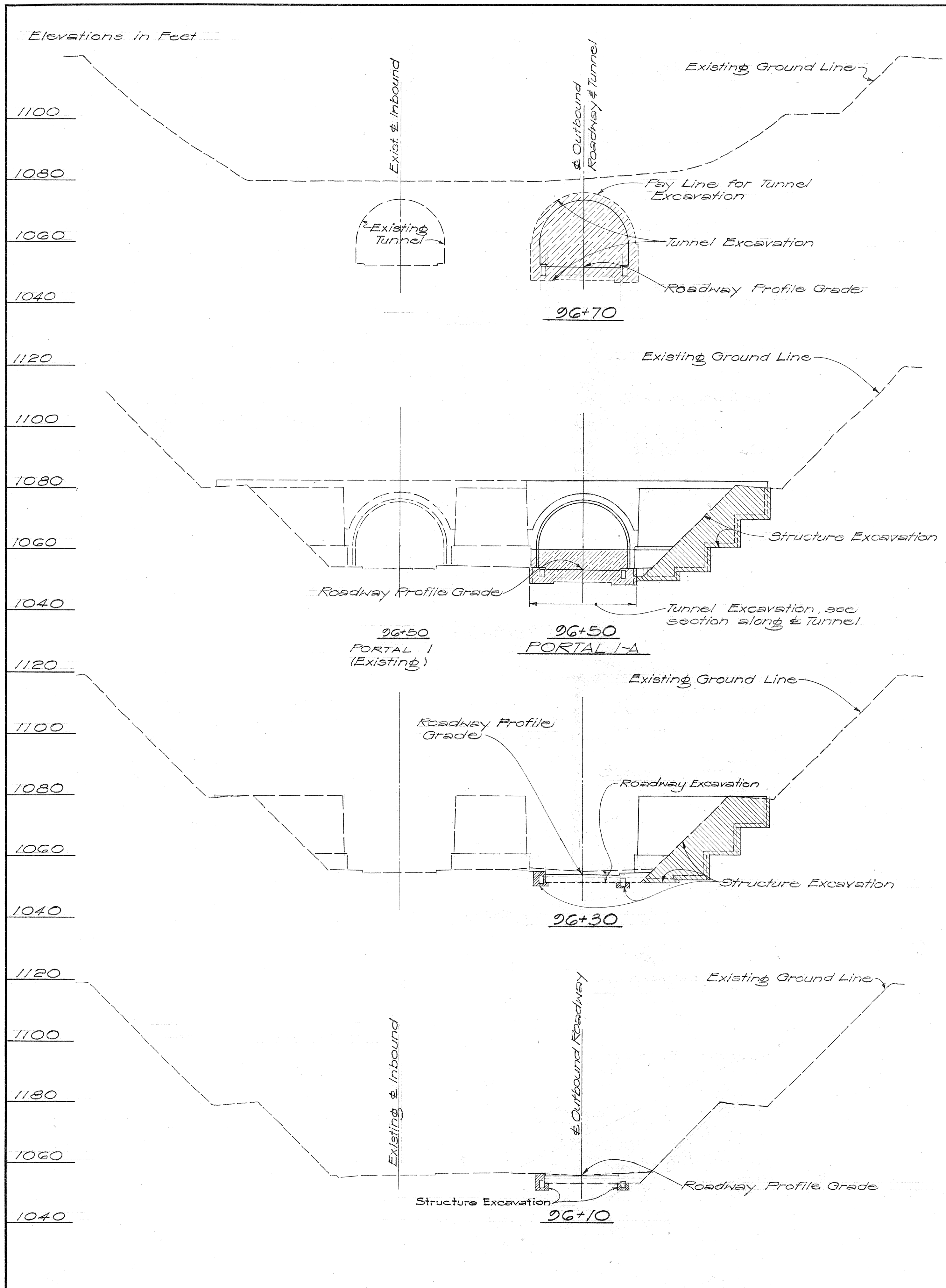
SHEET No. OF SHEETS

5896.17

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DESIGNED BY _____ DRAWN BY <u>PT</u> TRACED BY <u>CL</u>	DATE _____ " _____ " _____ " _____
NOTE BOOK No. _____	QUANTITIES BY _____ QUANTITIES CHECKED BY _____ CHECKED BY <u>CL</u>	" _____ " _____ " <u>7-57</u>



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BF-061-1(5)	1957	19	79



SECTION ALONG & TUNNEL

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

EXCAVATION AT PORTAL 1-A

PALI ROAD

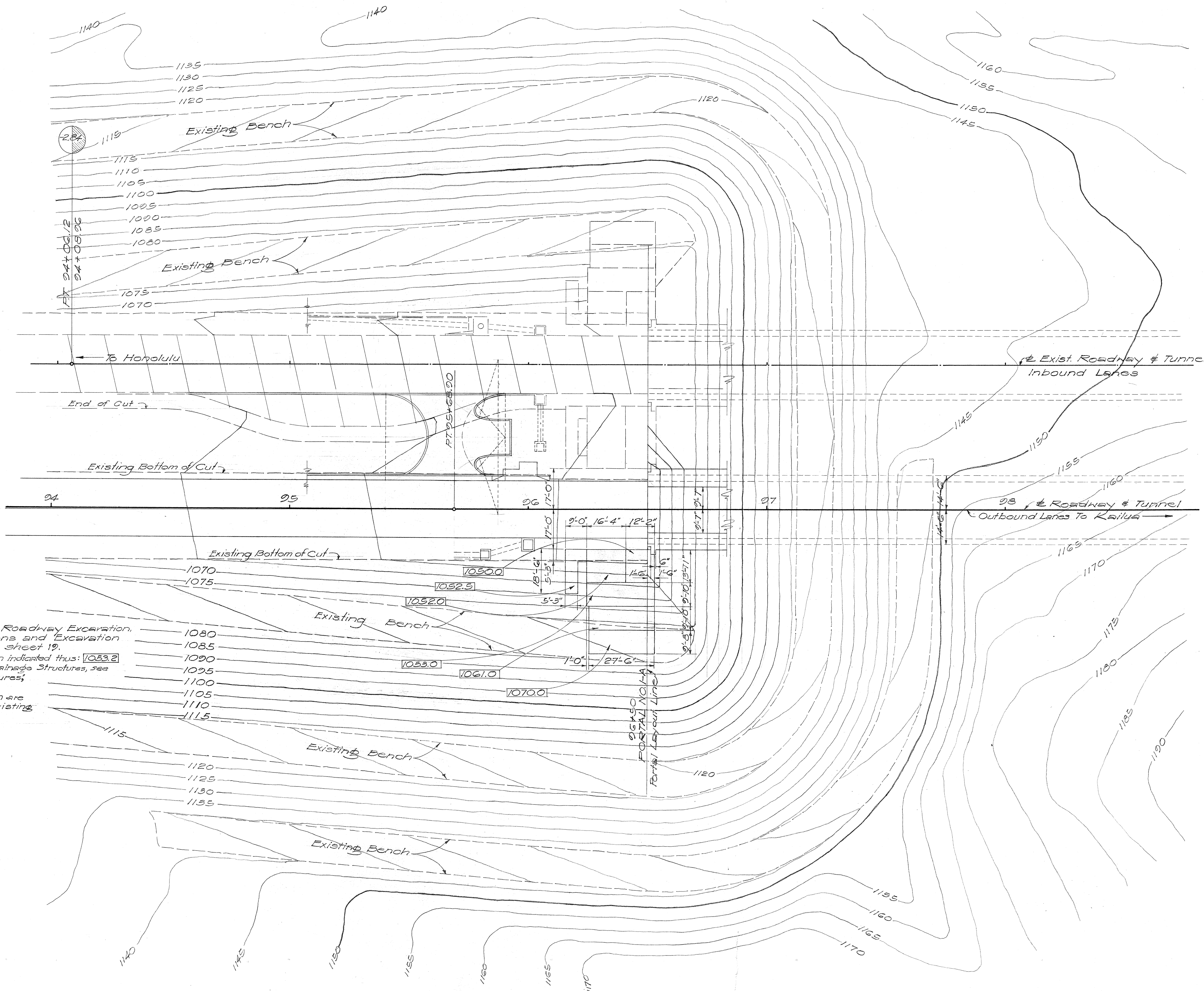
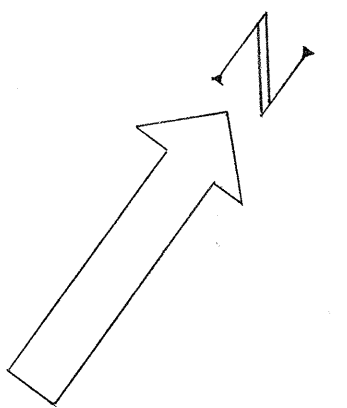
OUTBOUND TUNNELS

PROJ. NO. BF-061-1(5)

Scale: 1"=20'-0" Nov. 1956

SURVEY PLOTTED BY	DATE
DRAWN BY	11-56
CHECKED BY	11-56
QUANTITIES CHECKED BY	7-57
ORIGINAL PLAN No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-061-12	1957	20	72



NOTE:
 1. For detail of Roadway Excavation, see 'Road Plans and Excavation at Portal 1-A', sheet 19.
 2. Footing Elevation indicated thus: [1053.2]
 3. For details of Drainage Structures, see 'Drainage Structures', sheet 41.
 4. Contours shown are approximate existing ground line.

- 1080
- 1085
- 1090
- 1095
- 1100
- 1105
- 1110
- 1115

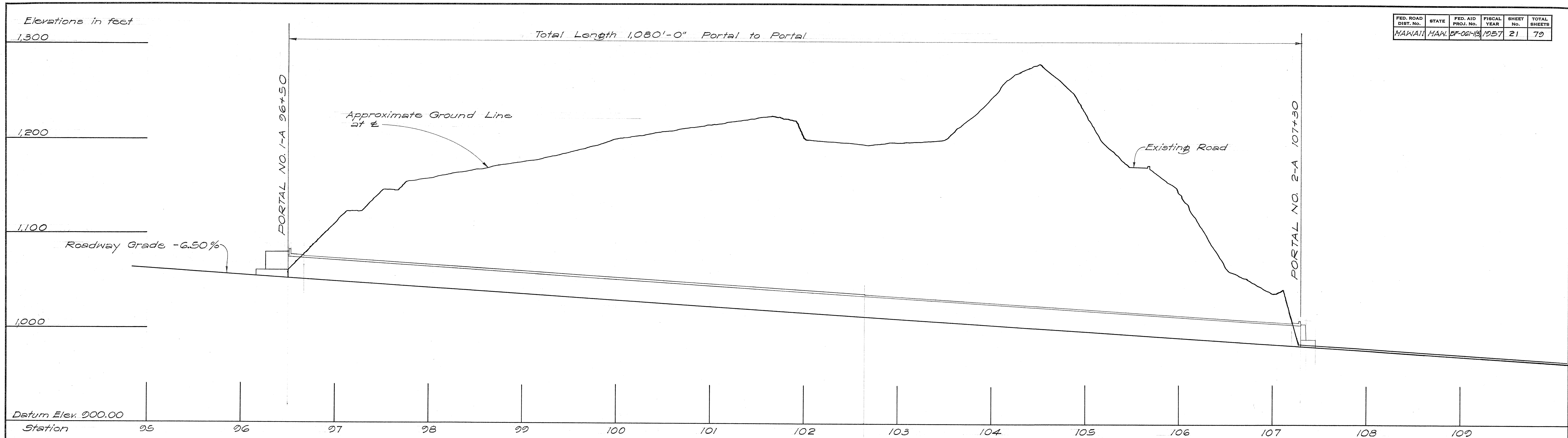
SURVEY PLOTTED BY	DATE
PLAN	10-25-56
TRACED BY	10-26-56
NOTE BOOK	10-26-56
QUANTITIES CHECKED BY	7-57
CHECKED BY	

TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
FOUNDATION PLAN AT
PORTAL 1-A
PALI ROAD
OUTBOUND TUNNELS
 PROJ. No. BF-061-1(5)
 Scale: 1" = 20'-0" Oct. 1956

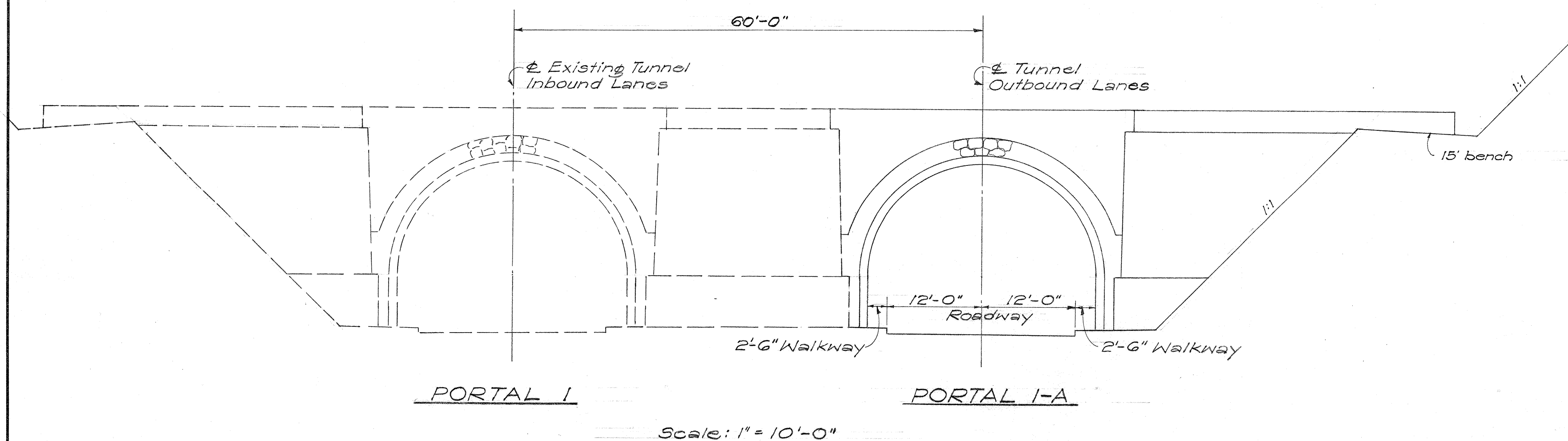
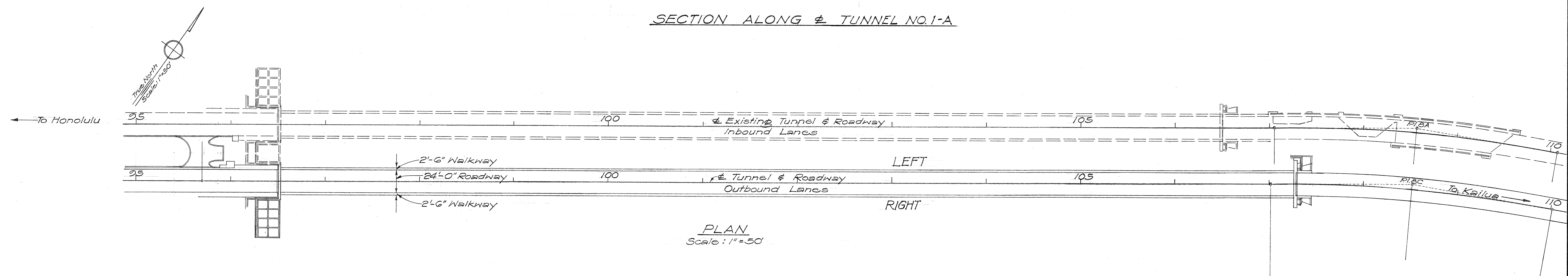
SHEET No. OF SHEETS

5896.20

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-061-1(5)	1957	21	72



SECTION ALONG $\pm$ TUNNEL NO. 1-A



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

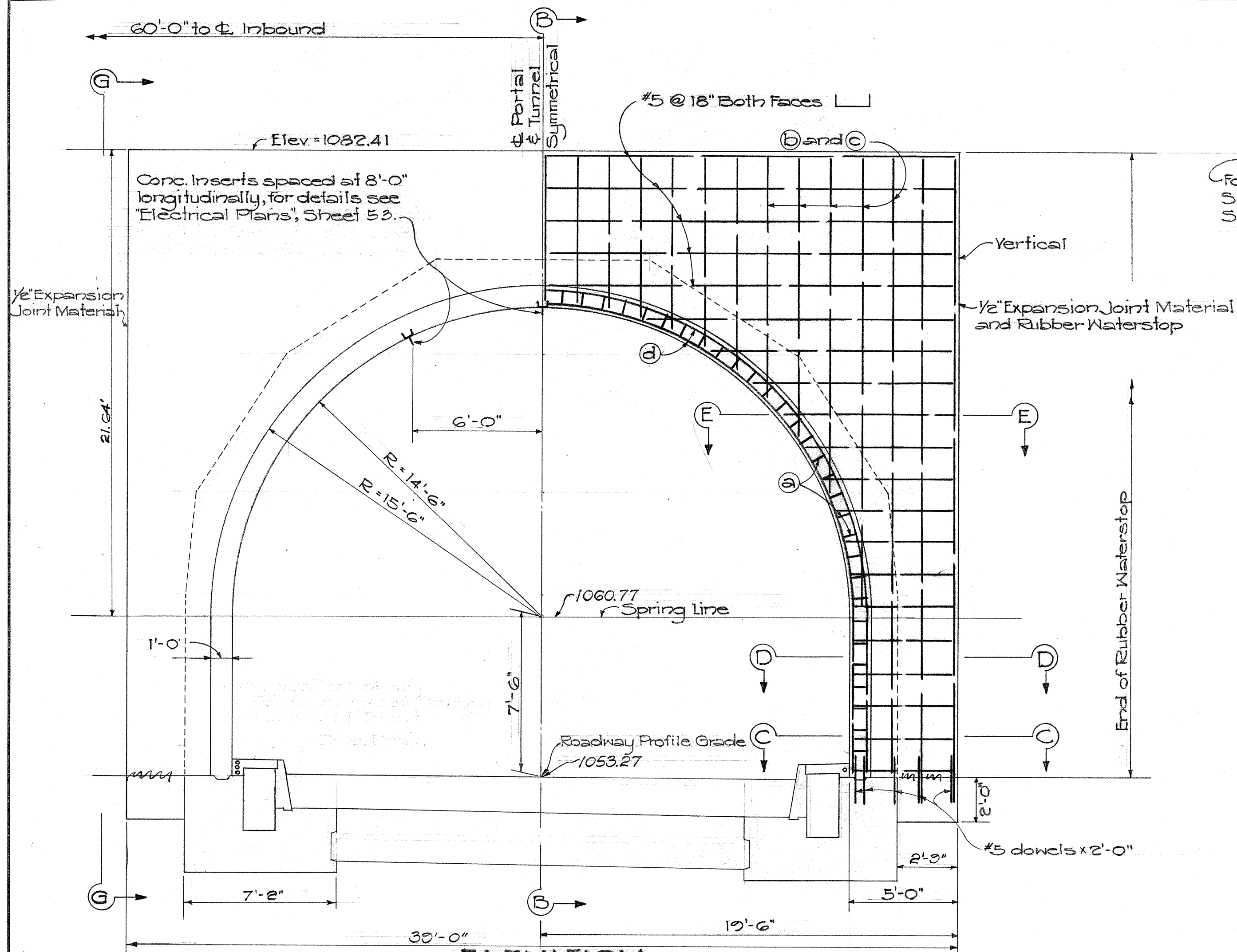
STRUCTURE PLAN
TUNNEL NO. 1-A
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061-1(5)
Scale: As noted Sept. 1956

SHEET No. OF SHEETS

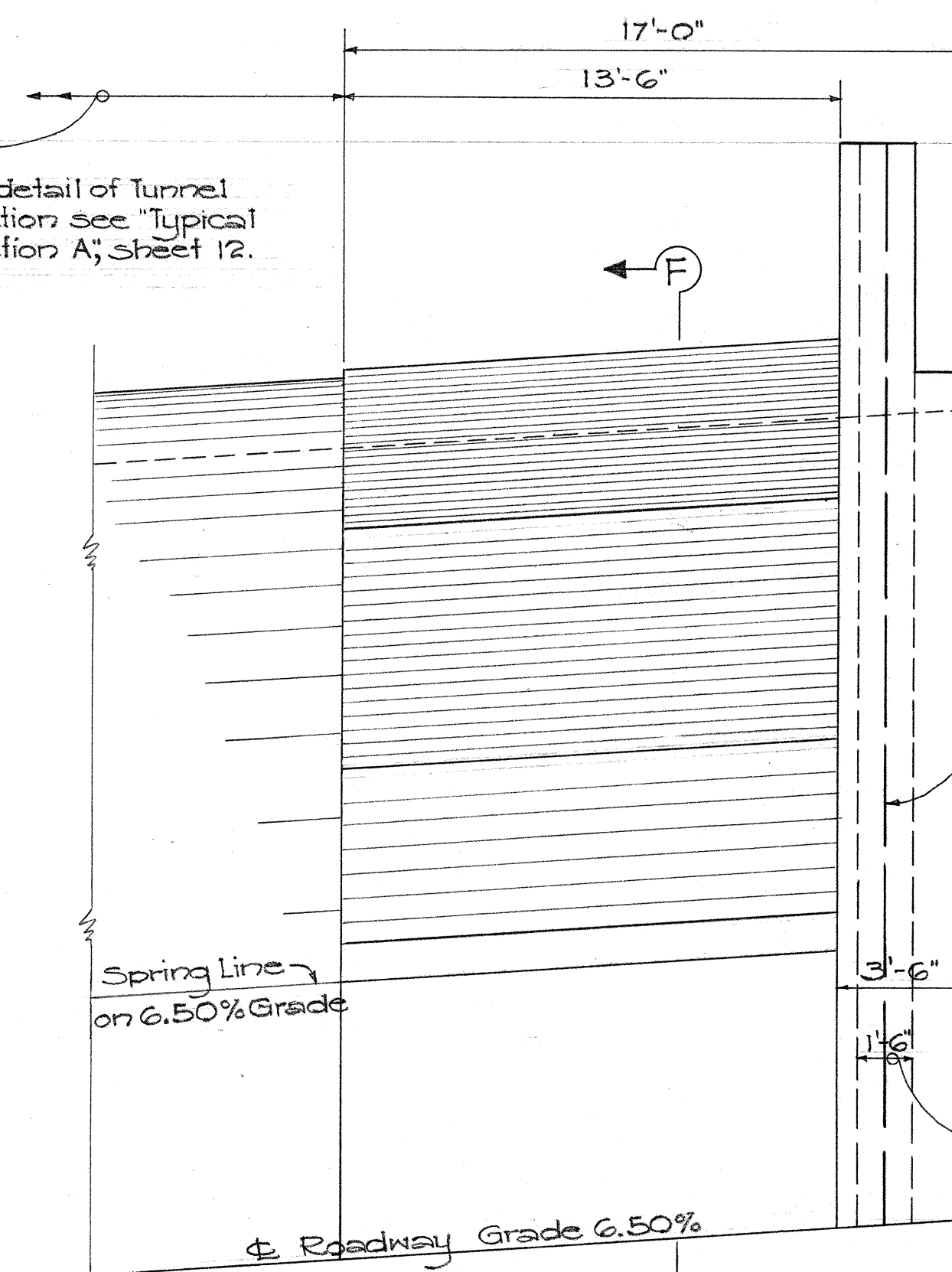
5896.21

SURVEY PLOTTED BY	DATE
PLAN	9/56
TRACED BY	50
QUANTITIES CHECKED BY	7/57
NOTE BOOK No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-061(5)	1957	22	79

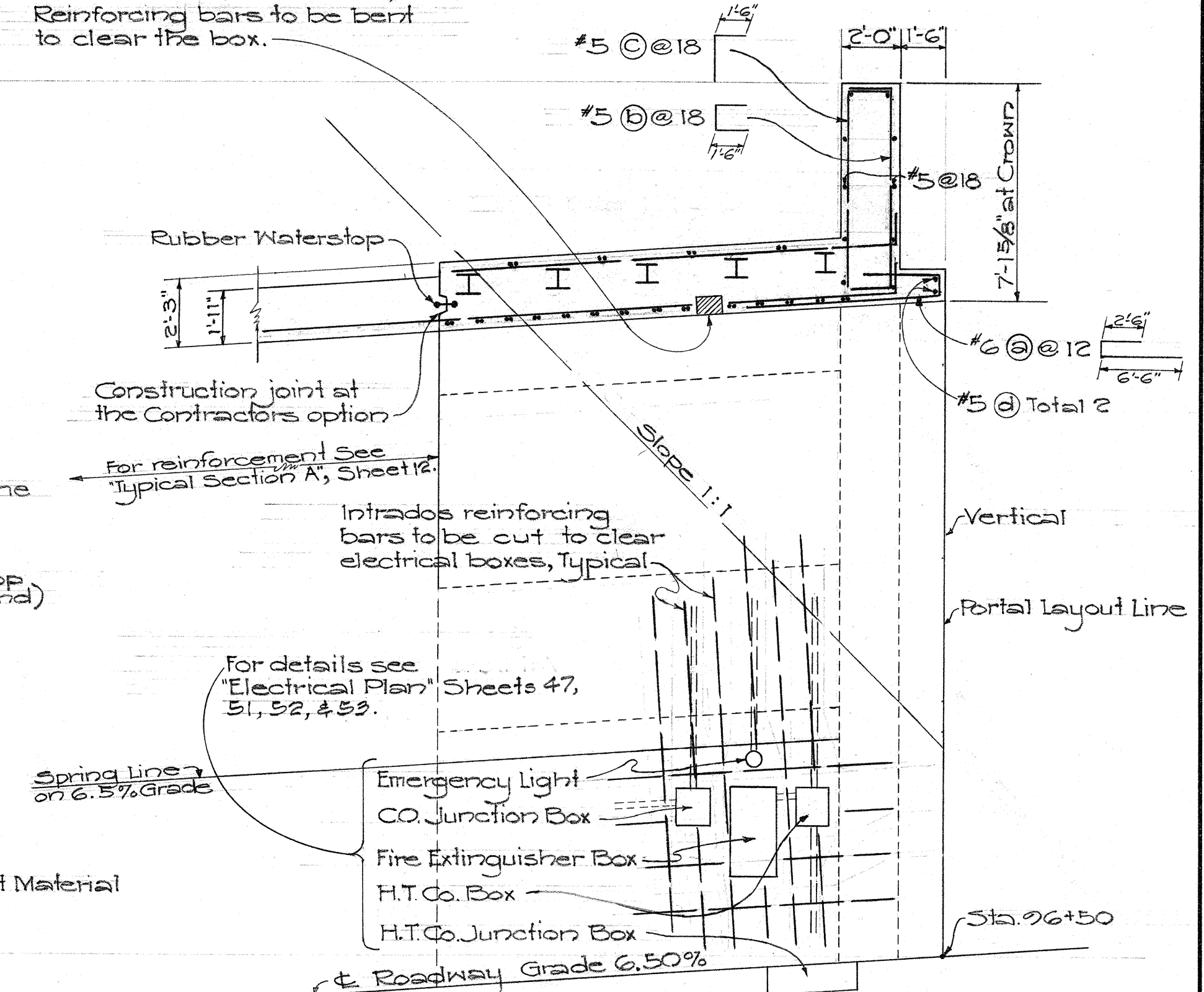


For detail of Tunnel Section see "Typical Section A", sheet 12.



SECTION "G-G"

Lighting Feeder Junction Box, for details see "Electrical Plan", Sheet 52.
Reinforcing bars to be bent to clear the box.



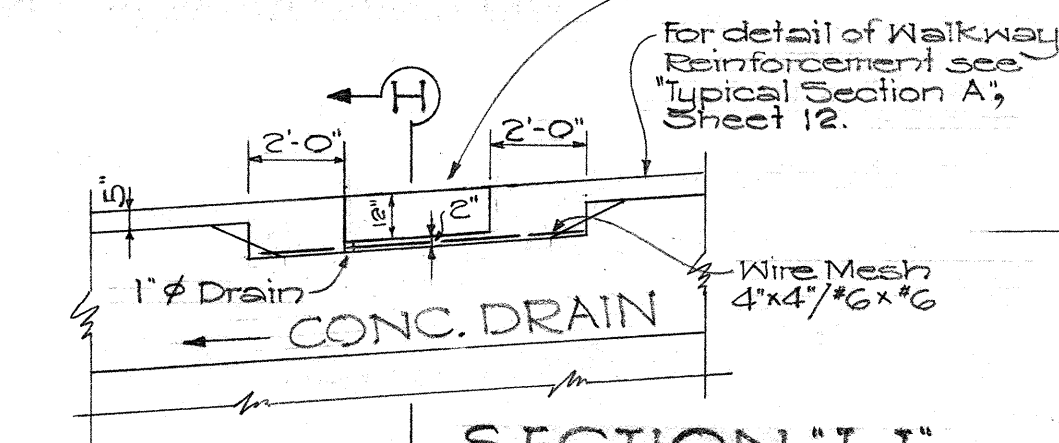
SECTION "B-B"

NOTE:

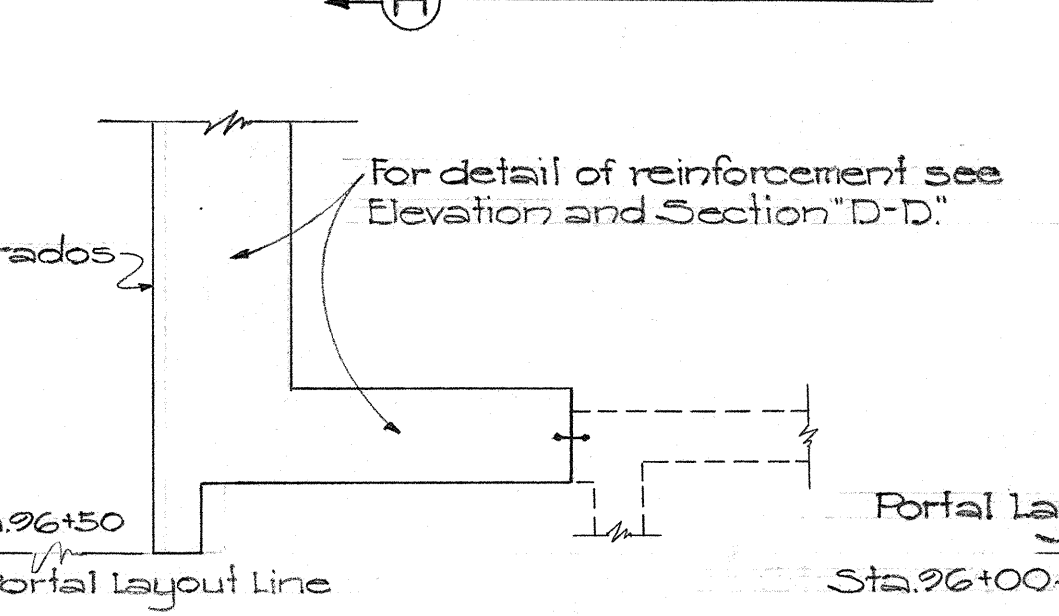
- The extrados of tunnel lining at Portal 1-A for length 17'-0" as shown on Section "G-G" at the Contractor's option may be constructed on chords as shown on Sections "F-F" and "G-G" or on arc with a radius of 16'-0" as shown on Section "F-F". Lines of payment for Excavation and Concrete Lining are same as shown on Typical Section "A", sheet 12.
- For general notes on reinforcement see "Index of Sheets", Sheet 2.

ELEVATION

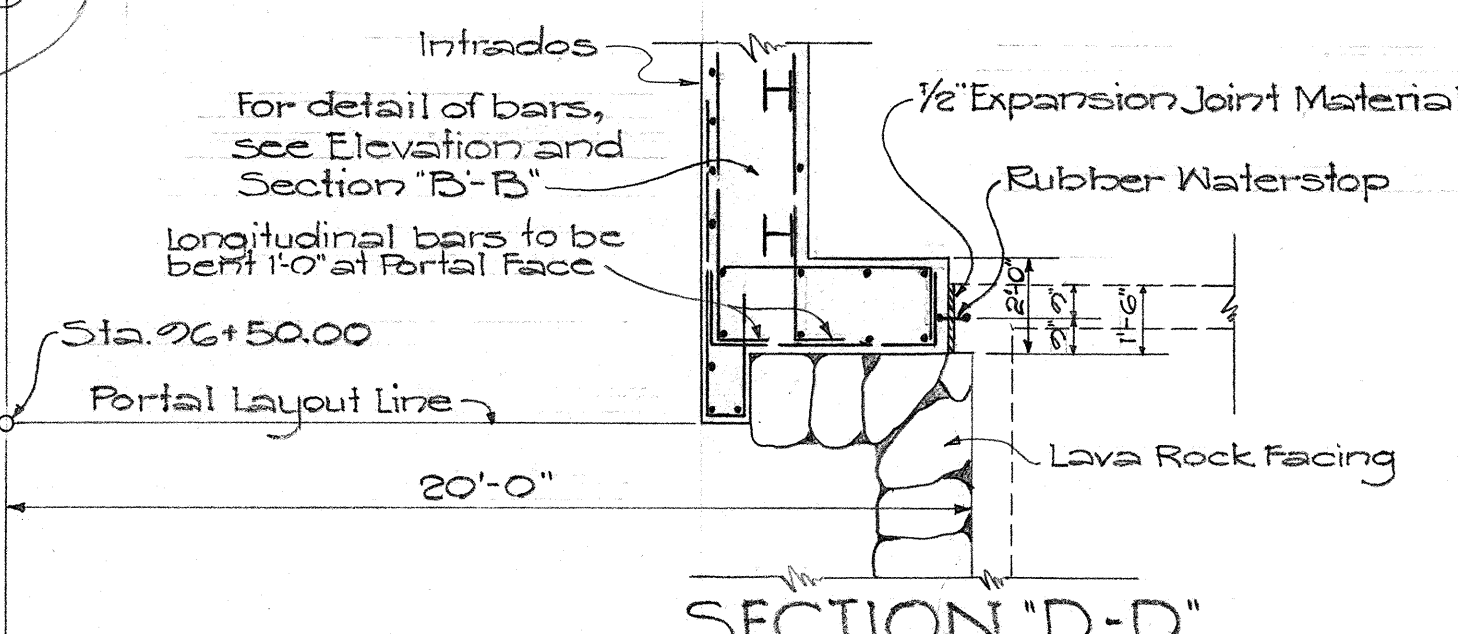
SECTION "H-H"



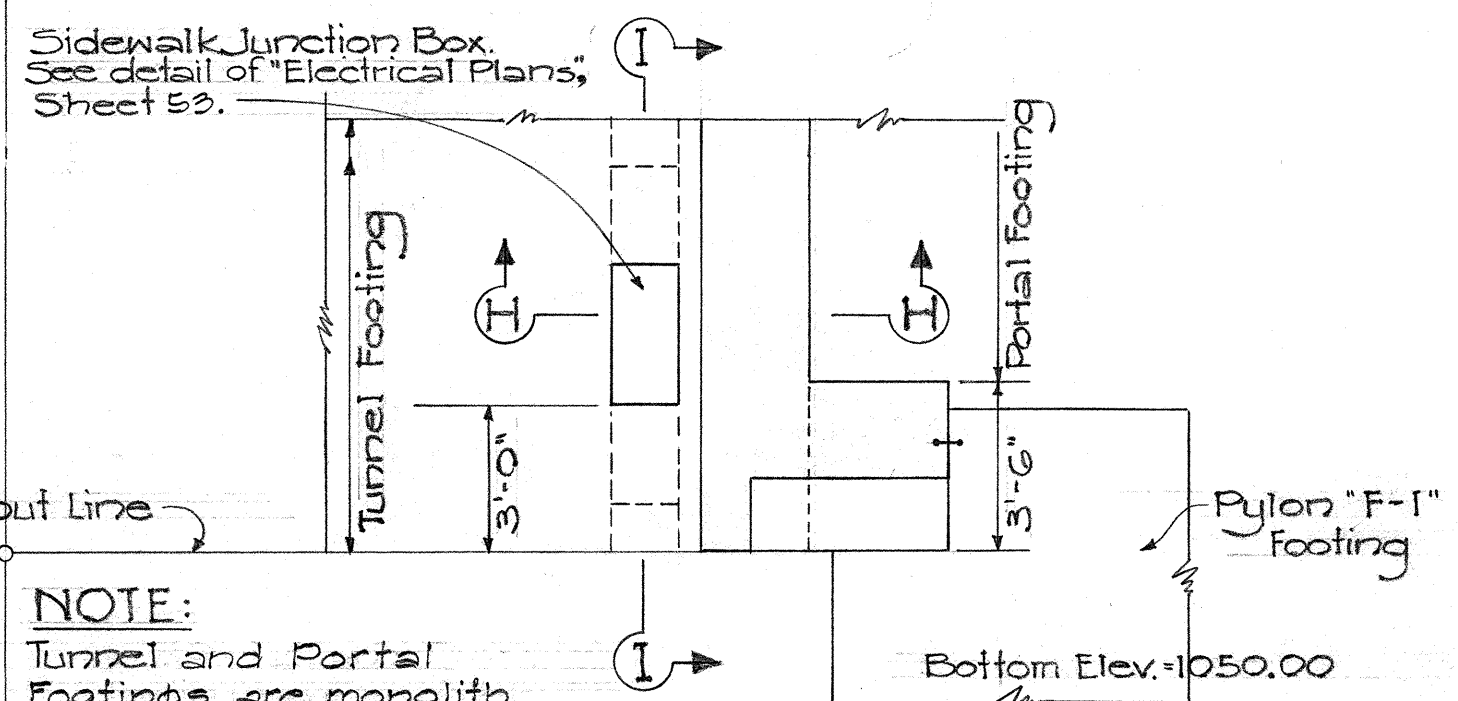
SECTION "I-I"



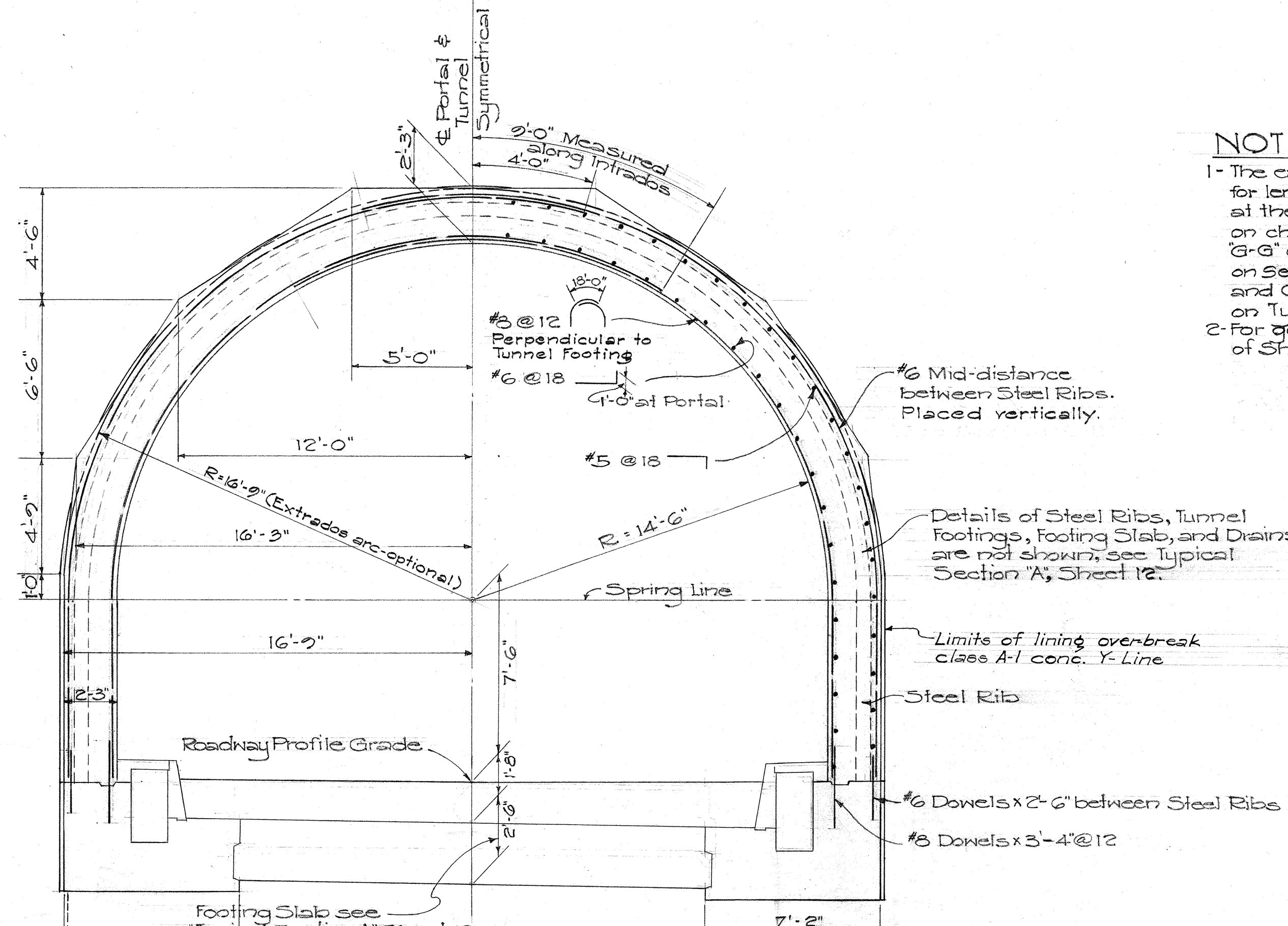
SECTION "E-E"



SECTION "D-D"



SECTION "C-C"
(Showing footing plan)



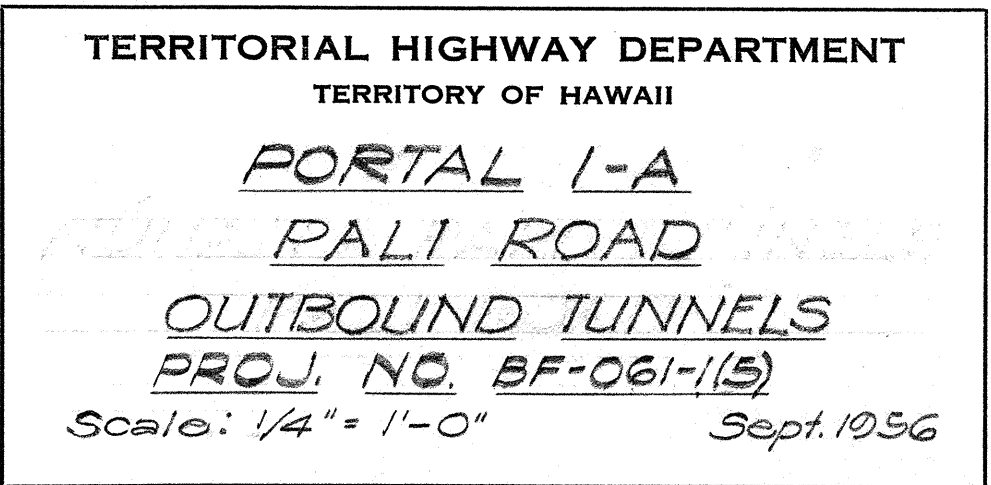
SECTION "F-F"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
PORTAL DETAIL I
PORTAL 1-A
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061(5)
Scale: 1/4"=1'-0" Aug 1956

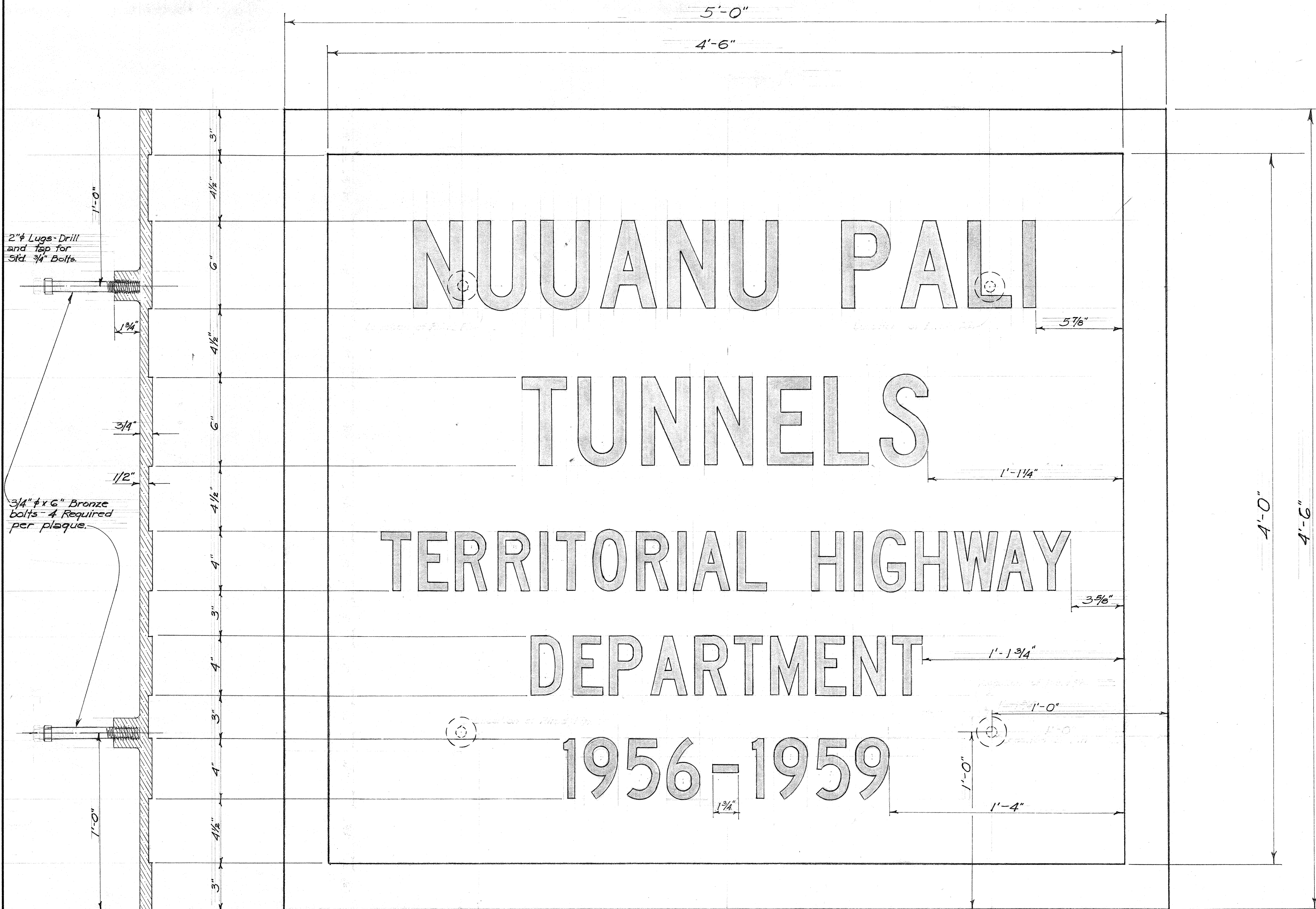
SHEET No. OF SHEETS

5896.22

ORIGINAL PLAN	SURVEY PLOTTED BY DESIGNED BY DRAWN BY TRACED BY QUANTITIES BY QUANTITIES CHECKED BY CHECKED BY	DATE 1-57 9-56 3-56 1-57 1-57 7-57
NOTE BOOK No.		



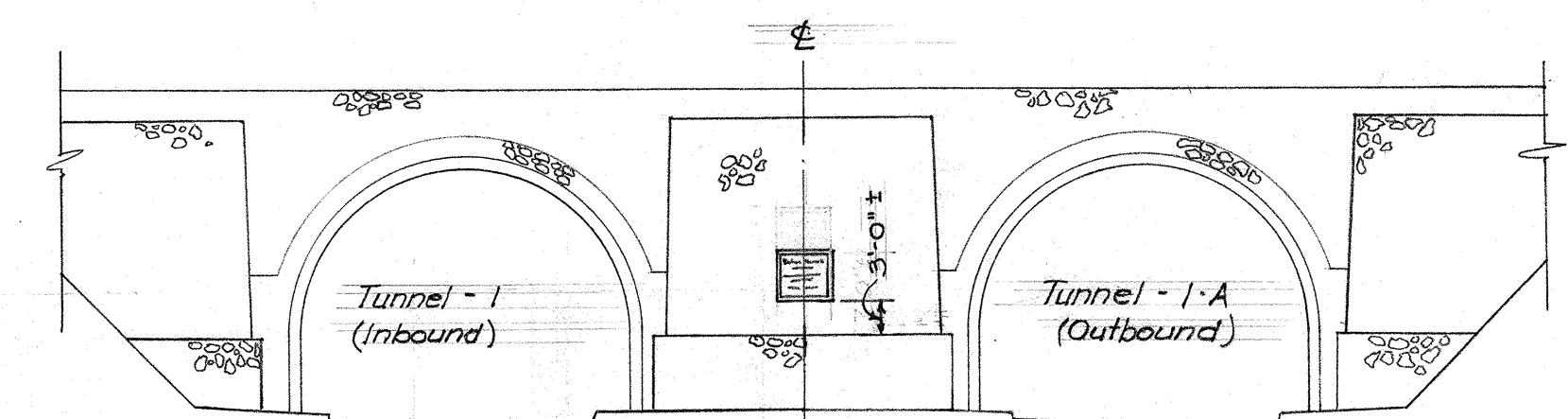
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS



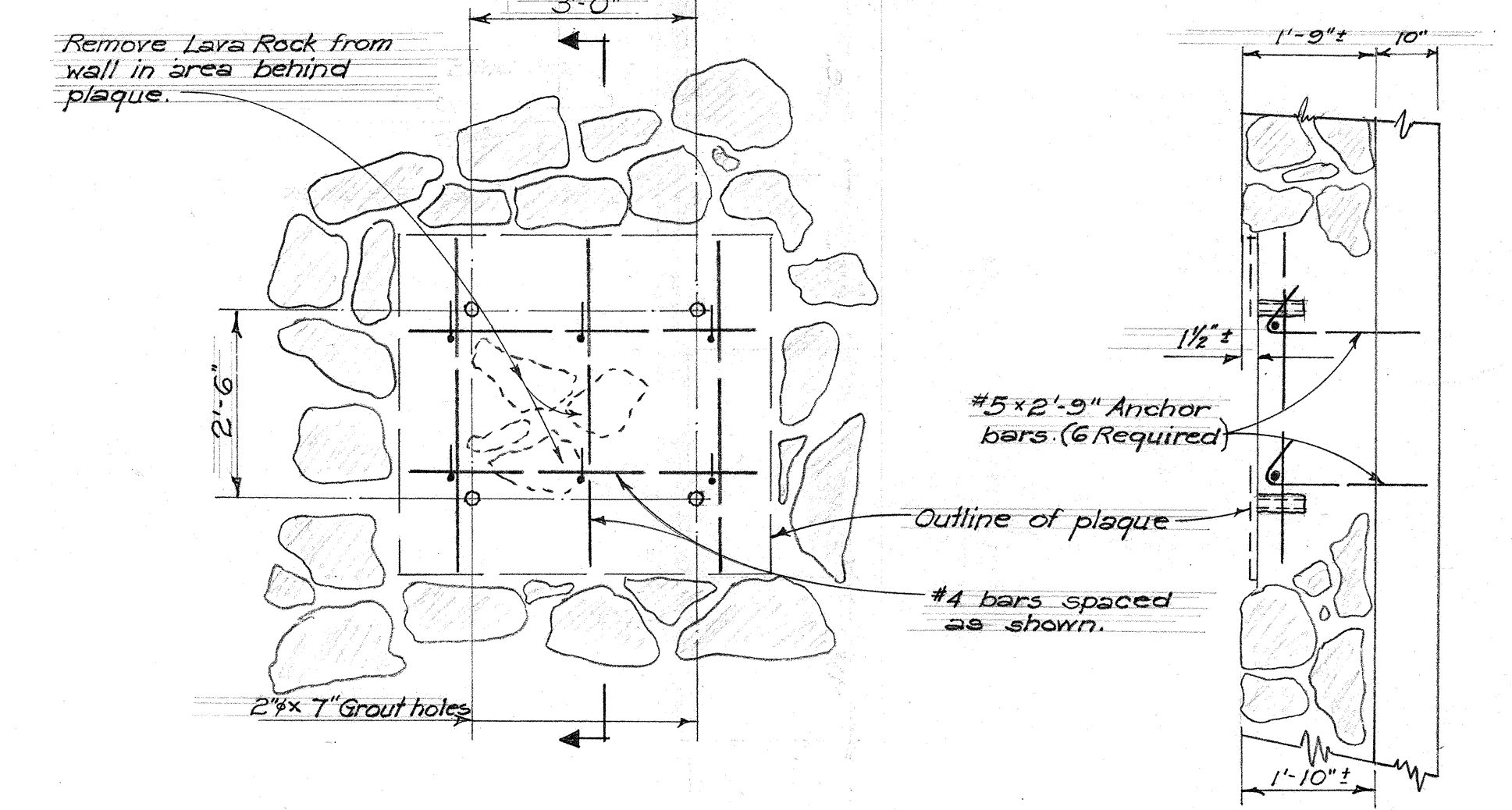
SECTION
Scale: 3"=1'-0"

PLAN
Scale: 3"=1'-0"

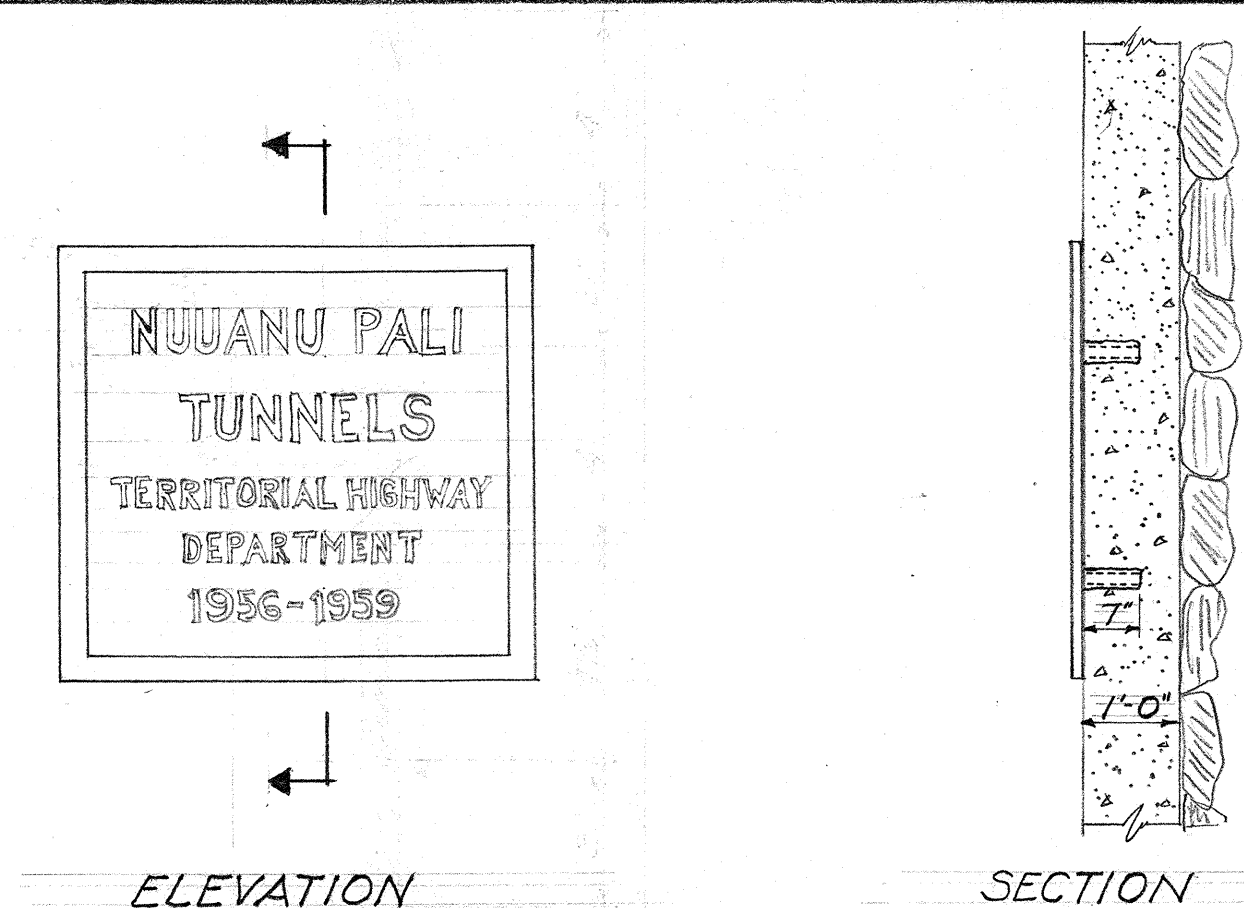
Note:
Lettering shall be according to Series "C," of the Standard Alphabets for Highway Signs, Public Roads Administration, Federal Works Agency, 1945.



LOCATION AT PORTAL 1
Scale: 1/16"=1'-0"
(Location at Portal 4 similar except for Lava Rock facing)



ELEVATION SECTION
INSTALLATION DETAIL - PORTAL 1
Scale: 1/2"=1'-0"



ELEVATION SECTION
INSTALLATION DETAIL - PORTAL 4
Scale: 1/2"=1'-0"

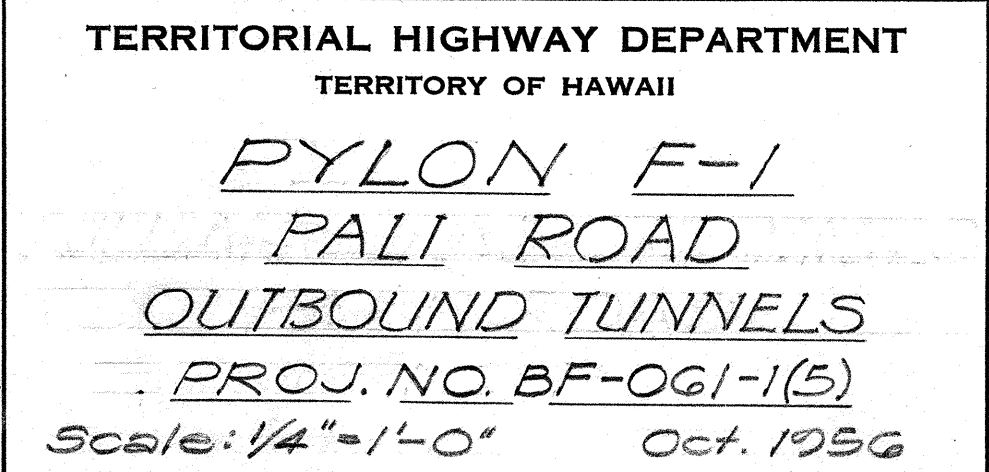
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRONZE PLAQUE
NUUANU PALI TUNNELS
PROJECT NO. BF-061-1(5)
Scale As Noted May 20, 1958

SHEET No. OF SHEETS

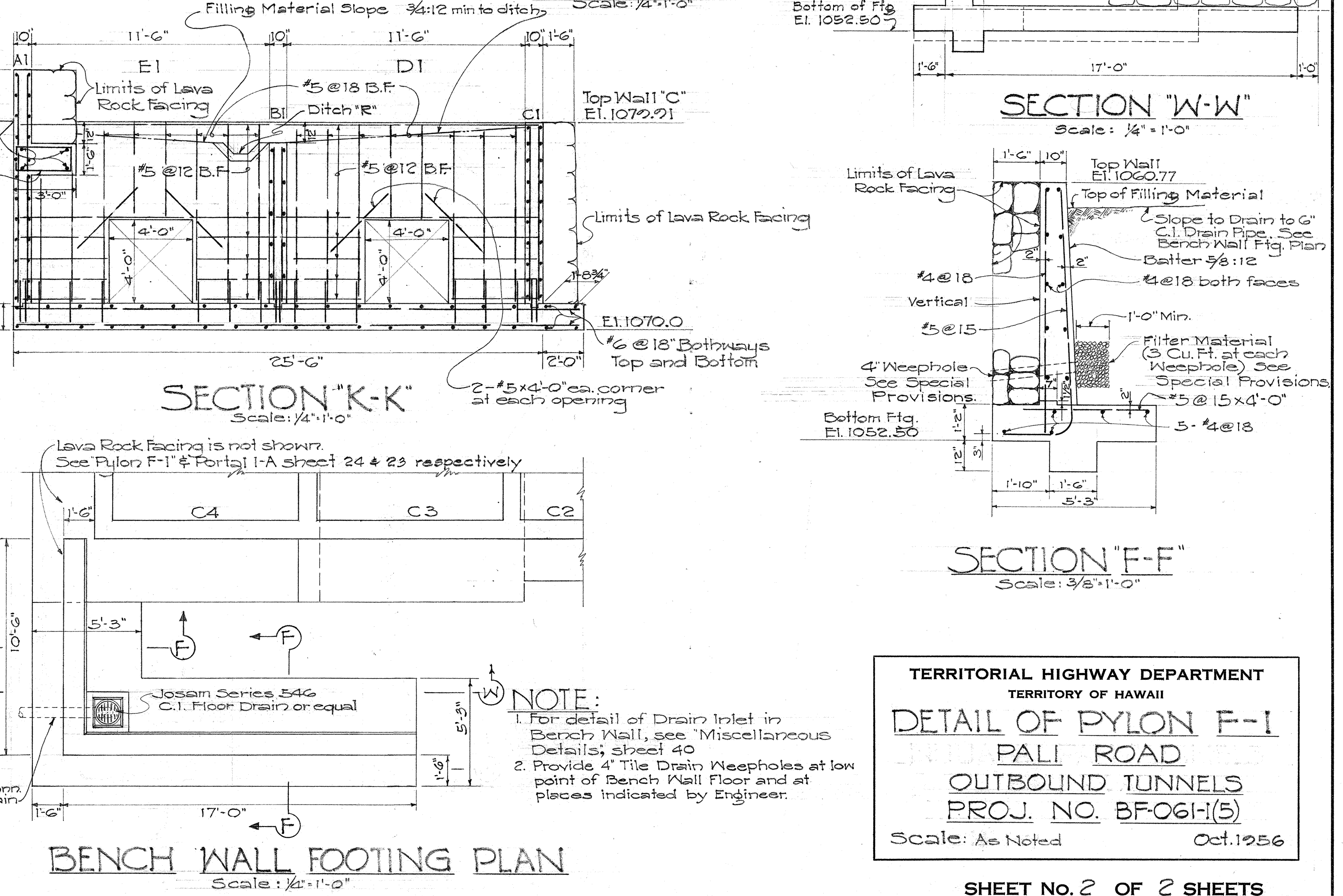
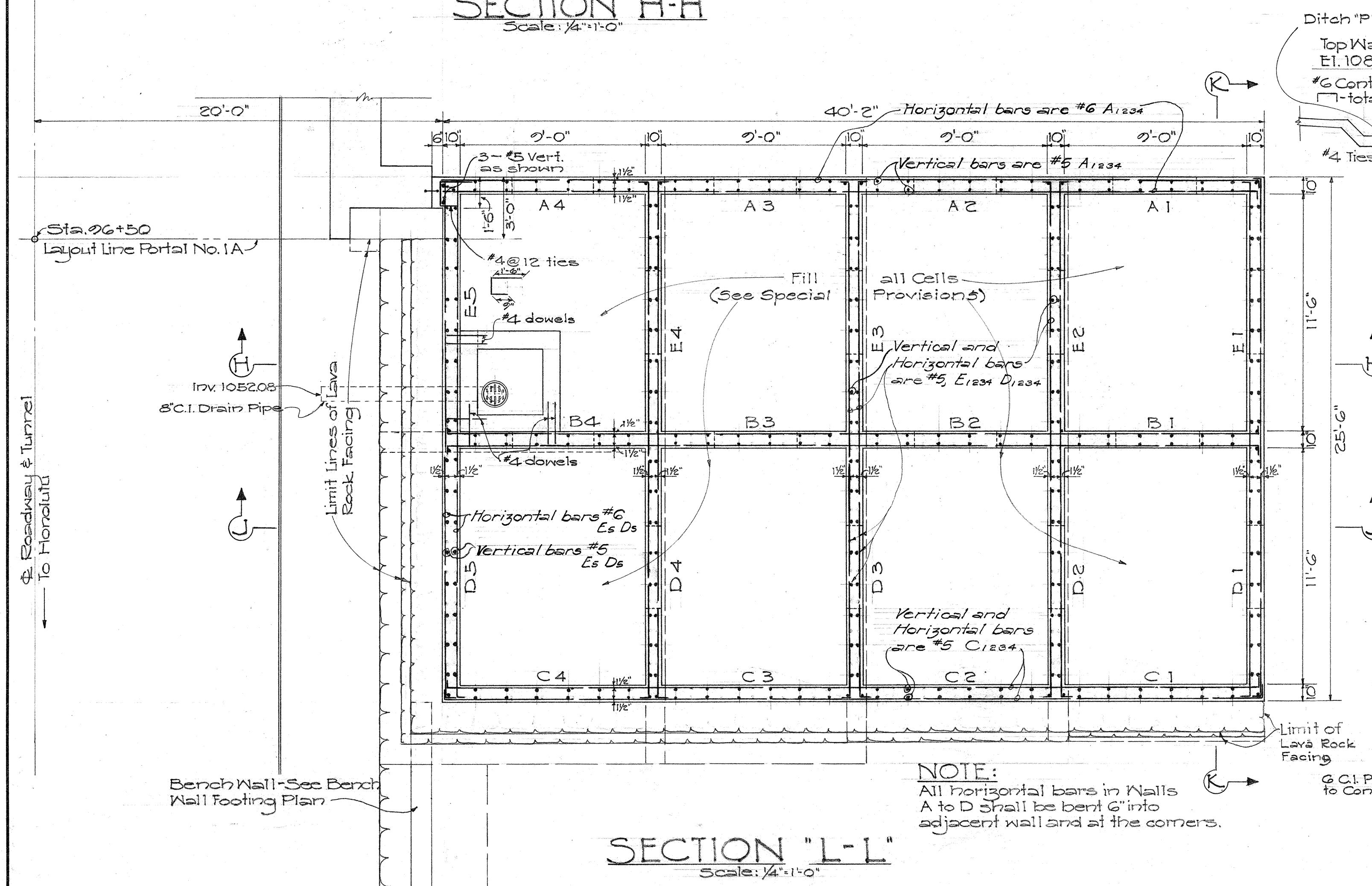
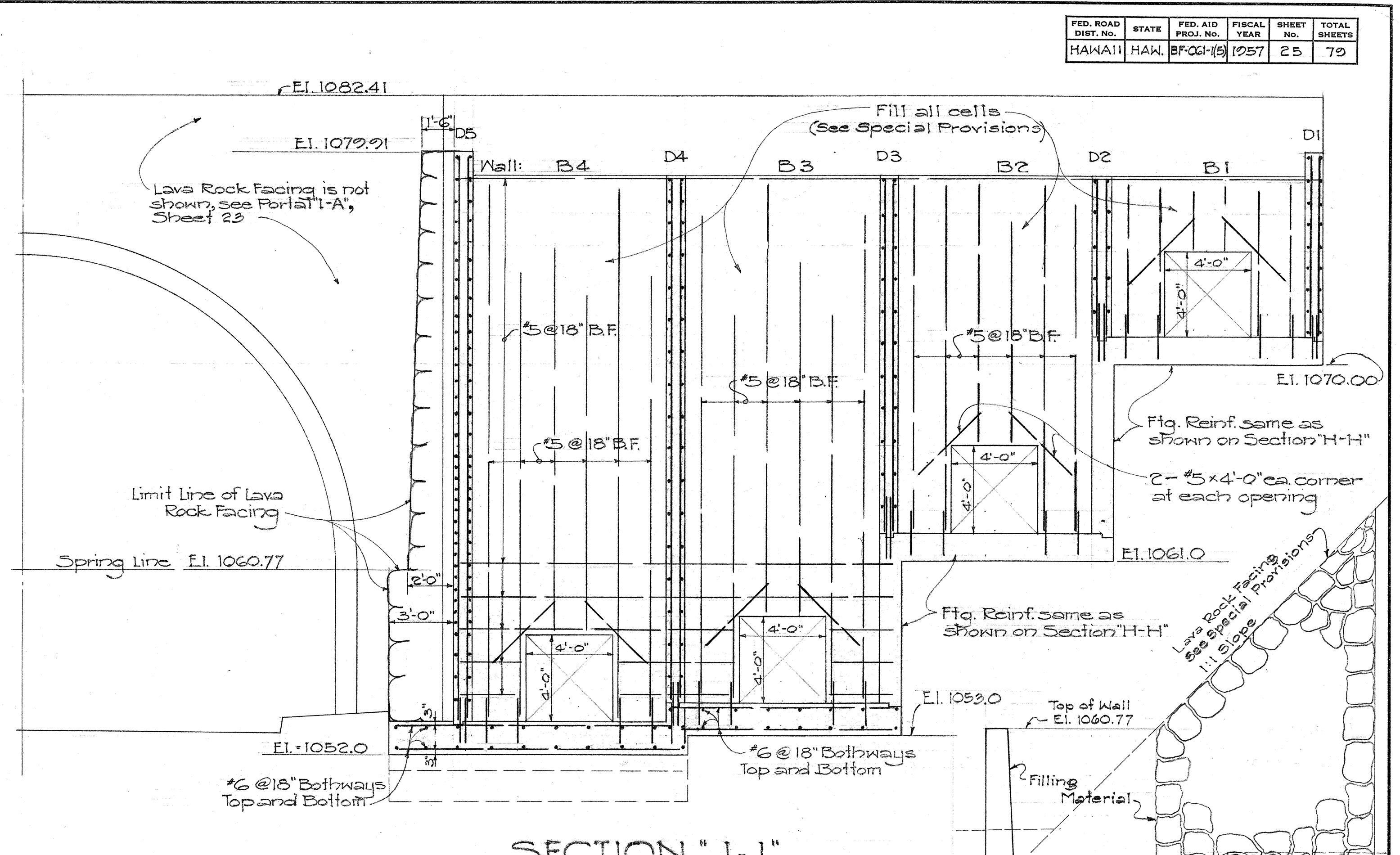
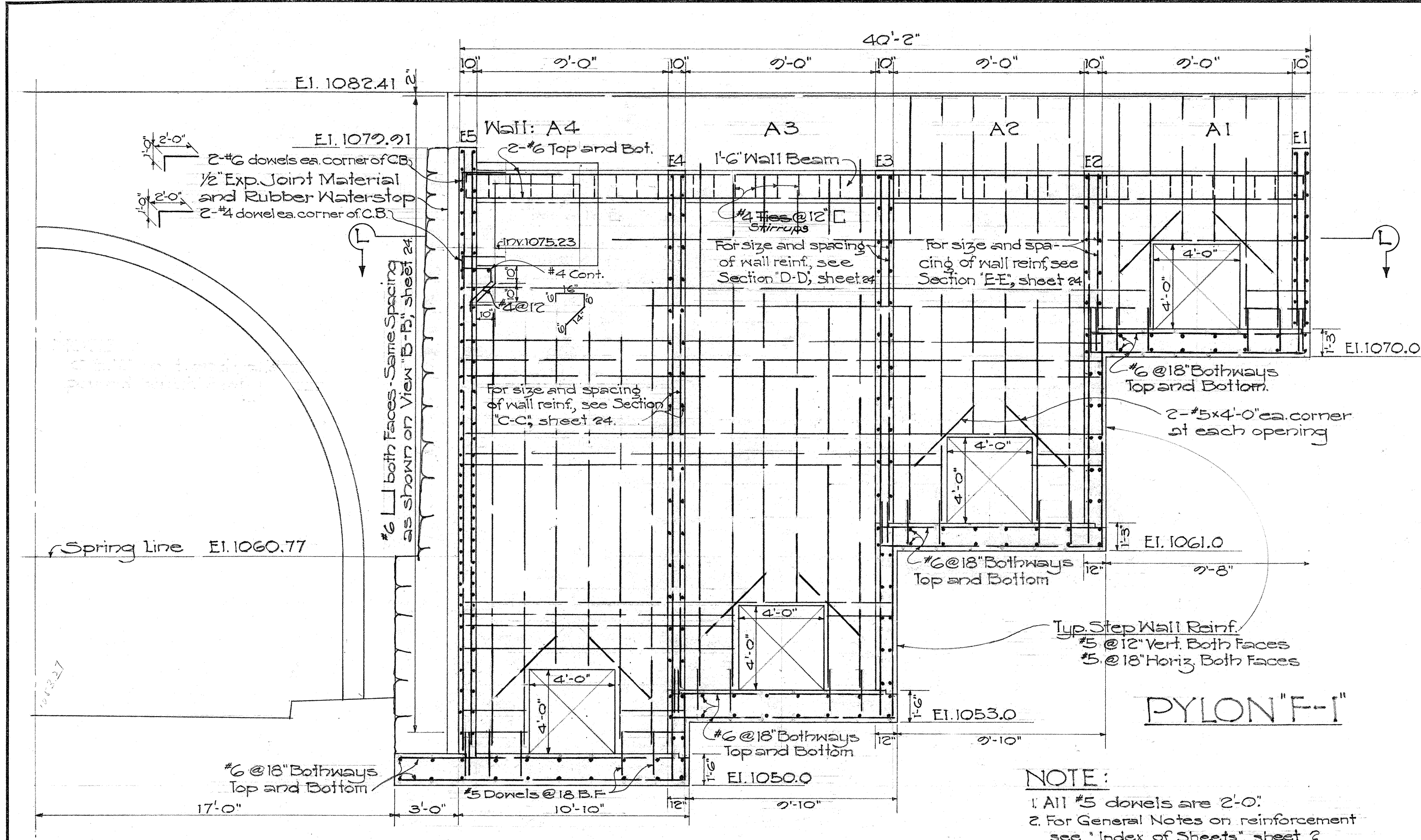
5896.231

ORIGINAL PLAN	DESIGNED BY	DATE
NOTE BOOK	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	
	CHECKED BY	

ORIGINAL PLAN	SURVEY PLOTTED BY <u>REM IN</u> DATE <u>5-54</u> DESIGNED BY <u>A. L. REM IN</u> " <u>1-57</u> DRAWN BY <u>P. T.</u> " <u>10-56</u> TRACED BY <u>C. L. T. N.</u> " <u>10-56</u> QUANTITIES BY <u>P. T.</u> " <u>1-57</u> QUANTITIES CHECKED BY <u>H. F. C.</u> " <u>1-57</u> CHECKED BY <u>P. T.</u> " <u>7-57</u>
NOTE BOOK No.	

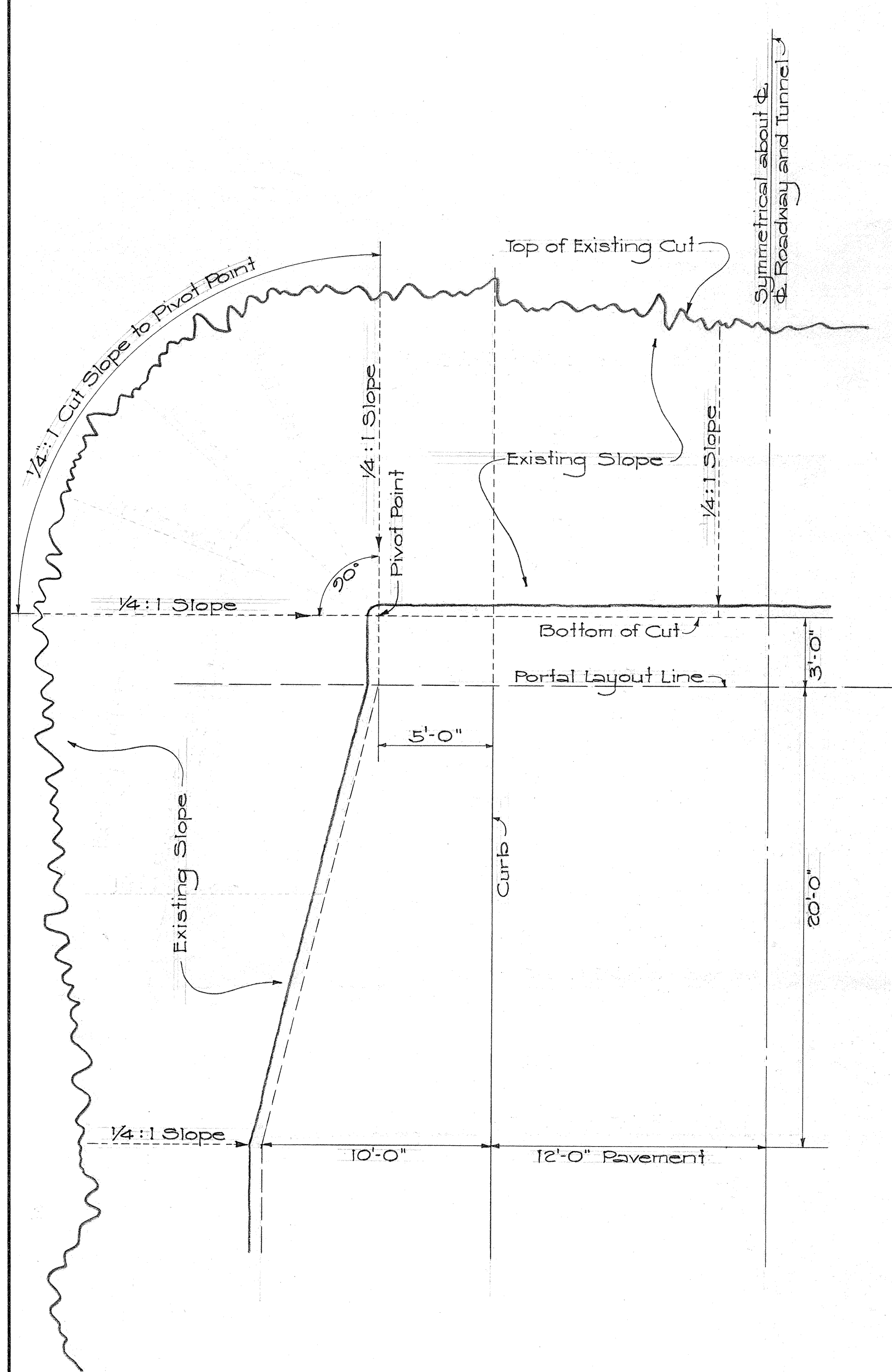


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-061(5)	1957	25	72

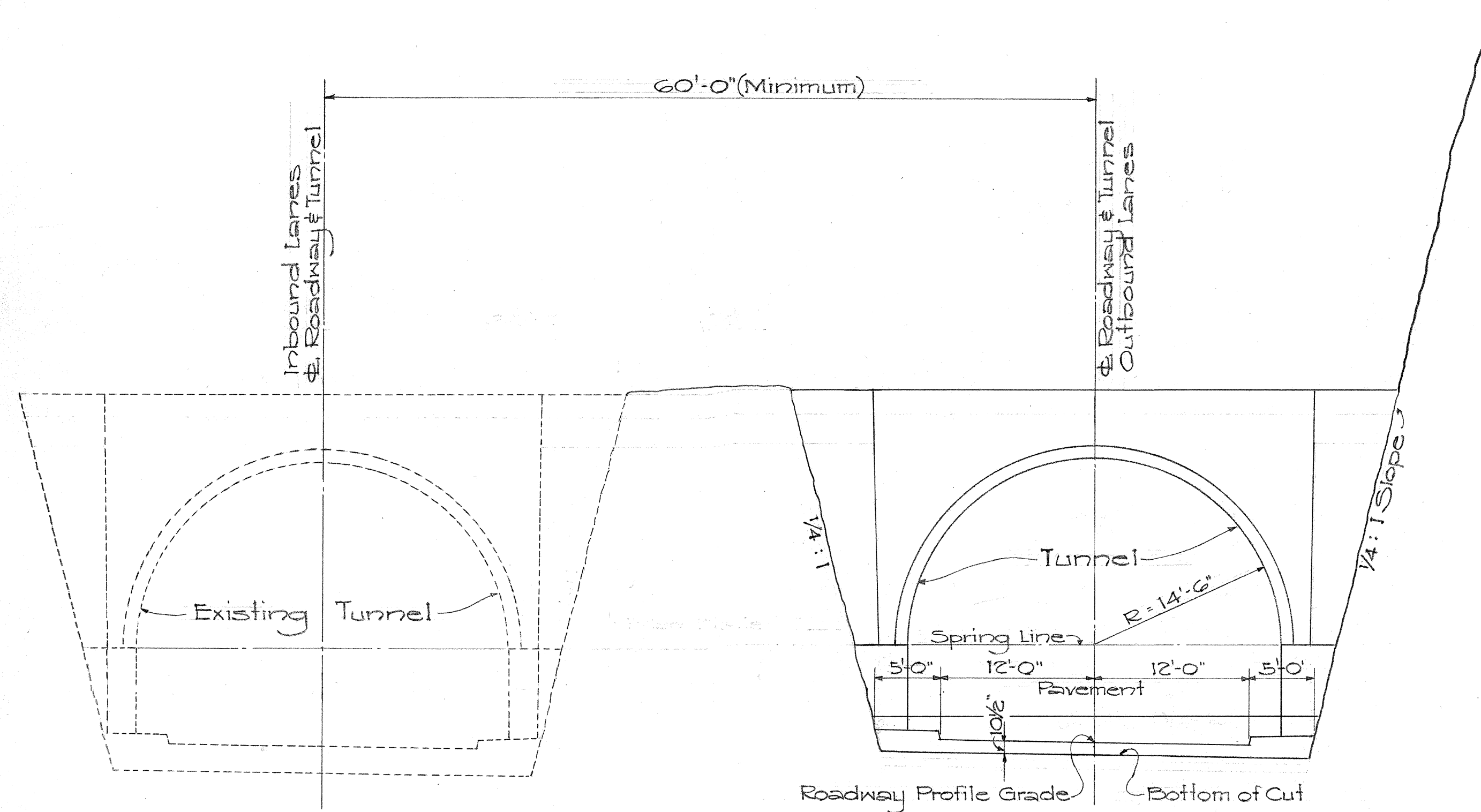


Survey Plotted, E. E. MIN. 5-24
DATE 1-57
DRAWN BY E. E. MIN.
CHECKED BY E. E. MIN.
NOTE BOOK NO. 10-56
QUANTITIES CHECKED BY H. E. C.
7-57

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
DETAIL OF PYLON F-1
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BFO61(5)
Scale: As Noted Oct. 1956

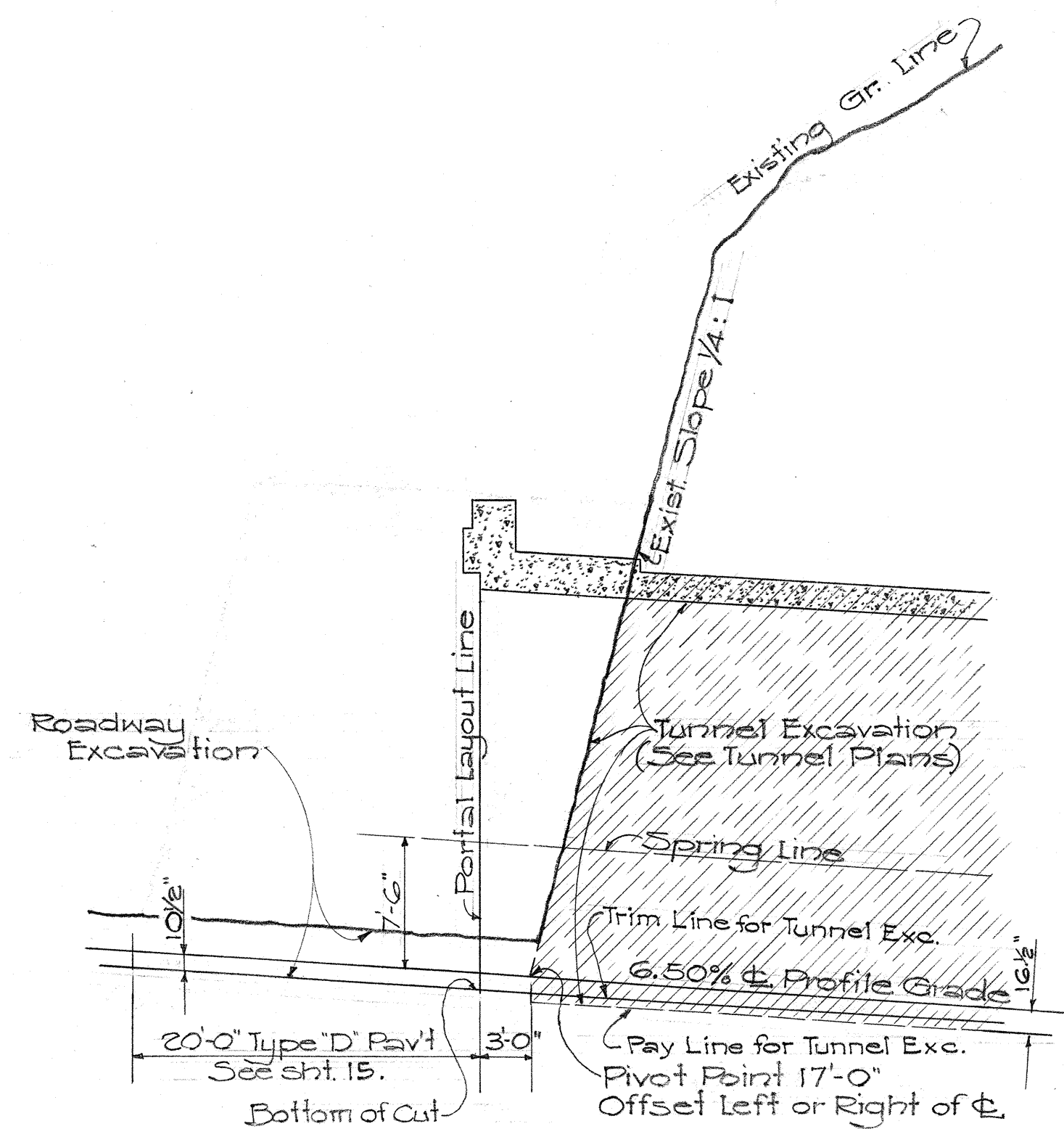


HALF-PLAN SHOWING
EXCAVATION DIAGRAM AT PORTAL 2-A, 3-A & 4-A
Scale: 1/4"=1'-0"

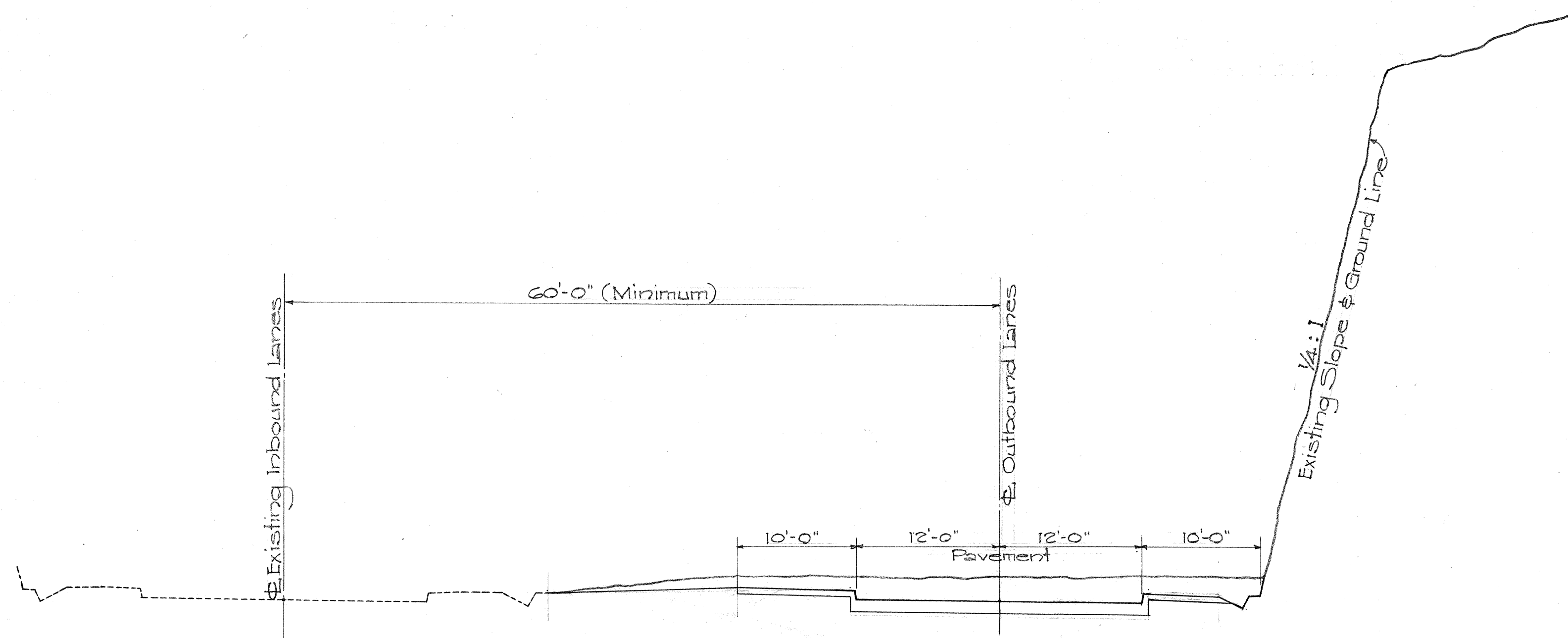


TYPICAL PORTAL FACE SECTION SHOWING BOTH
BORES - PORTALS 3-A & 4-A
Scale: 1/8"=1'-0"

NOTE:
See cross-sections for Portal Sections



SECTION ALONG THE TUNNEL
Scale: 1/8"=1'-0"

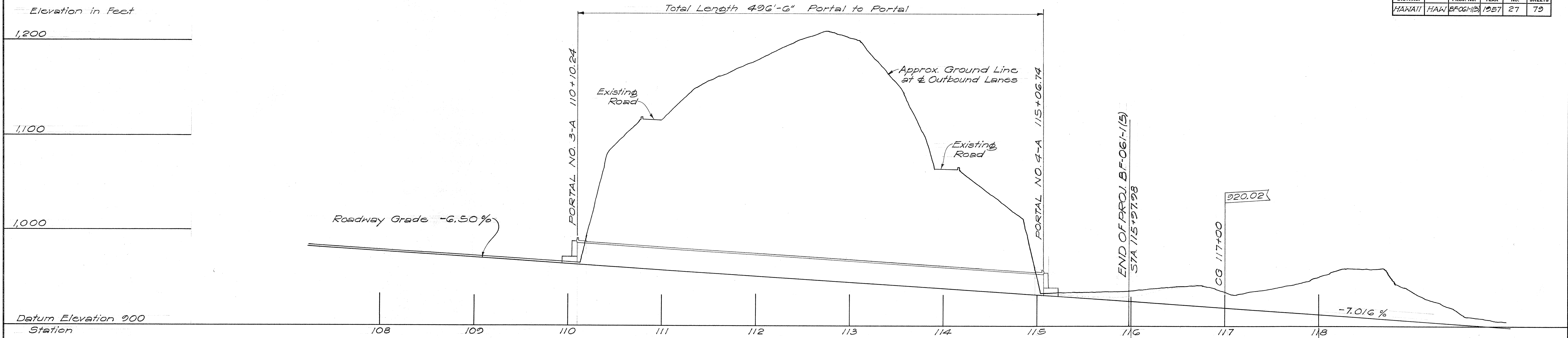


TYPICAL SECTION SHOWING BOTH ROADWAYS
Scale: 1/8"=1'-0"

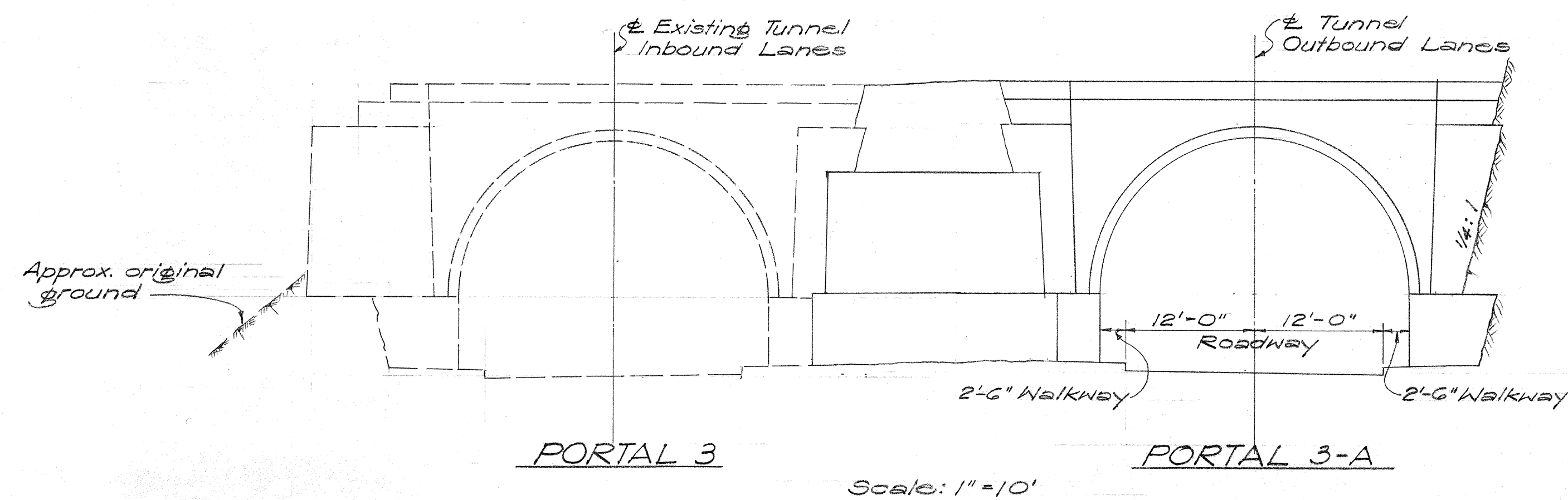
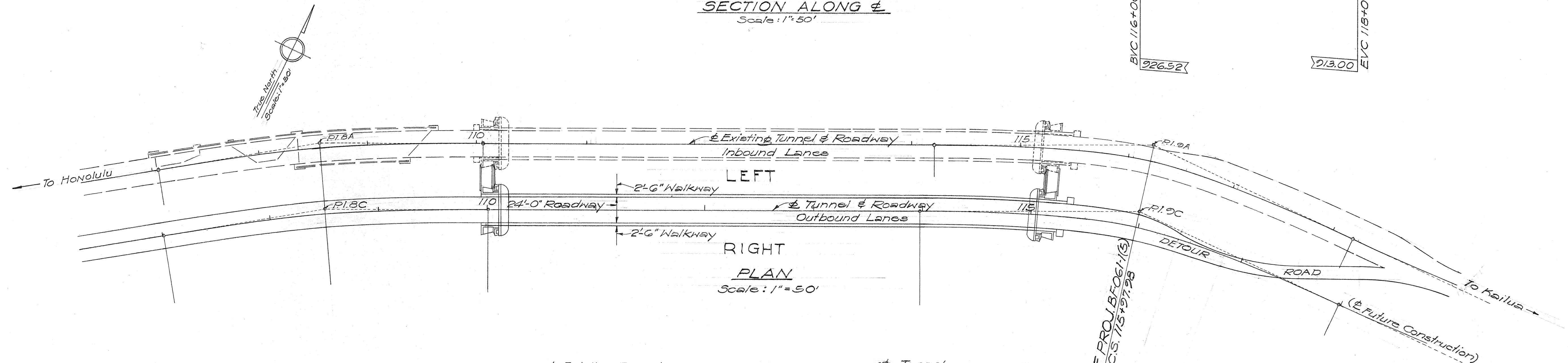
SURVEY PLOTTED BY	DATE
DRAWN BY	3-56
TRACED BY	3-56
QUANTITIES CHECKED BY	7-57
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
TYPICAL EXCAVATION DIAGRAM
PORTAL 2A, 3A, & 4A
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061-1(5)
Scale: AS NOTED
Sept 1956

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BF-061(5)	1957	27	79



SECTION ALONG &
Scale: 1"=50'



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

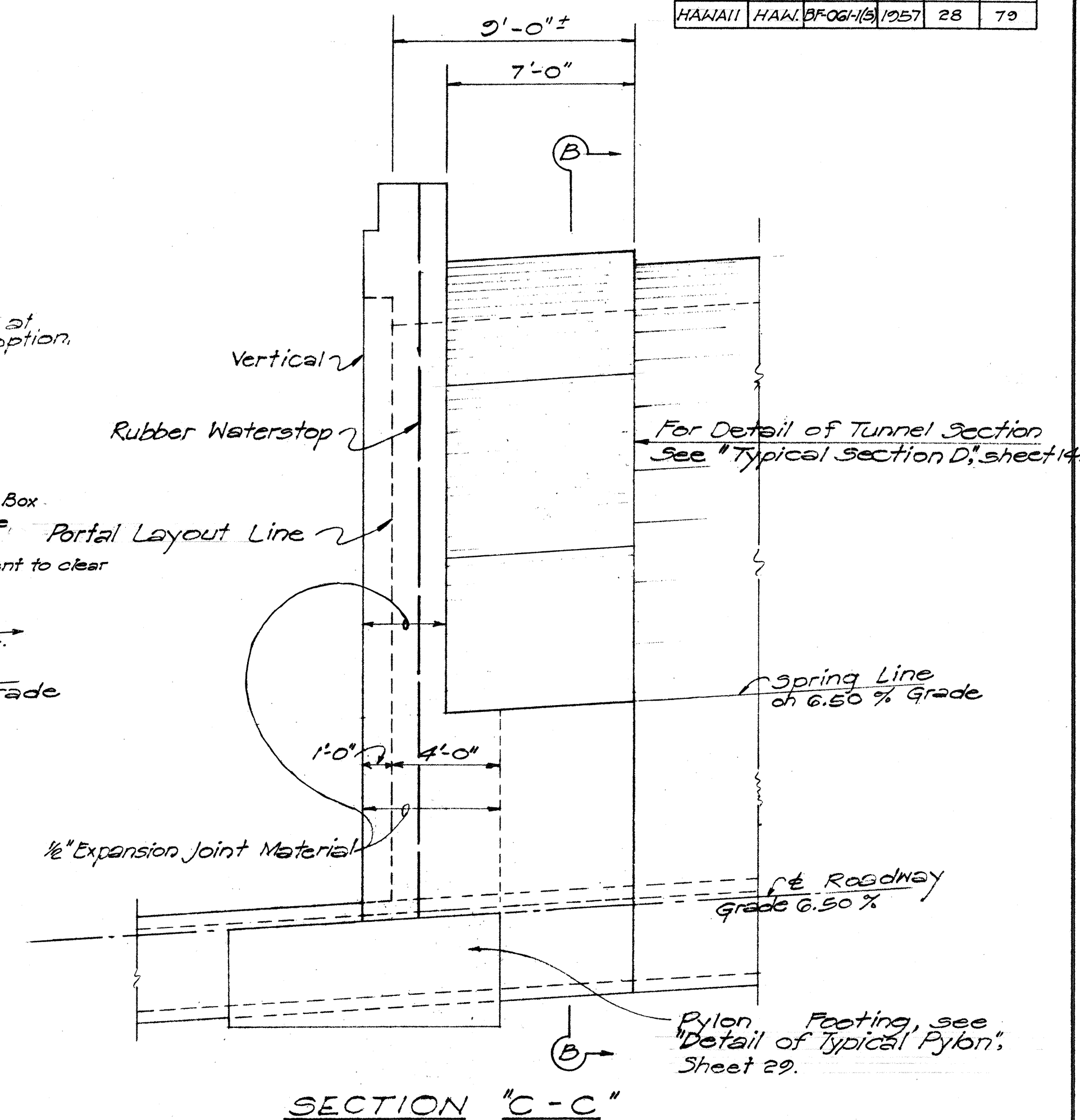
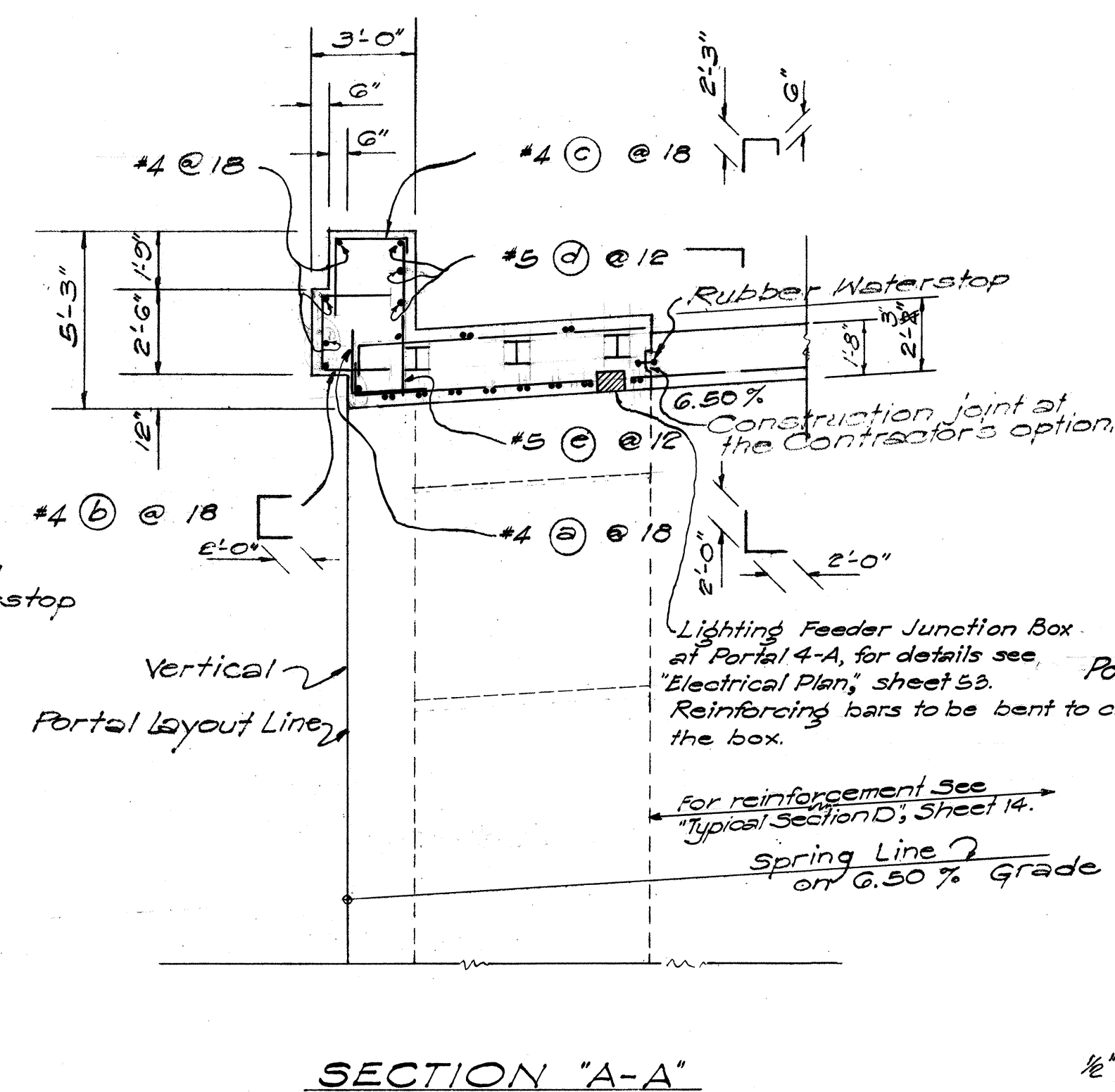
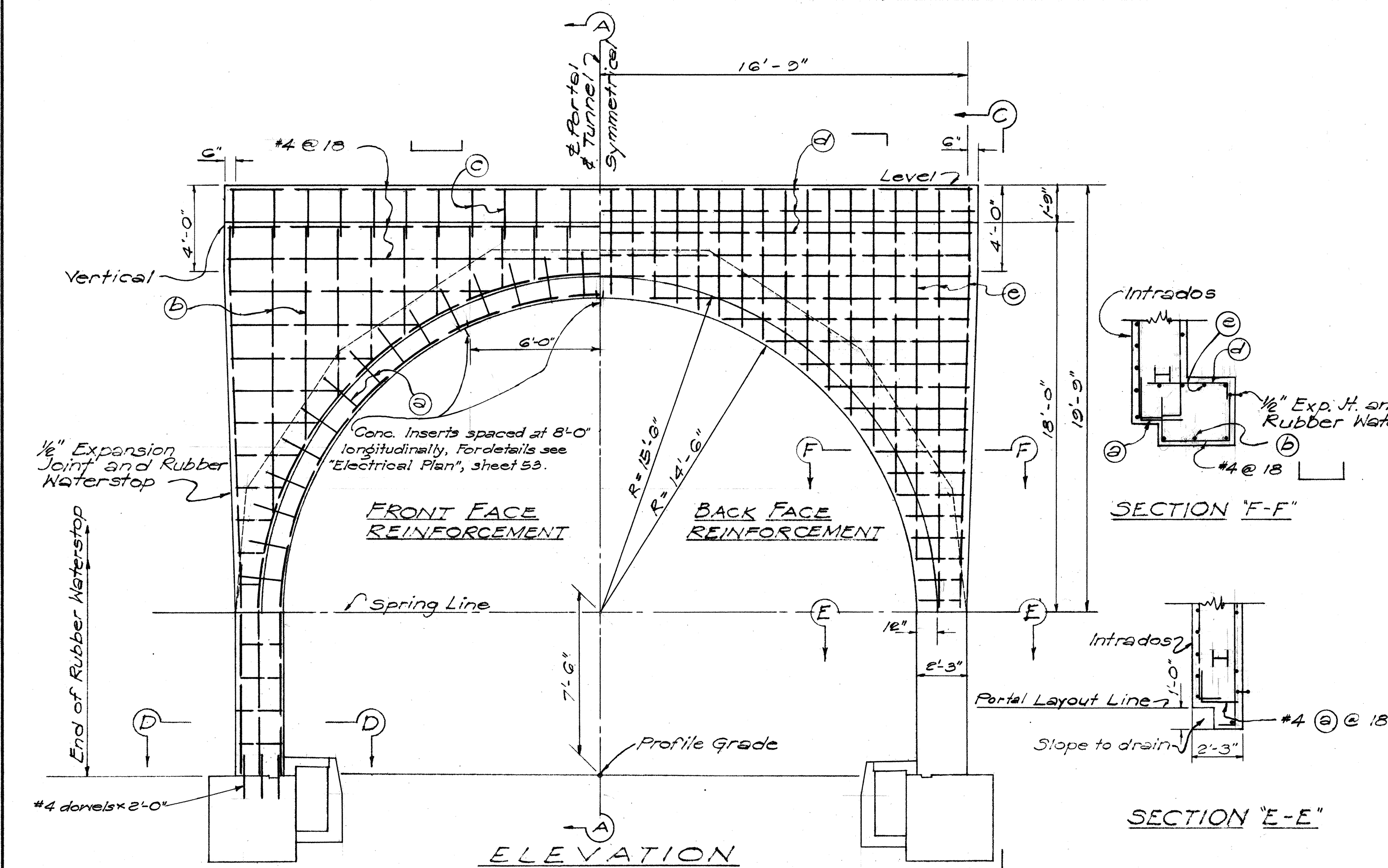
STRUCTURE PLAN
TUNNEL NO. 2-A
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061(5)
Scale: As Noted Sept. 1956

SHEET No. OF SHEETS

5896.27

ORIGINAL PLAN	DATE
NO.	7-57
NOTED BY	7-56
CHECKED BY	7-56
QUANTITIES CHECKED BY	7-56
DRAWN BY	7-56
DESIGNED BY	7-56
APPROVED BY	7-56

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BF-061-1(3)	1957	28	79



- Note: 1. The extrados of tunnel lining at Portals 2A, 3A, and 4A for length 9'-0" ± as shown on Section "C-C" at the Contractor's option may be constructed on chords as shown on Sections "B-B" and "C-C" or on arc with a radius of 16'-9" as shown on Section "B-B". Lines of payment for Excavation and Concrete Lining are same as shown on Typical Section "D", sheet 14.
2. For General Notes on Reinforcement, see "Index of Sheets", sheet 2.
3. Forms for Tunnel Lining at Spiral Sections may be made up in straight section not to exceed 10 ft. in length. Curbs shall be placed true to E Roadway curve.

ORIGINAL PLAN	DATE
DESIGNED BY	1-57
DRAWN BY	10-56
TRACED BY	10-56
QUANTITIES CHECKED BY	7-57
CHECKED BY	7-57

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
PORTAL DETAIL II
PORTALS 2A, 3A, AND 4A
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061-1(3)
Scale: 1/4" = 1'-0" Oct 1956

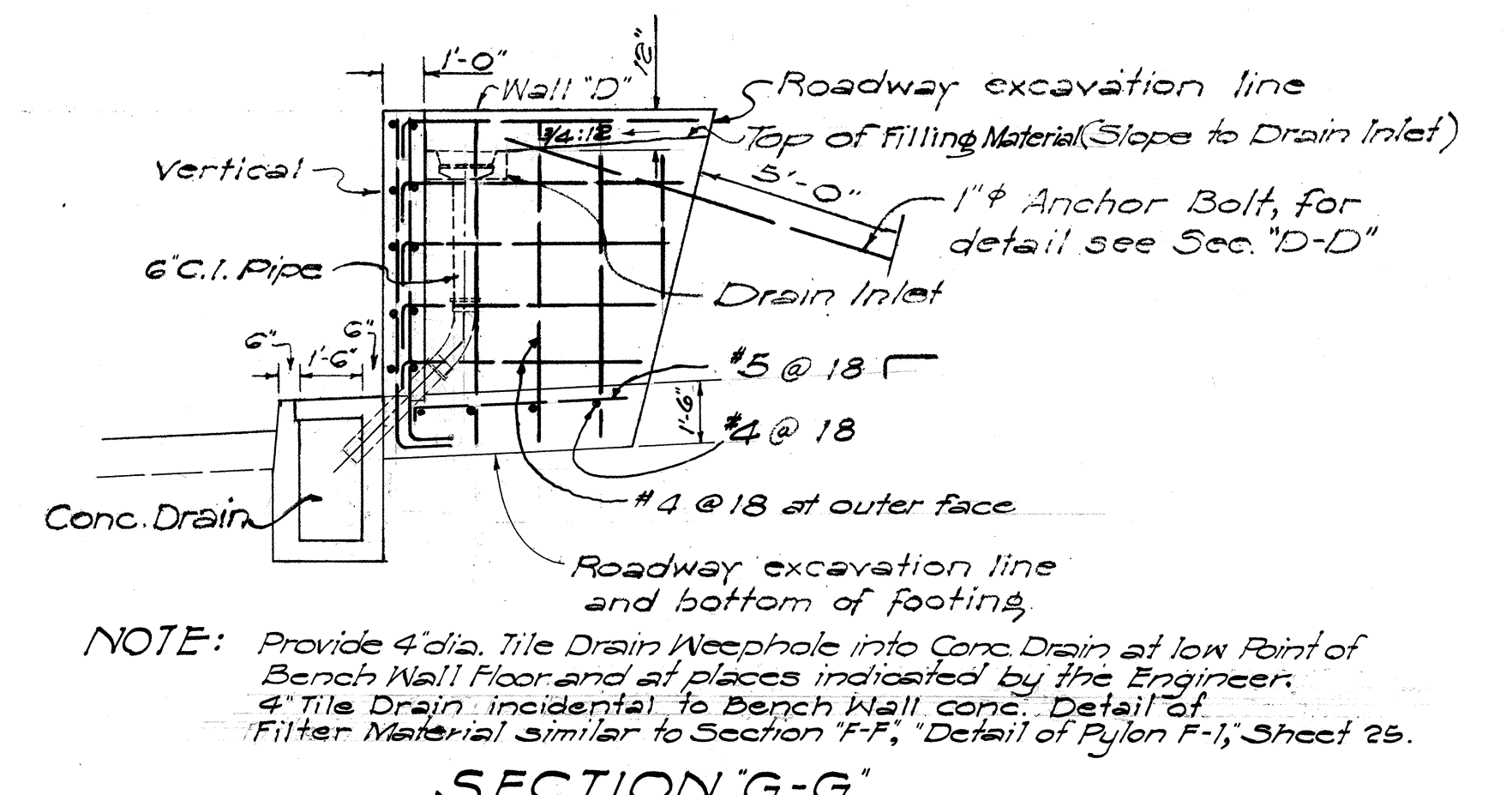
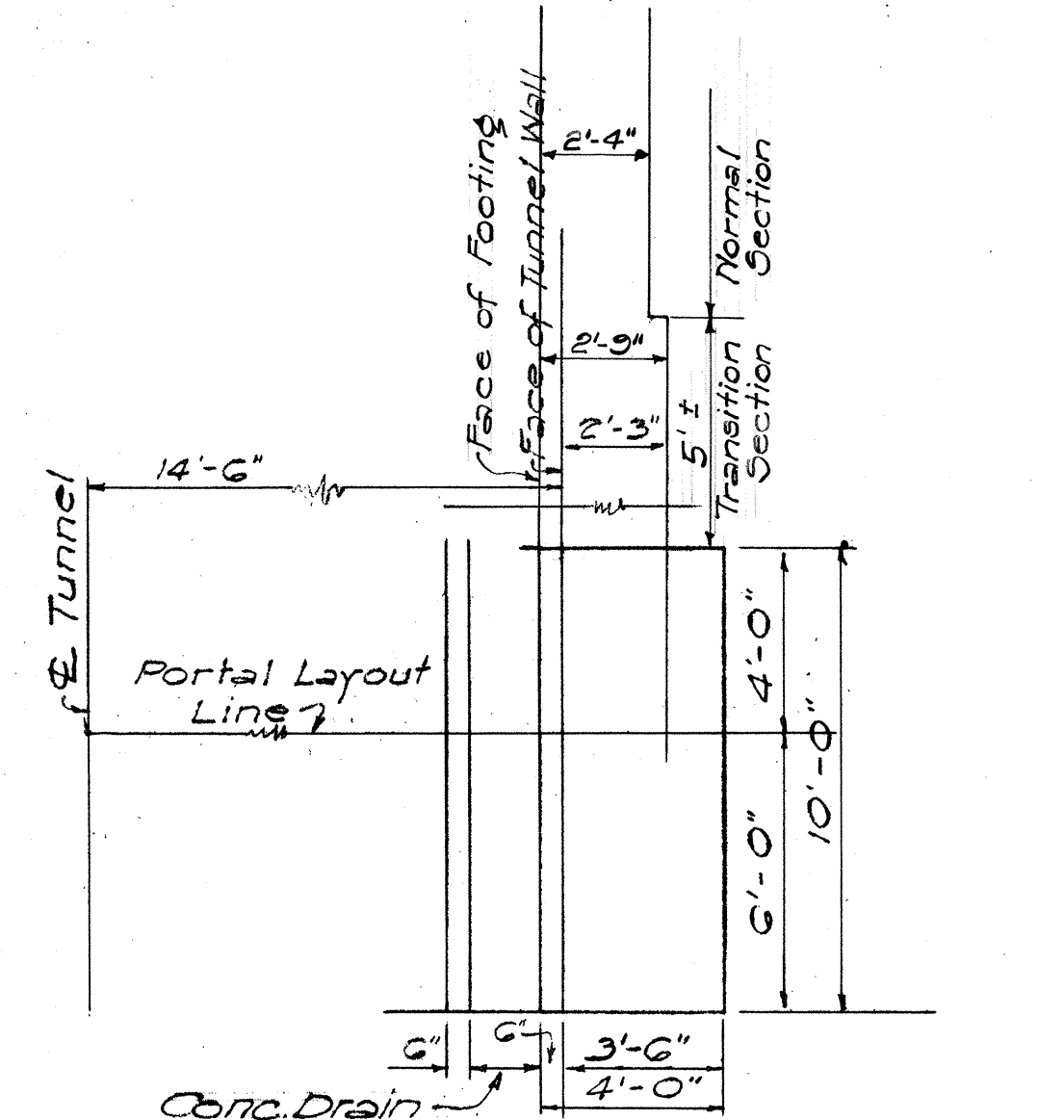
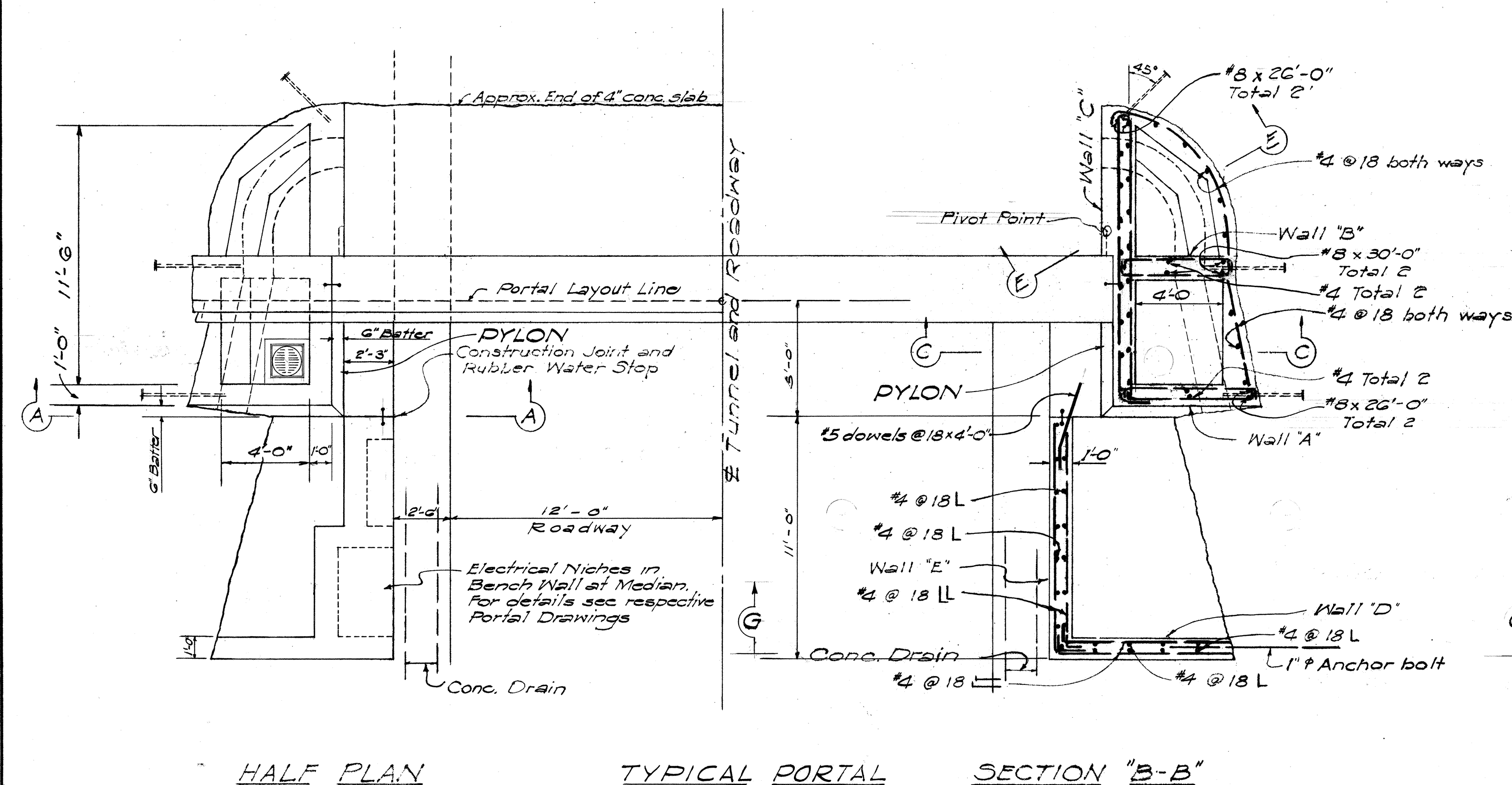
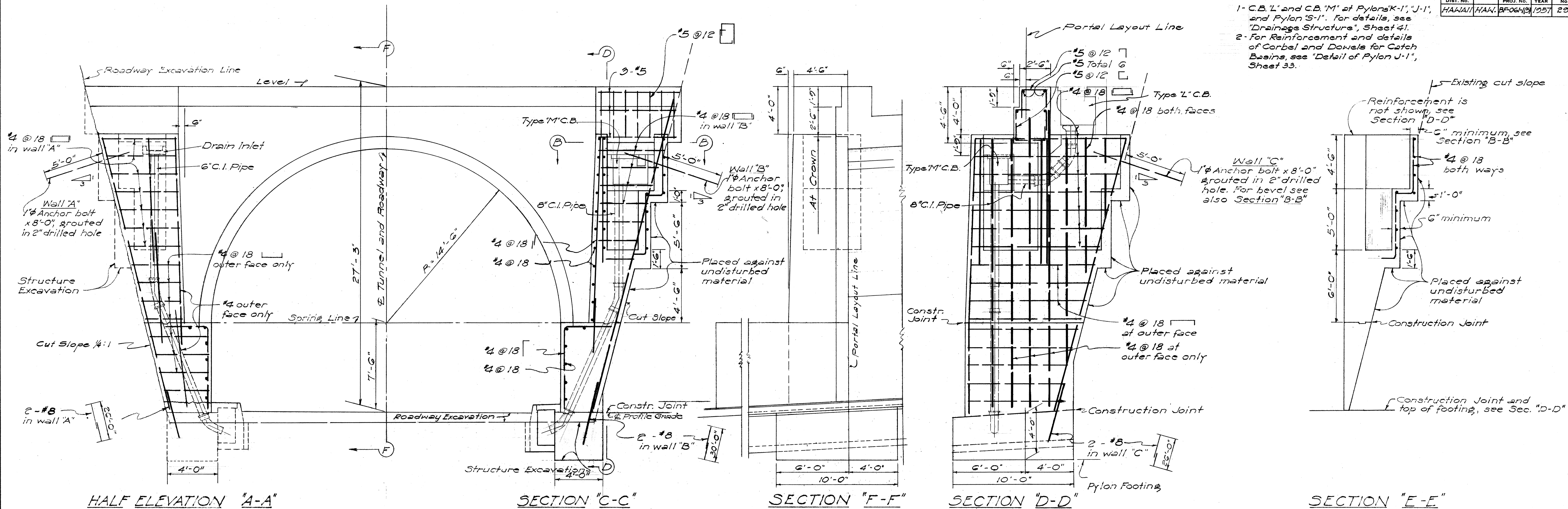
SHEET No. OF SHEETS

5506.28

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BF-OG1-1(5)	1957	29	79

NOTE:

- 1- C.B. "L" and C.B. "M" at Pylons "K-1", "J-1", and Pylon "S-1". For details, see "Drainage Structure", Sheet 41.
- 2- For Reinforcement and details of Corbel and Dowels for Catch Basins, see "Detail of Pylon J-1", Sheet 33.



NOTE:

- 1- For details of Drain Inlet, see "Miscellaneous Details", Sheet 40.
- 2- For location of Drain Inlet at Bench Wall and Pylons, see "Portal 2A", Sheet 32, "Portal 3A", Sheet 36 and "Portal 4A", Sheet 39.
- 3- All cells to be filled with Filling Material, see Special Provisions.

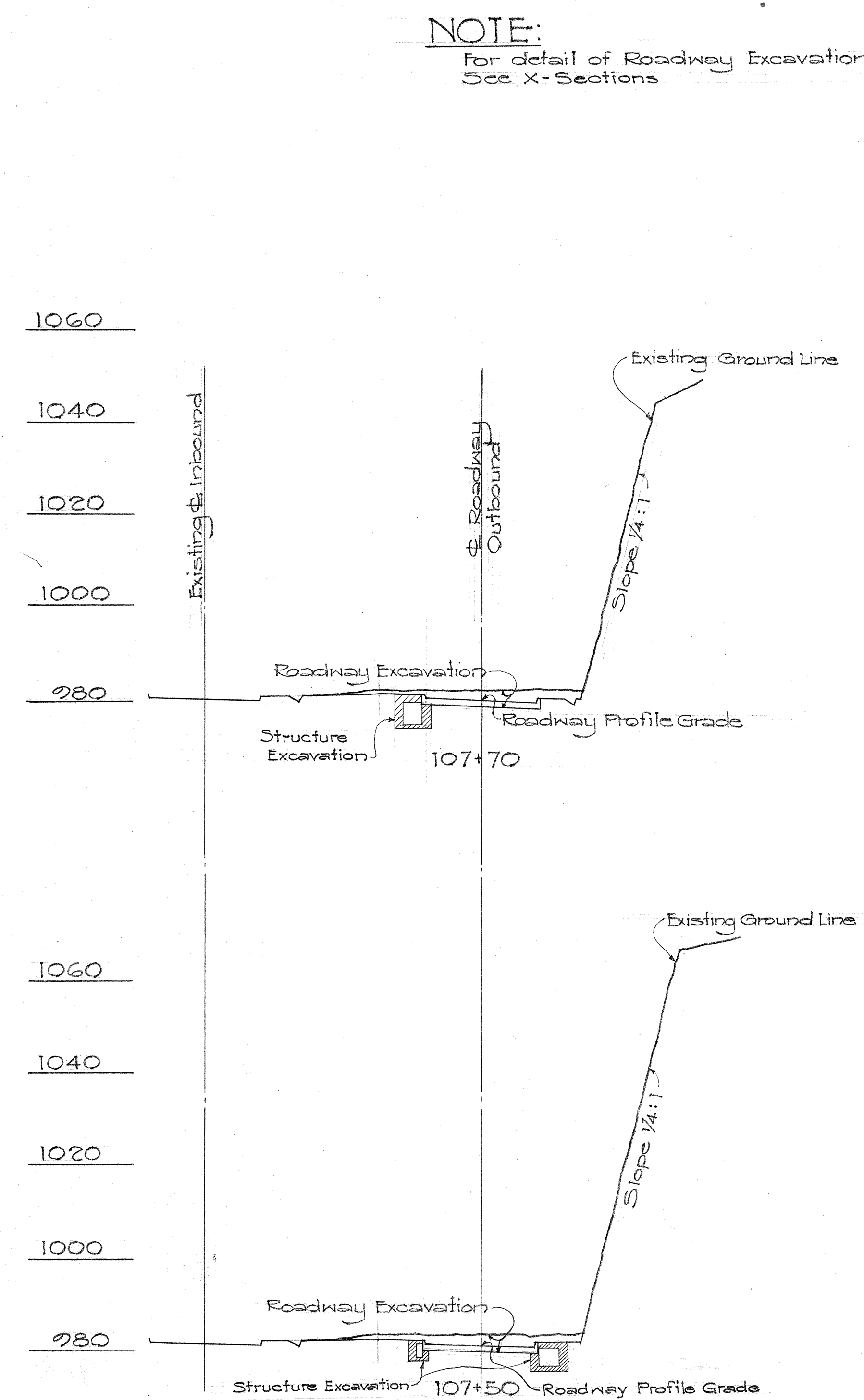
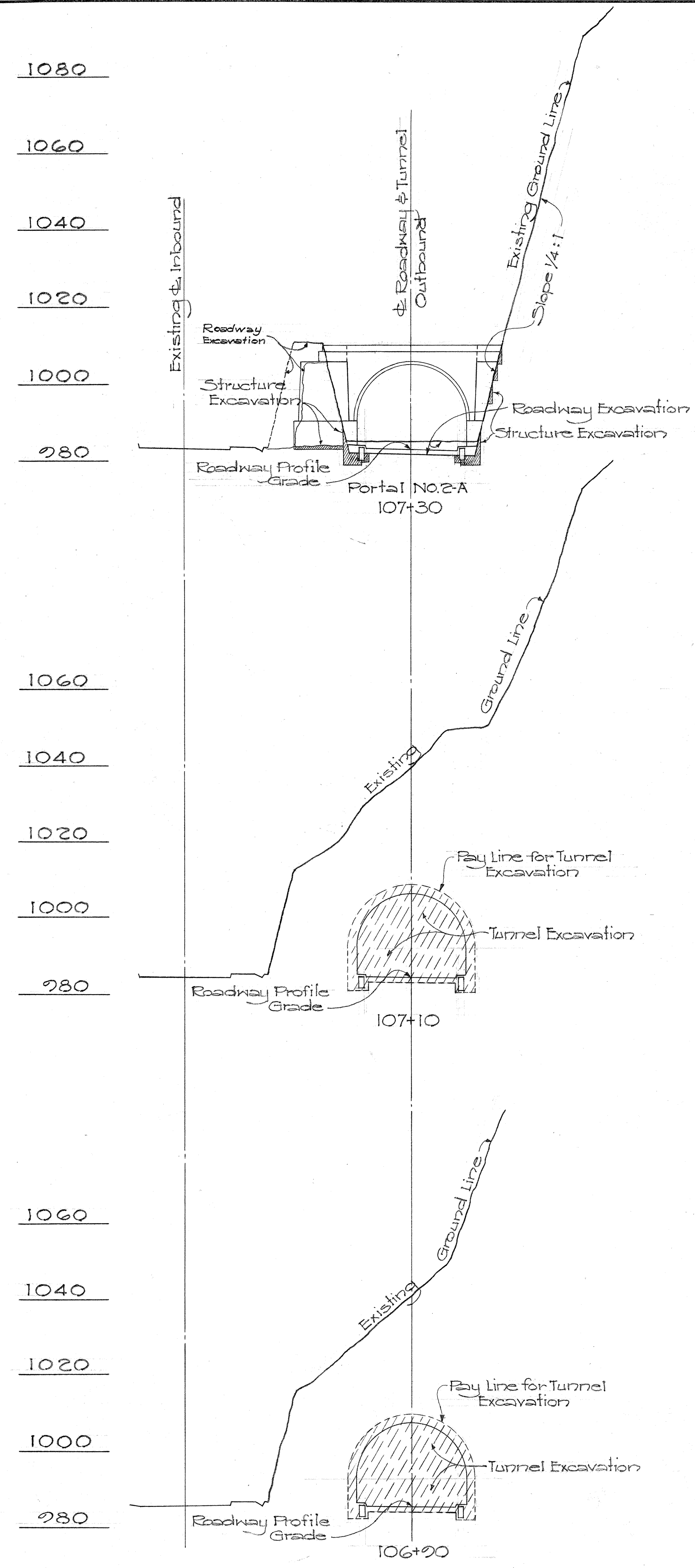
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
DETAIL OF TYPICAL PYLON
PYLONS "H-1", "K-1", "J-1", "S-1", AND "T-1"
PALI ROAD
OUTBOUND TUNNELS
PROJ. No BF-OG1-1(5)
Scale: 1/4" = 1'-0"
Oct. 1956

SHEET No. OF SHEETS

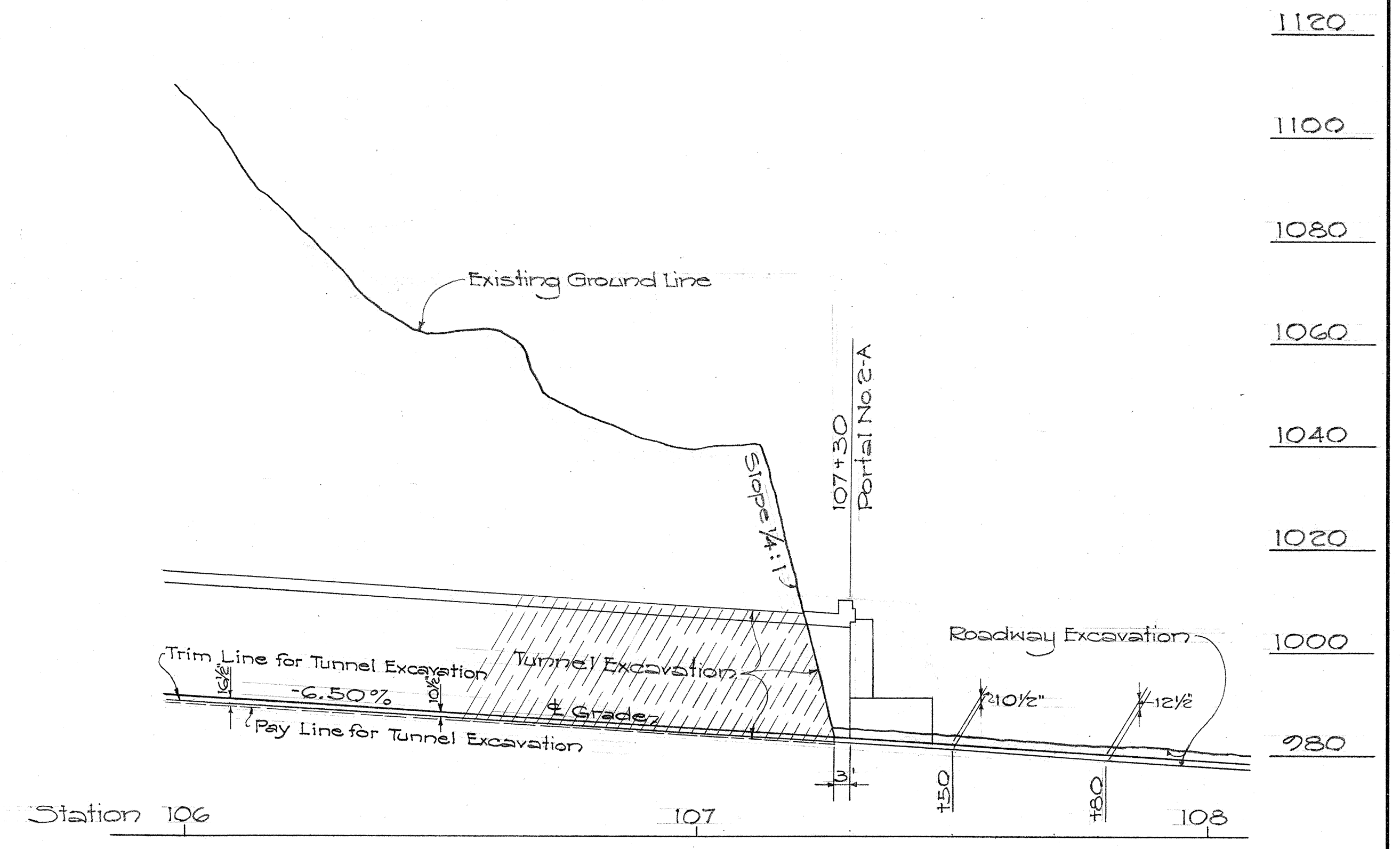
5596.29

DESIGNED BY	DATE
DRAWN BY	10-26-56
CHECKED BY	11-1-56
QUANTITIES CHECKED BY	11-1-56
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-061(5)	1957	30	79



NOTE:
For detail of Roadway Excavation,
See X-Sections



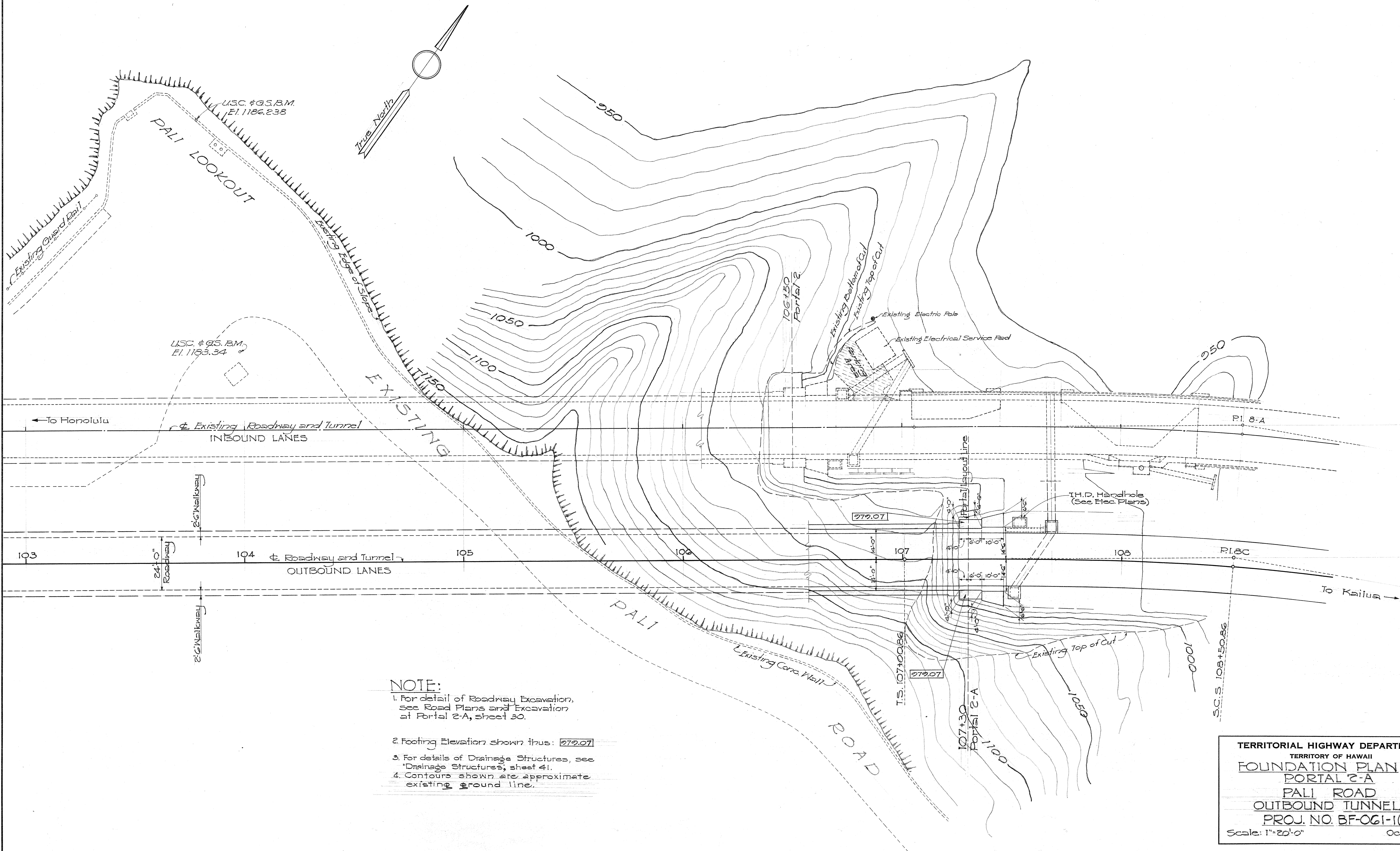
SECTION ALONG & TUNNEL

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
EXCAVATION AT PORTAL 2-A
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061-1(5)
Scale: 1"=20'-0" Sept 1956

SURVEY PLOTTED BY	DATE
ORIGINAL PLAN	9/56
TRACED BY	9/56
NOTE BOOK	7-57
QUANTITIES CHECKED BY	
CHECKED BY	

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAWAII	BF-061(5)	1957	31	72

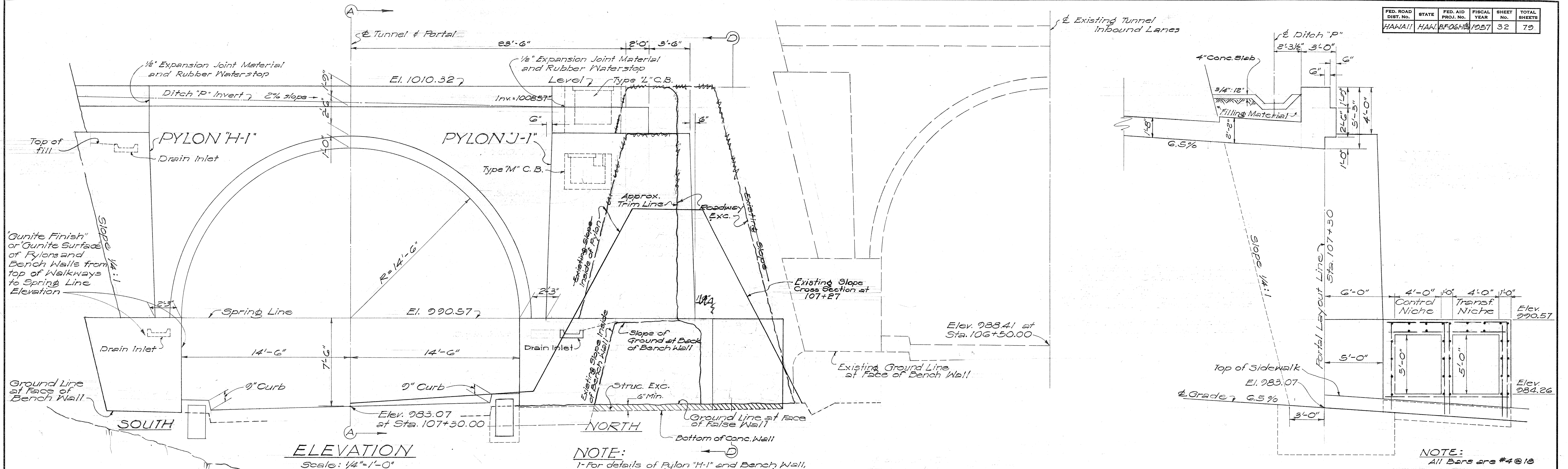
SURVEY PLOTTED BY	DATE
PLAN	1-57
TRACED BY	10-56
NOTE BOOK	10-56
QUANTITIES CHECKED BY	7-57
NO.	



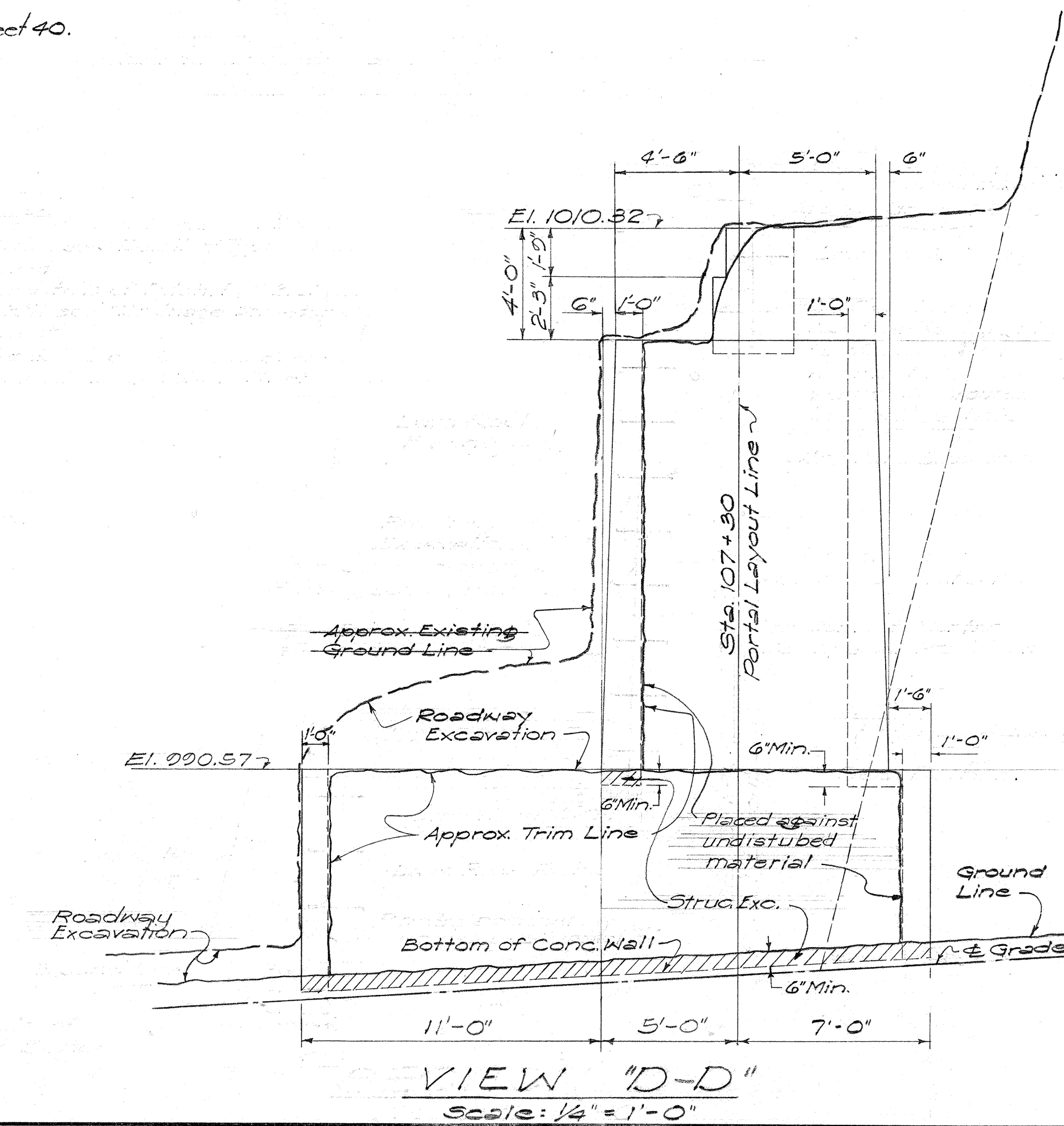
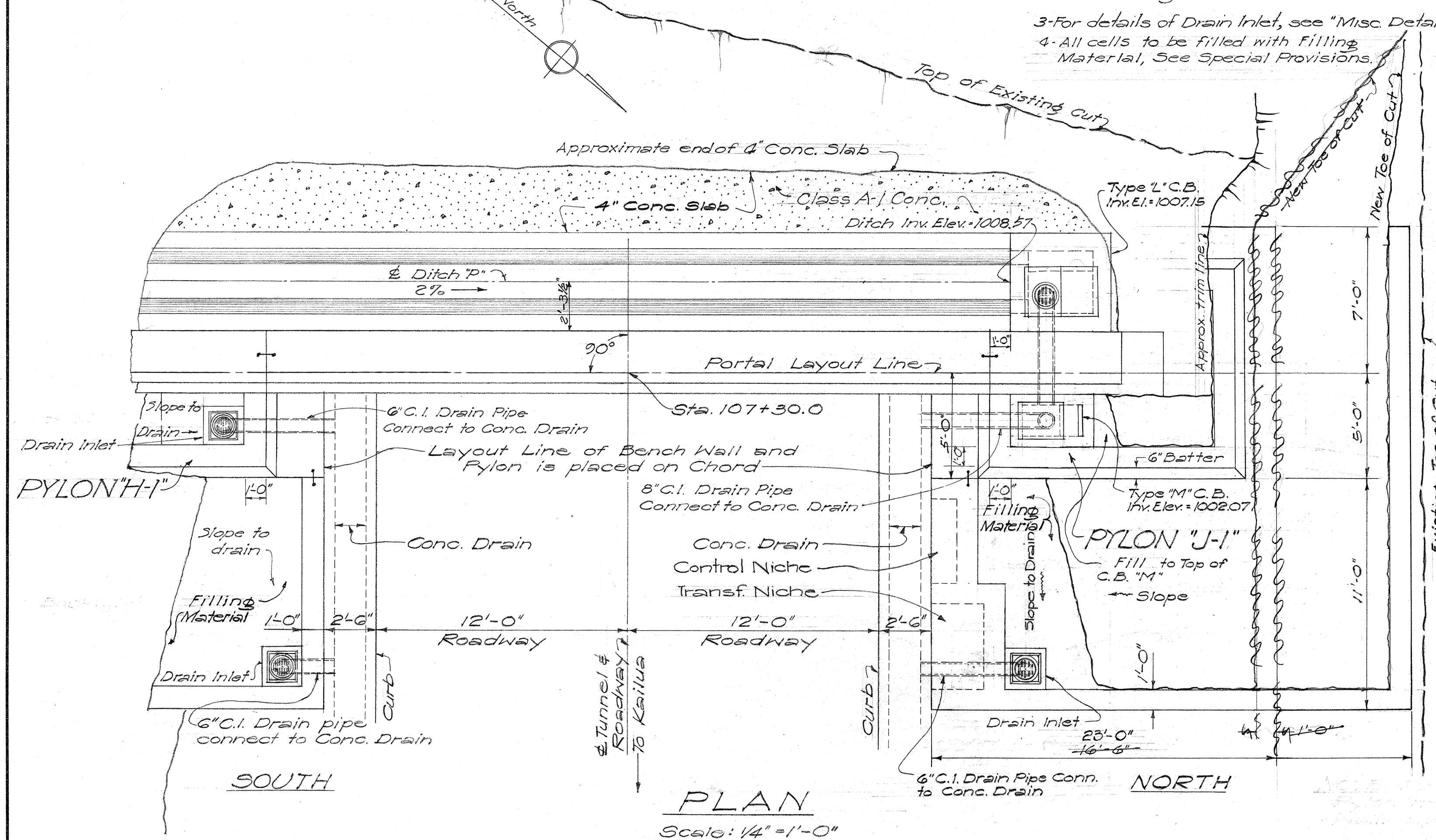
SHEET No. OF SHEETS

5896.31

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BF061-1	1957	32	79



SECTION "A-A"
Scale: 1/4" = 1'-0"



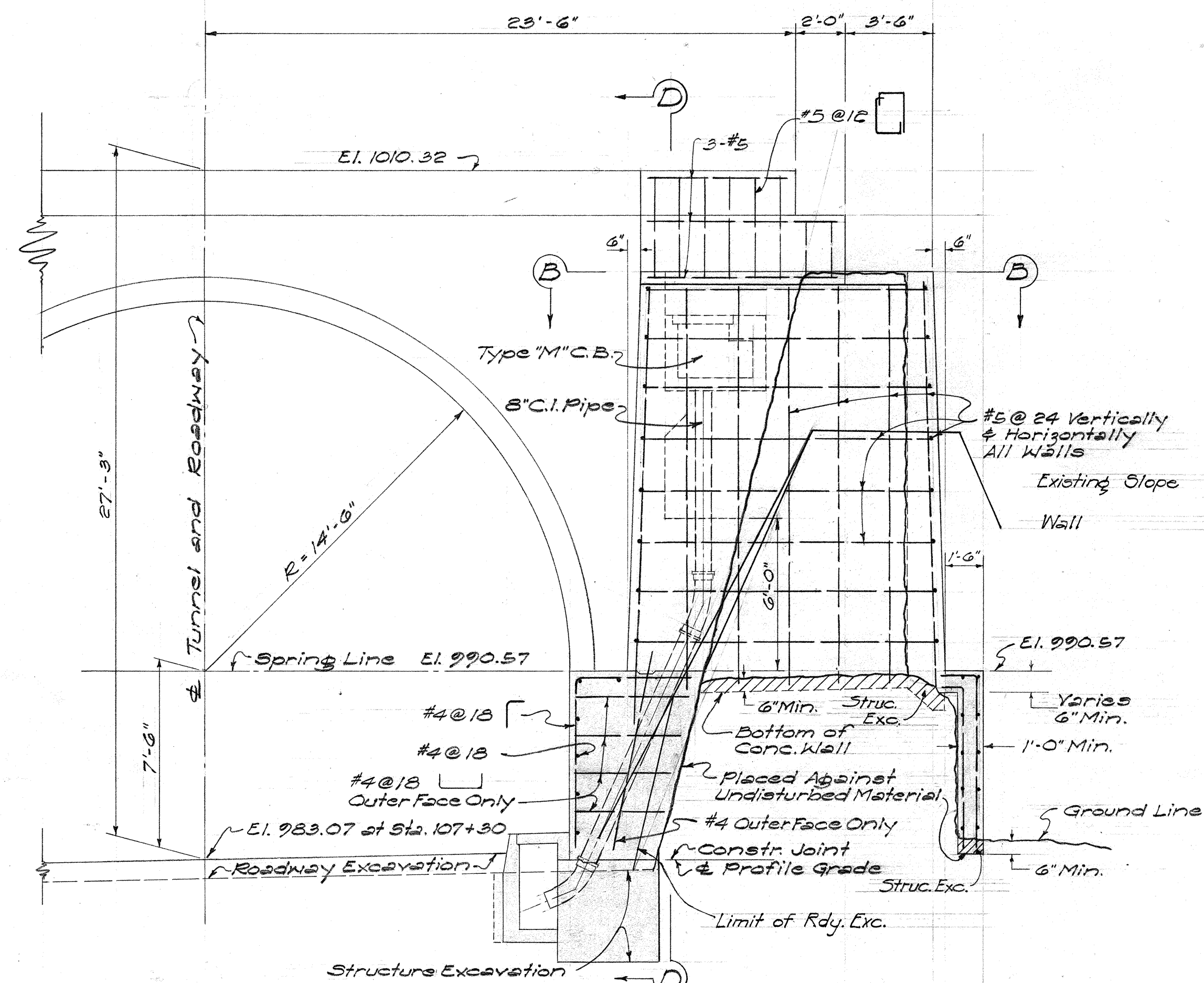
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

PORTAL 2-A
PYLONS H-1 & J-1
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF061-1(5)
Scale: As Noted Oct. 1956

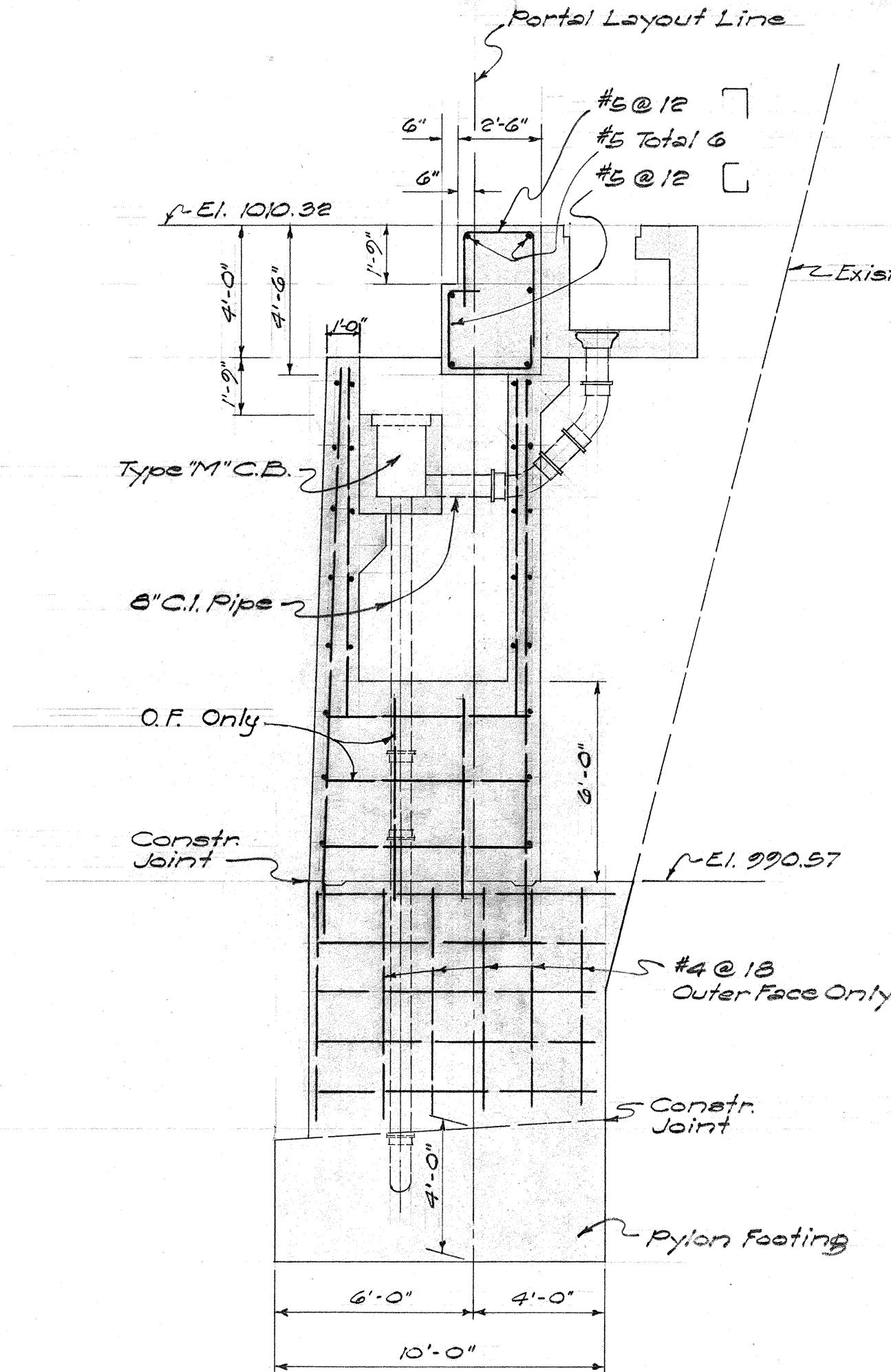
SHEET NO. OF SHEETS

5896.32

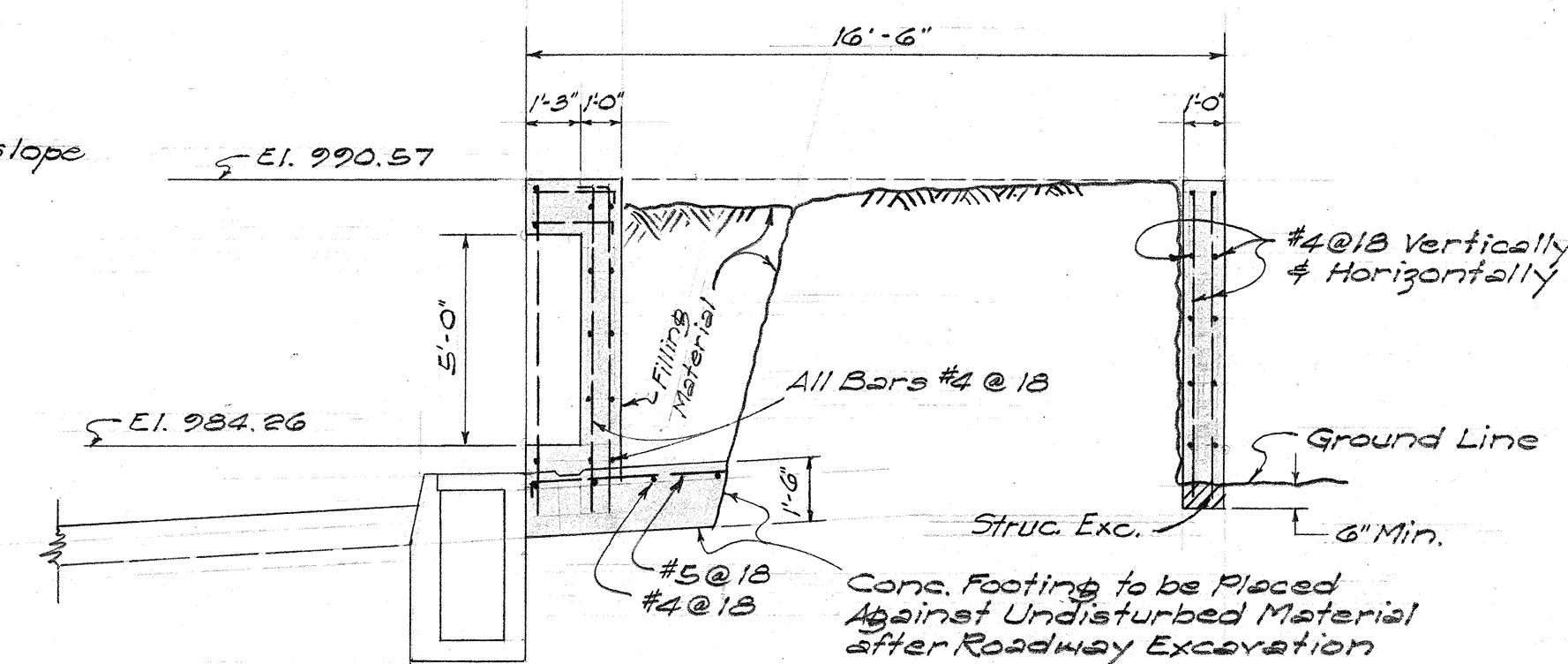
DESIGNED BY	DATE
DRAWN BY	10-56
CHECKED BY	10-56
NOTED BY	10-56
QUANTITIES CHECKED BY	10-56
NO.	7-57



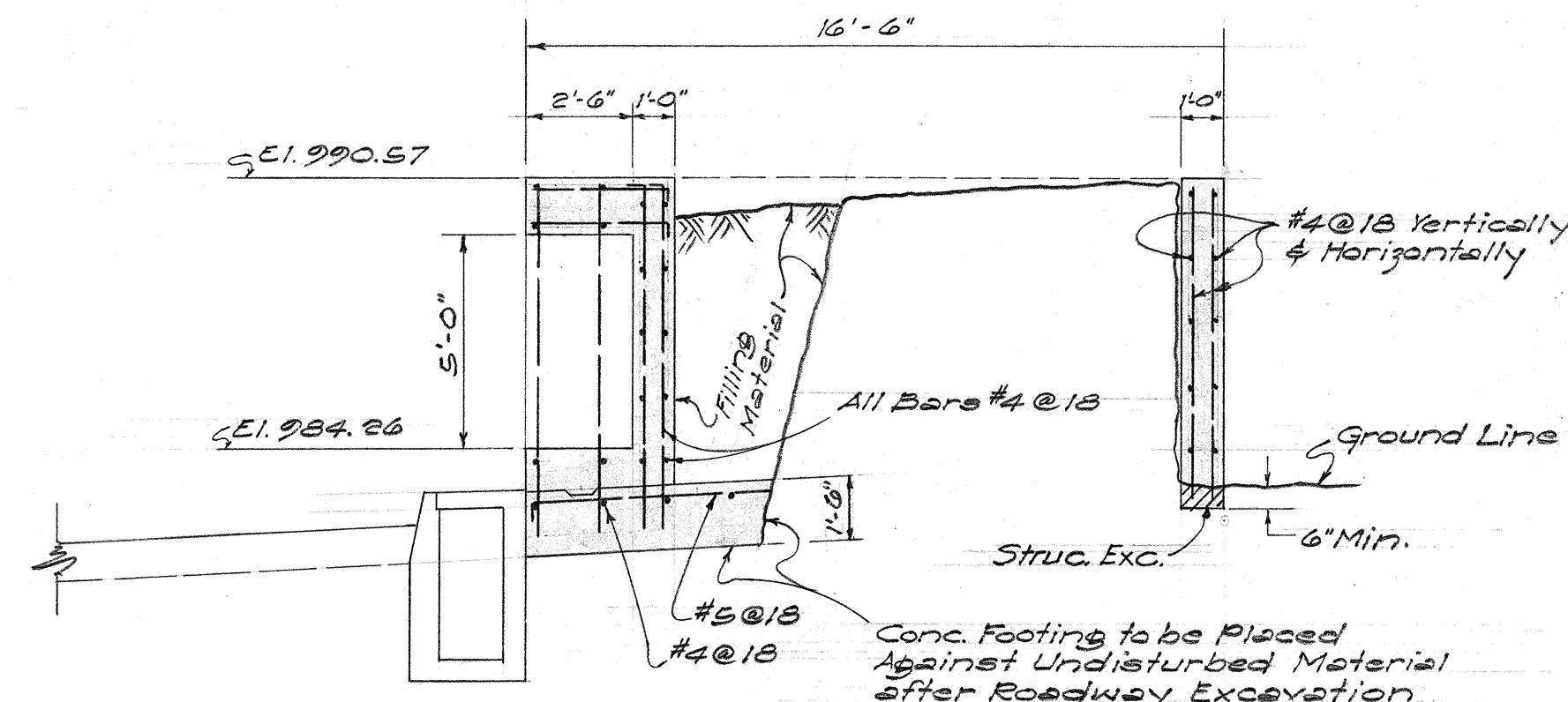
SECTION "C-C"
Scale: 1/4" = 1'-0"



SECTION "D-D"
Scale: 1/4" = 1'-0"

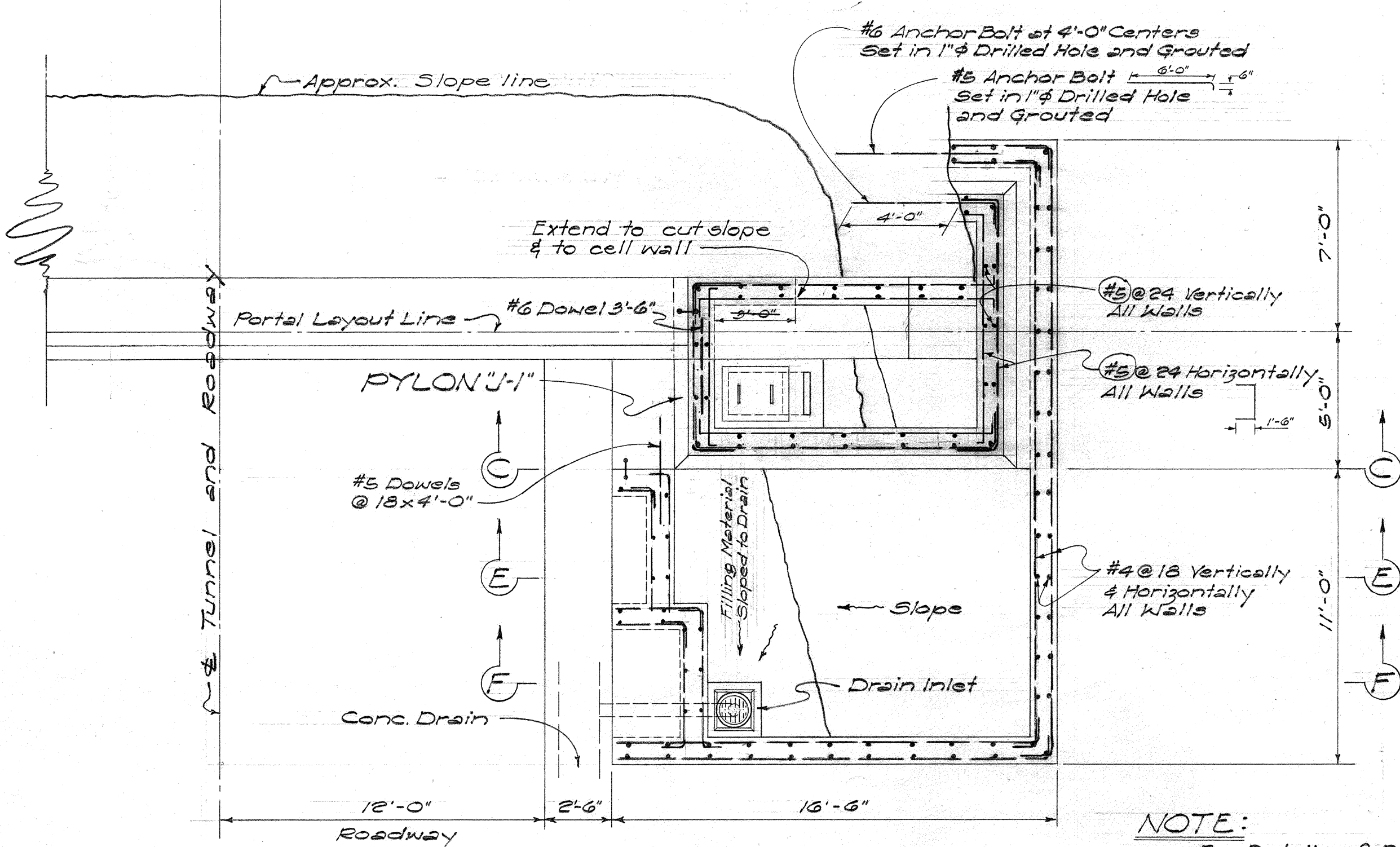


SECTION "E-E"
Scale: 1/4" = 1'-0"



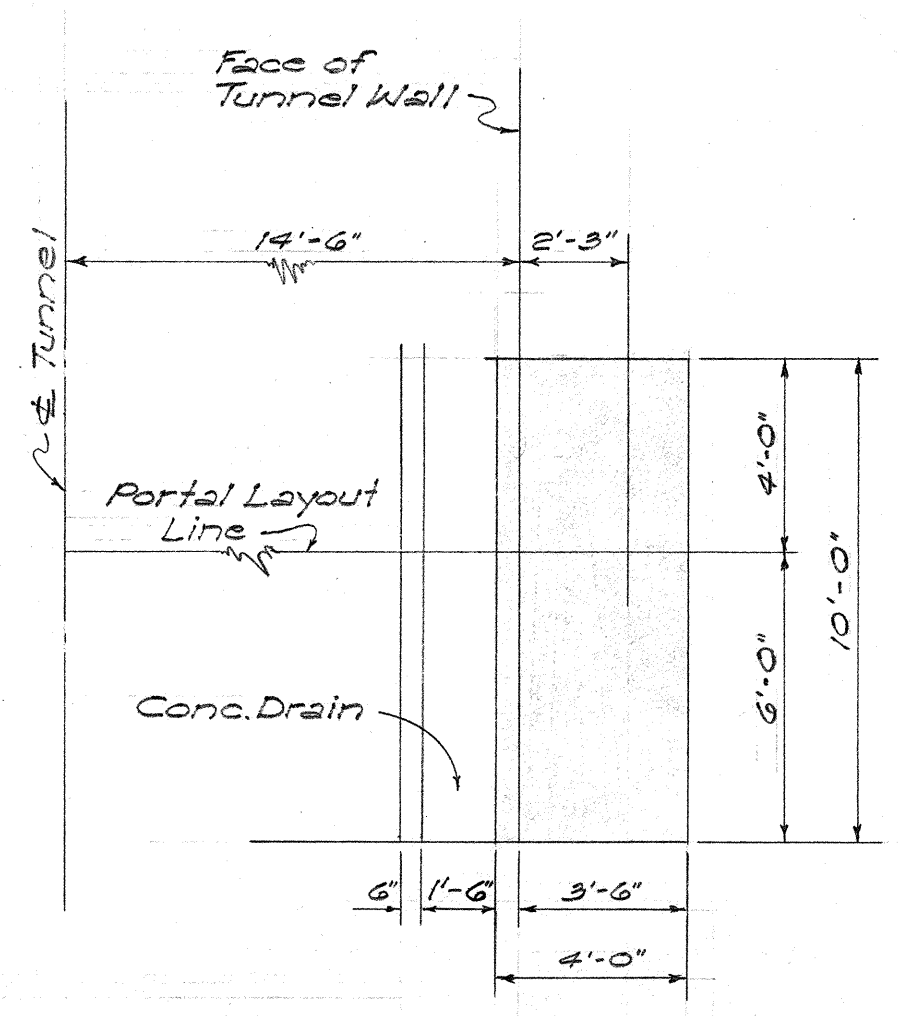
SECTION "F-F"
Scale: 1/4" = 1'-0"

NOTE:
Provide 4" dia. Tile Drain Weephole into Concrete Drain at Low Point of Bench Wall Floor and at Places Indicated by the Engineer.
4" Tile Drain incidental to Bench Wall Concrete. Detail of Filter Material Similar to Section 'F-F', Detail of Pylon F-1, Sheet No. 25.

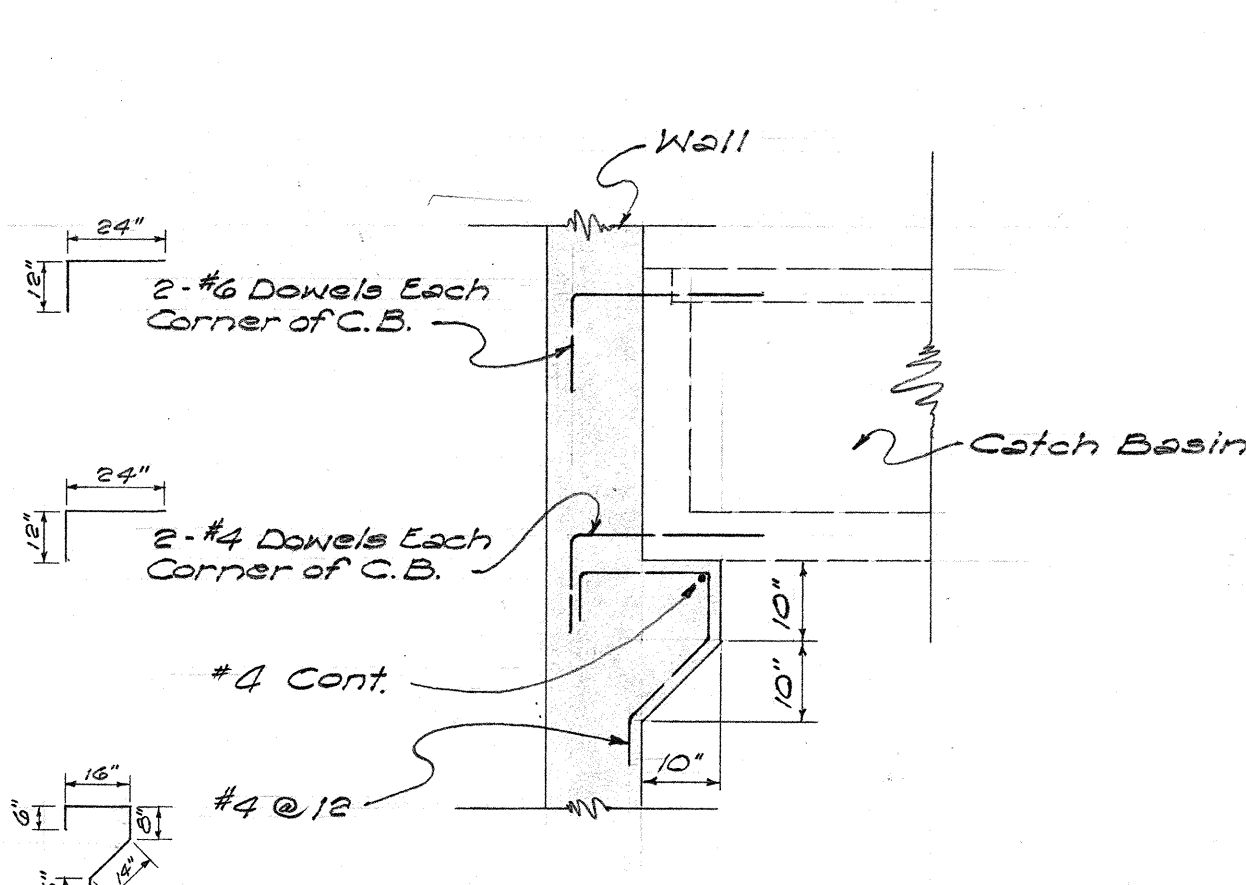


SECTION "B-B"
Scale: 1/4" = 1'-0"

NOTE:
For Details of Drain Inlet, See "Miscellaneous Details", Sheet No. 40.



DETAIL of PYLON FOOTING
Scale: 1/4" = 1'-0"

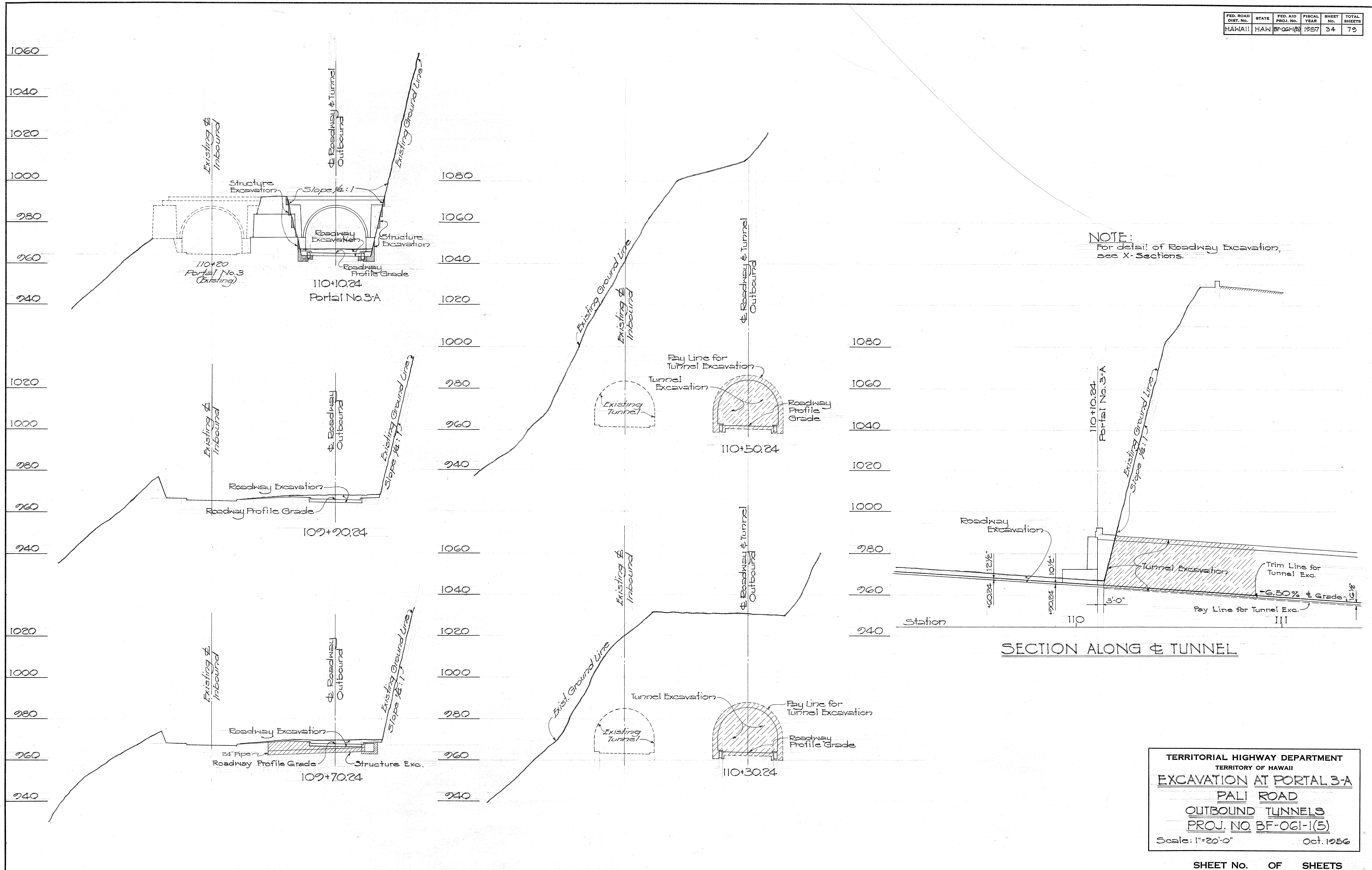


DETAIL of CORBEL
Scale: 1/4" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
DETAIL of PYLON "J-1"
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061-1(S)
Scale: As Noted May 1957

ORIGINAL PLAN
DESIGNED BY
DRAWN BY
CHECKED BY
DATE
5-57
F.H.
5-57
F.H.
5-57
F.H.
5-57
F.H.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	BF-061(5)	1957	34	73

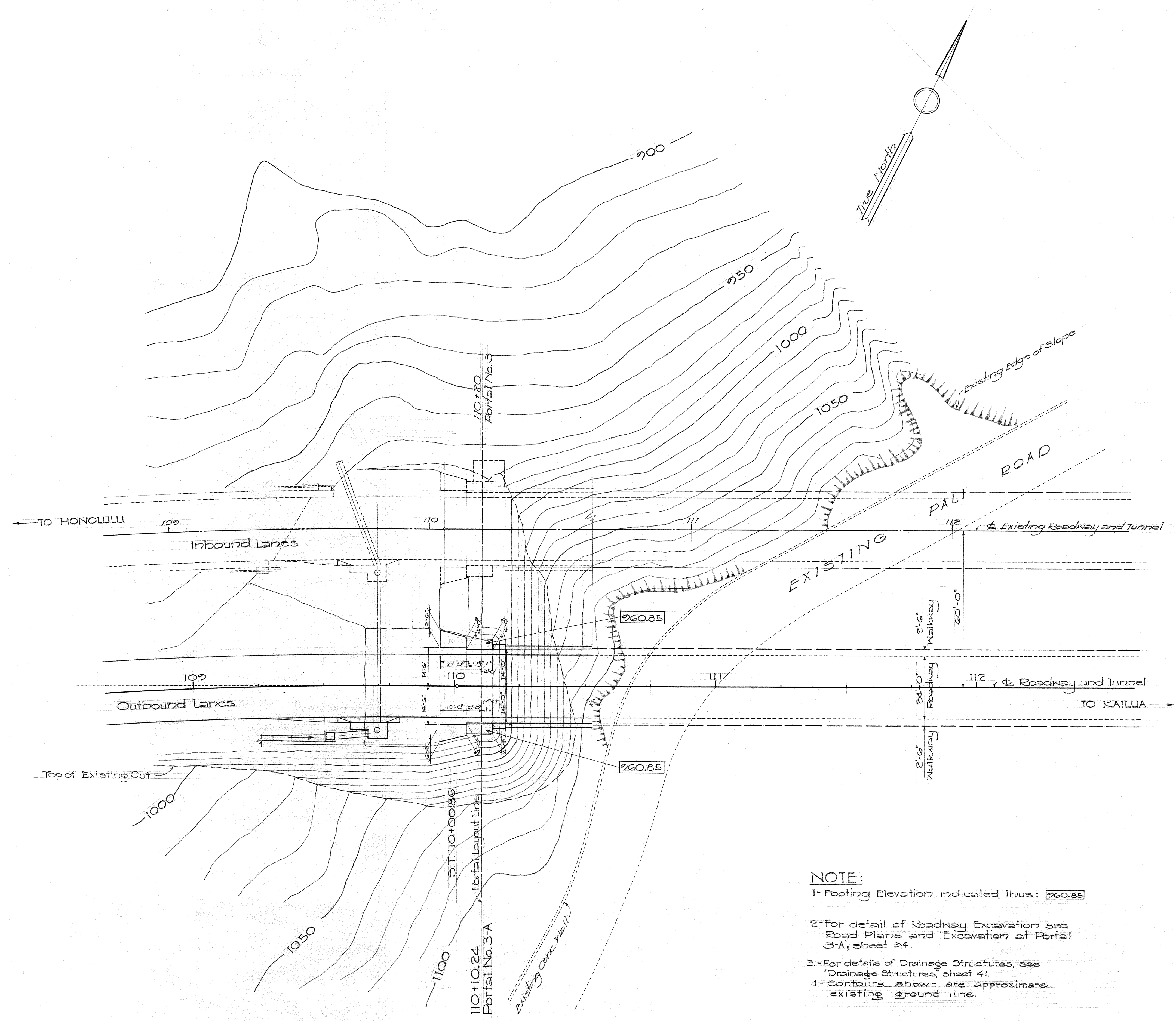


SURVEY PLOTTED BY	DATE
DRAWN BY	10/56
TRACED BY	10/56
QUANTITIES CHECKED BY	7-57
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

SHEET NO. OF SHEETS

5896.34

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-061(5)	1957	35	79



- NOTE:**
- 1- Footing Elevation indicated thus: 960.85
 - 2- For detail of Roadway Excavation see Road Plans and "Excavation at Portal 3-A", sheet 34.
 - 3- For details of Drainage Structures, see "Drainage Structures", sheet 41.
 - 4- Contours shown are approximate existing ground line.

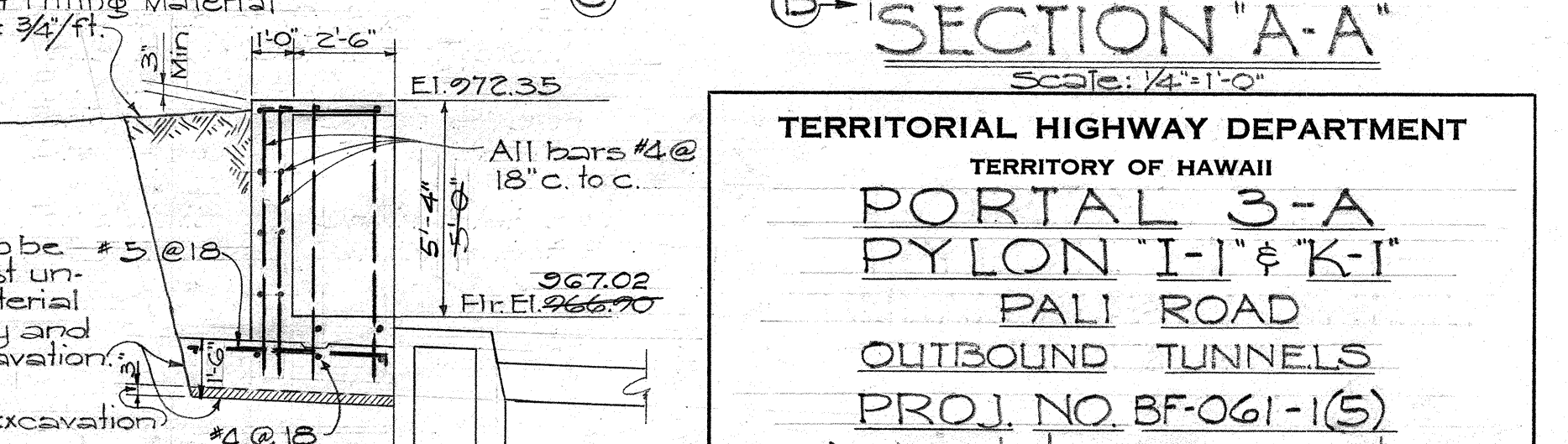
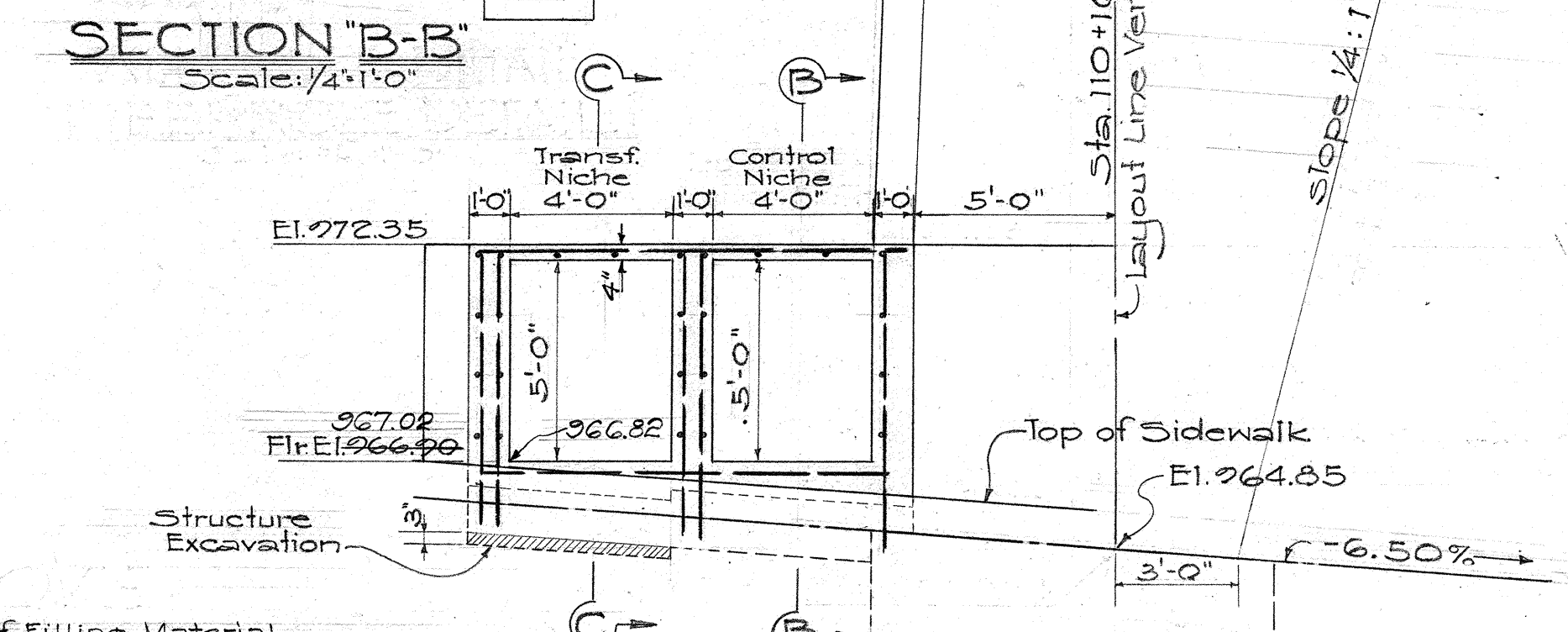
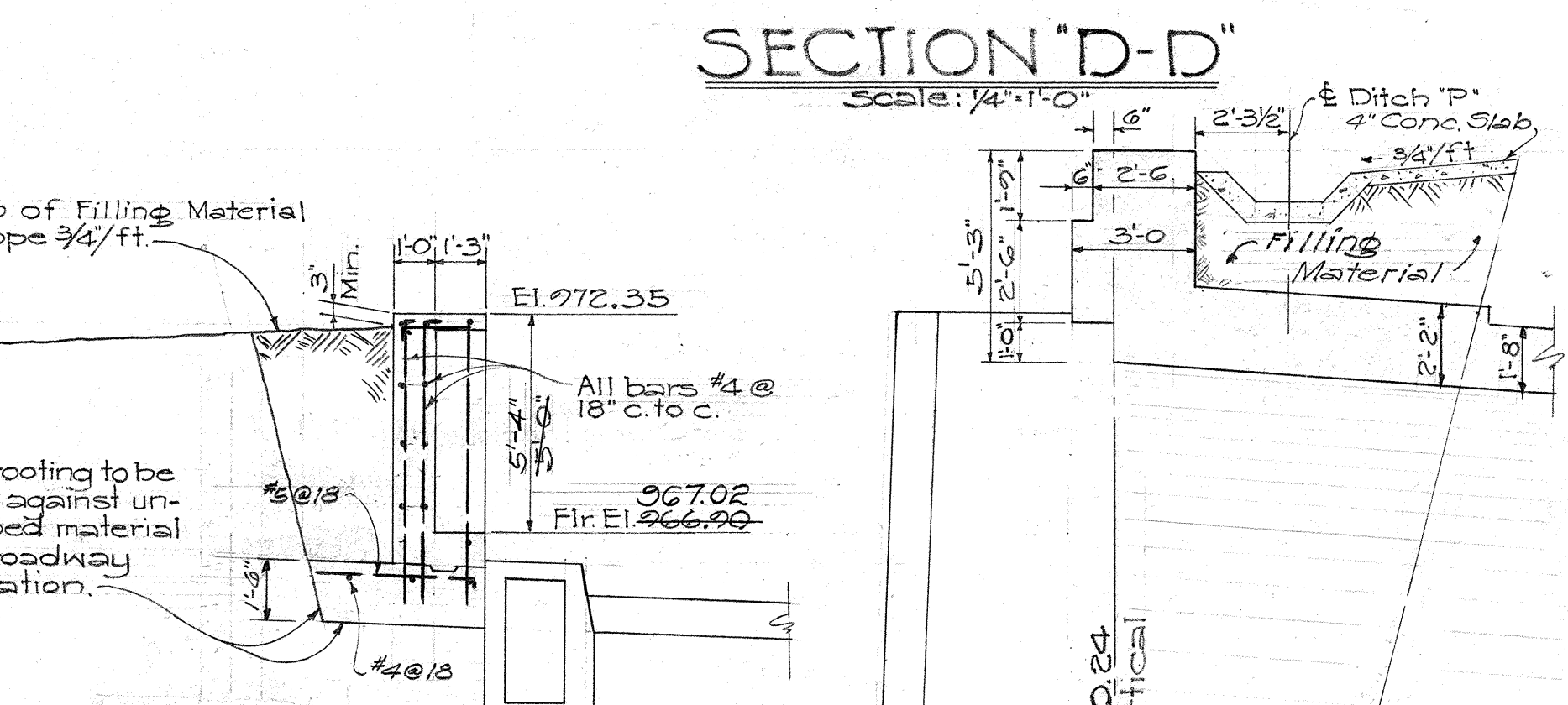
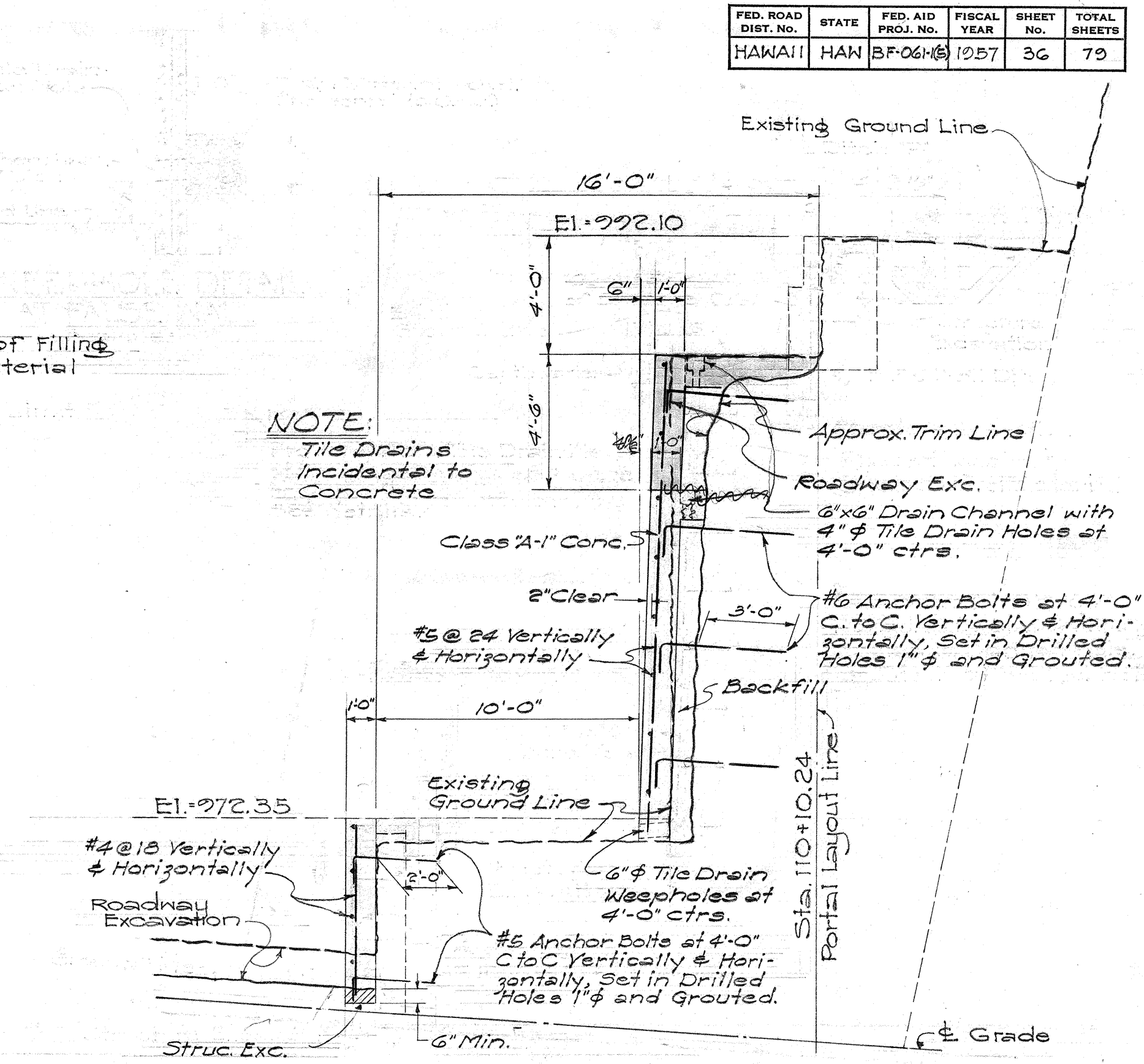
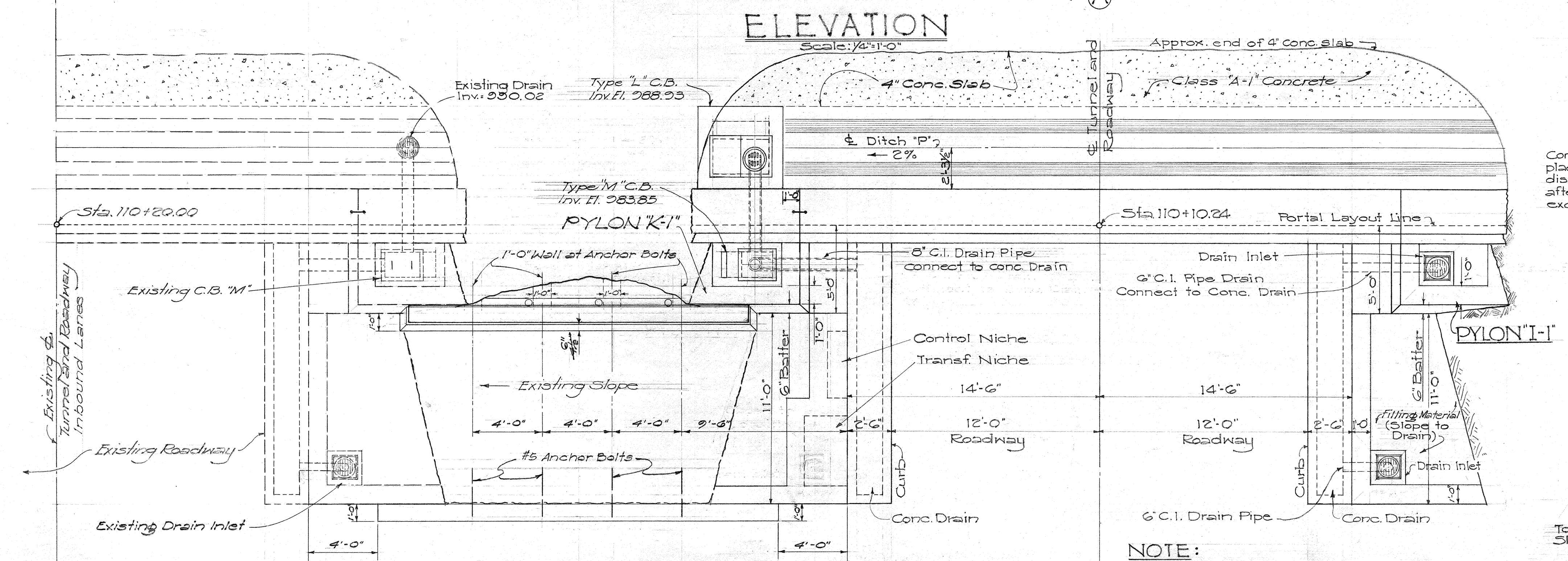
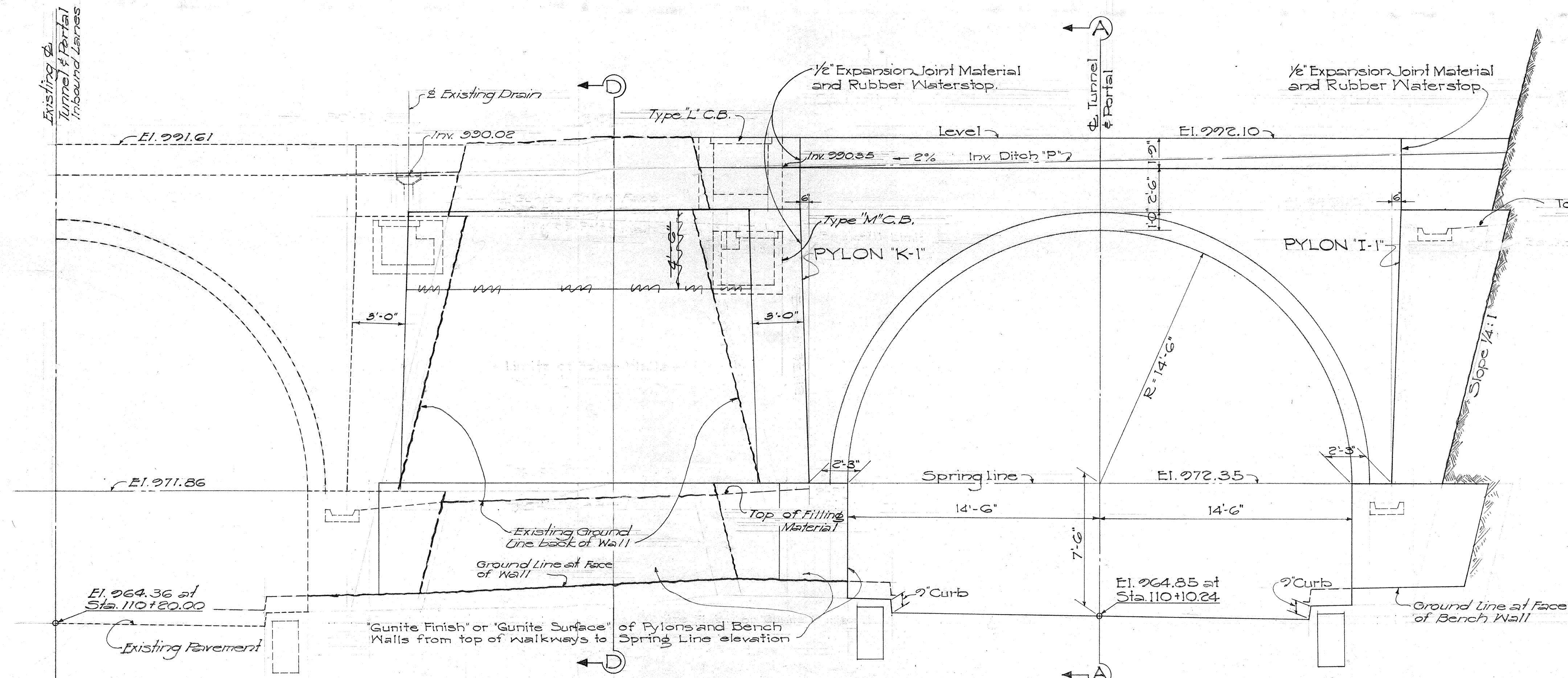
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
FOUNDATION PLAN AT
PORTAL 3-A
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061-1(5)
Scale: 1"=20' Oct. 1956

SHEET No. OF SHEETS

5896.35

DESIGNED BY: E.E. MIN
DRAWN BY: J. N.
TRACED BY: J. N.
NOTE BOOK
QUANTITIES CHECKED BY: J. N.
CHECKED BY: J. N.
DATE: 1-57
10-56
10-56
7-57

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW	BF-06-1(5)	1957	36	79



NOTE:

- 1- For details of Pylons and Bench Walls, see "Detail of Typical Pylon", sheet 29
- 2- For details of Ditch "B", "C.B." "L" and "C.B." "M", See "Drainage Structures", Sheet 41.
- 3- For details of Drain Inlet, see "Miscellaneous Details", sheet 40.
- 4- For notes on Weepholes in Bench Wall, see Section "G-G" of "Detail of Typical Pylon", sheet 29.
- 5- All cells to be filled with Filling Material, See Special Provisions.

Conc. Footing to be placed against undisturbed material after roadway and structure excavation.

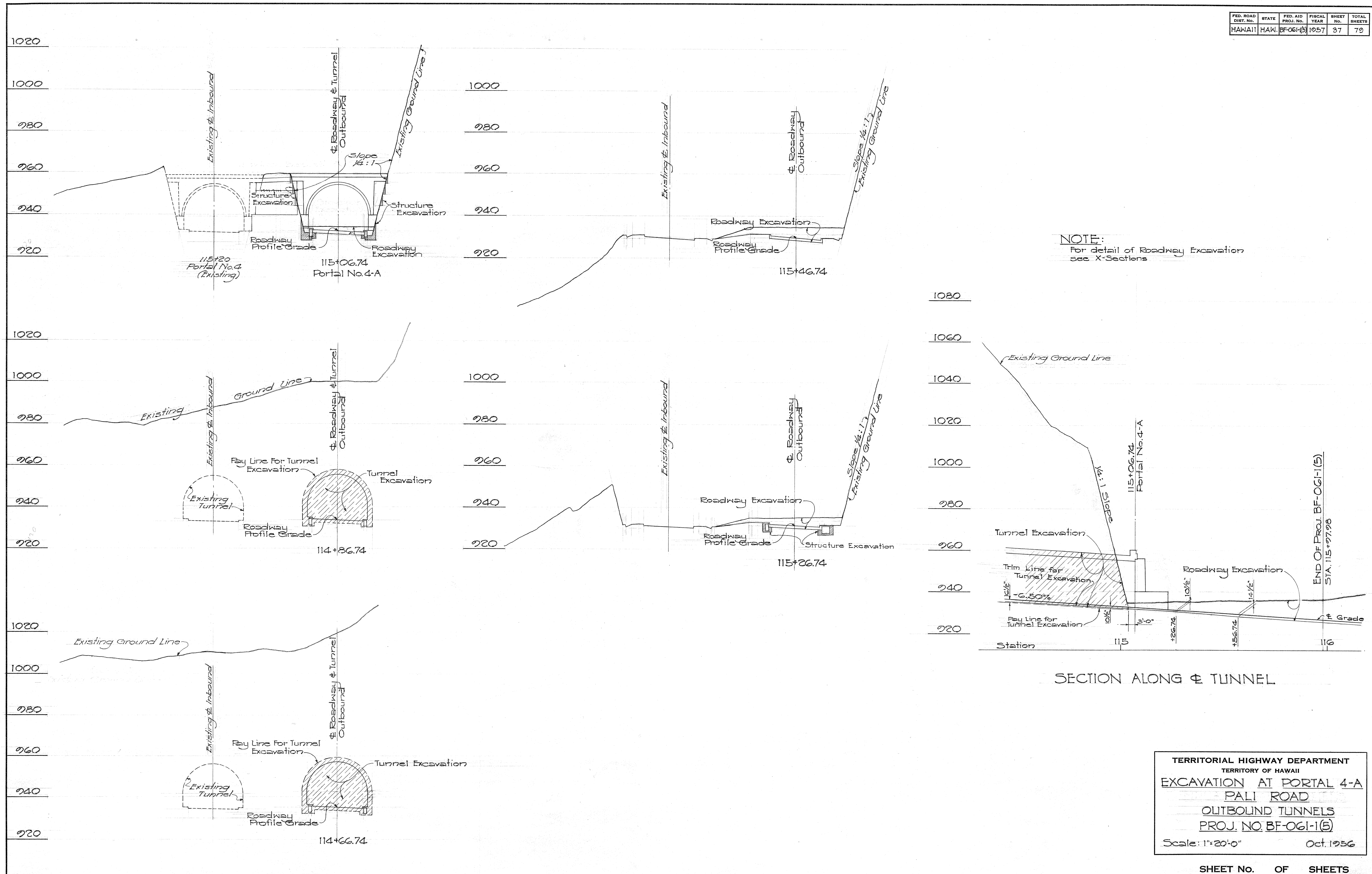
Structure Excavation

The diagram shows a cross-section of a foundation. A concrete footing is shown at the bottom, labeled "Structure Excavation". Above it are two vertical reinforcement bars, one labeled "#5 @ 18\"/>

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
PORTAL 3-A
PYLON "I-I" & "K-I"
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061-1(S)
Scale: As Noted Oct. 1956

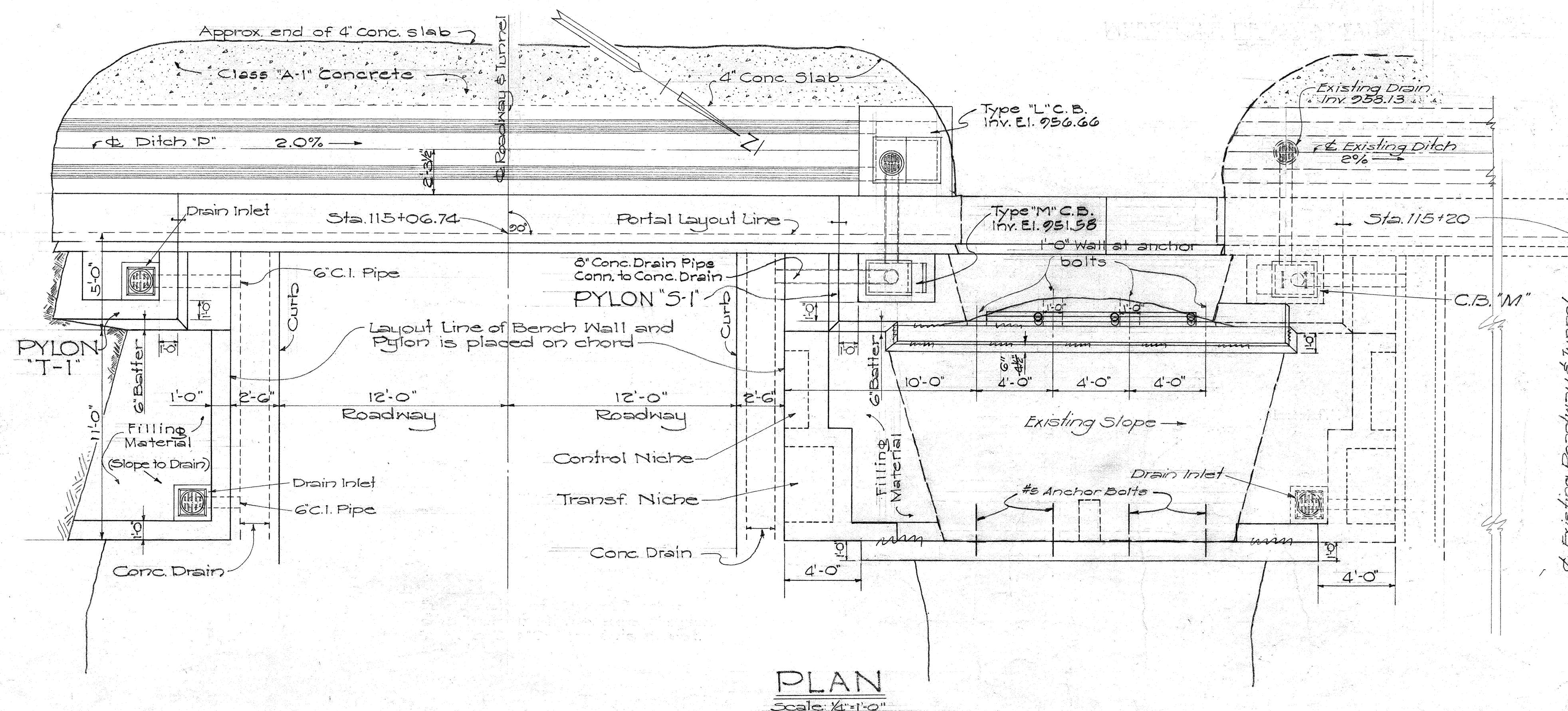
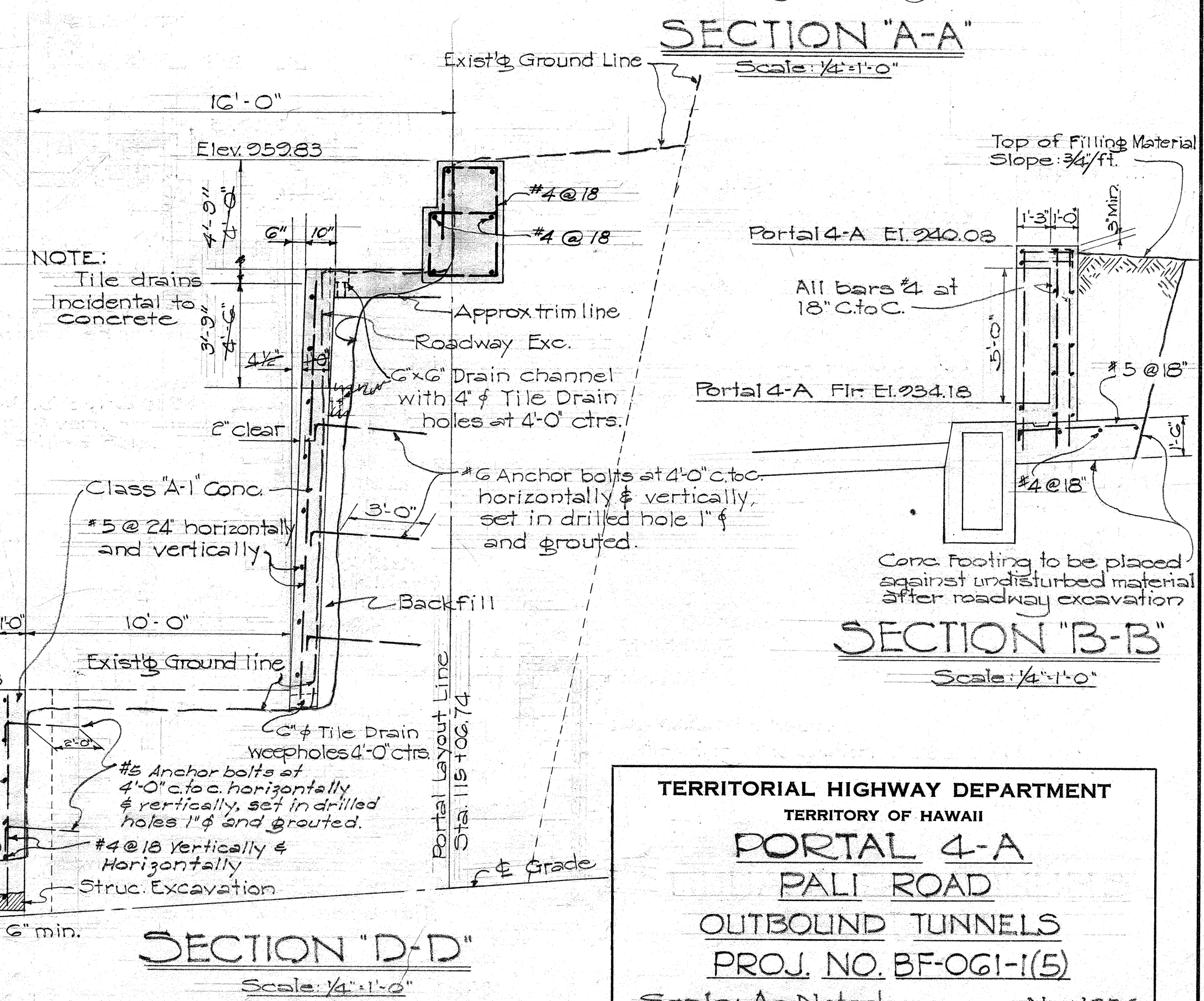
ORIGINAL PLAN	SURVEY PLOTTED BY DESIGNED BY <u>A. F. REMIN</u>	DATE " <u>10-57</u>
NOTE BOOK	DRAWN BY <u>T. N.</u>	" <u>10-57</u>
	TRACED BY <u>T. N.</u>	" <u>10-57</u>
	QUANTITIES BY <u>P. T.</u>	" <u>1-57</u>
	QUANTITIES CHECKED BY <u>H. F. C.</u>	" <u>1-57</u>
No.	CHECKED BY <u>P. T.</u>	" <u>7-57</u>

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-061-1(5)	1957	37	79

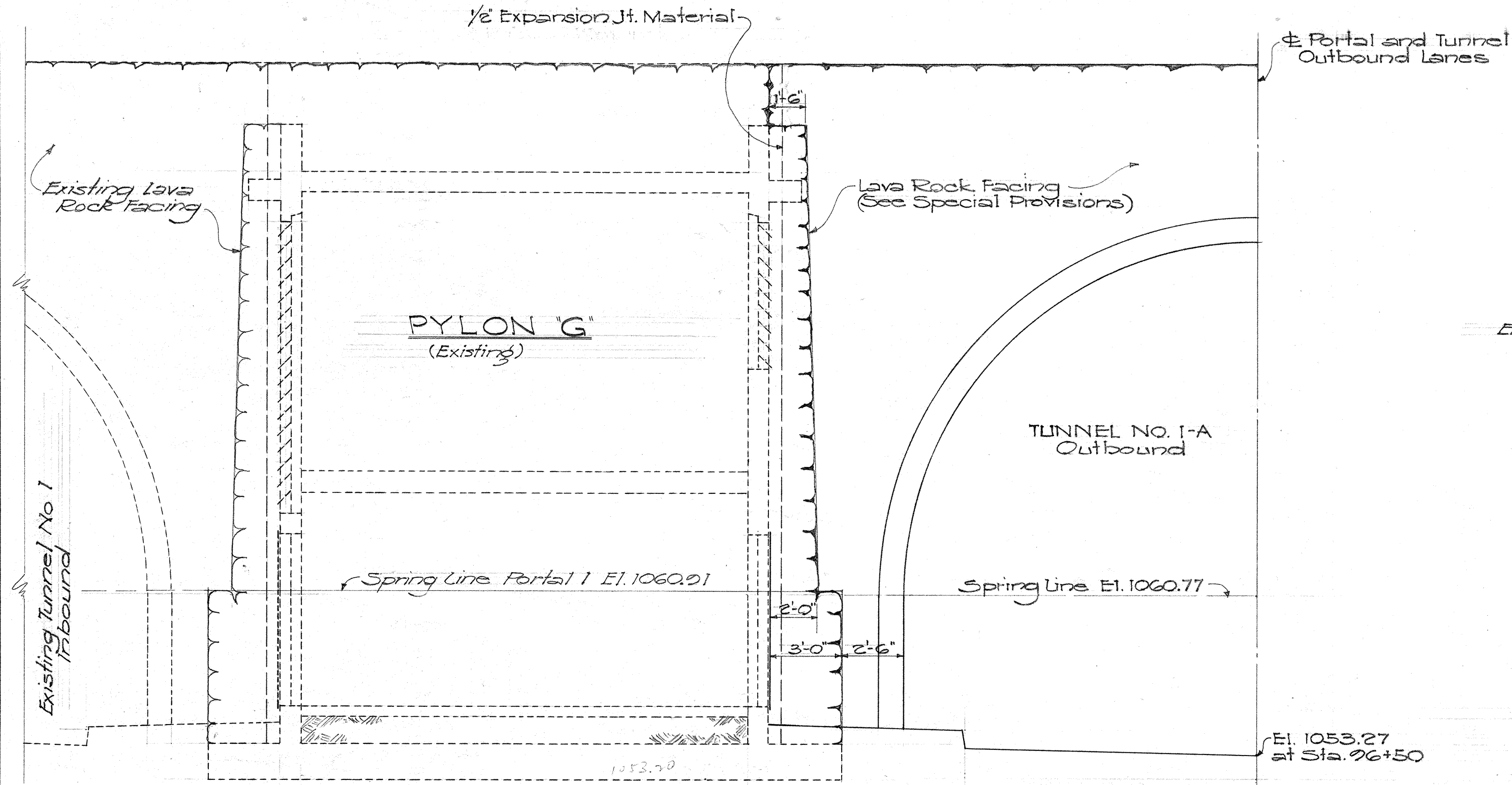


NOTE:

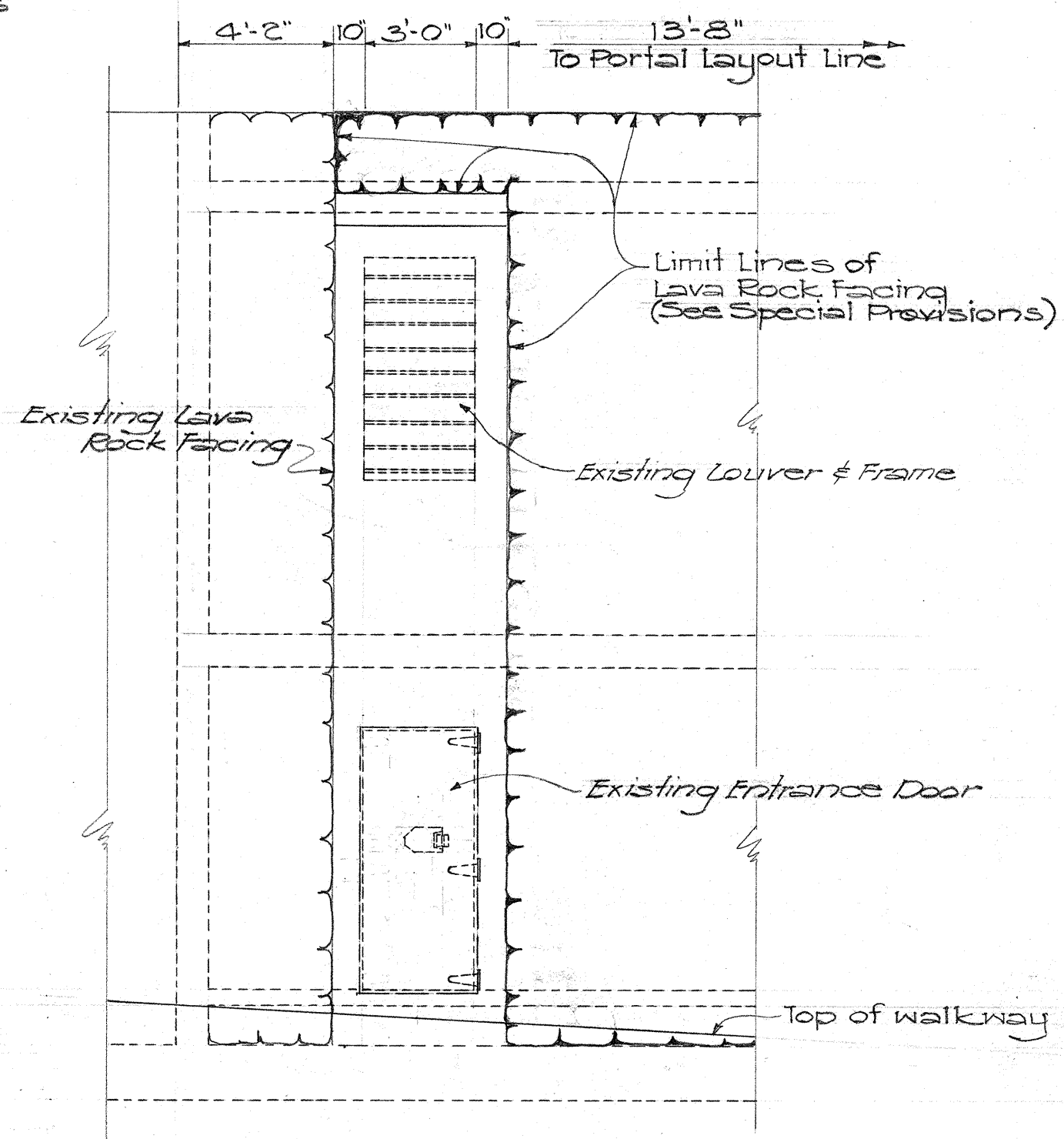
- 1- For details of Pylons and Bench Walls, See "Detail of Typical Pylon", Sheet 29.
- 2- For details of Ditch "P", C.B. "L" & C.B. "M", See "Drainage Structures", Sheet 41.
- 3- For details of Drain Inlet, See "Miscellaneous Details", Sheet 40.
- 4- For note on Weepholes in Bench Wall, see Section "A-G" of "Detail of Typical Pylon", Sheet 29.
- 5- All cells to be filled with Filling Material, See Special Provisions.



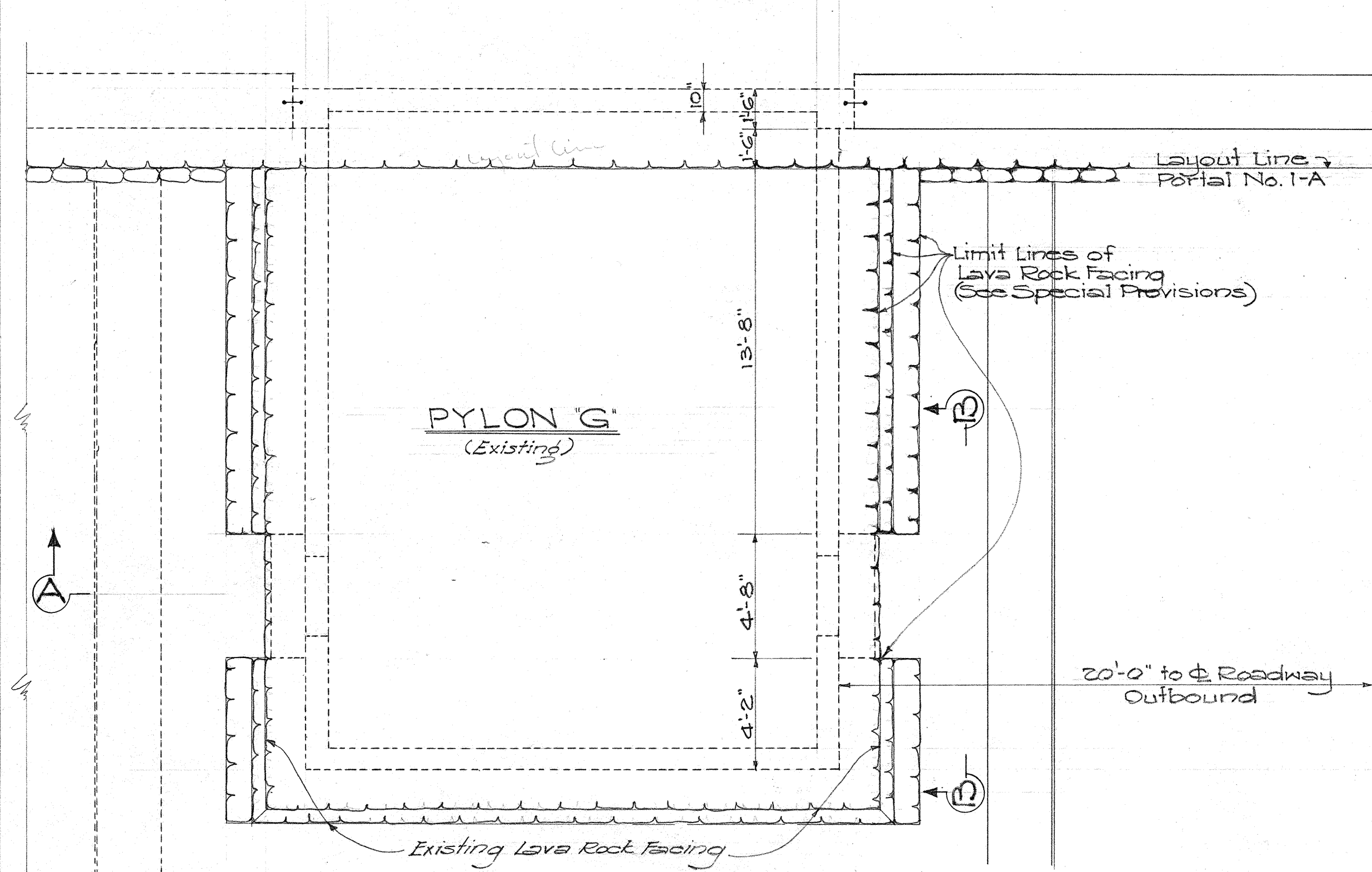
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BF-06H(5)	1957	40	79



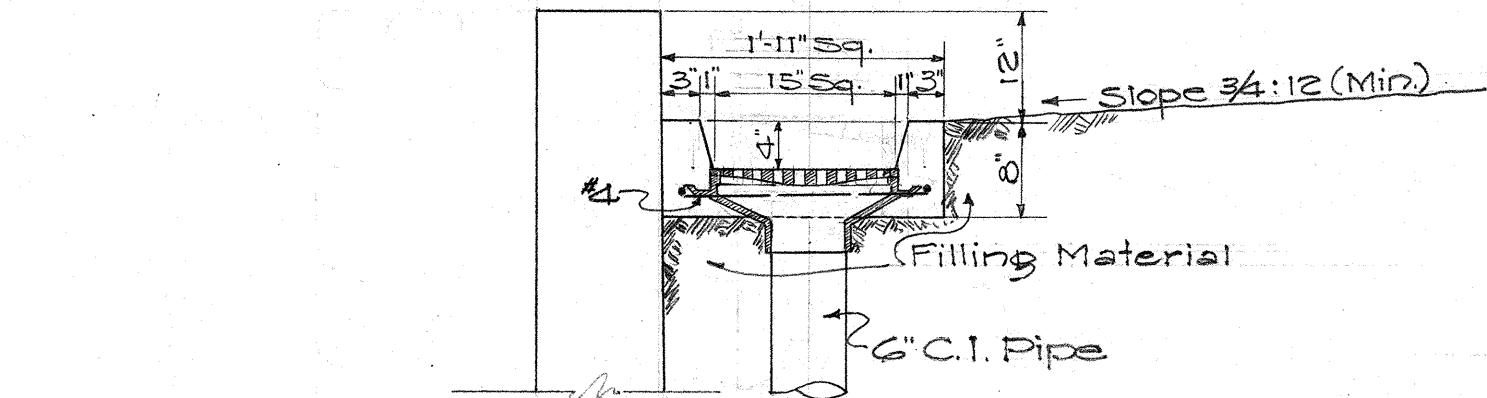
SECTION "A-A"
Scale: 1/4"=1'-0"



VIEW "B-B"
Scale: 1/4"=1'-0"

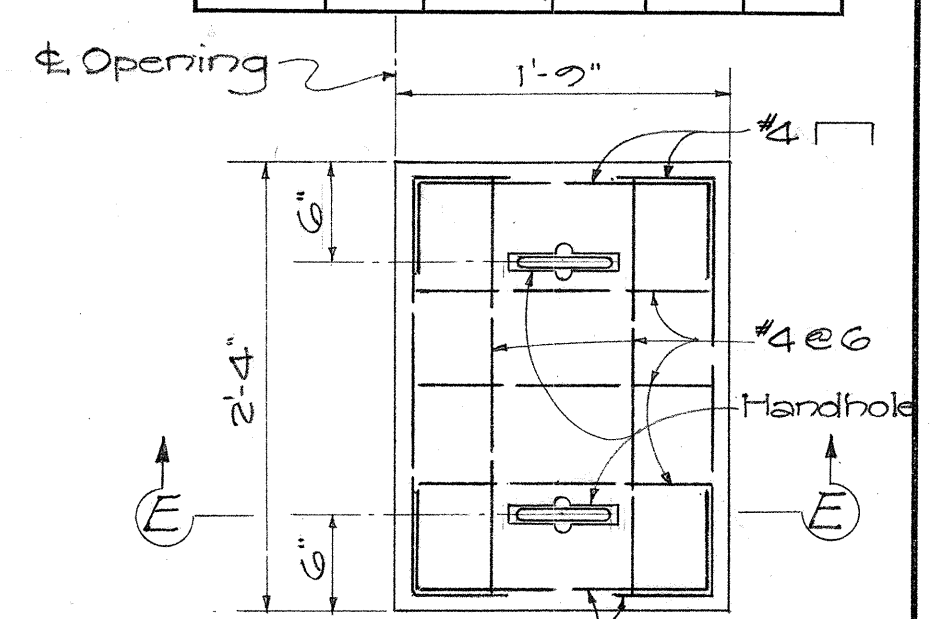
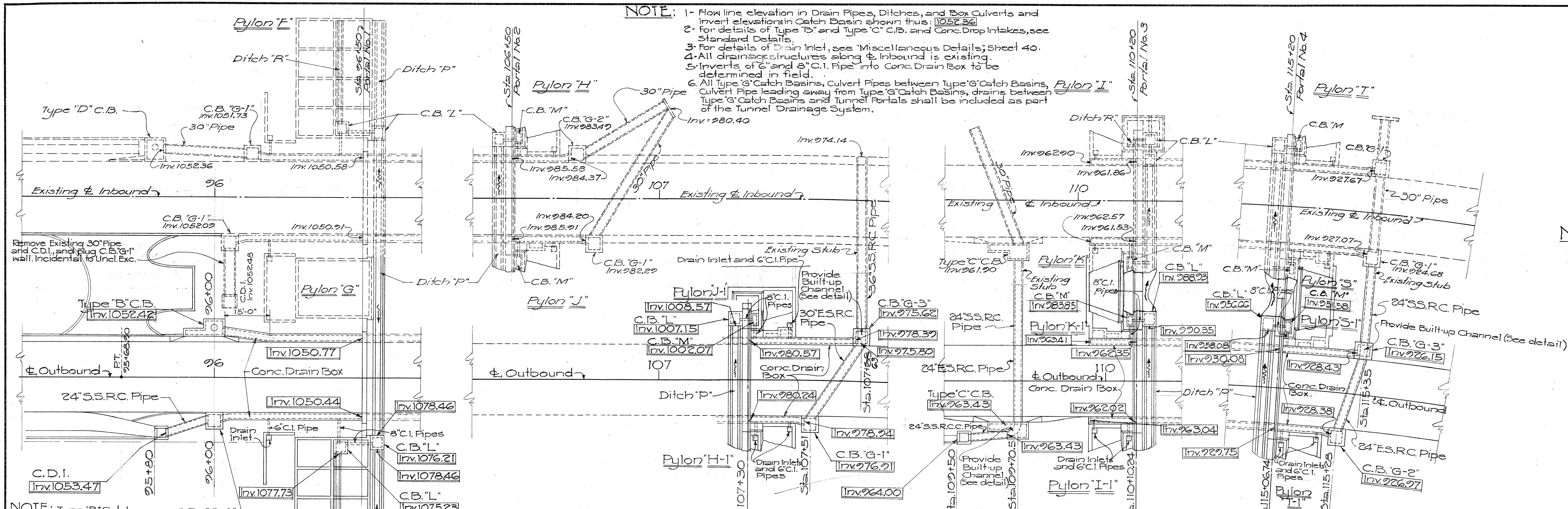


PLAN SHOWING ROCK FACING ON PYLON "G"
Scale: 1/4"=1'-0"



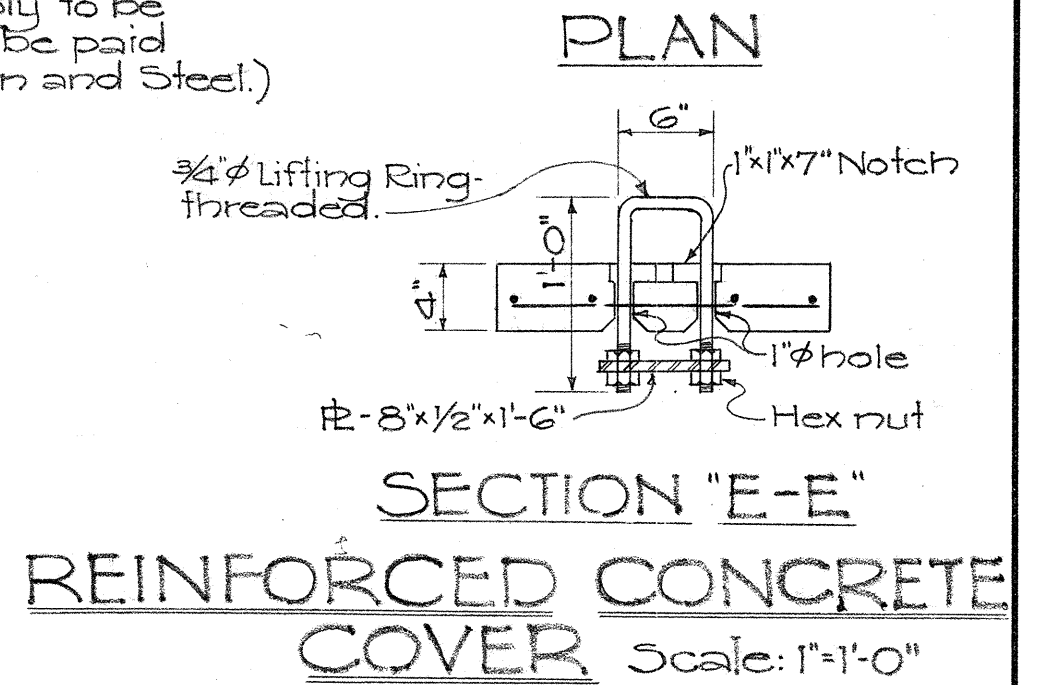
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BF-061(5)	1957	41	79

- NOTE:
- 1- Flow line elevation in Drain Pipes, Ditches, and Box Culverts and invert elevations in Catch Basins shown thus: 1052.36
 - 2- For details of Type "B" and Type "C" C.B. and Conc. Drop Inlets, see Standard Details.
 - 3- For details of Drain Inlet, see "Miscellaneous Details", Sheet 40.
 - 4- All drainage structures along & Inbound are existing.
 - 5- Inverts of "G" and "B" C.I. Pipe into Conc. Drain Box to be determined in field.
 - 6- All Type "G" Catch Basins, Culvert Pipes between Type "G" Catch Basins, Culvert Pipe leading away from Type "G" Catch Basins, drains between Type "G" Catch Basins and Tunnel Portals shall be included as part of the Tunnel Drainage System.



NOTE:

Lifting assembly to be galvanized (to be paid for as Misc. Iron and Steel.)

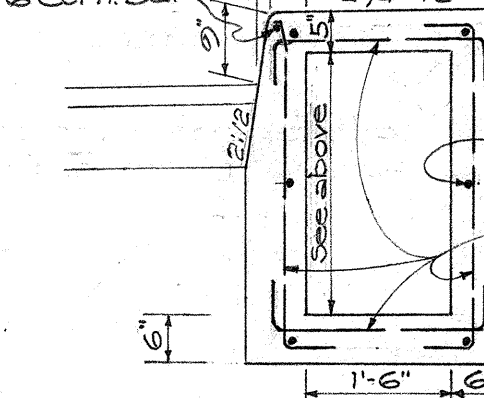
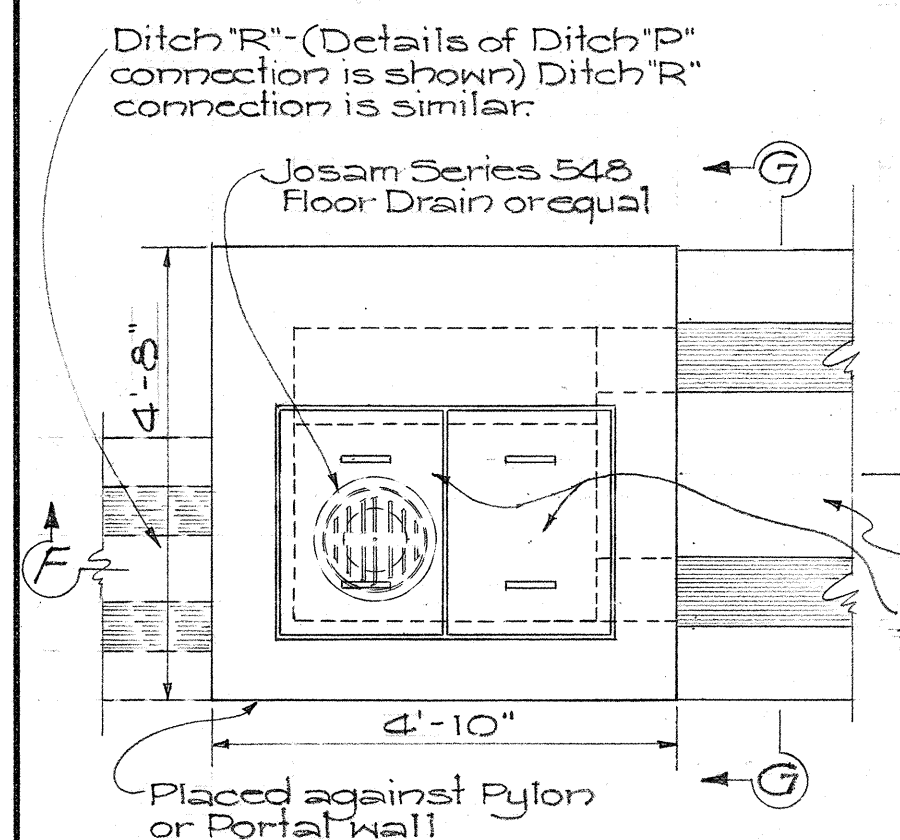
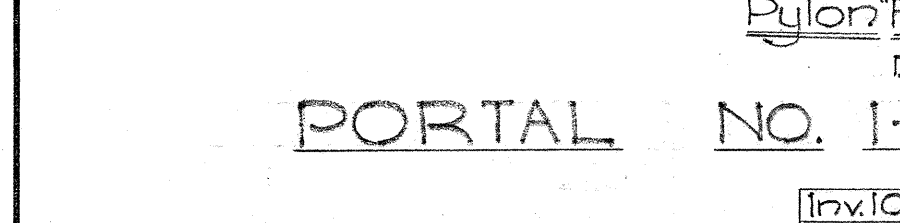


PORTAL NO 2-A PORTAL NO 3-A LAYOUT OF DRAIN STRUCTURES

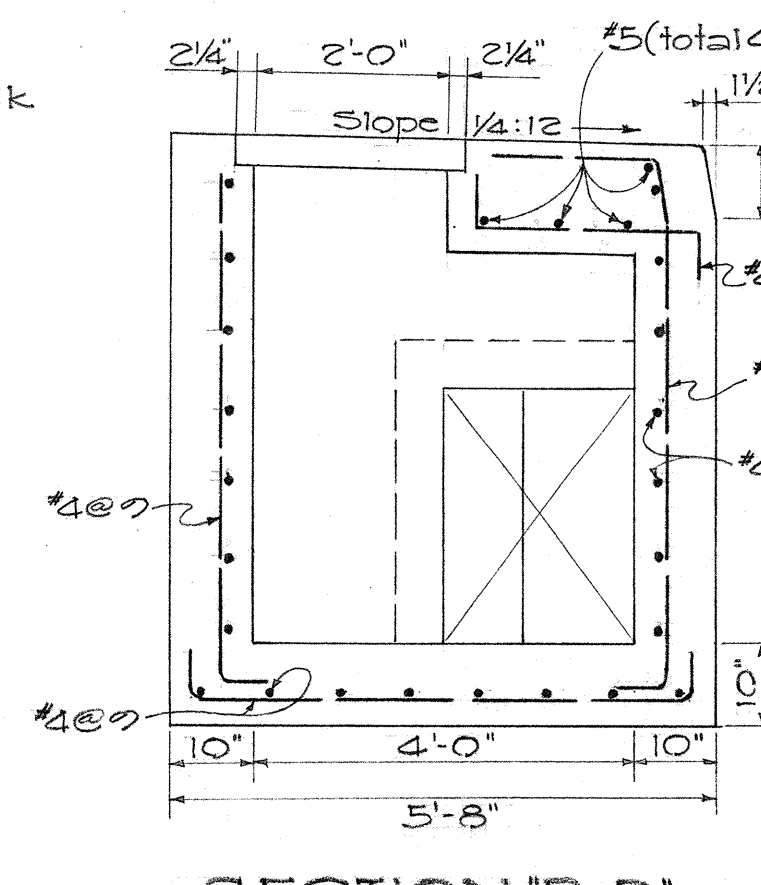
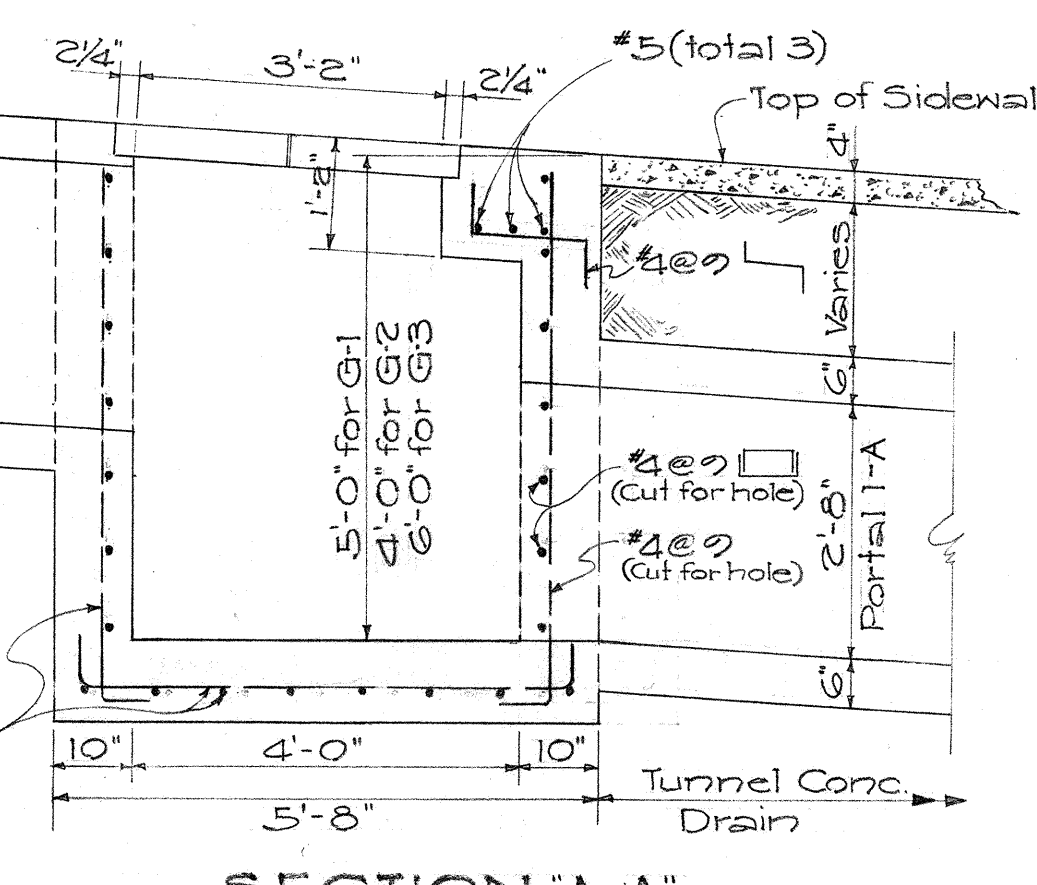
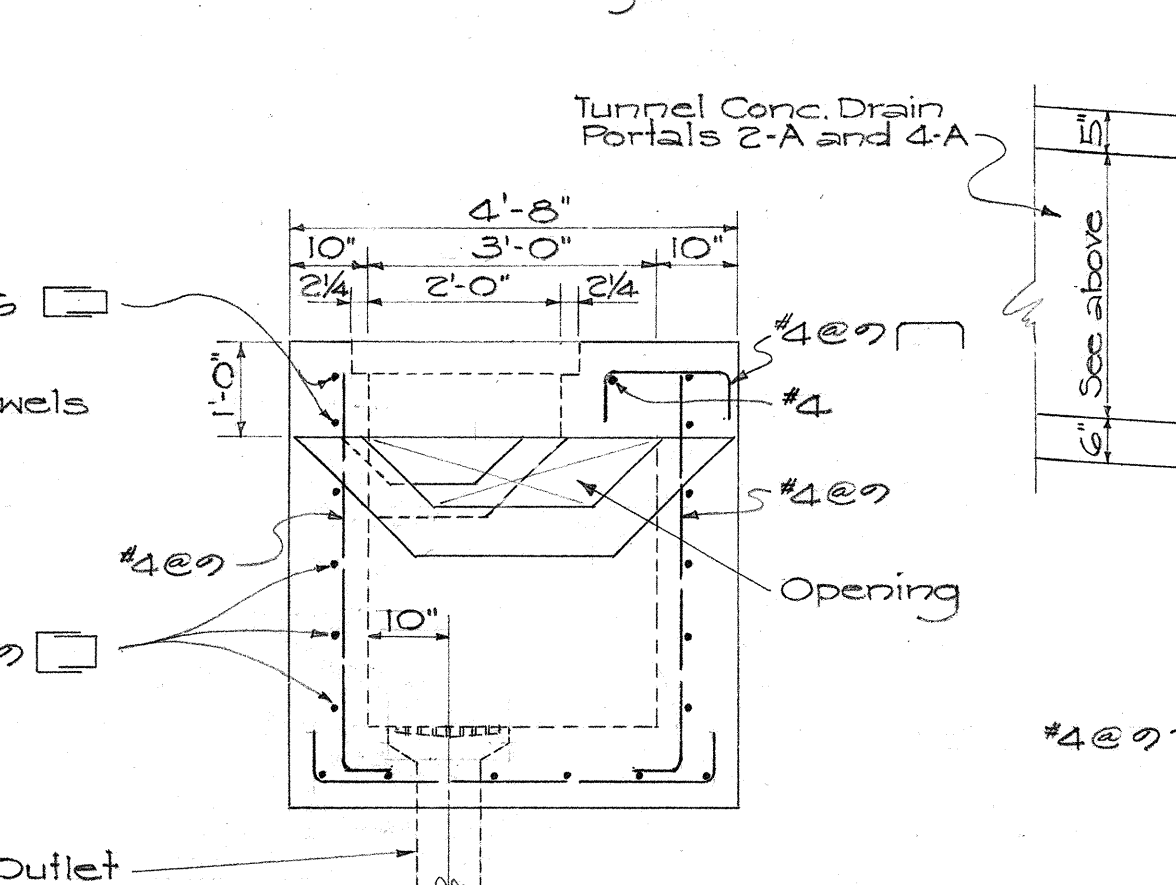
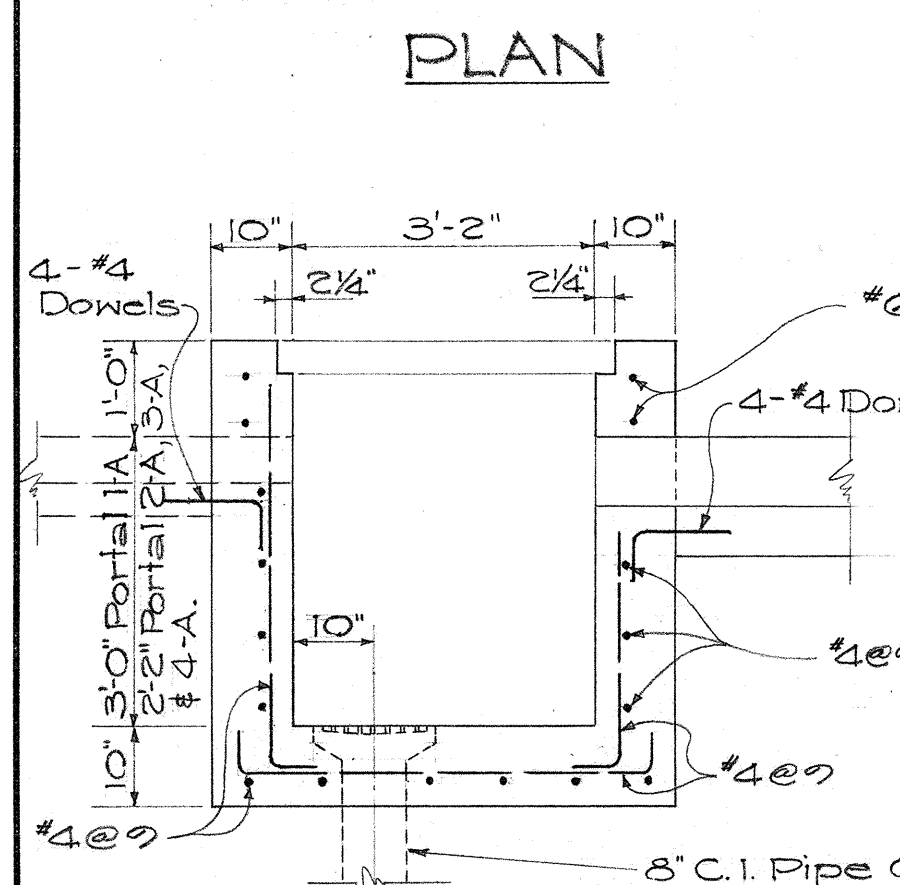
Scale: 1"=20'-0"

HEIGHT OF DRAIN BOX OUTSIDE OF PORTAL		
	Left	Right
Portal 2A	3'-11/8"	2'-1/8"
Portal 3A	3'-0/4"	2'-11/8"
Portal 4A	3'-5/8"	2'-6/8"

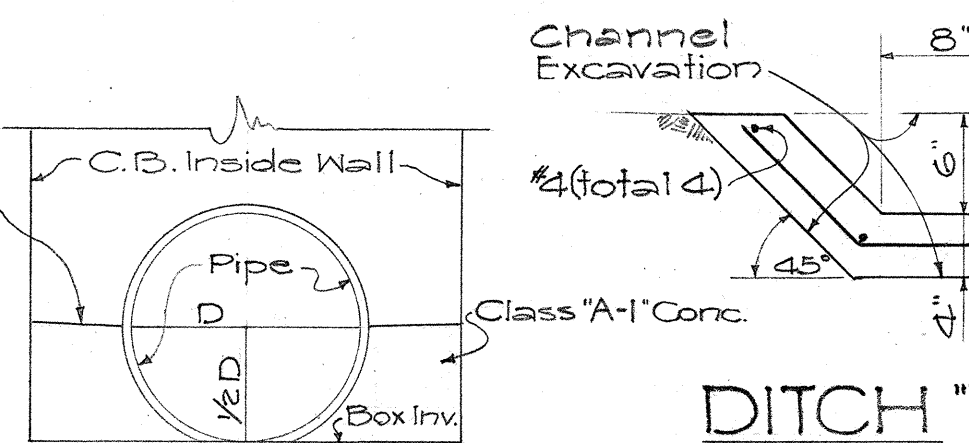
NOTE: Type "B" Catch Basin, C.D.I. and 24" S.S.R.C. Pipe are Roadway Drainage Structures.



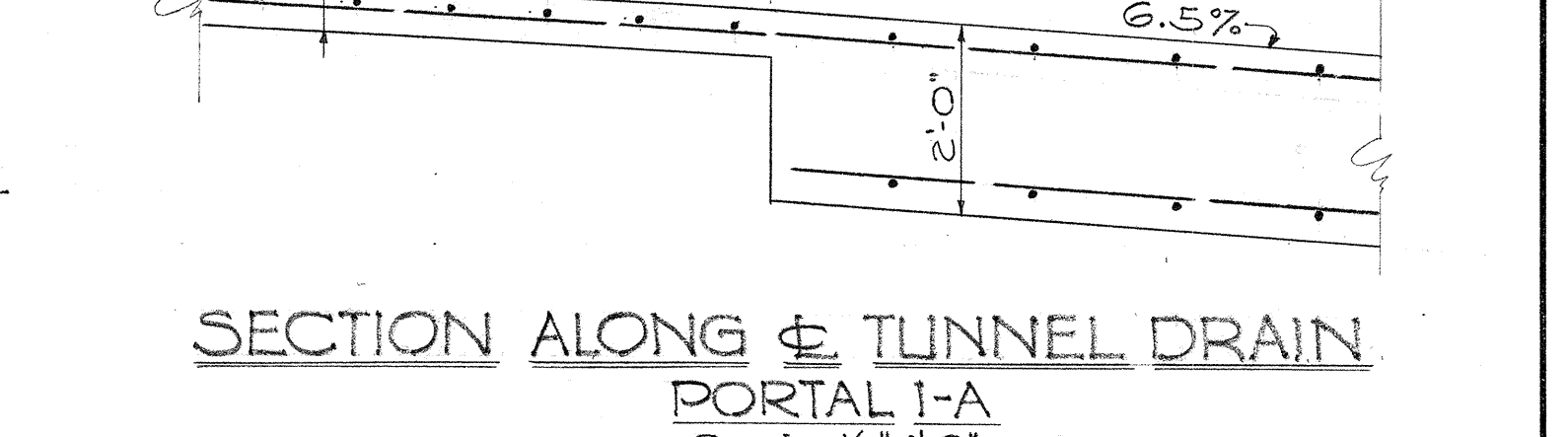
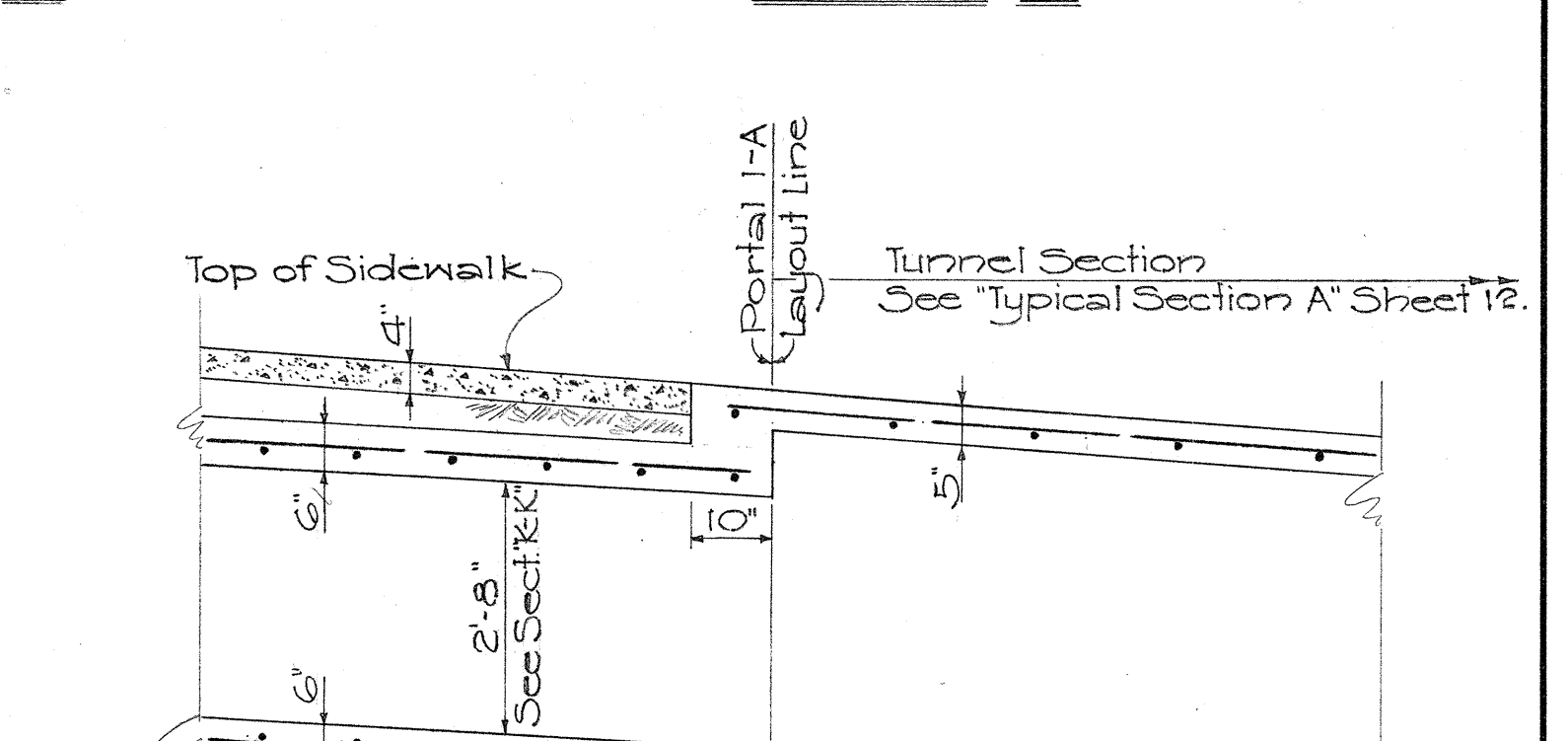
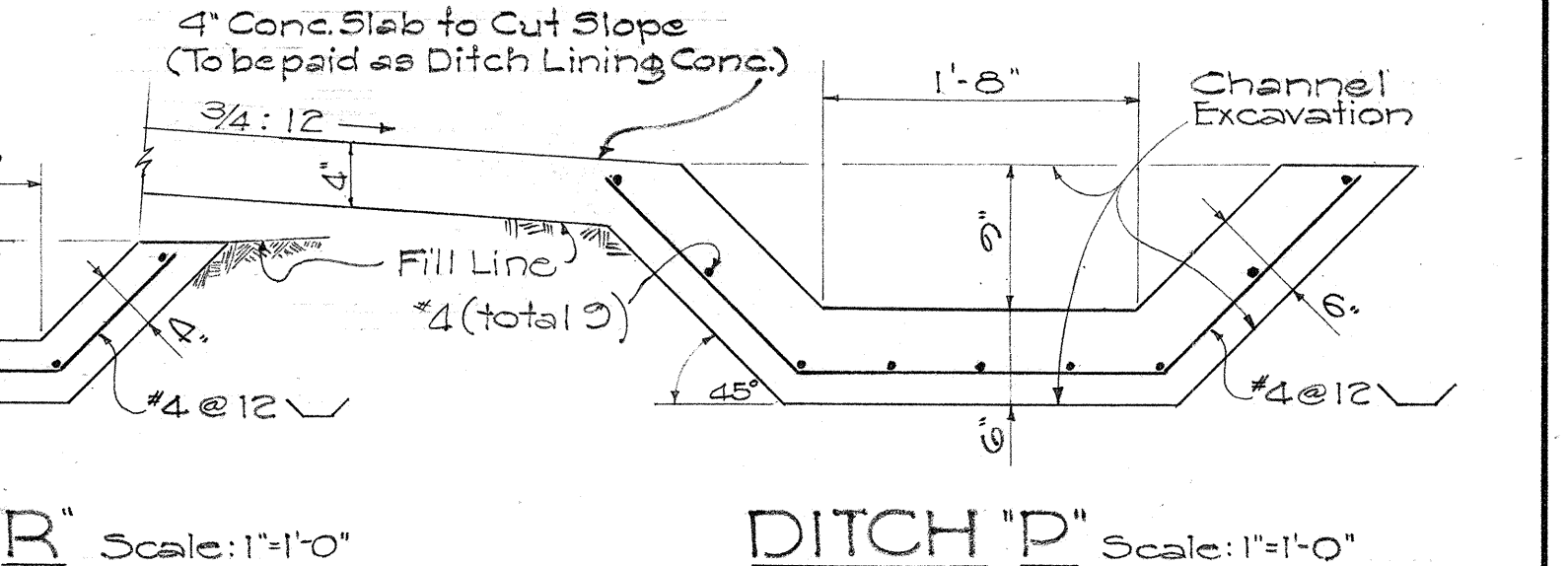
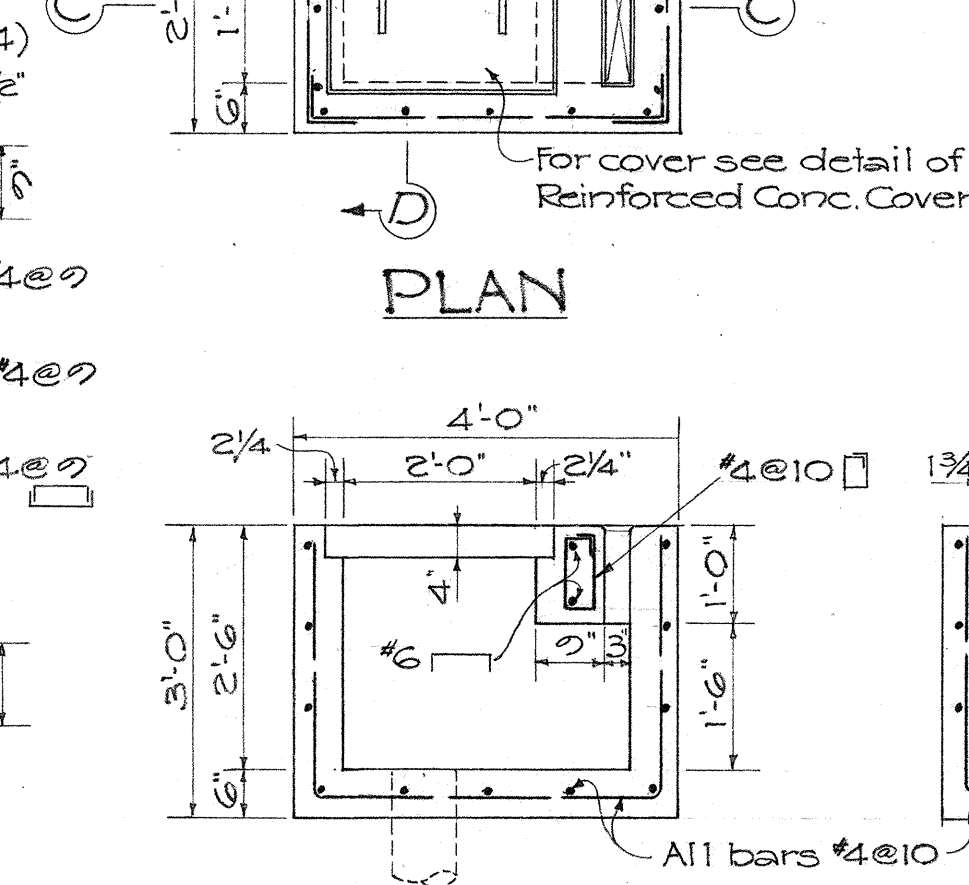
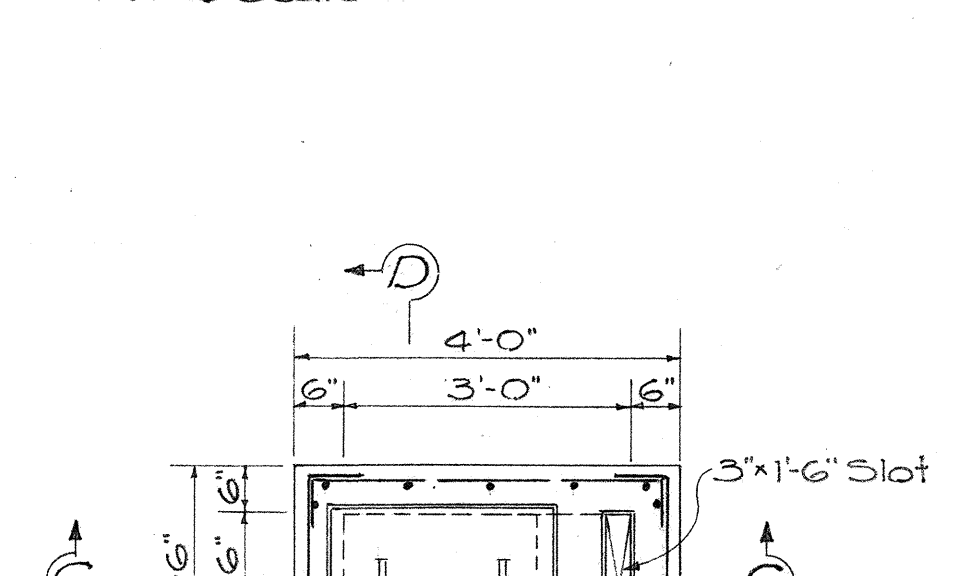
NOTE: Tunnel Conc. Drain and also Pipe Culvert as required. See Layout of Drain Structures.



NOTE: Type "G" Catch Basin, C.D.I. and 24" S.S.R.C. Pipe are Roadway Drainage Structures.



Not to Scale

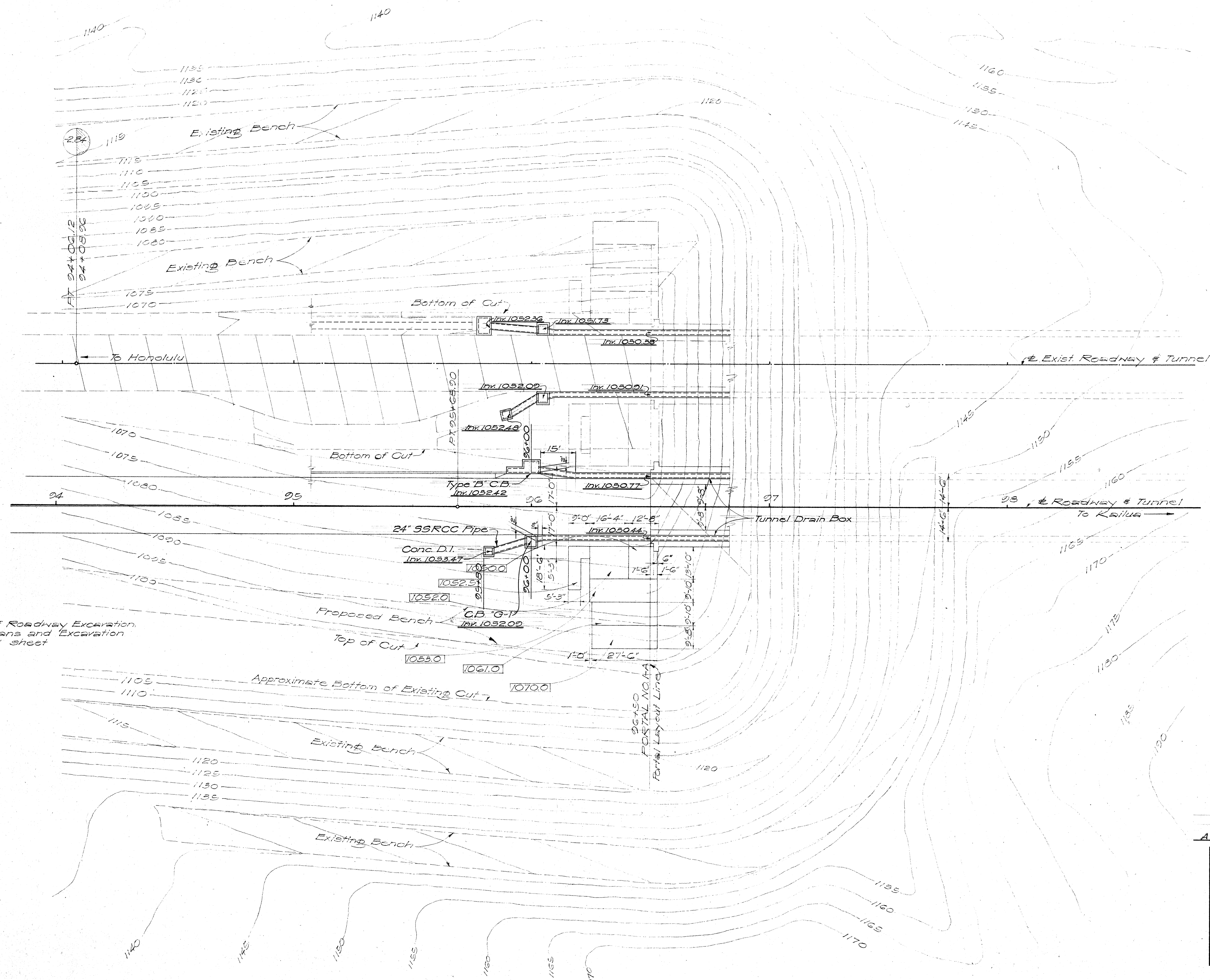
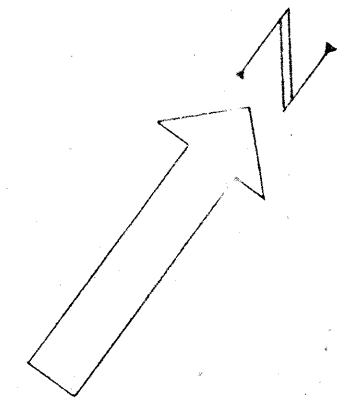


TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
DRAINAGE STRUCTURES
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-061(5)
Scale: As Noted Dec. 1956

SHEET NO. OF SHEETS

DESIGNED BY	DATE
DRAWN BY	12-56
CHECKED BY	1-57
QUANTITIES CHECKED BY	1-57
ORIGINAL PLAN	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS



NOTE:
For detail of Roadway Excavation,
see 'Road Plans and Excavation'
at Portal 1-A" sheet

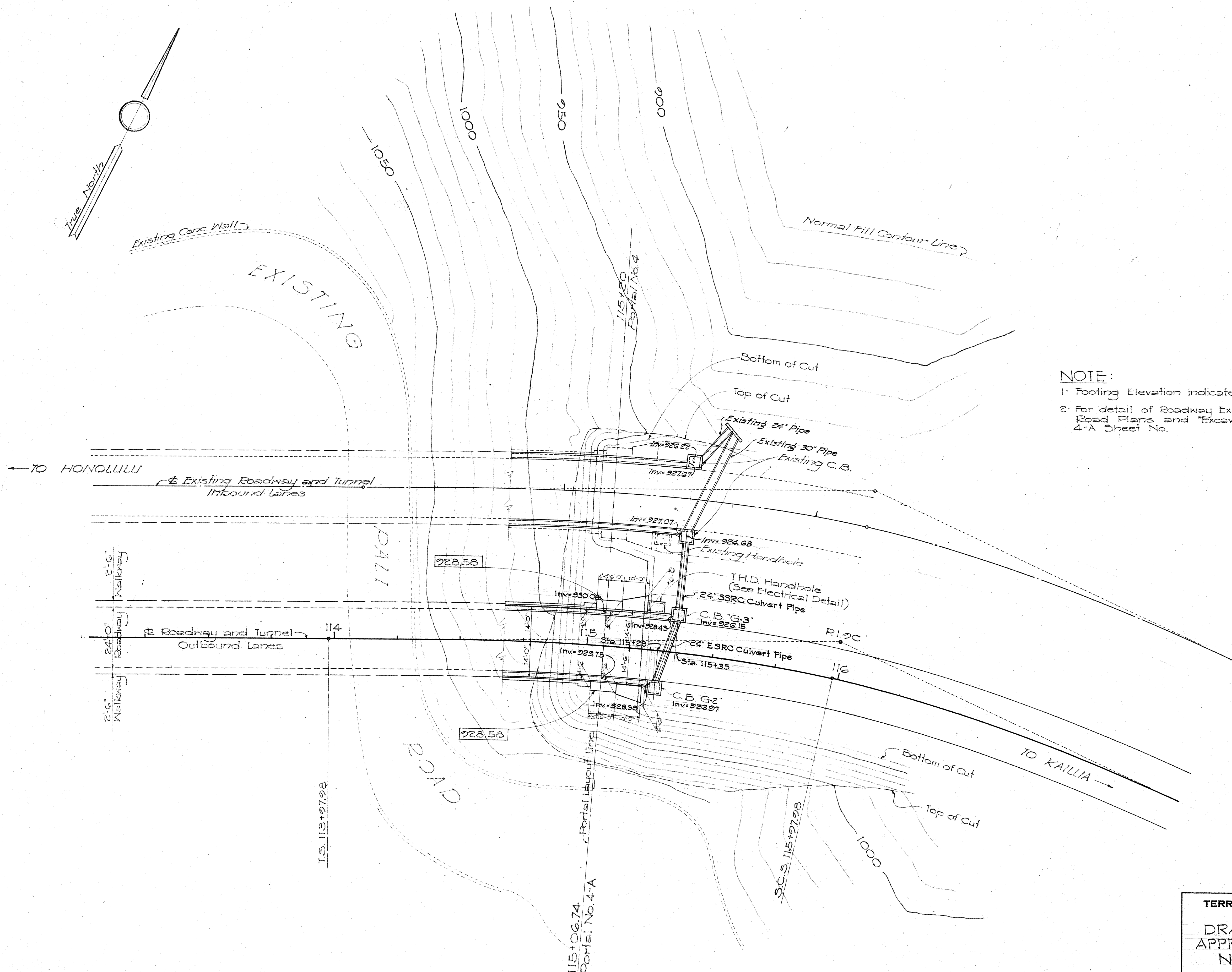
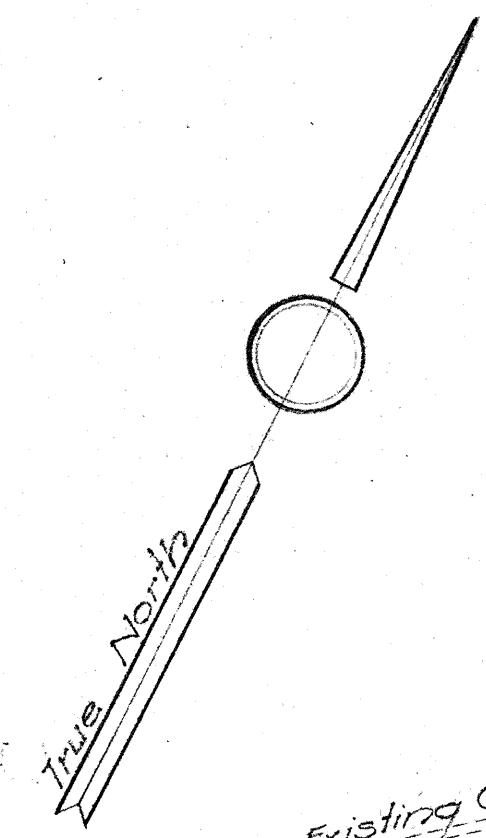
NOTE:
Footings Elevation indicated
thus: 1053.2
For Electrical Details see
Electrical Plans.

**DRAINAGE SYSTEM
AT APPROACH TO PORTAL 1-A**

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
**FOUNDATION PLAN AT
PORTAL 1-A
NUUANU PALI TUNNELS
PALI ROAD**
Scale: 1" = 20'-0" Oct. 1956

SURVEY PLOTTED BY	DATE
DESIGNED BY	
DRAWN BY	
QUANTITIES BY	
QUANTITIES CHECKED BY	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS



NOTE:
 1. Footing Elevation indicated thus: 928.58
 2. For detail of Roadway Excavation, see Road Plans and Excavation at Portal 4-A Sheet No.

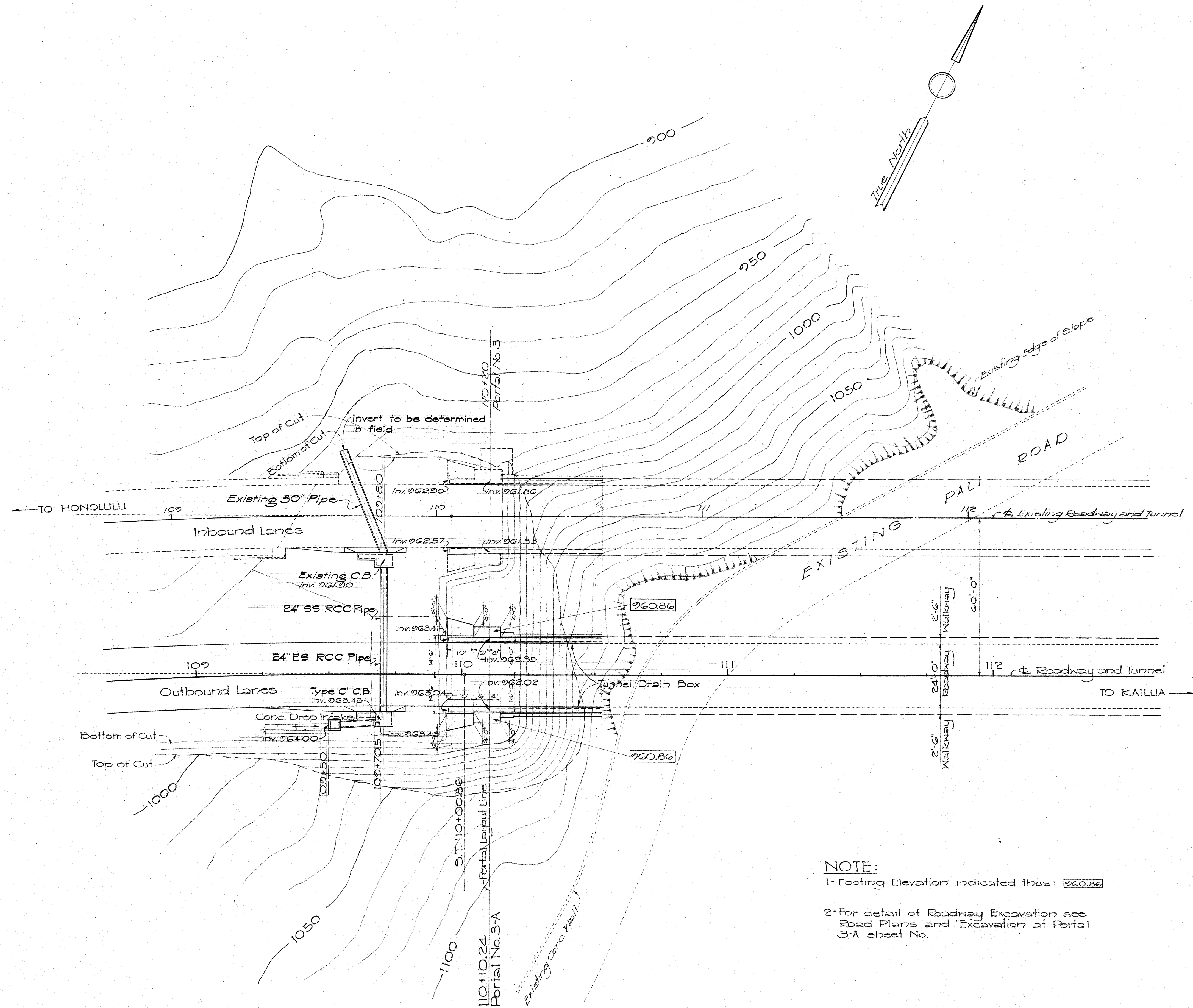
ORIGINAL PLAN	DATE
NOTED BY	
TRACED BY	
QUANTITIES CHECKED BY	
CHECKED BY	

TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
DRAINAGE SYSTEM AT
APPROACH TO PORTAL 4-A
NUUANU PALI TUNNELS
PALI ROAD

Scale: 1"=20'-0" Oct. 1956

SHEET NO. OF SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS



NOTE:

1- Footing Elevation indicated thus: $\boxed{260.86}$

2- For detail of Roadway Excavation see Road Plans and Excavation at Portal 3-A sheet No.

DRAINAGE SYSTEM AT APPROACH TO PORTAL 3-A

TERRITORIAL HIGHWAY DEPARTMENT

TERRITORY OF HAWAII

FOUNDATION PLAN AT

PORTAL 3-A

NUUANU PALI TUNNELS

PALI ROAD

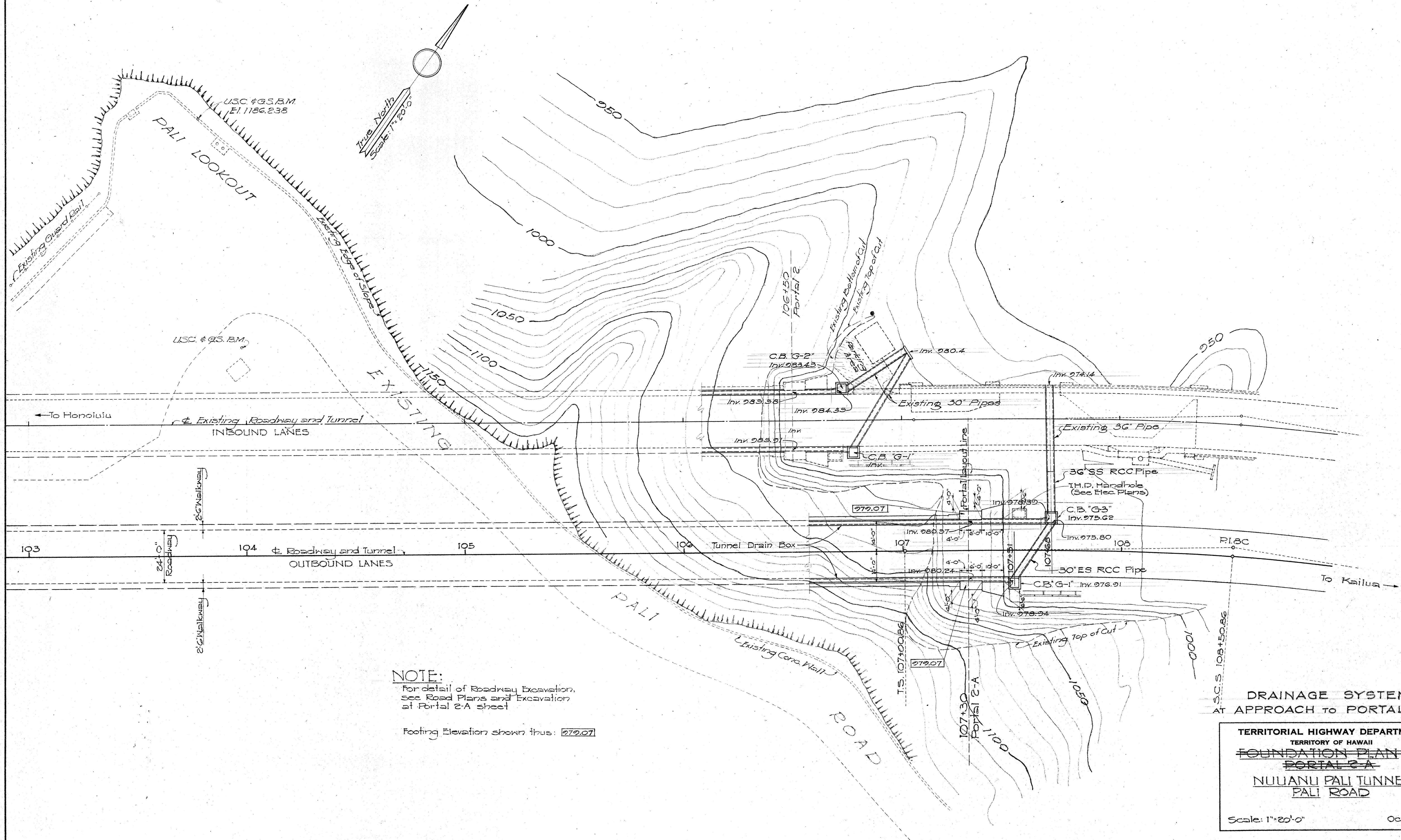
Scale: 1"=20'

Oct. 1956

SHEET NO. OF SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
DRAWN BY	
CHECKED BY	
QUANTITIES CHECKED BY	
NOTE BOOK NO.	

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS



NOTE:
 For detail of Roadway Excavation,
 See Road Plans and Excavation
 at Portal 2-A sheet

Footing Elevation shown thus: 279.07

**DRAINAGE SYSTEM
 AT APPROACH TO PORTAL 2-A**

**TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII**

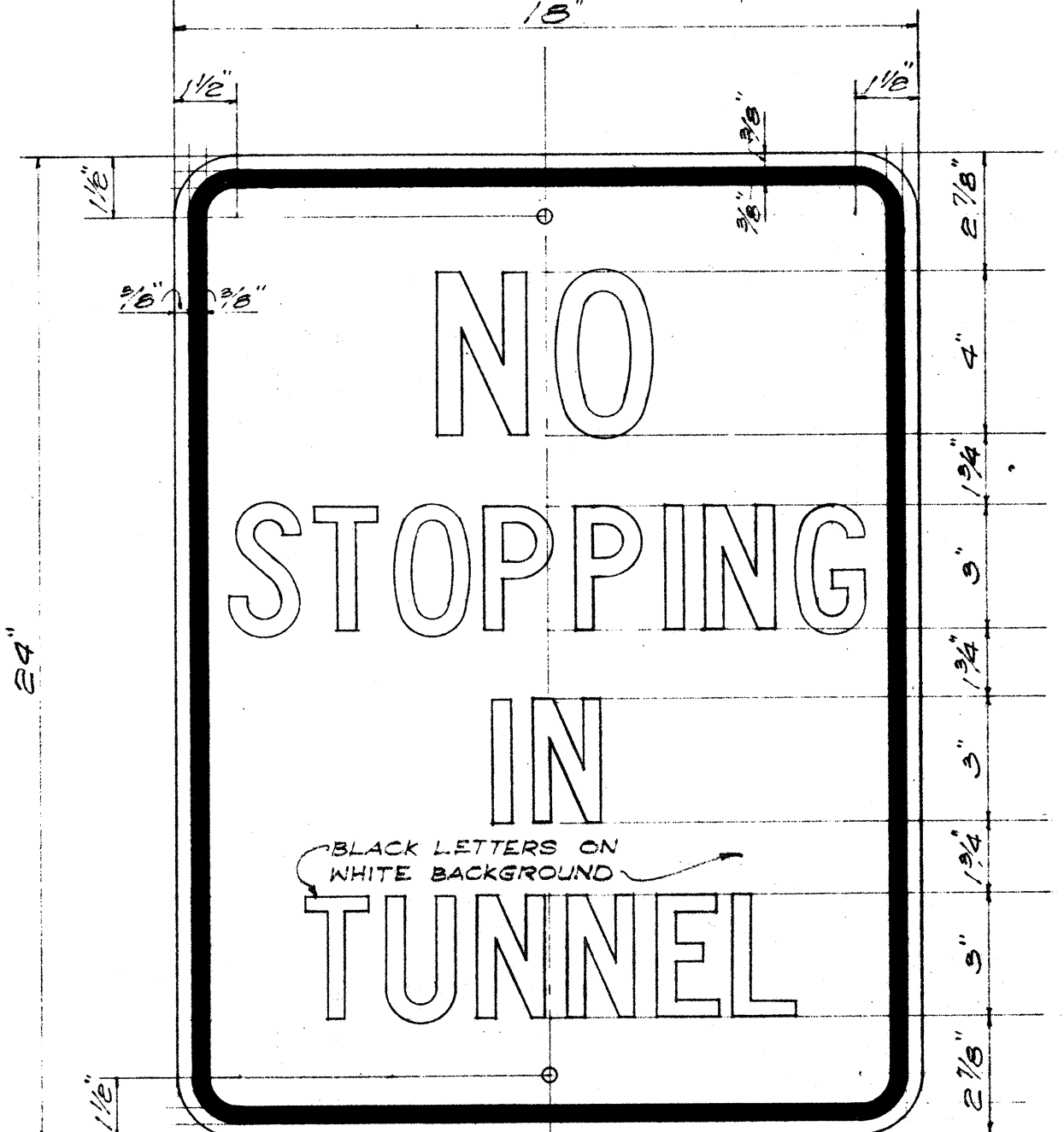
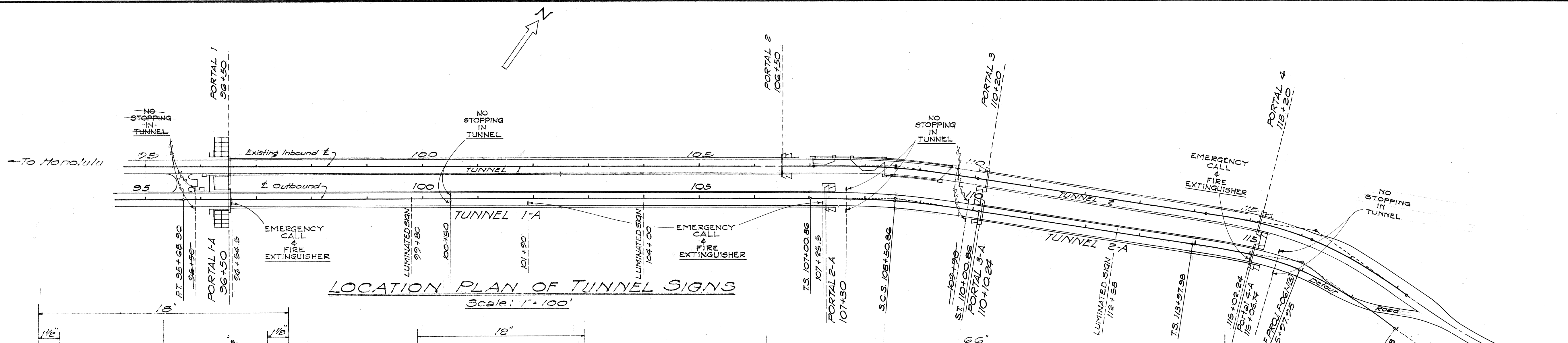
**FOUNDATION PLAN AT
 PORTAL 2-A**

**NUUANU PALI TUNNELS
 PALI ROAD**

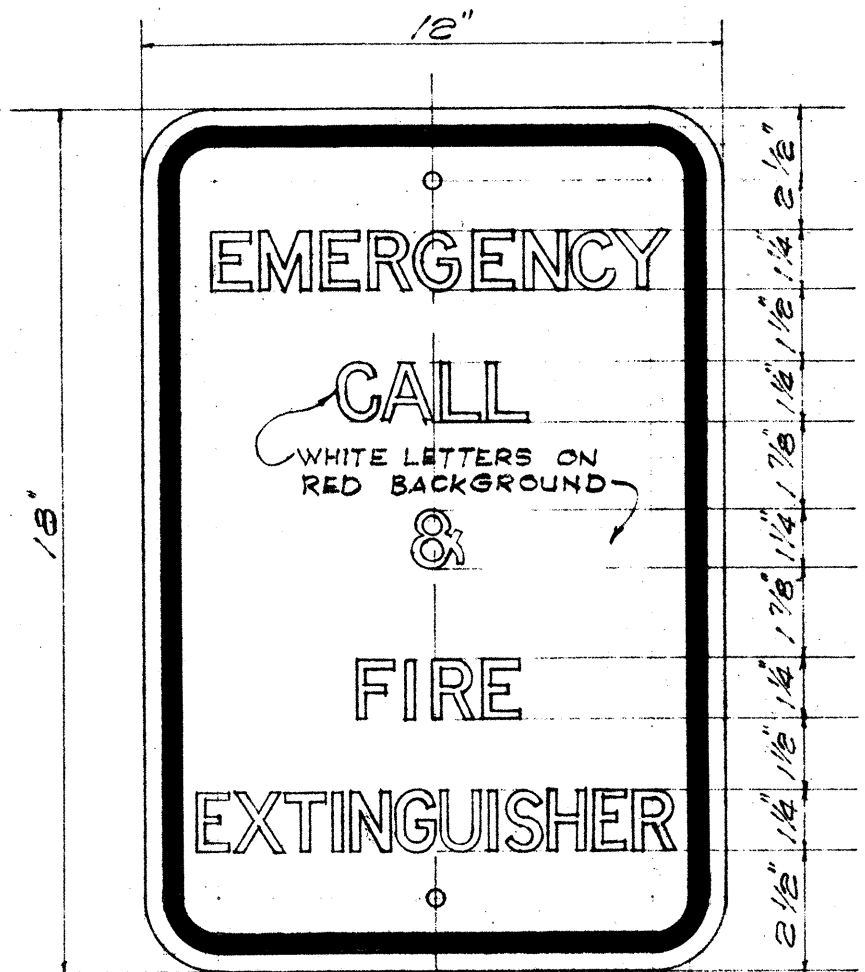
Scale: 1"=20'-0" Oct. 1956

SHEET NO. OF SHEETS

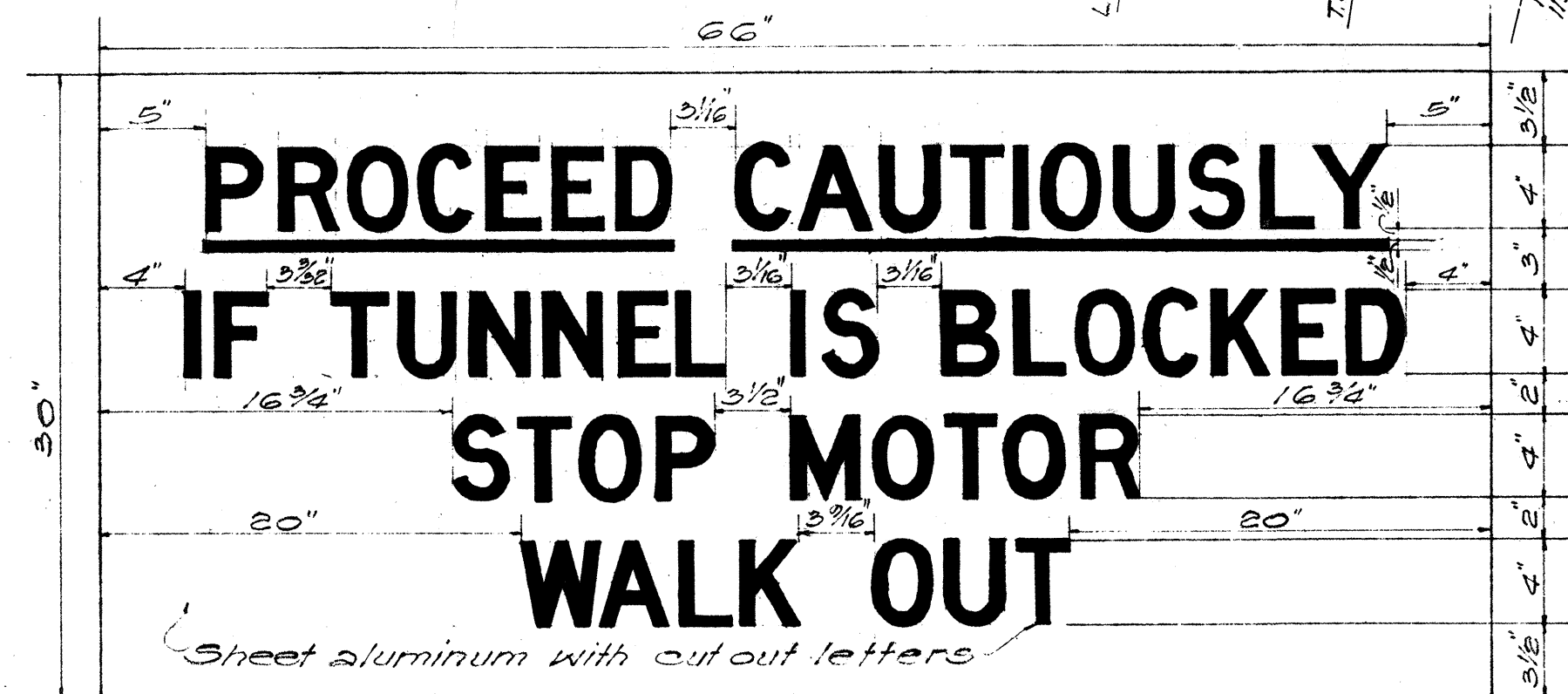
SURVEY PLOTTED BY	DATE
DRAWN BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK No.	



SERIES "C" LETTERS



Note: Letters shall be Modified to fit Sign Plate

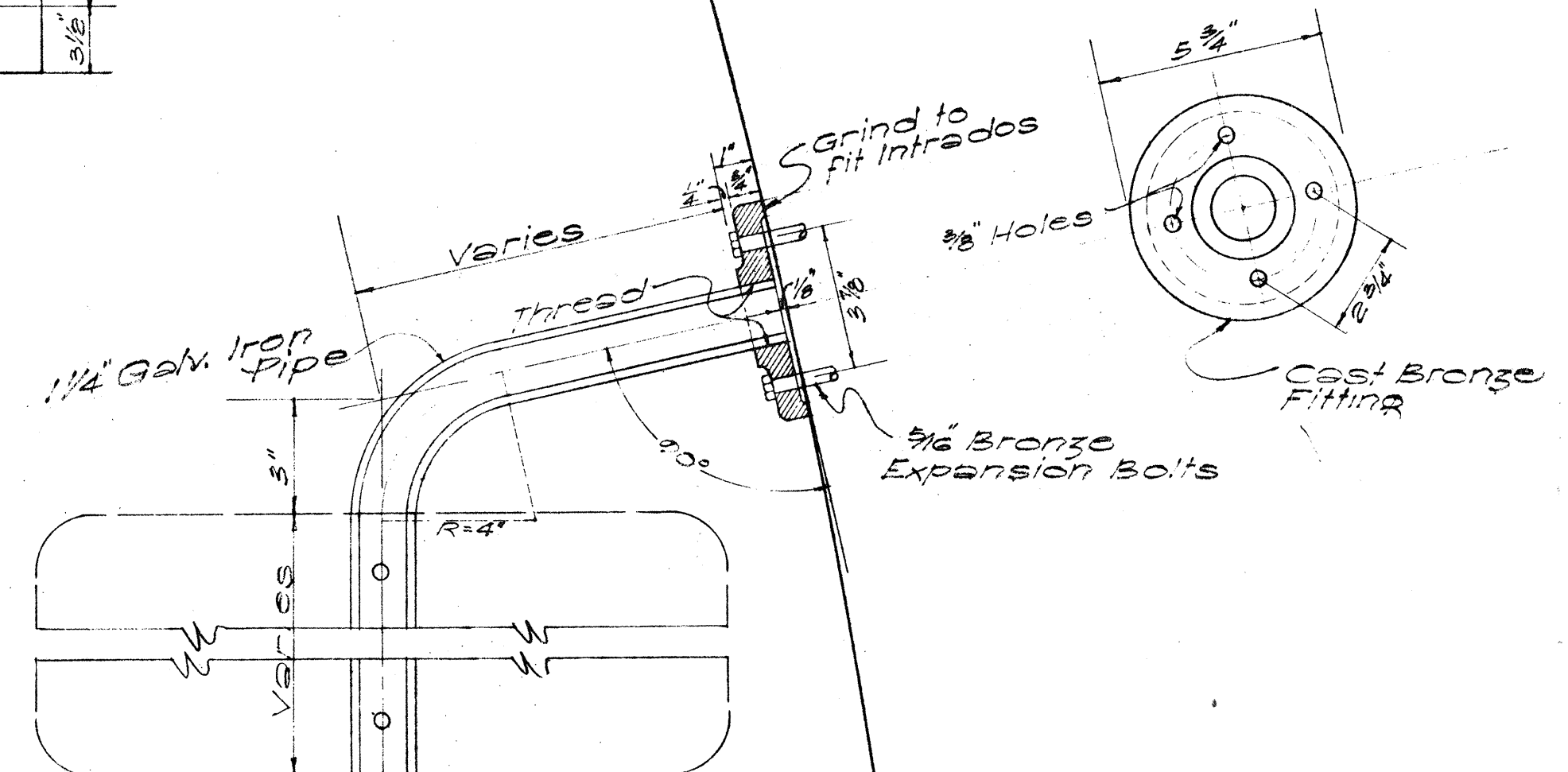


Series "D" letters

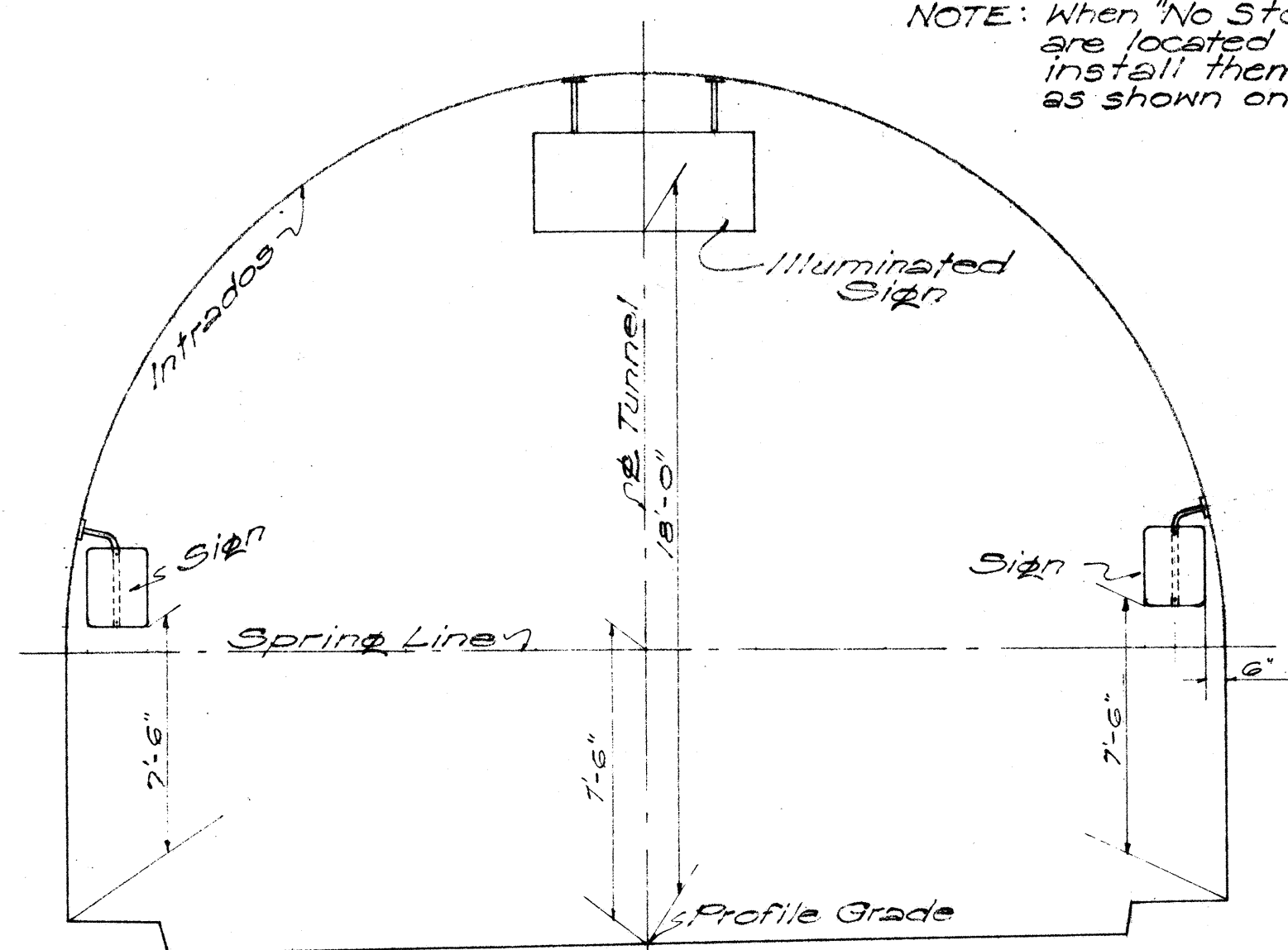
ILLUMINATED SIGN Scale: 1 1/2" = 1'-0"

NOTE:
1. Wording, letter size, and spacing may be revised if directed by the Engineer.
2. See Electrical Plans for location and details of Illuminated Sign, See Sheets 43 & 52.
3. For Mounting Detail of Illuminated Sign, see Electrical Plans, Sheet 52.

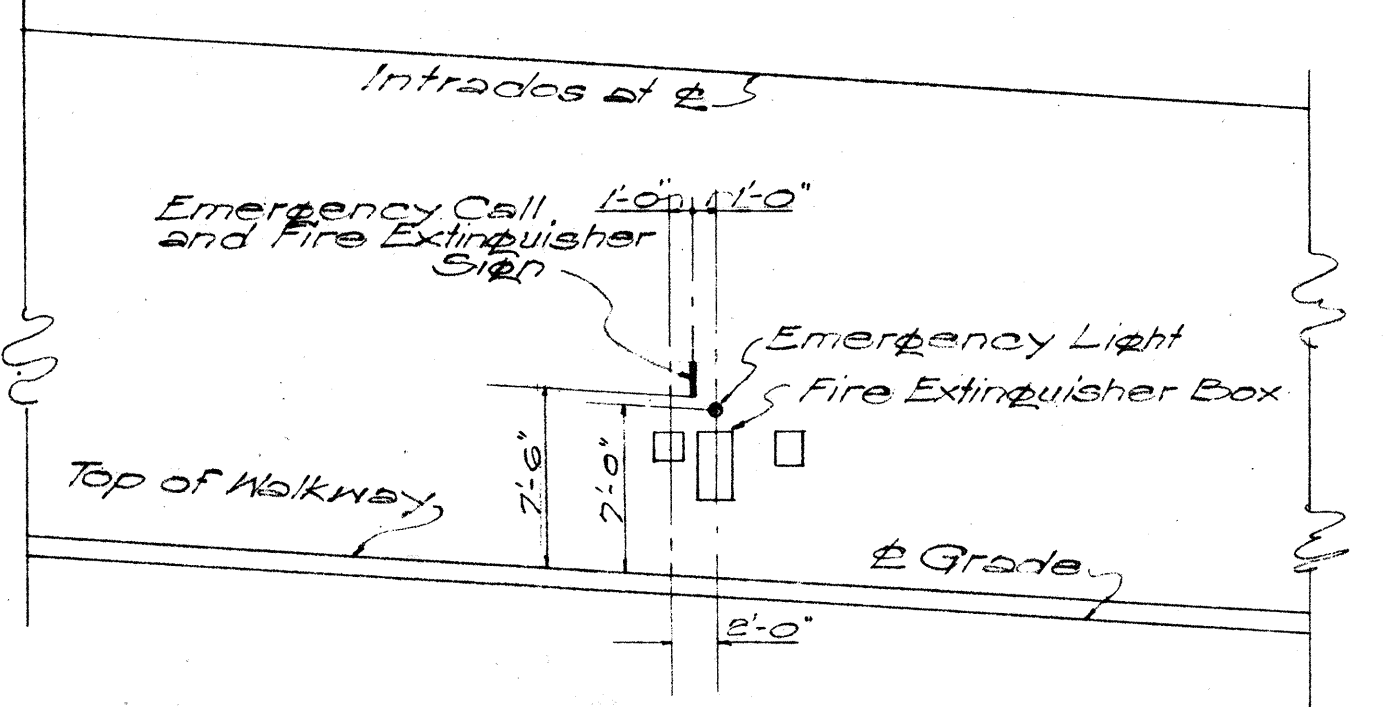
SUMMARY OF TUNNEL SIGNS	
TOTAL	DESCRIPTION
6	NO STOPPING IN TUNNEL
4	EMERGENCY CALL & FIRE EXTINGUISHER
3	PROCEED CAUTIOUSLY IF TUNNEL IS BLOCKED STOP MOTOR WALK OUT



DETAIL OF SIGN BRACKET Scale: 3" = 1'-0"



TUNNEL SECTION SHOWING TYPICAL SIGN HEIGHT Scale: 1/4" = 1'-0"



ELEVATION OF SIGN AT PHONE AND FIRE EXTINGUISHER BOXES Scale: 1/4" = 1'-0"

NOTE:
For dimensions, height and location of Fire Extinguisher Box, H. T. Co. Wall Phone Box and C.O. Sampler or Junction Box, see Electrical Plans, sheets 47, 51, 52, & 53.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
TUNNEL REGULATORY SIGNS
PALI ROAD
OUTBOUND TUNNELS
PROJ. NO. BF-06-1(3)
Scale: As noted

SURVEY PLANNED BY DATE 5-54
DESIGNED BY J.A. REMIN 10-56
DRAWN BY J.C. & P.T. 8-54 C.I.
CHECKED BY J.P. 7-57
NOTE BOOK
NO.