

STATE OF MAINE STATE HIGHWAY COMMISSION



SOUTH PORTLAND CUMBERLAND COUNTY

TOLL PLAZA

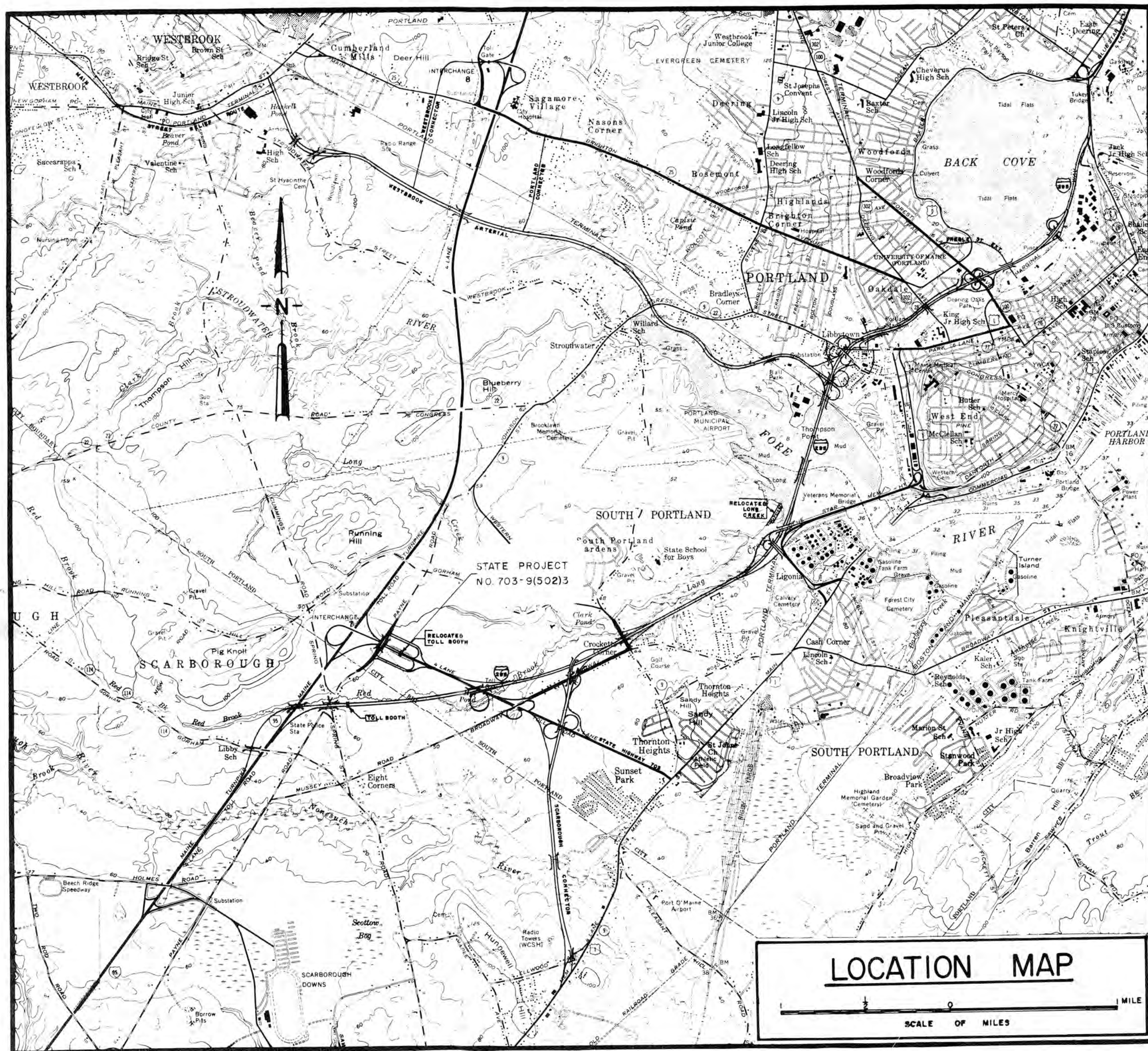
STATE PROJECT NO. 703-9(502) CONTR.3
TOTAL LENGTH 0.000 MILES

CONVENTIONAL SIGNS

COUNTY LINES	-----	TRAVELLED WAY - PROPOSED	=====
TOWN LINES	-----	UNDERGROUND UTILITIES - EXISTING	-----
PROPERTY LINES	-----	UNDERGROUND UTILITIES - PROPOSED	-----
R/W LINES - EXISTING	=====	RAILROAD - SINGLE TRACK	=====
R/W LINES - NEW - ACCESS CONTROL	=====	RAILROAD - DOUBLE TRACK	=====
R/W LINES - NEW - NO ACCESS CONTROL	=====	UTILITY POLE - EXISTING	◆
CULVERT - EXISTING	=====	UTILITY POLE - JOINT OCCUPANCY	◆
CULVERT - PROPOSED	=====	PROPOSED UTILITY POLE - TEMPORARY	X
CURBING - EXISTING	=====	PROPOSED UTILITY POLE - PERMANENT	◆
CURBING - PROPOSED	=====	TREES	○ hardwood ◆ softwood
TRAVELLED WAY - EXISTING	=====	WOODS	~~~~~

INDEX OF SHEETS

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SHEET NO. 5-15	STANDARD DETAILS
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SHEET NO. 38	EXISTING SOUTH PORTLAND TOLL PLAZA
SHEET NO. 39-40	CROSS SECTION STA. 22+00 TO STA. 30+00



TRAFFIC DATA

A.D.T.	1970	978
A.D.T.	1990	10,319
D.H.V.		1445
T. (%)		6
D. (%)		60
V.		30 M.P.H.
P.S.D. (%)		N/A
18 KIPS		42

NOTE

ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL BE GOVERNED BY AND IN CONFORMITY WITH THE STANDARD SPECIFICATIONS (REVISION OF JUNE 1968 AND SUPPLEMENTS THERETO, EXCEPT AS MODIFIED ON THE PLANS AND IN THE SPECIAL PROVISIONS.

APPROVED:
MAINE STATE HIGHWAY COMMISSION

David H. Shuman
CHAIRMAN

Stewart J. Shaw

Sylvester R. Fox
CHIEF ENGINEER

DATE

APRIL 23, 1969

APRIL 23, 1969

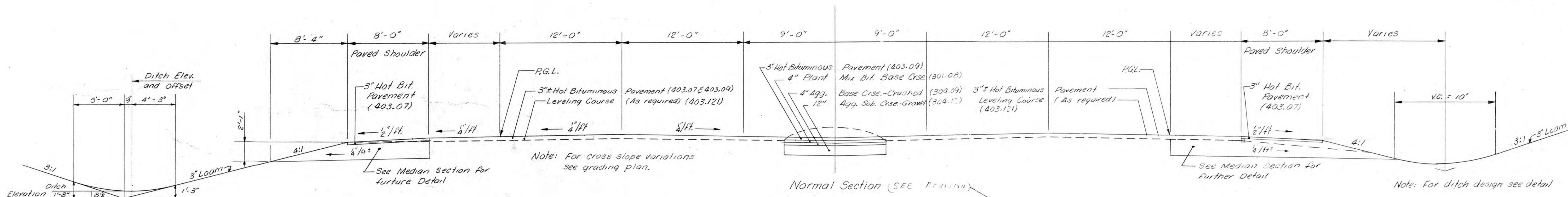
APRIL 23, 1969

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

Wm. Wachtel *Apr. 16, 1969*
DATE

1969

27

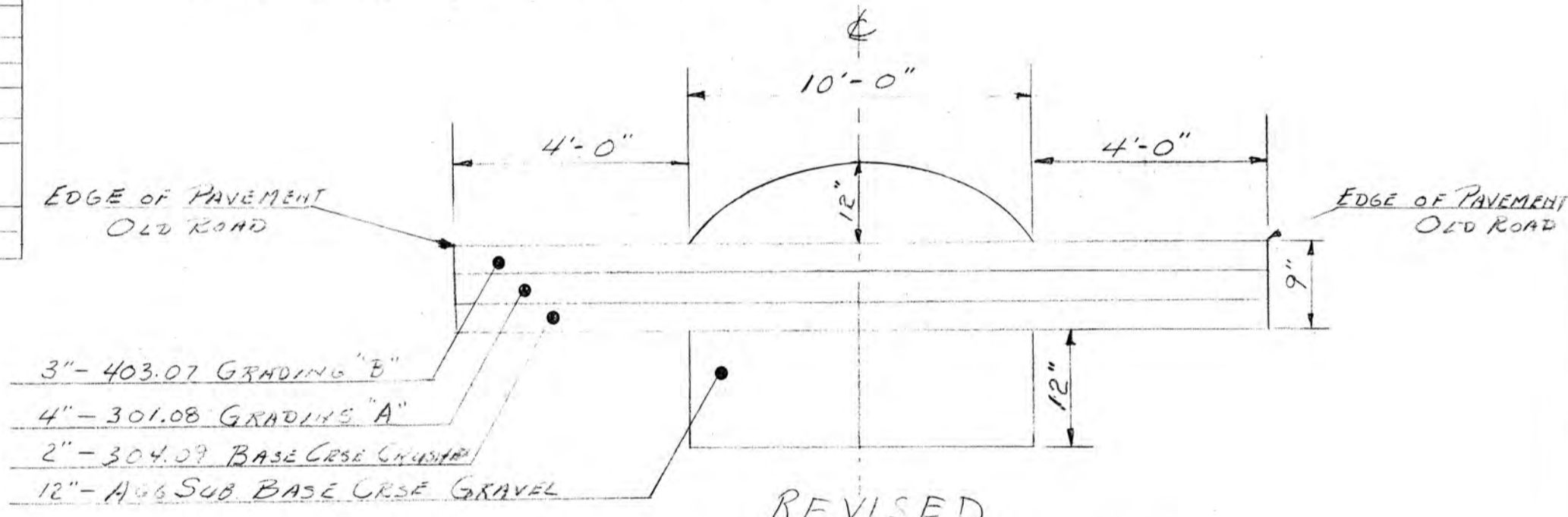


4:1 to 3:1 PARABOLIC DITCH

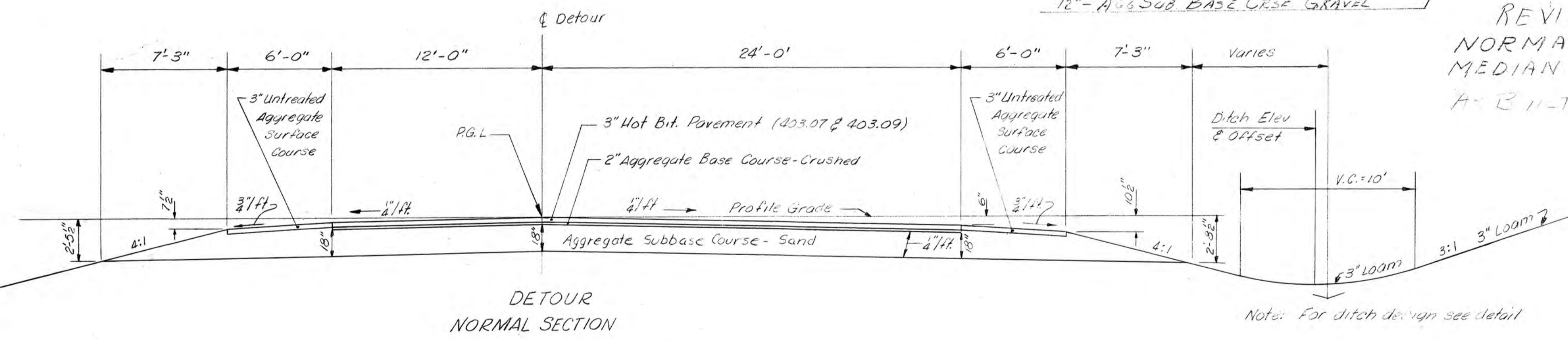
BITUMINOUS MATERIALS						
DESCRIPTION OF COURSE	GRADATION DESIGNATION	ITEM NO.	BITUMEN CONTENT PER CENT MIX	TOTAL THICKNESS INCHES	NUMBER OF LAYERS	COMPLEMENTARY NOTES
TURNPIKE TRAVEL WAY						
Wearing	"C"	403.09	7.0	1 1/4"	1	1, 2
Binder	"B"	403.07	5.5	1 1/4"	1	1, 2
Base	"A"	301.08	5.0	4"	2	1, 2
PAVED SHOULDERS (TURNPIKE)						
Wearing and Binder	"B"	403.07	5.5	3"	1	1, 2
TRAVEL WAY (DETOUR ROAD)						
Wearing	"C"	403.09	7.0	1 1/4"	1	1, 2
Binder	"B"	403.07	5.5	1 1/4"	1	1, 2
SHIM COURSE						
Leveling	"E"	403.121	7.5	Varies	1 or more	1, 2, 3
AGGREGATE MATERIALS						
Base Crs - Crushed	703.06 (a)	304.09	N/A	2 1/4"		AS SPEC.
Subbase Crs - Sand	703.06 (b)	304.12	N/A	18"		AS SPEC.

COMPLEMENTARY NOTES

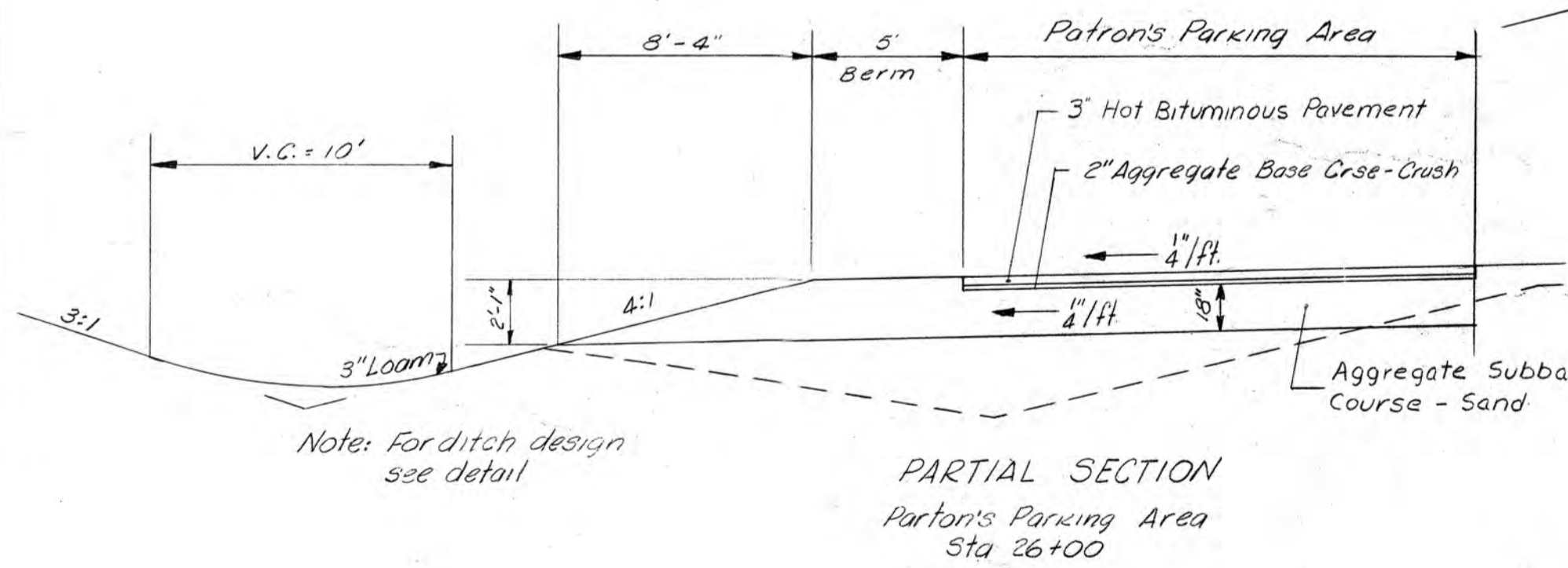
- The bituminous binder material for the mixtures shall be Penetration Grade 85-100 asphalt cement and will be paid for separately.
- The asphalt contents shown are to serve as a guide only and are not specifications.
- The density requirements are waived.



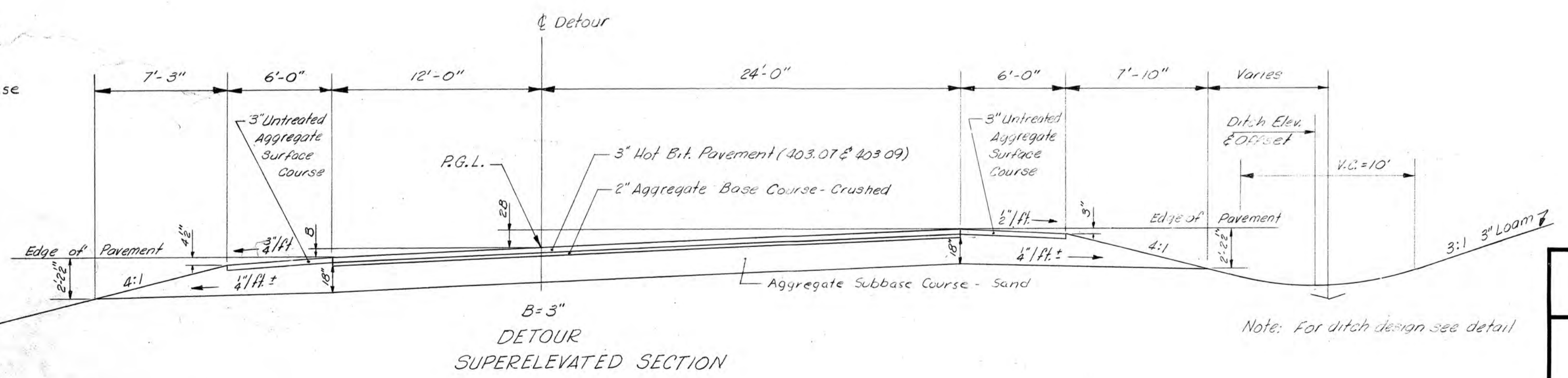
TACK COAT
A "tack coat" of Emulsified Asphalt, Type AE-90, Item 41015 shall be applied to the existing turnpike surface prior to placing any new mix over it, if so directed by the Engineer.



DETOUR NORMAL SECTION



PARTIAL SECTION Patron's Parking Area Sta 26+00



DETOUR SUPERELEVATED SECTION

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

TYPICAL SECTION
24' Pavement and Detour

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

DRAINAGE

DRAINAGE CONT'D.

Table with columns: STATION, RCP (SIZE, LENGTH, CLASS), BCCMP (SIZE, LENGTH), CMP (SIZE, LENGTH), CULVERT PIPE (SIZE, LENGTH), CATCH BASINS (A1, A2, B1, B2, C1, C2, E), MAN HOLES, UNDERDRAINS (B, C, B OUTLET), REMARKS. Contains entries for STA 24+00 to 27+50.

Table with columns: STATION, RCP (SIZE, LENGTH, CLASS), BCCMP (SIZE, LENGTH), CMP (SIZE, LENGTH), CULVERT PIPE (SIZE, LENGTH), CATCH BASINS (A1, A2, B1, B2, C1, C2, E), MAN HOLES, UNDERDRAINS (B, C, B OUTLET), REMARKS.

GENERAL NOTES

- 1. The Utilities are... 2. All utilities are to be... 3. The normal grubbing... 4. Sewer unit... 5. Selective clearing... 6. The land... 7. All... 8. All utility... 9. The contractor... 10. The contractor...

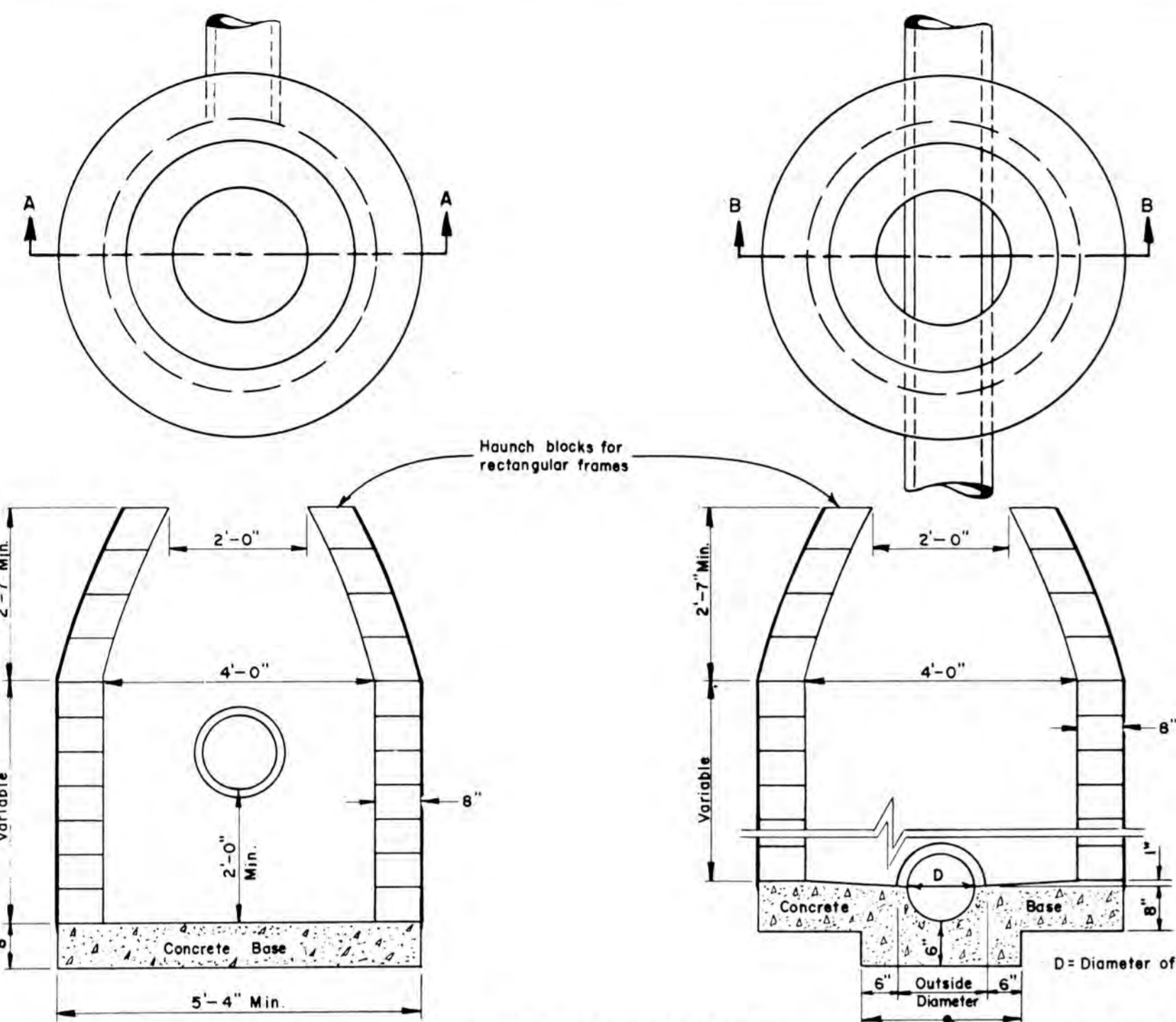
GENERAL NOTES — ALL CATCH BASINS AND MANHOLES

- Any Catch Basin in excess of 8' in depth shall, if directed be provided with steps similar to those detailed for Manholes.
- Frames, Grates & Covers shall be considered as part of the structure, and no separate payment shall be made.

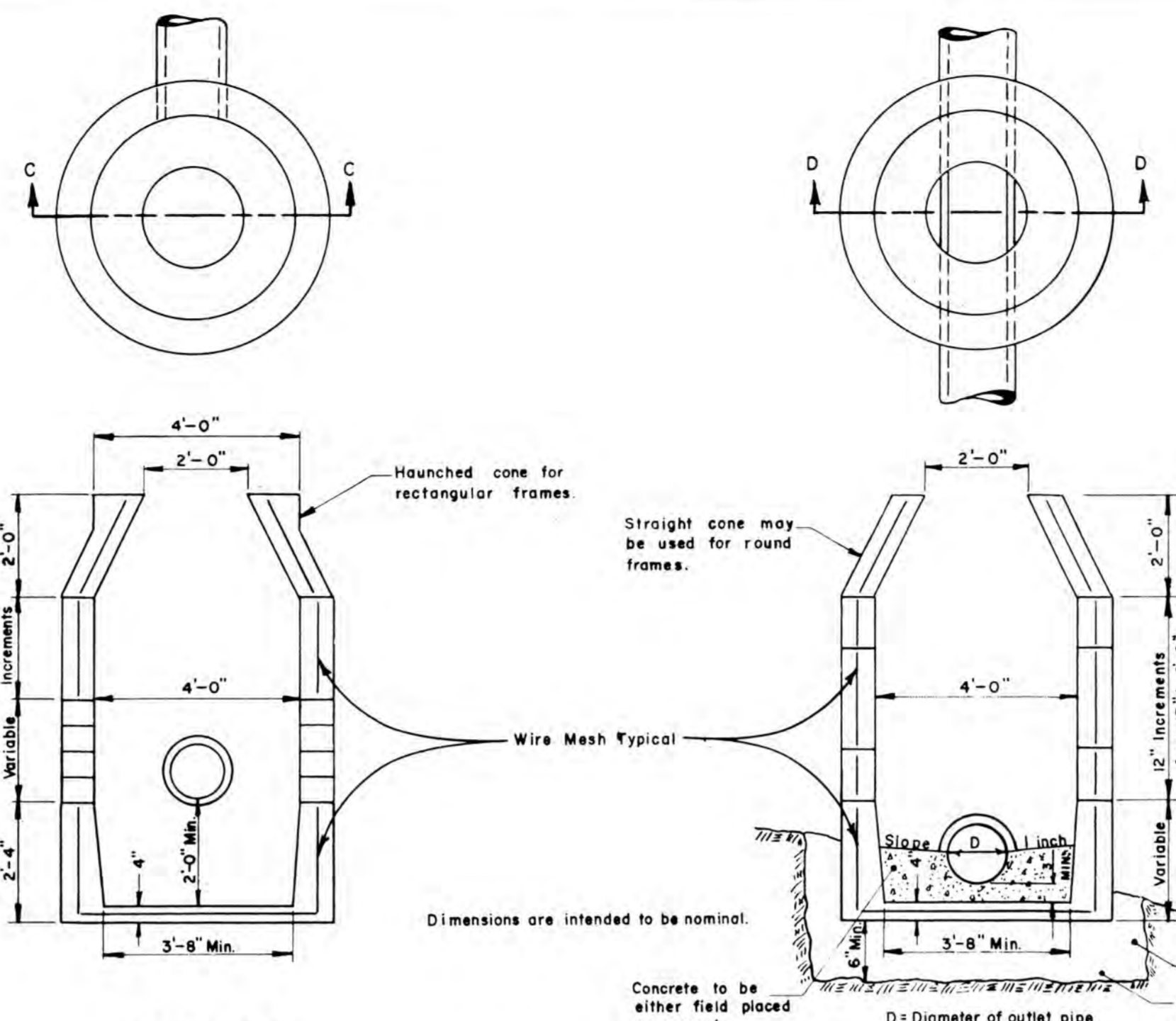
GENERAL NOTES — PRECAST CATCH BASINS AND MANHOLES

- Drain holes in precast sumps to be not over 3" in diameter, and shall be plugged with mortar when constructed.
- All precast sections of less than 8" wall thickness shall have tongue and groove joints.
- Cone and Ring sections wall thickness min. 4", max. 8"
- Minimum wall thickness of sump may be 4" as specified in A.S.T.M. C-478, however, if concrete blocks are used around the inlet and outlet pipes, the wall thickness of sump shall be 8".
- Wall around inlet and outlet pipes may be built of 8" concrete blocks or a precast ring with an opening 2" larger than the outside diameter of the pipe may be used.
- Lift Holes shall be provided.

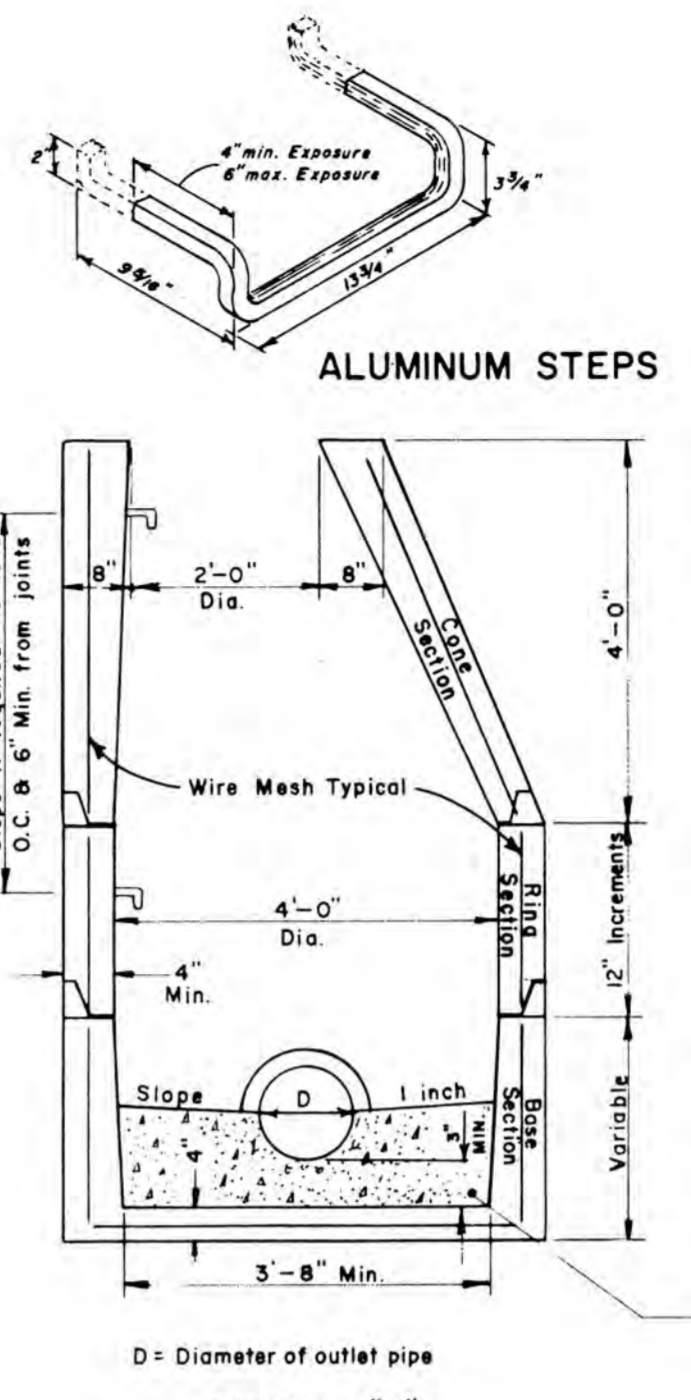
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	703-9/502/CWT-3	5	40



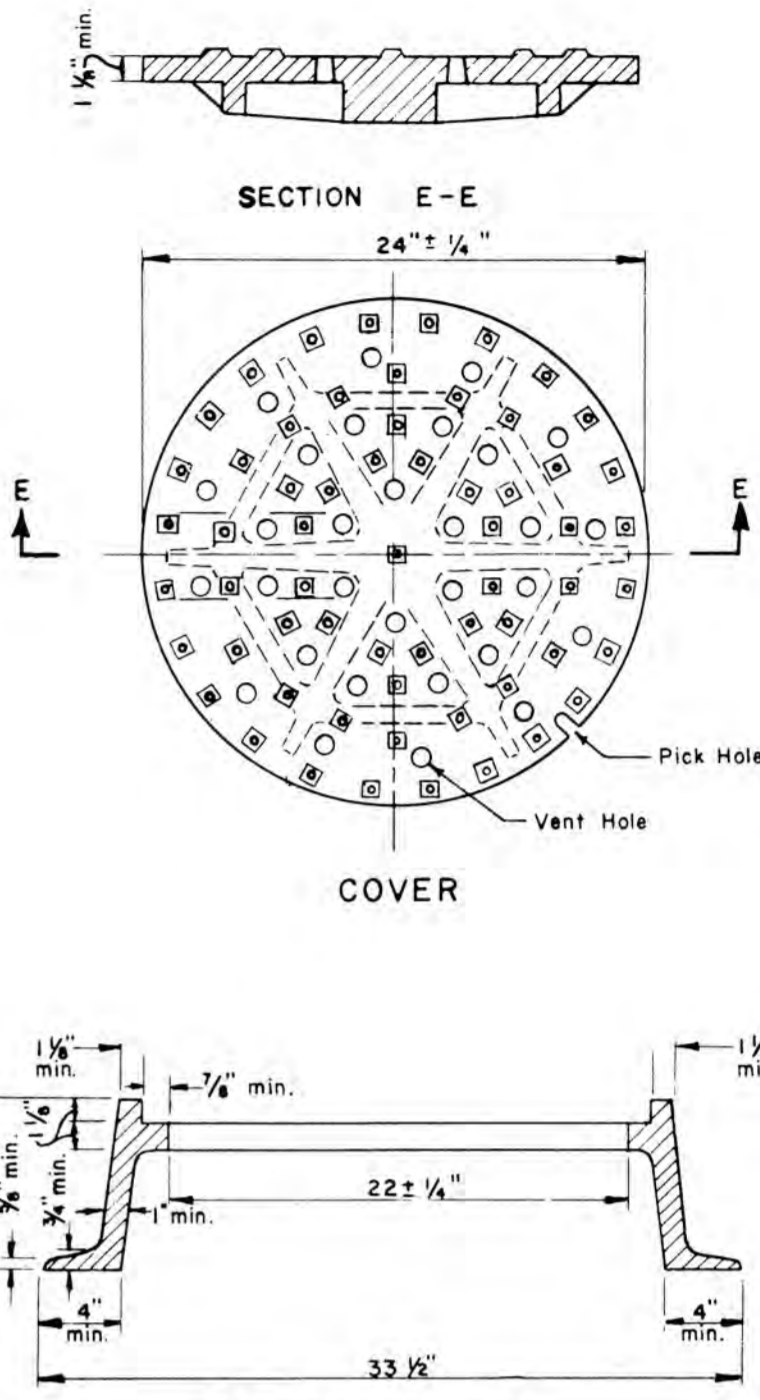
CATCH BASINS (Concrete Blocks or Bricks)
SECTION A-A SHAPE "1"
SECTION B-B SHAPE "2"
Dimensions are intended to be nominal.



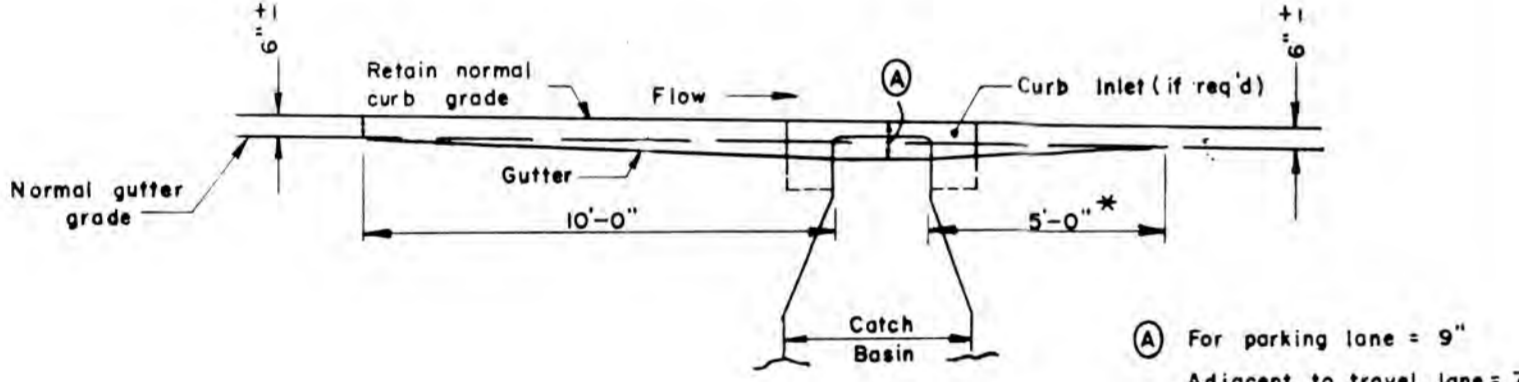
CATCH BASINS (Precast Units)
SECTION C-C SHAPE "3"
SECTION D-D SHAPE "4"
Dimensions are intended to be nominal.



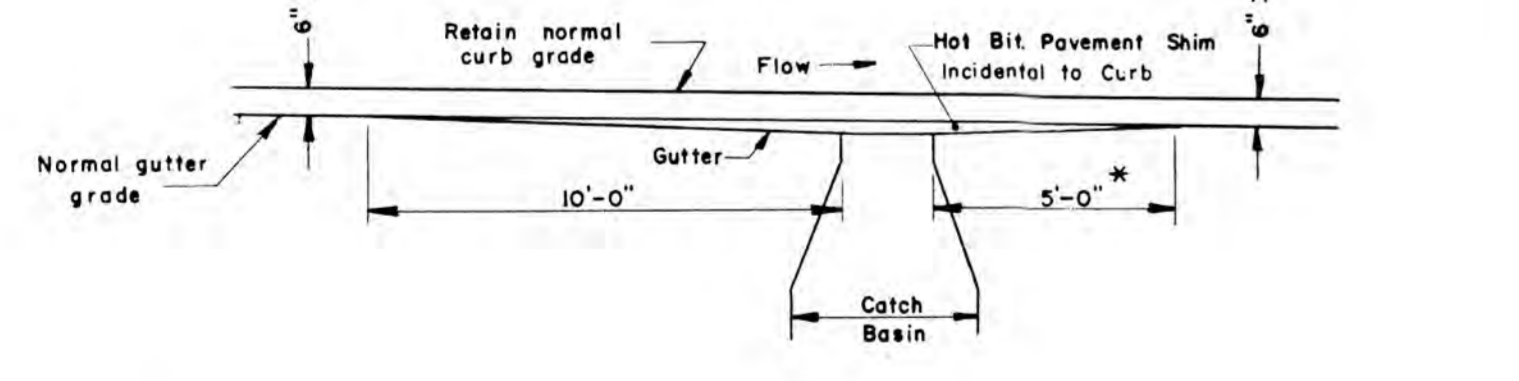
SHAPE "5" MANHOLE
Dimensions are intended to be nominal.



MANHOLE TOP "D" FRAME
Dimensions are intended to be nominal.



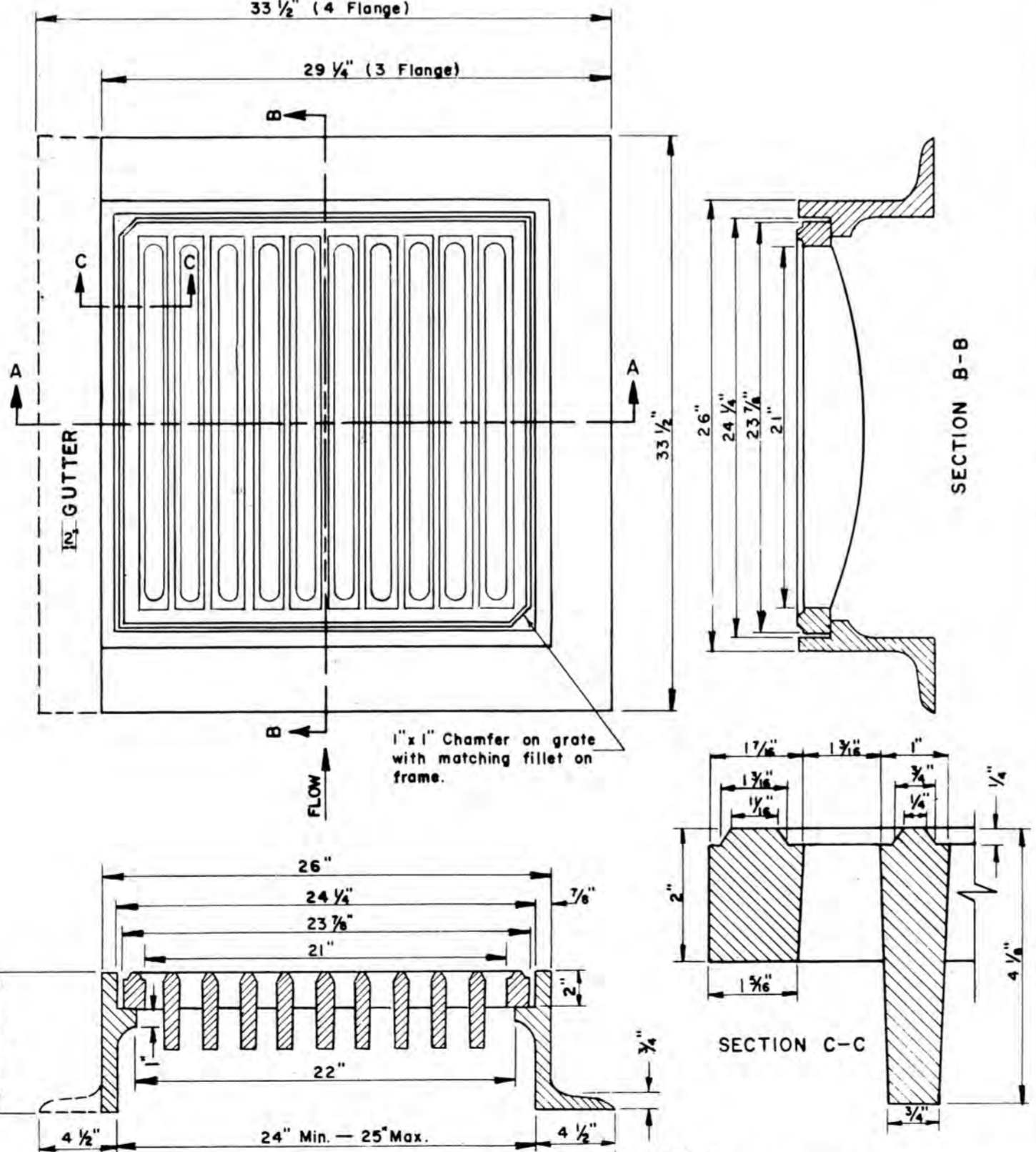
AT CURB INLETS



AT CURB WITHOUT INLET STONES

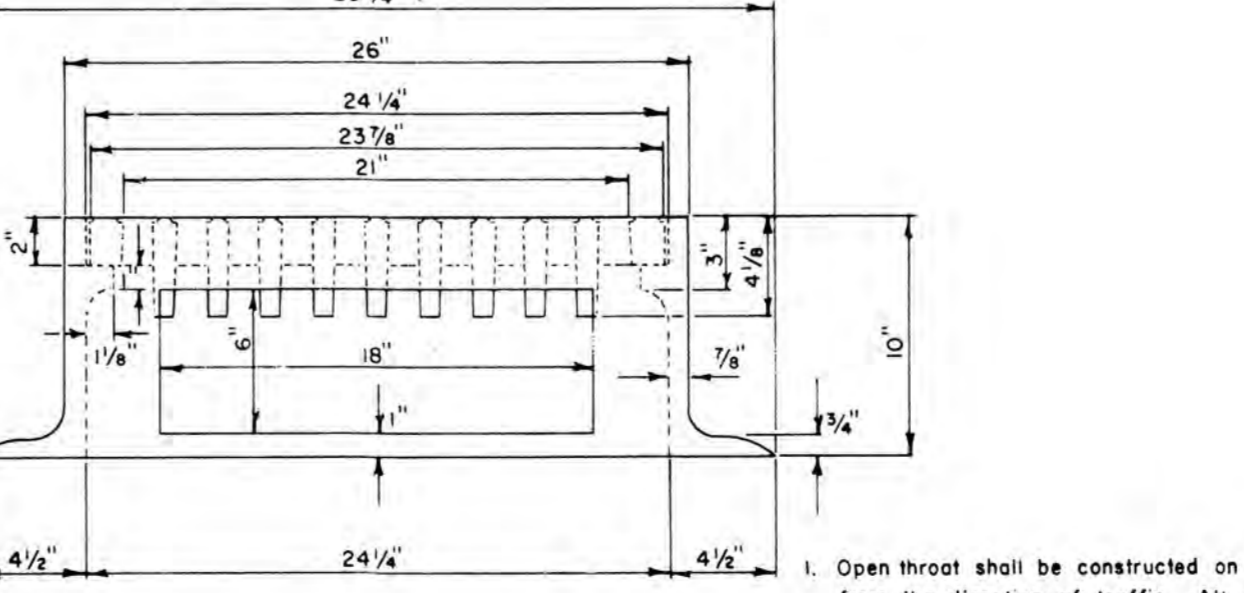
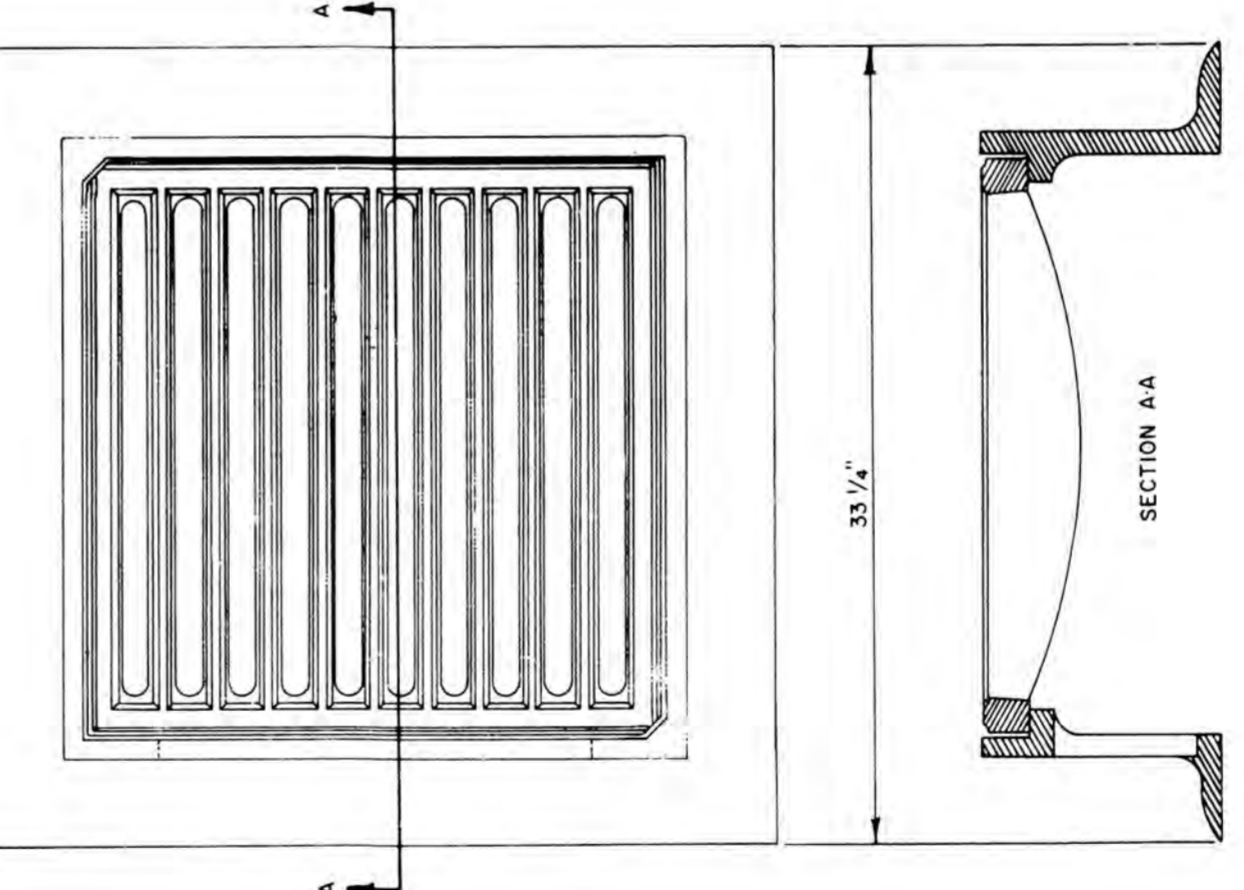
* If at bottom of sag, this dimension to be 10'-0".
NOTE: All grates shall be installed on a level grade. The grates shall be depressed 3" below the normal gutter grade unless this depression interferes with traffic. Dimensions are intended to be nominal.

GUTTER GRADE TRANSITION AT CATCH BASIN



TYPE "A" & "B" CATCH BASIN TOPS

- NOTES:
- Word "GUTTER" to be moulded into back flange - Type "B" top only.
 - Type "A" grate to have 3 flanges.
 - Type "B" grate to have 4 flanges.
 - Frame and grate to be of gray cast iron.
 - Dimensions are intended to be nominal.



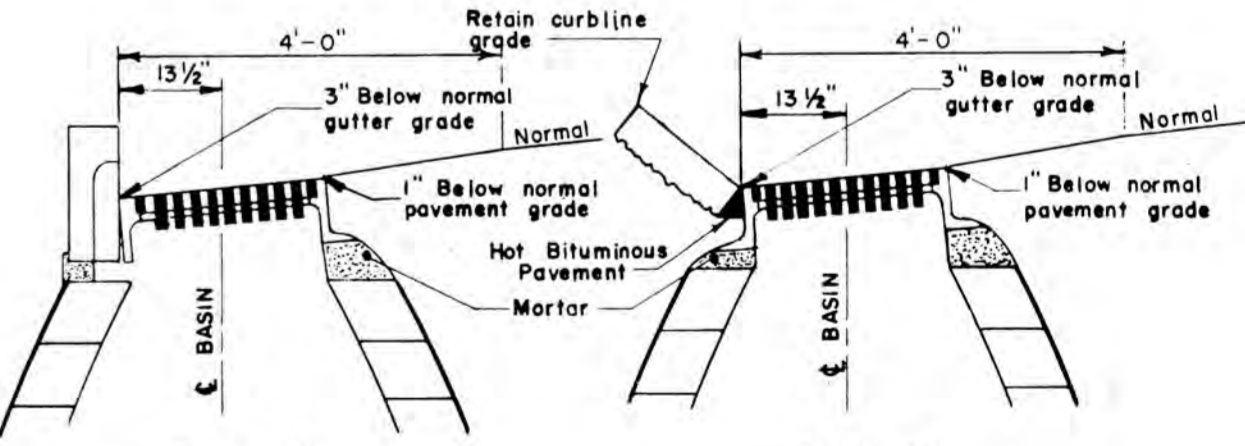
TYPE "C" CATCH BASIN TOPS

- Open throat shall be constructed on side away from the direction of traffic. All other sides shall be grades flush with the top of C.B. grate.
- Frame shall be gray cast iron.
- Grate shall be same as type "A" and "B".
- Dimensions are intended to be nominal.
- When volume of water warrants, 6" opening may be increased.

STRUCTURE	TOP				SHAPE				
	A	B	C	D	1	2	3	4	5
CATCH BASIN									
Type A-1	X				X		X		
Type A-2	X					X		X	
Type B-1		X			X		X		
Type B-2		X				X		X	
Type C-1			X		X		X		
Type C-2			X			X		X	
MANHOLE				X		X		X	X

TABLE OF CATCH BASIN TYPES (COMBINATION OF TOPS AND SHAPES)

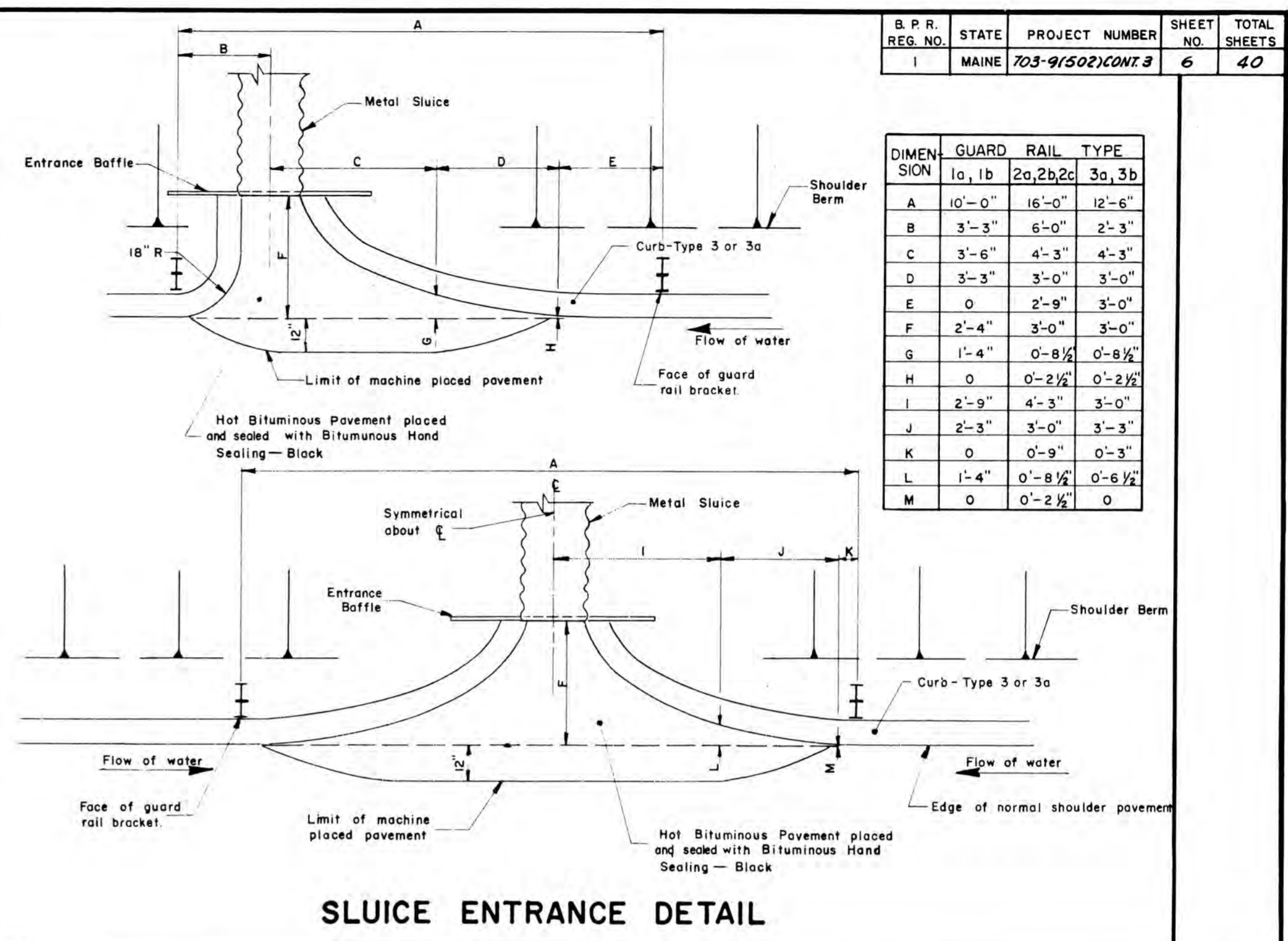
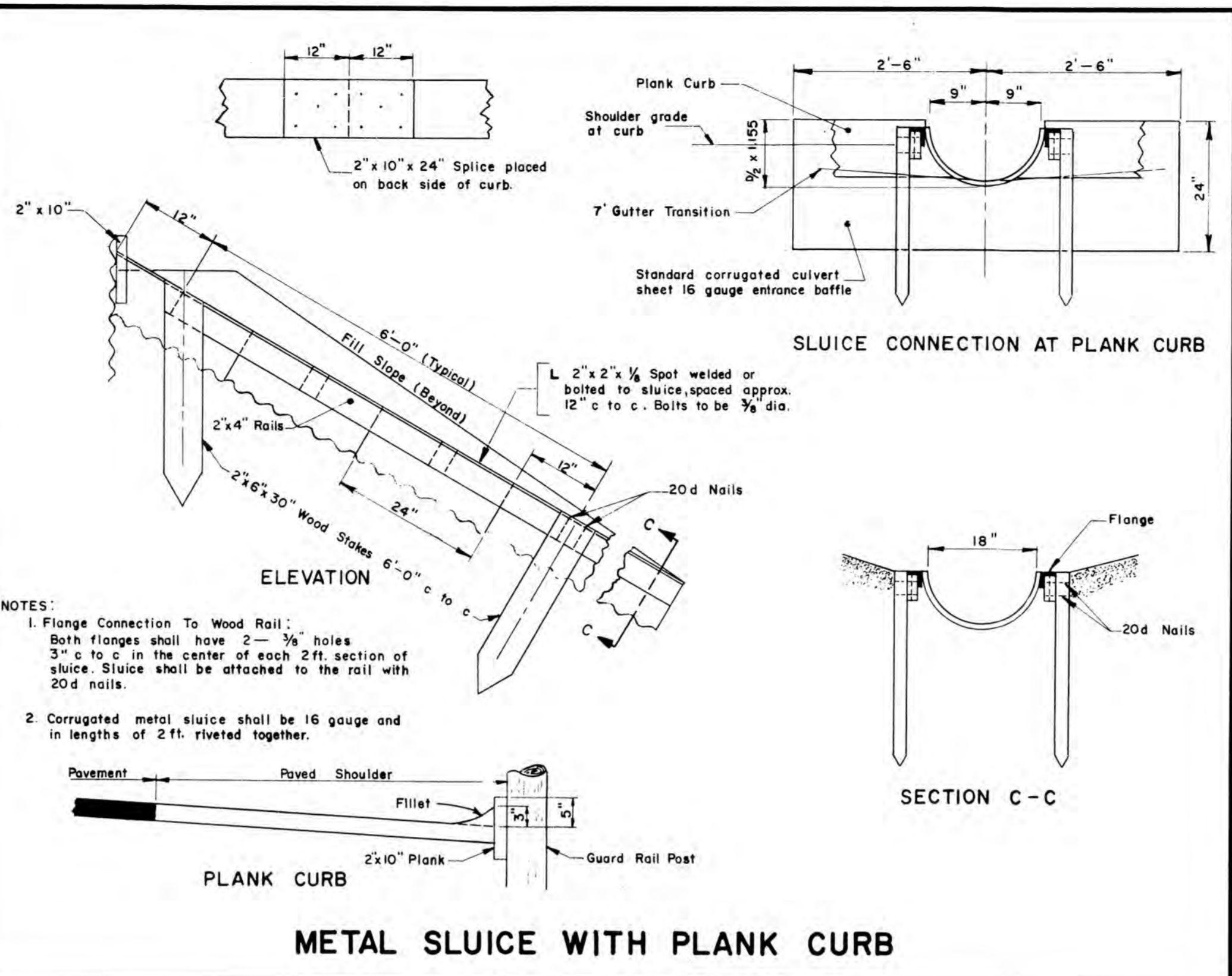
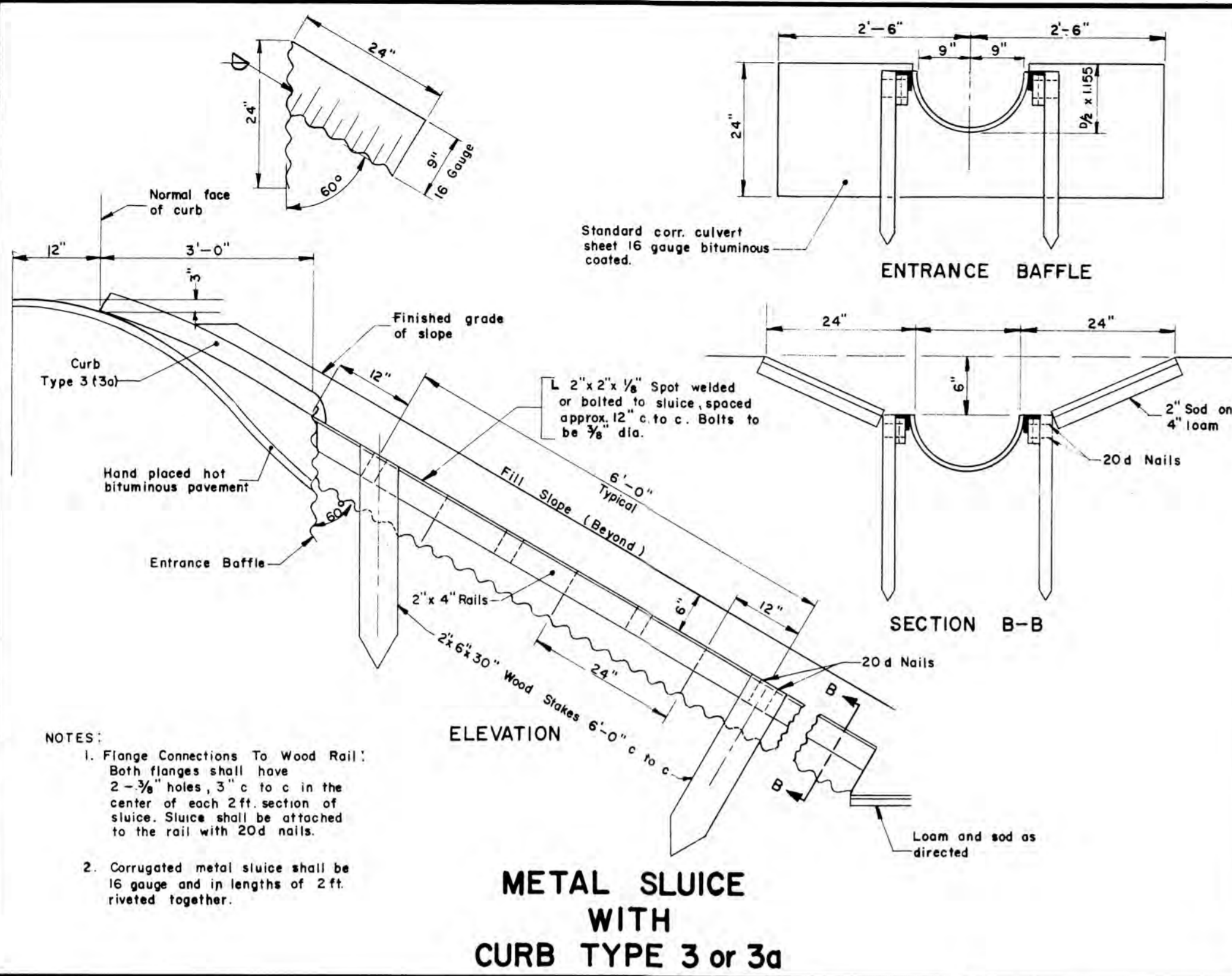
For Type "E" & Type "F" C.B. See Sheet No. 3



CATCH BASIN TOP INSTALLATION

REVISIONS

	MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE
	STANDARD DETAILS
	CATCH BASINS AND MANHOLES



CIRCULAR

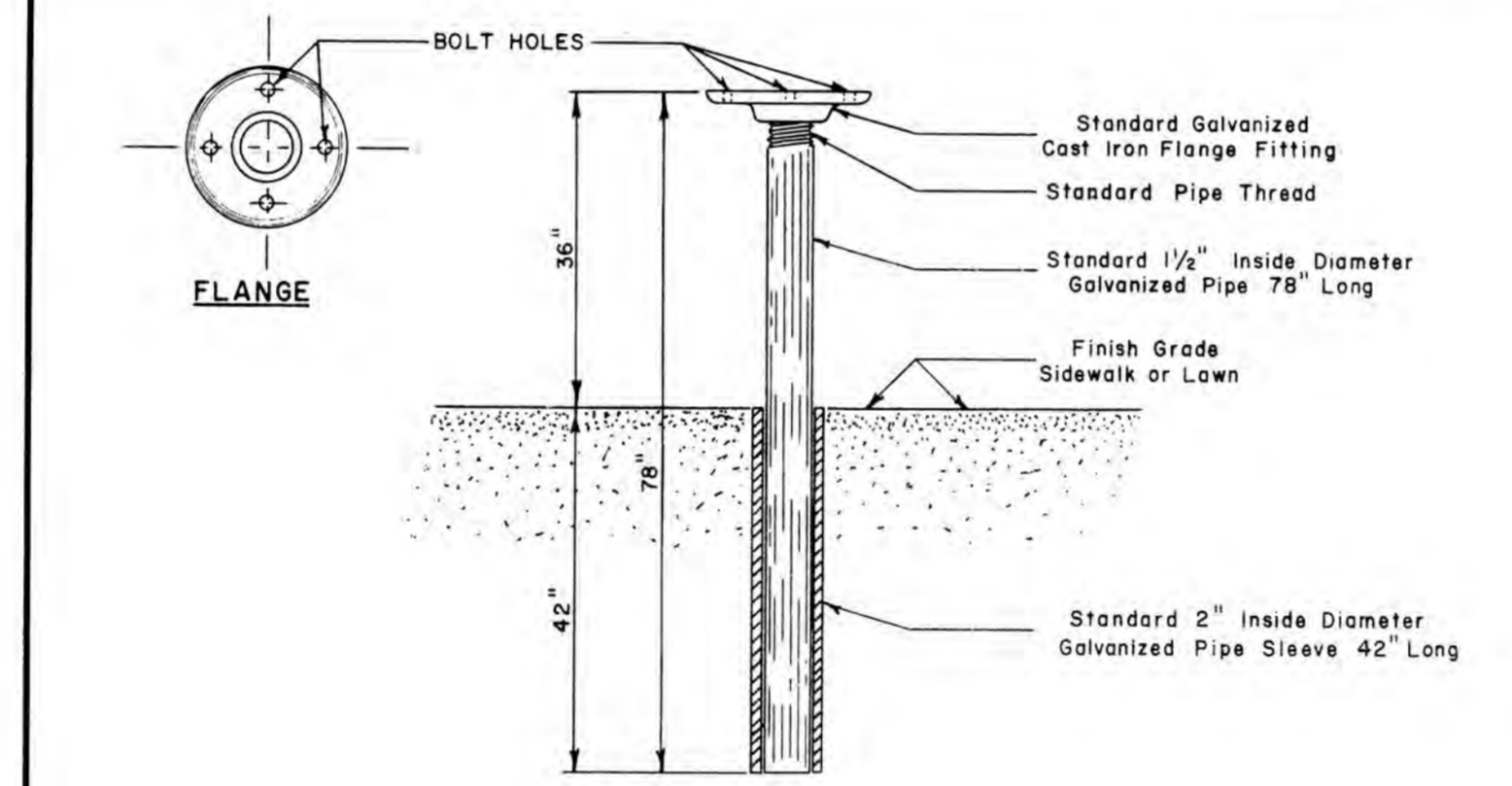
NOMINAL INSIDE DIAMETER	THICKNESS in INCHES		CLASS and WALL RCP
	CMP or BCCMP	CAP	
8 inch	.064	.060	
10 "	.064	.060	
12 "	.064	.060	
15 "	.064	.060	
18 "	.064	.060	A or B
21 "	.064	.060	
24 "	.064	.060	
30 "	.079	.075	Wall A
36 "	.079	.075	
42 "	.109	.105	III
48 "	.109	.105	
54 "	.109	.105	Class
60 "	.138	.135	
66 "	.138	.135	
72 "	.168	.164	
84 "	.168	.164	

PIPE ARCH

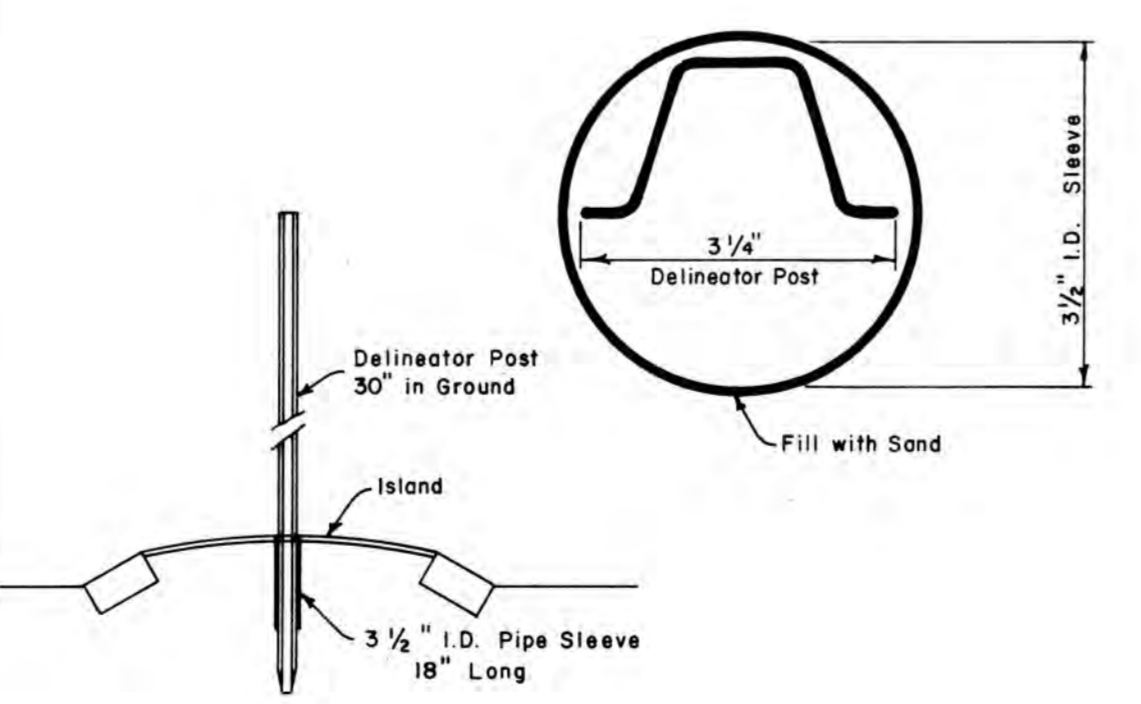
NOMINAL SIZES	GAUGE BCCMPA-CMPA	THICKNESS (inches) CAPA
18" span x 11" rise	16	.060
22" " x 13" "	16	.060
25" " x 16" "	16	.060
29" " x 18" "	14	.075
36" " x 22" "	14	.075
43" " x 27" "	12	.105
50" " x 31" "	12	.105
58" " x 36" "	10	.135
65" " x 40" "	10	.135
72" " x 44" "	8	.164

CMP = Corrugated Metal Pipe
 BCCMP = Bituminous Coated Corrugated Metal Pipe
 CAP = Corrugated Aluminum Pipe
 RCP = Reinforced Concrete Pipe
 Above abbreviations followed by "A" indicate "Arch"
 All RCPA shall be class III
 Minimum thickness, class, and wall types for culvert pipe, unless otherwise designated.

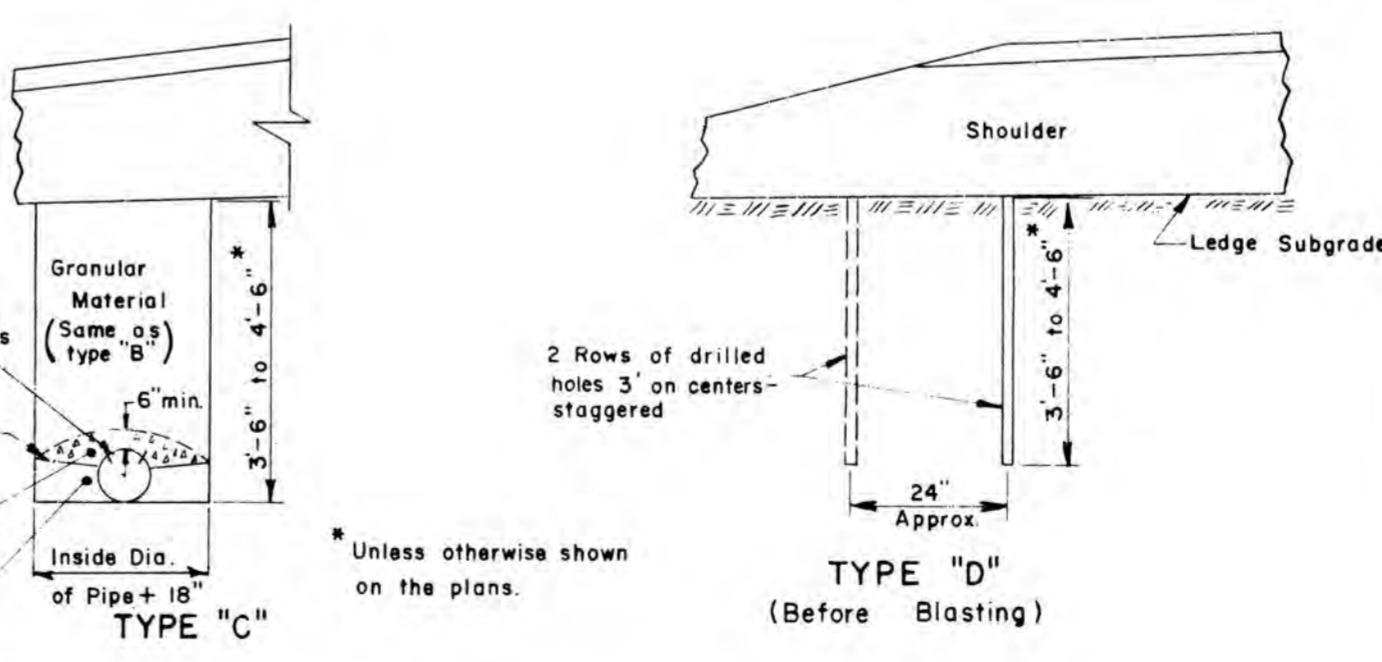
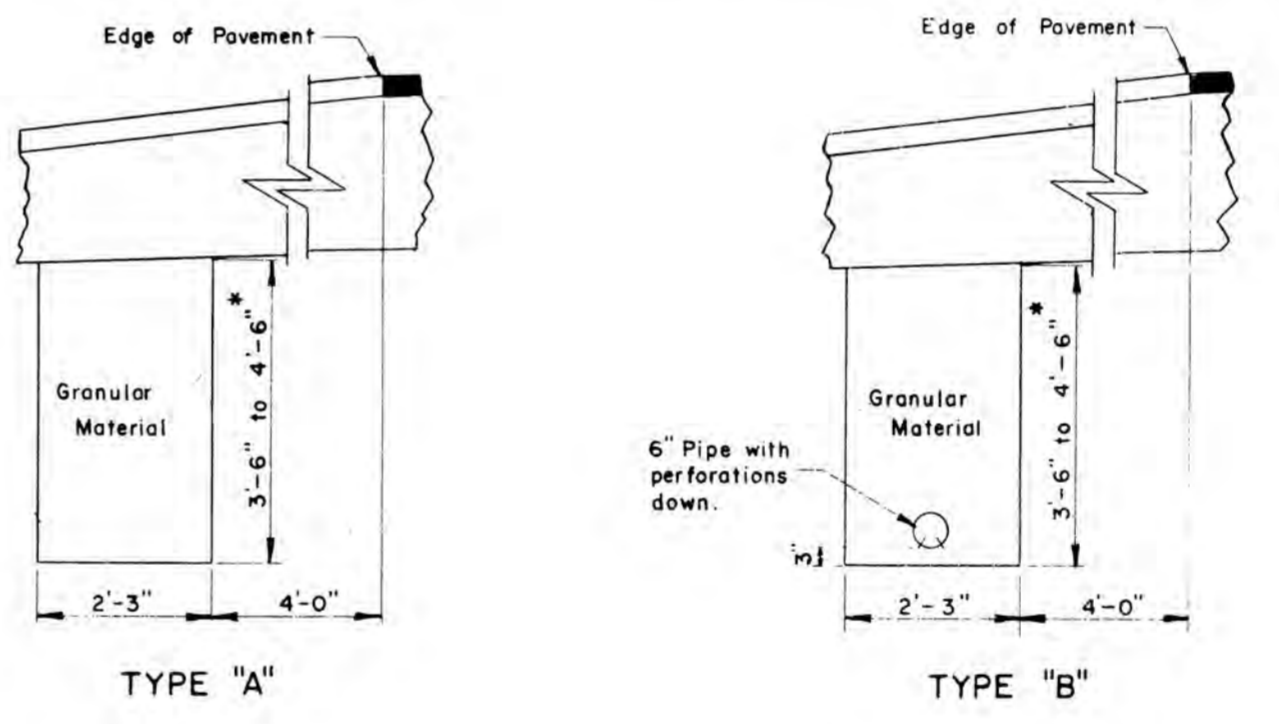
CULVERT PIPE DATA



SINGLE POST TYPE 1C

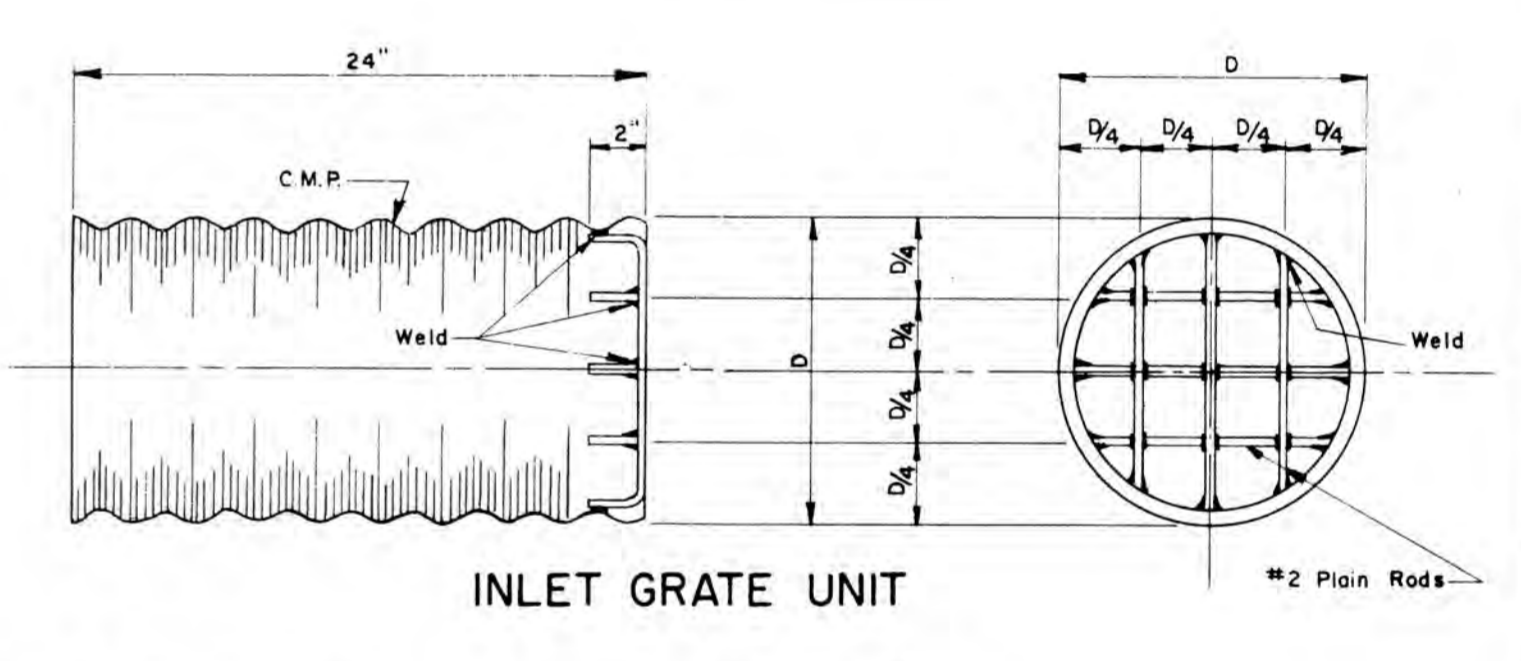


PIPE SLEEVE FOR DELINEATOR POST

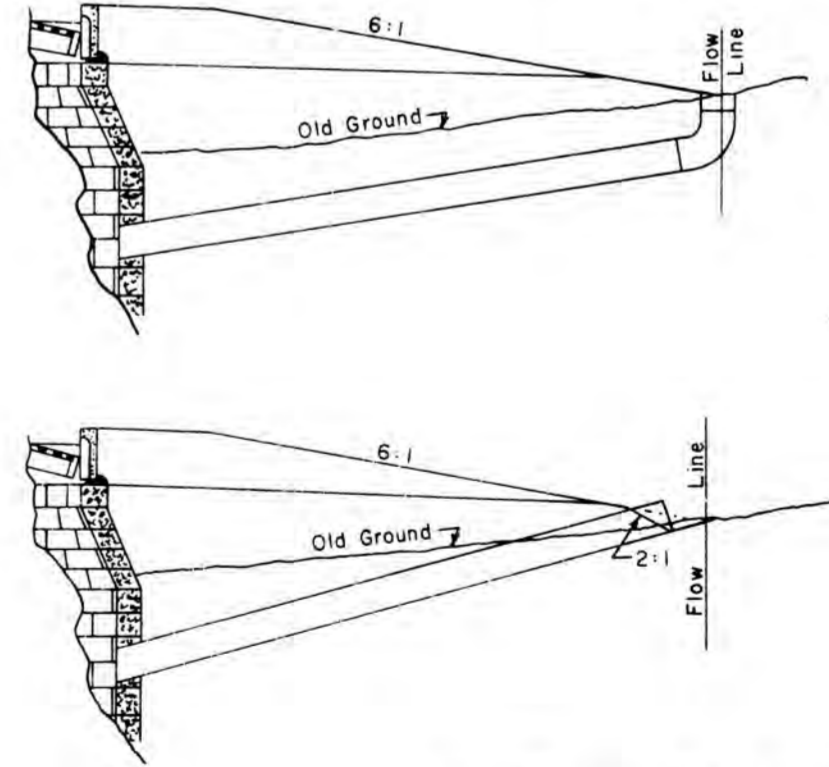


NOTES:
 1. The maximum vertical measurement of depth for payment of Structural Rock Excavation will be to a horizontal plane located 1 foot below the bottom of the trench for Underdrain Type "B" and Underdrain Type "C".
 2. The material for Ells, Tees and Wyes for underdrain types "B" and "C" shall be at least as thick as the largest size pipe being connected.
 3. Width of the trench for underdrain outlet will be the same as the underdrain trench.
 4. No allowance for payment will be made for excavating or material excavated beyond the horizontal dimensions shown for Types A, B or C Underdrain.
 5. In "Box Sections" the edge of trench shall be in line with edge of box section.

UNDERDRAIN



INLET GRATE UNIT



INLET UNITS IN FILL AREAS

NOTES:
 1. All units to be complete shop assembly.
 2. All units to have one shop coat of approved Aluminum paint.
 3. An Elbow shall be installed if directed by the Engineer to provide a horizontal grate, and shall be paid for as 3 additional feet of the type and size of pipe involved.
 4. Rods shall conform to the requirements of section 709.01 of the Standard Specifications.

REVISIONS

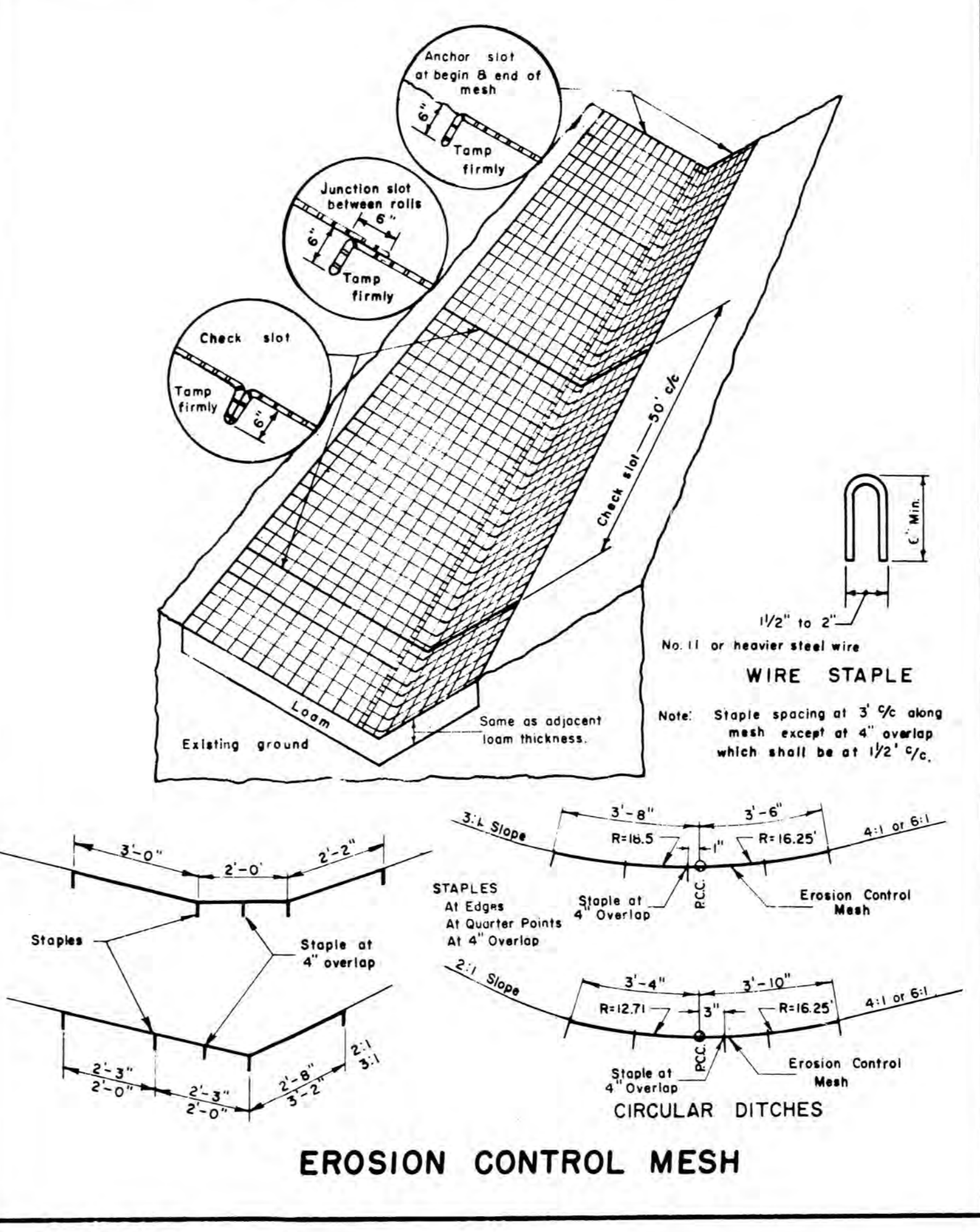
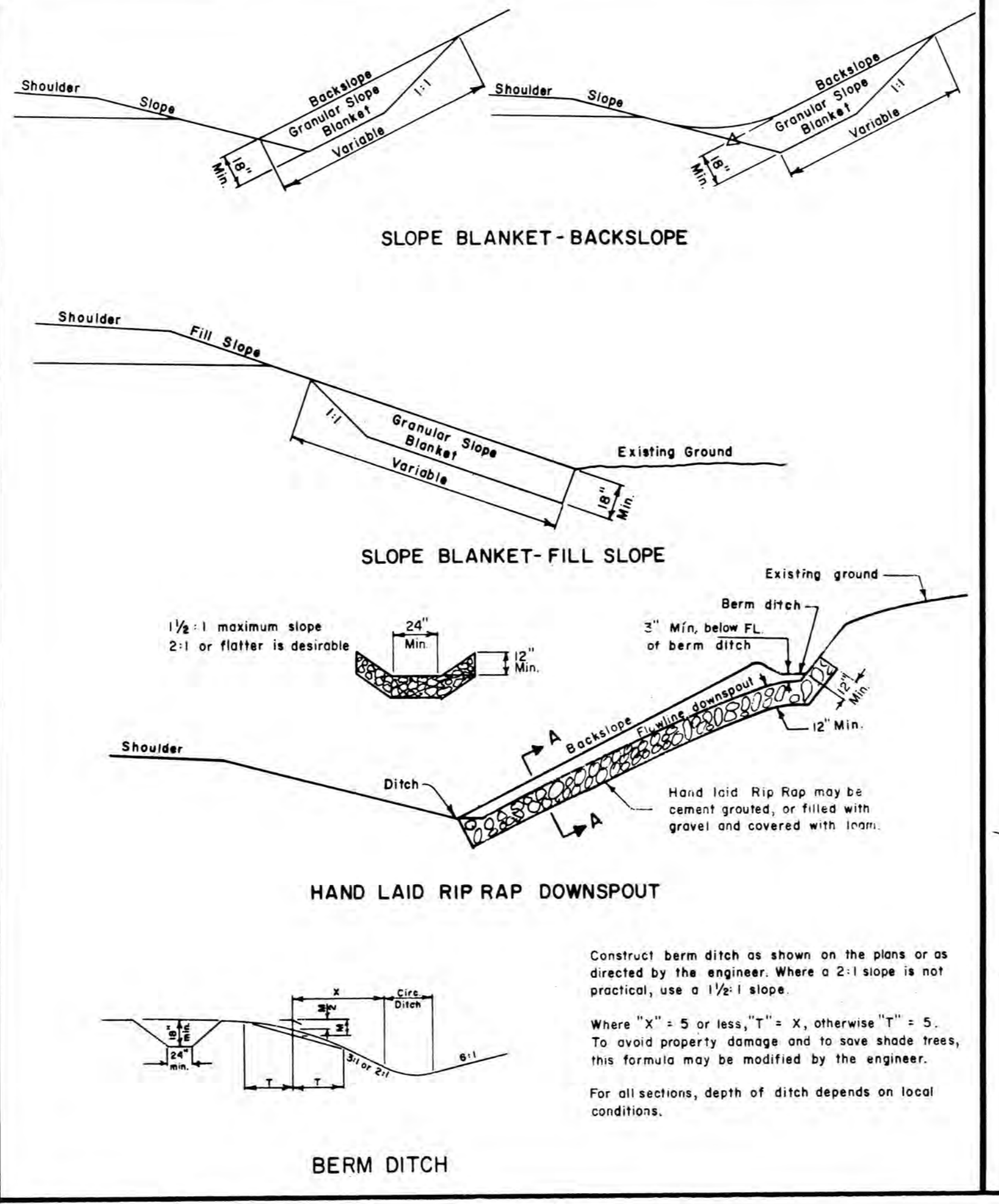
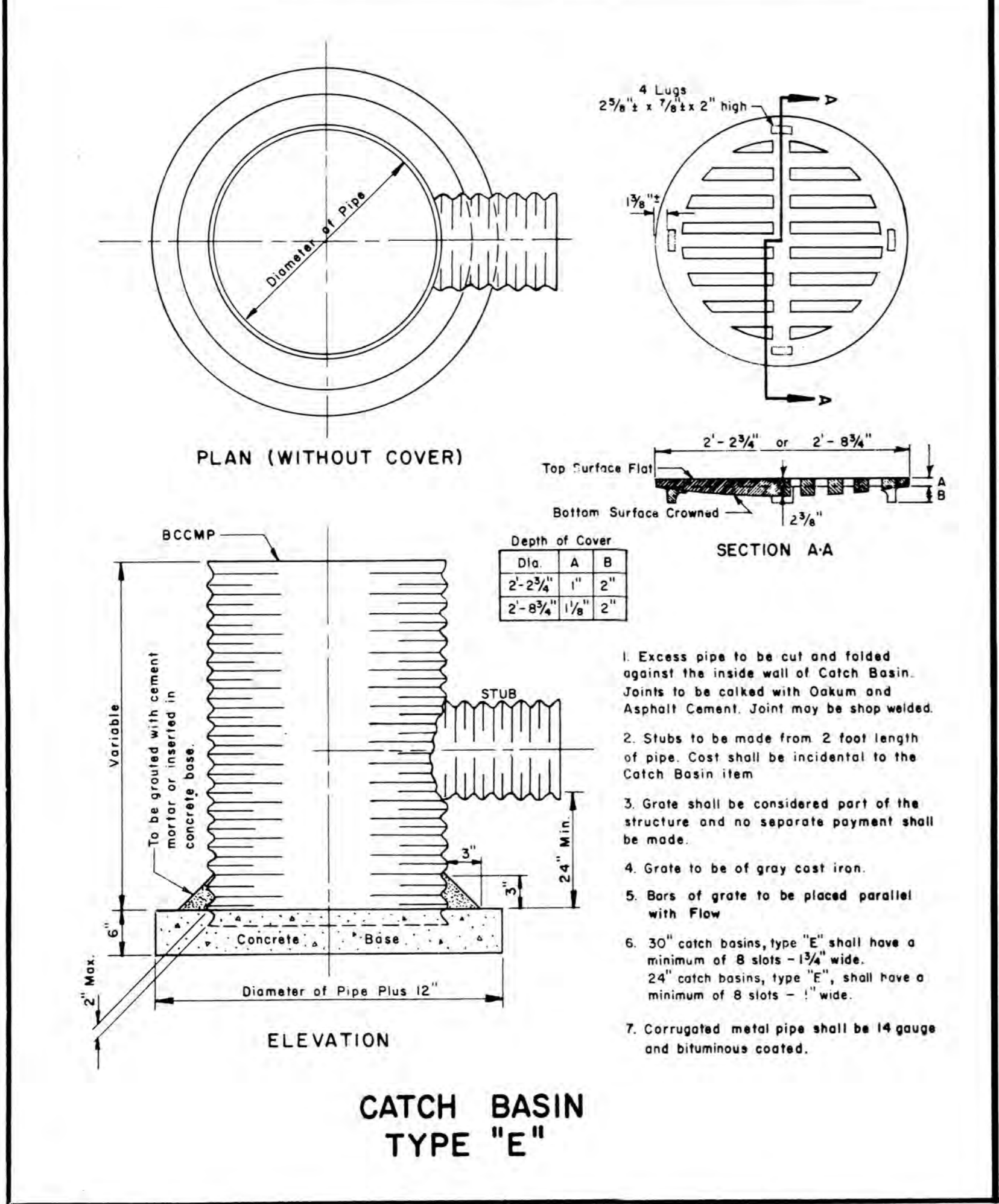
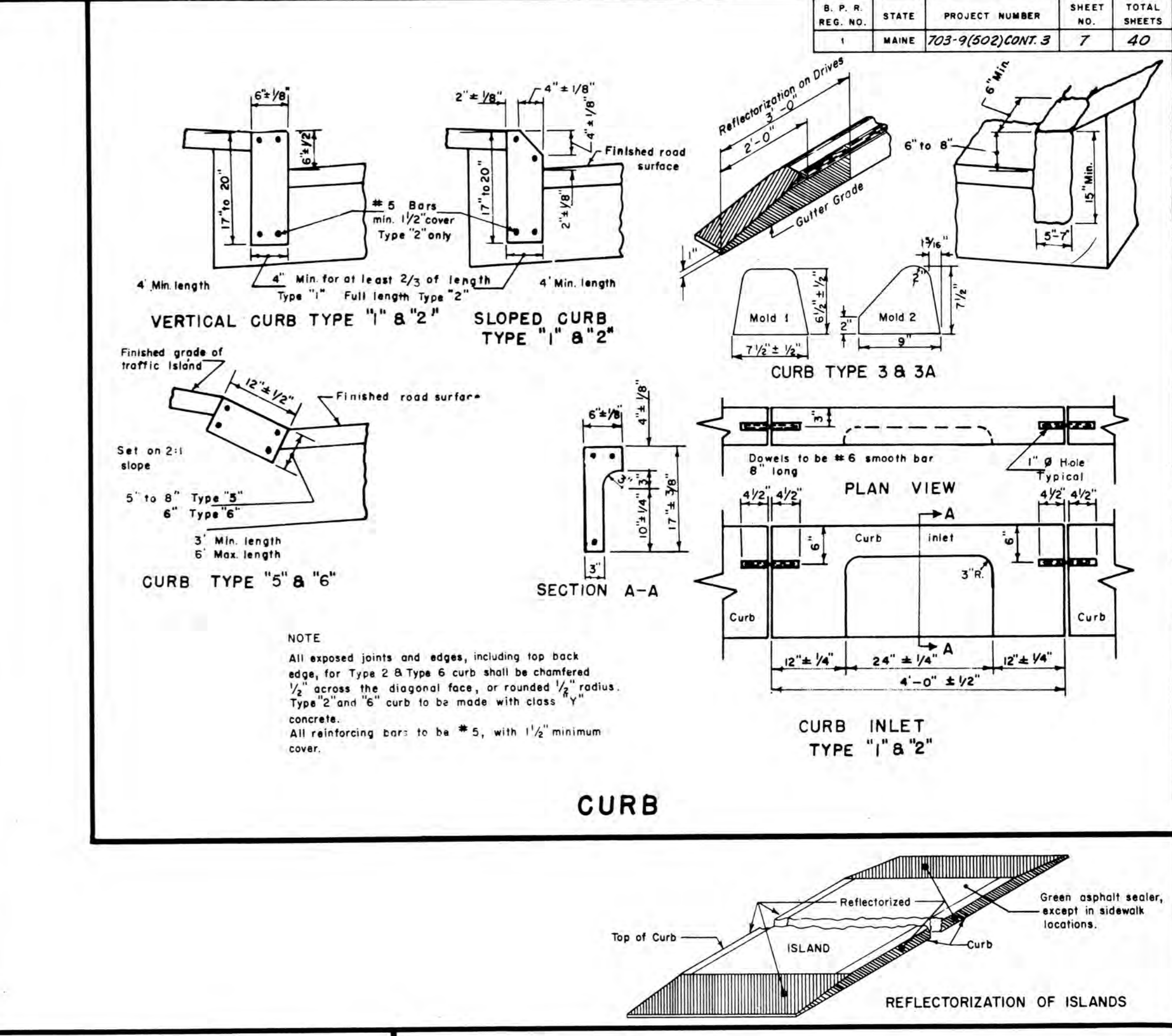
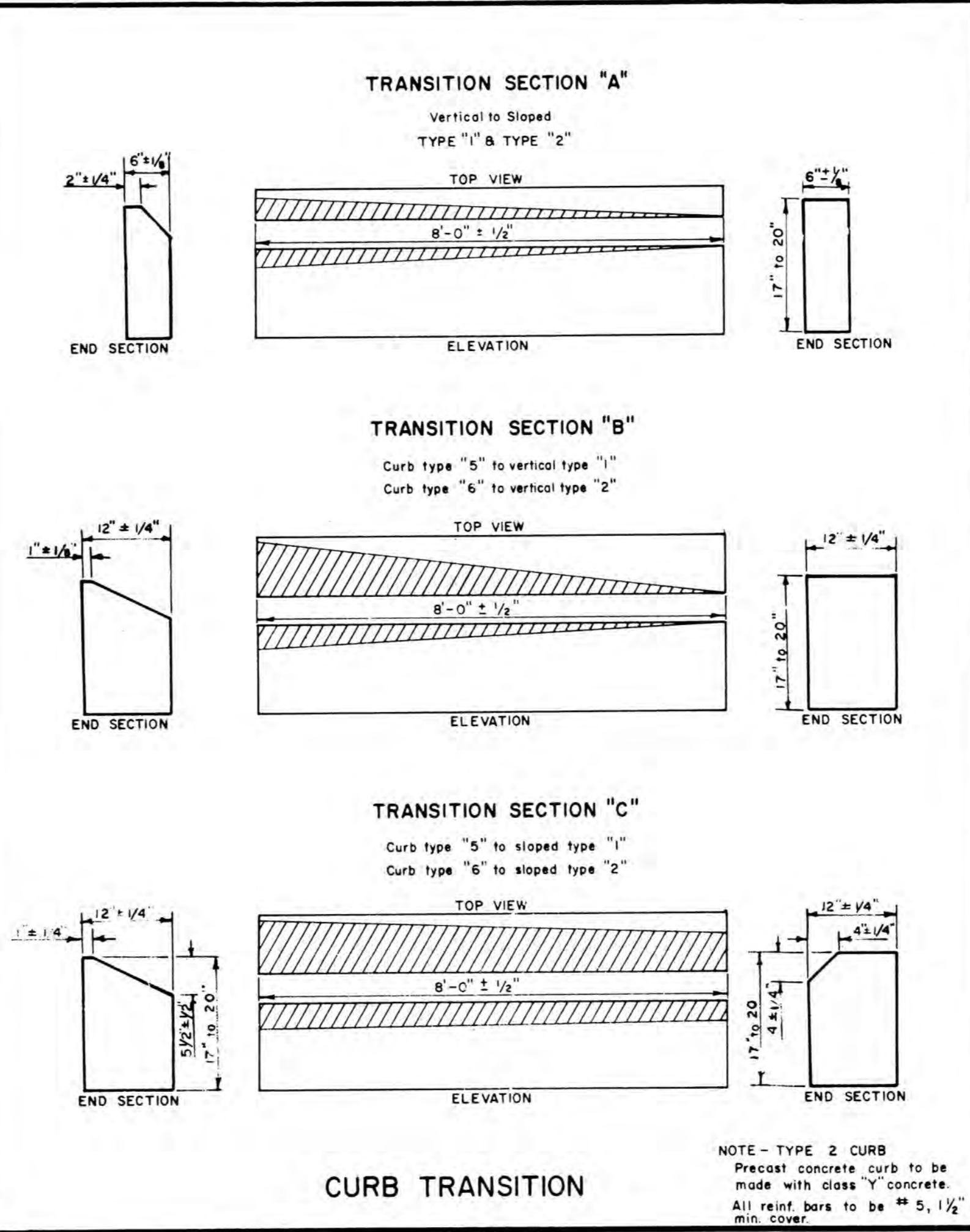
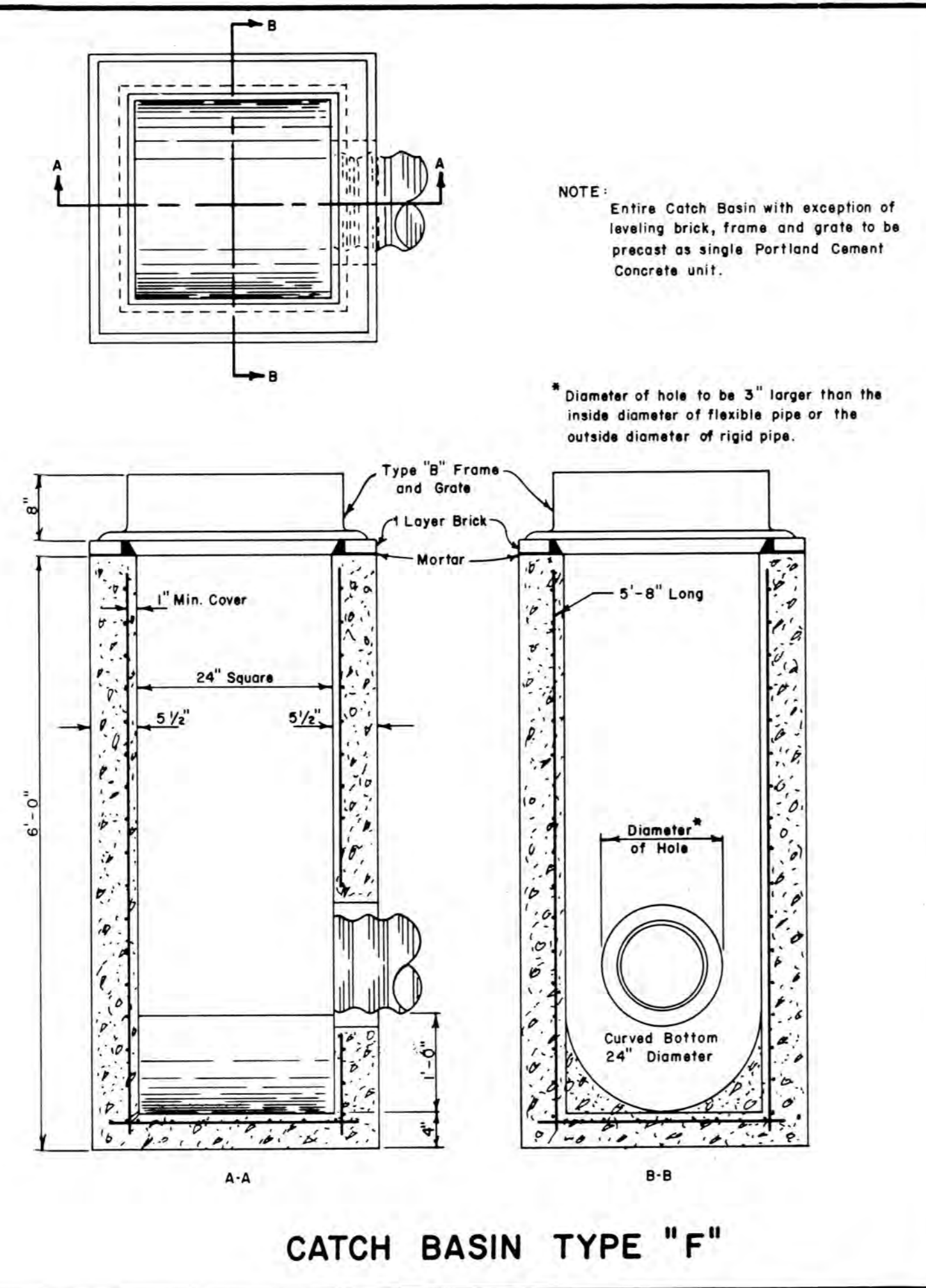
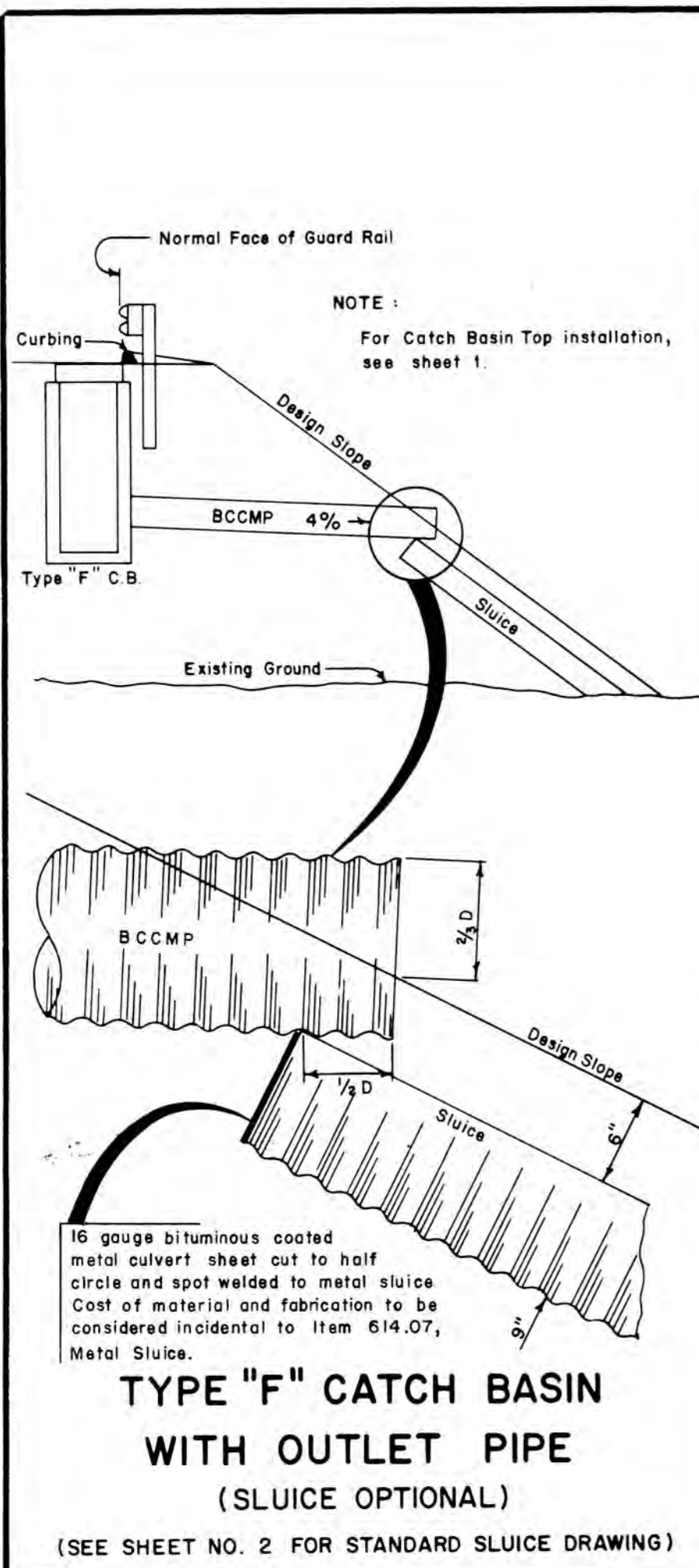
NO.	DESCRIPTION

MAINE STATE HIGHWAY COMMISSION
 AUGUSTA, MAINE

STANDARD DETAILS

METAL SLUICE - UNDERDRAIN -
 CULVERT PIPE DATA
 CULVERT INLET GRATE

NOV. 1968



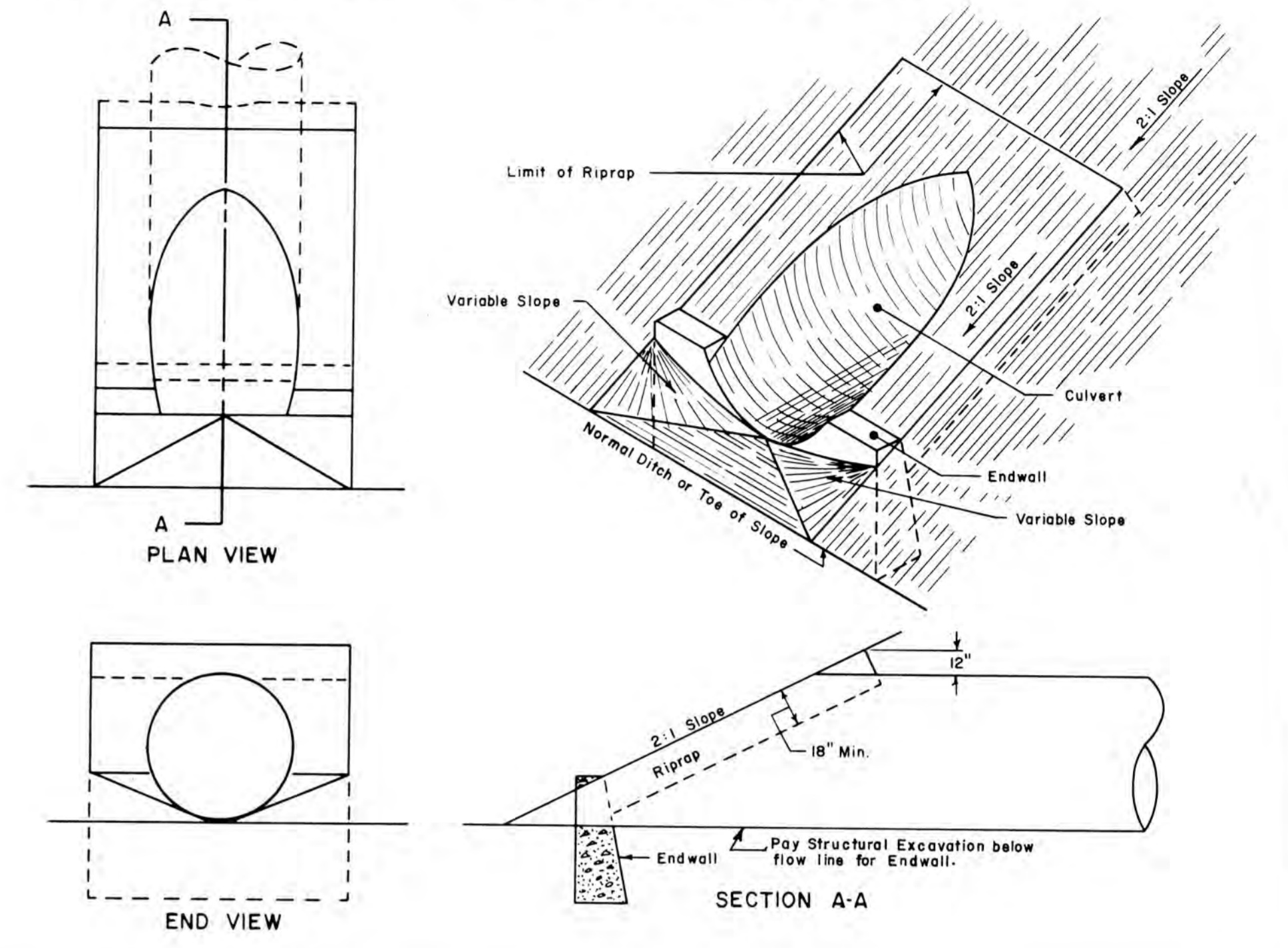
CURB TYPES 5 AND 6 ON CURVES			
RADIUS OF CURVE	LENGTH	PAID FOR AS	STONE IS CUT OR CAST
0' to 8' Incl	2' min.	Circular	To Fit Curve
Over 8' to 30' Incl	12' Min. Chord	Circular	Straight Pieces, Radial Ends
Over 30' and Under 160'	2' to 3'	Straight	Straight Pieces
160' and Over	3' to 6'	Straight	Straight Pieces

TERMINAL SECTION TYPE "1" & "2"	
Face of Stone	Face of Stone
Left Terminal Section	Right Terminal Section

TERMINAL CURB SECTION	
REVISIONS	MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE

**STANDARD DETAILS
 CURB, DITCHES AND
 SLOPES, AND CATCH BASINS
 TYPE "E"**

CONCRETE INLET ENDWALLS FOR RIVETED AND STRUCTURAL PLATE PIPES 60" TO 180" IN 2:1 SLOPES



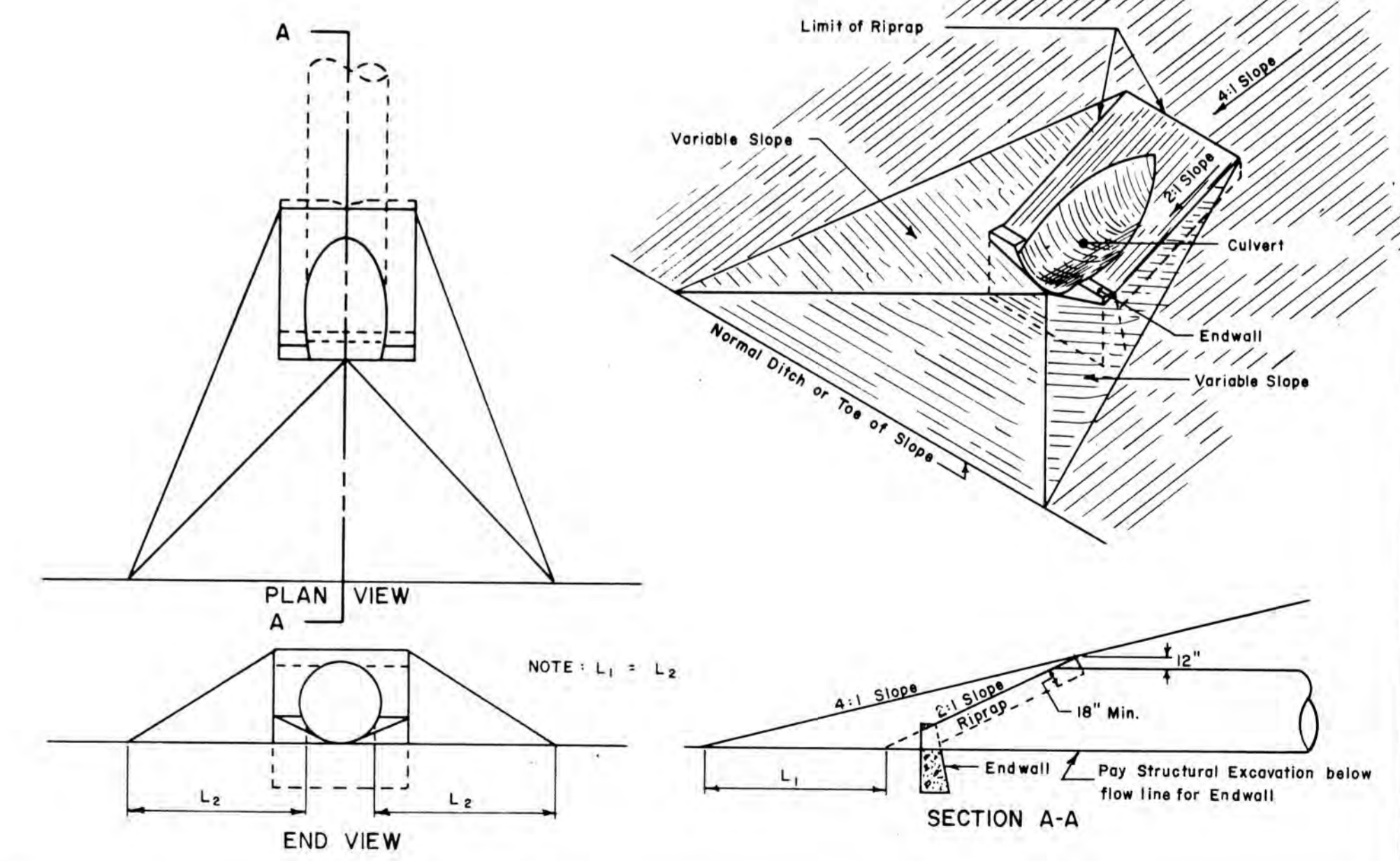
- NOTES**
- Culverts installed under 2:1 slopes shall have riprap laid on 2:1 slope and no ditch transitions.
 - Excavation required to grade culvert inlets and outlets as shown will not be paid separately, but will be incidental to the culvert.
 - Hook bolts are required in metal pipes only and will be incidental to concrete item.
 - Concrete endwall shall be structural concrete class "A" and shall be paid for as item 502.32 structural concrete culvert endwalls.
 - All riprap as shown shall be hand laid.

TABLE A

RIVETED PIPES		
SIZE	NO. HOOK BOLTS REQUIRED	"X" DIMENSION
60"	4	1.5
66"	4	1.5
72"	4	1.5
78"	5	1.5
84"	5	1.5

STRUCTURAL PLATE PIPE		
SIZE	NO. HOOK BOLTS REQUIRED	"X" DIMENSION
72"	4	1.5'
78"	5	1.625'
84"	5	1.75'
90"	5	1.875'
96"	6	2.0'
102"	6	2.125'
108"	6	2.25'
114"	7	2.375'
120"	7	2.5'
126"	7	2.625'
132"	8	2.75'
138"	8	2.875'
144"	9	3.0'
150"	9	3.125'
156"	9	3.25'
162"	10	3.375'
168"	10	3.5'
174"	10	3.625'
180"	11	3.75'

CONCRETE INLET ENDWALLS FOR RIVETED AND STRUCTURAL PLATE PIPES 60" TO 180" IN 4:1 SLOPES

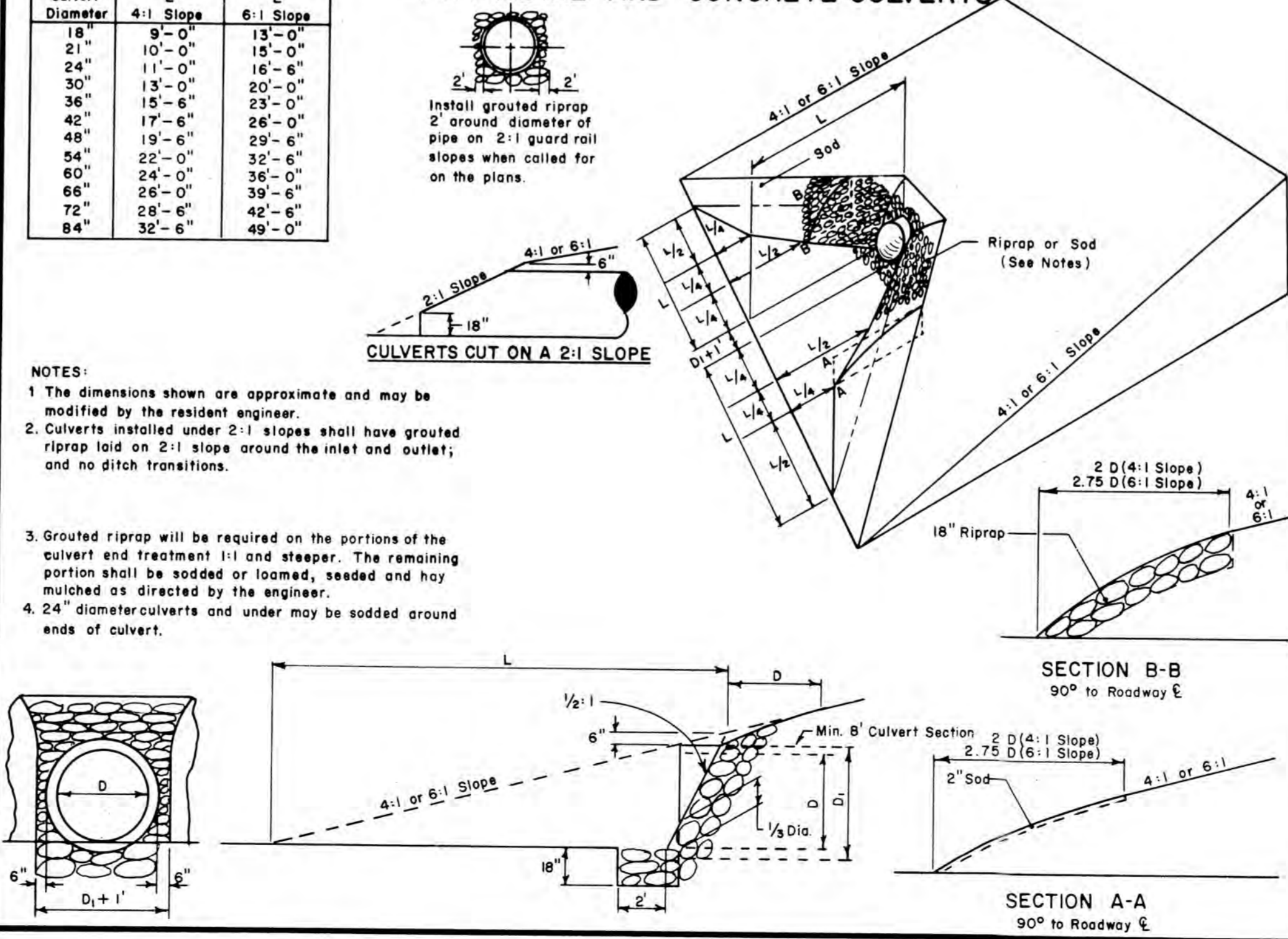


ROADWAY CULVERT END SLOPE TREATMENT FOR METAL AND CONCRETE CULVERTS

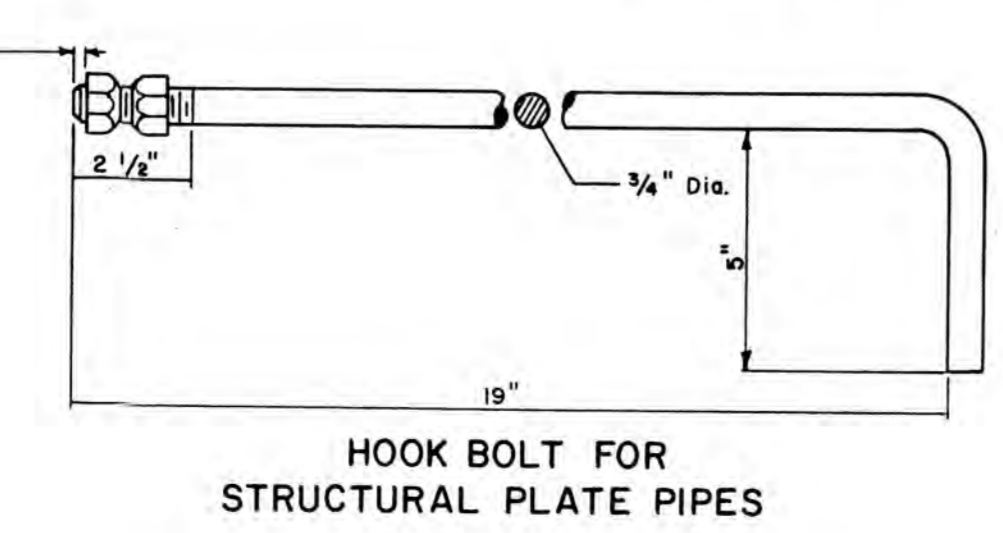
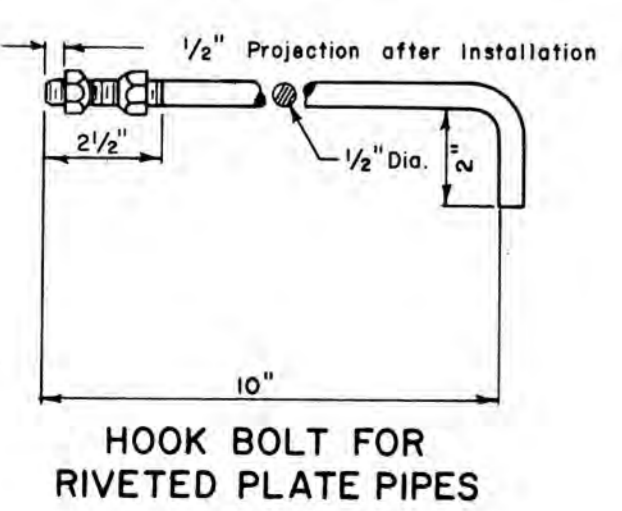
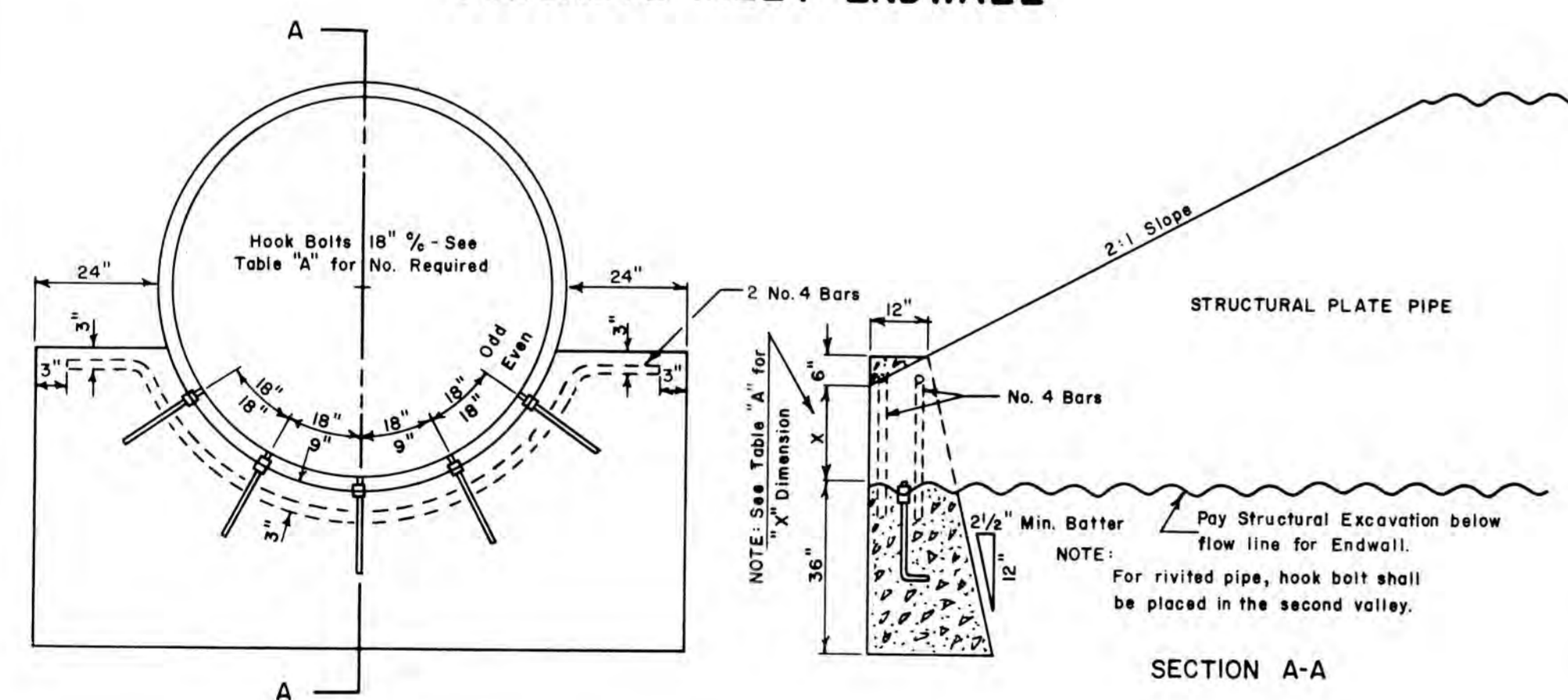
TABLE B

Culvert Diameter	L	
	4:1 Slope	6:1 Slope
18"	9'-0"	13'-0"
21"	10'-0"	15'-0"
24"	11'-0"	16'-6"
30"	13'-0"	20'-0"
36"	15'-6"	23'-0"
42"	17'-6"	26'-0"
48"	19'-6"	29'-6"
54"	22'-0"	32'-6"
60"	24'-0"	36'-0"
66"	26'-0"	39'-6"
72"	28'-6"	42'-6"
84"	32'-6"	49'-0"

- NOTES**
- The dimensions shown are approximate and may be modified by the resident engineer.
 - Culverts installed under 2:1 slopes shall have grouted riprap laid on 2:1 slope around the inlet and outlet; and no ditch transitions.
 - Grouted riprap will be required on the portions of the culvert end treatment 1:1 and steeper. The remaining portion shall be sodded or loamed, seeded and hay mulched as directed by the engineer.
 - 24" diameter culverts and under may be sodded around ends of culvert.



CONCRETE INLET ENDWALL



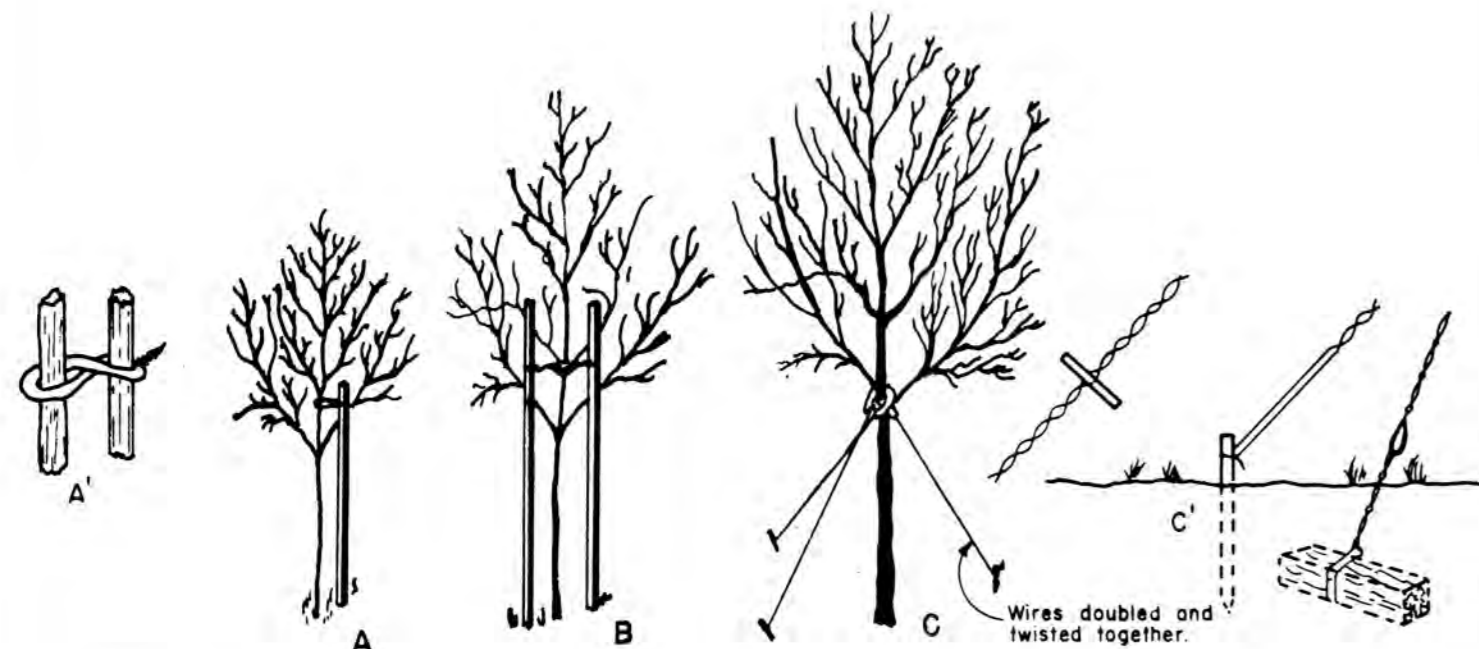
REVISIONS

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS

CULVERT INLETS & OUTLETS

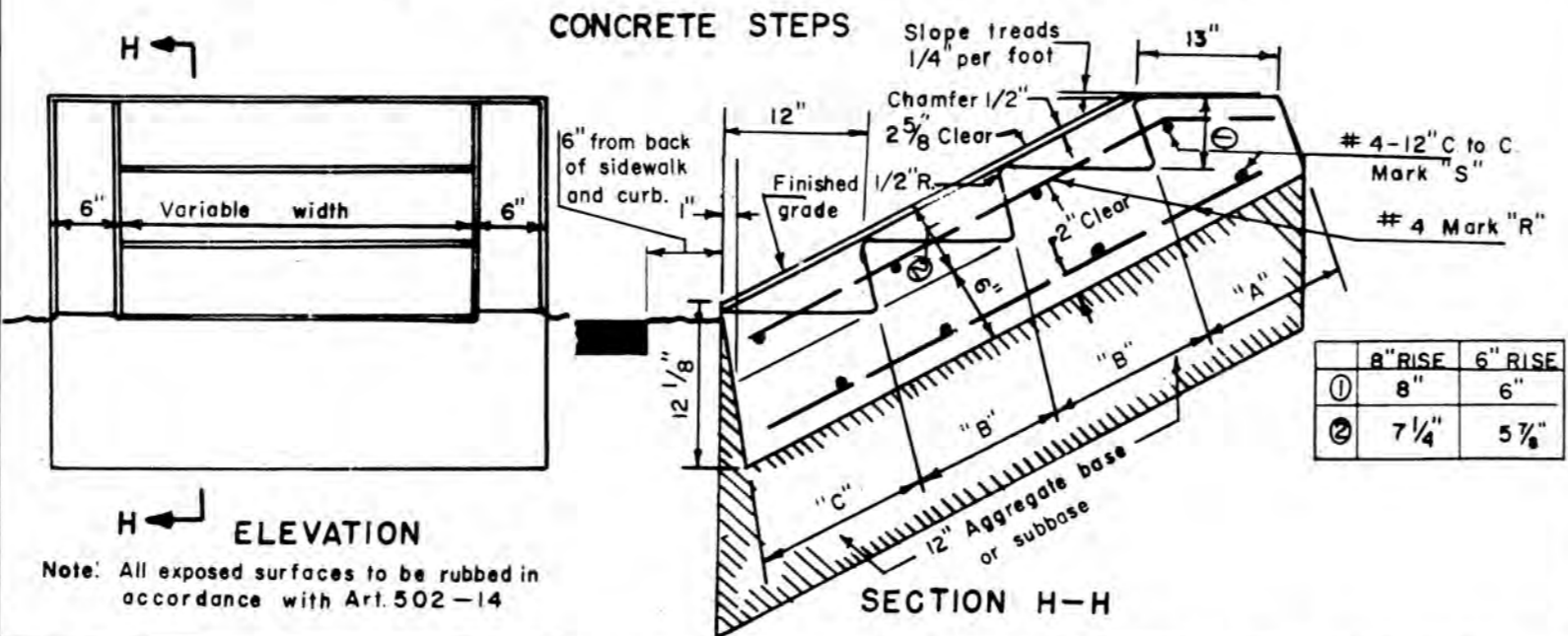
GUYING AND STAKING TREES



NOTES:

- A single stake shall be used with trees up to 2 inches in diameter. The tree to be attached to the stake by means of a wire run through a piece of old hose. See detail A and A'.
- Trees 2 to 4 inches in diameter shall be supported by two or three stakes. Attached as indicated in detail B.
- Trees over 4 inches in diameter shall be guyed with at least three guys. Cable or wire shall be attached to the tree by running the wires through a piece of hose or by the use of leg links. The guys shall be secured to a stake, 2x4 inches by 4 feet or to a deadman as indicated in detail C'.

CONCRETE STEPS & SIDEWALK

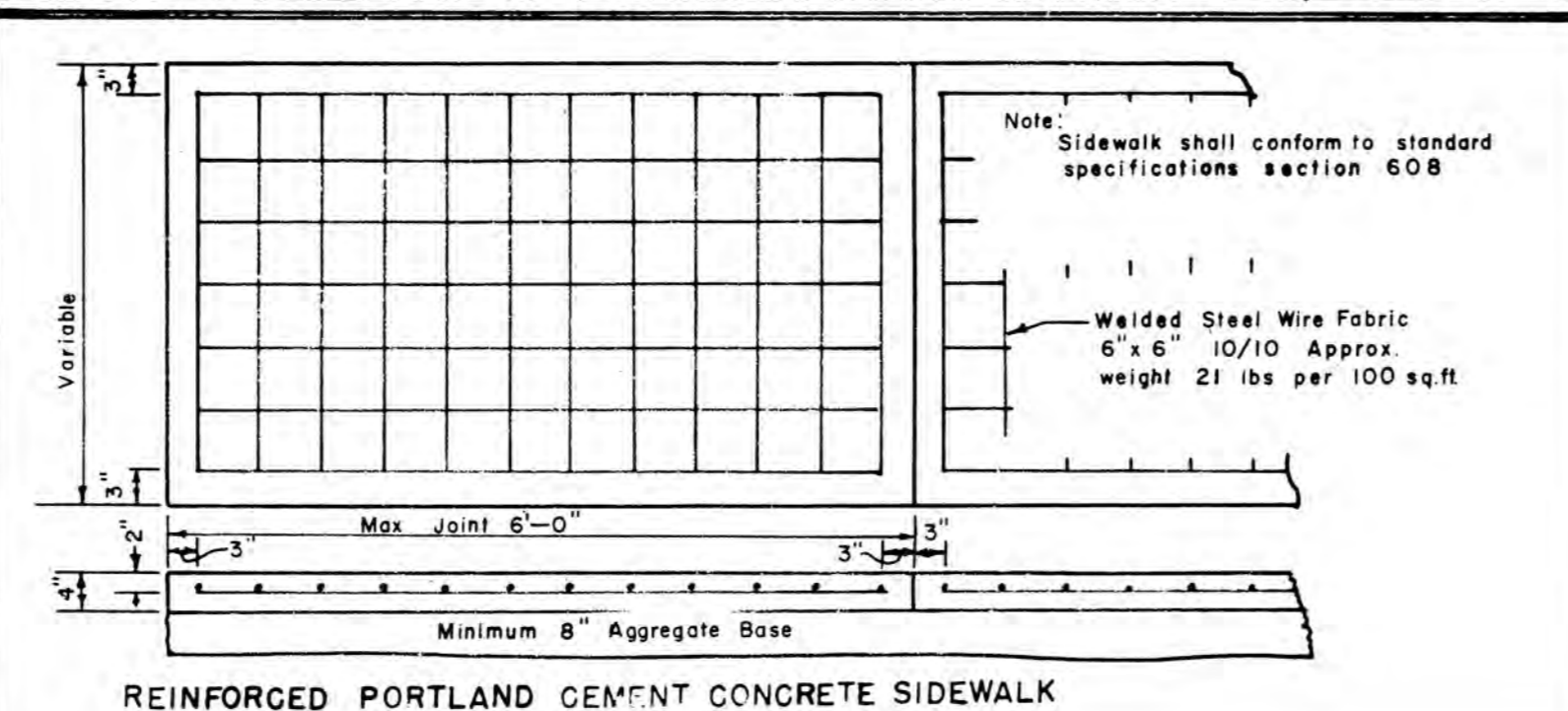


6" RISE - 12" TREAD (2:1) SLOPE

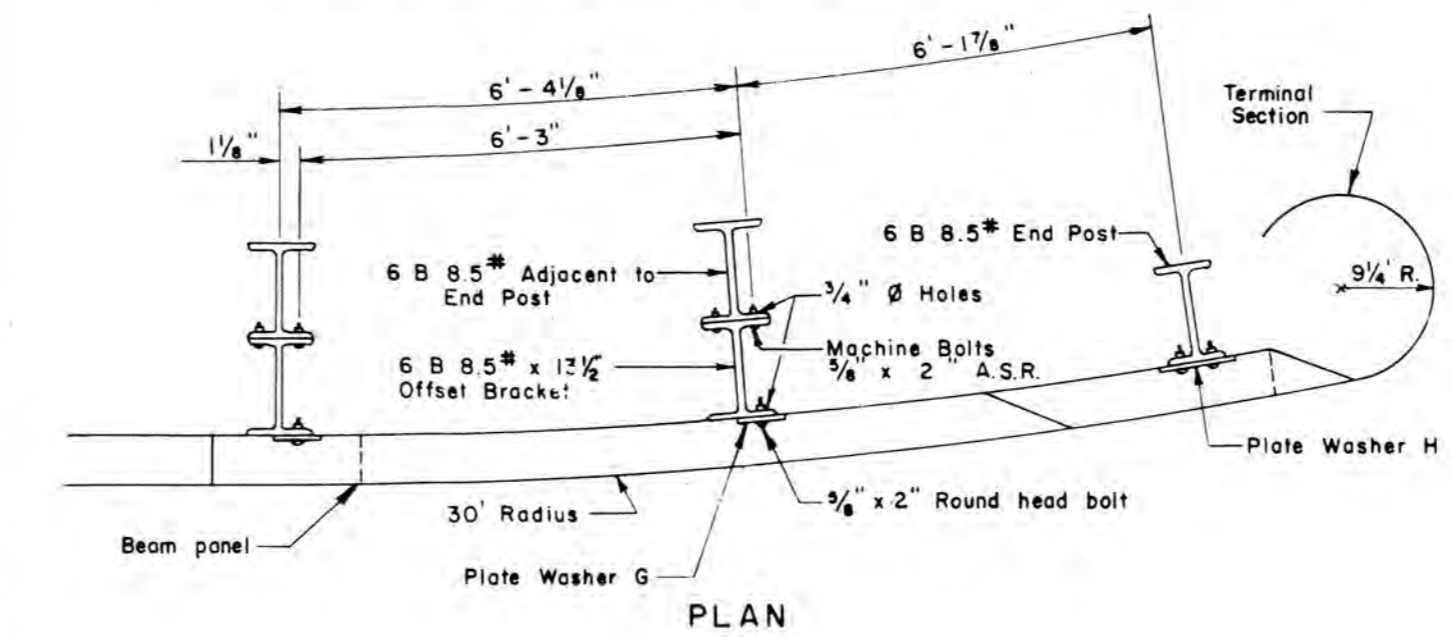
8" RISE - 12" TREAD (1 1/2:1) SLOPE

REINFORCING STEEL

Mark	Size	Number	Length (Each)	Mark	Size	Number	Length (Each)
R	#4	2 Each parapet	11' For "A"	R	#4	2 Each parapet	11' For "A"
	.668 lbs. per ft.	1 Each ft of width	+13.4 For each "B"		.668 lbs. per ft.	1 Each ft. of width	+14 1/2 For each "B"
			+12 For "C"				+12 For "C"
S	#4	2 For "A"	4' Each parapet	S	#4	2 For "A"	4' Each parapet
	.668 lbs. per ft.	2 For each "B"	+12 per ft. of width		.668 lbs. per ft.	2 For each "B"	+12 per ft. of width

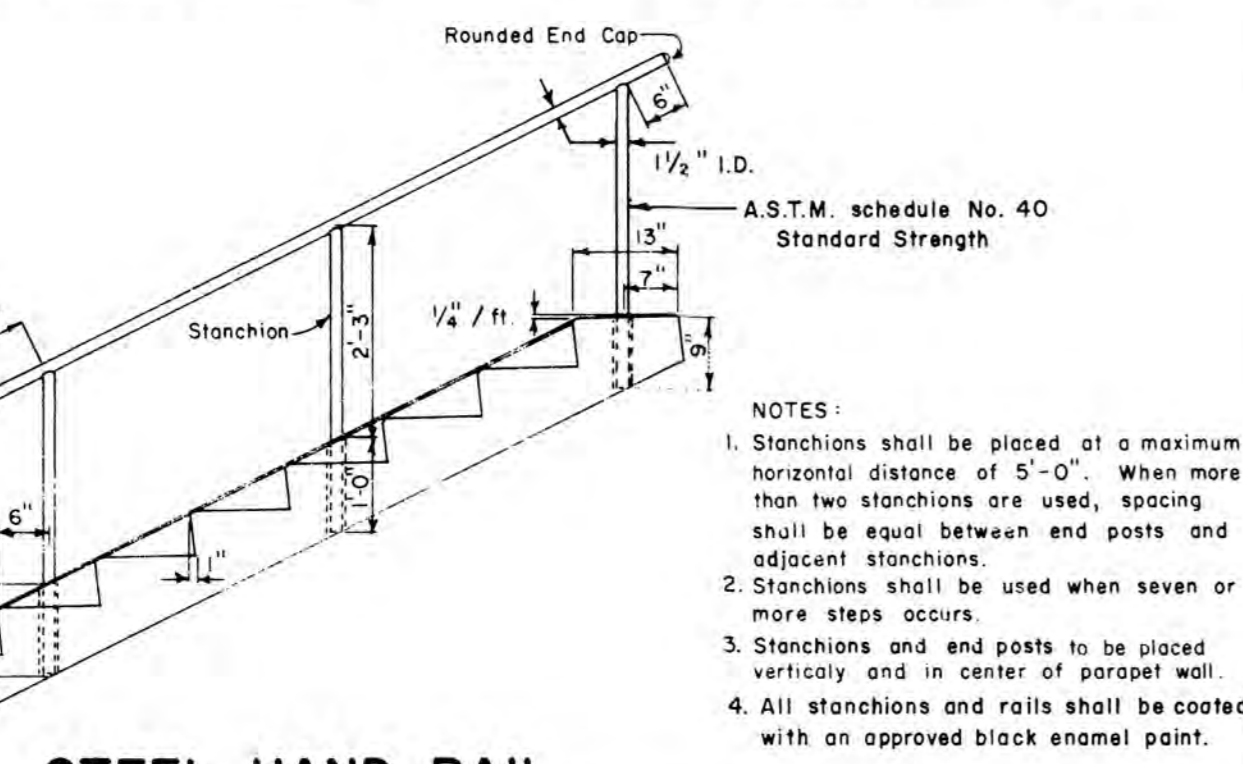
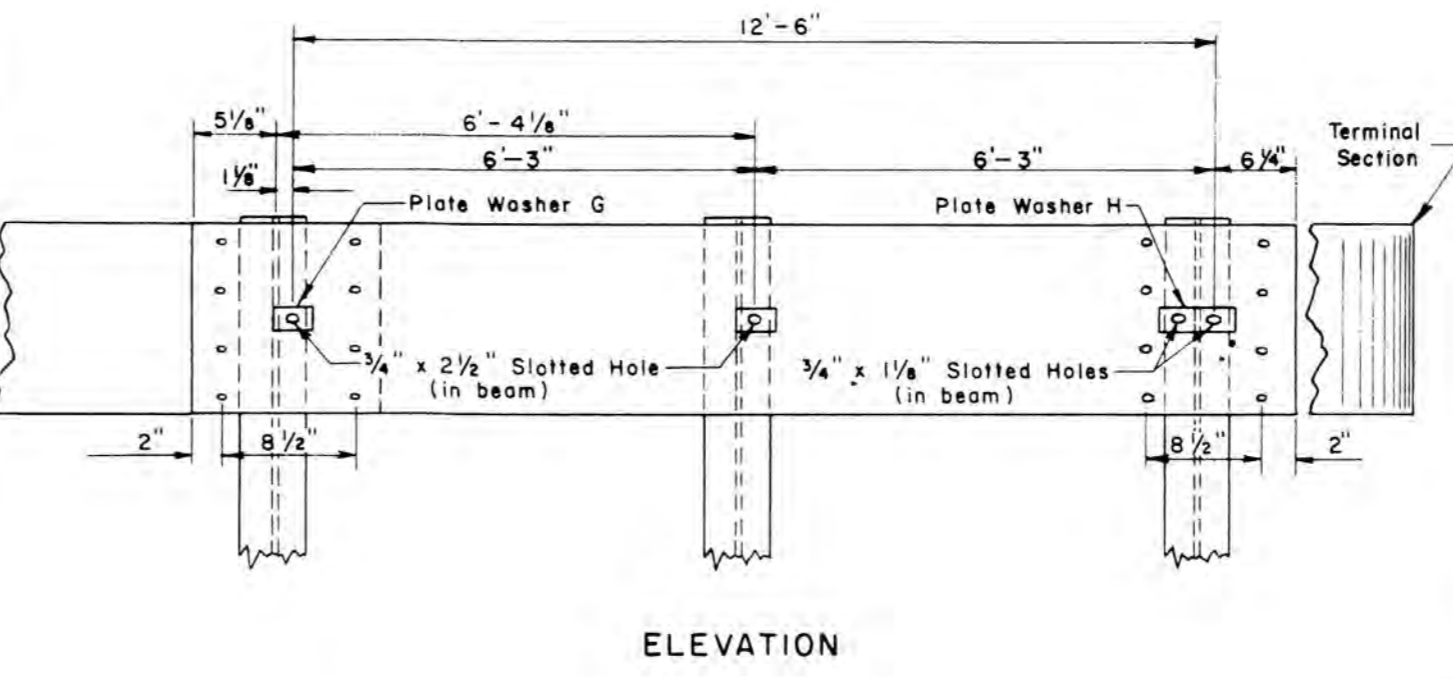


END BEAM ASSEMBLY-SPACING OF POSTS GUARD RAIL TYPE 3a and 3b

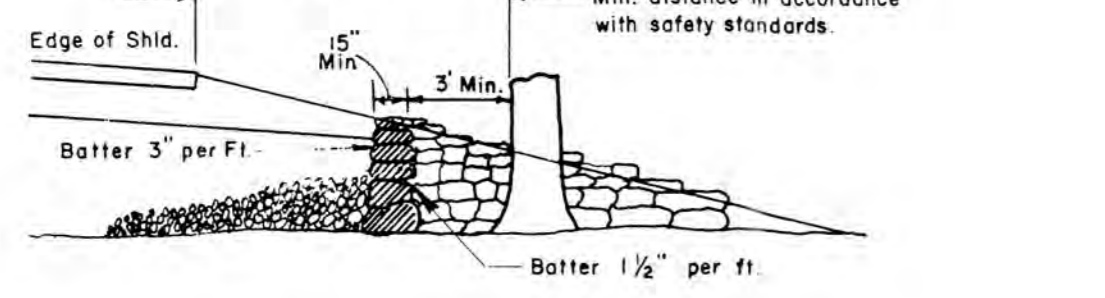


To be used in all locations except on the end away from traffic on 4 lane divided.

NOTE: Offset Bracket shall be installed on all posts, except end post.

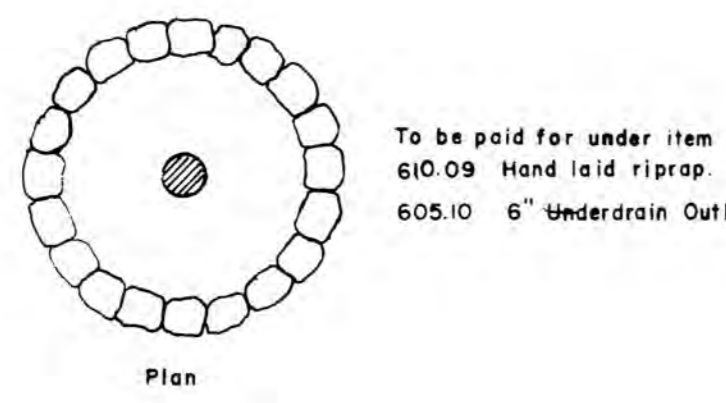
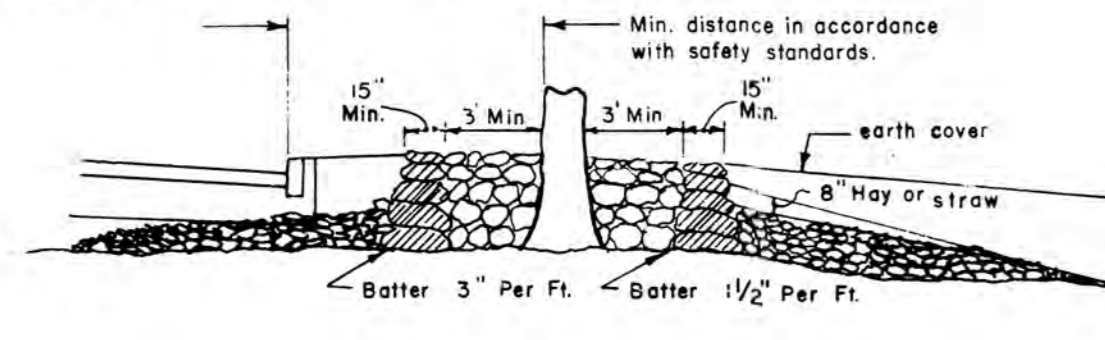


TREE WELLS

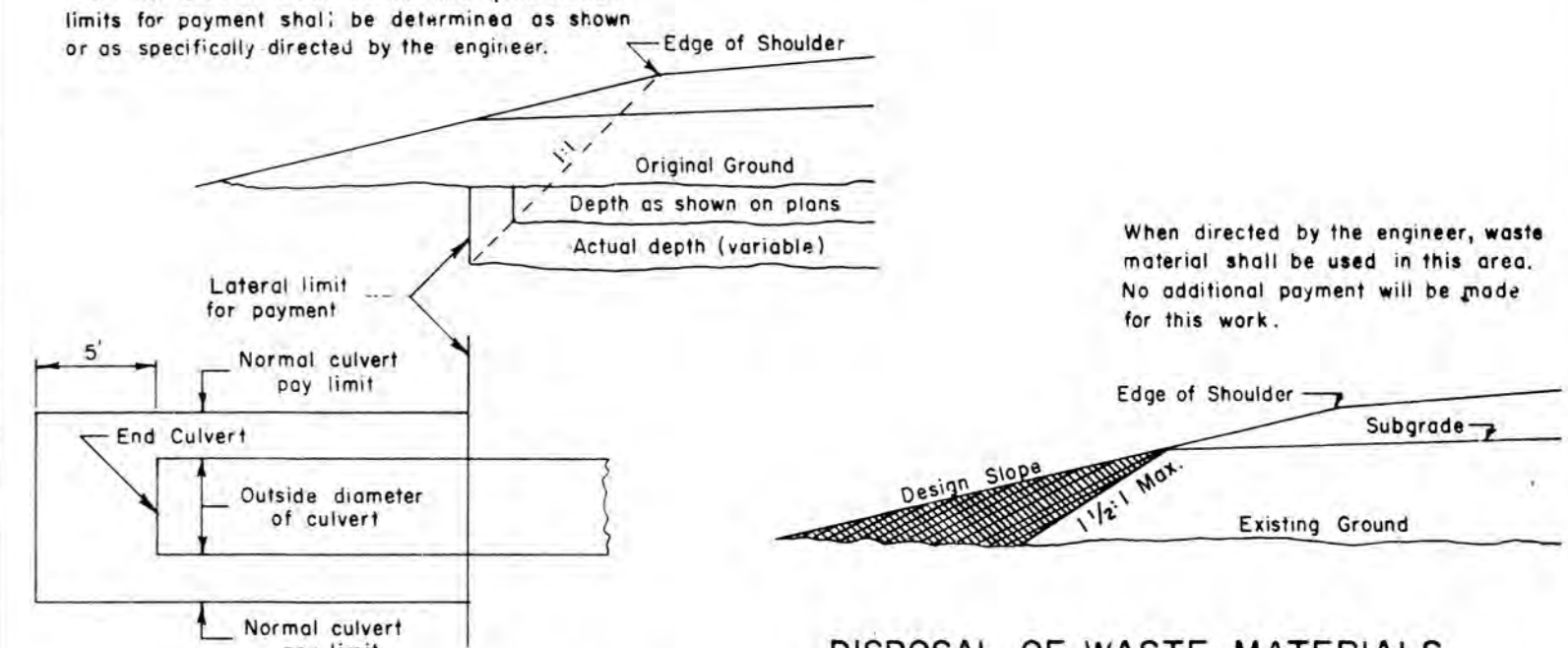


NOTES:

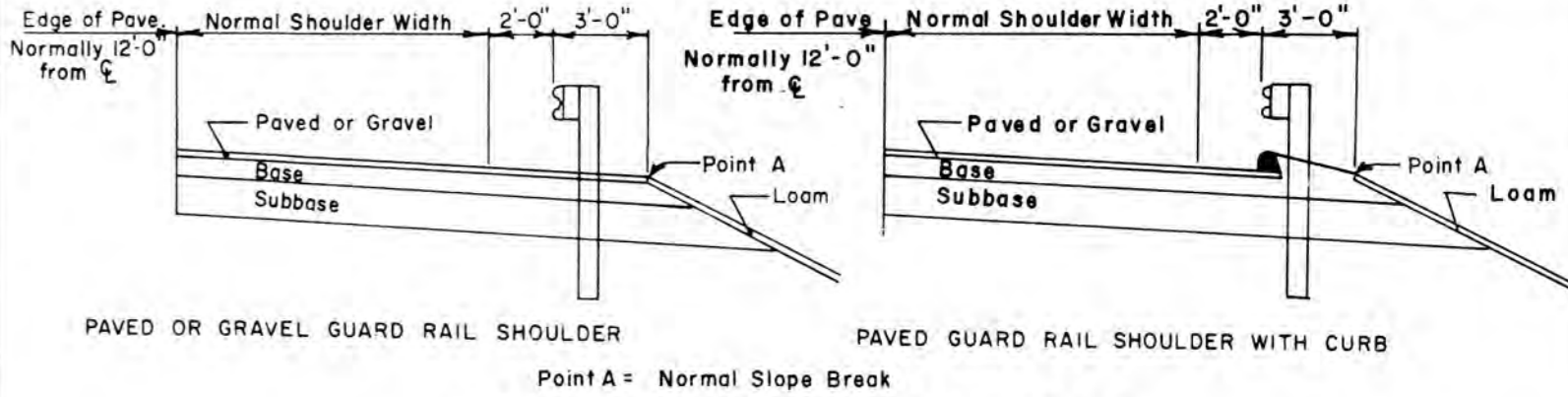
- Selected ledge excavation, crushed stone or other porous material shall be used to fill around the old ground area of the tree from the tree well to the perimeter of the branches.
- An 8" layer of hay or straw to prevent infiltration of fines shall be placed over the rock fill except in areas under the roadway and shoulders.
- If drainage away from the tree well is necessary, underdrain outlet pipe shall be used, and will be paid for under item 605.10.



MUCK EXCAVATION PAYMENT LIMITS

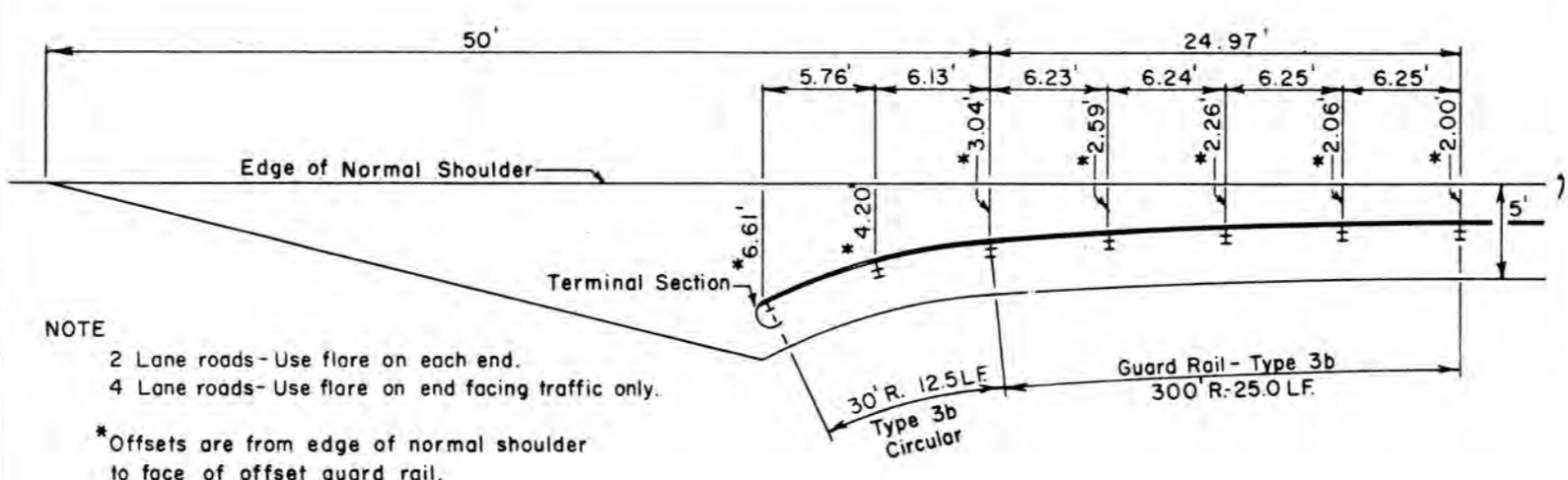


PAVED OR GRAVEL GUARD RAIL SHOULDER



LOCATION OF GUARD RAIL

REVISIONS	MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE



NOTE

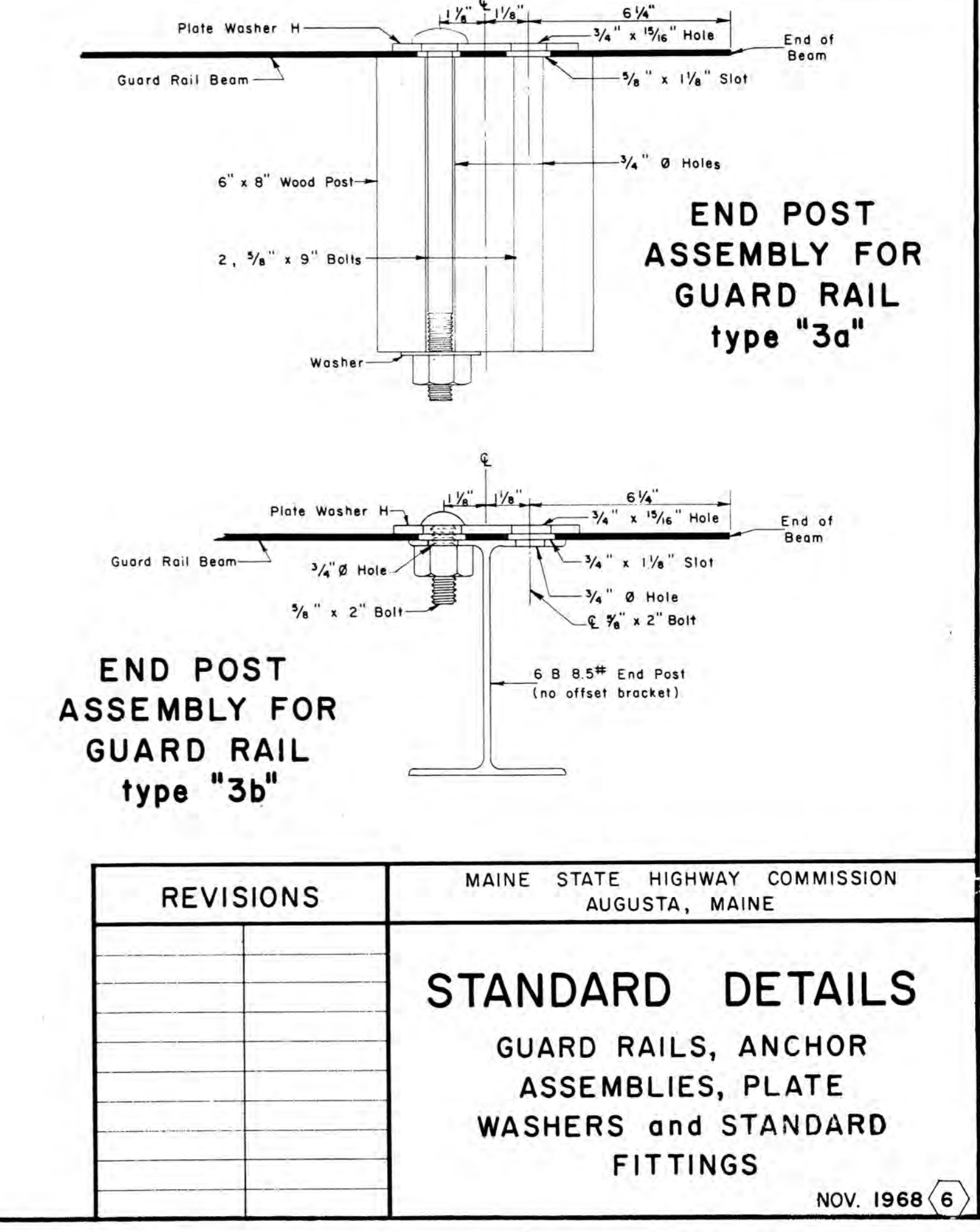
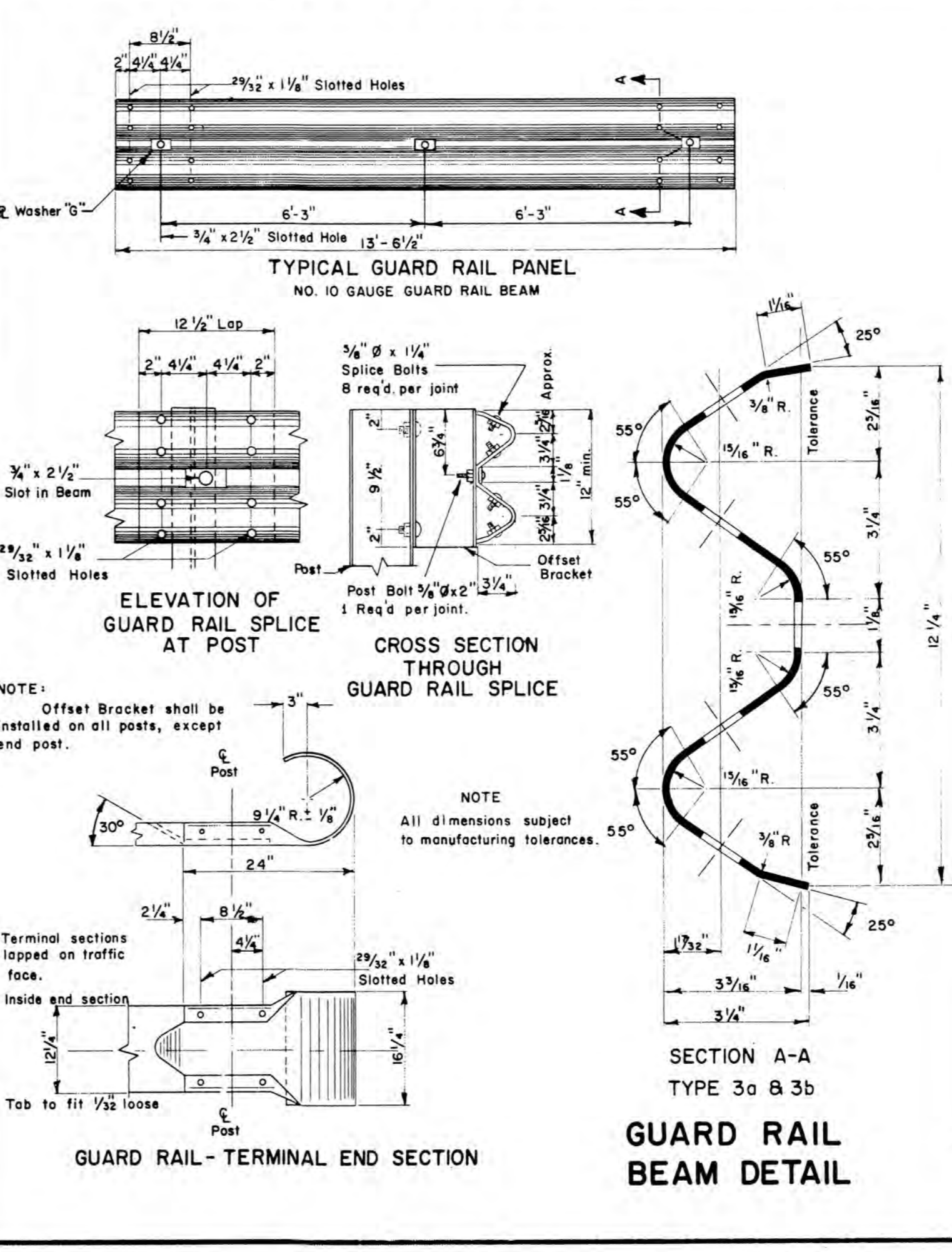
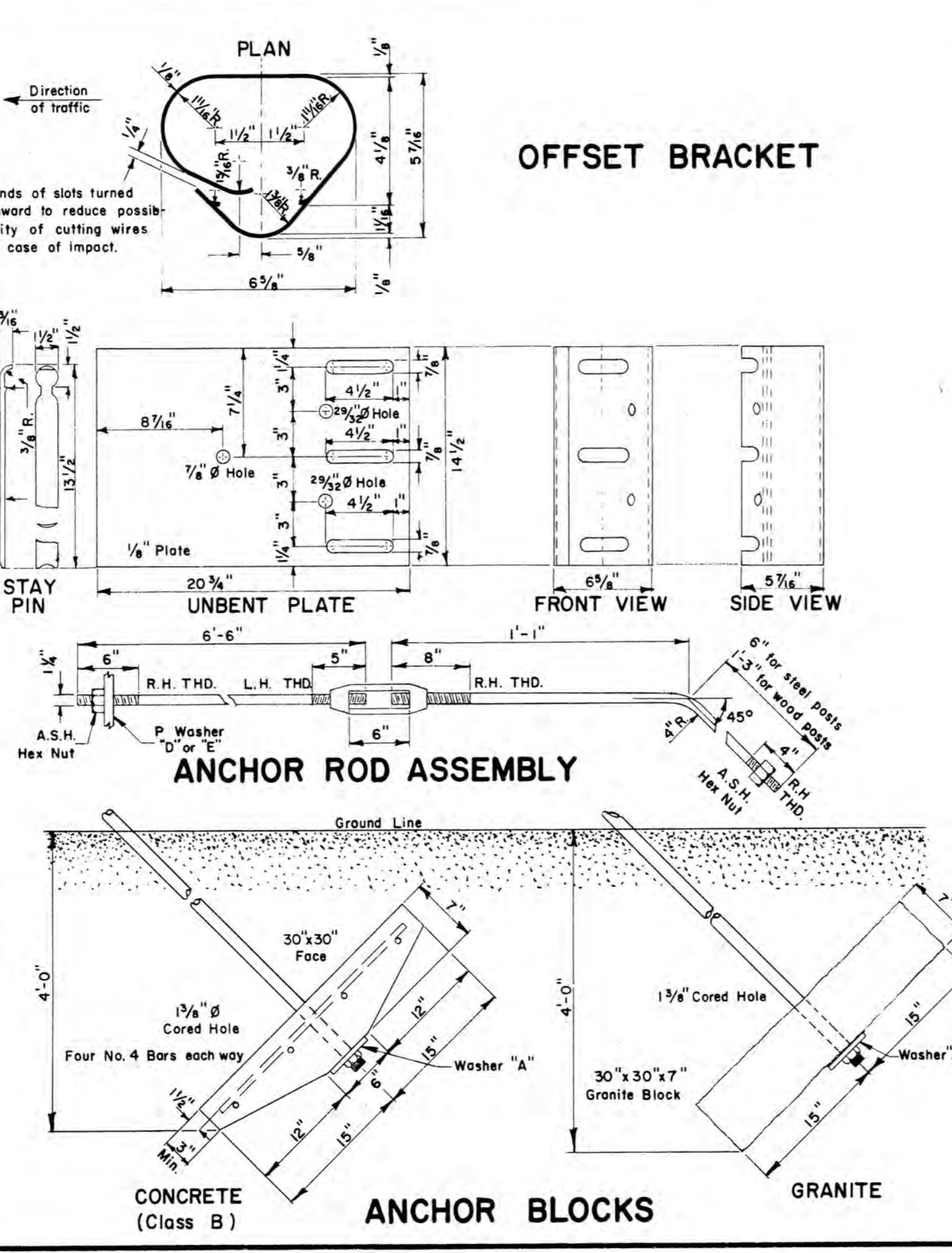
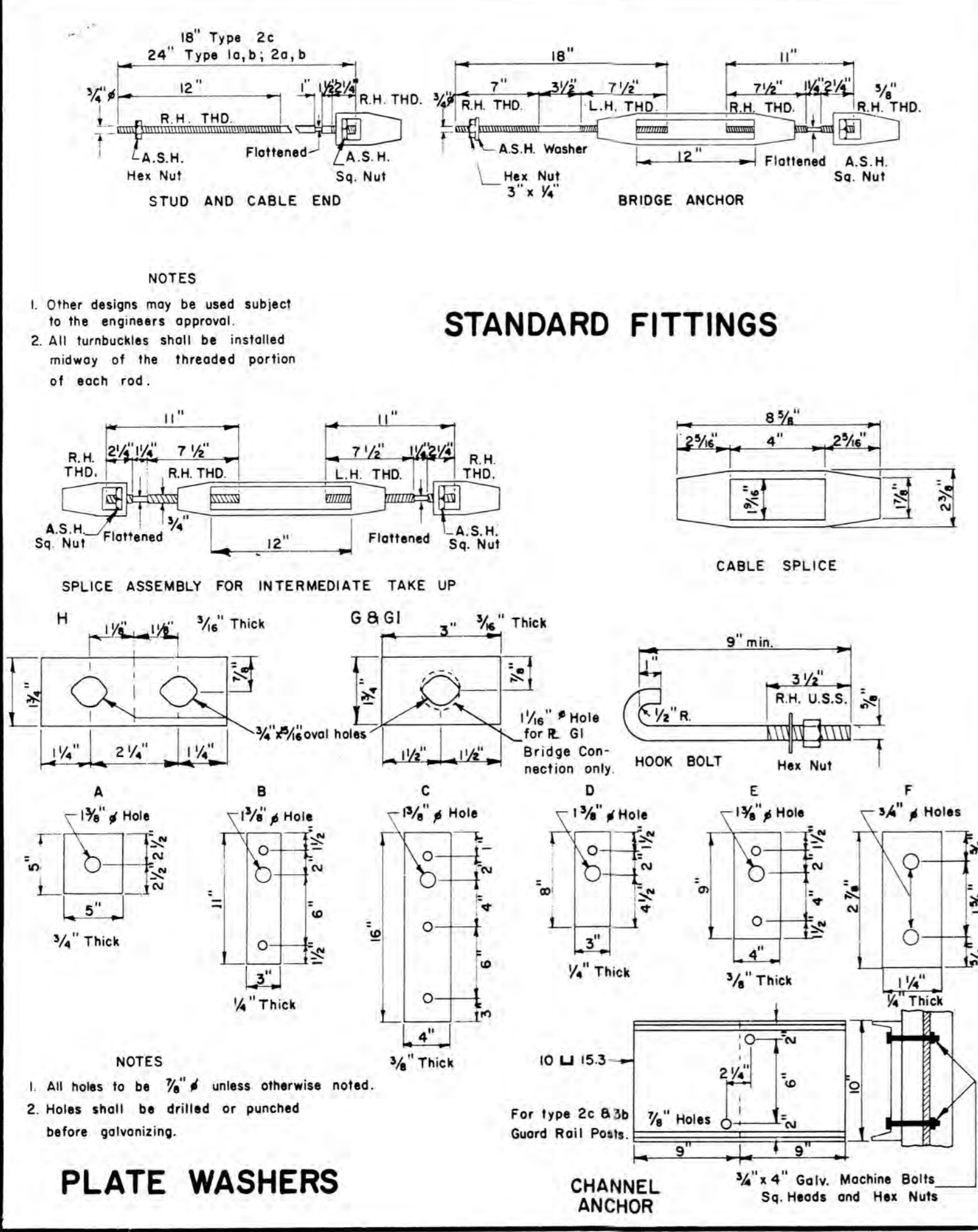
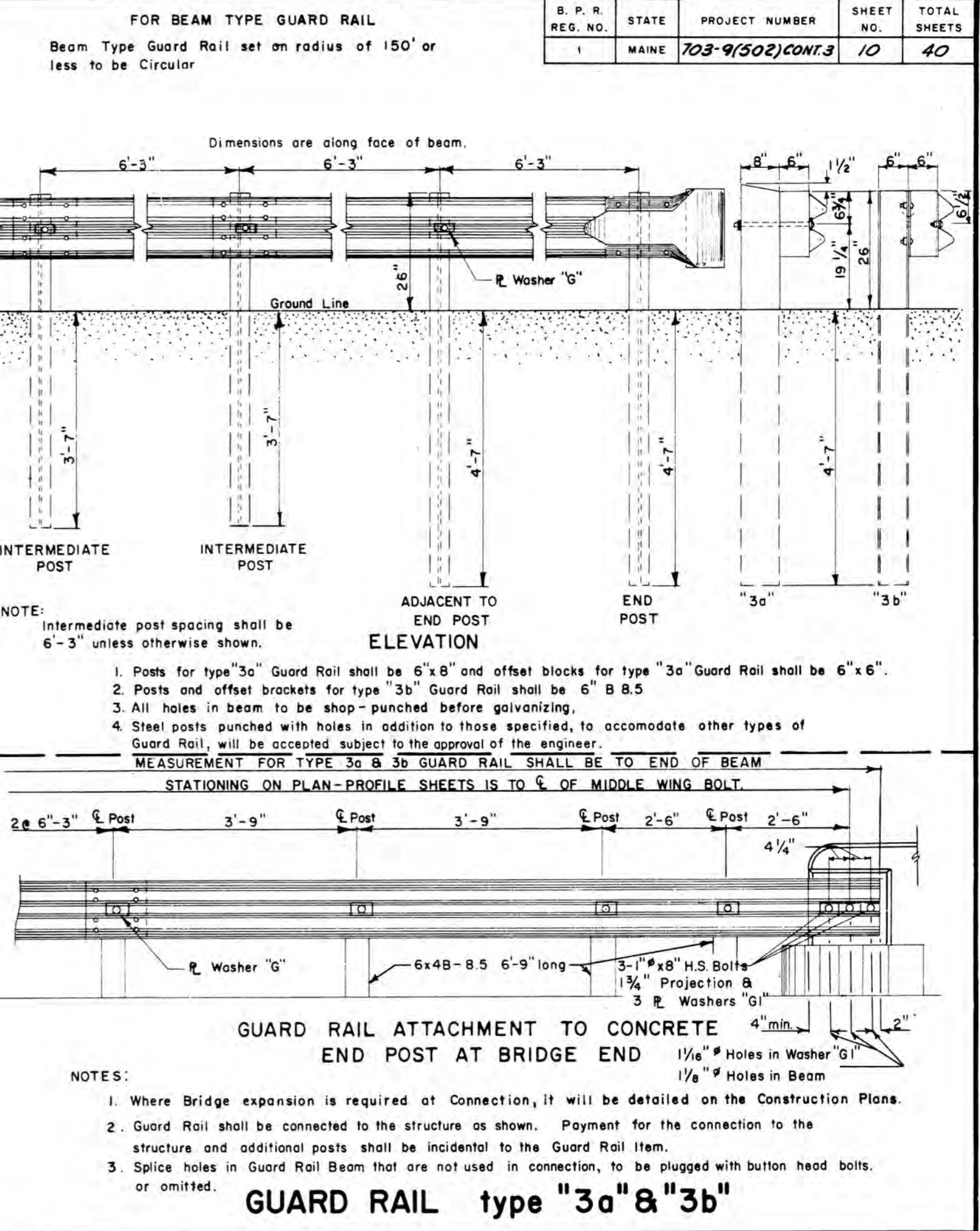
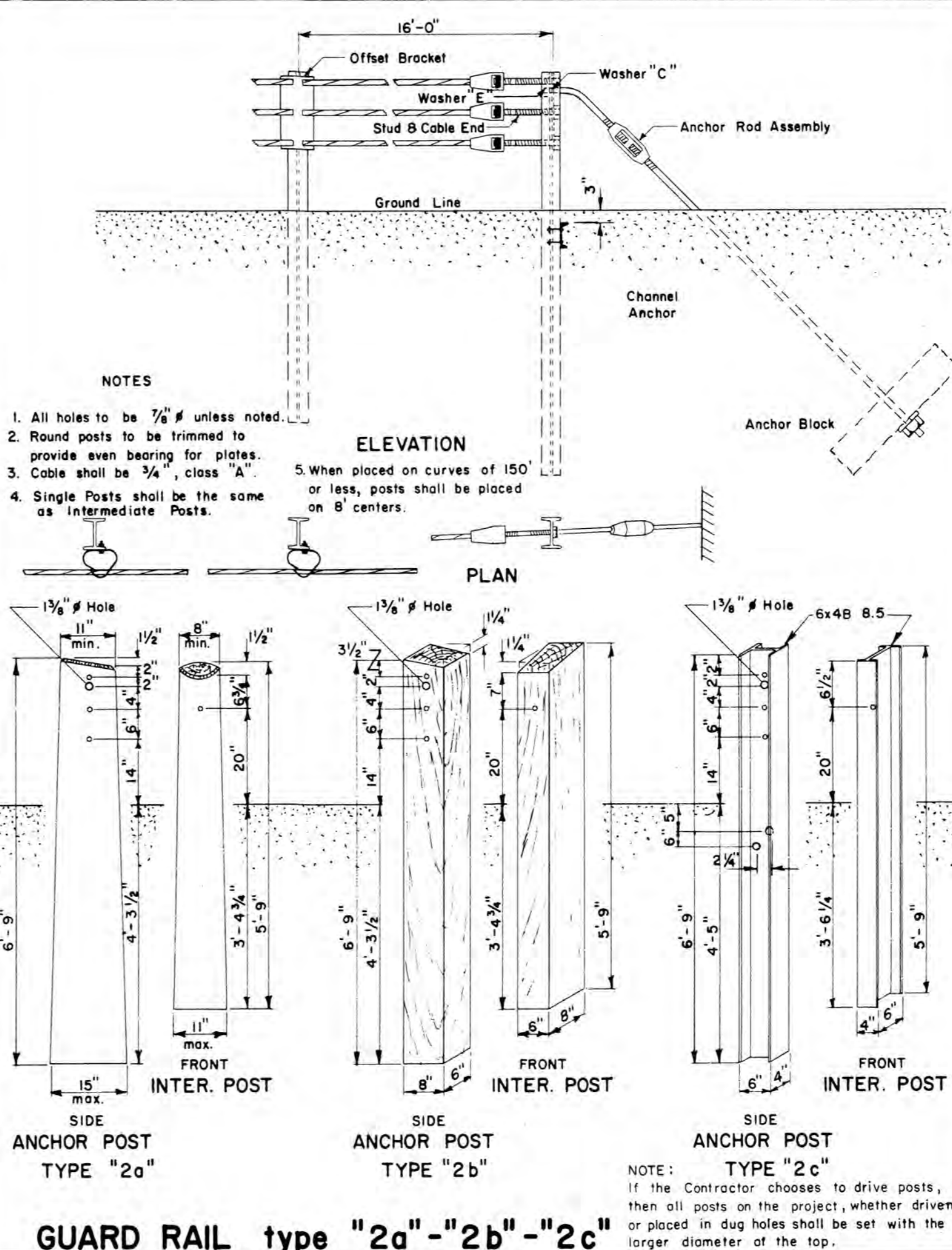
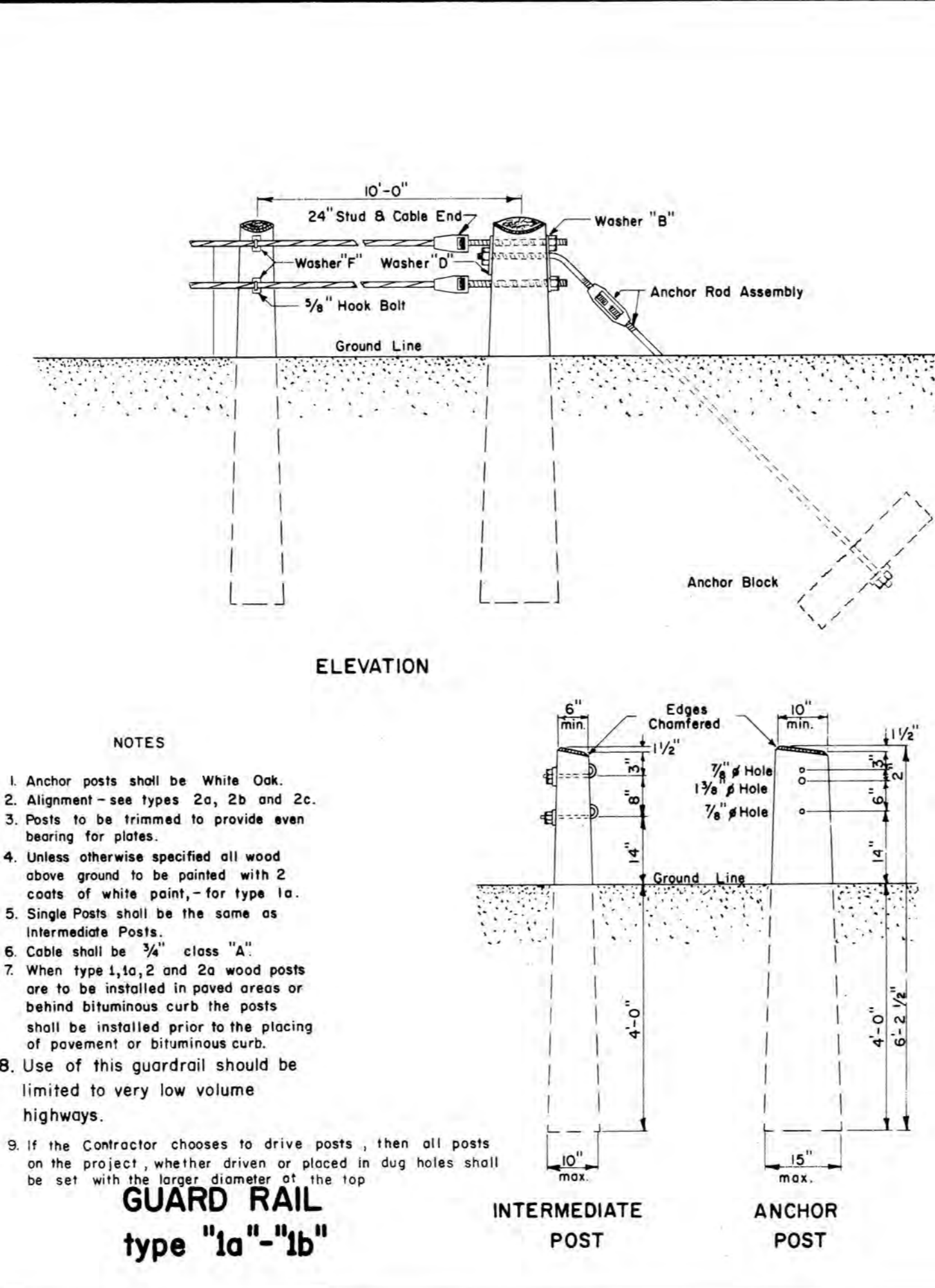
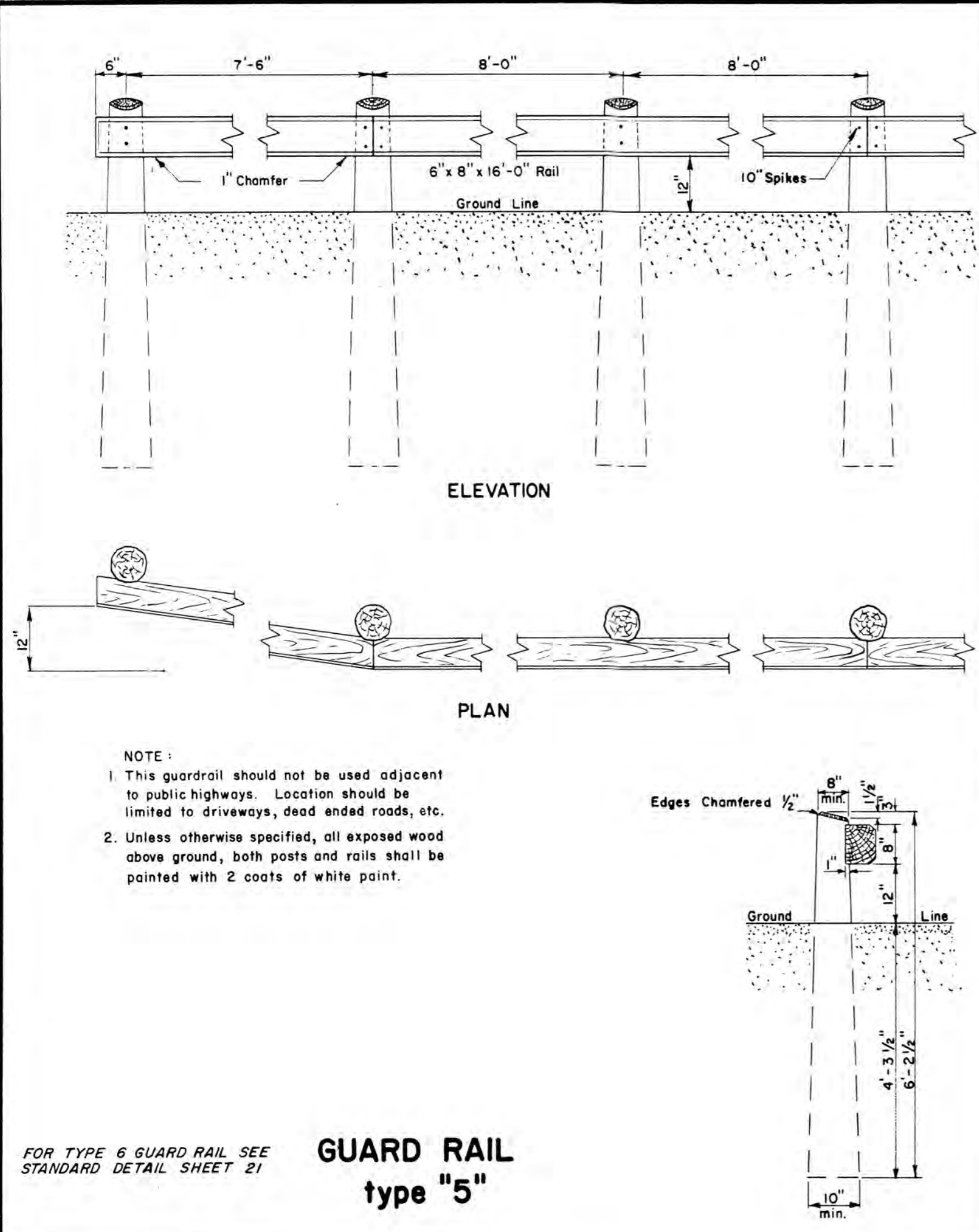
- 2 Lane roads - Use flare on each end.
- 4 Lane roads - Use flare on end facing traffic only.

*Offsets are from edge of normal shoulder to face of offset guard rail.

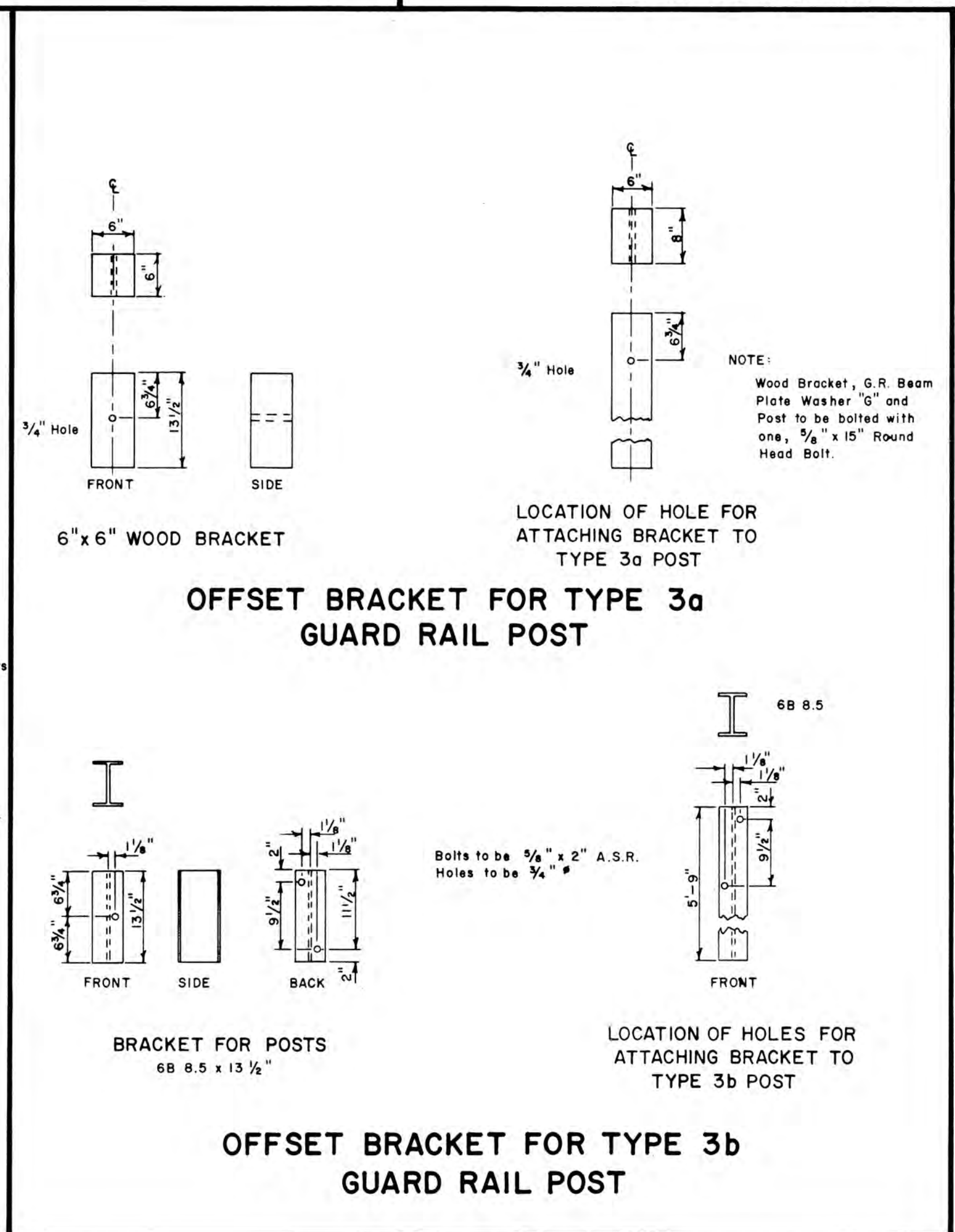
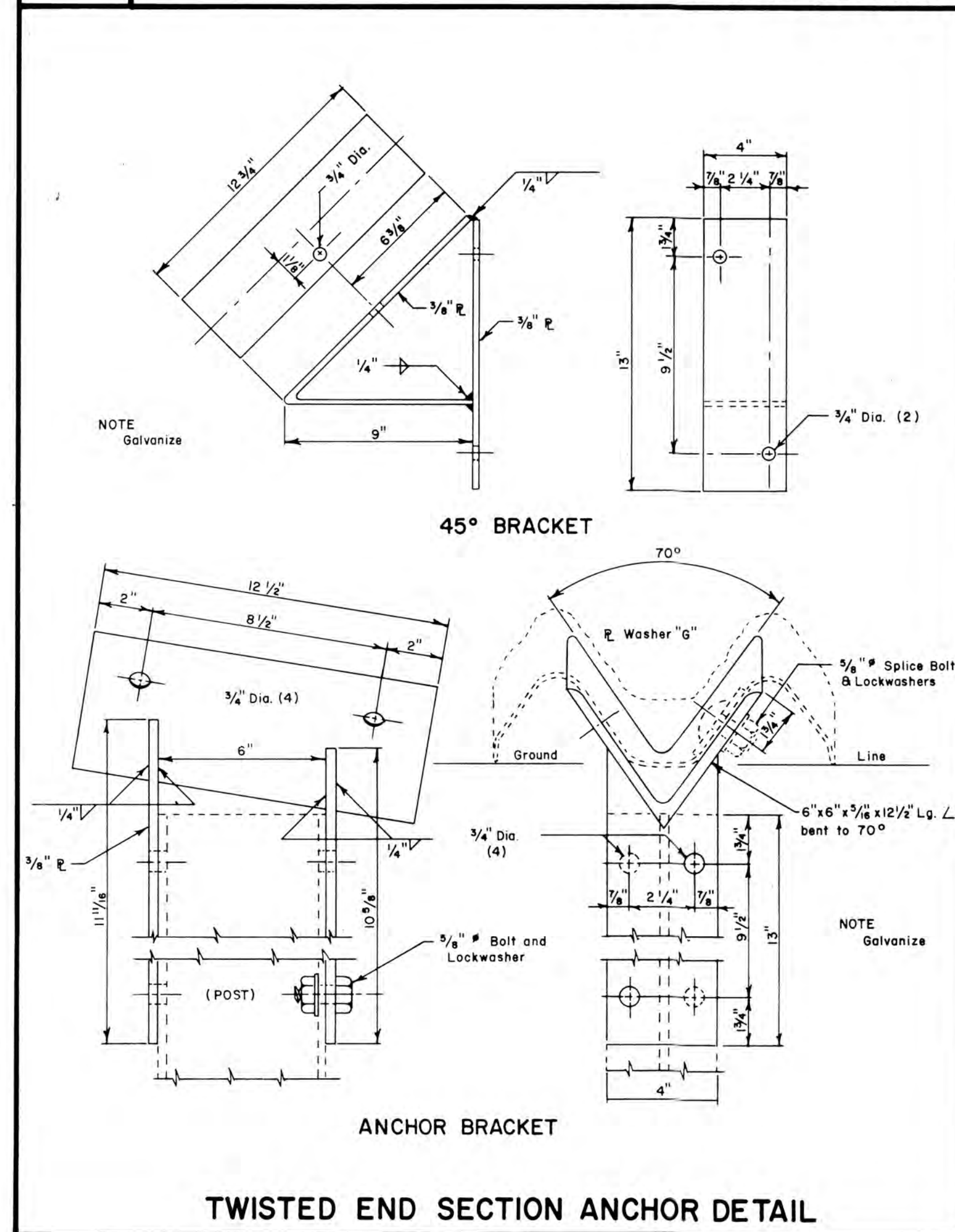
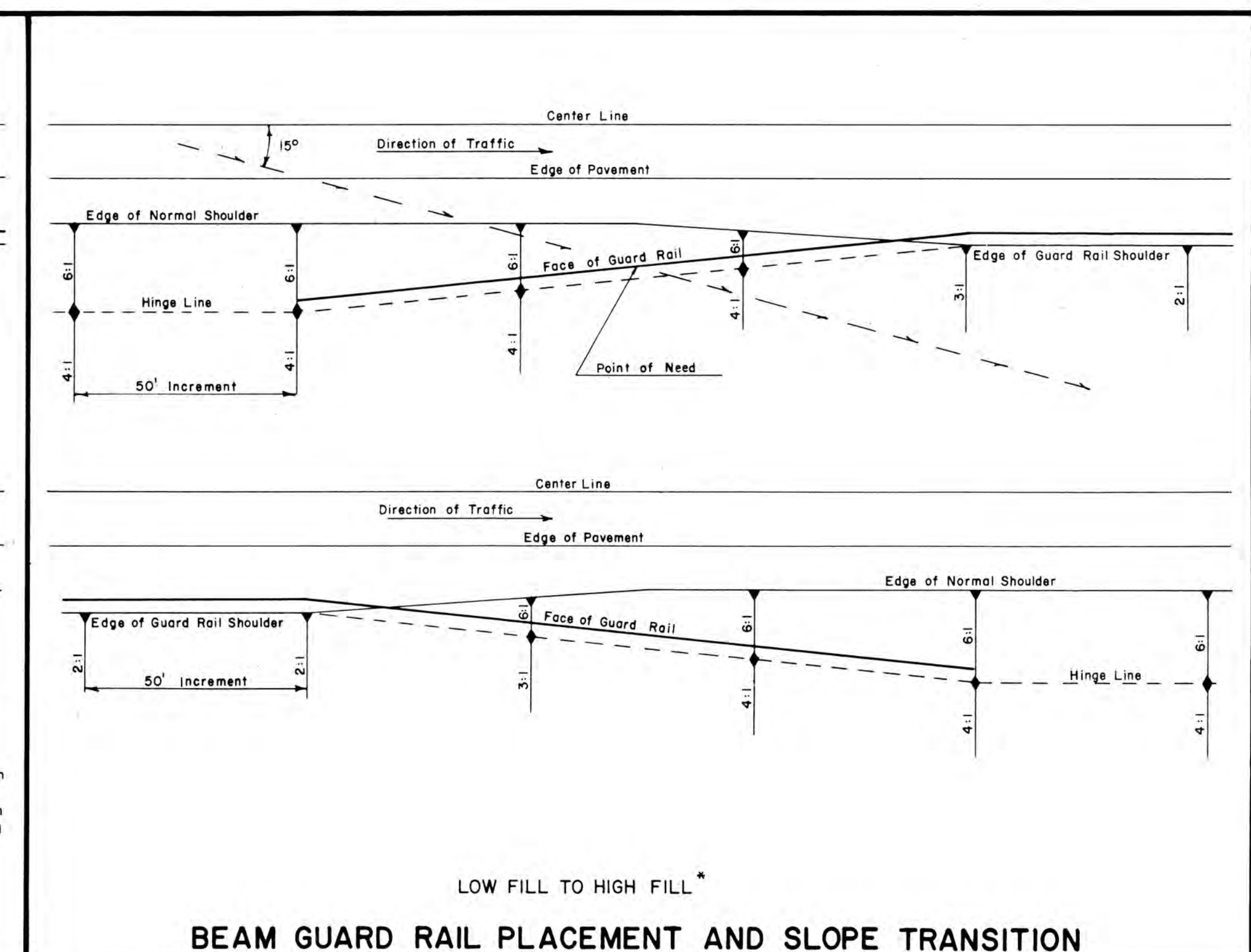
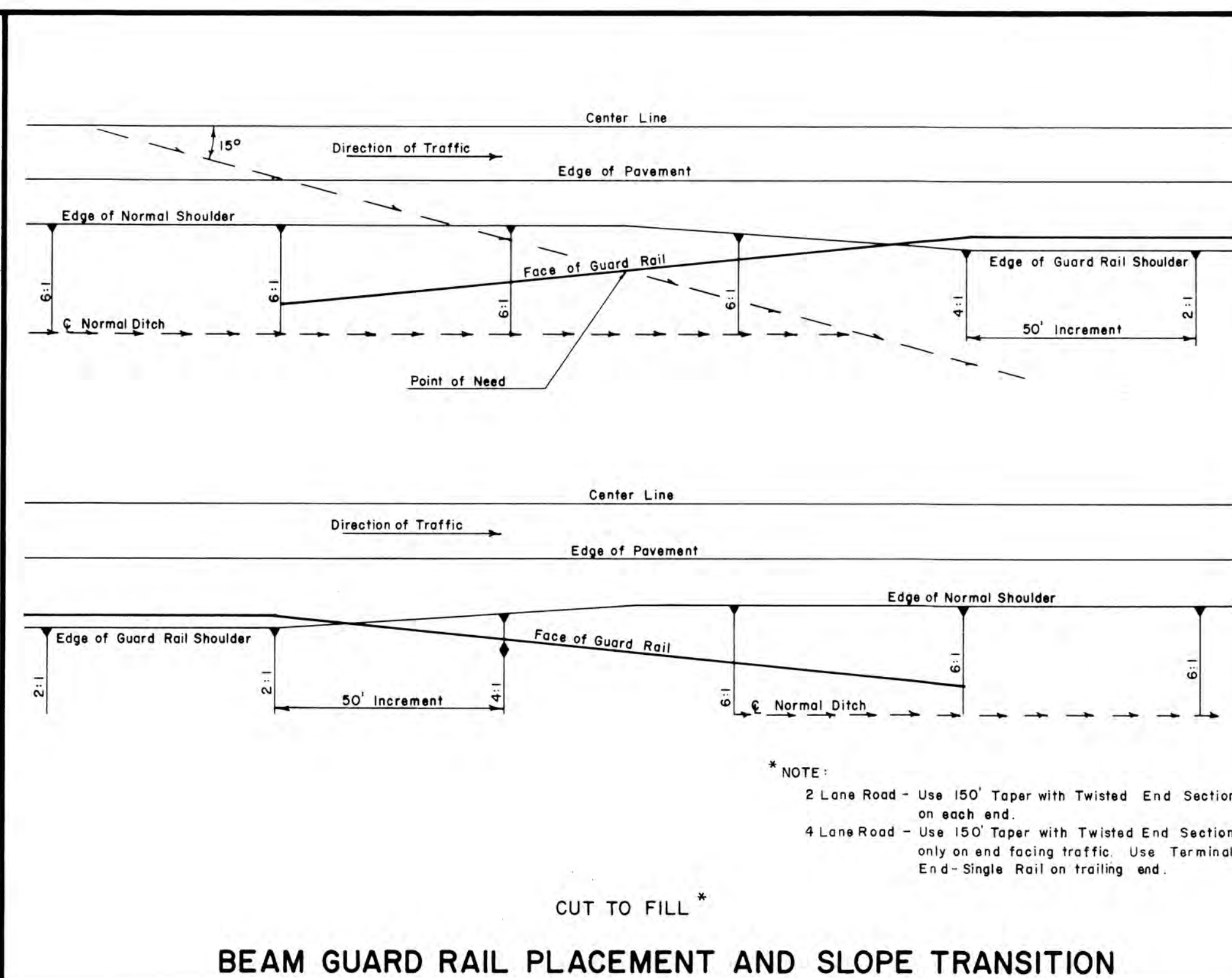
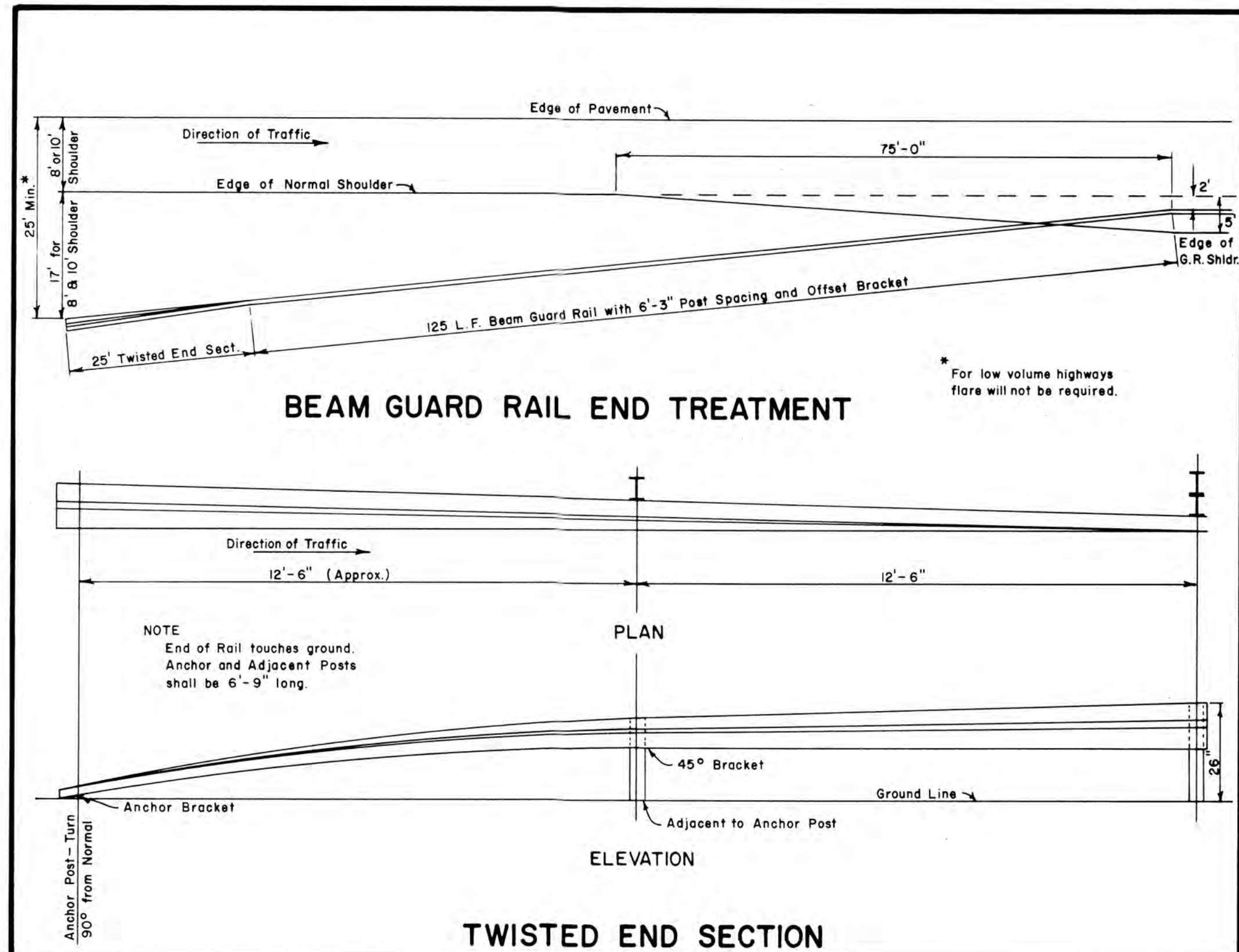
GUARD RAIL END TRANSITION

STANDARD DETAILS

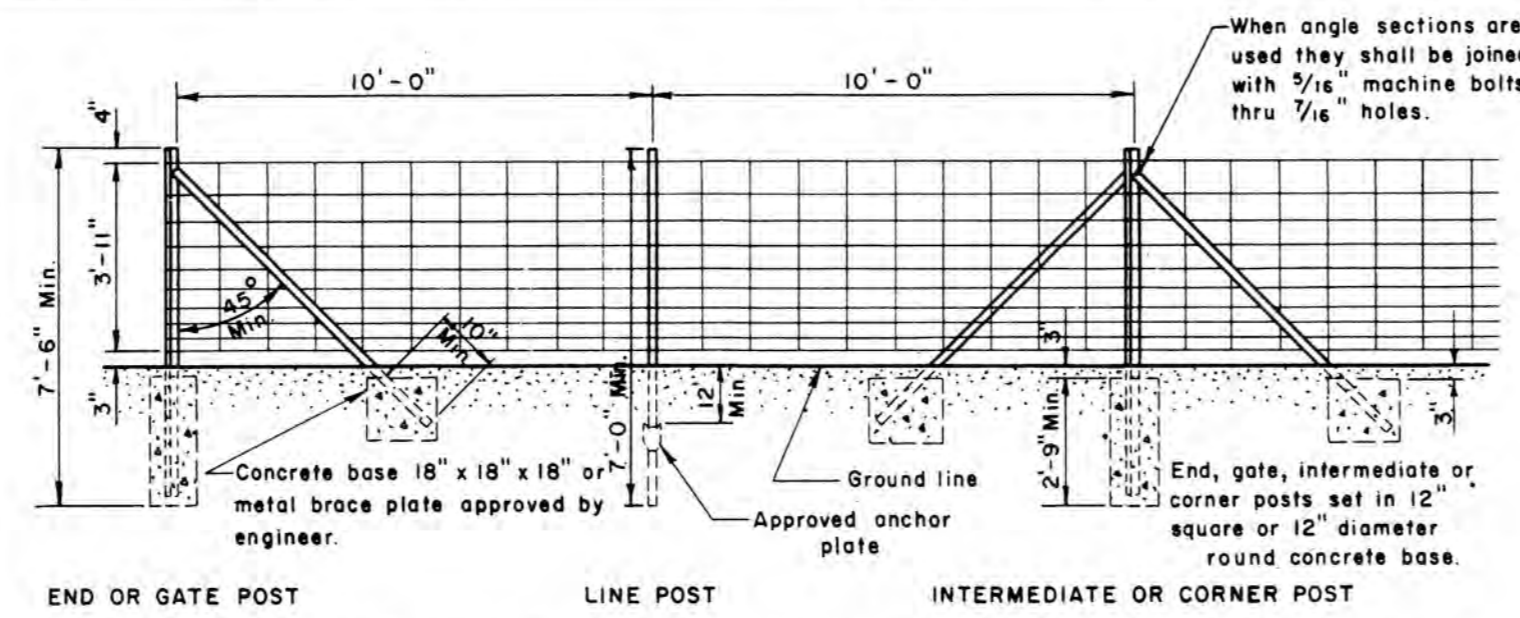
GUARD RAIL, MUCK EXCAVATION
CONCRETE STEPS & SIDEWALK
GUYING TREES
TREE WELLS



REVISIONS	MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE
	STANDARD DETAILS GUARD RAILS, ANCHOR ASSEMBLIES, PLATE WASHERS and STANDARD FITTINGS



REVISIONS	MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE
	STANDARD DETAILS BEAM GUARD RAIL END TREATMENT



END OR GATE POST **LINE POST** **INTERMEDIATE OR CORNER POST**

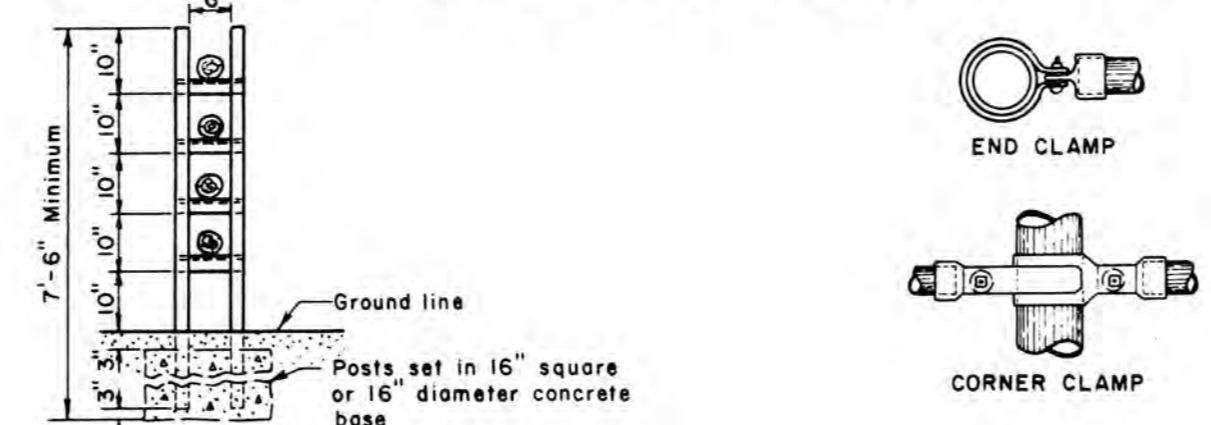
END, INTERMEDIATE AND CORNER POSTS - 2 1/2" x 2 1/2" x 1/4" angle or nominal diameter 2" galvanized steel pipe minimum weight of 3.65 pounds per foot with approved top cap, length 7'-6"

GATE POSTS - 3 1/2" x 3 1/2" x 5/16" rolled angle section, or nominal diameter 2 1/2" galvanized steel pipe with minimum weight of 5.79 pounds per foot. Pipe shall be filled with concrete and have an approved top cap, length 7'-6"

BRACES - 1 3/4" x 1 3/4" x 1/4" rolled angle section, or nominal diameter 1 1/4" galvanized steel pipe with minimum weight of 2.27 pounds per foot.

LINE POSTS - Standard studded "T" post with minimum weight of 1.33 pounds per foot or standard lug "U" post with minimum weight of 1.12 pounds per foot, length 7'-0"

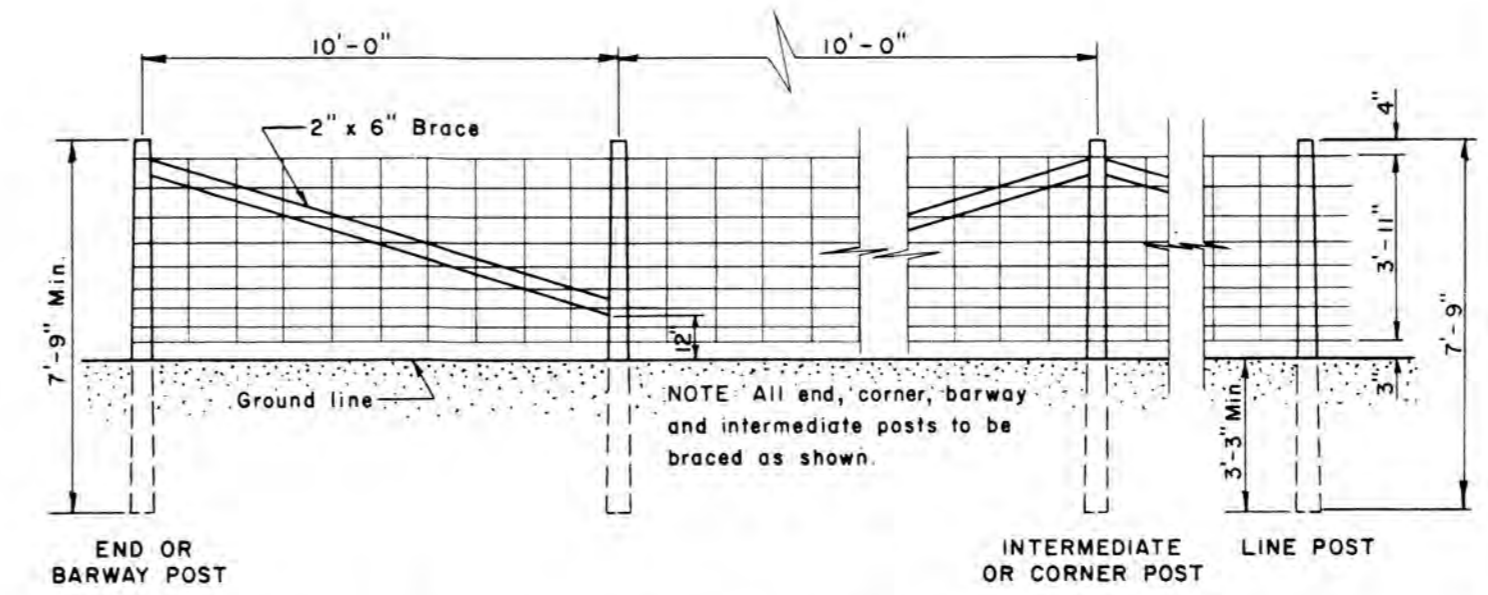
WOVEN WIRE FENCING - METAL POSTS



BARWAY

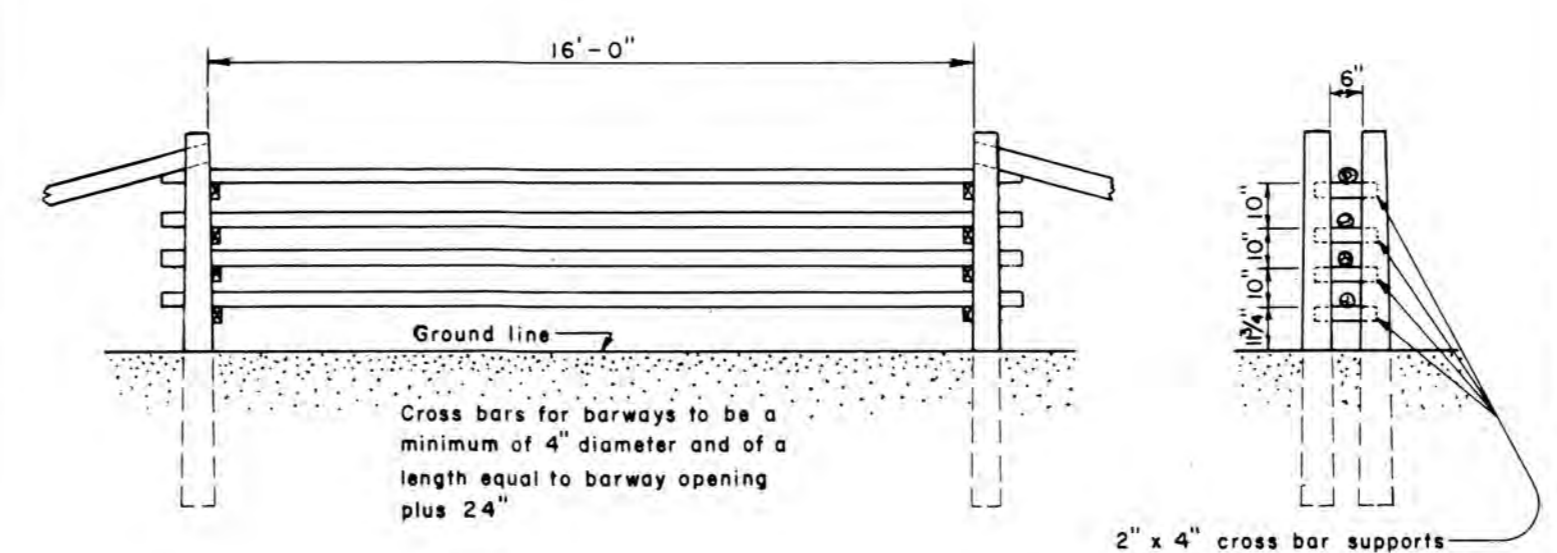
BARWAYS - Metal posts shall be installed for a 16'-0" opening. Barway posts and braces shall conform to requirements of "Gate Posts" and "Braces" under "Woven Wire Fencing - Metal Posts." Cross bar supports for barways shall be 1 3/4" x 1 3/4" x 1/4" rolled angle section. When round gate posts are used, length of cross bar supports shall equal center to center of posts plus 2 inches and they shall be attached to the barway post with 3/16" x 4 1/4" machine bolts. When angle section gate posts are used, the length of cross bar supports shall be equal to the out to out dimensions of the angle sections and shall be attached with 3/16" x 1" machine bolts. All bracing shall conform to the requirements of "Woven Wire Fencing - Metal Posts." Cross bars shall be as required for "Barways - Wood Posts."

BARWAYS - METAL POSTS

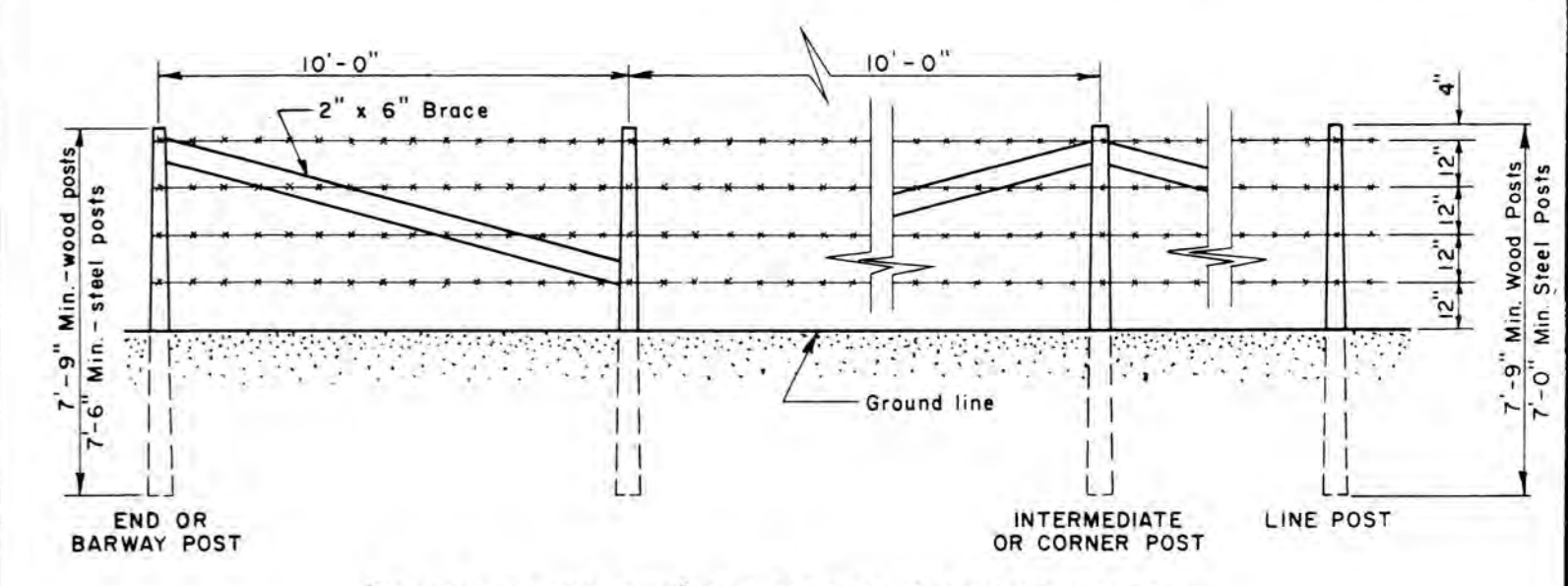


WOVEN WIRE FENCING - WOOD POSTS

Staples for wood posts to be 9 ga. 1 1/2", placed according to the specifications.

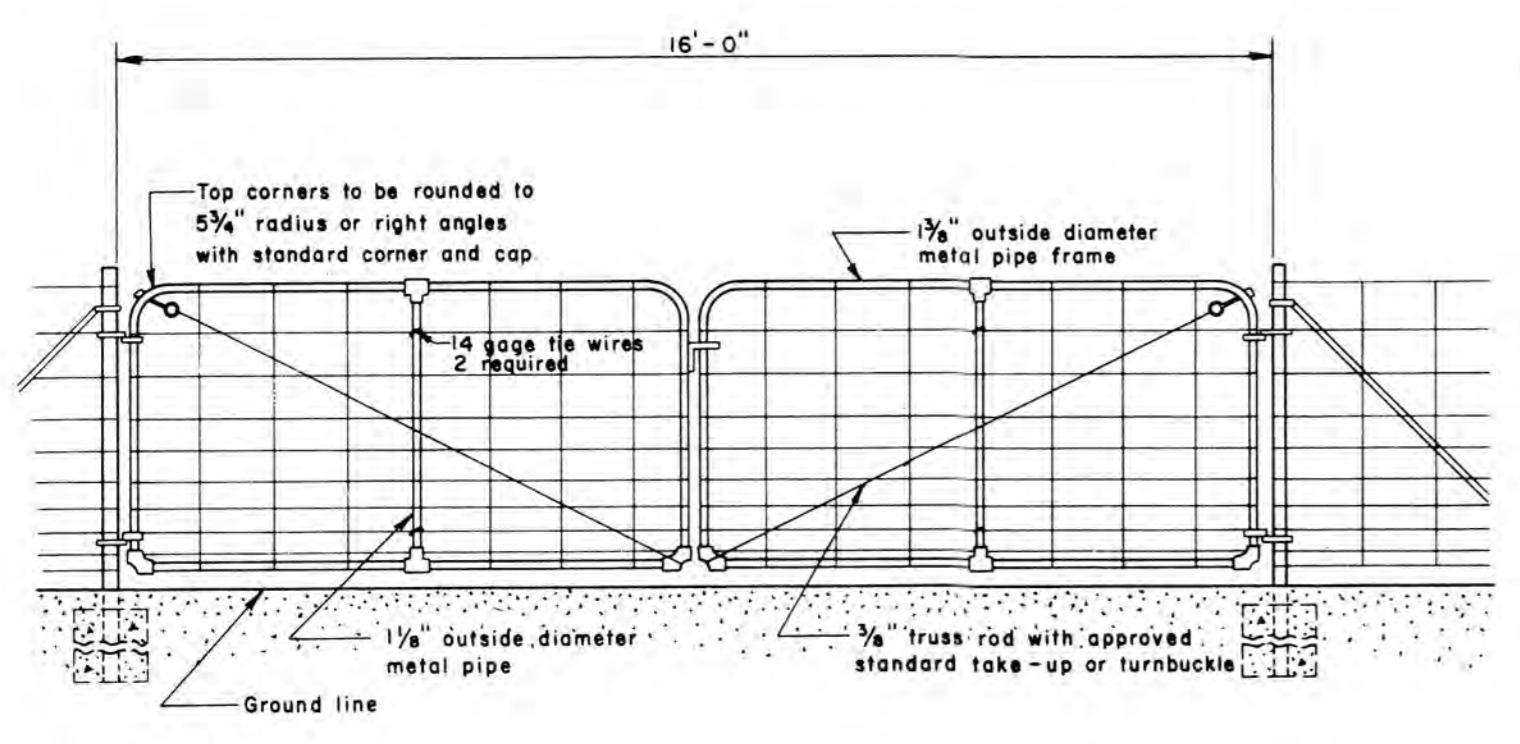
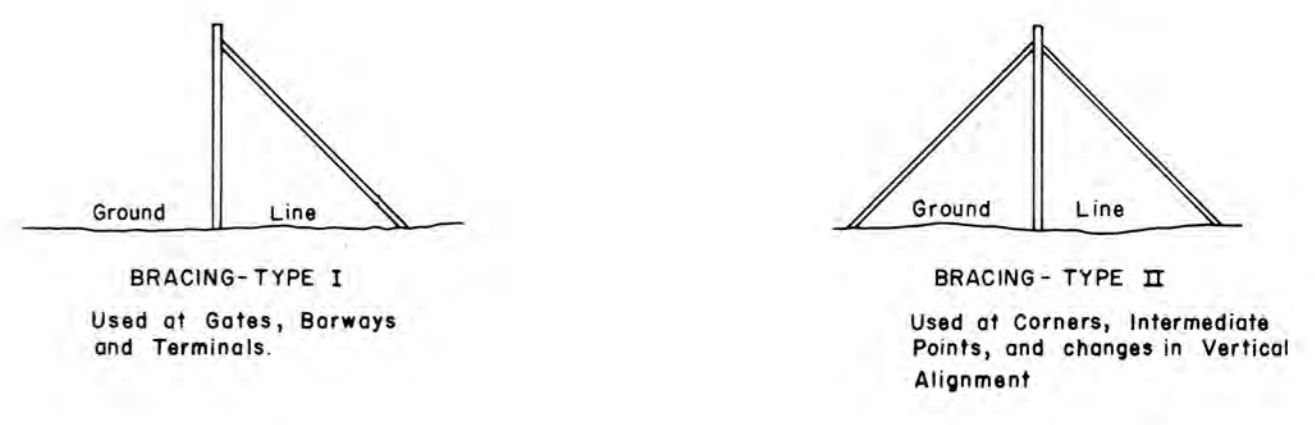


BARWAYS - WOOD POSTS



BARBED WIRE FENCING - WOOD POSTS AND BARBED WIRE FENCING - METAL POSTS

"Barbed Wire - Metal Posts" shall be constructed with the post and wire spacing shown above. Metal posts and braces shall conform to all the requirements noted and shown for "Woven Wire Fencing - Metal Posts," including concrete bases.



Gate posts, braces and anchorages to be as specified under "woven wire fencing - metal posts."

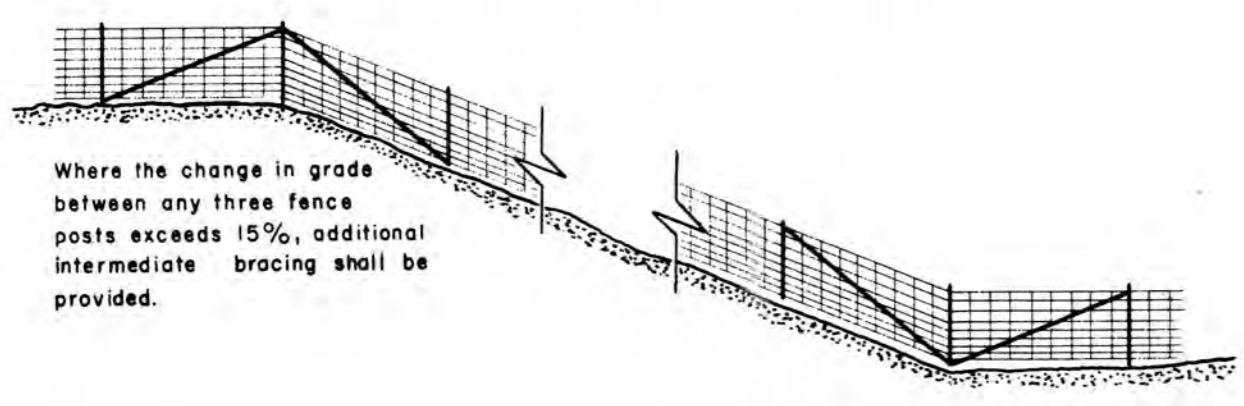
All gates shall be installed with the top hinge pin pointing down.

Wire for gates shall conform to A.S.T.M. A116, class 1, design no. 1047-12-11.

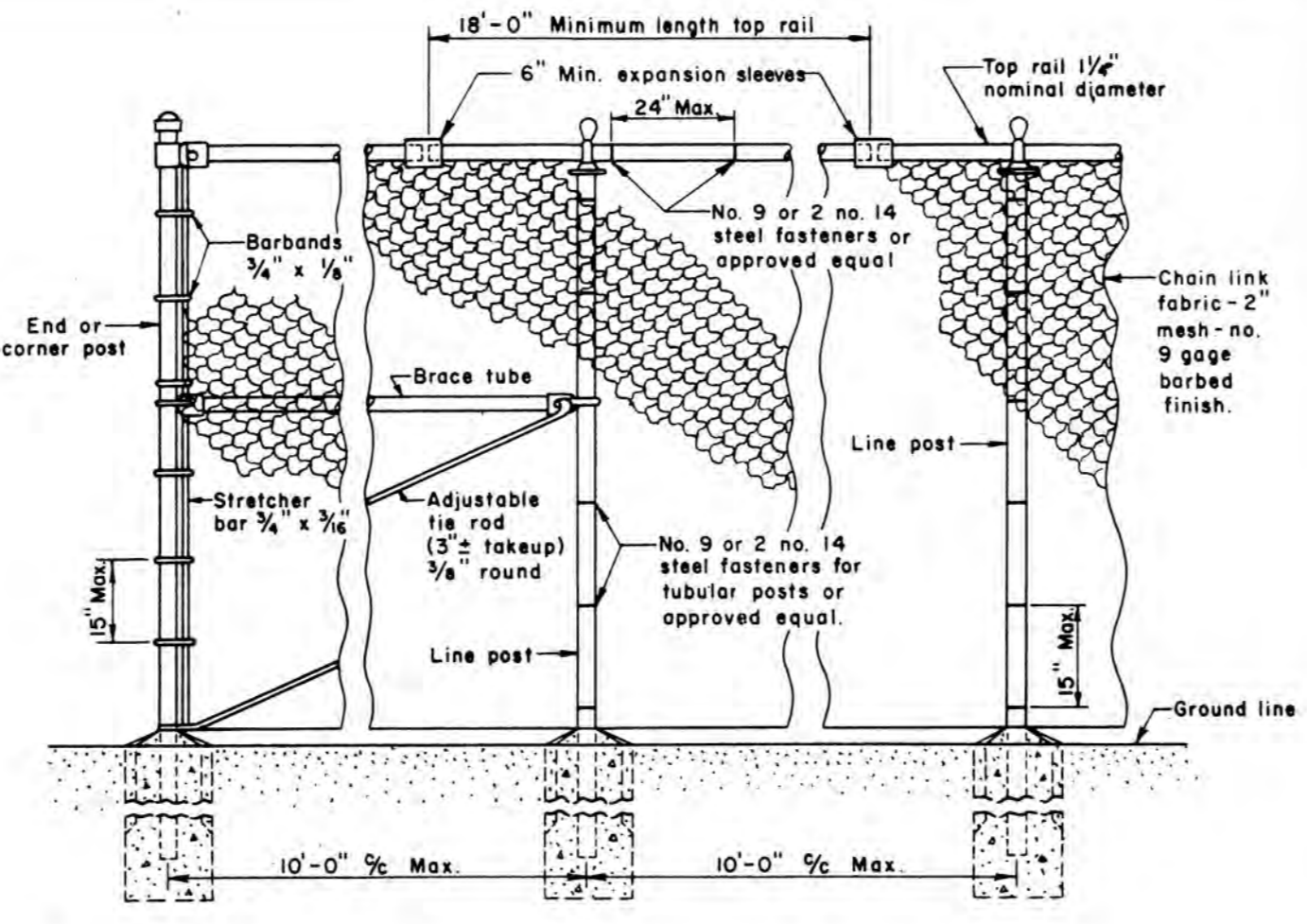
The required fittings for fence and gates shall be steel or malleable iron of approved standard type.

Gates shall be furnished with standard fork latch and one piece of 3/16" straight link, alloy steel chain, 24" long. One end shall be attached to gate frame and attached to the other end shall be a snap lock or other approved fastening device.

DRIVE GATEWAYS - 16 FEET



INTERMEDIATE BRACING

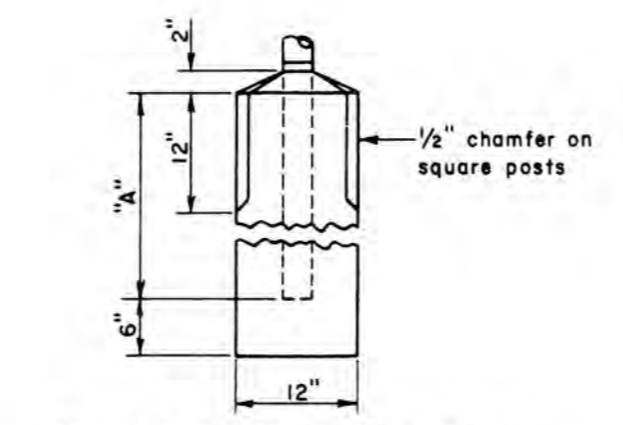


END OR CORNER POSTS: Nominal 2" diameter, galvanized steel pipe, minimum 3.65 pounds per linear foot or 2 1/4" x 2" "H" section. Minimum weight per linear foot = 4.10.

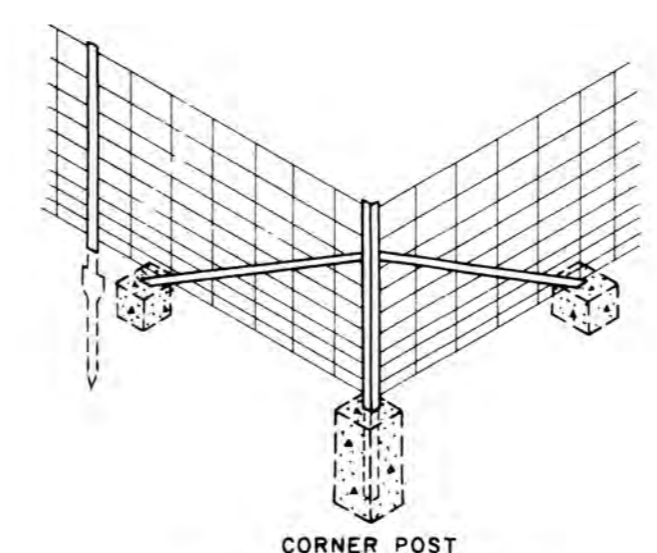
LINE POSTS: Nominal 1 1/2" diameter, galvanized steel pipe, minimum weight 2.72 pounds per linear foot or 1 3/4" x 1 3/4" steel "H" section. Minimum weight per linear foot = 2.70.

BRACE TUBES: Nominal 1 1/4" diameter, galvanized steel pipe, minimum weight 2.27 pounds per linear foot.

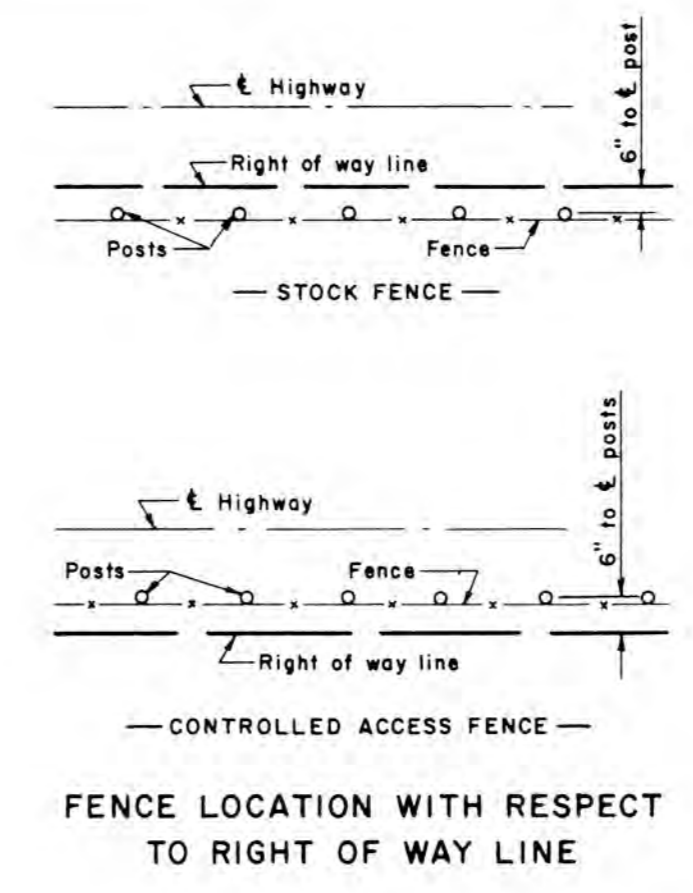
STRETCHER BARS: Length to be 1" less than full height of fabric. One stretcher bar for each gate and end post, and two stretcher bars for corner and bracing.



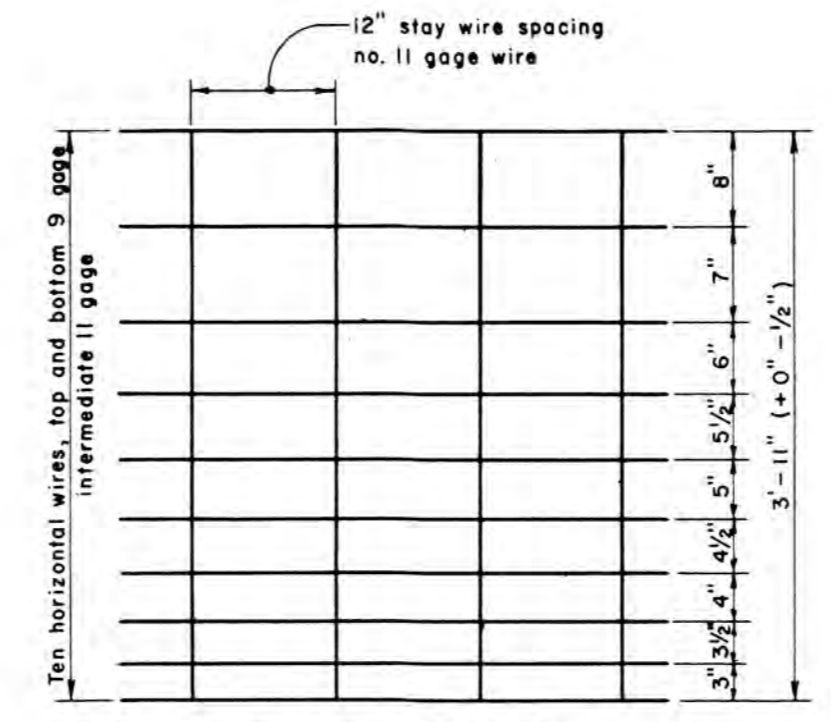
CHAIN LINK FENCE



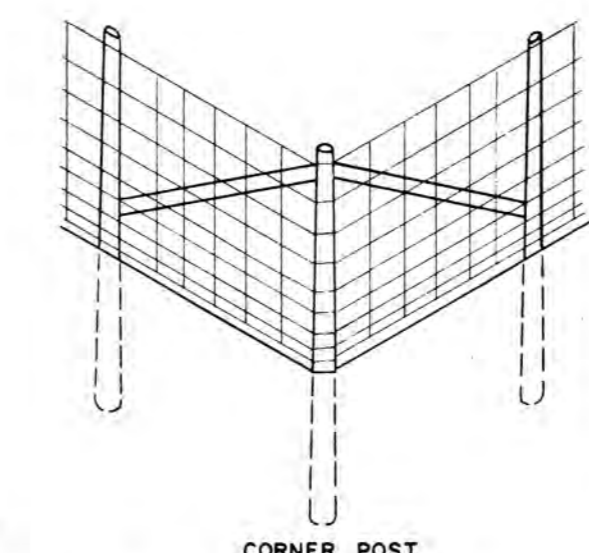
CORNER POST BRACING ASSEMBLY for METAL POST



FENCE LOCATION WITH RESPECT TO RIGHT OF WAY LINE



WOVEN WIRE FENCE



CORNER POST BRACING ASSEMBLY for WOOD POST

GENERAL NOTES: FENCING

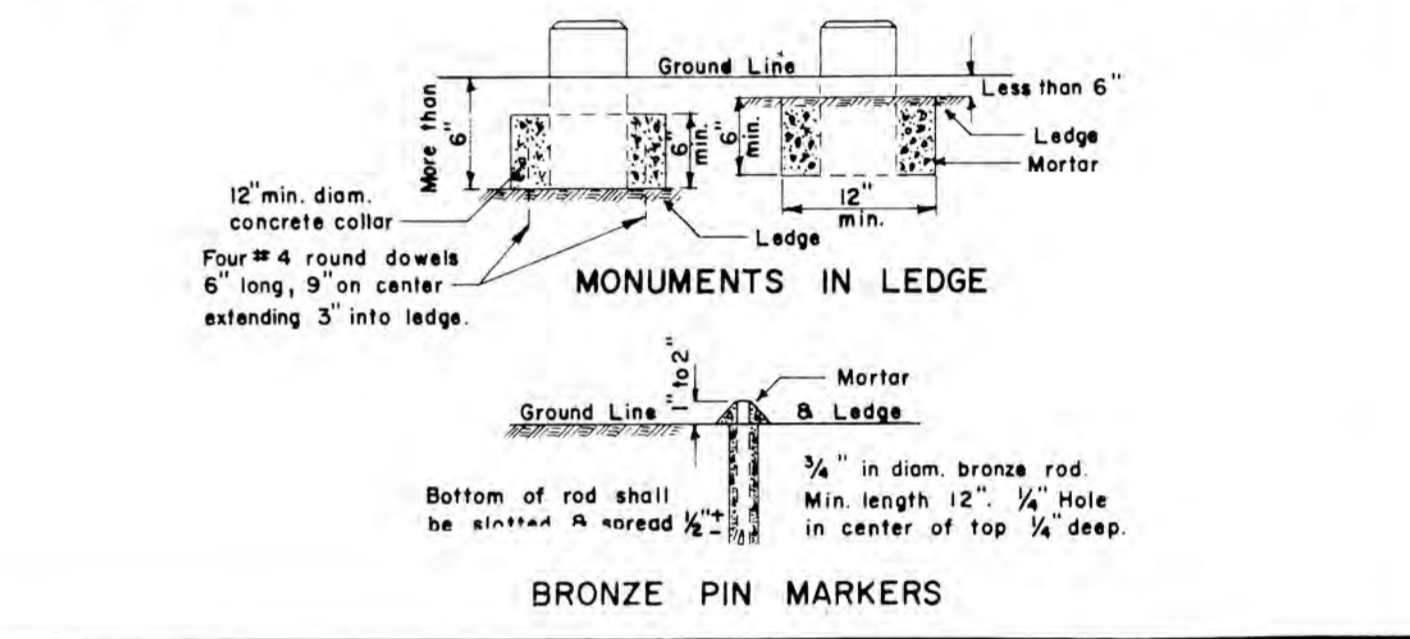
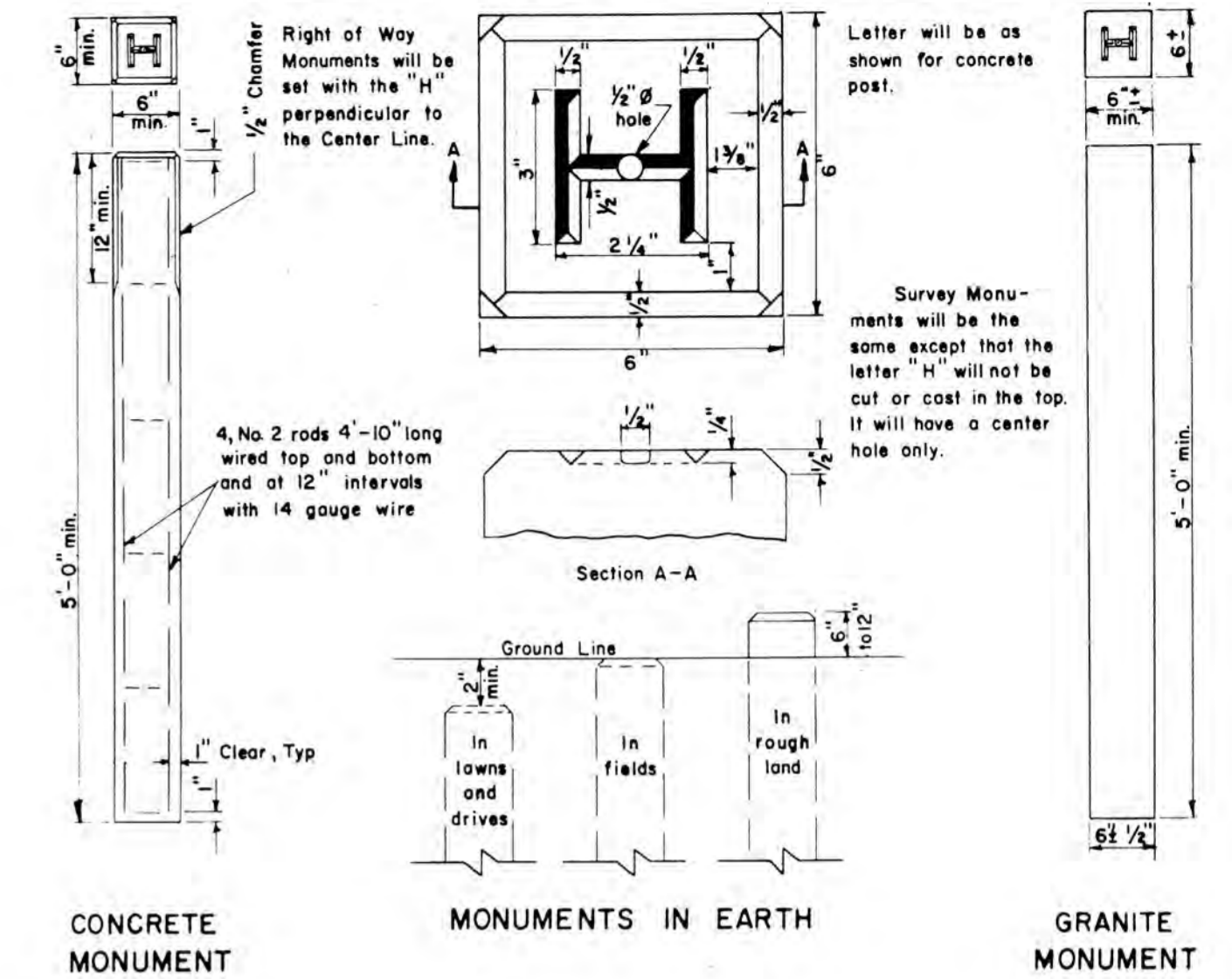
- When ledge is encountered, steel posts shall be set and grouted 12" deep unless the posts penetrate the ground to the depth indicated on the drawings.
- When wood posts are used, braces shall be attached to posts with a minimum of 4, 40 penny nails per attachment.
- When the word "standard" is used, it shall be interpreted as if it were followed by the expression "to the fence industry"
- Woven Wire and Barbed Wire Fencing shall be attached to wood posts with 9 gauge 1 1/2" galvanized staples.
- Concrete for post foundations shall be class B.

SPACING OF FENCE POSTS ON CURVES:

Radius of curve at fence location	Normal post spacing
Over 500 feet	10 feet
Over 200 feet to 500 feet	8 feet
Over 100 feet to 200 feet	6 feet
100 feet or less	5 feet

REVISIONS	MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE
	<h1>STANDARD DETAILS</h1> <h2>FENCING</h2>

RIGHT OF WAY & SURVEY MONUMENTS



GENERAL NOTES - BARRICADES

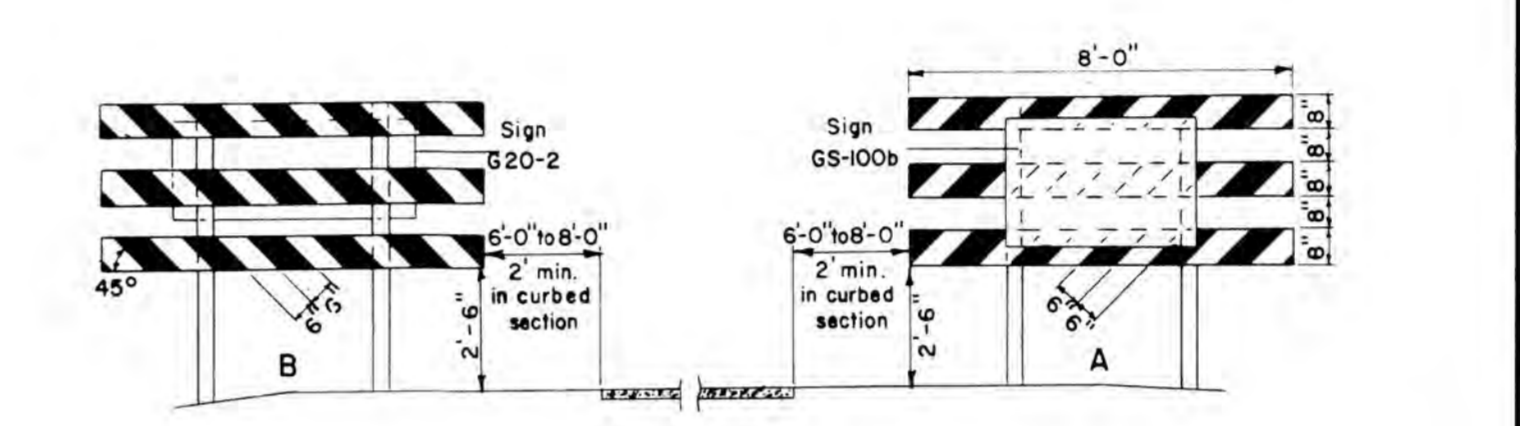
- Unless otherwise designated, sign designation letters shall refer to the "Manual of Uniform Traffic Control Devices for Streets and Highways", published by the Department of Commerce, Bureau of Public Roads.
- White stripes shall be of silver reflective sheeting bonded to 0.019 minimum gauge aluminum, 16 minimum gauge galvanized steel, or 1/4" plywood. Individual white sheets may be attached to a black painted background to form the black and white stripes. At the Contractor's option the reflective sheeting and backing may extend the full width of the barricade with an opaque film or paint applied to form the stripes.
- All signs shall be of reflective sheeting on 3/8" thick plywood. The plywood shall conform to subsection 712.25, Maine State Highway Commission, Standard Specifications, June 1965.
- Pressure sensitive reflective sheeting will be an acceptable alternate to the reflective sheeting required by Maine State Highway Commission, Standard Specifications.

NOTES - PORTABLE BARRICADES

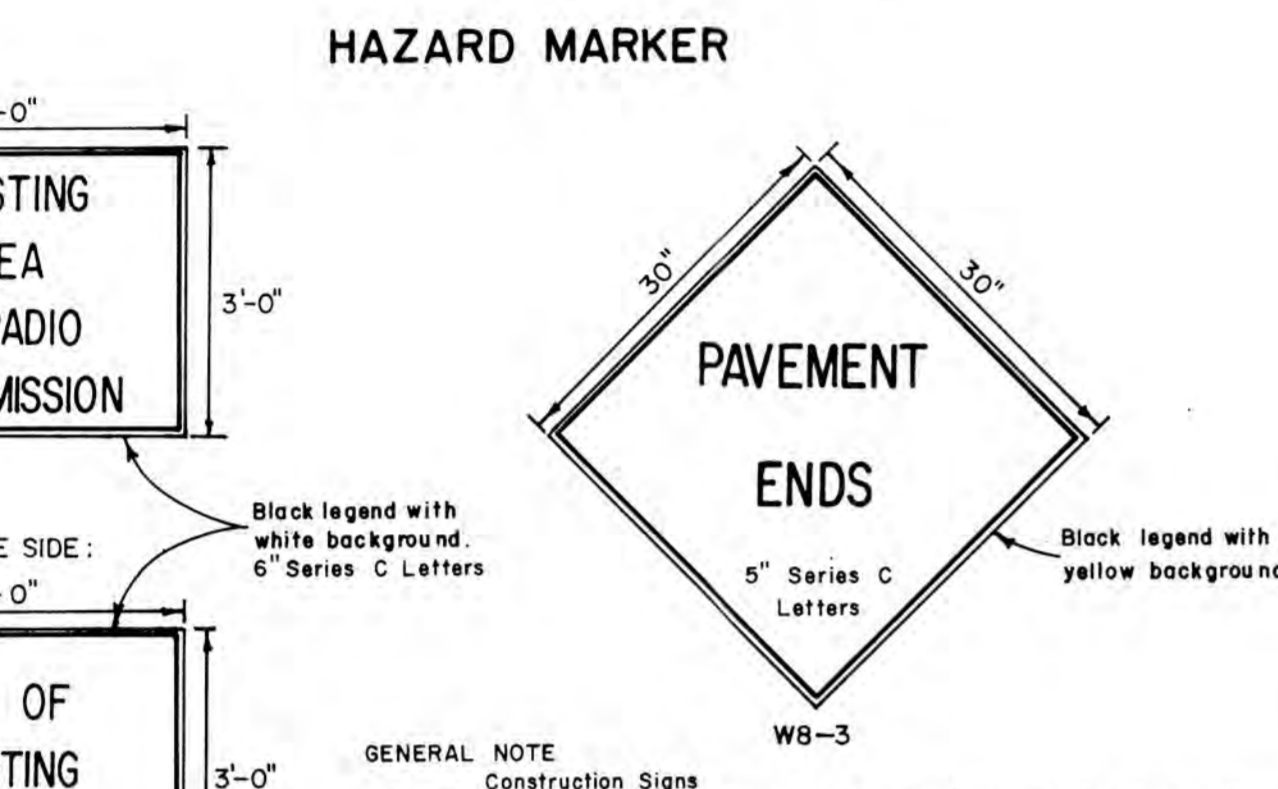
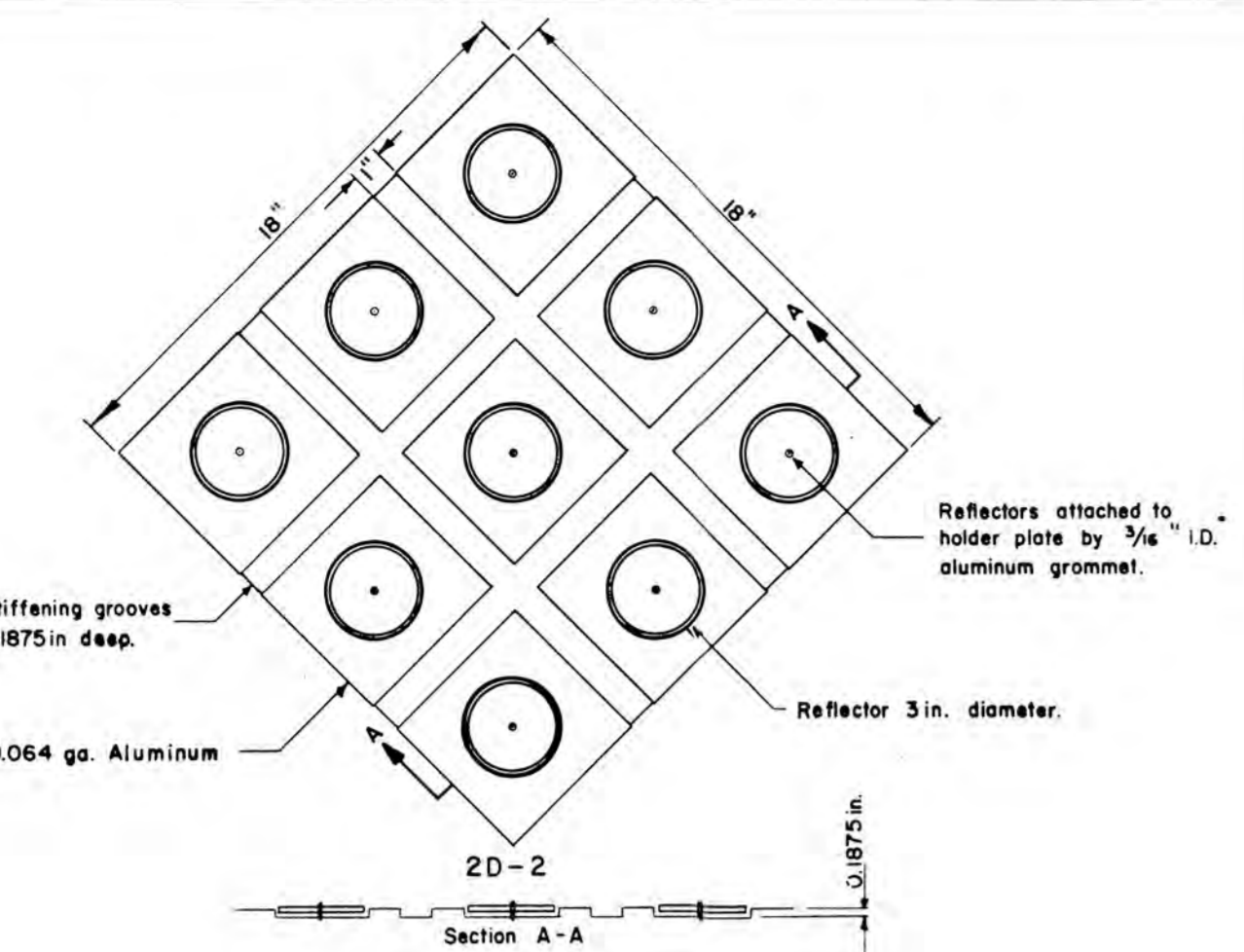
- Lumber sizes for portable barricades shall be 2" x 8" except posts which shall be 4" x 4" (nominal sizes).
- The detour sign shall be an oversized M5-7 sign with a demountable "DETOUR" message which shall be made of screened reflective sheeting on 1/4" plywood, masonite, sheet steel or sheet aluminum.
- Hazard markers shall be attached to the barricade with a bolt assembly of steel cadmium plated 5/16" bolt, lock washer and vandal resistant nuts.
- When two W1-6 signs are required, RIO-2 or RIO-3 signs shall be omitted.
- Flashing lights housings shall be mounted to permit rotating in a vertical axis to allow for adjustment to face oncoming traffic.
- Location of electric service and meter to be determined after the power source has been located.

NOTES - WING BARRICADES

- Lumber sizes for wing barricades shall be 1" x 8" except posts which shall be 4" x 4" (nominal sizes).
- Wing barricades will not be required unless specifically called for in the special provisions.
- Location of signs and barricades will be determined by the Engineer.



WING BARRICADES



GENERAL NOTE

Construction Signs

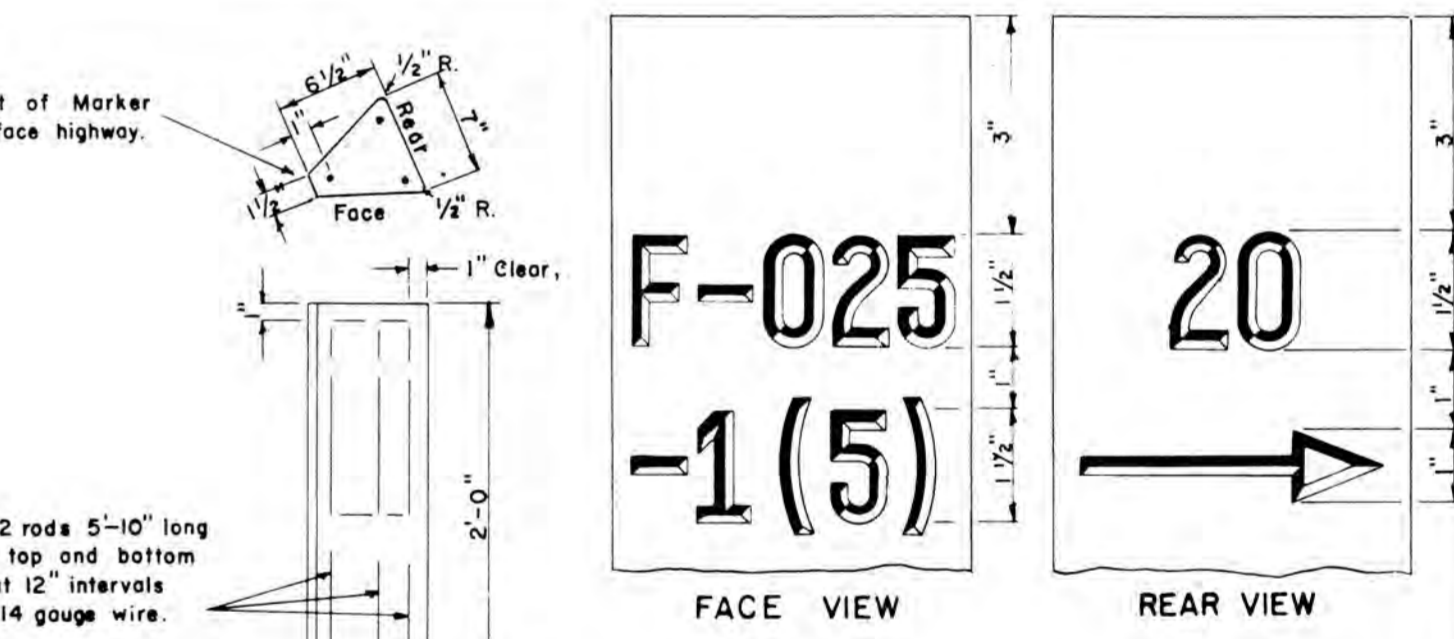
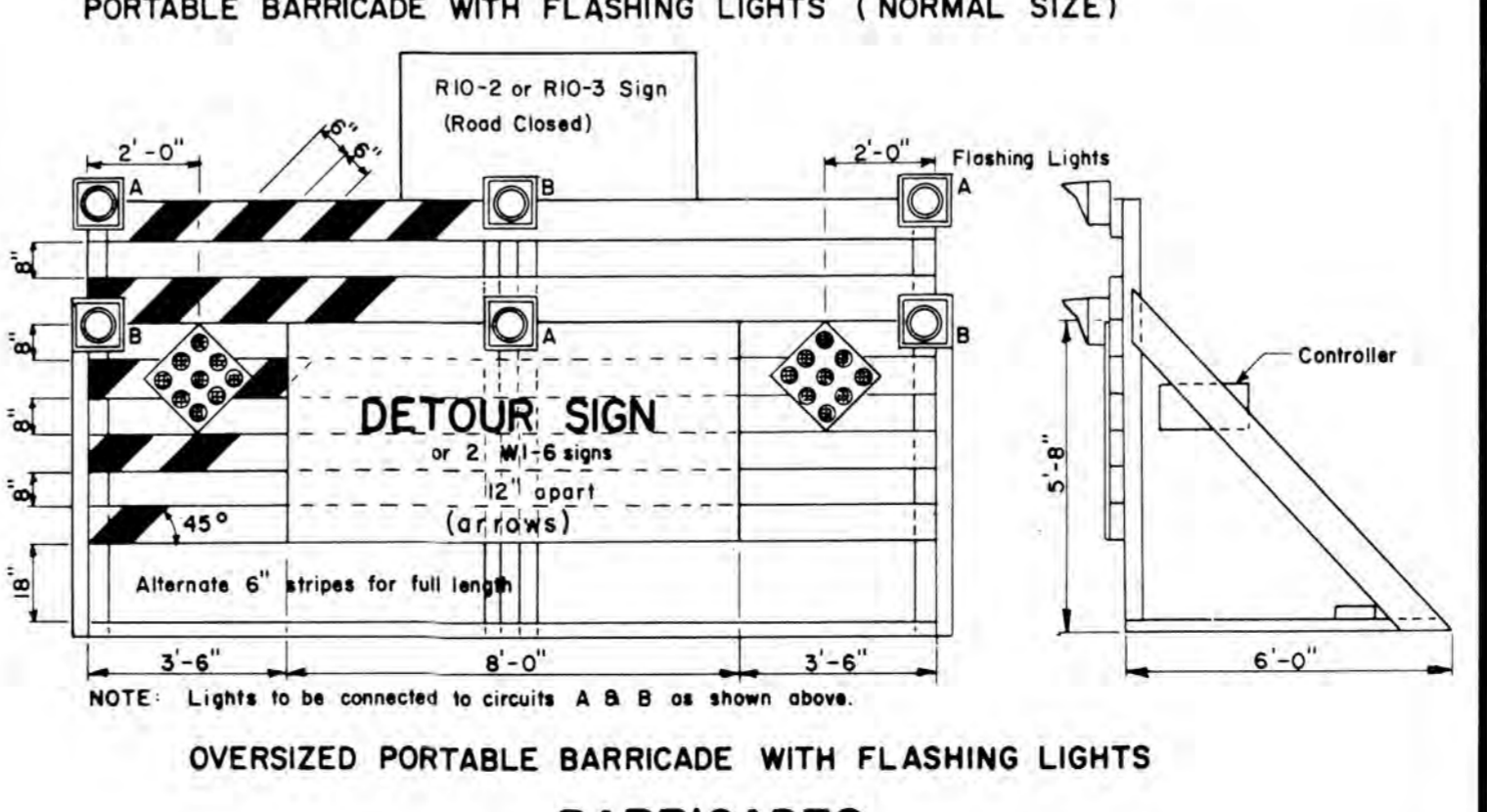
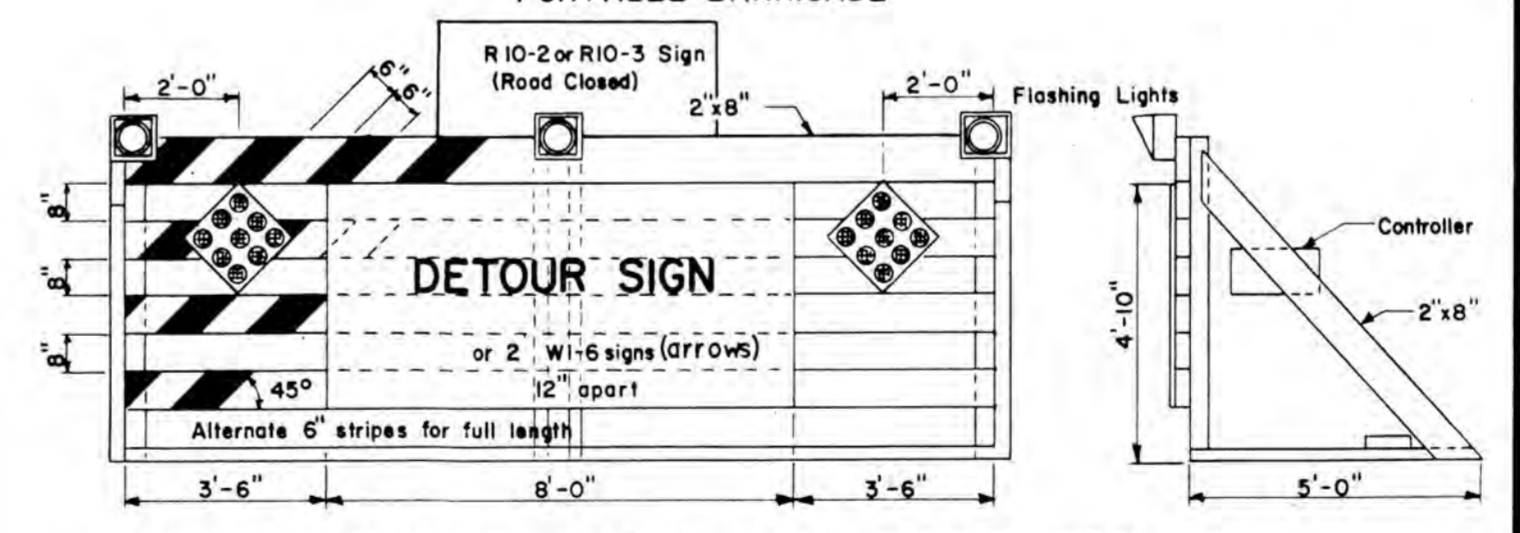
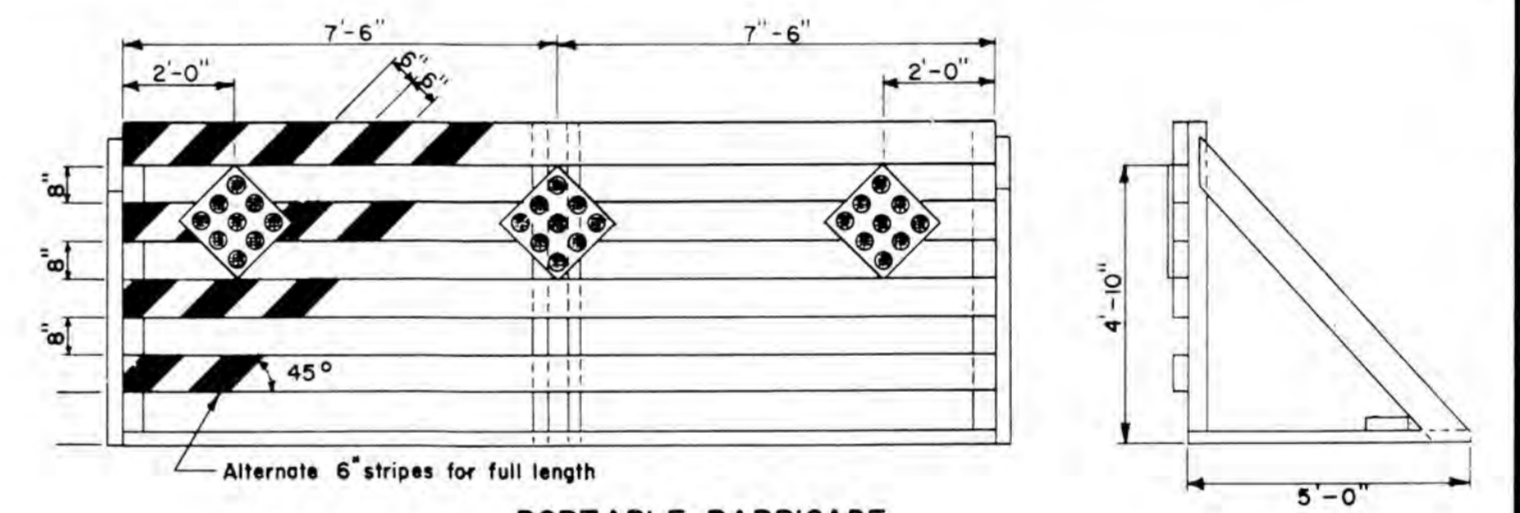
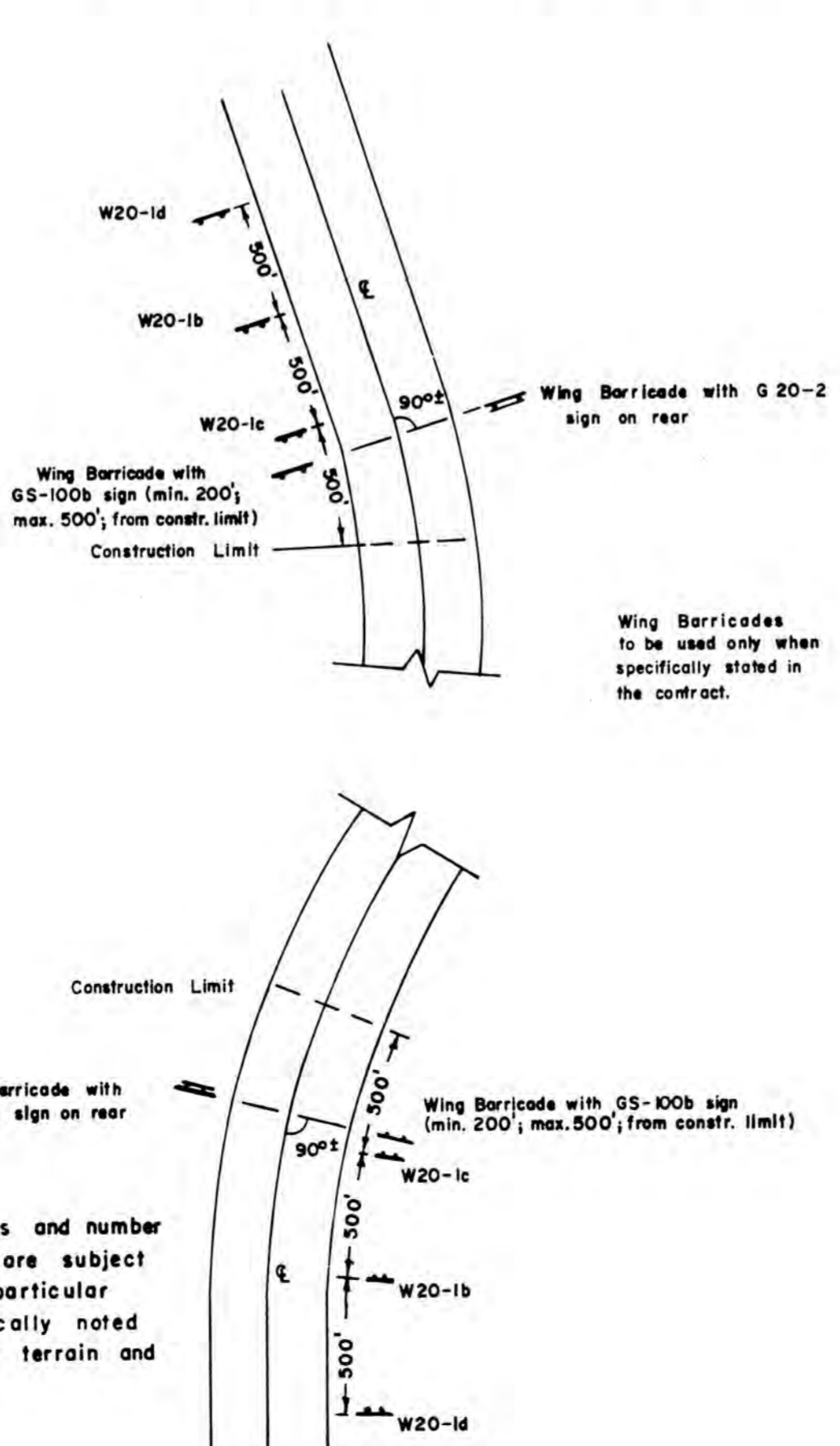
1. Sign Borders - All signs shall have borders conforming to the sizes and spacing as shown below:

- 30" x 30" Sign - 3/4" Border, 1/2" Space from sign edge.
- 2' x 5' Sign - 3/8" Border, 3/4" Space from sign edge.
- 3' x 4' Sign - 3/4" Border, 1/2" Space from sign edge.
- 4' x 4' Sign - 1/4" Border, 3/4" Space from sign edge.

Note: For placement of signs refer to subsection 107.12, Maine State Highway Commission, Standard Specifications.

CONSTRUCTION SIGNS

STANDARD SIGN LOCATIONS

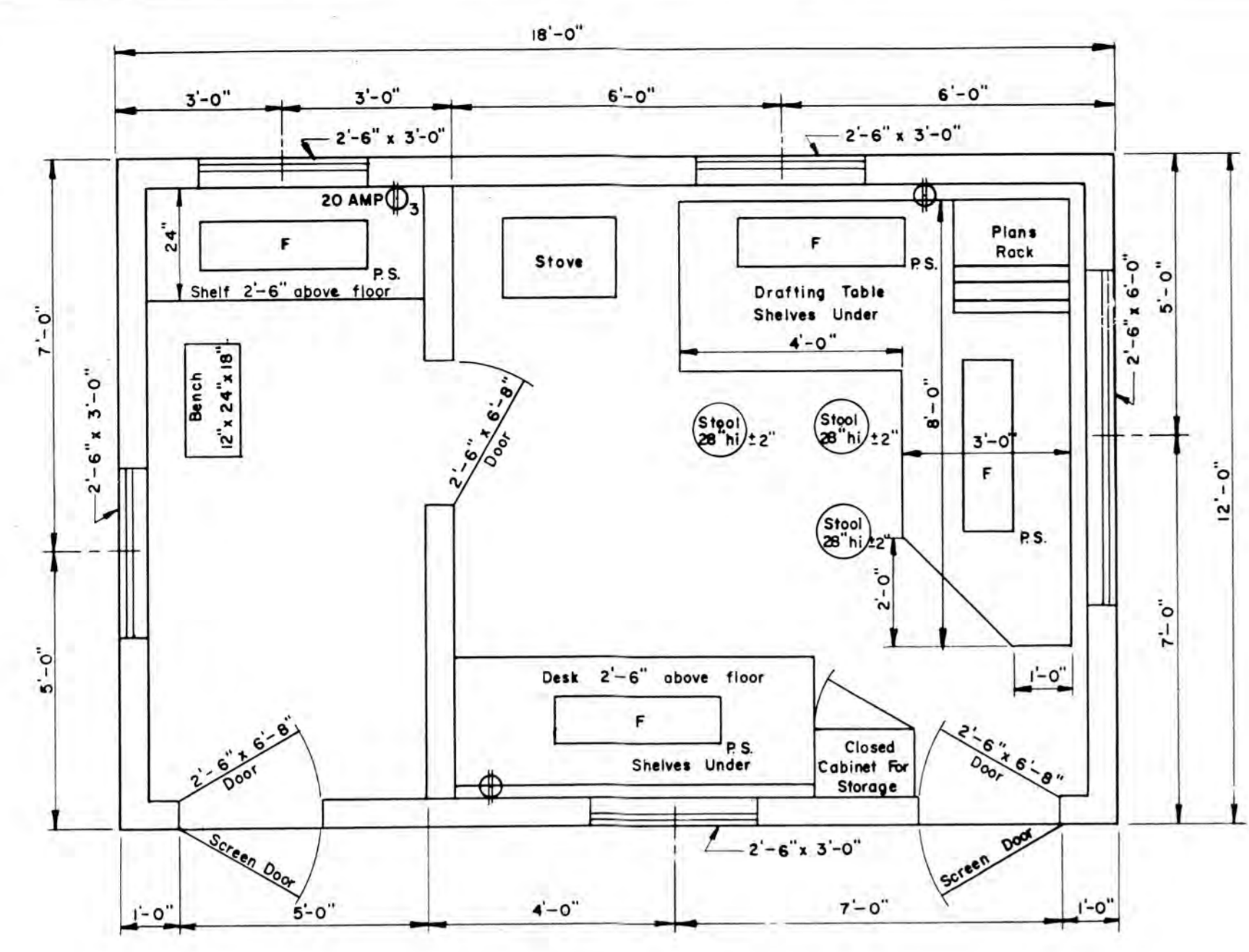


NOTES

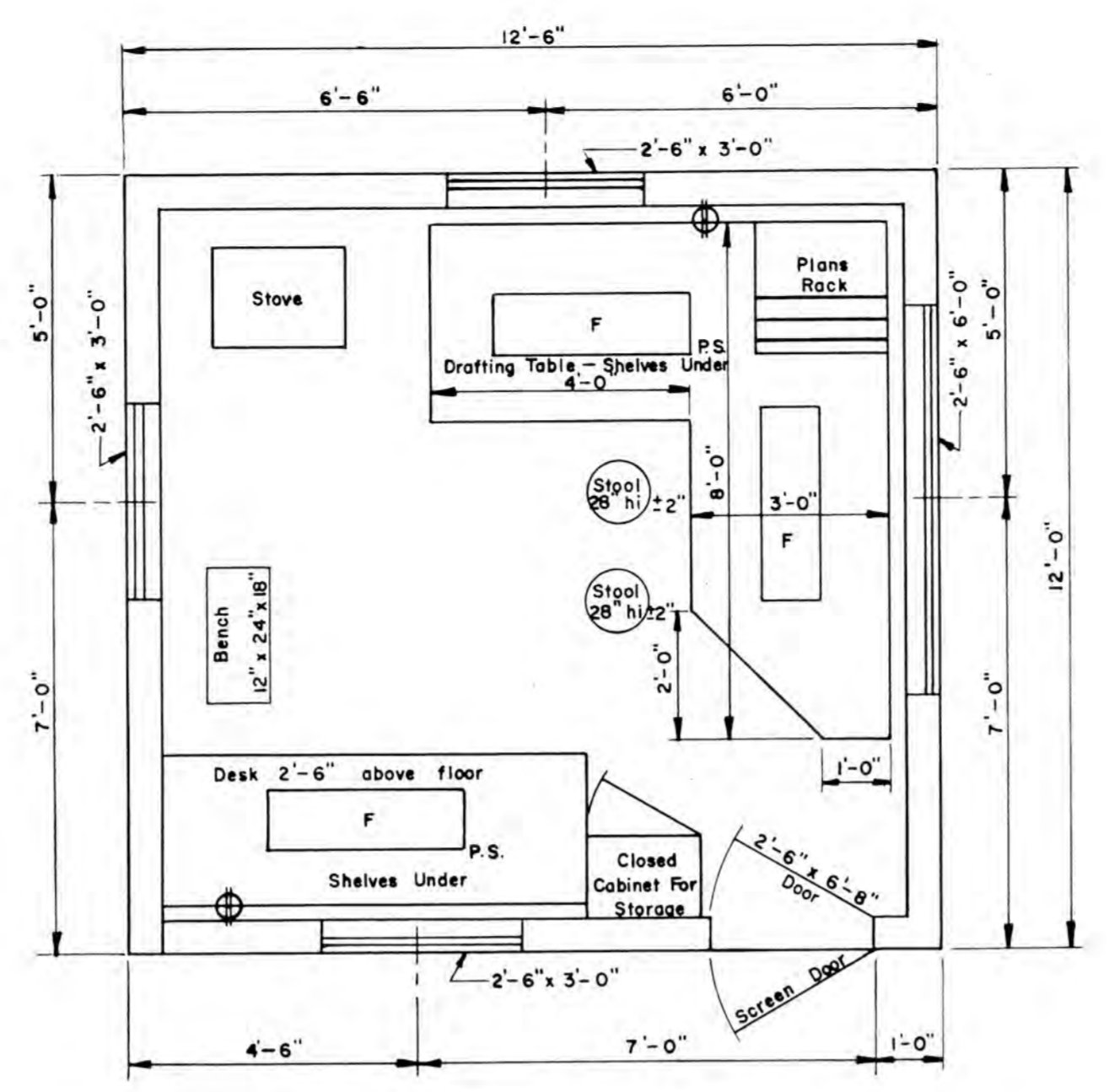
- Distance from roadway shall be 30' minimum.
- When posts cannot be set on the exact station, the front of the post shall be painted black from the top to 3" down, and the offset distance marked on rear with an arrow pointing in direction of beginning or end of project.
- All markings to be 1/4" deep and 3/16" wide.

PROJECT MARKERS

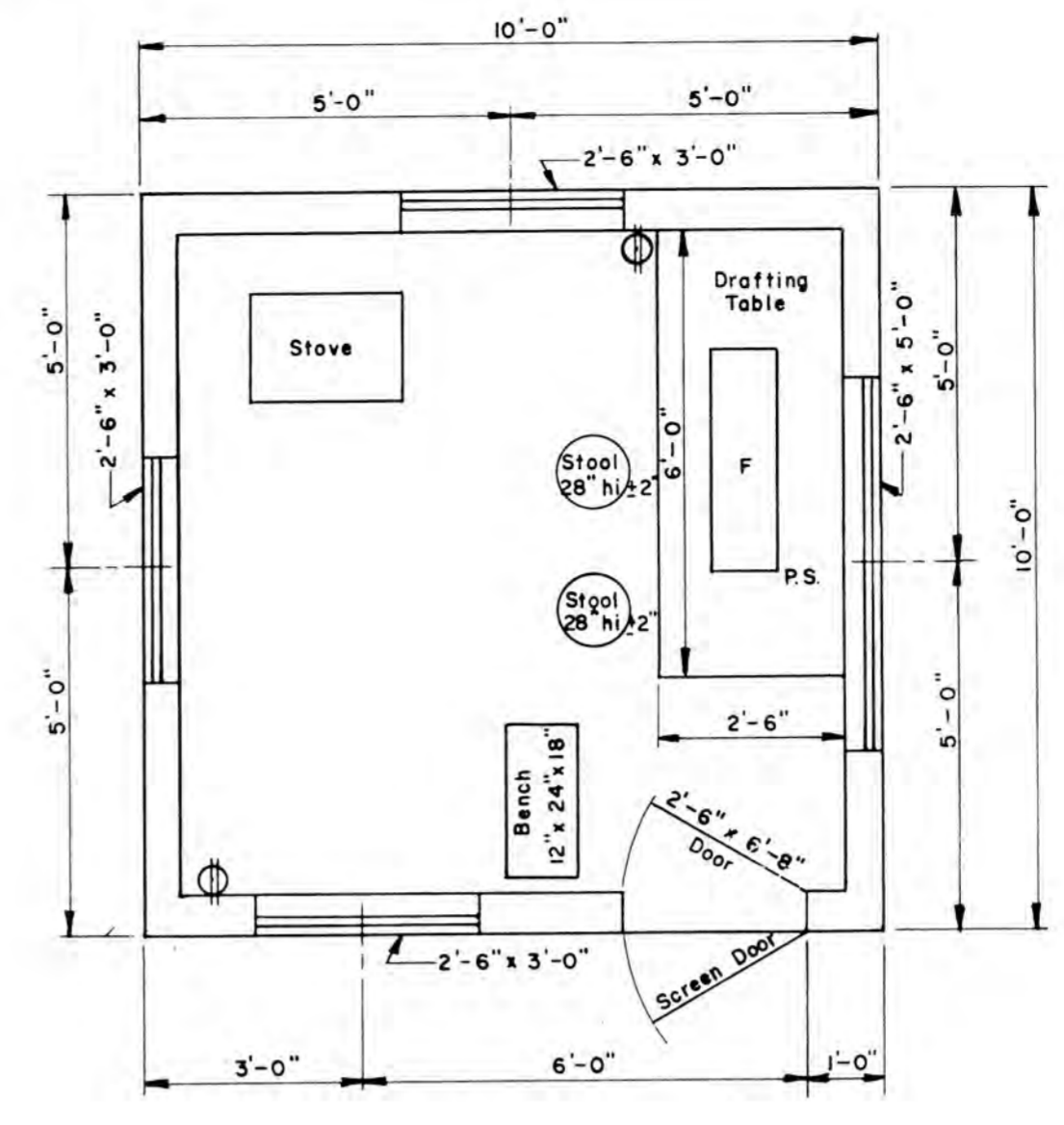
REVISION	MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE
	BARRICADES WARNING SIGNS MONUMENTS PROJECT MARKERS
	NOV. 1968



FLOOR PLAN TYPE "A"

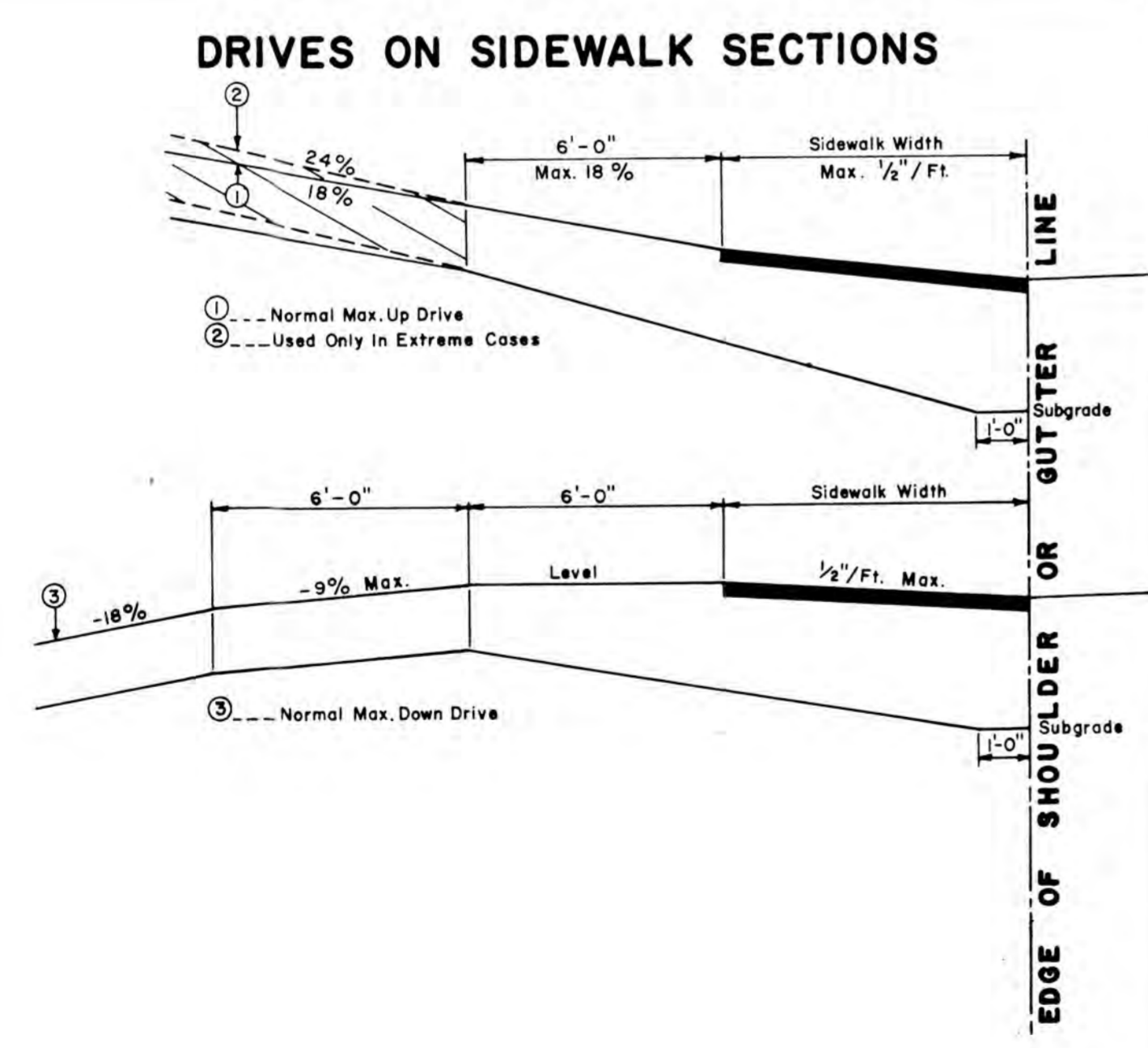


FLOOR PLAN TYPE "B"

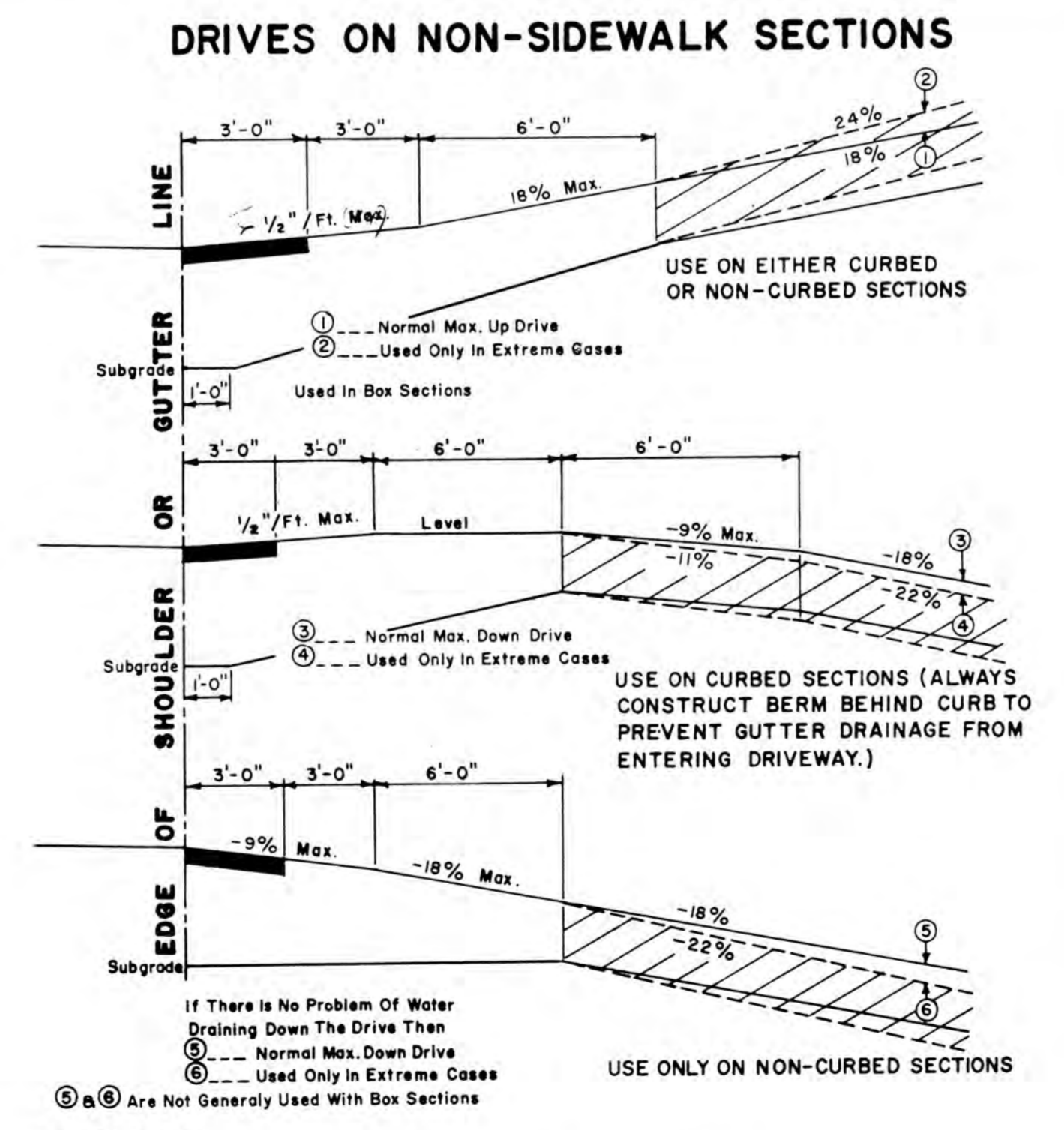


FLOOR PLAN TYPE "C"

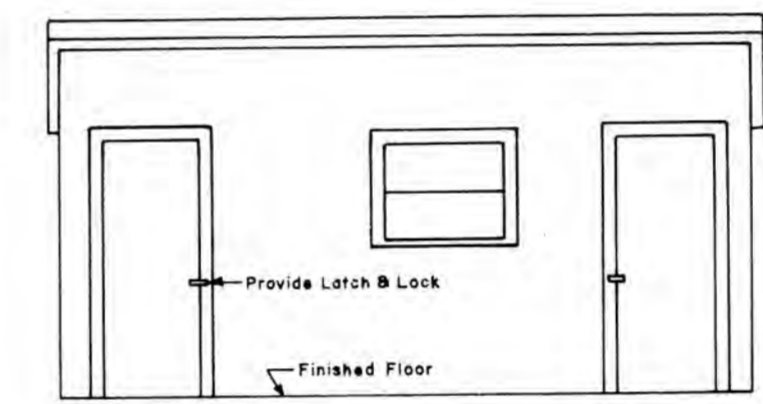
- GENERAL NOTES**
- Drafting table shall be 3'-4" high at front edge and placed 2" from studs to allow prints to hang down behind table when in use.
 - Shelves under desk shall be constructed to received 1 1/2" x 14" x 25" transfiles.
 - Windows shall be double hung.
 - Stovepipe shall not be in direct contact with combustible material; the pipe shall be surrounded with at least 6" of fireproof material.
 - Continuous 110 volt 60 cycle electric service shall be supplied.
 - The engineer may rearrange the items shown on the plan views during construction of the field office.
 - FURNISHINGS TO BE SUPPLIED:
 - 2 Straight back chairs for types A and B
 - 1 Bench for types A, B & C
 - 3 Stool for type A
 - 2 Stools for types B & C
 - SYMBOLS:
 - F Fluorescent lights (2 light, rapid start 48" strips and 40 watt bulbs.)
 - P.S. Pull switch
 - ⊕ Duplex wall outlet—15 amp unless otherwise noted.
 - ⊕ 3 Triplex Wall Outlet
 - For the Type "A" Field Office one clean 55 gal. drum shall be supplied, installed on a suitable rack and equipped with a spigot suitable for drawing off water. The drum shall be furnished with water at all times.



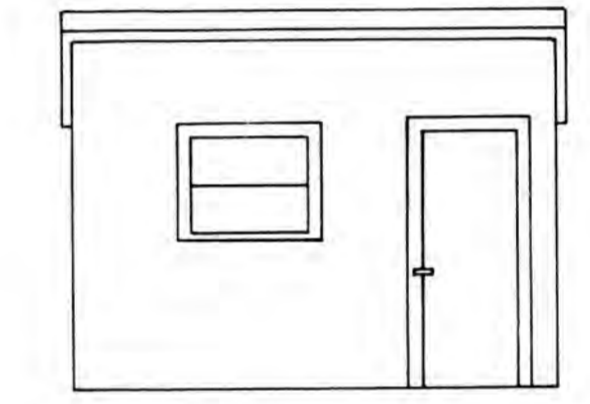
- GENERAL NOTES**
- The sidewalk width shall be paved in all cases.
 - All residential or commercial drives over 10% to be paved.
- NOTES ON MAXIMUM DRIVEWAY PROFILES**
- These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
 - Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
 - When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.



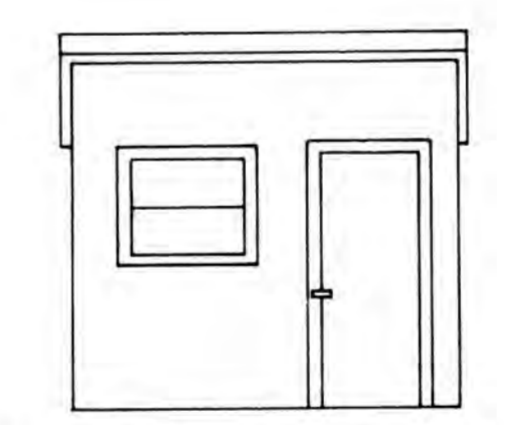
- GENERAL NOTES**
- The first 3' shown as pavement shall be paved only when abutting a paved area.
 - All residential or commercial drives over 10% to be paved.
- NOTES ON MAXIMUM DRIVEWAY PROFILES**
- These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
 - Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
 - When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.



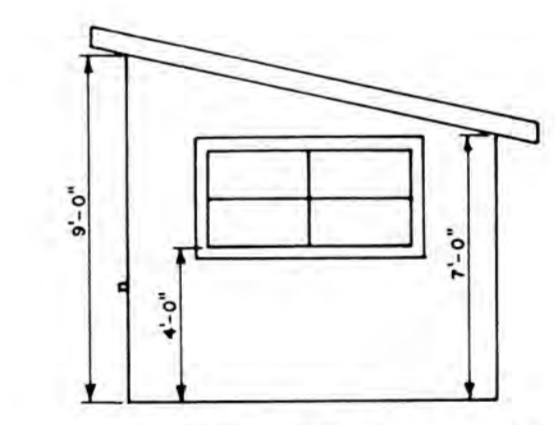
FRONT ELEVATION TYPE "A"



FRONT ELEVATION TYPE "B"



FRONT ELEVATION TYPE "C"

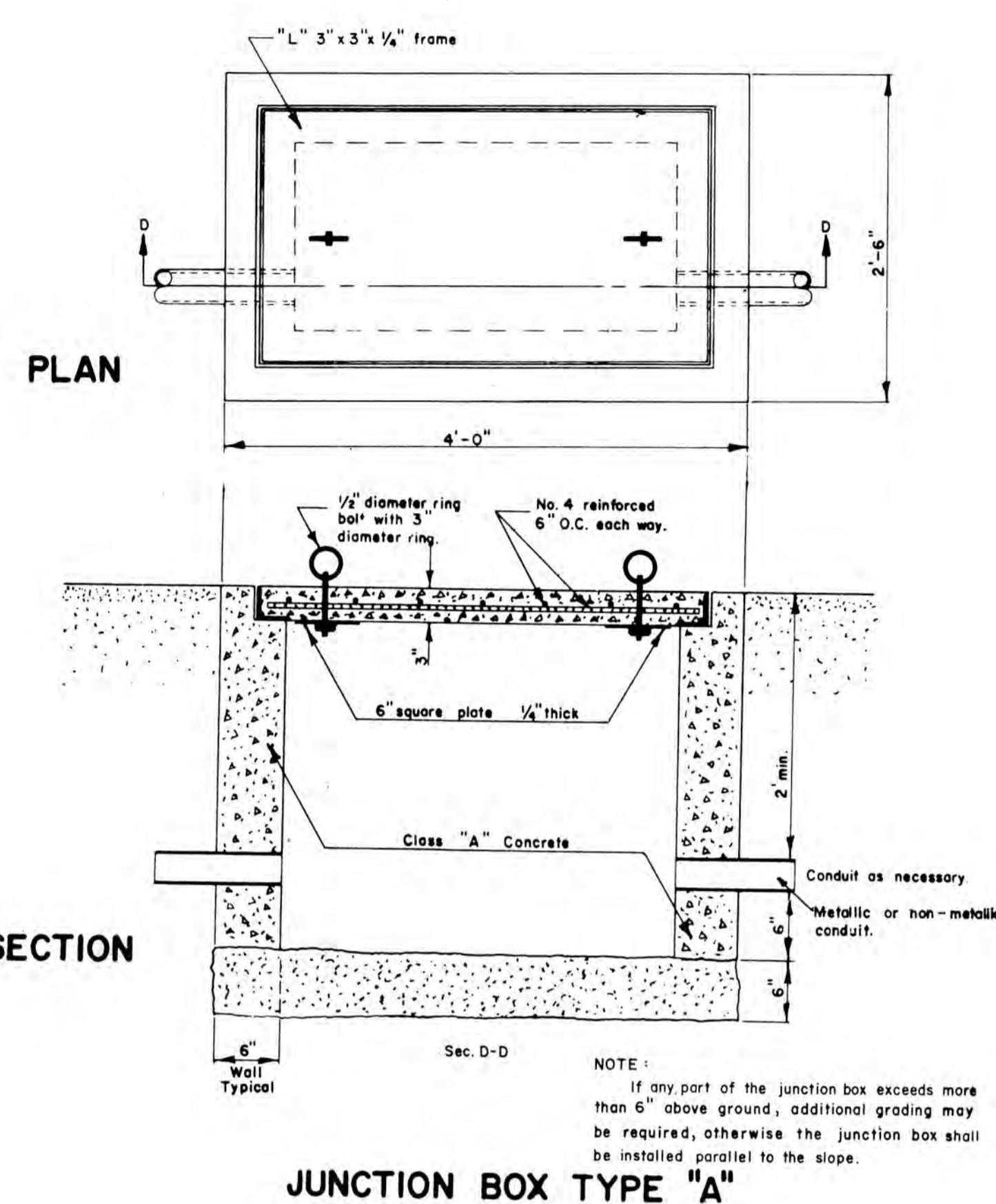


SIDE ELEVATION TYPES "A" "B" & "C"

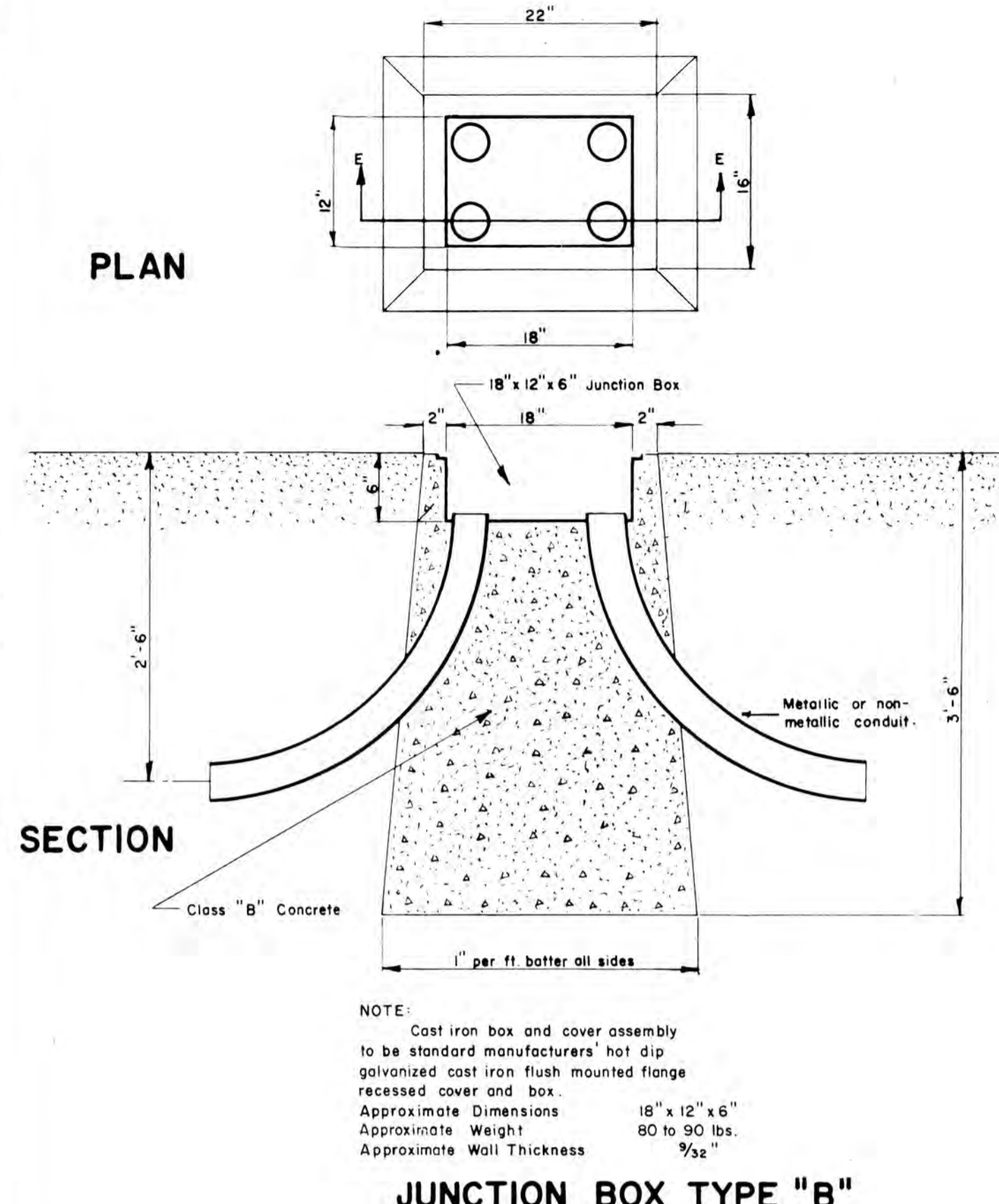
REVISIONS	MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE

STANDARD DETAILS

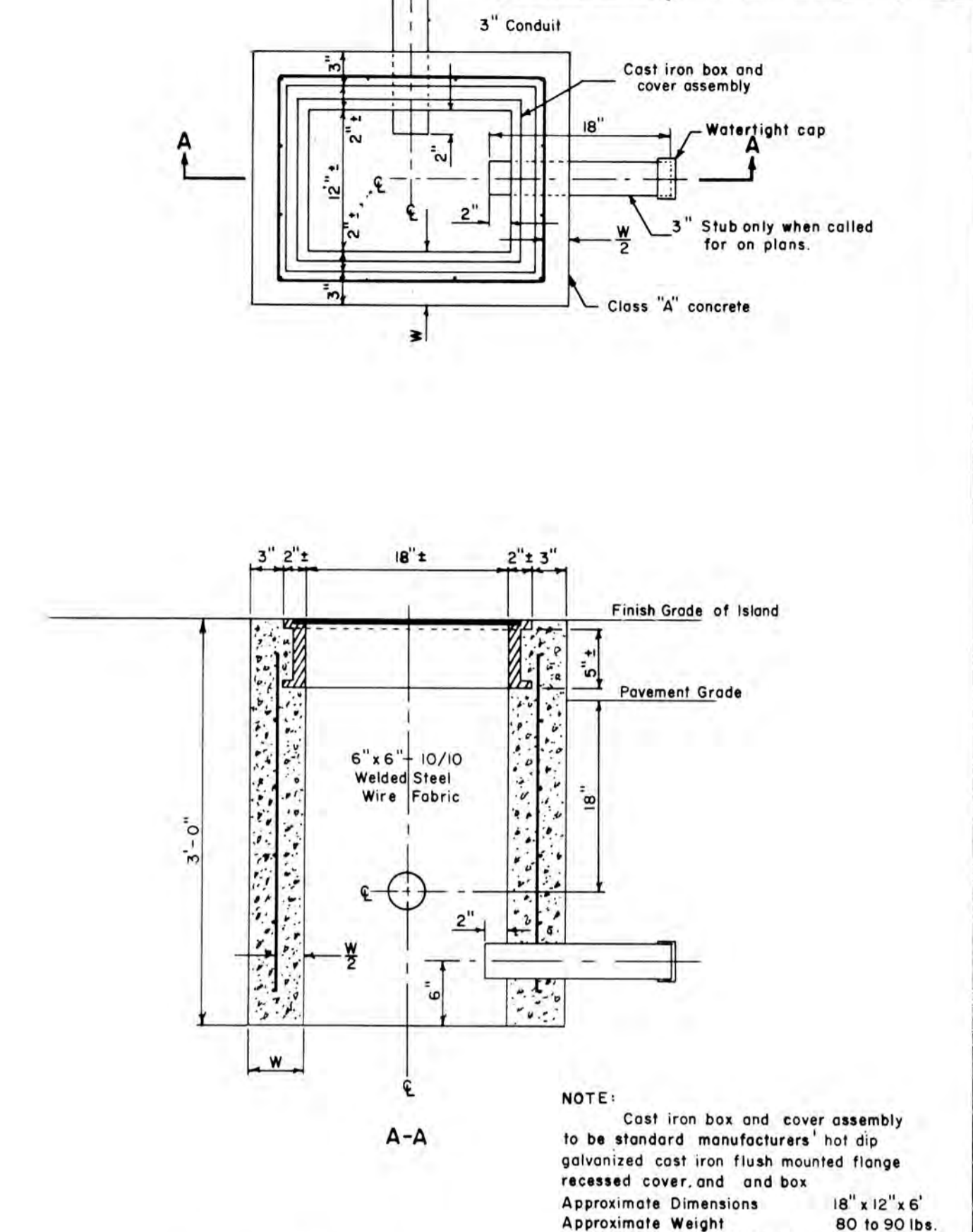
DRIVEWAY DETAILS
FIELD OFFICES
TESTING LABORATORY



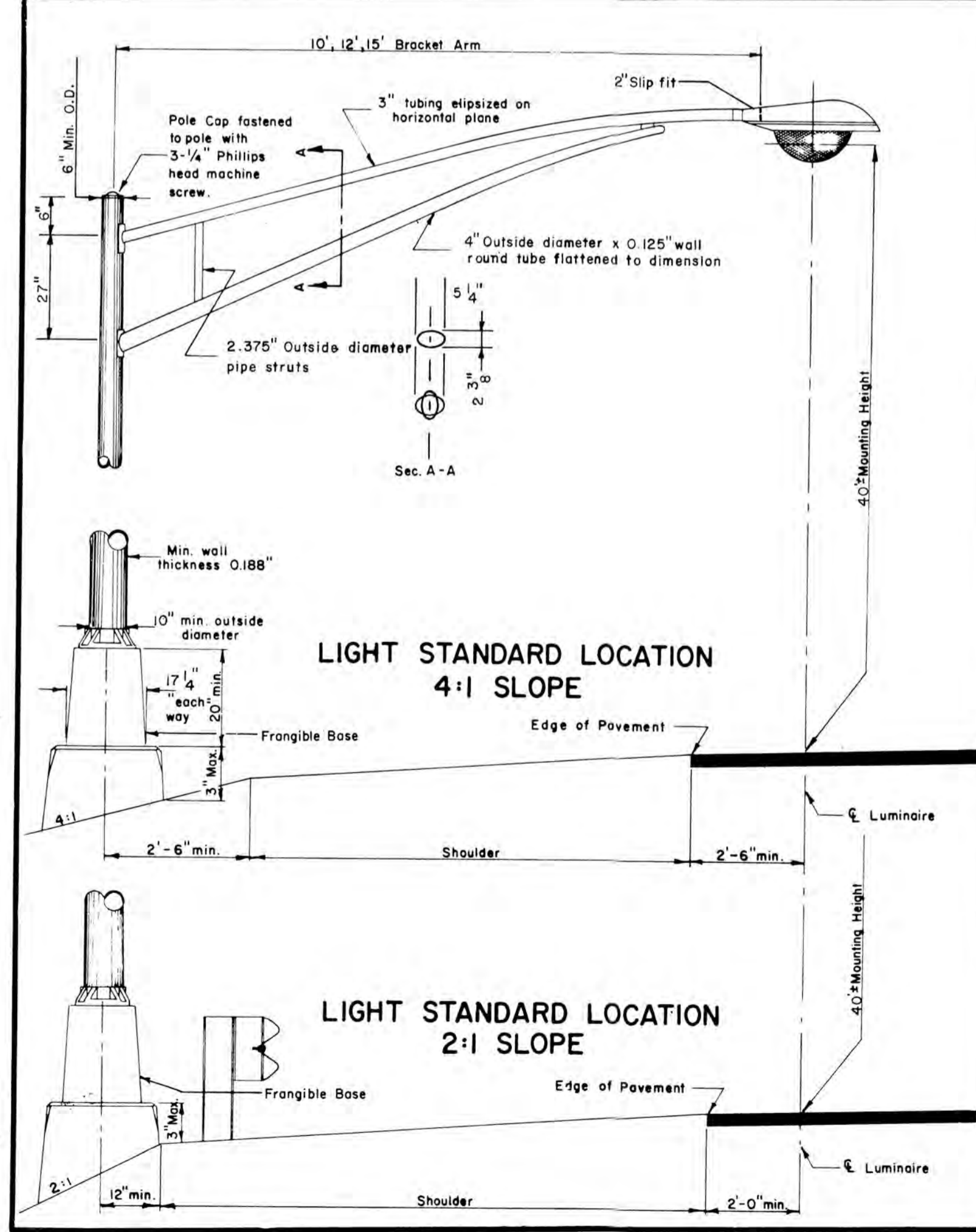
JUNCTION BOX TYPE "A"



JUNCTION BOX TYPE "B"

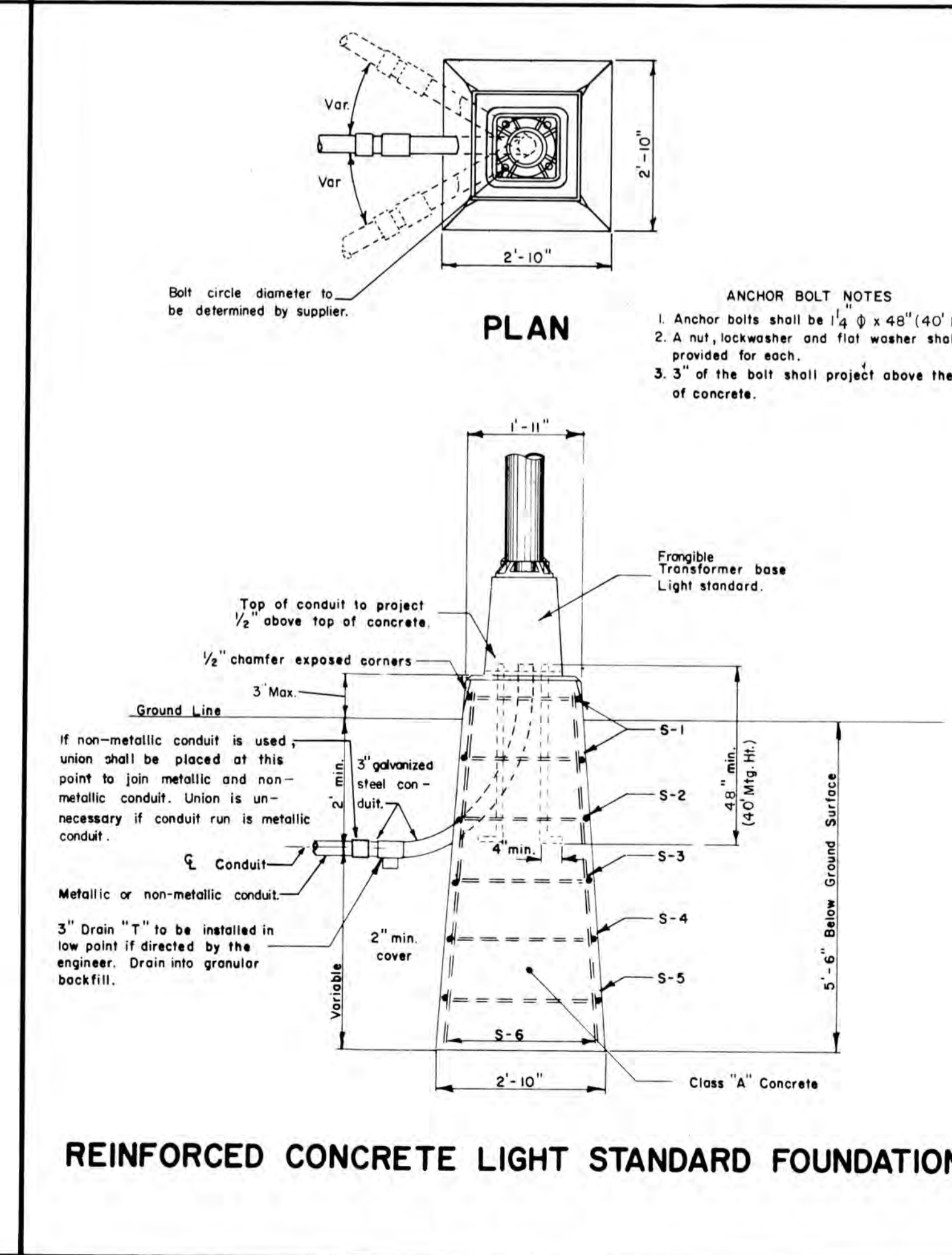
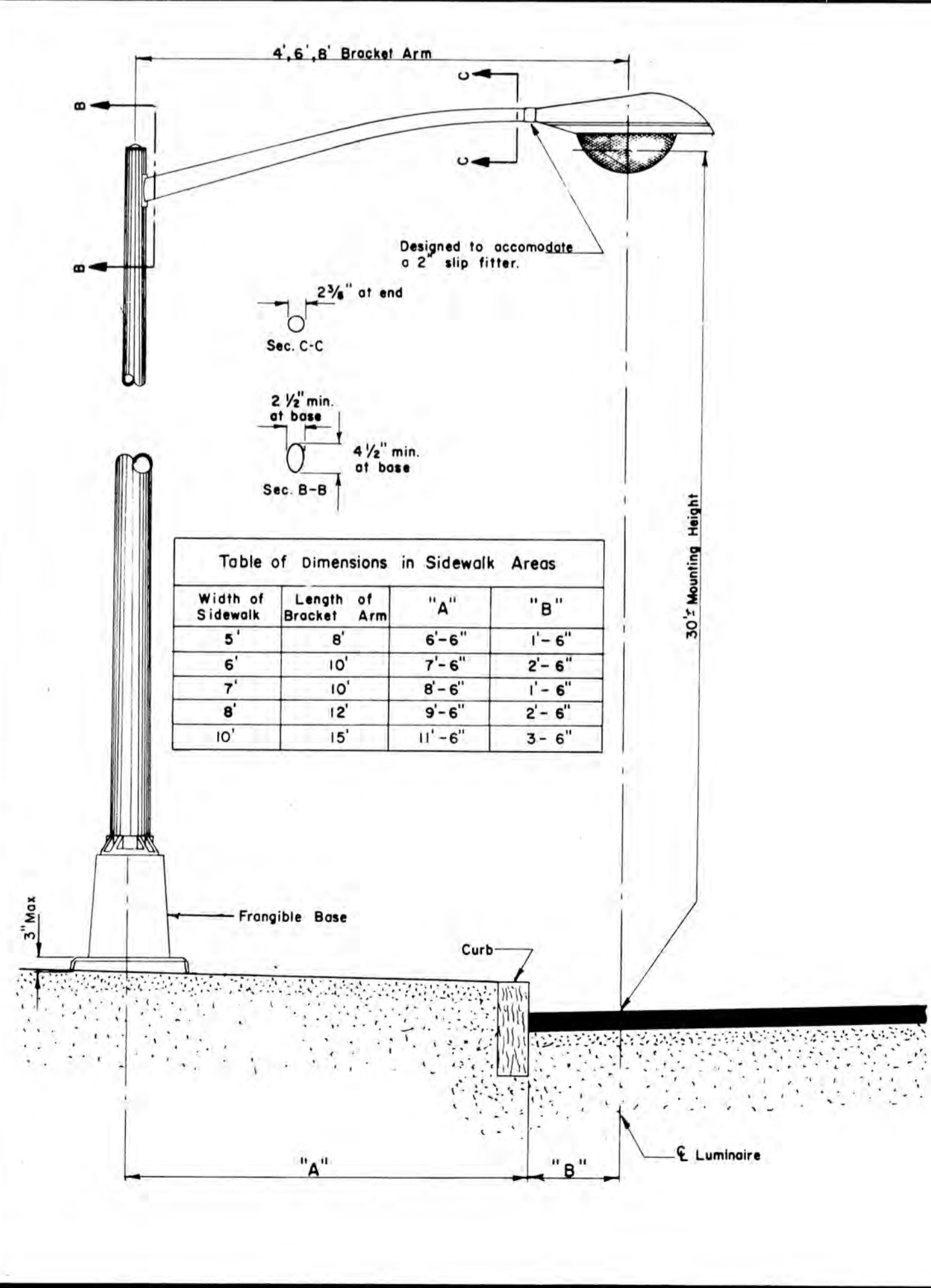


JUNCTION BOX TYPE "C"

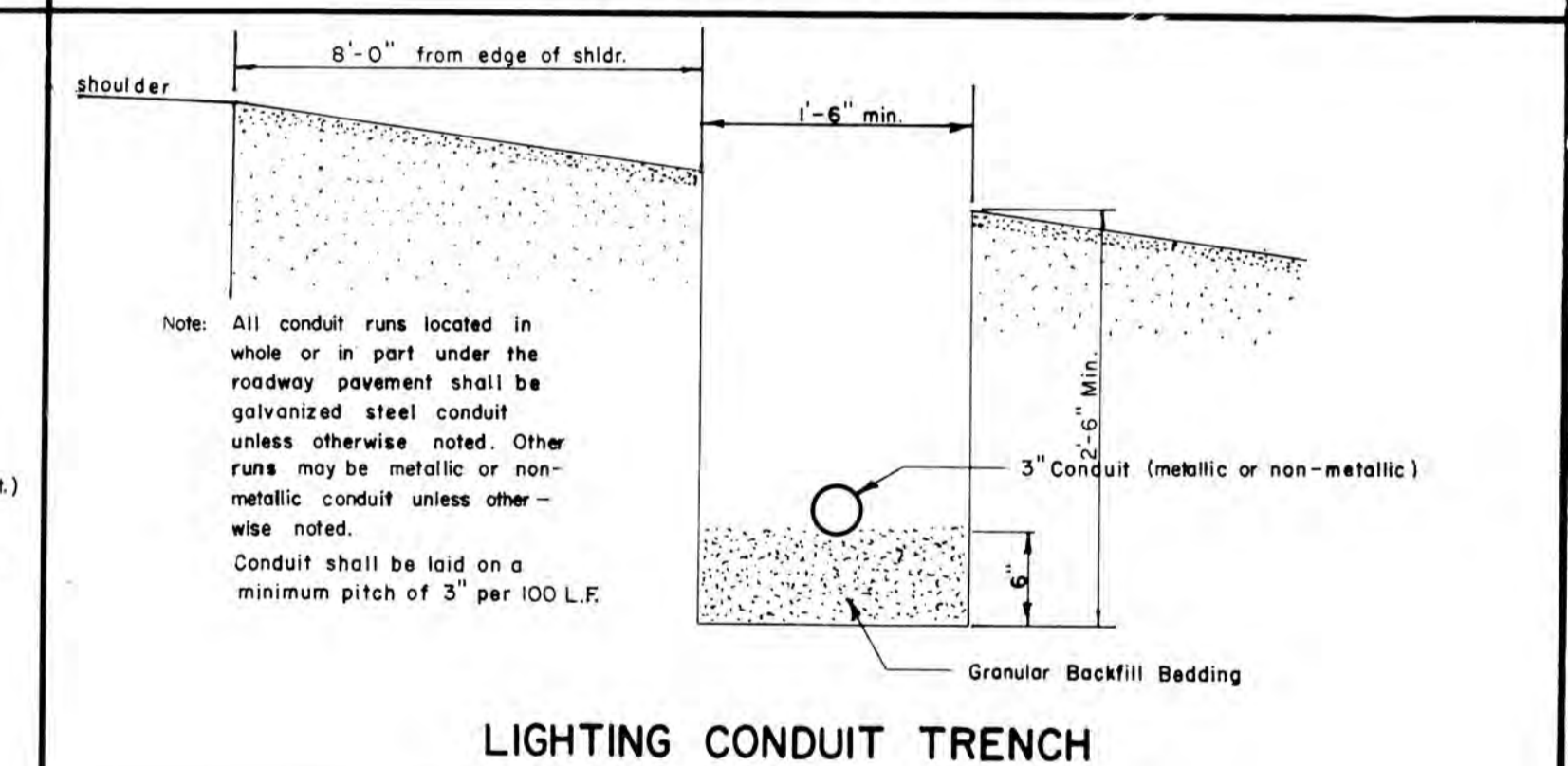


LIGHT STANDARD LOCATION 4:1 SLOPE

LIGHT STANDARD LOCATION 2:1 SLOPE



REINFORCED CONCRETE LIGHT STANDARD FOUNDATION



LIGHTING CONDUIT TRENCH

LIGHT STANDARD FOUNDATION - REINF. STEEL

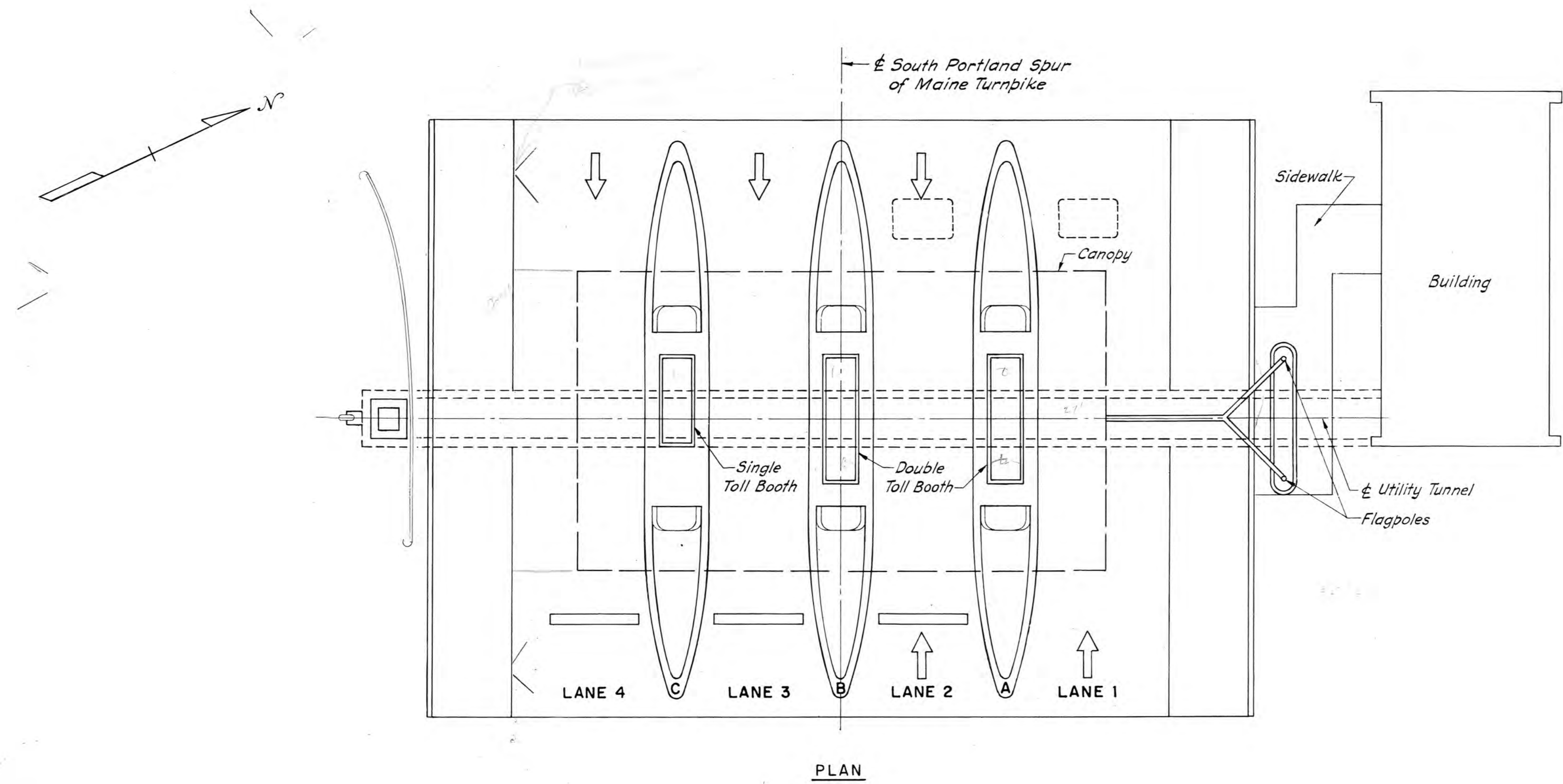
MARK	SIZE	LENGTH	NUMBER
S-1	No. 4	7'-0"	2
S-2	No. 4	8'-0"	1
S-3	No. 4	9'-0"	1
S-4	No. 4	9'-6"	1
S-5	No. 4	10'-0"	1
S-6	No. 5	Variable	4

REVISIONS

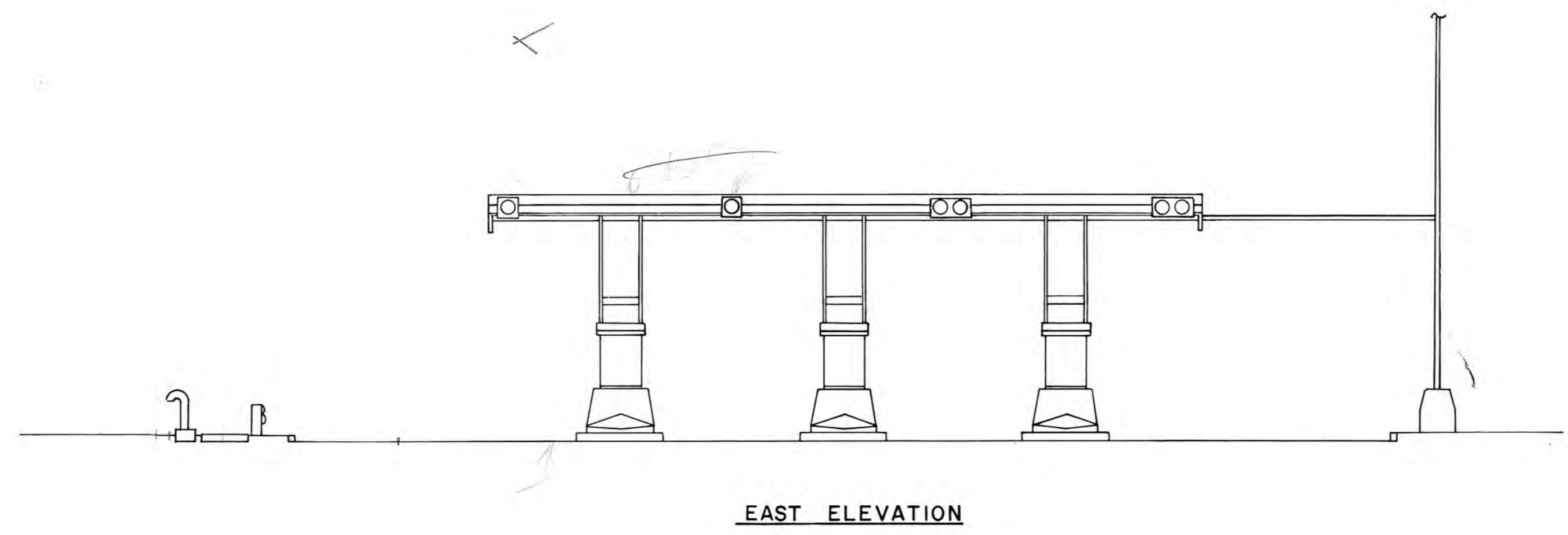
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS

LIGHTING



PLAN

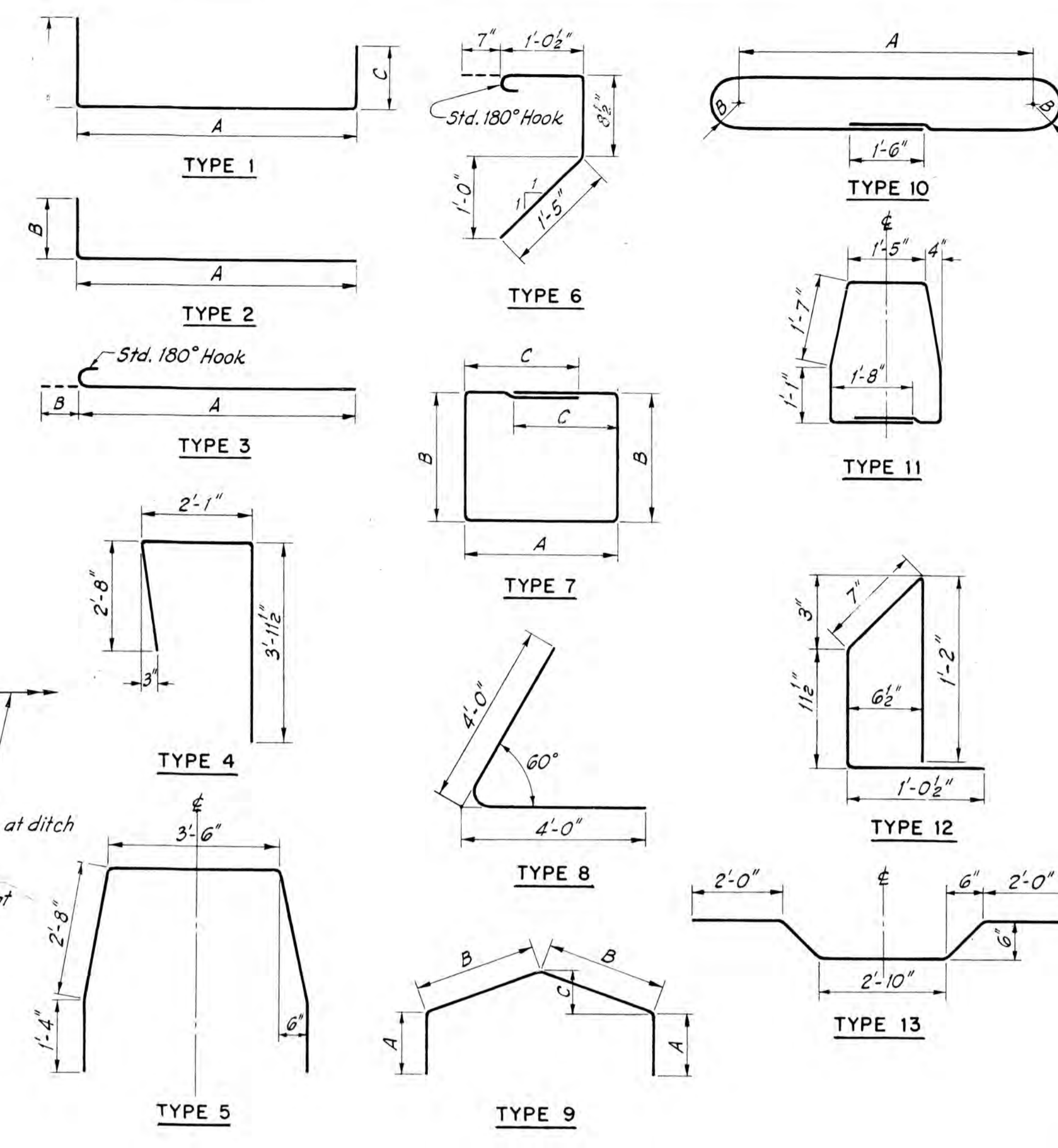
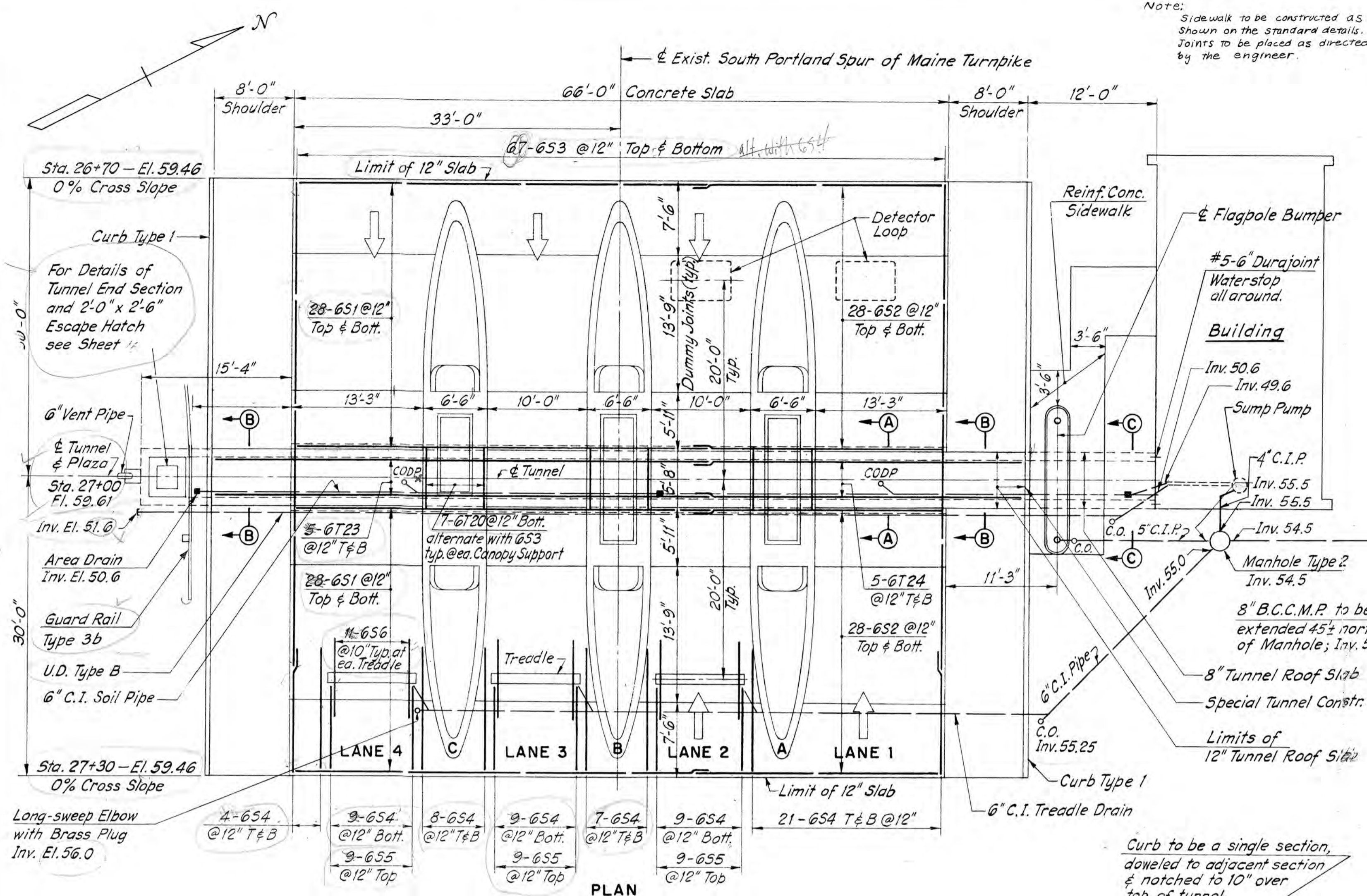


EAST ELEVATION

SOUTH PORTLAND - BARRIER TOLL PLAZA
 $\frac{1}{8}'' = 1'-0''$

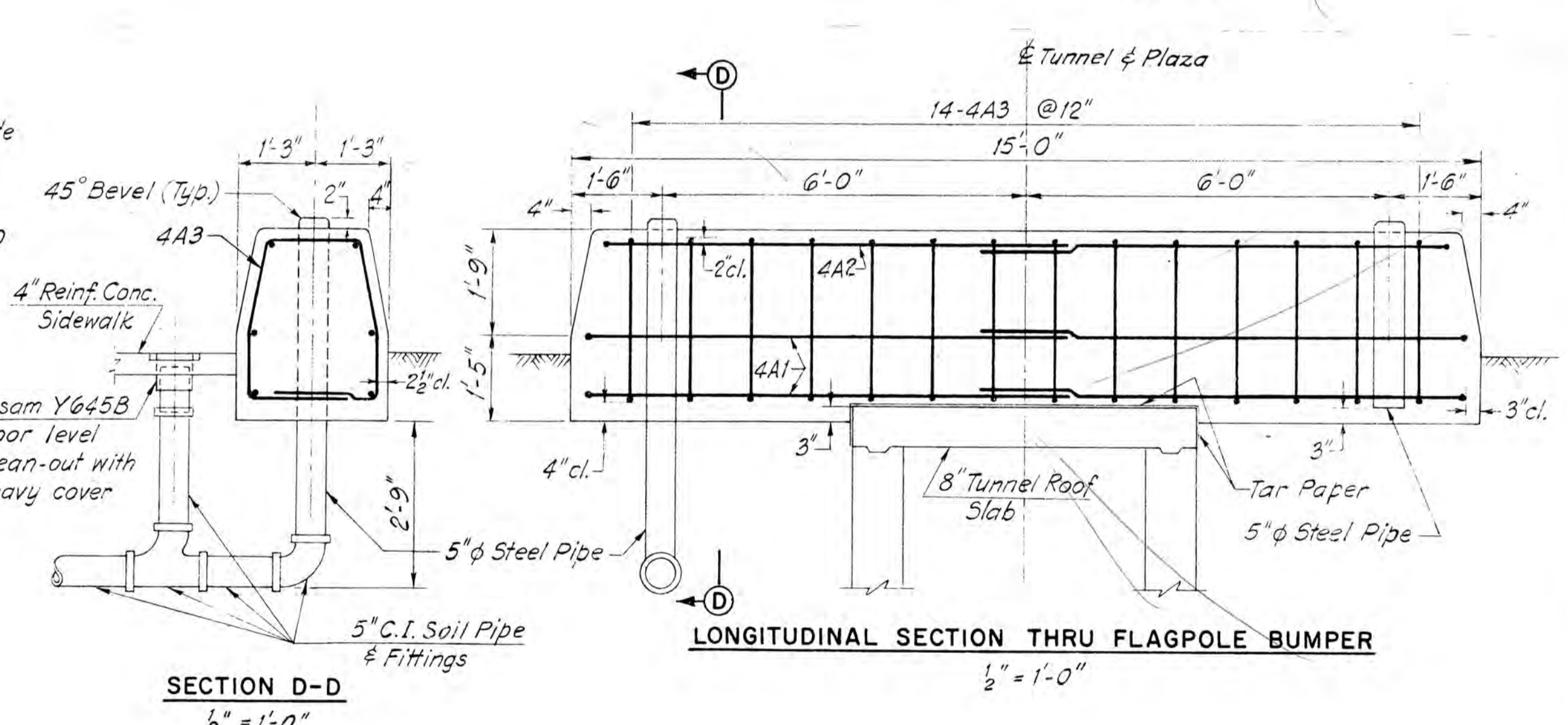
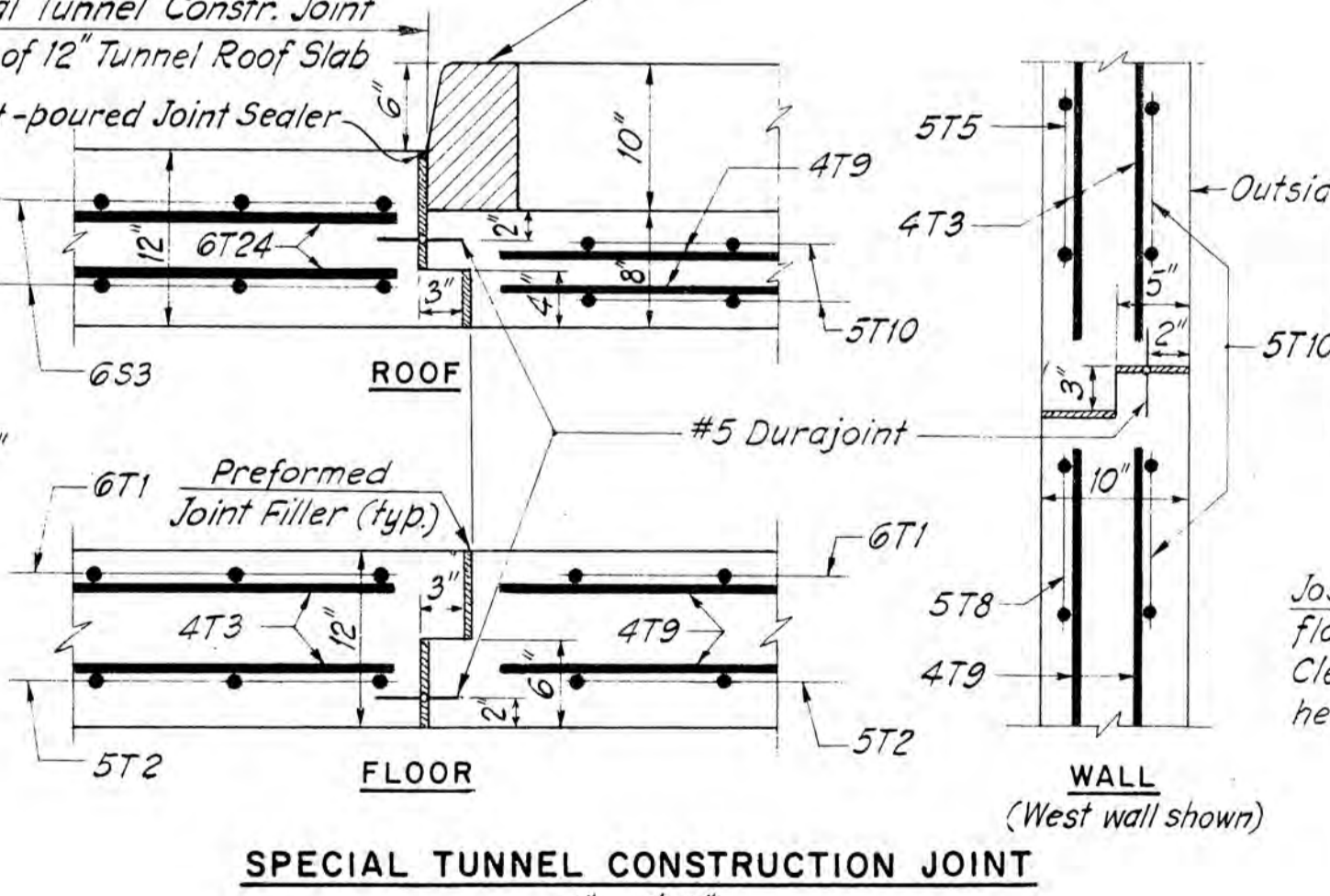
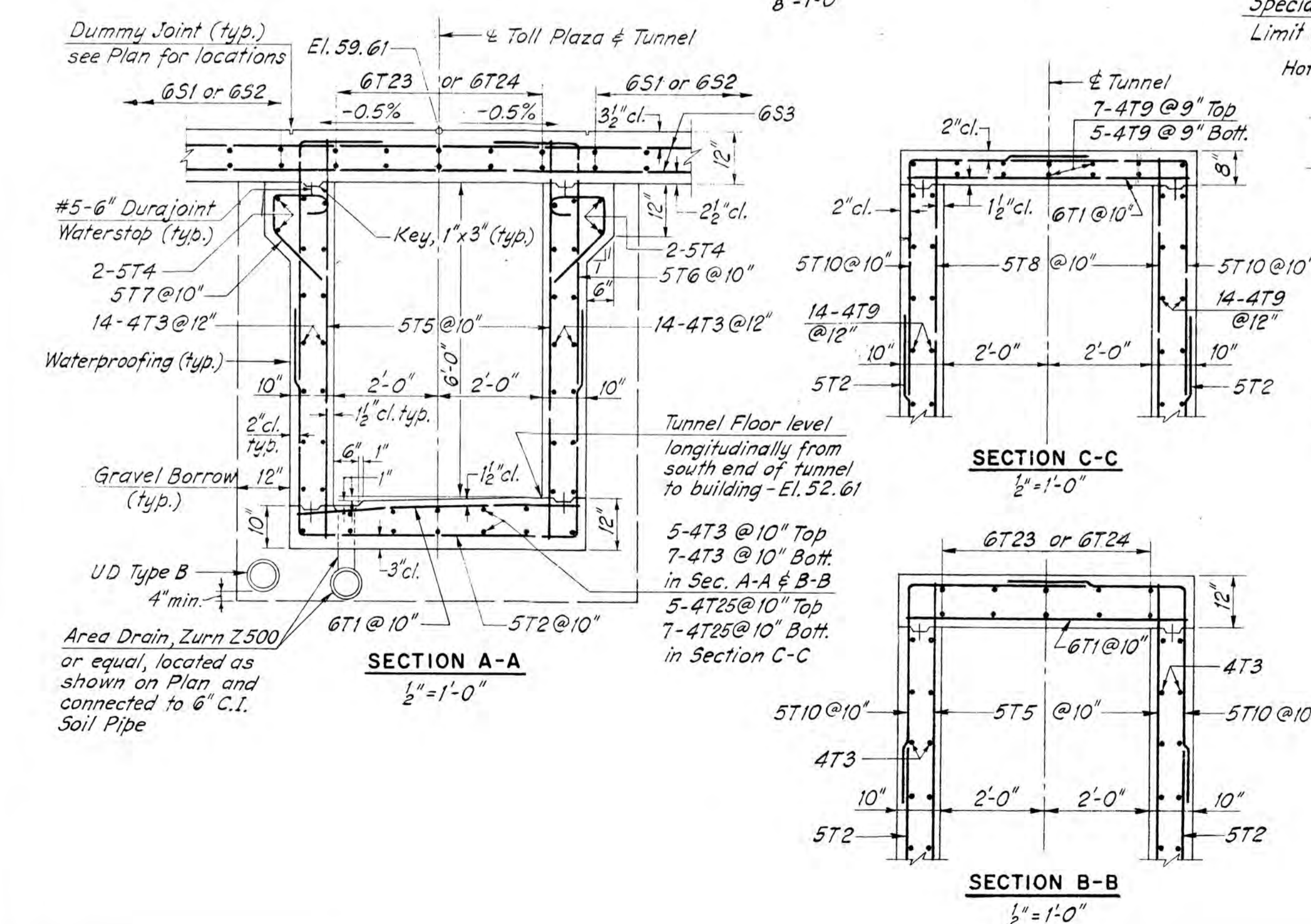
MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE
TOLL BOOTHS & CANOPY PLAN & ELEVATION

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 NEW YORK BOSTON KANSAS CITY



BAR MARK	NO.	LENGTH	TYPE	A	B	C
651	112	42'-0"	STR			
652	112	25'-6"	STR			
653	134	49'-0"	STR			
654	107	12'-6"	STR			
655	27	9'-0"	STR			
656	33	8'-3"	13			
657	48	8'-0"	8			
6T1	177	5'-4"	STR			
5T2	121	14'-4"	1	5'-4"	4'-6"	4'-6"
4T3	80	44'-9"	STR			
5T4	8	33'-7"	STR			
5T5	196	7'-6"	STR			
5T6	160	6'-0"	2	4'-6"	1'-6"	
5T7	160	3'-9"	6			
5T8	46	7'-3"	STR			
4T9	40	11'-5"	STR			
5T10	78	7'-11"	2	4'-6"	3'-5"	
4T11	14	4'-6"	2	2'-10"	1'-8"	
5T12	4	5'-6"	2	4'-3"	1'-3"	
5T13	4	8'-7"	2	6'-9"	1'-10"	
4T14	14	5'-4"	2	3'-3"	2'-1"	
5T15	2	10'-6"	1	7'-2"	2'-4"	1'-0"
4T16	4	4'-10"	STR			
4T17	1	15'-3"	7	3'-9"	3'-3"	2'-6"
4T18	1	11'-11"	7	2'-11"	2'-5"	2'-1"
4T19	10	3'-9"	12			
6T20	21	6'-0"	STR			
4T21	14	3'-8"	STR			
5T22	4	14'-4"	1	7'-2"	4'-10"	2'-4"
6T23	10	50'-0"	STR			
6T24	10	33'-8"	STR			
4T25	12	17'-11"	STR			
4A1	2	32'-9"	10	12'-6"	1'-0"	
4A2	1	30'-8"	10	12'-6"	0'-8"	
4A3	14	10'-1"	11			

Note: First number of bar mark denotes bar size.

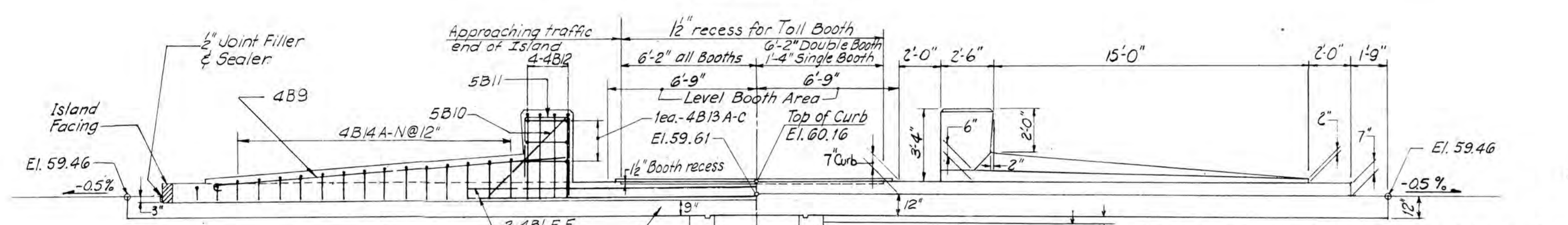
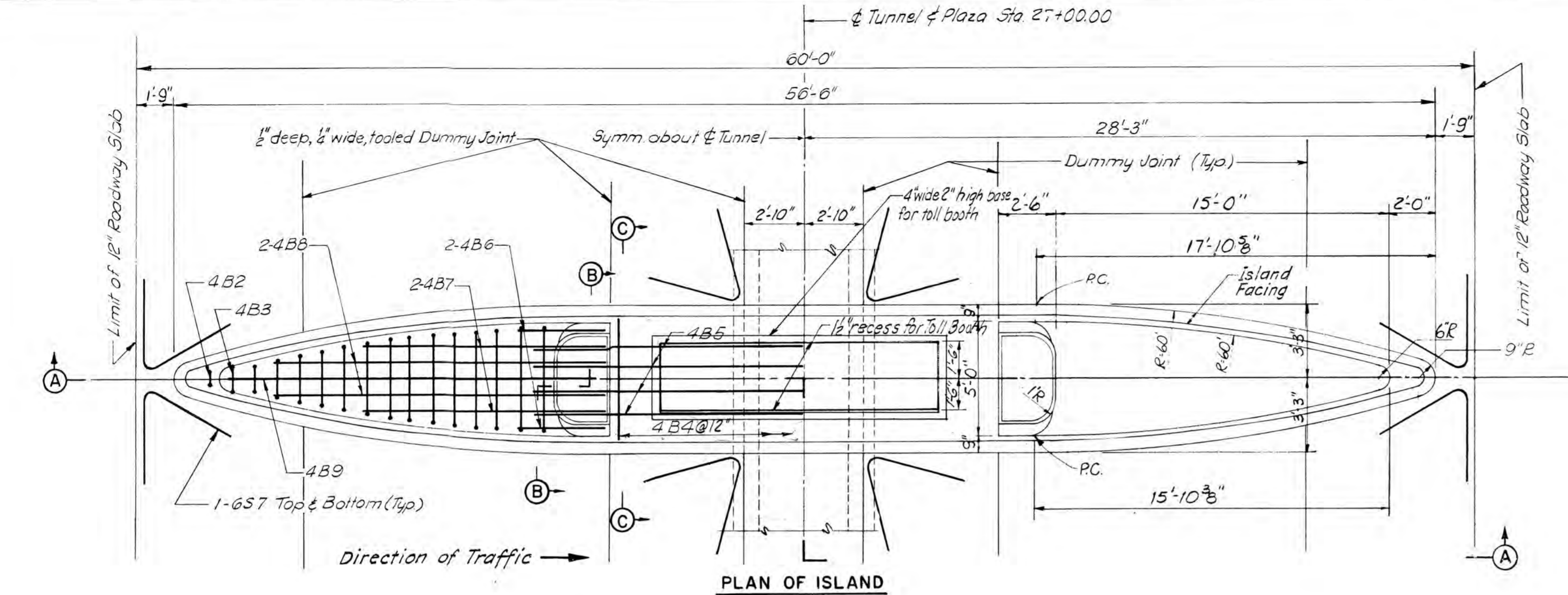


MAINE STATE HIGHWAY COMMISSION
 AUGUSTA, MAINE

**TOLL PLAZA PLAN
 & TUNNEL DETAILS**

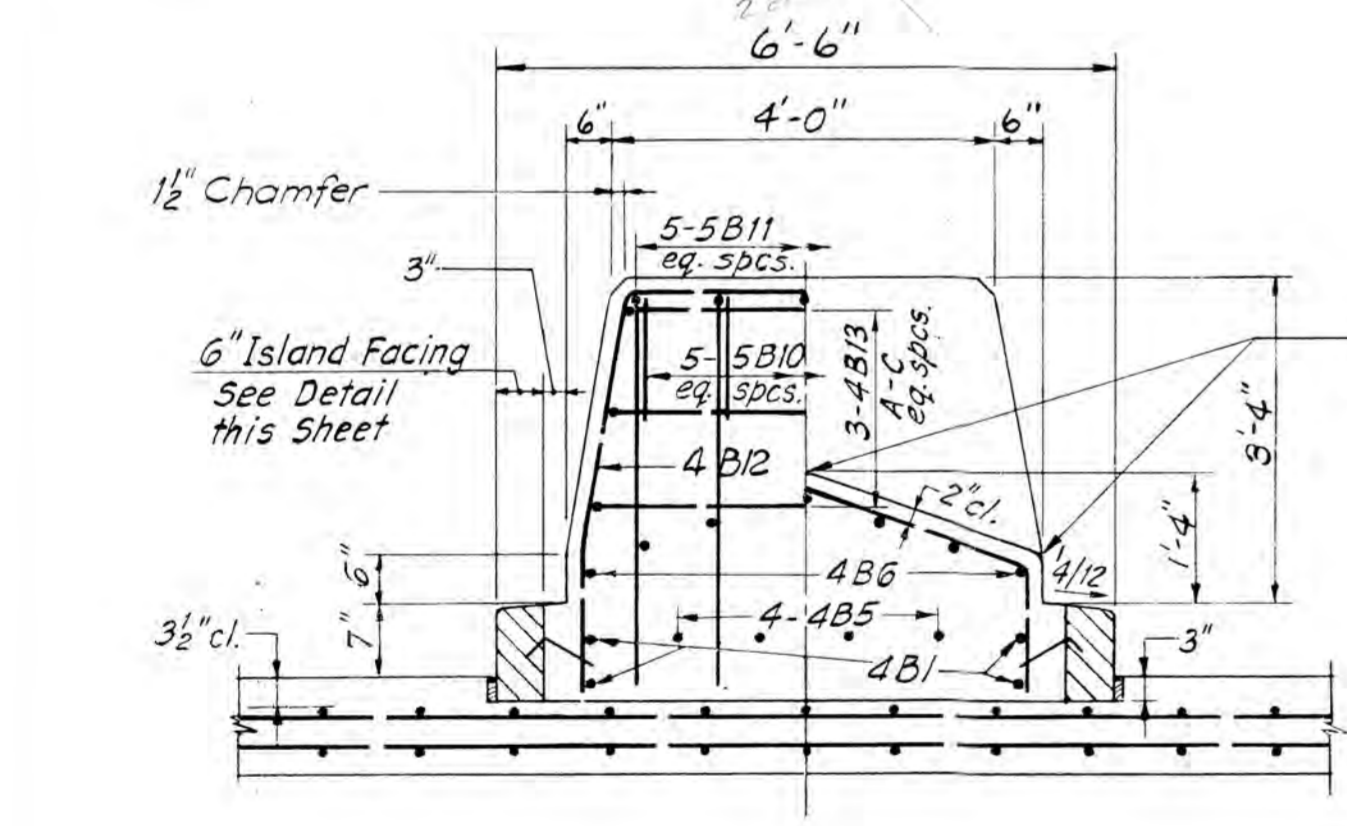
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS

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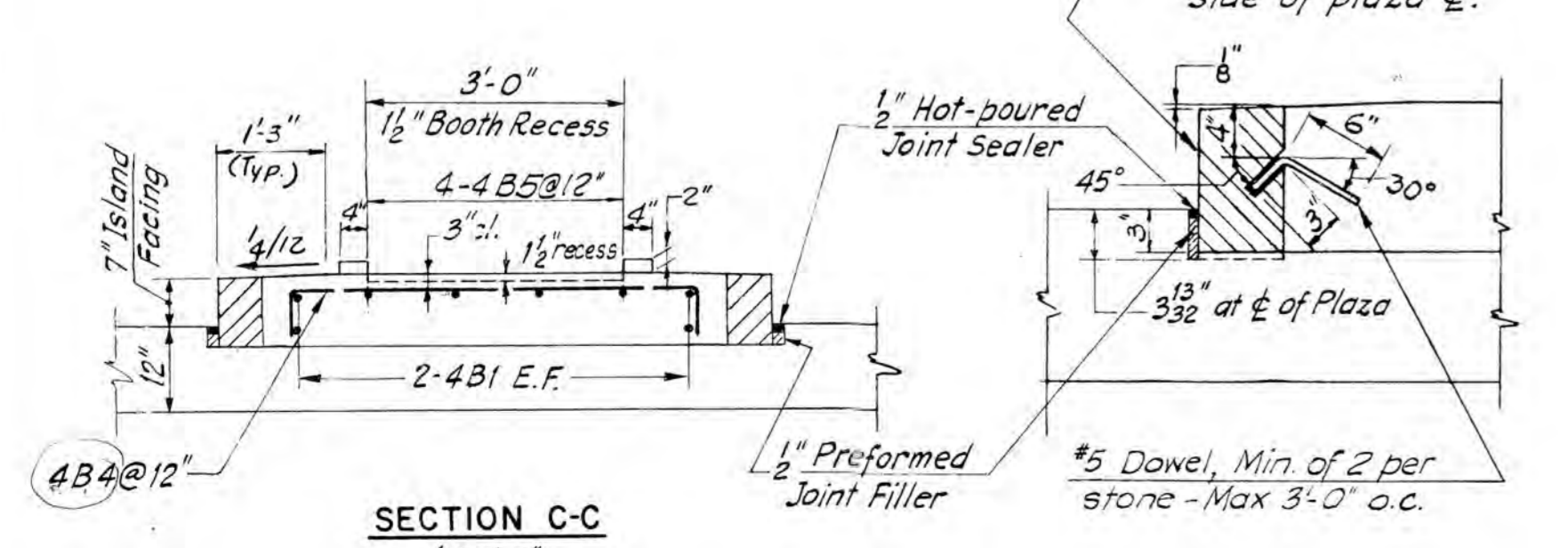


Note: All corners to be chamfered.

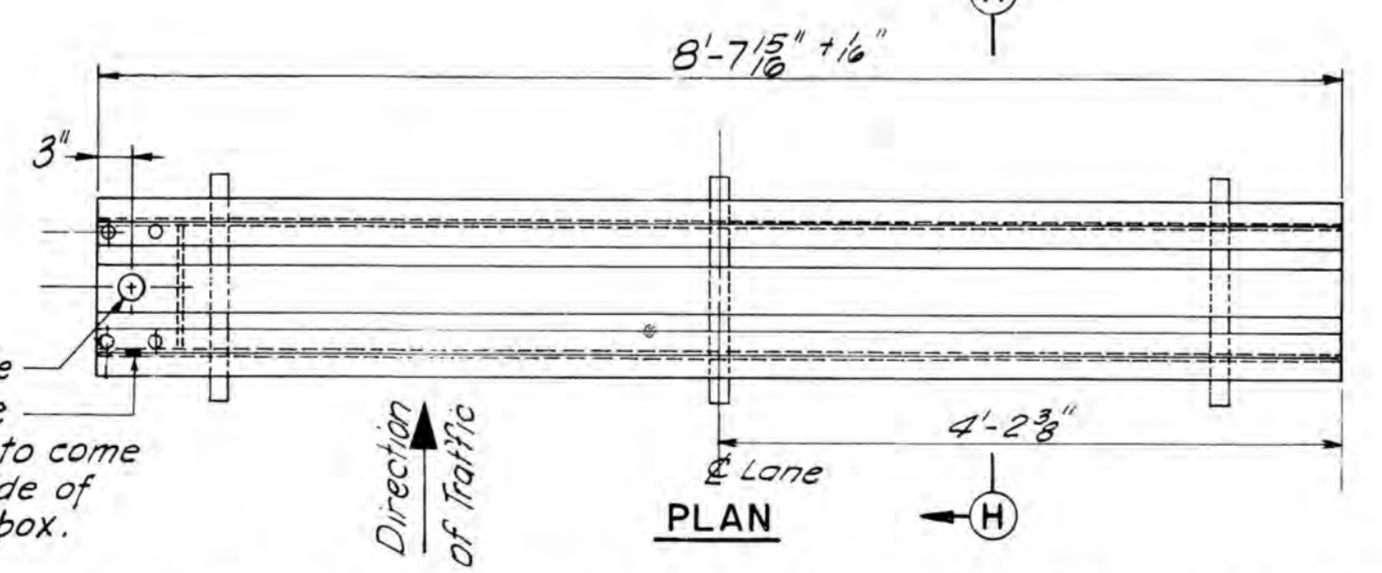
Note: For details of booth recess, base frame and canopy columns through and in island, see Sheet 20



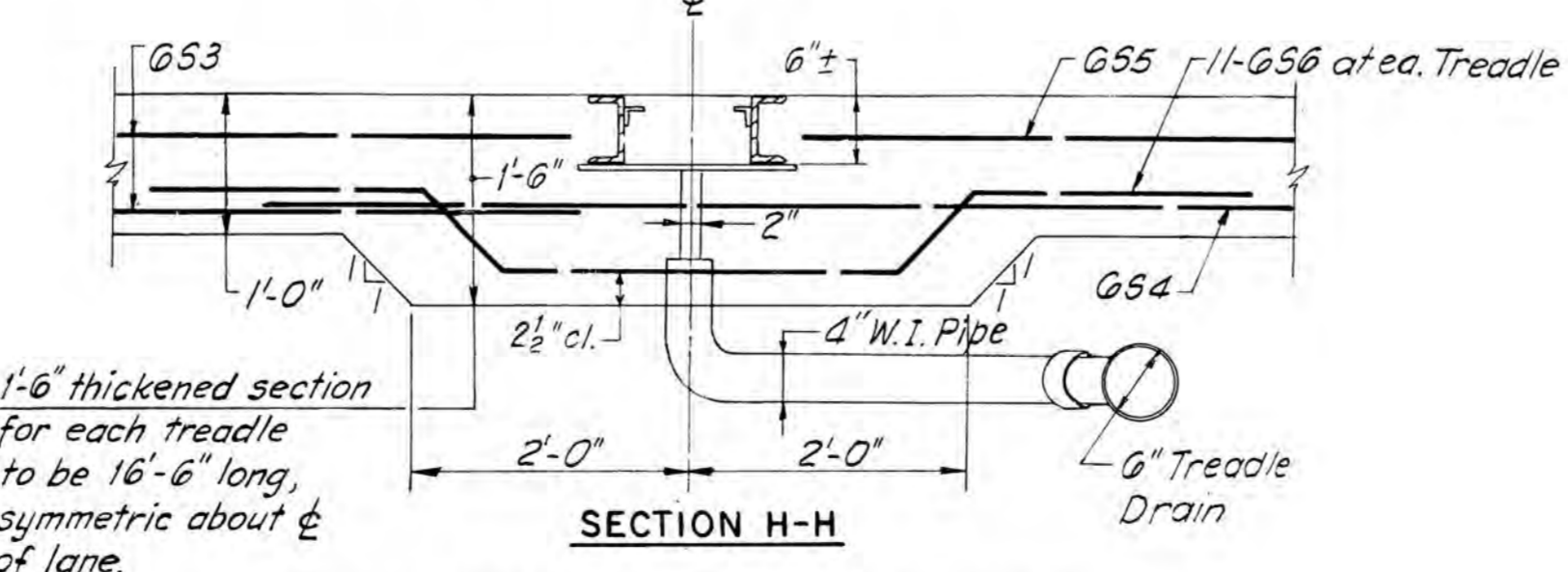
SECTION B-B
1/2" = 1'-0"



GRANITE ISLAND FACING DETAIL
1" = 1'-0"

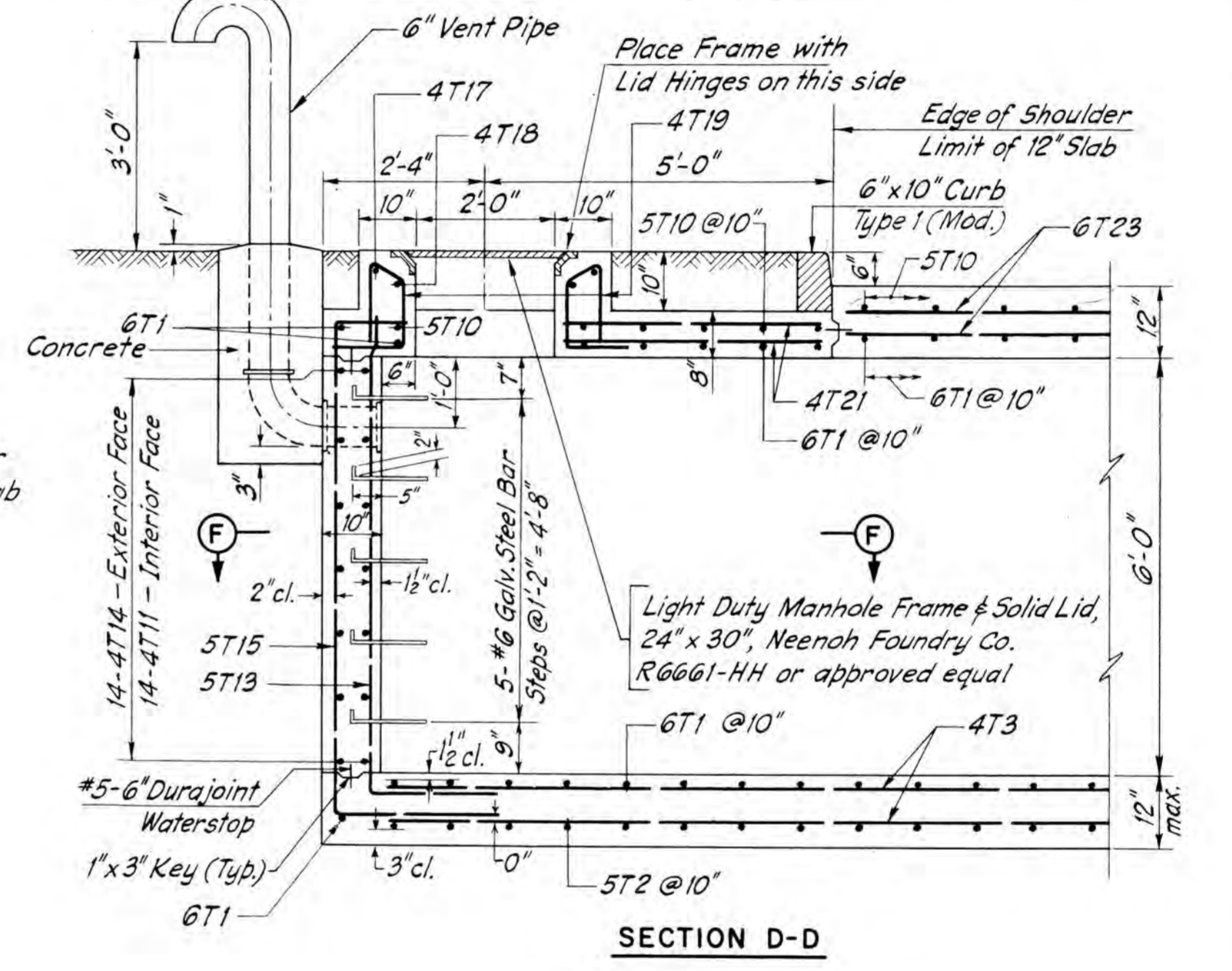
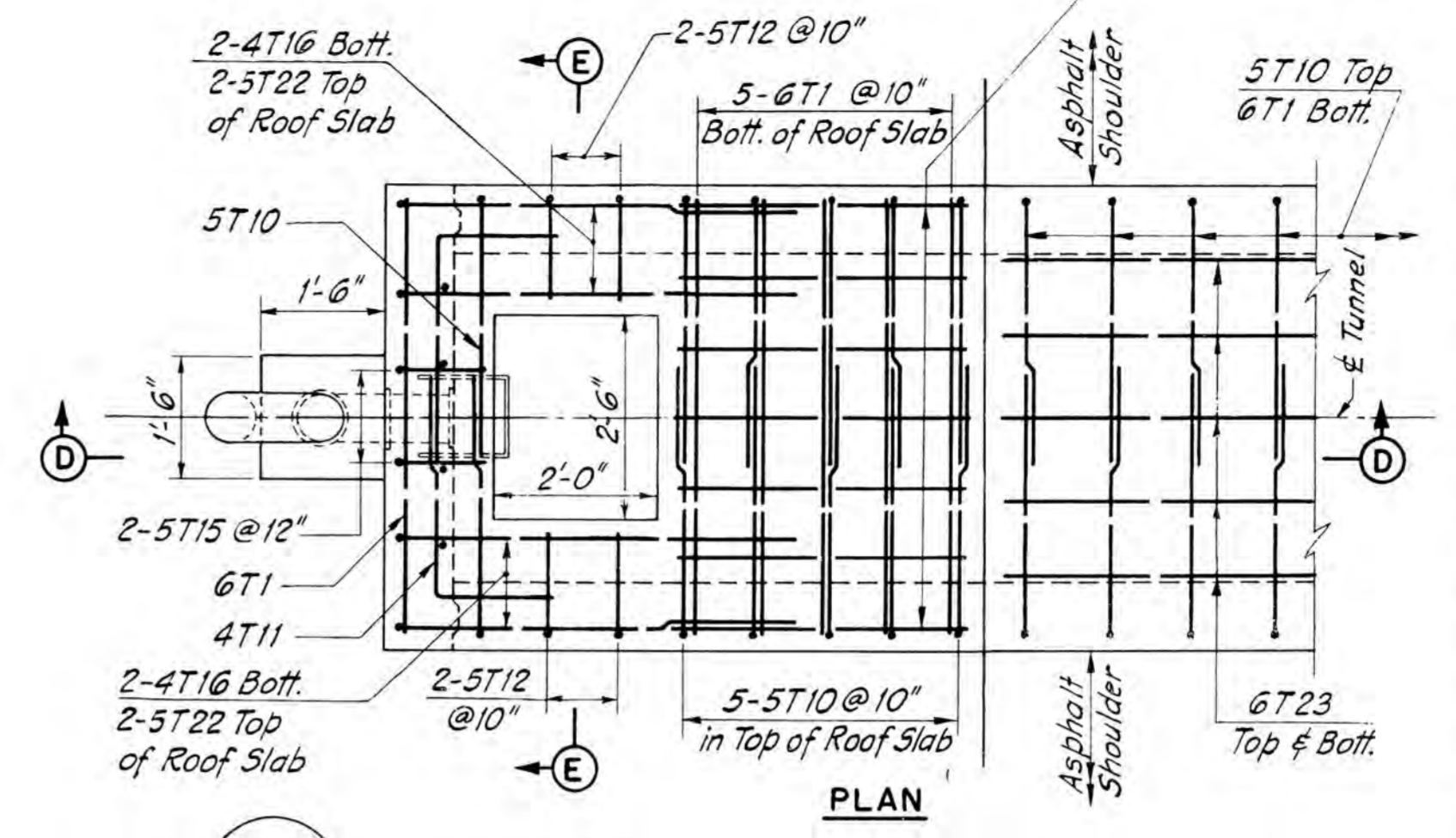


Treadle frame to be as manufactured by Teller & Cooper # TC-208 or approved equal. Dimension for drain and electrical connection to be verified with frame manufacturer.

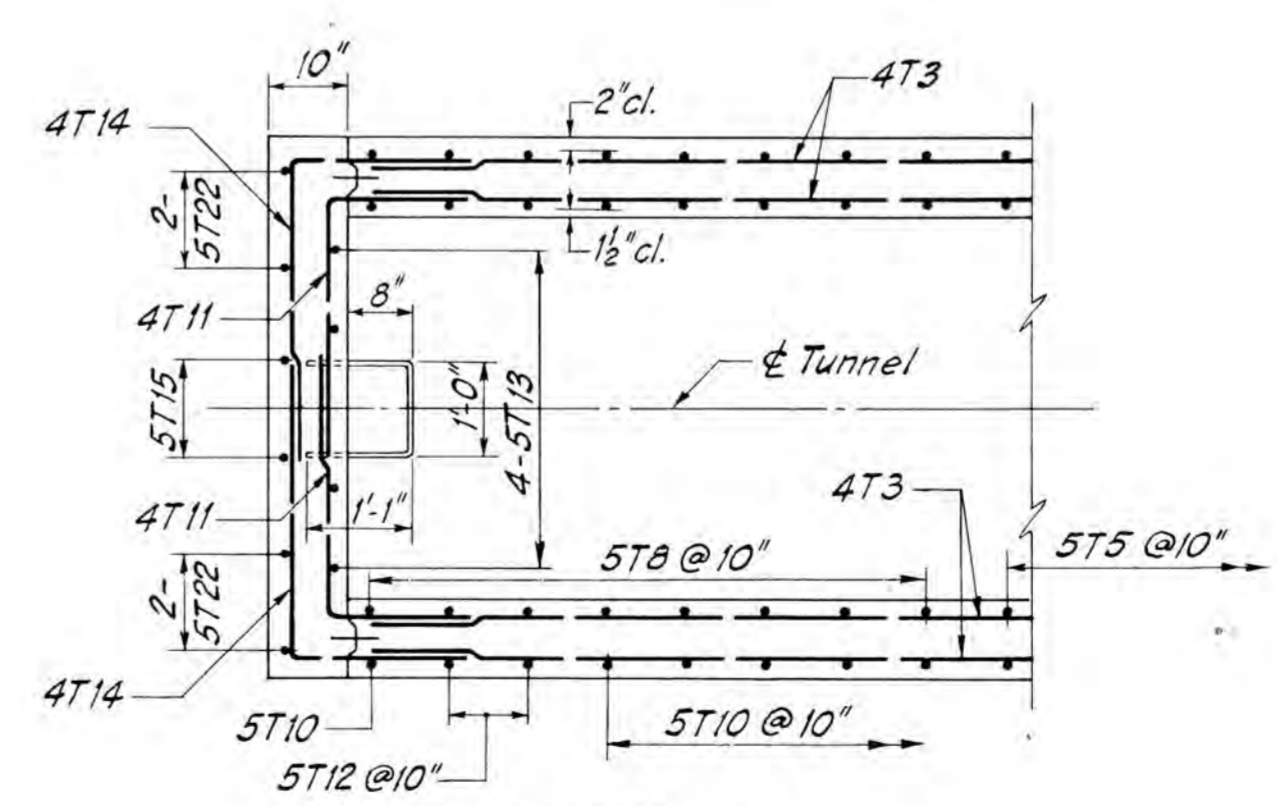


8 FT. TREADLE FRAME INSTALLATION
N.T.S.

Note: Top & bottom bars in tunnel roof are shown; those for raised escape hatch are omitted, see Section G-G.



SECTION D-D



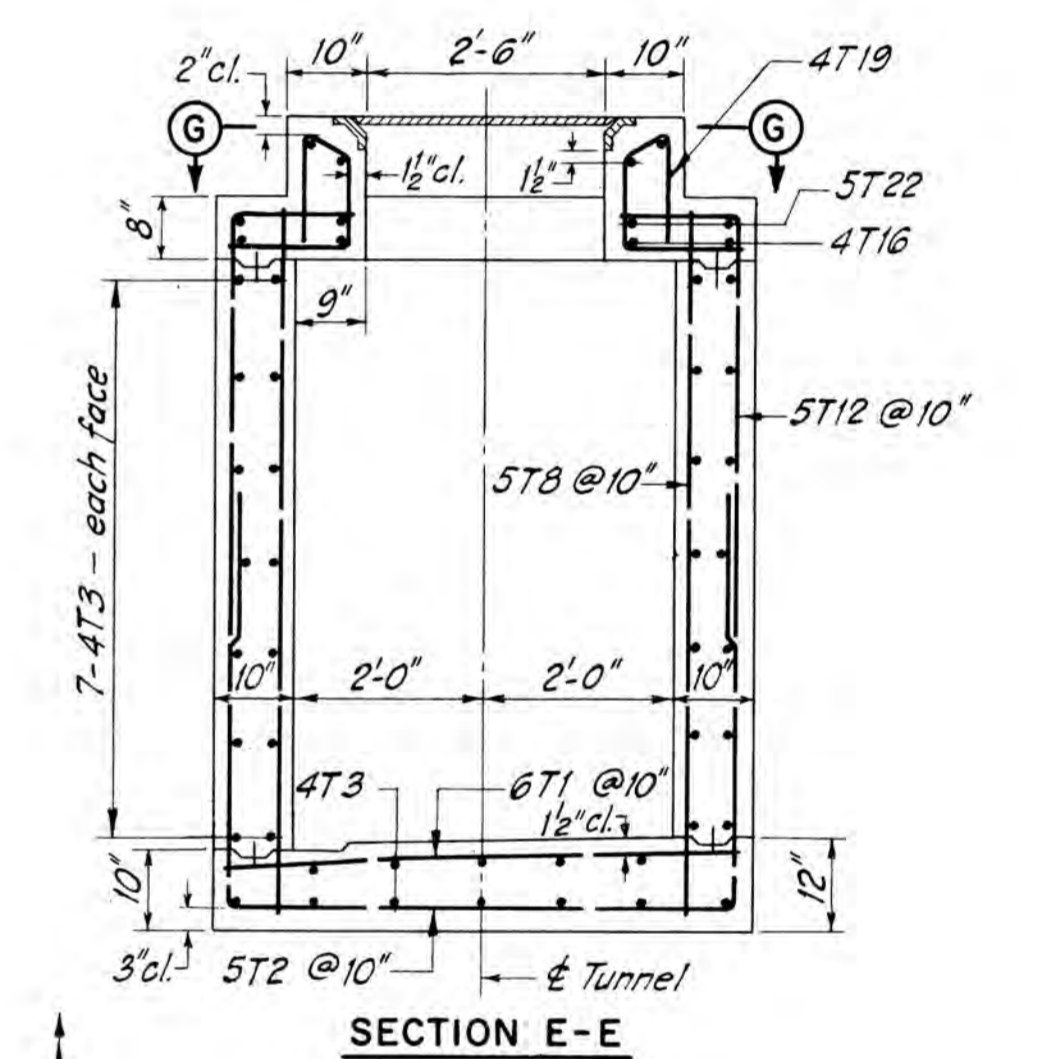
SECTION F-F

TUNNEL END SECTION & ESCAPE HATCH
1/2" = 1'-0"

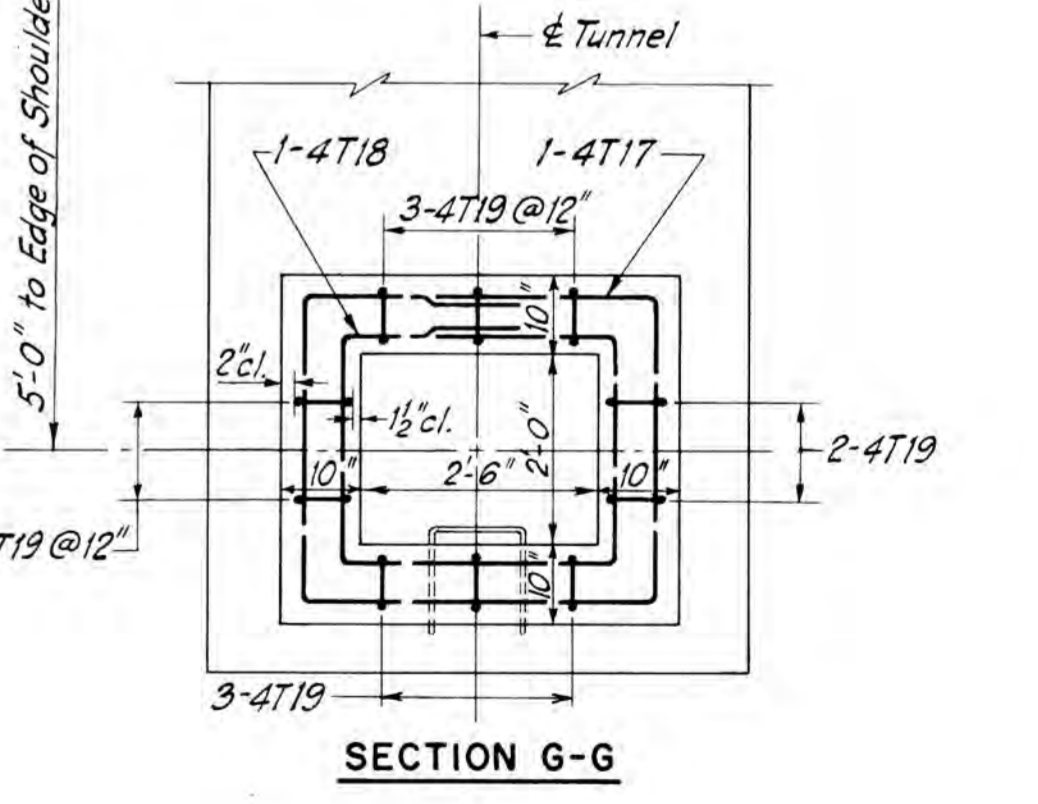
Note: Reinforcement symmetrical about ϕ of tunnel. See Sheet 17 for "T" bar list.

BAR MARK	NO.	LENGTH	TYPE	A	B	C	REMARKS
4B1	12	28'-0"	STR				
4B2	6	2'-0"	1	0'-10"	0'-7"	0'-7"	
4B3	6	2'-6"	1	1'-4"	0'-7"	0'-7"	
4B4	54	6'-4"	1	4'-8"	0'-7"	0'-7"	
4B5	12	24'-0"	STR				
4B6	12	4'-4"	3	3'-10"	0'-6"		
4B7	12	11'-4"	3	10'-10"	0'-6"		
4B8	12	15'-4"	3	14'-10"	0'-6"		
4B9	6	17'-4"	3	16'-10"	0'-6"		
5B10	30	5'-0"	STR				
5B11	30	8'-9"	4				
4B12	24	11'-6"	5				
4B13A	6 ea.	11'-4"	7	3'-0"	2'-0"	2'-2"	6 ea. A to C
		13'-0"	7	4'-0"	1'-10"	2'-8"	to C
4B14A	6 ea.	3'-0"	9	0'-10"	0'-8"	0'-0 1/2"	6 ea. A to N
		7'-4"	9	1'-2"	2'-6"	1'-0"	to N

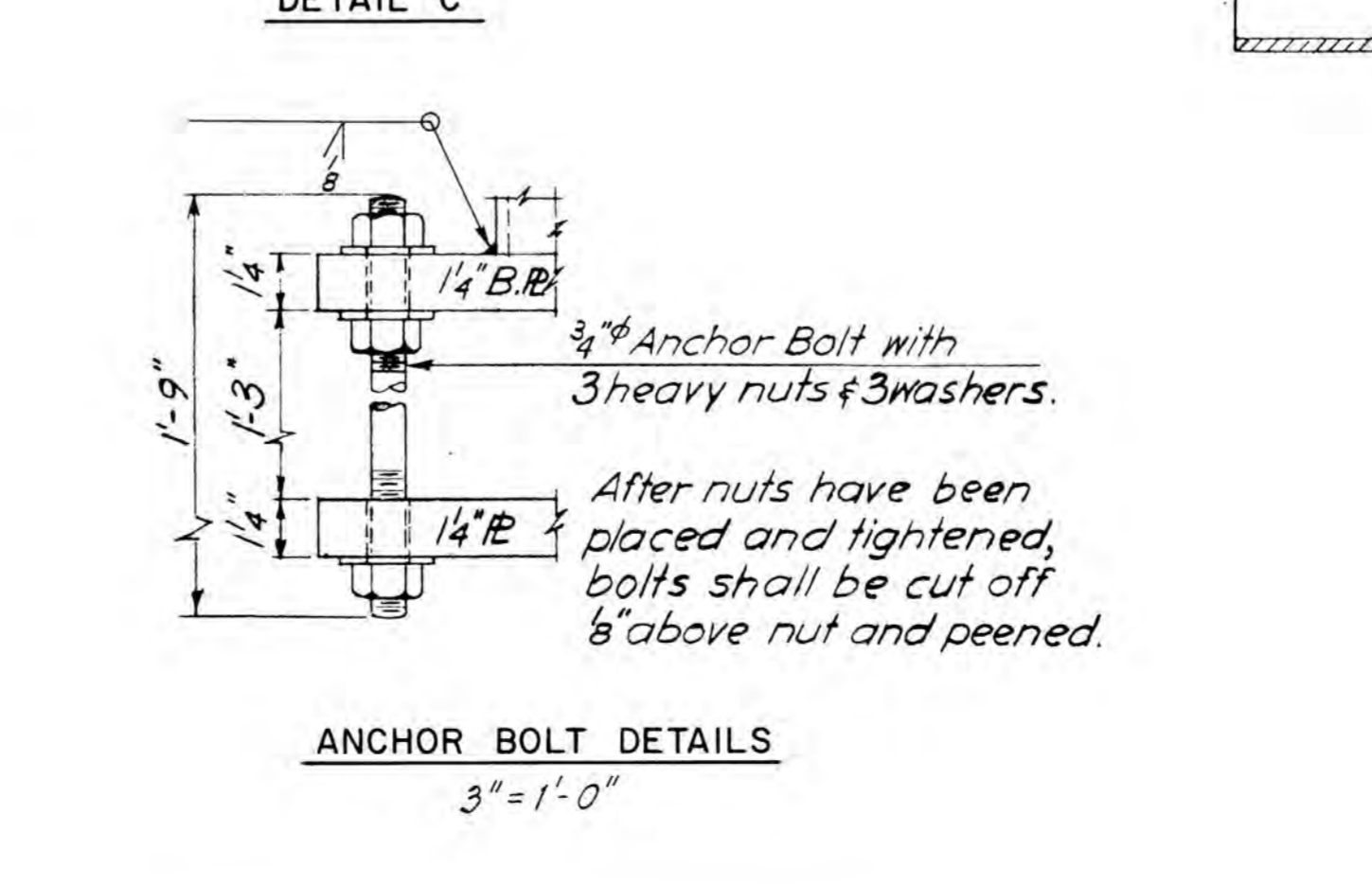
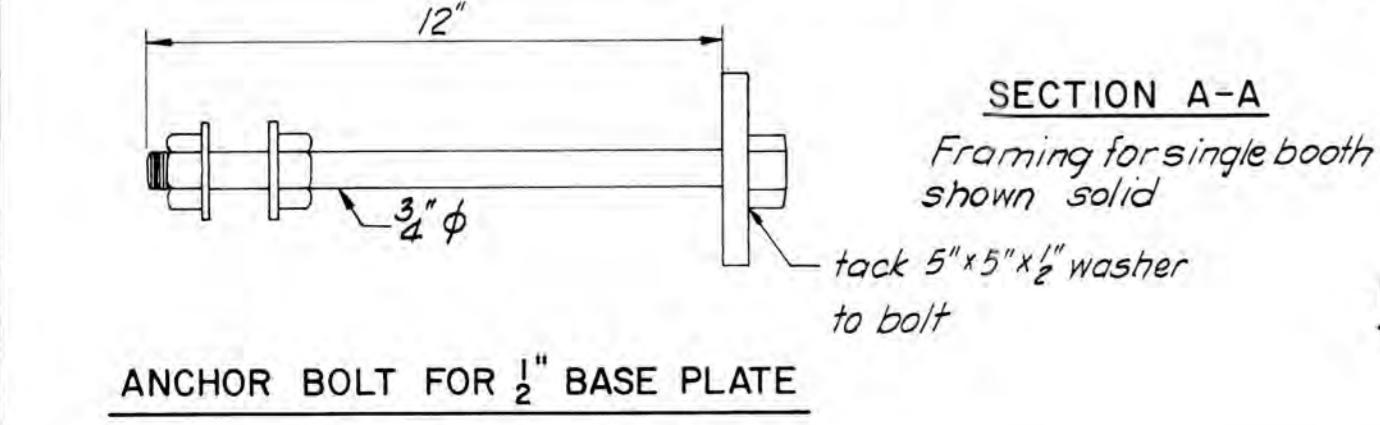
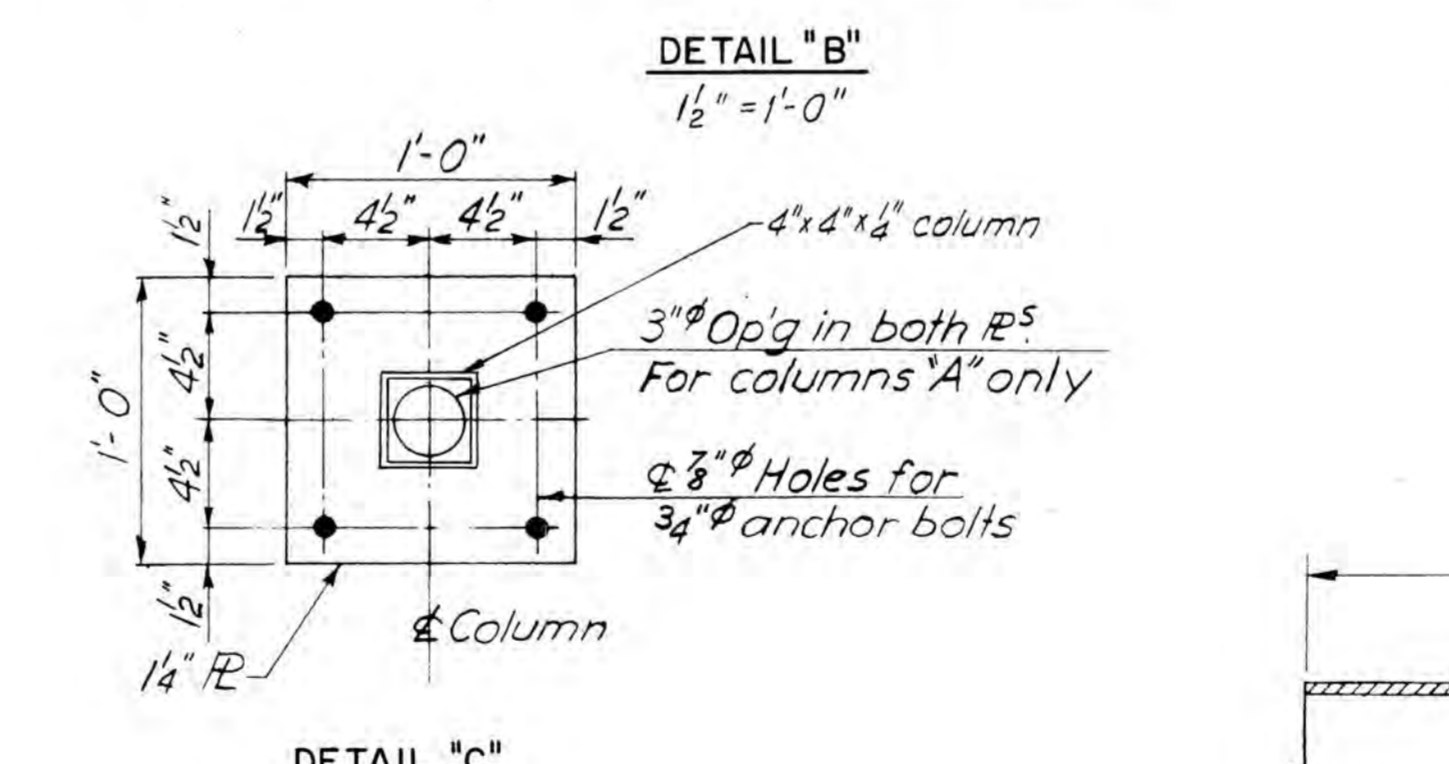
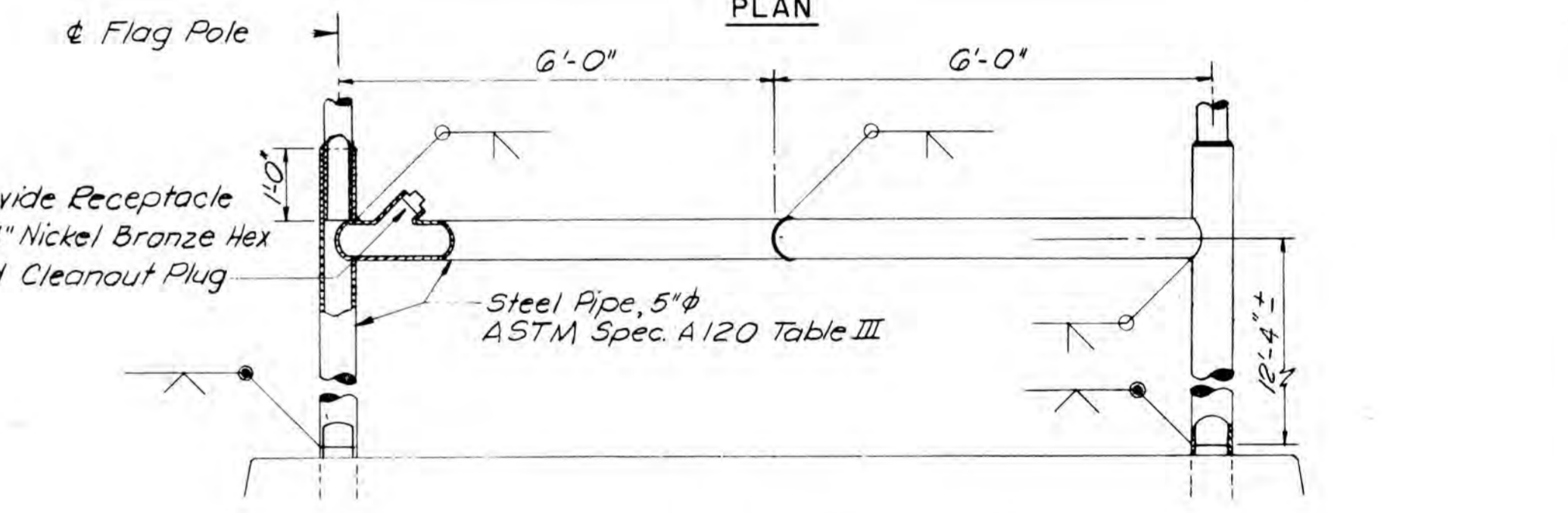
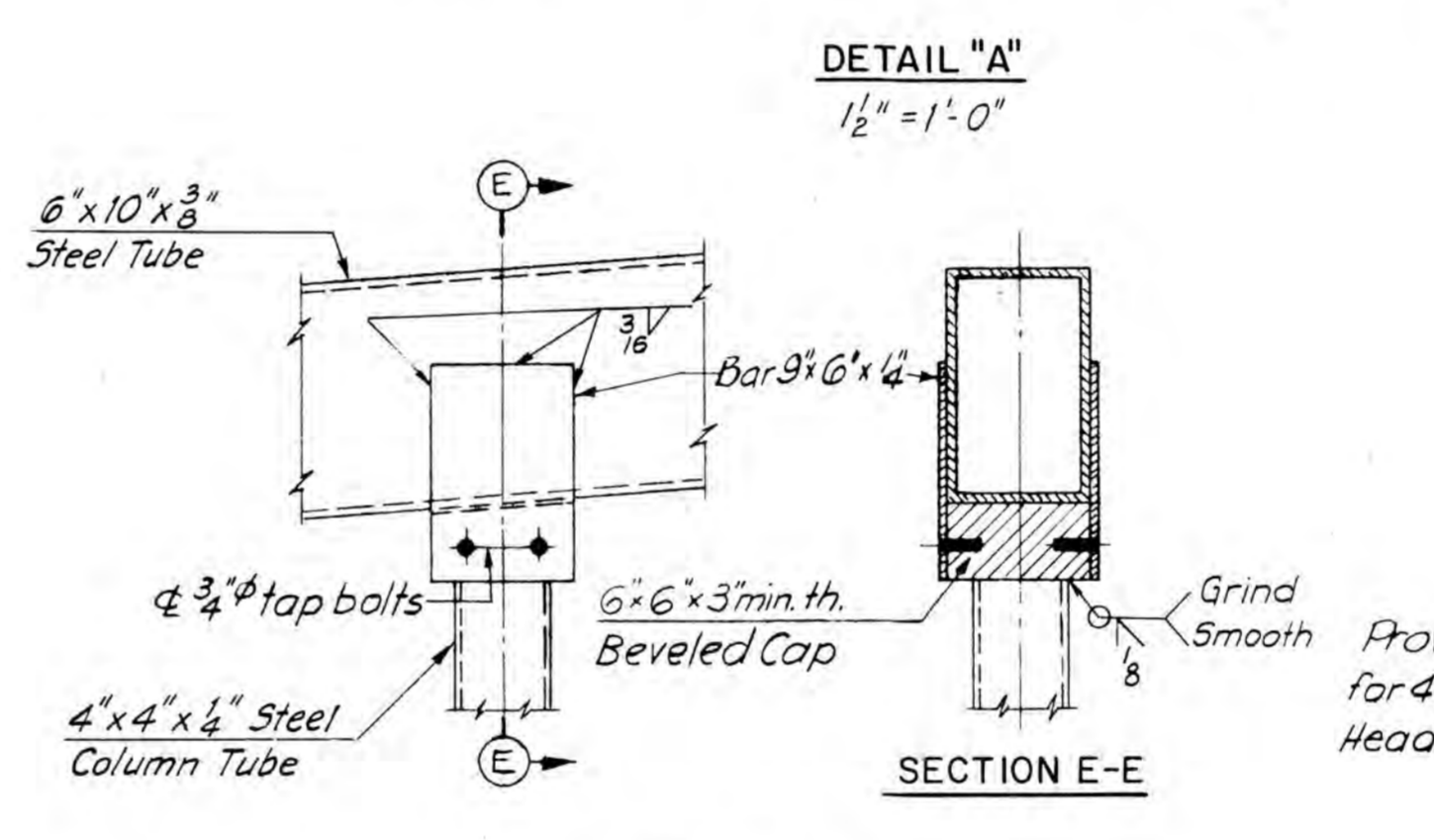
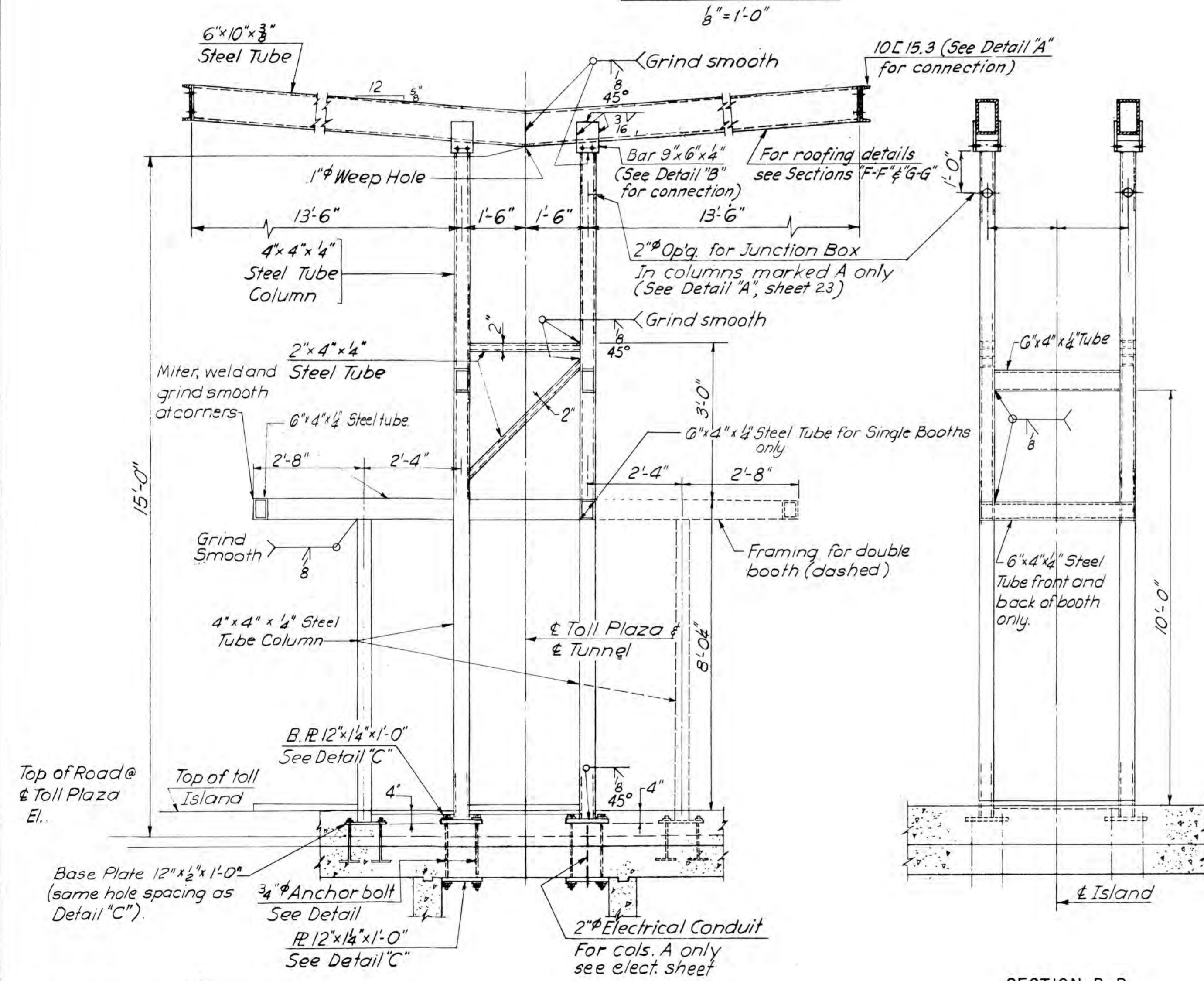
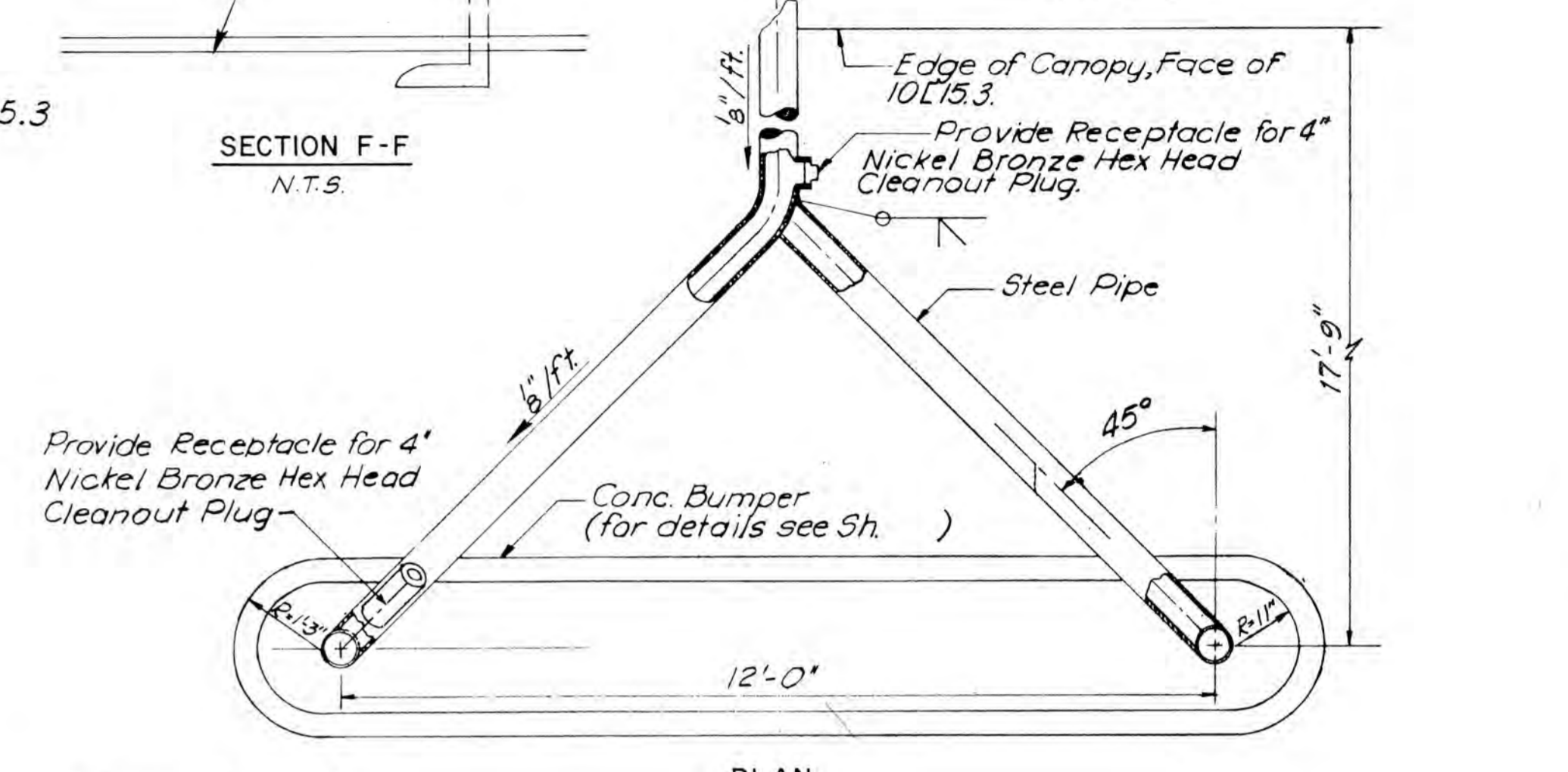
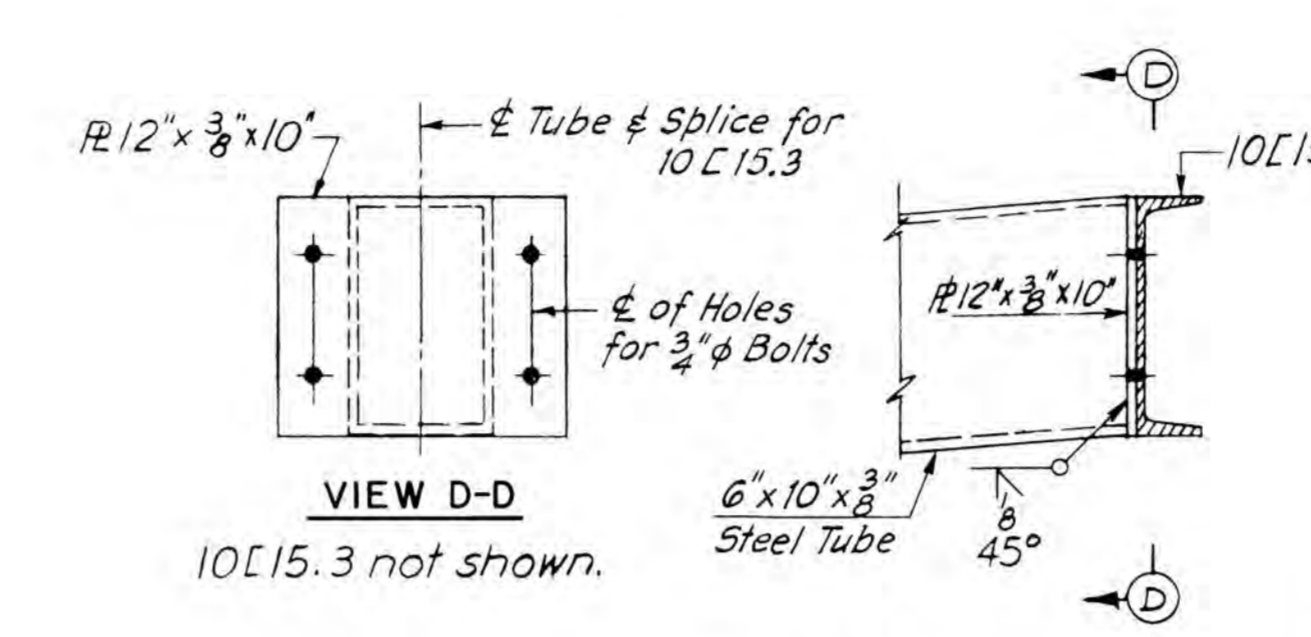
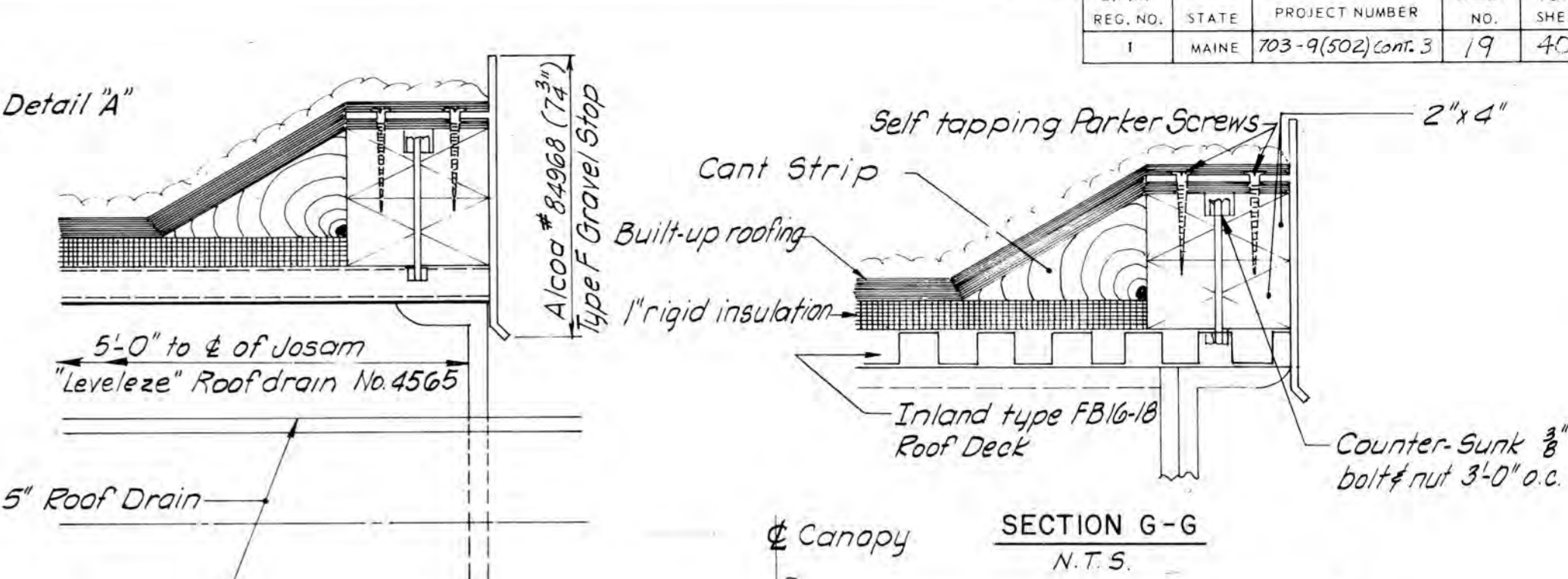
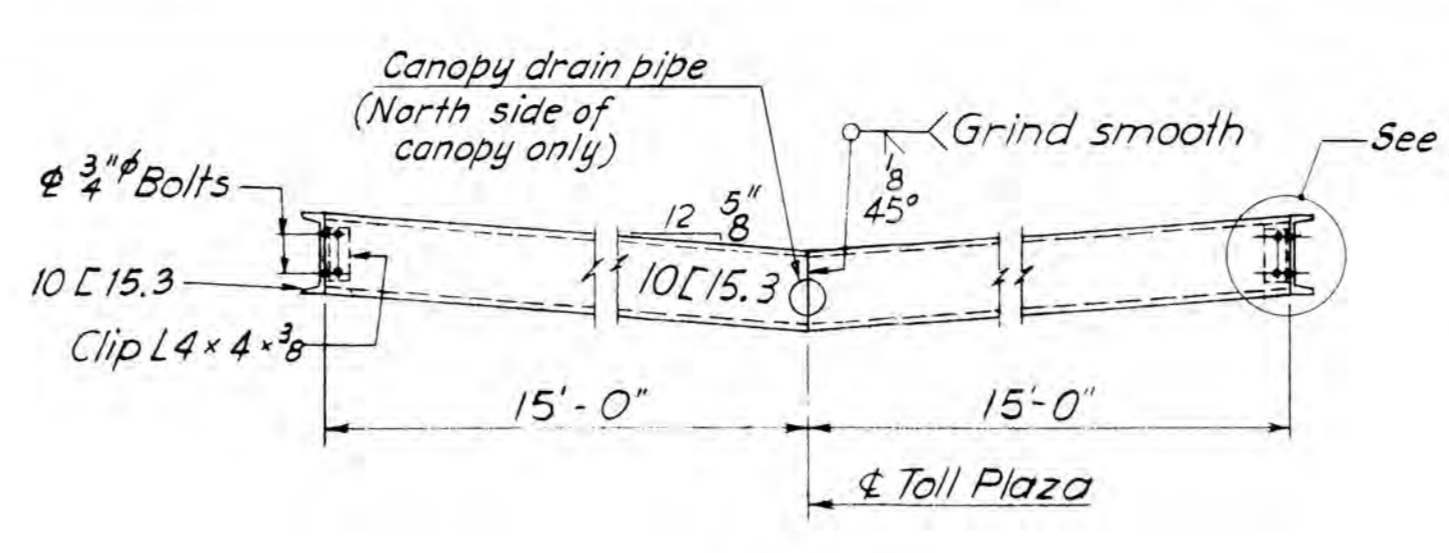
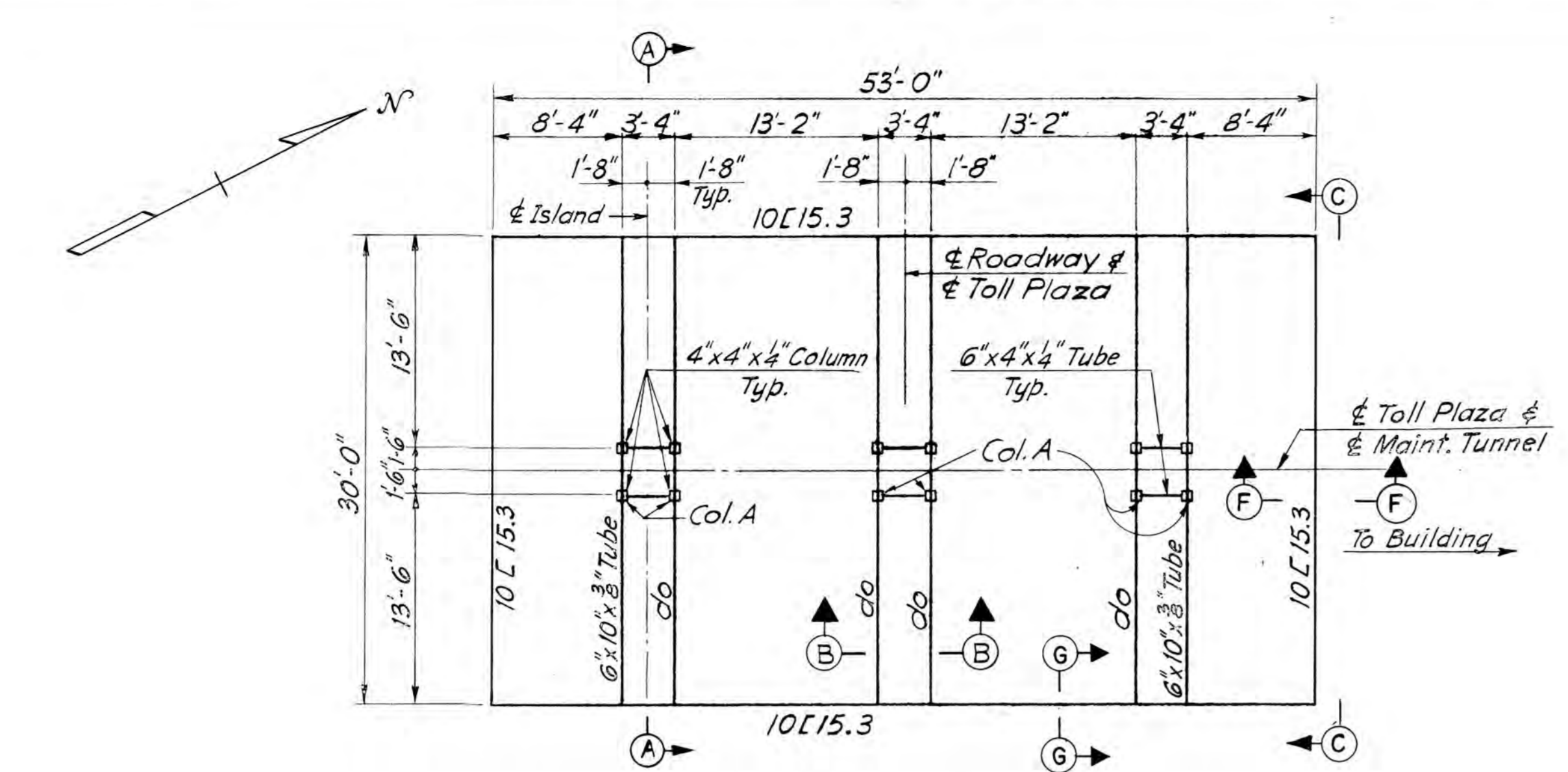
Note: First number of bar mark denotes bar size.



SECTION E-E



SECTION G-G



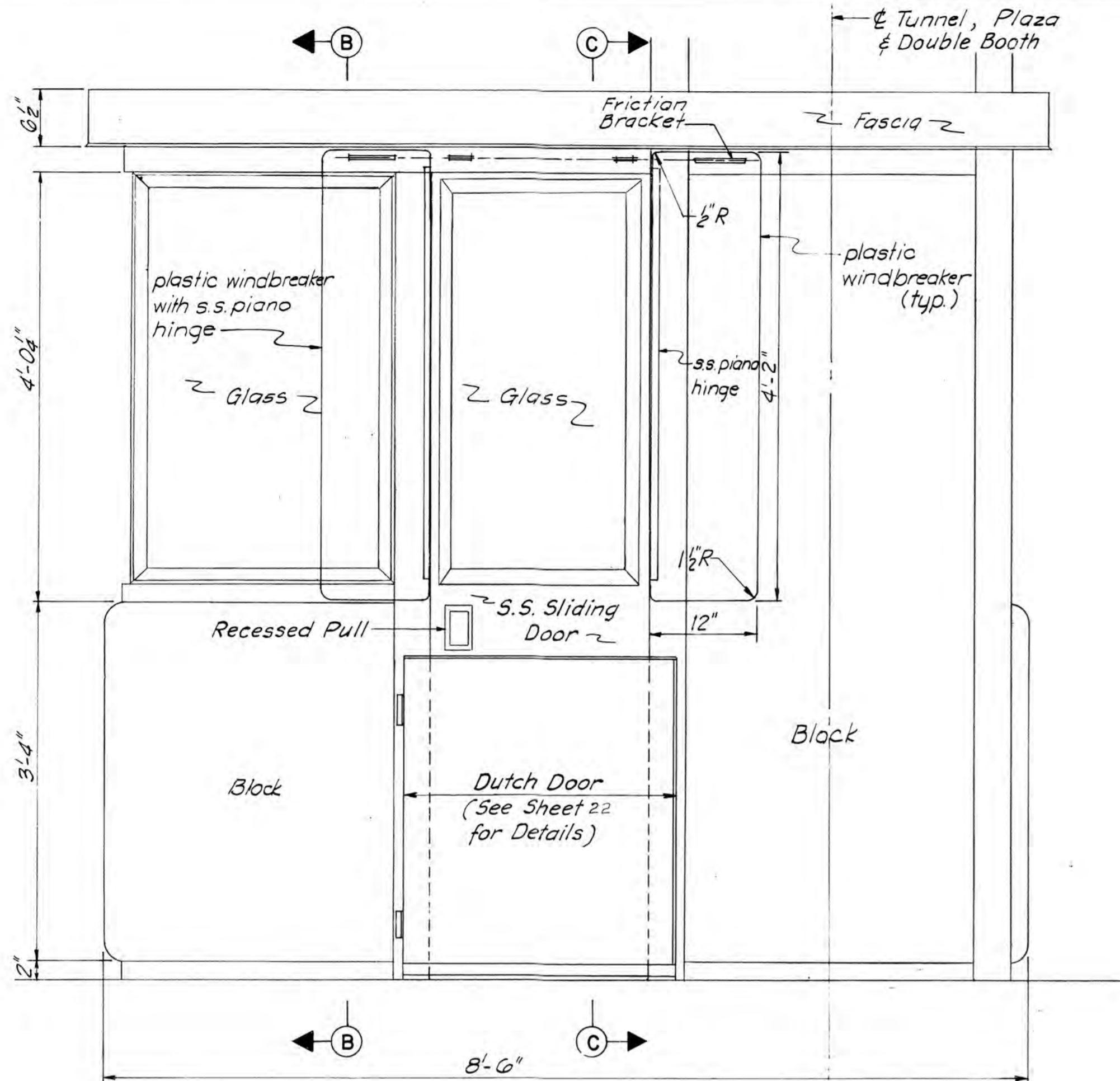
BOOTH & CANOPY FRAMING ELEVATIONS
 $\frac{1}{2}'' = 1'-0''$

MAINE STATE HIGHWAY COMMISSION
 AUGUSTA, MAINE

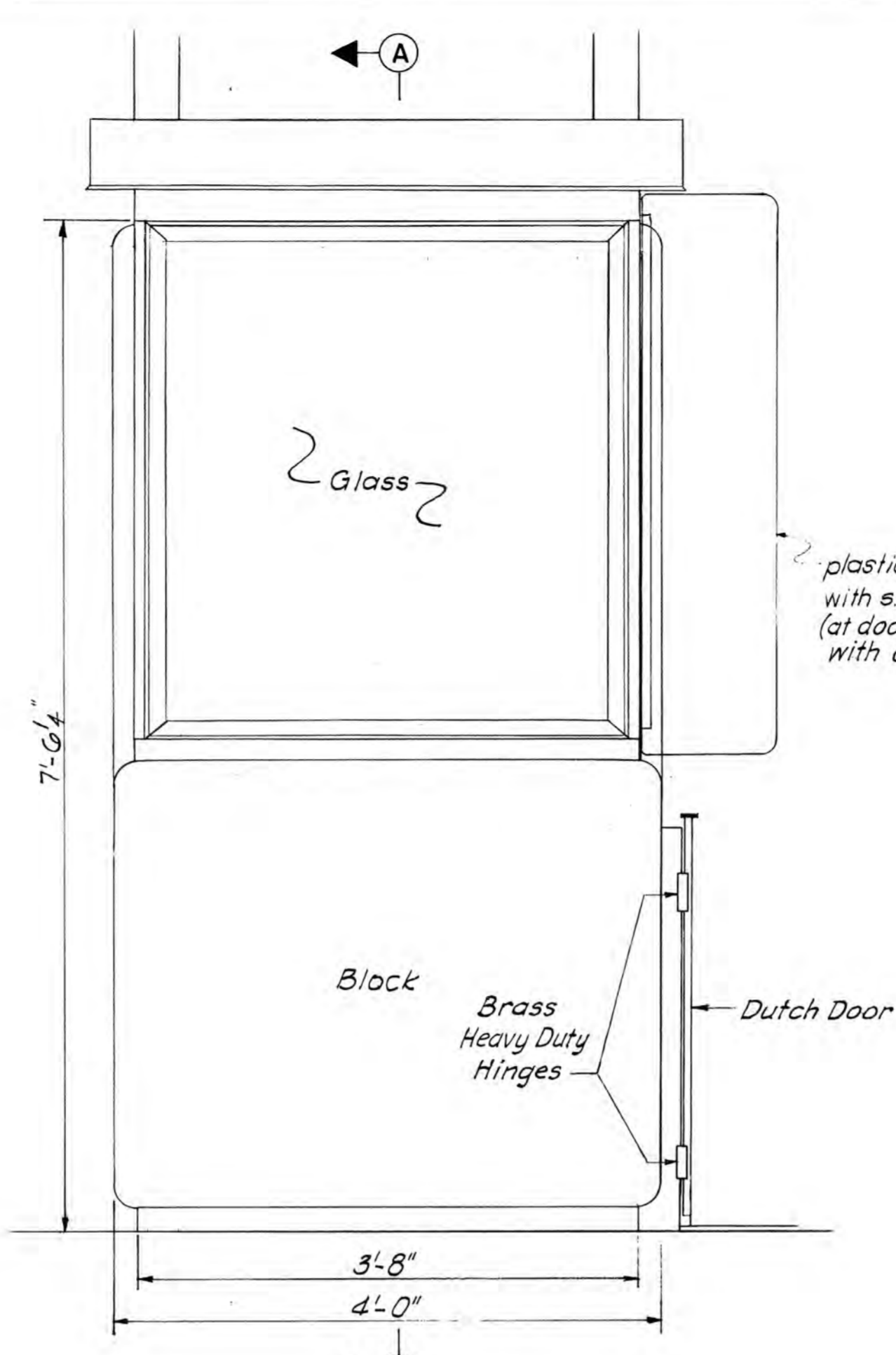
TOLL BOOTHS & CANOPY FRAMING & DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS

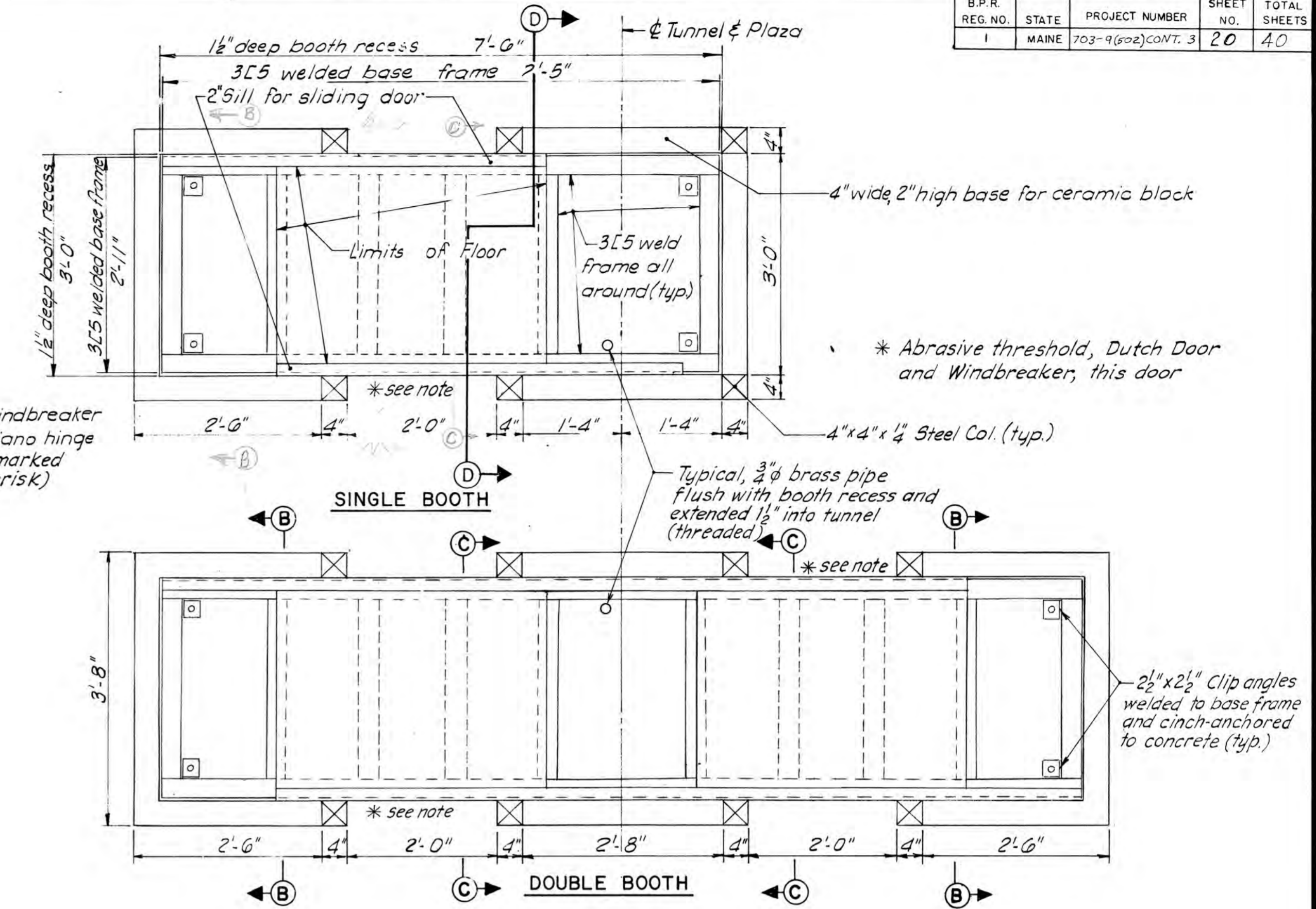
NEW YORK BOSTON KANSAS CITY



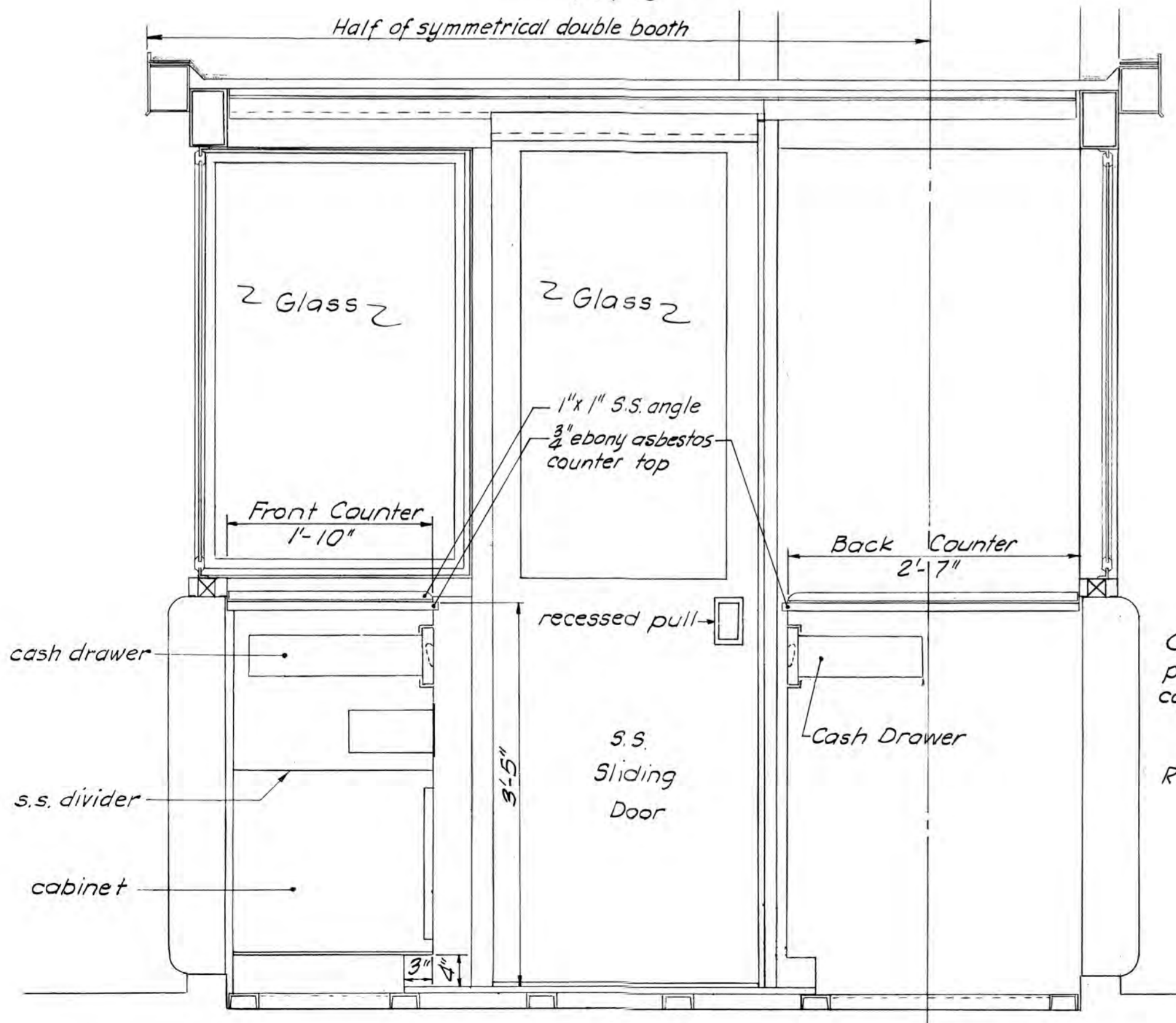
SIDE ELEVATION
1" = 1'-0"



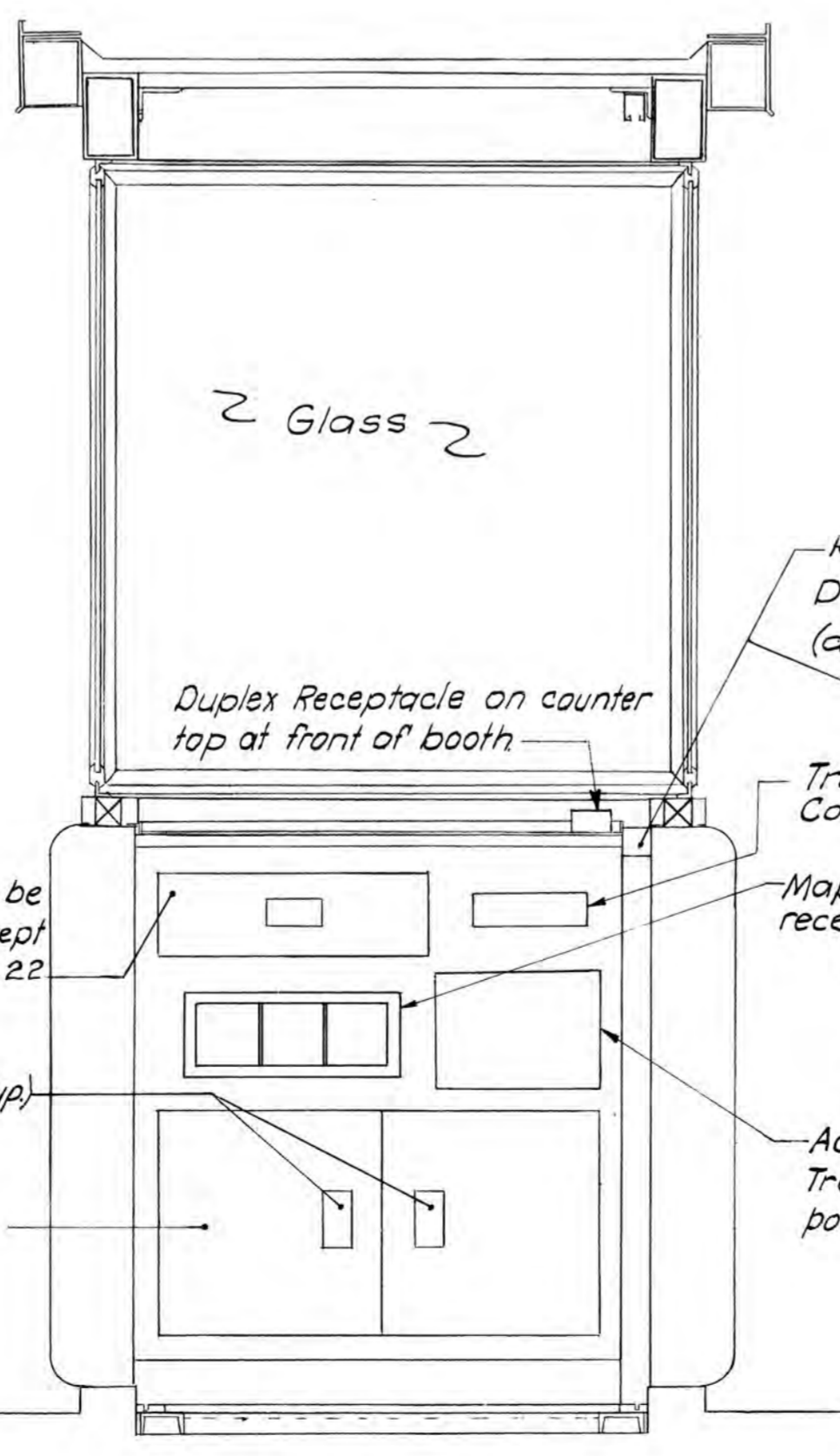
FRONT ELEVATION
1" = 1'-0"



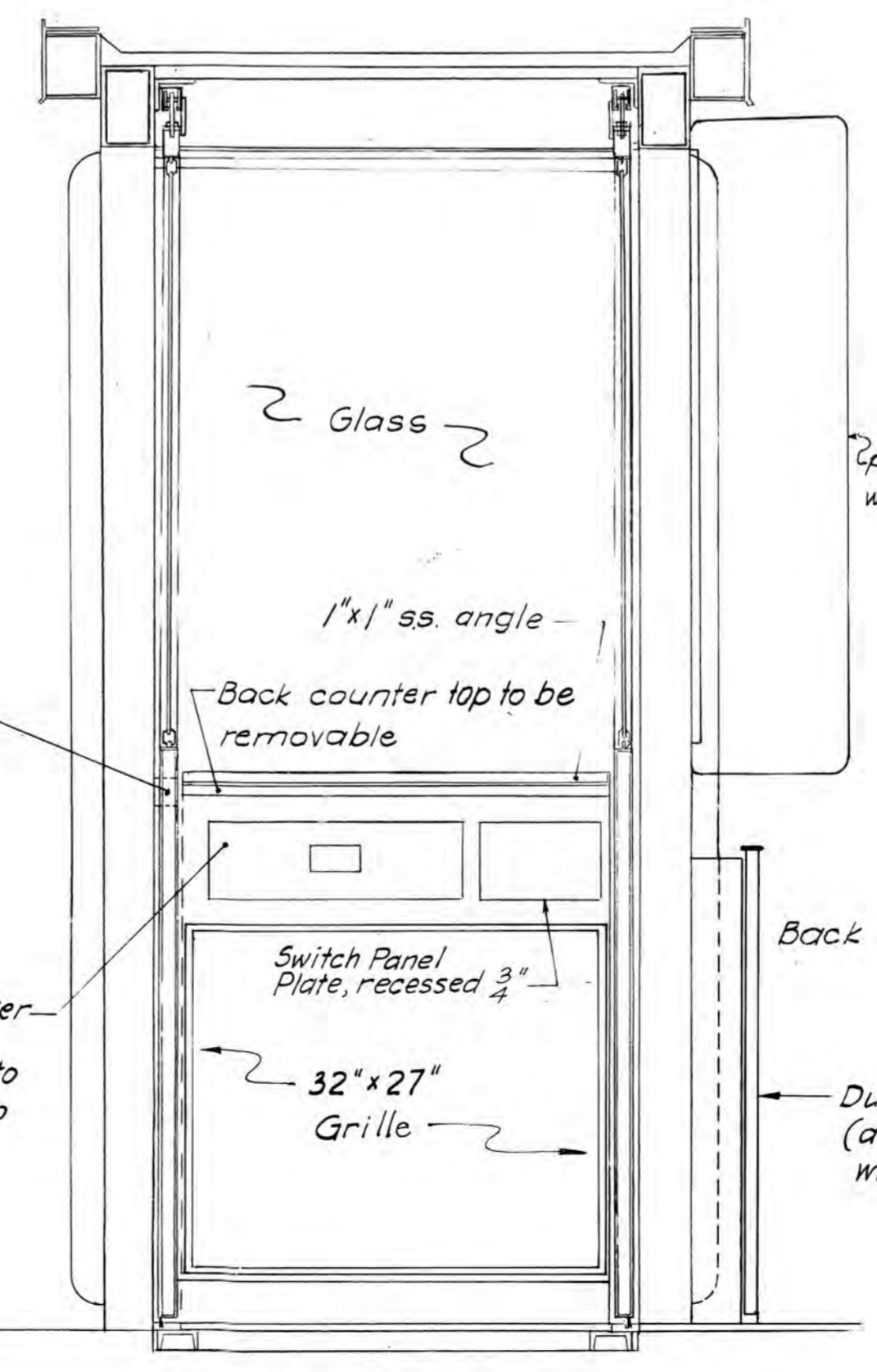
FRAMING PLAN AT BASE OF TOLL BOOTHS
3/4" = 1'-0"



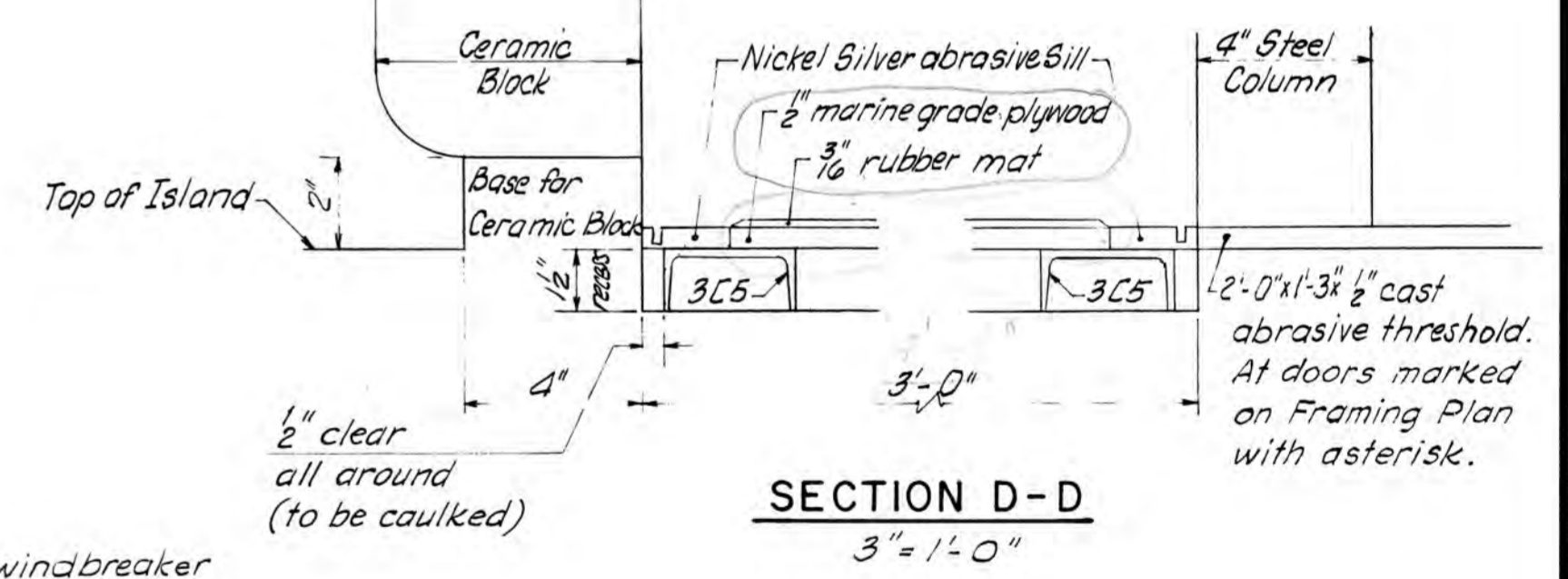
SECTION A-A
1" = 1'-0"



SECTION B-B
1" = 1'-0"



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



SECTION D-D
3" = 1'-0"

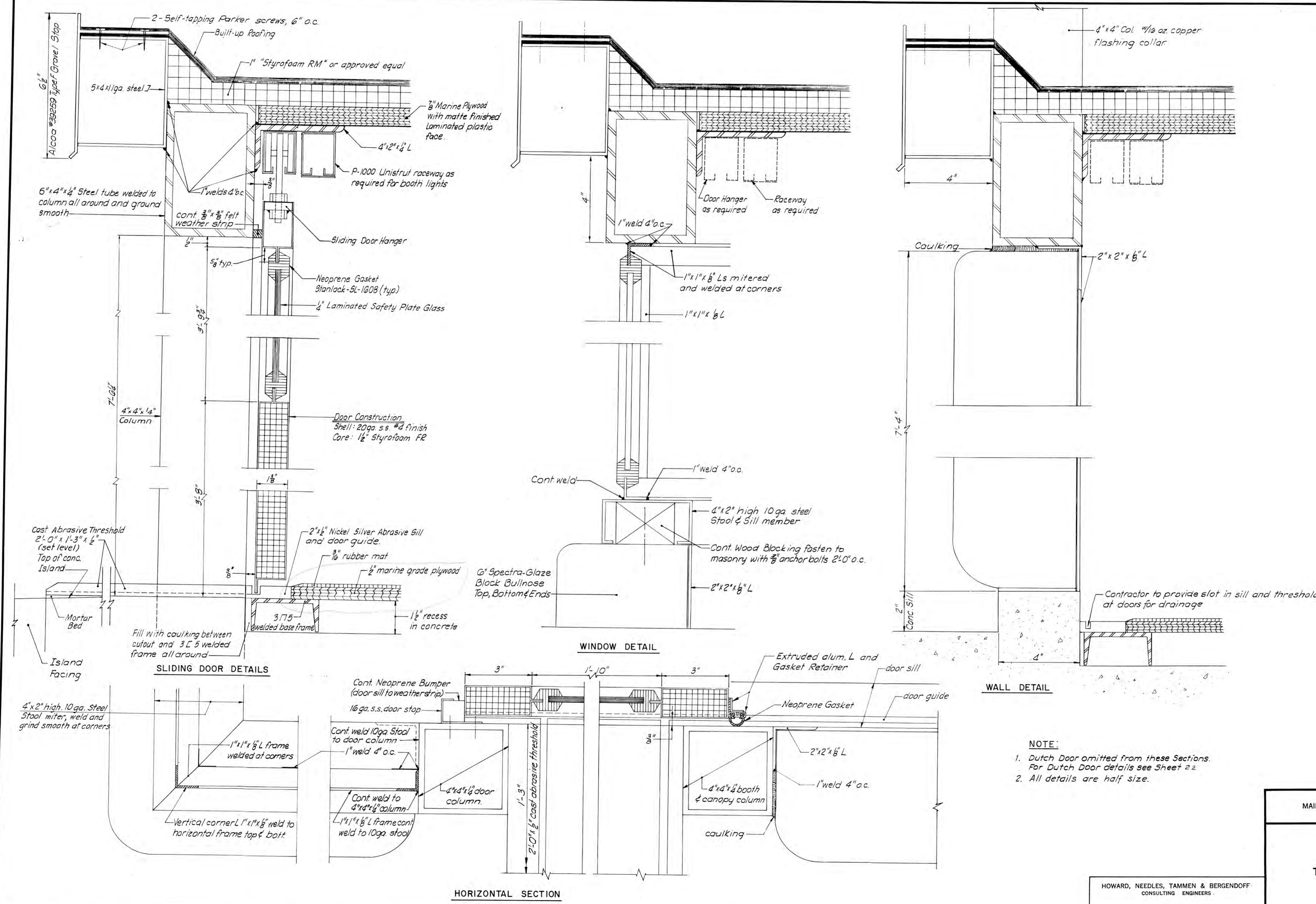
1. For details of booth construction see sheet 21
2. Framing and shell of double booth are symmetrical about ϕ and same as single booth.
3. For details of cash tray and map receptacle see sheet 22

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

**TOLL BOOTHS
ELEVATIONS & SECTIONS**

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

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NOTE:

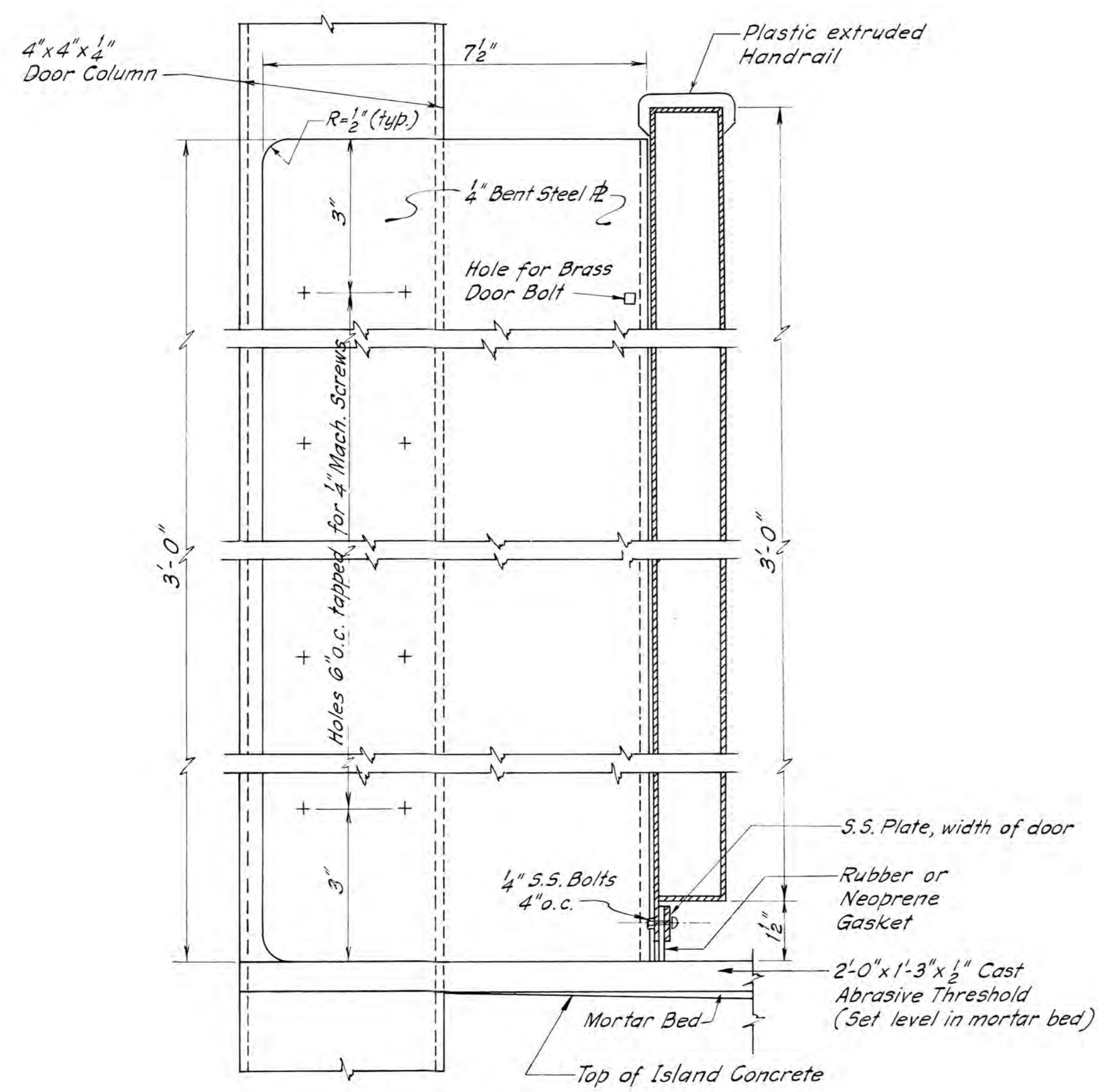
- Dutch Door omitted from these Sections. For Dutch Door details see Sheet 22
- All details are half size.

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

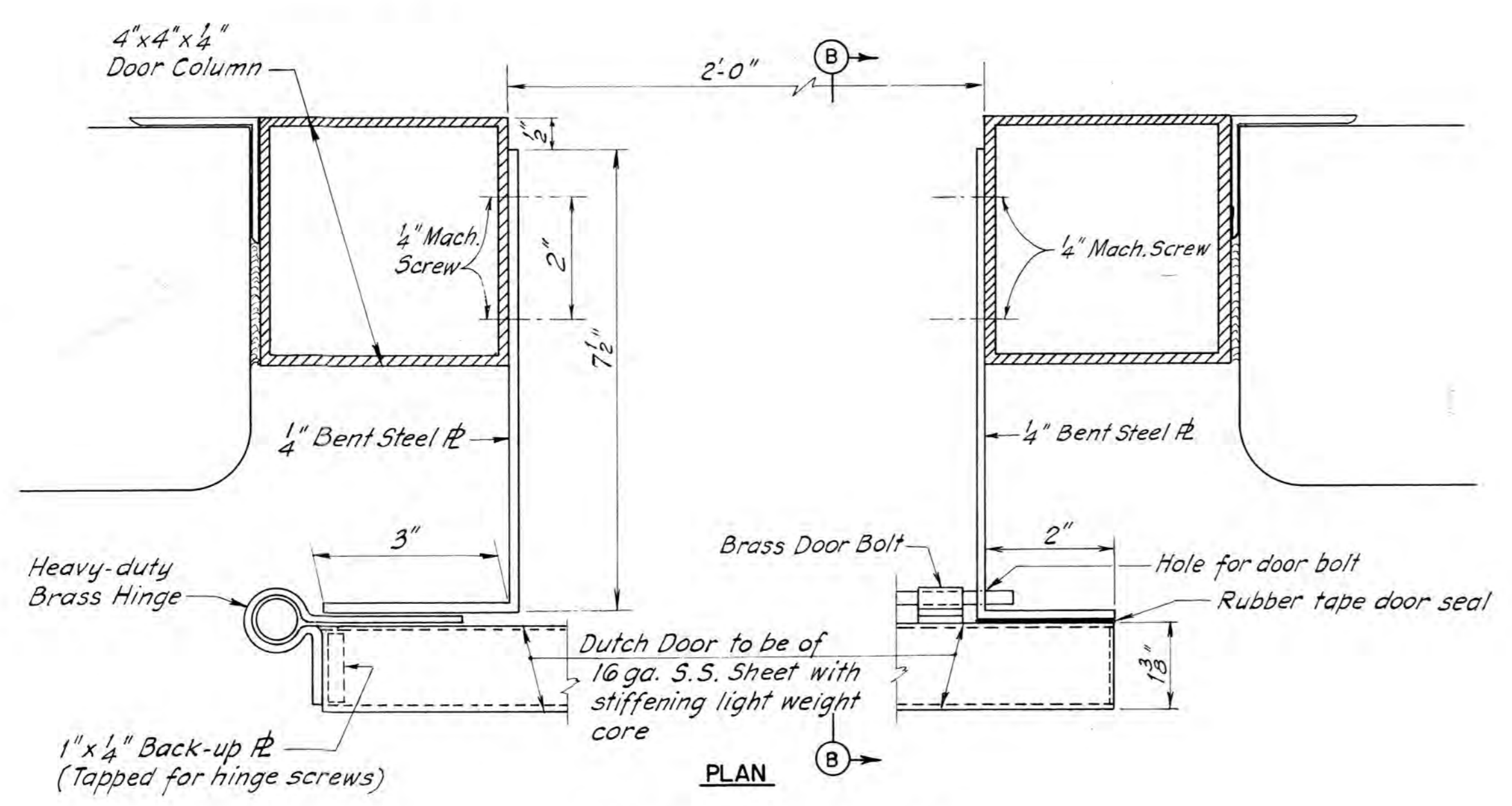
TOLL BOOTH DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

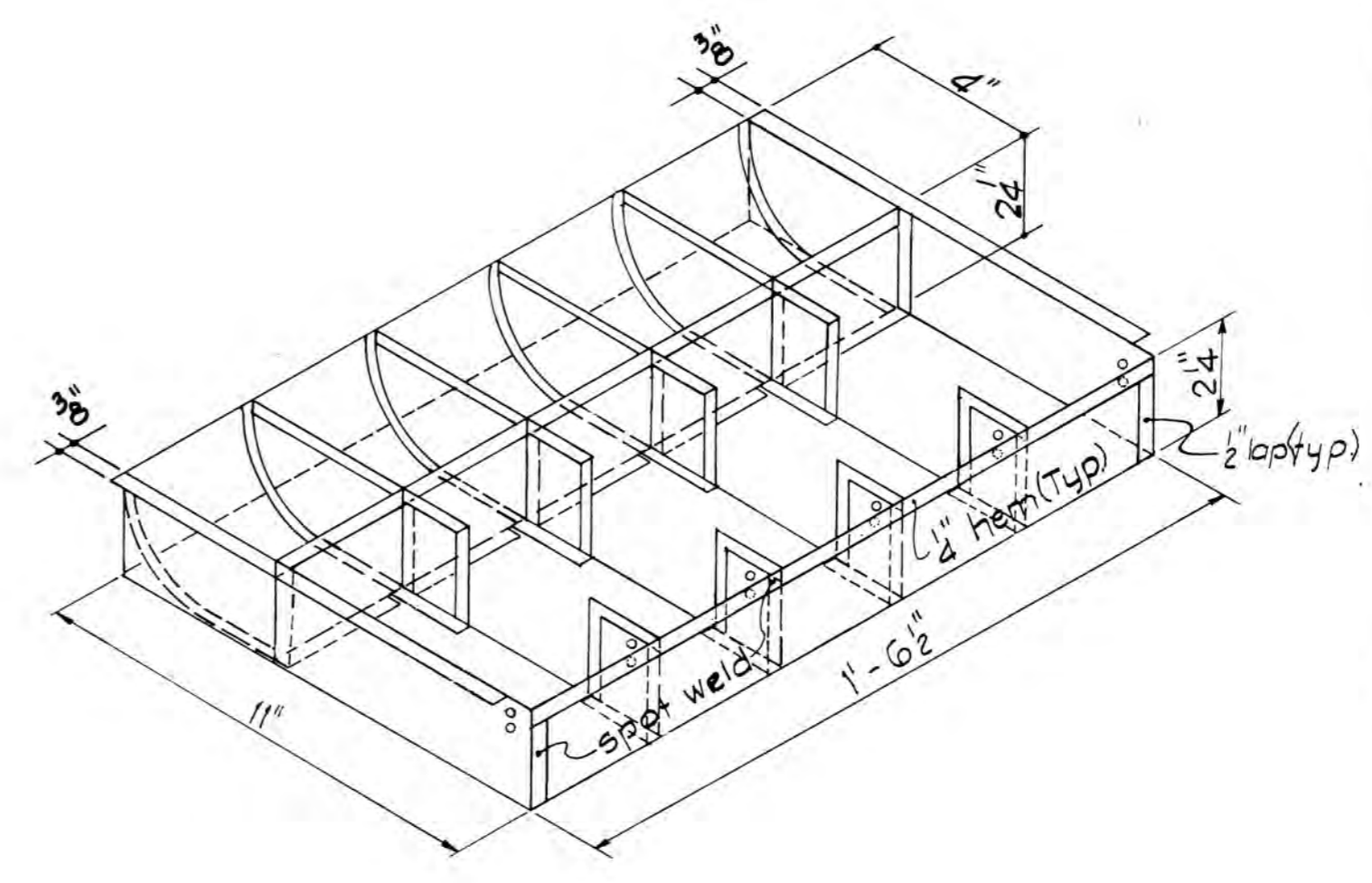
NEW YORK BOSTON KANSAS CITY



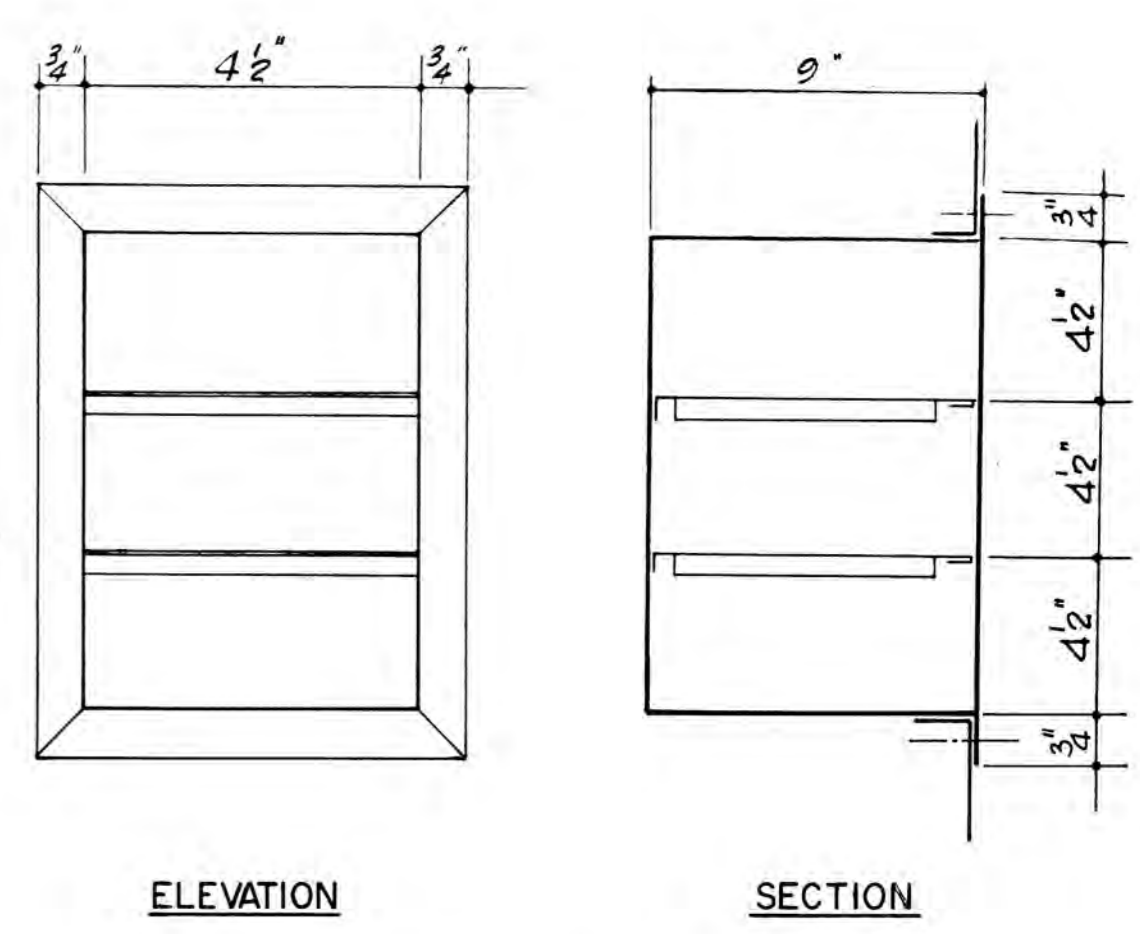
SECTION B-B



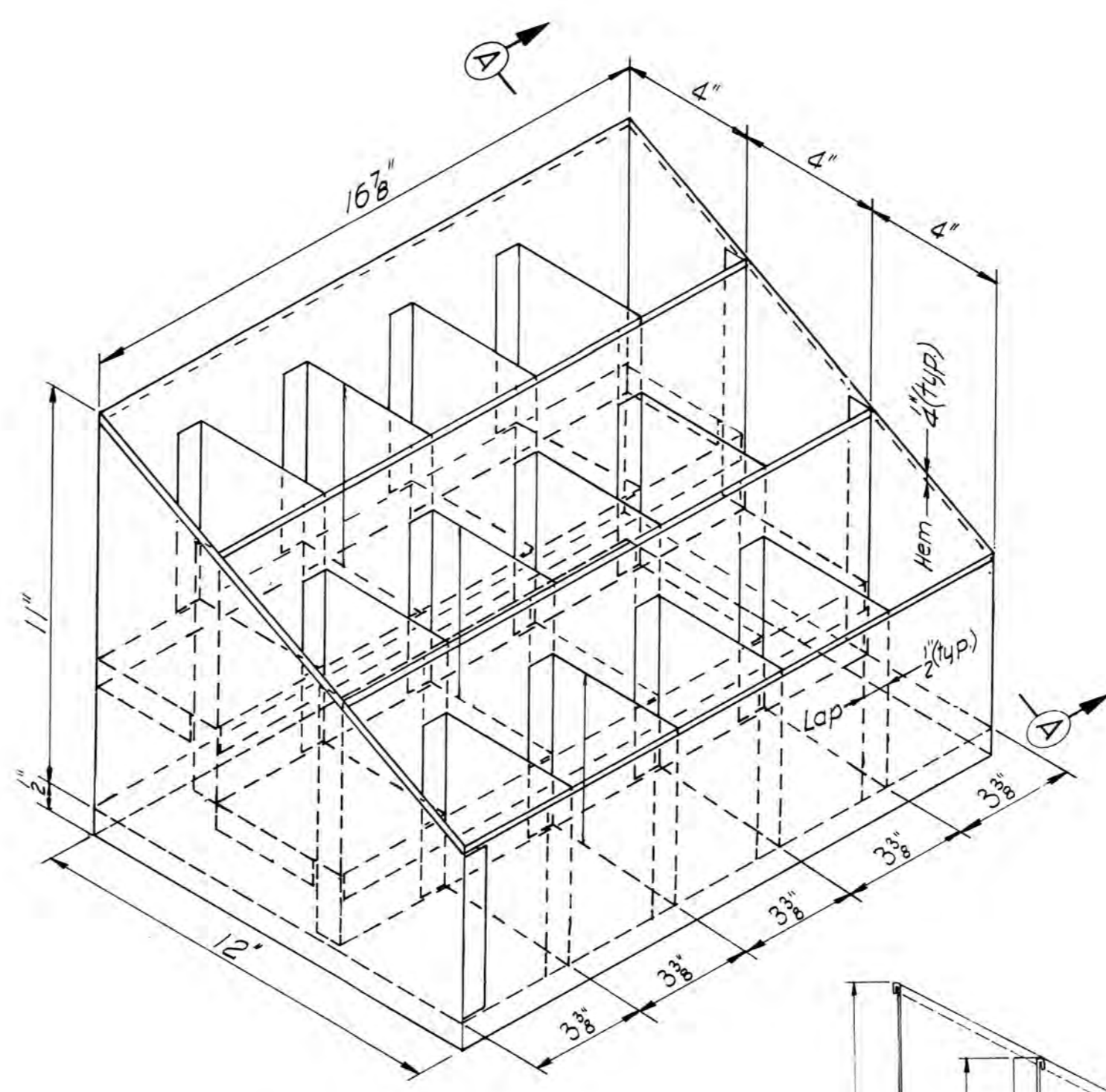
DUTCH DOOR DETAILS
Half Size



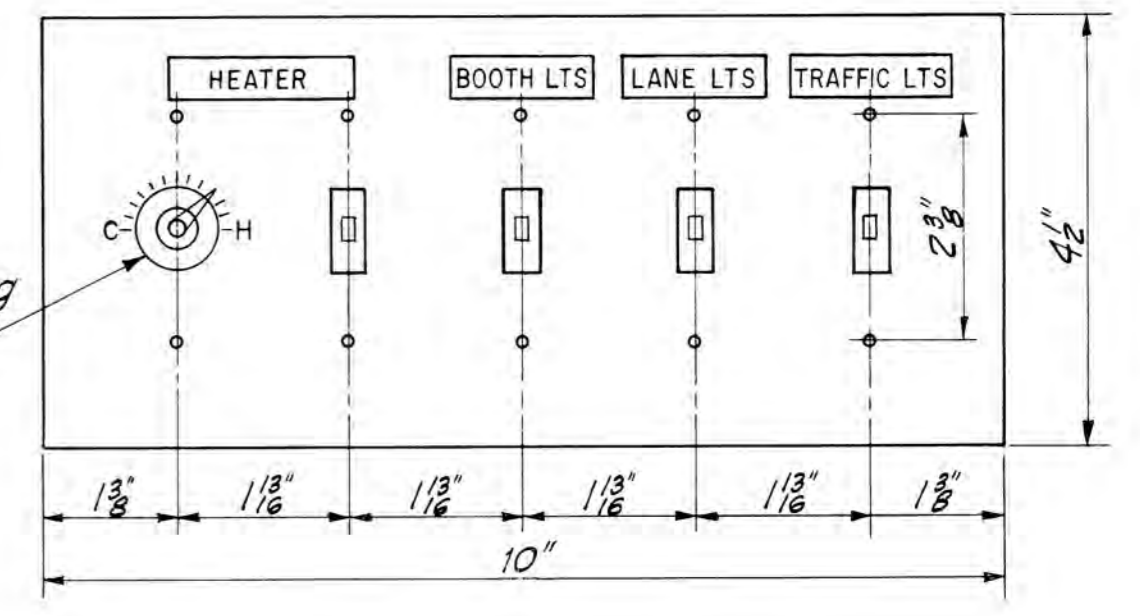
CASH TRAY INSERT
3" x 1'-0"



MAP & PAPER RECEPACLE
Not to Scale

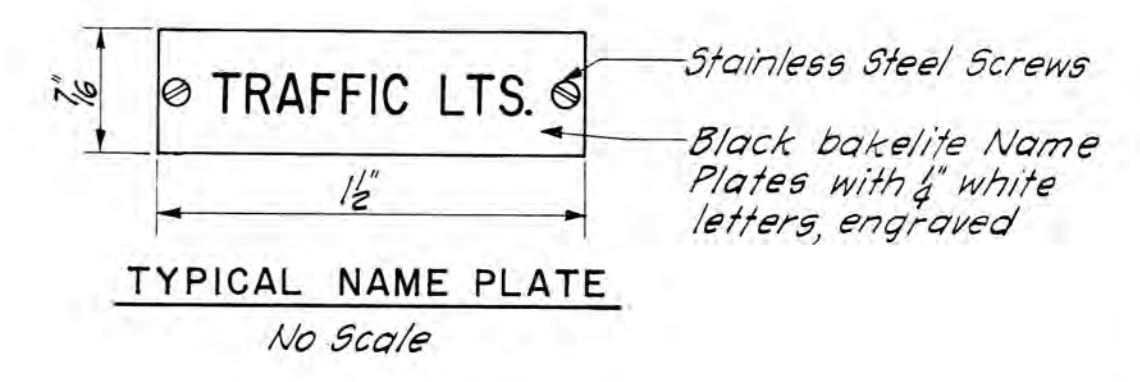


TOLL TICKET HOLDER
3" x 1'-0"

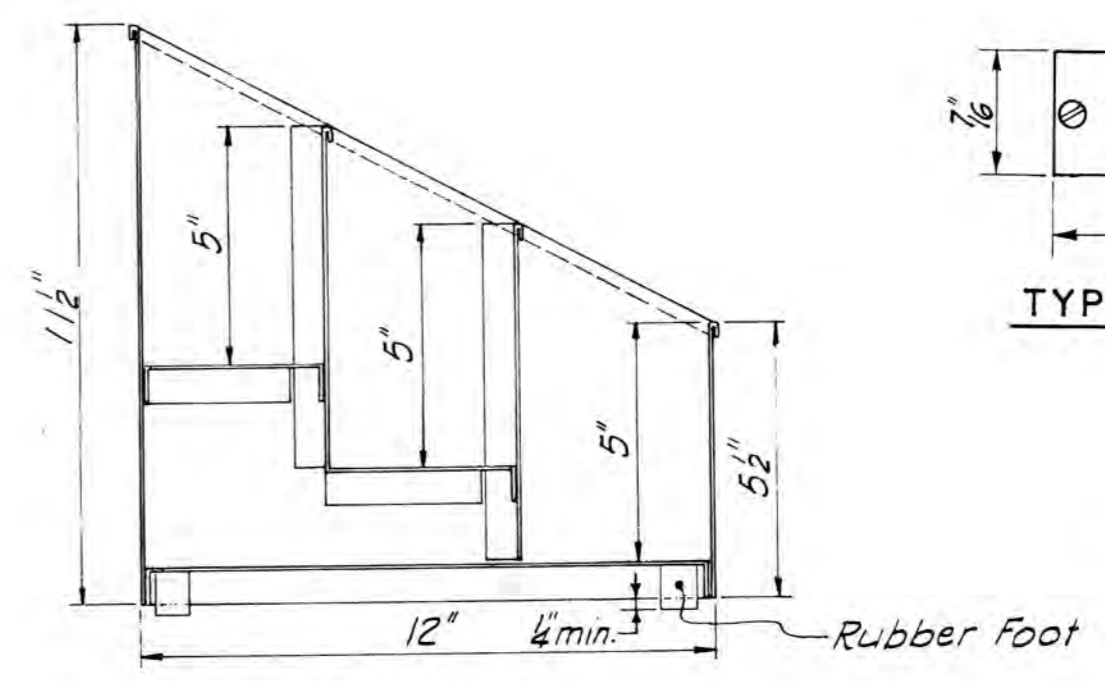


SWITCH PANEL PLATE DETAIL
Half Size
Note: Plate shall be Stainless Steel .040" Recessed 3/8" into face of Counter.

SWITCH SCHEDULE:
 Heater - 20A-3-position Hubbell Cat. No. 1385
 Double Booth Lts - 20A-2-pole Hubbell Cat. No. 2972
 Single Booth Lts - 20A-1-pole Hubbell Cat. No. 2971
 Lane Lts - 30A-1-pole Hubbell Cat. No. 2923
 Traffic Lts - 20A-3-way Hubbell Cat. No. 2973, or 20A-1-pole Hubbell Cat. No. 2971 as req'd.



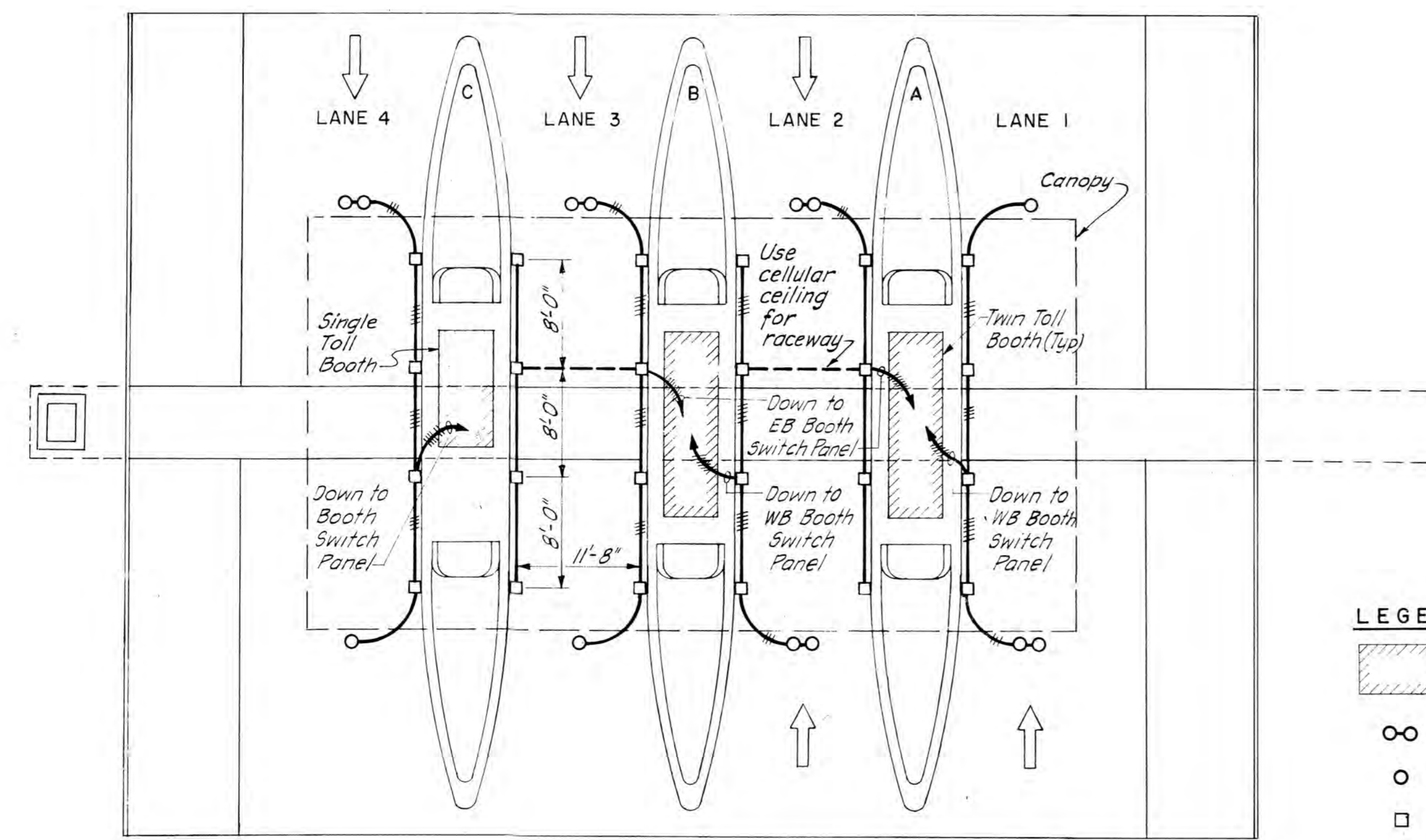
TYPICAL NAME PLATE
No Scale



SECTION A-A
3" x 1'-0"

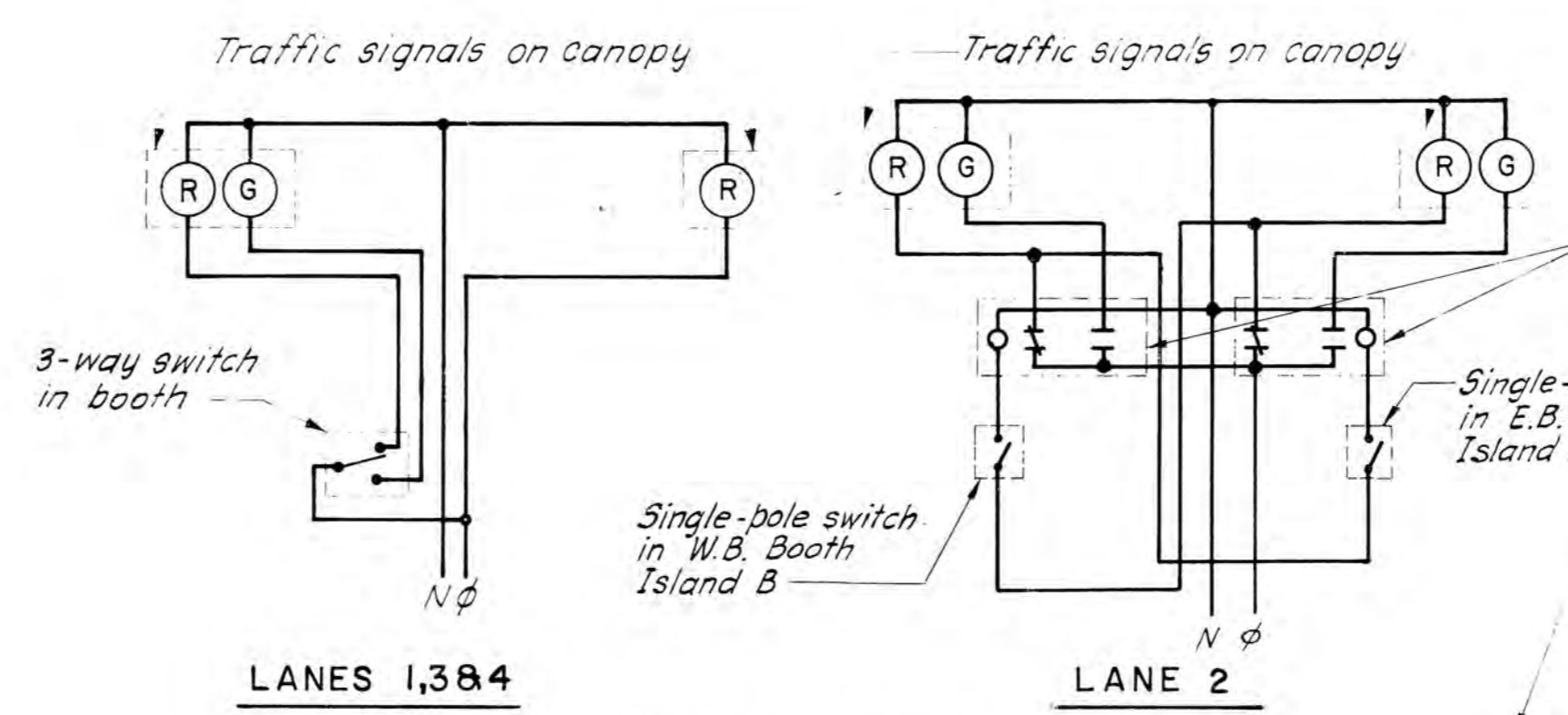
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
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MAINE STATE HIGHWAY COMMISSION
 AUGUSTA, MAINE
 MISCELLANEOUS DETAILS

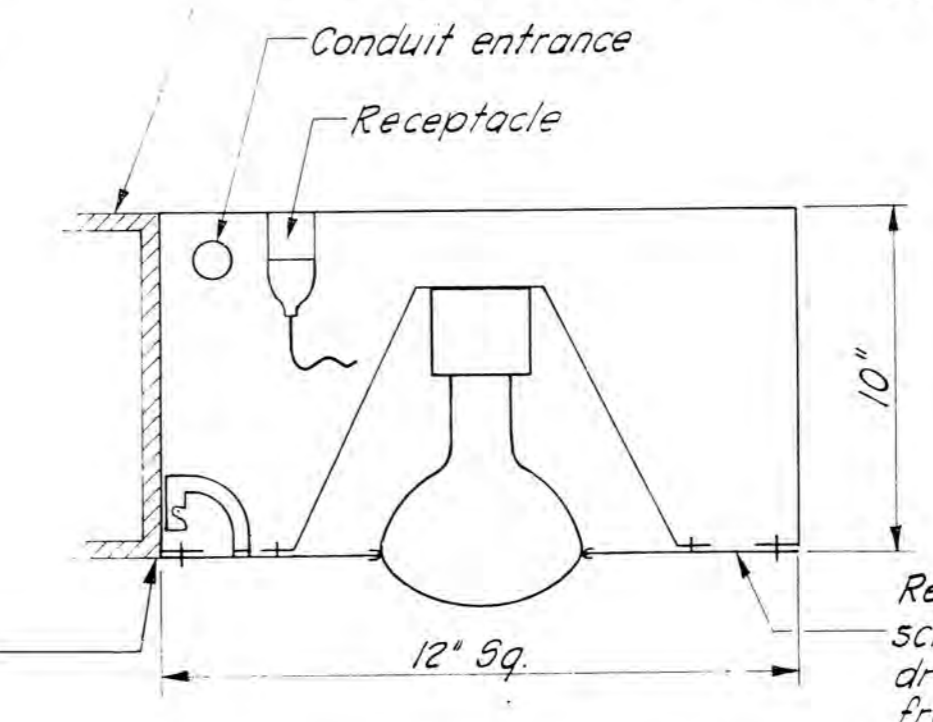


LANE LIGHTING PLAN
1/8" = 1'-0"

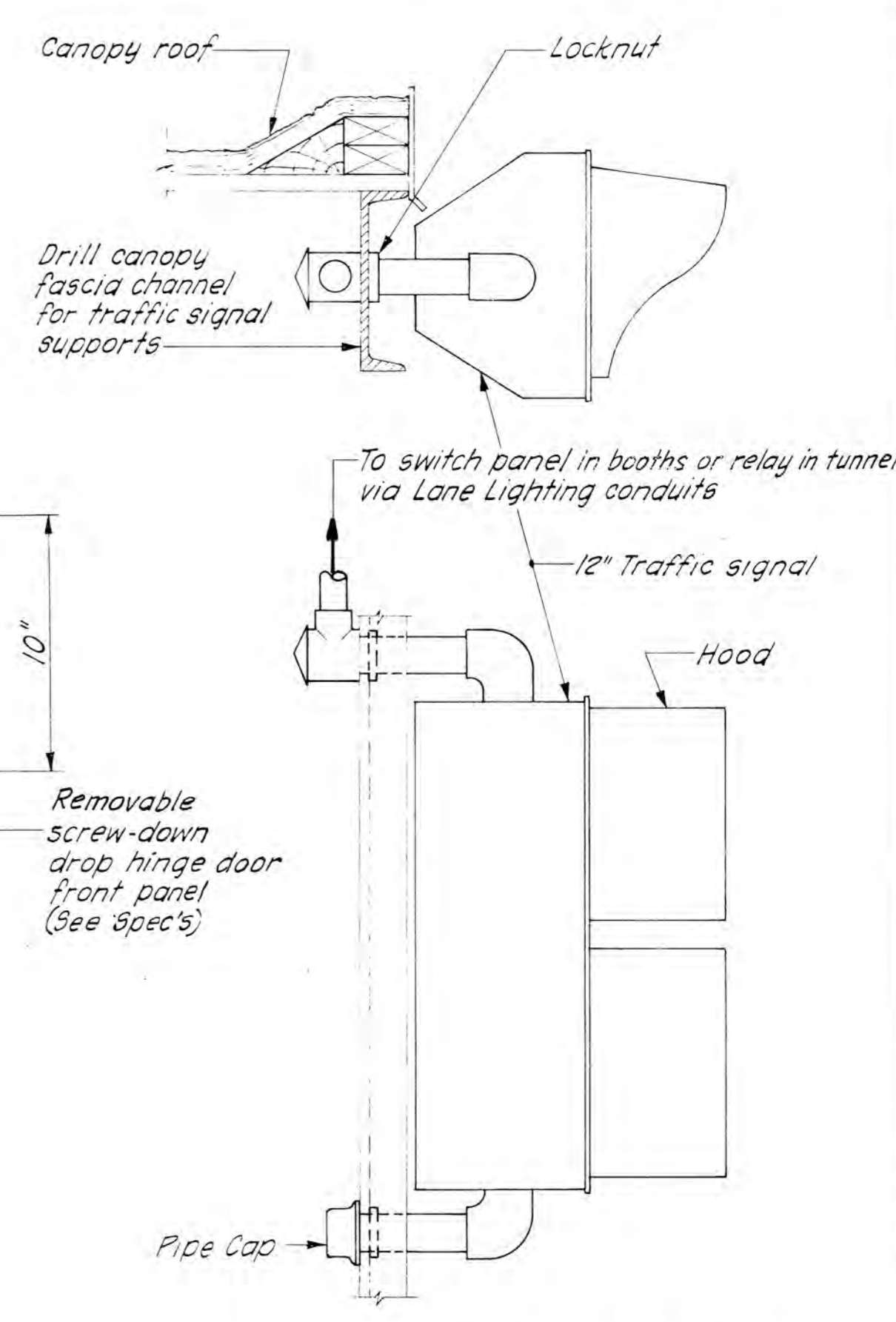
- LEGEND**
- Toll Booths
 - Red-Green Traffic Signal
 - Red Traffic Signal
 - Lane Light



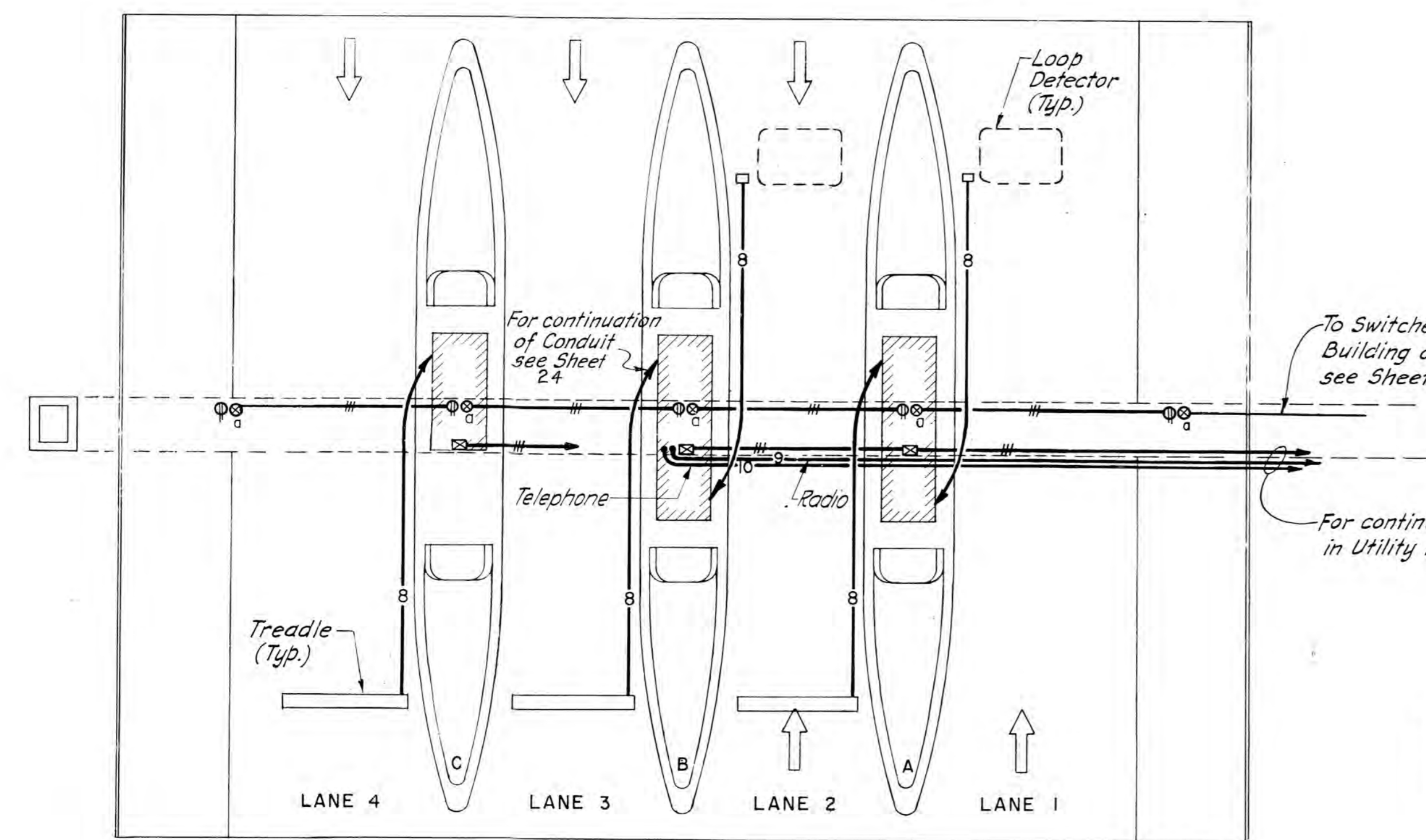
TRAFFIC CONTROL WIRING DIAGRAMS
No Scale



LANE LIGHT DETAIL
No Scale



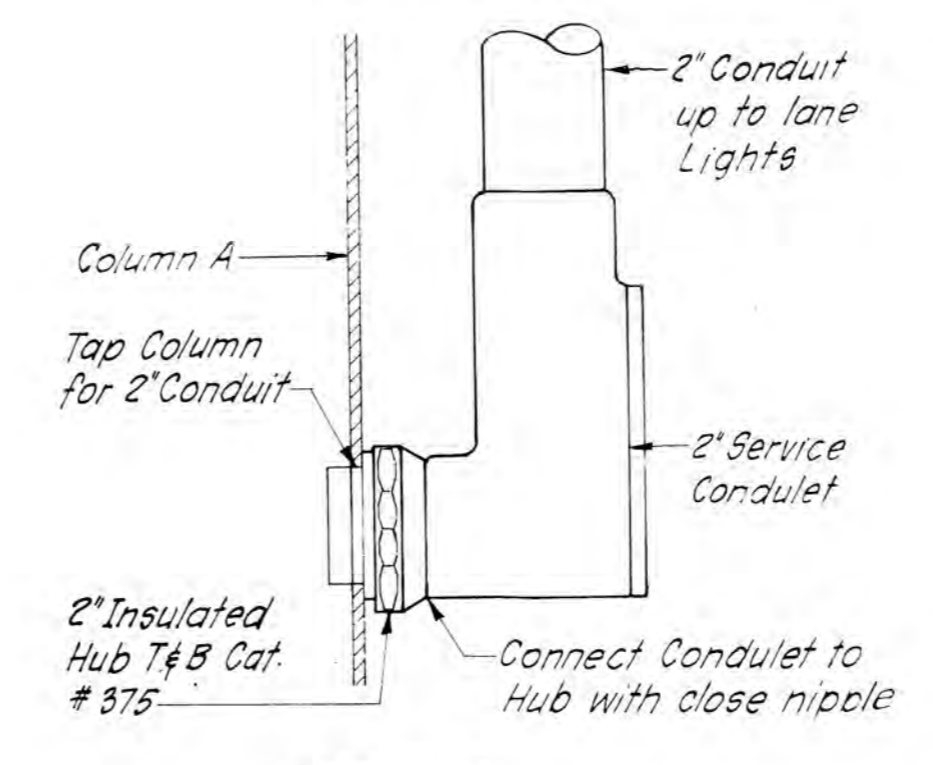
TRAFFIC SIGNAL LIGHTING DETAILS
No Scale



TUNNEL & LIGHTING CONDUIT FEEDERS
1/8" = 1'-0"

- LEGEND**
- Toll Booths
 - Tunnel Receptacle, equal to R#5 Cat. #39086 except with 3711 box. (Connect to Circuit #D-9)
 - Tunnel Light, equal to R#5 Cat. #5067 with 2401 Junction box. (Controlled from Switches in Utility Building.)
 - Toll Island Circuit Breaker Panel

Note: See Conduit Schedule Sheet No. for Treadle Conduit Size

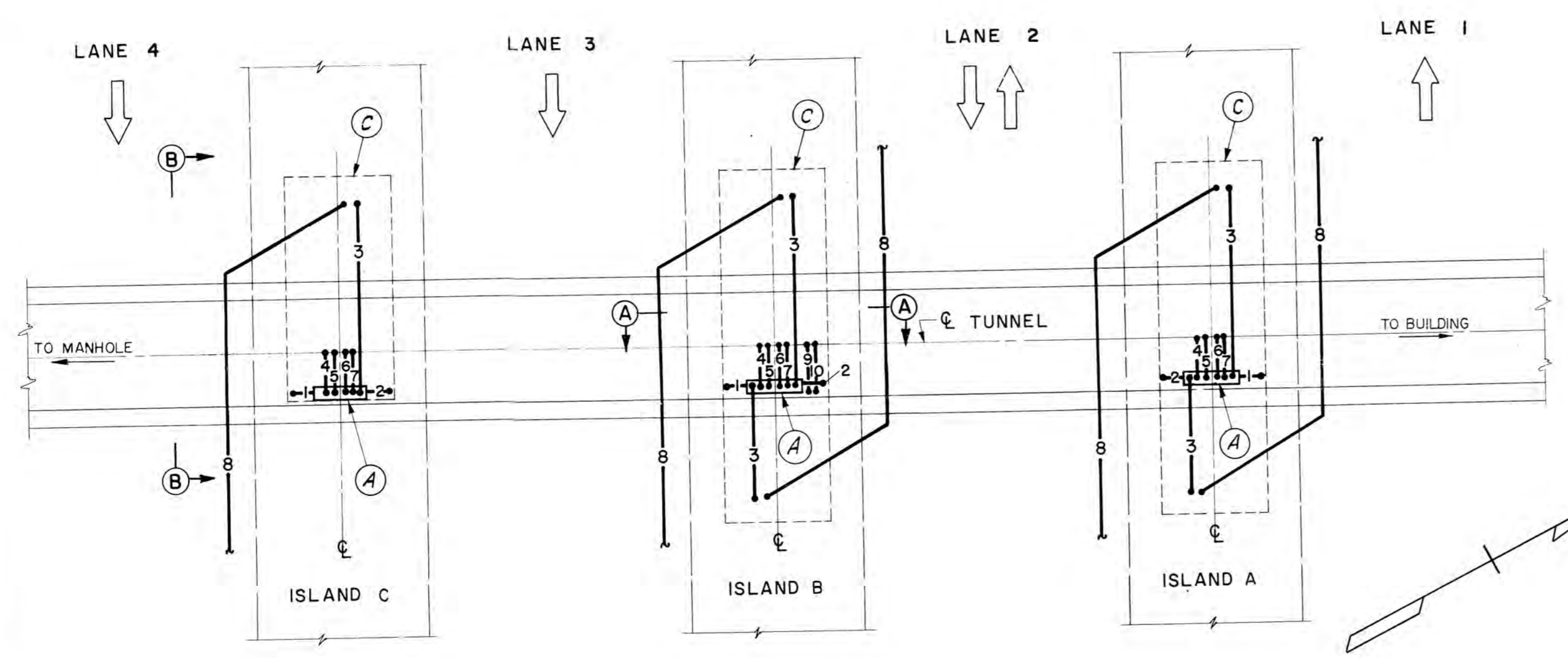


DETAIL A
No scale
For Location see Sheet #

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**TOLL PLAZA LIGHTING PLAN
AND DETAILS**



PLAN
 $\frac{1}{4}'' = 1'-0''$

TOLL PLAZA EQUIPMENT SCHEDULE

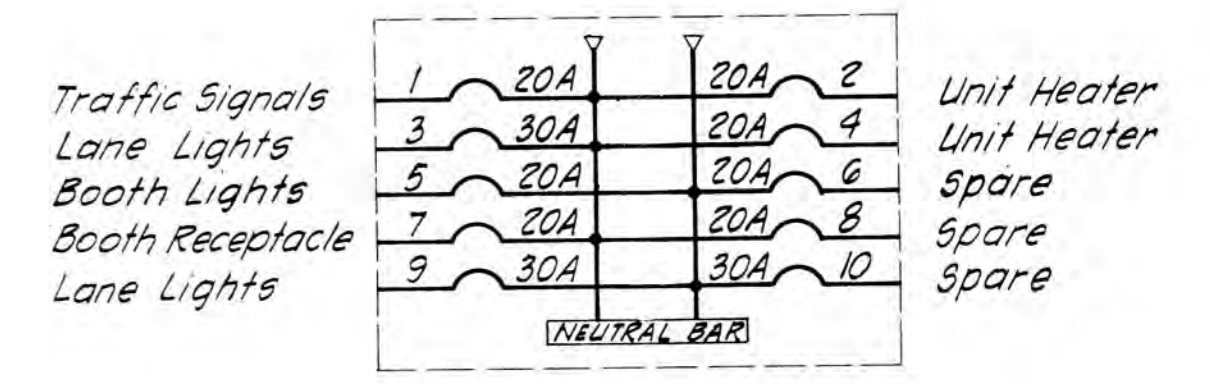
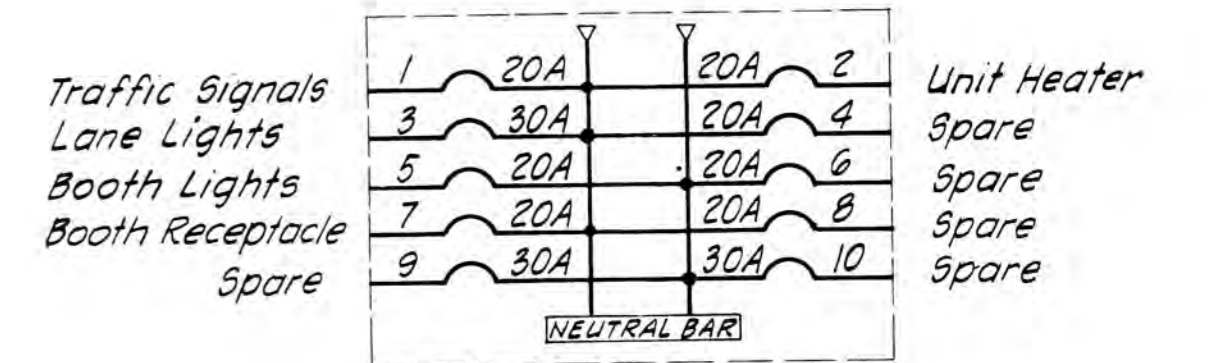
- (A) Toll Island Circuit Breaker Panel.
- (B) Booth Heating Unit
- (C) Toll Booth
- (D) Duplex Receptacle in F.D. Box

NOTES

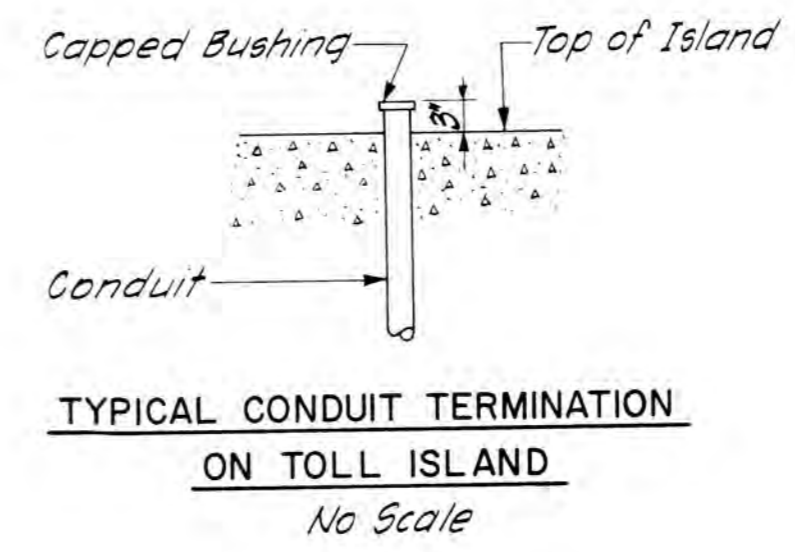
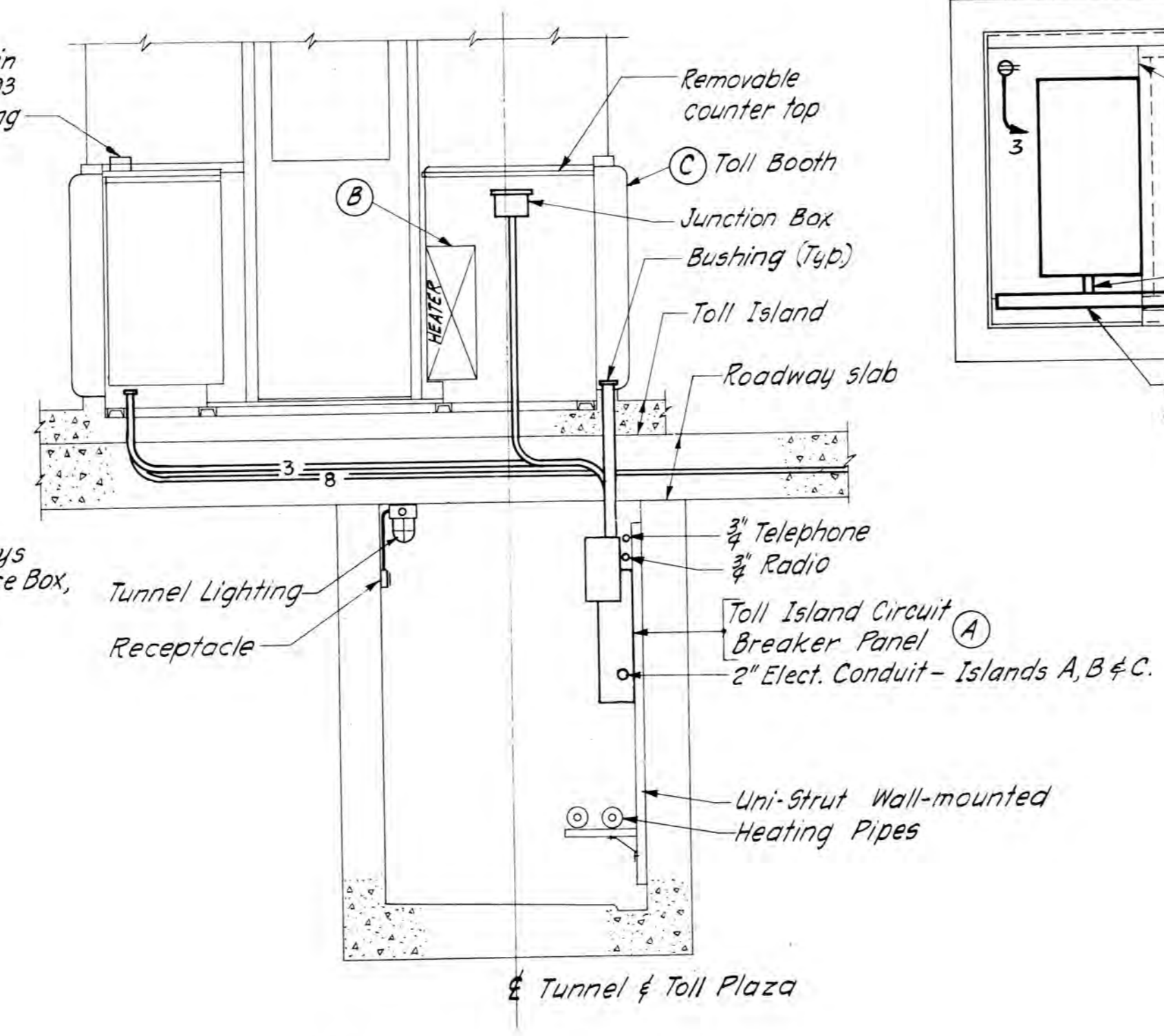
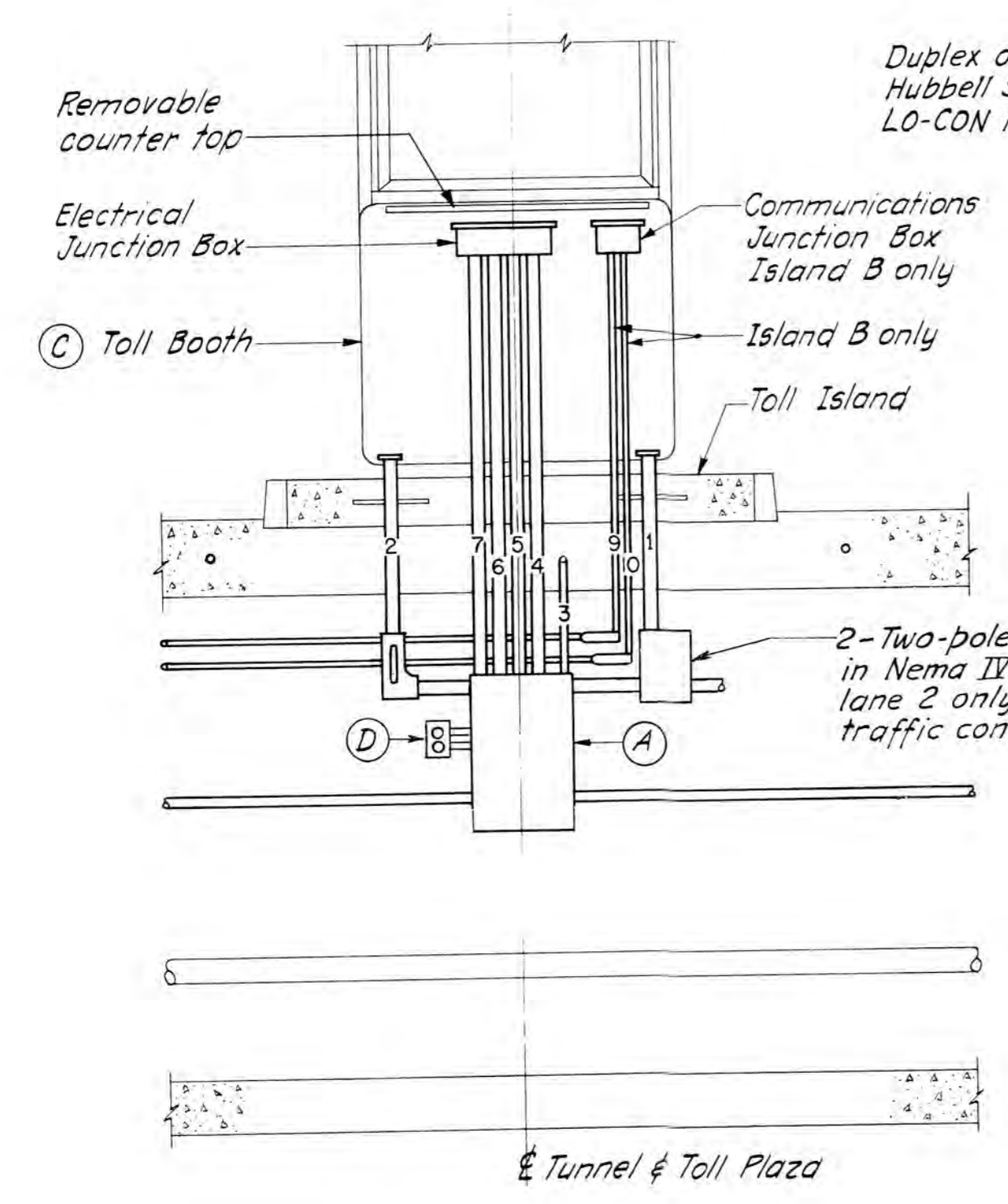
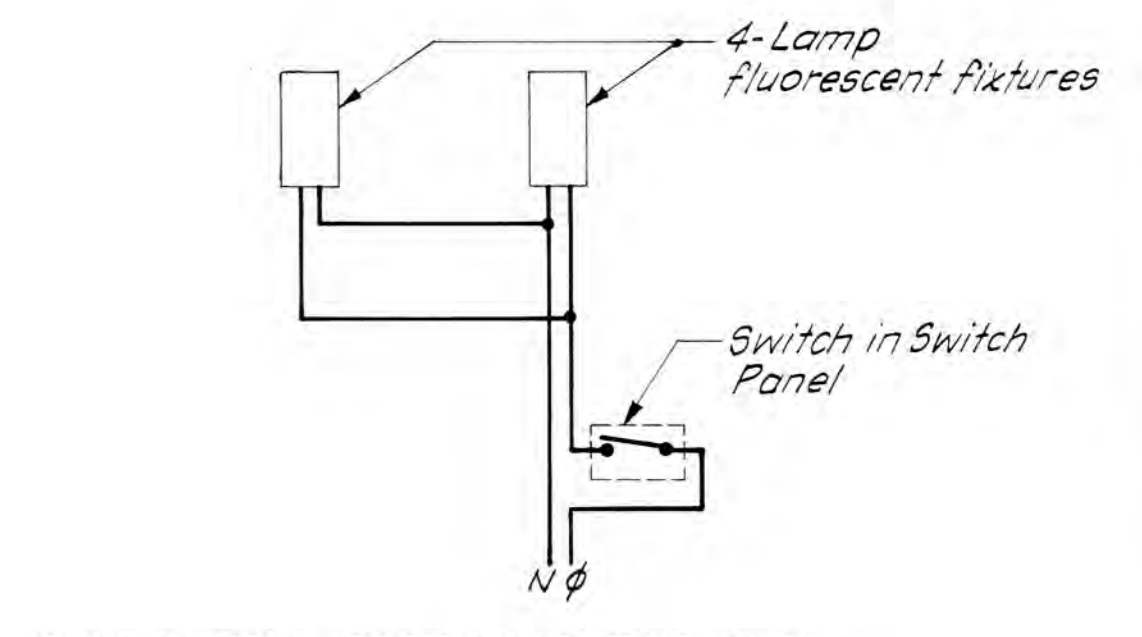
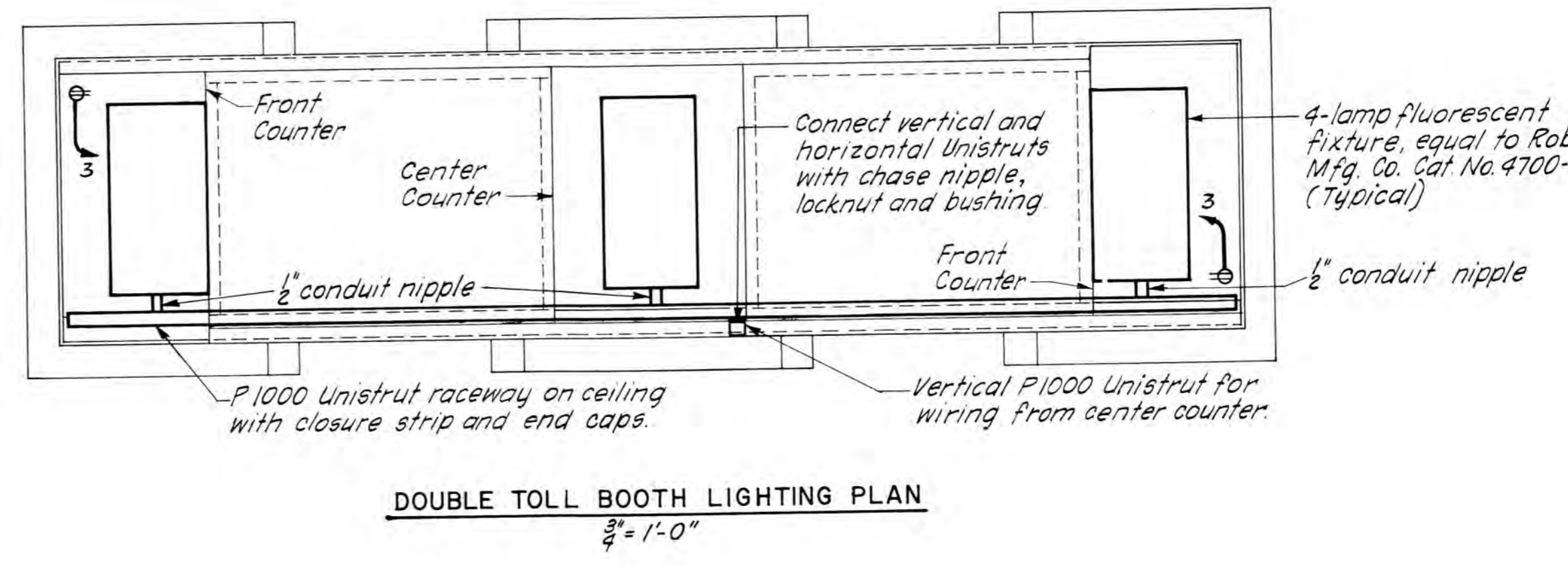
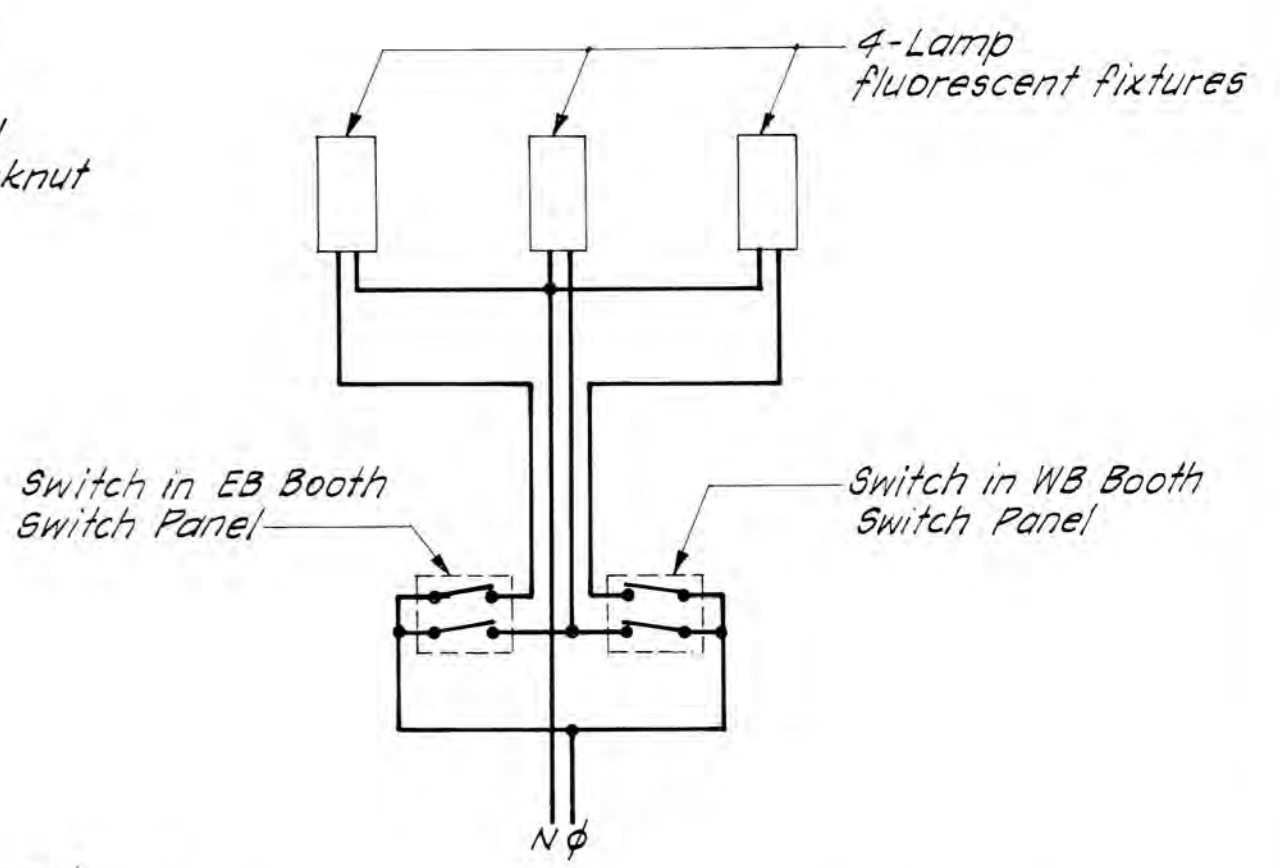
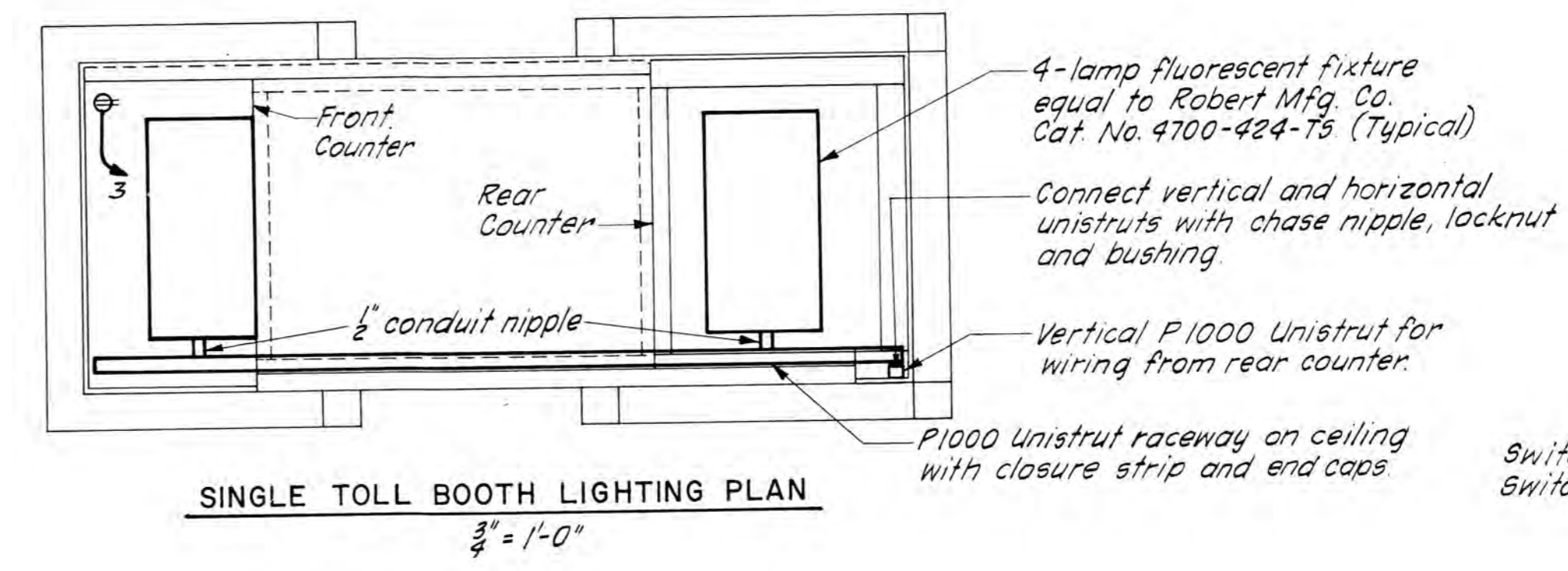
1. All horizontal runs shall be installed in tunnel roof or roadway slab. All vertical runs from panel boxes on tunnel wall to roof slab shall be exposed.
2. Provide a Unistrut support system complete with fittings and connections for mounting conduits and piping.
3. Both ends of all conduits shall be identified with brass wrap-around tags embossed with $\frac{1}{4}''$ high numbers. Tags shall be equal to Sefon Name Plate Co.'s Cable Markers.
4. Conduit in back of booth to be located in conjunction with space requirements for mechanical equipment.

CONDUIT SCHEDULE

CONDUIT NO.	DESIGNATION	FOR	CONDUIT SIZE
1	Red-Green Signal Lights and Lane Lights	Canopy	1 $\frac{1}{2}$ "
2	Spare (except Island B. used same as Conduit No. 1)	Canopy	1 $\frac{1}{2}$ "
3	Booth Duplex Receptacle	Booths	1"
4	Unit Heater Controls	Booths	1"
5	Red-Green Signal Lights and Lane Lights	Booths	1 $\frac{1}{4}$ "
6	Booth Lights	Booths	1"
7	Spare	Booths	1 $\frac{1}{4}$ "
8	Treadle or Detector Loop	Booths	1 $\frac{1}{2}$ "
9	Radio (Island B only)	Booths	$\frac{3}{4}$ "
10	Telephone (Island B only)	Booths	$\frac{3}{4}$ "



TOLL ISLAND CIRCUIT BREAKER PANEL ARRANGEMENTS



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TOLL PLAZA & BOOTH ELECTRICAL DETAILS

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LEGEND

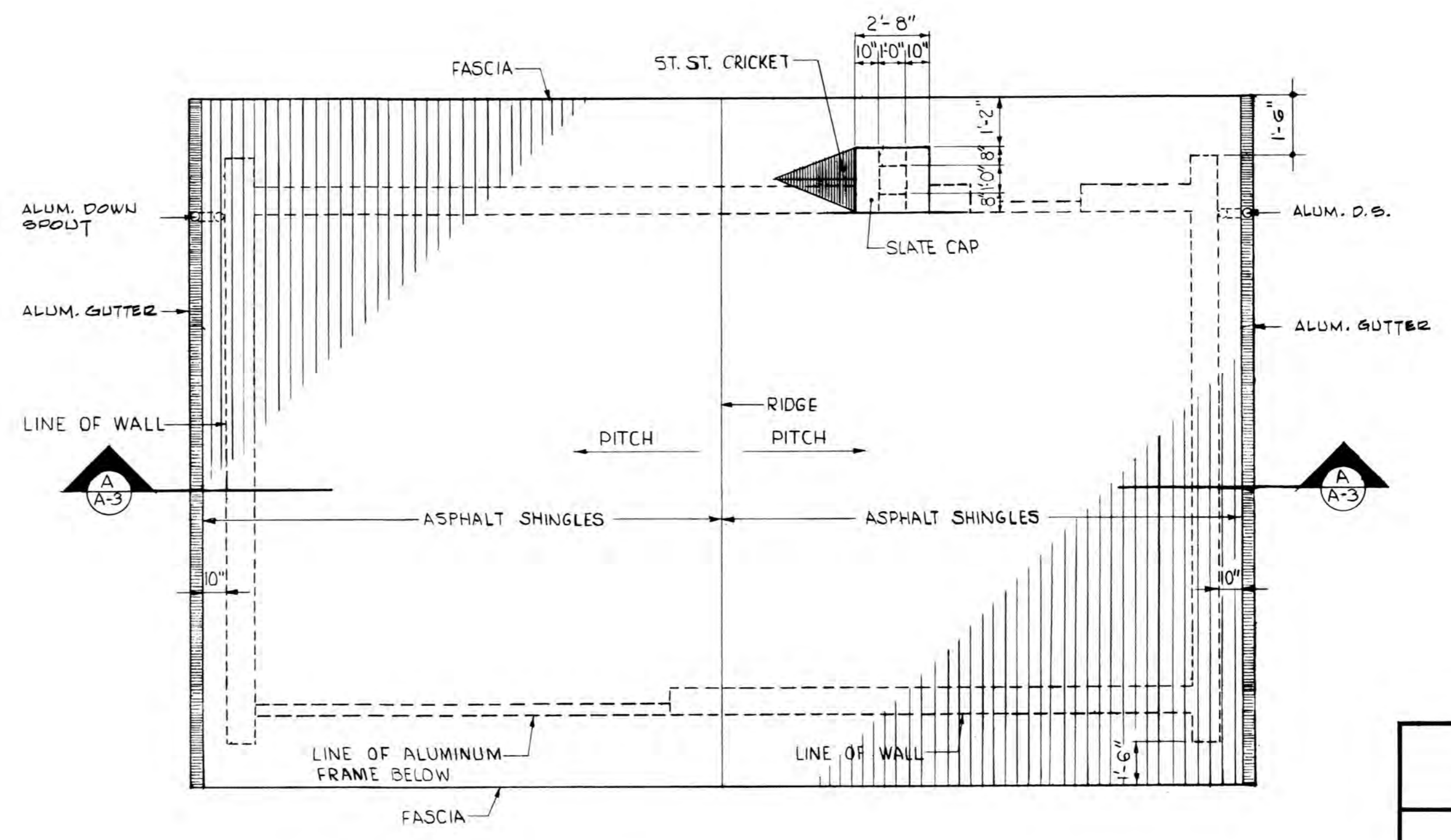
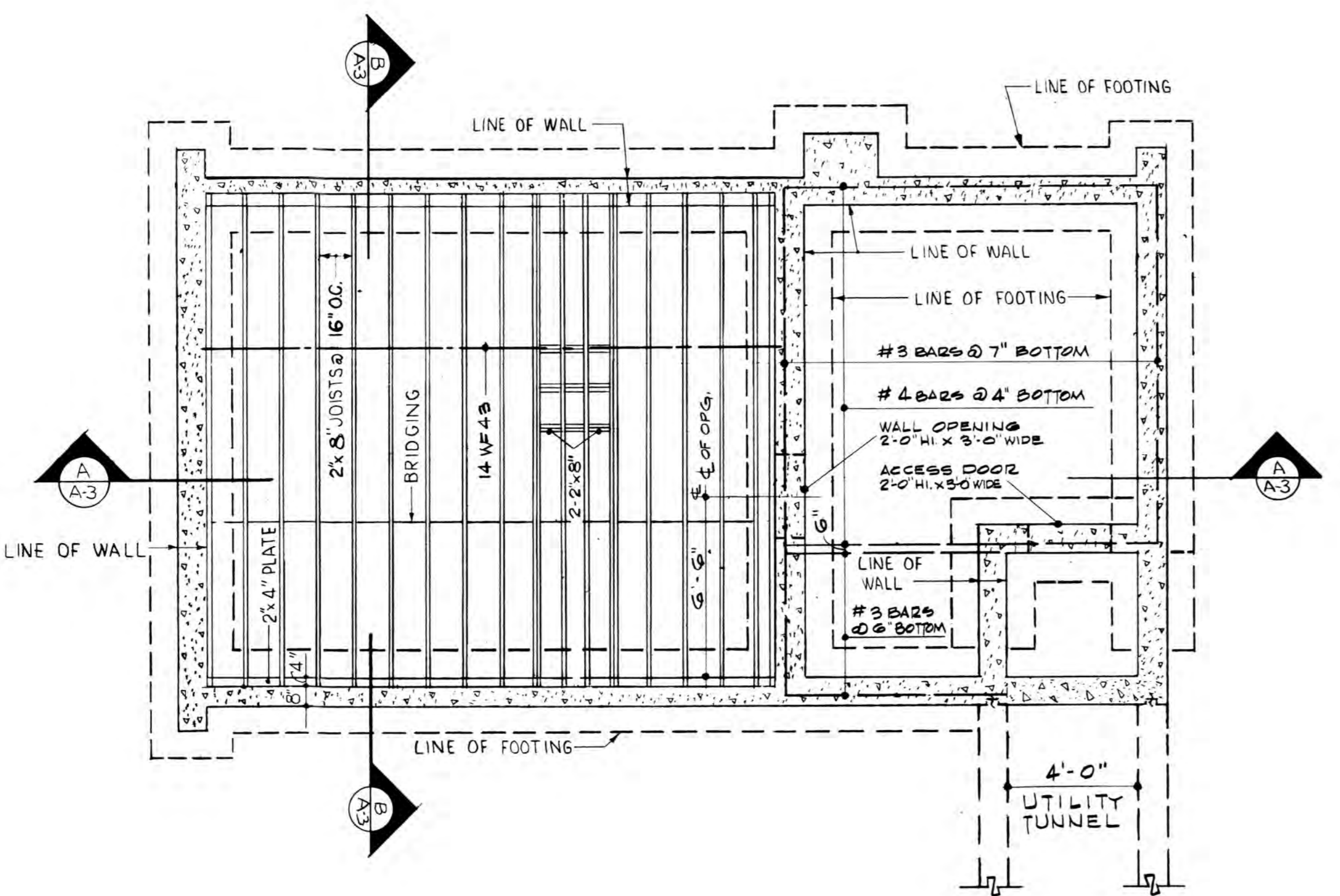
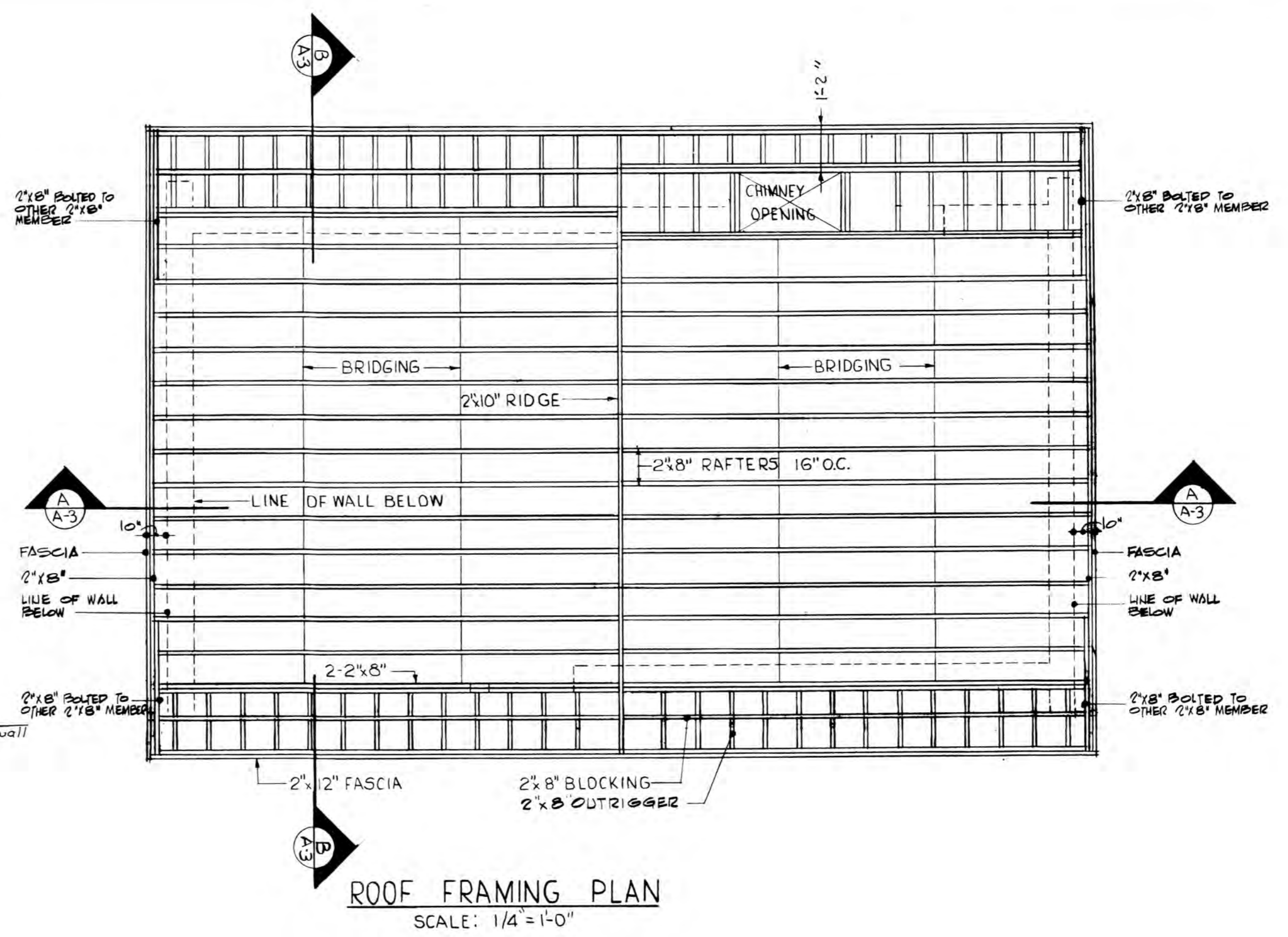
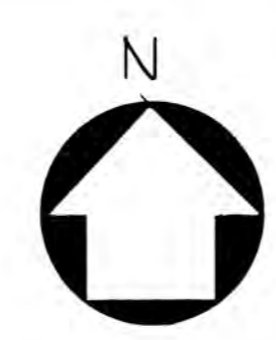
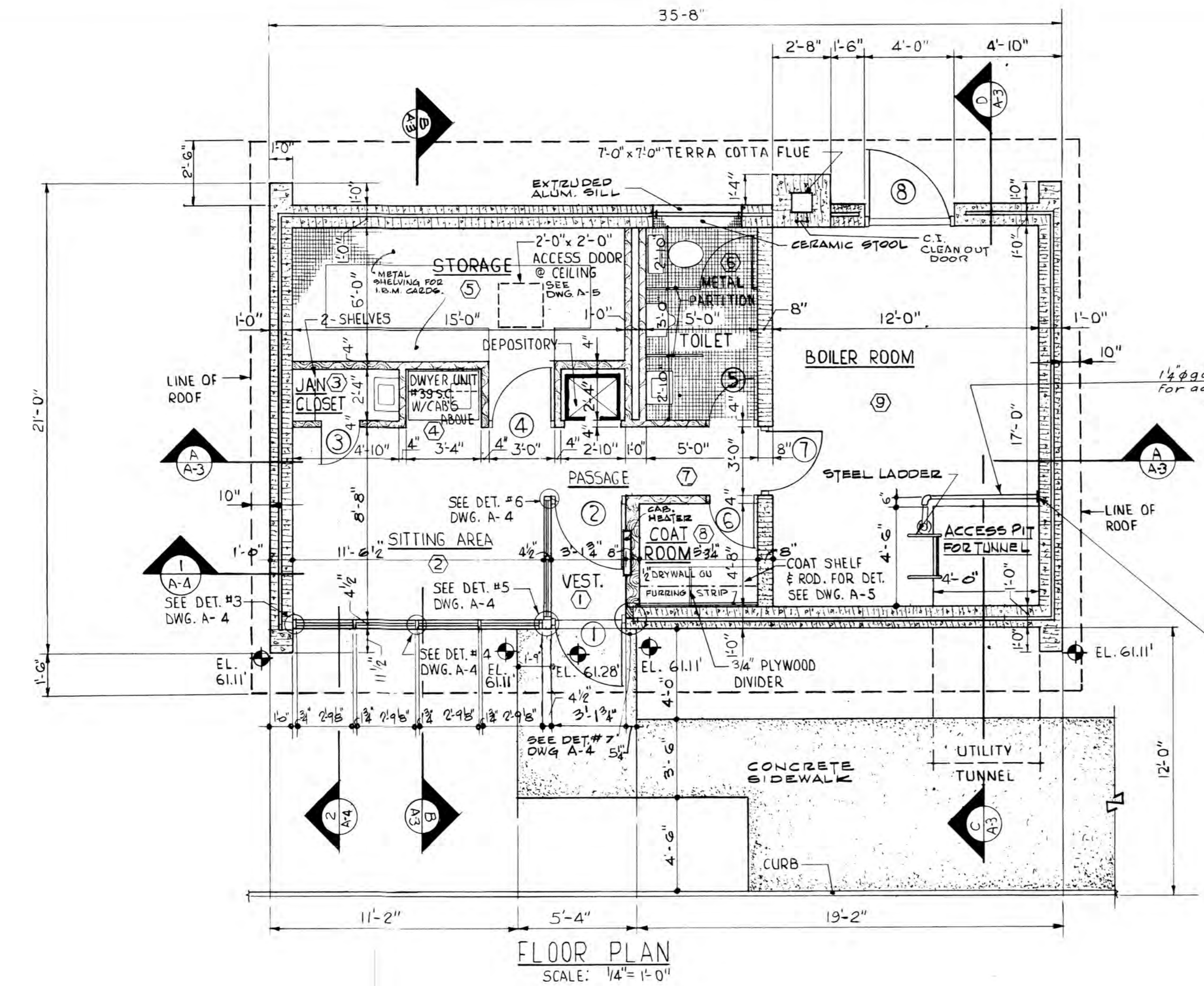
- CONCRETE
- CONCRETE BLOCK
- RIGID INSULATION
- BLANKET INSULATION
- ROUGH WOOD
- FINISH HARD WOOD
- WOOD STUD PARTITION (PLAN VIEW)

- SECTION
- ELEVATION
- SECTION OR DETAIL NUMBER
- DWG. OR SHEET NUMBER

ABBREVIATIONS

- B.F. BOTTOM OF FOOTING
- EL. ELEVATION
- H.M. HOLLOW METAL DOOR
- PL. GL. PLATE GLASS
- T.O. TRIMMED OPENING
- V.A.T. VINYL ASBESTOS TILE
- W.D. WOOD DOOR
- GYR. BD. GYPSUM BOARD
- AL. OR ALUM. ALUMINUM
- D.S. DOWN SPOUT

NOTE:
REINFORCEMENT LAYOUT FOR ALL STANDARD FOUNDATION WALLS SEE SECTION 1 DWG. A-4
REINFORCEMENT FOR BOILER ROOM SLAB, SEE FLOOR FRAMING PLAN THIS SHEET.



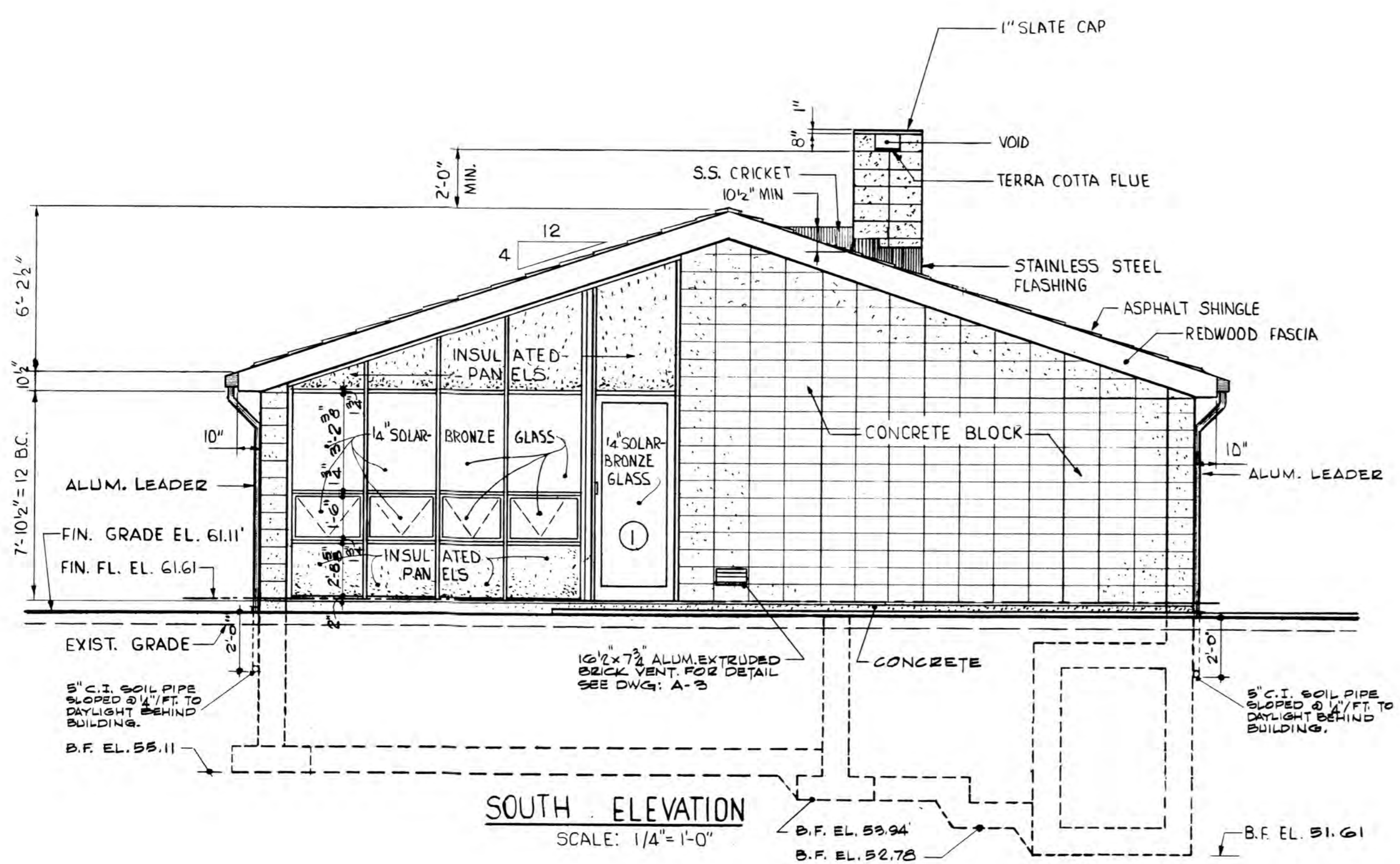
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

UTILITY BUILDING
FLOOR, ROOF & FRAMING PLANS

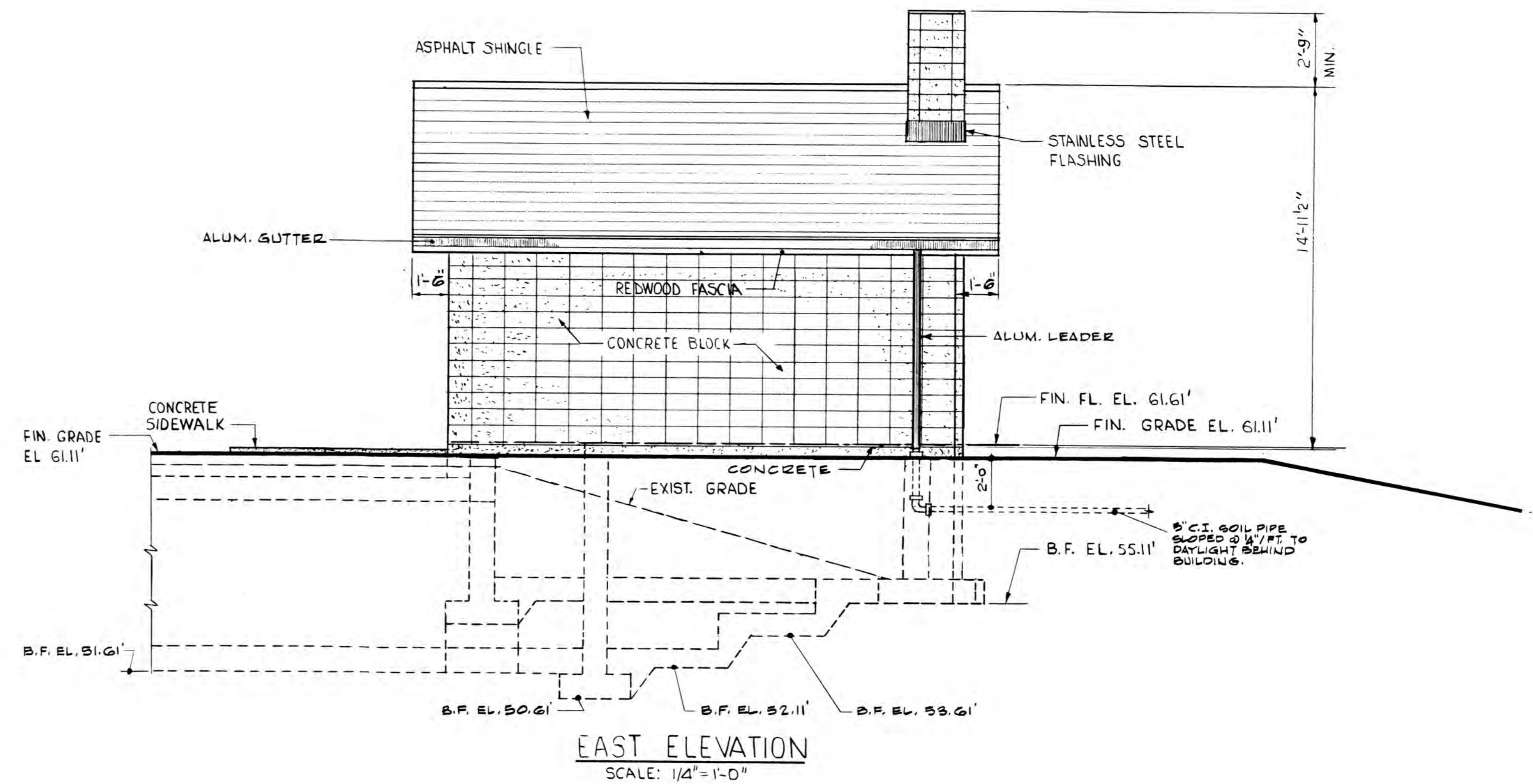
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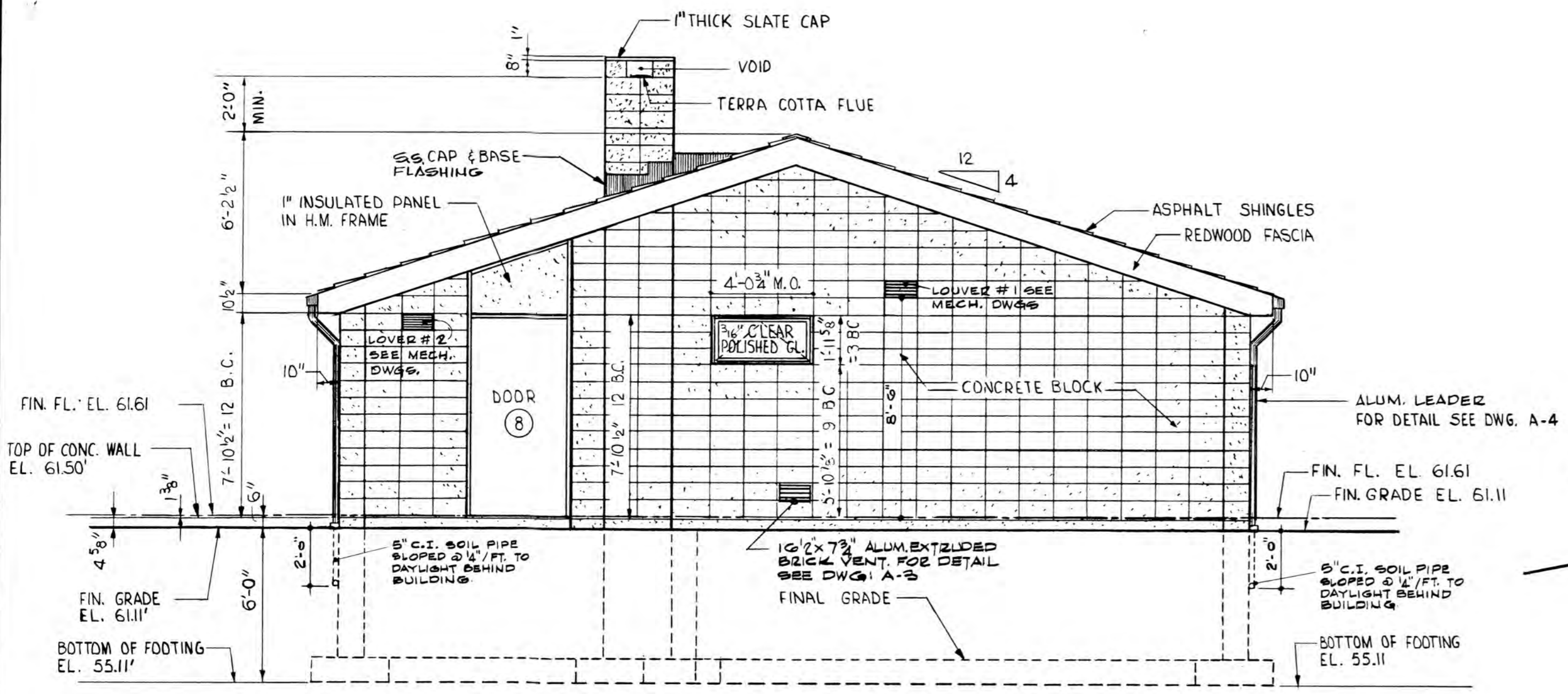
DWG. A-1



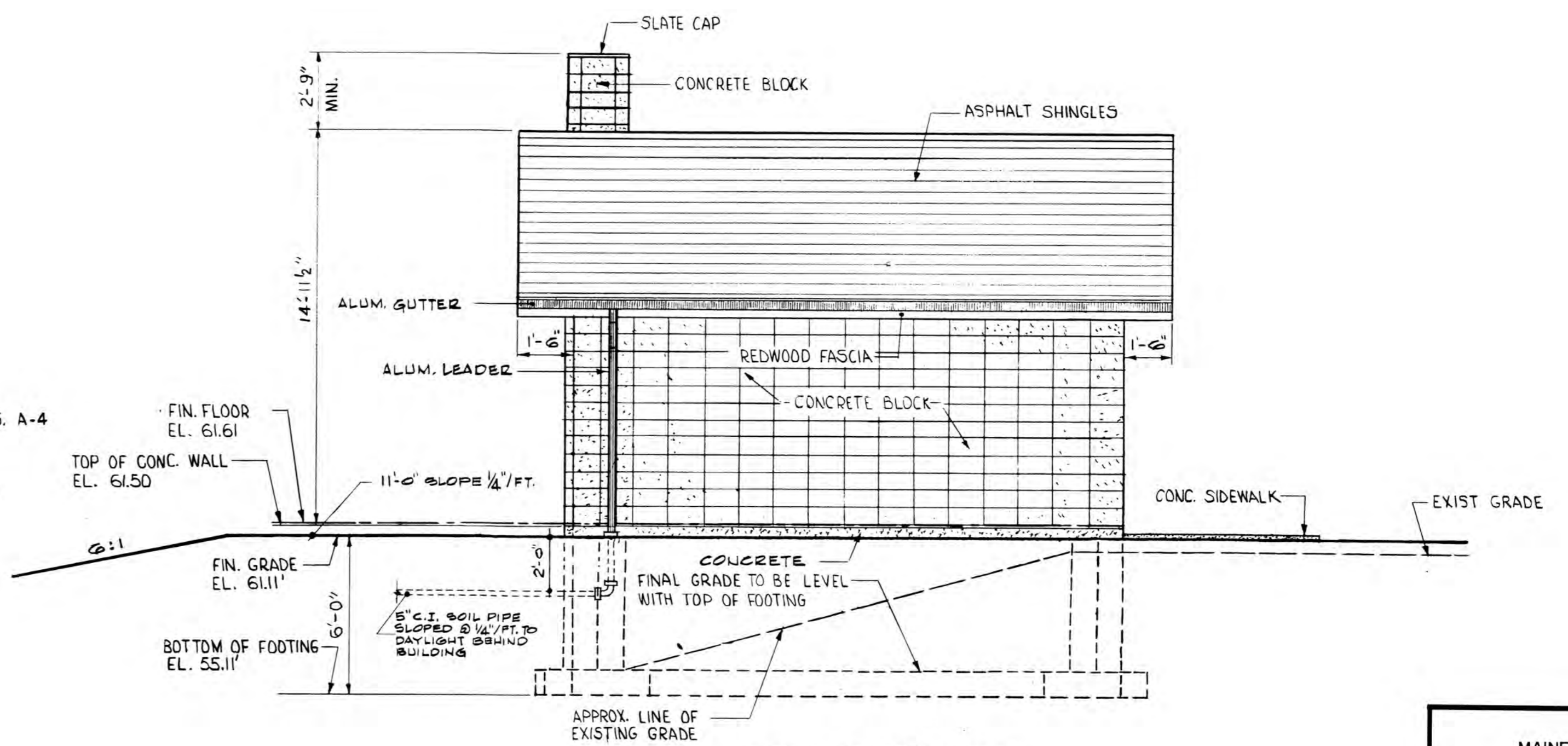
SOUTH ELEVATION
SCALE: 1/4"=1'-0"



EAST ELEVATION
SCALE: 1/4"=1'-0"



NORTH ELEVATION
SCALE: 1/4"=1'-0"

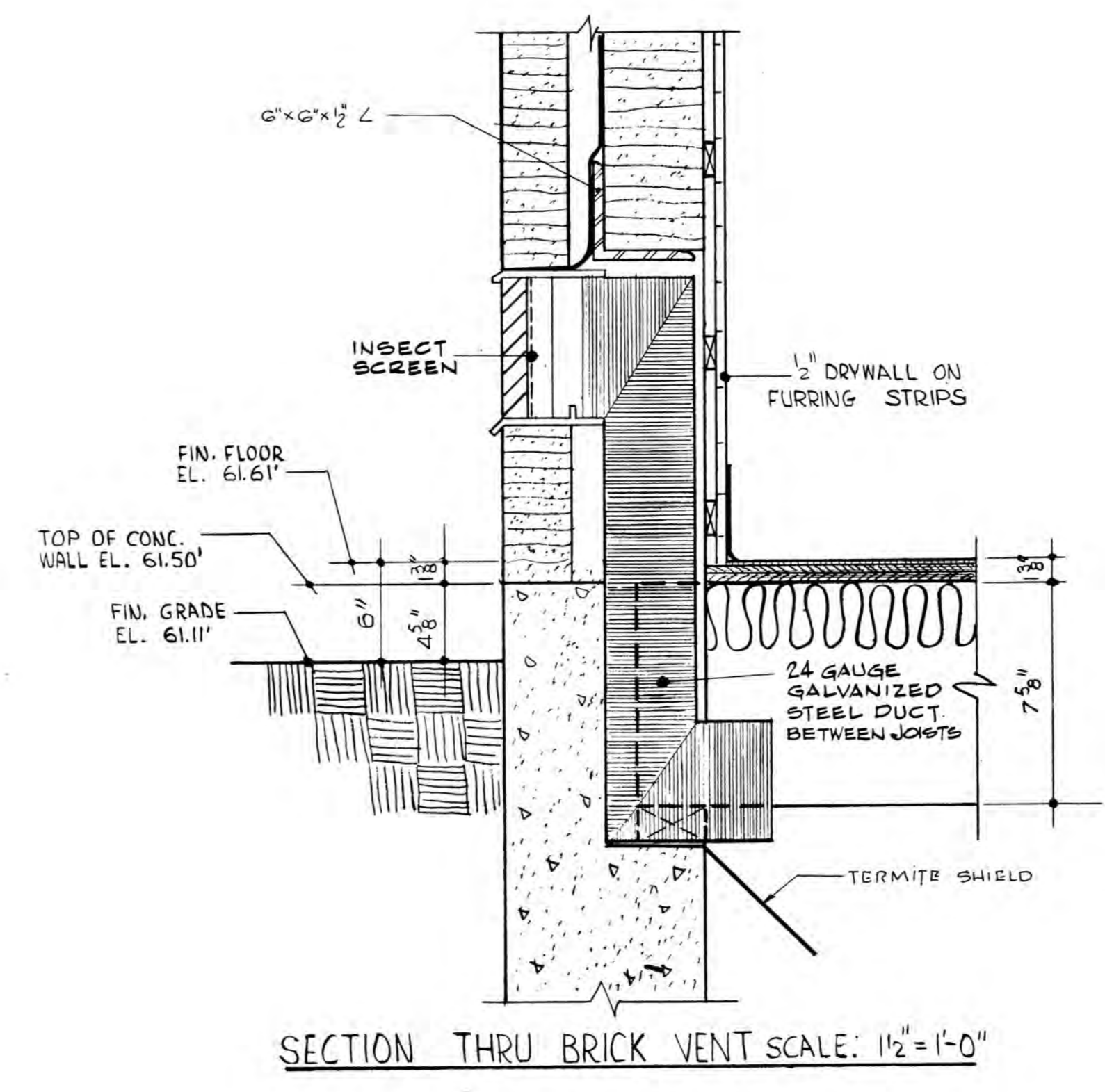
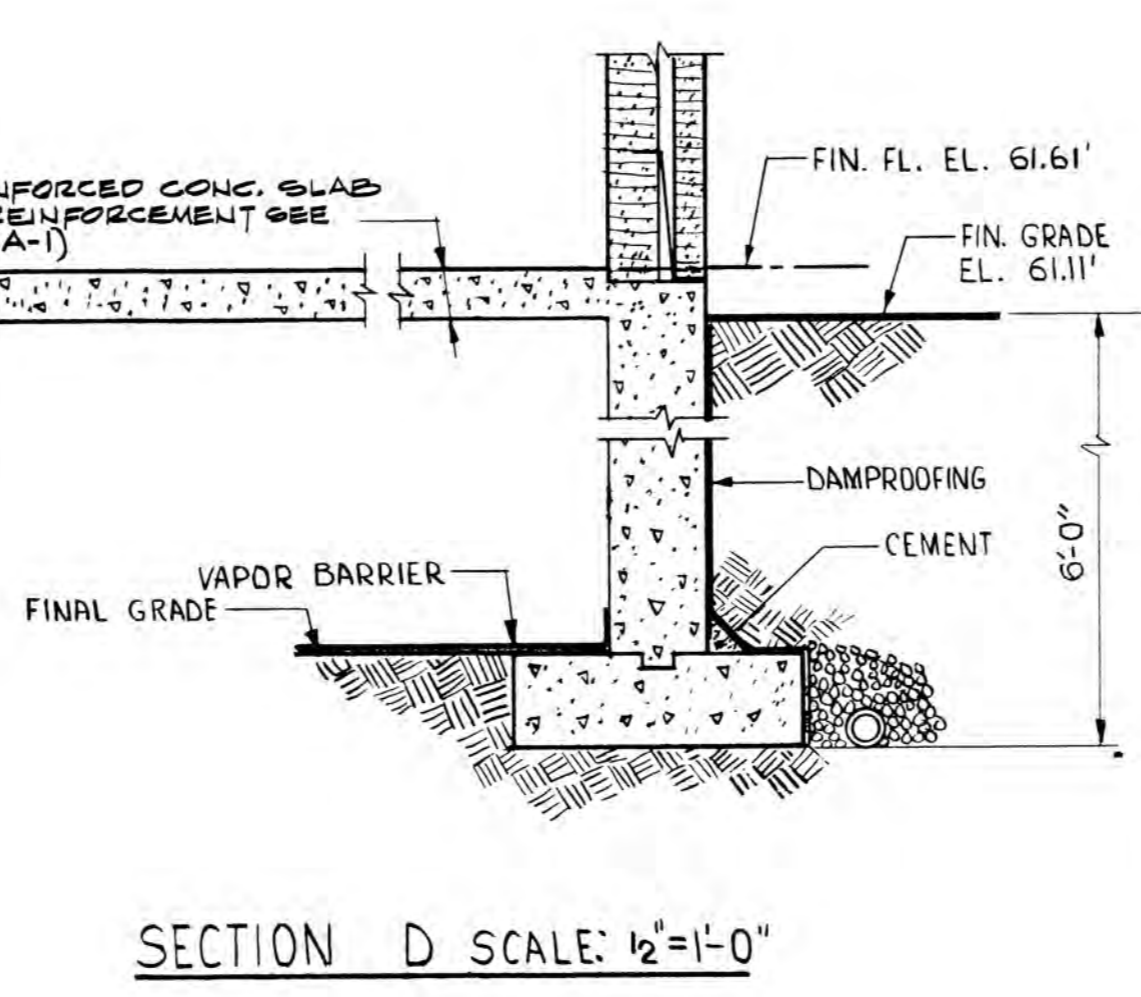
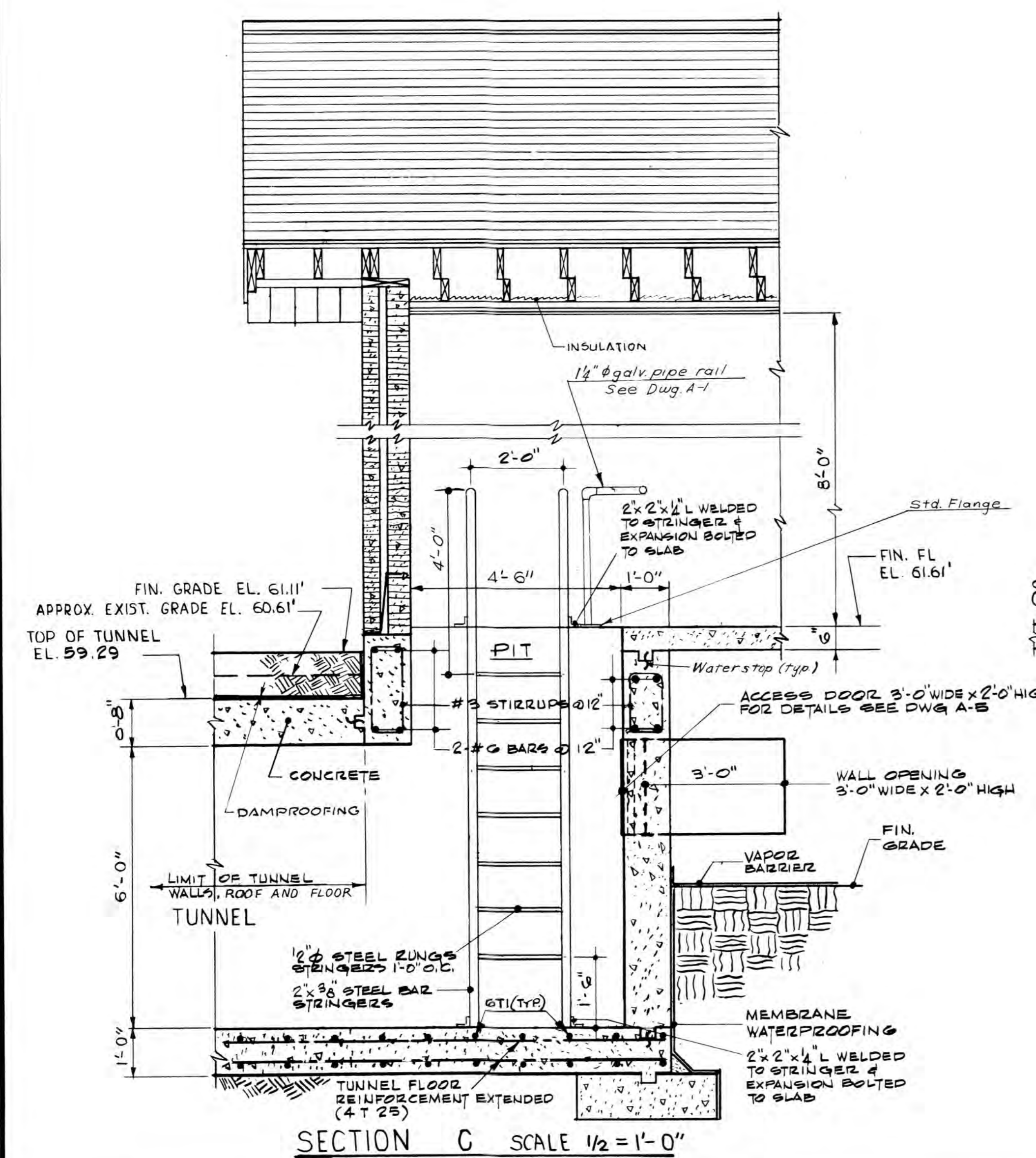
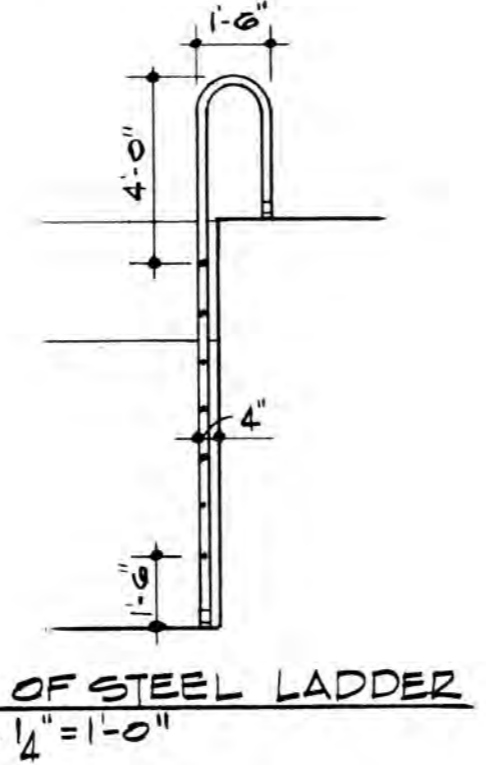
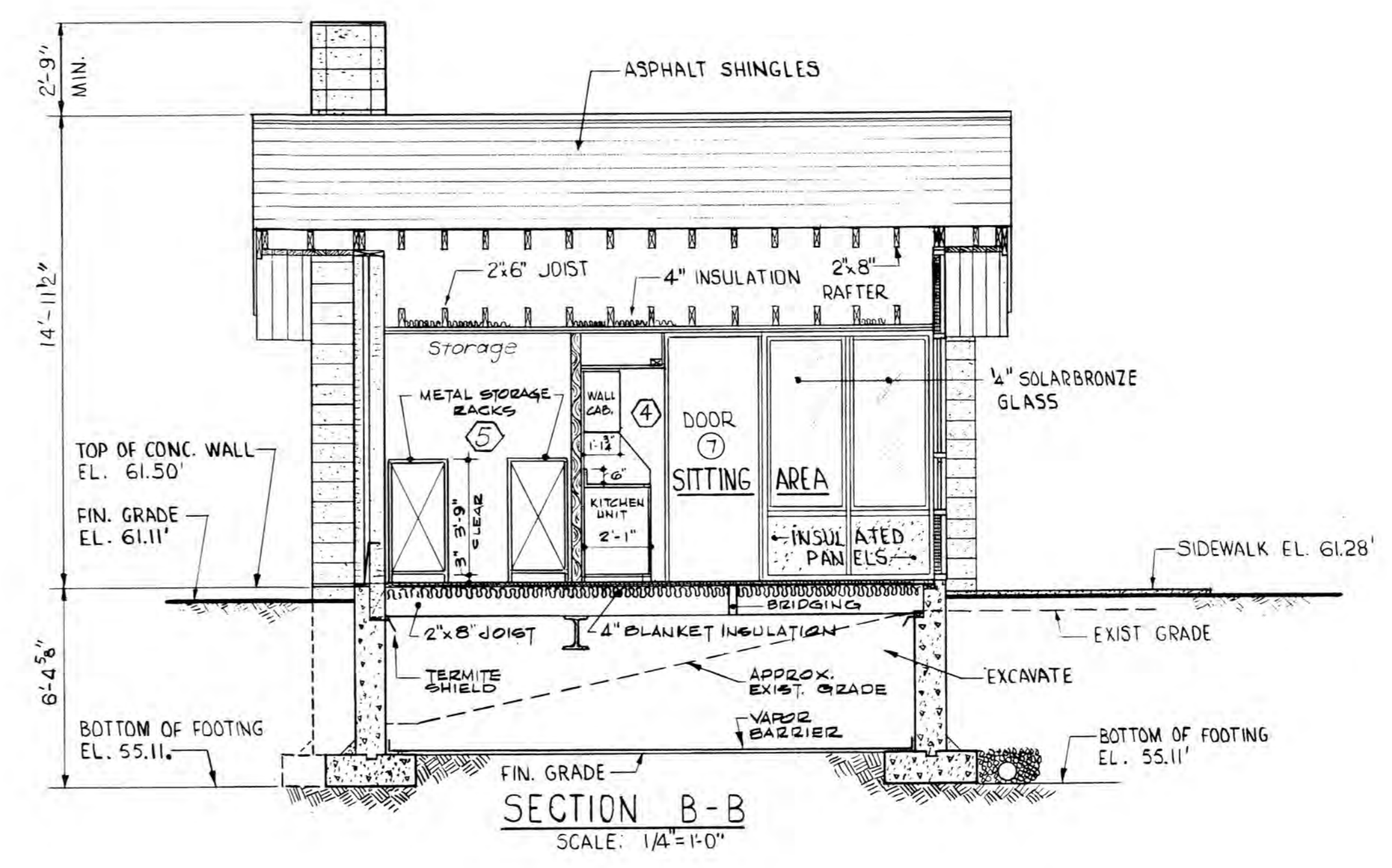
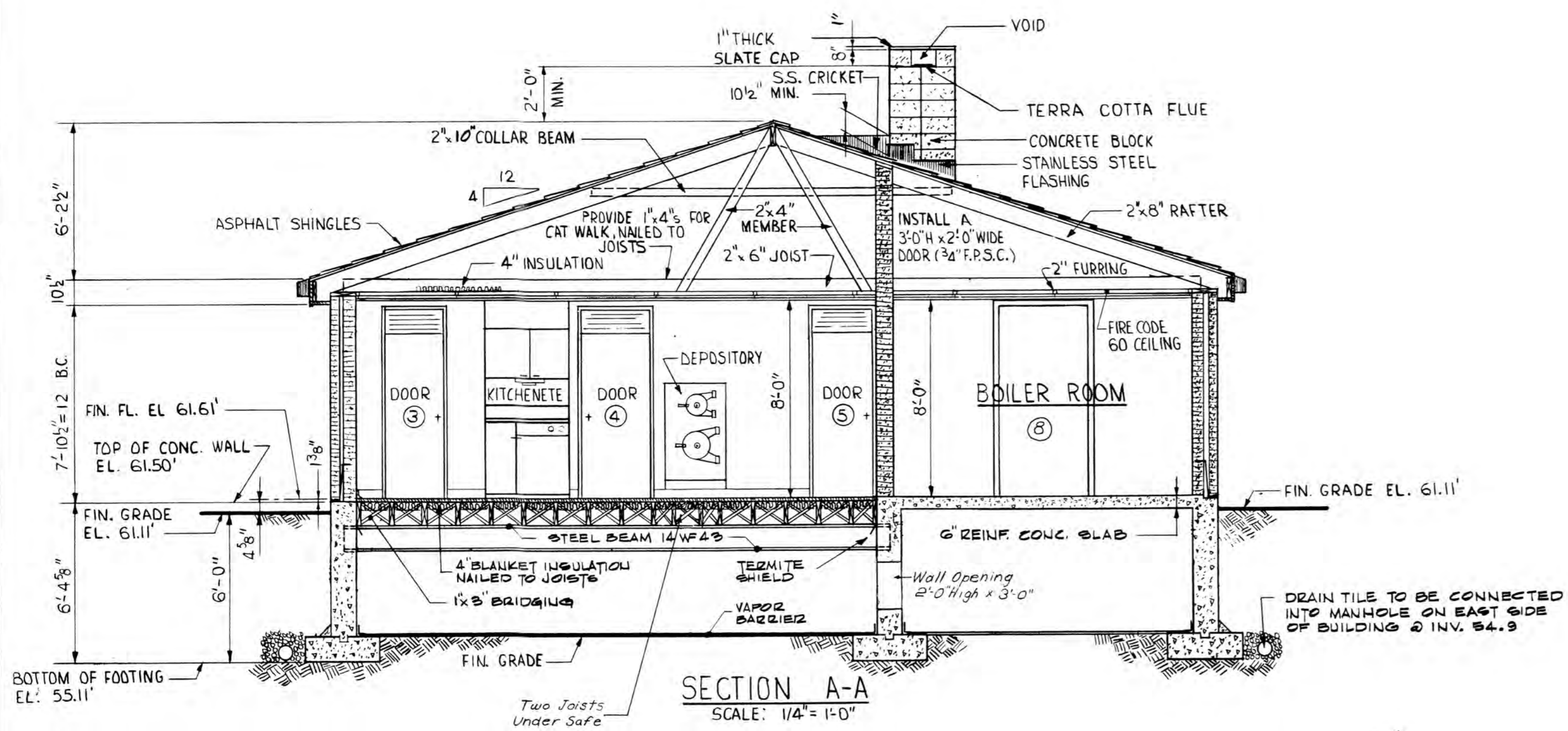


WEST ELEVATION
SCALE: 1/4"=1'-0"

MAINE STATE HIGHWAY COMMISSION
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UTILITY BUILDING
EXTERIOR ELEVATIONS

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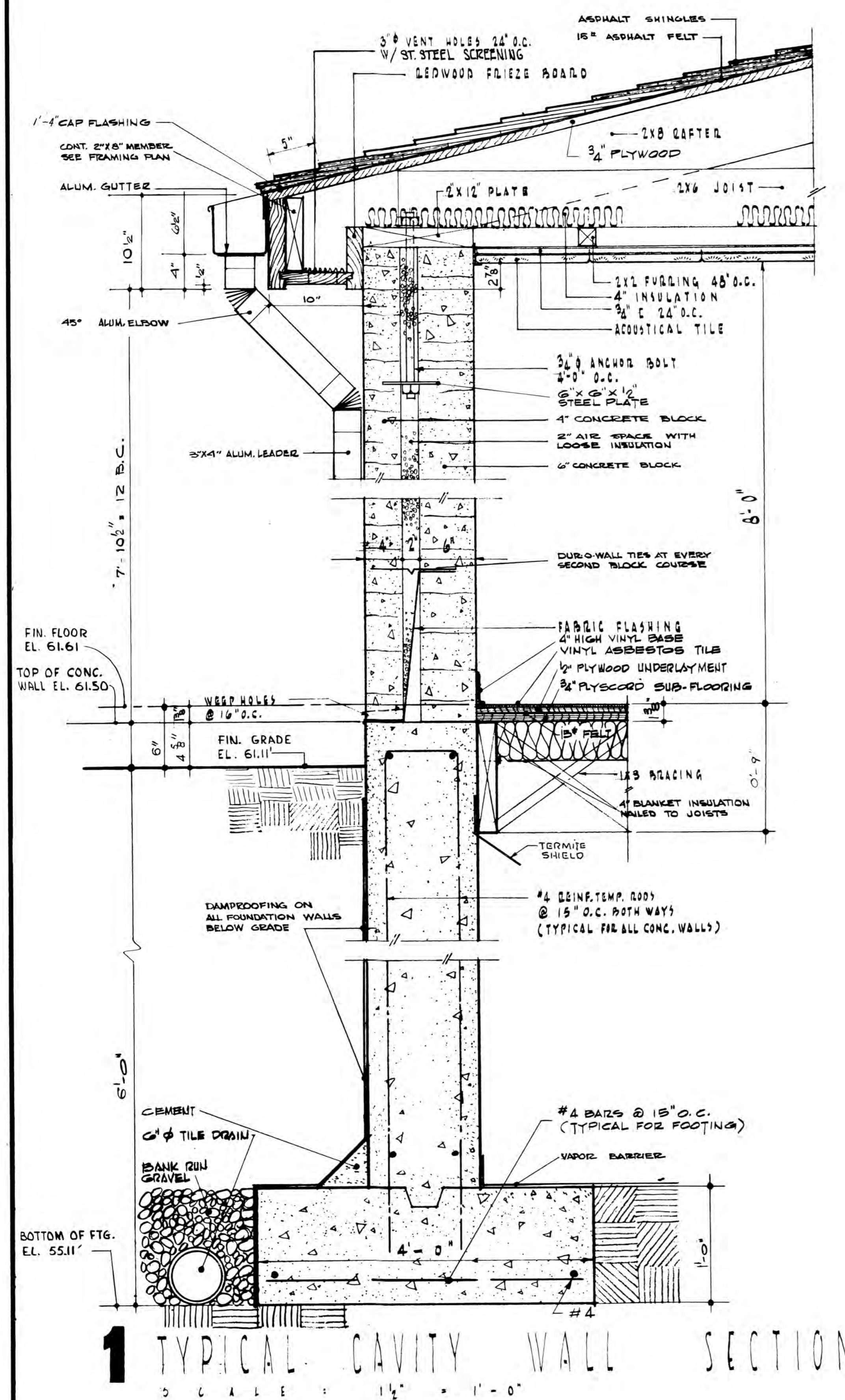
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

UTILITY BUILDING
SECTIONS & DETAILS

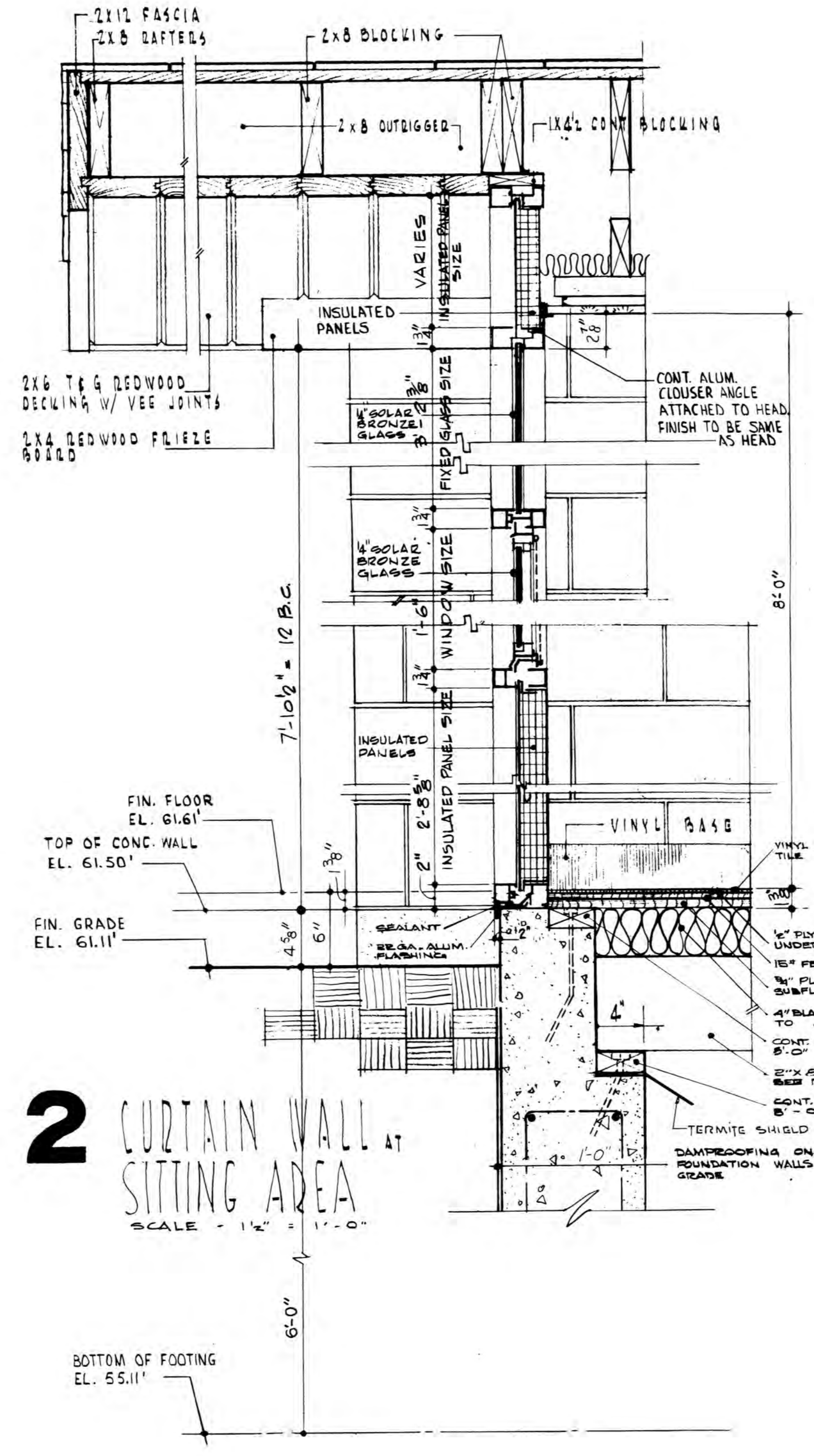
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DWG. A-3

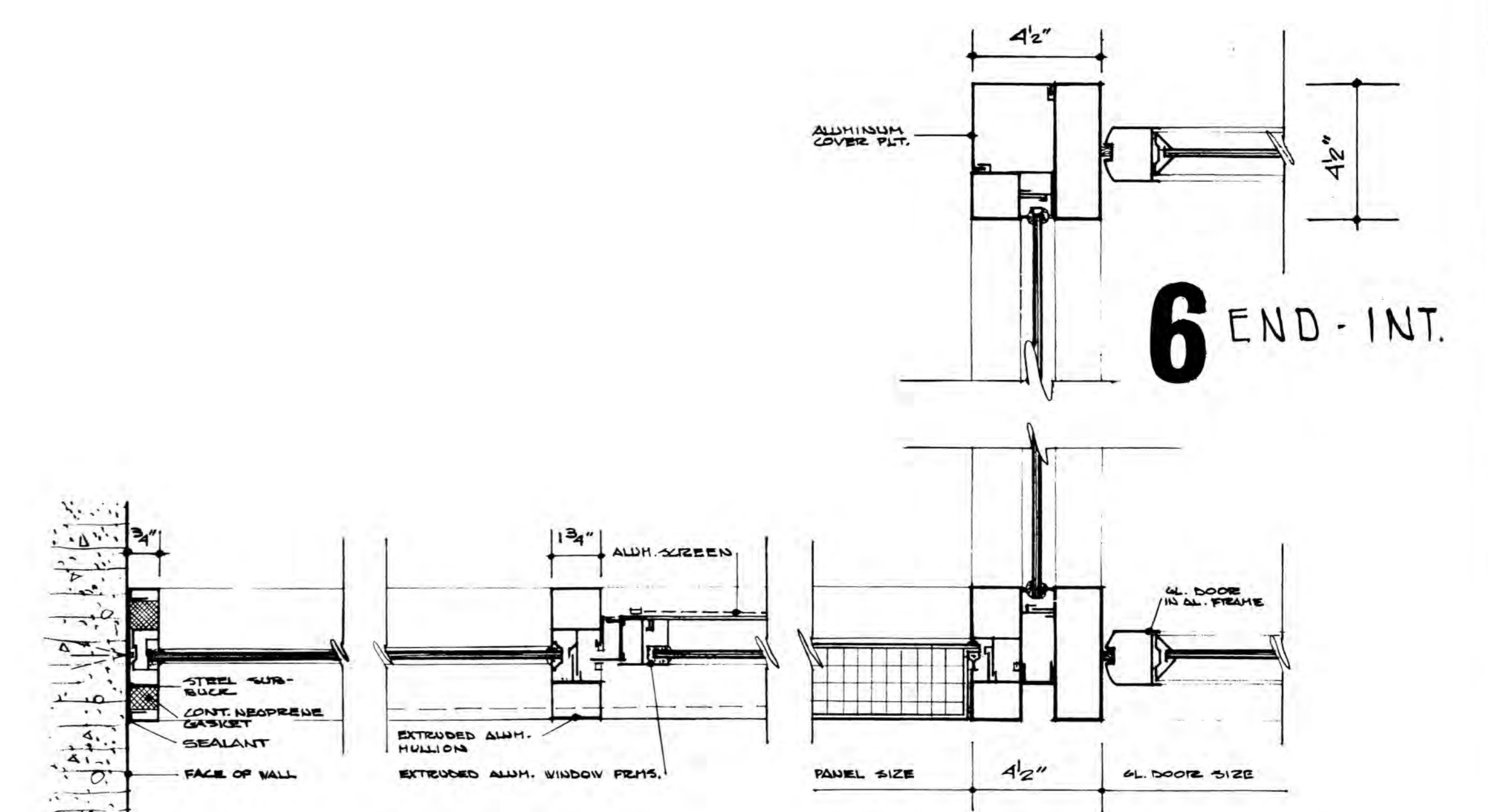


1 TYPICAL CAVITY WALL SECTION
SCALE: 1/2" = 1'-0"



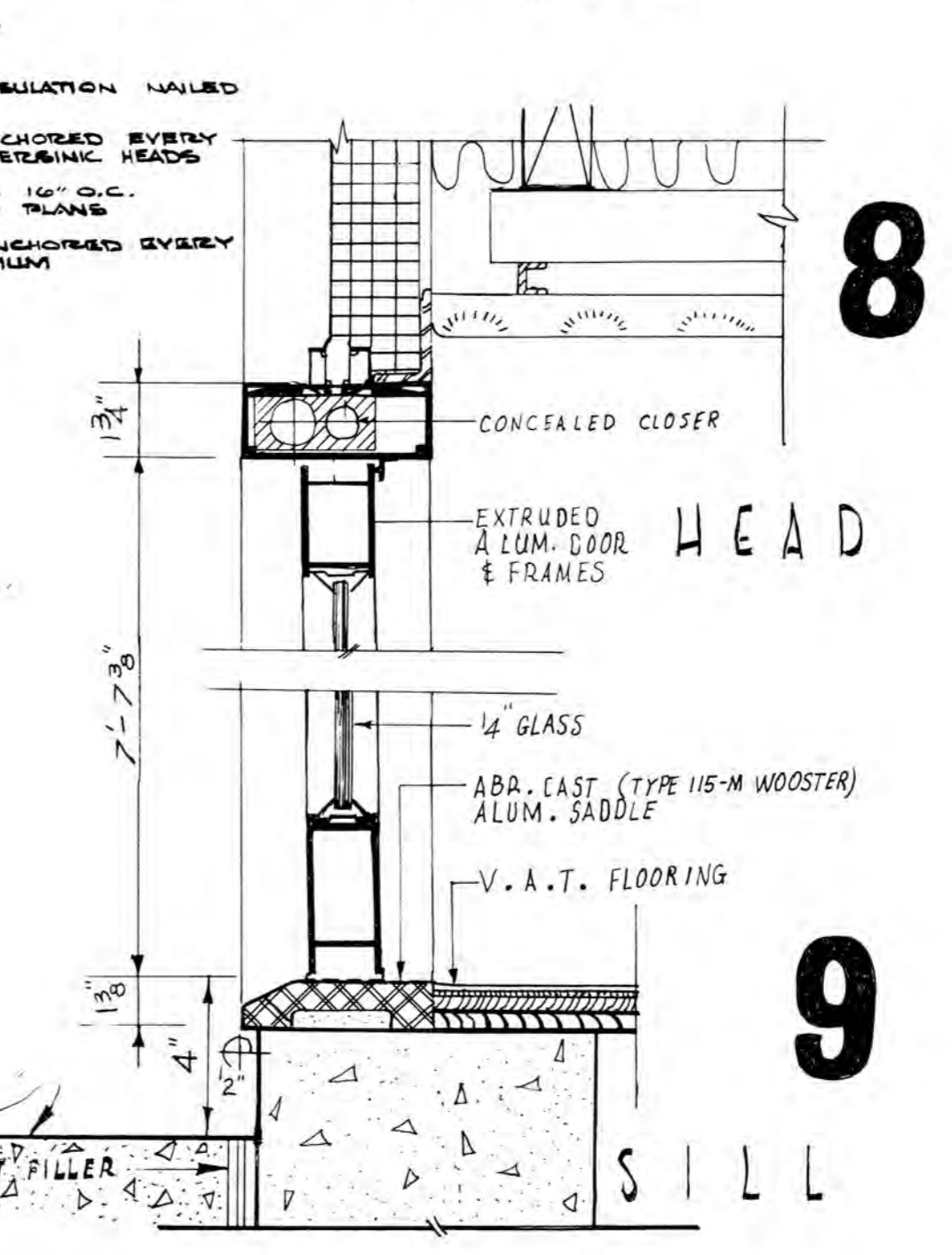
2 CURTAIN WALL AT SITTING AREA
SCALE: 1/2" = 1'-0"

Note: Bolted connection for wood Trusses to be designed by the contractor and to be approved by the Engineer

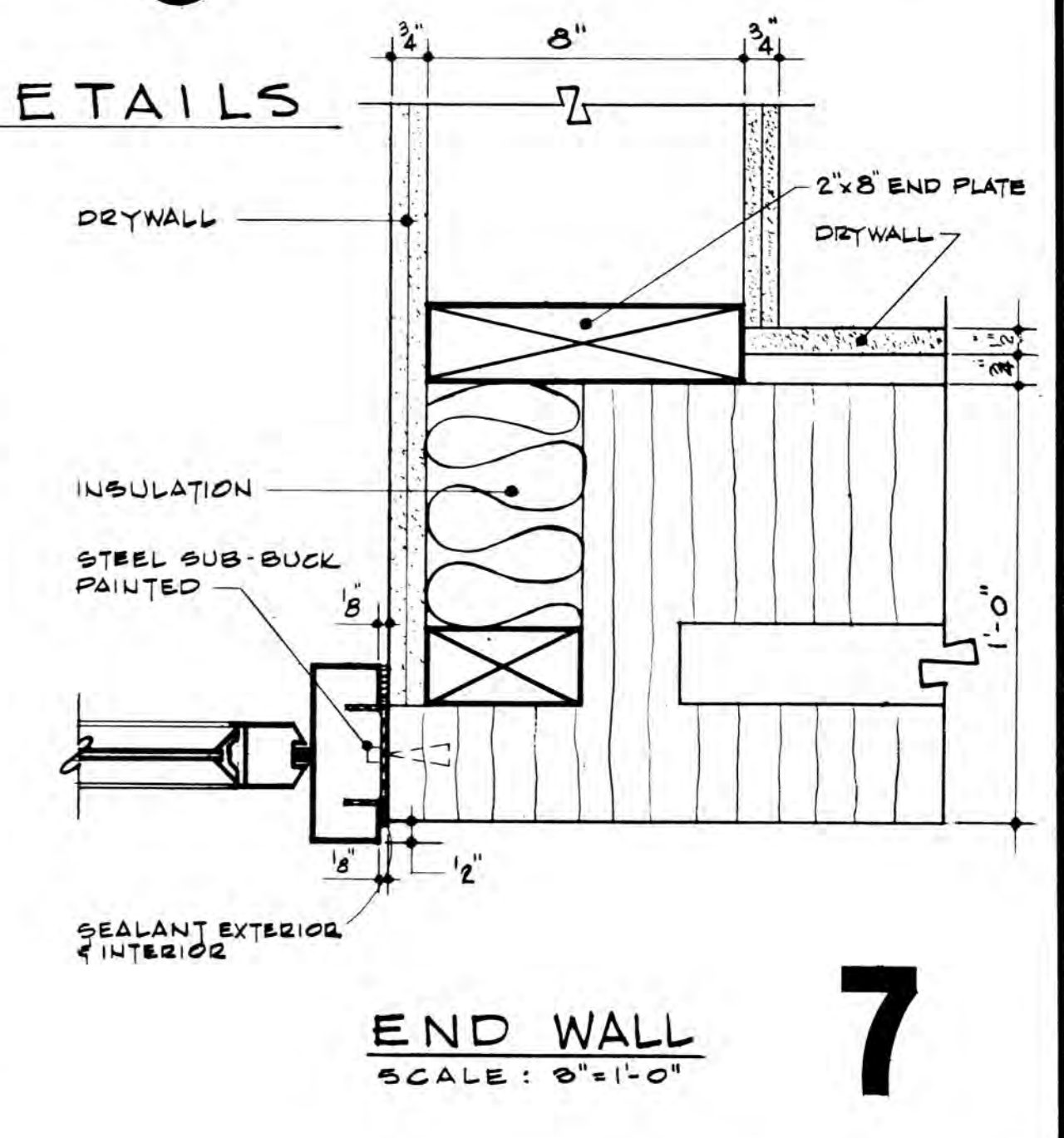


3 END WALL **4** MULLION **5** INTERSECTION AT DOOR

CURTAIN WALL DETAILS
SCALE: 3/8" = 1'-0"



8 HEAD **9** SILL



7 END WALL
SCALE: 3/8" = 1'-0"

SECTION THRU DOOR

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UTILITY BUILDING
SECTIONS & DETAILS

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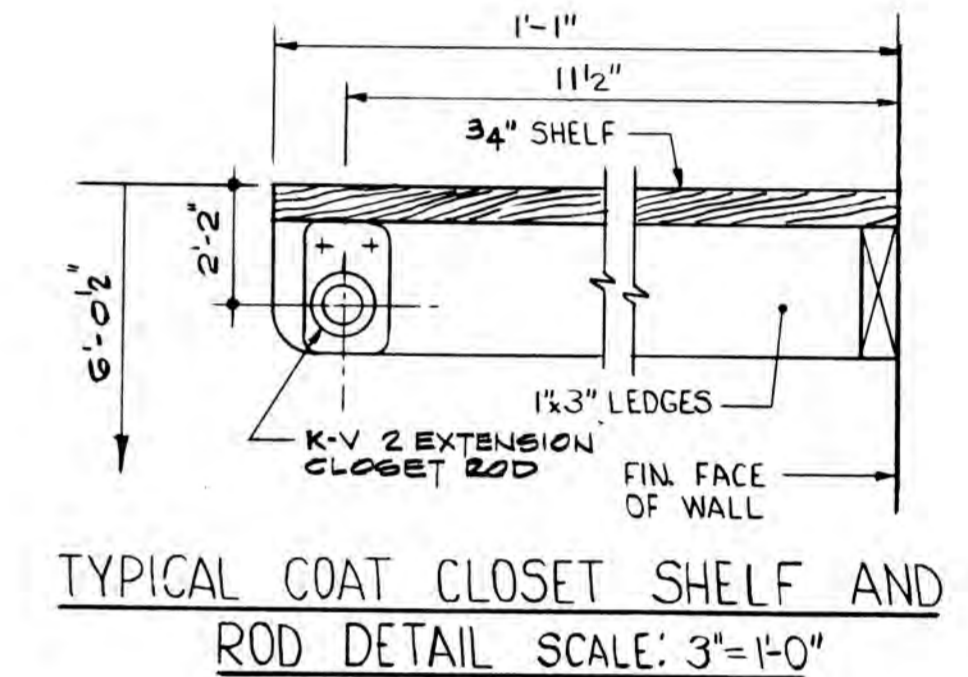
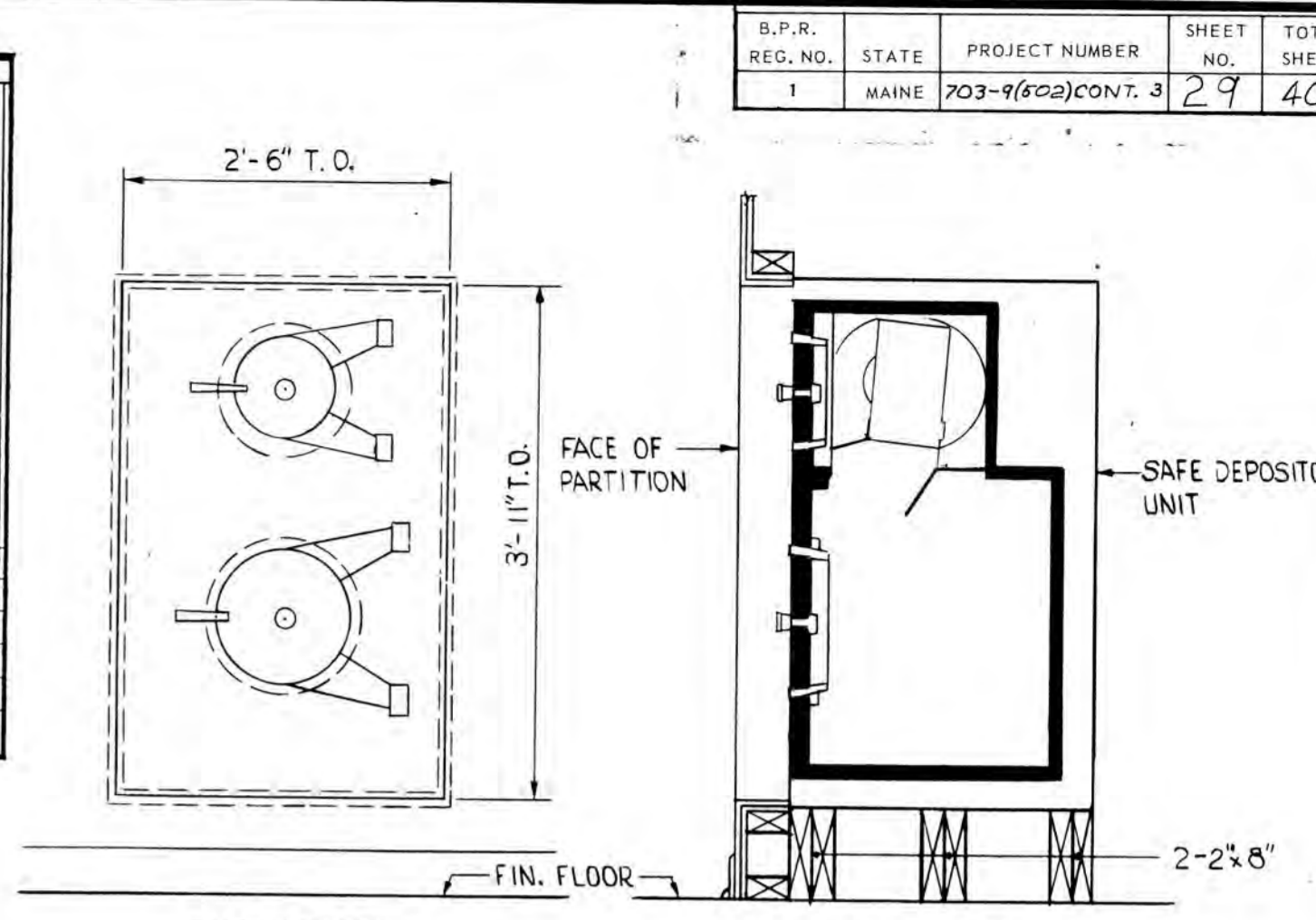
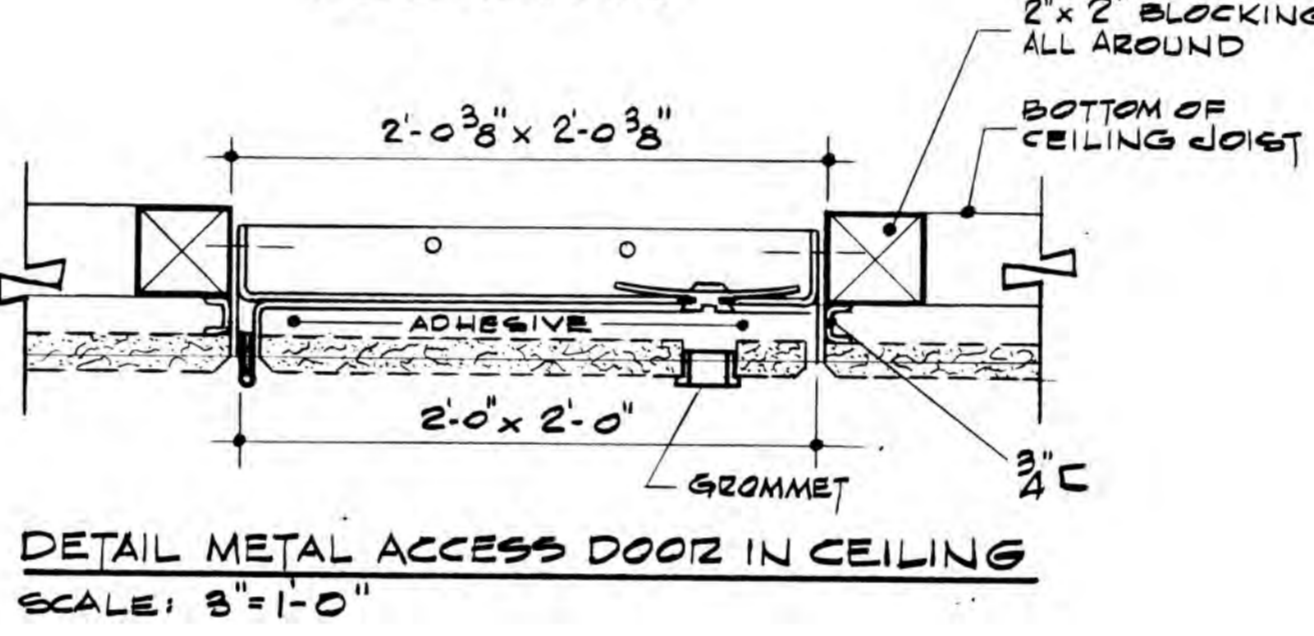
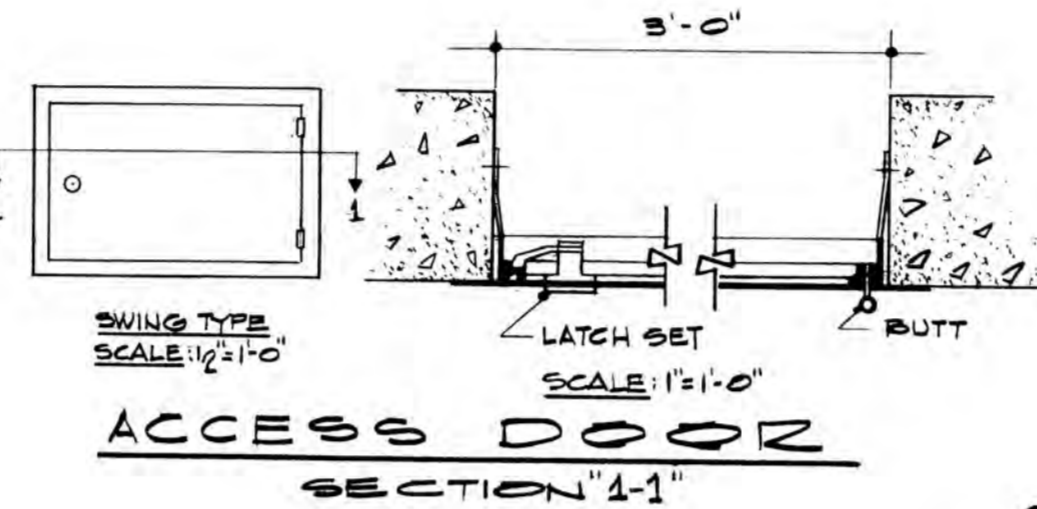
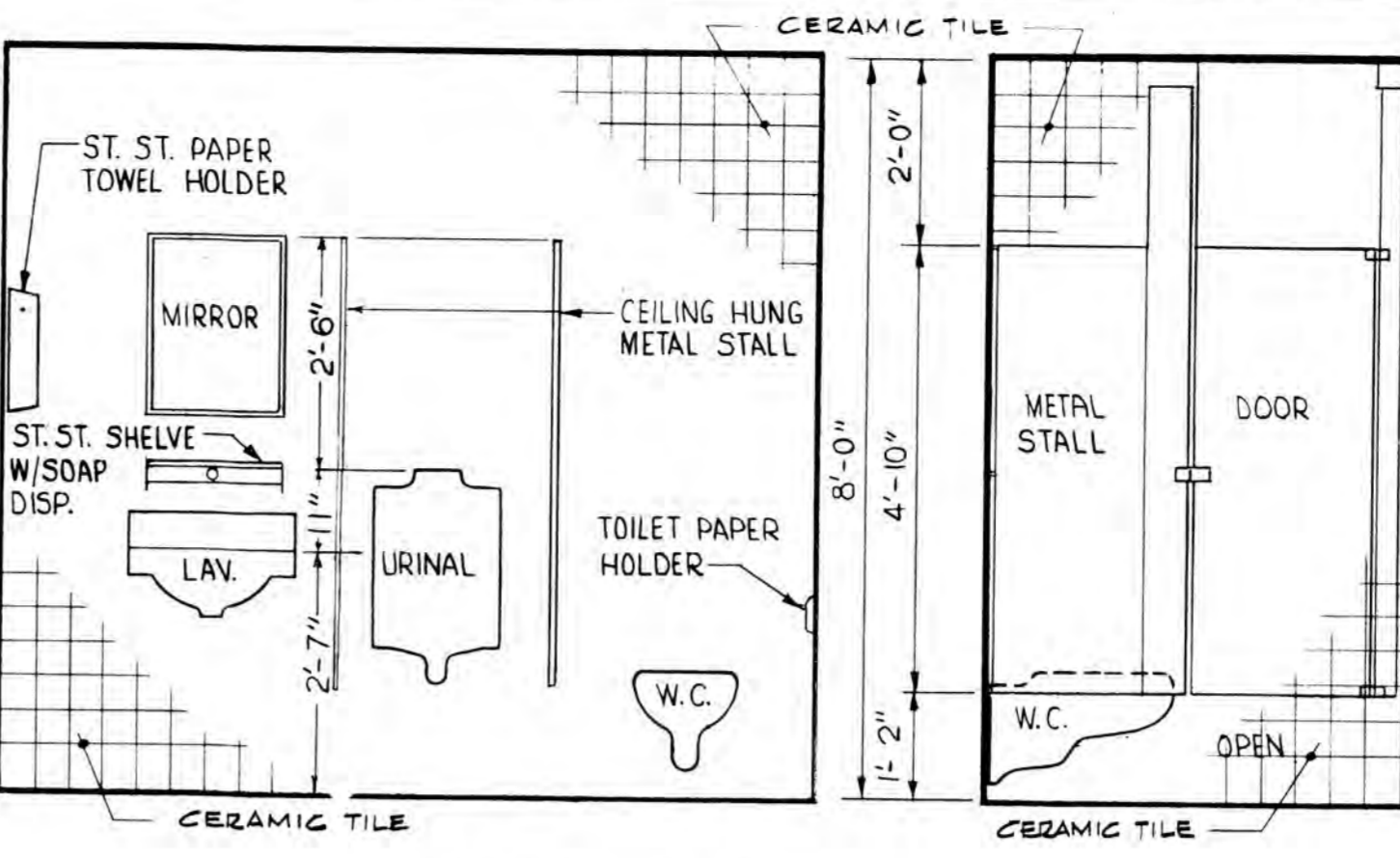
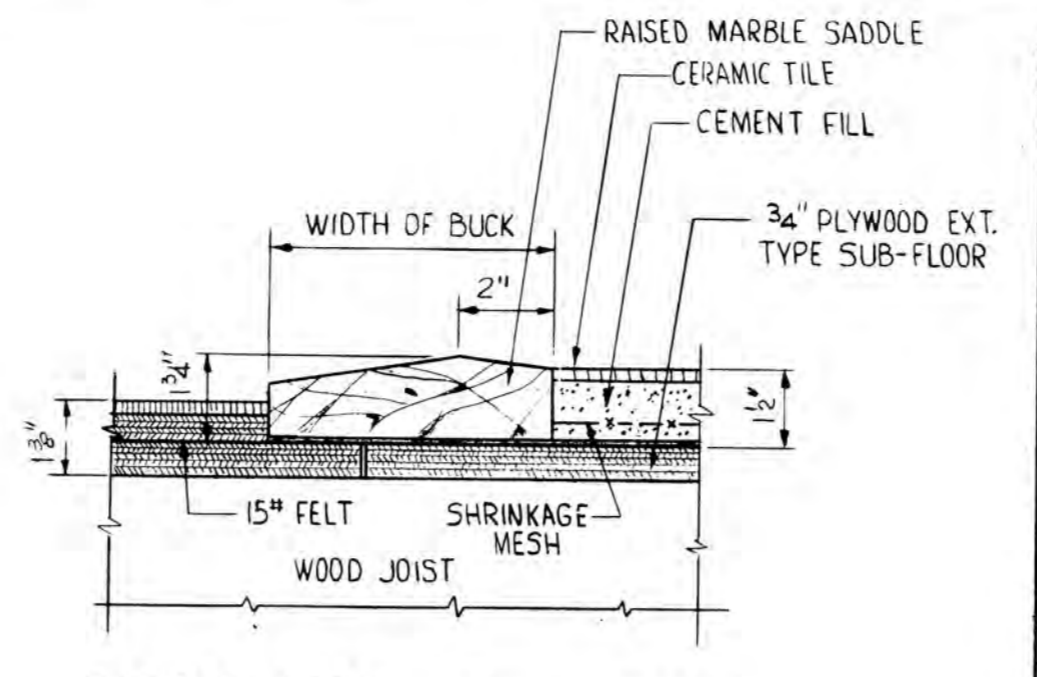
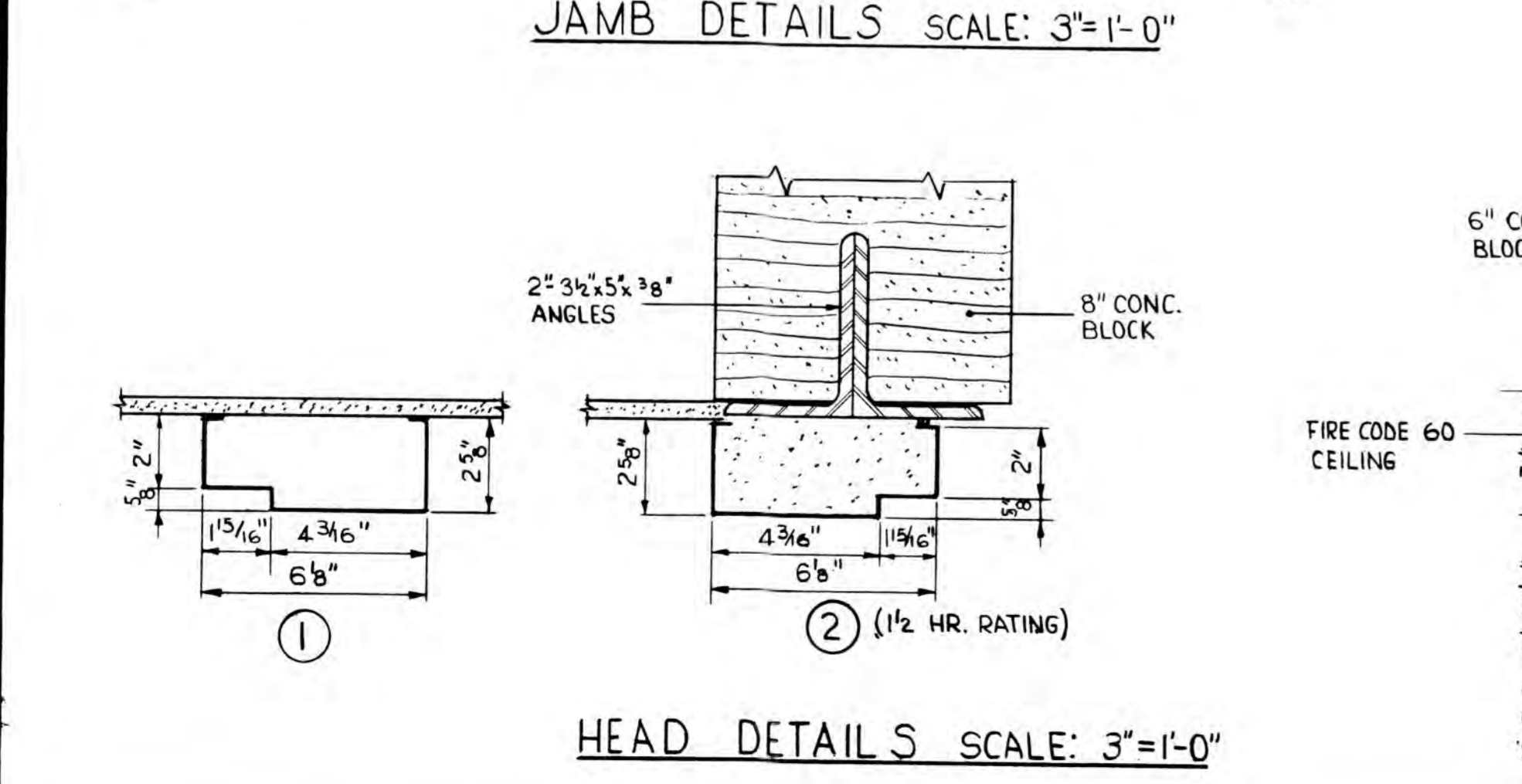
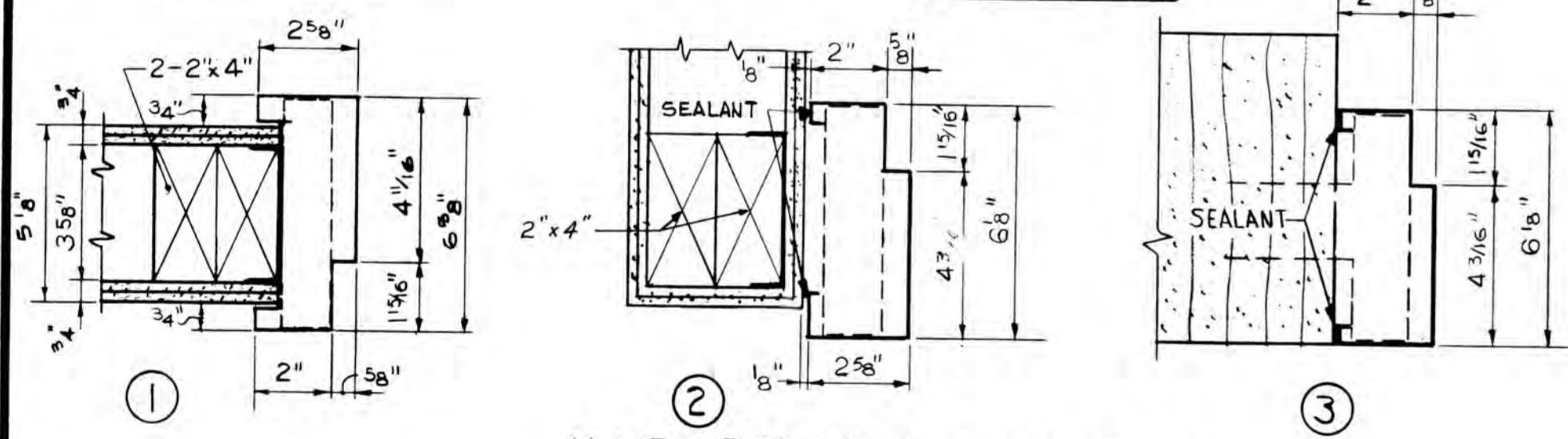
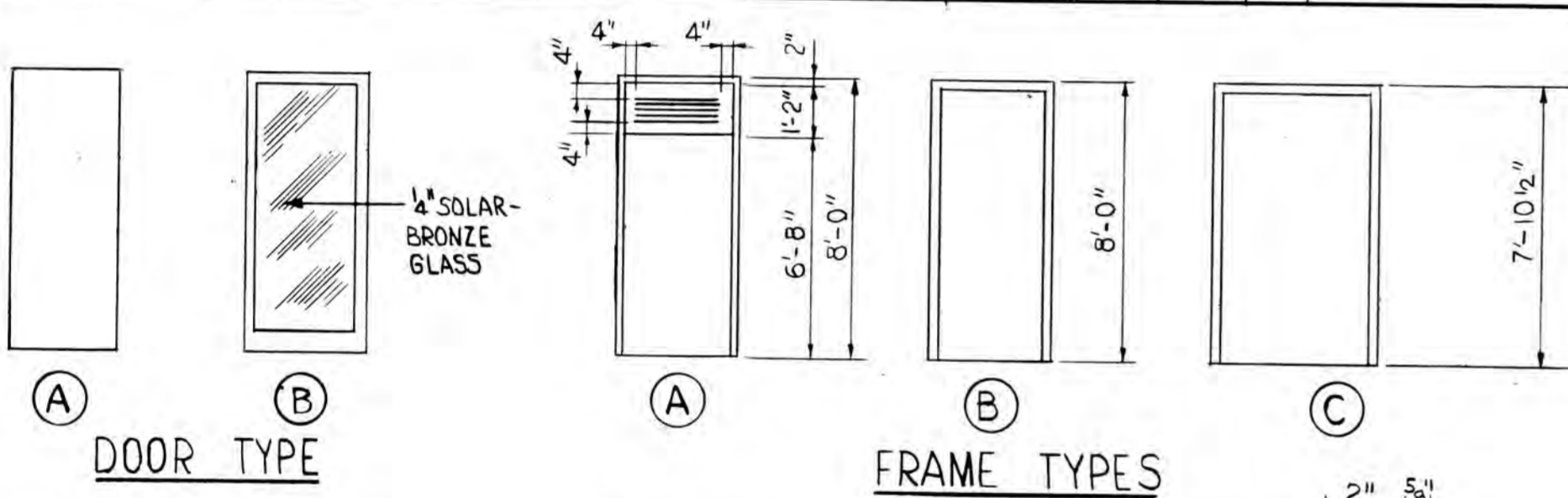
DWG. A-4

FINISH SCHEDULE

No.	NAME	NORTH	PANTRY	SOUTH	PANTRY	EAST	PANTRY	WEST	PANTRY	FLOOR	CEILING	HEIGHT	REMARKS
1	VEST.	DOOR	-	DOOR	-	DRY WALL	-	DRY WALL	-	VINYL ASBESTOS	ACOUSTICAL TILE	8'-0"	STAIN WOOD @ WEST WALL
2	SITTING AREA	DRY WALL	Y 1	DRY WALL	Y 1	DRY WALL	Y 1	DRY WALL	Y 1	VITROGLAZE ON CONC. BLOCK	ACOUSTICAL TILE	8'-0"	
3	JANITORS CLOSET	DRY WALL	Y 2	DRY WALL	Y 2	DRY WALL	Y 2	DRY WALL	Y 2	CONC. BLOCK	CER. TILE	8'-0"	2-3/4" x 1-0" WIDE PINE SHELVES PAINTED WATER PROOF SHEETROCK
4	KITCHENETTE	DRY WALL	-	OPEN	-	DRY WALL	Y 1	DRY WALL	Y 1	VINYL ASBESTOS	DRY WALL		DRY WALL TO BE FIRE CODE 60
5	STORAGE	CONC. BLOCK	Y 1	DRY WALL	Y 1	DRY WALL	Y 1	CONC. BLOCK	Y 1	VINYL ASBESTOS	DRY WALL	8'-0"	
6	TOILET	CER. TILE ON CONC. BLOCK	- 2	CER. TILE ON DRY WALL	- 2	CER. TILE ON CONC. BLOCK	- 2	CER. TILE ON DRY WALL	- 2	CER. TILE	DRY WALL	8'-0"	WATER PROOF SHEETROCK
7	PASSAGE	DRY WALL	Y 1	DRY WALL	Y 1	OPEN	-	OPEN	-	VINYL ASBESTOS	ACOUSTICAL TILE	8'-0"	
8	COAT ROOM	DRY WALL	Y 1	DRY WALL	Y 1	VITROGLAZE ON CONC. BLOCK	- 1	DRY WALL	Y 1	VINYL ASBESTOS	DRY WALL	8'-0"	COAT CLOSET. SEE THIS SHEET FOR DETAILS
9	BOILER ROOM	CONC. BLOCK	Y 3	CONC. BLOCK	Y 3	CONC. BLOCK	Y 3	CONC. BLOCK	Y 3	CONC.*	DRY WALL FIRE CODE 60		TROWEL FIN. SLAB, PAINTED, SEE SPECIFICATIONS

DOOR SCHEDULE

NO.	HARDWARE SET (SEE SPECS.)	FRAME TYPE	HEAD	JAMB	SADDLE	LINTEL	DOOR MATERIAL	NOMINAL DOOR SIZE	FRAME MATERIAL	DOOR TYPE	LOUVER	CLOSER	REMARKS
1		*	*	*	*	-	ALUM. FRAME W/14 SOLAR-BRONZE GLASS	5'-0" x 7'-10" x 1 3/4"	ALUM.	B	-	YES	* FOR DETAILS OF MAIN ENTRANCE SEE DWG. A-4
2		*	*	*	*	-	ALUM. FRAME W/14 SOLAR-BRONZE GLASS	3'-0" x 7'-10" x 1 3/4"	ALUM.	B	-	YES	* FOR DETAILS OF MAIN ENTRANCE SEE DWG. A-4
3		A	1	1	S-1	-	WOOD	2'-0" x 6'-8" x 1 3/4"	WOOD	A	LOUVER @ FRAME A	-	
4		A	1	2	-	-	WOOD	2'-8" x 6'-8" x 1 3/4"	WOOD	A	LOUVER @ FRAME A	-	
5		A	1	1-3	S-1	-	WOOD	2'-4" x 6'-8" x 1 3/4"	WOOD	A	LOUVER @ FRAME A	YES	
6		A	1	1+3	-	-	WOOD	2'-4" x 6'-8" x 1 3/4"	WOOD	A	LOUVER @ FRAME A	-	
7		B	2	3	VINYL STRIP	2-3/4" x 5-3/8"	H.M.	2'-8" x 7'-10" x 1 3/4"	H.M.	A	-	YES	1/2 HR. F.R.S.C.
8		C	3	3	*	6" x 8" x 7/8"	H.M.	3'-8" x 7'-8" x 1 3/4"	H.M.	A	-	YES	* ZERO #75 ALUMINUM INTERLOCKING SADDLE



MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

UTILITY BUILDING
FINISH SCHEDULE DOOR SCHEDULE
& DETAILS

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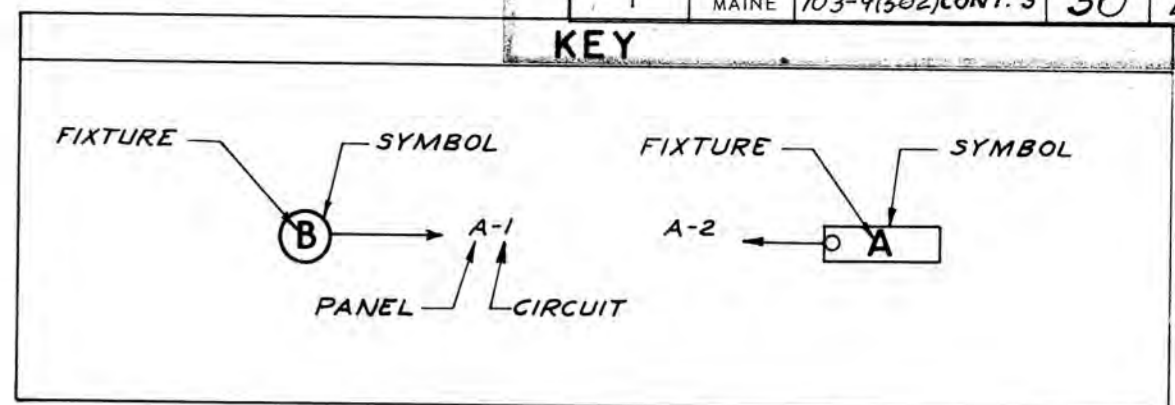
DWG. A-5

LIGHTING FIXTURE SCHEDULE

TYPE	LAMPS		DESCRIPTION	MAKE	CATALOG NO.	SHIELDING	FINISH	REMARKS
	NO.	ORD. ABB.						
A	2	F40 CW	ENCLOSED PLASTIC UNIT	HOLOPHANE	7100-4	ACRYLIC LENS	B.W.E.	SURFACE - CEILING
B	2	60A	10" DRUM UNIT	ART METAL	33795L	LENS	SATIN	SURFACE - CEILING
C	1	150A	DOWNLIGHT	ART METAL	15-1015WS	DROP OPAL	WHITE	RECESSED 5"
D	1	150A	WALL BRACKET	ART METAL	3672AH	LENS	ALUMINUM	SURFACE - WALL
E	1	150A	4" PORCELAIN LAMPHOLDER	BRYANT	3228WG	WIREGUARD	PORCELAIN	OUTLET BOX
F	4	F20T12 CW	SURFACE MOUNTED UNIT	ROBERT MFG.	4700-424-T5			SEE TOLL BOOTH DRWG.
G	1	200A	VAPORTIGHT UNIT	RUSSELL & STOLL	5067	GLOBE		IN TUNNEL

MOTOR AND STARTER SCHEDULE

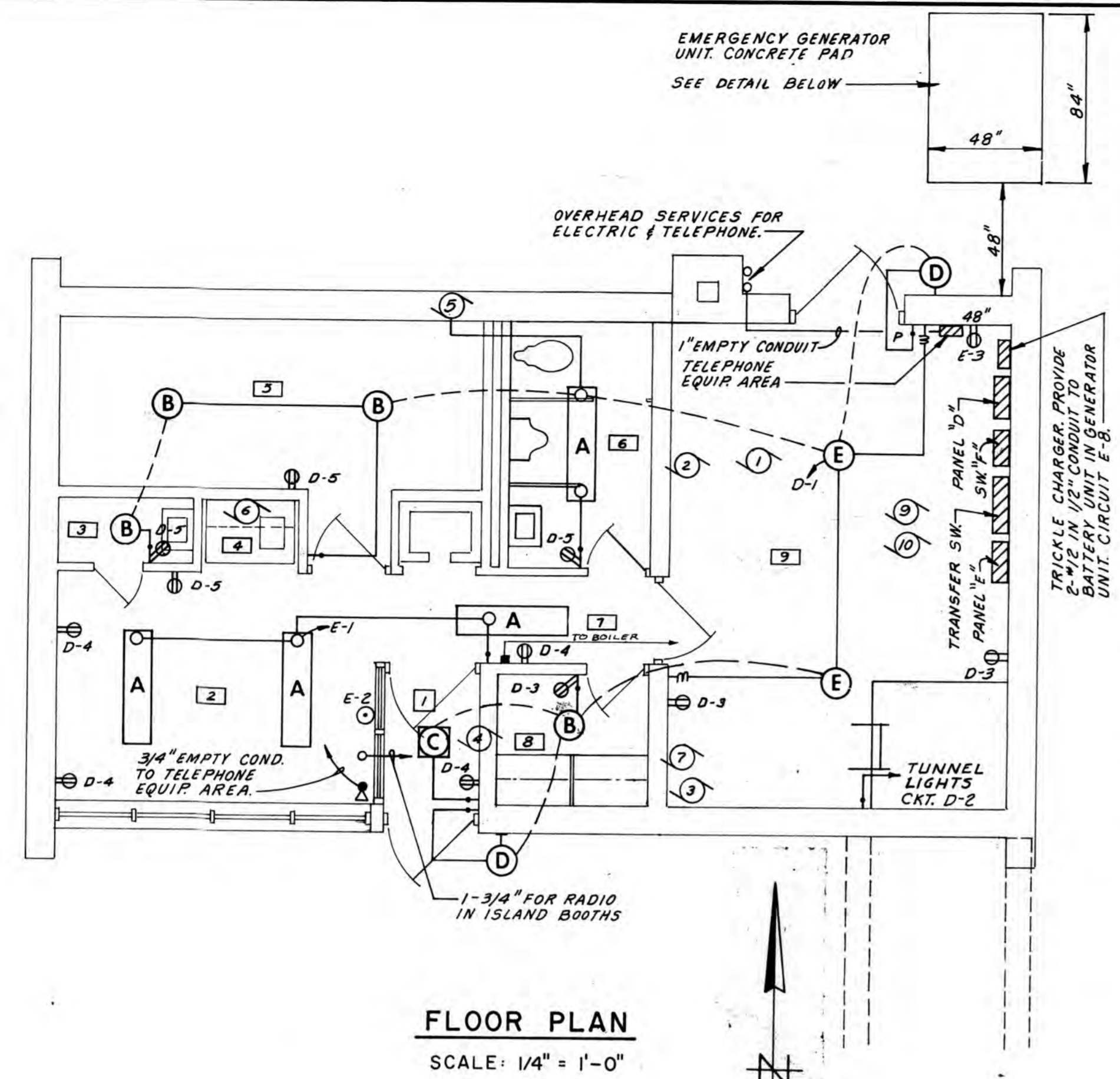
MTR. NO.	LOCATION	DESCRIPTION	KW	HP	Ø	VOLTS	CIRC. NO.	BKR OR FUSE	STARTER NOMENCLATURE		REMARKS		
									BULLETIN & FORM NO.	LOCATION		FURN. BY	INTER-LOCKED MOTOR
1	RM. 9	BOILER		1/3	1	120	E-4	1	20	709 TAD ON-OFF	NEAR UNIT	T.C.C.	
2	RM. 9	CIRCULATING PUMP		1/4	1	120	E-5	1	20	709 TAD H.O.A.	NEAR UNIT	T.C.C.	
3	RM. 9	UNIT HEATER		1/20	1	120	D-6	1	20	600 TAX 4	NEAR UNIT	T.C.C.	
4	RM. 1	CABINET HEATER		1/20	1	120	D-6	1	20	SEE HTG. SPECS.	NEAR UNIT	T.C.C.	
5	RM. 6	EXHAUST FAN		1/25	1	120	SEE PLAN			600 TAX 4	NEAR UNIT	T.C.C.	CONNECT TO LIGHT CKT & SW. PROVIDE 3 WIRE 30A RECEPTACLE
6	RM. 4	KITCHETTE	4.17		1	120/240	D-7	2	30				
7	RM. 9	HOT WATER HEATER	5.0		1	240	D-8	2	30				
8	TOLL BOOTHS	UNIT HEATERS		1/15	1	120	SEE PLANS	1	20	600 TAX 4	NEAR UNIT	T.C.C.	3 RECD. SEE SHEET NO.
9	CRAWL SPACE	SUMP PUMP		1/3	1	120	E-6	1	20	709 TAD H.O.A.			FLOAT SWITCH AND MECH. ALTERNATOR.
10	CRAWL SPACE	SUMP PUMP		1/3	1	120	E-7	1	20	709 TAD H.O.A.			



ELECTRICAL SYMBOLS

□	FLUORESCENT LIGHTING FIXTURE
○	RECESSED INCANDESCENT LIGHTING FIXTURE
○	INCANDESCENT LIGHTING FIXTURE - SURFACE
— —	SINGLE POLE SWITCH
— — —	THREE WAY SWITCH
— — — —	SWITCH & DUPLEX RECEPTACLE IN SAME OUTLET BOX
— — —	DUPLEX RECEPTACLE
— — —	DUPLEX FLOOR RECEPTACLE
○	INCANDESCENT WALL MTD. LIGHTING FIXTURE
— — —	SWITCHED CIRCUIT
---	BRANCH CIRCUIT
○	MOTOR OR SPECIAL OUTLET
○	TELEPHONE FLOOR OUTLET
— — —	SWITCH WITH PILOT LIGHT
■	OIL BURNER EMERGENCY SHUT-OFF SWITCH

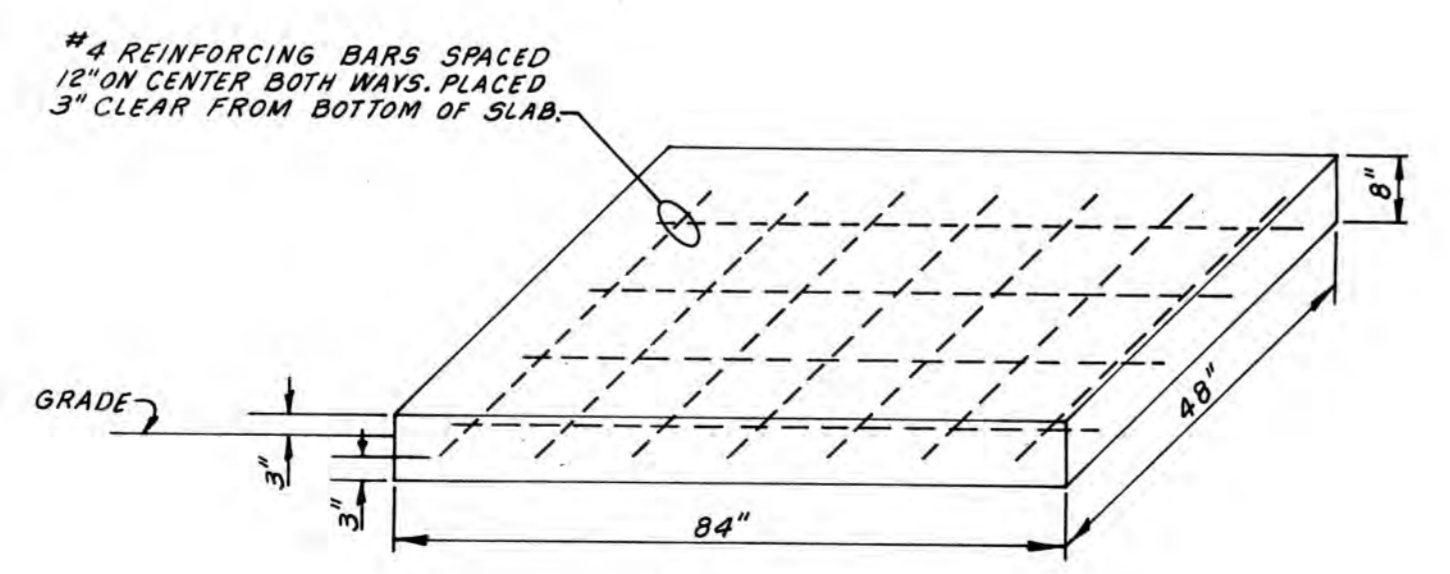
NOTE:
 The Contractor shall install an emergency shut-off switch on the outside wall of the coat room, Asco Figure # 1245. Breakglass switch, (oil burner shut-off) and two spare glasses



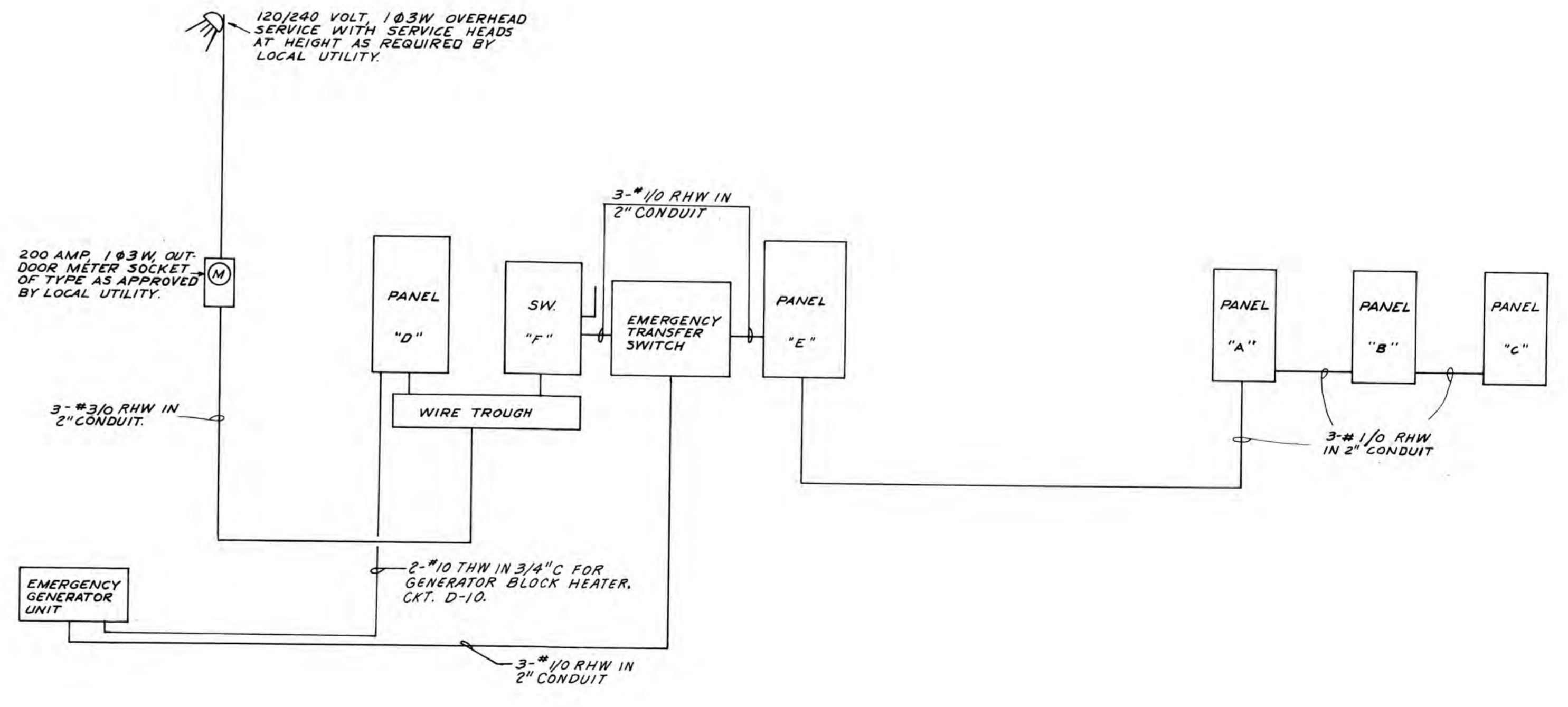
FLOOR PLAN
 SCALE: 1/4" = 1'-0"

PANELBOARD SCHEDULE

NO.	BKR. OR FUSE		MAIN BUS		MAKE	CATALOG NO.	MOUNTING	LOCATION	REMARKS	
	NO.	POLE	AMP.	TYPE						
FOR ISLANDS A, B, C	7	1	20							
	3	1	30	100	1Ø3W	SQUARE D	NQOB-3L	SURFACE	IN TUNNEL	PROVIDE SUB-FEED LUGS ON PANELS "A" & "B"
D	16	1	20							
	2	2	30	100	1Ø3W	SQUARE D	NQOB-3AB	SURFACE	ROOM 9	
E	8	1	20							
	1	2	100	100	1Ø3W	SQUARE D	NQOB-3L	SURFACE	ROOM 9	
F	1	2	100	100	1Ø3W	SQUARE D	H223N	SURFACE	ROOM 9	PROVIDE FUSING AS REQUIRED.



CONCRETE PAD FOR EMERGENCY GENERATOR
 SCALE: 1/2" = 1'-0"



SERVICE RISER
 NOT TO SCALE

MAINE STATE HIGHWAY COMMISSION
 AUGUSTA, MAINE

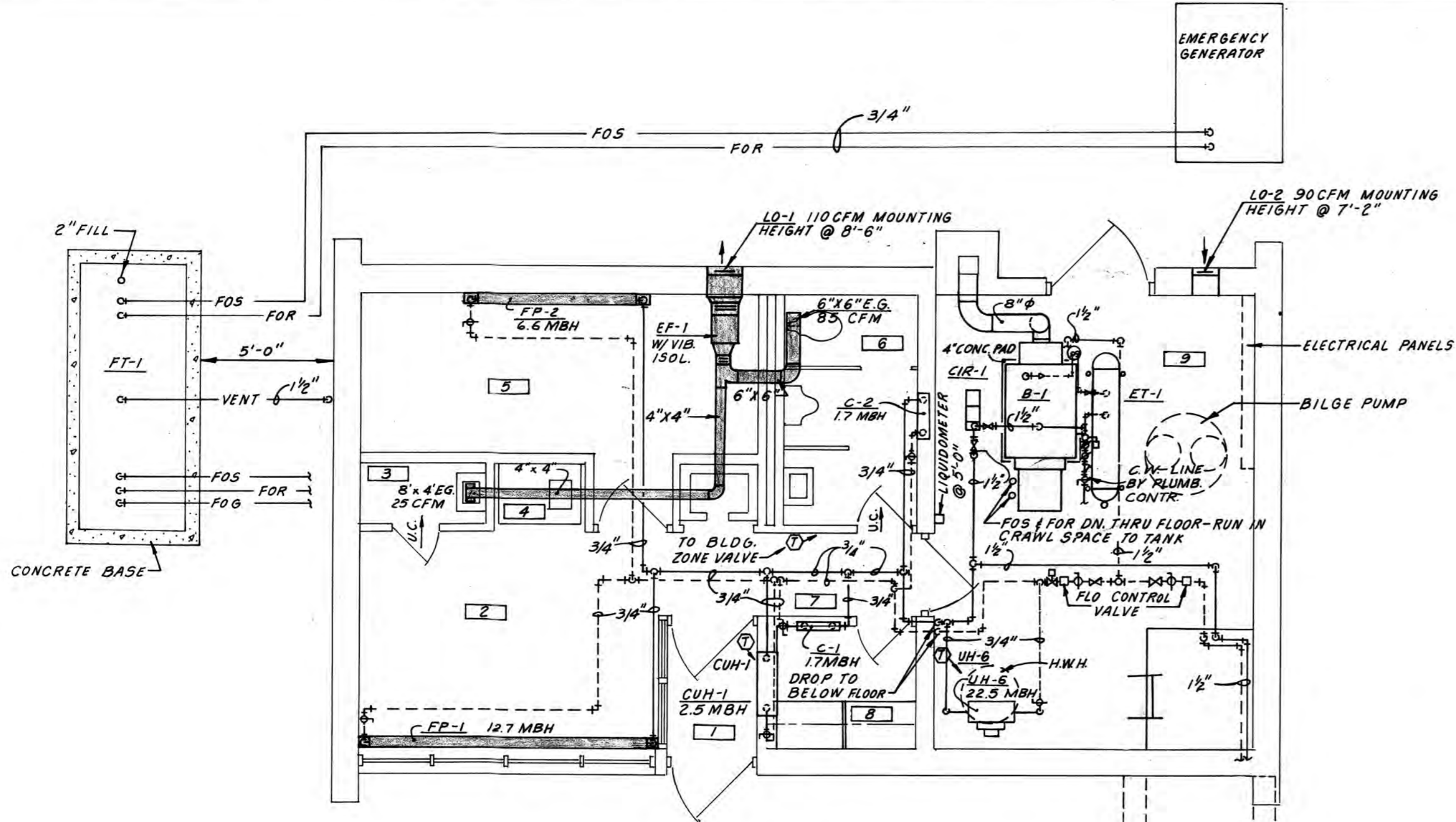
UTILITY BUILDING
 ELECTRICAL DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
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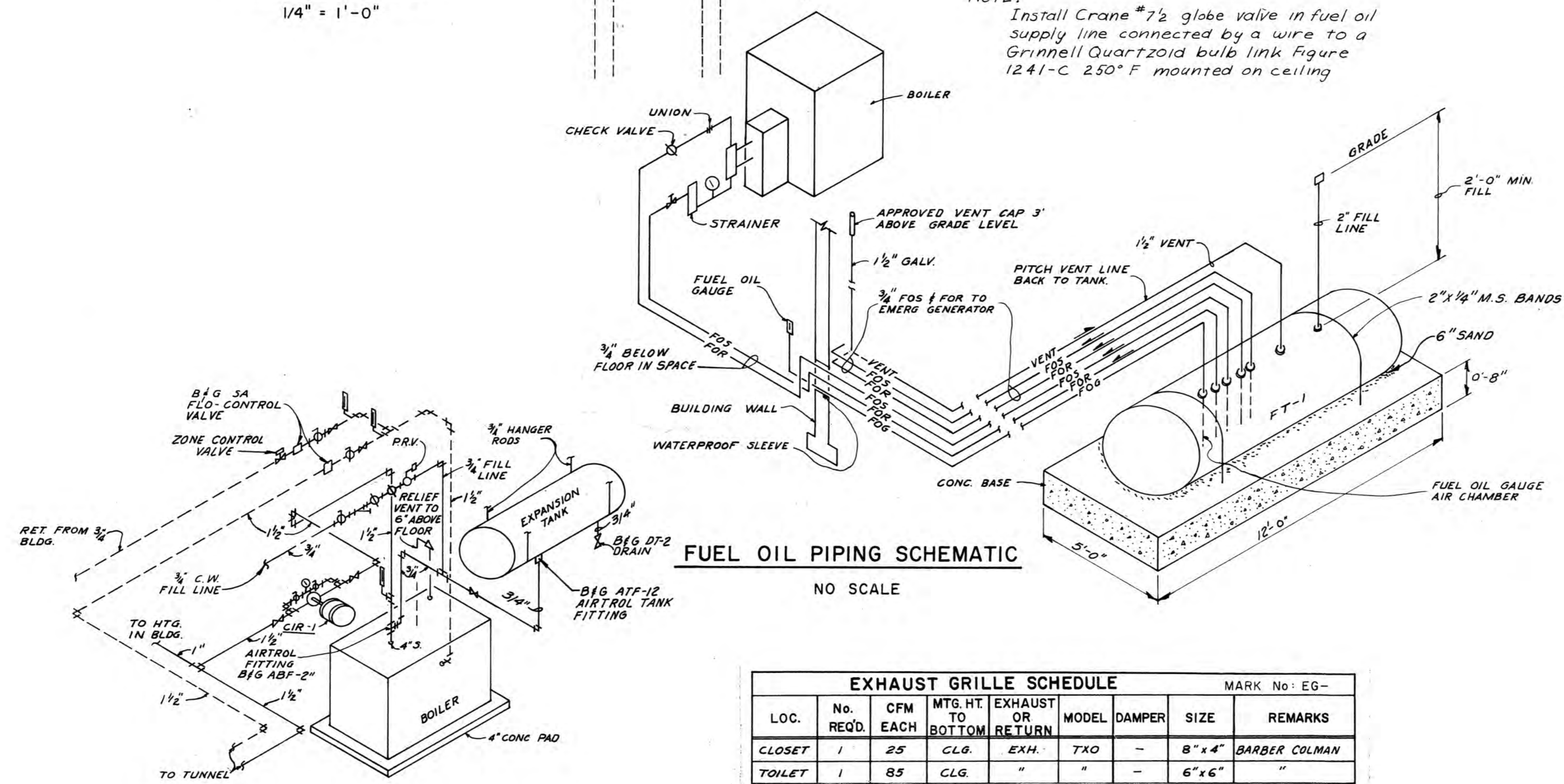
SYMBOL & ABBREVIATION SCHEDULE

SYMBOL	IDENTIFICATION	SYMBOL	IDENTIFICATION	SYMBOL	IDENTIFICATION
	GATE VALVE		PIPING-TOP TAKEOFF		PRESSURE GAUGE
	GLOBE VALVE		PIPING-BOTTOM TAKEOFF		EXHAUST GRILLE
	CHECK VALVE		PIPE PITCH DOWN		HOT WATER SUPPLY
	PRESSURE REDUCING VALVE		FLOW DIRECTION IN PIPES		HOT WATER RETURN
	THREE-WAY CONTROL VALVE		EXHAUST OR RETURN DUCT (DOWN OR AWAY)		VENT LINE
	RELIEF VALVE		CANVAS CONNECTION		FUEL OIL SUPPLY
	BALANCING COCK		VOLUME DAMPER		FUEL OIL RETURN
	STRAINER		UNDERCUT DOOR (BY OTHERS)		FUEL OIL GAUGE LINE
	UNION		RISE IN DUCT ELEVATION IN DIRECTION OF FLOW		COLD MAKEUP WATER
	THERMOMETER		ELECTRIC THERMOSTAT		DRAIN LINE



FLOOR PLAN
1/4" = 1'-0"

NOTE:
 Install Crane #72 globe valve in fuel oil supply line connected by a wire to a Grinnell Quartzoid bulb link figure 1241-C 250° F mounted on ceiling



FUEL OIL PIPING SCHEMATIC
NO SCALE

BOILER PIPING ISOMETRIC
NO SCALE

FINNED PIPE RADIATION SCHEDULE

MARK No: FP-

MARK NO.	LOC.	MFR.	MODEL	CAPACITY MBH	EDR	HTG. MEDIUM	PIPE SIZE	ELEMENT FINN PER IN.	LENGTH	CABINET D. L. H.	MTG. HGT. TO TOP	DPR.	No. OF ROWS
FP-1	SITTING AREA	TRANE	205	12.7	-	200° AVE	1 1/4 STL	-	10'-6"	6" 11'-3" 20"	2'-0"	YES	1
FP-2	STORAGE	"	125	6.6	-	"	"	-	6'-0"	6" 7'-0" 12"	1'-4"	"	1

CIRCULATING PUMP SCHEDULE

MARK No: CIR-

MARK NO.	LOC.	MFR.	MODEL	GPM	FT. H ₂ O	TEMP.	MOTOR			SERVICE	REMARKS
							H.P.	CURRENT	No.		
CIR-1	BOILER ROOM	BFG	AA	25.0	12	200°	1/4	120/60/1	2	BLOG.	

CABINET UNIT HEATER SCHEDULE

MARK No: CUH-

MARK NO.	LOC.	SEE DET. NO.	MFG.	MODEL	CAPACITY MBH	EDR	HTG. MED.	GPM	F.T.	CFM	SIZE			MOTOR			RPM
											D.	L.	H.	H.P.	CURRENT	NO.	
CUH-1	VEST.	-	TRANE	E42-03	2.9	-	200°	25	87	100	9"	28"	27 1/2"	1/20	120/60/1	4	500

UNIT HEATER SCHEDULE

MARK No: UH-

MARK NO.	LOC.	MFR.	MODEL	CAP. MBH	EDR	HTG. MED.	GPM	T _F	P.D.	TEMP. DROP	CFM	MOTOR			RPM
												H.P.	CURRENT	No.	
UH-1	TOLL BOOTHS	AAF	HU-1210	40 1/2	-	200°	4.0	96	0.3	20°	1050/692	1/15	120/60/1	8	1550/1050
UH-6	BOILER ROOM	TRANE	425	22.5	-	"	2.25	91.2	08	"	591	1/20	"	3	1550

EXHAUST FAN SCHEDULE

MARK No: EF-

MARK NO.	LOC.	MFR.	MODEL	CFM	S.P. (H ₂ O)	RPM	OV. (FPM)	WHL. DIA.	ARR.	DPR.	MOTOR			SERVICE
											H.P.	CURRENT	No.	
EF-1	AB. TOILET CLG.	PVC	REX-07V	110	120	1050	1920	7"	-	-	1/25	120/60/1	5	

FUEL STORAGE TANK SCHEDULE

MARK No: FT-

MARK NO.	MFG.	SERVING	SEE DET. NO.	TANK DIAM.	LGTH	CAP. (GAL)	M.H. THICKNESS	FOUNDATION	TYPE OF FUEL	REMARKS
FT-1	ADAMSON	BOILER	-	48"	10'-8"	1000	3/16" 3/16"	CONC. ≈ 6,000#	#2	1 1/2" VENT, 2" FILL

EXPANSION TANK SCHEDULE

MARK No: ET-

MARK NO.	LOC.	MFR.	SIZE	GAL. CAP.	CONSTR.	W.P.	TAPPINGS			SERVICE	REMARKS
							GAUGE GLASS LINE	EXP. DRAIN	AIR PRESS.		
ET-1	BOILER ROOM	BFG	13" X 66" L	40	ASME	125	1/2"	3/4"	3/4"	-	BOILER

BOILER SCHEDULE

MARK No: B-

MARK NO.	MFR.	MODEL	GROSS RATING (MBH)	W.P. PSI	DESIGN PRESS. PSI	SERVING	OIL			GAS			BURNER	
							TYPE	GPH	HTG.	TYPE	CFH	H.P.	CURRENT	NO.
B-1	AM. STD.	3R3-FO	468	30	30	HTG.	#2	4.2	-	-	1/3	120/60/1	1	

EXHAUST GRILLE SCHEDULE

MARK No: EG-

LOC.	No. REQD.	CFM EACH	MTG. HT. TO BOTTOM	EXHAUST OR RETURN	MODEL	DAMPER	SIZE	REMARKS
CLOSET	1	25	CLG.	EXH.	TKO	-	8" x 4"	BARBER COLMAN
TOILET	1	85	CLG.	"	"	-	6" x 6"	"

CONVECTOR RADIATION SCHEDULE

MARK No: C-

MARK NO.	LOC.	SEE DET. NO.	MFG.	MODEL	ELEMENT			CAPACITY MBH	EDR	HTG. MED.	RECESS DEPTH	HTG. AB. BASE	END POCK	DPR.
					D.	L.	H.							
C-1	COAT RM	-	TRANE	SG	4"	20"	4"	20"	1.7	-	2 1/2"	1"	-	YES
C-2	TOILET	-	"	RG	"	"	"	"	"	"	4"	1"	-	"

LOUVER SCHEDULE (W/1/2" BIRD SCREEN)

MARK No: LO-

MARK NO.	LOC.	SERVING UNIT No.	MFR.	MODEL	CFM	SIZE		MAX. S.P. IN W.C.	MAX. VEL. FPM	REMOV. CORE	TYPE BLADE	CONSTRUCTION
						W.	H.					
LO-1	W. WALL	EF-1	TITUS	152	110	15 3/8"	7 3/8"	.01	300	-	EXT. AL.	
LO-2	BOILER RM. N.	B-1	"	"	90	"	"	"	230	-	"	

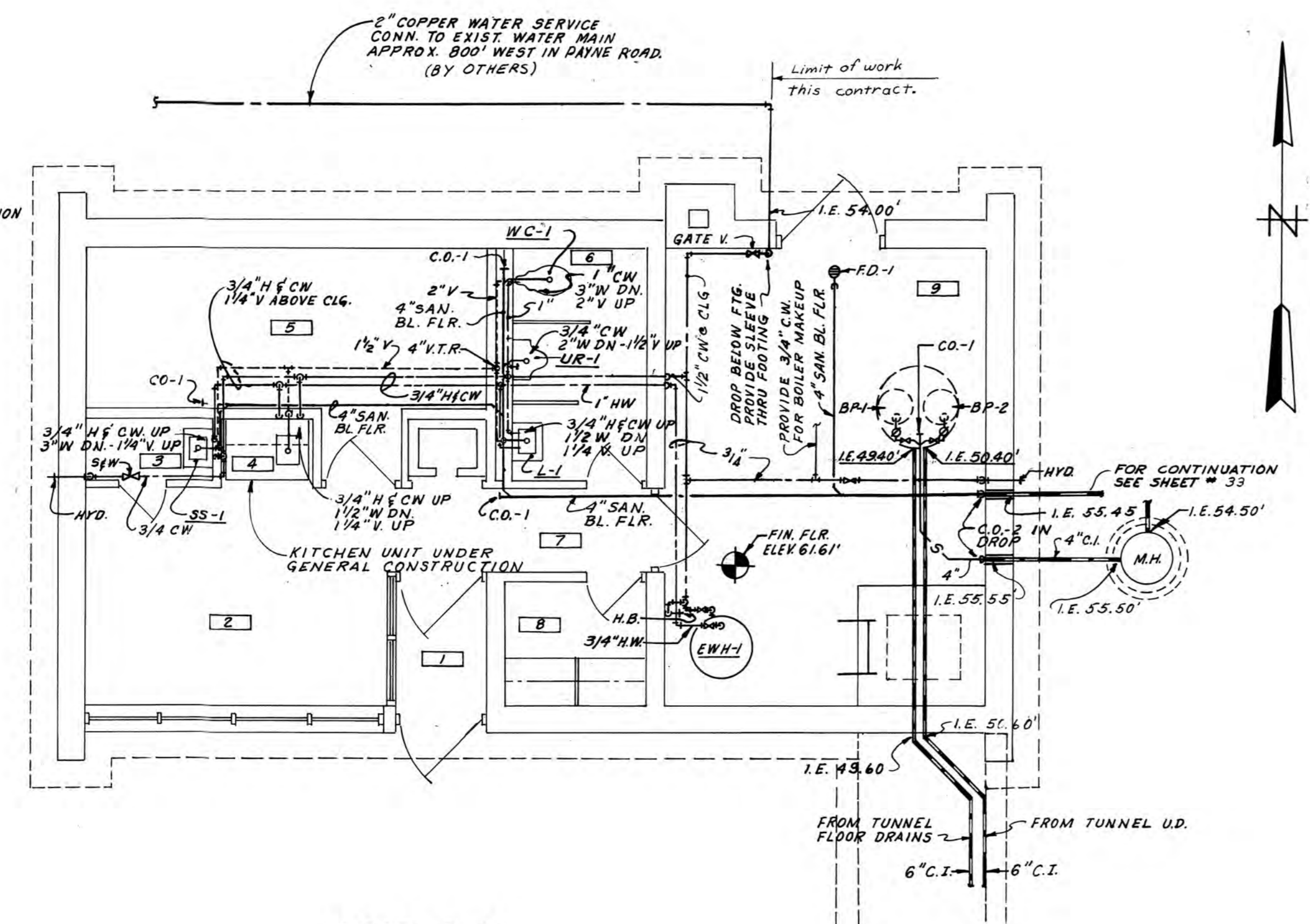
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 CONSULTING ENGINEERS
 NEW YORK BOSTON KANSAS CITY

MAINE STATE HIGHWAY COMMISSION
 AUGUSTA, MAINE

UTILITY BUILDING
 HEATING & VENTILATING PLAN

SOUTH PORTLAND

NOTE:
WATER PIPING ABOVE CEILING SHALL BE INSTALLED WITH 4" BATT INSULATION OVER PIPING.



FLOOR PLAN
SCALE: 1/4"=1'-0"

SERVICES	MATERIAL SYMBOL	DESCRIPTION	SPECIFICATION	REMARKS
STORM & SANITARY SEWERS (BELOW FLOOR)	C.I.	EXTRA HEAVY SOIL PIPE	CS-188 COATED	LEAD & OAKUM JOINTS
	V.C.P.	VITRIFIED CLAY PIPE	EXTRA STRENGTH ASTM C-200	ASTM C-425 FACTORY APPLIED JOINTS
	R.C.P.	REINFORCED CONCRETE PIPE	C-76	RUBBER GASKET JOINTS C-443
SOIL, WASTES & VENTS (4" & LARGER) (ABOVE FLOOR)	NONE	EXTRA HEAVY SOIL PIPE	CS-188 COATED	LEAD & OAKUM JOINTS
WASTES & VENTS (3" & SMALLER) (ABOVE FLOOR)	NONE	STEEL PIPE	SCHEDULE 40-ASTM A53-GALVANIZED	CONTRACTORS OPTION FOR 3" ONLY
CONDUCTORS	NONE	STEEL PIPE	SCHEDULE 40-ASTM A53-GALVANIZED	
WATER PIPING ABOVE GROUND	NONE	STEEL PIPE	SCHEDULE 40-ASTM A53-GALVANIZED	
WATER PIPING UNDERGROUND	NONE	COPPER TUBE	TYPE K-ASTM B-88 HARD	IPS BRASS PIPE, FITTINGS & NIPPLES FOR ALL SCREWED CONNECTIONS

FITTINGS	MATERIAL SYMBOL	DESCRIPTION	SPECIFICATION	REMARKS
SOIL	NONE	EXTRA HEAVY SOIL	CS-188 COATED	
WASTES	NONE	CAST IRON DRAINAGE PATTERN	ASA-B-16.12	
VENTS	NONE	CAST IRON DRAINAGE PATTERN	ASA-B-16.4 BLACK	
CONDUCTORS	NONE	CAST IRON DRAINAGE PATTERN	ASA-B-16.12 COATED	
WATER LINES	NONE	2" DN. MALLEABLE CAST BRASS SOLDERED	ASA-B-16.3 GALVANIZED	FLARE TYPE FOR UNDERGROUND
		2 1/2" UP CAST IRON	ASA-B-16.1 GALVANIZED	
		WROUGHT COPPER SOLDERED	ASA-B-16.22	FOR UNAVAILABLE WROUGHT SIZES
SCREWED UNIONS & FLANGES	NONE	2" DN. MALLEABLE	WALWORTH #7716 OR #7766	BLACK OR GALVANIZED TO MATCH PIPING
		2 1/2" UP-CAST IRON	ASA-B-16.1 125# COMP FLANGES	BLACK OR GALVANIZED TO MATCH PIPING
COPPER UNIONS & FLANGES	NONE	2" DN. GROUND JOINT	NBCC-SERIES 739 OR EQUAL	
		2 1/2" UP-COMPANION	NBCC-SERIES 741 OR EQUAL	BRASS MACHINE BOLTS
INSULATING UNIONS	NONE	2" DN. DIELECTRIC	EPIC-6X-C-PIPS OR EQUAL	REQUIRED FOR ALL CONNECTIONS OF COPPER TUBE TO FERROUS PIPING OR EQUIPMENT
		2 1/2" UP-DIELECTRIC	EPIC-6X-C-PIPS OR EQUAL	
NIPPLES	NONE	2" DN. DIELECTRIC	SCHEDULE 80	BLACK OR GALVANIZED TO MATCH PIPE
		LONG	SAME SCHEDULE AS PIPE	

SERVICES	MATERIAL SYMBOL	DESCRIPTION	SPECIFICATION	REMARKS
STORM & SANITARY	V.C.P. (S.S.)	VITRIFIED CLAY PIPE & FITTINGS	ASTM C-13	ASTM C-425 FACTORY APPLIED JOINTS
	V.C.P.	VITRIFIED CLAY PIPE & FITTINGS	ASTM C-200 EXCEPT FULL INSIDE DIAMETER	ASTM C-425 FACTORY APPLIED JOINTS (WEDGE LOCK)
	C.I.	EXTRA HEAVY SOIL PIPE & FITTINGS	CS-188 COATED	OAKUM & LEAD JOINTS
	R.C.P.	CONCRETE PIPE TONGUE & GROOVE	ASTM C76	C-443 NEOPRENE GASKET JOINTS
WATER	C.I.	CAST IRON B&S	ASA-A216 CLASS 24	LEAD & JUTE JOINTS
	*	FITTINGS B&S	ASA-A216 250* W.P.	LEAD & JUTE JOINTS
	C	COPPER TUBING	TYPEX ASTM-B88 SOFT	FLARED JOINTS
		FITTINGS-FLARED	ASA-B26	FLARED JOINTS

*CONTRACTOR MAY AT HIS OPTION SUBSTITUTE MECHANICAL JOINT PIPE, VALVES AND FITTINGS OF SIMILAR CLASS IF APPROVED AND/OR REQUIRED BY LOCAL AUTHORITIES

ELECTRIC HOT WATER HEATER SCHEDULE										MARK NO.: EWH-	
MARK NO.	LOCATION	MFR.	RECOVERY GPH	STORAGE CAP GAL	ELEMENT UPPER	ELEMENT LOWER	CURRENT	LINING	RELIEF VALVE	THERM SETTING	REMARKS
EWH-1	BOILER RM	RHEEM	10 @ 100"	30	2500	2500	230/1/60	GLASS	ASME	120°F	IMPERIAL

BILGE PUMP SCHEDULE														MARK NO.: BP-				
MARK NO.	LOCATION	MFR.	MODEL	TYPE	MOTOR				GPM	HEAD FT H ₂ O	BASIN				VENT	AUTOMATIC ALTERNATOR	HIGH WATER ALARM	REMARKS
					H.P.	RPM	CURRENT	NO.			DEPTH	DIA.	TYPE	COVER				
BP-1	CRAWL SPACE	CHICAGO PUMP	3U-700	SUBMERSE	1/3	1725	120/1/60	9	26	11	8'-0"	36"	C.I.	C.I.	2"	MECHANICAL	YES	
BP-2	CRAWL SPACE	CHICAGO PUMP	3U-700	SUBMERSE	1/3	1725	120/1/60	10	26	11	-	-	-	-	-	-	-	

FLOOR DRAIN SCHEDULE				MARK NO.: FD-	
MARK NO.	MANUFACTURER	MODEL NUMBER	REMARKS		
FD-1	JOSAM	SERIES 7724			

CLEANOUT SCHEDULE				MARK NO.: CO-	
MARK NO.	MANUFACTURER	MODEL NUMBER	REMARKS		
CO-1	JOSAM	SERIES Y50			
CO-2	JOSAM	SERIES Y150			

PLUMBING ABBREVIATIONS	
ABBREV.	DESCRIPTION
S.S.	SOIL STACK
S	SOIL
W	WASTE
V	VENT
V.S	VENT STACK
V.T.R.	VENT THRU ROOF
T.R.	THRU ROOF
D.I.	DUR-IRON
V.C.P.	VITRIFIED CLAY PIPE
C.I.	EXTRA HEAVY SOIL PIPE
D.T.	DRAIN TILE
C.W.	COLD WATER
H.W.	HOT WATER
L	LAVATORY
W.C.	WATER CLOSET
U	URINAL
S.S.	SERVICE SINK
F.D.	FLOOR DRAIN
C.O.	CLEAN OUT
M.H.	MANHOLE
HYD.	HYDRANT
GA.V.	GATE VALVE
I.E.	INVERT ELEVATION (FLOW LINE)
ELEV.	ELEVATION
CLG.	CEILING
TYP.	TYPICAL
CONN.	CONNECTION

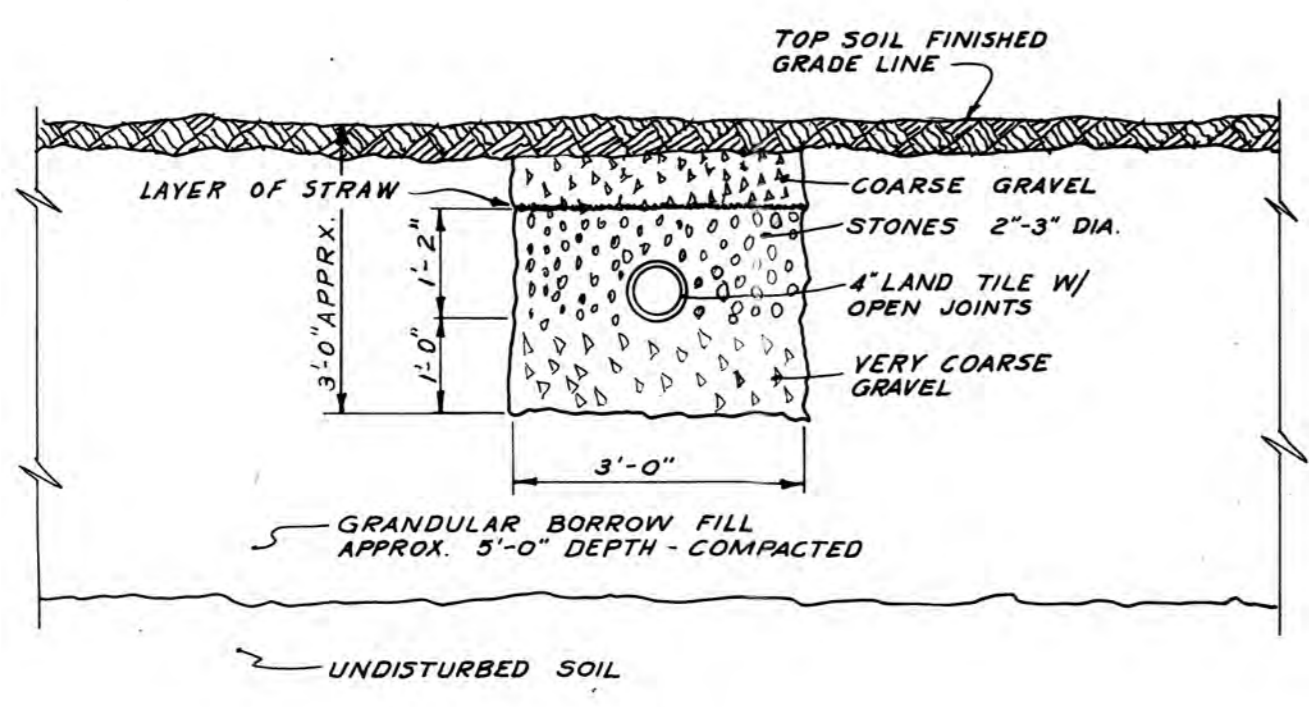
PLUMBING SYMBOLS	
SYMBOL	DESCRIPTION
— — — — —	UNDERGROUND SANITARY SEWER
— — — — —	UNDERGROUND STORM SEWER
— — — — —	UNDERGROUND VENT
— — — — —	SOIL, WASTE ABOVE GROUND
— — — — —	VENT ABOVE GROUND
— — — — —	VENT ABOVE GROUND
— — — — —	DRAIN TILE
— — — — —	COLD WATER
— — — — —	HOT WATER
— — — — —	CLEAN OUT IN FLOOR
— — — — —	CLEAN OUT IN RISER
— — — — —	GATE VALVE
— — — — —	CHECK VALVE
— — — — —	WALL HYDRANT
— — — — —	HOSE BIBB
— — — — —	FLOOR DRAIN

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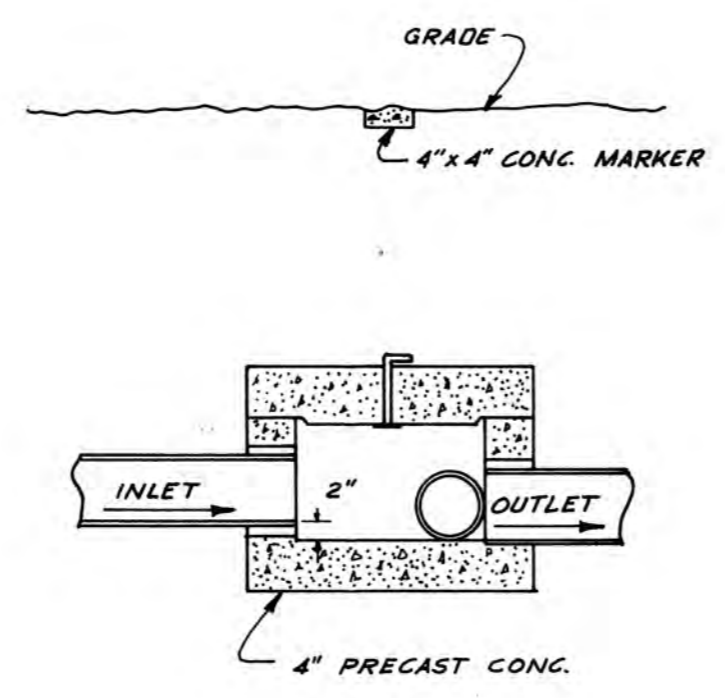
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AUGUSTA, MAINE

UTILITY BUILDING
PLUMBING DETAILS

SOUTH PORTLAND

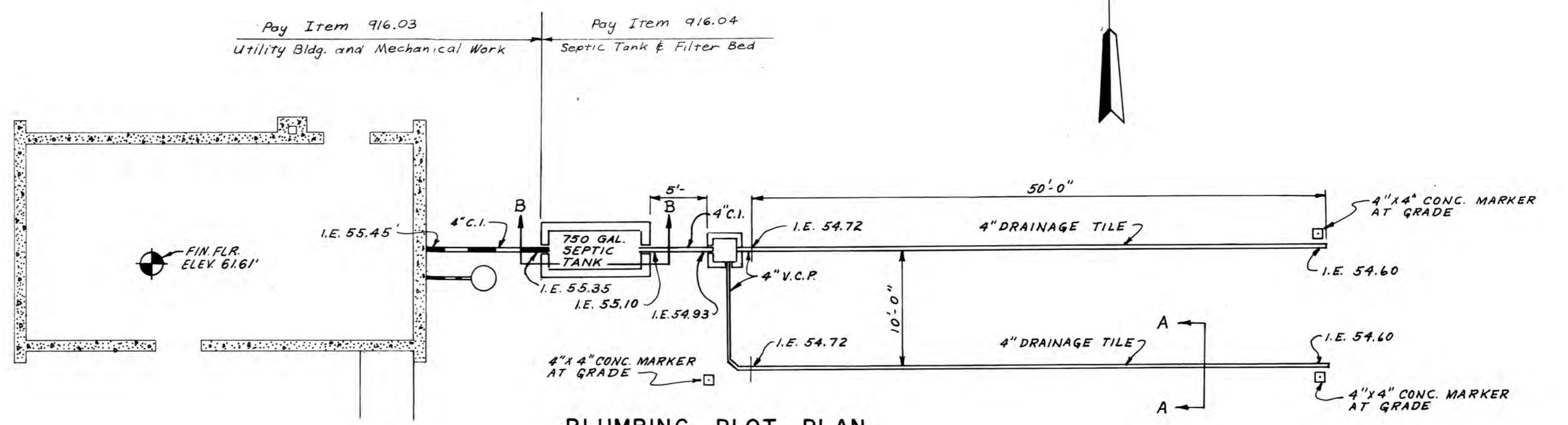


SECTION A-A
NO SCALE

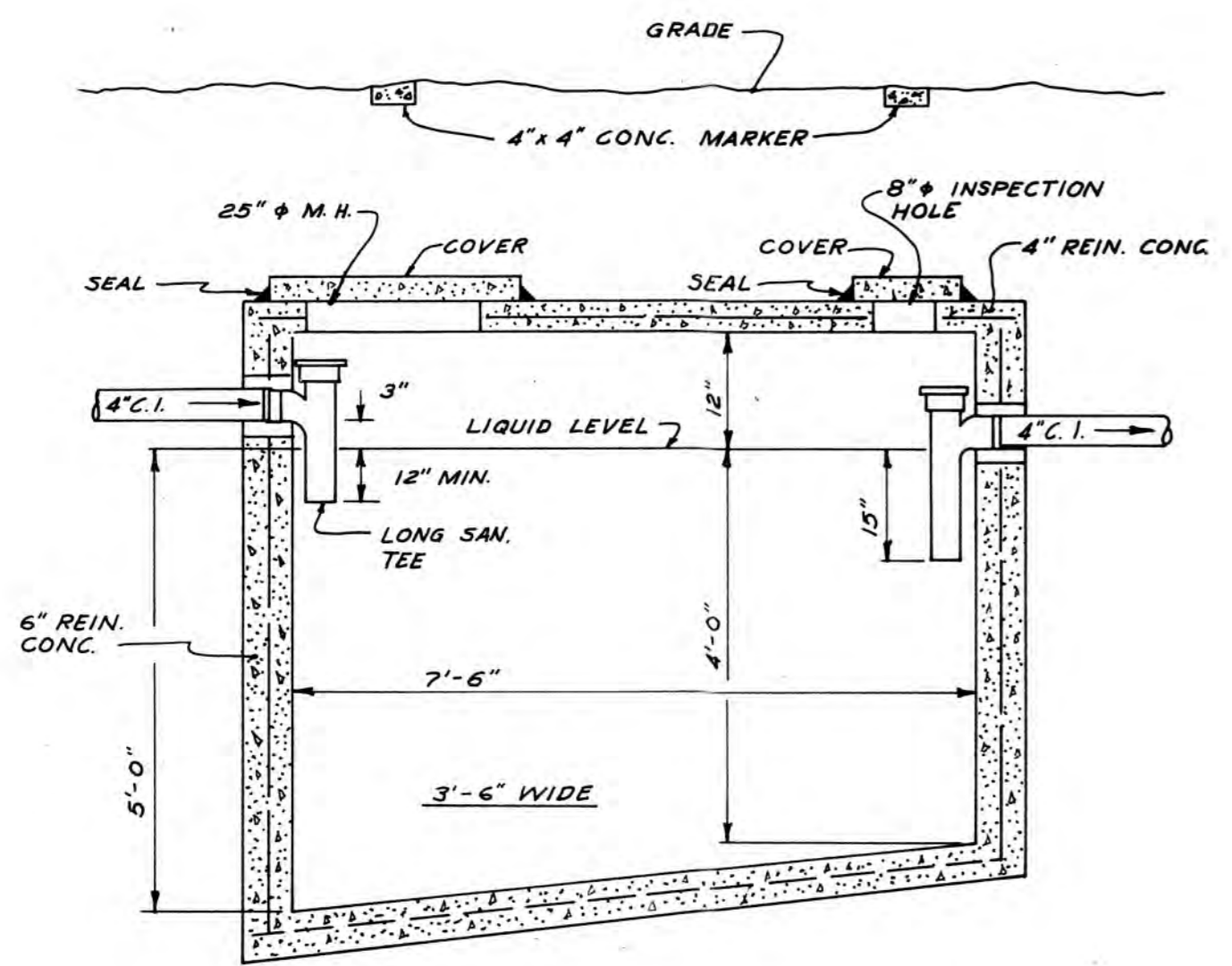


DISTRIBUTION BOX
NO SCALE

SEEPAGE FIELD BASIS FOR DESIGN
 $LF = 6 \text{ PEOPLE} \times 60 \text{ LF/PERSON} \times 1/4 = 90 \text{ LF.}$
 (REDUCTION FOR DAY USE)



PLUMBING PLOT PLAN
NOT TO SCALE

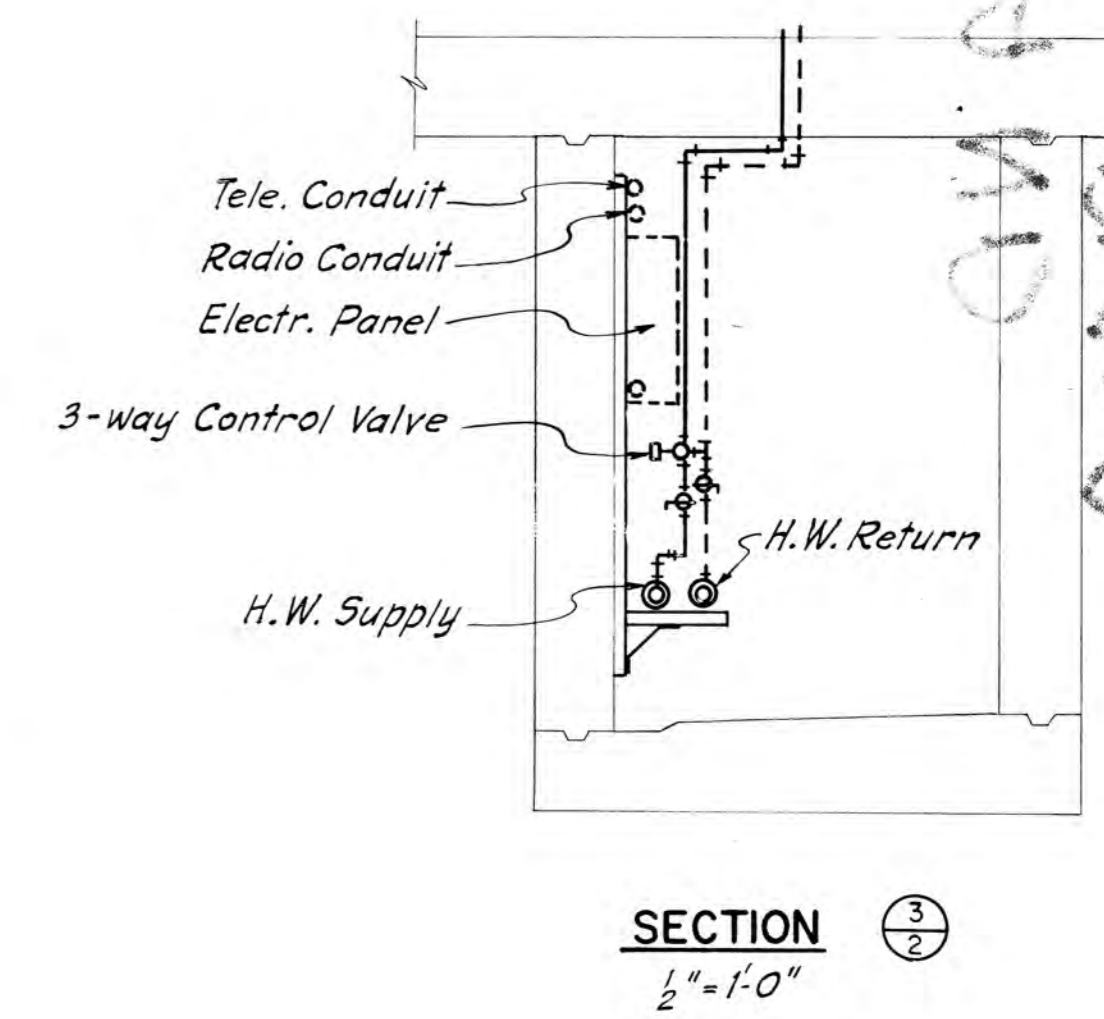
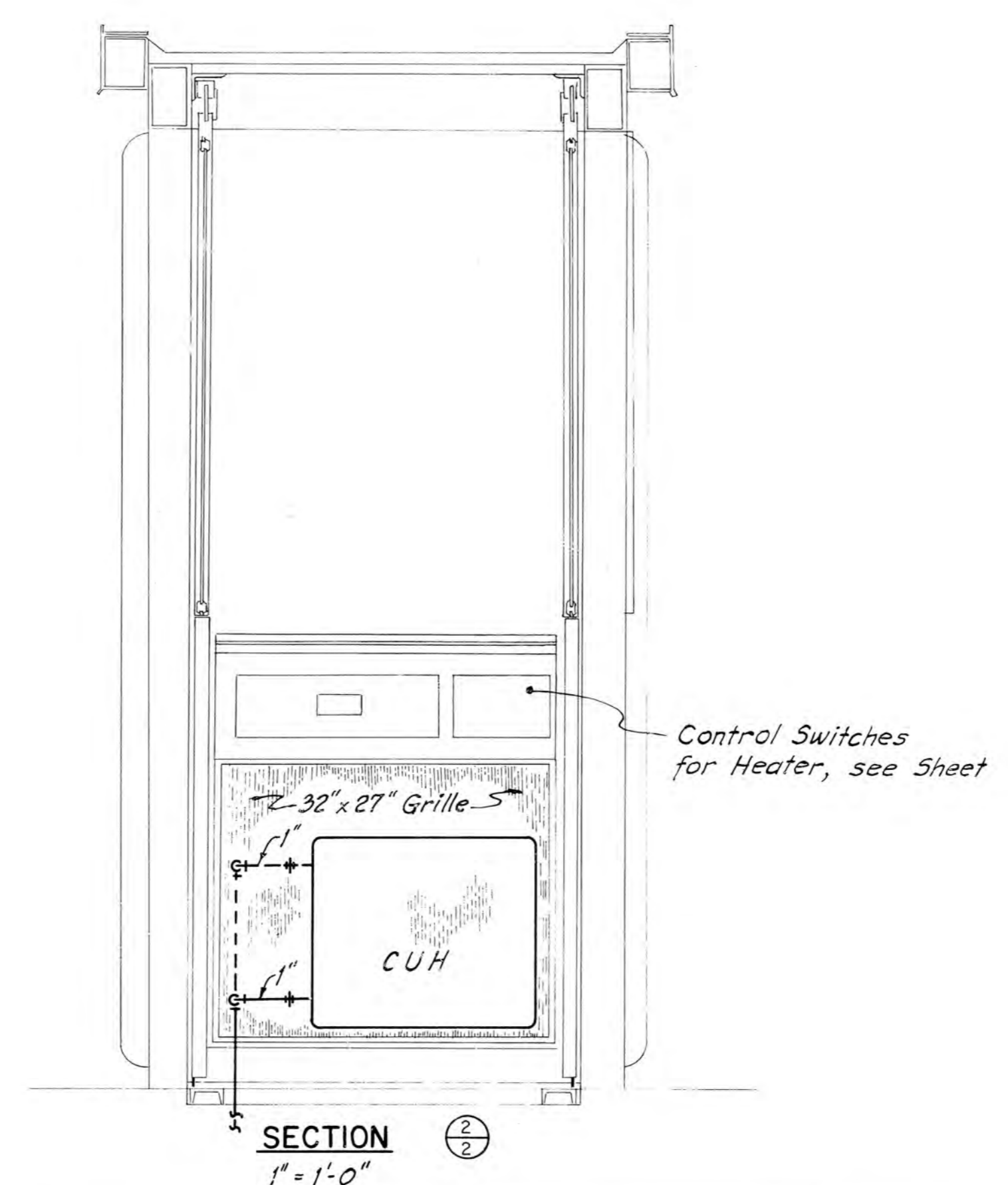
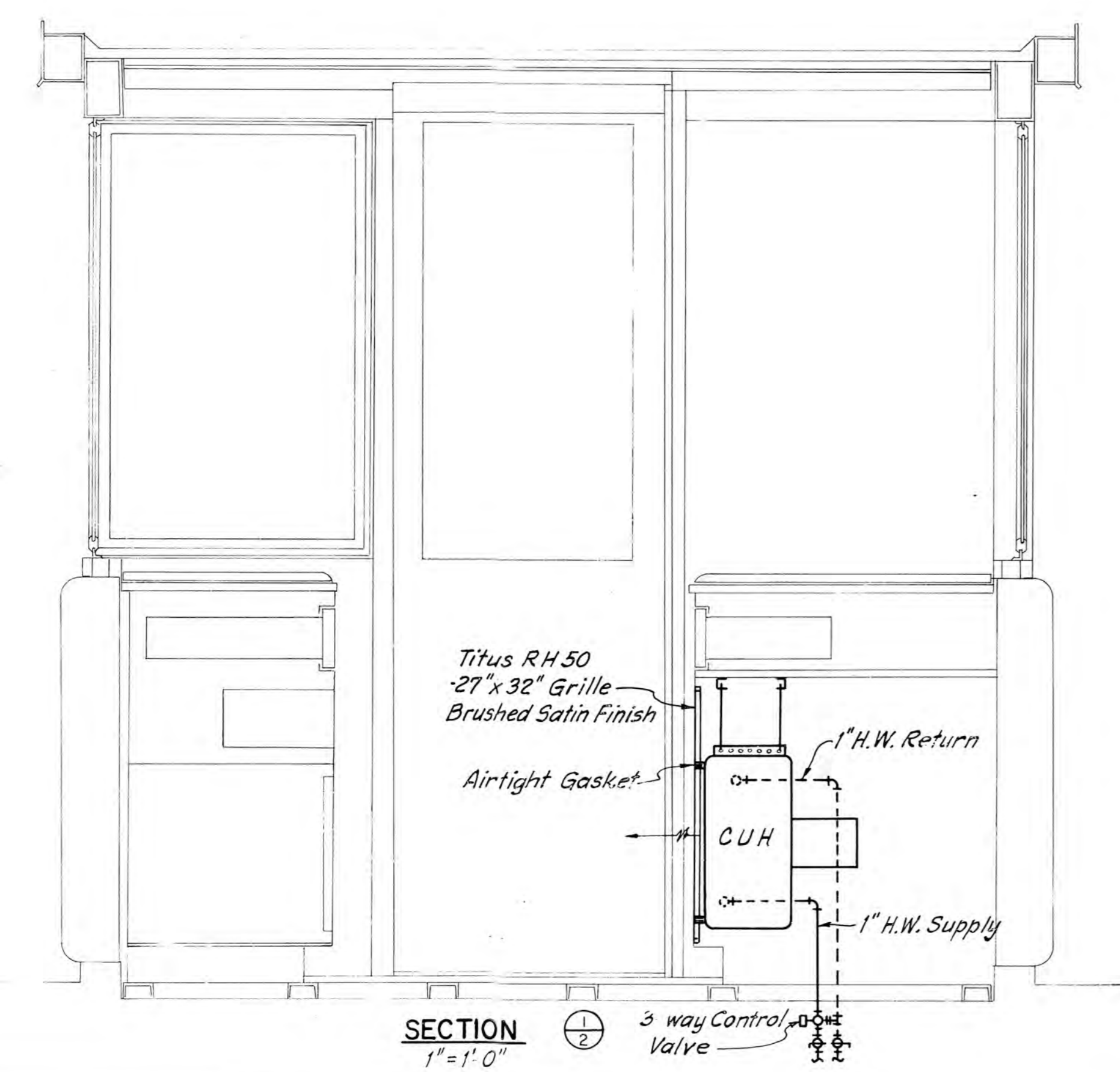
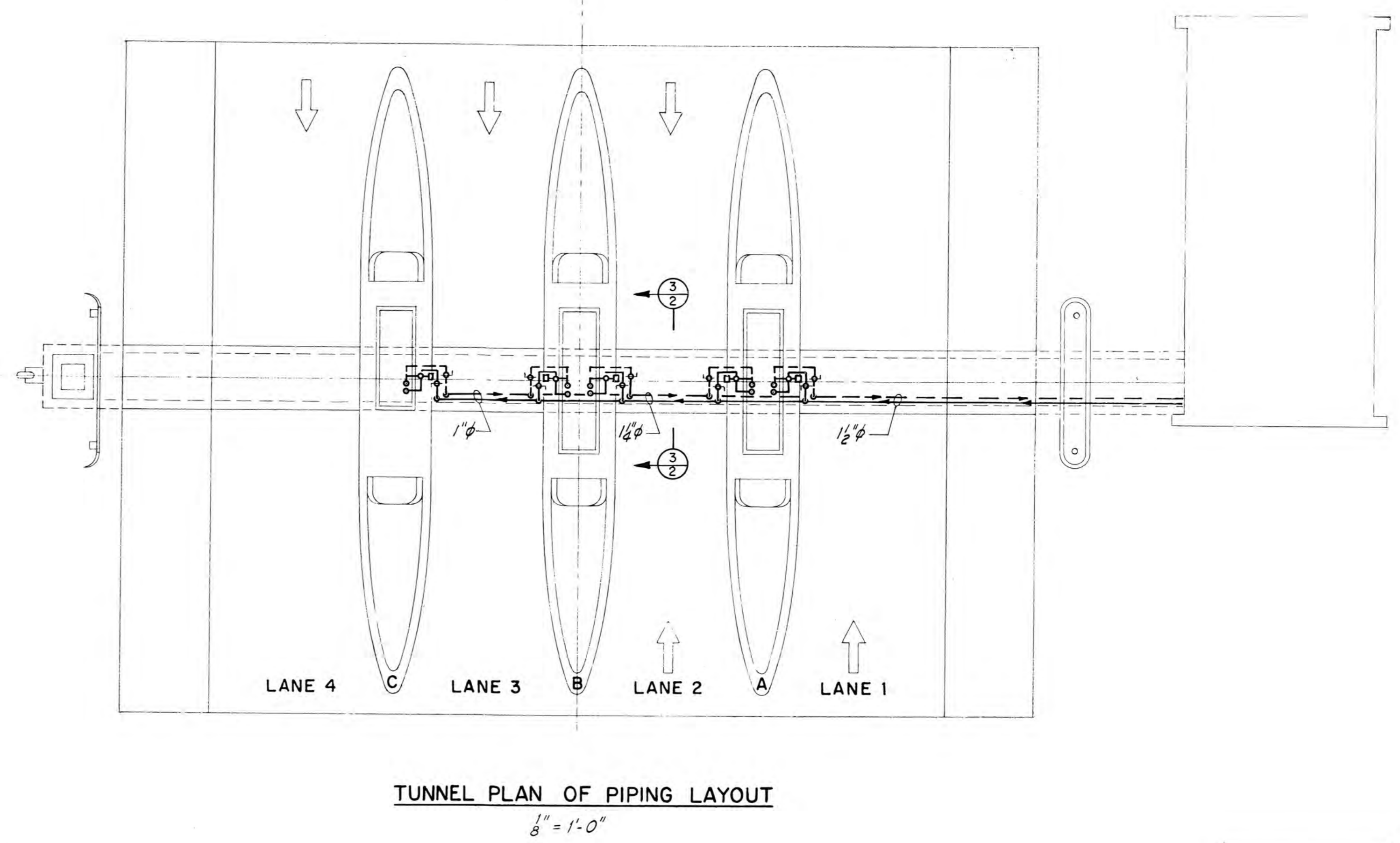
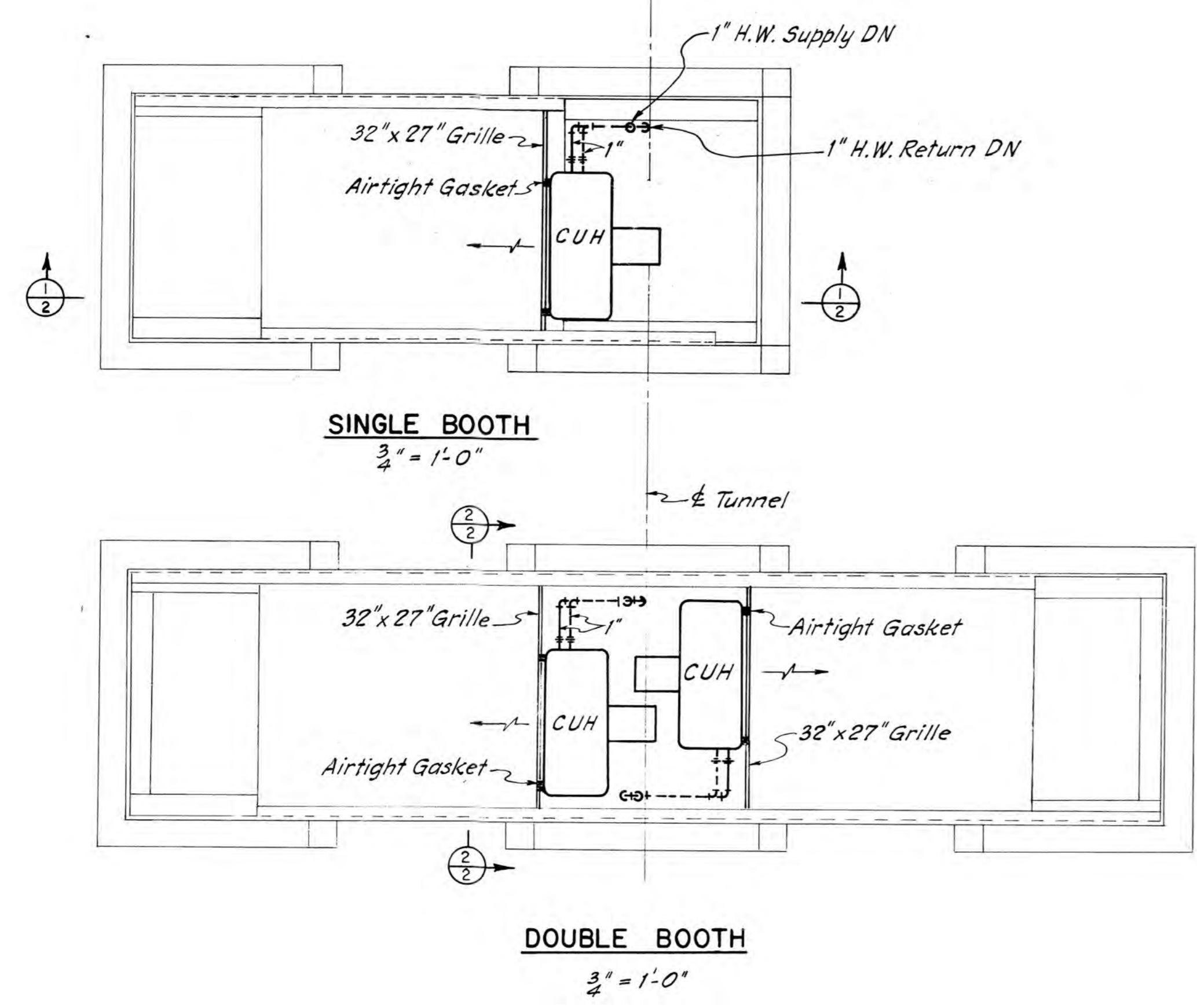


SECTION B-B
NO SCALE

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PLUMBING DETAILS

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10.0.0.0
 10.0.0.0
 2' BOOTH 4' TUNNEL

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MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

TOLL BOOTH & TUNNEL

HEATING PLAN