

EST. QUANT. FOR SEEPAGE DRAIN AND 18" E.S. R.C. PIPE
 18" Open Joint Seepage Drain = 160 L.F.
 18" E.S. R.C. Pipe = 135 L.F.
 Struc. Exc. for Pipe & Drain = 1182 c.y. ★
 W/Collars

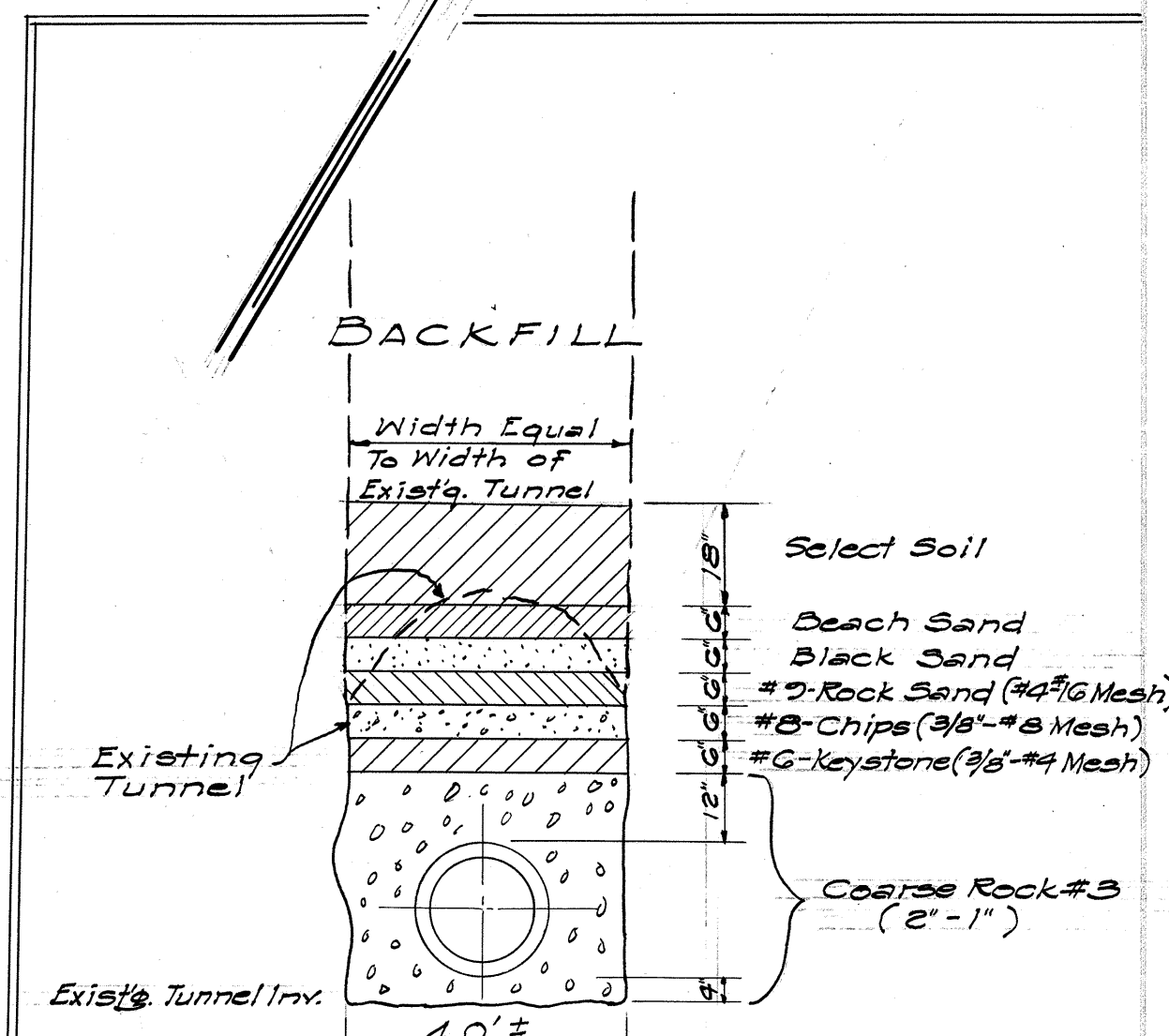
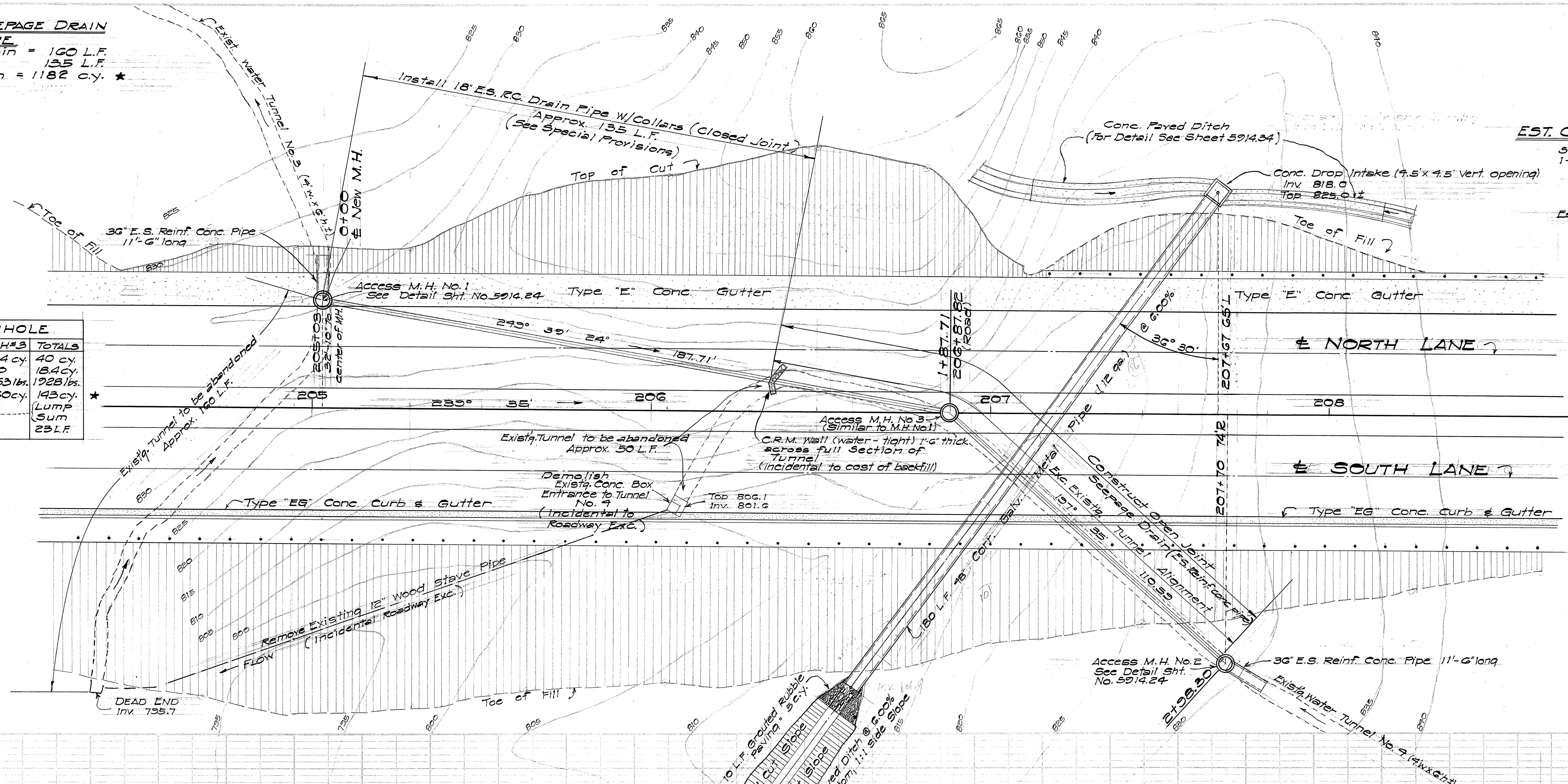
EST. QUANT. FOR MANHOLE				
ITEM	M.H.#1	M.H.#2	M.H.#3	TOTALS
Class "A-1" Conc.	12 cy	14 cy	14 cy	40 cy
Class "D-1" Conc.	22 cy	22 cy	0	44 cy
Reinf. Steel	601 lbs	674 lbs	653 lbs	1928 lbs
Struc. Exc.	48 cy	45 cy	50 cy	143 cy
Steel Door & Brass Debris Trap	(Lump Sum)	(Lump Sum)	(Lump Sum)	(Lump Sum)
36" E.S. R.C. Pipe	11.5 L.F.	11.5 L.F.		23 L.F.

NOTE:
 ★ Structural Excavation to be paid for under Item 14 (1a) "Structure Exc. for Seepage Drains and Manholes at Tunnels #3 and #4"

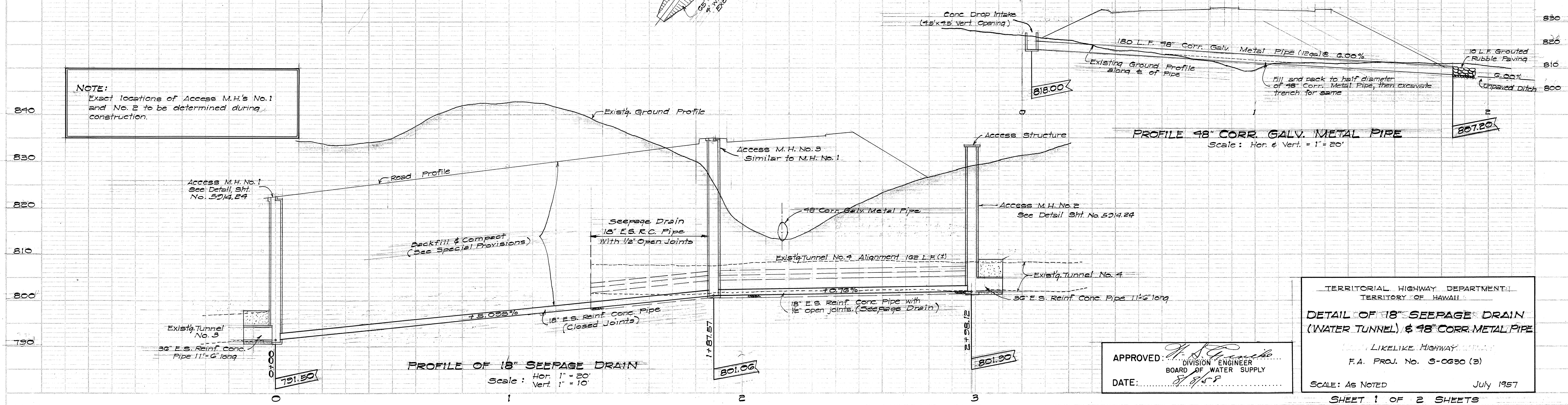
EST. QUANT. FOR 48" CULVERT

Sta. 207 + 25
 1" C.D.I. 4.5' x 4.5'
 180 L.F. 48" Corr. Galv. Metal Culv. Pipe (12 ga)
 10 L.F. G.R.P.
 65' L.F. Unpaved Ditch
Est. Quantities
 Class "B-1" Conc. = 4.21 c.y.
 Struc. Exc. = 155 c.y.
 G.R.P. = 4.5 c.y.
 Ditch Exc. = 240 c.y.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-0630(3)	1958	23	23



NOTE:
 Exact locations of Access M.H.'s No. 1 and No. 2 to be determined during construction.

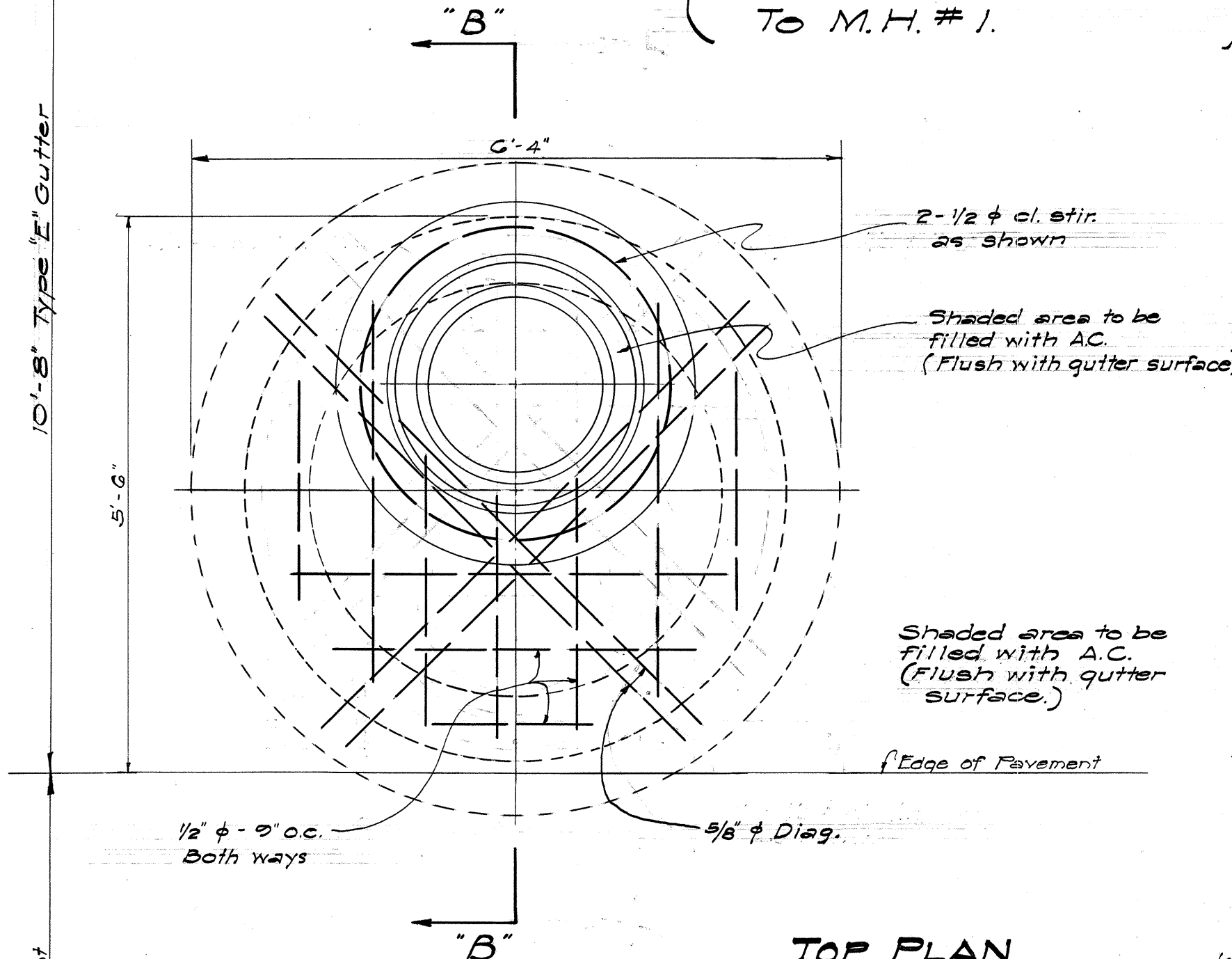


TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
DETAIL OF 18" SEEPAGE DRAIN (WATER TUNNEL) & 48" CORR. METAL PIPE
 LIKELIKE HIGHWAY, HAWAII
 F.A. PROJ. No. 5-0630 (3)
 SCALE: AS NOTED
 July 1957

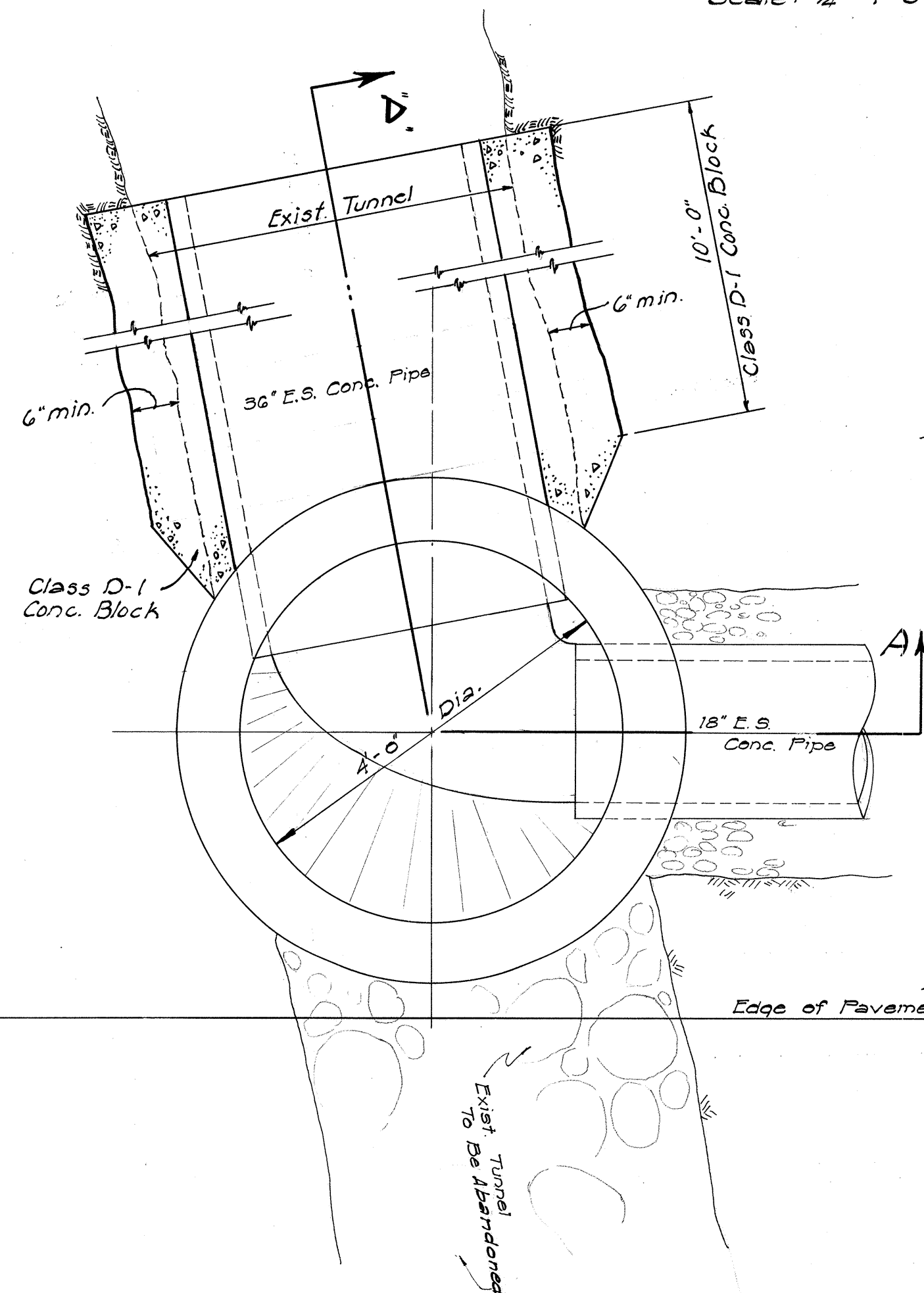
APPROVED: *[Signature]*
 DIVISION ENGINEER
 BOARD OF WATER SUPPLY
 DATE: 8/25/58

DETAILS OF TUNNEL ACCESS M.H.#1

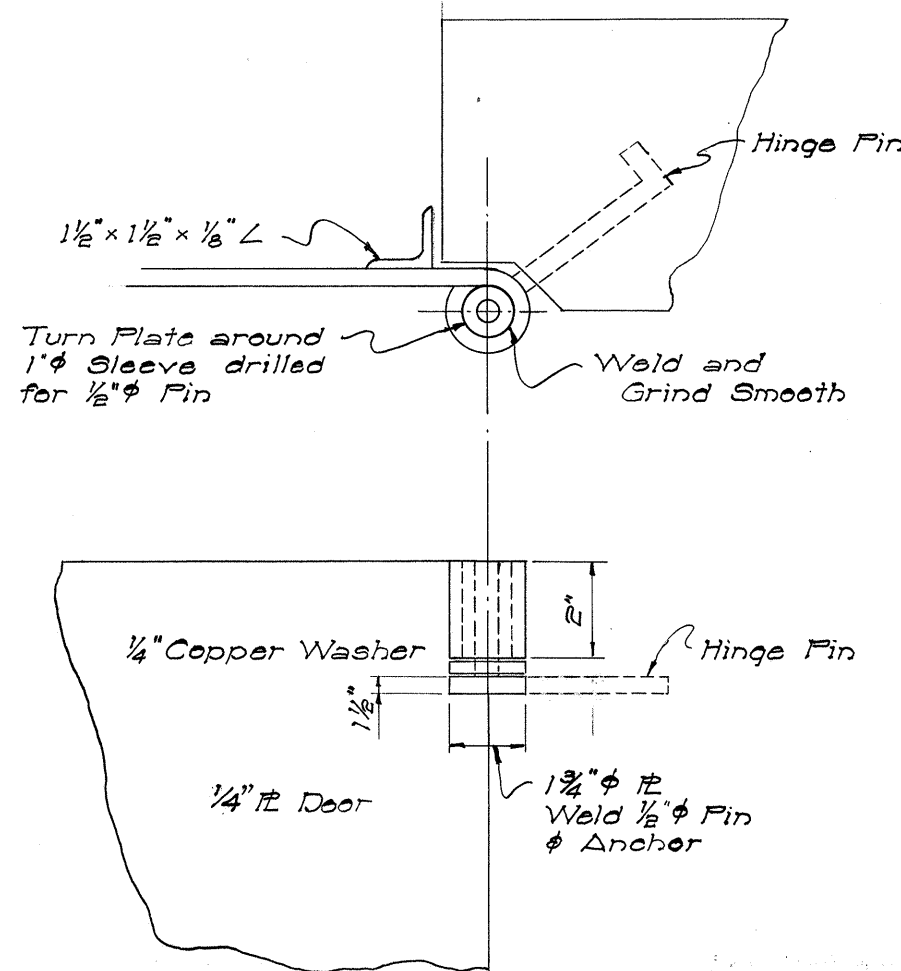
(ACCESS M.H.#3 SIMILAR TO M.H.#1.)



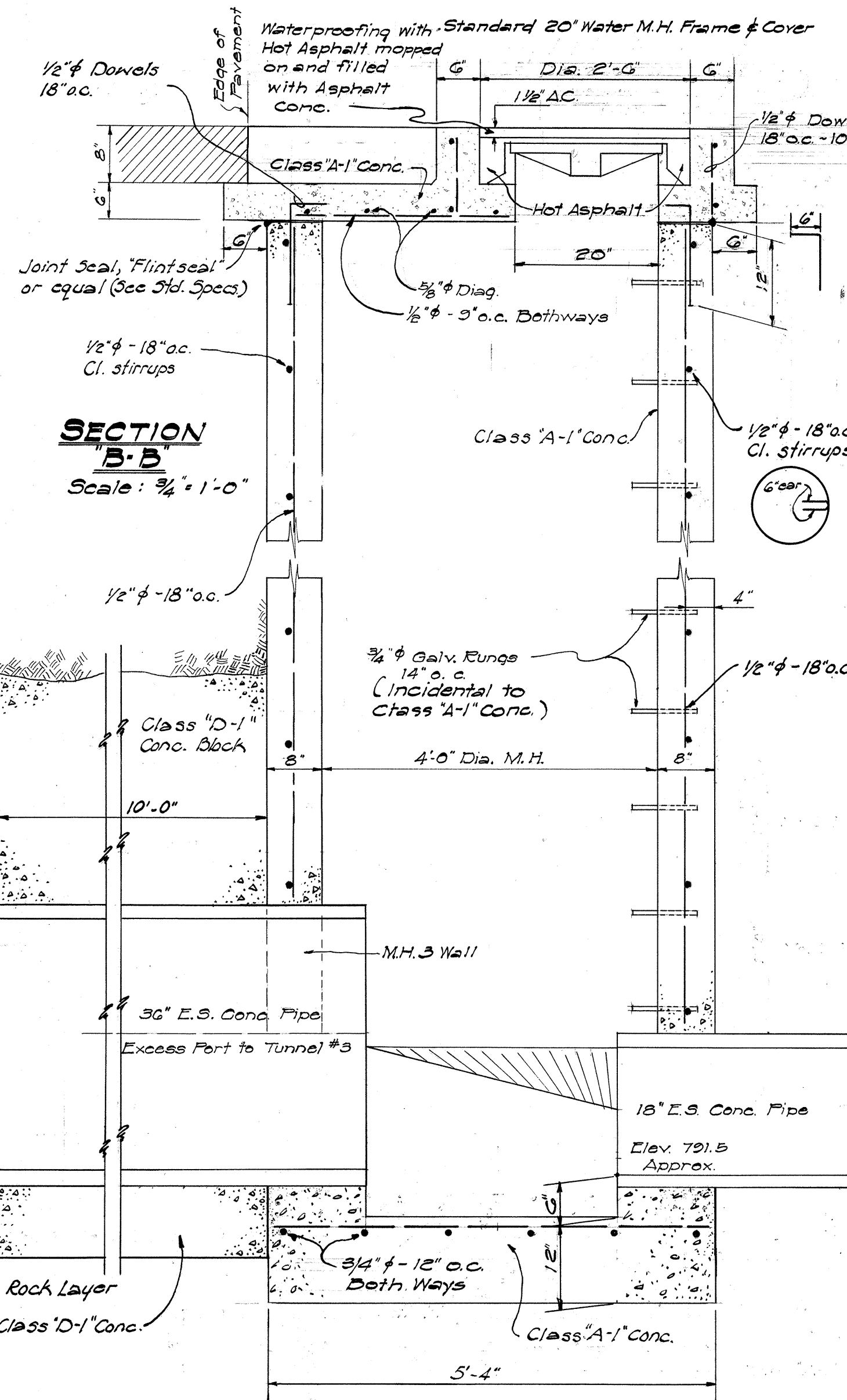
TOP PLAN
Scale: 3/4" = 1'-0"



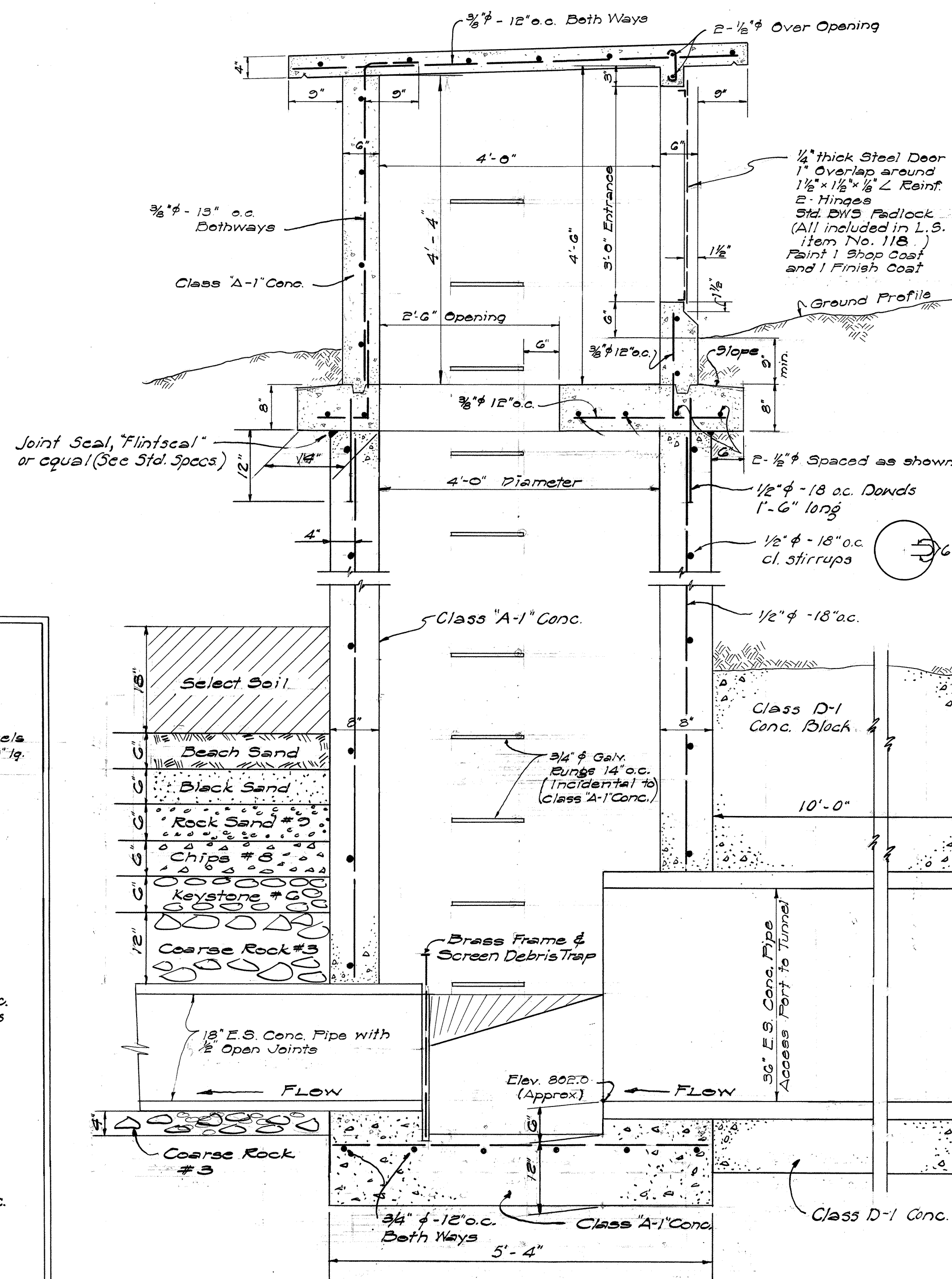
PLAN
Scale: 3/4" = 1'-0"



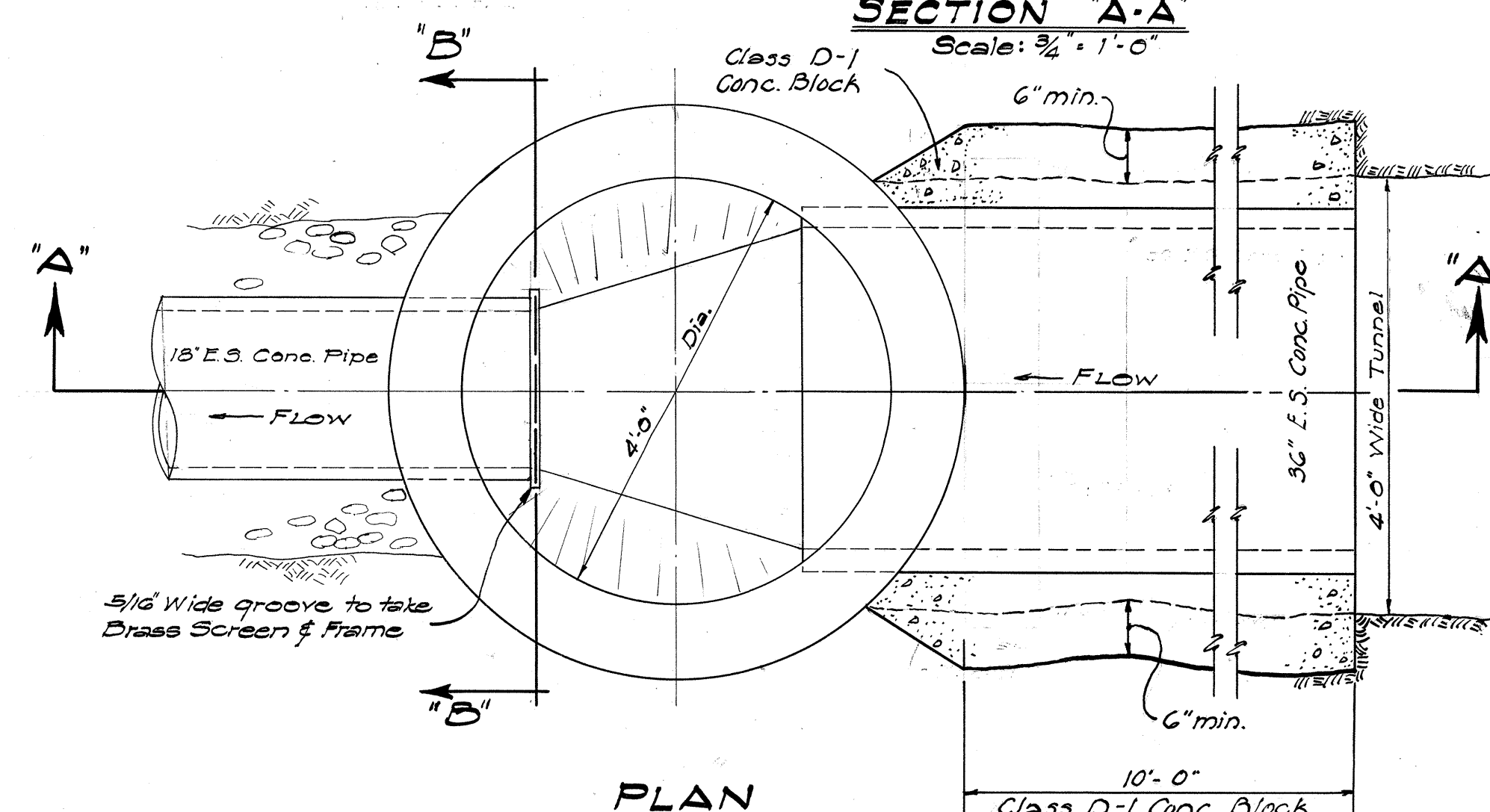
HINGE DETAIL
Scale: 5" = 1'-0"



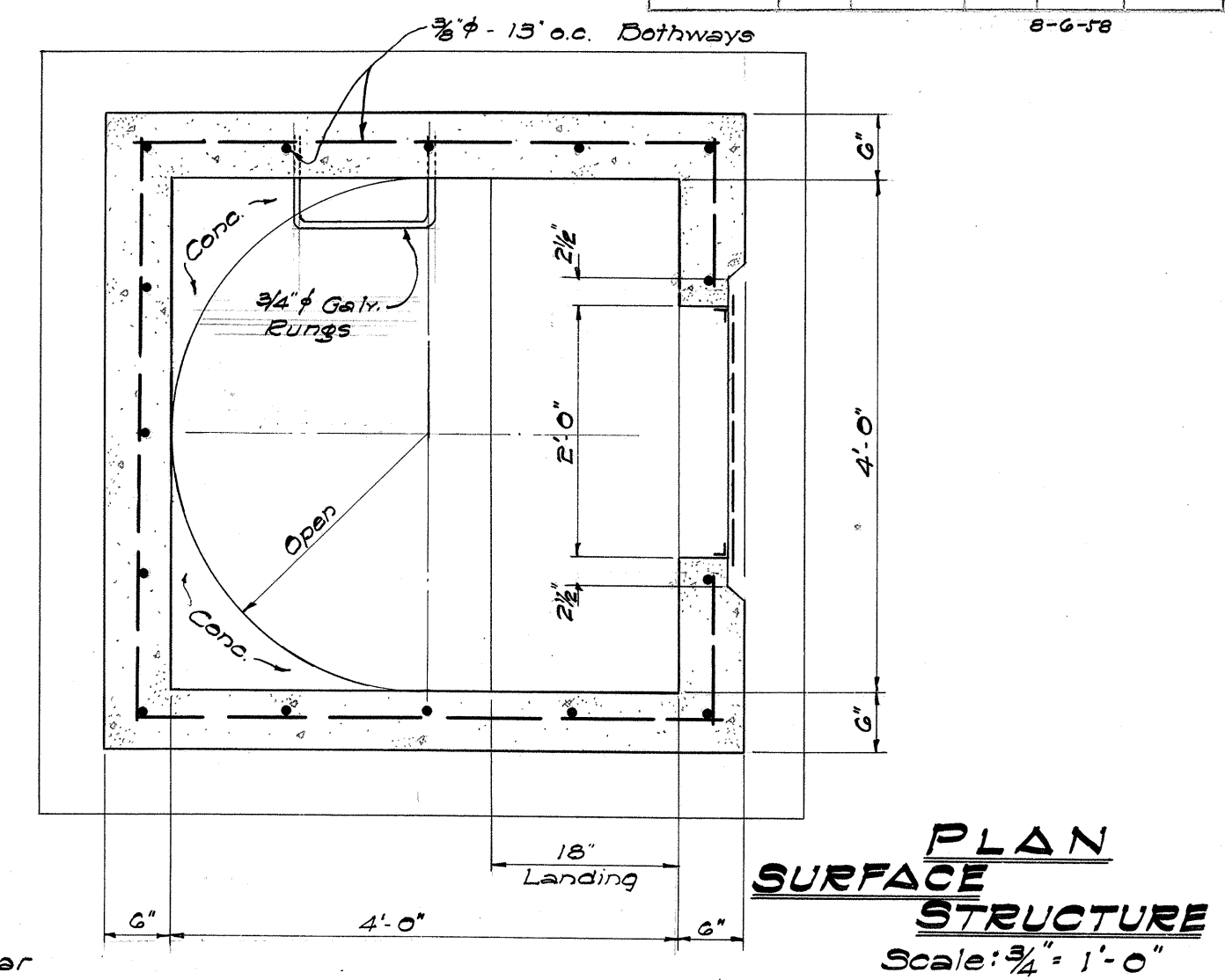
SECTION "A-A"
Scale: 3/4" = 1'-0"



SECTION "B-B"
Scale: 3/4" = 1'-0"

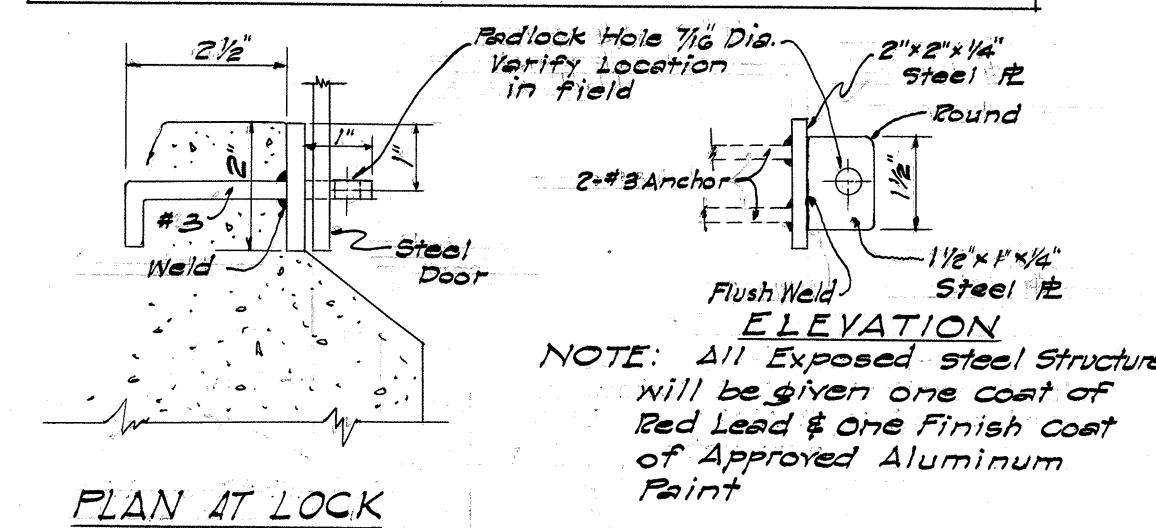


PLAN
Scale: 3/4" = 1'-0"



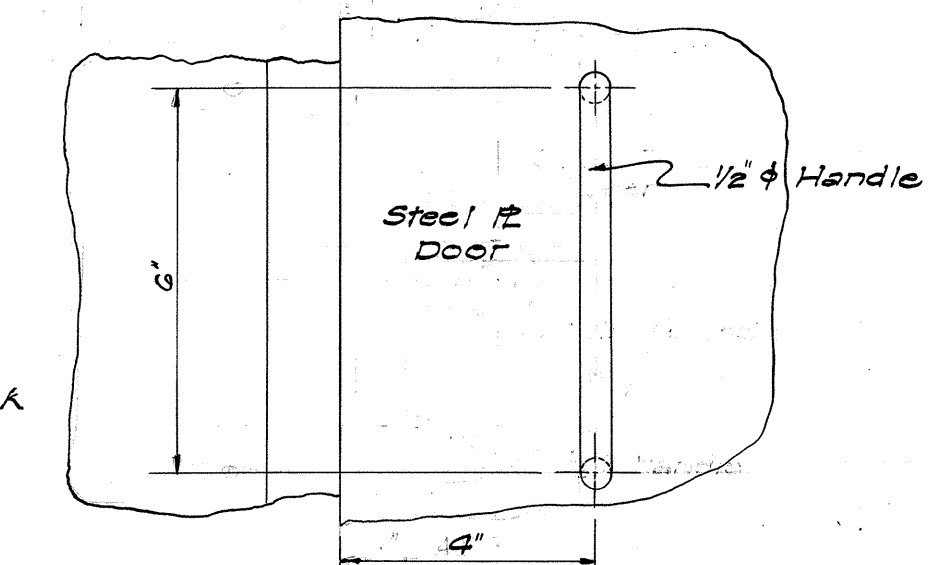
PLAN
Scale: 3/4" = 1'-0"

DETAILS OF TUNNEL ACCESS M.H.#2



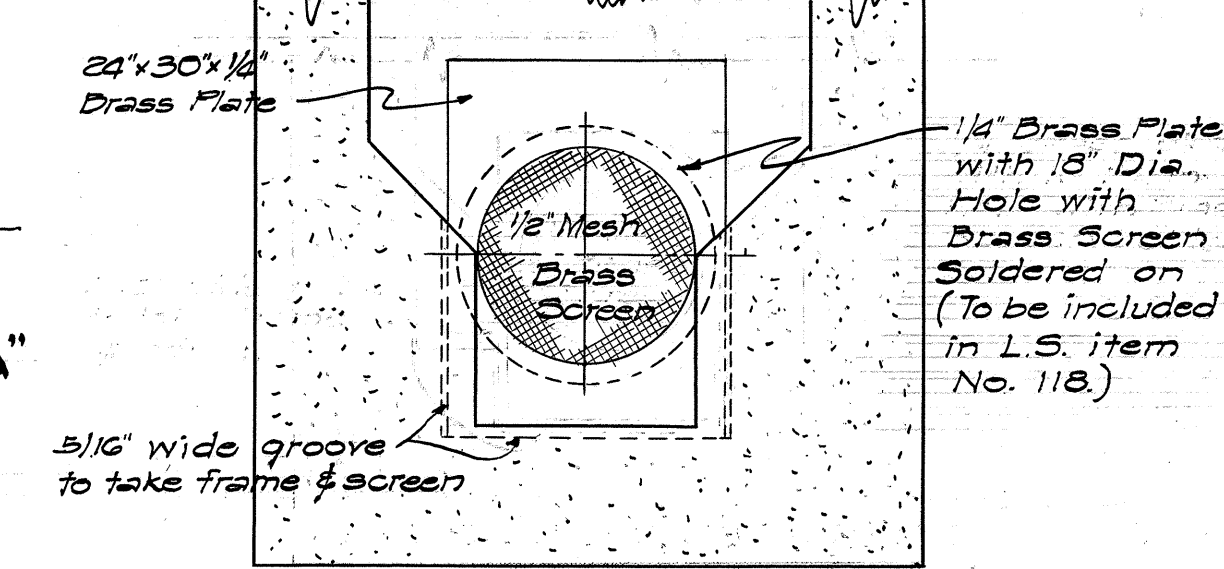
ELEVATION

NOTE: All Exposed steel structures will be given one coat of Red Lead & One Finish Coat of Approved Aluminum Paint



PLAN AT LOCK

LOCKING DETAIL
Scale: 4" = 1'-0"



DETAIL OF DEBRIS TRAP
Scale: 3/4" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

DETAIL OF MANHOLES FOR SEEPAGE DRAIN (WATER TUNNEL)
LIKELIKE HIGHWAY
F.A. PROJ. 5-0630 (3)

SCALE: AS NOTED AUG. 1937

SHEET No. 2 OF 2 SHEETS

5914.24

APPROVED: *H. S. G. Smith*
DIVISION ENGINEER, B.W.S.
DATE: 8/27/37

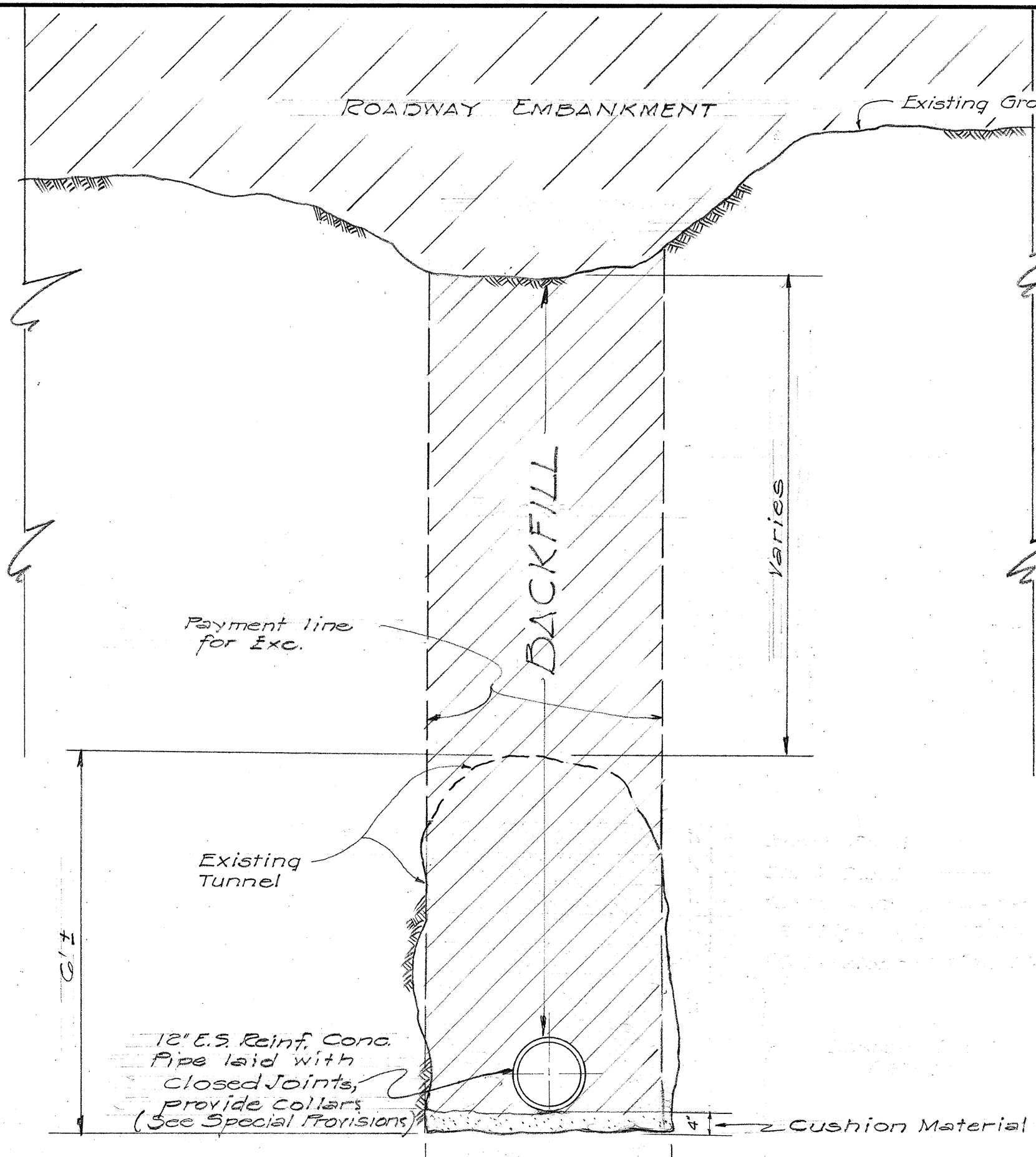
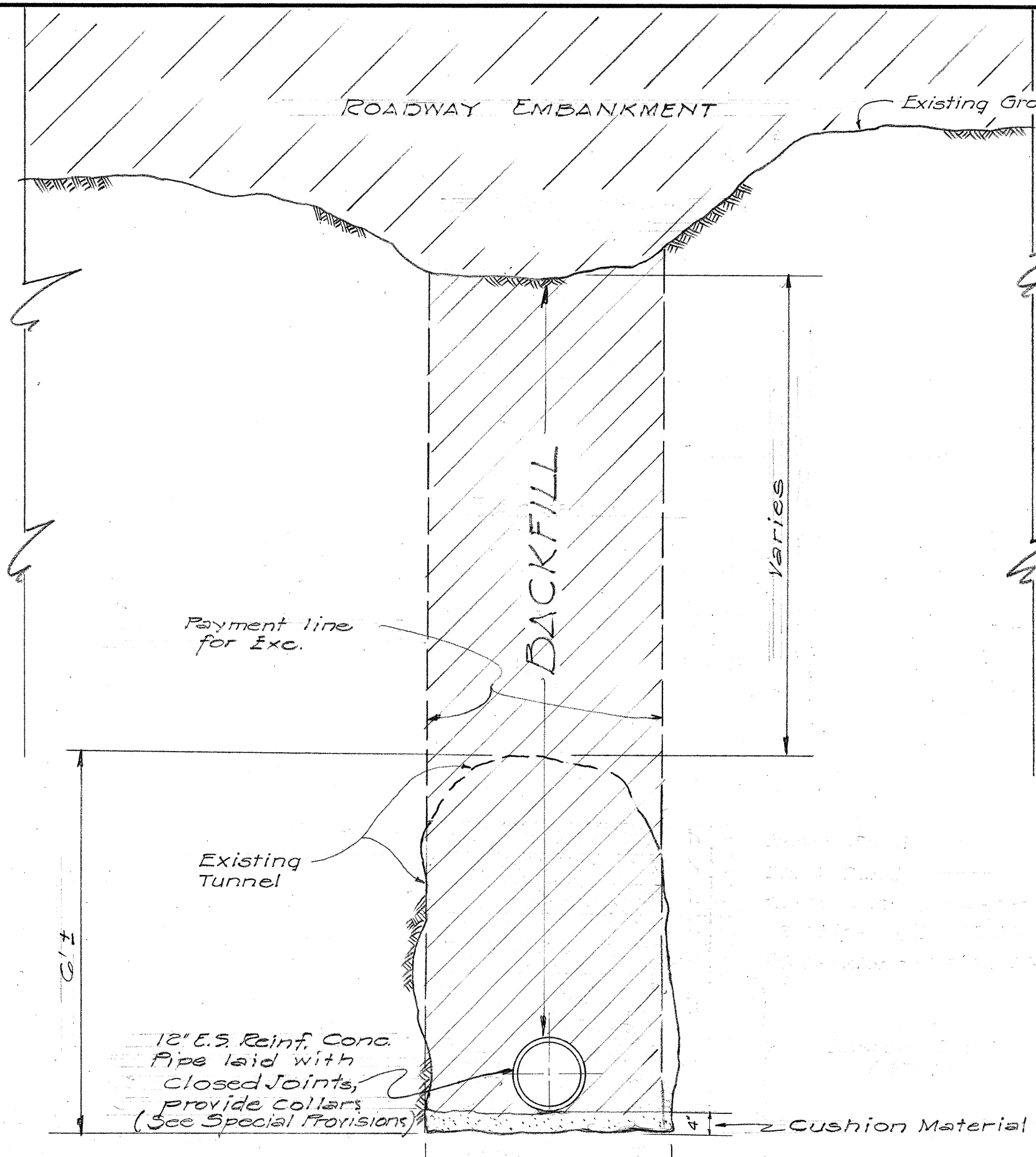
[illegible]

Diagram illustrating the cross-section of a roadway embankment and tunnel structure. The diagram shows a roadway embankment above an existing tunnel. The backfill material is labeled "BACKFILL". The existing tunnel is labeled "Existing Tunnel". The diagram also indicates the "Payment line for Exc." and the "Cushion Material" at the base. The vertical dimension of the backfill is labeled "Varies". The horizontal dimension of the backfill is labeled "6' ±". The diagram also shows the "12' E.S. Reinf. Conc. Pipe laid with closed joints, provide collars (See Special Provisions)".

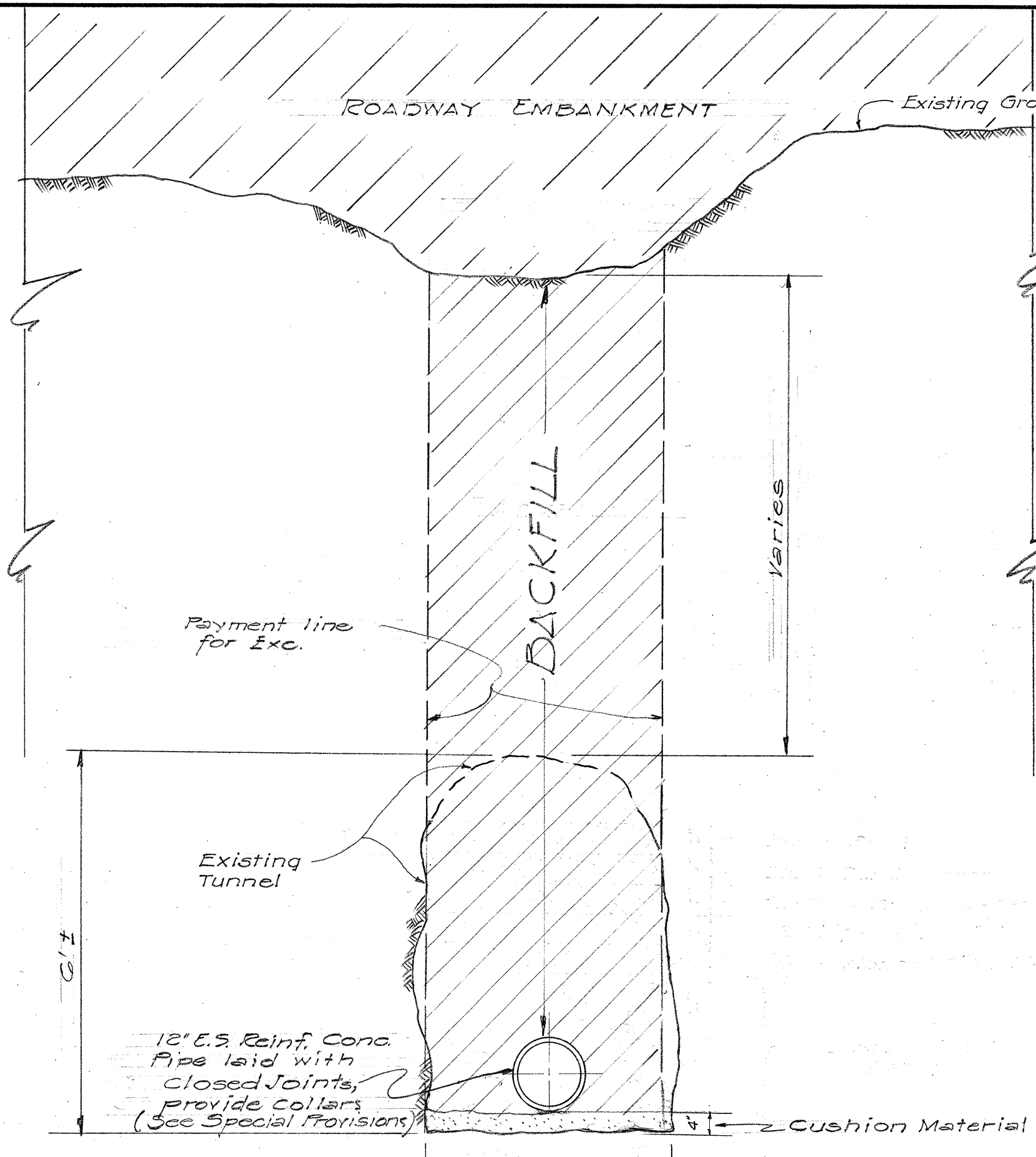
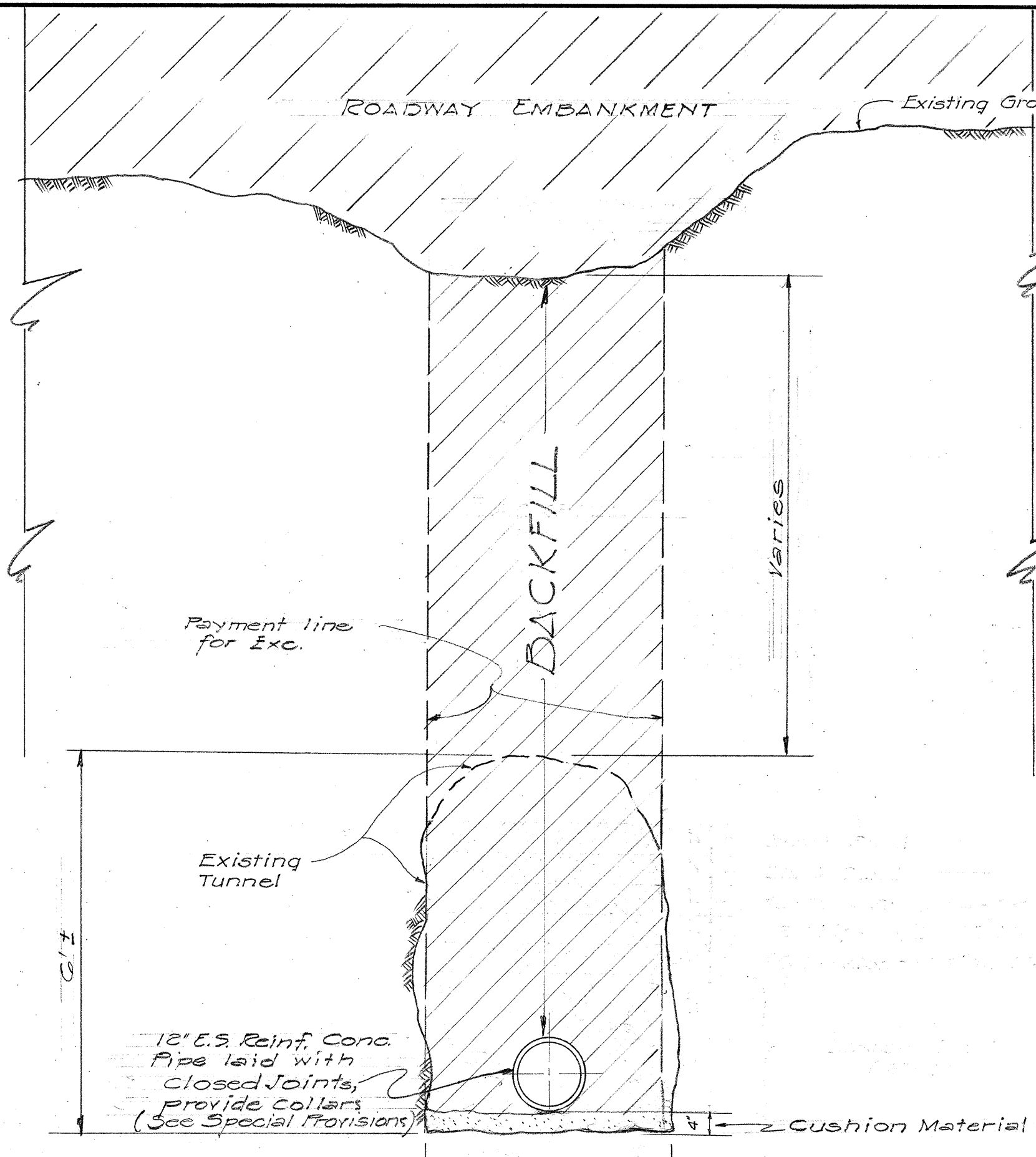
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[illegible]

1. Surface Sepage Drain
Structural Exc. = 225 cy.
12" open joint Surface Sepage Drain = 210 L.F.
12" E.S. Reinf Conc. Drain Pipe w/ Collars = 265 cy.
Cement Rubble Masonry = 20 cy.
Grouted Rubble Paving = 1.0 cy.

[illegible][illegible][illegible]

A hand-drawn cross-sectional diagram of a roadway embankment. At the top, a hatched area is labeled "ROADWAY EMBANKMENT". Below it, a horizontal line marks the "Existing Ground Surface". A vertical section of the embankment is filled with diagonal hatching and labeled "BACKFILL". To the left of the backfill, a dashed line indicates the "Payment line for Exc.". An "Existing Tunnel" is shown as a curved line passing through the lower part of the backfill. At the bottom, a circular pipe is labeled "12' C.S. Reinf. Conc. Pipe laid with closed joints, provide collars (See Special Provisions)". The pipe sits on a layer of "Cushion Material", which is indicated by a dimension of "4\". On the far left, a vertical dimension of "6' ±" spans from the ground surface down to the level of the cushion material. On the right side, a vertical dimension labeled "Varies" spans from the ground surface down to the level of the backfill.

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