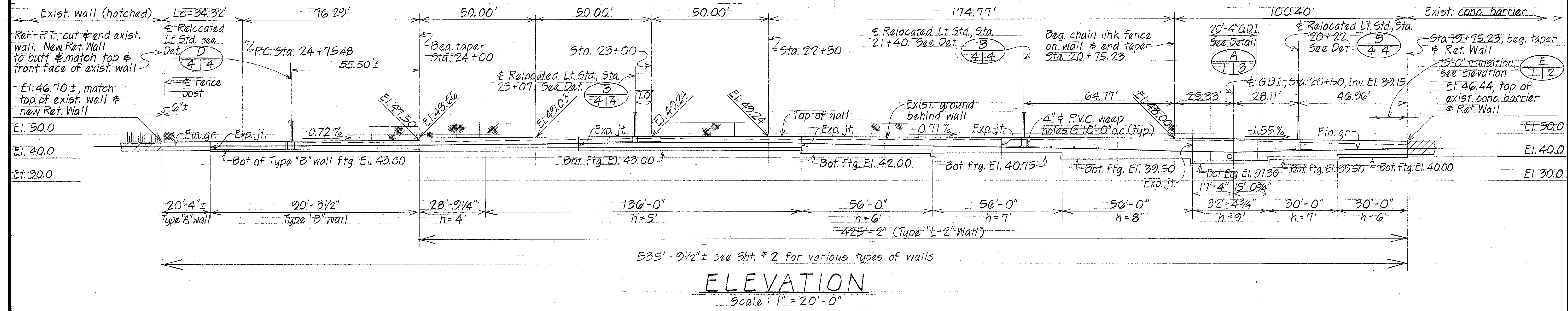
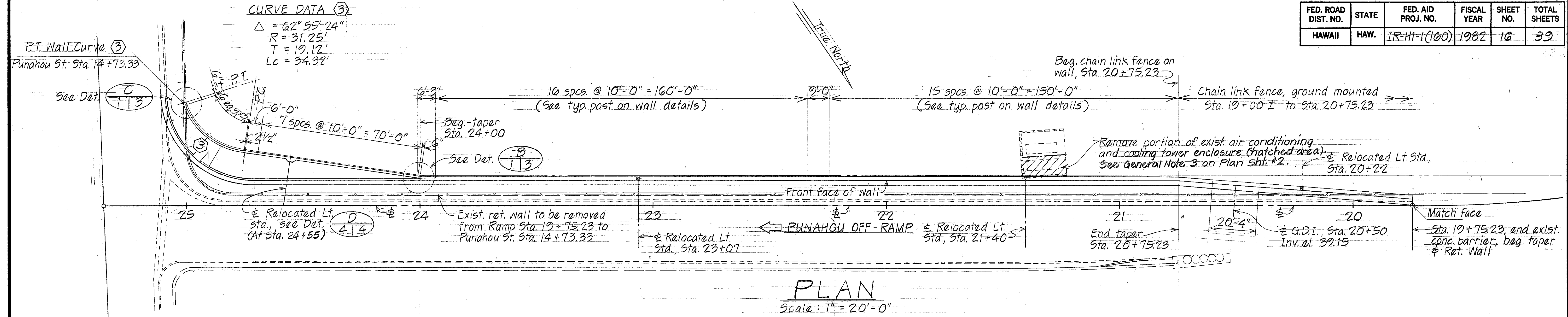


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(160)	1982	16	39



GENERAL NOTES

DESIGN SPECIFICATIONS:
Standard Specifications for Highway Bridges (12th Edition) with subsequent Interim Specifications (AASHTO).

ALLOWABLE DESIGN STRESSES:
1. Reinforced concrete : $f_c = 0.40 f'_c$
2. Reinforcing steel : $f_s = 20,000$ psi

MATERIALS:
1. Reinforced concrete - Class A
2. Reinforcing steel - ASTM A615, Grade 40
3. Admixture in concrete - see Special Provisions

CONSTRUCTION METHODS:
1. Refer to Standard Specifications for Road and Bridge Construction (Hawaii 1976) and Special Provisions.
2. Refer to Standard Detailed Drawings for additional details not covered by details and typical drawings.
3. The Contractor shall verify all grades and dimensions before commencing with any work.
4. Except as noted otherwise, all vertical dimensions are measured plumb and all longitudinal dimensions are measured horizontal and along front face of wall.
5. All footings shall be excavated and poured neat against undisturbed ground. In the case of over-excavation, the space between the footing and

CONSTRUCTION METHODS: (cont.)
ground shall be filled with concrete of Class D minimum quality as directed by the Engineer, at the Contractor's expense.
6. Excavation for all footings and stems shall be accomplished by maintaining as near a vertical cut as possible, and it shall be the Contractor's responsibility to maintain the stability of the existing roadway prism and adjacent ground thruout the course of work.
7. All items designated for removal shall be removed in such a manner as to preclude any damage to the remaining portions. Any damage to the existing structures or portions thereof, due to the Contractor's operation, shall be repaired at his expense, to the satisfaction of the Engineer.
8. The Contractor shall verify the locations of all existing utilities and notify their respective owners before commencing with the work.
9. All items noted incidental will not be paid for separately.
10. For contraction joint locations and details, see Standard Detail Sht. DB-207-2.

SYMBOL:
Detail or section designation
Sheet no. section is cut or detail is located

ESTIMATED QUANTITIES			
ITEM NO.	ITEM	UNIT	QUANTITY
202.0440	Removal of Existing Retaining Wall	Lump Sum	142 C.Y.
206.5000	Structure Excavation for Retaining Wall	Cu. yds.	206 C.Y.
206.7250	Structure Backfill for Retaining Wall	Cu. yds.	98 C.Y.
206.8300	Filter Material for Retaining Wall	Cu. yds.	17 C.Y.
503.1050	Concrete in Retaining Wall	Lump Sum	249 C.Y.
602.0050	Reinforcing Steel in Retaining Wall	Lump Sum	14,230 LBS.

7/2/82 Top of wall elevations revised between Sta. 20+75.23 and Sta. 24+00. And Concrete in Retaining Wall Quantity increased from 246 c.y. to 249 c.y.

DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

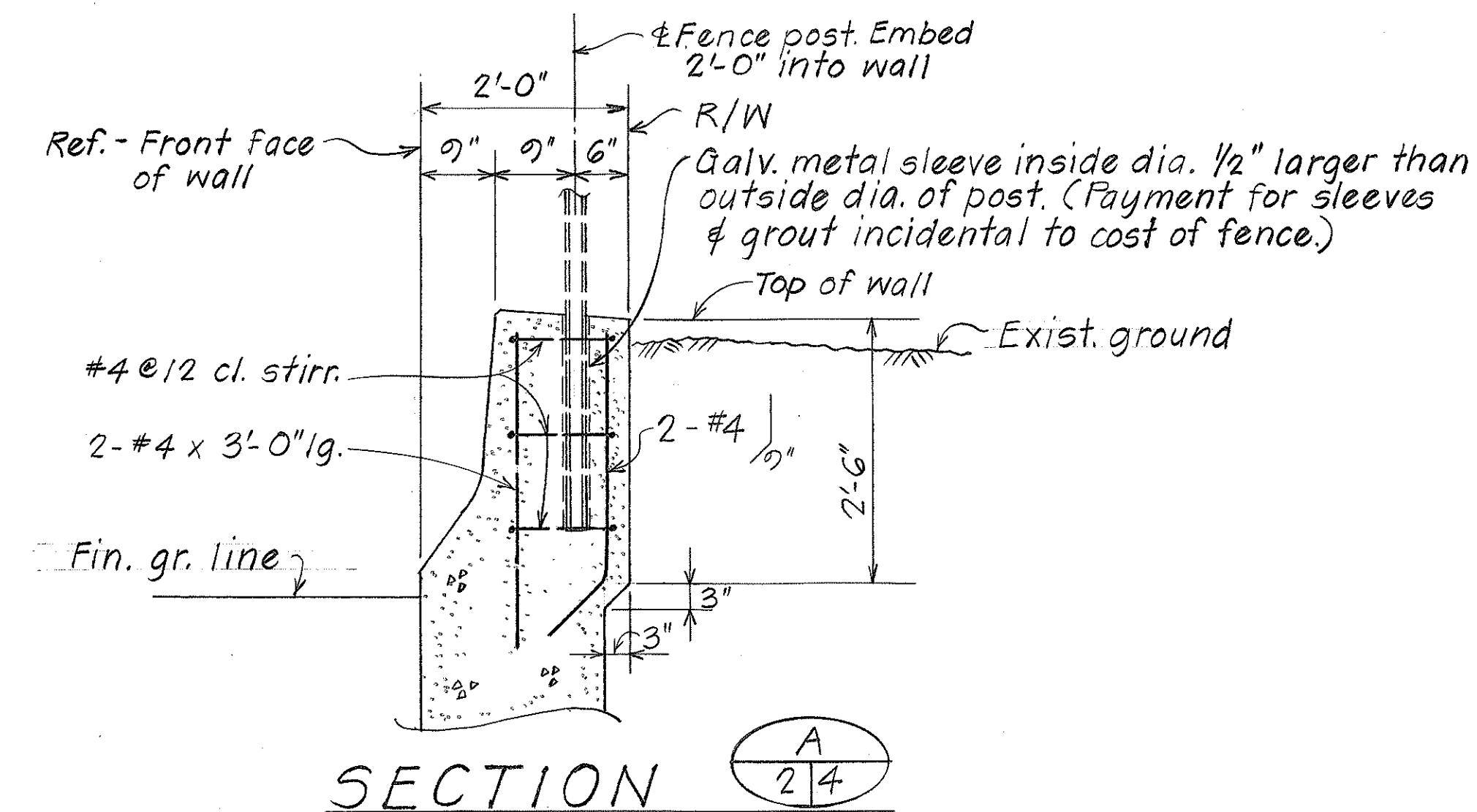
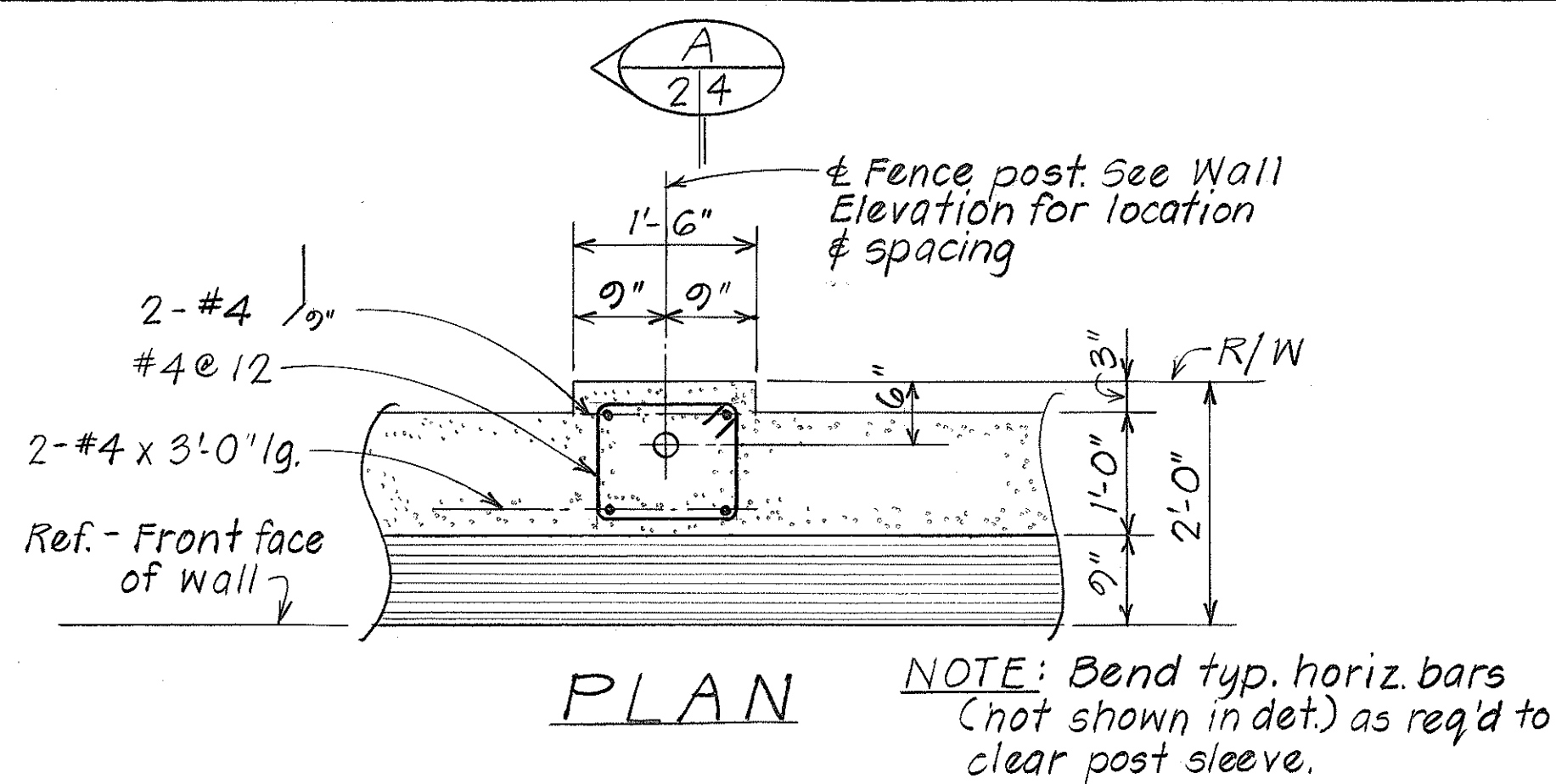
RAMP RETAINING WALL
INTERSTATE ROUTE H-1
SAFETY IMPROVEMENTS AT
THE PUNAHOU STREET OFF-RAMP
F.A.I. Proj. No. IR-HI-1(160)

Scale: As Shown Date: May, 1982

SHEET NO. 1 OF 4 SHEETS

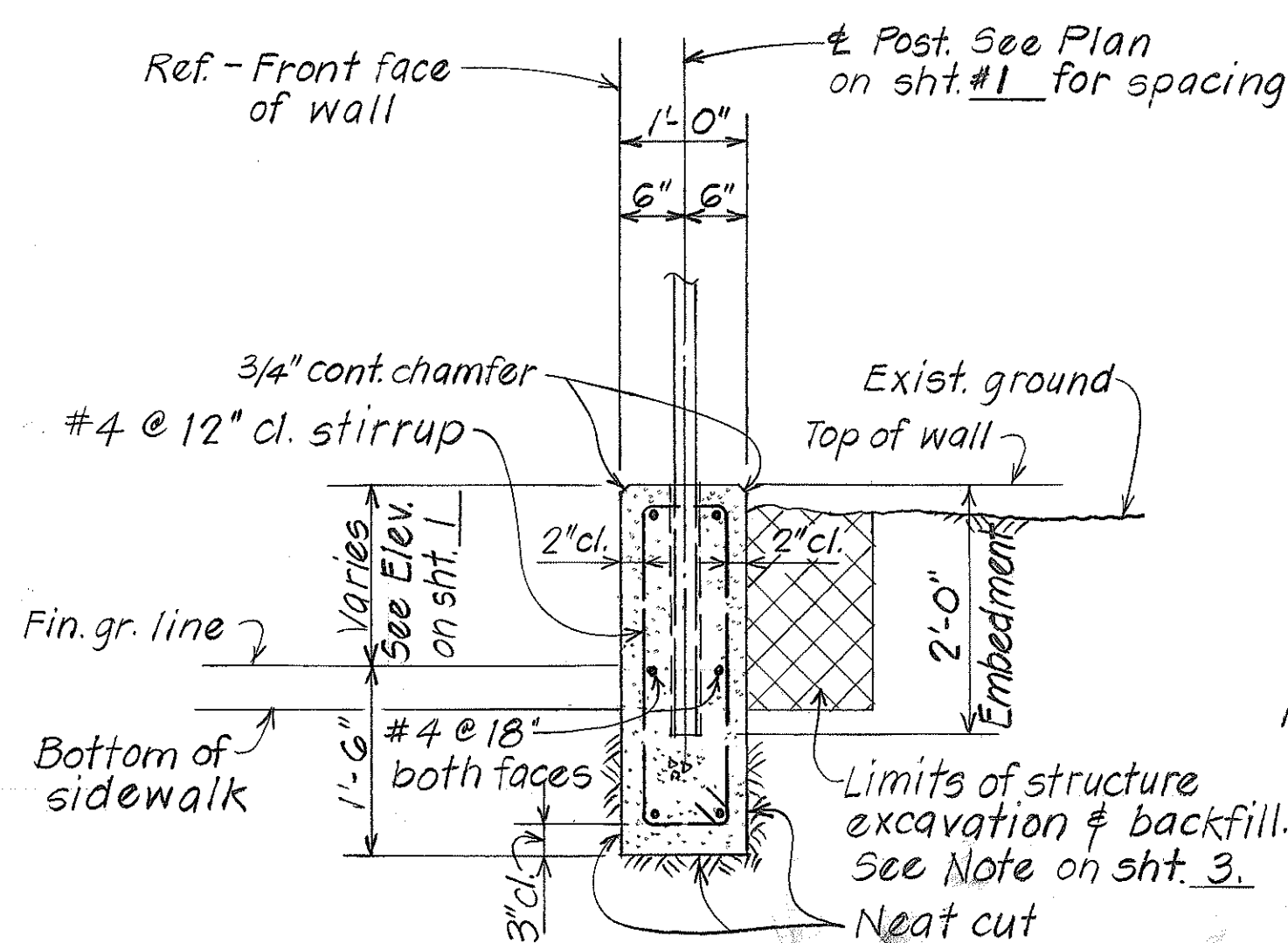
SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-H1-1(160)	1982	17	39



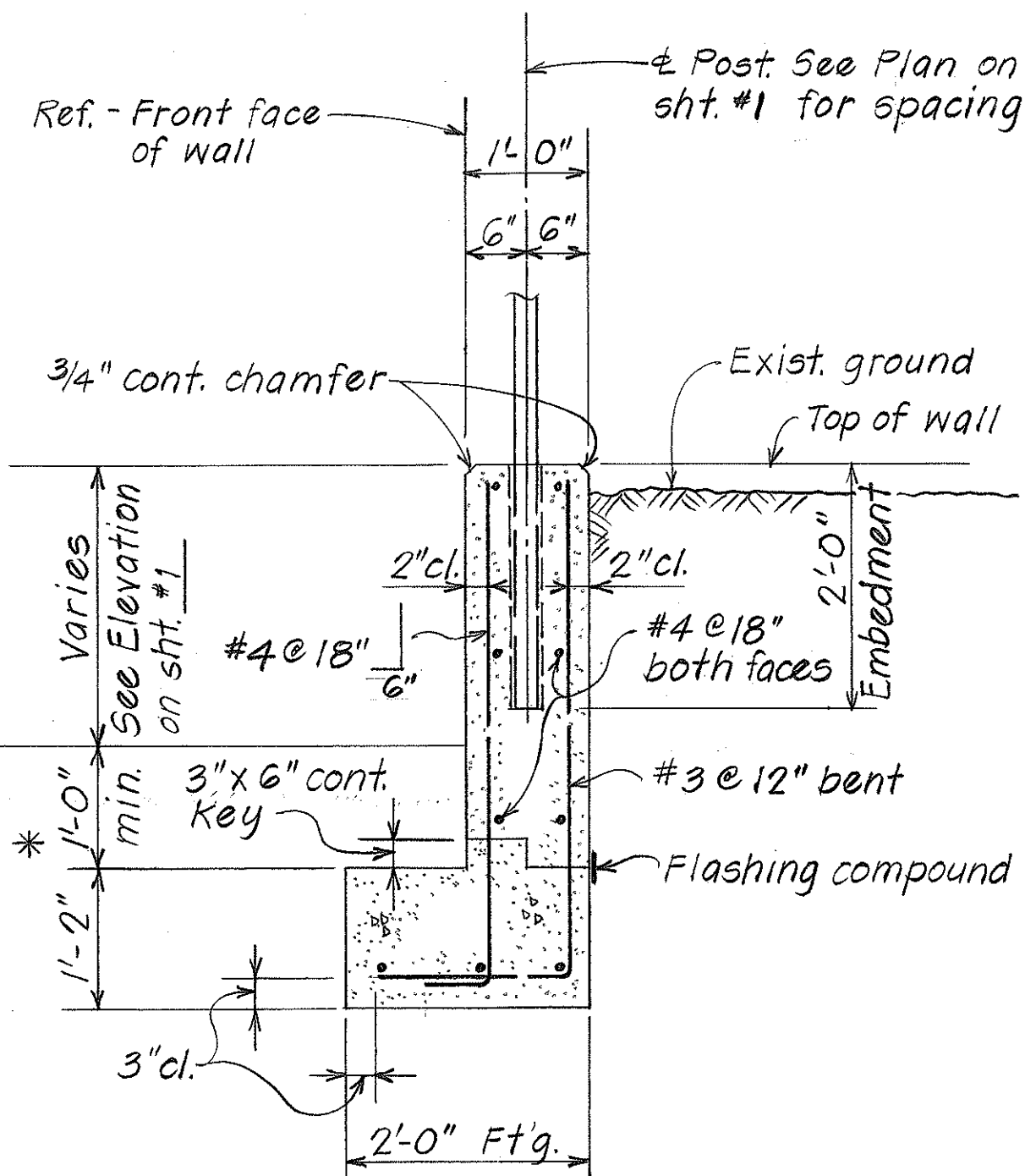
TYP. POST ON TYPE L-2 WALL DETAILS

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



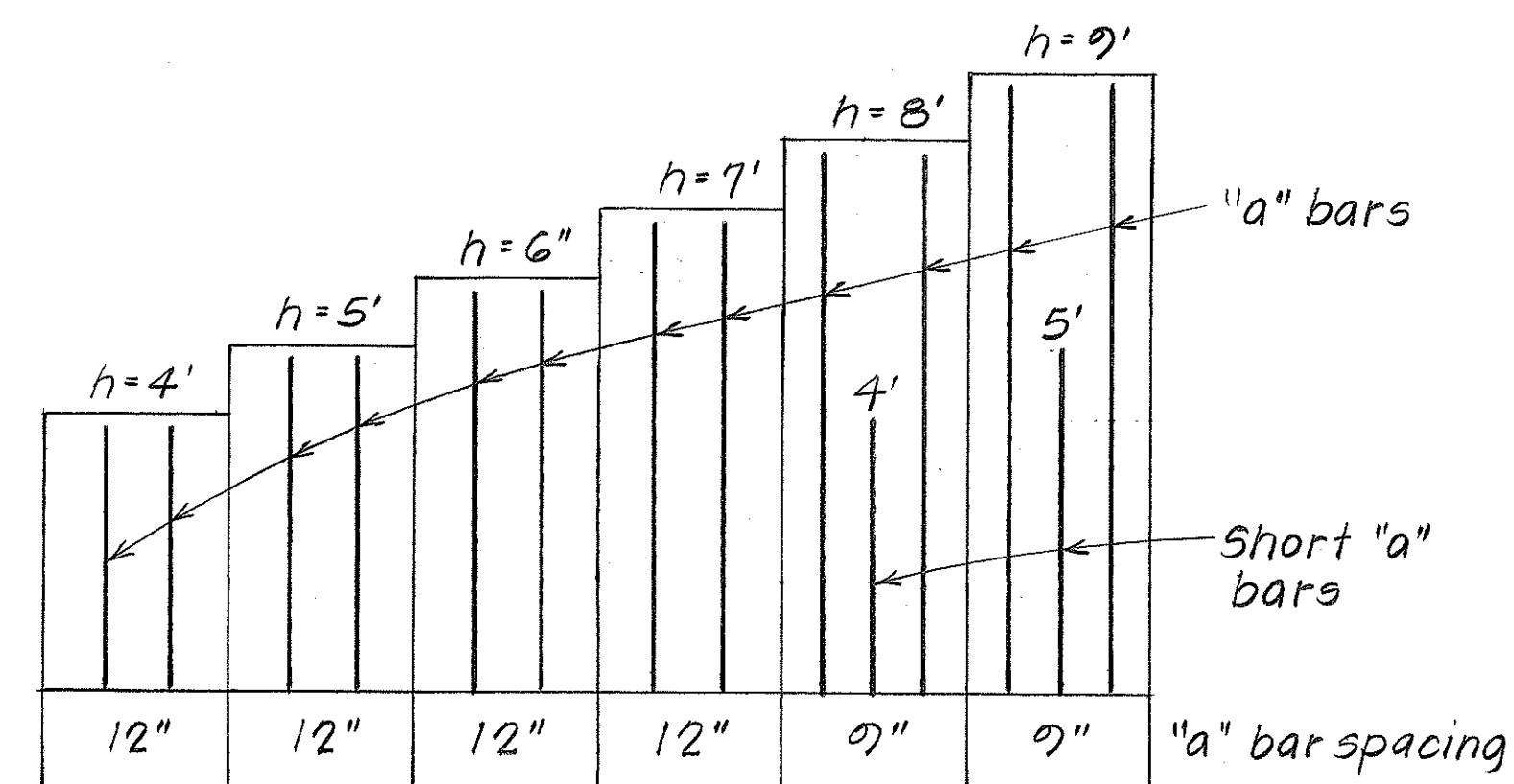
Scale: 3/4" = 1'-0"

* Lower footing as required to clear bottom of Hwy. curb at the vicinity of Sta. 24 + 00. Limits to be determined in field.

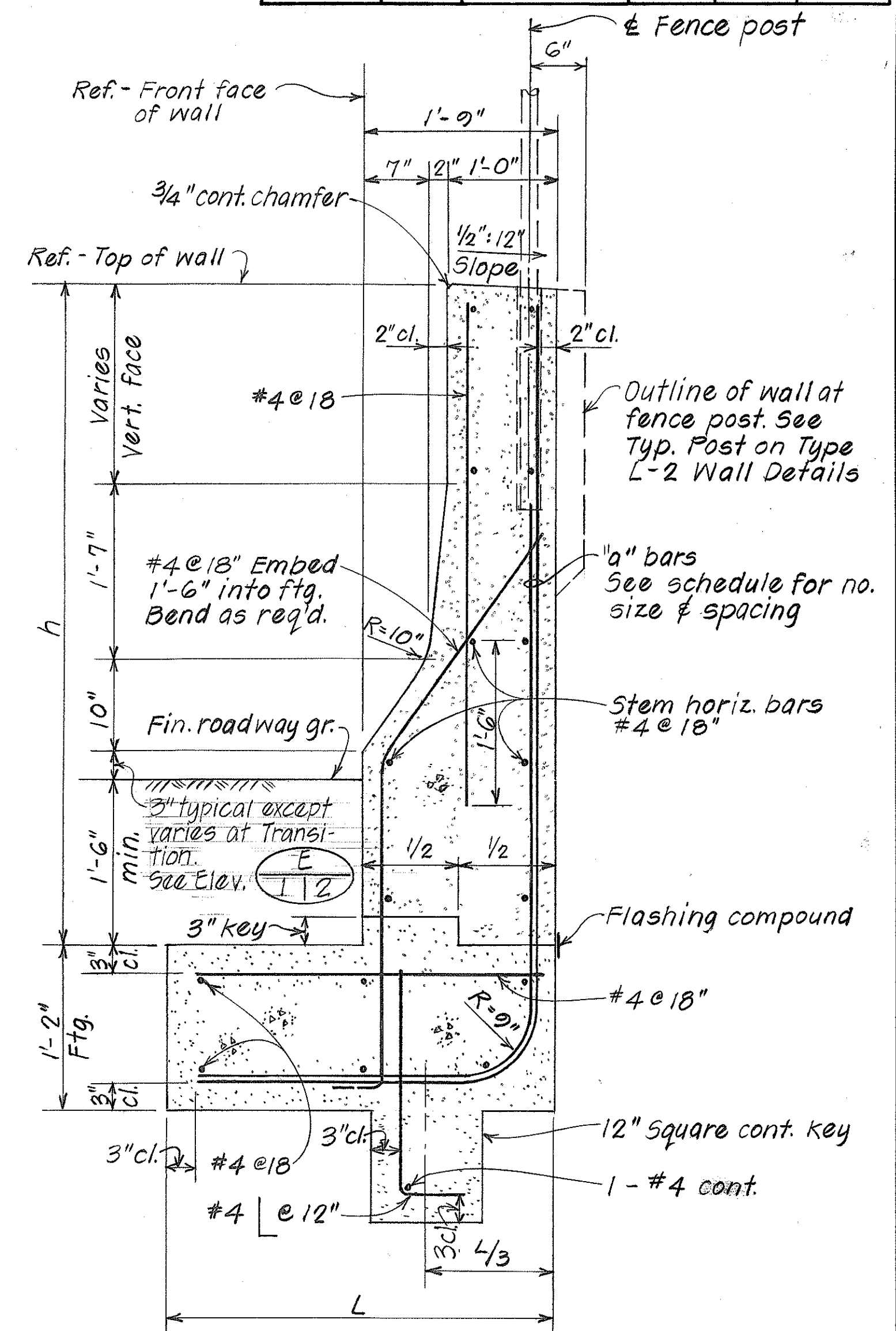
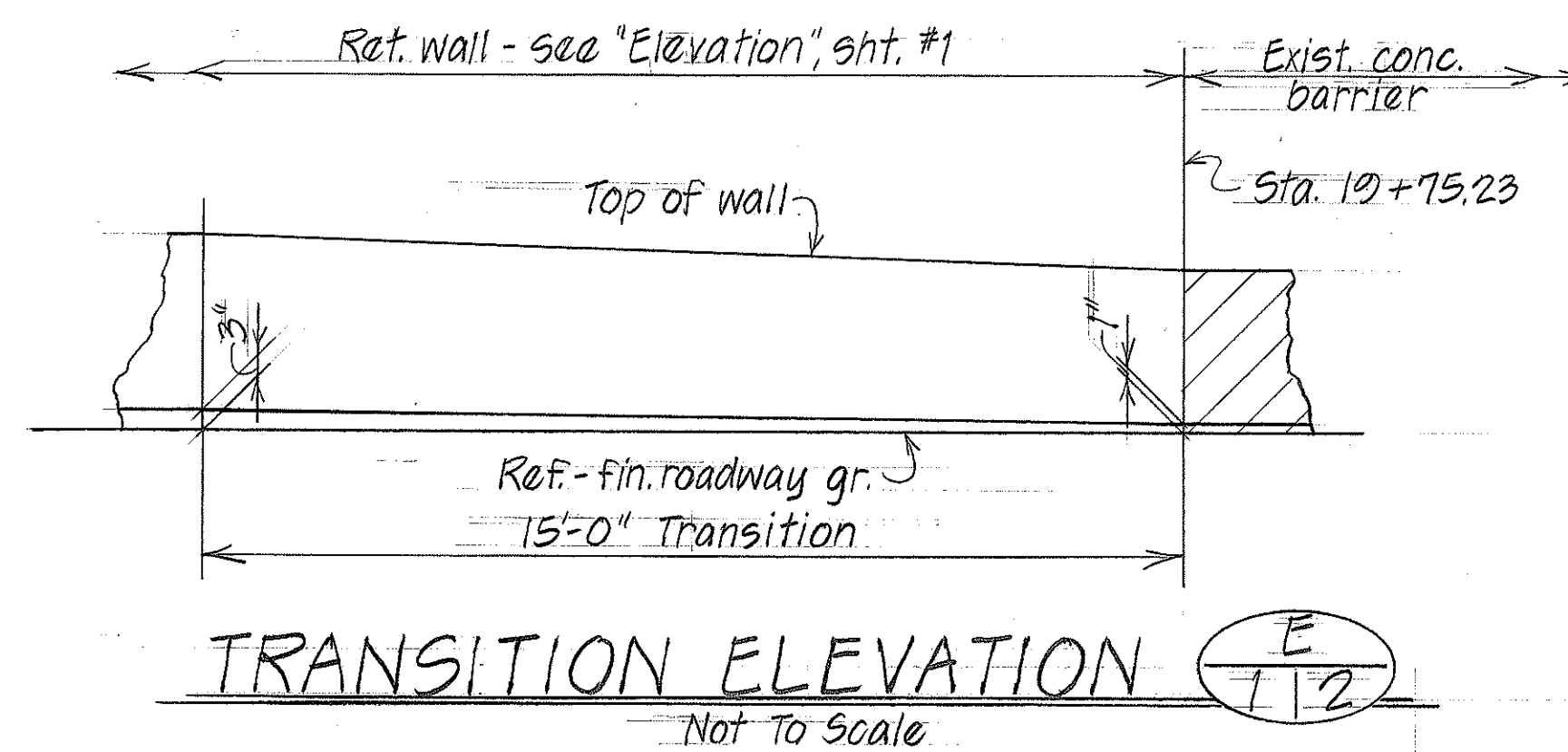


Scale: 3/4" = 1'-0"

TYPE "L-2" RET. WALL SCHEDULE OF DIMENSIONS AND REINF. STEEL						
Max. "h"	4'	5'	6'	7'	8'	9'
"L"	2'-6"	3'-0"	3'-6"	4'-3"	5'-0"	6'-0"
"a" bar	#3 @ 12"	#3 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 9"	#5 @ 9"



TYPICAL L-2 WALL DETAILS



Transition Elevation (E 112) added and 3" dimension above fin. roadway gr. in "Typical Section" revised.

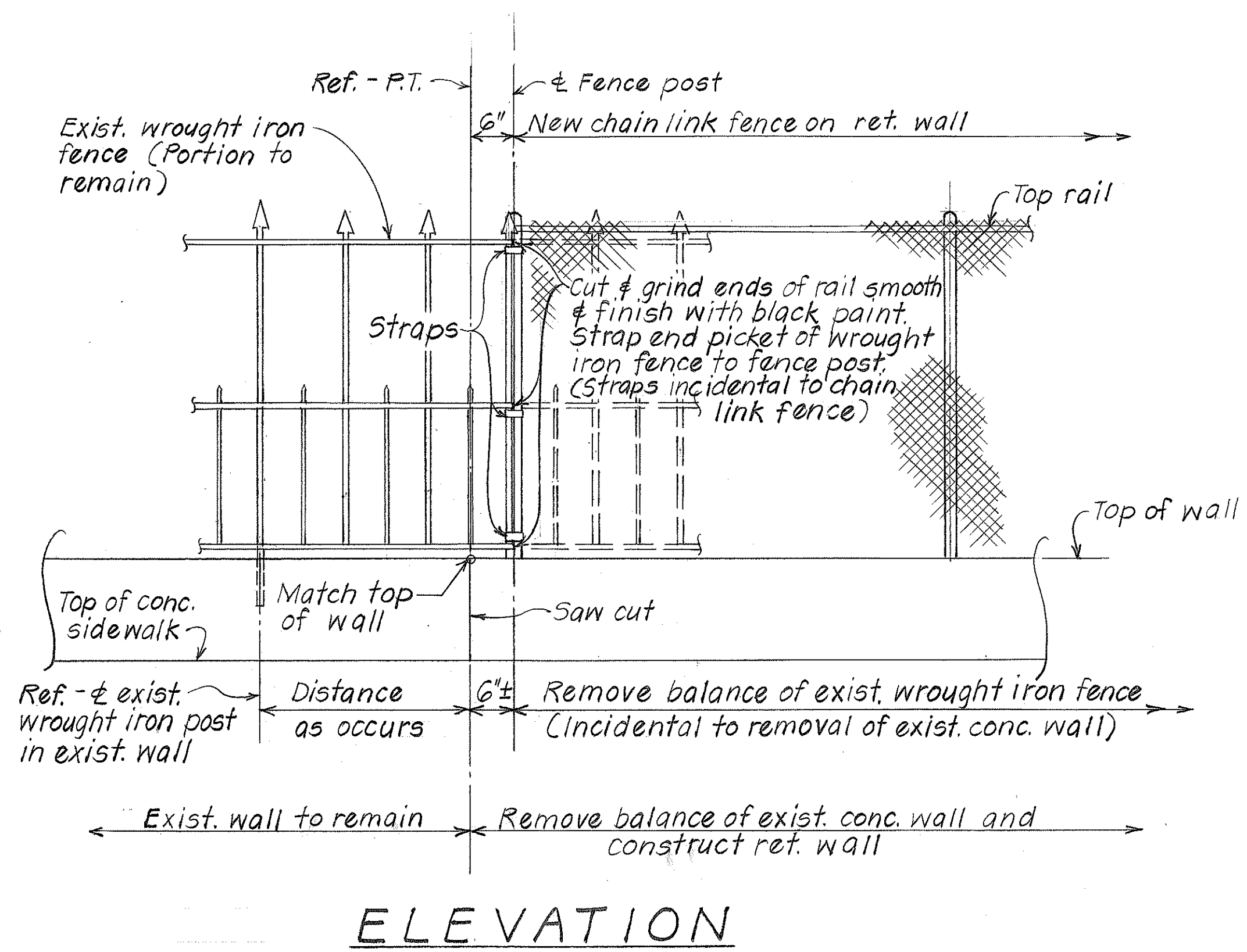
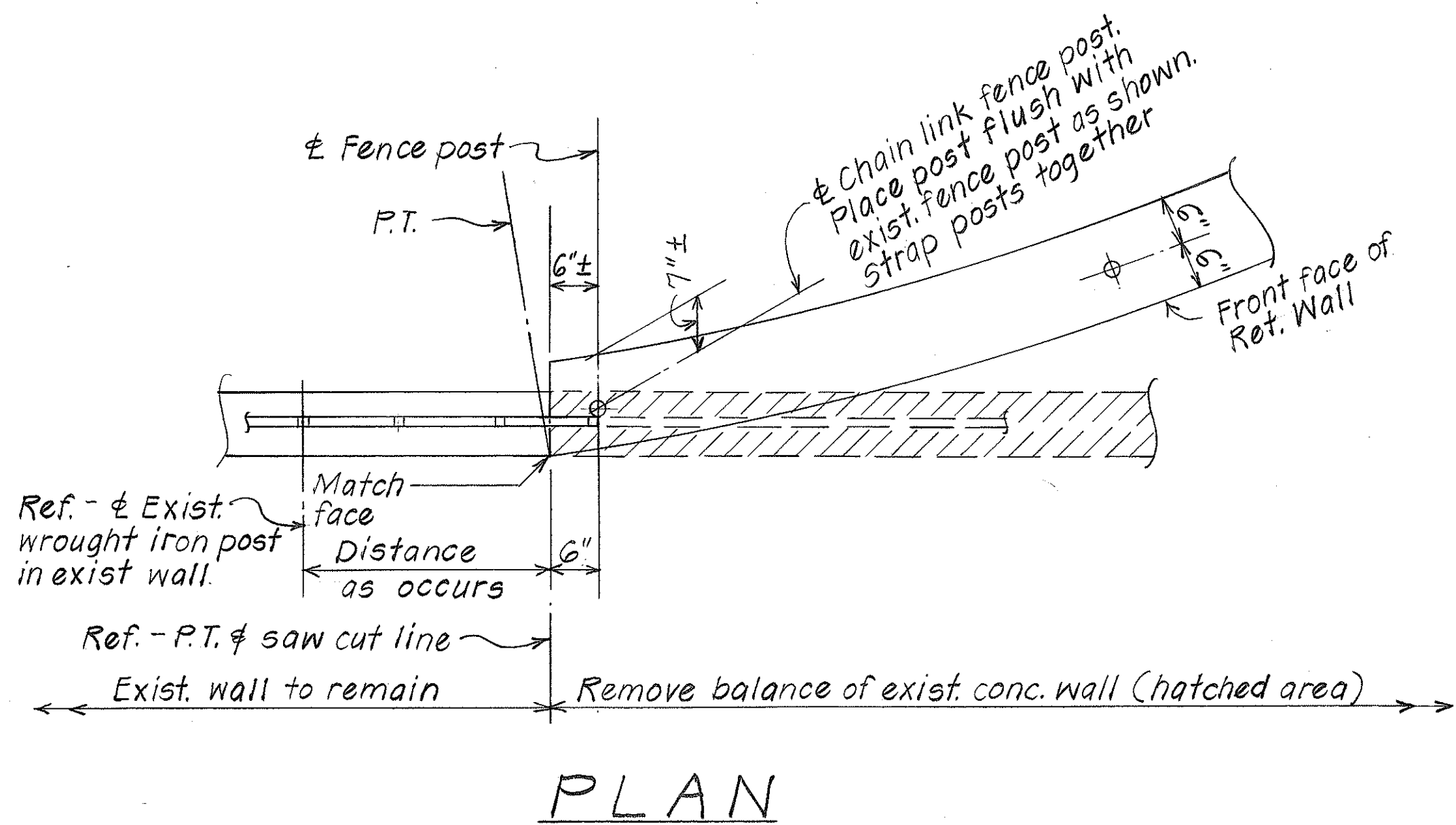
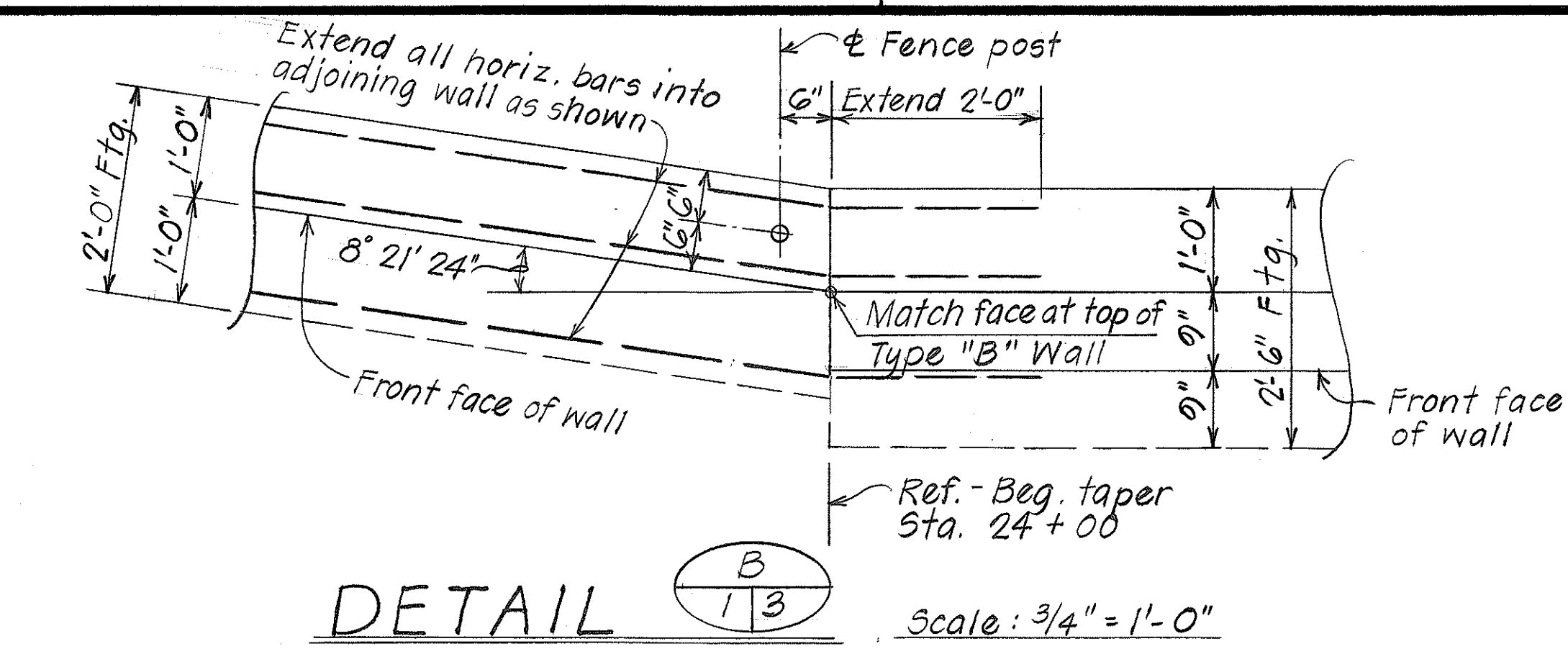
DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
TYPICAL WALL SECTIONS
INTERSTATE ROUTE H-1
SAFETY IMPROVEMENTS AT
THE PUNAHOU STREET OFF-RAMP
F.A.I. Proj. No. IR-H1-1(160)

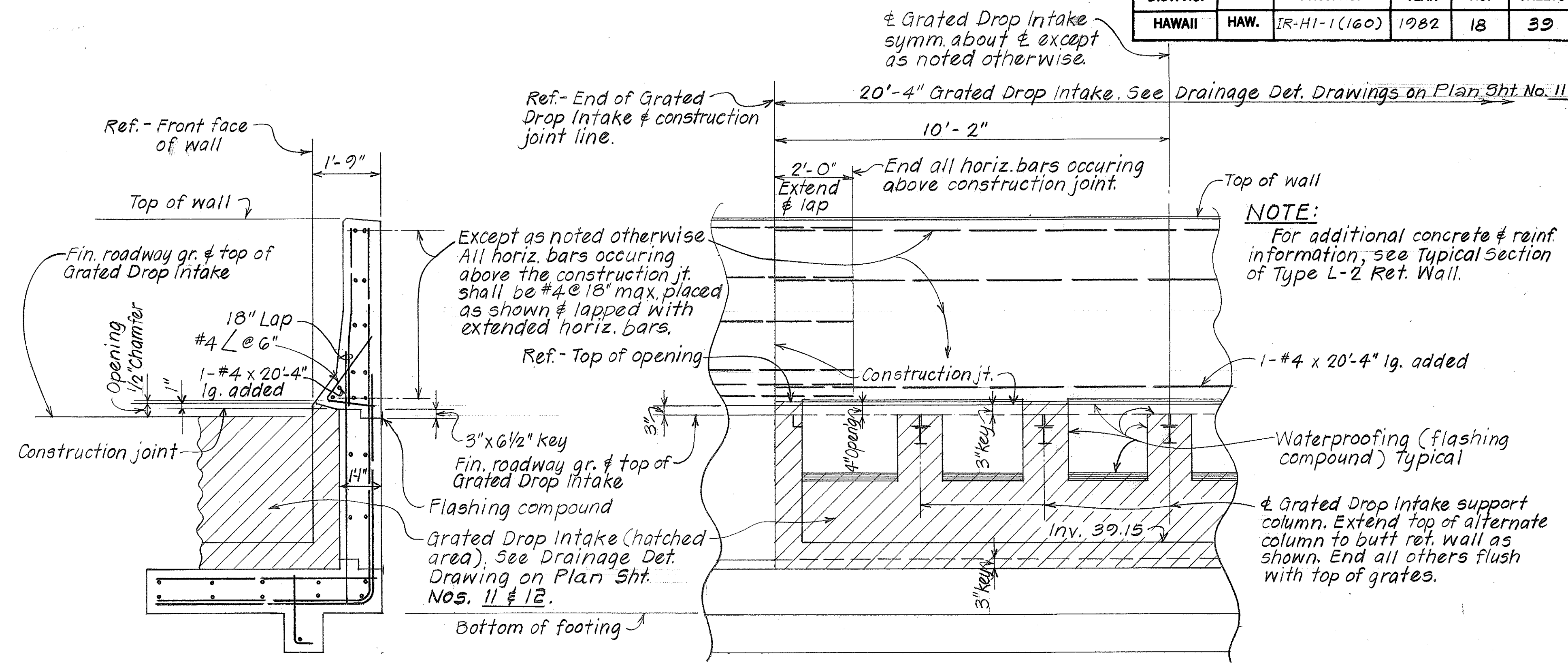
Scale: As Shown Date: May, 1982

SHEET No. 2 OF 4 SHEETS

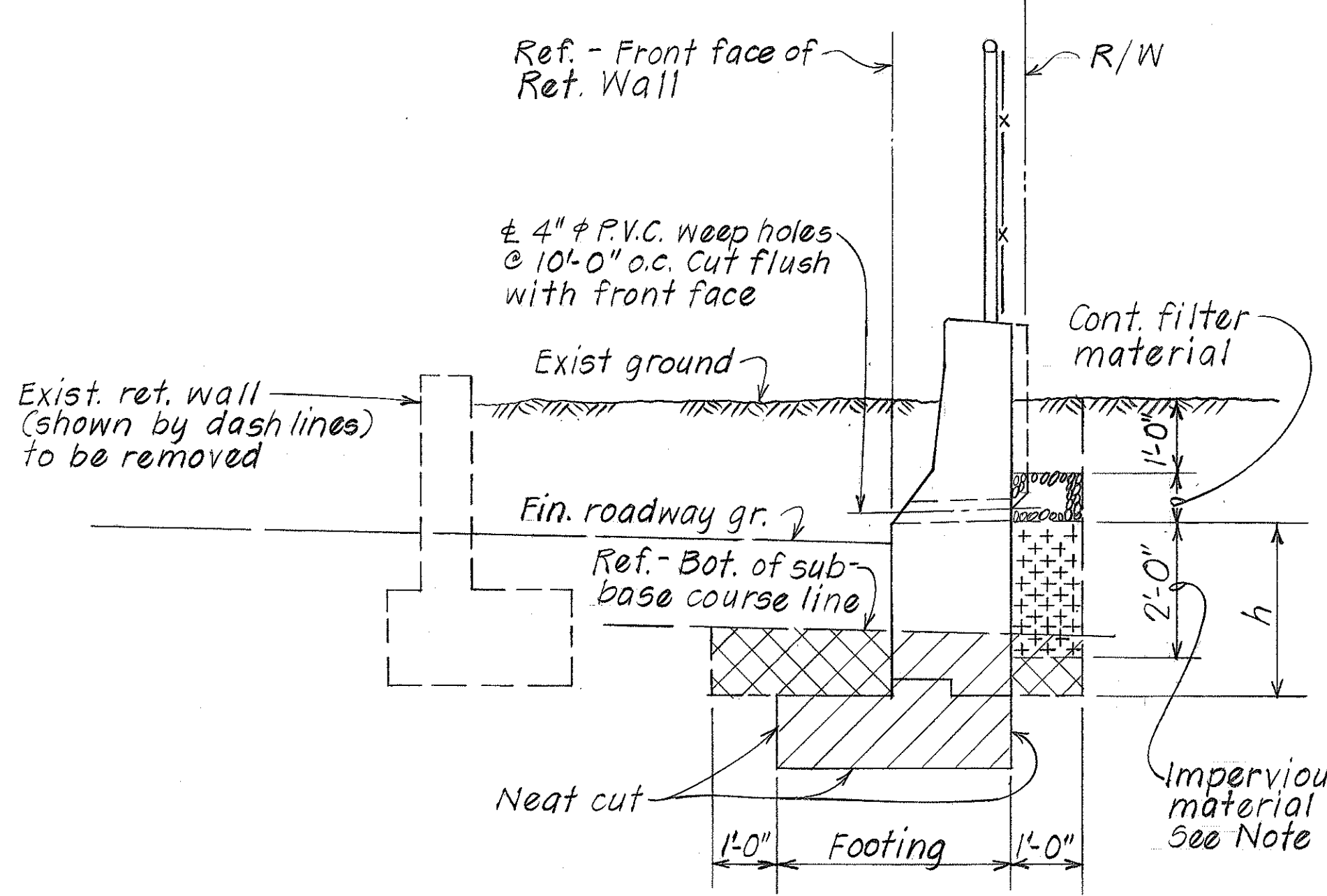
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(160)	1982	18	39



DETAIL C Scale: 3/4" = 1'-0"



SECTION DETAIL A Scale: 1/2" = 1'-0"



NOTES:
HATCHED AREAS
 Hatched area shown thus denotes limits of structure excavation pay line. All other excavation shall be roadway excavation.
 Hatched area shown thus denotes limits of structure backfill.
IMPERVIOUS MATERIAL
 Impervious material as selected by the Engineer incidental to structure excavation. When "h" is 2'-0" or less, all backfill below weep hole level shall be impervious material. This material shall be made as impervious as possible by pneumatic tamping or other approved methods.

6/30/82	Reference sheet number added for 20'-4" Grated Drop Intake of "DETAIL A" per Addendum No. 1.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION LAND TRANSPORTATION FACILITIES DIVISION WALL DETAILS INTERSTATE ROUTE HI-1 SAFETY IMPROVEMENTS AT THE PUNAHOU STREET OFF-RAMP F.A.I. Proj. No. IR-HI-1(160) Scale: As Shown Date: May, 1982 SHEET NO. 3 OF 4 SHEETS	

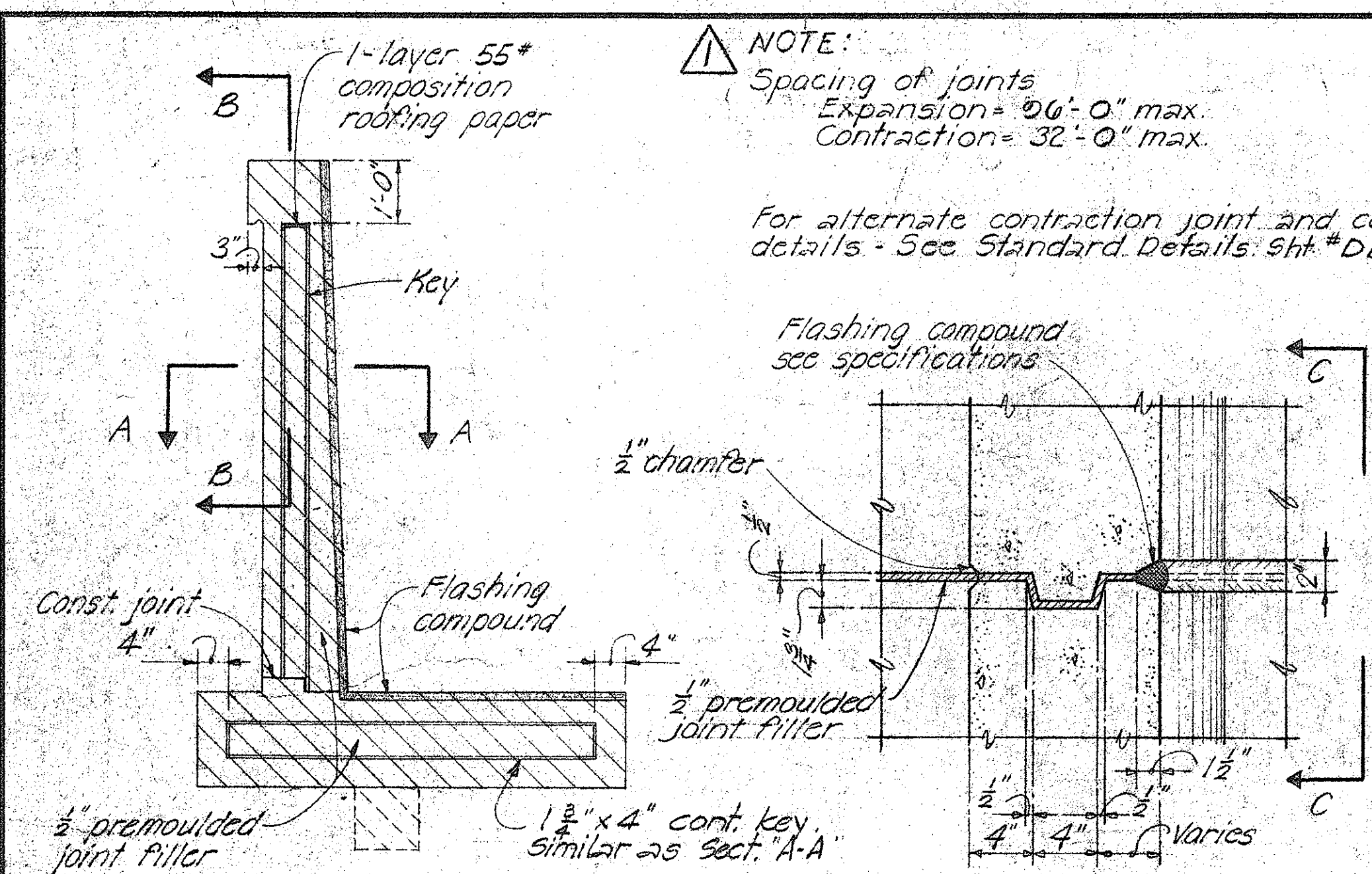
DATE	DESIGNED BY	CHECKED BY
PLANNED BY	NOTED BY	QUANTITIES BY
ORIGINAL PLAN	NOTE BOOK	No.

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

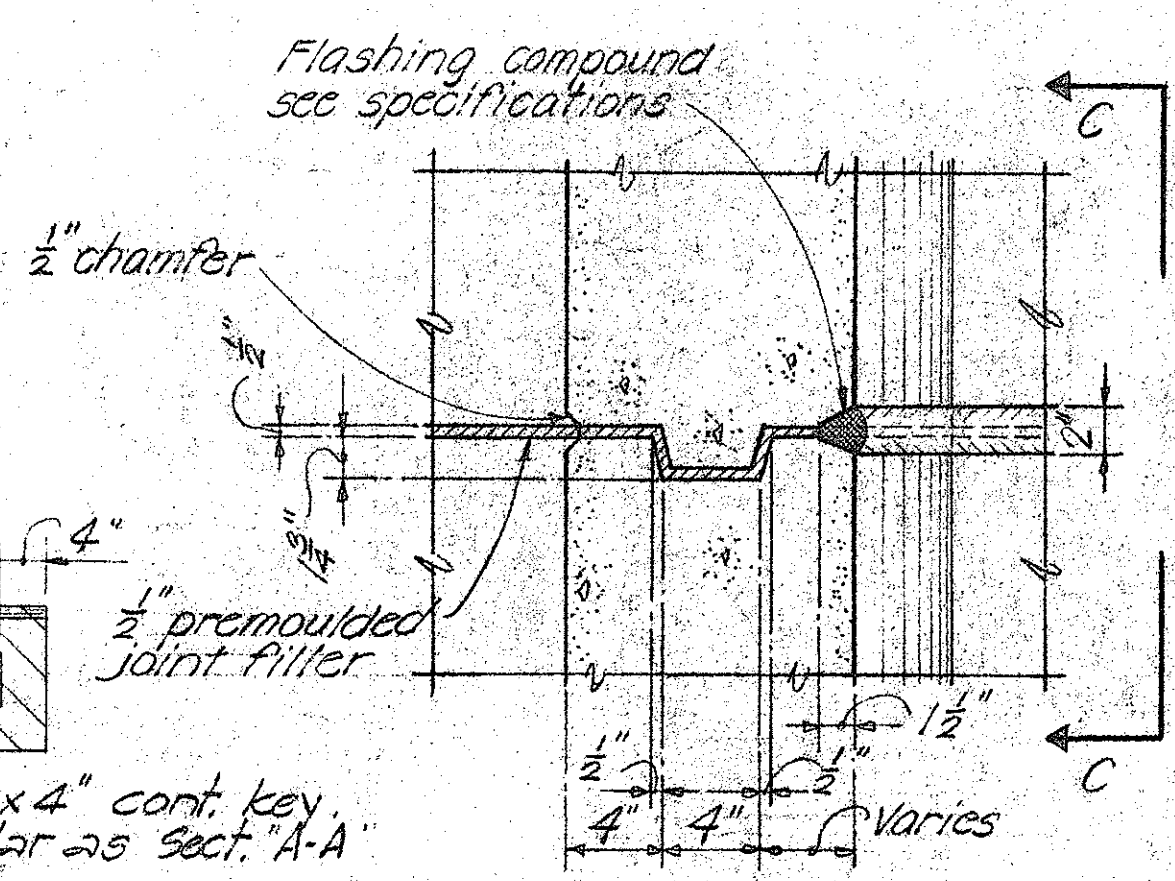
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	LR-111(160)	1983	19R-1	20

NOTE:
Spacing of joints
Expansion = 36'-0" max.
Contraction = 32'-0" max.

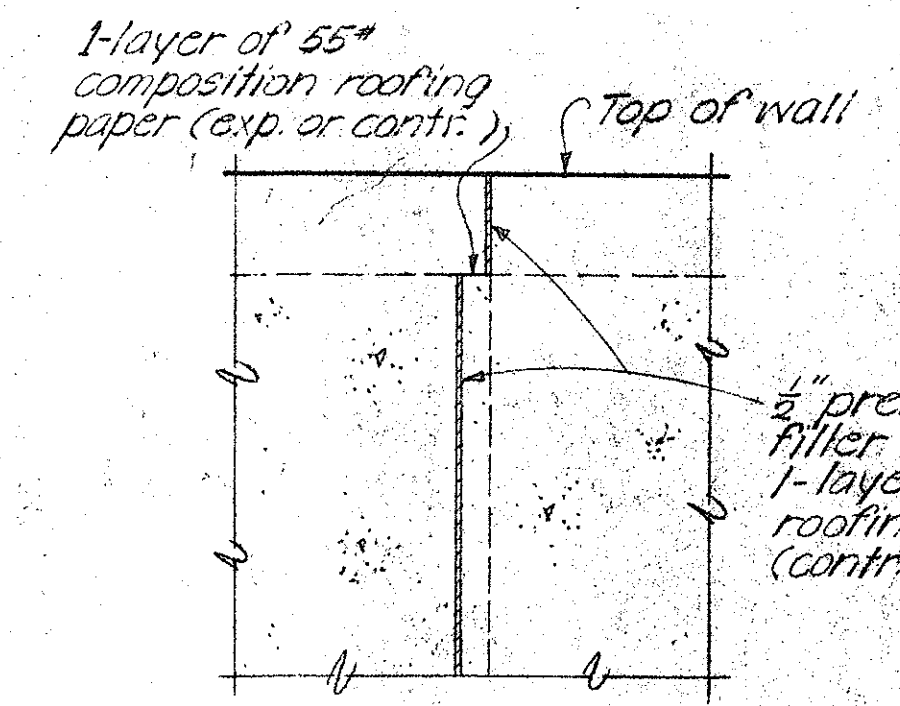
For alternate contraction joint and control joint details - See Standard Details Sht. #DB-100



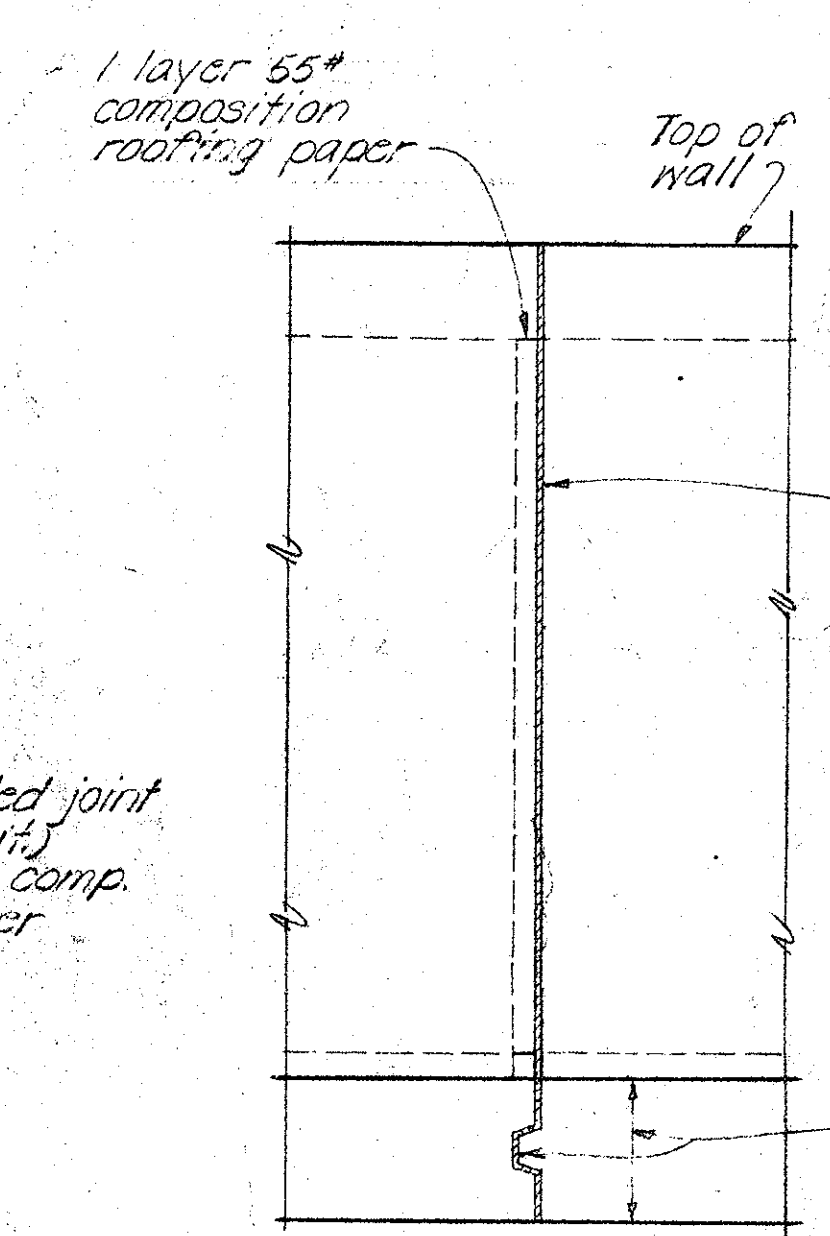
JOINT ELEVATION



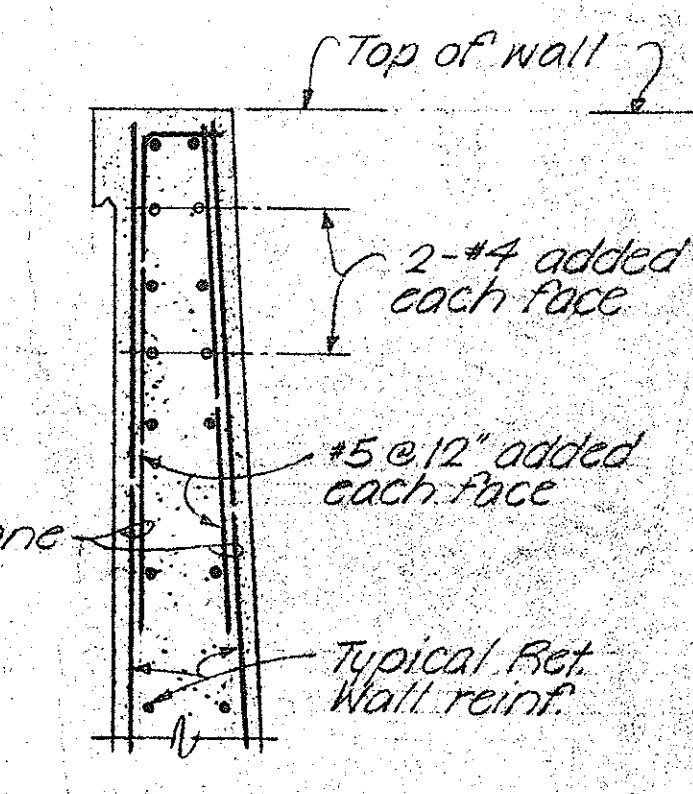
SECTION A-A



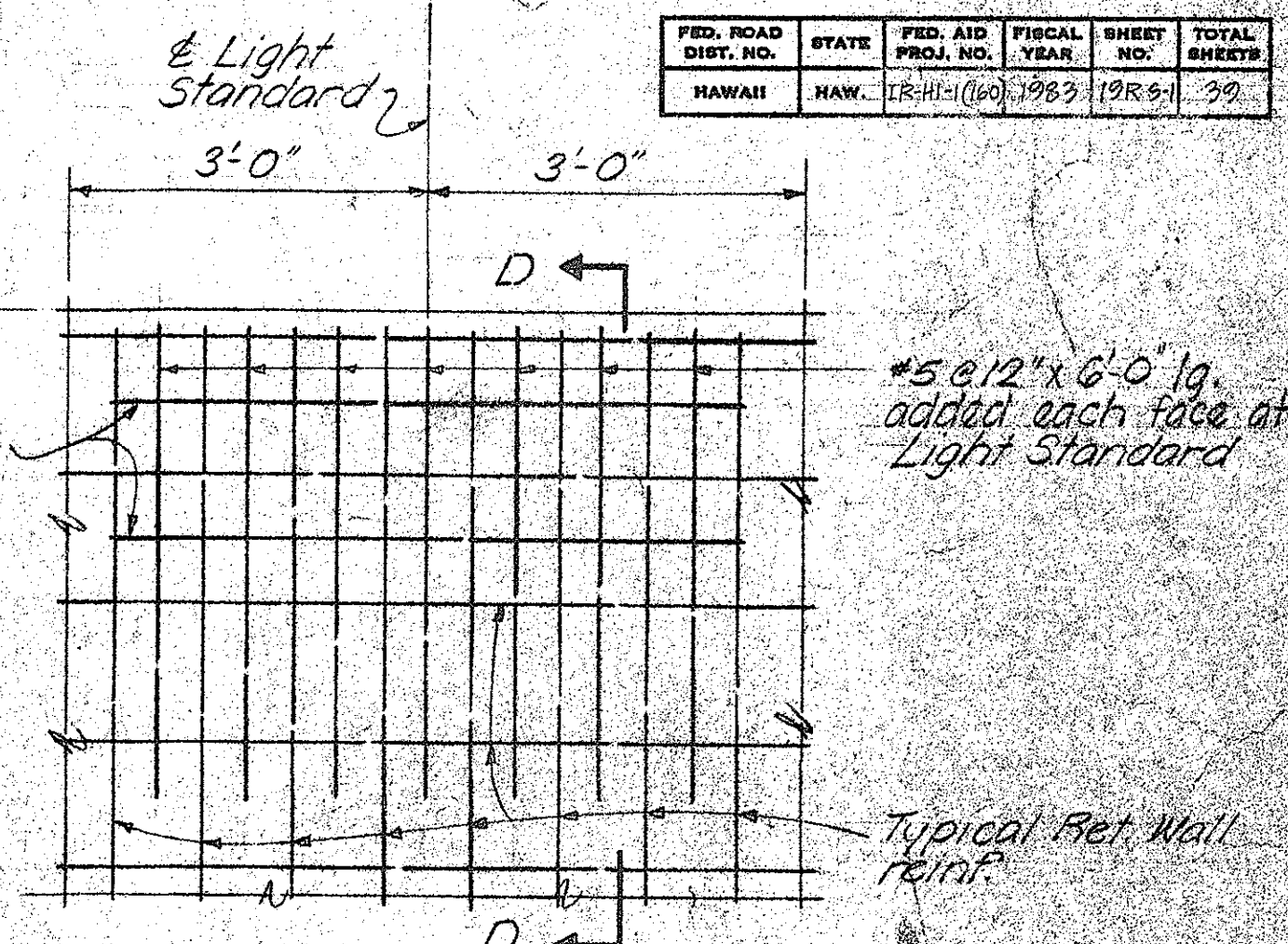
SECTION B-B



SECTION C-C

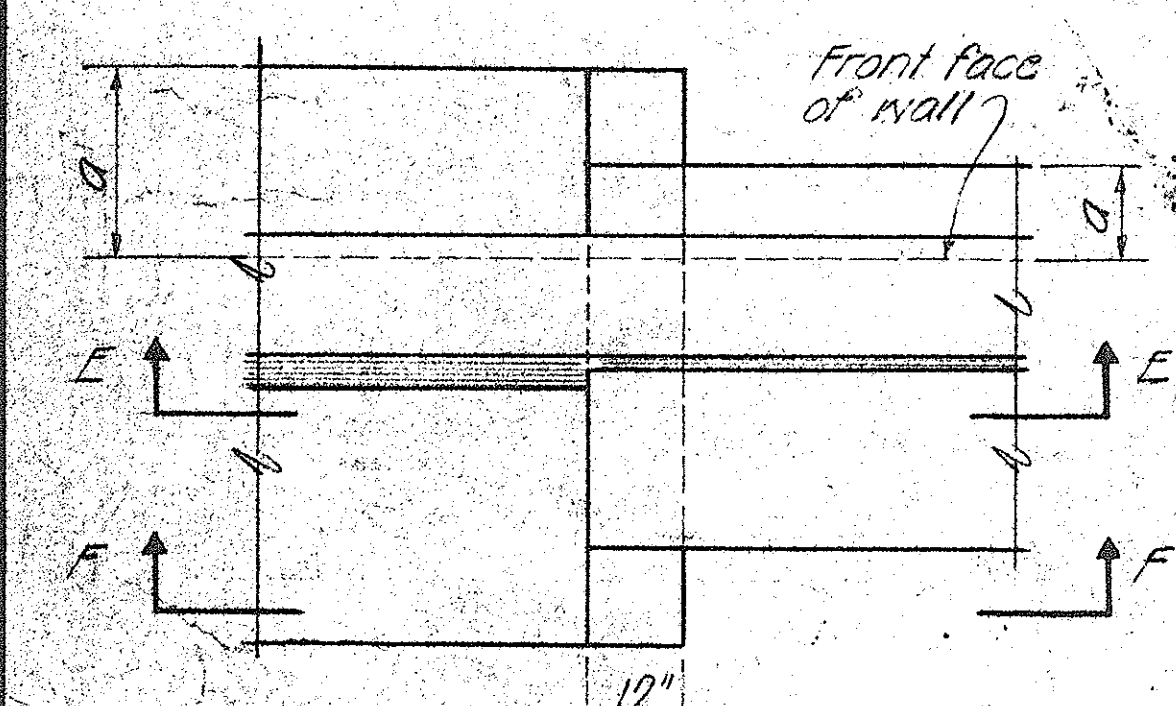


SECTION D-D

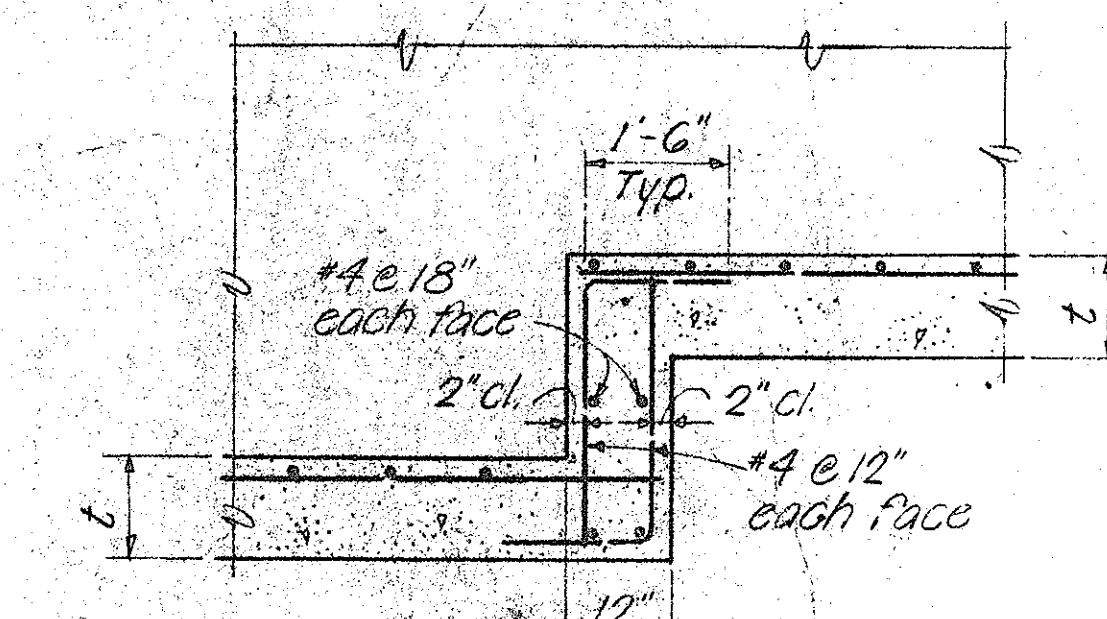


ELEVATION

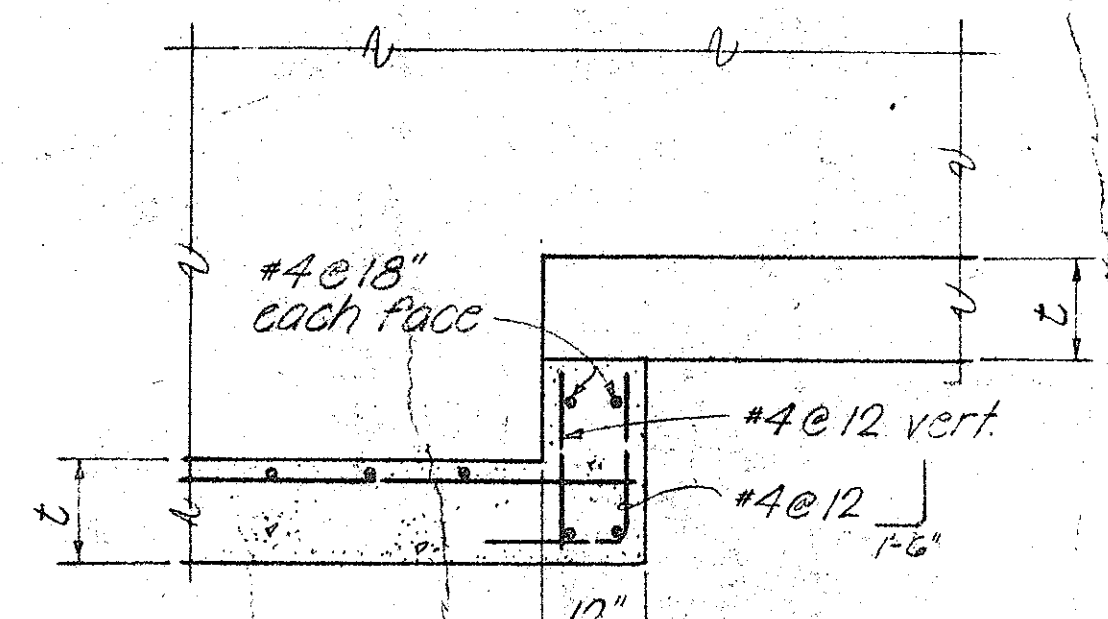
TYPICAL ADDED REINFORCEMENT AT LIGHT STANDARD BASE No Scale



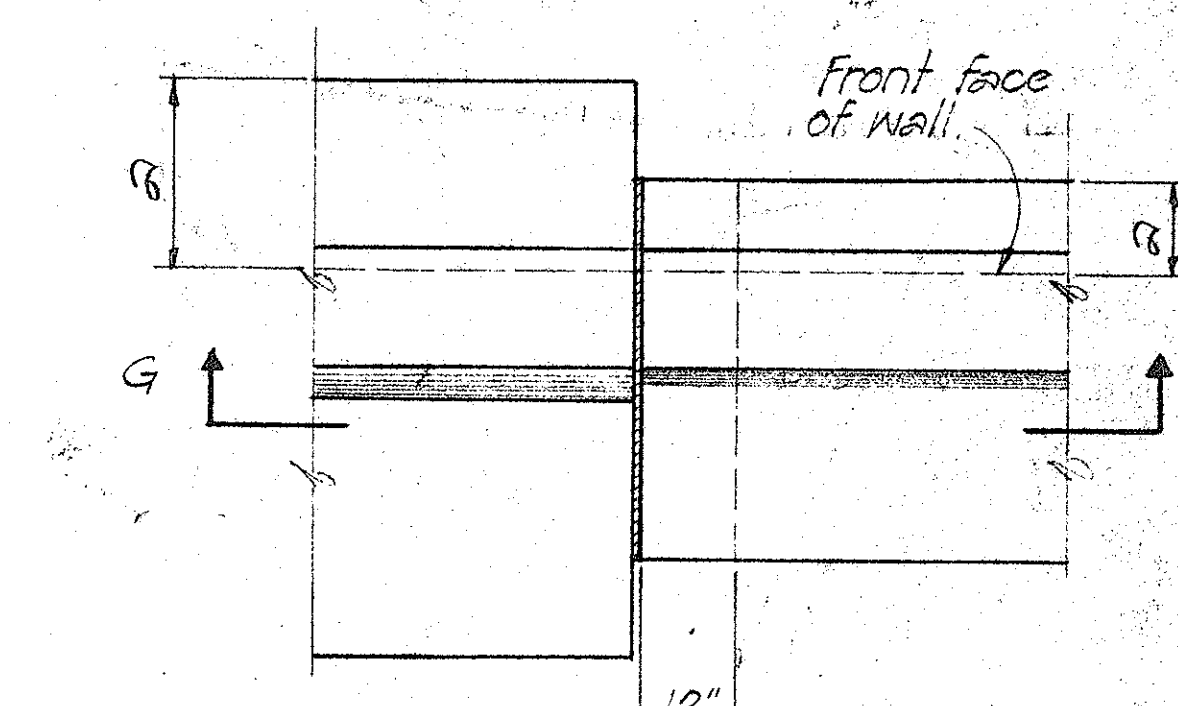
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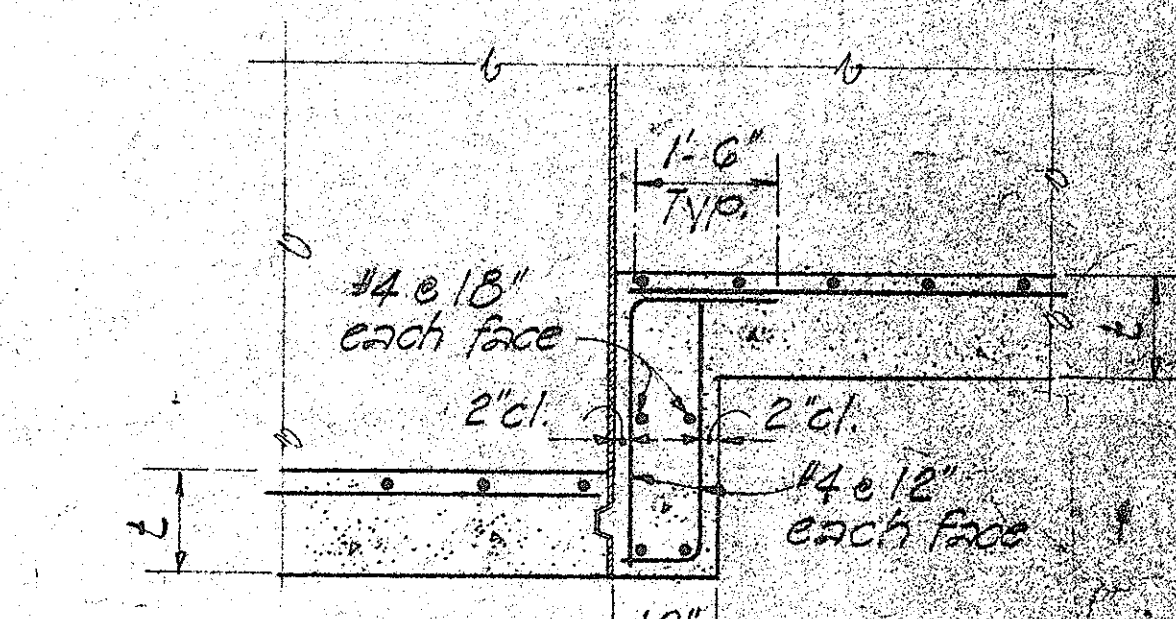
SECTION E-E AT CONTINUOUS FOOTING



SECTION F-F



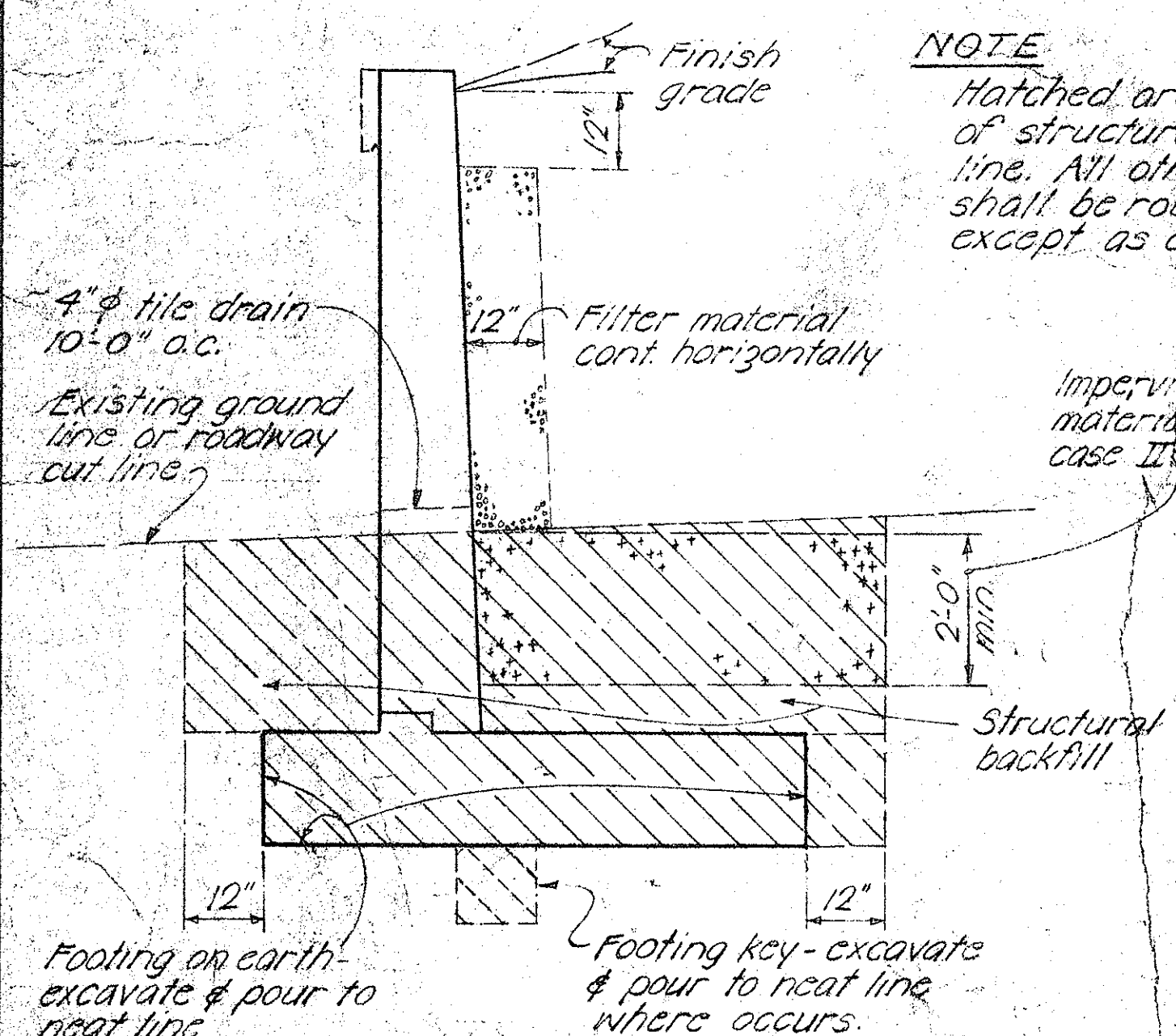
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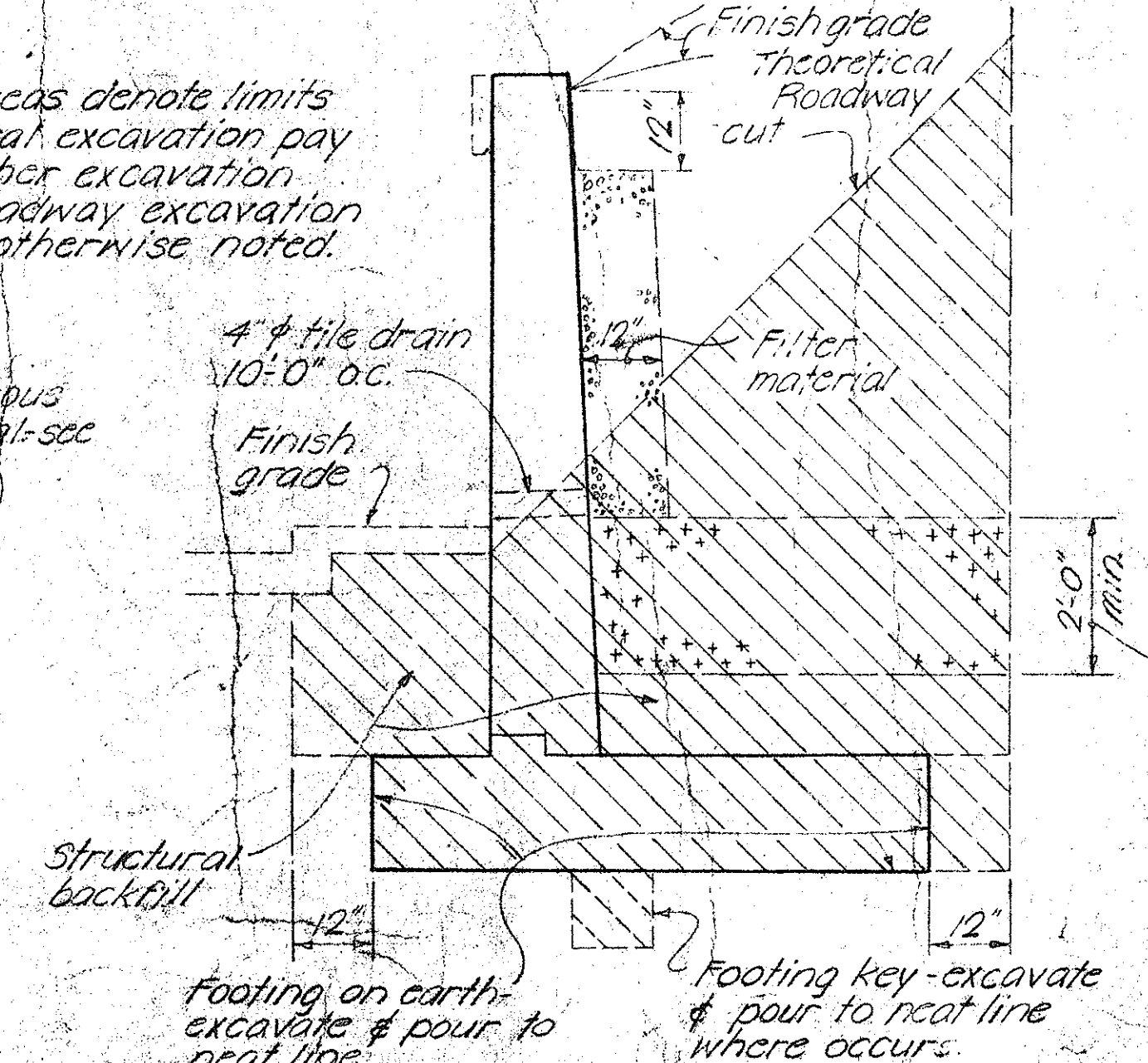
SECTION G-G AT EXPANSION JOINT

TYPICAL FOOTING STEP-UP DETAILS No Scale

NOTE:
Hatched areas denote limits of structural excavation pay line. All other excavation shall be roadway excavation except as otherwise noted.



CASE I



CASE II

STRUCTURAL EXCAVATION & DRAINAGE DETAILS No Scale

APPROVAL RECOMMENDED:
Paul T. Yamashita 1-23-76
BRIDGE DESIGN ENGINEER DATE

APPROVED
Paul T. Yamashita 1-23-76
FOR ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Change note spacing of joints.	H.T.	2.4.72

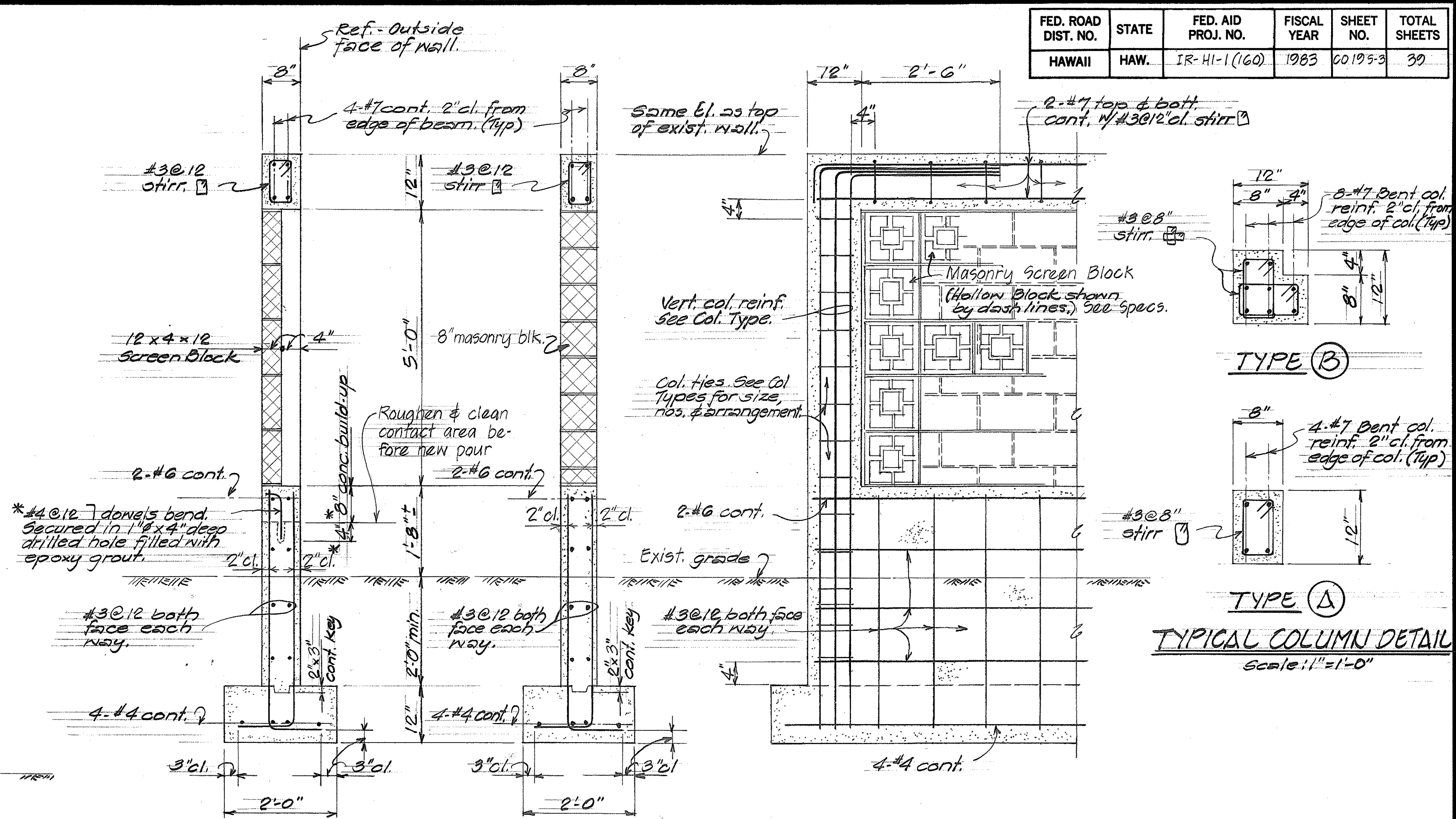
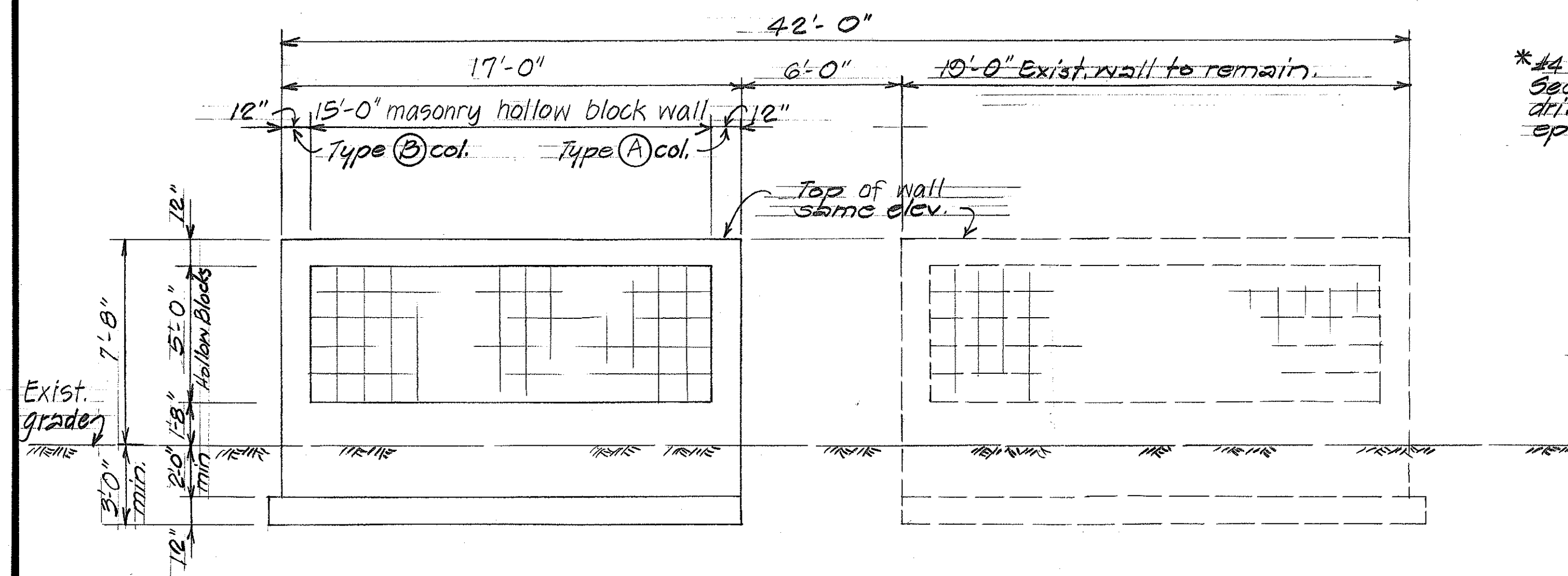
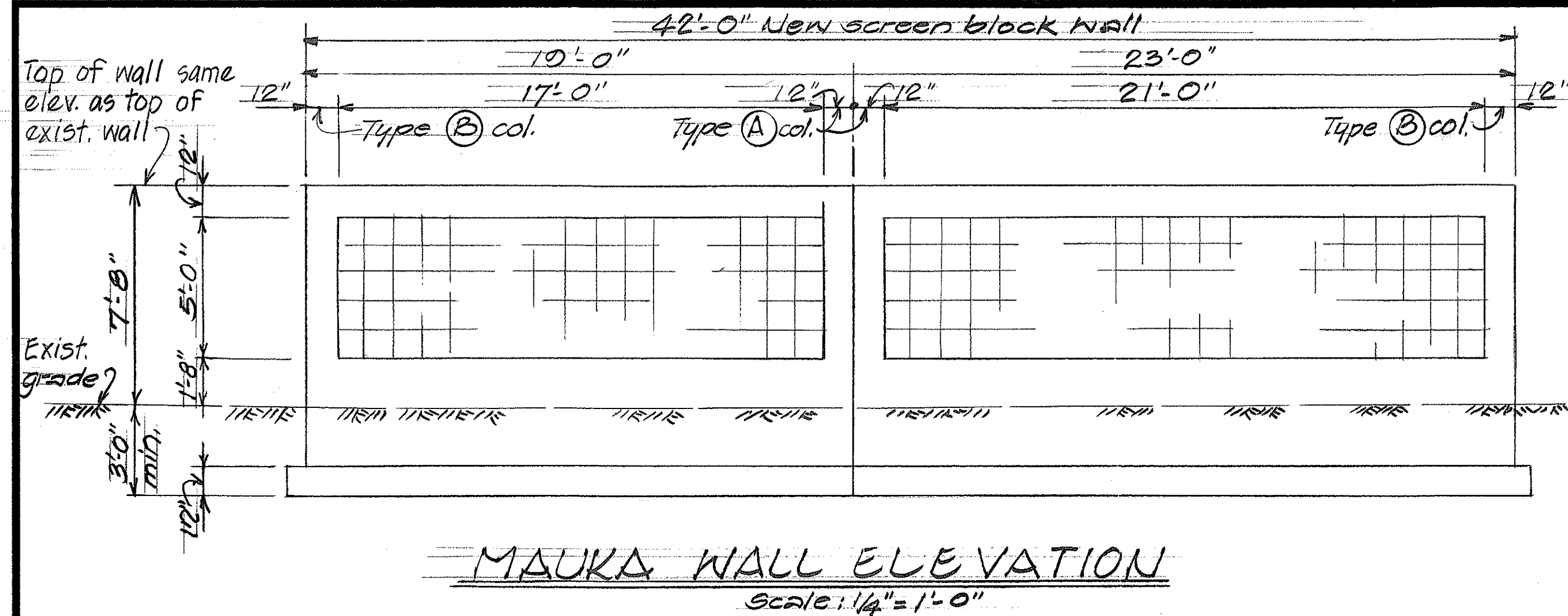
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
RETAINING WALL TYPE T-1

SCALE AS NOTED DATE
SHEET No. 4a OF 4 SHEETS DB-201-2

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(160)	1983	00195-3	39

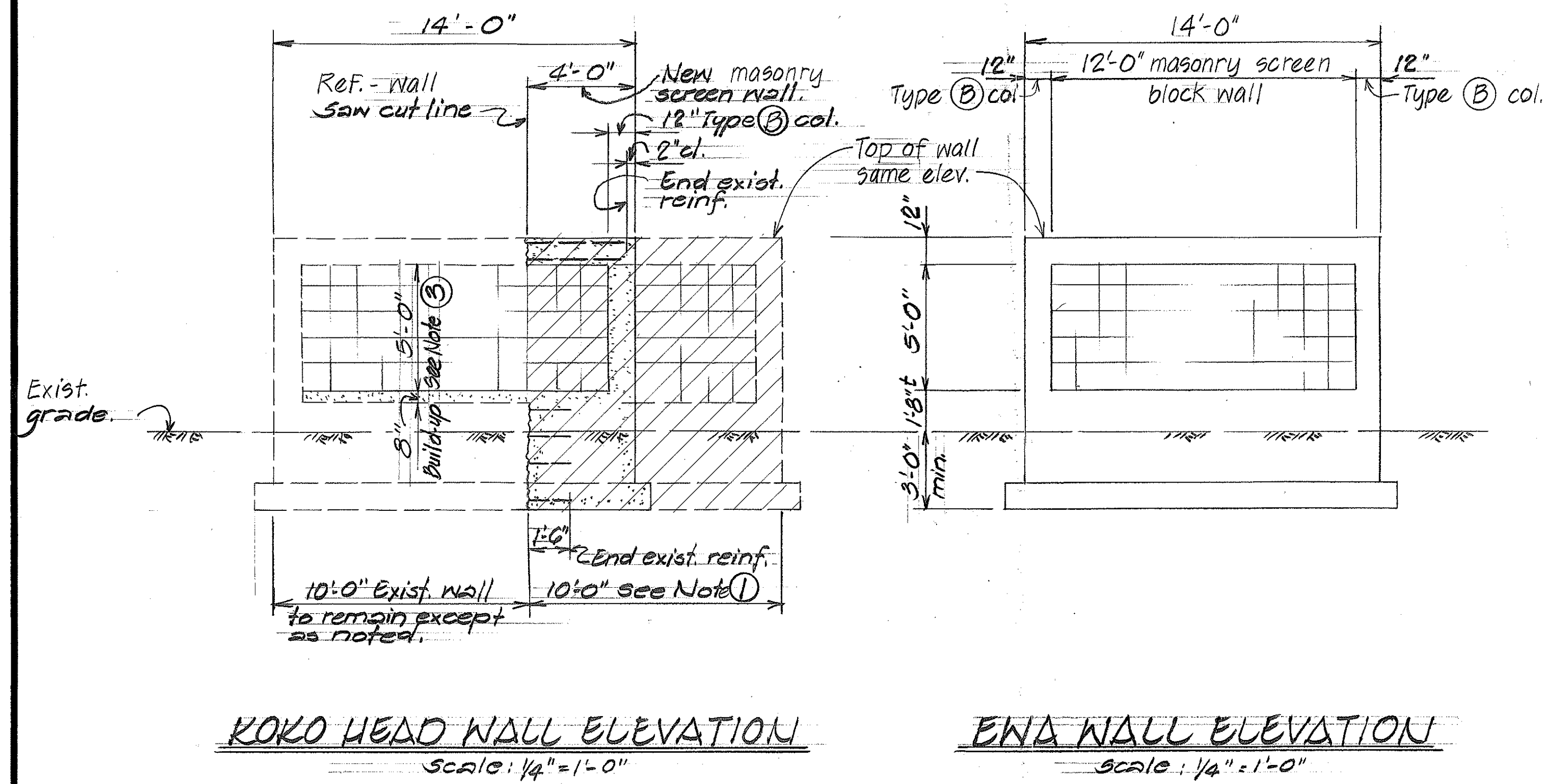


TYPICAL SECTION SCREEN BLOCK WALL Scale: 3/4" = 1'-0"

TYPICAL SECTION HOLLOW BLOCK WALL Scale: 3/4" = 1'-0"

TYP. PARTIAL ELEVATION SCREEN & HOLLOW BLOCK WALL Scale: 3/4" = 1'-0"

NOTE:
* See "Koko Head Wall Elevation" for location and limits of concrete build-up



NOTE:
This sheet is a supplement to the contract plans

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

ENCLOSURE FOR A.C. COOLING TOWER
RAMP RETAINING WALL
INTERSTATE ROUTE HI-1
SAFETY IMPROVEMENTS AT
THE PUNAHOU STREET OFF-RAMP
F.A.I. Proj. No. IR-HI-1(160)
Scale: As shown Date: Nov. 1982
SHEET NO. 40 OF 4 SHEETS