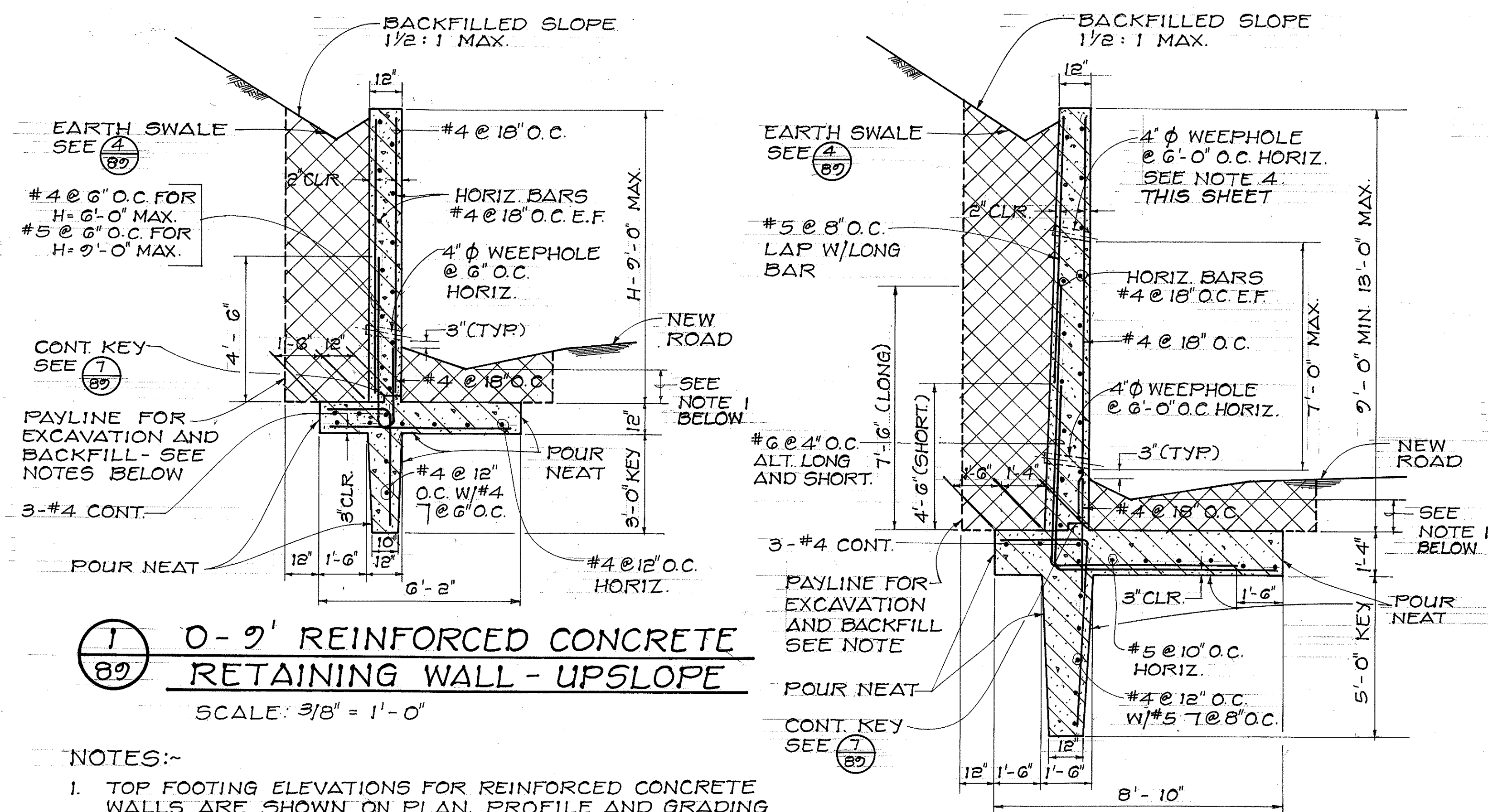
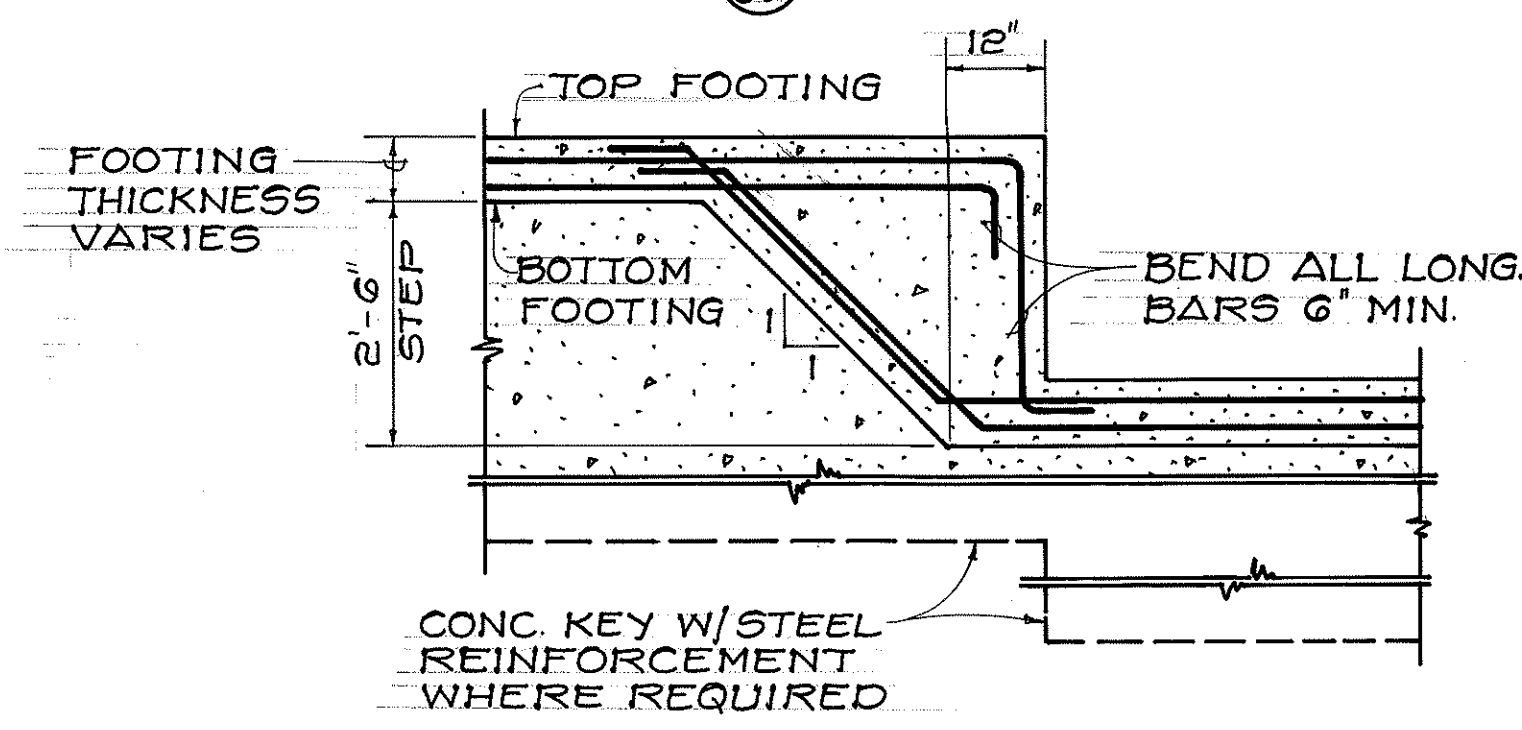


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-01-86	1987	89	115

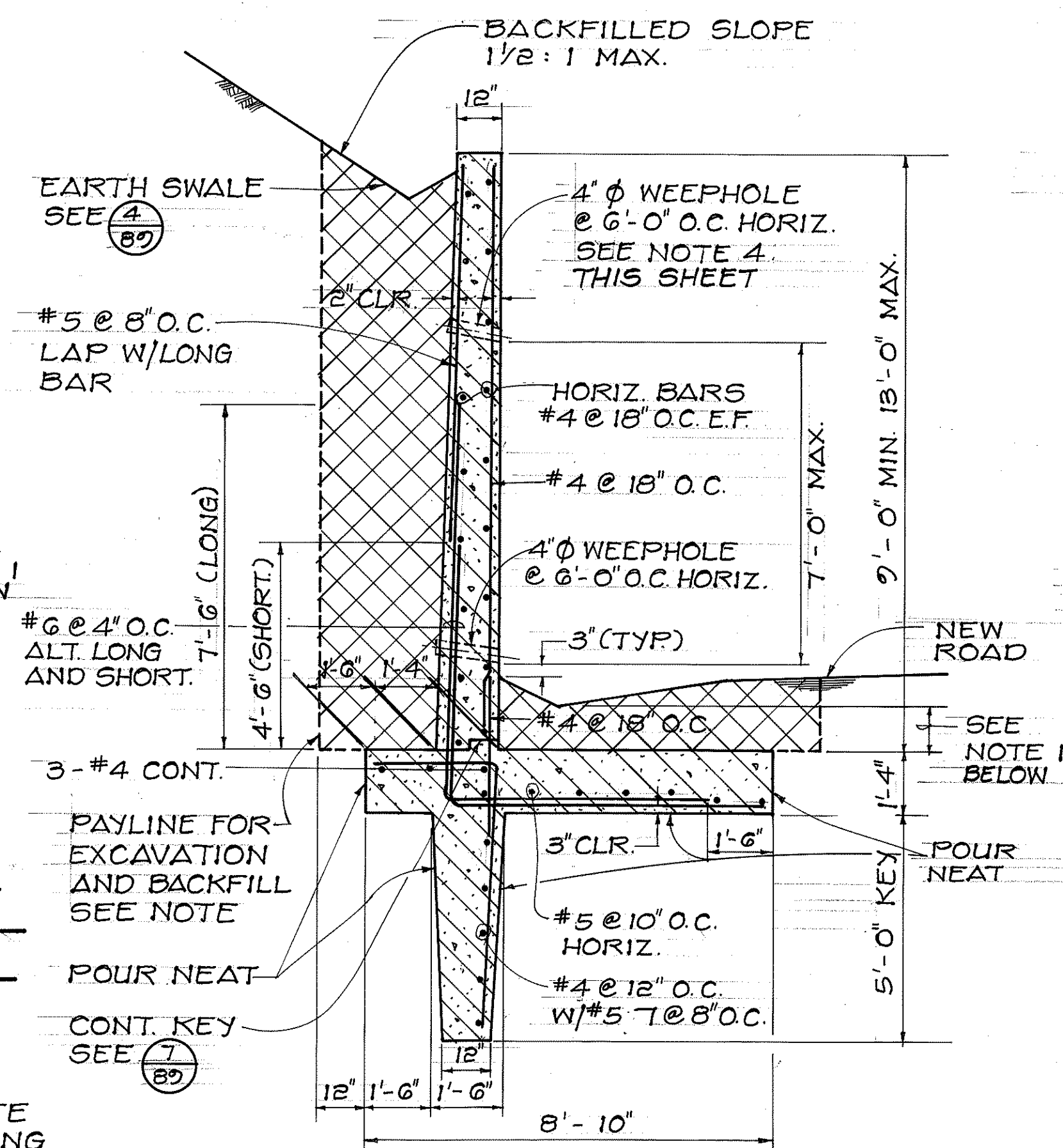


1 0-9' REINFORCED CONCRETE RETAINING WALL - UPSLOPE
SCALE: 3/8" = 1'-0"

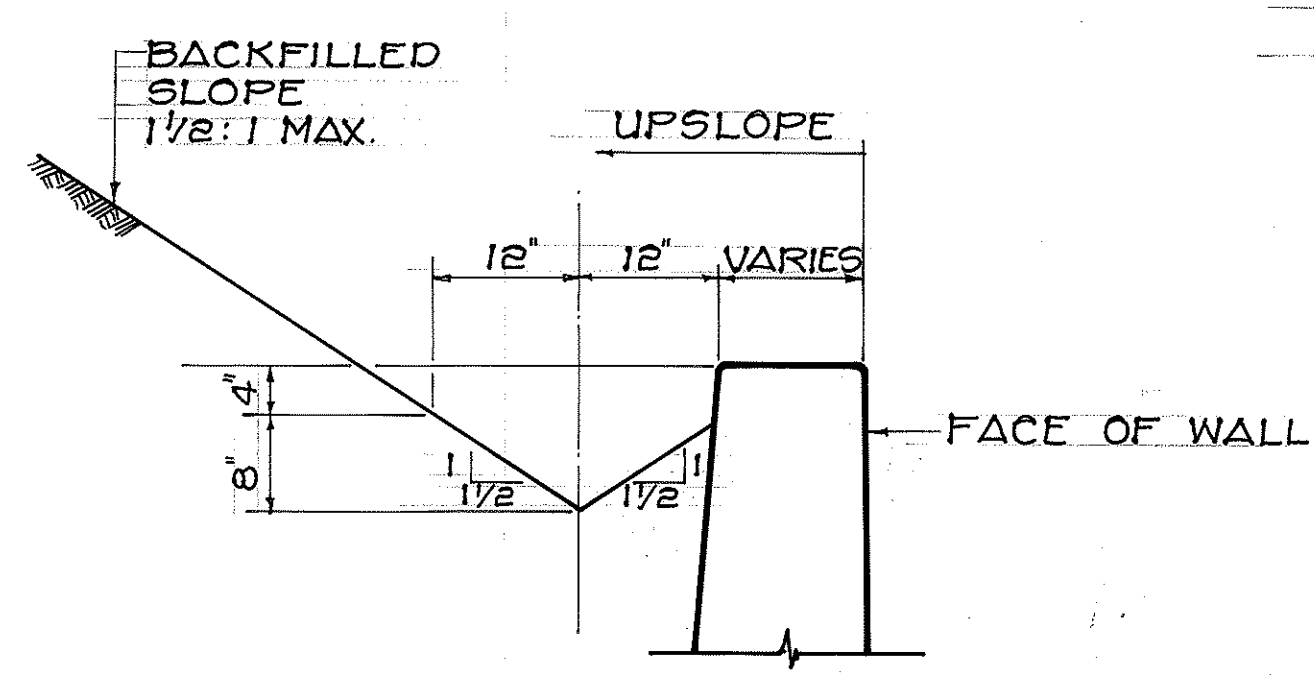
- NOTES:-
1. TOP FOOTING ELEVATIONS FOR REINFORCED CONCRETE WALLS ARE SHOWN ON PLAN, PROFILE AND GRADING SHEET 3.(SHEET NO. 77)
 2. HATCH AREA SHOWN DENOTES LIMITS OF STRUCTURE EXCAVATION. HATCH AREA SHOWN DENOTES LIMITS OF STRUCTURE BACKFILL
 3. ALL WALLS SHALL HAVE IMPERVIOUS MATERIAL AND FILTER MATERIAL IN BACKFILL BEHIND WALL. SEE **8**
 4. WEEPHOLES SHALL BE MADE FLUSH WITH EXPOSED FACE OF WALL.
 5. REBARS SHALL BE GRADE 40. FOR TYPICAL REBAR BENDING DETAIL, SEE **6**
 6. JOINTS FOR REINFORCED CONCRETE WALLS SHALL BE REQUIRED AS FOLLOWS: CONTRACTION JOINTS @ 30' O.C. MAX., EXPANSION JOINTS @ 90' O.C. MAX. CONSTRUCTION JOINTS AS REQUIRED FOR JOINT DETAILS, SEE **5**



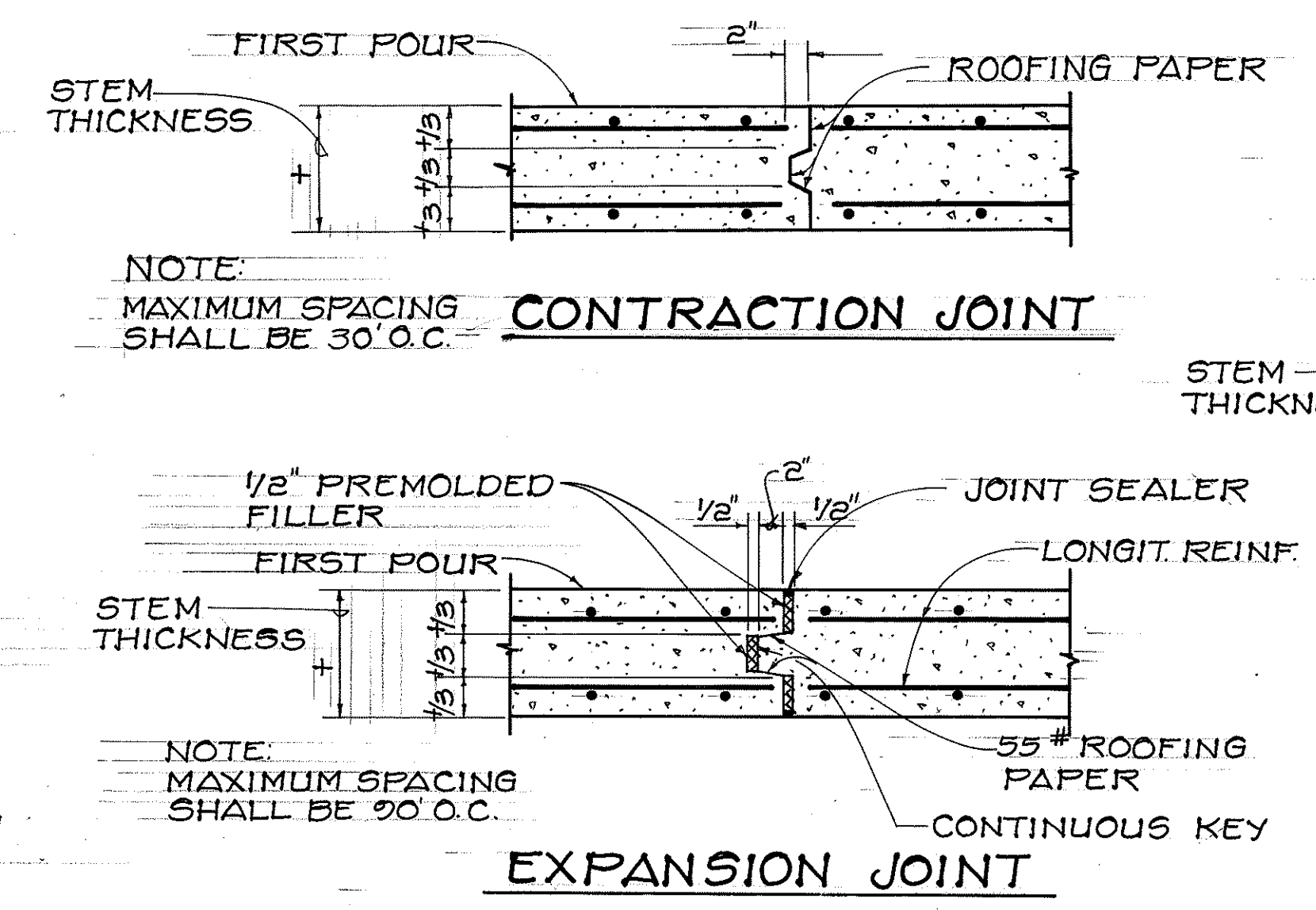
2 STEP FOOTING DETAIL
SCALE: 1/2" = 1'-0"



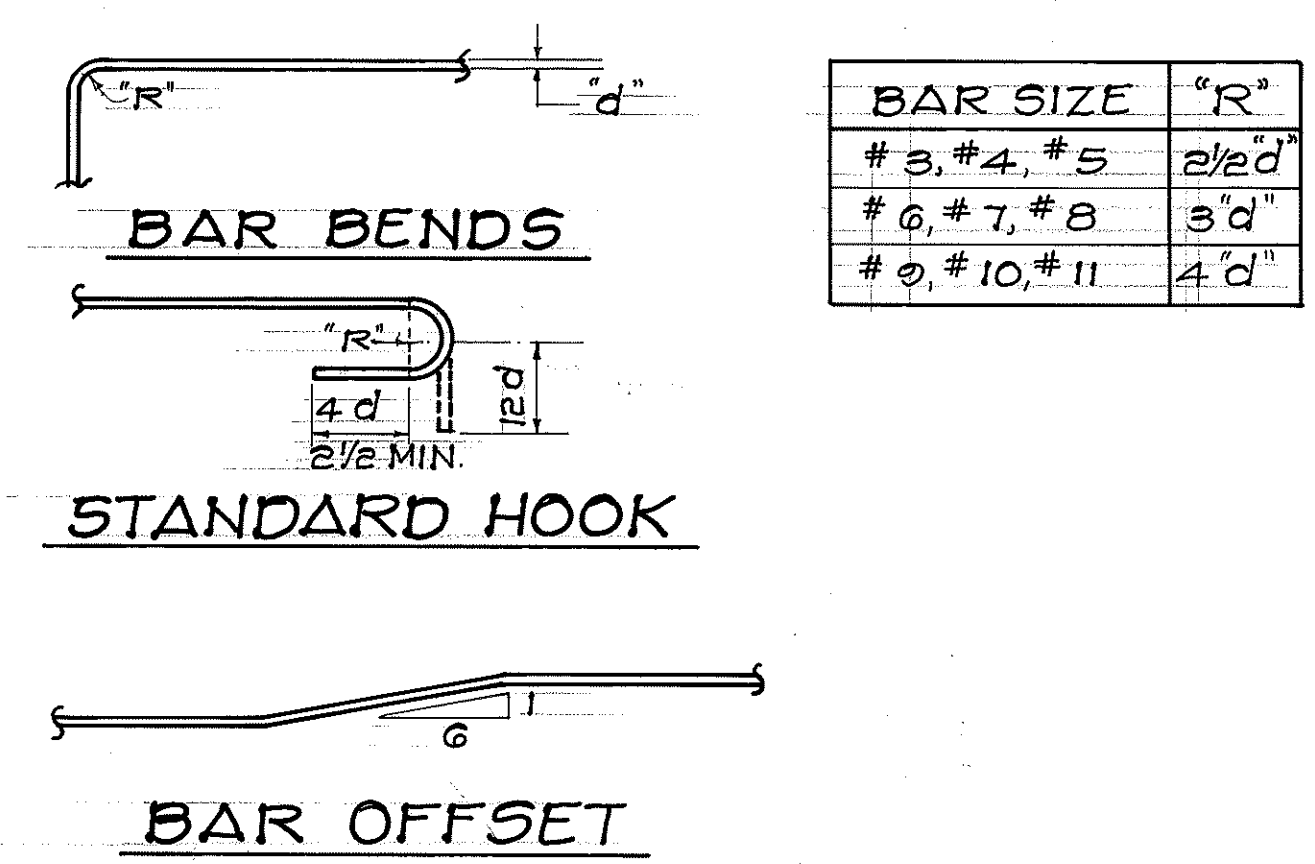
3 9'-13' REINFORCED CONCRETE RETAINING WALL - UPSLOPE
SCALE: 3/8" = 1'-0"



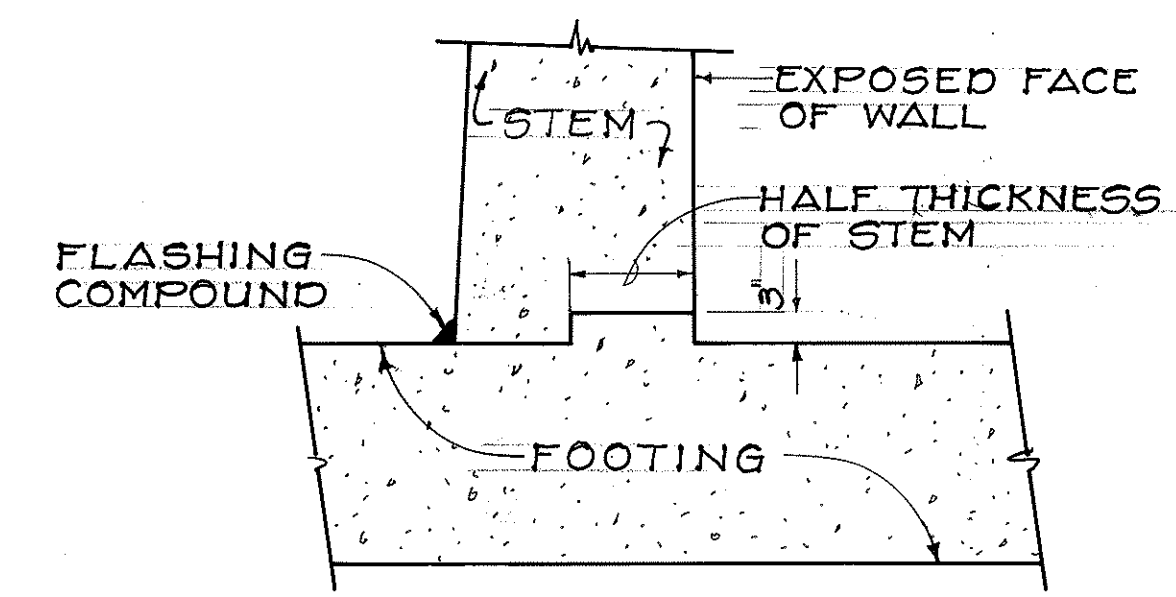
4 EARTH SWALE ALONG UPSLOPE WALLS
SCALE: 3/4" = 1'-0"



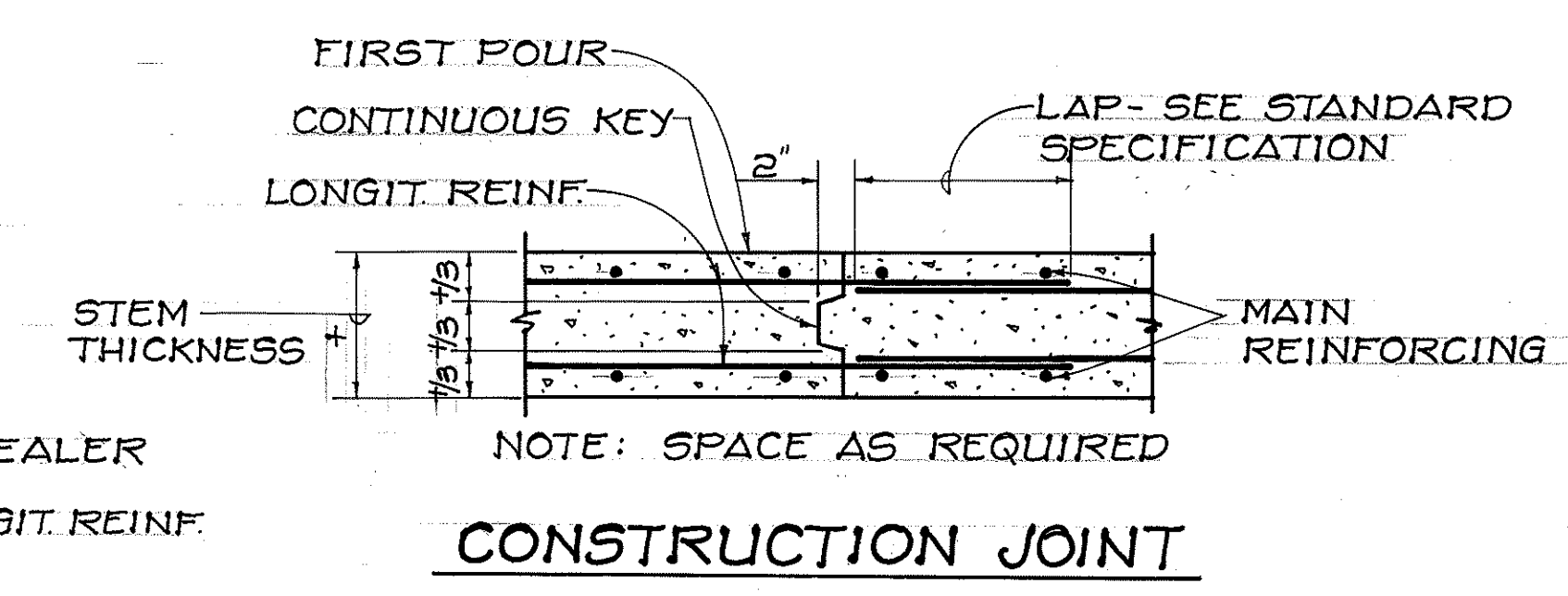
5 REINFORCED CONCRETE WALL JOINT DETAILS
NO SCALE



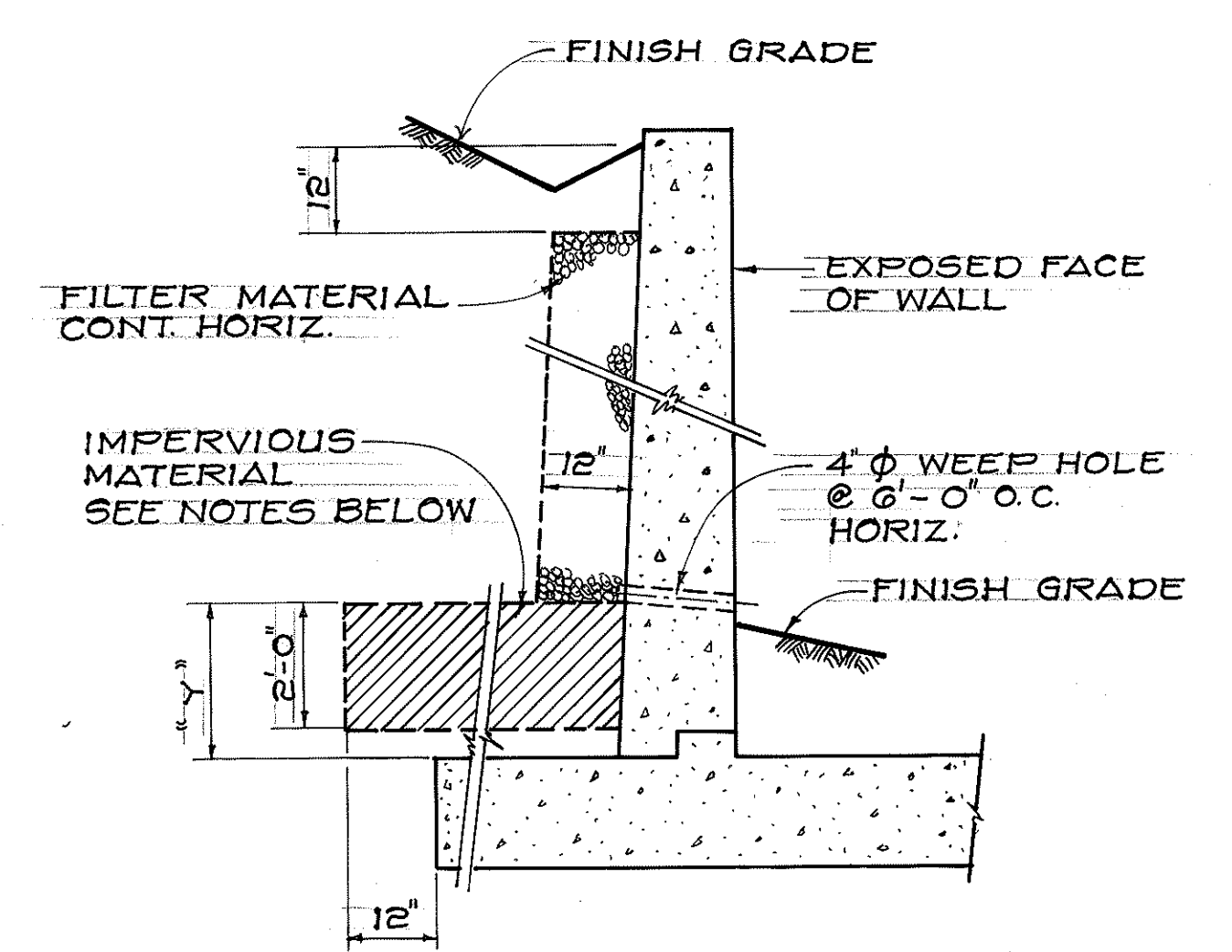
6 TYPICAL REBAR BENDING DETAIL
NO SCALE



7 TYPICAL STEM/FOOTING KEY DETAIL FOR REINFORCED CONCRETE WALLS
NO SCALE



CONSTRUCTION JOINT



- NOTES: IMPERVIOUS MATERIAL
1. IMPERVIOUS MATERIAL AS SELECTED BY THE ENGINEER SHALL BE INCIDENTAL TO STRUCTURE BACKFILL WHEN "Y" IS 2'-0" OR LESS, ALL BACKFILL BELOW WEEPHOLE LEVEL SHALL BE IMPERVIOUS MATERIAL.
 2. THE SUBGRADE UPON WHICH FILTER MATERIAL IS TO BE PLACED SHALL BE MADE AS IMPERVIOUS AS POSSIBLE BY PNEUMATIC TAMPING OR OTHER APPROVED METHODS.

8 DETAIL - PLACEMENT OF FILTER MATERIAL AND IMPERVIOUS MATERIAL FOR RETAINING WALL
NO SCALE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Royce S. Fukunaga

FIKUNAGA & ASSOCIATES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REINFORCED CONCRETE WALL SECTIONS AND DETAILS

MAUNA KEA OBSERVATORY ACCESS ROAD
PHASE II-A

PROJECT NO. HWY-H-01-86

SCALE: AS SHOWN

SHEET NO. 1 OF 1 SHEETS

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