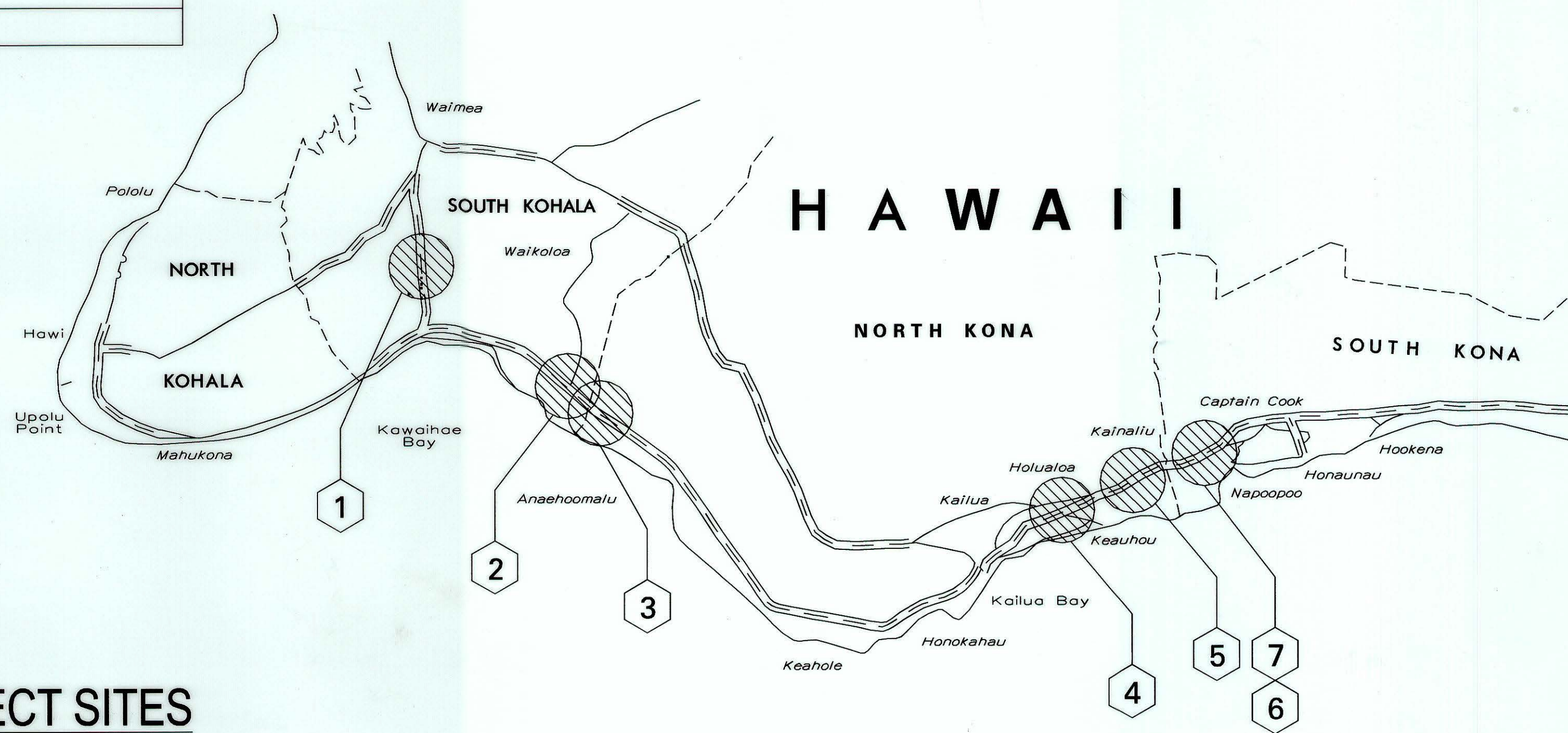
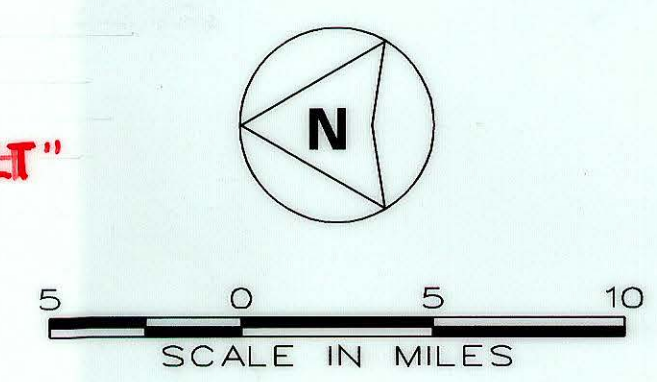


INDEX TO DRAWINGS	
SHEET	DESCRIPTION
1	TITLE SHEET
2	STANDARD PLANS SUMMARY
	CIVIL PLANS
3	GENERAL NOTES
4-5	WATER POLLUTION & EROSION CONTROL NOTES
6	LOCATION MAP
7	SUBDRAIN DETAILS
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10-11	QUEEN KAAHUMANU HIGHWAY, ROUTE 19, MP 71.6
12-13	QUEEN KAAHUMANU HIGHWAY, ROUTE 19, MP 73.3
14	KUAKINI HIGHWAY, ROUTE 11, MP 117.6
15-16	KUAKINI HIGHWAY, ROUTE 11, MP 114.1
17-18	MAMALAHOA HIGHWAY, ROUTE 11, MP 108.9
19-20	MAMALAHOA HIGHWAY, ROUTE 11, MP 108.8
21	WORK ZONE SIGNING PLAN
	STRUCTURAL PLANS
22	GENERAL NOTES
23-26	MAMALAHOA HIGHWAY, MP 108.8
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30-33	GUARDRAIL PLANS DETAILS

Note:  
Added Sheet 33S-1  
Sheet Count after "AS-BUILT"  
postings 34 Sheets.




- 1 KAWAIHAE ROAD, ROUTE 19  
MILE POST 64.8
- 2 QUEEN KAAHUMANU HIGHWAY, ROUTE 19  
MILE POST 71.6
- 3 QUEEN KAAHUMANU HIGHWAY, ROUTE 19  
MILE POST 73.3
- 4 KUAKINI HIGHWAY, ROUTE 11  
MILE POST 117.6
- 5 KUAKINI HIGHWAY, ROUTE 11  
MILE POST 114.1
- 6 MAMALAHOA HIGHWAY, ROUTE 11  
MILE POST 108.9
- 7 MAMALAHOA HIGHWAY, ROUTE 11  
MILE POST 108.8

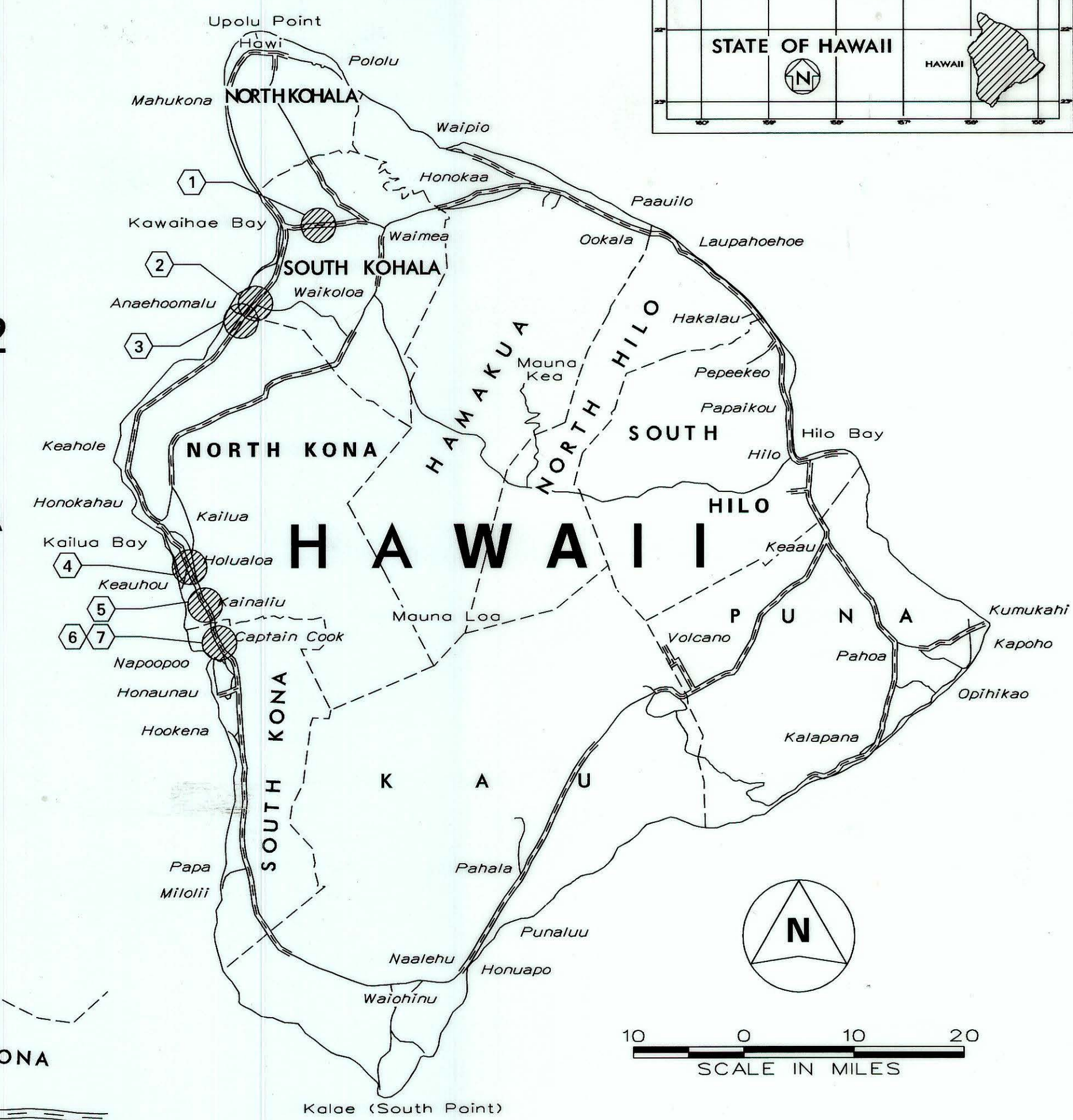
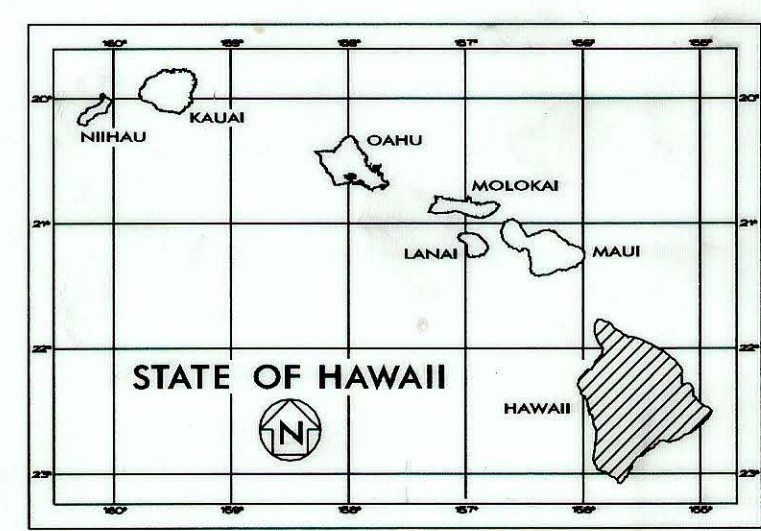
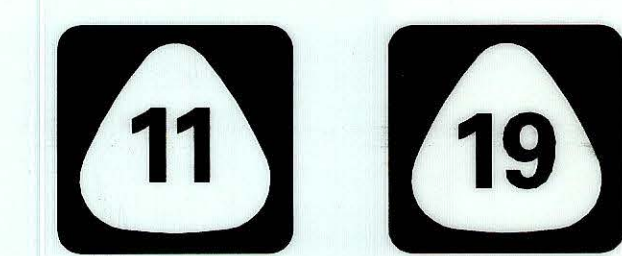
		DESIGN DESIGNATION				
		1	23	4	5	67
ADT (2009)		8,900	12,000	21,600	20,600	8,000
DESIGN ADT (2019)		10,900	15,300	26,300	23,900	10,400
DHV		1,000	1,300	2,100	1,900	900
D		70/30	60/40	60/40	55/45	60/40
T24		5.5	8.0	4.0	4.5	4.0
V (M.P.H.)		65/25	55/35	55/35	50/40	55/35


CHANGES MADE DURING CONSTRUCTION HAVE BEEN INCORPORATED ON THESE PLANS EXCEPT CHANGES IN THE ORIGINAL THEORETICAL QUANTITIES. FOR ACTUAL QUANTITIES, REFER TO PROJECT LEDGER AND/OR COMPUTATION BOOK.

*Mike Sweeney* 05-28-14  
ME RESIDENT ENGINEER DATE

DEPARTMENT OF TRANSPORTATION STATE OF HAWAII	
APPROVED: 	6/16/11
_____ DIR. OF TRANSPORTATION	_____ DATE

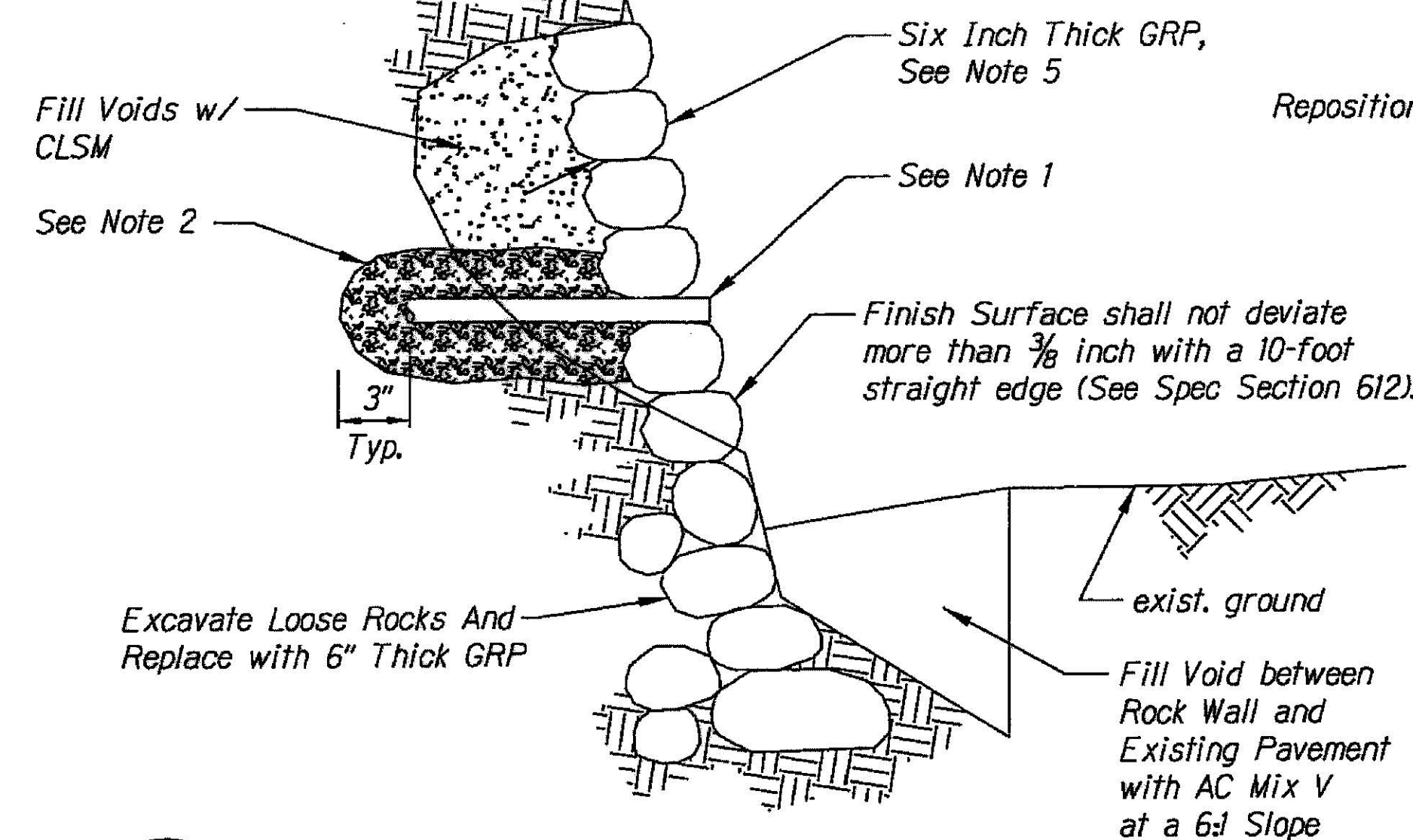
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-15(20)	2010	1	33



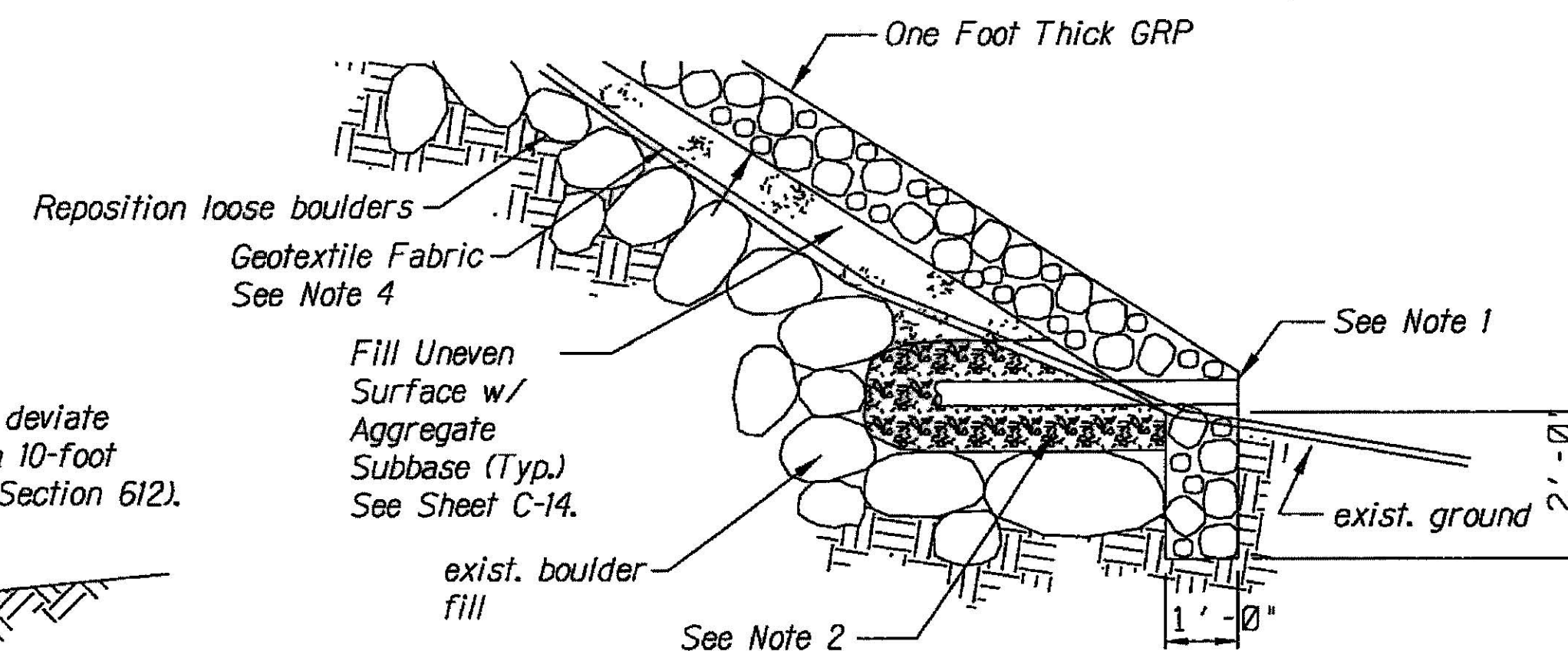
 FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED  
OR UNDER CONSTRUCTION  
 PROJECT SITE



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-15(20)	2010	7	33



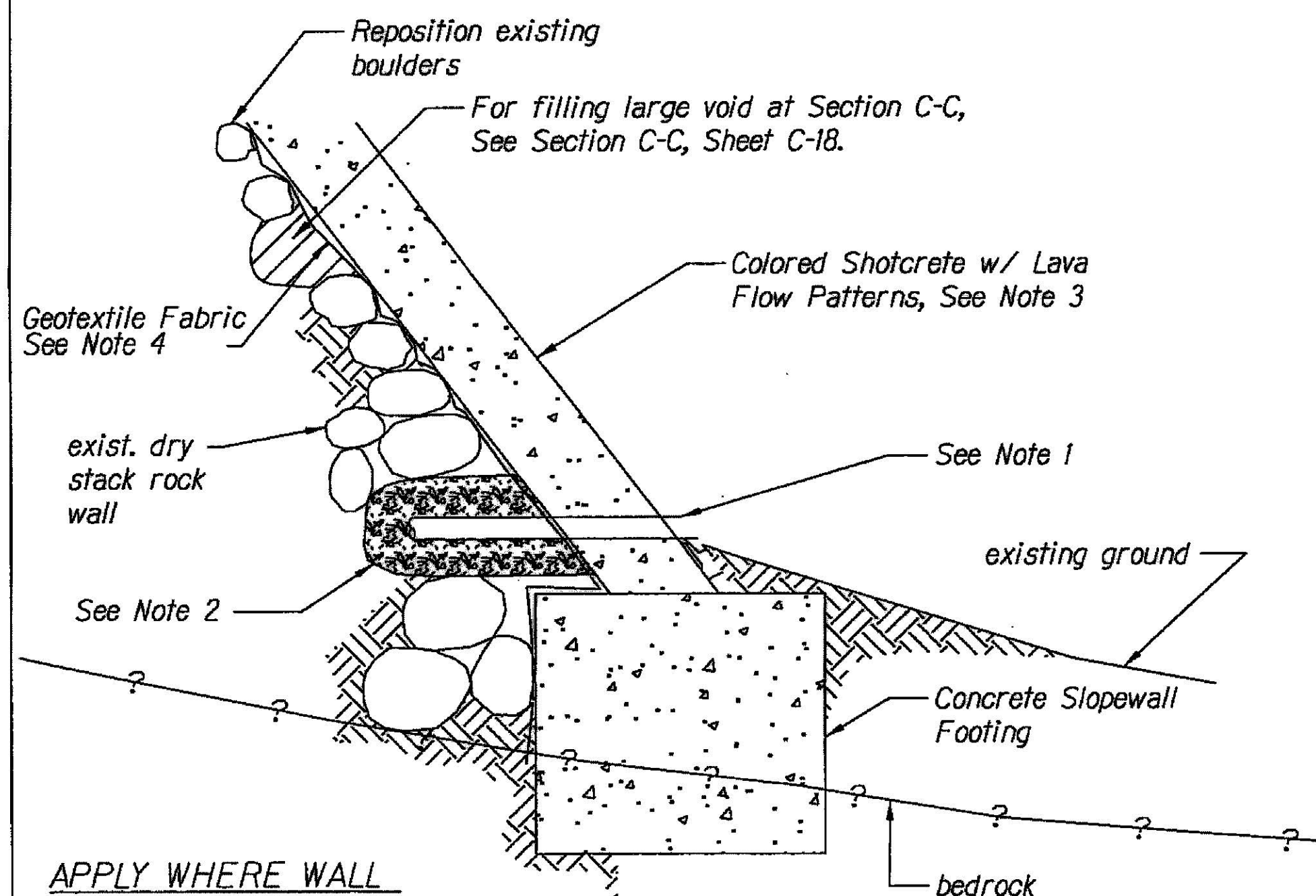
1 SUBDRAIN DETAIL  
KUAKINI HIGHWAY, ROUTE 11, MP 117.6  
NO SCALE



2 SUBDRAIN DETAIL  
KUAKINI HIGHWAY, ROUTE 11, MP 114.1  
NO SCALE

DETAIL 2 NOTES:

1. Remove all trees and vegetation. Trees and brush shall be chipped and disposed of as directed by the Engineer.
2. All loose boulders, cobbles, organics, and soft/yielding materials shall be removed to expose firm foundation bed. Reposition loose boulders and cobbles into existing slope or retain for use in bedding layer/GRP as appropriate, to produce the planned slope.
3. The Contractor may fill all voids that are deeper than 6" with uniformly graded aggregate smaller than 6", up to 6" below bottom of GRP.
4. Place geotextile fabric on firm foundation bed/surface. See Spec Section 716.03 for geotextile fabric.
5. Backfill pockets or eroded slope with aggregate subbase (See Spec Section 703.17) to form bed in GRP. The GRP bed shall be compacted to 90%, per Spec Section 612, and finished to allow placement of the GRP at planned grade and slope.
6. Construct Grouted Rubble Paving (GRP). See Spec and Special Provision for Section 612.



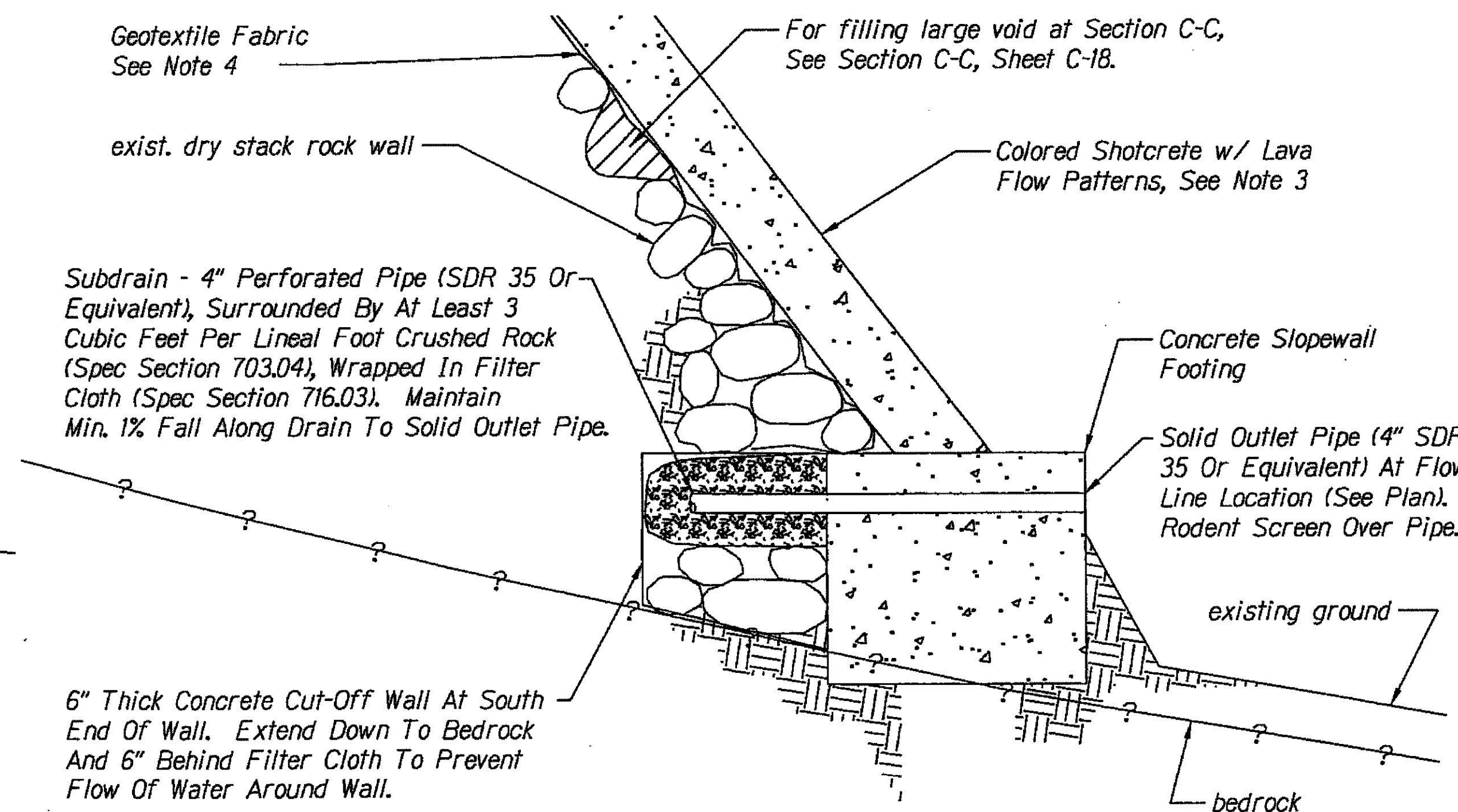
3 SUBDRAIN DETAIL  
MAMALAHOA HIGHWAY, ROUTE 11, MP 108.9  
NO SCALE

NOTES:

1. Typical Weep Hole Pipe (4" SDR 35 or Equivalent at 8" Spacing Max. Rodent Screen Over Inside End of Pipe. Pipe Lengths May Vary And Should Extend Back To Crevise If Possible.
2. Subdrain - Minimum One Cubic Foot Per Lineal Foot Crushed Rock (Spec Section 703.04), Wrapped In Filter Cloth (See Spec. Section 716.03). Shape Of Crushed Rock Should Extend At Least 3" Above And Below Weep Holes.
3. For Shotcrete Slopewall Details, See Structural Drawings.
4. See Spec. Section 716.03 For Geotextile Fabric.
5. See Spec. Section 612. Furnish rocks in the sizes and face areas to produce the general characteristics and appearance indicated on the plans. Except stones for filling voids, stones shall have a thickness of not less than 6 inches with width and length of not less than 1-1/2 times thickness.

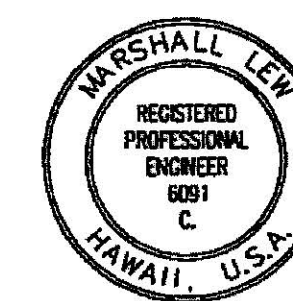
APPLY WHERE WALL FOOTING IS BELOW EXISTING GROUND SURFACE

4 SUBDRAIN DETAIL  
MAMALAHOA HIGHWAY, ROUTE 11, MP 108.8  
NO SCALE



APPLY WHERE WALL FOOTING IS ABOVE EXISTING GROUND SURFACE

5 SUBDRAIN DETAIL  
MAMALAHOA HIGHWAY, ROUTE 11, MP 108.8  
NO SCALE



This work was prepared by me or under my supervision and construction of this project will be under my observation.

signature Date: 4/30/12  
expiration date of the license

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SUBDRAIN DETAILS**  
**EMERGENCY EARTHQUAKE**  
**ROCKFALL REPAIRS**  
**VARIOUS LOCATIONS ON HAWAII, UNIT 2**

FEDERAL AID PROJECT NO. ER-15(20)  
Scale: AS NOTED Date: NOVEMBER 2010

SHEET No. C-5 OF 33 SHEETS

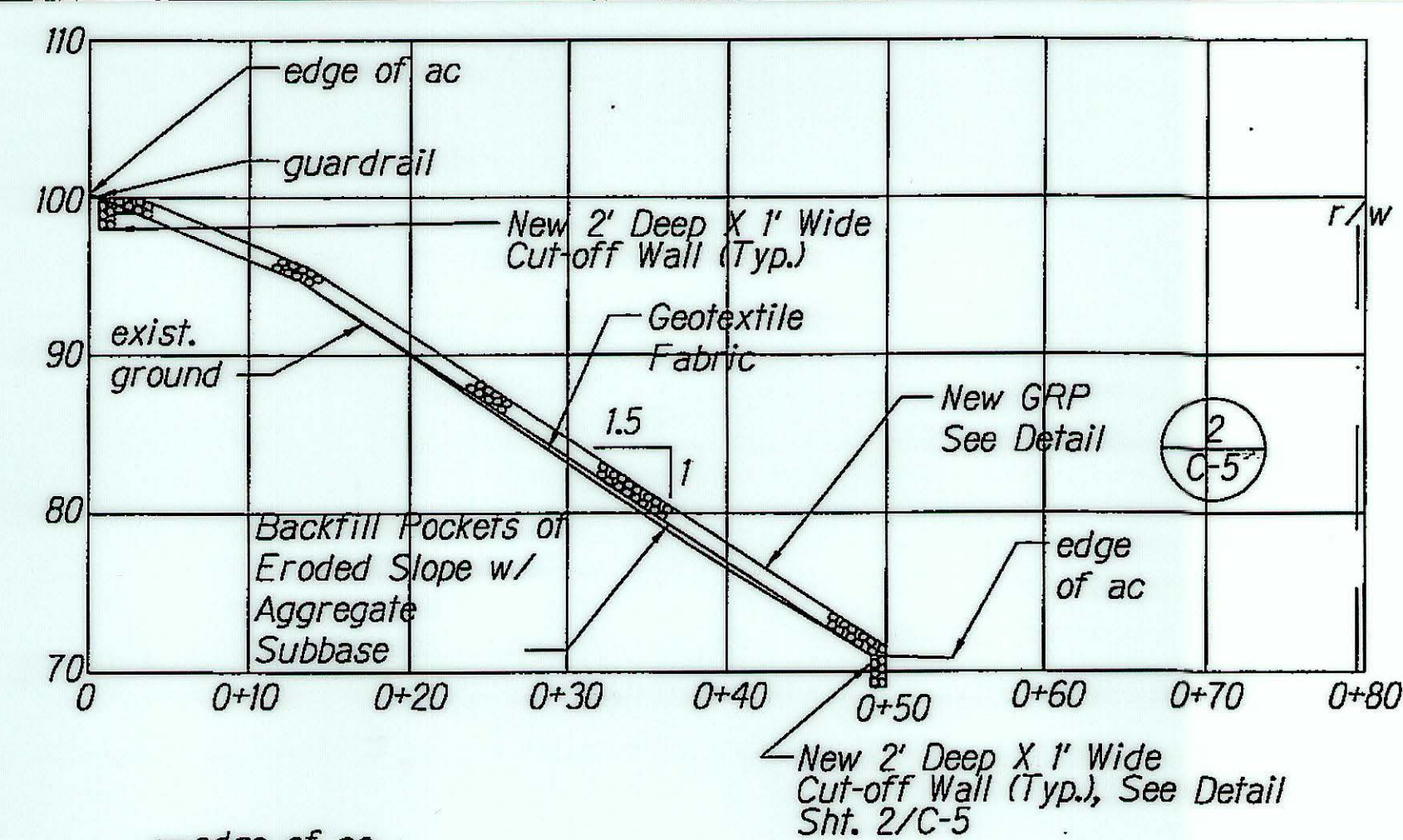




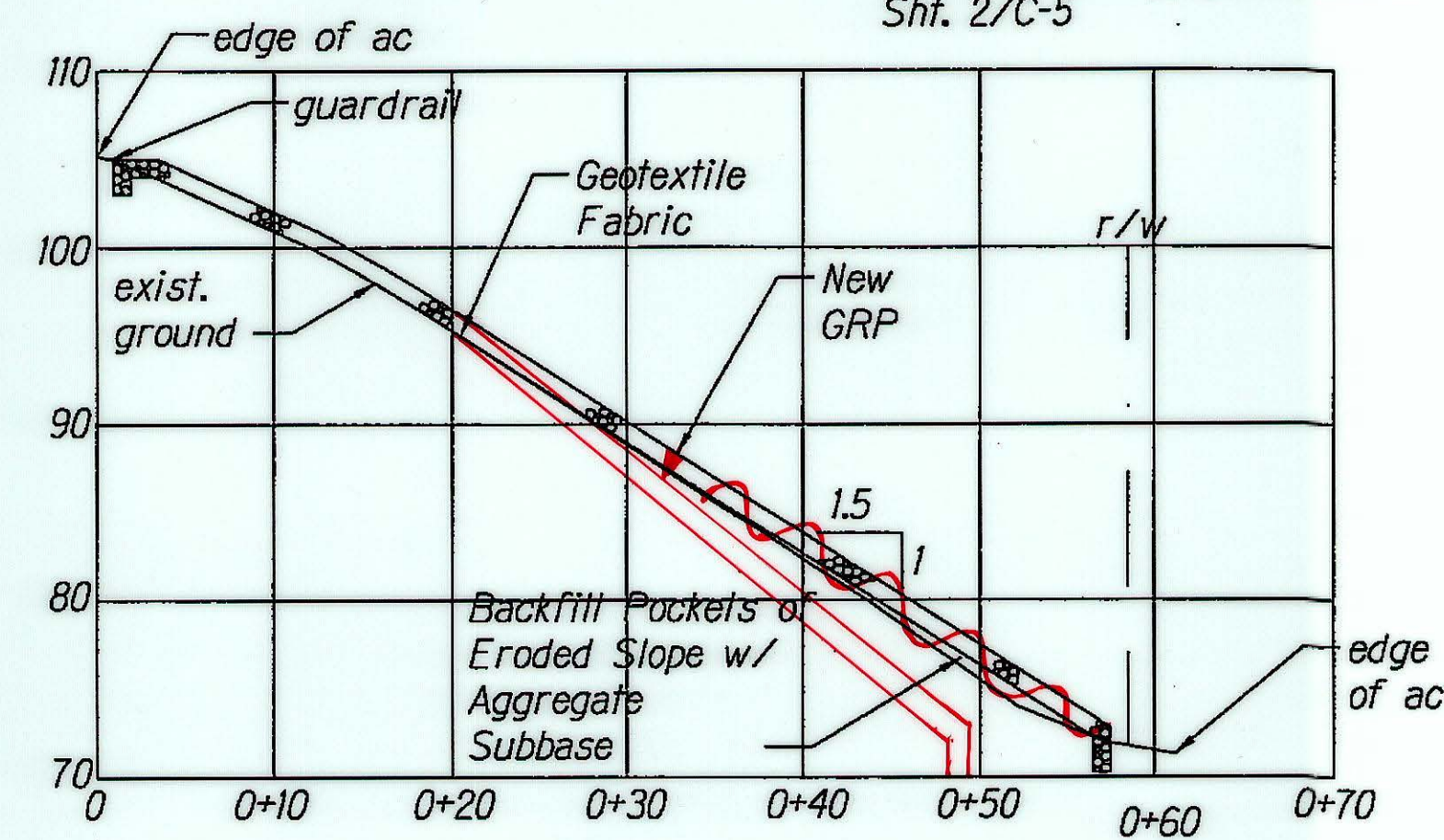


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-15(20)	2010	16	33

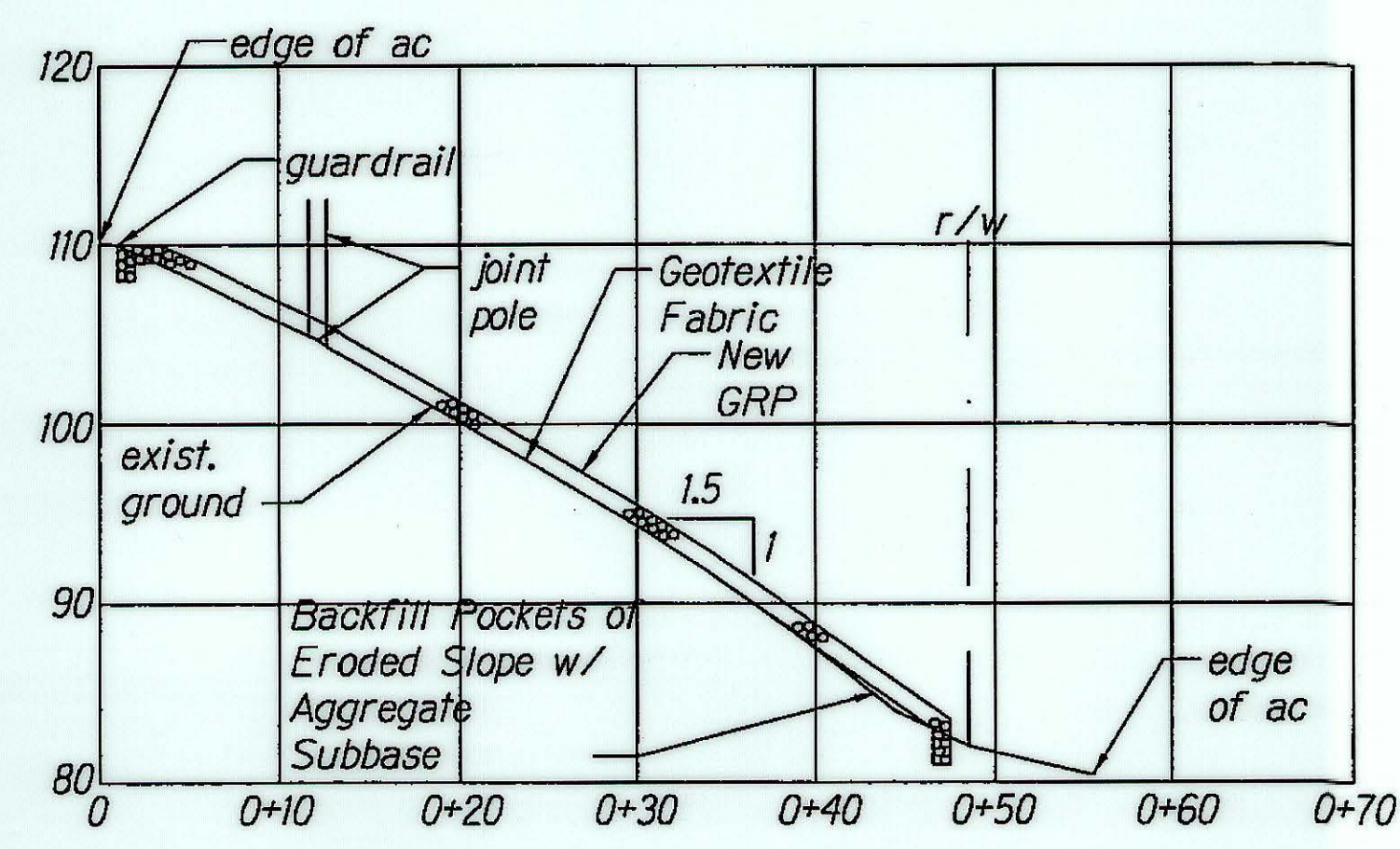
SECTION A-A  
SCALE: 1" = 10'-0"



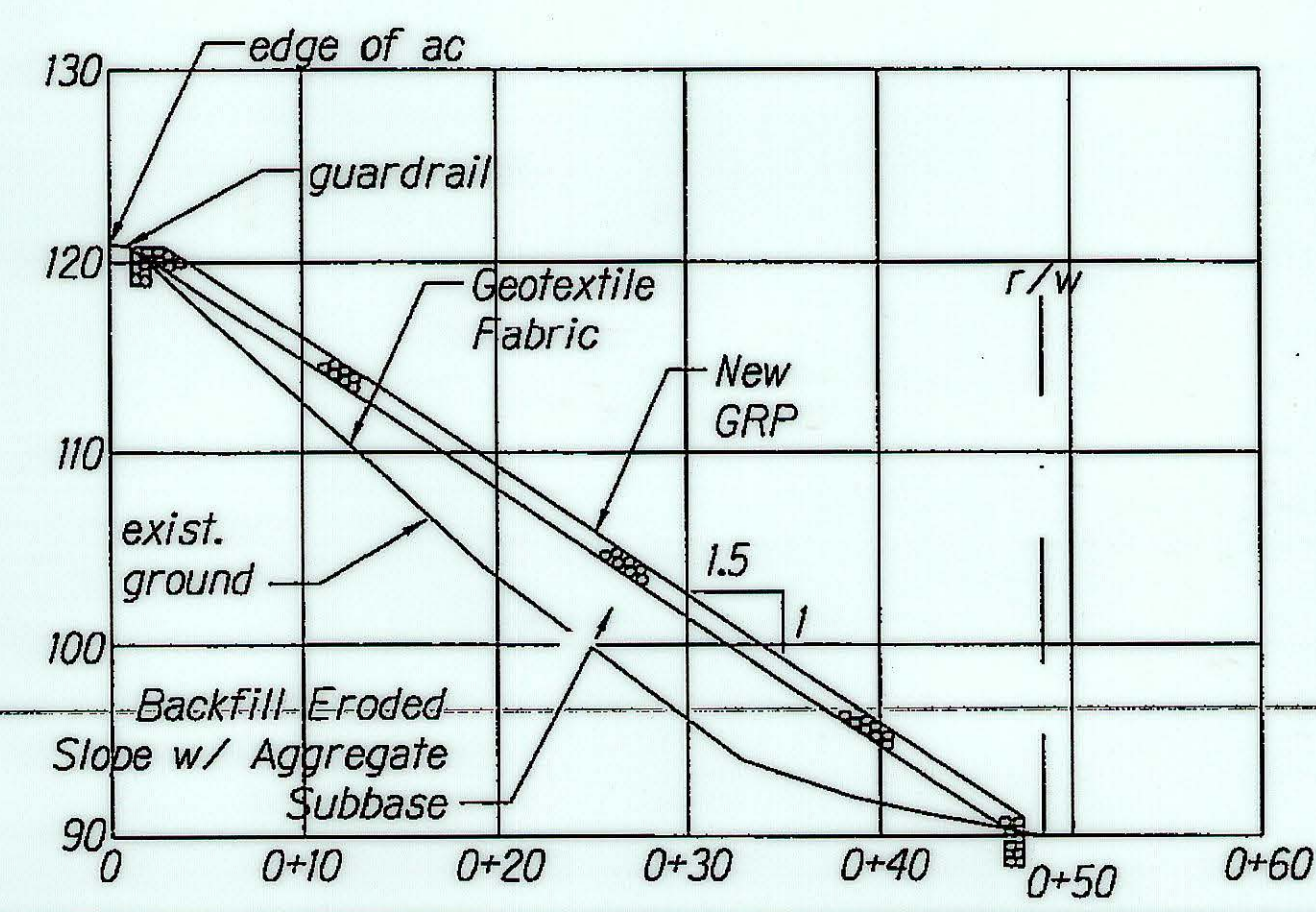
SECTION B-B  
SCALE: 1" = 10'-0"



SECTION C-C  
SCALE: 1" = 10'-0"



SECTION D-D  
SCALE: 1" = 10'-0"



# KUAKINI HIGHWAY, ROUTE 11, MP 114.1

## NOTES:

1. Remove all trees and vegetation. Trees and brush shall be chipped and disposed of as directed by the Engineer.
2. All loose boulders, cobbles, organics, and soft/yielding materials shall be removed to expose firm foundation bed. Reposition loose boulders and cobbles into existing slope or retain for use in bedding layer/GRP as appropriate, to produce the planned slope.
3. The Contractor may fill all voids that are deeper than 6" with uniformly graded aggregate smaller than 6", up to 6" below bottom of GRP.
4. Place geotextile fabric on firm foundation bed/surface. See Spec Section 716.03 for geotextile fabric.
5. Backfill pockets or eroded slope with aggregate subbase (See Spec Section 703.17) to form bed for the GRP. The pockets for the GRP bed shall be backfilled in 6" thick maximum loose lifts and compacted with hand tampers or small mechanical equipment acceptable to the Engineer. When approved by the Engineer, the Contractor may use CLSM to fill pockets in lieu of compacted aggregate subbase at no additional cost to the State.
6. Construct Grouted Rubble Paving (GRP). See Spec and Special Provision for Section 612.



This work was prepared by me or under my supervision and construction of this project will be under my observation.

signature *Marshall Lew* expiration date 4/30/12 of the license

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

SECTIONS FOR MP 114.1  
EMERGENCY EARTHQUAKE  
ROCKFALL REPAIRS  
VARIOUS LOCATIONS ON HAWAII, UNIT 2  
FEDERAL AID PROJECT NO. ER-15(20)  
Scale: AS NOTED Date: NOVEMBER 2010

SHEET No. C-14 OF 33 SHEETS

"AS-BUILT"