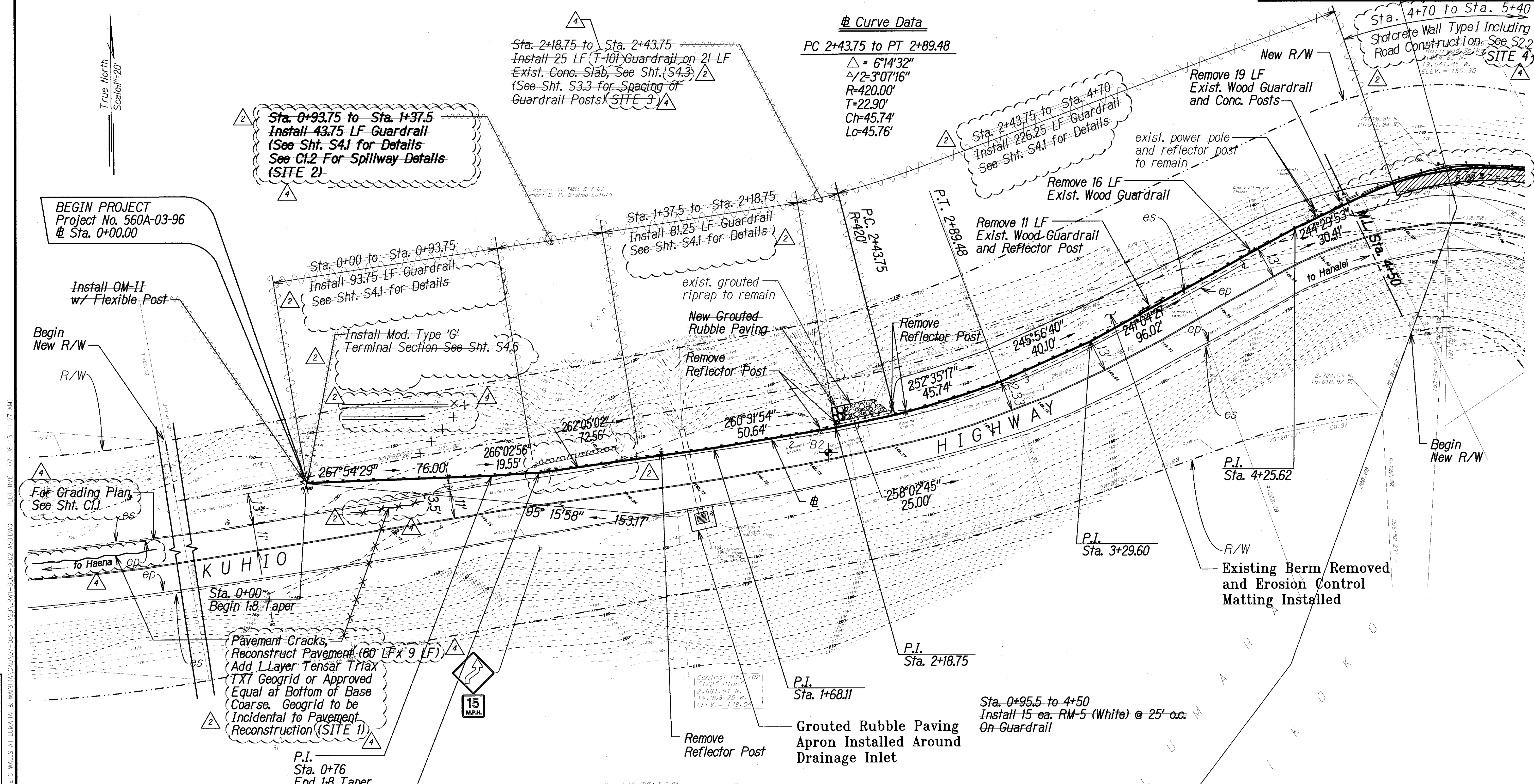


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-03-96	2009	C.O. 6	27



BEGIN PROJECT
Project No. 560A-03-96
@ Sta. 0+00.00

Curve Data
PC 2+43.75 to PT 2+89.48
Δ = 6°14'32"
Δ/2 = 3°07'16"
R = 420.00'
T = 22.90'
Ch = 45.74'
Lc = 45.76'

Sta. 0+93.75 to Sta. 1+37.5
Install 43.75 LF Guardrail
(See Sht. S4J for Details)
See C1.2 For Spillway Details
(SITE 2)

Sta. 0+00 to Sta. 0+93.75
Install 93.75 LF Guardrail
See Sht. S4J for Details

Install Mod. Type 'G'
Terminal Section See Sht. S4.5

Sta. 1+37.5 to Sta. 2+18.75
Install 81.25 LF Guardrail
(See Sht. S4J for Details)

Sta. 2+43.75 to Sta. 4+70
Install 226.25 LF Guardrail
See Sht. S4J for Details

Remove 16 LF
Exist. Wood Guardrail

Remove 11 LF
Exist. Wood Guardrail
and Reflector Post

Remove 19 LF
Exist. Wood Guardrail
and Conc. Posts

Sta. 4+70 to Sta. 5+40
Shoreline Wall Type I Including
Road Construction See S2.2
(SITE 4)

For Grading Plan
See Sht. C1.1

Sta. 0+00
Begin 1:8 Taper

Pavement Cracks,
Reconstruct Pavement (60 LF x 9 LF)
Add 1 Layer Tensar Triax
TX7 Geogrid or Approved
Equal at Bottom of Base
Coarse. Geogrid to be
Incidental to Pavement
Reconstruction (SITE 1)

P.I.
Sta. 0+76
End 1:8 Taper
Begin 1:13 Taper

P.I.
Sta. 0+95.5
End 1:13 Taper

Remove
Reflector Post

P.I.
Sta. 1+68.11

Grouted Rubble Paving
Apron Installed Around
Drainage Inlet

P.I.
Sta. 2+18.75

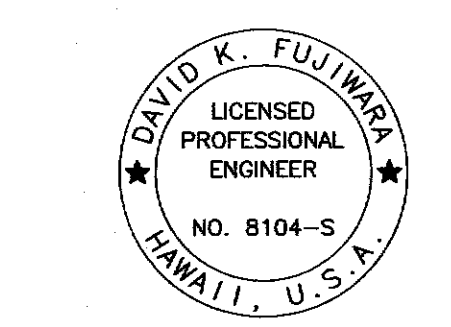
P.I.
Sta. 3+29.60

P.I.
Sta. 4+25.62

Existing Berm Removed
and Erosion Control
Matting Installed

Sta. 0+95.5 to 4+50
Install 15 ea. RM-5 (White) @ 25' o.c.
On Guardrail

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
	Text for as-built posting



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
David K. Fujiwara
KSF, INC.
APR 30, 2012
LIC. EXP. DATE

DATE	REVISION
5/16/11	4 Pavement Reconstruction Locations and Clarifications
4/15/11	2 Clarification

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ROADWAY PLAN
KUHIO HIGHWAY
Retaining Walls At Lumahai And Wainiha
Project No. 560A-03-96
Scale: As Shown Date: June 15, 2011
SHEET No. 501 OF 2 SHEETS

"AS-BUILT"

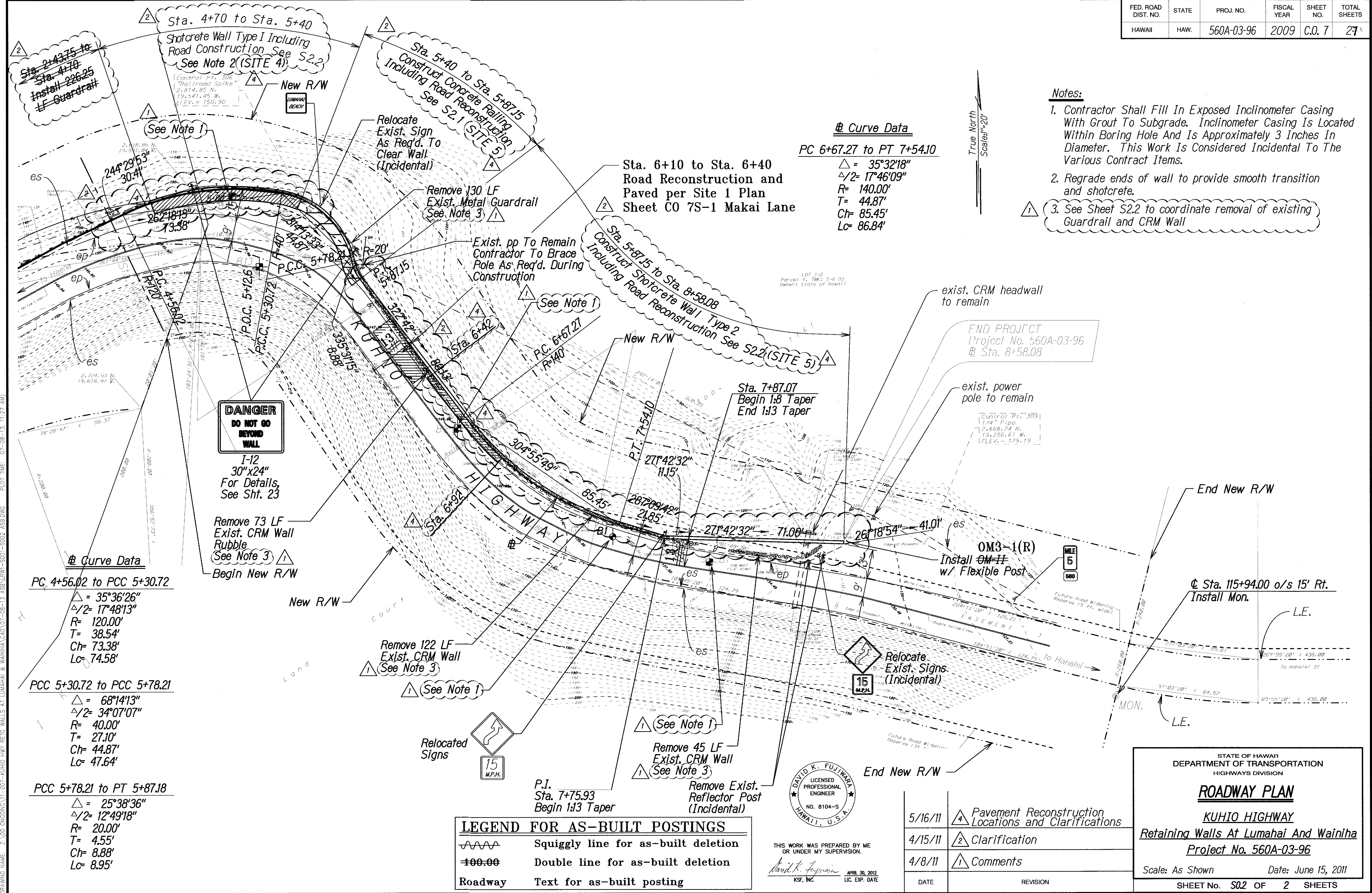
C.O. 6

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
QUANTITIES BY	
NO.	

DRAWING NAME: 2.00 ONCONC-11-007-KUHIO HWY RETG WALLS AT LUMAHAI & WAINIHA CAD 07-08-13 ASD (LHW-5001-5002) ASD/DWG. PLOT TIME: 07-08-13 11:27 AM

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-03-96	2009	C.O. 7	27

FINAL



- Notes:**
- Contractor Shall Fill In Exposed Inclinator Casing With Grout To Subgrade. Inclinator Casing Is Located Within Boring Hole And Is Approximately 3 Inches In Diameter. This Work Is Considered Incidental To The Various Contract Items.
 - Regrade ends of wall to provide smooth transition and shotcrete.
 - See Sheet S2.2 to coordinate removal of existing Guardrail and CRM Wall

Curve Data
 PC 6+67.27 to PT 7+54.10
 $\Delta = 35^{\circ}32'18''$
 $\Delta/2 = 17^{\circ}46'09''$
 $R = 140.00'$
 $T = 44.87'$
 $Ch = 85.45'$
 $Lc = 86.84'$

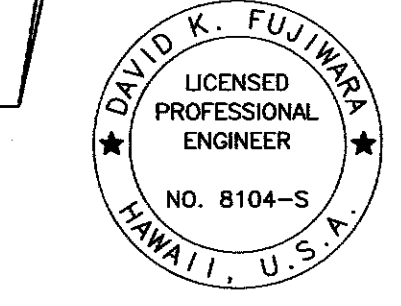
Curve Data
 PC 4+56.02 to PCC 5+30.72
 $\Delta = 35^{\circ}36'26''$
 $\Delta/2 = 17^{\circ}48'13''$
 $R = 120.00'$
 $T = 38.54'$
 $Ch = 73.38'$
 $Lc = 74.58'$

PCC 5+30.72 to PCC 5+78.21
 $\Delta = 68^{\circ}14'13''$
 $\Delta/2 = 34^{\circ}07'07''$
 $R = 40.00'$
 $T = 27.10'$
 $Ch = 44.87'$
 $Lc = 47.64'$

PCC 5+78.21 to PT 5+87.18
 $\Delta = 25^{\circ}38'36''$
 $\Delta/2 = 12^{\circ}49'18''$
 $R = 20.00'$
 $T = 4.55'$
 $Ch = 8.88'$
 $Lc = 8.95'$

LEGEND FOR AS-BUILT POSTINGS

	Squiggly line for as-built deletion
	Double line for as-built deletion
	Text for as-built posting



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 David K. Fujiwara
 KSF, INC.
 APRIL 30, 2012
 LIC. EXP. DATE

DATE	REVISION
5/16/11	4 Pavement Reconstruction Locations and Clarifications
4/15/11	2 Clarification
4/8/11	1 Comments

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

ROADWAY PLAN

KUHIO HIGHWAY
 Retaining Walls At Lumahai And Wainiha
 Project No. 560A-03-96

Scale: As Shown Date: June 15, 2011

SHEET No. 502 OF 2 SHEETS

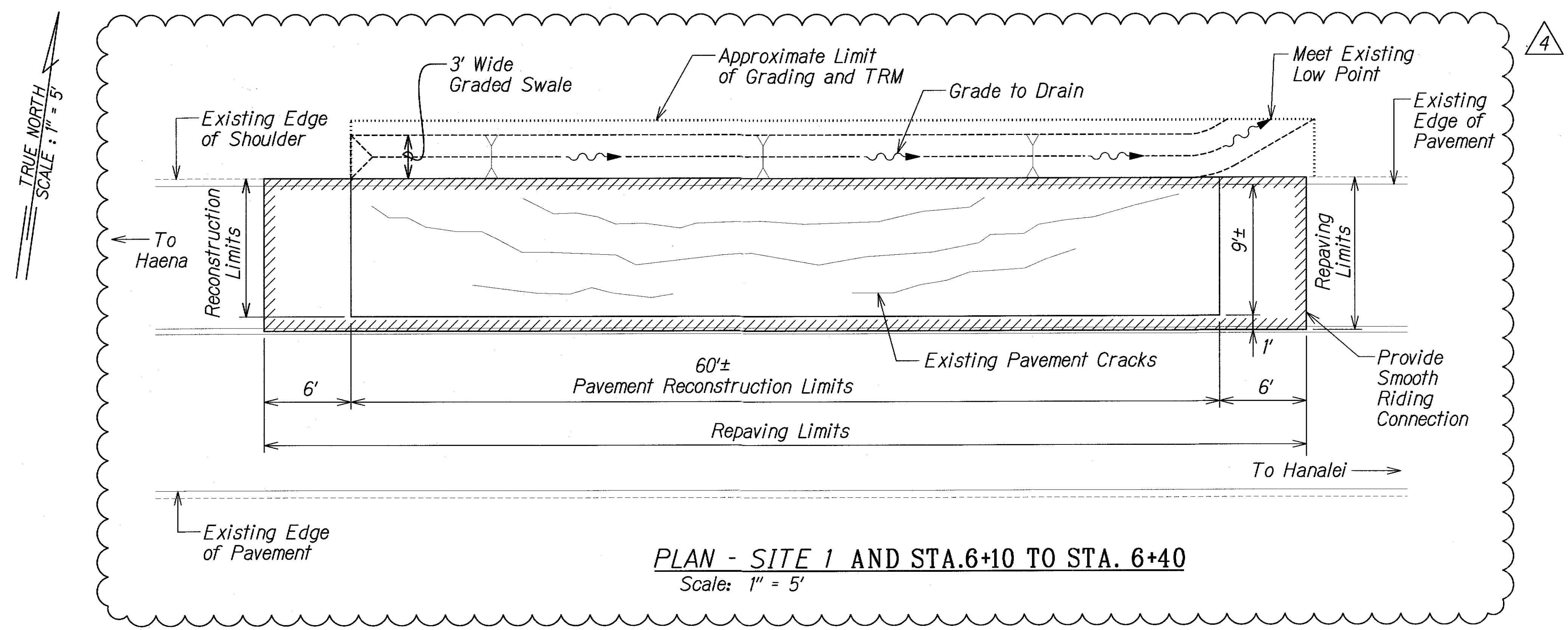
"AS-BUILT"

C.O. 7

SURVEY PLOTTED BY	DATE
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

DRAWING NAME: 2100 ONCONV11-007 KUHIO HWY RETG WALLS AT LUMAHAI & WAINIHA CADD 07-08-13 (S&B) LUM-5001-5002 ASS-DWG PLOT TIME: 07-08-13 11:27 AM

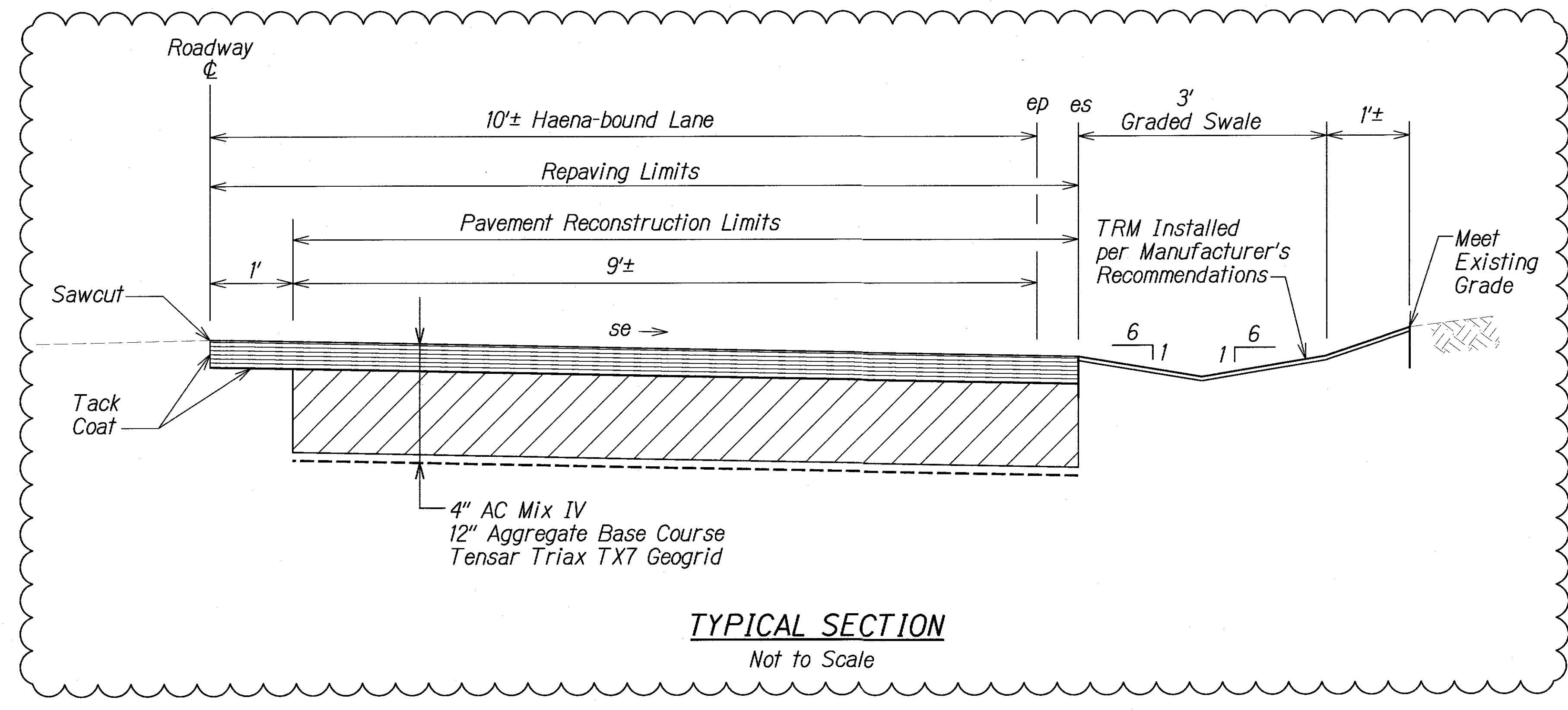
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-03-96	2009	C.O. 7S-1	27



PLAN - SITE 1 AND STA. 6+10 TO STA. 6+40
Scale: 1" = 5'

NOTES:

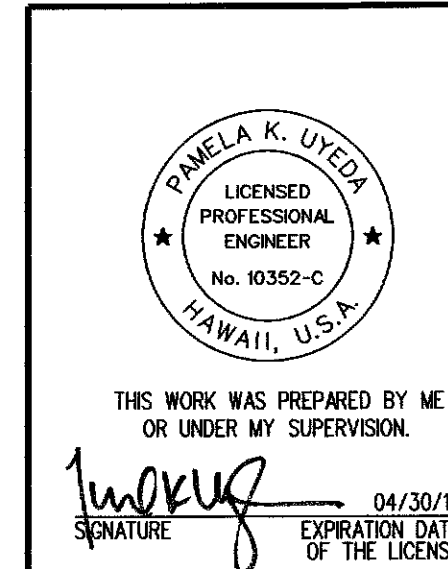
1. Turf Reinforcement Matting (TRM) shall be North American Green VMax³ C350 or equivalent.
2. Contractor shall grass the area underneath the turf reinforcement mat with vegetation matching existing condition prior to installation of the matting. Matting shall be installed within 24 hours of grassing.
3. Placement of turf reinforcement mat shall be per manufacturer's recommendations, including preparation of soil, placement procedures (roll overlaps, roll direction, contact with ground surface, staple/stake patterns, etc.), and anchoring of the ends.
4. Payment for turf reinforcement mat shall be considered incidental to the various paving items.



TYPICAL SECTION
Not to Scale

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
DATE	

JL/LUMAHAI/DRAINAGE/Site1.dgn



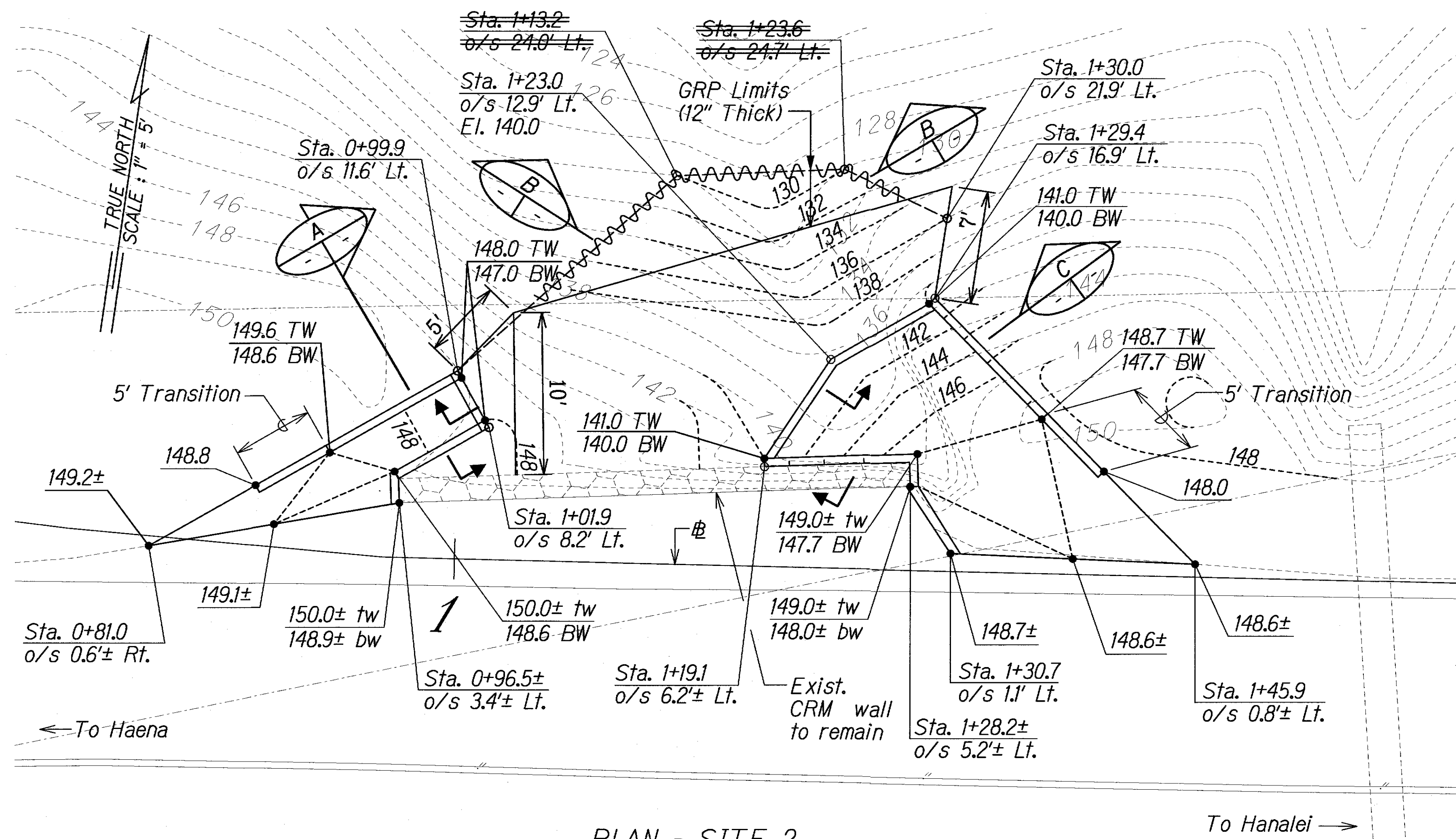
6/15/11	Added Note 4
5/11/11	Revised Location & Details
Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SITE 1 - GRADING PLAN
KUHIO HIGHWAY
Retaining Walls at Lumahai and Wainiha
Project No. 560A-03-96
Scale: As Shown Date: June 15, 2011
SHEET NO. C1J OF 2 SHEETS

"AS-BUILT"

C.O. 7S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-03-96	2009	C.O. 7S-2	27



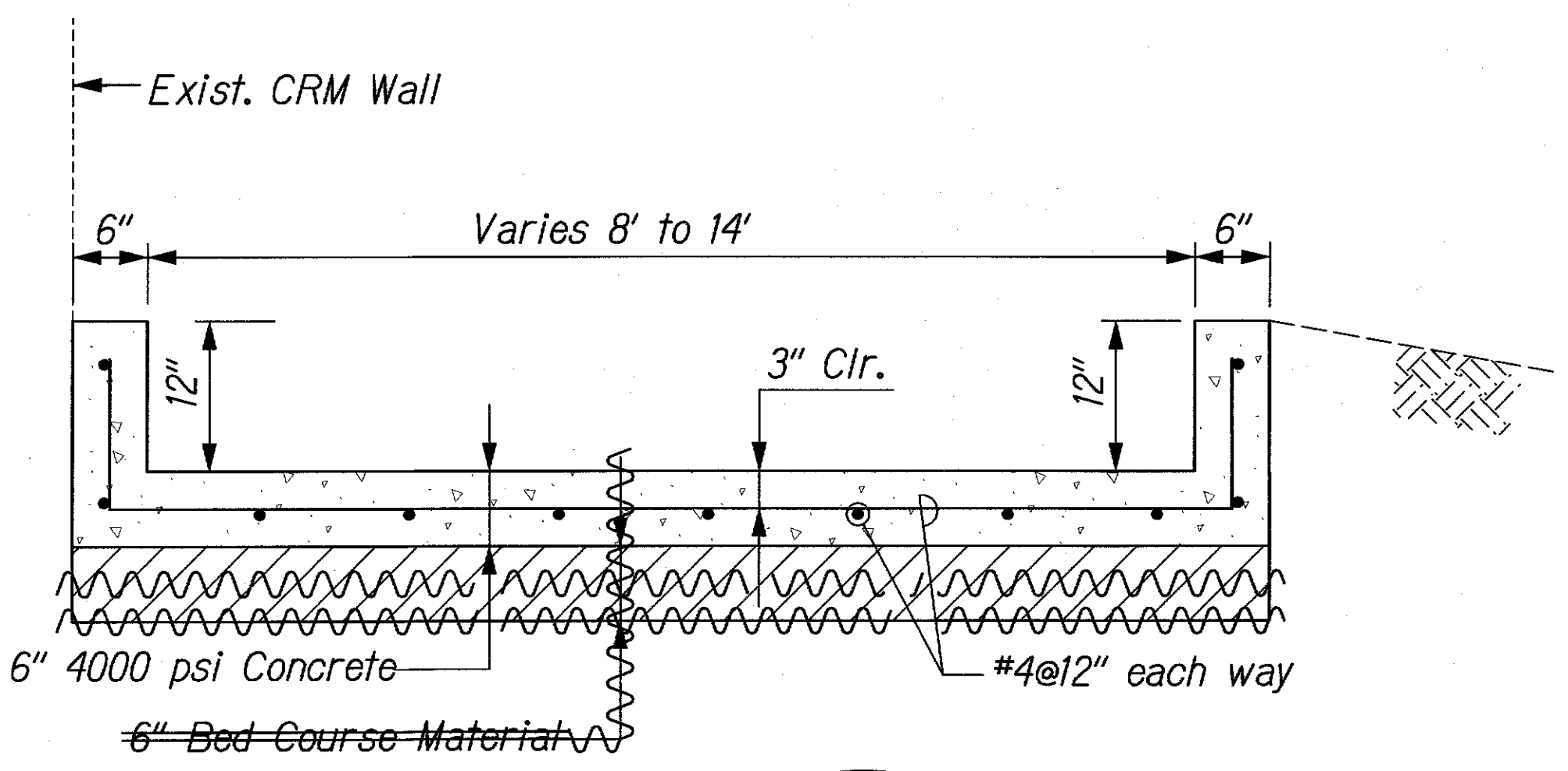
PLAN - SITE 2
Scale: 1" = 5'

LEGEND FOR AS-BUILT POSTINGS

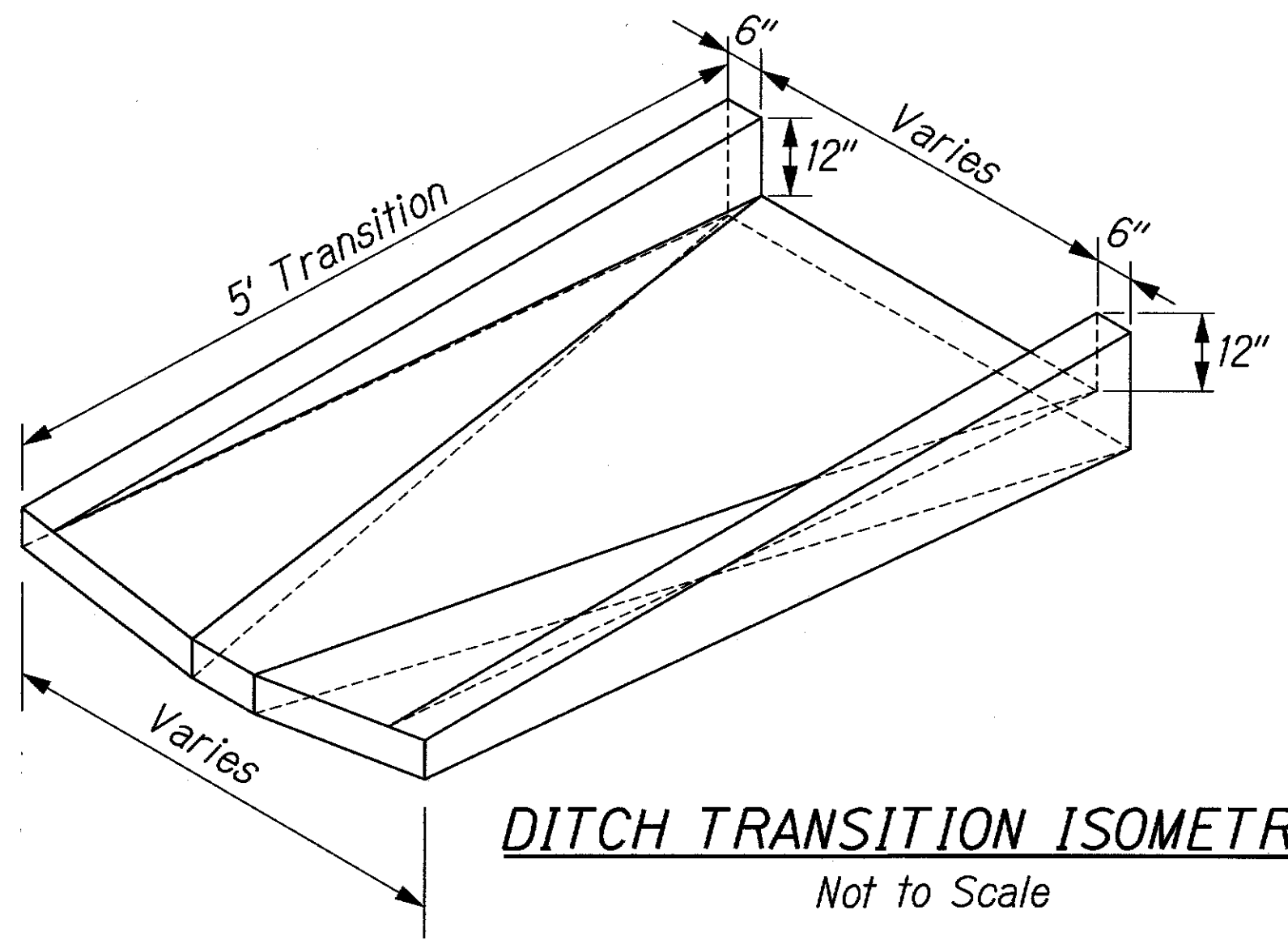
Squiggly line for as-built deletion

Double line for as-built deletion

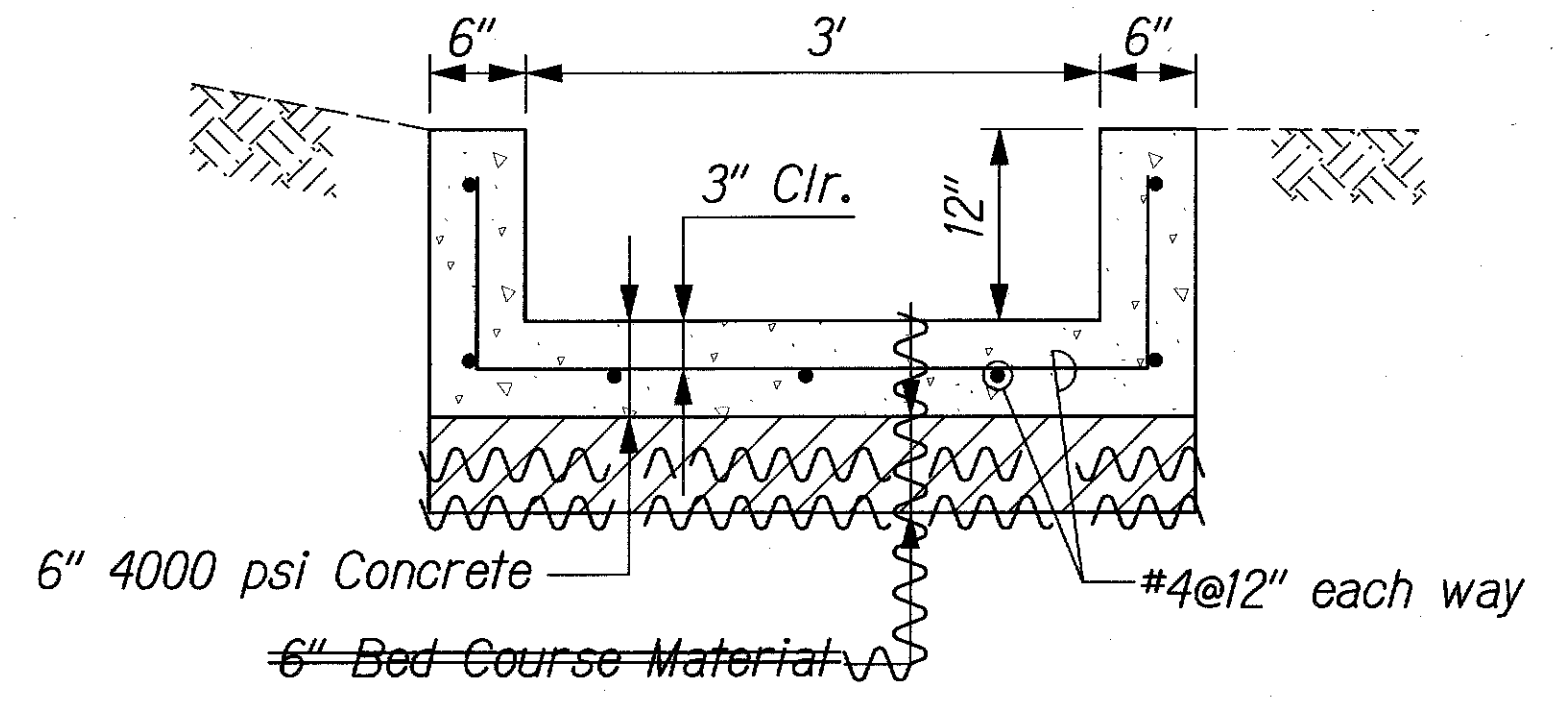
Roadway Text for as-built posting



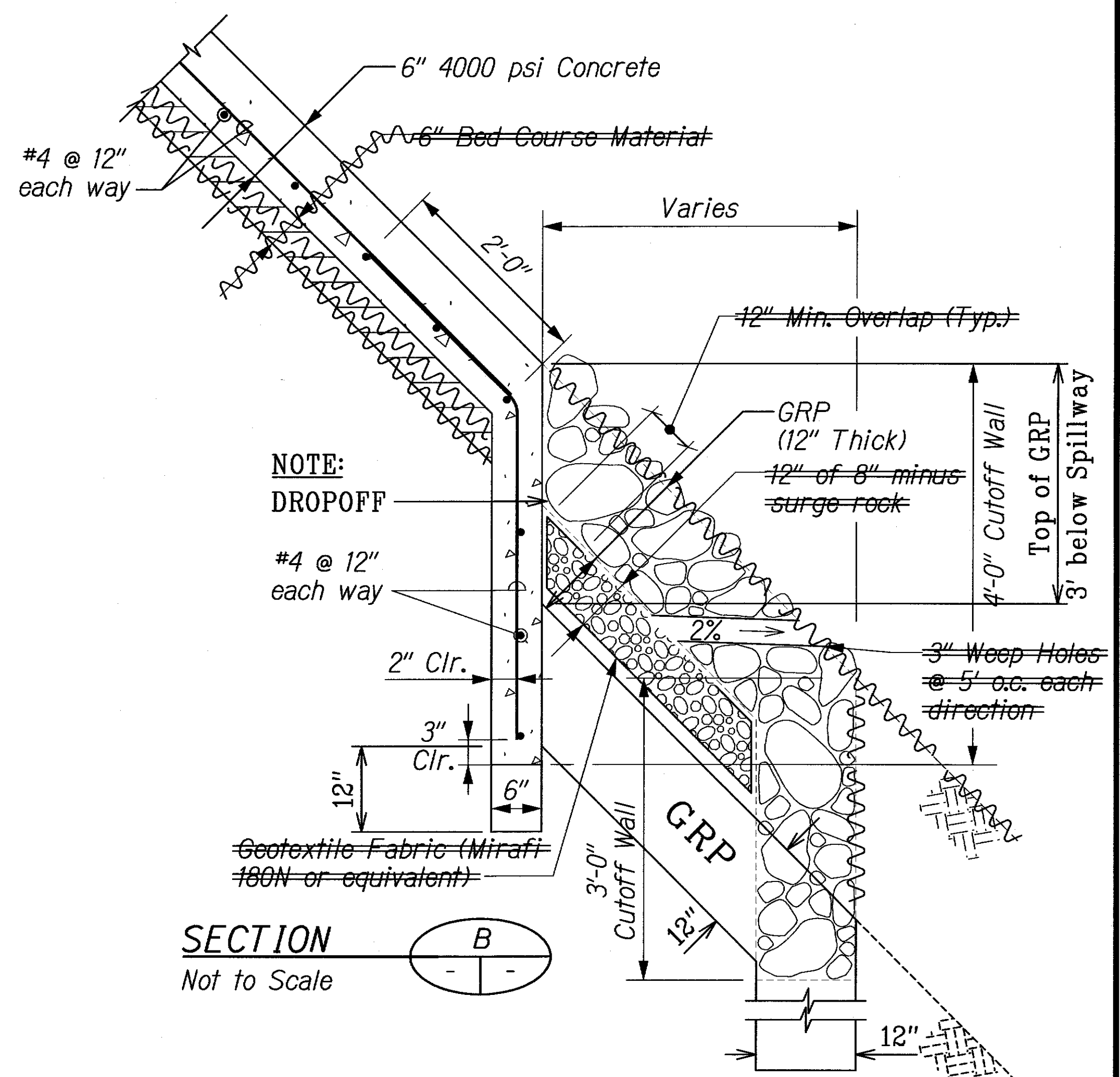
SECTION C
Not to Scale



DITCH TRANSITION ISOMETRIC
Not to Scale



SECTION A
Not to Scale



SECTION B
Not to Scale

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

J:\LUMAHAI\DRAINAGE\SPILLWAY.dgn

"AS-BUILT"

C.O. 7S-2

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: *P. Uyeda* Date: 04/30/12

EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE 2 - DRAINAGE PLAN AND DETAILS
KUHIO HIGHWAY
Retaining Walls at Lumahai and Wainiha
Project No. 560A-03-96
Scale: As Shown Date: June 15, 2011

SHEET No. C12 OF 2 SHEETS