

GRADING NOTES

1.

The Contractor shall remove all silt and debris resulting from his work and deposited in drainage facilities, roadways and other areas. The costs incurred for any necessary remedial action by the Chief Engineer shall be payable by the Contractor.
2.

The Contractor, at his expense, shall keep the project area and surrounding area free of dust nuisance. The work shall be in conformance with the Air Pollution Control Standards and Regulations of the State Department of Health.
3.

All grading operations shall be performed in conformance with the applicable provisions of the Water Pollution Control and Water Quality Standards contained in the Public Health Regulations, State Department of Health, on Water Pollution Control and Water Quality Standards and the County Grading Ordinance.
4.

All slopes and exposed areas shall be sodded or planted immediately after grading work has been completed. Contractor shall grass and maintain all exposed slopes such that 60% coverage will be achieved within 30 days and 95% coverage will be achieved within 60 days after planting.
5.

Fills on slopes steeper than 5:1 shall be keyed.
6.

Construction debris and wastes shall be deposited at an appropriate site. The Contractor shall inform the Engineer of the location of disposal sites. The disposal site must also fulfill the requirements of the Grading Ordinance.
7.

The Contractor shall provide dust control and sprinklers and/or water-wagons as necessary, weekends and holidays included. All graded areas shall be thoroughly watered after construction activity has ceased for the day and for the weekend.
8.

All exposed slopes shall be protected with temporary diversions, berms, and swales at the top of the slopes.
9.

Existing topographic information is from a February 2011 survey map prepared by R.T. Tanaka Engineers, Inc. The Contractor should examine the site and take whatever measures necessary to verify conditions existing in the field.
10.

Earthwork quantities shown are approximate and are to be used for obtaining a grading permit only. No adjustments have been made for losses due to grubbing and shrinkage nor for differing topographic conditions. The Contractor shall verify existing field conditions and prepare his own estimate and bid accordingly.
11.

The Contractor shall perform all grading in conformance with the requirements specified in the Maui County Grading Ordinance and this project's specifications.
12.

Approximate quantities:

Area to be graded: 37.7 - Acres

Roadway Excavation: 67,100 - CY.

Detention Basin Excavation: 52,400 - CY.

DEMOLITION NOTES

1.

Underground utilities (sewer, water, siphons, drainage, electrical, etc.) as shown are for information only and were gathered from available plans within the project area. Therefore, the location and/or depth of these utilities are approximate and are not guaranteed by the Consultants nor by the State of Hawaii. The Contractor shall be responsible to determine the location of these utilities and shall see to it that his workmen or operators shall be apprised of the utilities existence and location.
2.

Contractor shall coordinate with utility companies or appropriate authorities for the removal and relocation of existing utilities in order that these works may proceed in a reasonable manner and will not delay the progress of the clearing, grubbing, and grading operations.
3.

Any interruption of existing services shall be approved by the Director. Abandonment of existing utility lines and appurtenances shall be done only after the new utility systems are operational and accepted by the responsible agencies.
4.

The Contractor shall contact the owners of the various utilities prior to the start of clearing and grubbing to coordinate the work to be done by the utility's own forces as well as to obtain from them any information pertaining to existing utilities that will either supplement the information shown on the plans or will correct any such information that may be in error.
5.

Existing pipes to be abandoned shall be securely sealed with tight-fitting plug or a wall of Class "B" concrete not less than 6" thick.
6.

All abandoned pipes under the new pavement and graded areas that are within 36 inches of the finished grade shall be removed.
7.

All structures (concrete headwalls, etc.) to be removed shall be disposed of off-site to approved County dumpsite or to location designated by the District Engineer. Cost of disposal, including County dumpsite fees, shall be incidental to clearing and grubbing.
8.

All existing improvements, utilities, traffic signs and landscaping that are to be removed, abandoned and/or relocated are shown on the various construction plans. Removal of all existing improvements, utilities, traffic signs and landscaping shall be considered incidental to various contract items.
9.

The cost of pavement removal under new pavements, grassed islands, and medians shall be incidental to the various contract items.

PUBLIC HEALTH, SAFETY AND CONVENIENCE

1.

The Contractor shall observe and comply with all Federal, State and local laws required for the protection of public health and safety and environmental quality.
2.

The Contractor, at his own expense, shall keep the project and its surrounding areas free from dust nuisance. The work shall be in conformance with the air pollution standards and regulations of the State Department of Health.
3.

The Contractor shall be responsible for the cleaning and removal of all silt and debris generated by his work and deposited and accumulated within downstream waterways, ditches and drain pipes and on public and private roadways. The Contractor agrees to reimburse the State the costs expended in performance of the above work if required for public health and safety, or made necessary by non-performance by the Contractor.
4.

The Contractor shall submit a noise pollution control plan when applying for a construction permit.

REQUIREMENTS OF STATE HISTORIC PRESERVATION DIVISION

1.

Should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentration of charcoal or shells are encountered during construction work, work shall cease in the immediate vicinity of the find and the find shall be protected from further damage. The Contractor shall immediately contact the State Historic Preservation Division (243-5169), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary.

ORIGINAL PLAN

NO.

SURVEY PLOTTED BY

DATE

DRAWN BY

DESIGNED BY

QUANTITIES BY

CHECKED BY

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\1-TITLE SHT & NOTES\T-7.DWG PLOT TIME: 04-08-13, 11:45 AM

4-1-13	Revised Quantities, Grading Notes #12
DATE	REVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

CONSTRUCTION NOTES

KAHULUI AIRPORT

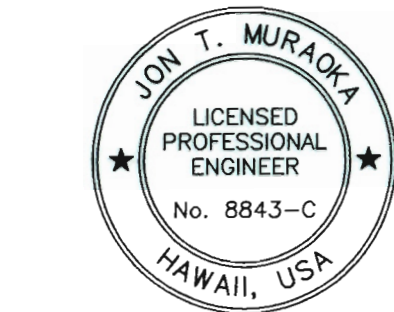
ACCESS ROAD, PHASE I

Federal Aid Project No. NH-0380(10)

Scale: None

Date: February 2013

SHEET No. T-7 OF 13 SHEETS



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FURUNAGA & ASSOCIATES, INC.

LIC. EXP. DATE

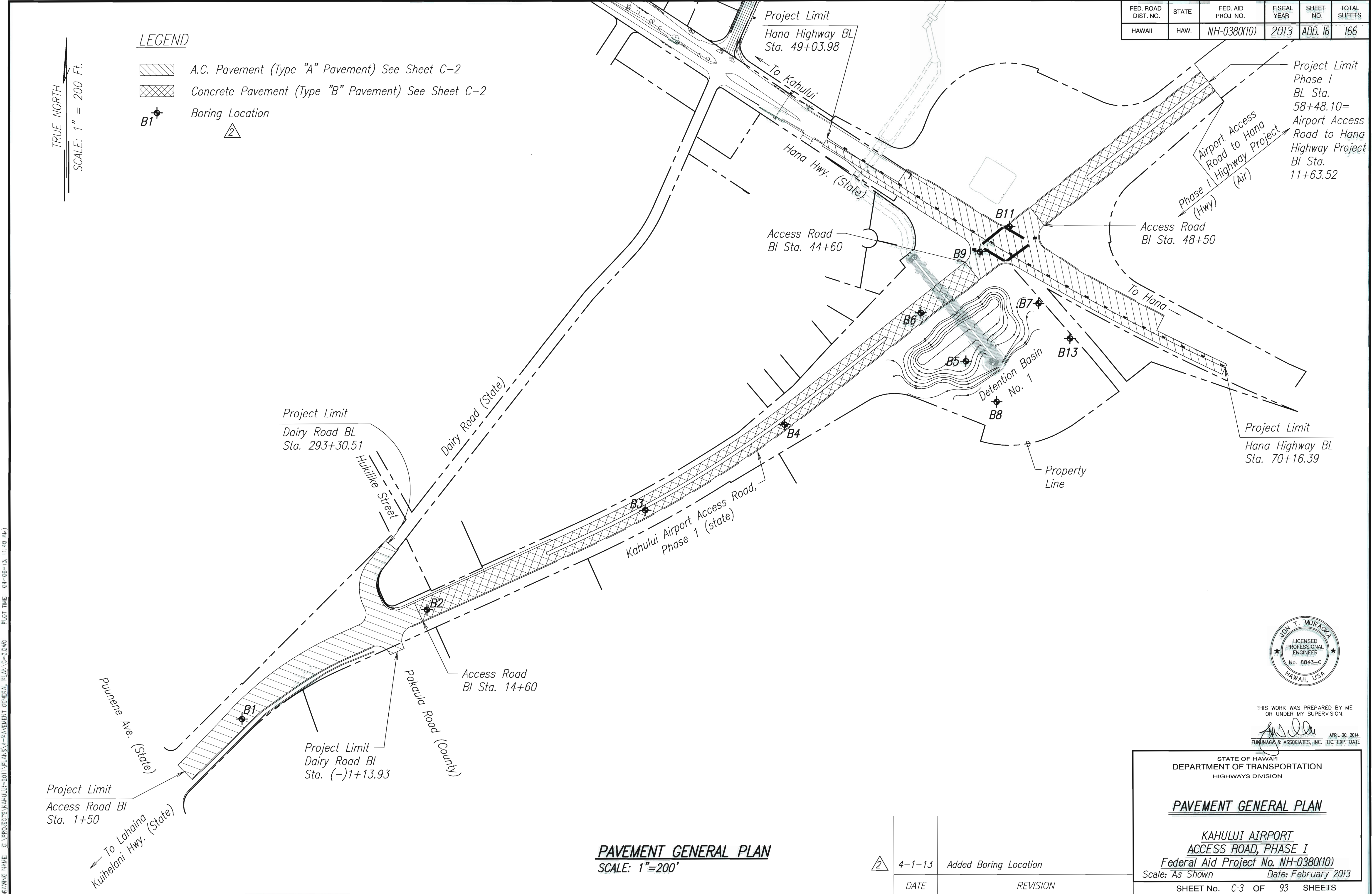
APRIL 30, 2014

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 16	166

LEGEND

- A.C. Pavement (Type "A" Pavement) See Sheet C-2
- Concrete Pavement (Type "B" Pavement) See Sheet C-2
- Boring Location

TRUE NORTH
SCALE: 1" = 200 Ft.



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\4-PAVEMENT GENERAL PLAN.DWG PLOT TIME: 04-08-13 11:48 AM

PAVEMENT GENERAL PLAN
SCALE: 1"=200'

4-1-13	Added Boring Location
DATE	REVISION



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APRIL 30, 2014
FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE

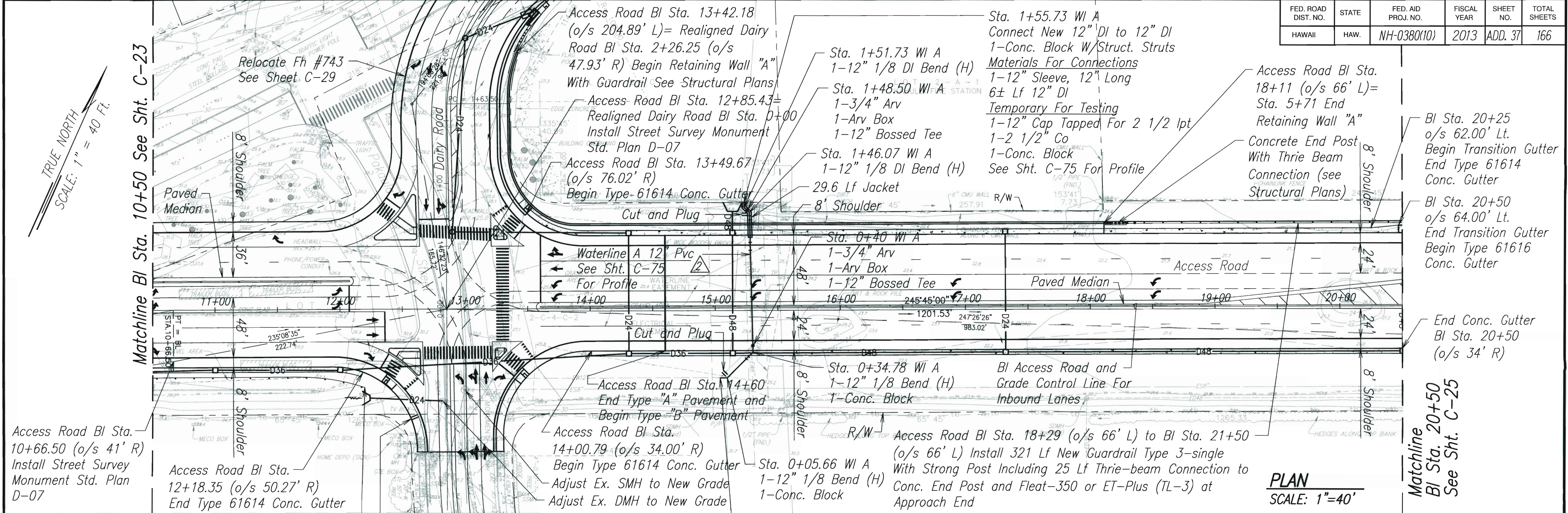
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GENERAL PLAN

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

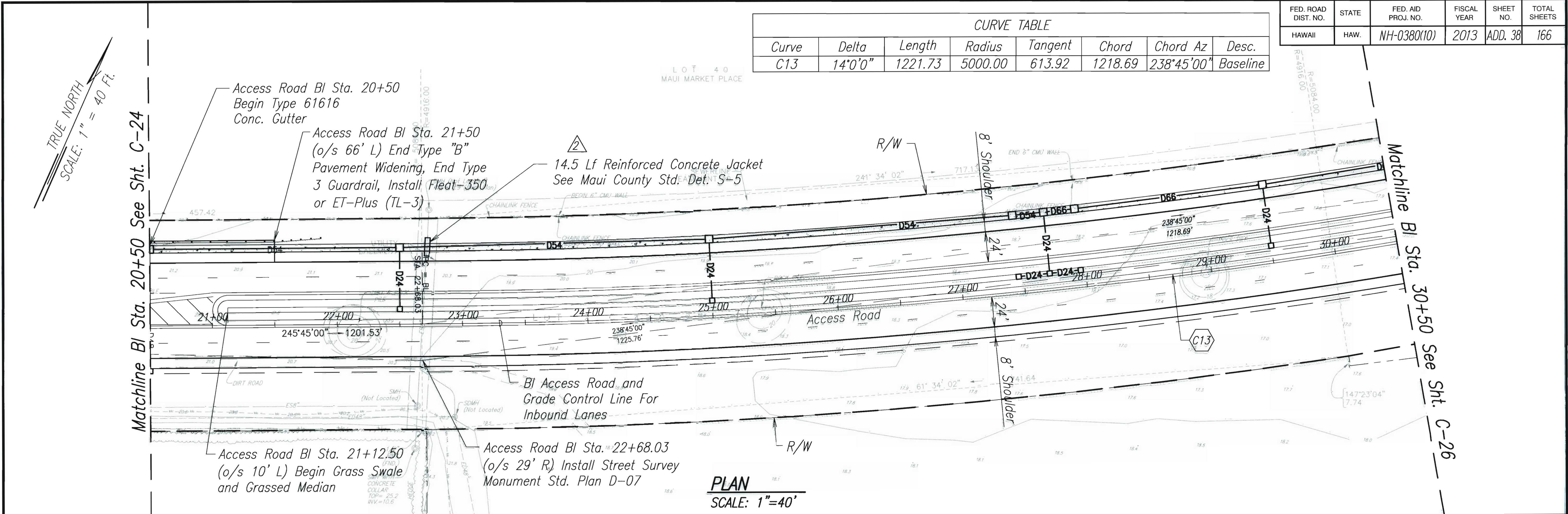
SHEET No. C-3 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 37	166

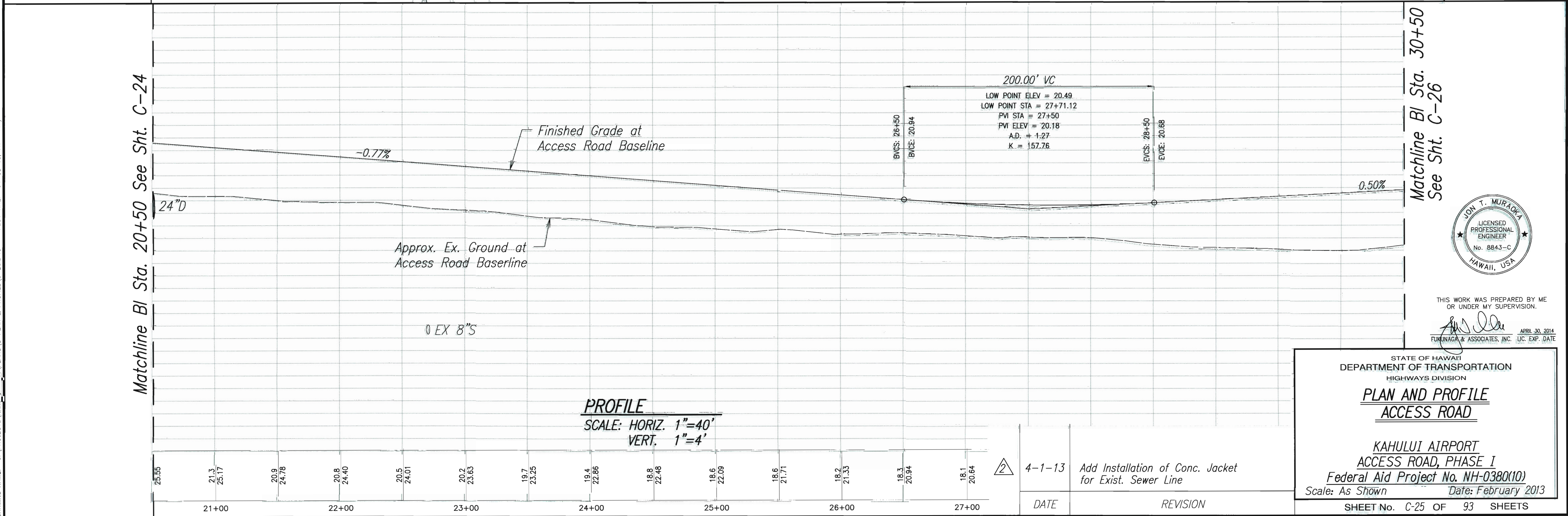


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 38	166

CURVE TABLE						
Curve	Delta	Length	Radius	Tangent	Chord	Chord Az
C13	14°0'0"	1221.73	5000.00	613.92	1218.69	238°45'00"
Baseline						



PLAN
SCALE: 1"=40'



PROFILE
SCALE: HORIZ. 1"=40'
VERT. 1"=4'

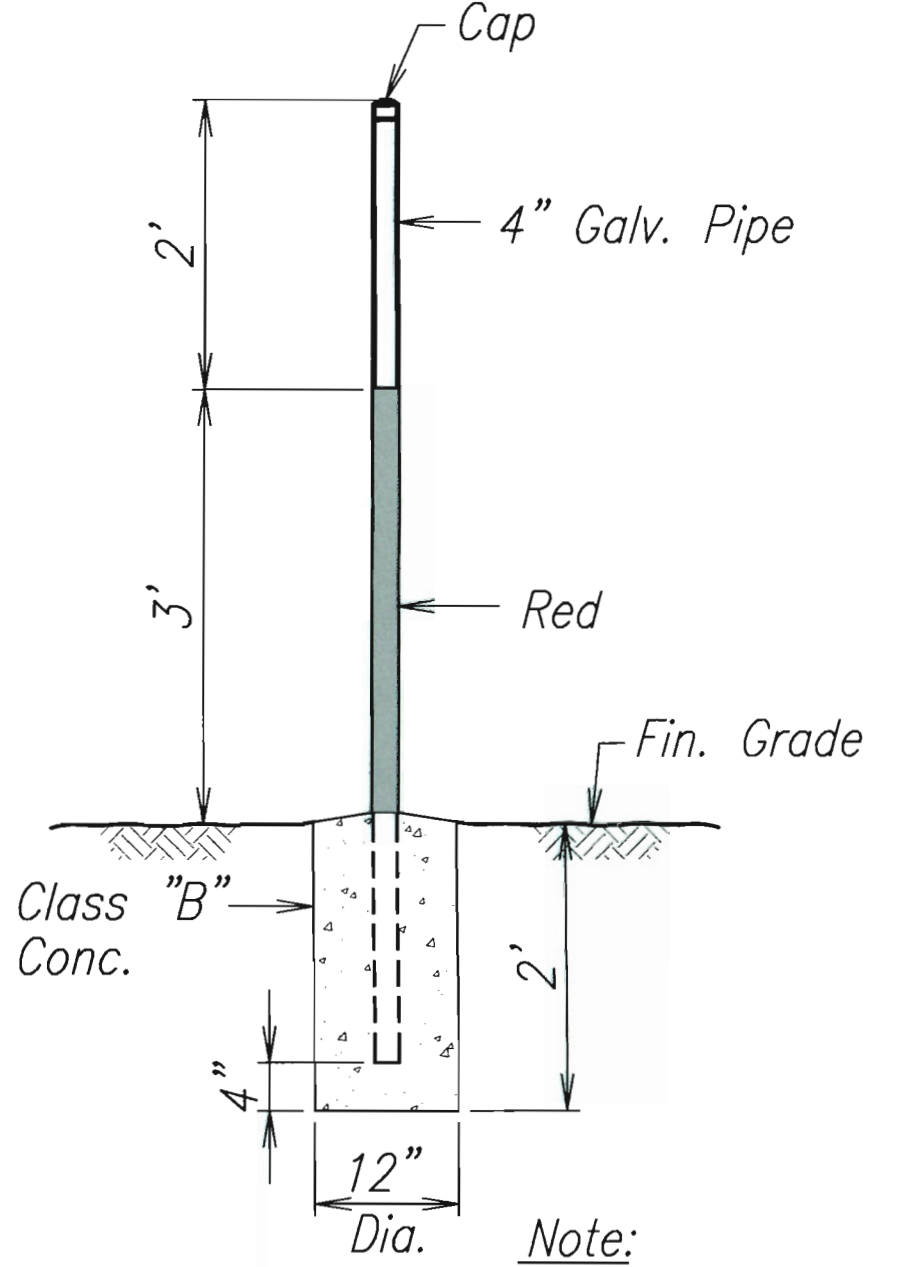
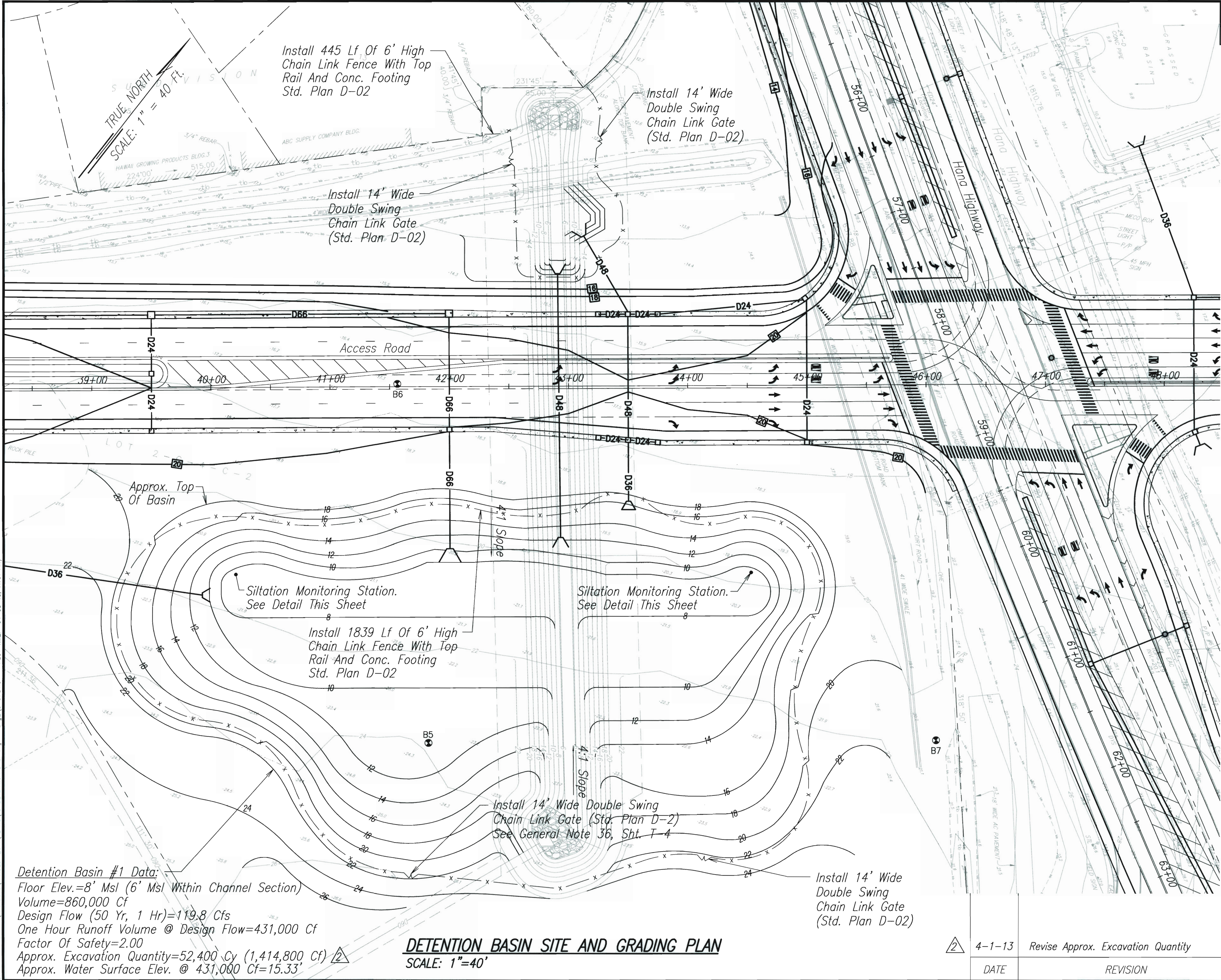


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FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE

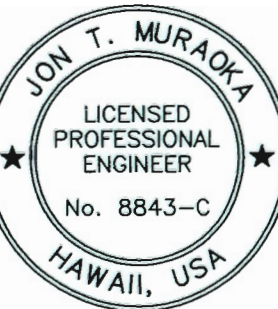
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**PLAN AND PROFILE
ACCESS ROAD**
KAHULUI AIRPORT
ACCESS ROAD, PHASE 1
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. C-25 OF 93 SHEETS

4-1-13	Add Installation of Conc. Jacket for Exist. Sewer Line
DATE	REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 44	166



SILTATION MONITORING STATION
SCALE: 3/4"=1'-0"



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FUKUNAGA & ASSOCIATES, INC. APRIL 30, 2014
LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**DETENTION BASIN
SITE AND GRADING PLAN**

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-31 OF 93 SHEETS

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

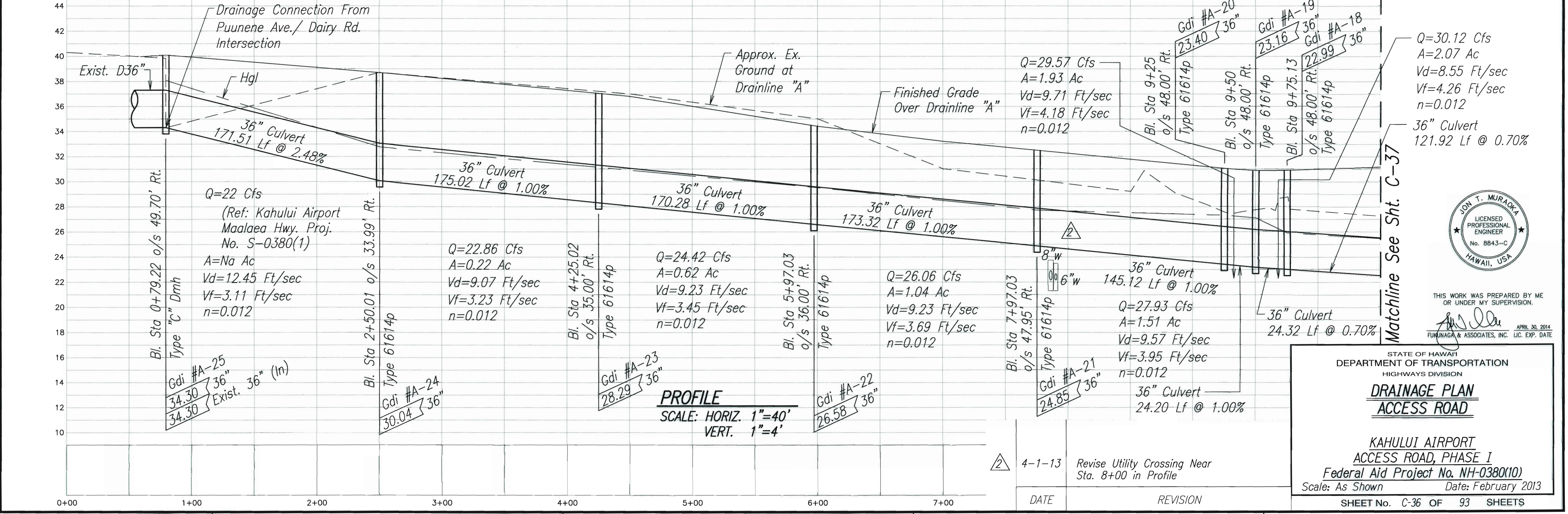
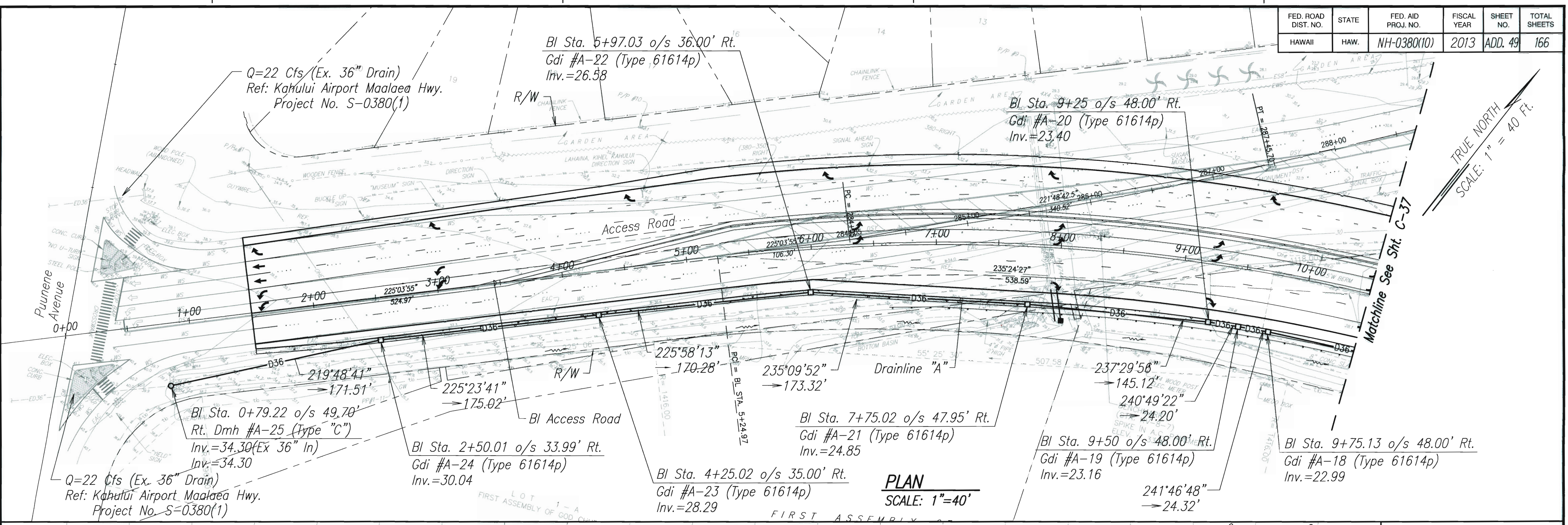
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Detention Basin #1 Data:
Floor Elev.=8' Msl (6' Msl Within Channel Section)
Volume=860,000 Cf
Design Flow (50 Yr, 1 Hr)=119.8 Cfs
One Hour Runoff Volume @ Design Flow=431,000 Cf
Factor Of Safety=2.00
Approx. Excavation Quantity=52,400 Cy (1,414,800 Cf) 2
Approx. Water Surface Elev. @ 431,000 Cf=15.33'

DETENTION BASIN SITE AND GRADING PLAN
SCALE: 1"=40'

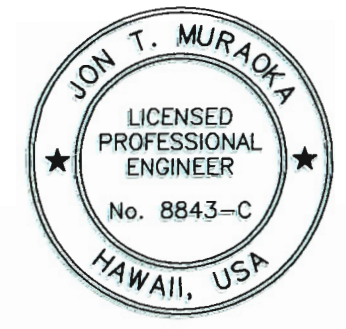
2	4-1-13	Revise Approx. Excavation Quantity
DATE		REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 49	166



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

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\12-DRAINAGE\12-DRAINAGE-C-36.DWG PLOT TIME: 04-08-13 11:37 AM



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APRIL 30, 2014
FUKUNAGA & ASSOCIATES, INC. L.C. EXP. DATE

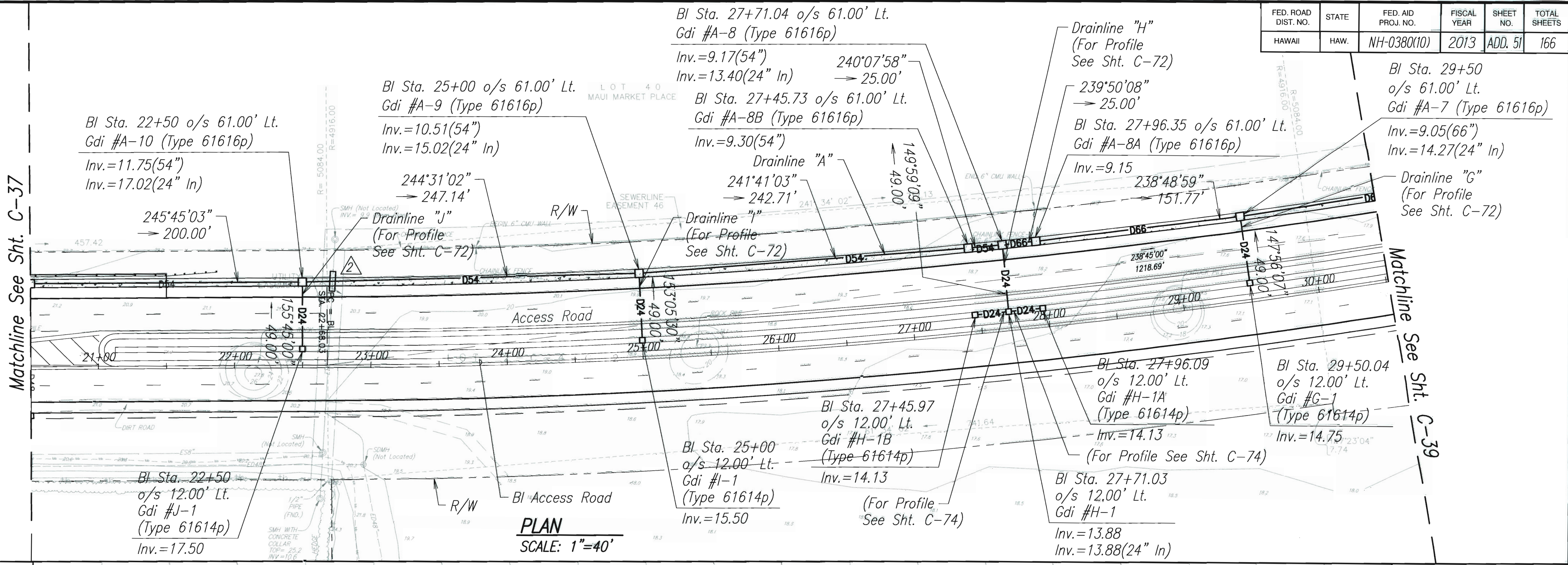
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**DRAINAGE PLAN
ACCESS ROAD**

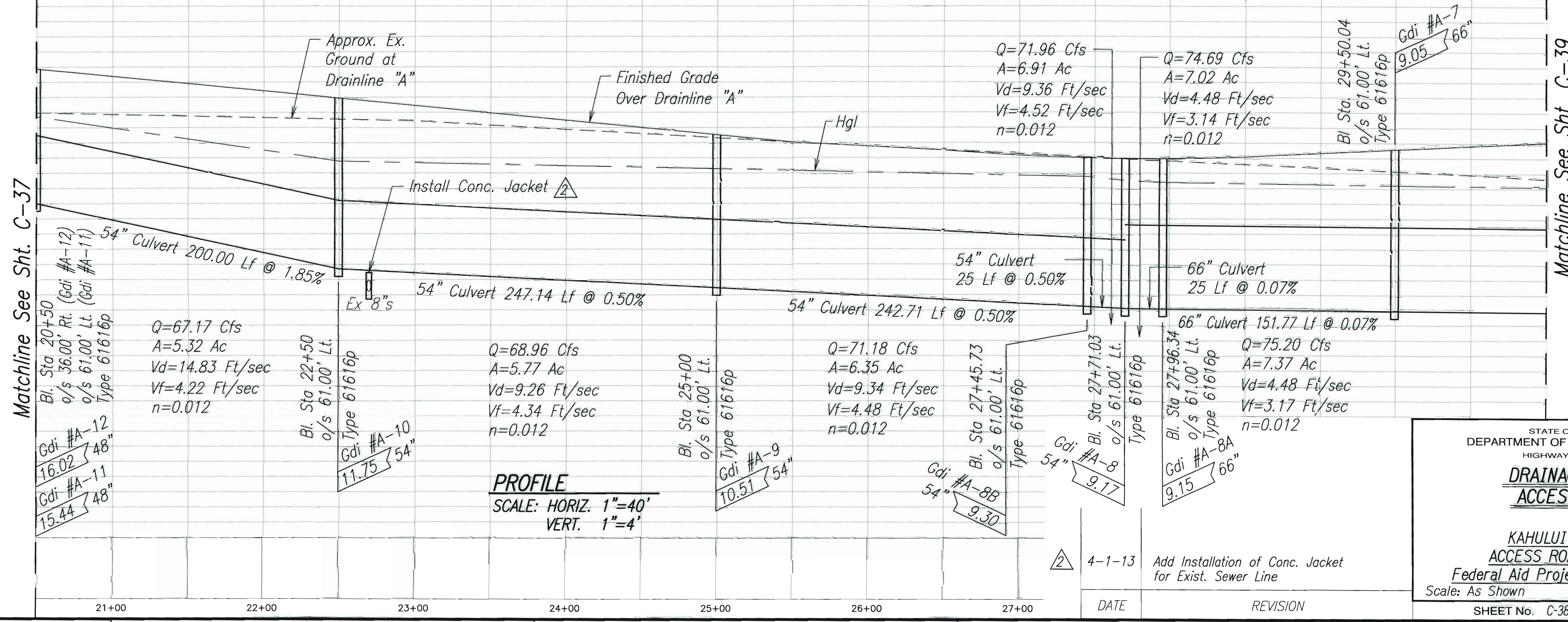
KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-36 OF 93 SHEETS

TRUE NORTH
SCALE: 1" = 40 Ft.



PLAN
SCALE: 1"=40'



PROFILE
SCALE: HORIZ. 1"=40'
VERT. 1"=4'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
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	QUANTITIES BY	
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DRAWING NAME: C:\PROJECTS\KAHULUI\2011\PLANS\12-DRAINAGE\C-38.DWG PLOT TIME: 04-08-13, 11:53 AM



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FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**DRAINAGE PLAN
ACCESS ROAD**

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-38 OF 93 SHEETS

DATE	REVISION
	4-1-13 Add Installation of Conc. Jacket for Exist. Sewer Line

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 58	166

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\13-GRADING\G-45.DWG PLOT TIME: 04-08-13, 11:55 AM

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
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Note:

See Sheet C-70 For Details For Cleanout, Underdrain Connection To GDI, And Underdrain Outlet To Daylight.

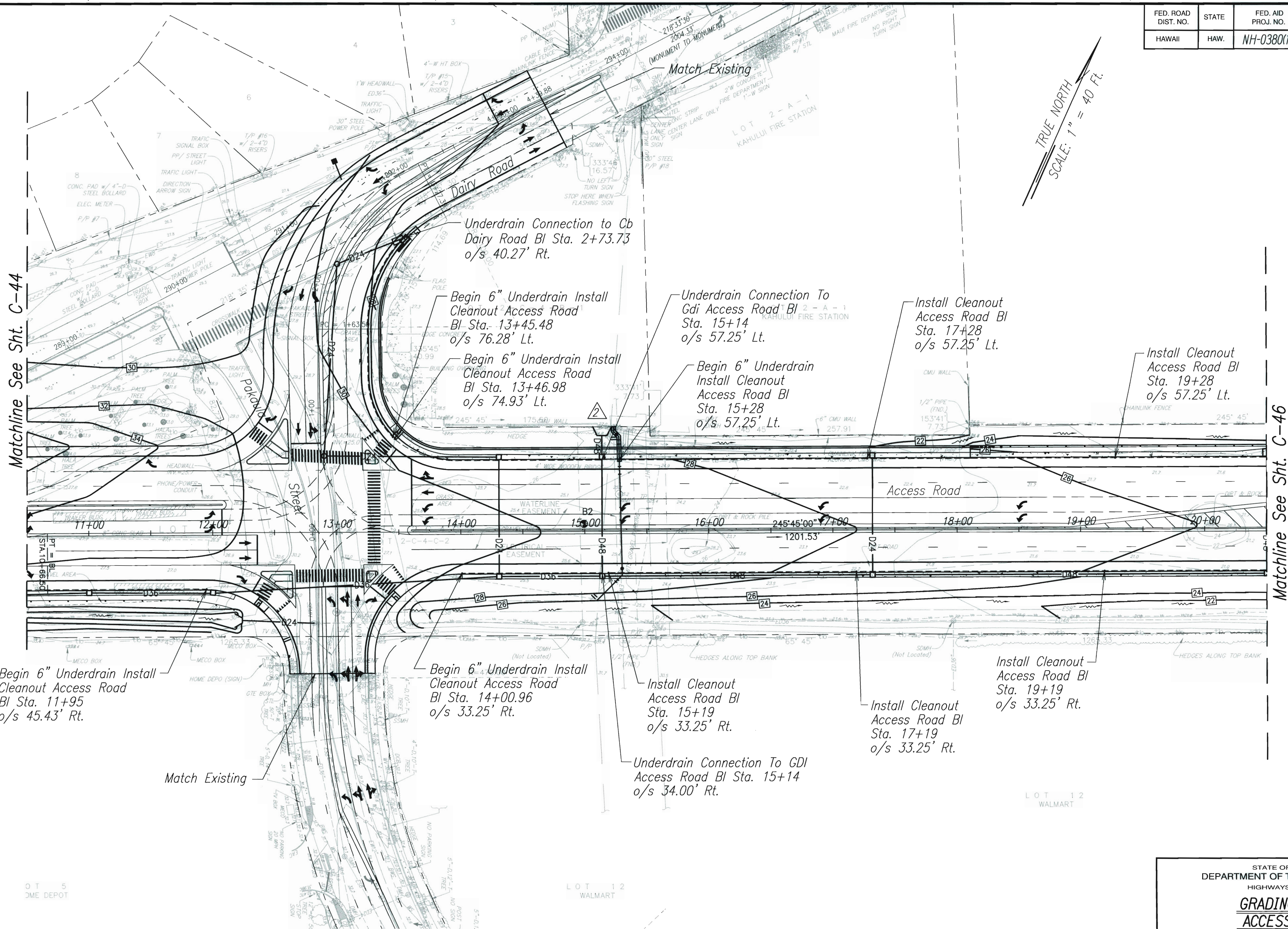
GRADING PLAN ACCESS ROAD
SCALE: 1"=40'

4-1-13	Delete Contours at Inlet Structure
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
GRADING PLAN
ACCESS ROAD

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. C-45 OF 93 SHEETS

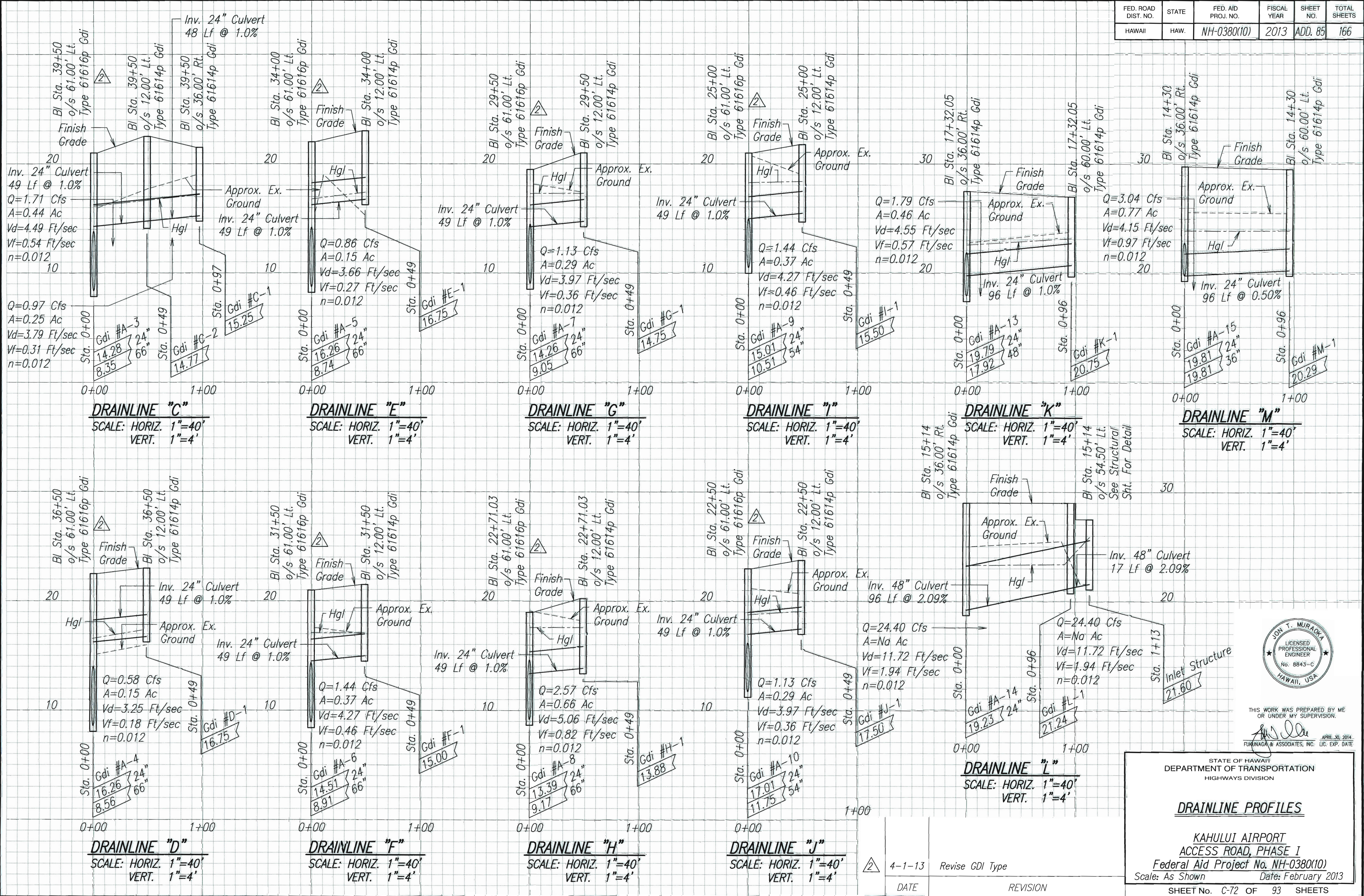
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FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE



Matchline See Sht. C-46

Matchline See Sht. C-44

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 85	166



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DESIGNED BY	TRACED BY	
CHECKED BY	NOTES BOOK	
No.		

DRAWING NAME: C:\PROJECTS\VAHULUI-2011\PLANS\20-DRAINLINE PROFILES\C-72.DWG PLOT TIME: 04-08-13, 11:56 AM



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FURUKAWA & ASSOCIATES, INC. APRIL 30, 2014
LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

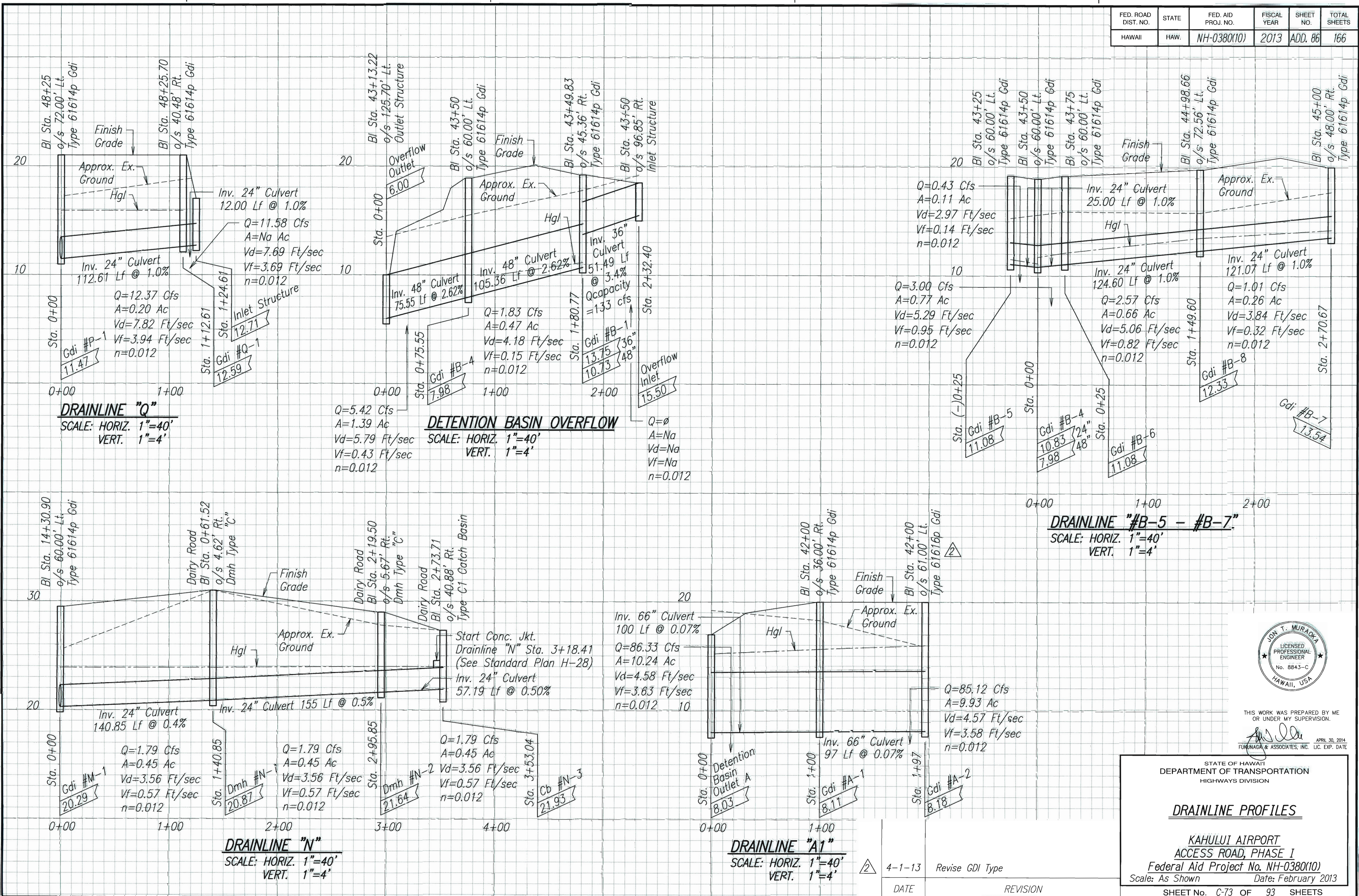
DRAINLINE PROFILES

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-72 OF 93 SHEETS

DATE	4-1-13	Revise GDI Type
REVISION		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 86	166



ORIGINAL PLAN	DATE
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\20-DRAINLINE PROFILES\C-73.DWG PLOT TIME: 04-08-13 11:57 AM



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APRIL 30, 2014
MURAKAWA & ASSOCIATES, INC. LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

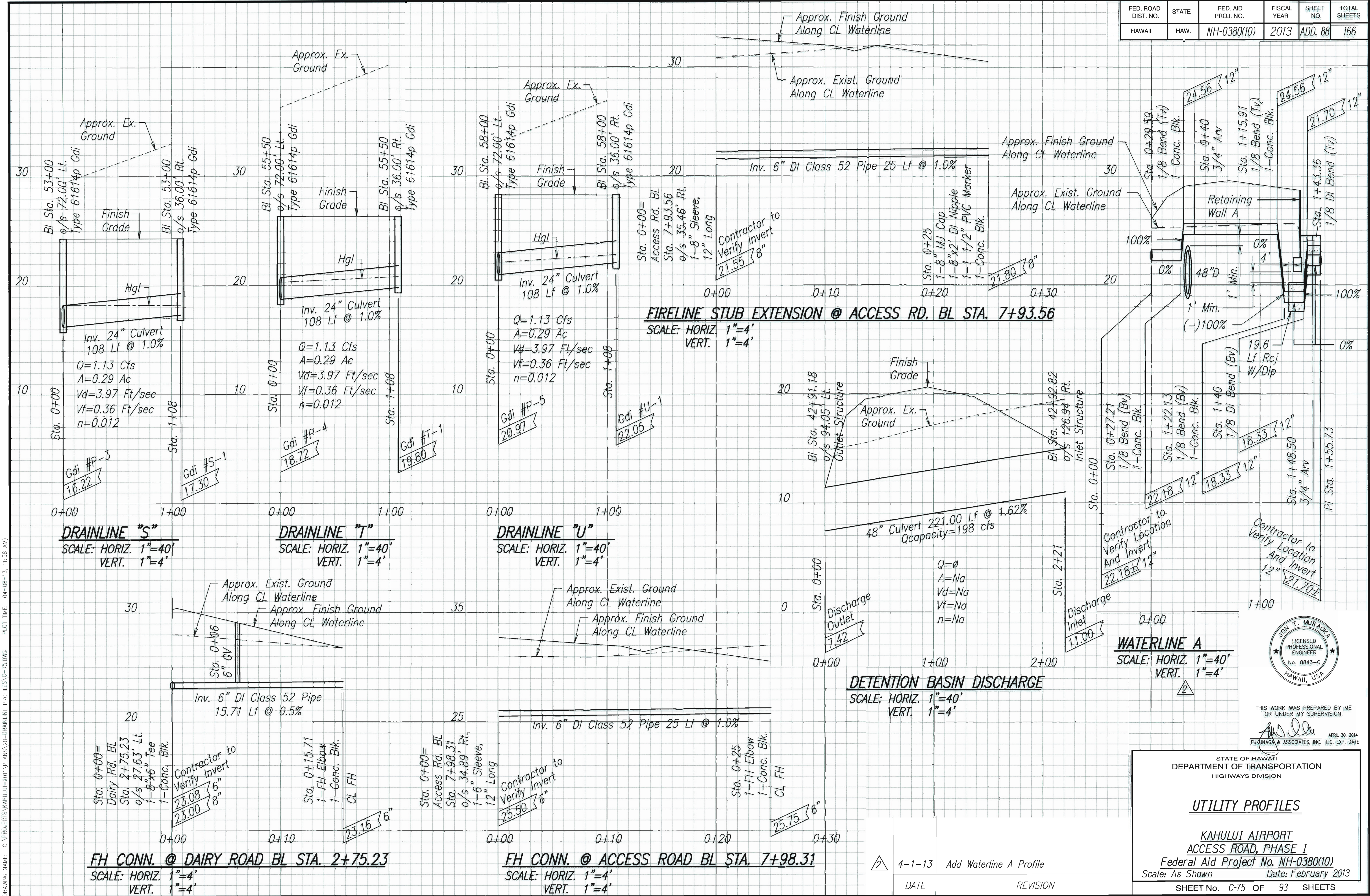
DRAINLINE PROFILES

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-73 OF 93 SHEETS

DATE	REVISION
4-1-13	Revise GDI Type

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 88	166



DATE	_____
DESIGNED BY	_____
TRACED BY	_____
NOTED BY	_____
CHECKED BY	_____
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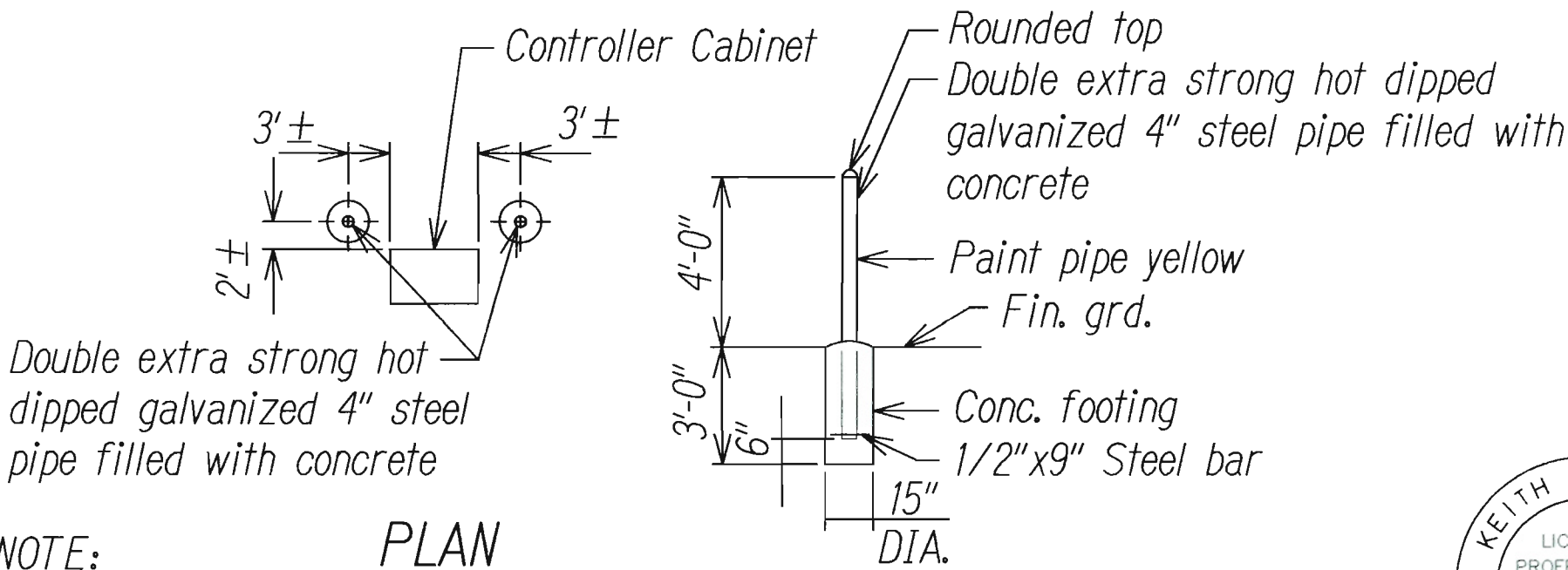
THIS WORK WAS PREPARED BY ME
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FUMIYAMA & ASSOCIATES, INC. APRIL 30, 2014
LIC. EXP. DATE

4-1-13	Add Waterline A Profile
DATE	REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.162	166

CONSTRUCTION NOTES

- Locations of existing underground structures and utilities such as pipe-lines, conduits, cables, etc., shown on plans are approximate only. It is not the intent of these plans to show the exact location of all underground utilities and structures. It is the responsibility of the contractor to verify the locations of all existing utilities with the respective owners. Existing utilities damaged by the contractor shall be repaired by the contractor at his own cost.
- The contractor shall verify and check all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the engineer for clarification.
- The contractor shall notify all agencies to verify, tone and locate their existing utilities within the project area prior to excavating. The contractor shall coordinate all work.
- The locations of the new traffic signal standards, traffic signal standards with mast-arm, pedestrian push buttons, traffic controller, pullboxes, conduits and loop detectors shall be staked out in the field by the contractor and approval of the locations shall be obtained from the engineer prior to construction and installation.
- All traffic signal work shall conform to the requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Edition", Federal Highway Administration (2009) as amended.
- Maintenance of traffic through the construction area shall be in accordance with Part VI of the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Edition", Federal Highway Administration as amended and as specified in the special provisions. The contractor shall furnish and maintain adequate barricades, blinkers, construction signs, etc., for the safety of the motoring public.
- At the end of each day's work, the contractor shall remove all equipment and other obstruction to permit free and safe passage of public traffic.



NOTE:

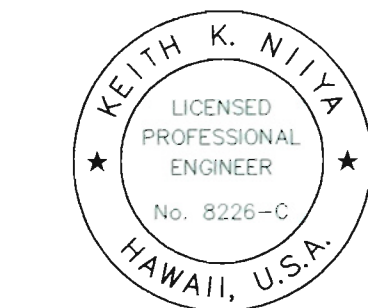
PLAN

TYP. ELEVATION

Cost of conc. filled galvanized posts shall be incidental to other items of work.

PIPE GUARD DETAIL

NOT TO SCALE



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APRIL 30, 2014
AUSTIN, TSUTSUMI & ASSOC. INC. LIC. EXP. DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION		
TRAFFIC SIGNAL NOTES AND LEGEND		
KAHULUI AIRPORT ACCESS ROAD, PHASE I Federal Aid Project No. NH-0380(10) Scale: None Date: February 2013		
SHEET No. <i>TS-1</i> OF 5 SHEETS		

LEGEND

NEW	EXISTING

TRAFFIC SIGNAL NOTES

- All traffic signal controller equipment shall be completely wired in the cabinet and shall control the traffic signals as called for in the plans.
- Signal indications during clearance interval:
 - If a signal is G or ←G and will remain G or ←G during the next phase, it shall be G or ←G during the clearance interval.
 - If a signal is G or ←G and will become R or extinguished during the next phase, it shall be Y or ←Y during the clearance interval.
 - If a signal is R and will remain R or becomes G during the next phase, it shall remain R during the clearance interval.
- The loop amplifier units furnished for this project shall be capable of operating the loop detector configurations shown on the plans. Cost for the loop amplifier shall be incidental to the installation of the loop detector.
- A solid #8 bare copper wire shall be pulled with the traffic control cable for equipment ground. Cost shall be incidental to the installation of the control cable.
- Conduits and pullbox locations as shown on the plans are schematic. They may be modified by the contractor with the approval of the engineer.
- The contractor shall install the controller and cabinet in the indicated location.
- All work for the installation or modification of the traffic signal system shall conform to the latest revisions of the "Hawaii Standard Specifications for Road and Bridge Construction", 2005 and the "Standard Plans" of the Department of Transportation, Highways Division and as shown on these drawings.
- All splicing shall be done in the pullboxes.
- Furnishing and installing the conduit stubouts (pullboxes to edge of pavement) will not be paid for separately but shall be considered incidental to the various contract items.
- The concrete jacket for the conduit by-pass detail shown on Sheet TE-36 shall not be paid for separately but considered incidental to the various various
- All cable and elements for grounding shall be new.
- Cables between signal faces, pedestrian heads, and EVP detectors and the nearest pullbox are not called out on the plan, but shall be furnished and installed in sufficient numbers and lengths as required. Cost shall be incidental to various traffic signal contract items.
- Conduits between the traffic signal standard and the pullbox shall be in sufficient number as required. Cost shall be incidental to the installation of the traffic signal standard foundation.
- Unless otherwise specified, all conduits shall be concrete encased PVC schedule 40.
- The contractor shall notify the State of Hawaii Department of Transportation Highways Division, Maui District Office three (3) working days prior to commencing work on the traffic signal system (Phone: 873-3535).
- While modifying the existing traffic signal systems, the contract shall keep the existing system operational until the new traffic signal system can be put into service.
- The contractor shall salvage all existing heads, standards, and cables not used in the new system. Cost shall be incidental to the various contract items put into service.
- All traffic signal hardware removed from the intersection shall be stockpiled and delivered to a location determined by the Engineer.
- Back Plates with a 5-inch border containing a 2-inch wide retro-reflective tape shall be installed on all mast arm mounted traffic signal heads as indicated on the plan sheets.



4/5/13

Added 4-Section Head Symbol, Revised Traffic Signal Note #15

DATE

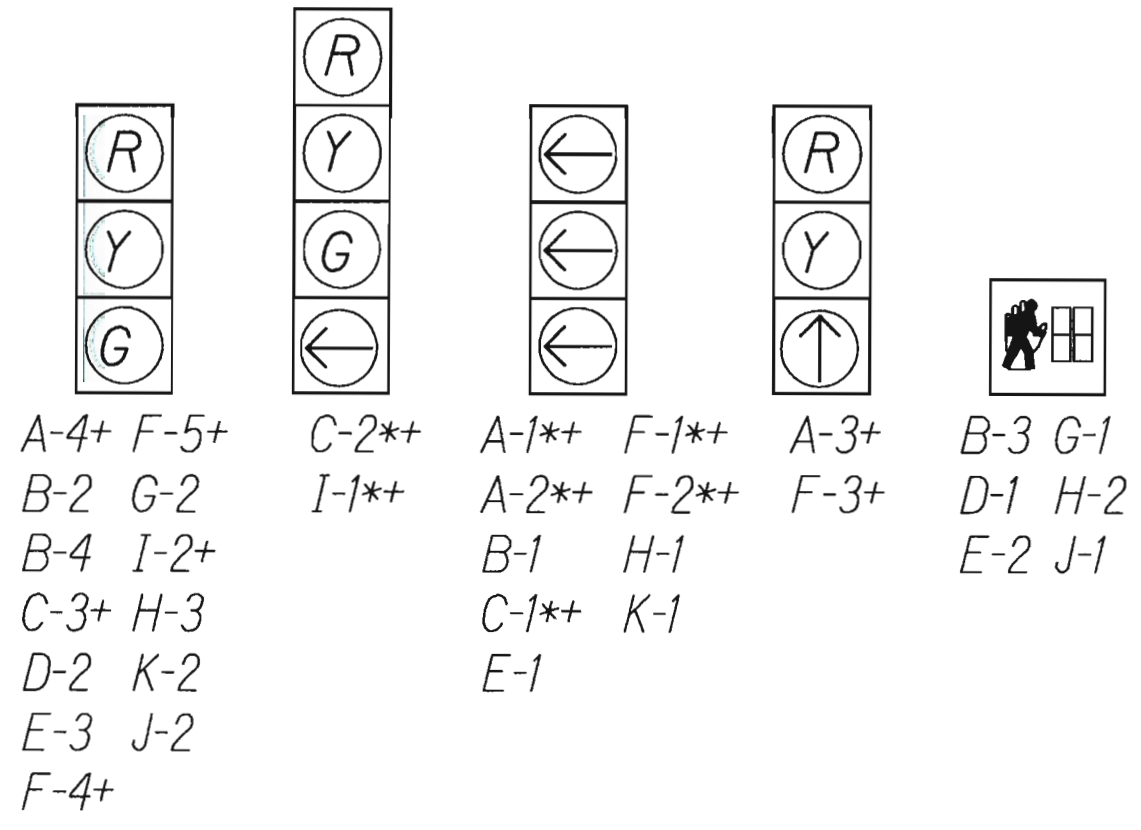
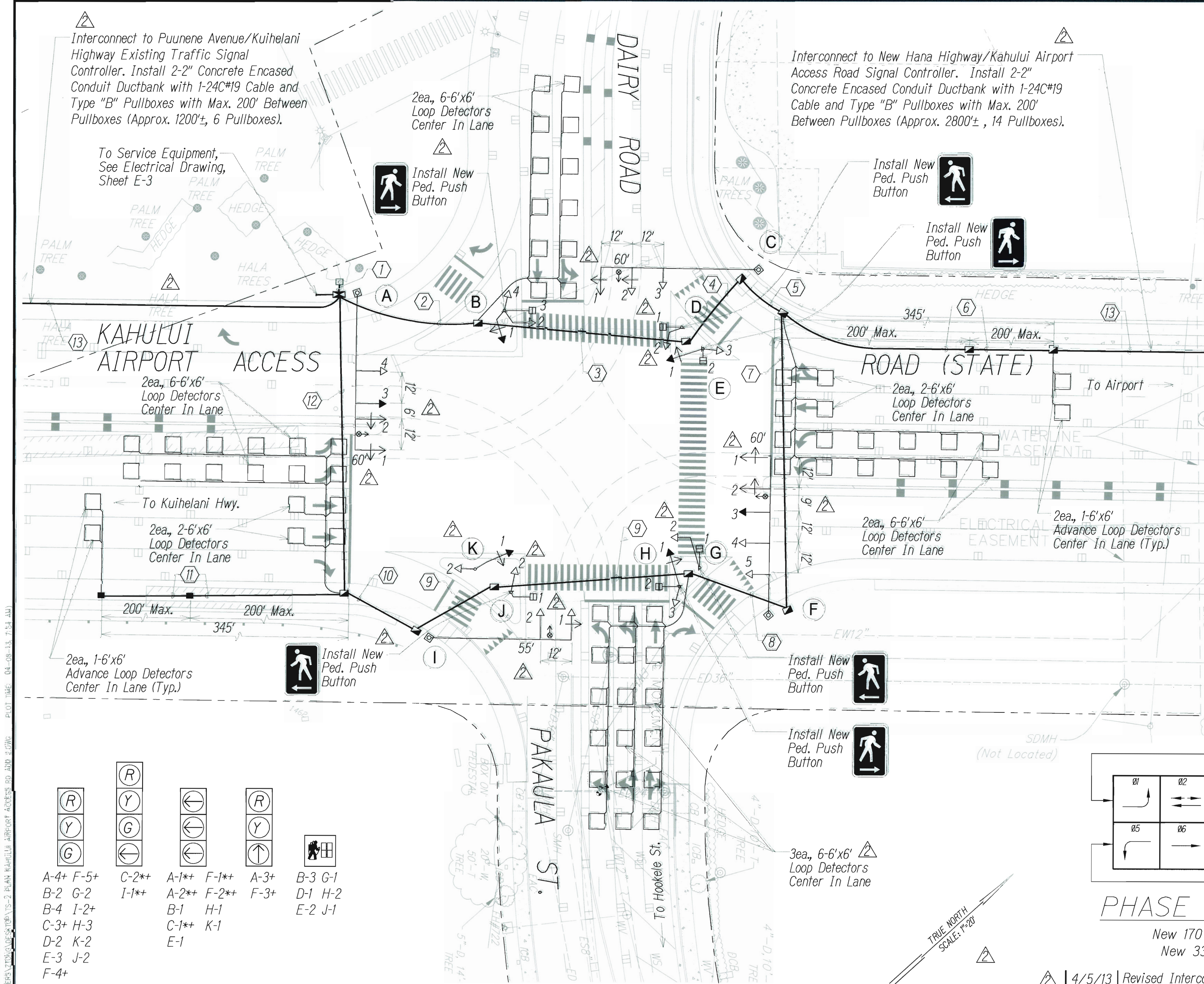
REVISION

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

DRAWING NAME: \\FILES\PROJECTS\2008\08-068\DWG\TS-1 NOTES AND LEGEND ADD 2.DWG PLOT TIME: 04-05-13, 2:13 PM

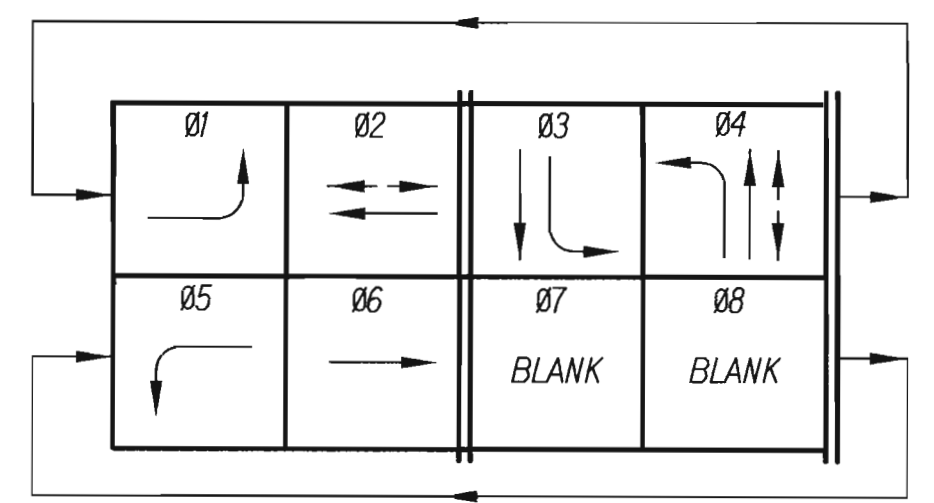
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.163	166

CONDUIT AND CABLE SCHEDULE 					
Symbol	Cond.	Description	Symbol	Cond.	Description
①	3" Conc.	2-26C#14	⑥	2" Conc.	1-2C#14
	3" Conc.	11-2C#14		2" Conc.	1-24C#19
	2" Conc.	2-24C#19	⑦	2" Conc.	1-26C#14
	2" Conc.	1-3C#6		2" Conc.	1-26C#14
	2" Conc.	4-evp		2" Conc.	1-2C#14
②	2" Conc.	Spare		2" Conc.	1-evp
	2" Conc.	1-26C#14		2" Conc.	Spare
	2" Conc.	1-26C#14	⑧	2" Conc.	1-26C#14
	2" Conc.	6-2C#14		2" Conc.	1-26C#14
	2" Conc.	1-24C#19		2" Conc.	1-2C#14
2" Conc.	2-evp	2" Conc.		Spare	
2" Conc.	Spare				
③	2" Conc.	1-26C#14	⑨	2" Conc.	1-26C#14
	2" Conc.	1-26C#14		2" Conc.	1-26C#14
	2" Conc.	5-2C#14		2" Conc.	2-2C#14
	2" Conc.	1-24C#19		2" Conc.	Spare
	2" Conc.	2-evp	⑩	2" Conc.	1-26C#14
2" Conc.	Spare	2" Conc.		1-26C#14	
④	2" Conc.	1-26C#14		2" Conc.	2-2C#14
	2" Conc.	1-26C#14		2" Conc.	1-evp
	2" Conc.	4-2C#14	2" Conc.	Spare	
	2" Conc.	1-24C#19	⑪	2" Conc.	1-2C#14
	2" Conc.	2-evp			
2" Conc.	Spare				
⑤	2" Conc.	1-26C#14	⑫	2" Conc.	1-26C#14
	2" Conc.	1-26C#14		2" Conc.	1-26C#14
	2" Conc.	4-2C#14		2" Conc.	5-2C#14
	2" Conc.	1-24C#19		2" Conc.	1-evp
	2" Conc.	1-evp	2" Conc.	Spare	
2" Conc.	Spare	⑬	2" Conc.	1-24C#19	
			2" Conc.	Spare	



SIGNAL INDICATIONS
* Indicates Programmable Visibility Head
+ Indicates Back Plate w/ Retro Reflective Border

TRAFFIC SIGNAL PLAN
Scale: 1"=20'



PHASE DIAGRAM
New 170 Controller
New 332 Cabinet

4/5/13 Revised Interconnect, Phase Diagram, Mast Arm Lengths, Conduits, Cables, Loop Detectors, Various Signal Heads, EVP, and Pullboxes.

DATE	REVISION
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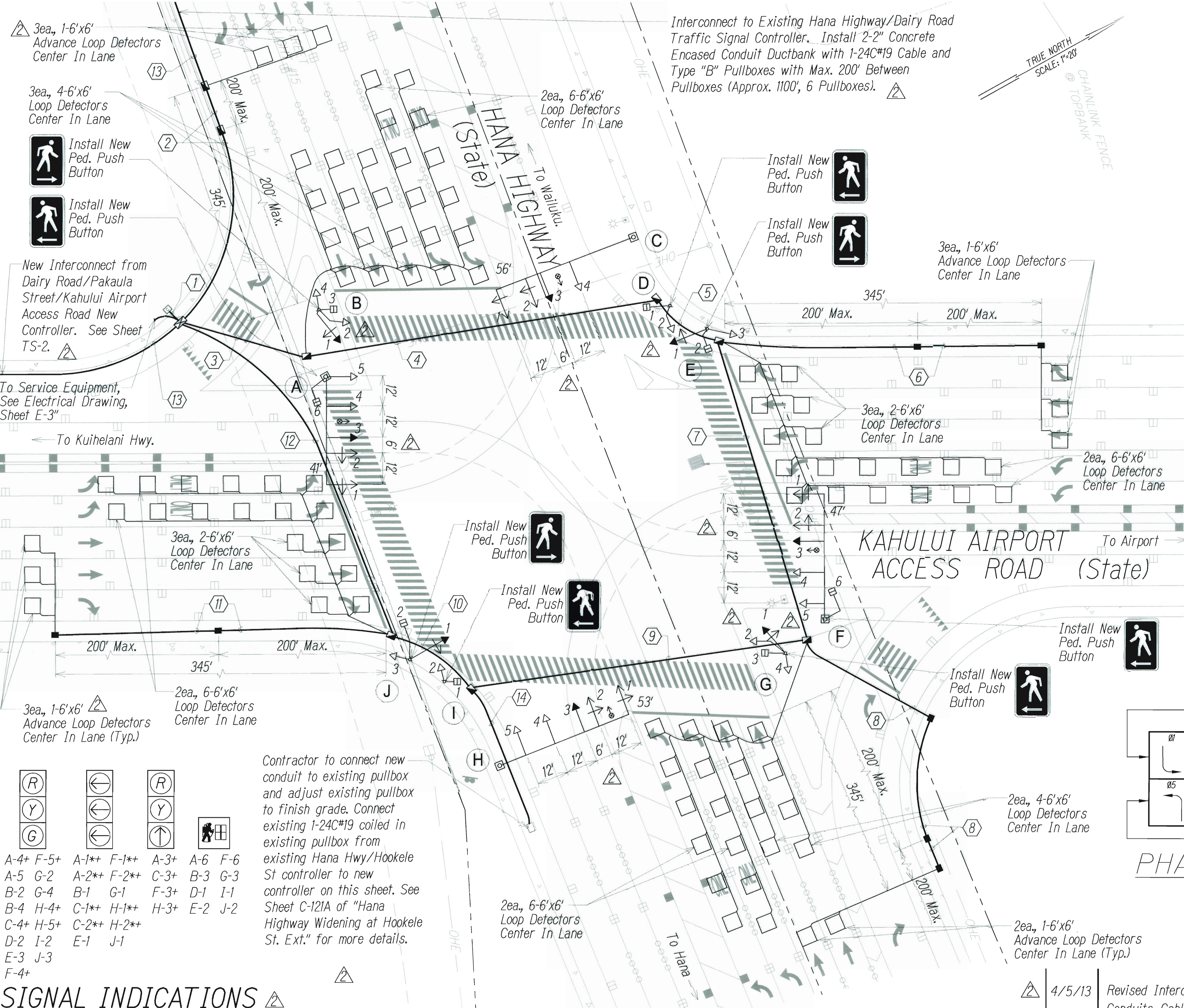
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
APR 30, 2014
AUSTIN, TSUTSUMI & ASSOC. INC. L.L.C. E.P. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KAHULUI AIRPORT ACCESS RD. / DAIRY RD. / PAKAULA ST. TRAFFIC SIGNAL PLAN
KAHULUI AIRPORT
ACCESS ROAD, PHASE 1
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. TS-2 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.164	166

CONDUIT AND CABLE SCHEDULE					
Symbol	Cond.	Description	Symbol	Cond.	Description
①	3" Conc.	2-26C#14	⑦	2" Conc.	1-26C#14
	3" Conc.	2-24C#19		2" Conc.	1-26C#14
		Exist 1-24C#19		2" Conc.	1-2C#14
	3" Conc.	8-2C#14		2" Conc.	1-evp
	3" Conc.	8-2C#14		2" Conc.	Spare
②	2" Conc.	1-2C#14	⑧	2" Conc.	1-2C#14
	2" Conc.	1-24C#19			
③	2" Conc.	1-26C#14	⑨	2" Conc.	1-26C#14
	2" Conc.	1-26C#14		2" Conc.	1-26C#14
	2" Conc.	4-2C#14		2" Conc.	4-2C#14
	2" Conc.	3-2C#14		2" Conc.	Spare
	2" Conc.	3-evp			
④	2" Conc.	1-26C#14	⑩	2" Conc.	1-26C#14
	2" Conc.	1-26C#14		2" Conc.	1-26C#14
	2" Conc.	5-2C#14		2" Conc.	Exist 1-24C#19
	2" Conc.	2-evp		2" Conc.	4-2C#14
	2" Conc.	Spare		2" Conc.	1-evp
⑤	2" Conc.	1-26C#14	⑪	2" Conc.	1-2C#14
	2" Conc.	1-26C#14			
	2" Conc.	4-2C#14			
	2" Conc.	1-evp			
	2" Conc.	Spare			
⑥	2" Conc.	1-2C#14	⑫	2" Conc.	1-26C#14
				2" Conc.	1-26C#14
				2" Conc.	Exist 1-24C#19
				2" Conc.	6-2C#14
				2" Conc.	2-2C#14
			⑬	2" Conc.	1-24C#19
				2" Conc.	Spare
			⑭	2" Conc.	Exist 1-24C#19
				2" Conc.	Spare

DRAWING NAME: C:\USERS\ZTONG\DESKTOP\TS-3 PLAN HANA HWY-KAHULUI AIRPORT ACCESS RD ADD 2.DWG PLOT TIME: 04-05-13, 2:22 PM



(R)	(Y)	(G)
(R)	(Y)	(G)
(R)	(Y)	(G)

A-4+	F-5+	A-1**	F-1**	A-3+	A-6	F-6
A-5	G-2	A-2**	F-2**	C-3+	B-3	G-3
B-2	G-4	B-1	G-1	F-3+	D-1	I-1
B-4	H-4+	C-1**	H-1**	H-3+	E-2	J-2
C-4+	H-5+	C-2**	H-2**			
D-2	I-2	E-1	J-1			
E-3	J-3					
F-4+						

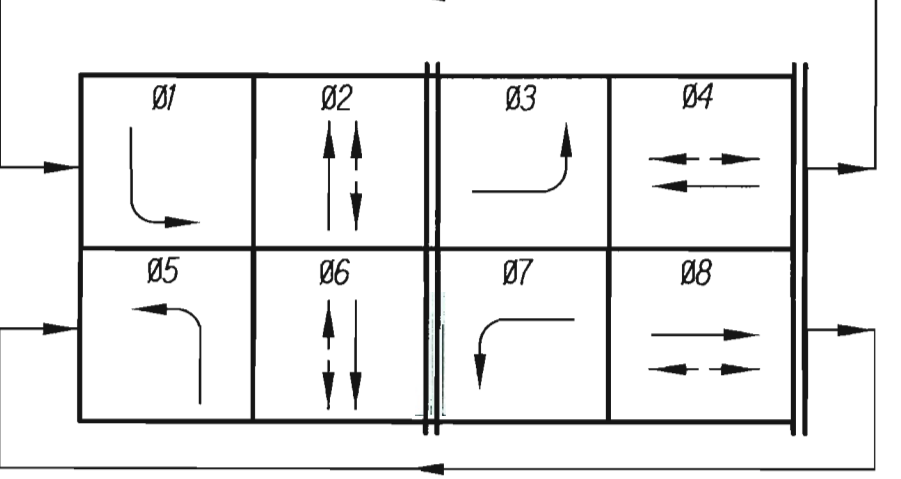
Contractor to connect new conduit to existing pullbox and adjust existing pullbox to finish grade. Connect existing 1-24C#19 coiled in existing pullbox from existing Hana Hwy/Hookele St controller to new controller on this sheet. See Sheet C-121A of "Hana Highway Widening at Hookele St. Ext." for more details.

SIGNAL INDICATIONS

- * Indicates Programmable Visibility Head
- + Indicates Back Plate w/ Retro Reflective Border

TRAFFIC SIGNAL PLAN

Scale: 1"=20'

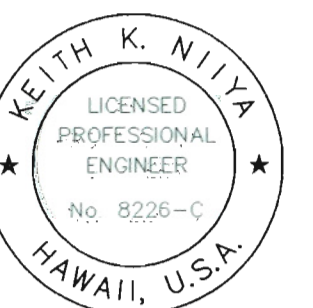


PHASE DIAGRAM

New 170 Controller
New 332 Cabinet

4/5/13	Revised Interconnect, Phase Diagram, Conduits, Cables, Loop Detectors, and Various Signal Heads.
--------	--

DATE REVISION

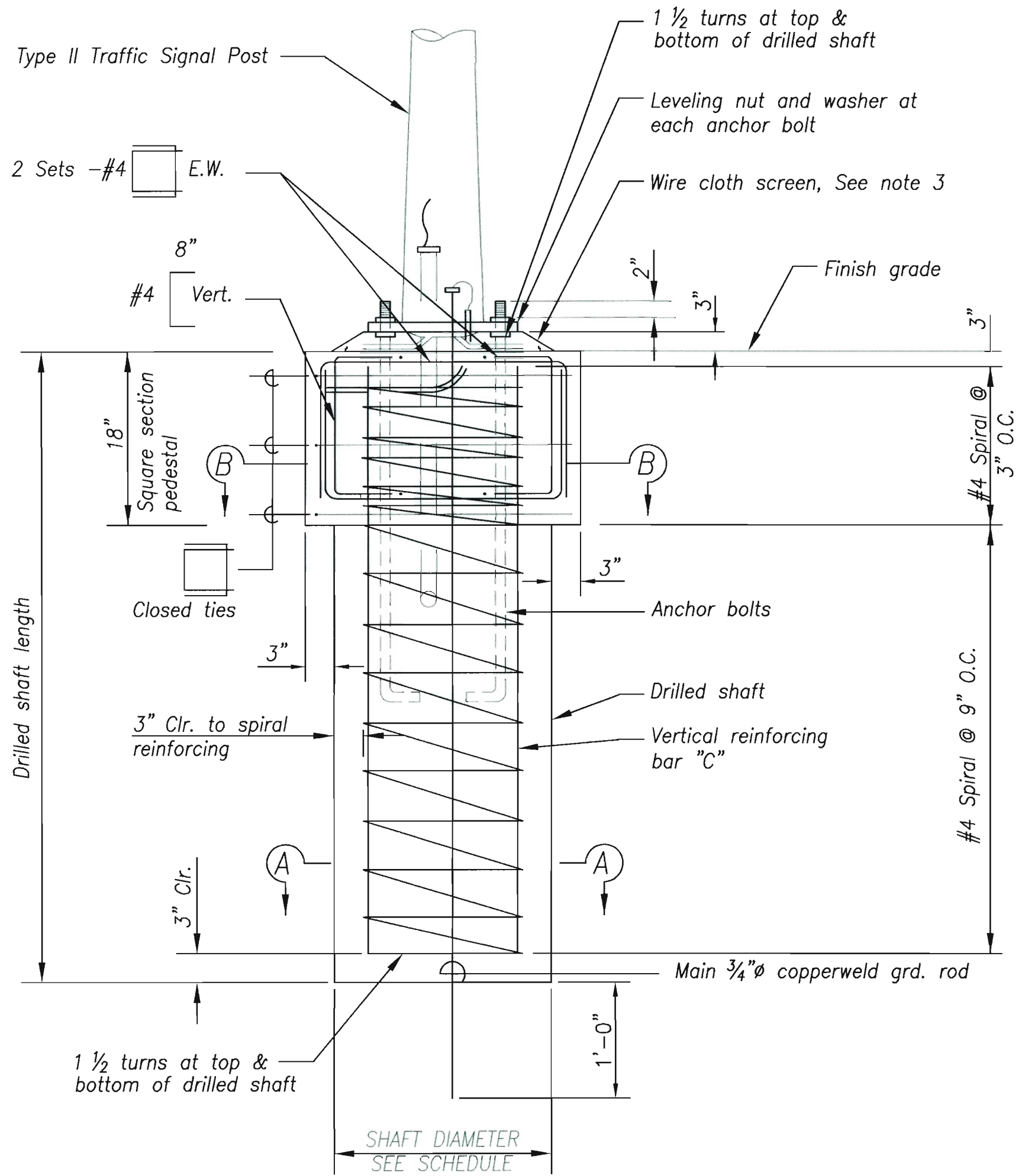


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
APR 30, 2014
AUSTIN, TSUTSUMI & ASSOC., INC. LIC. EXP. DATE

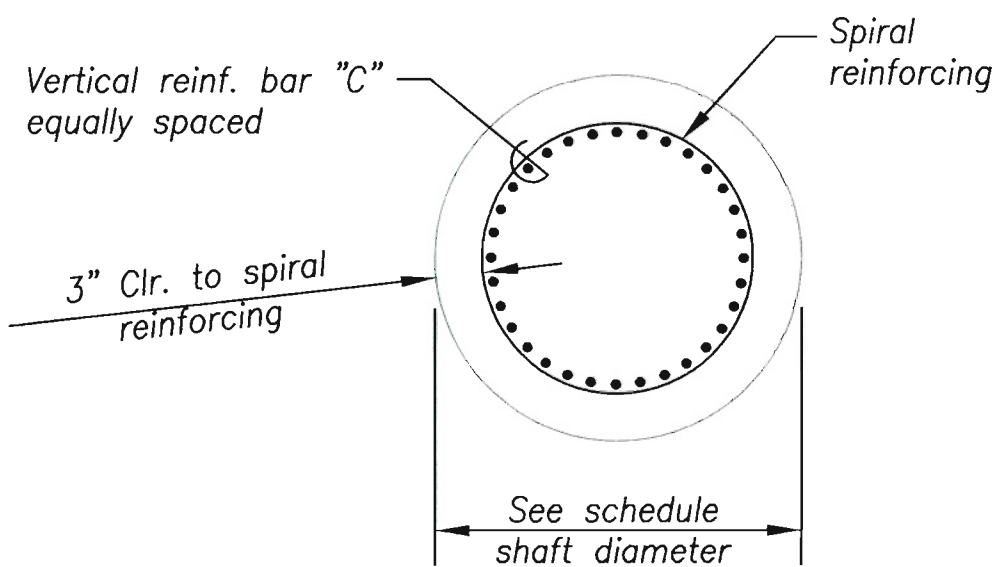
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KAHULUI AIRPORT ACCESS RD. / HANA HIGHWAY
TRAFFIC SIGNAL PLAN
KAHULUI AIRPORT
ACCESS ROAD, PHASE 1
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. TS-3 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.166	166

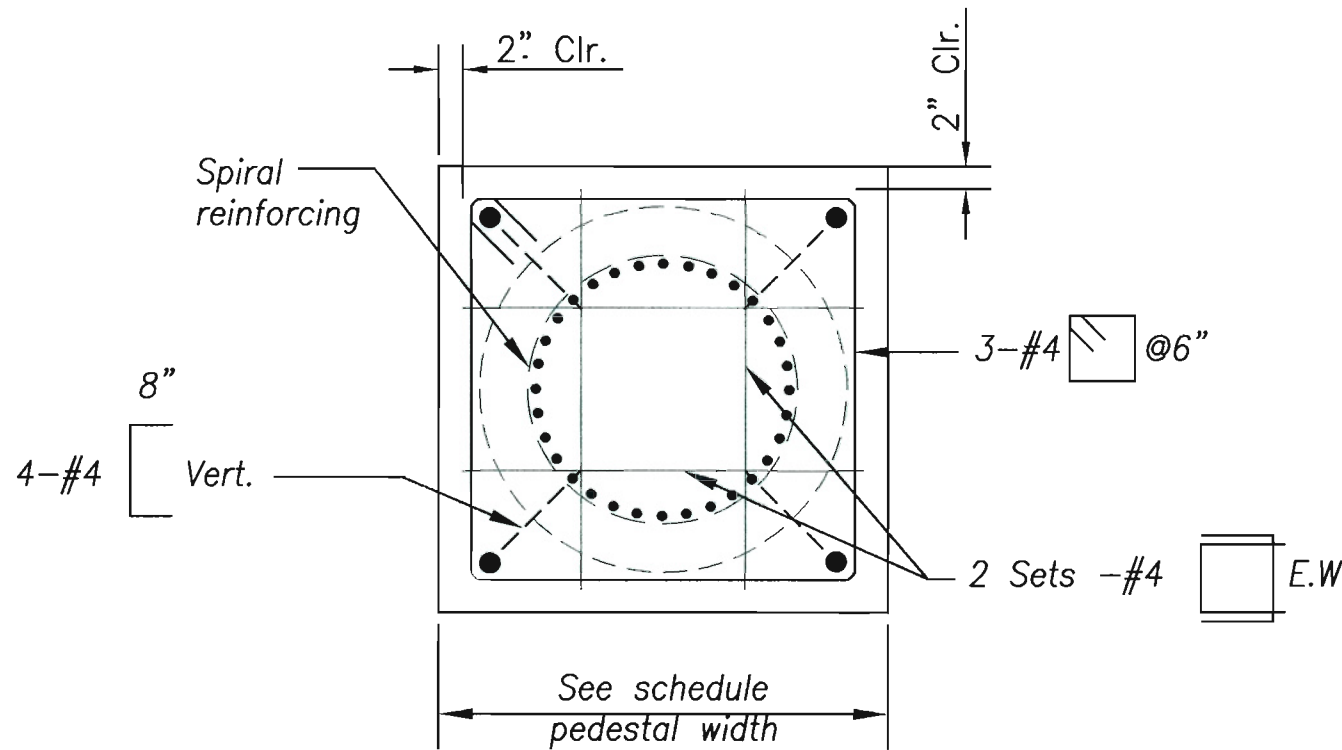
Level Group Condition - Above Groundwater						
Soil Type	Mast Arm Length	Shaft Diameter	Shaft Length	Pedestal Width	Bars "C"	Bolt Pattern
Clay & Silt Clay	41'	42"	14'-0"	48"	32-#6	6-Bolt Circle
Clay & Silt Clay	45' - 50'	42"	15'-0"	48"	32-#6	6-Bolt Circle
Clay & Silt Clay	53'	42"	17'-0"	48"	32-#6	6-Bolt Circle
Clay & Silt Clay	55' - 60'	42"	18'-0"	48"	32-#6	6-Bolt Circle



ELEVATION



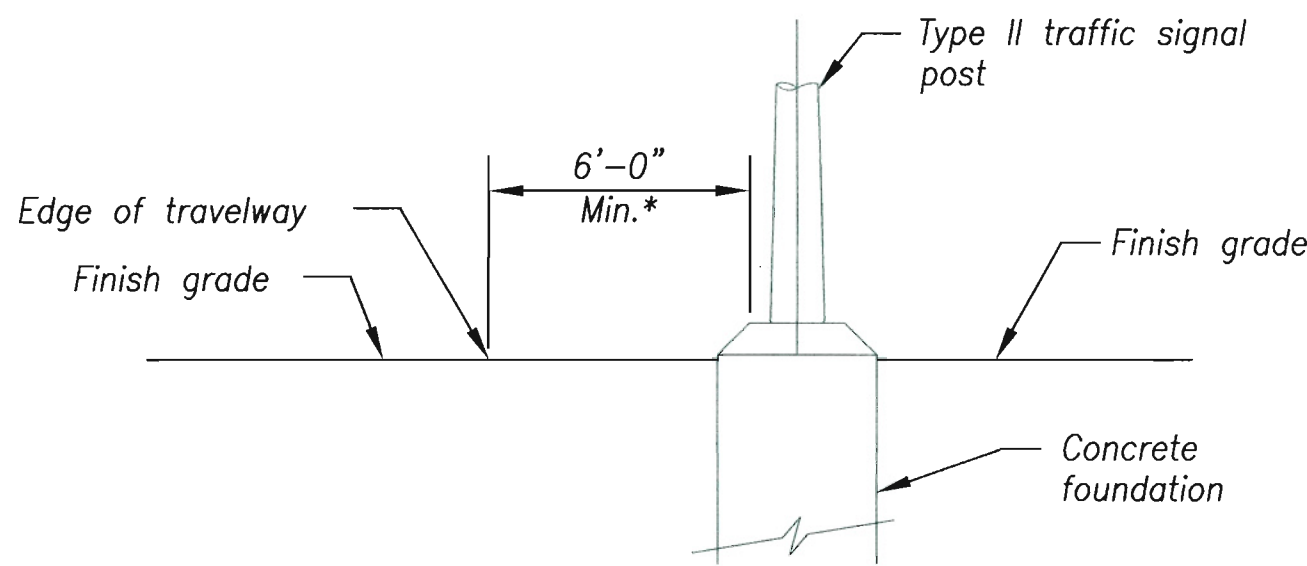
SECTION A-A



SECTION B-B

Notes:

1. Traffic signal poles manufacturer's recommendations shall be followed
2. See schedules this sheet for additional details.
3. Mast arm standards have been designed and shall conform to 4.0 Modifications to AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals as noted in HDOT "Design criteria for Bridges and Structures", April 15, 2008.



* If 6'-0" min. cannot be maintained due to conflict with other utilities, coordinate field adjustments with Engineer.

HIGHWAY LIGHTING DETAIL
NOT TO SCALE

DRILLED SHAFT FOUNDATION FOR TYPE II MAST ARM STANDARD
NOT TO SCALE (FOR MAST ARM GREATER THAN 40' IN LENGTH)

DATE	4/5/13	Revised Table, Mast Arm Type
REVISION		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TRAFFIC SIGNAL
DETAILS**
KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: None Date: February 2013
SHEET No. TS-5 OF 5 SHEETS

DELWIN P. K. CHING
LICENSED PROFESSIONAL ENGINEER
No. 1440-S
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
APR 30, 2014
Austin, Tsutsumi & Assoc. Inc. Lic. Exp. Date