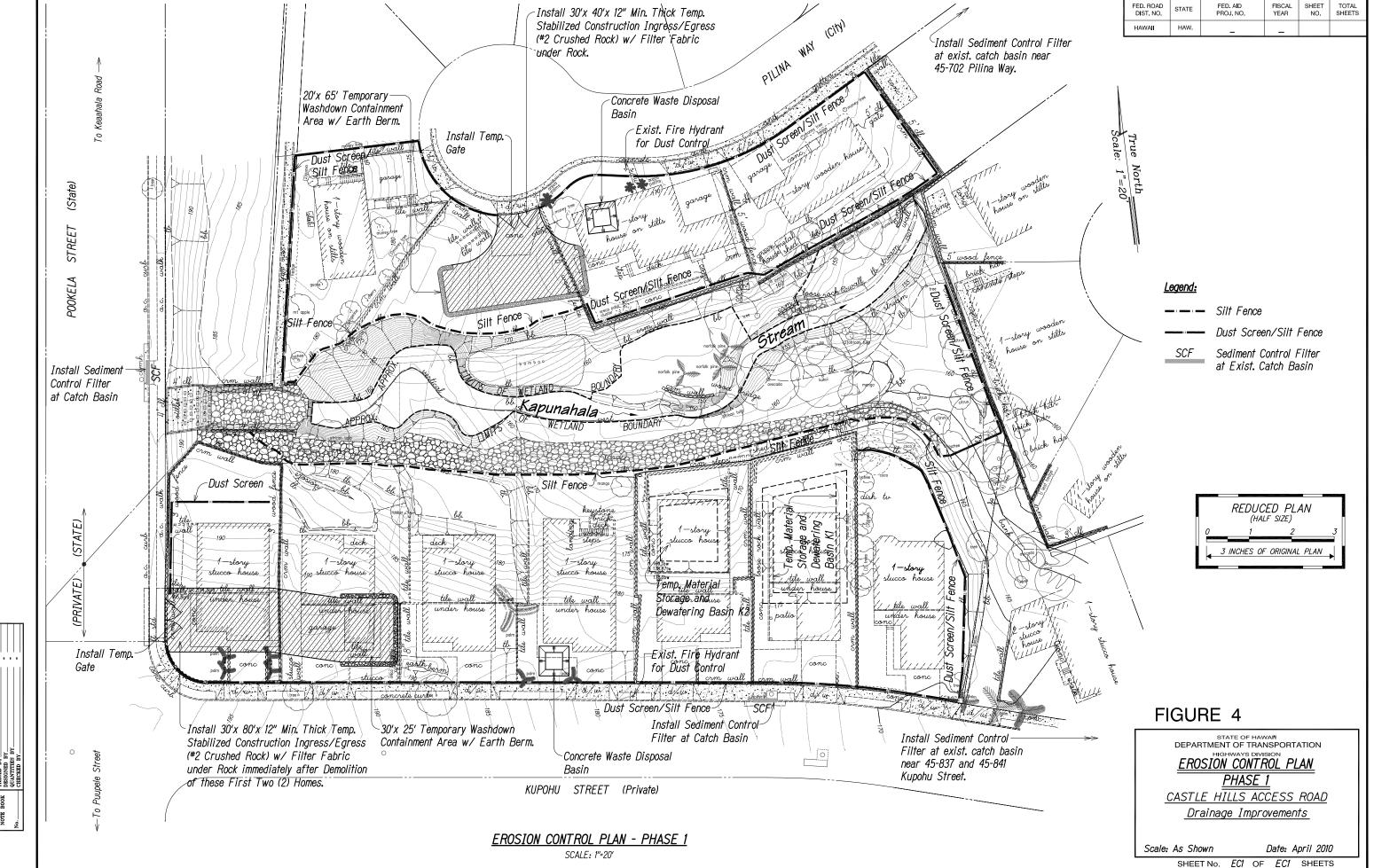


Ojects/Castle Hills Access Road/RERMITS/401\_Fig3\_Facility Map.dwg

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SURVEY DRAWN TRACED DESIGNE

# WATER POLLUTION AND EROSION CONTROL NOTES:

#### A. GENERAL:

- See Section 209 Water Pollution and Erosion Control. Section 209 describes but is not limited to: submittal requirements: scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment.
- 2. Effective October 1, 2008, follow the guidelines in the "Construction" Best Management Practice Field Manual", dated January 2008 in developing, installing and maintaining the Best Management Practices (BMP) for the project.
- 3. Follow the guidelines in the Honolulu's City & County "Rules Relating to Soil Erosion Standards and Guidelines" along with applicable Soil Erosion Guidelines for projects on Maui, Molokai, Kauai, and Hawaii.
- 4. The Engineer may assess liquidated damages of up to \$27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every with day of non-compliance. There is no maximum limit on the amount assessed per day.
- 5. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.
- 6. For projects that require an NPDES Permit from the Department of Health, install a rain gage prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall, and have an opening of at least one-inch in diameter. Install the rain gage on the project site in an area that will not deter rain from entering the gage opening. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site-specific best management practices are in-place.

#### B. WASTE DISPOSAL:

1. Waste Materials

Collect all waste materials in a in a securely lidded metal dumpster. The dumpster shall meet all local and State solid waste management regulations. Deosit all trash and construction debris from the site in the dumpster. The dumpster shall be emptied a minimum of twice per week or as often as is deemed necessary. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices shall be posted in the office trailer and the Contractor shall be responsible for seeing that these procedures are followed.

Hazardous Waste

Dispose hazardous waste materials in a manner specified by local or State regulations and by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

3. Sanitary Waste Collect all sanitary waste from the portable units a minimum of once per week, or as required.

### C. EROSION \$ SEDIMENT CONTROL INSPECTION \$ MAINTENANCE PRACTICES:

- Inspect all control measures shall at least once each week and within 24 hours of any rainfall event of 0.5 inches or greater within a 24 hour period.
- 2. Maintain all measures in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.
- 3. Remove built-up sediment from silt fence when it has reached one-third the height of the fence.
- 4. Inspect silt screen or fence for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground. Inspect and verify the bottom of the silt screen is buried a minimum of 6 inches below the existing around.
- 5. Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.
- 6. Make a maintenance inspection report promptly after each inspection. Submit a copy to the Engineer no later than one week from the date of the inspection.
- 7. Provide a stabilized construction entrance to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 50 feet. Minimum width should be 30 feet. Minimum depth should be 12 inches or as recommended by the Soils Engineer and underlain with geo-textile fabric. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold planed material, dirt or rock tracked from the site. Cover dump trucks hauling material from the construction site with a tarpaulin.
- 8. Include designated Concrete Washout Area(s) in the Water Pollution. Dust, and Erosion Control submittals
- 9. Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
- 10. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.
- Contain, remove and dispose of slurry generated from saw cutting of pavement in accordance with approved BMP practices. Payment for confinement, removal and disposal of slurry shall be considered incidental to the various contract items.

### D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

1. Materials Pollution Prevention Plan

a. Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory.

Concrete Deteraents Paints (enamel and latex) Metal Studs Tar

Fertilizers Petroleum Based Products Cleaning Solvents Wood Masonry Block

b.	Use Material Management Practices to reduce the risk of spills
	or other accidental exposure of materials and substances to
	storm water runoff. Make an effort to store only enough
	product as is required to do the job.

- c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
- d. Keep products in their original containers with the original manufacturer's label.
- e. Do not mix substances with one another unless recommended by the manufacturer.
- f. Whenever possible, a product shall be used up completely before disposing of the container.
- q. Follow Manufacturer's recommendations for proper use and disposal.
- h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.
- 2. Hazardous Material Pollution Prevention Plan
- a. Keep products in original containers unless they are not
- b. Retain original labels and material safety data sheets (MSDS).
- c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.
- 3. Onsite and Offsite Product Specific Plan

The following product specific practices shall be followed onsite:

a. Petroleum Based Products: Monitor all onsite vehicles for leaks and perform regular preventive maintenance to reduce the chance of leakage. Store petroleum products in tightly sealed containers which are clearly labeled. Apply asphalt substances used onsite according to the manufacturer's recommendation.

#### b. Fertilizers:

Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to storm water. Storage shall be in a covered shed. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.

#### c. Paints:

Seal and store all containers when not required for use. Do not discharge excess paint to the highway drainage system. Dispose properly according to manufacturers' instructions or State and local regulations.

#### d. Concrete Trucks:

Wash out or discharge concrete truck drum wash water at a designated site. Do not discharge water in the highway drainage system or waters of the United States. Contact Drinking Water Branch, Department of Health at 586-4258 to receive permission to designate a disposal site. Clean disposal site as required or as requested by the Owner's representative.

#### FED. ROAD DIST. NO. SHEET NO. STATE HAWAII HAW.

#### 4. Spill Control Plan

- a. Post a spill prevention plan to include measures to prevent and clean up each spill.
- b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area and in the office trailer onsite.
- c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.
- d. Keep materials and equipment necessary for spill cleanup in the material storage area onsite.
- e. Clean up all spills immediately after discovery.
- f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous
- g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size.

### E. PERMIT REQUIREMENTS:

- 1. If a National Pollutant Discharge Elimination System (NPDES) Permit is required for Construction Activities of one acre or more, submit to the Engineer six sets of the Water Pollution and Erosion Control Submittals as detailed in Subsection 209.03 of the specifications.
- 2. If an NPDES Permit for Construction Dewatering is require, the Contractor shall be responsible to obtain the Permit from the Department of Health, Clean Water Branch.
- 3. Comply with all applicable State and Federal Permit conditions. Permits may include but are not limited to the following:
  - a. NPDES Permit for Construction Activities
  - b. NPDES Permit for Construction Dewatering
  - c. Section 401 Water Quality Certification
  - d. Stream Channel Alteration Permit
  - e. Section 404 Army Corps of Engineer Permit
  - f. Coastal Zone Management Federal Consistency Review



# FIGURE 5

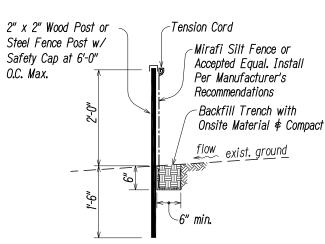


SHEET No. 1 OF *3* 

SURVEY DRAWN TRACED DESIGNE QUANTE

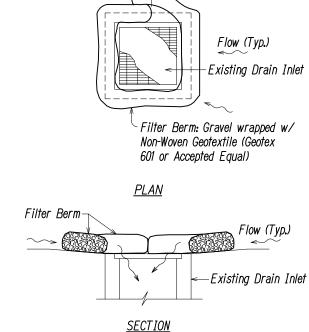
# BEST MANAGEMENT PRACTICES (BMP's) NOTES:

- 1. The Contractor shall install the erosion control measures at the locations shown, or as directed by the Engineer, as soon as practicable.
- 2. The stabilized construction entrance (ingress and egress) shall be constructed with 12" min. thick crushed rock (#2 coarse) layer over geotextile fabric (Geotex 250ST or accepted equal) to the dimensions and at the locations shown on the erosion control plan. Should the Contractor require an ingress and egress other than what is shown on the plans, the Contractor shall be responsible to obtain all necessary approvals, including relocating the crushed rock area as required.
- 3. Slopes and exposed areas shall be sodded or planted as soon as final grades have been established. Planting shall not be delayed until all grading has been completed. Grading to final grade shall be continuous and any area within which work has been interrupted or delayed shall be planted.
- 4. All Best Management Practices (BMP's) shall not be removed until all permanent erosion control controls are in place and established.
- 5. The Contractor shall cover the openings to all existing and proposed storm drain inlets with a filter system until permanent ground cover is established. Maintenance of inlet filters by the Contractor shall be included for the duration of the project.
- 6. At the ending of grading operations, existing storm drain inlets and manholes surrounding the project site shall be inspected and any accumulated sediment and debris found in the drain structures shall be removed. Flushing into the inlets and manholes is prohibited.



<u>SECTION</u>

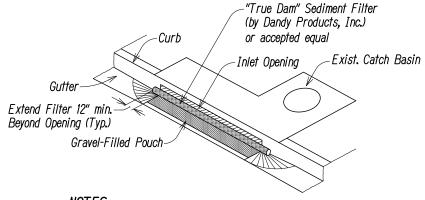
TYPICAL SILT FENCE DETAIL Not to Scale



Overlap 12" Min.,

TYPICAL FILTER BERM DETAIL Not to Scale

FED. ROAD DIST. NO. SHEET NO. FISCAL YEAR STATE HAW. HAWAII



# NOTES:

- 1. Sediment control filters shall be installed and maintained at all designated existing catch basins at the project site. It shall also be installed at catch basin downstream of the projects site on Pilina Way and Kupohu Street.
- 2. The contractor shall remove filters at times of above normal rainfall events and replace them when the event has passed.

SEDITMENT FILTER CONTROL AT CATCH BASIN Not to Scale



# FIGURE 6

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL NOTES AND DETAILS

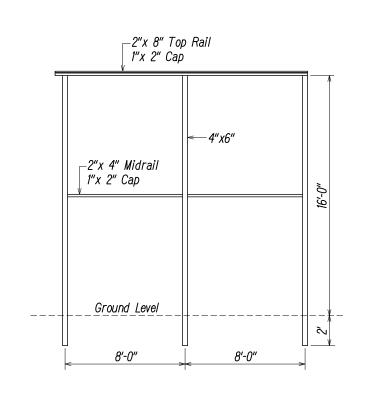
CASTLE HILLS ACCESS ROAD Drainage Improvements

Phase 1 and 2

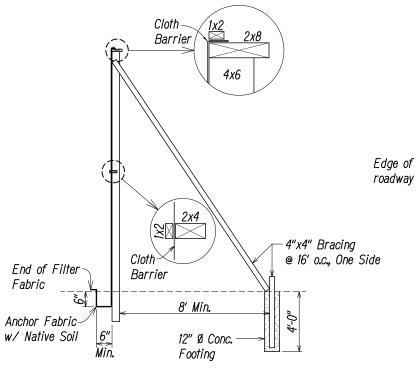
Date: April 2010 Scale: As Shown

ORIGINAL PLAN NOTE BOOK

SHEET No. 2 OF 3 SHEETS



**Elevation** 



Side View

В Edge of paved-#2 Crushed Rock Aggregate — (12" Min. Thick) placed over Geotextile Filter Fabric Geotextile Fabric

REDUCED PLAN

(HALF SIZE)

3 INCHES OF ORIGINAL PLAN

#2 Crushed Rock Aggregate (12" Min. Thick) placed over Geotextile Filter Fabric

FED. ROAD DIST. NO.

HAWAII

20' Min.

Temporary Washdown

Containment Area

STATE

HAW.

SHEET NO.

Earth Berm

# SECTION A-A

PLAN

Width, 20' Min.

Length, 50' Min.

Install And Maintain Temporary Construction Maintain Temporary Washdown ∼Install Earth Berm Containment Area Ingress/Egress around Washdown Containment Area Dispose of Accumulated Washdown Water, -Existing Ground Polyethylene Sheeting Properly, Off-Site Slope 10 Mil Thick #2 Crushed Rock~ Install Geotextile Fabric Aggregate (12" Min.) Under Crushed Rock.

SECTION B-B

TEMPORARY STABILIZED CONSTRUCTION INGRESS/EGRESS AND WASHDOWN CONTAINMENT AREA Not to Scale

# FIGURE 7

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

# EROSION CONTROL DETAILS CASTLE HILLS ACCESS ROAD

<u>Drainage Improvements</u> Phase 1 and 2

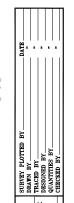
Scale: As Shown Date: April 2010

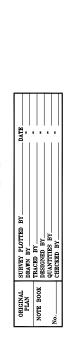
SHEET No. 3 OF 3 SHEETS

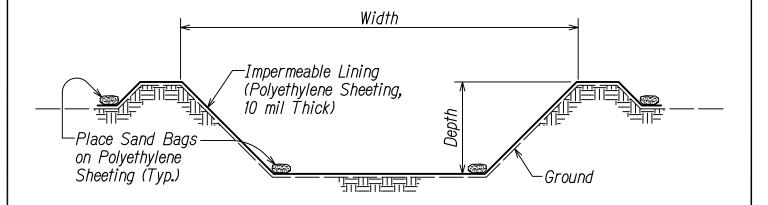
DUST SCREEN DETAIL Not to Scale

# **DUST SCREEN NOTES:**

- 1. The information provided is for the contractor's guidance as to the materials and overall dimensions required. The Contractor shall be responsible for the structural adequacy, maintenance and repair of the site barrier fence for the duration of the project.
- 2. Cloth barrier not shown in elevation view for clarity.
- 3. Cloth barrier shall be a "geotextile" or "nursery shade". Burlap is not an acceptable cloth barrier material.
- 4. Silt Fence may be combined with the dust barrier provided the bottom 2-ft. of the dust barrier including anchoring, is constructed with Mirafi Silt Fence or Accepted Equal and installed per manufacturer's recommendations.
- 5. Bury base of cloth barrier to indicated dimension, as shown.
- 6. 1x2 cloth barrier caps to be nailed 12" o.c.
- 7. Cloth to have no horizontal seams.
- 8. Vertical seams to be made over uprights only.
- 9. All seams to be capped with minimum of 1x2.
- 10. All joints to be securely fastened by mechanical means.







# <u>CONCRETE WASHOUT PIT DETAIL</u>

Not to Scale

- 1. The dimensions and location of the washout pit shall be determined by the contractor and submitted to the Department of Health, Clean Water Branch (DOH-CWB) in the Site-Specific BMP Plan.
- 2. The dimensions of the concrete washout pit shall be sized to hold wash water for the number of concrete trucks required, based on 20 gallons of wash water per truck, plus additional capacity for a 3-inch rainfall storm event, without overflowing.
- 3. If the washout pit is sized for a one-day pour, the collected water and materials shall be removed from the pit and disposed of properly prior to the start of the next pour, or another properly sized pit shall be used for each subsequent concrete pour and truck washout.
- 4. Water shall be allowed to evaporate or disposed of properly, and all hardened materials shall be disposed of in an appropriate manner.

# FIGURE 8

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE WASTE DISPOSAL BASIN

CASTLE HILLS ACCESS ROAD

<u>Drainage Improvements</u> Phase 1 and 2

Scale: As Shown

Date: April 2010

#### General Demolition Notes:

- 1. The Contractor shall verify existing conditions prior to bidding. Any discrepancies shall be brought to the attention of Engineer for clarification.
- 2. The Contractor shall bring any conflicts and/or and questions to the attention of the Engineer prior to the start of demolition. Any remedial work resulting from the Contractor's failure to do so shall be paid by the Contractor at no cost to the State. All restoration work shall be paid for by the Contractor.
- 3. All existing improvements and utilities that are to remain within the demolition and construction areas shall be protected and maintained by the Contractor during his operations, unless otherwise noted. Any remedial work resulting from the Contractor's failure to do so shall be paid for by the Contractor at no cost to the State.
- 5. The Contractor shall properly remove and dispose offsite of all

- 6. After completion of the demolition work, the Contractor shall clean the project limits of all demolished materials, rubbish and all other debris which shall then be transported to a legal offsite disposal site.
- 7. All temporary erosion control measures shall be installed prior to demolition work as shown on the erosion control plan
- 8. Existing utility lines shown are based on best available as-built drawings on file with the City and County of Honoulu.
- 9. Prior to excavation near or around the existing utilities, the Contractor shall restrain all existing pipes, water valves, concrete block, concrete jackets, etc., as required to ensure the existing utilities are not
- 10. The Contractor may salvage, clean and reuse rock for the new CRM Wall as accepted by the Engineer.

### Notes for Demolition of Existing Utilities:

- 1. Contractor shall locate, cut and plug existing water laterals at the property line. Remove all valves and valve boxes that are located within the property. Water meter boxes, valves and valve boxes that are located within the sidewalks shall remain. This work will not be paid for separately but shall be considered incidental to Item Nos. 202.0100 - Removal of Exist. Houses along Pilina Way and 202.0110 -Removal of Exist. Houses along Kupohu Street.
- 2. Contractor shall locate, cut and plug existing sewer laterals at the property line. Existing sewer cleanouts, whether or not shown on the plans shall be demolished and removed. This work will not be paid for separately but shall be considered incidental to Item Nos. 202.0100 -Removal of Exist. Houses along Pilina Way and 202.0110 - Removal of Exist. Houses along Kupohu Street.
- 3. Contractor shall locate, cap, cut and plug, and abandon all existing electric, telephone and cable conduits at the property line after removal of conductors. company. This work will not be paid for separately but shall be considered incidental to Item Nos. 202,0100 - Removal of Exist, Houses along Pilina Way



### <u>Legend:</u>



Existing structure to be demolished and removed.



Existing pavement to be demolished and removed. Existing wall to be demolished and removed,



including fencing where applicable. See Typical Wall Demolition Detail on Sht. D5



Existing foot bridge to be demolished and removed



Existing tree to be demolished and removed. X Tree to be cut at existing ground and tree roots to remain.

Existing hedge to be demolished and removed.



# FIGURE 9

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION

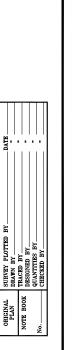
PHASE 1 - DEMOLITION PLAN NORTH OF STREAM CASTLE HILLS ACCESS ROAD

Drainage Improvements

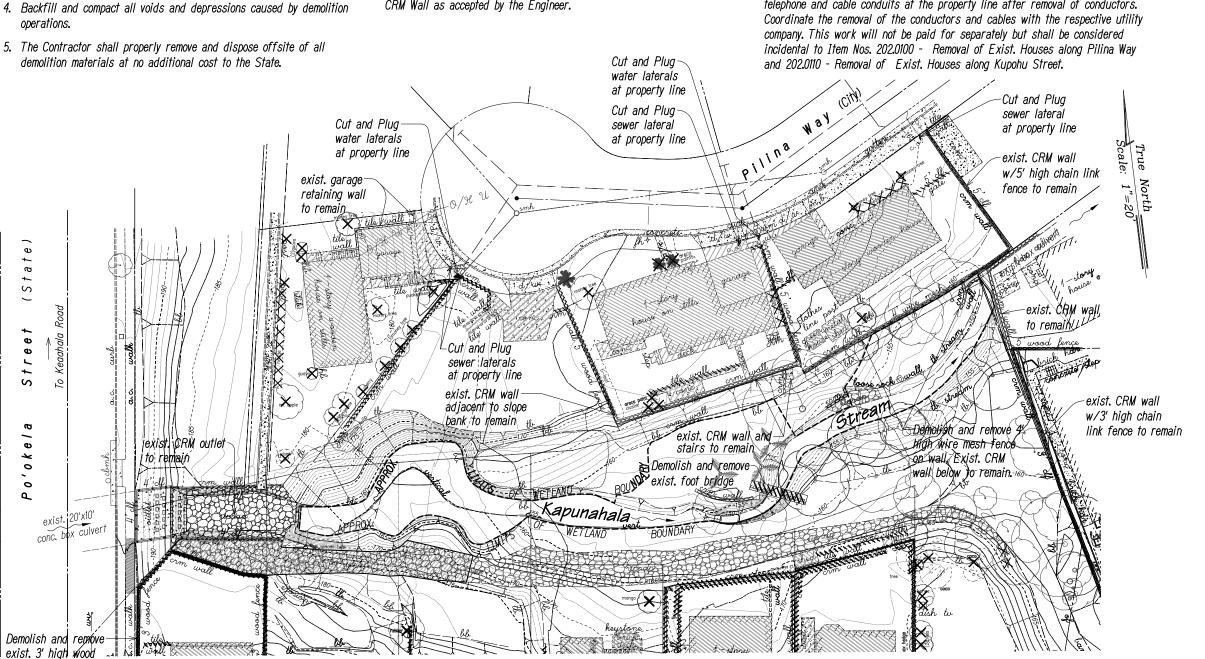
Scale: As Shown

Date: April 2010

SHEET No. DP1 OF DP2 SHEETS

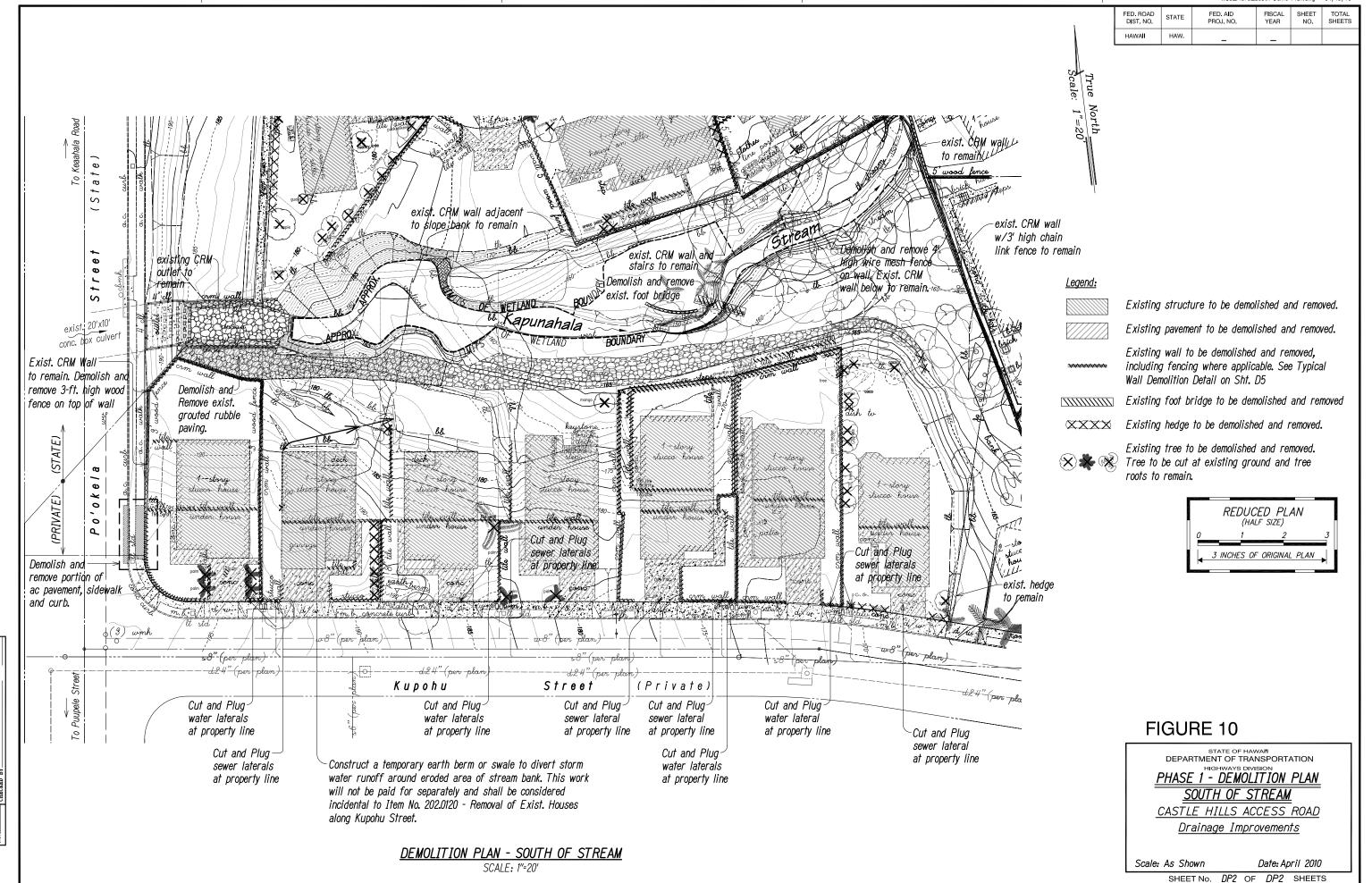


fence, Exist, CRM wall below to remain.

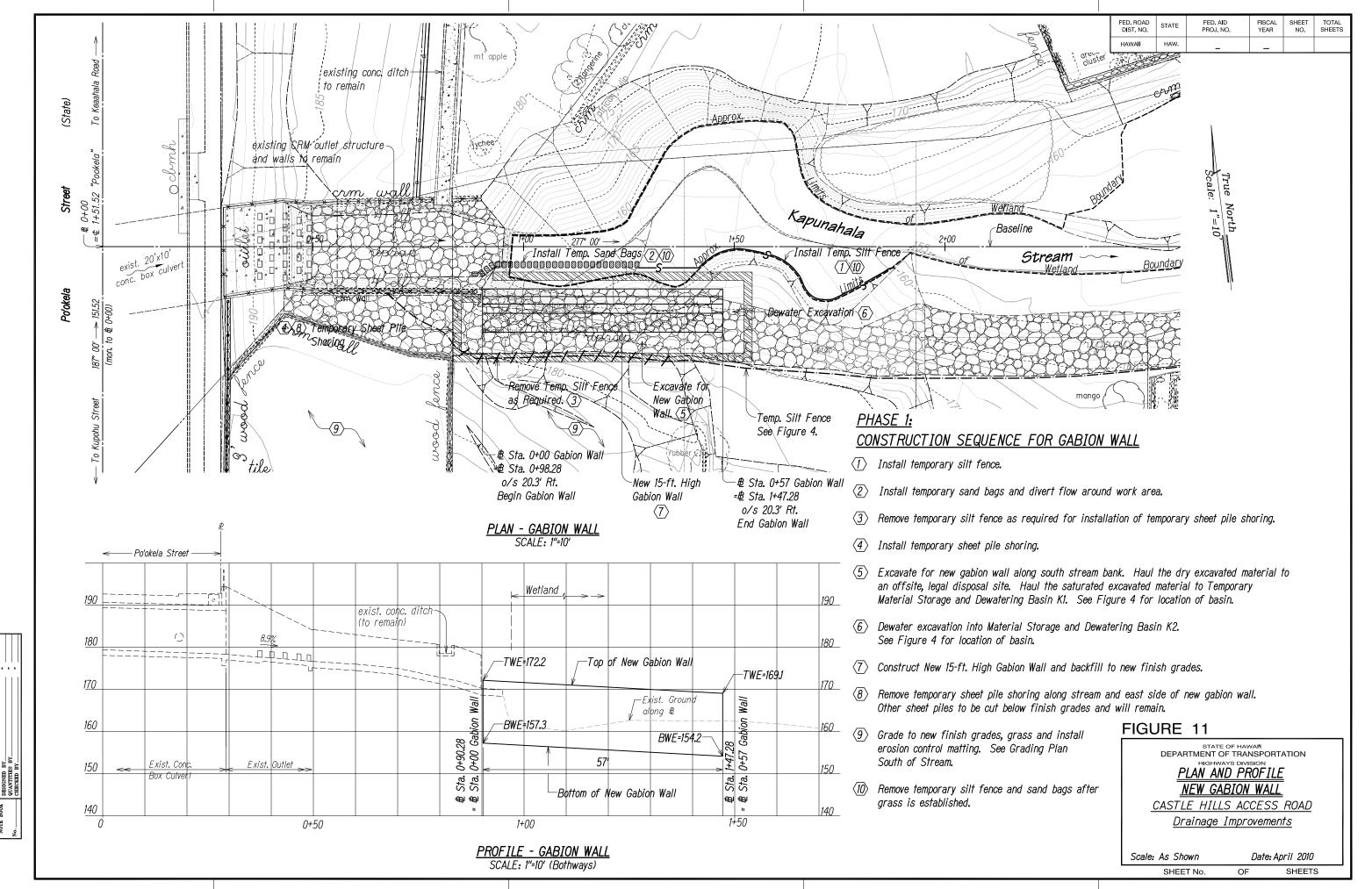


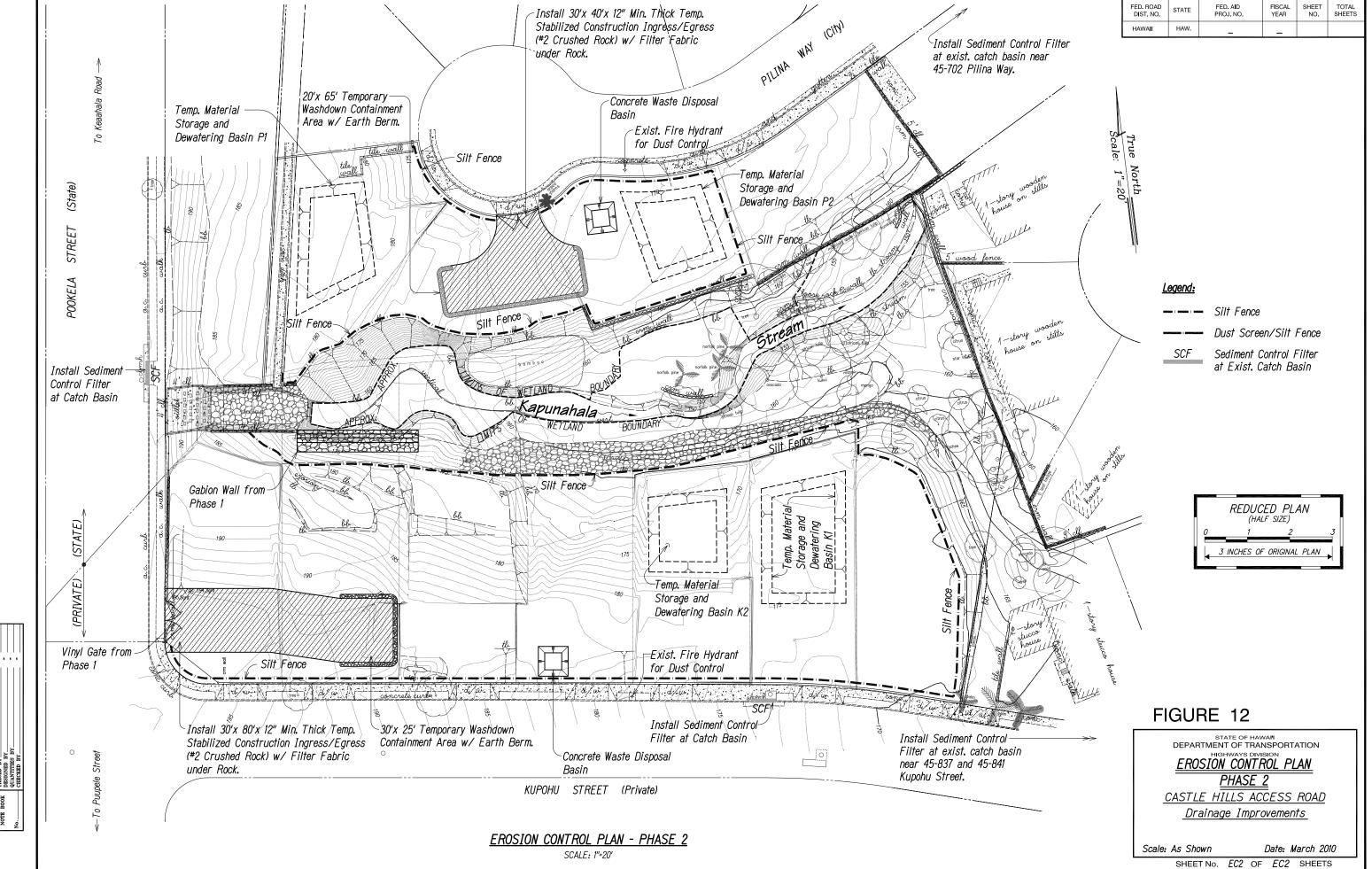
DEMOLITION PLAN - NORTH OF STREAM

SCALF: 1"=20"

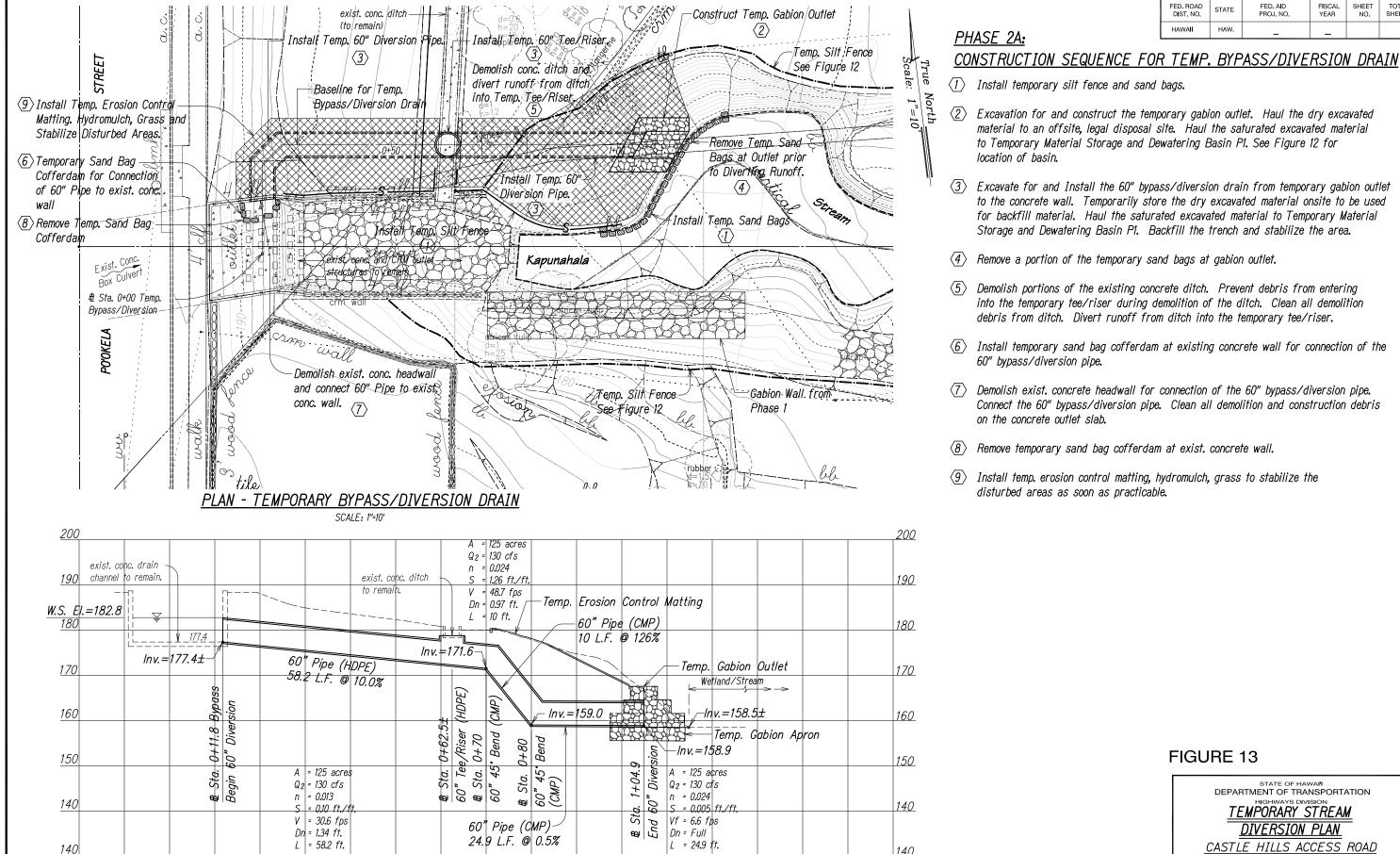


| ORIGINAL | SURVEY PLOTTED BY | DATE | PLAN | DRAW BY | DATE | D





SHEET NO.



1+00

0+50

PROFILE - TEMPORARY BYPASS/DIVERSION DRAIN

Scale: 1"=10' (Bothways)

140

1+50

SURVEY DRAWN TRACED DESIGNE

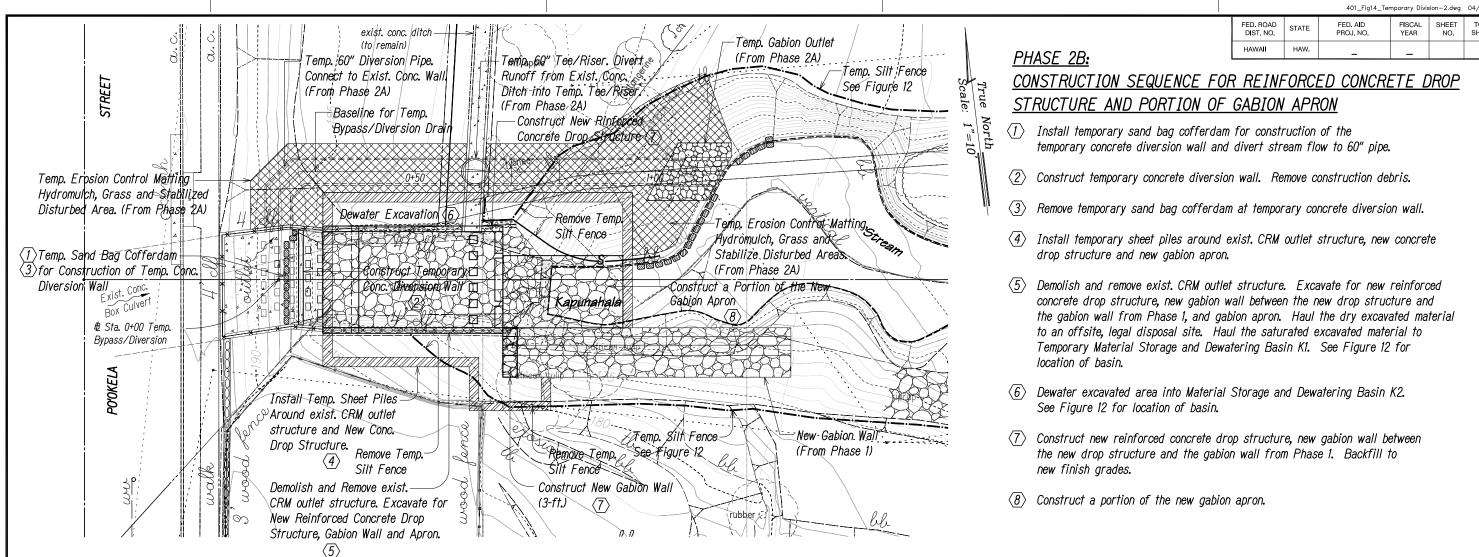
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

TEMPORARY STREAM DIVERSION PLAN CASTLE HILLS ACCESS ROAD

Drainage Improvements

Scale: As Shown Date: April 2010 SHEETS SHEET No.

OF



PLAN - REINFORCED CONCRETE DROP STRUCTURE, GABION WALL AND APRON

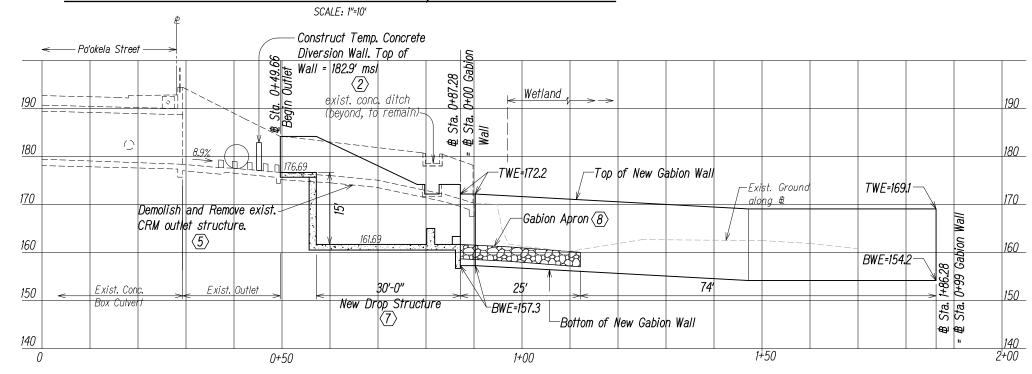


FIGURE 14

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

REINFORCED CONCRETE DROP STRUCTURE, GABION WALL AND APRON

CASTLE HILLS ACCESS ROAD

Drainage Improvements

Scale: As Shown

Date: April 2010

SURVEY DRAWN TRACED DESIGNE

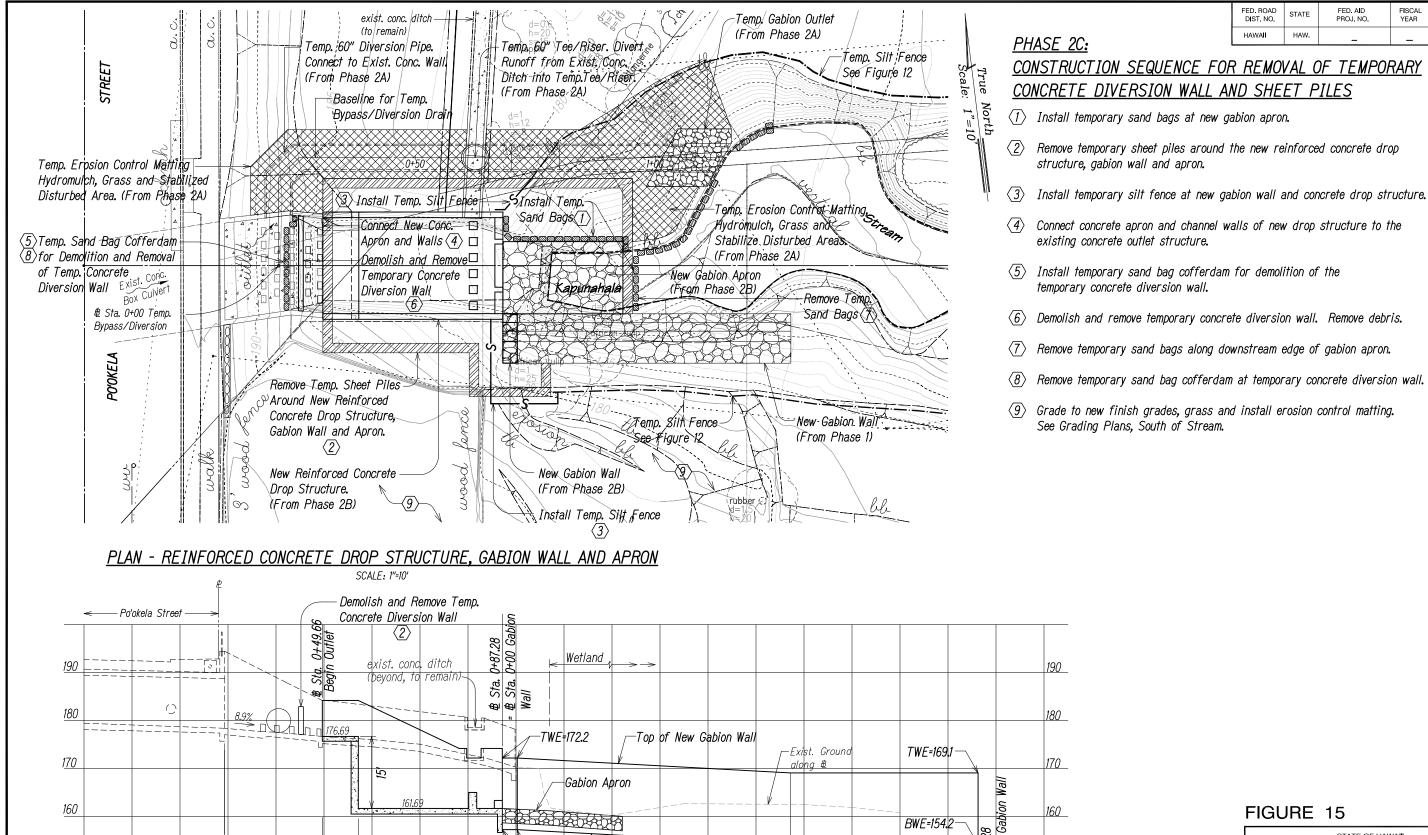
PROFILE - REINFORCED CONCRETE DROP STRUCTURE, GABION WALL AND APRON

Scale: 1"=10' (Bothways)

SHEET No.

SHEETS OF

SHEET NO.



74'

1+50

-Bottom of New Gabion Wall

BWE=154.2

1+86.2 0+99

49a) 49a)

2+00



Exist. Cond

140

Exist. Outlet

0+50

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

REMOVAL OF TEMPORARY CONCRETE DIVERSION WALL AND SHEET PILES

CASTLE HILLS ACCESS ROAD Drainage Improvements

Scale: As Shown

Date: April 2010

SHEET No.

SHEETS

PROFILE - REINFORCED CONCRETE DROP STRUCTURE, GABION WALL AND APRON Scale: 1"=10' (Bothways)

New Drop Structure

-BWE=157**.**3

1+00

DIVERSION WALL AND SHEET PILES

CASTLE HILLS ACCESS ROAD

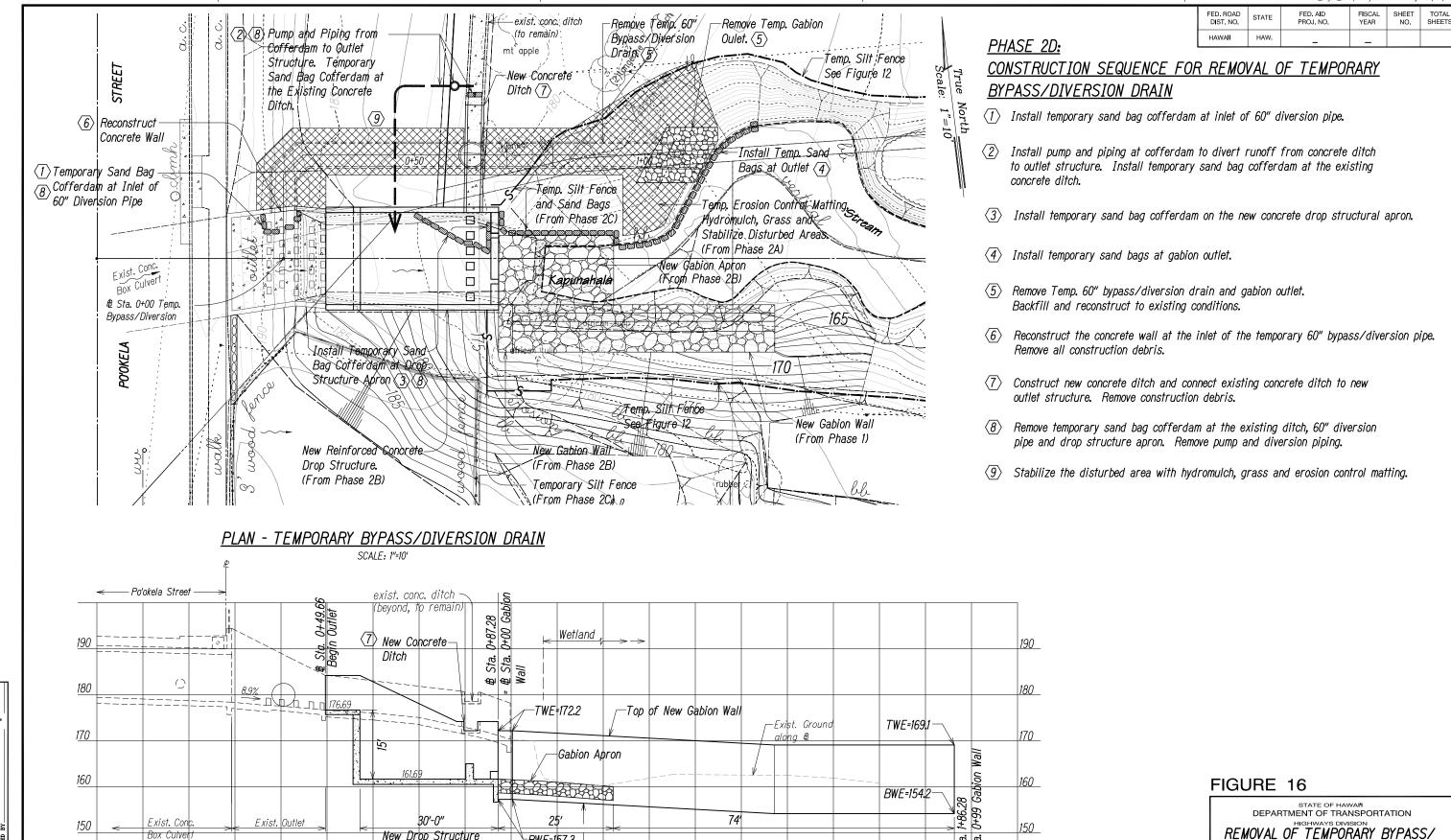
Drainage Improvements

Date: April 2010

SHEETS

Scale: As Shown

SHEET No.



New Drop Structure

0+50

PROFILE - TEMPORARY BYPASS/DIVERSION DRAIN

Scale: 1"=10' (Bothways)

-BWE=157**.**3

1+00

-Bottom of New Gabion Wall

1+50

499 489P

2+00

SURVEY DRAWN TRACED DESIGNE

