

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.
- 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.
- 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.
- 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.
- 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.
- For projects that require and 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 rainfall 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:

- 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.
- 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.
- Maintain all measures in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.
- Remove built-up sediment from compost filter sock when it has reached one-third the height of the fence.
- Inspect compost filter sock for depth of sediment and tears. Verify that the sock is staked into the correct positions and that stakes are firmly in the ground.
- Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.
- 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.
- Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals
- Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
- 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

- 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  
Detergents  
Paints (enamel and latex)  
Metal Studs  
Tar

Fertilizers  
Petroleum Based Products  
Cleaning Solvents  
Wood  
Masonry Block

- 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.

- Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
- Keep products in their original containers with the original manufacturer's label.
- Do not mix substances with one another unless recommended by the manufacturer.
- Whenever possible, a product shall be used up completely before disposing of the container.
- Follow Manufacturer's recommendations for proper use and disposal.
- Conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan

- Keep products in original containers unless they are not resealable.
- Retain original labels and material safety data sheets (MSDS).
- 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:

- 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.
- 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.
- 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.
- 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.

4. Spill Control Plan

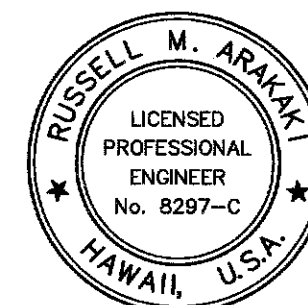
- Post a spill prevention plan to include measures to prevent and clean up each spill.
- The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible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

E. PERMIT REQUIREMENTS:

- Comply with all applicable County, State and Federal Permit conditions.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	377A-01-11	2014	6	28

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
TRACED BY	
SURVEY PROVIDED BY	

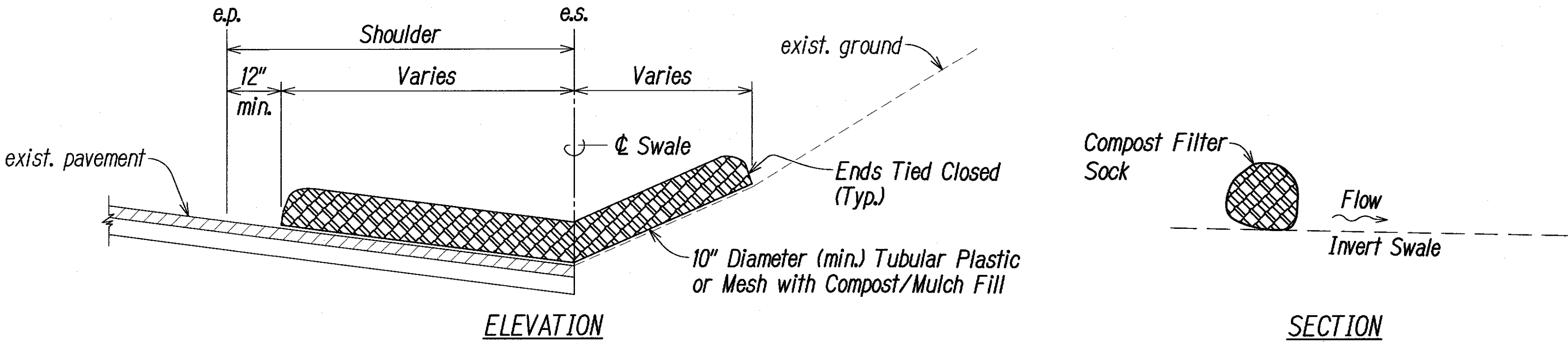


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Russell M. Arai  
Professional Engineer  
LIC. EXP. DATE: APRIL 30, 2014

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<b>WATER POLLUTION AND EROSION CONTROL NOTES</b>	
KEKAULIKE AVENUE Drainage Improvements Mile Post 7.6 to Mile Post 7.9 PROJECT NO. 377A-01-11	
Scale: None	Date: September 2013
SHEET No. EC1 OF EC3 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	377A-01-11	2014	7	28



- NOTES:**
1. See Detail SC-8 of the "Construction Best Management Practices Field Manual" dated January 2008
  2. Stake/Secure Filter Sock per Manufacturer's Requirements.

**COMPOST FILTER BERM (FILTER SOCK)**  
NOT TO SCALE

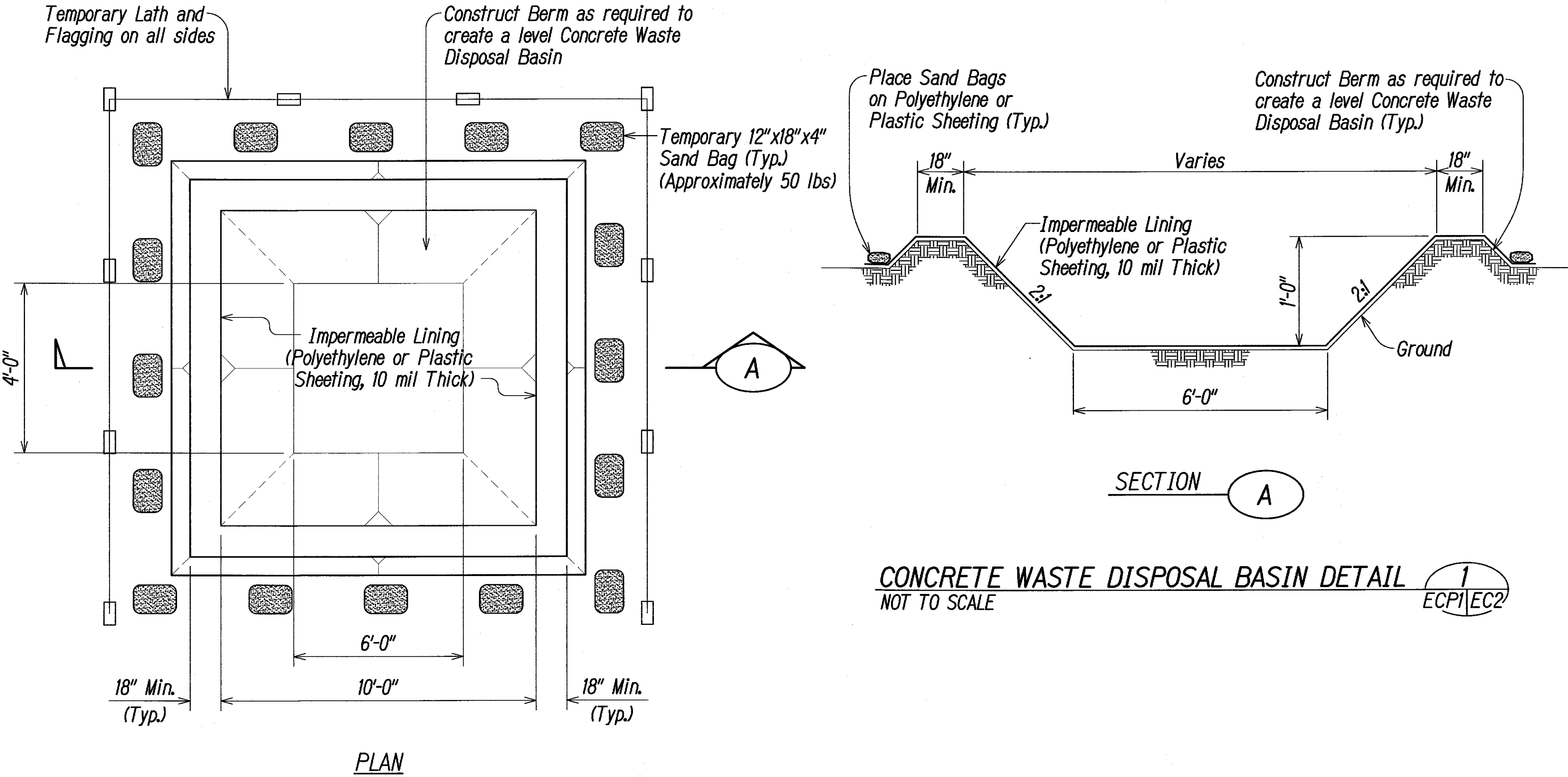
1  
CJ1/EC2

**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. 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.
3. All Best Management Practices (BMP's) shall not be removed until all permanent erosion control controls are in place and established.
4. 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.
5. 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.

**NOTES:**

1. The dimensions and location of the concrete waste disposal basin shall be determined in the field by the contractor and accepted by the Engineer.
2. The dimensions of the concrete waste disposal basin 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 concrete waste disposal basin is sized for a one-day pour, the collected water and materials shall be removed from the basin and disposed of properly prior to the start of the next pour, or another properly sized basin 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.
5. The Concrete Washout Area Sign shall be installed within 30-feet of the temporary concrete waste disposal basin.
6. The Contractor shall not splice the polyethylene or plastic sheeting.



**CONCRETE WASTE DISPOSAL BASIN DETAIL**  
NOT TO SCALE

1  
ECPI/EC2



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.

*Russell M. Arakawa*  
RMA  
APR 30, 2014  
LIC. EXP. DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

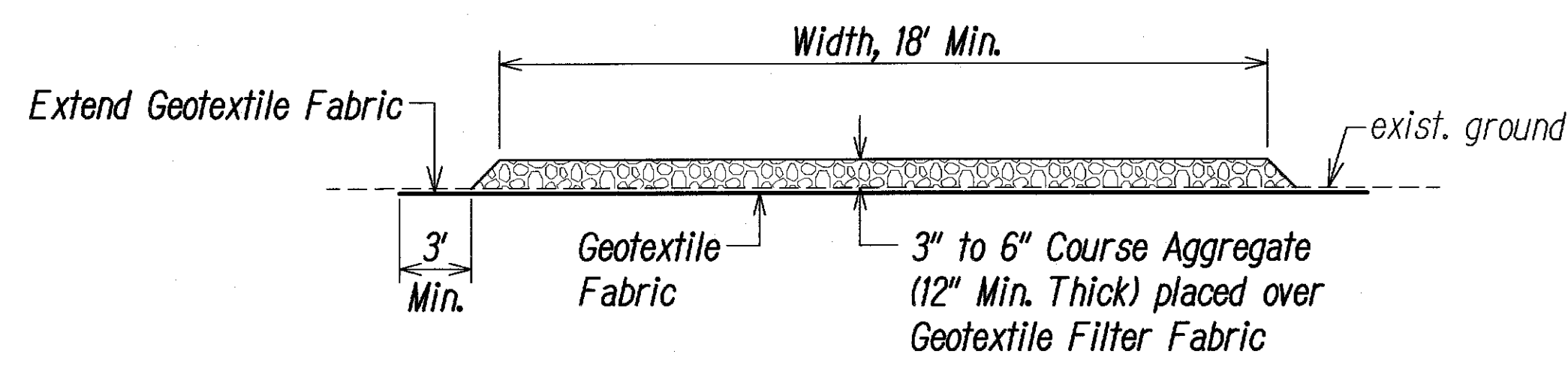
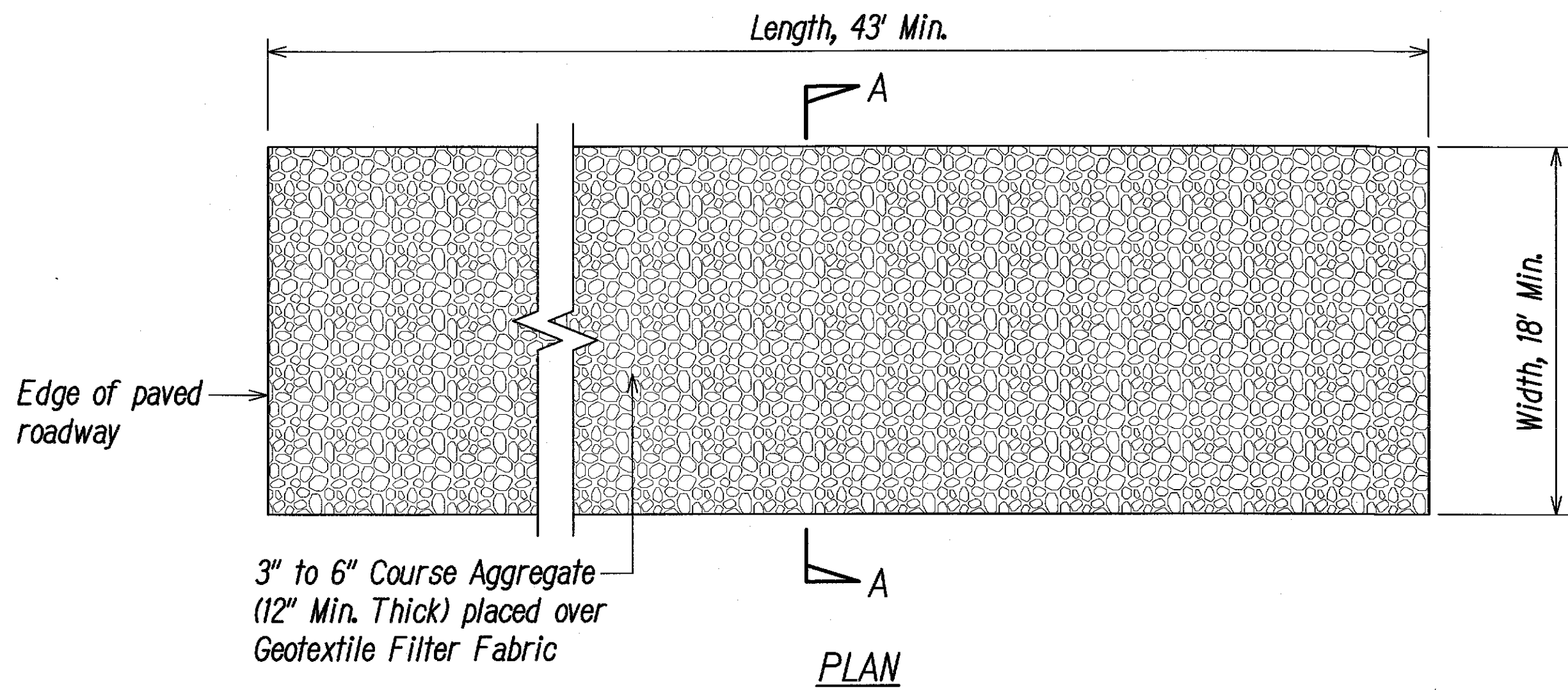
**BMP NOTES AND DETAILS**  
  
**KEKAULIKE AVENUE**  
**Drainage Improvements**  
**Mile Post 7.6 to Mile Post 7.9**  
**PROJECT NO. 377A-01-11**  
Scale: As Shown      Date: September 2013

SHEET No. EC2 OF EC3 SHEETS

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

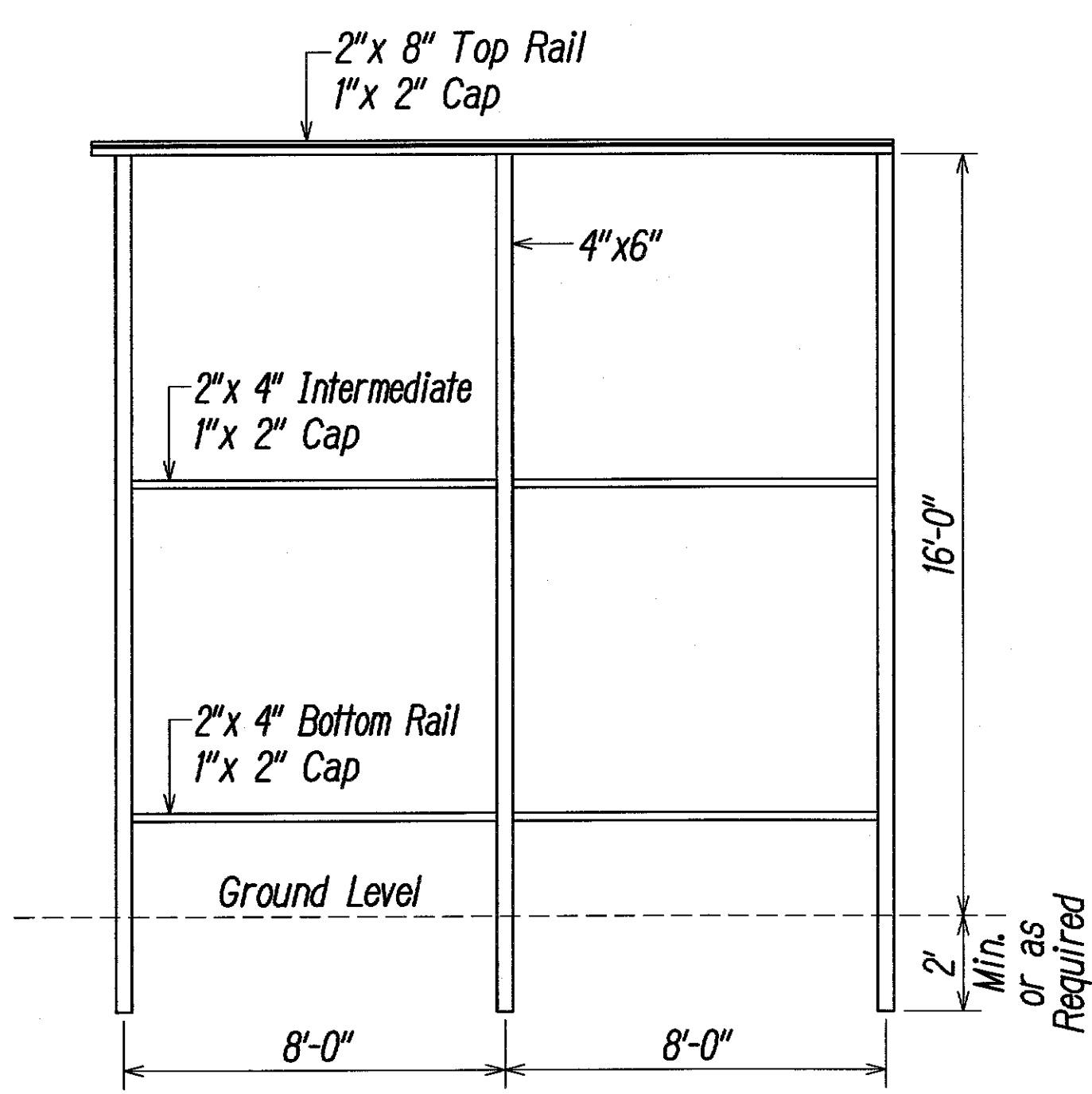


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	377A-01-11	2014	8	28

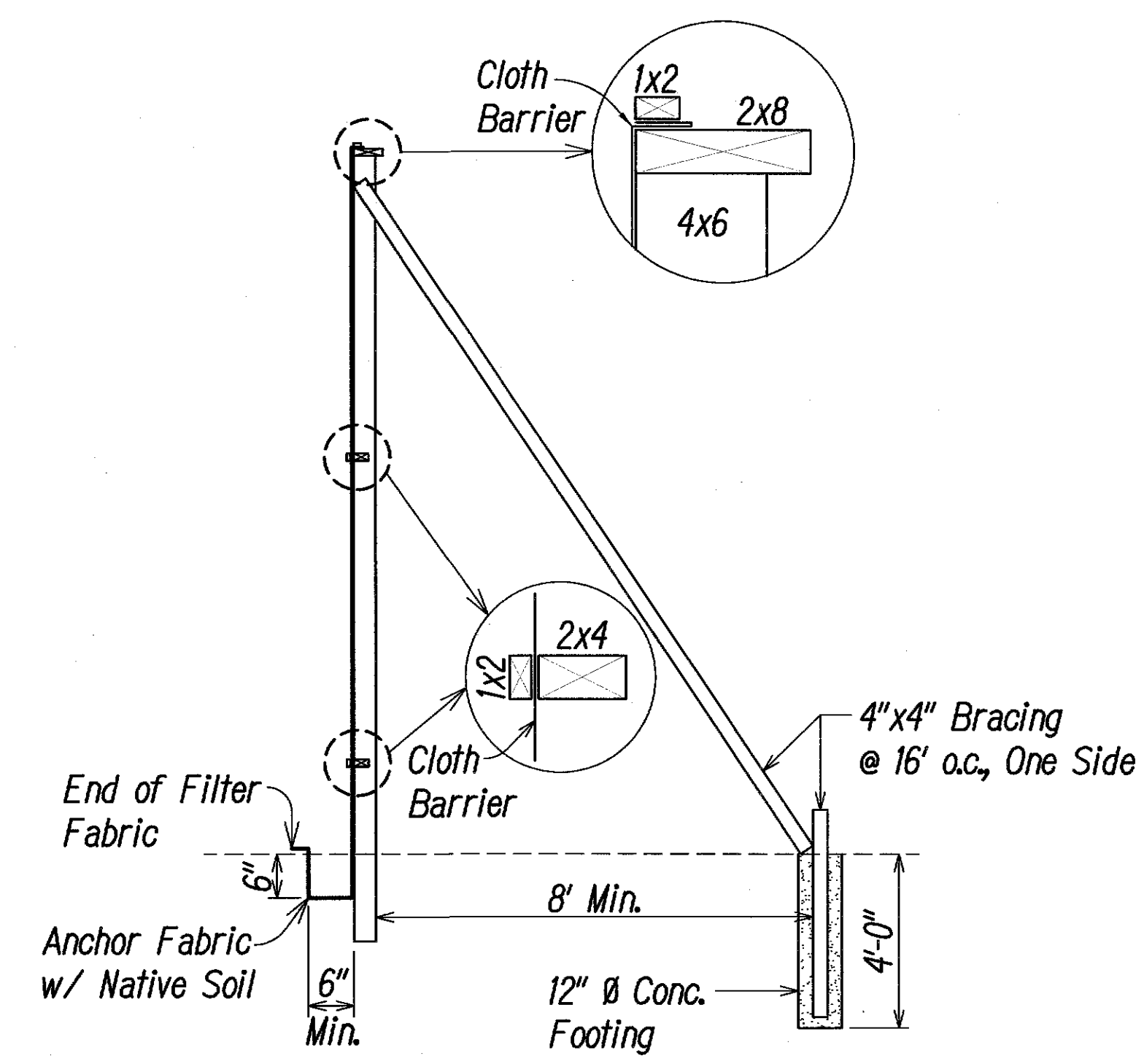


SECTION A-A

TEMPORARY STABILIZED CONSTRUCTION INGRESS/EGRESS  
Not to Scale



Elevation



Side View

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 fabric". 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 in accordance with the silt fence detail shown on Sht. 7.
5. Bury base of cloth barrier to indicated dimension, as shown.
6. 1x2 cloth barrier caps to be nailed 12" o.c.
7. Cloth barrier 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.



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.  
*Russell M. Arakawa*  
APRIL 30, 2014  
LIC. EXP. DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**BMP NOTES AND DETAILS**  
  
**KEKAULIKE AVENUE**  
**Drainage Improvements**  
**Mile Post 7.6 to Mile Post 7.9**  
**PROJECT NO. 377A-01-11**  
Scale: As Shown      Date: September 2013

SHEET No. EC3 OF EC3 SHEETS

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