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11	SITE PREPARATION & PLANTING NOTES

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99C-01-11M	2011	ADD.1	11

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HONOLULU, HAWAII

PLANS FOR

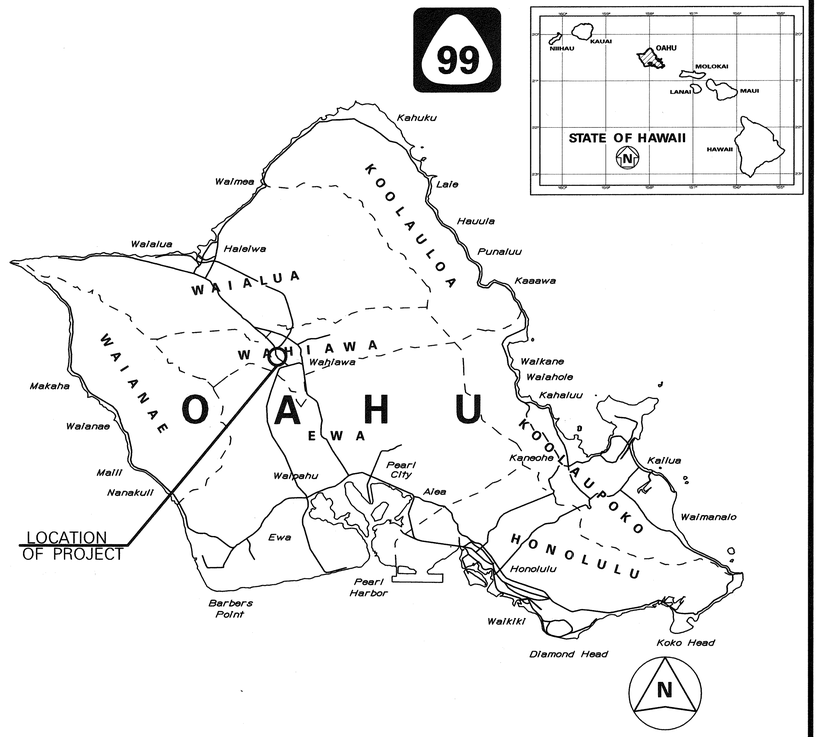
KAMEHAMEHA HIGHWAY

SLOPE MAINTENANCE FOR EROSION CONTROL

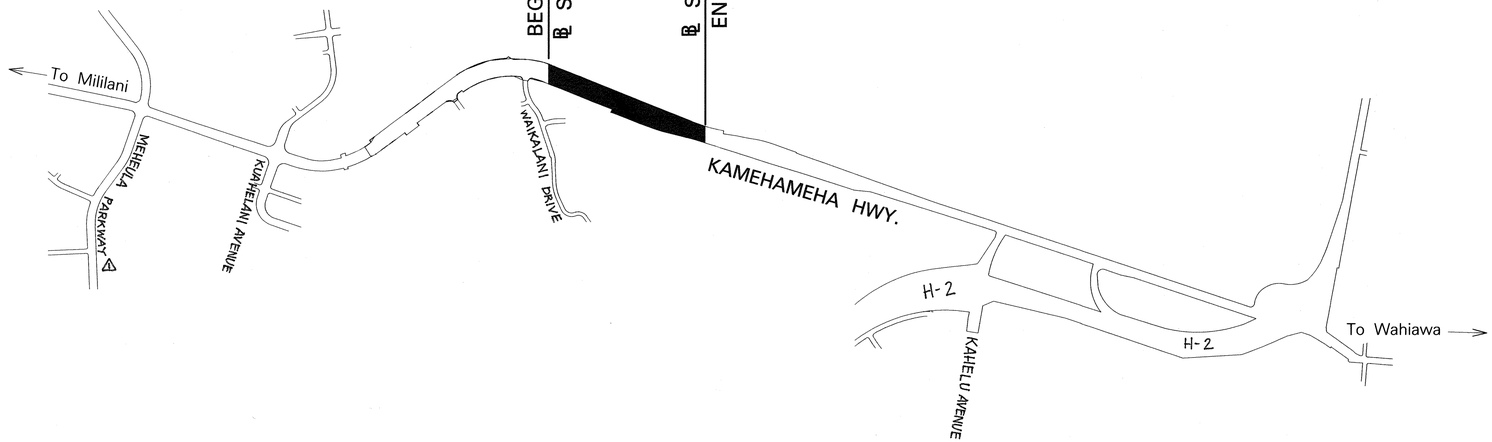
PROJECT NO. 99C-01-11M

DISTRICT OF WAHIAWA

ISLAND OF OAHU



MILE POST 11.65 TO MILE POST 11.85



LAYOUT PLAN

NOT TO SCALE

GROSS LENGTH OF PROJECT..... 0.20 MILES

NET LENGTH OF PROJECT..... 0.20 MILES

HWY-DL DESIGNED BY

HWY-DL MANAGED BY

692-8363 PHONE

MAR., 2011 DATE

DATE	REVISION
⚠ 6/13/11	Added Street Names

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:

MAY 13 2011

DIR. OF TRANSPORTATION DATE

ADD. 1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99C-01-11M	2011	ADD.11	11

Sediment Monitoring and Reporting:

1. Contractor to monitor site and provide monthly reports for 24 months after initial installation of vegetation.
2. Install prior to construction, an orange painted four foot height stakes twenty feet on center from the bottom to the top of slope for each hundred foot segment. Mark each segment with detail number.
3. Photograph in color each hundred foot segment the first of every month starting after installation. Paint location of photo taking on pavement and use same location every month. Photographs shall be digital photographs with a minimum size of 18 megapixels.
4. Submit to Engineer a list of internet reporting NOAA, military or agricultural rainfall sensors located within one mile of project site for the Engineer's approval. The approved rainfall sensor shall be used for notification of rain events.
5. Inspect silt fence weekly during dry periods as well as within 24 hours of any rainfall of 0.5 inch or greater which occurs in a 24-hour period and daily during periods of prolonged rainfall as reported from approved internet rainfall sensor. Repair or replace damaged fence or posts. Check and photograph the sediment deposited along each plant plot silt fence. Remove sediment and measure by volume in gallons of sediment. Document and provide written report with data for each plant plot in digital Microsoft Word format. Data shall include date & time, rainfall recorded from internet sensor, on site rain gauge, digital sediment photographs (for each plot), and sediment volume removed (for each plot). A field log will be kept for each site visit detailing date, personnel, purpose of visit, conditions found, and actions performed.
6. Provide quantities of installed vegetation remaining at 12 months and 24 months after installation.

SITE PREPARATION:

1. Contractor shall exercise care not to disturb the soils of the site other than installing the planting, temporary irrigation and erosion BMP's. In the planting areas, there shall be no changes in grade, no scraping, no storage of construction materials, no stockpiling of materials, no disposal of any liquids, and no cleaning of equipment.
2. Remove all trees less than 6 inch diameter at breast height for planting areas. Removal includes cutting the trunk at 6 inches above grade and applying a systemic herbicide. Roots shall remain.
3. Cut all grass 2 days prior to planting to a height of 2 inches above grade. Do not remove roots or apply herbicides.

PLANTING NOTES:

1. Landscape Contractor shall field verify all plant quantities and dimensions prior to installation. Quantities shown on plant list are for reference only, verify actual quantities as shown on plan. If there is discrepancy, the planting plan shall take precedence.
2. Landscape Contractor shall be responsible for location and protecting existing utilities.
3. Notify Engineer of any discrepancies in plant locations or insufficient plant quantities due to difference in plans and actual field conditions.
4. Notify Engineer 30 days prior to planting operations for approval of all plant material at place of growth. All plant material not approved by the Engineer will be subject to rejection.
5. The Engineer will inspect plants at the place of growth and after the delivery to the project. Each tree shall be tagged by the engineer with a consecutively numbered plastic tamper-resistant and self-locking seal. Seals shall remain on tree and only be removed by the engineer at the completion of the plant establishment period. Trees delivered to the project without engineers seal will be rejected.
6. Plants shall meet size indicated by minimum height and spread. Plants shall be straight and uniformly shaped, unless unique or special characteristics are specified, and shall be undamaged, sound, healthy, vigorous and free of disease and insect infestation. Plants not conforming to these requirements on delivery to the project and at the end of the plant establishment period will be rejected.
7. Contractor shall be solely responible for the complete removal and damages resulting from planting any plant species listed on the Hawaii Department of Agriculture 'Noxious weed rules' as defined in the statute, Hawaii Administrative Rules 4:68:1 or the 'Federal Noxious Weed List' as defined in Title 7 of the code of Federal Regulations (CFR), parts 360 and 361.
8. All tree work must adhere to American National Standard Institute (or ANSI)-A300 tree care standards and ANSI-Z133 safety standards for tree work. Work shall be contracted to Arborists that has been certified in good standings as an ISA certified Arborist for at least 5 years to assure that tree work is performed properly and trees are not damaged by practices such as topping, flush cuts, over-thinning, or climbing with spikes. Contractor shall submit a copy of the ISA Arborist certification of good standing if 5 years to the Engineer minimum 7 days prior to tree pruning.
9. For the duration of construction within the drip line of trees to remain there must be: no changes, alterations or disturbance to the grade by adding fill, excavating or scraping except as noted on plans; no storage of construction material or equipment; no stockpiling of any construction material or any excavated material no disposal of any liquids (e.g. concrete sleuth, gas, oil paint); no vehicular traffic, equipment or excessive pedestrian traffic no attachment of any wires, ropes, lights, or any other such attachment other than those of protective nature to any tree to be preserved; and no cleaning of equipment or material under the canopy of any tree or group of trees to remain.
10. If trees other than those specifically designated for removal are damaged beyond survival conditions as determined by engineer, the contractor shall remove such trees and replace the tree with a same specie and size and maintain for the duration of construction or 12 months whichever is greater at no cost to the state.
11. Submit soil sample to Crop Nutrient Solutions, Inc., Post Office Box 40, Waimanalo, Hawaii 96795, Phone: 386-4120 or University of Hawaii Agricultural Extension Service at Manoa, 1910 East West Road, Sherman Lab 134, Honolulu, Hawaii 96822, Phone: 956-6706. Submit one soil sample consisting of a composite sample of one gallon of soil collected from a minimum ten locations on site planting areas. Sample shall only be collected by using a soil spiral auger. Soil tests shall be performed in accordance with the Methods of Soil Analysis by the Soil Science of America, Inc. Soil tests shall include particle size analysis, percentage organic carbon, chemical analysis, soil texture analysis, Cation Exchange Capacity (CEC), Bulk Density and soluble salts. Provide soil test reports to Engineer.
12. All planting holes shall be done using a gas powered soil auger to minimize soil disturbances. For planting soil amend with one quarter part compost to three quarters part augered soil.
13. Submit a written plan prior to planting for the planting technique that will minimize disturbing the slope soils for the Engineer's approval.
14. Install a temporary irrigation system 2 weeks prior to planting. Submit a 9 month irrigation watering schedule for the Engineer's approval. ⚠
15. For each 100 ft. segment, follow planting detail as shown on plans. Planting shall be from bottom to top of slope as shown on plans.
16. Excavations for planting shall not be made within five feet downhill of existing boulders. ⚠

QUANTITY	BOTANICAL NAME	COMMON NAME	COMMENTS
3,000	Dodonaea viscosa	Aali'i	3-1/2 Inch Pot
210	Metrosiderous polymorpha	Ohi'a lehua	2 Gallon, 9 Inch Pot
10,870	Chrysopogon zizanioides 'Sunshine'	Vetiver Grass	Rooted slips
30	Acacia koa	Koa	2 Gallon. 9 Inch Pot
30	Psydrax odorata	Alahe'e	2 Gallon, 9 Inch Pot

ORIGINAL PLAN
NOTE BOOK dd.1 Vol. 2000
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

DATE	REVISION
6/13/11 ⚠	Corrected Note No. 14 and Added Note No. 16.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE PREPARATION and PLANTING NOTES

KAMEHAMEHA HIGHWAY
Slope Maintenance for Erosion Conrtol
Project No. 99C-01-11M
Scale: None Date: May, 2011

SHEET No. 1 OF 1 SHEETS

ADD.11