

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|------------------------|--------|-----------------------|----------------|--------------|-----------------|
| HAWAII | HAWAII | NH-083-1(49) | 2003 | C.O. 4 | 78 |

WATER NOTES

WATER NOTES (CONT'D):

- 3

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the City and County of Honolulu Board of Water Supply's "Water System Standards" dated 2002, the "Water System External Corrosion Control Standards", Volume 3, dated 1991, and all subsequent amendments and additions.
- 6

2. ~~The State shall pay the applicable water system facilities and/or one-time service charge and for the meter which will be furnished by BWS and installed by the contractor when the lateral is installed.~~
- 3

3. The Contractor shall notify BWS Maintenance Unit – Engineering, Construction Section in writing and submit five (5) sets of approved construction plans one week prior to commencing work on the water system.
4.

4. The Contractor shall be responsible for the protection of all water lines during construction. The Contractor shall be especially careful when excavating behind water lines, tees, and bends whenever there is a possibility of water line movement due to the removal of the supporting earth beyond the existing reaction blocks. The Contractor shall take whatever means necessary to protect the water lines, such as constructing special reaction blocks (with BWS approval) and/or modifying his construction method.
5.

5. The existence and location of underground utilities and structures as shown on the plans are from the latest available data but is not guaranteed as the accuracy of the encountering of other obstacles during the course of the work. The Contractor shall be responsible and pay for all damages to existing utilities. The Contractor shall not assume that where top utilities are shown, that none exist.
6.

6. Re-approval shall be required if this project is not under construction within a period of two years.
7.

7. Install 4 MIL thick, non-metallic, blue colored, 6 inches wide warning tape over centerline of the pipe and below the base course along the entire length of trench. Tape should be marked with "Caution Water Line Buried Below".
- 1

8. The installation, chlorination and testing of the water main and facilities after the meter shall not be the responsibility of the Board of Water Supply.
9.

9. Board of Water Supply approval of these plans does not constitute a water commitment. Availability of water will be determined when building permit is presented to the department. Water commitment will depend upon the status of the water system at that time. Should water service be made available, the water commitment will be effective when the project receives an approved building permit from the building department. All water commitments will be canceled in the event the building permit is canceled.

- 7

10. Contractor shall cut and plug all existing unused laterals at the main whether or not shown on the plans. Meter and valve boxes to be or already abandoned shall be demolished or removed and properly disposed of. The damaged area shall be repaired to an equal or better condition than the immediate area. All work shall be done at the expense of the Contractor.
- 7

11. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply.
- 7

12. The project shall be subject to the Board of Water Supply's Cross-Connection Control requirements prior to issuance of the Building Permit.
- 7

13. The backflow preventer device must be installed before meter is issued.
- 7

14. The Contractor shall furnish and install polyethylene wrap, 3 feet minimum at all taps (for DI pipe and copper lateral combination only) and plastic pipe (PE tubing) 3 feet long after meters for all service lateral connections.

FOR ESTIMATING PURPOSES ONLY

| DESCRIPTION OF WORK | ESTIMATE |
|---|-------------|
| 3-"A" LAT. IRRIGATION SERVICE | |
| 3/4" Meter Three @ \$267.00 | \$801.00 |
| Installation Charge (87+180) | |
| WATER SYSTEM FACILITIES CHARGES (TRANS, STORAGE & SOURCE) | |
| (MIN 20 FU) Three @ \$12,417.00 | \$37,251.60 |
| 20 FU @ \$620.85/FU (COMM) | |
| *CREDIT | N/A |
| S/N | |
| S/N | |
| FIRE SERVICE | |
| Meter | N/A |
| Installation Charge | N/A |
| One-time Charge | N/A |
| TOTAL | \$38,052.00 |

*CREDITS WILL BE DETERMINED WHEN THE BUILDING PERMIT APPLICATION IS SUBMITTED FOR BWS REVIEW AND APPROVAL.

THIS ESTIMATE IS SUBJECT TO CHANGE. A FORMAL WRITTEN QUOTATION MAY BE OBTAINED AND ALL PAYMENTS FOR THE CHARGES SHOWN ON THE QUOTATION MADE WITHIN 30 DAYS AFTER THE CONSTRUCTION PLAN IS APPROVED BY BWS. IF PAYMENTS ARE NOT RECEIVED WITHIN THE 30 DAY PERIOD, THE PROJECT WILL BE SUBJECT TO THE PREVAILING RATES.

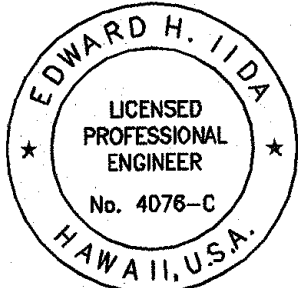
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|-------------------|-------|
| ORIGINAL PLAN | DATE |
| SURVEY PLANNED BY | 12/02 |
| DESIGNED BY | 12/02 |
| NOTED BY | 12/02 |
| CHECKED BY | 12/02 |

6 REAPPROVED: (TIME LAPSE)

Joseph W. K... 1/15/08
PRINCIPAL EXECUTIVE, MAINTENANCE UNIT, BWS DATE

APPROVED:

Joseph W. K... 1/15/08
PRINCIPAL EXECUTIVE, MAINTENANCE UNIT, BWS DATE



This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115, Subchapter 1 Definitions of the Hawaii Administrative Rules, Professional Engineers, Architects, Surveyors, and Landscape Architects.)

Edward H. Iida 1/30/2004
signature expiration date of the license

NOTE: Contractor to check and verify dimensions of job before proceeding with work.

| | |
|----------|---|
| 12/14/07 | 6 Reapproved (Time Lapse) Revised Estimate; Note deleted |
| 01/08/04 | 3 Revised Water Notes 1 and 6. Deleted Water Notes 2,3,4,9,10,12,13,14, and 19. Renumbered Water Notes. |
| 09/30/03 | 1 Revised and Added to Notes |
| 05/07/03 | Added BWS Cost Estimate Table Revised and Added to Notes |
| DATE | REVISIONS |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
CONSTRUCTION NOTES - 2
KAHEKILI HIGHWAY LANDSCAPING
Kuluokee Street to Vicinity of Haiku Road
Federal Aid Project No. NH-083-1(49)
Scale: As Noted Date: Apr. 2002

SHEET No. 2 OF 5 SHEETS

C.O. 4

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|--------------------|-------------|-----------|--------------|
| HAWAII | HAWAII | NH-083-1(49) | 2003 | C.O. 5 | 78 |

SEWER NOTES

1. All sewer construction shall be performed in accordance with the City's standard specifications, Sept. 1986, the Department of Public Works standard details, Sept. 1984, current city practices and Revised Ordinances of Honolulu, 1990 as amended, and the Design Standards of the Department of Wastewater Management Vol. 1, July 1993.
- 1

6

2. The contractor shall notify the Inspection Section, Wastewater Branch, DDC, at 768-8788 or 768-8770 to arrange for inspection services and submit four (4) sets of approved construction plans seven (7) days prior to commencement of sewer work. The contractor shall pay for all inspection costs.
3. Trees in the road right-of-way shall be situated a minimum of 6'-0" from the city's sewer lines.
4. The underground pipes, cables or ductlines known to exist by the engineer from his research of records are indicated on the plans. The contractor shall verify the location and depth of the facilities, including and affecting sewer lines, in the presence of the Wastewater inspector and exercise proper care in excavating the area. The contractor shall be responsible and shall pay for all damaged utilities.
5. The contractor shall be responsible for maintaining continuous service to all affected areas during construction.
6. The contractor shall be responsible for any sewage spills caused during construction. The contractor shall notify the State Department of Health and utilize appropriate sampling and analyzing procedures. The contractor shall be responsible for all public notifications and press releases.

| | |
|---------------|------|
| DESIGNED BY | DATE |
| NOTED BY | DATE |
| CHECKED BY | DATE |
| APPROVED BY | DATE |
| ORIGINAL PLAN | |
| NOTE BOOK | |
| No. | |

CURB RAMP AND SIDEWALK NOTES

1. These typical details are intended as curb ramp guidelines for design and construction.
2. A 2% maximum cross slope shall be maintained in the direction of pedestrian traffic.
3. Subject to field conditions, the Engineer shall determine the final location of curb ramps.
4. All pullboxes shall be installed away from the curb ramp and within the sidewalk/unpaved area to the maximum extend possible.
5. Where necessary, existing pullboxes, handholes, manholes, etc., shall be adjusted to match curb ramp grade. Adjustments shall not be paid for separately but shall be considered incidental to the various curb ramp items unless indicated otherwise.
6. Transitions from ramps to gutters and roadways shall be flush.
7. Curb ramps and sidewalks shall be constructed to eliminate ponding to the maximum extent feasible.
8. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% for Type A and D ramps and 8.33% for Type B, C, and E ramps. The counterslope may be exceeded when the change of grade does not exceed 13% (11% preferred) over a distance of 2 ft. Exceeding the 13% (11% preferred) change in grade will cause a person in a wheelchair to tip forward and/or fall backward.
9. There shall be a 30"x48" level ground surface (2% max. cross slope, both directions) for a forward or side approach, as appropriate, to a pedestrian push button.
10. Construction joints are required to join curb ramps with sidewalks.
11. Unless otherwise noted, new gutters are required as shown.
12. All curb ramps shall be reinforced with 6x6 W1.4/W1.4 welded wire fabric.
13. Surface of sidewalks and curb ramps shall be firm, stable and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
14. Base course material is required for curb ramps, sidewalks, and gutters.
15. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation. If this cannot be met, a minimum 32-inch clear width is allowed for a distance of 24 inches.
16. Passing spaces along new sidewalks with 5' clear width or less shall be provided at maximum 200' intervals as required by ADA guidelines. The passing area shall be a minimum 5' wide by 5' long as feasible.

17. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off sidewalk but within the right-of-way.
18. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e. mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current American with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.
19. If a curb ramp is not constructed according to the plans, the Contractor shall reconstruct the curb ramp at no cost to the State. Construction tolerance for Portland Cement Concrete shall be based on 1/4 inch per 10 ft. (±0.2%). Remedial measures will not be accepted.
20. Additional information is available from:
 - a) American with Disabilities Act Guidelines (ADAAG), Jan. 1998, The Access Board.
 - b) Accessible Rights-of-Way: A Design Guide, Nov. 1999, The Access Board.
 - c) Designing Sidewalks and Trails for Access Part 1, July 1999, FHWA
 - d) Designing Sidewalks and Trails for Access Part 2, Sept. 2001, FHWA

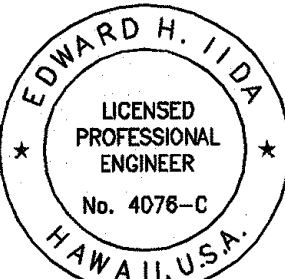
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 REAPPROVED: (TIME LAPSE)

Wagner Calamea 1/14/08
CHIEF, WASTEWATER BRANCH, DPP DATE

APPROVED:

Dennis M. Nukunura 1/20/04
CHIEF, WASTEWATER BRANCH, DPP DATE



This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115, Subchapter 1, Definitions of the Hawaii Administrative Rules, "Professional Engineers, Architects, Surveyors, and Landscape Architects.")
Edward H. Iida 4/30/2004
signature expiration date of the license

NOTE: Contractor to check and verify dimensions at job before proceeding with work.

| | |
|---|--|
| 09/11/07 | <div>6</div> Reapproved (Time Lapse); Changed phone numbers |
| 09/30/03 | <div>1</div> Revised and Added to Notes |
| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION CONSTRUCTION NOTES - 3 KAHEKILI HIGHWAY LANDSCAPING Kulukeoe Street to Vicinity of Haiku Road Federal Aid Project No. NH-083-1(49) Scale: As Noted Date: Apr. 2002 | |

SHEET No. 3 OF 5 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|------------------------|--------|-----------------------|----------------|--------------|-----------------|
| HAWAII | HAWAII | NH-083-1(49) | 2003 | 6 | 78 |

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

- The Contractor is reminded of the requirements of Section 209 – Water Pollution and Erosion Control, in the "Hawaii Standard Specifications for Road, Bridge, and Public Works Construction". 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.
- The Contractor shall follow the guidelines in the "Best Management Manual for Construction Sites in Honolulu", dated May 1999 in developing, installing and maintaining the Best Management Practices (BMP) for the project.
- The Engineer may assess liquidated damages of up to \$25,000 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every 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.

B. WASTE DISPOSAL:

1. Waste Materials

All waste materials shall be collected and stored in a securely lidded metal dumpster. The dumpster shall meet all local and State solid waste management regulations. All trash and construction debris from the site shall be deposited in the dumpster. The dumpster shall be emptied a minimum of twice per week or as often as deemed necessary. No construction waste materials shall be buried onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Notices stating these practices shall be posted in the office trailer and the Contractor shall be responsible for seeing the that procedures are followed.

2. Hazardous Waste

All hazardous waste materials shall be disposed of in the manner specified by local or State regulations or 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

All sanitary waste shall be collected from the portable units a minimum of once per week, or as required.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

- All control measures shall be inspected at least once each week and following any rainfall event of 0.5 inches or greater.
- All measures shall be maintained in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.
- Built-up sediment shall be removed from silt fence when it has reached one-third the height of the fence.
- Silt screen or fence shall be inspected 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.
- Temporary and permanent seeding and planting shall be inspected for bare spots, washouts and healthy growth.
- A maintenance inspection report shall be made promptly after each inspection by the contractor.
- The Contractor shall select a minimum of three personnel who shall be responsible for inspection, 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.

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 substance not listed below shall be added to the inventory.

| | |
|---------------------------|--------------------------|
| Concrete | Fertilizers |
| Detergents | Petroleum Based Products |
| Paints (enamel and latex) | Cleaning Solvents |
| Metal Studs | Wood |
| Tar | Masonry Block |

- Material Management Practices shall be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. An effort shall be made to store only enough product as is required to do the job.

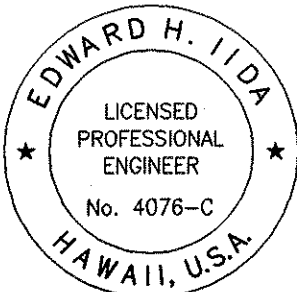
- All materials stored onsite shall be stored in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.

- Products shall be kept in their original containers with the original manufacturer's label.
- Substances shall not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, a product shall be used up completely before disposing of the container.
- Manufacturer's recommendations for proper use and disposal shall be followed.
- The Contractor shall conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan

- Products shall be kept in original containers unless they are not resealable.
- Original labels and materials safety data sheets (MSDS) shall be retained.
- Surplus products shall be disposed of according to manufacturer's instructions or local and State recommended methods.

| | |
|-------------------|-------|
| SURVEY PLOTTED BY | DATE |
| DRAWN BY | 12/02 |
| DESIGNED BY | 12/02 |
| CHECKED BY | 12/02 |
| ORIGINAL PLAN | |
| NOTE BOOK | |
| NO. | |



THIS WORK WAS PREPARED BY ME OR
UNDER MY SUPERVISION
Edward H. Iida
MITSUNAGA & ASSOCIATES

| |
|--|
| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION |
| CONSTRUCTION NOTES - 4 |
| <i>KAHEKILI HIGHWAY LANDSCAPING</i> <i>Kuluokee Street to Vicinity of Haiku Road</i> <i>Federal Aid Project No. NH-083-1(49)</i> <i>Scale: As Noted Date: Apr. 2002</i> |
| SHEET No. 4 OF 5 SHEETS |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|------------------------|--------|-----------------------|----------------|--------------|-----------------|
| HAWAII | HAWAII | NH-083-1(49) | 2003 | 7 | 78 |

WATER POLLUTION AND EROSION CONTROL NOTES – CONT.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

3. Onsite and Offsite Product Specific Plan

A. The following product specific practices shall be followed.

1) Petroleum Based Product:

All onsite vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite shall be applied according to the manufacturer's recommendation.

2) 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. The contents of any partially used bags of fertilizer shall be transferred to a sealable plastic bin to avoid spills.

3) Paints:

All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the highway drainage system but shall be properly disposed of according to manufacturer's instruction or State and local regulations.

4) Concrete Trucks:

Concrete trucks shall be allowed to wash out or drum wash water only at a designated site. Water shall not be discharged in the highway drainage system or waters of the United States. The Contractor shall contact Drinking Water Branch, Department of Health at 586-4258 to receive permission to designate a disposal site. The Contractor shall clean disposal site as required or as requested by the Owner's representative.

B. Vehicle Tracking:

- 1) A stabilized construction entrance shall be provided to help reduce vehicle tracking of sediments.
- 2) The paved street adjacent to the site entrance shall be cleaned daily or as required to remove and excess mud, cold planed materials, dirt, or rock tracked from the site.
- 3) Dump trucks hauling materials from the construction site shall be covered with a tarpaulin.

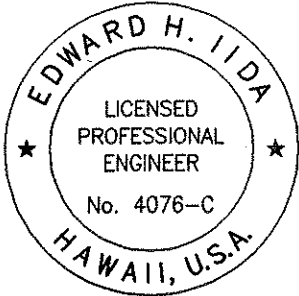
4. Spill Control Plan

- a. A spill prevention plan shall be posted to include measures to prevent and clean up each spill.
- b. The Contractor shall be the spill prevention and cleanup coordinator. The Contractor shall 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. The names of responsible spill personnel shall be posted in the materials storage area and in the office trailer onsite.
- c. Manufacturer's recommended method for spill cleanup shall be clearly posted and site personnel shall be made aware of the procedures and the location of the information and cleanup supplies.
- d. Materials and equipment necessary for spill cleanup shall be kept in the material storage area onsite.
- e. All spills shall be cleaned up immediately after discovery.
- f. The spill area shall be kept well ventilated and personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- g. Spills or toxic hazardous material shall be reported to the appropriate State or local government agency, regardless of the size.

E. PERMIT REQUIREMENTS:

1. The Contractor shall comply with all applicable State and Federal Permit conditions. Permits may include but are not limited to the following:
 1. NPDES Permit for Construction Activities
 2. Water Quality Certification

| | | |
|------------------|---------------------------|-------|
| ORIGINAL PLAN | SURVEY PLOTTED BY DATE | 12/02 |
| NOTE BOOK | DRAWN BY J. BAQUILAR | |
| | DESIGNED BY E. IIDA | 12/02 |
| | QUANTITIES BY J. BAQUILAR | 12/02 |
| | CHECKED BY E. IIDA | 12/02 |



THIS WORK WAS PREPARED BY ME OR
UNDER MY SUPERVISION
Edward H. Iida
MITSUNAGA & ASSOCIATES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES – 5

KAHEKILI HIGHWAY LANDSCAPING
Kulukeoe Street to Vicinity of Haiku Road
Federal Aid Project No. NH-083-1(49)
Scale: As Noted Date: Apr. 2002

SHEET No. 5 OF 5 SHEETS