

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-076-1(10)	2011	4	38

HAWAIIAN TELCOM NOTES

- The Contractor shall procure and pay for all licenses and permits and shall give all notices necessary and incident to the due and lawful prosecution of the work.
- The Contractor shall obtain an excavation permit and toning request from Hawaiian Telcom's Excavation Permit Section, located at 1177 Bishop Street, two weeks prior to the start of construction. Hours of business are 8:00 a.m. to 11:00 a.m. and 12:00 p.m. to 3:00 p.m. Monday through Friday, except holidays.
- Prior to the excavation of the ductline, the Contractor shall request Hawaiian Telcom to locate existing ductline wherever required. For underground cable locating and marking, five (5) working days advance notice is required. Three (3) working days advance notice is required for any inspection by a designated representative.
- The locations of existing utilities are approximate only. The Contractor shall exercise extreme caution and shall maintain proper clearances whenever construction crosses or is in close proximity of Hawaiian Telcom facilities. The Contractor shall verify their locations and shall be liable for any damages to Hawaiian Telcom facilities. Any damages shall be reported immediately to Hawaiian Telcom's Repair Section at #611 (24 hours) or to the Excavation Permit Section at 546-7746 (normal working hours, Monday through Friday, except holidays). As a result of his operations, adjustments to the new ductline alignment, if required, shall be made to provide the required clearances.
- The Contractor shall take necessary precaution not to damage existing cables or ducts. A Hawaiian Telcom inspector or designated representative is required to be at any job site whenever there will be a breakage into or entry into any structure that contain Hawaiian Telcom facilities. Temporary cable and duct supports shall be provided wherever necessary.
- The Contractor shall notify Hawaiian Telcom's inspector or designated representative a minimum of 72 hours prior to excavation, bracing, or backfilling of Hawaiian Telcom's structures or facilities.
- All applicable construction work shall be done in accordance with the "Hawaiian Telcom Standard Specifications for Placing Telephone Systems" dated January 2007, all subsequent amendments and additions, and all other pertinent standards for telephone construction. Contractor shall familiarize his personnel by obtaining applicable specifications.
- When excavation is adjacent to or beneath Hawaiian Telcom's existing structures or facilities, the Contractor shall:
 - Sheet and/or brace the excavation to prevent slides, cave-ins, or settlements to ensure no movement to Hawaiian Telcom's structures or facilities.
 - Protect existing structures and/or facilities with beams, struts, or underpinning while excavating beneath them to ensure no movement to Hawaiian Telcom's structures or facilities.
- The Contractor shall brace all poles or light standards near the new ductline, manhole, or handhole during his operations.
- The Contractor shall saw-cut A.C. pavement and concrete gutter wherever new manholes, handholes, or ductlines are to be placed and shall restore to existing condition or better.

HAWAIIAN TELCOM NOTES (CONT.)

- The Contractor shall comply with the policy adopted by the Department of Planning and Permitting, City and County of Honolulu, concerning the replacement of concrete sidewalks after excavation work.
- The underground pipes, cables, or ductlines known to exist by the Engineer from his search of records are indicated on the plans. The Contractor shall verify the locations and depths of the facilities and exercise proper care in excavating in the area. Wherever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for the new lines.
- Wherever connections to existing utilities are shown on the plans, the Contractor shall expose the existing lines prior to excavation of the main trenches to verify their locations and depths.
- The Contractor, at his own expense, shall keep the project and surrounding area free from dust nuisance. The cost for supplementary measures, which will be required by the City and County, shall be borne by the Contractor.
- The Contractor shall pump all manholes dry during final inspection.
- The Contractor shall notify Hawaiian Telcom inspector 24 hours prior to the pouring of concrete or backfilling.
- When connecting to manhole walls, all existing reinforcing bars shall be left intact. Ducts shall be adjusted in the field in order to clear reinforcing.
- The Contractor shall be responsible for laying out all required lines and grades and shall preserve all bench marks and working points necessary to lay out the work correctly. The new ductline shall be adjusted by the Contractor to suit the existing conditions and the details as described in the plans.
- Minimum concrete strength shall be:
For ductline 2500 psi at 28 days
For manhole 3000 psi at 28 days or as specified in design notes
- Bends in the duct alignment, due to changes in grade shall have a minimum radius of 25 feet. All 90 degree C-bends at a pole or at the building floor slab penetration, shall have a bend radius of ten times the diameter of the duct or greater.
- After ductline has been completed, a mandrel with a square front not less than 12" long and having a diameter of 1/4" less than the inside diameter of the duct, shall be pulled through each duct after which a brush with stiff bristles shall be pulled through to make certain that no particles of earth, sand, or gravel have been left inside. Ducts shall be completely dry and clean.
- All ducts and conduits shall have an 1800# polyester mule-tape (NEPTCO, WP1800P, Hawaiian Telcom Material Code No. 571154) installed throughout its entire length. All ducts shall be capped to prevent entry of foreign material during construction and at the completion of installation.

HECO NOTES

- Location of HECO Facilities:

The location of HECO's overhead and underground facilities shown on the plans are from existing records with varying degrees of accuracy and are not guaranteed as shown. The contractor shall verify in the field the locations of the facilities and shall exercise proper care in excavating and working in the area. Wherever connections of new utilities to existing utilities and utility crossings are shown, the Contractor shall expose the existing lines at the proposed connections and crossings to verify the depths prior to excavation for the new lines. The Contractor shall be responsible for any damages to HECO's facilities whether shown or not shown on the plans.
- Compliance with Hawaii Occupational Safety and Health Laws:

The Contractor shall comply with the State of Hawaii's Occupational Safety and Health Laws and Regulations, including without limitation, those related to working on or near exposed or energized electrical lines and equipment.
- Excavation Permit:

The Contractor shall obtain an excavation permit from HECO's Technical Division (543-5654) located at 820 Ward Avenue, 4th floor, two weeks prior to starting construction. Please refer to our request number at that time.
- Caution!!! Electrical Hazard!!!

Existing HECO overhead and underground lines are energized and will remain energized during construction unless prior special arrangements have been made with HECO. Only HECO personnel are to handle these energized lines and erect temporary guards to protect these lines from damage. The Contractor shall work cautiously at all times to avoid accidents and damage to existing HECO facilities, which can result in electrocution.
- Overhead lines:

State law requires that a worker and the longest object he or she may contact cannot come closer than a minimum radial clearance of 10 feet when working close to or under any overhead lines rated 50kv and below. For each additional 1kv above 50kv, an additional 0.4 inch shall be added to the 10-foot clearance requirement. The preceding information on line clearance requirements is provided as a convenience and it is the Contractor's responsibility to be informed of and comply with any revisions or amendments to the law.

Should the Contractor anticipate that his work will result in the need to encroach within the minimum required clearance at any time, the Contractor shall notify HECO at least four (4) weeks prior to the planned encroachment so that, if feasible, the necessary protections (e.g. relocate, de-energize, or blanket HECO lines) can be put in place. HECO's cost of safeguarding its lines will be charged to the Contractor.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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PAMELA K. UYEDA

LICENSED PROFESSIONAL ENGINEER

No. 10352-C

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

UTILITY NOTES - 1

FORT WEAVER ROAD PAVEMENT PRESERVATION

Renton Road to the Vicinity of Ewa Beach Road

Federal Aid Project No. STP-076-1(10)

Scale: None

Date: Feb. 2011

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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HECO NOTES (CONT.)

Contact HECO's Customer Installations Department at 543-7846 for assistance in identifying and safeguarding overhead power lines.

Refer to Section X of HECO's Electric Service Installation Manual for additional guidelines when working around HECO's facilities. A copy may be obtained from HECO's Customer Installations Department.

6. Pole Bracing:

A minimum clearance of 10 feet must be maintained when excavating around utility poles and/or their anchor system to prevent weakening or pole support failure. Should work require excavating within 10 feet of a pole and/or its anchor system, the Contractor shall protect, support, secure, and take all other precautions to prevent damage to or leaning of these poles. The Contractor is responsible for all associated costs to brace, repair, or straighten poles. All means of structural support for the pole proposed by the Contractor shall first be reviewed by HECO before implementation. For pole bracing instructions, the Contractor shall call the HECO Construction and Maintenance Dept., Customer & System Superintendent at 543-4223 a minimum of two (2) weeks in advance.

7. Underground lines:

The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines. HECO's existing electrical cables are energized and will remain energized during construction. Only HECO personnel are to break into existing HECO facilities, handle these cables and erect temporary guards to protect these cables from damage. The cost of HECO's assistance in providing proper support and protection of its underground lines will be charged to the Contractor. Special precautions are required when excavating near HECO's 138KV underground lines (See HECO instructions to Consultants/Contractors on "Excavation near HECO's underground 138KV lines" for detailed requirements).

For verification of underground lines, the Contractor shall call HECO's underground division at 543-7049 a minimum of 72 hours in advance.

For assistance in providing proper support and protection of these lines, the contractor shall call HECO's Construction & Maintenance Dept., Customer & System Superintendent, at 543-4223, a minimum of two (2) weeks in advance.

8. Underground Fuel Pipelines:

The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of HECO's underground fuel oil pipelines. Special precautions are required when excavating near HECO's underground fuel oil pipelines (See HECO instructions to Consultants/Contractors on "Excavation near HECO's underground Fuel Pipelines" for detailed requirements).

9. Excavations:

When trench excavation is adjacent to or beneath HECO's existing structures or facilities, the Contractor is responsible for:

- a. Sheet piling and bracing the excavation and stabilizing the existing ground to render it safe and secure and to prevent possible slides, cave-ins, and settlements.
- b. Properly supporting existing structures or facilities with beams, struts, or under-pinnings to fully protect it from damage.
- c. Backfilling with proper backfill material including special thermal backfill where existing (refer to Engineering Department for thermal backfill specifications).

HECO NOTES (CONT.)

10. Relocation of HECO Facilities:

Any work required to relocate or modify HECO facilities shall be done by HECO, or by the Contractor under HECO's supervision. The Contractor shall be responsible for all coordination, and shall provide necessary support for HECO's work, which may include, but not be limited to, excavation and backfill, permits and traffic control, barricading, and restoration of pavement, sidewalks, and other facilities.

All costs associated with any relocation or modification (either temporary or permanent) for the convenience of the Contractor, or to enable the Contractor to perform his work in a safe and expeditious manner in fulfilling his contract obligations shall be borne by the Contractor.

11. Conflicts:

Any redesign or relocation of HECO's facilities not shown on the plans may be cause for lengthy delays. The Contractor acknowledges that HECO is not responsible for any delay or damage that may arise as a result of any conflicts discovered or identified with respect to the location or construction of HECO's electrical facilities in the field, regardless of whether the Contractor has met the requested minimum advance notices. In order to minimize any delay or impact arising from such conflicts, HECO should be notified immediately upon discovery or identification of such conflict.

12. Damage to HECO Facilities:

The Contractor shall be responsible for the protection of all HECO surface and subsurface utilities and shall be responsible for any damages to HECO's facilities as a result of his operations. The Contractor shall immediately report such damages to HECO's Trouble Dispatcher at 548-7961. Repair work shall be done by HECO or by the Contractor under HECO's supervision. Costs for damages to HECO's facilities shall be borne by the Contractor.

13. HECO Stand-by Personnel:

The Contractor may request HECO to provide an inspector to stand-by during construction near HECO's facilities. The cost of such inspection will be charged to the Contractor.

The Contractor shall call the HECO Construction and Maintenance Dept., Customer & System Superintendent at 543-4223 a minimum of 5 working days in advance to arrange for HECO stand-by personnel.

HECO NOTES (CONT.)

14. Clearances:

The following clearances shall be maintained between HECO's ductline and all adjacent structures (Charted and Uncharted) in the trench:

Structural Type	Minimum Clearances (Inches)
Water Lines, Parallel	36
Water Lines, Crossing	12 (A)
Sewer Lines, Parallel	36 (B)
Sewer Lines, Crossing	24 (C)
Drain Lines, Parallel	12
Drain Lines, Crossing	6 (D)
Electrical and Gas Lines, Parallel	12
Electrical and Gas Lines, Crossing	12
Telephone Lines, Parallel	6 (D)
Telephone Lines, Crossing	6 (D)
Chevron Oil Lines, Parallel	36
Chevron Oil Lines, Crossing	48 Below Oil Line (E)

- A. The minimum vertical clearances to water lines crossing electrical ductlines can be reduced to 6 inches if the electrical ductline structure is smaller than 16 inches, is concrete encased, and is below the water line.
 - B. A minimum horizontal clearance of 36 inches is required between new handholes and existing sewer laterals.
 - C. The minimum vertical clearances to sewer pipes crossing electrical ductlines can be reduced to 12 inches if the sewer pipe is jacketed in concrete.
 - D. The minimum clearances shall be increased to 12 inches if the electrical ductline is direct buried.
 - E. The minimum vertical clearances to oil lines crossing electrical ductlines can be reduced to 24 inches below oil lines if the crossings are encased in 6 inches of concrete.
 - F. The Contractor shall notify the Construction Manager & HECO of any heat sources (Power Cable Duct Bank, Steamline, Etc.) encountered that are not properly identified on the drawing.
15. Indemnity:

The Contractor shall indemnify, defend and hold harmless HECO from and against all losses, damages, claims, and actions, including but not limited to reasonable attorney's fees and costs based upon or arising out of damage to property or injuries to persons, or other tortious acts caused or contributed to by Contractor or anyone acting under its direction or control or on its behalf; provided Contractor's indemnity shall not be applicable to any liability based upon the sole negligence of HECO.

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<div><div><div>PAMELA K. UYEDA</div><div>LICENSED PROFESSIONAL ENGINEER</div><div>No. 10352-C</div><div>HAWAII, U.S.A.</div></div><div><div>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</div><div></div></div></div>	<div>STATE OF HAWAII</div> <div>DEPARTMENT OF TRANSPORTATION</div> <div>HIGHWAYS DIVISION</div> <div>UTILITY NOTES - 2</div> <div>FORT WEAVER ROAD PAVEMENT PRESERVATION</div> <div>Renton Road to the Vicinity of Ewa Beach Road</div> <div>Federal Aid Project No. STP-076-1(10)</div> <div>Scale: None Date: Feb. 2011</div>
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WATER NOTES

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, dated 1994, as amended, of the Hawaii Highways Division, Department of Transportation, and 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.
2. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply. All other features of the water system, such as lines, grades, fittings, drainage, etc., and other features of improvements shall not be the responsibility of the Board of Water Supply.
3. The Contractor shall notify BWS Capital Projects Division, Construction Section in writing one week prior to commencing work on the water system.
4. 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 to the accuracy or 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 no utilities are shown, that none exist.
5. Re-approval shall be required if this project is not under construction within a period of two years.
6. 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 wherever 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 measure necessary to protect the water lines, such as constructing special reaction blocks (with BWS approval) and/or modifying his construction methods.
7. Prior to any excavating, the Contractor shall verify in the field the location of existing water mains and appurtenances.
8. The Contractor shall verify all existing service lateral locations whether shown or not shown on plans prior to commencing with any of the work and shall not assume that where no services are shown, none exist.
9. The Contractor shall adjust all manhole frames/valve boxes/meter boxes within the resurfaced area. The Contractor shall be responsible for "referencing" these manholes/valve boxes/meter boxes to facilitate the adjustments.
10. Any adjustments to the existing water system required during construction to meet requirements of BWS Standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board.
11. Two-way blue reflective hydrant markers Type DB shall be installed at all fire hydrant locations.
12. Maintain 3'-0" minimum cover for all existing waterlines (18" minimum for service laterals) from new finish grade. The Contractor shall probe the waterline and service laterals and submit the probing data to BWS Capital Projects Division, Construction Section. Any adjustments to the existing water system to meet the minimum cover and the requirements of the BWS standards, whether shown on plans or not, shall be done by the Contractor at no cost to BWS.

DEPARTMENT OF PLANNING AND PERMITTING
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, as Amended, and the Design Standards of the Department of Wastewater Management Vol. 1, July 1993.
2. The Contractor shall notify the Construction Management Branch, Wastewater Division, DDC, at 768-8788 or 768-8770 to arrange for inspection services and submit four sets of approved construction plans seven days prior to commencement of sewer work. The Contractor shall pay for all inspection costs.
3. 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.
4. The Contractor shall be responsible for maintaining continuous sewer service to all affected areas during construction.
5. 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 notification and press releases.
6. Maintain 3'-0" min. horizontal clear separation between all sewer systems and nearest street lighting ductlines, pullboxes, and handholes paralleling the sewer system.
7. Maintain 5'-0" min. horizontal clear separation between street lighting standards (including any modular units) and nearest sewer line system. Contractor shall field verify for conflicts at each street lighting standard location. Where conflicts occur, the Contractor shall coordinate with Project Engineer to revise the street light standard to provide the required clearances.
8. At electrical/signal ductline sewer crossings, adjust all electrical/signal ductline elevations to maintain 24" vertical clear separation from all sewer lines.
9. For sewer manhole (SMH) adjustments upward less than 3", See Std. Detail S-25. For SMH adjustments upward greater than 3" or for any adjustments downward, reconstruct the SMH top from below the cone section.
10. Confined Space
For entry by City personnel, including inspectors, into a permit required confined space as defined in 29 CFR part 1910.146(b), the Contractor shall be responsible for providing:
 1. All safety equipment required by the confined space regulations applicable to all parties other than the construction industry, to include, but not limited to, the following:
 - a. Full body harness for up to two personnel
 - b. Lifeline and associated clips
 - c. Ingress/egress and fall protection equipment
 - d. Two-way radios (walkie-talkies) if out of line-of-sight
 - e. Emergency (escape) respirator (10 minute duration)
 - f. Cellular telephone to call for emergency assistance
 - g. Continuous gas detector (calibrated) to measure oxygen, hydrogen sulfide, carbon monoxide and flammables (capable of monitoring at a distance of at least 20-feet away).
 - h. Personal multi-gas detector to be carried by inspector.
 2. Continuous forced air ventilation adequate to provide safe entry conditions.
 3. One attendant/rescue personnel topside (two, if conditions warrant it).

11. If Contractor encounters flow monitoring devices such as special sewer manhole cover embedded with solar panels; notify C&C of Honolulu, ENV-CSM at 768-7272 to coordinate temporary removal.
12. Contractor shall maintain visibility and maintenance access to live sewer manhole locations at all times, including during non-work hours and paving operations.
13. Contractor shall use manhole debris catching device when performing manhole height adjustment work and remove any construction debris that has fallen into the manhole. Disposal of construction debris in the sewer system is strictly prohibited.

DEPARTMENT OF DESIGN AND CONSTRUCTION
COLLECTION SYSTEM MAINTENANCE NOTE

1. The Contractor shall be responsible for the protection of all sewer facilities. The Contractor shall immediately report any damages to Albert Kim, CSM, at 768-7253 (phone) or 351-3603 (cellular). All costs for damages to sewer facilities shall be borne by the Contractor.

ADJUSTMENT TO EXISTING UTILITIES NOTE:

1. Adjust all utility valve box frames & covers, water meter boxes, manhole frames & covers, street monument covers, etc., to new finish grade. Coordinate with private companies and City agencies for work on each respective utility.

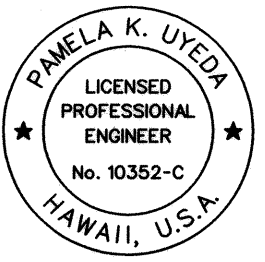
U.S. ARMY NOTE

1. The Contractor shall contact Dale Hironaka at 656-3514 or dale.hironaka@us.army.mil if access to any locked U.S. Army Signal Corps manhole is required. The Contractor shall be held liable for any damages incurred to the existing facilities as a result of his operations.

Approved:

Dennis M. Nishimura 3/2/11
Chief, Wastewater Branch, DPP *en* Date

Shayne Hashino 4/4/11
Manager and Chief Engineer, Date
Board of Water Supply
(For Work Affecting BWS Facilities in City/State R/W and BWS Encasements Only)

 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. <i>P. Uyeda</i>	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION UTILITY NOTES - 3 FORT WEAVER ROAD PAVEMENT PRESERVATION Renton Road to the Vicinity of Ewa Beach Road Federal Aid Project No. STP-076-1(10) Scale: None Date: Feb. 2011