

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1 (51)	2007	42	106

1. 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.

2. 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.

3. 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.

4. 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.

5. OVERHEAD LINES

State law (OSHA 1910.269 (k) (2b)) 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 10kv above 50kv, an additional 4 inches 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 or de- energize HECO lines) can be put in place. HECO maybe able to blanket its distribution (12kv and below) lines to provide a visual aid in preventing accidental contact. HECO's cost of safeguarding or identifying its lines will be charged to the Contractor.

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:

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

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.

In case of damage or suspected damage to HECO's fuel pipeline, the Contractor shall immediately notify HECO's Honolulu Power Plant Shift Supervisor at 533-2102 (a 24-hour number) so HECO personnel can secure the damaged section and report any oil spills to the proper authorities. All costs associated with the damage, repair, and oil spill cleanup 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.

<div>RONALD N. S. HO & ASSOC., INC. ELECTRICAL ENGINEERS ANDREW I. MIYASATO LICENSED PROFESSIONAL ENGINEER No. 4340-E HAWAII, U.S.A.</div> <div>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION <i>Andrew I. Miyasato</i> Signature Expiration Date of the License: 04-30-08</div>	<div>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION ELECTRICAL NOTES 1 <i>Kalaniana'ole Highway Improvements Retaining Wall at Makapuu, Oahu</i> Federal Aid Project No. NH-072-1 (51) SCALE: AS NOTED DATE: APR. 2007</div> <div>SHEET No. E-2 OF 18 SHEETS</div>
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DRAWING REVIEW	
Reviewed for HECO's Facilities Only	
Date: 7/25/07	By: <i>[Signature]</i>
Engineering Department Hawaiian Electric Company, Inc.	
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.	

APPROVED BY:	DATE:
HAWAIIAN ELECTRIC COMPANY (HECO)	

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	
	IN CHARGE	
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ADDITIONAL NOTES WHEN WORK INVOLVES CONSTR. OF HECO FACILITIES

16. SCHEDULE

HEC₀ REFERENCE SPECIFICATIONS

<u>SPEC. NO.</u>	<u>DESCRIPTION</u>
CS7001	Construction of Underground Facilities
CS7003	Construction of Electrical Facilities
CS7202	General Conditions for Construction of Projects
CS9301	Concrete Work
CS9401	Design and Construction of Pre-Cast Manholes and Handholes

- ## 17. AUTHORITY

18. SPECIFICATIONS

19. CONSTRUCTION

HEC₀ REFERENCE DRAWINGS

<u>DWG NO.</u>	<u>DESCRIPTION</u>
16688 SHT. 1&2	Details Handholes & Manholes, UG Standards
100726	Manhole, 6' x 11'

- The Contractor shall arrange for toneouts of all underground facilities and shall stakeout all proposed HECO facilities within the project area so as to not conflict with any utility (existing or proposed) and any proposed construction or improvement work for verification by HECO before proceeding with HECO work.*

- All ductline installations shall be PVC Schedule 40 encased in concrete, unless otherwise noted. All completed ductlines shall be mandrel tested by the Contractor in the presence of HECO's inspector using HECO's standard practice. the Contractor shall install a 1/8" polyolefin pull line in all completed ductlines after mandrel testing is complete.

- The last joint pole occupant off the poles shall remove the poles.

- the Contractor shall provide HECo with two sets of as-built reproducible tracings showing the offsets, stationing, and vertical elevation of the duct line(s) constructed.*

15. INDEMNITY

DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date 7/25/07 By P. V. Jones

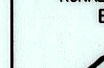
Date 1/23/01 By [Signature]
DNL
 Engineering Department
 Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

APPROVED BY:

HAWAIIAN ELECTRIC COMPANY (HECO)

RONALD N. S. HO & ASSOC., INC.
ELECTRICAL ENGINEERS



ANDREW I. MIYASAKA
★
LICENSED
PROFESSIONAL
ENGINEER
No. 4340-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY
OR UNDER MY SUPERVISION

OR UNDER MY SUPERVISION
Andrew J. Mason

Signature _____

Expiration Date of the License	04-30-
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL NOTES II

Kalaniana'ole Highway Improvements
Retaining Wall at Makapuu, Oahu

Federal Aid Project No. NH-072-1 (51)

SCALE: AS NOTED DATE: APR 2007

SHEET No. E-3 OF 18 SHEETS

GENERAL CONSTRUCTION NOTES FOR HAWAIIAN TELCOM (HTCo) FACILITIES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1 (51)	2007	44	106

GENERAL NOTES:

1. Installation of a Hawaiian Telcom ductline system shall conform with the requirements of the Hawaiian Telcom "Standard Specification for Placing Underground Systems" dated March 1999, all subsequent amendments and additions, and all other pertinent standards for telephone construction. Contractor shall familiarize his personnel by obtaining applicable specifications.
2. For underground cable locating and marking, five working days advance notice is required. Three working days advance notice is required for any inspection by a designated representative. The Contractor shall take necessary precaution not to damage any 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.
3. The Contractor shall closely coordinate all work with Hawaiian Telcom. All trenches must be inspected by Hawaiian Telcom prior to backfilling and concrete-encasing operations. The Contractor shall notify Hawaiian Telcom inspector or designated representative at least 72 hours prior to the excavation, bracing, pouring of concrete or backfilling.
4. The Contractor shall obtain an excavation permit and toning request from Hawaiian Telcom's excavation permit section, located at 3239 Ualena Street, Third Floor, two weeks prior to the start of construction. Hours of business are 7:00 am to 10:30 am and 11:30 am to 3:00 pm, Monday thru Friday, except holidays.
5. The location of Hawaiian Telcom's existing facilities are approximate only. The Contractor shall exercise extreme caution and shall maintain proper clearances whenever construction crosses or is in close proximity to Hawaiian Telcom's facilities. The Contractor shall verify their locations and shall be liable for any damages to Hawaiian Telcom's facilities. Any damages shall be reported immediately to Hawaiian Telcom's repair section at #611 (24 hours) or to the excavation permit section at 840-1444 during normal work day hours, Monday thru Friday, except holidays.
6. When excavation is adjacent to or beneath Hawaiian Telcom's existing structures or facilities, the Contractor shall:
 - a. Sheet and/or brace the excavation to prevent slides, cave-ins or settlements to ensure no movement to Hawaiian Telcom's structures or facilities.
 - b. 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.
7. The Contractor shall provide a 5/8" x 8' galvanized ground rod below the telephone cabinet or backboard and a #6 TW insulated green ground wire with a three foot coil. Telephone cabinets shall be grounded.
8. Concrete strength shall be 3,000 psi in 28 days.
9. For pole bracing instructions should field conditions and/or construction procedures require that poles be braced to facilitate construction, the Contractor is to contact the Hawaiian Telcom inspector at 840-2994 at least 72 hours in advance.

10. Should it become necessary to relocate any Hawaiian Telcom facilities, the work shall be done by Hawaiian Telcom. The Contractor shall be responsible for all coordination, and the State shall be responsible for all costs associated with the relocation.
11. All construction must be inspected and approved by Hawaiian Telcom prior to the installation of any of its facilities and the energizing of its systems. Hawaiian Telcom will commence installation only after the construction has been approved and no sooner than thirty working days thereafter. A project of large magnitude will require more time.
12. The Contractor shall furnish his construction schedule forty-five (45) working days prior to starting any Hawaiian Telcom work. Contractor shall provide Hawaiian Telcom with sufficient installation time to complete their work.
13. Contractor shall furnish all labor and materials.

CONDUIT AND DUCT NOTES:

1. Unless otherwise indicated, all conduits, sweeps, couplings, adapters, and bell ends provided for usage by Hawaiian Telcom shall be GT42 2" or 4" PVC conduit meeting HTCo Specification GTS-8342. Refer to HTCo Standard Drawing 34028 for installation. Schedule 40 conduit is acceptable as a substitute for GT42 conduit except that pole riser bends shall be Schedule 40 conduit.
2. Conduits from utility boxes to the individual lots shall be considered incidental to their respective main duct lines. Said conduits shall be GT42 4" PVC unless otherwise shown (see Item 1 above).
3. When utility ducts are concrete encased at intersection of water pipe and utility ducts, a 6" minimum separation between water pipe and top of the concrete encasing utility ducts shall be maintained. Stones, rocks, etc. shall not be used with backfill material, only nonexpansive select materials shall be used as backfill material.
4. Bends in the duct alignment, due to changes in grade, shall have a minimum radius of 20 feet. All 90-degree C-bends at a pole or at the building floor penetration shall have a bend radius of ten times the diameter of the duct or greater.
5. The Contractor shall place 8-mil 4" wide warning tape, orange in color with a black imprinted message "WARNING - STOP DIGGING - CALL HAWAIIAN TELCOM, COMMUNICATIONS CABLE BURIED BELOW, FAILURE TO COMPLY COULD RESULT IN LEGAL ACTION", 12" below the surface over the duct or concrete jacket for the entire length of all duct installations. See HTCo Standard Drawing 34028. Recommended tape is manufactured by Thor Enterprises, Inc., Sun Prairie, WI 53590 (phone: 1-800-827-8467) part numbers DTOGTE-41 (1000'), and DTOGTE-46 (6000'). Equivalent tapes are acceptable.

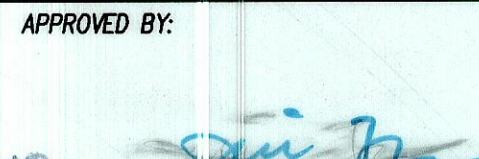
CONDUIT AND DUCT NOTES (Continued):

6. After the ducts are installed, but prior to concrete encasement, 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 in the line. Ducts shall be completely dry and clean. All ducts shall be capped to prevent entry of foreign material during construction and at the completion of installation.

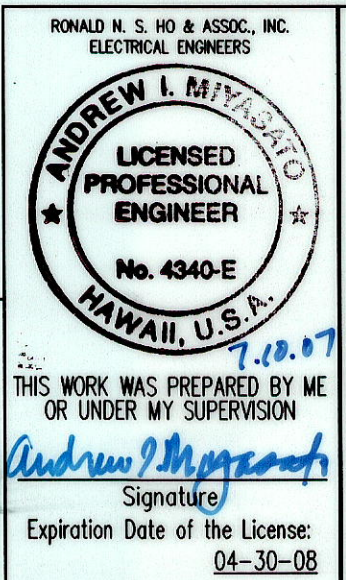
Recommended mandrels and brushes are made by General Machine Products Co. (GMP), Trevoze, PA (phone: 215-357-5500). Recommended GMP part number 8182-4R (test mandrel for 4" conduit), and part number 17094 (brush for 4" conduit). 2" ducts will require cleaning using rags.
7. All ducts and conduits shall have an 1800 lb polyester Mule-Tape (NEPTCO WP1800P, Hawaiian Telcom material code no. 571154) installed through the entire length with two feet of slack in manholes and handholes, and one foot of slack in pullboxes. The muletape shall be rated for 1800 lbs. of pull and have footage markers for measuring duct lengths. The NEPTCO Muletape is available in 3,000', 6,500', and 10,000' reels. The NEPTCO Muletape is prelubricated and printed with sequential footage markings.

Using the NEPTCO Muletape, the Contractor shall measure at least one duct of a common duct run. The distance shall be marked on the record prints and submitted to Hawaiian Telcom inspector for record keeping.
8. Metallic entrance conduits shall be grounded.
9. All conduits within a building shall:
 - a) Be installed in the shortest and straightest possible run.
 - b) Have no section longer than 100 feet nor contain more than two 90-degree bends. An approved sized junction box or gutter box shall be placed if this is exceeded.
 - c) All bends shall be long sweep-radius bends but the inside radius of the bend must never be less than ten times the diameter of the conduit.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED	DRAWN BY	
DESIGNED BY		
CHECKED BY		
DATE		

APPROVED BY: 
HAWAIIAN TELCOM (HTCo)

8/8/07
DATE



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
ELECTRICAL NOTES III	
<i>Kalaniana'ole Highway Improvements Retaining Wall at Makapuu, Oahu</i>	
Federal Aid Project No. NH-072-1 (51)	
SCALE: AS NOTED	DATE: APR. 2007
SHEET No. E-4 OF 18 SHEETS	

PULLBOX NOTES:

GENERAL CONSTRUCTION NOTES FOR HAWAIIAN TELCOM (HTCo) FACILITIES (Continued)

HANDHOLES/MANHOLES NOTES:

1. All ducts associated with manholes or handholes shall be installed to provide adequate drainage toward the manholes or handholes (minimum 0.25% slope, unless otherwise noted). The "through" ducts entering manholes and handholes shall be splayed with a 20' transition and enter the manhole/handhole 6" to 8" from the inside edge of the wall (see manhole wall elevation details and duct transition detail).
2. HTCo manholes may be cast-in place or precast. If using precast manholes and handholes, the construction joint between precast sections must be thoroughly cleaned of all dirt or other debris, and shall be bonded with a mastic or sealing compound when installed to prevent water entry. The mastic tape or sealing compound must completely fill the construction joint, and cover the entire joint area. The precast sections must be placed as soon as the sealant installation is completed. Two coats of THORO-SEAL or approved equal shall be applied 12" on both sides of exterior joint areas.
3. Before placing precast sections, the Contractor shall provide at least three to six inches of sand or base material on the bottom of the excavation. In fluid soils, or soils vulnerable to becoming fluid, #9 or 10 stone (1/2" to 3/4") may be used for stability. The base material shall be compacted and graded to level.
4. The manhole cover and frame has a clear opening of 30" and is available as a 5-5/8" high frame (part no. R-1750-C1) or as a 10" high frame (part no. R-1750-C) from Neenah Foundry Company in Neenah, WI (phone: 1-800-558-5075). The 10" high frame shall be selected for normal applications. the 5-5/8" high frame shall be used for applications where the depth of pavement down to the concrete manhole slab is shallow and limited. The manhole roof slab opening is 36" in diameter. The cover shall have the Verizon logo and be equipped with two 1" diameter lift holes 180 degrees apart. The bolts that come with the cover to lock down the cover are to be turned over to the Hawaiian Telcom inspector. Do not lock covers down with these bolts. Refer to HTCo Standard Drawing 34086.

PULLBOX NOTES:

1. All Type 435TB (2' x 4') and 435TB6 (2' x 6') pullboxes shall be constructed with a 12" base and a minimum of three 8" precast sections. (Refer to HTCo Standard Drawings 34056 and 34078). Modified 3' x 5' pullboxes shall be installed (refer to Hawaiian Telcom Standard Drawing No. 34110a for 3' x 5' modified pullbox details). Install one 5/8" x 8' ground rod in all other Hawaiian Telcom pullboxes and handholes, except in 436T meter type boxes (12" x 20").
2. At no time shall cement mortar, wood or any other material be used between precast sections. Leveling or raising of pullboxes shall be done at the brickwork section using cement mortar. The permanent installation of wooden wedges to level or raise the precast sections shall not be permitted.
3. Concrete precast base shall be used in new construction. Bricks may be used as an alternative only when intercepting existing ducts. The minimum layers of bricks to be used shall always be at least one layer lower than the lowest duct entering the pullbox. At no time, however, shall there be less than two layers of bricks on each installation.
4. Unless indicated otherwise, conduits shall enter boxes at 90-degree angle and be flush to the wall with flared or bell ends to prevent cable damage.
5. The base or bricks shall be placed on a minimum of 6" of #3 crushed rock backfill.
6. The top of all utility boxes shall be 1" above finish grade in non-paved shoulders unless otherwise noted. Finish grade material shall be placed from the top of the utility box and feathered two feet around to finish grade.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1 (51)	2007	C.O. 45	106

EQUIPMENT SCHEDULES

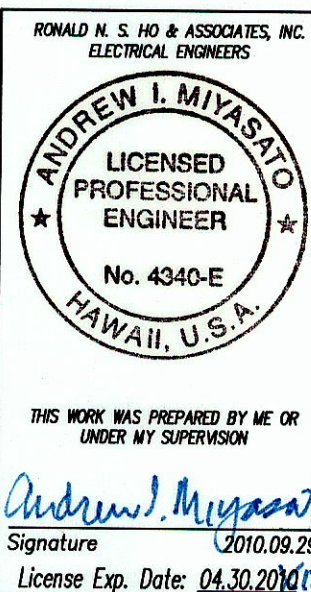
Hawaiian Electric Co. Inc., Hawaiian Telcom, Inc., and Oceanic Time Warner Cable Pullboxes, Handholes & Manholes to be Provided as Indicated.

ITEM	DESCRIPTION
1	HECo 6' x 11' Manhole Per HECo Drawing No. 100726 (Precast)
2	Hawaiian Telcom 4' x 6'-6" Manhole Per Hawaiian Telcom Drawing No. 34107 (Poured-In-Place)
3	Oceanic Time Warner Cable 4' x 6'-6" Manhole, Constructed Similar to Hawaiian Telcom Drawing No. 34107 (Poured-In-Place)
4	Hawaiian Telcom 2' x 4' Pullbox Per Hawaiian Telcom Drawing No. 34056
5	JTS 4' x 4' Manhole (Utility Vault Company Drawings BA-1162 and CA-2752)
6	JTS 9'-4" x 5'-4" Manhole (Utility Vault Company Vault No. 38Y-4686-TA)
7	Oceanic Time Warner Cable 2' x 6' Pullbox Similar to Hawaiian Telcom Drawing No. 34078, Except with "CATV" Inscribed on Covers.

DATE	____
SURVEY PLOTTED BY	____
DRAWN BY	____
DESIGNED BY	____
QUANTITIES BY	____
CHECKED BY	____
ORIGINAL PLAN	____
NOTEBOOK	____
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APPROVED BY:	
HAWAIIAN ELECTRIC COMPANY (HECo)	DATE
HAWAIIAN TELCOM (HTCo)	DATE
OCEANIC TIME WARNER CABLE (OTWC)	DATE



02/09/2010	Added JTS Manhole and OTWC Pullbox Descriptions to Equipment Schedule
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION ELECTRICAL NOTES IV <i>Kalaniana'ole Highway Improvements Retaining Wall at Makapuu, Oahu Federal Aid Project No. NH-072-1 (51)</i> SCALE: AS NOTED DATE: APR. 2007	

