

GENERAL NOTES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-K072)	2015	3	107

- ORIGINAL  
PLAN

NOTE BOOK

DATE

SURVEY PLOTTED BY

DRAWN BY

DESIGNED BY

QUANTITIES BY

CHECKED BY

1.

The scope of work for this project consists of cold planing, resurfacing of weakened pavement areas, replacing existing asphalt concrete pavement with reinforced concrete slab to span over the existing damaged culvert, installation of new guardrails, milled centerline, and shoulder rumble strips, striping, pavement markings, and signage, upgrading existing guardrails, end treatments, bridge rails, construct curb below existing guardrail thrie beam, reconstruction of a culvert headwall and top portions of drainage inlets, and adjustment of utility manholes.

2.

The Contractor is reminded of the requirements of Subsection 105.16 - Subcontracts, which requires him to perform work to not less than 30 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.

3.

The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 104.09 Maintenance of Traffic Subsection 104.11 - Utilities and Services; Subsection 107.06 - Contractor Duty Regarding Public Convenience; and Section 645 - Work Zone Traffic Control.

4.

At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.

5.

The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data, but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The contractor shall tone for the exact locations and depths of all underground utilities, either shown or omitted from the plans, in areas where work may affect these properties. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations. All damaged portions shall be replaced in accordance with the standards and specifications of the affected utility company at no cost to the State.

6.

The Contractor shall verify the presence of existing aerial and underground utilities which may conflict with construction activities and shall coordinate with the utility company for temporary relocation as necessary. All costs associated with the temporary relocations shall be borne by the Contractor.

7.

The exact locations and limits of areas to be reconstructed and cold planed shall be determined in the field by the Engineer.

8.

The Contractor shall notify the Department of Transportation Services, Public Transit Division at 768-8396 and Oahu TransitServices, Inc. (bus operations: 848-4578 or 852-6016 and paratransit operations: 454-5041 or 454-5020) of the scope of work, location, proposed closure of any street, traffic lane sidewalk, or bus stop and duration of project at least two (2) weeks prior to construction.

9.

The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting construction operations.

10.

The Contractor shall obtain all necessary permits prior to start of work at his own cost.

11.

The Contractor shall submit maintenance plans and schedules, including traffic detours, road or lane closures, lane switches, and the placement of temporary traffic control devices, to the Engineer for acceptance prior to Construction.

12.

The Contractor shall remove and dispose of all existing raised pavement markers, thermoplastic line markings, traffic tapes, and epoxy adhesives prior to the overlaying of Asphalt Concrete. This work shall be considered incidental to Asphalt Concrete Pavement, Mix No. IV and will not be paid for separately.

13.

All holes, depressions and wheel ruts shall be filled and compacted with Asphalt Concrete, Mix No. IV prior to resurfacing. This work will be paid for under HMA Pavement, Mix No. IV.

14.

Tack coat shall be incidental to the various Asphalt Concrete Pavement items.

15.

Smooth riding connections shall be constructed at all limits of project, including the beginning and end of project, connecting approaches, side streets, walkways and driveways as shown on the plans and/or as directed by the Engineer.

16.

Existing drainage system shall be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to any culvert work or the various contract items and will not be paid for separately.

17.

The Contractor shall provide and maintain for access to and from all existing driveways, sidewalks and ADA access routes, and side streets and cross streets at all times. This work shall be considered incidental to various contract items and will not be paid for separately.

18.

All saw cutting and safety edge work shall be considered incidental to Roadway Excavation or Asphalt Concrete or Various Contract Items or their respective bid items.

19.

Contractor shall dispose or deliver any removed material at no cost to the State.

20.

Prior to his resurfacing operations, the Contractor shall be responsible for locating, preserving and marking all utility and highway facilities that will require adjustments to the new finished pavement grade. Additionally, the Contractor shall submit to the Engineer a list of all items, including water, drainage, sewer, electrical, telephone, and cable utilities to be adjusted to the new finished grade. This work shall be considered incidental to the various contract items.

21.

After completion of resurfacing, the Contractor and the Engineer will test for, and determine ponding areas (i.e. low spots within the resurfaced area). It shall be the responsibility of the Contractor to correct and resurface and/or repair all such ponding areas. Corrective measures shall be approved by the Engineer.

22.

No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designated in writing and approved by the Engineer. If use of location is approved by the Engineer, the Contractor shall obtain a permit to use the property within the highway right-of-way from the State Highways Right-of-Way Branch at telephone no. 692-7332.

23.

The Contractor is to take special measures to reduce dust from cold planing operations including but not limited to use of water misters on cold planing equipment and vacuum sweepers. Use of power brooms to sweep road is not allowed if a dust nuisance is created.

24.

All work specified in the Contract but not listed separately in the proposal schedule shall be considered incidental to other various contract items and shall not be paid for separately.

25.

Existing facilities and/or pavement to remain which has been damaged by the Contractor shall be restored to its original condition at no cost to the State.

26.

The Contractor shall be held liable for any damages incurred to the existing landscaping as a result of his operations.

27.

The Contractor shall notify the State Department of Health, Indoor and Radiological Health Branch, 591 Ala Moana Boulevard, Honolulu, Hawaii, 96813; Telephone: 586-4700 the dates and times of night and for weekend closures for construction at Waialea Stream Bridge (± Sta. 381+60±), Kuilima-Oio Stream Bridge (± Sta. 485+00±), culvert at ± Sta. 560+90±, and Kahuku High & Intermediate School bus loading area (± Sta. 662+00± to ± Sta. 666+20±). The Contractor shall notify residents and business owners affected at least two (2) weeks prior to the scheduled night and weekend work. A copy of the notification shall also be sent to the State Department of Health, Indoor and Radiological Health Branch.

28.

The station numbers between Begin Project ± Sta. 345+00.00 to End Project ± Sta. 1412+00.00 may not match the as-built stations for Federal Aid Project No. NH-083-K072).

29.

The exact locations and limits of guardrail improvements shall be determined in the field by the Engineer.

30.

The Contractor shall probe/excavate to verify the exact location of any underground utilities within the project limits prior to installing guardrail posts. The contract shall adjust accordingly to account for the actual locations of underground utilities. The Contractor may use nested W-Beam over obstacle when feasible and shall submit nested W-Beam detail for approval prior to use. Any adjustments to the contract or underground utilities shall be considered incidental to various items of work. The Contractor shall be held liable for any damages incurred to existing facilities and/or improvements as a result of his operations. All damaged portions shall be replaced in accordance with the standards and specifications of the affected utility company at the Contractor's expense.

31.

No section where guardrails have been removed shall be left unshielded at the end of each work day. Open sections shall be shielded by portable physical barriers. Furnishing, installing and maintaining physical barriers shall be considered incidental to various contract items.

32.

End treatment systems for this project shall be considered equivalent if the combined guardrail with end treatments length, configuration, and functionality remains the same as shown on the project plans. Functionality of equivalent end treatment system must be verified and approved by the Engineer and quantities adjusted accordingly.

33.

Removal and disposal of existing guardrail, end terminals and any debris shall be considered incidental to their respective build items.

34.

The Contractor shall forward the One Call Center form to the Department of the Army at 30th Signal Battalion/Network Enterprise Technology Command, 148 Curtis Loop, Wheeler Army Airfield, Building 600, Room 157, Schofield Barracks, Hawaii 96857-5020 for notification of commencement of work.

35.

Archaeological Monitoring shall take place at all excavation activity between Malaekahana Bridge (Sta. 1412+00) and Laiewai Bridge (Sta. 1488+62). For further details please refer to Special Provisions Section 212.

36.

The Contractor shall schedule construction to begin at Dairy Road so as to avoid conflict with the construction of other planned projects within the vicinity. The Contractor shall coordinate with the Contractors of those projects as listed in Subsection 108.01 - Notice to Proceed.

37.

The Contractor's attention is directed to Section 645 - Work Zone Traffic Control regarding lane closure moratorium during the North Shore Surfing events.

38.

The Vertical riding surface drop-off between adjacent surfaces shall not exceed 3-inches. This shall include differences in height between adjacent pavement surfaces, cold planed surfaces, bridge decks and new concrete slabs. If a vertical riding surface drop-off exists at the end of each day's work, the Contractor shall provide temporary transition tapers with maximum slopes of 48:l for travel in the longitudinal direction and 6:l for transverse movements. This work shall be considered incidental to various contract items.

39.

The Contractor shall coordinate with Kahuku High & Intermediate School officials on construction of bus loading area fronting the school at approximately ± Sta. 662+00± to ± Sta. 666+20±.
- STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

GENERAL NOTES AND LEGEND

KAMEHAMEHA HIGHWAY RESURFACING

Dairy Road to Laiewai Bridge

Federal-Aid Project No. NH-083-K072)

Date: May, 2015
- SHEET No. 1 OF 2 SHEETS
- 3



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(072)	2015	4	107

FISH AND WILDLIFE NOTES:

- During nighttime construction, all lighting shall be shielded and directed toward the ground.
- Trees and shrubs taller than 15 feet shall not be trimmed or cleared between June 1 and September 15.


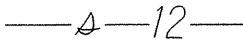

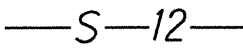
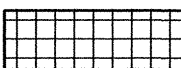
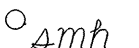
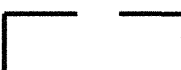

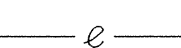
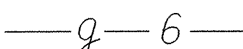
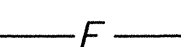
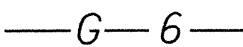

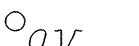



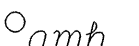


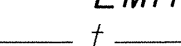
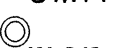
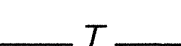


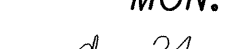

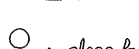


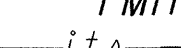


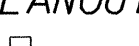

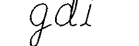
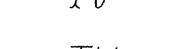
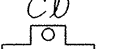
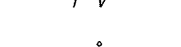
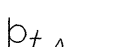
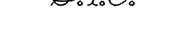






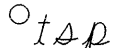

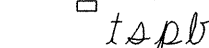

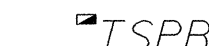







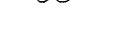

PAVING AROUND MANHOLES:

- The Contractor shall first lower manholes more than 3" to 3.5" prior to cold planing. The work shall be considered incidental to the various paving contract items. Upon final paving, the manhole shall be raised and paid under various contract items pertaining to manhole adjustments.
- The Contractor shall place hot asphalt concrete around manholes and compact properly with a vibrating plate compactor.
- If a plate compactor is not used, the Contractor shall use a pneumatic roller to roll the area around the manhole which is not rolled by the steel roller.
- The Contractor shall fog seal or brush emulsion seal on the material placed as backfill on the area around the manhole that was not compacted by the roller. Black sand shall be used to blot out the area it the fog is too heavy.

SEWER NOTES:

- Existing sewer system shall be functional at all times. While it is understood that all sewer manholes are not accessible during paving, their location should be marked shortly thereafter and the manhole restored within one week after paving is completed. Manhole frames and covers are paired and are to be reinstalled as removed. All "Sewer Notes" as provided on the project plans are to be adhered to. No exceptions. Please notify Collection System Maintenance General Foreman, Herman Ellis, at 768-7250, when manhole restoration on the project is scheduled to be initiated.

LEGEND

	Reconstruction Areas		Existing Sewer Line
	New Paved Areas		New 12" Sewer Line
	Cold Planing Areas		Existing Sewer Manhole
	Resurfacing Limits		Adjusted Sewer MH Frame/Cover
	Existing Electrical Line		Existing 6" Gas Line
	New Electrical Line		New 6" Gas Line
	Existing Joint Pole		Existing Gas Valve Box
	Existing Power Pole		Adjusted Gas Valve Box
	Existing Electric Manhole		Existing Gas Manhole
	Adjusted Elec. MH Frame/Cover		Adjusted Gas MH Frame/Cover
	Existing Telephone Line		Existing Monument
	New Telephone Line		Adjusted Monument
	Existing Telephone Pole		Existing 24" Drain Line
	Existing Telephone Manhole		Existing Storm Drain Manhole
	Adjusted Tele. MH Frame/Cover		Adjusted Storm Drain MH Frame/Cover
	Existing Joint Trunking System Line		Adjusted Cleanout Frame/Cover
	New Signal Corps Line		Existing Grated Drop Inlet
	Existing TV Cable		Existing Catch Basin
	New TV Cable		Existing Traffic Sign
	Existing Sandwich Isles Communication Line		Existing Highway Lighting Standard
	Existing 12" Water Line		Existing Highway Lighting Pullbox
	New 12" Water Line		Existing Traffic Signal Pole
	Existing Water Manhole		Existing Traffic Signal Pullbox
	Adjusted Water MH Frame/Cover		Adjusted Traffic Signal Pullbox
	Existing Water Air Valve		Existing Metal Guardrail
	Adjusted Water Air Valve		New Metal Guardrail
	Existing Water Valve Box		Existing edge of shoulder
	Adjusted Water Valve Box		Existing edge of pavement
	Existing Water Meter		New edge of shoulder
	Adjusted Water Meter		New edge of pavement
	Existing Fire Hydrant		

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	TRACED BY	
	DESIGNED BY	
NOTE BOOK	CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**GENERAL NOTES AND LEGEND**

KAMEHAMEHA HIGHWAY RESURFACING

Dairy Road to Laiewai Bridge

Federal-Aid Project No. NH-083-1(072)

Date: May, 2015

SHEET No. 2 OF 2 SHEETS



HECO NOTES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(072)	2015	5	107

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 CLEARANCE

The contractor shall obtain an excavation clearance from HECO's Planning and Design Section of the Customer Installations Department (543-5654) located at 820 Ward Avenue, 4th Floor, a minimum of ten (10) working days prior to starting construction.

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) requires that a worker and the longest object he or she may contact cannot come closer than a specified minimum radial clearance when working close to or under any overhead lines. It is the contractor's responsibility to be informed of and comply with the law.

At any time should the contractor anticipate that his work will result in the need to encroach within the minimum required clearance as stated in the law, 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 investigated. HECO may also be 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.

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 pole bracing designs and structural calculations, as well as the associated costs to brace, repair, or straighten poles. All means of structural support for the pole and/or

anchor system proposed by the contractor shall be submitted to HECO's Customer Installations Department (543-7846) for review a minimum of ten (10) working days prior to implementation. The cost of HECO's review/ assistance in providing proper support and protection of its poles will be charged to the contractor.

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. For assistance/coordination in providing proper support and protection of these lines, the contractor shall call HECO's Customer Installations Department at 543-7846 a minimum of ten (10) working days in advance.

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 the Hawaii One Call Center at 866-423-7287 minimum of five (5) working days 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's specific fuel pipeline "guidelines" to consultant/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) Arranging for HECO standby personnel to observe work at contractor's cost.
- b) Sheeting, bracing, or otherwise supporting the excavation and stabilizing the existing ground to render it safe and secure and to prevent possible slides, cave-ins, and settlements.
- c) Properly supporting existing structures or facilities with beams, struts, under-pinnings, or other necessary methods to fully protect it from damage.
- d) 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, staking of pole/anchor locations, identifying right of way and property lines, 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 or any hazardous conditions related to HECO's lines 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. In case of damage or suspected damage to the Waiiau or Kahe fuel pipelines, the contractor shall also notify Chevron at 682-2227. 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 HECO's Customer Installations Department at 543-7846 a minimum of five (5) working days in advance to arrange for HECO stand-by personnel.

14. CLEARANCES

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

The Contractor shall notify the construction manager of HECO of any heat sources (power cable duct bank, streamline, 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.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	TRACED BY	
	NOTED BY	
NOTE BOOK	DESIGNED BY	
	DRAWN BY	
	CHECKED BY	
	REVIEWED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

HECO GENERAL NOTES

KAMEHAMEHA HIGHWAY RESURFACING  
Dairy Road to Laiawai Bridge  
Federal Aid Project No. NH-083-1(072)

Date: May, 2015

SHEET No. 1 OF 3 SHEETS



MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTLINES  
HORIZONTAL (PARALLEL)

UTILITY BEING INSTALLED	EXISTING DIRECT BURIED CABLE	EXISTING DIRECT BURIED IN CONDUIT (no concrete encasement)	EXISTING 3" CONCRETE ENCASEMENT	APPLICABLE NOTES:
HECO DB Conduits	12"	3"	0"	
HECO 3" Encasement	0"	0"	0"	
Telephone / CATV DB	12"	12"	6"	
Telephone / CATV DB Ducts	12"	12"	6"	
Telephone / CATV 3" Encasement	0"	0"	0"	5
Traffic Signal	12"	12"	12"	
Water DB	36"	36"	36"	1, 4
Water Service Laterals	12"	12"	12"	
Water (Concrete Jacketed)	36"	36"	36"	1, 4
Gas DB	12"	12"	12"	1
Gas (Concrete Jacketed)	12"	12"	12"	1
Sewer DB	36"	36"	36"	1, 2
Sewer (Concrete Jacketed)	36"	36"	36"	1, 2
Drain	12"	12"	12"	1
Fuel Pipelines				3

- Notes:
- Where space is available, parallel clearance to other utilities, or foreign structures other than communication or traffic signal shall be 36".
  - If 36" clearance cannot be met:
    - If clearance is less than 12", jacket sewer line with reinforced concrete (Per HECO's std. 30-1030) for a distance of 5' plus pipe diameter.
    - If clearance is between 12" and 36", jacket sewer line with plain concrete.
  - All Fuel Pipeline crossings shall be reviewed and approved by the company that owns and maintains it.
  - 5 feet clear to water mains 16" and larger.
  - For situations with 0" minimum separation, a 6" separation is recommended.
  - Clearances measured from outer edges or diameters of utilities.

MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTLINES  
VERTICAL (CROSSING)

UTILITY BEING INSTALLED	EXISTING DIRECT BURIED CABLE	EXISTING DIRECT BURIED IN CONDUIT (no concrete encasement)	EXISTING 3" CONCRETE ENCASEMENT	APPLICABLE NOTES:
HECO DB Conduits	6"	3"	0"	
HECO 3" Encasement	0"	0"	0"	
Telephone / CATV DB	12"	12"	6"	
Telephone / CATV DB Ducts	12"	12"	6"	
Telephone / CATV 3" Encasement	0"	0"	0"	5
Traffic Signal	12"	12"	6"	
Water Service Laterals	6"	6"	6"	
Water DB	6"	6"	6"	2
Water (Concrete Jacketed)	6"	6"	6"	2
Gas DB	12"	12"	12"	
Gas (Concrete Jacketed)	12"	12"	12"	
Sewer DB	24"	24"	24"	1
Sewer (Concrete Jacketed)	24"	24"	24"	1
Drain	12"	12"	6"	
Fuel Pipelines				3

- Notes:
- If clearance cannot be met:
    - If clearance is less than 12", jacket sewer line with reinforced concrete (Per HECO's std. 30-1030) for a distance of 5' plus pipe diameter.
    - If clearance is between 12" and 24", jacket sewer line with plain concrete.
  - 12" vertical clearance for pipe diameters greater than 16".
  - All Fuel Pipeline crossings shall be reviewed and approved by the company that owns and maintains it.
  - 5 feet clear to water mains 16" and larger.
  - For situations with 0" minimum separation, a 6" separation is recommended.
  - Clearances measured from outer edges or diameters of utilities.

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

HECO GENERAL NOTES

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