

HAWAIIAN TELEPHONE COMPANY NOTES

- 1. The Contractor shall exercise extreme caution when the excavation and construction crosses or is close to existing underground telephone and signal cable facilities and maintain adequate clearance for his equipment while working close to and/or under the overhead facilities. Any damage to the existing underground or overhead facilities shall be repaired by HTCO and paid for by the Contractor.
- 2. Contractor to obtain excavation permit from HTCO records section at 3239 Ualena Street at least 2 weeks prior to start of construction. Contractor shall contact HTCO inspector at 831-4056 a minimum of 72 hours prior to start of work.
- 3. Should field conditions and construction procedures require that utility poles be braced, the Contractor shall contact HTCO inspector for pole bracing instructions at least 72 hours in advance, at 831-4056.
- 4. For field location of HTCO and CATV facilities, contact HTCO, outside plant engineering section, a minimum of 72 hours in advance prior to start of excavation.
- 6. Underground cables are direct-buried and are difficult to repair or replace. The Contractor shall take special precautions to locate and safeguard the cables, by toning and marking, and possibly hand-digging in areas where the cables are near construction activity. Toning by HTCO personnel may be requested through the Excavation Dept. at 3239 Ualena St., third floor.

HECO NOTES

- 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 exercise extreme caution whenever construction crosses or is in close proximity of underground lines and shall maintain adequate clearance when operating equipment within or under any overhead lines.
- 2. Compliance with DOSH
The Contractor shall comply with the State of Hawaii's Occupational Safety and Health law (DOSH).
- 3. Excavation permit
The Contractor shall obtain an excavation permit from HECO's mapping and records division located at 820 Ward Avenue, 4th floor, two weeks prior to starting construction. Refer to HECO request number P201218 at that time.
- 4. Underground lines
For verification of underground lines or for assistance in supporting and protecting these lines, the Contractor shall call HECO's Underground Division at 543-7345 a minimum of 72 hours in advance.
- 5. Excavations
When trench excavation is adjacent to or beneath the existing structures or facilities, the Contractor shall be responsible for:
 - a. Sheeting and bracing the excavation to prevent slides, cave-ins, and settlements.
 - b. Protecting existing structures or facilities with beams, struts, or under-pinning.

HECO NOTES (cont.)

- 6. Damage to HECO facilities
Any damage to HECO's facilities will be reported immediately to HECO's trouble dispatcher at 543-7874.
- 7. Unforeseen conflicts
Any unforeseen conflict that would result in the redesign or relocation (either temporary or permanent) of HECO's electrical facilities may be cause for lengthy delays. To avoid such delays, the Contractor must notify HECO of the conflict a minimum of 30 days prior to the start of construction.
- 8. Pole bracing
For pole bracing instructions, the Contractor shall call the HECO District Superintendent at (Koolau/261-6085, Waiiau/ 543-4223, Ward/543-7745) a minimum of 72 hours in advance.
- 9. Liability for damages to HECO facilities
All HECO overhead and underground facilities shall be protected at all times by the Contractor during construction. Costs for damages to HECO facilities shall be borne by the Contractor. This repair work shall be done by HECO, or by the Contractor under HECO's supervision.
- 10. Indemnity
The Contractor shall indemnify, defend and hold harmless HECO from and against all losses, damages, claims and actions, all expenses incidental to such losses, damages, claims or action, based upon or arising out of damage to property or injuries to persons, or other tortious acts caused or contributed to by the Contractor or anyone acting under its direction or control or on its behalf; provided Contractor's indemnity shall not be applicable to any liability upon the sole negligence of HECO.

CONSTRUCTION NOTES FOR GAS FACILITIES (CONT.)

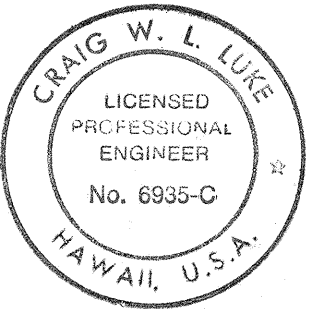
- 4. For relocation of any gas pipeline, the Contractor shall notify The Gas Company five working days before starting work. The Contractor shall provide the necessary excavation and backfill, obtain traffic permits, and restore pavement, sidewalks, or other facilities. Any relocation of gas facilities shall be done by The Gas Company and paid for by the Contractor.
- 5. The Contractor shall notify The Gas Company immediately after any damage has been caused to existing gas pipelines, coatings, or its cathodic protection devices. Repair work on such damage shall be done by The Gas Company and paid for by the Contractor.
- 6. Minimum vertical and horizontal clearance between the gas pipelines and other pipelines, conduits, duct lines, or other facilities shall be 12 inches. Adequate support and protection for gas pipelines exposed in the trench shall be provided by the Contractor and approved by The Gas Company.
- 7. The Contractor shall work in an expeditious manner in order to keep the uncovered gas pipelines exposed for as short a period of time as possible.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(43)	2001	4	121

CONSTRUCTION NOTES FOR GAS FACILITIES

- 1. The Gas Company gas pipelines in the project area are plastic coated and cathodically protected. The Contractor shall be extremely careful when working near these gas pipelines.
- 2. Written clearances must be obtained from The Gas Company at least five working days prior to starting excavation near these gas pipelines. Since gas line locations on field maps are approximate, the Contractor, after obtaining written clearance, shall call The Gas Company at least 5 working days before starting excavation to arrange for field location of the existing gas pipelines. The telephone number is 594-5575 during business hours, and 526-0066 after hours.
- 3. The Contractor shall excavate and backfill around gas pipelines in the presence of The Gas Company representative. All backfill within six inches of any gas pipeline shall be select cushion material approved by The Gas Company.

DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
ORIGINAL PLAN	_____
NO.	_____



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature and Date: 8/1/00

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES-1

KAMEHAMEHA HIGHWAY RESURFACING
Waiahole Valley Road to Crouching Lion Inn
Federal Aid Project No. NH-083-1(43)

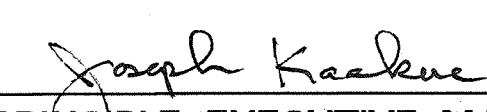
Date: August 1, 2000

BOARD OF WATER SUPPLY NOTES:

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" VOLUME 1, DATED 1985, THE "APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION", VOLUME 2, DATED 1985, 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. Test pressure shall be 150 psi.
4. The Contractor shall notify the 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.
5. The Contractor shall chlorinate the entire inside surface of each pipe and fitting with disinfection solution of 5 ounces of sodium hypochlorite mixed with 10 gallons of water. (For connection only)
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 method.
7. 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 shall pay for all damages to existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.
8. Prior to installation, the Contractor shall submit for approval by Board of Water Supply, the manufacturer's certification that all cast iron (gray or ductile) fittings for the project conform in all respects to the Water System Standards, dated 1985.
9. Polygon shape for mechanical joint glands as described in AWWA Standard C111 shall be "straight-sided" or an approved equal on a job to job basis.
10. Re-approval shall be required if this project is not under construction within a period of two years.
11. The Contractor shall cut and plug all existing unused laterals at the main whether or not shown on the plans. 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.
12. The Contractor shall obtain an NPDES permit prior to chlorination and/or dewatering. A copy of the permit shall be submitted to the Board of Water Supply, Maintenance Unit - Engineering, Construction Section.
13. Pipe cushion shall be of high resistivity material. The Contractor shall submit a soil certification that high resistant cushion material has a resistivity greater than 5,000 OHM-CM. Remainder of the backfill material shall be as specified in Volume 1 of the Water System Standards. Pipe cushion and backfill material shall contain no hazardous substances above regulatory action levels including but not limited to lead, asbestos, mercury, chromium, cadmium, zinc, strontium, and polychlorinated biphenyls (PCB).
14. All ductile iron pipe, fittings and valves shall be wrapped with two layers of 8 mil. polyethylene wrap.
15. Cleaning shall be by the use of "pigs" introduced into the pipeline and run completely through all installed pipelines and all branch lines for fire hydrants. "Pigging" of service laterals is not required. Bare foam "pigs" shall be used to swab piping clean as each length of the pipeline is installed. Each "pig" shall consist of a cylindrical piece of polyurethane foam with a density of 3-7 pounds per cubic foot and a vinyl-coated nose. Outside diameter of the "pig" shall be equal to 1-1/4 to 1-1/2 times its diameter of the pipe being installed. The length of the "pig" shall be 1-1/2 to 2 times its diameter. Prior to use, the "pig" shall be submerged in a chlorine solution of 1 oz. of 5% chlorine bleach in 5 gallons of water. "Pigging" of the pipeline shall be considered incidental to the installation of the new pipeline.
16. Ball corp and ball stop shall be used in lieu of a corporation stop and stopcock, respectively.
17. All sections of the water main requiring reinforced concrete jacketing shall be ductile iron pipe or concrete cylinder pipe and fittings.
18. 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".

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	9/6/02
3/3/02	TRACED BY	
3/3/02	QUANTITIES BY	
3/3/02	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-(43)	2001	C.O. 4 S-1	121

APPROVED:	
	9/6/02
PRINCIPLE EXECUTIVE, MAINTENANCE UNIT, ^{MA}	DATE
BOARD OF WATER SUPPLY,	
CITY AND COUNTY OF HONOLULU	

9/3/02	Add Board of Water Supply Notes, with utility approval block.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
UTILITY NOTES-1A	
KAMEHAMEHA HIGHWAY RESURFACING	
Waiahole Valley Road to Crouching Lion	
Federal Aid Project No. NH-083-(43)	
Date: May 2002	
SHEET No C-2A OF 74 SHEETS	

WATER NOTES

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" Volume 1, dated 1985, the "Approved Material List and Standard Details for Water System Construction", Volume 2, dated 1985, the "Water System External Corrosion Control Standards", Volume 3, dated 1991, and all subsequent amendments and additions.
2. 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 method.
3. 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 shall pay for all damages to existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.
4. Two-way blue reflective hydrant markers type DB shall be installed at all fire hydrant locations. Contractor shall verify the exact locations of hydrant markers with the nearest Honolulu Fire Department Battalion Chief.
5. 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.
6. Test pressure shall be 150 psi for 8" and smaller mains.
7. The Contractor shall notify BWS Planning and Engineering Division, Construction Section in writing and submit four (4) sets of approved construction plans one week prior to commencing work on the water system.
8. The Contractor shall chlorinate the entire inside surface of each pipe and fitting with disinfection solution of 5 ounces of sodium hypochlorite mixed with 10 gallons of water (for connection only).
9. Prior to installation, the Contractor shall submit for approval by Board of Water Supply, the manufacturer's certification that all cast iron (gray or ductile) fittings for the project conform in all respects to the Water System Standards, dated 1985.
10. Polygon shape for mechanical joint glands as described in AWWA Standard C111 shall be "straight sided" or an approved equal on a job to job basis.
11. Re-approval shall be required if this project is not under construction within a period of two (2) years.
12. All ductile iron pipe, fittings and valves shall be wrapped with two layers of 8 mil. polyethylene wrap.
13. The Contractor shall verify all existing service lateral locations whether 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.

14. The Contractor shall adjust all manhole frames/valve boxes within the resurfaced area. Prior to resurfacing, BWS will initially locate all water manholes/valve boxes that will require adjustments. The Contractor shall then be responsible for "referencing" these manholes/valve boxes to facilitate the adjustments. The cost for adjustments shall be made at their respective unit prices in the bid based on the actual number adjusted. Cost for referencing shall be incidental and shall not be paid directly. Any additional request to BWS to again locate the manhole/valve boxes shall be done at the expense of the contractor.
15. 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 BWS.
16. Prior to any excavating, the contractor shall verify in the field the location of existing water mains and appurtenances.
17. Maintain 3'-0" minimum cover for all existing waterlines (18" minimum for service laterals) from the new finish grade. The Contractor shall probe the waterline and service laterals and submit the probing data to BWS Construction Section. Any adjustments to the existing water system to meet the minimum cover and the requirements of the BWS Standards, whether shown on the plans or not, shall be done at no cost to BWS.
18. The Contractor shall have existing waterlines toned before construction of work in the vicinity of the waterlines, call the Investigation Section at 527-5296 for toning services. Guardrail post locations are to be kept a minimum clear distance of 18 inches to any 2-1/2-inch waterlines and meter boxes. No post driving will be allowed when post is to be installed closer than 3 feet from a waterline. Excavated areas shall be restored to their original condition.
19. At the electrical signal ductline water crossings, adjust all electrical/signal ductline elevations to maintain 6-inch vertical clear separation from all waterlines (12 inches clear for all electrical/signal ductline structures larger than 16 inches) at no cost to the Board of Water Supply.
20. Maintain 3'-0" minimum horizontal clear separation between all waterline systems and nearest electrical/signal ductlines paralleling the water system at no cost to the Board of Water Supply.
21. Maintain 3'-0" minimum horizontal clear separation between street light/traffic signal standards (including any modular units) and the nearest water system. Contractor shall check for any conflicts at each street light/traffic signal standard location. Where conflicts occur, the Contractor shall coordinate with the Project Engineer to revise the street light/traffic signal standard to provide the required clearance at no cost to the Board of Water Supply.
22. Resurfacing along the project limits in the vicinity of the following BWS job:
Kamehameha Highway Emergency Repair of 30-inch Water Main
(@ Sta. 791+20± to @ Sta. 792+20±)
Tentative completion date: March 2002

shall be deferred until the completion of the water main projects. Contractor shall notify the BWS Construction Section 60 days prior to commencing resurfacing work along the designated areas. Location and number of utility boxes that require adjustments shall be verified after completion of BWS projects.
23. The Contractor shall determine the exact location of all existing water lines 8 weeks prior to construction or installation of the following items: concrete approach slabs, concrete end posts, guardrail post, culvert extensions, headwalls, utility poles, and any other construction activities which may involve excavations greater than 2 feet deep. The Contractor shall probe and determine the elevation of the existing water lines. If 6 inches minimum vertical clearance and 3 feet minimum horizontal clearance between the existing water line and any of the items listed above is not possible, the contractor shall field adjust the construction noted above as directed by the Engineer. Probing of water lines shall not be paid for separately, but shall be considered incidental to the various contract items.
24. All waterline construction requiring shutdown connection shall be scheduled for normal working hours at six (6) hours maximum downtime.

DRAINAGE NOTES

1. The Contractor shall verify the locations of all existing culverts and utilities in the field. Any existing culverts and utilities damaged during construction shall be repaired or replaced by the contractor at his own expense.
2. Abandoned U.S. Army Signal Corps cable shall not be relocated but shall be cut and removed if necessary.
3. The Contractor shall comply with all conditions of the Army Corps of Engineer's Nationwide Permit and the Department of Health's Water Quality Certification Permit. Any proposed changes to either of these permits will require the contractor to file an amended permit application(s) with the appropriate agencies.
4. Demolishing, removing, and disposing of existing concrete headwalls, pipes and box culverts; saw cutting and removing portions of existing concrete piles; and saw cutting of existing a.c. pavement shall not be paid for separately, but shall be considered incidental to item 206.4200 - Structure Excavation for Culvert Headwall and Wingwalls.
5. The Contractor shall be responsible for designing shoring for safe passage of vehicles. This work shall be approved by a licensed engineer and shall meet Occupational Safety and Health Act requirements. This work shall not be paid for separately but shall be considered incidental to item 206.4200 - Structure Excavation for Culvert Headwall and Wingwalls.

PUBLIC TRANSIT DIVISION (DTS)

1. The Contractor shall notify Oahu Transit Services, Inc. (OTS - TheBus contractor), Ed Sniffen (848-4571) or Lowell Tom (848-4578), two weeks prior to construction, informing them of location, scope of work, proposed closure of any street or traffic lanes, and the need to relocate any bus stops.

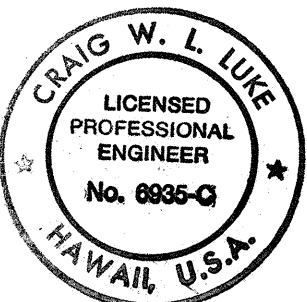
FREE SERVICE FOR LOCATION UNDERGROUND UTILITIES

A free service is available to contractors for locating underground utilities. Service is provided by Underground Service Alert North, at toll free telephone no. 1-800-227-2600. Call Underground Service Alert North at least two days prior to the start of any excavation work.

APPROVED:

Catherine R. Dungca
for Chief, Planning and Engineering, BWS
(For Construction Within State R/W Only)

7/30/01
Date



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature and Date line for the Engineer.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES-2

KAMEHAMEHA HIGHWAY RESURFACING
Waiahole Valley Road to Crouching Lion Inn
Federal Aid Project No. NH-083-1(43)

Date: August 1, 2000