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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 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 The 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 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.

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/Contractor's 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 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) 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 settlement.
c) Properly supporting existing structures or facilities with beams, struts, or 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, 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 because 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 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 Waiau 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 ontractor.

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's customer installations department at 543-7846. A minimum of 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:

MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTINES 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	48"	48"	48"	3

Notes:

1. Where space is available, parallel clearance to other utilities, or foreign structures other than communication or traffic signal shall be 36".
2. 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.
3. Electrical conduit crossings of fuel lines should be kept a minimum of 48" clear below fuel line for the full easement width. If the 48" clearance cannot be met but there is a minimum of 24", the fuel line must be encased with 6" of concrete.
4. 5 feet clear to water mains 16" and larger.
5. For situations with 0" minimum separation, a 6" separation is recommended.
6. Clearances measured from outer edges or diameters of utilities.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

NIMITZ HIGHWAY AND
ALA MOANA BOULEVARD RESURFACING
AND HIGHWAY LIGHTING REPLACEMENT
Fort Street to Kalakaua Avenue
Federal Aid Project No. NH-092-1(27)

Date: March 2008

SHEET No. 1 OF 7 SHEETS

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HECO NOTES: (Continued)

MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTINES 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"		6"	
Telephone/CATV DB Ducts	12"	12"	6"	
Telephone/CATV 3" Encasement	0"	0"	0"	5
Traffic Signal	12"	12"	6"	
Water DB	6"	6"	6"	2
Water Service Laterals	6"	6"	6"	
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"	12"	
Fuel Pipelines	48"	48"	48"	3

Notes:

1. 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.
2. 12" vertical clearance for pipe diameters greater than 16".
3. Electrical conduit crossings of fuel lines should be kept a minimum of 48" clear below fuel line for the full easement width. If the 48" clearance cannot be met but there is a minimum of 24", the fuel line must be encased with 6" of concrete.
4. 5 feet clear to water mains 16" and larger.
5. For situations with 0" minimum separation, a 6" separation is recommended.
6. Clearances measured from outer edges or diameters of utilities.

The Contractor shall notify the construction manager and 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.

Additional Notes When Work Involves Construction of HECO Facilities

16. Schedule
    Contractor shall furnish his construction shedule six (6) months prior to starting work on HECO facilites. Contractor shall give HECO, in wirting, three (3) months notice to proceed with HECO's portion of work.
17. Authority
    All construction, restoration work, and inspection shall be subject to whichever governmental agency has authority over the work.
18. Specifications
    Construction of HECO's underground facilities shall be constructed in accordance with the latest revisions of HECO Specifications CS 7001, CS7003, CS7202, CS9301, and CS9401 and applicable HECO Standards.
19. Construction
    Contractor shall furnish all labor, materials, equipment, and services to properly perform and fully complete all work shown on the contract, drawings, and specifications. All materials shall be new and manufactured in the United States of America. All manhole, handhole, and ductline installations shall be inspected and approved by HECO prior to excavation and prior to placing concrete. Contractor shall notify HECO's Inspection Division at 543-7520 at least 48 hours prior to placing concrete.

    Contractor shall coordinate work to break into HECO's existing electrical facilities with HECO's Underground Division at 543-7520 at least 10 working days in advance.
20. Stakeout
    The Contractor shall arrange for toneouts of all underground facilities and shall stateout 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.
21. Ductlines
    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.
22. Joint Pole Removal
    The last joint pole occupant off the poles shall remove the poles.
23. As-Built Plans
    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.

STATE OF HAWAII
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NIMITZ HIGHWAY AND ALA MOANA BOULEVARD RESURFACING AND HIGHWAY LIGHTING REPLACEMENT
Fort Street to Kalakaua Avenue
Federal Aid Project No. NH-092-1(27)
Date: March 2008

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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HAWAIIAN TELCOM GENERAL CONSTRUCTION AND DESIGN NOTES:

1. 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.

2. 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 for drop off/pick up are 8:00 a.m. to 11:00 a.m. and 1:00 p.m. to 3:00 p.m. Monday through Friday, except holidays.

3. 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) workings days advance notice is required for any inspection by a designated representative.

4. 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.

5. 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.

6. 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.

7. All applicable construction work shall be done in accordance with the "Hawaiian Telcom Standard Specifications for Placing Underground 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.

8. 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.

9. The Contractor shall brace all poles or light standards near the new ductline, manhole, or handhole during his operations.

10. 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.

11. The Contractor shall comply with the policy adopted by the Department of Public Works, City and County of Honolulu, concerning the replacement of concrete sidewalks after excavation work.

12. 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.

13. 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.

14. 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.

15. The Contractor shall pump all manholes dry during final inspection.

16. The Contractor shall notify Hawaiian Telcom inspector 24 hours prior to the pouring of concrete or backfilling.

17. 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.

18. 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.

19. 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

20. Bend 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.

21. 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.

22. 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.

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STATE OF HAWAII
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HIGHWAYS DIVISION

UTILITY NOTES

NIMITZ HIGHWAY AND
ALA MOANA BOULEVARD RESURFACING
AND HIGHWAY LIGHTING REPLACEMENT
Fort Street to Kalakaua Avenue
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HAWAIIAN TELCOM UNDERGROUND CONSTRUCTION STANDARDS FOR RESIDENTIAL PROPERTY:

A. SERVICE CONNECTION: 320' free allowance for aerial and 500' for U.G.

B. RESIDENTIAL UNDERGROUND CONDUIT REQUIREMENTS:

1. Recommend 18" but not less than 12" on private property, 24" minimum on City and County right of way, and 36" minimum on State Highways.
2. Trench shall have a flat surface and shall be deep enough to obtain minimum cover.
   a. First 6 inches of backfill must be soft earth or sand and free of rocks. Fill must be able to pass through a ½" screen.
3. Conduit runs of 150' and multiples thereof shall have intermediate pullbox. If impractical to place a pullbox and conduit runs are 1.5 (225') to 2.5 (375') times greater than 150', use the next larger size conduit.
4. Manufactured 90 degree duct bends may be used only for service pole, equipment risers, or building entry, unless specifically indicated as acceptable. The minimum manufactured bend radius shall be 24 inches for ducts less than 3 inch diameter, and 36 inches for 3 inches or greater diameter. Otherwise, long sweep bends having a minimum radius of 25 feet shall be used for a change of direction of more than 5 degrees, either horizontally or vertically. Both curved and straight sections may be used to form long sweep bends as required, but maximum curve shall be 30 degrees.
5. Service entrance shall be located outside and must be accessible at all time. Entry location must conform to current NEC code requirements. Conduit at house shall rise no more than 5' and not less than 2' above grade.
6. Conduit riser on service pole shall terminate at least 6" above grade with riser ends capped with weather head or plugged with duct seal.
   a. When telephone and electric service conduits terminate on the same service pole, preferably, the two conduits should be placed opposite each other on the service pole. However, it is permissible to place conduits with less separation but not less than ¼ of the circumference of the pole (climbing space must be maintained).
   b. Riser conduit shall be properly strapped.
   c. Muletape or approved equivalent shall be installed in all conduits.
7. Conduit size - depends on customer's service needs:

   Telephone Service Only
   1-1/2" - 1-4 Drops
   2" - Multi drop cable
   4" - Cable

   Notes:
   1. Customer retains ownership of conduit system on private property and is responsible for cost of maintenance and/or repairs.
   2. Hawaiian Telcom retains ownership of drop up to protector and is responsible for the cost of maintenance and/or repairs.
   3. Customer to insure conduit and pullboxes are free from obstruction prior to installation of service drop(s).
8. For service drop only, install 436T Water Meter Pullbox(es) (20-1/4" x 12-3/8" x 12-0"), with metal cover or approved equal.
9. Clearance from power - 3" when encased in concrete; 4" when separated with brick or mason; 12" of well tamped earth. Six inches when crossing foreign objects, i.e., power, water or sewer pipe, etc.
10. Minimum Road Crossing Requirements:

Size	Type	Method of Construction
2"	PVC Schedule 40	Direct Buried
4"	GTS-8342 "DB"	Concrete Encased

11. Strongly recommend that trees with aggressive root systems are not planted near conduit system.

C. LIMITING LENGTHS OF LATERAL OR SUBSIDIARY DUCTS:

Cable Diameter(Inches)	Limiting Lengths of Subsidiary Ducts (Feet) No 90° Bend	1-90° Bend	2-90° Bend	Minimum Diameter of Duct (Inches)
Less than 1"	750	500	200	2.0
1.00 to 1.20	750	500	300	4.0
1.21 to 1.40	600	400	275	4.0
1.41 to 1.60	525	350	250	4.0
1.61 to 1.80	450	300	200	4.0
1.81 to 2.15	375	250	150	4.0
2.16 to 2.61	300	200	100	4.0
2.62 to 2.96	300	200	---	4.0

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DRAWN BY ____
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DESIGNED BY ____
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HAWAIIAN TELCOM GENERAL CONSTRUCTION NOTES WITHIN A BUILDING:

1. Metallic entrance conduits shall be grounded.

2. 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.

3. Ducts and/or conduits installed for usage by Hawaiian Telcom shall be inspected by Hawaiian Telcom.

4. 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.

5. Contractor and/or customer shall provide Hawaiian Telcom with sufficient installation time in their occupancy timetable.

6. Contractor shall provide all materials and furnish all labor and equipment necessary.

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 3' coil. Telephone cabinets shall be grounded.

8. Inside Wiring (IW) Conduit Size - depends on customer's service needs:

Type Of Service	IW Cable Size	Conduit Capacity for Telco Requirements						
		EMT Conduit Capacity					Max Length	Max 90° Bends
		1/2"	3/4"	1"	1 1/4"	1 1/2"		
Residential Apartments	2-4 pair	3	6	10	13	24	100'	2
Multi-Line Application	25 pair	0	1	1	2	4	150'	2
	50 pair	0	0	1	1	1	150'	2
	100 pair	0	0	0	1	1	150'	2
EMT Bend Radii	---------	6	8	12	14	18	---------	---------

9. Minimum Size Telco Cabinets:

   Telephone Service Only:

   Junction Boxes: 16X cable diameter but not less than 4" x 4".

   Entrance Cabinets:

0-50	pair cable	18" X 24" X 6"
50-100	pair cable	24" X 36" X 6"
100-400	pair cable	36" X 48" X 6"

   Note: Entrance Telco Cabinet must conform to NEMA3 specification

10. Residential telephone cabling shall conform to TIA 570-A, Grad I standards consisting of one category 3 cable having a minimum of 3 pairs, 24 gauge, unshielded insulated twisted copper wires with pair color coding of blue-white, orange-white, green-white, or red-green, yellow-black and blue-white respectively. All inside wiring (IW) shall be tagged (identified) at each serving terminal or NID (network interface device).

11. Galvanized eyebolts shall not be less than 5" in diameter.

OCEANIC CABLE NOTES:

1. The locations of Oceanic Cable 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 Oceanic Cable facilities. The Contractor shall verify their locations and shall be liable for any damages to Oceanic Cable facilities. Any damages shall be reported immediately to Oceanic Cable Repair Dispatch Department at 625-8437 or 625-8666.

2. The Contractor shall obtain an excavation permit clearance from Oceanic Cable Engineering Section located at 200 Akamainui Street, Mililani Technology Park. (Phone: 625-8443)

3. Prior to the excavation of the ductline, the Contractor shall request Oceanic Cable to locate existing ductlines wherever required. For any field assistance or verification of Oceanic Cable facilities, the Contractor shall call the Technical Operations Center at 625-8378 a minimum of five (5) working days in advance.

4. The Contractor shall notify The Oceanic's Cable Inspector (phone: 625-8458) a minimum of two (2) working days prior to the start of work on Oceanic Cable's infrastruction, pouring of concrete or backfilling.

5. The Contractor shall take necessary precautions not to damage existing cables, ducts or facilities. Any work involving existing cables, ducts or penetrations into any structure that contain Oceanic Cable facilities shall be done in the presence of the Oceanic Cable inspector or its representative.

6. Any work required to relocate existing Oceanic Cable facilities shall be done by Oceanic Cable and the Constructor shall be responsible for all coordination requirements and associated applicable costs.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

NIMITZ HIGHWAY AND
ALA MOANA BOULEVARD RESURFACING
AND HIGHWAY LIGHTING REPLACEMENT
Fort Street to Kalakaua Avenue
Federal Aid Project No. NH-092-1(27)

Date: March 2008

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(27)	2009	12	302

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", dated 2002, the "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", Volume 3, dated 1991, and all subsequent amendments and additions.
2. The Contractor shall notify the Board of Water Supply, Capital Projects Division, Construction Section in writing one week prior to commencing work on the water system.
3. 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, etc., and drainage and other features of improvements shall not be the responsibility of the Board of Water Supply.
4. The Contractor shall be responsible for the protection of all water lines during construction. The Contractor shall be especially careful when excavating behind water line tees and bends wherever there is a possibility of water line movement due to 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 their construction methods.
5. The existence and location of underground utilities and structures as shown on the plans are from the latest available data but is not guaranteed as to the accuracy or the encountering of other obstacles and shall pay for all damages to existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.
6. Reapproval shall be required if this project is not under construction within a period of two years.
7. The Contractor shall verify all existing service lateral locations, whether or not shown on the plans, prior to commencing with any of the work and shall not assume that, where no services are shown, none exists.
8. Prior to any excavation, the Contractor shall verify in the field the location of existing water mains and appurtenances.
9. 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 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 and the State.
10. The Contractor shall adjust all manhole frames/valve boxes/meter boxes within the resurfaced area prior to resurfacing. The Contractor shall be responsible for "referencing" these manholes/valve boxes/meter boxes to facilitate the adjustments.
11. Contractor shall cut and plug all existing unused laterals at the main whether or not shown on the plans. Meter and valve boxes to be or already abandoned shall be demolished or removed and properly disposed of. The damaged area shall be repaired to an equal or better condition than the immediate area. All work shall be done at the expense of the Contractor and at no cost to BWS and the State.
12. Board of Water Supply approval of these plans does not constitute a water commitment. Availability of water will be determined when building permit is presented to the Department. Water commitment will depend upon the status of the water system at that time. Should water service be made available, the water commitment wil be effective when the project receives an approved building permit from the building department. All water commitments will be canceled in the event the building permit is canceled.
13. At the electrical/signal ductline water crossings, adjust all electrical/signal ductline elevations to maintain 6" vertical clear seperation from all waterlines (12" clear for all electrical/signal ductline structures larger than 16") at no cost to the Board of Water Supply.
14. Maintain 3'-0" min. horizontal clear seperation between all waterline systems and nearest electrical/signal ductlines paralleling the water system at no cost to the Board of Water Supply.
15. Maintain 3'-0" min. horizontal clear seperation between street light/traffic signal standards (including any modular units) and the nearest water system. Contractor shall field verify 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 rquired clearances at no cost to the BWS.
16. 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.
17. Two-way blue reflective hydrant markers Type DB shall be installed at all five hydrant locations.
18. 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 plans or not, shall be done by the Contractor at no cost to BWS.

THE GAS COMPANY NOTES:

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, Maps and Records department, 515 Kamakee Street, at least five (5) working days prior to starting excavation near these gas pipelines.
3. Since gas line locations on field maps are approximate, the Contractor, after obtaining written clearance, shall call USA North a minimum of two (2) working days before starting excavation to arrange for field location of the existing gas pipelines. The telephone number is 1-800-227-2600.
4. The Contractor shall excavate and backfill around gas pipelines in the presence of a representative of The Gas Company. All backfill within six inches of any gas pipelines shall be select cushion material approved by The Gas Company.
5. For Relocation of any gas pipeline, the Contractor shall notify The Gas Company five (5) working days before starting work. The telephone number is 594-5574. The Contractor shall provide the necessary excavation and backfill, obtain traffic permits, and restore pavement, sidewalks, and other facilities. Any relocation of gas facilities shall be done by The Gas Company and paid for by The Gas Company.
6. The Contractor shall notify The Gas Company immediately after any damage has been caused to existing gas pipelines, coatings, or its cathotic protection devices. The telephone number is 535-5933, 24 hours a day. The Contractor shall be liable for any damage to The Gas Company facilities. Repair work on such damage shall be done by The Gas Company with payment for this work to be borne by the Contractor.
7. Minimum vertical and horizontal clearance between the gas pipeline and other pipelines, conduits, ductlines, 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.
8. The Contractor shall work in an expedious manner in order to keep the uncovered gas pipelines exposed for a short a period of time as possible.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

NIMITZ HIGHWAY AND
ALA MOANA BOULEVARD RESURFACING
AND HIGHWAY LIGHTING REPLACEMENT
Fort Street to Kalakaua Avenue
Project No. NH-092-1(27)

Date: March 2008

SHEET No. 6 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(27)	2009	13R	302

CONFINED SPACE - SEWER NOTES AND FOR WORK INSIDE CITY R/W

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 responsibe 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 harnesses 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 minutes duration).
   F. Cellular telephone to call for emergency assistance.
   G. Continuous gas detector (calibrated) to measure oxygen, hydrogen sulfide, carbon monoside and flammables (capable of monitoring at a distance 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).

CONSTRUCTION NOTES FOR WORK WITHIN CITY R/W

1. All applicable construction work shall be done in accordance with the Standard Specifications for Public Works Construction, September 1986 and Standard Details for Public Works Construction, September 1984, as amended, of the Department of Public Works, City and County of Honolulu and the Counties of Kauai, Maui, and Hawaii.
2. 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.
3. No Contractor shall perform any construction operation so as to cause falling rocks, soil or debris in any form to fall, slide or flow into existing City drainage systems, or adjoining properties, streets or natural watercourses. Should such violations occur, the Contractor may be cited and the Contractor shall immedicately make all remedial actions necessary.
4. The Contractor shall be responsible for conformance with the applicable provisions of the water quality and water pollution control standards contained in Hawaii Administrative Rules, Title 11, Chapter 54, "Water Quality Standards", and Title 11, Chapter 55, "Water Pollution Control", as well as Chapter 14 of the Revised Ordinances of Honolulu, as amended. Best Management Practices shall be employed at all times during construction.
5. The Contractor shall notify the Civil Engineering Branch, Department of Planning and Permitting, at 768-8084 to arrange for inspectional services and submit ~~four (4)~~ two (2) sets of approved Construction Plans seven (7) days prior to commencement of construction work.
6. Pursuant to Chapter 6E, HRS, in the event any artifacts or human remains are uncovered during the construction operations, the contractor shall immediately suspend work and notify the Honolulu Police Department, the State Department of Land and Natural Resources - Historic Preservation Division (692-8015). In addition, for non-City projects, the Contractor shall inform the Civil Engineering Branch, Department of Planning and Permitting (768-8084) and for City projects, notify the responsible City agency. Contractor shall also follow the procedures under Special Provisions Section 211 - Archaeological Monitoring.
7. For projects abutting State Highways' rights-of-way, the owner or his authorized representative shall notify the State Department of Transportation, Highways Division, Oahu District, Drainage Discharge Unit at 831-6793 for an assessment of State Highways permit requirements.
8. 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:

   I. 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 harnesses 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 at least 20-feet away).
      h. Personal multi-gas detector to be carried by inspector.

   II. Continuous forced air ventilation adequate to provide safe entry conditions.

   III. One attendant/rescue personnel topside (two, if conditions warrant it).
9. For Bench Mark, see sheet 23.

SEWER NOTES:

1. All sewer construction shall be performed in accordance with the City's Standard Specifications, Sept. 1986, the Department of Public Works Standard Details, Sept. 1984, Current City Practices And Revised Ordinances of Honolulu, 1990, as Amended, and Design Standards of the Department of Wastewater Management Vol. 1, July 1993.
2. 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.
3. The Contractor shall be responsible for the protection of all sewer lines and maintaining continuous sewer service to all affected areas during construction.
4. The Contractor shall be responsible for any sewage spills caused during construction. The Contractor shall notify the State Department of Health and utilize appropriate sampling and analyzing procedures. The Contractor shall be responsible for all public notifications and press releases.
5. Maintain 3'-0" min. horizontal clear separation between all sewer systems and nearest street lighting ductlines, pullboxes, and handholes paralleling the sewer system at no cost to the city.
6. Maintain 5'-0" horizontal clear separation between street lighting and traffic signal standards (including any modular units) and nearest sewer line system. The Contractor shall field verify for conflicts at each street lighting and traffic signal standard location. Where conflicts occur, the Contractor shall coordinate with the Project Engineer to revise the street lighting and traffic signal standard to provide the required clearances at no cost to the city.
7. At the electrical/signal ductline sewer crossings, adjust all electrical/signal ductline elevations to maintain 24' vertical clear separation from all sewer lines or provide reinforced concrete jackets on sewer lines at no cost to the city.
8. For sewer manhole (SMH) adjustments upward less than 3", see City Std. Detail S-25. For SMH adjustments upward greater than 3" or for any adjustments downward, reconstruct SMH top from below the cone section.
9. The Contractor shall adjust all manhole frames within the resurfaced area prior to resurfacing. The Contractor shall be responsible for "referencing" these manholes to facilitate the adjustments.
10. The Contractor shall notify the Inspection Section, Wastewater Branch, DDC, at 768-8788 or 768-8770 to arrange for inspection services. Submit 4 sets of approved construction plans. Call 7 days prior to commencement of sewer work. The contractor shall pay for all inspection costs.
11. Trees shall be situated a minimum of 6' -0" from the City's Sewer lines.

Approved :

CHIEF, WASTEWATER BRANCH, DDP Date 1/5/10

Approved :

CHIEF, CIVIL ENGINEERING BRANCH, DPP Date
(For work within City R/W only)

DATE	REVISION
1/4/2010	Wastewater Branch and DPP Approval Signatures

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

NIMITZ HIGHWAY AND
ALA MOANA BOULEVARD RESURFACING
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Fort Street to Kalakaua Avenue
Federal Aid Project No. NH-092-1(27)

Date: March 2007

ADD. 13R

ORIGINAL PLAN
NOTE BOOK dd6
No. 6ambdgn09.dgn
SURVEY PLOTTED BY ____ DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY