

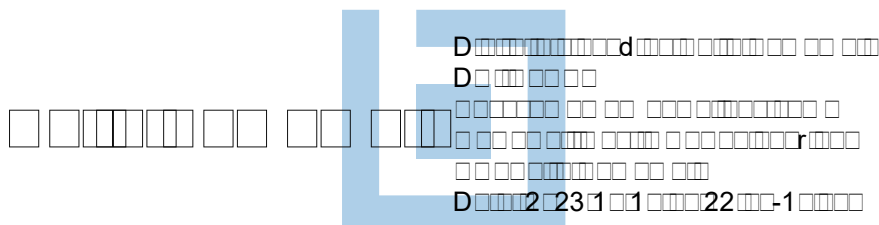
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0300(205)	2024	7	197

CONSTRUCTION NOTES FOR GAS FACILITIES
(rev. 11/03/17):

- Hawaii Gas' pipelines in the project area are plastic coated and cathodically protected. The Contractor shall be extremely careful when working near these gas pipelines.
- Written clearance must be obtained from Hawaii Gas, Maps and Records Department, 515 Kamakee Street, at least five (5) 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 Hawaii One Call Center a minimum of five (5) working days before starting excavation to arrange for field location of the existing gas pipelines. The telephone number is 811 or 1-866-423-7287.
- The Contractor shall excavate and backfill around gas pipelines in the presence of a representative of Hawaii Gas. All backfill within six inches of any gas pipeline shall be S4C, sand, man sand, or a select cushion material approved by Hawaii Gas.
- For relocation of any gas pipeline, the Contractor shall notify Hawaii Gas 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 Hawaii Gas and paid for by the Contractor.
- The Contractor shall notify Hawaii Gas immediately after any damage has been caused to existing gas pipelines, or its cathodic protection devices. The telephone number is 535-5933, 24 hours a day. The Contractor shall be liable for any damage to Hawaii Gas' facilities. Repair work on such damage shall be done by Hawaii Gas with payment for this work to be borne by the Contractor.
- Minimum vertical and horizontal clearance between gas pipelines and other pipelines, conduits, 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 Hawaii Gas.
- 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.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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	NOTE BOOK	
QUANTITIES BY	CHECKED BY	
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Approved:



Chief Engineer, Hawaii Gas Company Date

 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. <i>Pamela K. Uyeda</i> SIGNATURE 04/30/24 EXPIRATION DATE OF THE LICENSE	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION UTILITY NOTES <i>INTERSTATE ROUTE H-1 AND H-201 DESTINATION SIGN UPGRADE/REPLACEMENT, PHASE 3B FAP NO. NH-0300(205)</i> Scale: None Date: Oct. 2023
	SHEET No. N-5 OF 15 SHEETS

HAWAIIAN ELECTRIC COMPANY NOTES (Rev 08/04/21):

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0300(205)	2024	8	197

1. Location of Hawaiian Electric Facilities:

The location of Hawaiian Electric'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 Hawaiian Electric'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 Hawaiian Electric's Planning and Design Section of the Transmission & Distribution Engineering 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 Hawaiian Electric overhead and underground lines are energized and will remain energized during construction unless prior special arrangements have been made with Hawaiian Electric. Only Hawaiian Electric 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 Hawaiian Electric 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 Hawaiian Electric at least three (3) months prior to the planned encroachment so that, if feasible, the necessary protections (e.g. relocate or de-energize Hawaiian Electric lines) can be investigated. Hawaiian Electric may also be able to blanket its distribution (12kV and below) lines to provide a visual aid in preventing accidental contact. Hawaiian Electric's cost of safeguarding or identifying its lines will be charged to the Contractor.

Contact Hawaiian Electric's Customer Installations Division at 543-7070 for assistance in identifying and safeguarding overhead power lines.

6. Pole Bracing:

a. Contractor shall not excavate within 10 feet of Hawaiian Electric's utility poles or any anchor system supporting the utility pole. If Contractor must excavate an area more than 12 inches deep by 12 inches wide, and closer than 10 feet from a utility pole or its anchor system, except when excavating for risers in a single trench not wider than 12 inches and not deeper than 3 feet, Contractor will be responsible for protecting, supporting, securing and taking all precautions to prevent damage to or leaning of existing poles. Before commencing such excavation, Contractor must notify Hawaiian Electric which may lead to implementing pole bracing requirements. Hawaiian Electric requires a minimum of ten (10) working days to conduct the review of Contractor's submittal. Contractor shall submit its bracing calculations and drawings, prepared and stamped by a Licensed Structural Engineer, to Hawaiian Electric's Customer Relations (543-7070) for review. Contractor shall be responsible for the design, installation, and removal of the temporary pole bracing system, as well as all costs incurred by Hawaiian Electric to review Contractor's drawings and to repair or straighten poles impacted by Contractor's activities, including response and restoration costs incurred by

Hawaiian Electric arising out of or related to outages caused by Contractor's failure to meet the foregoing requirements. Hawaiian Electric's receipt of pole bracing calculation or drawing submittals of any Contractor, including work procedure, shall not relieve Contractor from any liability resulting from Contractor's excavation near or around Hawaiian Electric's utility poles.

b. Hawaiian Electric may provide to the customer information related to pole bracing, including calculations and other basic engineering. However, Hawaiian Electric provides this information for informational purposes only and does not warrant any of the information provided to customer. Hawaiian Electric hereby disclaims any liability associated with the customer's use of information provided to the customer from Hawaiian Electric. It is the customer's duty to obtain engineering from its own Engineer or Contractor in order to brace poles and the use of Hawaiian Electric's information does not excuse the customer from performing its own evaluation of the bracing needs. Should the customer install bracing at any pole location, customer shall defend, indemnify and hold harmless Hawaiian Electric from any third-party claims associated with the customer's bracing of a pole. Should the work customer perform at or near the pole location compromise the pole or its surroundings in any way, customer shall restore or replace the pole so that it is no longer compromised.

7. Underground Lines:

The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines. Hawaiian Electric's existing electrical cables are energized and will remain energized during construction. Only Hawaiian Electric personnel are to break into existing Hawaiian Electric facilities, handle these cables, and erect temporary guards to protect these cables from damage. The cost of Hawaiian Electric'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 Hawaiian Electric's Customer Relations at 543-7070 a minimum of ten (10) working days in advance.

Special precautions are required when excavating near Hawaiian Electric's 138kV or 46kV underground lines (See Hawaiian Electric instructions to Consultants/Contractors on "Excavation near Hawaiian Electric's underground 138kV and/or 46kV 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 Hawaiian Electric's underground fuel oil pipelines. Special precautions are required when excavating near Hawaiian Electric's underground fuel oil pipelines (See Hawaiian Electric's specific Fuel Pipeline "Guidelines" to Consultants/Contractors on Excavation near Hawaiian Electric's Underground Fuel Pipelines for detailed requirements).

9. Excavations:

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

a. Arranging for Hawaiian Electric 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 Division for thermal backfill specifications).

10. Relocation of Hawaiian Electric Facilities:

Any work required to relocate or modify Hawaiian Electric facilities shall be done by Hawaiian Electric, or by the Contractor under Hawaiian Electric's supervision. The Contractor shall be responsible for all coordination, and shall provide necessary support for Hawaiian Electric'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 Hawaiian Electric's facilities not shown on the plans may be cause for lengthy delays. The Contractor acknowledges that Hawaiian Electric 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 Hawaiian Electric'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, Hawaiian Electric should be notified immediately upon discovery or identification of such conflict.

12. Damage to Hawaiian Electric Facilities:

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

In case of damage or suspected damage to Hawaiian Electric's fuel pipeline, the Contractor shall immediately notify Hawaiian Electric's Security Command Center at 543-7685 (a 24-hour number) so Hawaiian Electric personnel can secure the damaged section and report any oil spills to the proper authorities. All costs associated with the damage, repair, and oil spill cleanup shall be borne by the Contractor.

13. Hawaiian Electric Stand-by Personnel:

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

The Contractor shall call Hawaiian Electric's Customer Relations at 543-7070 a minimum of three (3) months in advance to arrange for Hawaiian Electric Stand-by Personnel.

<div><div><div><div><div><div></div><div>PAMELA K. UYEDA</div></div></div><div><div><div></div><div>LICENSED PROFESSIONAL ENGINEER</div><div>No. 10352-C</div></div><div><div></div><div>HAWAII, U.S.A.</div></div></div></div><div><div>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</div><div><div><div></div><div>PAMELA K. UYEDA</div><div>04/30/24</div></div><div>SIGNATUREEXPIRATION DATE OF THE LICENSE</div></div></div></div></div>	<div>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</div> <div>UTILITY NOTES</div> <div>INTERSTATE ROUTE H-1 AND H-201 DESTINATION SIGN UPGRADE/REPLACEMENT, PHASE 3B FAP NO. NH-0300(205)</div> <div>Scale: NoneDate: Oct. 2023</div>
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HAWAIIAN ELECTRIC COMPANY NOTES (Cont.):

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0300(205)	2024	9	197

14. Clearances:

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

GUIDELINES FOR MINIMUM HORIZONTAL (PARALLEL) CLEARANCES BETWEEN HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES				
Underground Utility	Hawaiian Electric Direct Buried Cable	Hawaiian Electric Direct Buried in Conduit (no concrete encasement)	Hawaiian Electric 3" (Min.) Concrete Encasement	Applicable Notes:
Hawaiian Electric DB Conduits	12"	3"	0"	
Hawaiian Electric 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 (BWS Owned)	36"	36"	36"	1, 4
Customer Owned Water Service Laterals	12"	12"	12"	
Water (Concrete Jacketed) (BWS Owned)	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: 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 Hawaiian Electric'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. All Fuel Pipeline crossings shall be reviewed and approved by the company that owns and maintains it. 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. Whenever concrete jackets are involved, clearances shall be total clear distance between the concrete jacket and utility concerned.				

GUIDELINES FOR MINIMUM VERTICAL (CROSSING) CLEARANCES HAWAIIAN ELECTRIC AND OTHER UNDERGROUND DUCTLINES				
Underground Utility	Hawaiian Electric Direct Buried Cable	Hawaiian Electric Direct Buried in Conduit (no concrete encasement)	Hawaiian Electric 3" (Min.) Concrete Encasement	Applicable Notes:
Hawaiian Electric DB Conduits	6"	3"	0"	
Hawaiian Electric 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"	3
Traffic Signal	12"	12"	6"	
Water DB (BWS Owned)	12"	12"	12"	5
Customer Owned Water Service Laterals	6"	6"	6"	
Water (Concrete Jacketed) (BWS Owned)	12"	12"	12"	5
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				2
Notes: 1. If clearance cannot be met: - If clearance is less than 12", jacket sewer line with reinforced concrete (per Hawaiian Electric'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. All Fuel Pipeline crossings shall be reviewed and approved by the company that owns and maintains it. 3. For situations with 0" minimum separation, a 6" separation is recommended. 4. Clearances measured from outer edges or diameters of utilities. Whenever concrete jackets are involved, clearances shall be total clear distance between the concrete jacket and utility concerned. 5. 36" clearance is required for trenchless installation work.				

The Contractor shall notify the construction manager 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 Hawaiian Electric 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 Hawaiian Electric.

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PAMELA K. UYEDA

LICENSED PROFESSIONAL ENGINEER

No. 10352-C

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature

Expiration Date

04/30/24

OF THE LICENSE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

UTILITY NOTES

INTERSTATE ROUTE H-1 AND H-201

DESTINATION SIGN UPGRADE/REPLACEMENT, PHASE 3B

FAP NO. NH-0300(205)

Scale: None

Date: Oct. 2023

SHEET No. N-7 OF 15 SHEETS

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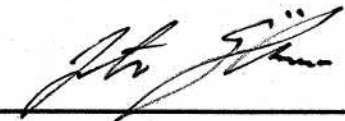
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0300(205)	2024	10	197

WATER NOTES:

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, dated 2005, as amended, of the Hawaii Highways Division, Department of Transportation, and the City and County of Honolulu Board of Water Supply's "WATER SYSTEM STANDARDS", DATED 2002, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 2021, and all subsequent amendments and additions.
2. No deviation to the Board of Water Supply 2002 Water System Standards shall be allowed without the Manager and Chief Engineer's approval.
3. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply.
4. The Contractor shall notify BWS Capital Projects Division, Construction Section in writing or call (808) 748-5730 one week prior to commencing construction activities.
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 during the course of the work. The Contractor shall be responsible and pay for all damages to existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.
6. Re-approval shall be required if this project is not under construction within a period of two years.
7. The Contractor shall be responsible for the protection of all water lines during construction. The Contractor shall be especially careful when excavating behind water lines, tees, and bends wherever there is a possibility of water line movement due to the removal of the supporting earth beyond the existing reaction blocks. The Contractor shall take whatever measure necessary to protect the water lines, such as constructing special reaction blocks (with BWS approval) and/or modifying his construction methods.
8. Prior to any excavating, the Contractor shall verify in the field the location of existing water mains and appurtenances.
9. The Contractor shall adjust all manhole frames/valve boxes/meter boxes within the resurfaced area. The Contractor shall be responsible for "referencing" these manholes/valve boxes/meter boxes to facilitate the adjustments.
10. Any adjustments to the existing water system required during construction to meet requirements of BWS Standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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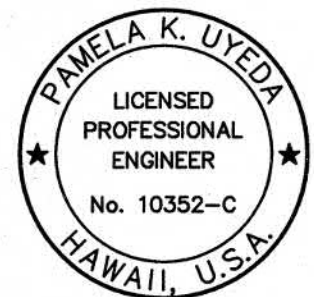
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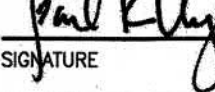


for Manager and Chief Engineer,
Board of Water Supply
(For work affecting BWS Facilities in
City/State Right-of-way and BWS Easements Only)

10/6/2023

Date



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

SIGNATURE

04/30/24
EXPIRATION DATE
OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

INTERSTATE ROUTE H-1 AND H-201
DESTINATION SIGN UPGRADE/REPLACEMENT, PHASE 3B
FAP NO. NH-0300(205)

Scale: None Date: Oct. 2023

SHEET No. N-8 OF 15 SHEETS

SPECTRUM NOTES:

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0300(205)	2024	11	197

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 locations of existing utilities are approximate only. The Contractor shall verify their locations and shall be responsible for any damages to these utilities as a result of his operations. Adjustments to the new ductline alignment, if required, shall be made to provide the required clearances.

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

4. The Contractor shall saw-cut A.C. Pavement, concrete gutter, and concrete sidewalk wherever new manholes, handholes, pullboxes or ductlines are to be placed and shall restore to existing condition or better.

5. 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 areas. 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.

6. The Contractor, at their 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.

7. The Contractor, at their own expense, shall keep the project area free from dust nuisance. The work shall be in conformance with the air pollution control standards and regulations of the State of Hawaii, Department of Health.

8. Prior to the excavation of the ductline, the Contractor shall request that Spectrum Oceanic Cable Company to locate existing ductline wherever required.

9. The Contractor shall take necessary precaution not to damage existing cables or ducts. Any work involving existing cables or ducts shall be done in the presence of the Spectrum Oceanic inspector or their representative. Temporary cable and duct support shall be provided wherever necessary.

10. The Contractor shall notify the Spectrum Oceanic inspector 72 hours prior to the start of work on CATV infrastructure, pouring concrete, or backfilling. Spectrum Oceanic's inspector(s): Perry Samuelu at 387-2496 or Paul Caspillo at 479-1637.

11. 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.

12. Contractor shall provide all materials and furnish all labor and equipment necessary to install the ductline in place complete.

13. 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.

14. The location of CATV facilities shown on plans are from existing records with varying degrees of accuracy as to its actual fixed location. The Contractor shall use extreme caution when working in close proximity of CATV facilities.

15. The Contractor shall obtain excavation permit clearance from Spectrum Oceanic's Engineering Section located at 200 Akamainui St., Mililani Tech Park.

16. For any field assistance or verification of CATV facilities, the Contractor shall call Spectrum Engineering & Construction Services at 625-8570 or email: Haw.Engineering.Research@Charter.com.

17. Any work required to relocate CATV facilities shall be done by Spectrum Oceanic Cable and the Contractor shall be responsible for all coordination requirements and associated costs.

18. Any damage to Spectrum Oceanic's facilities shall be reported to Spectrum Oceanic's TOC Department at 625-8169.

19. The Contractor shall tunnel under existing concrete curb and gutter as necessary to extend conduit into existing CATV pullbox and into the proposed power supply pullbox.

20. All existing improvements that are disturbed during the construction phase shall be restored to its original or better condition at no cost to the City in accordance with City's Standards.

21. At locations where existing CATV pullbox replacement is proposed, the Contractor shall take all necessary precaution not to damage the existing cables in the pullbox. All damages to existing cables shall be repaired by Spectrum Oceanic Cable and paid for by the Contractor.

22. Coordinate all penetration of telephone pullboxes with Hawaiian Tel inspector.

23. Smooth finish inside wall of existing pullboxes and and hand-holes to its original condition or better.

24. All new concrete encased conduit shall be PVC Pipe-Schedule 40. All new direct-buired conduit shall be PVC Pipe-Schedule 80. Use of any other material type (GTS, etc.) shall be limited to matching existing facilities. Connection of dissimilar materials to require approval from Spectrum Oceanic Inspector and Engineering Dept.

25. The Contractor shall place poly cord throughout project, and secure in manholes, handholes, and pullboxes.

26. For 3" conduits or larger, the Contractor shall install NEPTCO WP1800 muletape or approved equal in all ductlines. Leave muletape in place for future use as a pull or fish line, unless otherwise noted. Reference GTE Material Code No. 571154. All ducts shall be capped to prevent entry of foreign material during construction and at completion of installation. Endbells are required for conduits 2" and larger.

27. Penetration into pullboxes if necessary to be from factory installed opening or from bricks position. Penetration from pullbox walls is not acceptable.

28. Bends in the duct alignment, due to changes in grade shall have a minimum radius of 20-feet. All 90-degree C-bends at a pole or at the building floor slab penetration, shall have a bend radius of 10 times the diameter of the duct or greater.

29. Minimum length of conduit used shall not be less than 5-feet in length. Use of partial conduit sections allowable is at Spectrum Oceanic inspector(s) discretion.

30. All conduits shall enter through the end "short wall" of the pull-box. Entry shall be at 90 degrees (perpendicular) to wall face with bends no less than 12" from exterior wall.

31. A minimum of (2) precast sections must be used on all 2x4 or 2x6 pullboxes.

32. All new construction shall utilize concrete precast base unless otherwise approved or specified by Spectrum Oceanic inspector(s).

33. For pull-box locations where vehicular intrusion possible, concrete collar required per Spectrum Oceanic Standards and Specifications manual. Examples include, but not limited to, rolled/ribbon curbs, curb / headers less than 5" in height, vehicle travelways with no defined curb / header, etc.

a. Non sidewalk areas, see Chapter 2, Figure 18.1c, 19.1c and 20.1b in the Spectrum Specifications Manual.

34. When three (3) or more 4" conduits enter one end wall of any pullbox, only brick bases will be allowed unless otherwise instructed/approved by Spectrum Oceanic inspector(s).

35. Two minimum layers of bricks to be used lower than the lowest duct entering the pullbox. Top layer of brick to be flush with top of conduit or higher.

36. For upgrade/repairs to existing pull-boxes, bricks may be used and shall always be at least two layers lower than the lowest duct entering the pullbox.

37. At no time shall cement mortar, wood, or any other material be used between precast sections.

38. Leveling or raising of boxes to grade must be done:

a. Pre-cast base(s) - using gravel layer under base (Type 3B or equivalent approved by Spectrum Oceanic inspector)

b. Brick base(s) - adjustments to brickwork section. The permanent installation of wooden wedges to accomplish this purpose will not be accepted.

39. 5/8" x 8' copper ground rods shall be placed in all pullboxes unless otherwise directed by Spectrum Oceanic Cable. Ground rods will be placed in the corner 3" to 4" from the wall and away from any conduit with no more than 8" sticking up above ground.

40. Trenching to be conducted by hand digging near and across existing utility lines.

41. Minimum clearance between street light stand and fire hydrants shall be three feet.

Approved:

James Donaldson

Chief Engineer, Spectrum Oceanic

11

Date

PAMELA K. UYEDA

LICENSED PROFESSIONAL ENGINEER

No. 10352-C

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature

EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

UTILITY NOTES

INTERSTATE ROUTE H-1 AND H-201

DESTINATION SIGN UPGRADE/REPLACEMENT, PHASE 3B

FAP NO. NH-0300(205)

Scale: None

Date: Oct. 2023

SHEET No. N-9 OF 15 SHEETS

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