Construction Notes

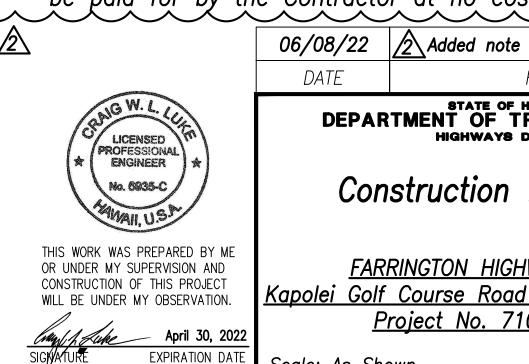
GENERAL

- 1. The Project Scope of Work includes the widening of the Farrington Highway; Construction of drainage structures and culverts, asphalt and concrete pavements, concrete curbs, gutters and sidewalks, gas lines, water system and sewer system, street lighting, traffic signals, and landscaping; relocation of water mains; relocation of overhead and underground electrical and telecommunications infrastructure; reconstruction of the Kaloi Stream Bridge and Honouliuli Stream Bridge; demolition and removal of structures, clearing, grading; and pavement marking and sign installation.
- 2. Construction and restoration of all existing highway facilities within State Highway Right-of-Way shall be done in accordance with all applicable sections of "Hawaii Standard Specifications For Road and Bridge Construction, 2005" and "Specification for Installation of Miscellaneous Improvements Within State Highways" of the State Highways Division, and the Project Plans and Special Provisions.
- 3. All Contractor operations shall be confined to be within existing Right-of-Ways, easements, and Right-of-Entry areas.
- 4. In the event that a conflict occurs between State and City and County of Honolulu Standards, Specifications, and/or Notes, the more stringent requirement shall govern.
- 5. The Contractor shall only take direction from the State Department of Transportation Engineer and shall not perform any work at the direction of the City and County of Honolulu or City Engineer, without the approval of the State Department of Transportation Engineer.
- 6. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall tone for all utility lines before starting any work. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
- Smooth riding connections shall be constructed at the limits of new road construction, including the beginning and end of project, connecting approaches, side streets and driveways as shown on the plans and/or as directed by the Engineer.
- 8. All saw cutting work shall be considered incidental to Roadway Excavation. The Contractor shall clean up any cuttings and shall not wash down material into the storm drain or sewer systems.
- 9. All work specified in the contract but not listed separately in the proposal schedule shall be considered incidental to other various contract items and shall not be paid for separately.
- 10. All work to remove temporary facilities by the Contractor shall be considered incidental to the various contract items in the proposal.
- 11. For geologic inspection refer to report titled, "Geotechnical Engineering Exploration Farrington Highway Improvements", dated November 23, 2020 prepared by Geolabs,
- 12. The Contractor shall adjust all Utility (water, sewer, power, gas, fuel, communication) structures (manholes, handholes, etc.) to match the finish grade.
- 13. Topographic and boundary survey information shown herein was provided by ControlPoint Surveying Inc. The topographic survey was done July 13, 2012.
- 14. The Contractor shall comply with utility coordination requirements per Standard Specification Section 104.11. As part of coordination requirements, the Contractor shall include carbon copy the Engineer in all correspondences with utilities.
- 15. All materials shall be new and free of defects, such as rust, damage, or corrosion. The Engineer will determine acceptability. No payment will be made for material that is not accepted by the Engineer.

- The Contractor shall allow access to all materials that will be used in the project for inspection and/or testing (this includes but is not limited to access to Contractor or subcontractor's base yards, manufacturer yard, production plant, separate storage areas). The Engineer reserves the right to reject any material or work for which access or inspection is not allowed.
- The Contractor shall inform the Engineer of all scheduled work. See schedule requirements in Specification Section 108.06 and 108.07. If the Engineer is not informed of work and unable to inspect the work, the Engineer reserves the right to reject the work.
- The Contractor shall be responsible for preserving all survey monuments on State property. All survey monuments disturbed or destroyed by the Contractor shall be reinstalled at no cost to the State. Only licensed State of Hawaii Land Surveyors shall reference, locate, adjust or reinstall monuments. The Contractor shall coordinate with the State Construction Surveyor prior to construction to locate and verify all monuments. Adjusted or reset monuments shall comply with Standard Plan D-07 or D-08 where applicable. Following the completion of the monuments, their locations shall be checked. The monuments must check within a tolerance of the smaller of and error ratio of 0.03 feet. Failure to meet the tolerance will require the Contractor to reset the monuments. All costs associated with coordination, referencing, preserving, adjusting, installation, and verification of survey monuments is included in the various contract pay items.
- Traffic control plans shown in the Contract Documents are minimum requirements and 26. do not constitute a complete traffic control plan. The Contractor shall provide any traffic control plan (not shown in the plans) that is needed to accomplish the work based on contractor's means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable Manual Uniform Traffic Control Devices (MUTCD) requirements. All lane closures or traffic pattern changes (detours) not shown on the plan shall be submitted to the Engineer for approval in accordance with Specifications Section 645 – Work Zone Traffic Control. For restrictions on lane closures, detours, construction work during peak hours, and other requirements regarding maintaining vehicular and pedestrian traffic, see Section 107.06 - Contractor Duty Regarding Public Convenience, and Section 645 – Work Zone Traffic Control. All traffic control related costs shall be included in the lump sum traffic control pay item and shall not be paid for separately.
- All material generated by the project and taken off—site shall be considered solid waste. The Contractor shall dispose of material at an approved Department of Health waste management facility as an incidental cost to the work. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer by the last day of the month. Provide documentation from any intermediary facility where solid waste is handled or processed, haul tags, or any documentation as requested by the Engineer. If the Contractor elects to reclassify material as inert fill, DOH HEER testing guidance shall be followed. No material generated from this project shall be classified as inert fill material for reuse without testing, obtaining required approvals/permits, providing disposal locations/quantities, and obtaining prior written approval from the Engineer. The Contractor shall indemnify the State of all violations of solid waste handling and disposal. Failure to comply with these requirements may result in fines/liquidated damages in accordance with Special Provisions Section 209 and HDOT's Enforcement Response Plan.
- 21. If the traffic control plan or any traffic control device is not installed per manufacturer's recommendation, plan, specification, or is deemed unsafe, the Engineer reserves the right to shut down the work at no additional cost and time or to withhold payment from Contractor. Lane closures that are unauthorized or not approved will not be allowed and shall be subject to rental fees in accordance with Specification Section 108.09.

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- The Contractor shall provide oversight for quality control of work. The Contractor shall submit copies of all measurements, test results, and reports to the Engineer on a weekly basis. This includes compaction, density, smoothness testing, and pavement core thickness results.
- All public notices and advertisements shall be incidental to lump sum traffic control item 645.1000 – Traffic Control, and shall not be paid for separately.
- 24. The exact locations and limits of areas to be excavated or cleared shall be located in the field by the Contractor and accepted by the Engineer. The Contractor shall not begin any work until the Engineer verifies and accepts the location and limits of the area.
- The Contractor shall verify the presence of existing utilities which may conflict with activities and shall coordinate with the utility company for temporary relocation, as necessary. All costs associated with the temporary relocation shall be borne by the Contractor.
- 30 days prior to excavation. Provide written notice of scheduled toning and specific locations to the Engineer at least one week ahead of toning. If there is a potential conflict, contractor shall inform DOT within 24 hours of discovery. Contractor shall probe around area and take precautions to not damage utilities. This work shall be incidental to various contract items and shall not be paid for separately.
- The Contractor shall be responsible for removal of all hazardous materials attributed to their Operation/Activities. All contaminates from the Contractor's Operations shall be completely removed from the project site to the written satisfaction of the State. Cleaning and/or removal of the contaminated material caused by the Contractor's Operation/Activities shall be documented in the form of a report completed by and environmental professional qualified by the State to test contaminant. The approved Environmental profession shall test and document that area of contamination caused by the Contractor's Operation/Activities and ensure that the area is clear of contamination. All costs related to the repair, replacement, cleanup, and documentation of the contaminated area shall be paid for by the Contractor at no cost to the State.



EXPIRATION DATE

OF THE LICENSE

REVISION DEPARTMENT OF TRANSPORTATION

Construction Notes — 1

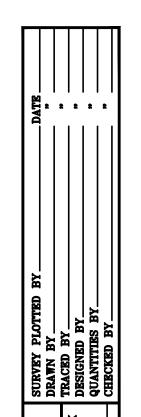
FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road

Project No. 7101A-01-20

Scale: As Shown

Date: April 2022

SHEET No. C-2 OF 767 SHEETS



ADD

Construction Notes

NOTIFICATION

- 1. All necessary permits for work within the jurisdiction of the City and County of Honolulu shall be obtained by the Contractor at his own cost.
- 2. The Contractor shall obtain a Permit to Perform Work Upon State Highways from the Oahu District Engineer, State Highways, at 831–6700, prior to commencement of work within the State's Highway Right—of—Way.
- 3. The Contractor shall notify the Engineer in writing, three (3) weeks prior to starting Construction.
- 4. The Contractor shall notify the Engineer and City and County of Honolulu, including Utilities, Bus Transportation, Hospitals, Police Department, Fire Department, Emergency Medical Services, and Department of Health in writing at least three (3) weeks before start of construction.
- 5. The Permit to Perform Work Upon State Highways may be revoked because of default in any of the following, but not limited to, conditions:
 - A. Work performed before or after permitted hours.
 - B. Failure to maintain roadway surfaces in a smooth and safe condition.
 - C. Failure to clean up construction debris generated from project work.
 - D. Failure to provide and maintain proper traffic control.
 - E. Failure to replace damaged pavement markings and signs.
 - F. Failure to provide and maintain erosion control devices in proper condition.
 - G. Failure to comply with noise permit and law requirements.
- 6. The Contractor shall inform the Oahu District Engineer 831-6700 at least three (3) weeks prior to closing any lanes or performing any trench restoration work. This work shall include any backfilling and compacting of trench material; placing and compacting of base course material; and any paving operations. Any trench restoration work performed by the Contractor that is not witnessed by State Representative or not constructed in compliance with the requirements of the contract documents will be required to be removed. It shall be removed with a State Representative present and in compliance with the requirements of the contract documents. All restoration work will be at the Contractor's expense.
- 7. All workers within the State Right—of—Way who are exposed either to vehicles using the roadway or to construction equipment within the work area, shall wear high—visibility safety apparel that meets the Performance Class 3 requirements of ANSI/ISEA 107—2004 publication entitled "American National Standards for High—Visibility Safety Apparel and Headwear". "Workers" means people on foot whose duties place them within the State Right—of—Way, such as but not limited to, Contractor construction and maintenance forces, equipment operators, survey crews, utility crews and law enforcement personnel when directing traffic, investigating incidents, handling lane closures or obstructed roadways within the State Right—of—Way.

PRECAUTION:

- 1. The Contractor shall exercise care when performing work in or adjacent to the State Highway Right—of—Way. Damages to the existing facilities shall be immediately reported to the Enginer and respective utility company, or City and County or State agency. The repair work shall be done at the Contractor's expense.
- 2. Contractor shall take proper precautions when working near overhead lines.

WORK EXECUTION

- 1. No material and/or equipment shall be stockpiled or otherwise stored within the Highway Right—of—Way except at locations designated in writing and accepted by the Engineer. If use of location is approved by the Engineer, the Contractor shall obtain a Use & Occupancy Permit to use the property within the Highway Right—of—Way from the State Highways District Office (831—6700).
- 2. Lane closures are allowed only from 8:30 a.m. to 3:00 p.m. Monday through Friday except on Holidays. Exceptions to lane closure hours specified require written acceptance and must be coordinated in advance with the Engineer.
- 3. All work zone regulatory, guide and construction signs and barricades shall be of high intensity Type IV retroreflective sheeting. Portable concrete barriers shall be reflectorized in accordance to the "Standard Plans", State of Hawaii, Department of Transportation. On the back of each sign install a sticker with 1—inch high letters stating Project Number, Contractor Name and Date Installed. Date installed may be hand written.
- 4. All construction signs shall be left in place until all construction items have been completed unless otherwise directed by the Engineer. The Contractor shall obtain prior approval from the Engineer to remove construction signs.
- 3. After the project is completed, all areas disturbed by the Contractor, but not incorporated into the final grades or work plan, shall be restored to a condition equal to or better than the existing condition prior to disturbance. This work will be considered incidental to the various pay items under Section 209.
- 4. Normal working hours shall be from 7:00 a.m. to 3:30 p.m., Monday through Friday, excluding holidays. Work performed between 3:30 p.m. and 7:00 a.m. of the following day is "night work".
- 6. Failure of the Contractor to open all lanes of traffic during the times specified above shall result in the assessment of liquidated damages as specified in Section 108.08 of the Special Provisions.

TRENCHING

- 1. Prior to commencing trench excavation work, the Contractor shall take a pavement profile along the centerline of the proposed utility trench. This information shall be used in the verification of restoring the roadway to its original or better condition. A copy of the pavement profile taken before trenching and after restoration shall be submitted to the Engineer for acceptance.
- 2. The Contractor shall provide and maintain an adequate, safe and non-skid bridging material, including shoring over trenches in pavement areas.
- 3. The Contractor will make every effort to minimize the use and the duration of use of steel plates. All steel plates shall have a non-skid surface. The State may require the backfilling of patches of trenches due to the excessive usage of steel plates at no additional cost.
- 4. Temporary cold mix trench patches will be permitted in any given area for a maximum duration of two (2) weeks, and shall be a minimum of 2-inches thick. All temporary patches shall be placed over properly placed and compacted backfill and base course layers. The Contractor shall be responsible for maintaining all temporary patches and to make repairs to unsatisfactory patches within 24 hours. If a pothole develops that in the opinion of the Engineer will become a hazard to the public, the repairs shall be made immediately, no later than four (4) hours after notification.
- 5. At the end of each day's work, the Contractor shall remove all work zone signs and barricades not in use, equipment and other obstruction from the roadway to permit free and safe passage of traffic.

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ACCESS TO FARM LOTS

(Cost shall be considered incidental to various items of work)

- 1. The Contractor shall provide continuous access to the farm lots along the mountain and ocean sides of the project.
- 2. Temporary access provided to farm lots shall be coordinated with farmers.
- 3. Upon removal of earth berms, the contractor shall provide a temporary concrete barrier to farm lots to prevent unauthorized vehicles from accessing the farm lots.
- 4. The Contractor shall relocate all farmer access gates impacted by construction and provide roadway transition to existing access roadways.
- 5. The Contractor shall relocate all irrigation lines impacted by construction and ensure farmers continuous irrigation.

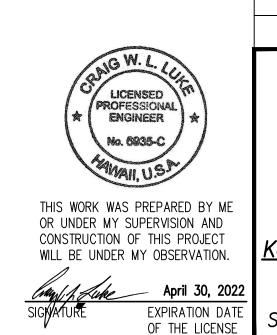
ACCESS TO HOOPILI CONSTRUCTION SITES

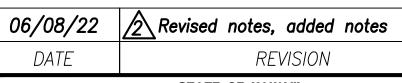
(Cost shall be considered incidental to various items of work)

- 1. The Contractor shall provide continuous access to construction sites along the project limit.
- 2. The Contractor shall coordinate access along the project limit with the affected land owners their contractors. Continuous access shall be provided.
- 3. Upon removal of earth berms, the contractor shall immediately provide a temporary concrete barrier to any affected construction sites to prevent unauthorized vehicles from accessing adjacent properties.

WORK NEAR KAHI MOHALA

- 1. Work from Station 143+00 to 152+00 will not be allowed during night hours. All work within Station 143+00 to 152+00 shall be done during normal daytime work hours.
- 2. Grading along the makai shoulder between Old Fort Weaver Road (West) and Honouliuli Stream Bridge, and construction of Retaining Wall must be completed within four months of receiving Notice to Proceed. The Contractor shall coordinate work with HECo.





DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

Construction Notes - 2

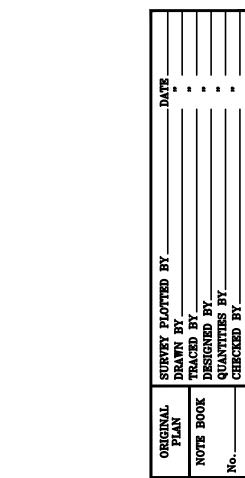
<u>FARRINGTON HIGHWAY WIDENING</u>

<u>Kapolei Golf Course Road to Fort Weaver Road</u>

<u>Project No. 7101A-01-20</u>

Scale: As Shown Date: April 2022

SHEET No. C-3 OF 767 SHEETS



ADD.

Construction Notes (Cont'd)

ACCESS:

- 1. Where pedestrian walkways exist, they shall be maintained in a safe and passable ADA condition, or other facilities for pedestrians shall be provided. Passages between walkways at intersections shall likewise be provided.
- 2. A minimum of 36-inches clear width and 80-inches headroom clearance height shall be maintained along existing and potential sidewalk and walkways.
- 3. The Contractor shall provide for access to and from all existing side streets, driveways and adjacent properties at all times.

DRAINAGE:

- 1. Existing drainage systems will be functional at all times during construction of proposed drainage structures and bridges. The Contractor shall be responsible for any storm runoff damage caused by their operation. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to accomplish maintenance of flow. The cost shall be incidental to the various Contract Items.
- 2. 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 5 repaired or replaced by the Contractor at his own expense.
- 3. The Contractor shall remove all silt and debris deposited in drainage facilities, on roadways and in other areas during the duration of the project. This work shall be incidental to various contract items. The costs incurred for any necessary remedial action by the Engineer due to the Contractor's non-compliant work shall be payable by the Contractor.

American With Disabilities Act Note

- 1. All new sidewalk and walkway running slopes shall be defined as the direction parallel to the prevalent pedestrian flow of travel.
- 2. All new sidewalk and walkway cross slopes shall be defined as the direction perpendicular to the prevalent pedestrian flow of travel.
- 3. The running slope of an accessible route shall not exceed 1:20 and the cross slope of an accessible route shall not exceed 1:48.
- 4. If the running slope of an accessible route exceeds 1:20, it shall be considered a ramp, and shall meet the requirements of ADAAG 405.
- 5. Curb ramps shall have a running slope not steeper than 1:12 and cross slope not steeper than 1:48.
- 6. The clear width of a ramp run shall be 36 inches minimum.
- 7. Landings subject to wet conditions shall be designed to prevent the accumulation of water.
- 8. Curb ramp flares shall not be steeper than 1:10.
- 9. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.
- 10. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.
- 11. Temporary pedestrian access shall comply with the requirements of ADAAG 201.3 and 206.1.

American With Disabilities Act Note (Cont'd)

2. Curb ramp run surfaces shall be stable, firm, and slip resistant. Changes in level other than the running slope and cross slope are not permitted on ramp runs.

General Notes For Traffic Control Plan

- Traffic control devices shall be installed such that the sign or device farthest from the work area shall be placed first. The others shall then be placed progressively toward the work area.
- 2. Regulatory and warning signs within the construction zone that are in conflict with the traffic control plans shall be removed or covered. All signs shall be restored upon completion of the work.
- 3. When required by the issuing office, the permittee shall install a flashing arrow signal as shown on the traffic control plans.
- 4. All traffic lanes shall be a minimum of ten (10) feet wide.
- 5. All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
- The backs of all signs used for traffic control shall be appropriately covered to preclude the display of inapplicable sign messages (i.e., when signs have messages on both faces).
- 7. At the end of each day's work or as soon as the work is completed, the permittee shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
- B. Sign spacing (D), taper lengths (T) and spacing of cones or delineators shall be as shown in Table 645—1, unless otherwise noted on the Traffic Control Plans.

	Table 645—1 For Traffic Control Plan						
Posted Speed			eet)	Longitudinal Buffer Space	•	ng of Co elineators	
Limit (M.P.H.)	(D) (Feet)	W = 12' Or Less	W > 12'	(B) (Feet)	Taper	Tangent	Work Area
25	250	200	W X 17	55	25	25	10

- W = Width of Lane, Shoulder, or Offset
- 9. Contractor to provide access and/or directional signs to reroute pedestrian traffic.
- 10. An advertisement shall be placed in the newspaper by the Contractor for any lane closures. The advertisement shall be made one (1) week before any lane closure and shall contain the following information:
 - A. Map of the Traffic Change Limits;
 - B. Notice of starting and ending dates, times and duration;
 - C. Map to show Lane Closure;
 - D. Explanation of the Lane Closure, "NOTICE TO MOTORIST".
 - E. Newspaper advertisement shall be a minimum size of 5-inches by 8-inches.

Proof or copy of newspaper ad needs to be submitted to both the City and County of Honolulu, and State engineer for acceptance before being printed. The Contractor shall be required to have any lane closures announced daily over the radio two (2) days before the starting date until the work is completed. Both advertisements in the newspaper and over the radio shall be paid for by the Contractor. The Contractor shall also notify the Hospital, Ambulatory Services, Police Department and Fire Department of lane closures.

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General Notes For Traffic Control Plan (Cont'd)

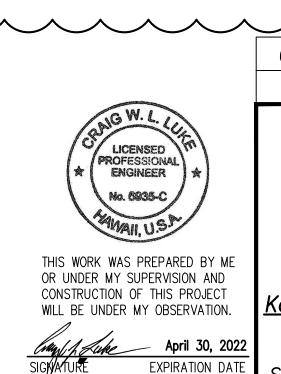
- 13. All workers who are exposed to either vehicles using the roadway or to construction equipment shall wear high visibility safety apparel that meets the performance class 2 or 3 requirements of "ANSI/ISEA 107-2004". "Workers" is defined as people on foot whose duties place them within the project limits, e.g., State Right-of-Way, City and County Right-of-Way, adjacent properties. Workers as such are but not limited to construction and maintenance forces, equipment operators, survey crew, utility crews, responders to incidents e.g., EMT and firemen, and law enforcement personnel. Use of high visibility safety apparel that complies with ANSI/ISEA-207-2015 and are of comparable ANSI/SEA 107-2004 class will be acceptable.
- 14. Flaggers and/or police officers shall be insight of each other or in direct communications at all times.
- 15. The permittee shall make minor adjustments at intersections, driveways, structures, etc., to fit field conditions.
- 16. Cones or delineators shall be extended to a point where they are visible to approaching traffic.

<u>Public Health, Safety And Convenience</u> <u>Notes (State)</u>

- 1. The Contractor shall observe and comply with all Federal, State and local laws required for the protection of public health and safety and environmental quality.
- 2. The Contractor, at his own expense, shall keep the project and its surrounding areas free from dust nuisance. The work shall be in conformance with the Air Pollution Standards of the State Department of Health. The State may require supplementary measures as necessary.

<u>Historical Preservation Notes</u>

Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, work shall cease immediately in the immediate vicinity of the find and the find protected from further damage. The Contractor shall immediately cordon off the area and notify the Planning Department at (808) 241–4050 and the State Historic Preservation Division at (808) 692–8015, which will access the significance of the find and recommend the appropriate mitigation measures, if necessary.



OF THE LICENSE

06/08/22 Note Removed

DATE REVISION

STATE OF HAWAPI

DEPARTMENT OF TRANSPORTATION

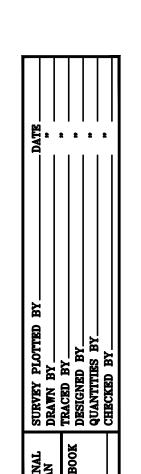
Construction Notes - 3

FARRINGTON HIGHWAY WIDENING
Kapolei Golf Course Road to Fort Weaver Road
Project No. 7101A-01-20

Scale: As Shown Date: April 2022

SHEET No. C-4 OF 767 SHEETS

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<u>Project Bench Mark</u>

The project bench mark is referenced to the City traverse station "Street Monument A" located in the vicinity of Farrington Highway, near the intersection of Kapolei Golf Course Road. The elevation of "Street Monument A" is 112.95—feet mean sea level (msl). Benchmark provided by ControlPoint Surveying Inc.

Notes for Construction (City and County of Honolulu)

- 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.
- 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.
- 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 immediately make all remedial actions necessary.
- The general contractor/developer/owner of the project shall be responsible for conformance with applicable provisions of the 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.

The general contractor/developer/owner of the project shall obtain National Pollutant Discharge Elimination System (NPDES) permit coverage(s) for the following:

- 1. Storm water discharges associated with construction activities that disturb one (1) acre or more, and
- 2. Discharges of hydrotesting effluent, dewatering effluent, and well drilling effluent to State waters.

In accordance with State law, all discharges related to project construction or operations are required to comply with State Water Quality Standards (Hawaii Administrative Rules, Chapter 11–54). Best management practices shall be used to minimize or prevent the discharge of sediment, debris, and other pollutants to state waters. Permit coverage is available from the Department of Health, Clean Water Branch at http://health.hawaii.gov/cwb. The owner/developer/contractor is responsible for obtaining other federal, state, or local authorizations as required by law.

For non-City projects, the contractor shall notify the Civil Engineering Branch, D.P.P. at 768–8084 to arrange for inspectional services and submit two (2) sets of approved construction plans seven (7) days prior to commencement of construction work. For city projects, the contractor shall coordinate inspectional services with the responsible city agency.

Notes for Construction (City and County of Honolulu) Cont.

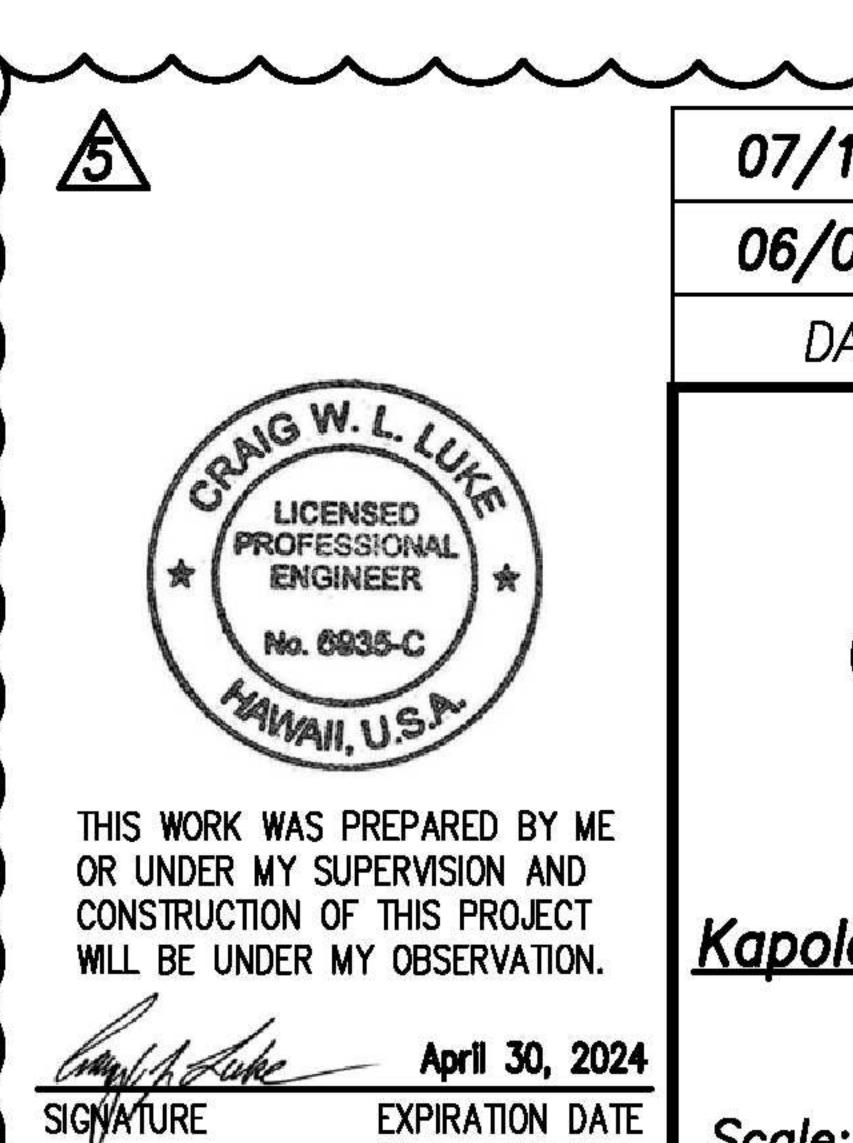
The contractor may submit a substitution request to precast any City owned and/or maintained drainage structure (ex., catch basins, drain manholes, drain inlets, culverts, etc.) However, prior to construction and installation of any precast structure, the contractor shall a) submit six (6) sets of shop drawings to the Civil Engineering Branch, Department of Planning and Permitting and obtain written approval and b) notify the Civil Engineering Branch, Department of Planning and Permitting at 768–8084 to arrange for inspectional services. non-compliance with any of these requirements shall mean immediate suspension of all precast construction work and rejection of all precast structures already constructed.

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.
 - . continuous gas detector (calibrated) to measure oxygen, hydrogen, sulfide, carbon monoxide and flammables (capable of monitoring at a distance of 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).
- Pursuant to Chapter 6E, HRS, in the event any artifacts or human remains are uncovered during 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.
- 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.
- $\frac{2}{2}$ 10. For bench mark, see sheet C-23.

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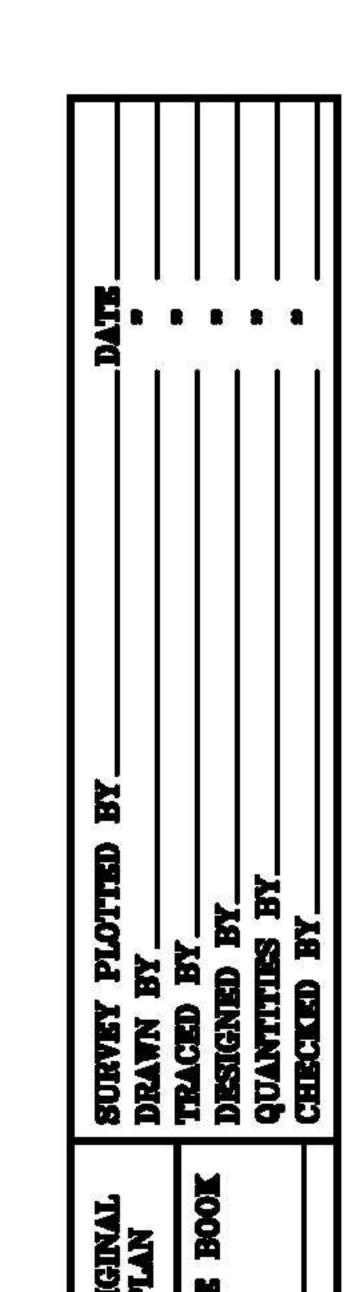
07/15/22 \(\sigma\)\(\righta\)\(\ 06/08/22 /2\ Deleted note, revised note DEPARTMENT OF HAWAII

Construction Notes - 4

FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road Project No. 7101A-01-20

Date: April 2022 Scale: As Shown

SHEET No. C-5 OF 767 SHEETS



Environmental Control Notes For Grading

- Hawaii Administrative Rules, the Property Owner/Developer shall be responsible for ensuring that effective control measures are provided to minimize or prevent any visible dust emission caused by the construction work from impacting the surrounding areas; including the off-site roadways used to enter/exit the project. These measures include but are not limited to the use of water wagons, sprinkler systems, dust fences, etc.
- ≥ 2. In accordance with Chapter 11-55, WATER POLLUTION CONTROL and Chapter 11-54, WATER QUALITY STANDARDS, Title 11, Hawaii Administrative Rules, the Property Owner/Developer shall be responsible for ensuring that the Best Management Practice (BMP) to minimize or prevent the discharge of sediments, debris and other water pollutant into State waters are provided at all times.
 - In accordance with Chapter 11-56, SOLID WASTE MANAGEMENT CONTROL, Title 11, Hawaii Administrative Rules, the Property Owner/Developer shall be responsible for ensuring that grub material, demolition waste and construction waste generated by the project are disposed of in a manner or at a site approved by the State Department of Health. Disposal of any of these wastes by burning or burying is prohibited.
- 4. The Contractor shall be responsible for compliance with all applicable permits from the Department of Health including but not limited to (NPDES), Notice of Intent and General Permit for storm water, hydrostatic test and dewatering discharges.
- 5. The Contractor shall remove daily all silt and debris resulting from this work and deposited in drainage facilities, roadways and other areas. The cost incurred for any necessary remedial action by the Engineer shall be payable by the Contractor.
- > 6. Best Management Practices (BMP's) shall be employed at all times to the maximum extent practicable to prevent damage by sedimentation, erosion or dust to streams, watercourses, natural areas and the property of others.
- In accordance with Chapter 11-46, COMMUNITY NOISE, Hawaii Administrative Rules, the Contractor and the Property Owner/Developer shall be responsible for providing effective control measures to minimize or prevent construction related noise from impacting the residents in the immediate area. If required, noise reduction measures shall be implemented by the Contractor during the construction work.
- 8. The property may harbor rodents which will be dispersed to the surrounding areas when the site is cleared. In accordance with Chapter 11-26, VECTOR CONTROL, Title 11, HAR, the applicant shall ascertain the presence or absence of rodents on the property. Should the presence of rodents be determined, the applicant shall eradicate the rodents prior to clearing the site.
- 9. A copy of the plans, construction schedule and/or written measures that is required to be submitted by the Contractor (Dust Control Measures/Plans) should also be sent to the Department of Health for monitoring purposes.

Notes for Grading (City and County of Honolulu)

- In accordance with Chapter 11-60.1, AIR POLLUTION CONTROL, Title 11, 1. All grading work shall be done in accordance with Chapter 14, Articles 13, 14, 15 and 16, as related to grading, soil erosion and sediment control of the Revised Ordinances of Honolulu, 1990, as amended, and soil reports by Geolabs Inc., entitled "Geotechnical Engineering Exploration-Farrington Highway Improvements-Kapolei Golf Course to Fort Weaver Road-Ewa, Oahu, Hawaii" dated August 4, 2021.
 - 2. No Contractor shall perform any grading operation so as to cause falling rocks, soil or debris in any form to fall, slide or flow onto adjoining properties, streets or natural watercourses. should such violations occur, the contractor may be cited and the contractor shall immediately make all remedial actions necessary.
 - 3. The contractor, at his own expense, shall keep the project area and surrounding area free from dust nuisance. The work shall be in conformance with the Air Pollution Control Standards contained in the Hawaii Administrative Rules, Title 11, Chapter 60.1, "Air Pollution Control."
 - 4. 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
 - 5. Adequate provisions shall be made to prevent surface waters from damaging the cut face of an excavation or the sloped surfaces of a fill. furthermore, adequate provisions shall be made to prevent sediment-laden run off from leaving the site.
 - 6. All slopes and exposed areas shall be sodded, planted, or sprayed with soil sement chemical stabilizer as soon as final grades have been established. planting shall not be delayed until all grading work has been completed. grading to final grade shall be continuous, and any area, within which work has been interrupted or delayed, shall be planted.
 - 7. Fills on slopes steeper than 5H:1V shall be keyed.
 - 8. The City shall be informed of the location of the borrow/disposal site for the project when the application for a grading permit is made. The borrow/disposal site must also fulfill the requirements of the Grading Ordinance.
 - 9. No grading work shall be done on Saturdays, Sundays and Holidays at any time without prior notice to the Director, D.P.P., provided such grading work is also in conformance with the Community Noise Control Standards contained in the Hawaii Administrative Rules, Title 11, Chapter 46, "Community Noise Control".
 - 10. The limits of the area to be graded shall be flagged before the commencement of the grading
 - 11. The general contractor/developer/owner of the project shall be responsible for conformance with applicable provisions of the 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. The general contractor/developer/owner of the project shall obtain National Pollutant Discharge Elimination System (NPDES) permit coverage(s) for the following:
 - A. Storm water discharges associated with construction activities that disturb one (1) acre or more, and
 - B. Discharges of hydrotesting effluent, dewatering effluent, and well drilling effluent to State

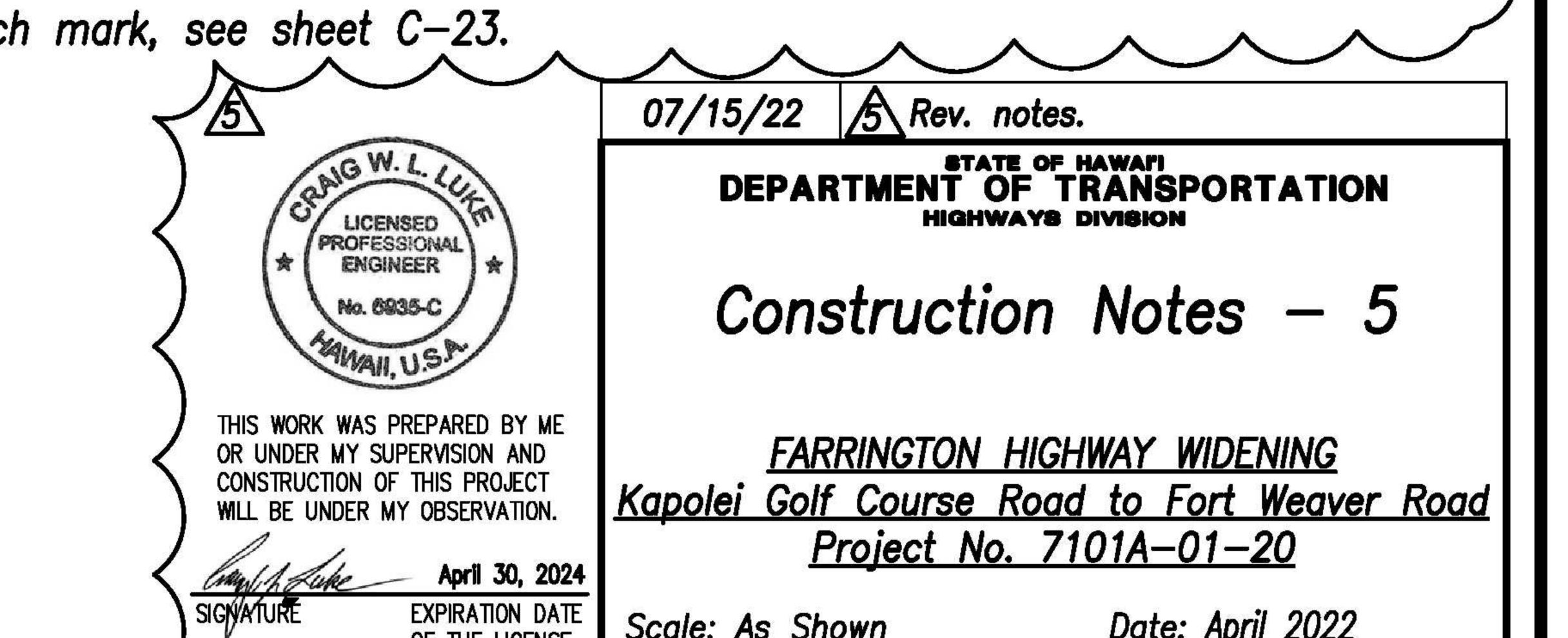
In accordance with State law, all discharges related to project construction or operations are required to comply with State Water Quality Standards (Hawaii Administrative Rules, Chapter 11–54). best management practices shall be used to minimize or prevent the discharge of sediment, debris, and other pollutants to state waters. permit coverage is available from the department of health, clean water branch at http://health.hawaii.gov/cwb. The owner/developer/contractor is responsible for obtaining other federal, state, or local authorizations as required by law.

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Notes for Grading (Continued)

- 12. Where applicable and feasible the measures to control erosion and other pollutants shall be in place before any earth moving phase of the grading is initiated.
- 13. Temporary erosion controls shall not be removed before permanent erosion controls < are in-place and established.
- 14. Temporary erosion control procedures shall be submitted for approval prior to application for grading permit.
- 15. If the grading work involves contaminated soil, then all grading work shall be done / in conformance with applicable State and Federal requirements.
- 16. For non-City projects, the contractor shall notify the Civil Engineering Branch, D.P.P. at 768–8084 to arrange for inspectional services and submit two (2) sets of approved construction plans seven (7) days prior to commencement of construction work. For City projects, the contractor shall coordinate inspectional services with the responsible City agency.
- 17. Pursuant to Chapter 6e, HRS, in the event any artifacts or human remains are uncovered during 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.
- 18. For all projects, which will disturb one (1) acre or more of land, the contractor shall not start construction until a Notice of General Permit Coverage (NGPC) is received from the Department of Health, State of Hawaii, and has satisfied any other applicable requirements of the NPDES permit program. Also, for non—City and other non-governmental agency projects, the contractor shall provide a written copy of the NGPC to the permitting and inspection section, Civil Engineering Branch, D.P.P., at least seven (7) calendar days before the start of construction. for city or other governmental projects, the contractor should provide a written copy of the ngpc to the appropriate city department or governmental agency per their requirements.
- 19. All grading and construction work shall implement measures to ensure that the discharge of pollutants from the construction site will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of water quality standards.
- 20. Non-compliance to any of the above requirements shall mean immediate suspension of all work, and remedial work should commence immediately. all costs incurred shall be billed to the violator. furthermore, violators shall be subjected to administrative, civil and/or criminal penalties.

21. For bench mark, see sheet C-23.



DEPARTMENT OF HAWAII

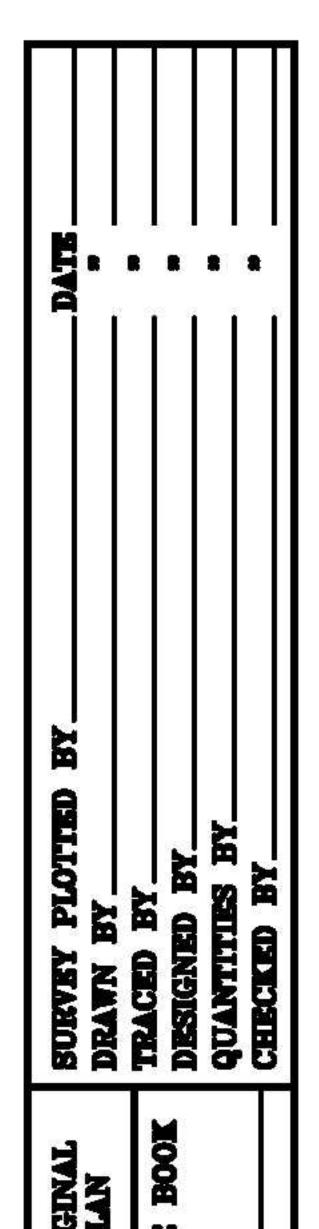
Construction Notes - 5

FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road Project No. 7101A-01-20

Scale: As Shown

Date: April 2022

SHEET No. C-6



ADD

OF 767 SHEETS

Water Pollution And Erosion Control Notes

A. GENERAL:

- 1. See Special Provisions Section 209 Water Pollution and Erosion Control. Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment. In addition, Appendix A lists potential pollutant sources and corresponding BMPs used to mitigate pollutants.
- 2. Follow the guidelines in the current HDOT Construction Best Management Practices Field Manual in developing, installing, and maintaining the Best Management Practices (BMP) for the project. For any conflicting requirements between the Manual and applicable bid documents, the applicable bid documents will govern. Should a requirement not be clearly described within the applicable bid documents, the Contractor shall notify the Engineer immediately for interpretation. For the purposes of clarification under Note A.2, "applicable bid documents" include the construction plans, standard specifications, Special Provisions, Permits, and the Storm Water Pollution Prevention Plan (SWPPP) when applicable.
- 3. Follow the guidelines in the Honolulu's City & County "Rules Relating to Soil Erosion Standards and Guidelines" along with applicable Soil Erosion Guidelines for projects on Oahu.
- 4. The Engineer may assess liquidated damages of up to \$27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every day of non-compliance. There is no maximum limit on the amount assessed per day.
- 5. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.
- 6. If necessary, install a rain gage prior to any field work including the installation of any site—specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall. Install the rain gage on the project site in an area that will not deter rainfall from entering the gage opening. Do not install in a location where rain water may splash into rain gage. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site—specific best management practices are in—place.
- 7. Submit Site—Specific BMP Plan to the Engineer along with a completed Site—Specific BMP Review Checklist within 30 calendar days of contract execution. The Site—Specific BMP Review Checklist may be obtained from http://www.stormwaterhawaii.com.
- 8. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMP requirements and do not constitute a complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Costs shall be included in lump sum Pay Item No. 209.0100, Installation, Maintenance, Monitoring, and Removal of BMP and shall not be paid for separately.

B. WASTE DISPOSAL:

1. Waste Materials

Collect and store all waste materials in a securely lidded metal dumpster or roll off container with cover to keep rain out or loss of waste during windy conditions. The dumpster shall meet all local and State solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster weekly or when the container is two—thirds full, whichever is sooner. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer, on a weatherproof bulletin board, or other accessible location acceptable to the Engineer. The Contractor shall be responsible for seeing that these procedures are followed. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 40 calendar days of contract execution. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer monthly. This should also include documentation from any intermediary facility where solid waste is handled or processed.

2. Hazardous Waste

Dispose all hazardous waste materials in the manner specified by local or State regulations and by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

3. Sanitary Waste

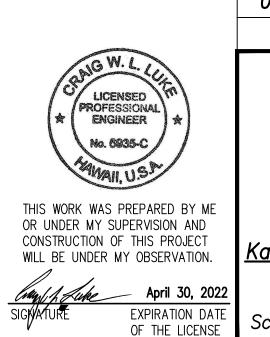
Collect all sanitary waste from the portable units a minimum of once per week, or as required. Position sanitary facilities where they are secure and will not be tipped over or knocked down.

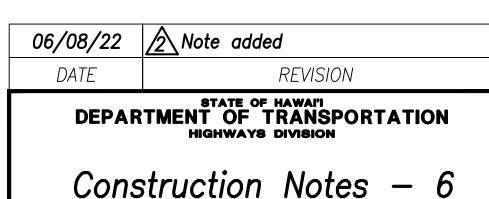
C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

- 1. For projects with an NPDES Permit for Construction Activities, inspect at the following intervals. For construction areas discharging to nutrient or sediment impaired waters, inspect all control measures at least once a week and within 24 hours of any rainfall event of 0.25 inches or greater within a 24 hour period. For construction areas discharged to waters not impaired for nutrient or sediments, inspect all control measures weekly. Inspections are only required during the project's normal working hours. The discharge point water classification may be found in the SWPPP.
- 2. For projects without an NPDES Permit for Construction Activities, inspect all control measures weekly.
- 3. Maintain all erosion and sediment control measures in good working order. If repair is necessary, initiate repair immediately and complete by the close of the next work day if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance. When installation of a new erosion or sediment control or a significant repair is needed, install the new or modified control or complete the repair no later than 7 calendar days from the time of discovery. "Immediately" means the Contractor shall take all reasonable measures to minimize or prevent discharge of pollutants until a permanent solution is installed and made operational. If a problem is identified at a time in the day in which it is too late to initiate repair, initiation of repair shall begin on the following work days.
- 4. Remove built—up sediment from silt fence when it has reached one—third the height of the fence. Remove sediment from other perimeter sediment control devices when it has reached one—half the height of the device.
- 5. Inspect silt screen or fence for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground. Inspect and verify the bottom of the silt screen is buried a minimum of 6 inches below the existing ground.
- 6. Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.
- 7. Complete and submit to the Engineer a maintenance inspection report within 24 hours after each inspection.
- 8. Provide a stabilized construction entrance at all points of exit onto paved roads to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 50 feet. Minimum width should be 30 feet. Minimum depth should be 12 inches or as recommended by the soils engineer and underlain with geo—textile fabric. If minimum dimensions cannot be met, provide other stabilization techniques that remove sediment prior to exit. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold—planed materials, dirt or rock tracked from the site. Do not hose down the street without containing or vacuuming wash water. Cover dump trucks hauling material from the construction site with a tarpaulin. Remove sediment tracked onto the street, sidewalk, or other paved area by the end of the day in which the track—out occurs.

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- 9. Include designated Concrete Washout Areas(s) in the Water Pollution, Dust, and Erosion Control submittals.
- 10. Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
- 11. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.
- 12. Contain, remove, and dispose slurry generated from saw cutting of pavement in accordance with approved BMP practices. Do not allow discharge into the drainage system or State waters.
- 13. For projects with an NPDES Permit for Construction Activities, immediately initiate stabilizing exposed soil areas upon completion of earth-disturbing activities for areas where earth-disturbing activities have permanently or temporarily ceased. Earth—disturbing activities have permanently ceased when clearing and excavation within any area of the construction site that will not include permanent structures has been completed. Earth disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future. For construction areas discharging into waters not impaired for nutrients sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities. For construction areas discharging into nutrient or sediment impaired waters, complete initial stabilization within 7 calendar days after the temporary or permanent cessation of earth-disturbing activities. Classification of water at the discharge point may be found in the SWPPP.





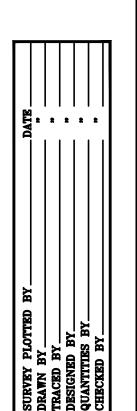
<u>FARRINGTON HIGHWAY WIDENING</u> <u>Kapolei Golf Course Road to Fort Weaver Road</u>

Project No. 7101A-01-20

Scale: As Shown

Date: April 2022

SHEET No. C-7 OF 767 SHEETS



<u>Water Pollution And Erosion Control</u> <u>Notes (Continued)</u>

- D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:
- 1. Materials Pollution Prevention Plan
 - a. Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory.

Concrete
Paints (enamel and latex)
Tar
Petroleum Based Products
Wood

Detergents
Metal Studs
Fertilizers
Cleaning Solvents
Masonry Block

- b. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the iob.
- c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
- d. Keep products in their original containers with the original manufacturer's
- e. Do not mix substances with one another unless recommended by the manufacturer.
- f. Whenever possible, use a product up completely before disposing of the container.
- g. Follow manufacturer's recommendations for proper use and disposal.
- h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.
- 2. Hazardous Material Pollution Prevention Plan
 - a. Keep products in original containers unless they are not resealable.
 - b. b. Retain original labels and Safety Data Sheets (SDS), formerly Material Safety Data Sheets (MSDS).
 - c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.
- 3. Onsite and Offsite Product Specific Plan
 The following product specific practices shall be followed onsite:
- a. Petroleum Based Products:

Monitor all onsite vehicles for leaks and perform regular preventive maintenance to reduce the chance of leakage. Store petroleum products in tightly sealed containers which are clearly labeled. Apply asphalt substances used onsite according to the manufacturer's recommendation.

b. Fertilizers:

Apply fertilizers used only in the minimum amounts recommended by the manufacturer and federal, state, and local requirements. Avoid applying just before a heavy rain event. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth. Once applied, work fertilizer into the soil to limit exposure to storm water. Do not apply to storm conveyance channels with flowing water. Storage shall be in a covered shed or in an area where fertilizer will not come into contact with precipitation o stormwater. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.

c. Paints:

Seal and store all containers when not required for use. Do not discharge excess paint to the drainage system, sanitary sewer system, or State waters. Dispose properly according to manufacturers' instructions and State and local regulations.

d. Concrete Trucks:

Washout or discharge concrete truck drum wash water only at a designated site as far as practicable from storm drain inlets or State waters. Do not discharge water in the drainage system or State waters. Disposal by percolation is prohibited. Clean disposal site as required or as requested by the Engineer.

- 4. Spill Control Plan
- a. Post a spill prevention plan to include measures to prevent and clean up each spill.
- b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area on a weatherproof bulletin board or other accessible location acceptable to the Engineer and in the office trailer onsite.
- c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.
- d. Keep ample materials and equipment necessary for spill cleanup in the material storage area onsite.
- e. Clean up all spills immediately after discovery.
- f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24—hour period, the Contractor shall notify the Engineer as soon as the Contractor has knowledge of the discharge. The Engineer will notify the National Response Center (NRC) at (800) 424—8802, the Clean Water Branch during regular business hours at 586—4309, and the Hawaii State Hospital Operator at 247—2191 and the Clean Water Branch (DOH—CWB) via email at cleanwaterbranch@doh.hawaii.gov during non—business hours immediately. The Contractor shall also provide to the Engineer, within 7 calendar days of knowledge of the release, a description of the release, the circumstances leading to the release, and the date of the release. The Engineer will provide this information to the DOH—CWB. The Engineer will provide information to the NRC if requested.

E. PERMIT REQUIREMENTS:

1. A National Pollutant Discharge Elimination System (NPDES) Permit for Construction Activities of one acre or more of disturbed area is required for this project. If the Contractor requires extra land disturbance, including staging and storage areas, that is not covered by the NPDES Permit obtained by the State, the Contractor shall be responsible for obtaining the required NPDES Construction Activities Permit to cover this additional disturbed area. See Hawaii Administrative Rules Chapter 11–55, Appendix C for definition of land disturbance. The Contractor's attention is directed to the applicable NPDES Permit documents on the bid package compact disc.

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- 2. Comply with all applicable State and Federal Permit conditions.

 Permits may include, but not limited to the following:

 a. NPDES Permit for Construction Activities
 - b. NPDES Permit for Hydrotesting Waters

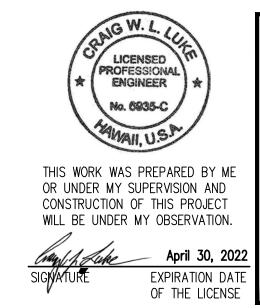
under Concrete Curing and Irrigation Water.

F. SITE-SPECIFIC BMP REQUIREMENTS:

Each BMP below is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual and appropriate Supplemental Sheets. The Manual may be obtained from the HDOT Statewide Stormwater Management Program Website

http://www.stormwaterhawaii.com/resources/contractors—and—consultants/under Construction Best Management Practices Field Manual.
Supplemental BMP sheets are located at http://stormwaterhawaii.com/contractors—and—consultants/storm—water pollution—prevention—plan—swppp/

The requirements for Water Pollution, Dust, and Erosion Control submittals are included in Section 209 of the Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and applicable Special Provisions. A list of pollutant sources and corresponding BMP used to mitigate the pollutants are included in Section 209 of the Special Provisions under Appendix A.



DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Construction Notes - 7

<u>FARRINGTON HIGHWAY WIDENING</u> <u>Kapolei Golf Course Road to Fort Weaver Road</u> <u>Project No. 7101A-01-20</u>

Scale: As Shown

Date: April 2022

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Water Pollution And Erosion Control Notes (Cont'd)

(Continued)

Follow the requirements below:

- 1. Protect all Drainage Inlets receiving runoff from disturbed areas (SC-2).
- 2. Contain on-site runoff using Perimeter Sediment Controls
 - a. SC-1 Silt Fence
 - SC-5 Vegetated Filter Strips and Buffers
 - SC-8 Compost Filter Berm
 - SC-13 Sandbag Barrier
 - SC-14 Brush or Rock Filter
- Control offsite runoff from entering construction area
 - EC-8 Run-On Diversion
 - SC-6 Earth Dike
 - SC-7 Temporary Drains and Swales
- Incorporate applicable Site Management BMP
 - SM-1 Employee Training
 - SM-2 Material Delivery and Storage
 - SM-3 Material Use
 - SM-4 Protection of Stockpiles
 - SM-6 Solid Waste Management
 - SM-7 Sanitary/Septic Waste Management
 - SM-9 Hazardous Waste Management
 - SM-10 Spill Prevention and Control
 - SM-11 Vehicle and Equipment Cleaning
 - SM-12 Vehicle and Equipment Maintenance
 - SM-13 Vehicle and Equipment Refueling
 - SM-14 Scheduling
 - SM-15 Location of Potential Sources of Sediment
 - SM-16 Preservation of Existing Vegetation
 - SM-18 Dust Control
- 5. Contain pollutants within the Construction Staging/Storage Area BMP with applicable Perimeter Sediment Controls and Site Management BMP. Include a Stabilized Construction Entrance/Exit (EC-2) for all areas which exit onto a paved street. Restrict vehicle access to these points.
- 6. Manage Concrete Waste including installing a Concrete Washout Area (SM-5)and properly disposing of Concrete Curing Water (California Stormwater BMP Handbook NS-12 Concrete Curing).
- Remove saw cut slurry and hydrodemolition water from the site by vacuuming. Provide storm drain protection and/or perimeter sediment controls during saw cutting and hydrodemolition work.
- 8. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100, Installation, Maintenance, Monitoring, and Removal of BMP.

Sewer Notes

All sewer construction shall be performed in accordance with the city's "Standard Specifications," Sept. 1986, the Department of Environmental Services "Wastewater System Design Standards," July 2017, and "Wastewater System" Standard Details," July 2017, Current City Practices and Revised Ordinances of Honolulu, 1990 as amended.

Sewer Notes (Cont'd)

- 2. In the event that any change in alignment or grade for the proposed sewers are required due to unforeseen conflicts with other facilities, the engineer in charge or the maker of the plans shall be responsible for the required changes which are to be presented to the Department of Planning and Permitting (DPP) for approval.
- 3. The contractor shall notify the Civil Engineering Branch, DPP at phone no. 768-8084 to arrange for inspectional services and submit four (4) sets of approved construction plans seven (7) days prior to commencement of construction work. The contractor shall pay for all inspection costs.
- 4. Crushed rock cradle is permitted where soil is stable. In areas of unstable soil, the maker of the plans and the construction engineer will determine the pipe support required.
- 5. 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 DPP inspector and exercise proper care in excavating the area. The contractor shall be responsible and shall pay for all damaged utilities.
- 6. Sewer laterals shall be clear of and not conflicting with any other utility. Minimum horizontal and vertical clearances shall be strictly observed and followed.
- 7. Slope for sewer laterals shall be a minimum of 2.00% unless otherwise noted.
- 8. Building plumbing facilities shall be controlled by sewer lateral inverts.
- 9. The contractor shall be responsible for maintaining continuous sewer service to all affected areas during construction.
- 10. The consulting engineer shall submit to the Wastewater Branch, DPP "As-Built" tracings and electronic files of the construction plans as actually constructed, showing all changes from the original plans.
- 11. 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.
- 12. The contractor shall install "Rainstopper" manhole inserts in all sewer manholes with type "SA" frame and cover.
- 13. The contractor shall obtain approval for advance sewer riser agreement at the DPP and obtain building permit for plumbing work before any advance riser is made.
- 14. S4C pipe cradle seals shall be installed 10 feet from all sewer manholes to prevent soil migration.
- 15. 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:

- 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: APPROVED:
 - Full body harnesses for up to two personnel.
 - Lifeline and associated clips.
 - Ingress/egress and fall protection equipment.
 - Two-way radios (walkie-talkies) if out of line-of-sight.
 - Emergency (escape) respirator (10 minute duration).
 - Cellular telephone to call for emergency assistance.

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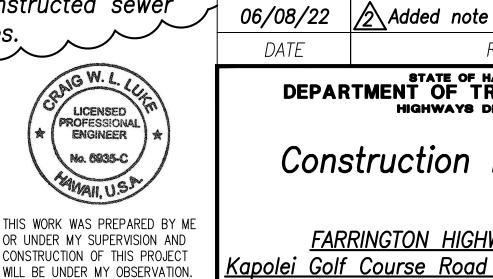
Sewer Notes (Cont'd)

- Continuous gas detector (calibrated) to measure oxygen, hydrogen sulfide, carbon monoxide and flammables (capable of monitoring at a distance at least 20-feet away).
- Personal multi-gas detector to be carried by inspector.
- Continuous forced air ventilation adequate to provide safe entry conditions.
- III. One attendant/rescue personnel topside (two, if conditions warrant it).
- 16. When connecting to a live sewer line, the contractor shall abide by all conditions that the department of health sets forth to mitigate any wastewater spill that may occur. The contractor shall inform the city inspector five (5) working days prior to the actual connection. The contractor shall be responsible for any fines and penalties due to any spills resulting from the connection.
- 17. No rungs shall be installed inside new sewer manholes.
- 18. For sewer manhole adjustments upward less than 3", see Std. Detail S-28. for SMH adjustments upward greater than 3" or for any adjustments downward, reconstruct SMH top from below the cone section.
- 19. If contractor encounters flow monitoring devices, such as special sewer manhole cover embedded with solar panels, contact Collection System Maintenance (CSM) at 768-7272 to coordinate temporary removal.
- 20. Contractor shall maintain visibility and maintenance access to live sewer manhole locations at all times, including during non-work hours and paving operations.
- 21. Contractor shall use manhole debris catching device when performing manhole height adjustment work and remove any construction debris that has fallen into the manhole. Disposal of construction debris in the sewer system is strictly prohibited.
- 22. For precast sewer manholes, the consulting engineer shall submit four (4) sets of shop drawings to the Wastewater Branch, DPP for approval. After the shop drawings are approved, the manufacturer shall notify the Construction Management Branch, Wastewater Engineering and Construction Division, Env., at 768-8785, 768-8769, or 765-8755 to arrange for inspection services for concrete pours made at its plant seven (7) days prior to pour.

23. Contractor shall provide wrap seal on all adjusted or reconstructed sewer manholes.

DATE

Chief Wastewater Branch, WWB



EXPIRATION DATE

OF THE LICENSE

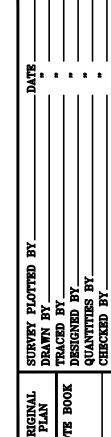
REVISION DEPARTMENT OF TRANSPORTATION

Construction Notes — 8

FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road April 30, 2022 Project No. 7101A-01-20

Scale: As Shown Date: April 2022

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Construction Notes For Gas Facilities

- 1. 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.
- 2. Written clearances 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.
- 3. Since gas lines locations on field map 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.
- 4. 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 select cushion material approved by Hawaii Gas.
- 5. For relocation of any gas pipeline, the contractor shall notify Hawaii Gas one month (30) calendar 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.
- 6. The contractor shall notify Hawaii Gas immediately after any damage has been caused to existing gas pipelines, coatings, 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 payments for this work to be borne by the contractor.
- 7. Minimum vertical and horizontal clearance between the gas pipelines and other pipelines, conduits, ductlines, or other facilities shall be 12 inches. Adequate support and protection for gas pipeline exposed in the trench shall be provided by the contractor and approved by Hawaii Gas.
- 8. 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.

<u>HECO Underground Fuel Oil Pipelines</u> <u>Within Energy Corridor</u>

. Excavation Near HECO Fuel Oil Pipelines

The contractor shall exercise extreme caution whenever construction crosses or is in close proximity to HECO's underground fuel oil pipelines. If any excavation work will be performed within 10—feet of the fuel pipelines, the contractor shall notify HECO's Fuels Department at least two weeks prior to start of the excavation work. If the excavation is adjacent to or beneath the fuel pipeline, HECO may require a stand—by person to monitor the work of the contractor. The cost of the stand—by person shall be borne by the contractor.

Whenever the integrity of the pipeline, its coating, test stations, or cathodic protection system is affected by the excavation work, the pipeline and/or its appurtenances shall be repaired by HECO personnel or a contractor with HECO operator qualification certification, according to US DOT PHMSA regulations. The cost of any repairs shall be borne by the contractor.

The contractor shall notify the Hawaii One Call Center (HOCC) at least five working days prior to the start of excavation work, as required by Hawaii revised statute 269e-7.

The US DOT PHMSA requires that the pipeline be inspected any time that it is exposed. The contractor shall make the area with the exposed pipeline available to HECO, and provide safe access to the excavated area, for inspection.

The contractor may also be required to provide assistance, under the direct supervision of HECO, to further expose the pipeline circumferentially and longitudinally beyond the initial exposed area to facilitate the pipeline examination.

Any exposed pipeline shall be provided adequate protection and support during construction activities and after work hours to prevent damage to the fuel pipeline.

Trenches across the pipeline shall be limited to a maximum width of fifteen (15) feet unless the lines are supported utilizing a method approved by HECO.

All backfill within 12 inches around the pipeline or fiber—optic cable shall be S4C. A pipeline warning tape shall be placed above any exposed pipeline. A fiber—optic cable warning tape shall be placed above any exposed fiber optic cable at the same level as the pipeline warning tape.

Compaction of backfill material above the fuel pipeline shall be performed by vibratory plate, tampers ("jumping jacks"), or walk-behind or remote controlled mini-compactors. Spiked rollers are only allowed once there is a minimum of 30" of backfill material compacted above the S4C layer.

2. Clearance Requirements

Any new installation near HECO's fuel oil pipelines shall adhere to the following clearance requirements:

parallel to HECO fuel pipeline: 24—inches crossing below HECO fuel pipeline: 24—inches below crossing above HECO fuel pipeline: crossing above not permitted

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3. Notification

Prior to beginning any excavation work, the contractor shall notify the HECO Fuels Department Mr. Derek Sato at 543-4108.

In the event of an emergency, or damage to any pipeline facilities, notify HECO Security Command Center at 543-7685 so HECO personnel can secure the damaged section and report any oil spills to the proper authorities. All costs associated with the damage, repair, and oil spill cleanup shall be borne by the contractor. This phone is manned 24-hours a day.

Free Service For Locating Underground Utilities:

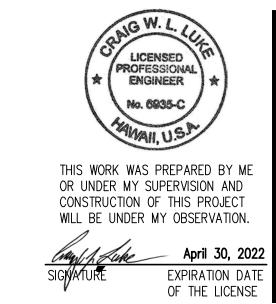
Prior to excavation, the contractor is required by section 269e, Hawaii Revised Statutes, to contact the Hawaii One Call Center at 866-669-4001.

<u>Guidelines For Work Near At&t Utility Lines</u>

1. The location of the existing AT&T line (t18) shown is based on as—built plans. The contractor shall accurately determine the location and depth of the existing AT&T line prior to installation of the waterline crossing by potholing or other methods. Coordinate any necessary plan revisions with the engineer. Notify at&t at least seven (7) days prior to commencement of construction work at the crossing. (contact: Alex Viray, 455—1010).

<u>Highway Lighting, Hawaiian Telcom,</u> <u>Oceanic Time Warner Cable — Notes</u>

- 1. The Contractor shall notify Highway Lighting, Hawaiian Telcom and Oceanic Time Warner Cable three (3) weeks prior to the start of construction.
- 2. See electrical drawings.



DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

Construction Notes - 9

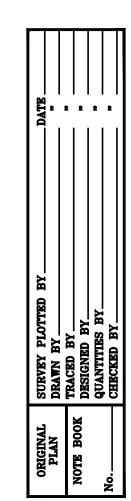
FARRINGTON HIGHWAY WIDENING
Kapolei Golf Course Road to Fort Weaver Road

Project No. 7101A-01-20

Scale: As Shown

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SHEET No. C-10 OF 767 SHEETS



,

<u>Par Hawaii Refining Construction Notes And</u> <u>Guidelines</u>

1. All work shall be in accordance with "Design and construction guidelines for projects near Par Hawaii refining pipelines and fuel storage facilities." These guidelines can be obtained from:

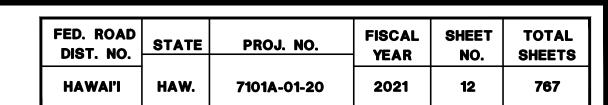
Louie Tamoria, Senior Project Engineer LTamoria@parpacific.com PAR Hawaii Refining

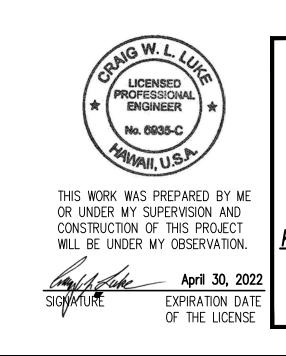
- 2. Par Hawaii refining will be provided access to the pipelines and facilities at all times, twenty four (24) hours a day, 7 days a week. If the easement area is to be fenced or walled in, Par Hawaii refining will be provided with a gate key unless the area is attended on a twenty four hour basis.
- 3. Storage of material or equipment on the easement should be avoided. This includes parking lots for long term storage of materials and vehicles.
- 4. A minimum overhead clearance of fifteen (15) feet must be maintained within the easement.
- 5. Extensive landscaping (trees, shrubs, sprinklers, etc.) should be kept off of the easement.
- 6. Large structures and obstructions (buildings, walls, equipment pads, etc.) should be kept off of the easement.
- 7. Top to bottom obstructions (power poles, sewer manholes, sewer cleanouts, bridge abutments, etc.) will not be permitted on the easement.
- 8. Light landscaping and structures (grass, paving, curb crossings, etc.) are considered reasonable. Grassed areas must be suitable for all weather vehicular traffic.
- 9. A Par Hawaii refining representative will stake the pipelines at contractor's request. The Par Hawaii inspector shall be notified at least five (5) working days prior to excavations in order that the representative can locate the Par Hawaii pipeline. Note: excavations include grading and grubbing of the project area above the Par Hawaii pipeline or in the vicinity of the Par Hawaii surface structures such as valve vaults, valve cages, and control devices. Determination of the pipeline elevations and locations shall be the contractor's responsibility and at the contractor's expense. All maps and drawings provided by Par Hawaii refining of its pipelines and pipeline facilities are approximations and the contractor shall be responsible to verify precise location all underground facilities prior to start of construction.
- 10. The pipeline easement access road must be kept open at all times. Authorization to block access roads at any time during contractor's construction period must be obtained from Par Hawaii refining pipeline operations manager.
- 11. Avoid installing sewers, fences, sprinkler lines, pipelines, cables, curbs, etc. In the easement in a parallel or near parallel orientation to the easement centerline.

 Crossings are permitted but must be held to a minimum of forty five degrees (45) to easement centerline.
- 12. Sewer and electrical conduits crossings should be held to a minimum clearance of two feet below Par Hawaii refining pipelines for the full easement width. If this condition cannot be met, the crossings should be encased in six (6) inches of concrete.
- 13. Except for item 12 above, all crossings should be at least twenty four inches clear below pipelines for the full easement width. Crossings above the pipelines are generally not accepted.

Par Hawaii Refining Construction Notes And Guidelines (Cont'd)

- 14. Removal of fill from the easement shall be limited to not less than 3 feet minimum cover over the lines. If residential or business buildings are within fifty (50) feet of the pipeline, four (4) feet of cover is required.
- 15. Trenches across the pipelines shall be limited to a maximum width of ten (10) feet unless the lines are supported in a manner acceptable to par hawaii refining.
- 16. If the pipeline is to be exposed during construction, adequate protection and support shall be provided during construction activities and after hours to prevent damage to or destruction of the fuel pipeline.
- 17. All excavation and backfilling operations within 15 feet of the pipeline in par hawaii refining easement must be witnessed by a par hawaii representative. All backfill within twelve (12) inches of pipelines shall be finely sifted man made sand (grade c-33). All excavation within 3 feet of pipelines must be accomplished by hand digging. Work shall be handled in an expeditious manner in order to keep pipelines uncovered as briefly as possible.
- 18. Grading of abutting property should not adversely affect drainage of the easement area or pose a hazard to the easement such as slides or erosion.
- 19. The slope of the final grade must be kept reasonably level across the easement. Maximum should be 5:1 to provide for backhoe operation and repair vehicles.
- 20. All crossing metallic facilities with potentials that could interfere with par hawaii refining cathodic protection current shall place a neoprene dielectric blanket between the crossing facility and the par hawaii refining facility for the full length of the easement. In addition, a cathodic protection survey report shall be submitted and approved by par hawaii refining stating the proposed crossing facility will not, in any way, adversely affect par hawaii refining facilities.
- 21. All costs pertaining to damage of the pipelines, their cathodic protection devices, or damage of property and injury to persons caused directly or indirectly by this work, shall be charged to the contractor. Any repair work on the pipelines resulting from the contractor's project shall be performed by the contractor with authorization or par hawaii refining or par hawaii refining personnel and billed to the contractor.
- 22. The contractor shall be responsible for traffic conditions over any par hawaii refining pipeline or pipeline facility relating to construction activities. The contractor shall provide steel plates or non-compacted soil berms in areas of equipment traffic and limit traffic to these access ways.





STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Construction Notes - 10

<u>FARRINGTON HIGHWAY WIDENING</u>

<u>Kapolei Golf Course Road to Fort Weaver Road</u>

<u>Project No. 7101A-01-20</u>

Scale: As Shown

Date: April 2022

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<u>Water Notes (Board of Water Supply)</u>

- 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 14. Supply's "WATER SYSTEM STANDARDS", DATED 2002, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 2021, and all subsequent amendment and additions.
- No deviation to the Board of Water Supply 2002 Water System Standards shall be allowed without the manager and Chief Engineer's approval.
- All ductile iron pipe and fittings, including sections requiring reinforced concrete jacketing shall be ductile iron pipe class 53, with a bonded dielectric coating per the Board of Water Supply 2002 System Standards as amended.
- Test pressure shall be 200 psi. During the 30-minute pressure test, the pressure shall not drop more than 10 psi.
- The Contractor shall notify Board of Water Supply Capital Projects Division, Construction Section in writing or call (808) 748-5730, and submit six (6) sets of 24" x 36" approved construction drawings, one 17. week prior to commencing construction activities.

- The contractor shall chlorinate the entire inside surface of each pipe and fitting with disinfection solution of 5 ounces of sodium hypochlorite (5% chlorine bleach) mixed with 10 gallons of water. (For connection only).
- 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 measures necessary to protect the water lines, such as constructing special reaction blocks (with BWS approval) and/or modifying his construction method.
- 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.
- 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 21. Water System Standards, dated 2002.
- 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.
- Re-approval shall be required if this project is not under construction within a period of two (2) years.
- 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.

<u>Water Notes (Board of Water Supply) (Continued)</u>

- The contractor/developer shall obtain a NPDES permit prior to chlorination and/or dewatering. A copy of the permit shall be submitted to the Board of Water Supply, Capital Projects Division, Construction Section.
- Soil resistivity for the site has a corrosion rating of Moderately to Severely Corrosive as reported by Geolabs, Inc. in their report entitled "Geotechnical Engineering Exploration, Farrington Highway Improvements, Kapolei Golf Course Road to Fort Weaver Road, Ewa, Oahu, Hawaii, Dated August 4, 2021. All required electrical isolation procedures and corrosion control requirements shall apply.
- 15. 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).
- 16. Upon completion of the project, the developer shall provide the BWS with a certificate from a registered soils engineer certifying that the road prism has been constructed in accordance to City and County road standards.
- Two-way blue reflective hydrant markers type DB shall be installed at all new fire hydrant installations. Contractor shall verify the exact locations of hydrant markers with the nearest Honolulu Fire Department battalion chief.
 - 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. The type, density, size, diameter and length of the pig shall be submitted for review and approval by the Manager prior to pigging work. "Pig" shall be used per manufacturer's specifications. 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. Manual sweeping, hand cleaning or swabbing may be allowed in lieu of "pigging" as approved by the Board of Water Supply Manager.
- The contractor shall install electronic markers to all mains and test the electronic markers prior to installations to verify proper operation. BWS personnel shall verify the number and locations of placed electronic markers before final paving of the project.
- 20. The Board of Water Supply will not send a completion notice to the Department of Planning and Permitting until easement documents are submitted to the Board of Water Supply and recorded.
- Prior to any excavating, the Contractor shall verify in the field, the location of existing waterlines and appurtenances.
- Any adjustments to the existing water system required during construction, to meet the requirements of the BWS Standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board of Water Supply.
- After installation of tapping sleeve and tapping valve and prior to tapping the existing water main, the assembly shall be pressure tested at 200 psi on both sides of the valve and in accordance with the Water System Standards, dated 2002.

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Water Notes (Board of Water Supply) (Continued)

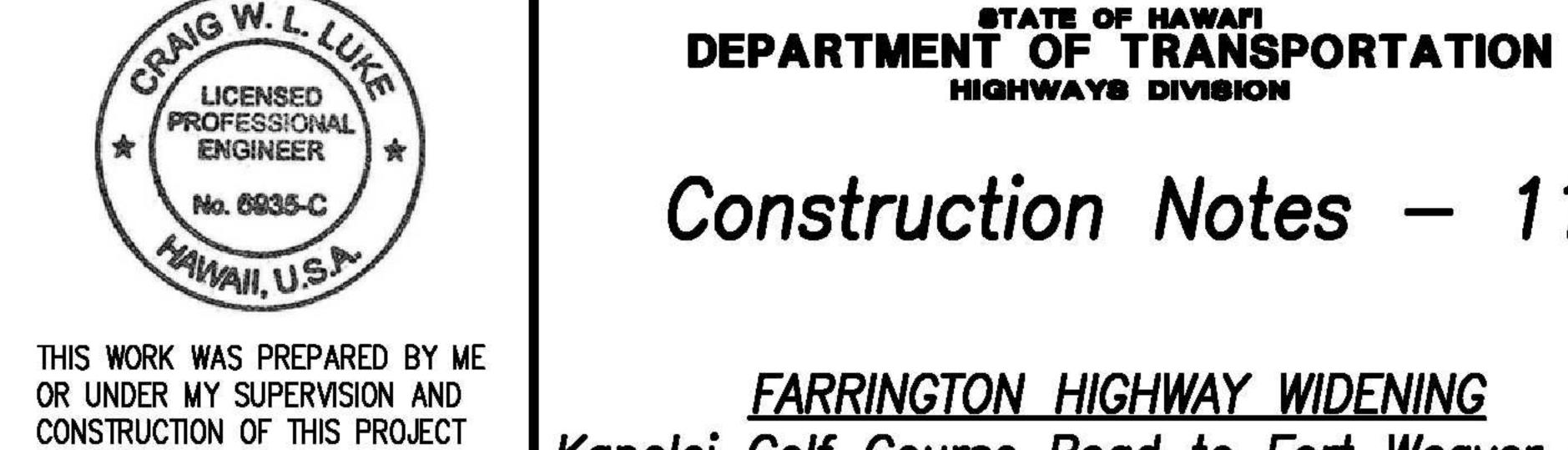
- 24. Maintain 3'-0" minimum cover for all existing waterlines from new finish grade. The contractor shall probe the waterline and service laterals and submit the probing data to BWS Capital Projects Division, Construction Section.
- 25. The contractor shall furnish and install an insulating corporation stop and petrolatum wax tape at all taps (for DI pipe and copper lateral combination
- 26. All ductile iron pipe fittings and valves shall be coated with a bonded dielectric coating and wrapped with petrolatum wax tape.
- At the electrical/cable/signal ductline and water crossings, adjust all electrical/cable/signal ductline elevations to maintain the required vertical clear separation from all water mains. Conformance to the Board of Water Supply 2002 Water System Standards as amended shall be at no cost and adhered to.
- 28. Maintain the required minimum horizontal clear separation between electrical/cable/signal appurtenances, (including any modular units) and the nearest water mains or water appurtenance. Contractor shall field verify for any conflicts at each electrical/cable/signal appurtenance location. Where conflicts occur, the contractor shall coordinate with the project engineer to revise the electrical/cable/signal appurtenance to provide the required clearances. Conformance to the Board of Water Supply, Water System Standards, dated 2002, as amended, shall be at no cost and adhered to.

- 29. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply.
- 30. Maintain the required minimum horizontal clear separation between all water mains, and the nearest electrical/cable/signal ductlines paralleling the water system. Conformance to the Board of Water Supply 2002 Water System as amended shall be at no cost and adhered to.



Manager and Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W & BWS easements only)

07/15/22 S Revised notes 06/08/22 /2\ Note Added



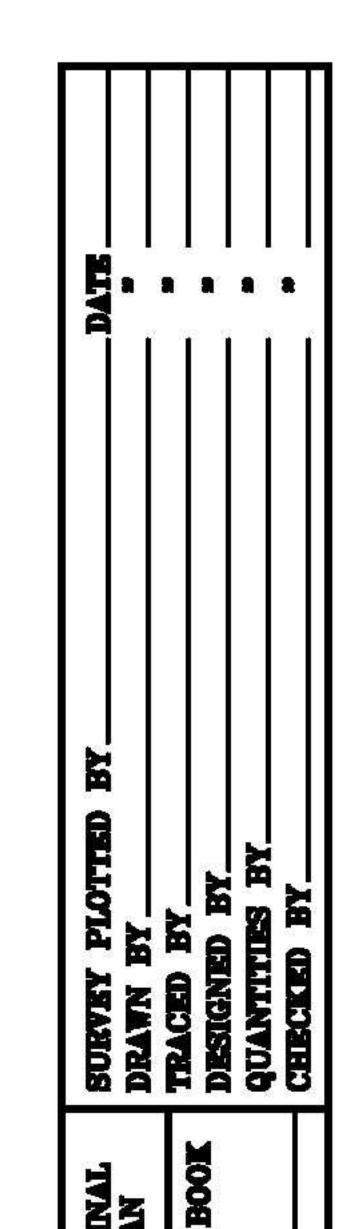
Construction Notes - 11

FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road Project No. 7101A-01-20

Date: April 2022

DATE

SHEET No. C-12 OF 767 SHEETS



<u>Water Notes (Board of Water Supply) (Continued)</u>

- 30. 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
- 31. 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 will 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.
- 32. When a utility (gas, sewer, electrical duct line, fiber optic, drainage, etc.) crosses below a Board of Water Supply water main, the designer of record and their construction engineer shall be responsible for determining the adequate water main structural support and submit the construction method and shop drawing, stamped by a licensed engineer and reviewed and accepted by the designer of record, to the Board of Water Supply for review and approval. All work shall be at no cost to the Board of Water Supply.
- 33. At utility crossings where proper compaction under a water main is difficult to achieve, CLSM shall be installed in place of backfill material and pipe cushion material. CLSM mixture to be furnished shall be in accordance with Division 200 - Materials, Section 209.06 Controlled Low Strength Material (CLSM) of the Water System Standards, as amended.

<u>Chlorination and Hydrotesting Effluent Note</u>

The contractor shall only use dechlorinated hydrotesting effluent for dust control, irrigation and/or other purposes that <u>do not</u> involve discharges to waters of the State of Hawaii.

Trenchless Installation Work

For trenchless utility work (micro-tunneling, directional drilling, pipe ramming/jacking of new utilities such as electrical duct lines, sewer lines or drain lines) crossing or paralleling existing waterlines, provide the required minimum horizontal and vertical clearance to existing waterlines. No deviation shall be allowed without the Manager and Chief Engineer's approval. The utility owner or contractor shall make adjustments to meet the minimum clearances should the utility line be installed closer to the existing waterlines, at no cost to the Board of Water Supply. The contractor shall submit as—built plans of the new utility lines after inspection of the project.

Waterline Chlorination and Testing Procedures

The contractor shall follow the following revised chlorination and water sampling procedures:

The following chlorination and water sample collection procedure shall apply to all water pipeline projects (all work to be coordinated through BWS inspector):

Chlorination of Water Systems

The contractor shall provide a 4-week advance notice, in writing, to the Officer-In-Charge for proposed flushing, filling and bacterial testing of the new pipeline.

<u>Waterline Chlorination and Testing Procedures</u> (Continued)

- B. The Contractor shall hire a State of Hawaii Department of Health certified laboratory to provide water sampling services and to deliver water samples to the Micro Lab for analysis. Water samples for bacterial testing shall be delivered no later than 2:30 p.m. on the day the samples are taken to the Board of Water Supply Microlab located at 630 S. Beretania St., Honolulu, HI 96843. The Micro Lab shall perform analysis and provide their results to the Officer—In—Charge by 4:30 p.m. on the following day (in some cases, final results notification may take up to 48 hours).
- C. Water mains shall be disinfected in accordance with the Board of Water Supply Water System Standards (2002), as amended, Section

<u>Step 1 — Preliminary Flushing (Prior to Chlorination):</u> The mains shall be flushed with maximum available pressure and velocity. Adequacy of turnovers shall be determined by the absence of particles. Turbidity shall be less than 1.0 NTU before chlorination. During all flushing operations, the Manager or the Manager's authorized representative shall determine the rate of water use.

The Contractor shall submit to the Manager, for approval, a sketch showing locations of sampling points and a plan or schedule delineating the method or steps the Contractor proposes to use to accomplish the work. The following methods for chlorination shall be

- The following chlorination and water sample collection procedure shall apply to all water pipeline projects:
 - a. Step 1: Chlorinate main by filling with water and introducing chlorine in sufficient quantity to obtain a minimum chlorine concentration of 50 parts per million. Leave chlorinated water in main overnight.
 - b. Step 2: Flush main with fresh water until all chlorine has been flushed out as evidenced by the N, N-diethyl-p-phenylenediamine (DPD) test, then collect a water sample while continuing to flush the main.
 - c. Step 3: Repeat Steps 1 and 2. After collecting the second water sample, stop flushing and allow the water to stand in the main overnight.
 - Step 4: Thoroughly flush the main with fresh water until all water that had been standing in the main overnight has been flushed out. Stop flushing and let the water stand in the main for one hour. Collect a water sample.
- The main is deemed acceptable and certified when (I) the three consecutive water samples, collected 24 hours apart under Steps 1 and 2, show no TC (Total Coliform bacteria), no E. Coli, less than 200 CFU/ml (Colony Forming Units per ml) of HPC (Heterotrophic Plate Count bacteria) or less than 202 HPC using the MPN (Most Probable Number) method and Turbidity <1.0 NTU and (II) the sample of water held in the main for one hour, collected under Step 4, also shows no TC, no E. coli, less than 200 CFU/ml of HPC or less than 202 HPC using the MPN method and Turbidity <1.0 NTU.

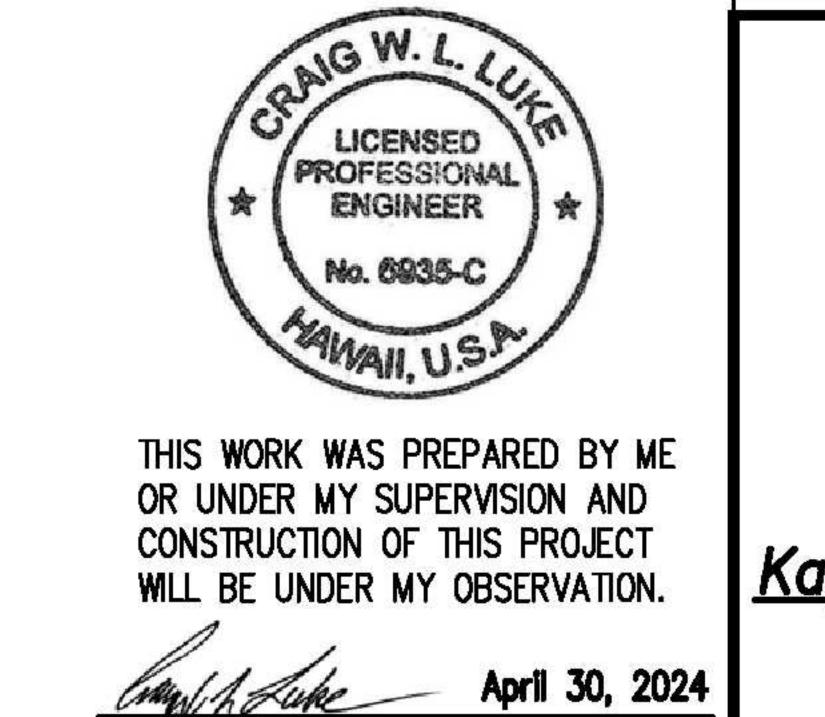
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<u>Waterline Chlorination and Testing Procedures</u> (Continued)

- Chlorination, flushing, sampling and testing will be extended should unsatisfactory results be encountered. Any sample that shows positive TC, E. coli, HPC>200 CFU/ml, HPC>202 MPN or Turbidity > 1.0 NTU is unsatisfactory.
- Steps 1 and 2 may be repeated before collecting the one hour hold sample specified in Step 4. Repeating Steps 1 and 2 is recommended in the event samples show the presence of TC and/or E. coli and/or increasing total bacterial results from one sample to the next.
- Water samples that show the presence of atypical results, debris, high turbidity or results inconsistent with existing water are subject to reconfirmation. The Manager reserves the right to request and test additional water samples in the interest of safeguarding public health and safety at no additional cost to the Department.
- Liquid chlorine, chlorine based liquid disinfectants or calcium hypochlorite that has been tested and certified as meeting the specifications of the ANSI/NSF Standard 60, Drinking Water Treatment Chemicals — Health Effects, shall be used for the chlorination of the water mains.

Manager and Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W & BWS easements only)

07/15/22 S Notes Revised 06/08/22 /2\ Numbering Revised



DEPARTMENT OF HAWAPI

Construction Notes - 12

FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road Project No. 7101A-01-20

Date: April 2022

SHEET No. C-13 OF 767 SHEETS

DATE

<u>Waterline Chlorination and Testing Procedures (Continued)</u>

- D. Prior to chlorination, the water mains shall be thoroughly flushed.
- The interior surfaces of the water mains shall be exposed to the chlorinating solution by completely filling the main remove air pockets, for a minimum of 24-hours and the free chlorine residual shall not be less than 10 ppm after such time.
- Should the calcium hypochlorite be used, no solid and/or undissolved portion of the compound shall be introduced into any section of the water mains to be chlorinated.
- At the end of the 24-hour disinfection period, representative samples shall be taken and analyzed to assure a free chlorine residual of at least 10
- Should the free chlorine residual results indicate adequate chlorination, the water mains shall be thoroughly flushed and filled with water from the existing system and again tested for free chlorine residual. The flushing shall be considered adequate if the free chlorine residual test result indicate that the water in the water mains has a comparable chlorine residual as the water in the existing system.
- The Contractor shall be responsible for the proper disposal of chlorinated water to safeguard public health and the environment in accordance with applicable State of Hawaii Department of Health requirements. A neutralizing chemical shall be applied to the water to be disposed to thoroughly neutralize the chlorine residual remaining in the water in accordance with Board of Water Supply Water System Standards (2002), as amended.
- The Contractor shall be responsible for obtaining a National Pollutant Discharge Elimination System (NPDES) Permit from the Department of Health, Clean Water Branch prior to the start of construction, for the disposal of water used for hydro testing and chlorination, as required by the contract documents.
- Following the acceptable flushing of the water mains, three (3) consecutive days of acceptable samples, taken at least 24—hours apart, from representative points shall be taken and subjected to microbiological tests. For water lines, at least one set of samples shall be collected from every 1,200 feet of the new water main, plus one from the end of the line and at least one set from each branch. Positive or invalid test results will not be acceptable, and the process will be repeated.
- All measurements for chlorine residual shall be analyzed using E.P.A. approved methods for drinking water.
- All microbiological tests shall be performed by a laboratory approved by the Department of Health, State of Hawaii and the Water Quality Division of the Board of Water Supply.
- The Contractor shall be responsible for all costs associated with all of the foregoing.
- Cleaning and Swabbing procedures shall be in accordance with Board of Water Supply Water System Standards (2002), as amended.
- All materials in direct contact with the potable water shall have National Sanitation Foundations (NSF) approvals. The Contractor shall submit these approvals to the Board of Water Supply for information only prior to its application.

<u>Water Meter Installations (For Meters 3-In. and Larger)</u>

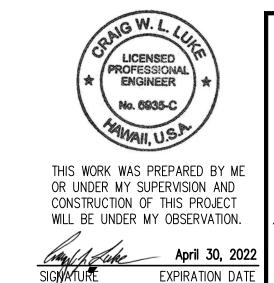
- Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the City and County of Honolulu Board of Water Supply's "WATER SYSTEM STANDARDS", Dated 2002, the "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", Volume 3, Dated 2021, and all subsequent amendments and additions.
- No deviation to the Board of Water Supply's 2002 Water System Standards shall be allowed without the Manager and Chief Engineer's approval.
- All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply.
- The existence and location of underground utilities and structures as shown on the plans are from the latest available data, but are not guaranteed as to their accuracy or the encountering of other obstacles during the course of the work. The Contractor shall be responsible and pay for all damages to the existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.
- The Contractor shall be responsible for the protection of all waterlines during construction. The Contractor shall be especially careful when excavating behind waterlines, tees, and bends wherever there is a possibility of waterline movement due to the removal of the supporting earth beyond the existing reaction blocks. The Contractor shall take whatever measures necessary to protect the waterlines, such as constructing special reaction blocks (with Board of Water Supply approval) and/or modifying his construction method.
- The Contractor shall notify BWS Capital Projects Division, Construction Section, in writing or call (808) 748-5730 and submit six (6) sets of 24" x 36" approved construction drawings, one week prior to commencing construction activities.
- Re-approval shall be required if this project is not under construction within a period of two (2) years.
- Prior to any excavation, the Contractor shall verify in the field, the location of existing waterlines and appurtenances.
- Any adjustments to the existing water system required during construction, to meet the requirements of the Board of Water Supply Water System Standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board of Water Supply.
- When a utility (gas, sewer, electrical duct line, fiber optic, drainage, etc.) crosses below a Board of Water Supply water main, the designer of record and their construction engineer shall be responsible for determining the adequate water main structural support and submit the construction method and shop drawing, stamped by a licensed engineer and reviewed and accepted by the design of record, to the Board of Water Supply for review and approval. All work shall be at no cost to the Board of Water Supply.
- 11. Nuts and bolts for flange connections within meter boxes shall be bronze or stainless steel except coupling adapters where "COR—TEN" (U.S. Steel) or "MAYARI" (Bethlehem Steel) may be used. Flange connections outside of meter box may use "COR-TEN" or "MAYARI" type nuts and bolts.
- All water mains and appurtenances shall be subject to hydrostatic test pressure of 200 psi by the Contractor in accordance with Division 300 -Construction, Section 302.28, "PIPE PRESSURE TEST" of the "WATER SYSTEM STANDARDS", dated 2002. During the 30-minute pressure test, the pressure shall not drop more than 10 psi.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAI'I	HAW.	7101A-01-20	2021	15	767

APPROVED:

Manager and Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W & BWS easements only)

DATE



EXPIRATION DATE

OF THE LICENSE

DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

Construction Notes - 13

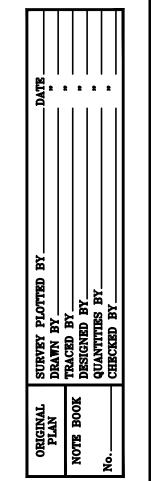
FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road

Project No. 7101A-01-20

Scale: As Shown

Date: April 2022

SHEET No. C-14 OF 767 SHEETS



Water Meter Installations (For Meters 3-In. and Larger) (Continued)

- The Contractor shall chlorinate the entire inside surface of each pipe and fitting with disinfection solution of 5 ounces of sodium hypochlorite (5% chlorine bleach) mixed with 10 gallons of water.
- 14. All ductile iron pipe, fittings, and valves shall be coated with a bonded dielectric coating and wrapped with petrolatum wax tape.
- 15. All ductile iron pipe and fittings, including sections requiring reinforced concrete jacketing, shall be ductile iron Class 53, and bonded dielectric coated as per the Board of Water Supply 2002 Water System Standards, as amended.
- 16. The project shall pay the applicable water system facilities and/or one-time service charge and for the meter which will be furnished by Board of Water Supply and installed by the Contractor when the lateral is installed.
- Contractor shall cut and plug and remove 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.
- 18. After installation of tapping sleeve and tapping valve and prior to tapping the existing water main, the assembly shall be pressure tested at 200 psi on both sides of the valve and in accordance with the WATER SYSTEM STANDARDS, dated 2002.
- 19. For meters 3 inches and larger (Compound, F.M., and Detector Check), Contractor shall notify Customer Care Division — Service Engineering Section in writing after the plan is approved, no later than 120 days, prior to withdrawing meter from Board of Water Supply storeyard. Such notice shall indicate number, size, and type of meter (Compound, F.M., or Detector Check) and approximate month and year meter is anticipated to be drawn out. If the approved plan is allowed to lapse, the 120-day notice will be voided.
- 20. 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 will 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.
- 21. The project shall be subject to the Board of Water Supply's Cross—Connection Control requirements prior to issuance of the Building Permit.
- 22. Easement documents must be submitted to Board of Water Supply and recorded before meter is
- 23. The installation, chlorination, and testing of the water main and facilities after the property line shall not be the responsibility of the Board of Water Supply.
- 24. Prior to installation, the Contractor shall submit for approval by the 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 Board of Water Supply Water System Standards, dated 2002 and addendums.
- 25. 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.
- 26. The backflow preventer device must be installed before meter is issued.
- 27. 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 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 biphenlys (PCB).

Water Meter Installations (For Meters 3-In. and Larger) (Continued)

- 28. The Contractor shall install electronic markers to all mains and test the electronic markers prior to installations to verify proper operation. Board of Water Supply personnel shall verify the number and locations of placed electronic markers before final paving of the project.
- 29. The Contractor shall furnish and install an insulting corporation stop and petrolatum wax tape at all taps (for D.I. pipe and copper lateral combination only).
- 30. 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".

Honolulu Board of Water Supply Right-of-Entry

The Contractor shall be fully responsible for all costs related to the processing and obtaining of the Consent of Entry (COE) and Release and Waiver (R&W) with the Honolulu Board of Water Supply (BWS). Any delays caused by obtaining the COE and R&W will be at the cost of the Contractor. The Contractor shall coordinate all COE and R&W work with Mr. Michael Matsuo, BWS Land Division, Land Administrator, phone number: (808) 748-5951.

<u>Honolulu Board of Water Supply Reinforced Concrete Jackets</u> on Existing Waterlines Notes:

- Reinforced concrete jackets on existing waterlines are based upon the as-built location of the pipe joints. The Contractor shall verify the pipe joint locations in the field and shall extend the reinforced concrete jackets as necessary to comply with BWS Std. Det. B1. Shortening of the reinforced concrete jacket is not allowed.
- The Contractor shall obtain BWS approval of the means and methods to construct the reinforced concrete jackets on the existing waterlines. The Contractor shall provide a schematic shop drawing to BWS that details the materials and procedures necessary to safely encase the existing waterlines without a water shutdown.
- In order to provide additional stability beneath the existing waterlines, the Contractor shall provide a CLSM cushion beneath the bell ends of the existing waterlines that are to be encased in a reinforced concrete jacket. The CLSM cushion shall be a minimum of 6" thick and shall extend 1' in each direction from the end of the reinforced concrete jacket.

APPROVED:

Manager and Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W & BWS easements only)

STATE PROJ. NO.

7101A-01-20

07/15/22 S Notes Revised 06/08/22 /2\ Notes Added

DEPARTMENT OF HAWAII

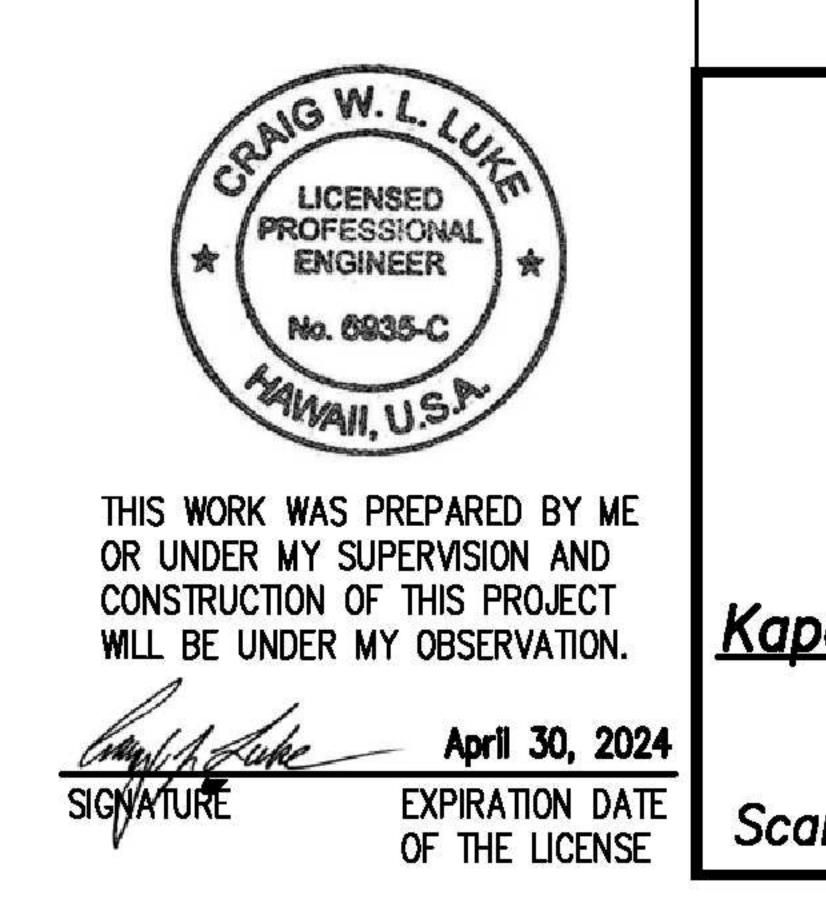
DATE

Construction Notes - 14

FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road Project No. 7101A-01-20

Date: April 2022

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Hawaiian Electric Company Notes

1. Location of HECO 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 customer installations department 1-808-543-5654 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 1-808-543-7070 for assistance in identifying and safeguarding overhead power lines.

6. Pole Bracing

Contractor shall not excavate within 10 feet from Hawaiian Electric's utility poles or any anchor system supporting the utility pole. If Contractor must excavate closer than 10 feet from a utility pole or its anchor system, 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 submit its bracing calculations and drawings, prepared and stamped by a licensed structural engineer, to Hawaiian Electric's Customer Installations Division (1-808-543-7070) for review. Hawaiian Electric requires a minimum of ten (10) working days to conduct the review of Contractor's submittal. 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 review and approval of any Contractor submittals including its work procedure shall not relieve Contractor from any liability resulting from Contractor's excavation near or around Hawaiian Electric's utility poles.

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 Installations Division at 1–808–543–7070 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 1-866-423-7287 a 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).

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10. Relocation of HECO 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.

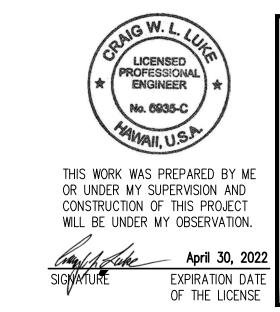
11. Conflicts

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 HECO 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 1–808–548–7961. 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 1-808-543-7685 (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.



DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

Construction Notes - 15

FARRINGTON HIGHWAY WIDENING

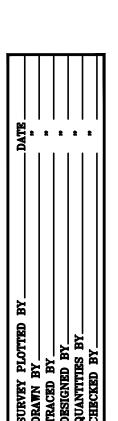
Kapolei Golf Course Road to Fort Weaver Road

Project No. 7101A-01-20

Scale: As Shown

Date: April 2022

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ORIGINAL
PLAN
NOTE BOOK
No.

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Hawaiian Electric Company Notes (Cont'd)

13. HECo 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 Installations Division at 1-808-543-7070 a minimum of three (3) months in advance to arrange for Hawaiian electric stand-by personnel.

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 (HECo) and Other Underground Utilities					
Underground Utility	HECO Direct Buried Cable	HECO Direct Buried in Conduit (no concrete encasement)	HECO 3" (Minimum) 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 (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	

- 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 standard 30—1030) for a distance of 5'—0" 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.

<u>Department of Transportation Services (DTS)</u> <u>Transportation Mobility Division (TMD)</u>

Construction of this project shall not affect transit operations. Bus routes and bus stops shall remail open and accessible at all times. Any work affecting bus operations, routes, or stops must be submitted to DTS-TMD for review no less than 30 days prior to the start date.

Point of Contact Information (Notification is required to all phone numbers and emails):

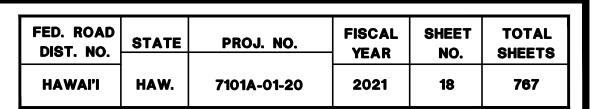
<u>DTS-TMD</u> (808) 768-8371 thebusstop@honolulu.gov handivan@honolulu.gov

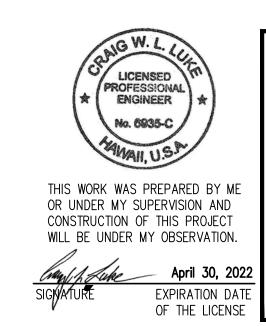
Oahu Transit Services — Bus Operations (808) 768—9520 (808) 768—9534 John.donovan@thebus.org Sean—bennett.paio@thebus.org Field—ops—mgr@thebus.org

Oahu Transit Services — Paratransit Operations (808)456—5021 Tracie.coelho@thebus.org

Construction Coordination Notes

- 1. Relocation of removal of Hawaiian Electric signs and posts shall be done by Hawaiian Electric. The Contractor shall notify Hawaiian Electric by phone to schedule the relocation or removal of Hawaiian Electric signs and posts. The Contractor shall be responsible for all coordination and scheduling efforts.
- The Contractor shall contact the adjacent landowners, by phone, a minimum of 30 days prior to the start of construction to inform them of the commencement of the construction work. The Contractor shall provide construction updates, by phone, to the adjacent landowners on a monthly basis, unless requested otherwise by the adjacent landowners.
- 3. The Contractor shall be responsible for contacting the adjacent landowners if the construction work will require the removal of trees that are located within the adjacent landowners' properties. If requested by the adjacent landowners, the Contractor shall be responsible for relocating any affected trees to a location designated by the adjacent landowners, within their property. Trees that are not requested to be relocated by the adjacent landowners shall become the property of the Contractor. The Contractor shall be responsible for all coordination, removal, relocation, and disposal work.





STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Construction Notes - 16

<u>FARRINGTON HIGHWAY WIDENING</u>

<u>Kapolei Golf Course Road to Fort Weaver Road</u>

<u>Project No. 7101A-01-20</u>

Scale: As Shown

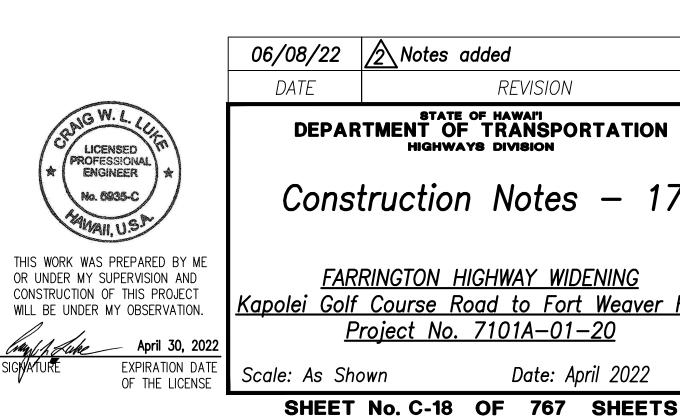
Date: April 2022

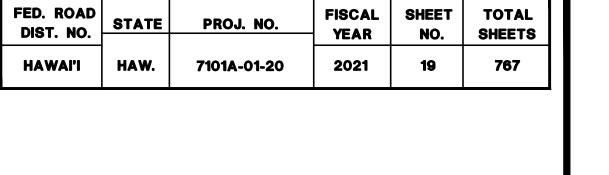
ORIGINAL SURVEY PLOTTED BY—
PLAN DRAWN BY—
TRACED BY—
TRACED BY—
DESIGNED BY—

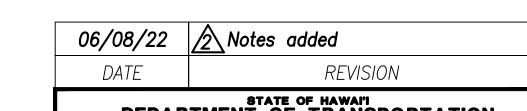
SHEET No. C-17 OF 767 SHEETS

Additional Construction Notes

- The Contractor shall contact Hawaii One Call Center to have respective utility companies and agencies mark where their underground utilities are located. The Contractor shall comply with all requirements of Hawaii One Call Law. The Contractor shall be liable for any damages if Hawaii One Call requirements are not strictly adhered to. In accordance with Hawaii State Law Section 269E-7, the Hawaii One Call Center (HOCC) shall provide an inquiry identification number for each location request provided by the Contractor. The inquiry identification number and utility marks shall remain valid for not more than twenty—eight (28) calendar days from the date of issuance and after that date shall require the Contractor to submit a new request for HOCC revalidation. The Contractor shall provide all inquiry identification numbers for each location request to the Engineer
- 2. Whenever connections of new 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 excavating. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations. All damaged portions shall be replaced or repaired and shall include all upgrades and betterments to the standards of the utility or agency.
- 3. No cold planed material or material containing silica shall be used to stabilize staging areas







STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Construction Notes - 17

FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road Project No. 7101A-01-20

Date: April 2022

Traffic Control General Notes

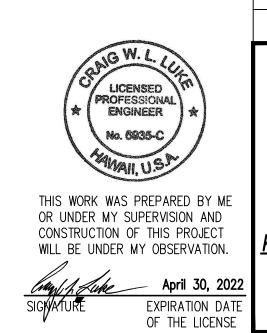
- 1. The Contractor shall provide traffic control plans designed and reviewed by a professional Engineer to the State for review and approval for any changes to or deviations from the Traffic Control Plans provided.
- 2. Traffic control plans shall comply with the MUTCD and the State of Hawaii, Department of Transportation, Highway's Division, Section 645 — Work Zone Traffic Control. If there is a discrepancy between the MUTCD and Section 645, the Contractor shall follow the MUTCD.
- 3. The Contractor shall phase construction to provide one lane in each direction of traffic flow continuously along Farrington Highway during construction.
- 4. The Contractor shall phase work to keep all driveways open during business hours.

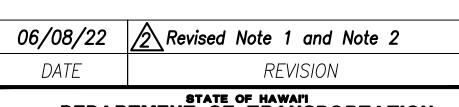
Traffic Control State Notes

- 1. The Contractor shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
- 2. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
- 3. Traffic control devices shall be installed such that the sign or device farthest from the work area shall be placed first. The others shall then be placed progressively toward the work area.
- 4. Regulatory and warning signs within the construction zone that are in conflict with the Traffic Control Plans shall be removed or covered. All signs shall be restored upon completion of work.
- 5. Flaggers and/or police officers shall be in sight of each other or in direct communications at all times.
- 6. When required by the issuing office, the Contractor shall install a flashing arrow signal as shown on the Traffic Control Plans.
- 7. All traffic lanes shall be a minimum of 10 ft wide.

- 8. All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
- 9. The backs of all signs used for traffic control shall be appropriately covered to preclude the display of inapplicable sign messages (i.e., when signs have messages on both faces)
- 10. At the end of each day's work or as soon as the work is completed, the Contractor shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
- 11. Replace permanent pavement markings and traffic signs upon completion of each phase of work.

ED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAI'I	HAW.	7101A-01-20	2021	20	767





DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

Traffic Control Notes

FARRINGTON HIGHWAY WIDENING Kapolei Golf Course Road to Fort Weaver Road Project No. 7101A-01-20

Scale: As Shown

Date: April 2022

SHEET No. C-19 OF 767 SHEETS

ADD

<u>Legend:</u>	<u>Abbreviations:</u>

Proposed:

Existing:

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAI'I	HAW.	7101A-01-20	2021	21	767

Baseline		B
Property Line		PL
Delta		Δ
State Right-of-way	r/w	
Property Line or City Right-of-way		
Easement Line		
Power Pole		•
Guy Wire	$\stackrel{\textstyle \longrightarrow}{\longrightarrow}$	———————————————————————————————————————
Overhead Utility Line	——o/h——	——O/H——
Traffic Light Pole	\$	
Traffic Signal, Street Light or Electric Box		
Street Light		○
Chain Link Fence	××	××
Metal Guardrail	oo	
Hedge/Brush		
Trees		
Benchmark		
Top of Bank		
Bottom of Bank	Fill Condition Cut Condition	Fill Condition Cut Condition
Riprap		
Drain Manhole		
Grated Drain Inlet Box		
Bridge Scupper		
Catch Basin		
Drainline	——————————————————————————————————————	——————————————————————————————————————
Drainage Flow Direction		~~~
Sign on Post	þ	þ
Raised Pavement Markings		
Waterline	EW16	W24
Sewerline	S8	——————————————————————————————————————

<i>AASHTO</i>	American Association of State	Pav't.	Pavement
	Highway and Transportation Officials	PC	Point of Curvature
Ac.	Acre	PCC	Portland Cement Concrete
AC	Asphalt Concrete	Ph.	Phase
ASTM	Association Society for Testing and Materials	PI	Point of Intersection
BC	Bottom of Curb	PIVC	Point of Inflection Vertical Curve
Blk.	Block	PMA	Polymer Modified Asphalt
Bot.	Bottom	POC	Point on Curve
BV	Bottom Vertical	PP	
			Power Pole
BVC	Begin Vertical Curve	Psi DT	Pounds Per Square Inch
BW	Bottom of Wall	PT	Point of Tangency
BWS	Board of Water Supply	Pt.	Point
C	Chord	R	Radius
CB	Catch Basin	RC	Reinforced Concrete
CI.	Class	Rd.	Road
Clr.	Clear	Rt.	Right
CO	Cleanout	R/W	Right-of-Way
Comm.	Communications	Shldr.	Shoulder
Conc.	Concrete	Sht.	Sheet
Conn.	Connect	SLB	Street Light Box
Cont.	Continuous	Spec.	Specification
Decel.	Deceleration	Sp.	Special
Det.	Detail	STA.	Station
D.I.	Ductile Iron		
D.I.P.	Ductile Iron Pipe	Std.	Standard
DI	Drain Inlet	Struct.	Structure
Dia.	Diameter	St.	Street
		Sq.	Square
D.L.	Drainline Drain Manhala	SWQ	Storm Water Quality
DMH D.D.D.	Drain Manhole	/ T0	Tangent
D.P.P.	Department of Planning and Permitting	TC	Top of Curb
D.S.	Downspout	TD	Top of Deck
E.P.	Edge of Pavement	TLP	Traffic Light Pole
E.S.	Edge of Shoulder	TMK	Tax Map Key
EVC	End Vertical Curve	TSB	Traffic Signal Box
Exist.	Existing	TV	Top Vertical
FE	Flanged End	TW	Top of Wall
GDI	Grated Drop Inlet	Тур.	Typical
GV	Gate Valve	VΒ	Valve Box
HDOT	Hawaii Department of Transportation	V.E.	Vertical Curve
HGL	Hydraulic Grade Line	W.L.	Waterline
Hwy.	Highway	WV	Water Valve
I.B.	Inbound	WWF	Welded Wire Fabric APPROVED:
Inv.	Invert	Yd.	Yard ————
Lc	Length of Chord	ı u.	Manager and
Lt.	Left		(for work affe
LP.	Light Pole		State R/W &
0.B.	Out Bound		
0. <i>b</i> .			JG W. L.

On Center

Maximum

Minimum

Modified

Number

Mechanical Joint

Offset

Mod.

Manager and Chief Engineer, BWS (for work affecting BWS facilities State R/W & BWS easements only)



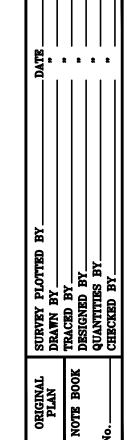
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. SIGNATURE EXPIRATION DATE OF THE LICENSE STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

General Legend and Abbreviations

<u>FARRINGTON HIGHWAY WIDENING</u> <u>Kapolei Golf Course Road to Fort Weaver Road</u> <u>Project No. 7101A-01-20</u>

Date: April 2022 Scale: As Shown

SHEET No. C-20 OF 767 SHEETS



DATE