FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	3	52

GENERAL NOTES

1. The scope of work for this project includes clearing of vegetation; tree protection, recontouring by grading; planting; installation of permanent BMPs; retrofit of existing drainage structures; installation of drain lines, manholes, and a grated drop inlet; installation of a drainage diversion box, installation and maintenance of temporary erosion control and sediment control BMPs and providing traffic control.
2. The Contractor's attention is directed to the following Specification Sections of the Standard Specifications: Subsection 104.11 – Utilities and Services; Subsection 107.06 – Contractor Duty Regarding Public Convenience; and Section 645 – Work Zone Traffic Control.
3. The Contractor shall notify the Hawaii One Call Center (811 or 866–423–7287) no less than five (5) working days prior to excavation, on each or all locations, for locating underground facilities pursuant to HRS Section 269E–4.
4. The Contractor's attention is directed to Section 212 of the Special Provisions for work related to archaeological monitoring.
5. Pursuant to Chapter 6E, HRS, in the event any artifacts of human remains are uncovered during construction operations, the Contractor shall immediately suspend work and notify the Honolulu Police Department and the State Department of Land and Natural Resources – Historic Preservation Division (692–8015).
6. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.
7. The existence and location of underground utilities, manholes, monuments, guardrail 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 be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
8. All dimensions and details shown on the drawings shall be checked and verified prior to the start of construction, and any discrepancies shall be immediately brought to the attention of the Engineer for clarification.
9. All existing utilities to remain in use, whether or not shown on the plans, shall be protected at all times by the Contractor during construction unless specified on the plans to be abandoned. Any damages to existing utilities shall be repaired and paid for by the Contractor.
10. Unless relocation is called for on the plans, existing utilities shall remain in service and in place. If relocation of existing utilities is required for the Contractor's convenience, interruption of service shall be kept to a minimum and shall be done at the Contractor's expense and only with the approval of the Engineer.
11. The Contractor shall provide for vehicle and pedestrian access to and from all existing public streets and driveways at all times.
12. Existing drainage system shall be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to any culvert work or the various contract items and will not be paid for separately.
13. Existing facilities, guardrail, landscaping and/or pavement to remain which has been damaged by the Contractor shall be restored to its original condition at no cost to the State.
14. All regraded areas and all grassed areas damaged by construction activities shall be planted in accordance with Specification Section 619 – Planting. Contractor shall restore to its original condition at no cost to the State.
15. When excavating in close proximity to walls, fences, and other improvements, the Contractor shall protect, support, secure, and take all precautions to prevent damaging these facilities and improvements.
16. The Contractor shall verify the locations and elevations of all existing utility lines and notify respective owners before commencing any excavation work.
17. No material or equipment shall be stockpiled or otherwise stored within highway right–of–way except at locations designated in writing and approved by the Engineer.
18. Contractor shall dispose of any removed material at an approved DOH waste management facility, as stated in the Contractor's BMP plan, at no extra cost to the State.
19. After the project is completed, the Contractor shall restore grades and groundcover within the project limits to a condition equal to or better than existing condition prior to construction.
20. 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.
21. The Contractor shall provide a safety plan for working on slopes or heights greater than six (6) feet that requires a harness, and in accordance with 29 CFR Part 1926, prior to start of work on the slopes.
22. The Contractor shall verify the presence of existing aerial and underground utilities which may conflict with construction activities and shall coordinate with the utility company for temporary relocation, as necessary. All costs associated with temporary relocations shall be borne by the Contractor.
23. The Contractor shall be held liable for any damages incurred to the existing landscaping as a result of his operations.
24. The Contractor shall comply with Section 212 – Archaeological Monitoring of the Special Provisions prior to commencement of construction activities at the project site.

ABBREVIATIONS

A.C.	Asphalt Concrete				
℄	Baseline				
BMP	Best Management Practices	gdi	Grated Drain Inlet	POC	Point on Curvature
		GRP	Grouted Rubble Paving	PT	Point of Tangency
BVC	Begin Vertical Curve	GP	Guard Post	PVC	Polyvinyl Chloride
PBMP	Permanent Best Management Practices	G.W.	Guy Wire	Q25	25–Year Flow
		H	Height	R	Radius
		HAW	Hawaii	REF	Reflector
Btm/Bott.	Bottom	HB	Hose Bibb	Rt.	Right
CB	Catch Basin	HECO	Hawaiian Electric Company	r/w	Right–of–Way
℄	Centerline			S	Slope/Spread
CLF	Chain–Link Fence	HWY	Highway	SDMH	Storm Drain Manhole
		I.D.	Inside Diameter		
Clr.	Clearance	Inv.	Invert Elevation	SFM	Sewer Force Main
CLSM	Controlled Low–Strength Material	JTS	Joint Trunking System	sl	Street Light
		L	Length	SLB	Street Light Box
CO	Cleanout	Lt.	Left	Sta.	Station
COL	Column	LP	Light Pole	Std.	Standard
Conc.	Concrete	Max.	Maximum	STP	Stand Pipe
Cont	Continued	MCBH	Marine Corps Base Hawaii	St. MON.	Street Monument
C. SLAB	Concrete Slab			sym.	Symbol
Det.	Detail	M.L.	Matchline	T	Telephone
D/Dia.	Diameter	Min.	Minimum	T/thk	Thick
DI	Drain Inlet	MH	Manhole	TCP	Traffic Control Plan
EB	East Bound/ Electric Box	MPH	Miles Per Hour		
		No.	Number	TEL	Telephone
EC	Erosion Control	NTS	Not to Scale	TMK	Tax Map Key
Elev	Elevation	O.C.	On Center	TSB	Traffic Signal Box
EP	Electric Pole	O/H	Overhead		
EQ	Equal	o/s	Offset	TSP	Traffic Signal Pole
EXP	Exposed	Pav't	Pavement		
es	Existing Edge of Shoulder	PC	Point of Curvature	Typ.	Typical
				UD	Under Drain
etw	Existing Edge of Travel Way	PCC	Point of Compound Curve	UG	Underground
				UB	Utility Box
EVC	End Vertical Curve	P.C.C.	Portland Cement Concrete	U.P.	Utility Pole
				VC	Vertical Curve
exist.	Existing	PI	Point of Intersection	w	Water
FT	Feet			W	Width
ftg.	Footing	PID	Point Identification Number	w/	With
				WM	Water Meter
				WSE	Water Surface Elevation
		PIVC	Point of Intersection Vertical Curve	WQFR	Water Quality Flow Rate
				WV	Water Valve
				W.W.F	Welded Wire Fabric
				#	Number, Pound

LEGEND

- Property Line
- Limit of Work/Disturbed Area/ Grading
- Centerline
- Compost Filter Sock
- Staging Area Limit
- Runoff Direction
- Access Permitted
- No Vehicular Access Permitted
- No Access Permitted
- Limited Access as Noted on Plan
- Top of Slope
- Existing Guardrail
- eug — Existing Underground Electrical
- comm — Existing Communication Line
- d24" — Existing Drain Line with Nominal Diameter in Inches
- w12" — Existing Water Line with Nominal Diameter in Inches
- s8" — Existing Sewer Line with Nominal Diameter in Inches
- util ug — Existing Underground Utility
- tel — Existing Telephone Line
- 234 — Existing Contour

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JAY M. K. STONE LICENSED PROFESSIONAL ENGINEER No.9548–C HAWAII, U.S.A.

4/30/18 EXP DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES, LEGEND AND ABBREVIATIONS

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A

Project No. HWY–0–01–15

Scale: None Date: April 2016

SHEET No. N–01 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	4	52

GRADING NOTES

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, Rules of the State Department of Health and soils reports by Geolabs, Inc. dated August 5, 2015.

2. No Contractor shall perform any grading operation as to cause falling rocks, soil or debris in any from 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 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.

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 runoff from leaving the site.

6. All slopes and exposed areas shall be sodded or planted 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 5:1 shall be continuously keyed and benched as the fill is brought up in lifts.

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 and approval from the Engineer, 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 work.

11. All grading operations shall be performed in conformance with the applicable provisions of the water quality and water pollution control standards contained in Hawaii Administrative Rules, Title 11, Chapter 54, "Water Quality Standards", and Title 11, Chapter 55, "Water Pollution Control", and if applicable, the NPDES permit for the project.

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. Building permit for retaining walls shall be obtained prior to commencement of grading work on site.

17. 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.

18. 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, D.P.P. (768-8084); and for City projects, notify the responsible City agency.

19. 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 the 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.

20. 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.

21. Non-compliance to any of the above requirements shall mean immediate suspension of all work, and remedial work shall commence immediately. All costs incurred shall be billed to the violator. Furthermore, violators shall be subjected to administrative, civil and/or criminal penalties.

PUBLIC HEALTH, SAFETY, AND CONVENIENCE NOTES

1. The Contractor shall observe and comply with all federal, state, and local laws required for the protection of public health, 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 and Regulations of the State Department of Health. The State shall require supplementary measures if required.

3. The Contractor shall be responsible for the cleaning and removal of all silt and debris generated by his work and deposited and accumulated within downstream waterways, ditches and drain pipes and public and private roadways. The Contractor agrees to reimburse the State for all costs expended in performance of above work if required for public health and safety or made necessary by non-performance by the Contractor.

4. 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.

5. The Contractor shall provide, install and maintain all necessary signs, lights, flares, barricades, markers, cones, and other protective facilities and shall take all necessary precautions for the protection, convenience and safety of the public.

6. The Contractor's attention is directed to Chapter 46, Public Health Regulations, Department of Health, State of Hawaii, "Community Noise Control," in which maximum permissible noise levels have been set. If the construction work requires a permit from the Director of Health, the Contractor shall obtain a copy of Chapter 46 and become familiar with the noise level restrictions and the procedures for obtaining a permit for the construction activities. Applications and information on permits and variances are available from the Indoor and Radiological Health Branch, Noise Section, 591 Ala Moana Boulevard, Honolulu, HI 96813 or by telephone (586-4700).

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No. 9548-C
HAWAII, U.S.A.
4/30/18
EXP DATE
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A
Project No. HWY-0-01-15

Scale: None Date: April 2016

SHEET No. N-02 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-01-15	2016	5	52

BOARD OF WATER SUPPLY NOTES

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the City and County of Honolulu Board of Water Supply's "Water System Standards", dated 2002, the "Water System External Corrosion Control Standards, Volume 3, dated 2002, the "Water System External Corrosion Control Standards", Volume 3, dated 1991, and all subsequent amendments and additions.

2. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply. All other features of the water system, such as lines, grades, fittings, drainage, etc., and other features of improvements shall not be the responsibility of the Board of Water Supply.

3. The Contractor shall notify the BWS Capital Projects Division, Construction Section in writing one week prior to commencing work on the water system.

4. The existence and location of underground utilities and structures as shown on the plan are from the latest available data but is not guaranteed as to the accuracy of encountering of other obstacles during the course of the work. The Contractor shall be responsible and pay for all damages to existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.

5. 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 reactions blocks (with BWS approval) and/or modifying his construction method.

6. Any adjustments to the existing water system required during construction to meet requirements of BWS standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board of Water Supply.

7. Prior to any excavating, the Contractor shall verify in the field the location of existing water mains and appurtenances.

8. The Contractor shall adjust all manhole frames/valve boxes/meter boxes within the work area. The Contractor shall be responsible for "referencing" these manholes/valve boxes/meter boxes to facilitate the adjustments.

PUBLIC TRANSIT DIVISION, DTS NOTE:

This project will affect bus operations, routes, bus stops, and para-transit operations, therefore, the Contractor shall notify the Department of Transportation Services, Public Transit Division at 768-8396 or TheBusStop@honolulu.gov and Oahu Transit Services, Inc. (bus operations: 848-4571 or 848-4565 or Field_Operation_Mgr@thebus.org) and para-transit operations: 454-5006 or 454-5083) of the scope of work, location, detour, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two weeks prior to construction.

MECHANICAL/ELECTRICAL DIVISION NOTES

1. The Contractor shall notify the Joint Pole Committee two (2) weeks in advance of any relocation of utility pole(s) that may be necessary.

2. The Contractor shall notify the Mechanical/Electrical Design and Engineering Division, Department of Design and Construction, three (3) working days prior to commencing work on the street lighting system (Phone: 768-8431).

3. The street lighting system shall be kept operational during construction. Any relocation required shall be approved by the Mechanical/Electrical Design and Engineering Division, Department of Design and Construction, and paid for by the Contractor.

4. The Contractor shall be responsible for any damages to the existing street lighting facilities. Any and all damages to these facilities shall be repaired by the Contractor at his cost in accordance with the requirements of the City and County of Honolulu.

5. The Contractor shall be responsible for any damages to the City's existing communications fiber optic cable system. Any and all damages to these facilities shall be repaired by the Contractor at his cost in accordance with the requirements of the City and County of Honolulu.

TRAFFIC SIGNAL AND TECHNOLOGY NOTES

1. The Contractor shall notify the Traffic Signals and Technology Division, Department of Transportation Services, three (3) working days prior to commencing work on the traffic signal system (phone: 768-8388)

2. The traffic signal system shall be kept operational during construction. Any relocation required shall be approved by the Traffic Signals and Technology Division, Department of the Transportation Services, and paid for by the Contractor.

3. The Contractor shall be responsible for any damages to the existing traffic signal facilities, including but not limited to the traffic signal fiber optic cable system, and interconnect system. Any and all damages to these facilities shall be repaired by the Contractor at his cost in accordance with the requirements of the Traffic Signals and Technology Division.

4-19-2016

for Manager and Chief Engineer, BWS — Date
(For Work Affecting BWS Facilities in City/State R/W and BWS Easement Only)

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No. 9548-C
HAWAII, U.S.A.
4/30/18
EXP DATE
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES – 1

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A
Project No. HWY-0-01-15
Scale: None Date: April 2016

SHEET No. N-03 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	6	52

HAWAIIAN TELCOM GENERAL CONSTRUCTION/DESIGN NOTES

1. The Contractor shall procure and pay for all licenses and permits and shall give all notices necessary and incident to the due and lawful prosecution of the work.

2. The Contractor shall obtain an excavation permit and toning request from Hawaiian Telcom's Excavation Permit section, located at 1177 Bishop Street, two weeks prior to the start of construction. Hours of business are 8:00 am to 11:00 am and 12:00 pm to 3:00 pm Monday through Friday, except holidays.

3. Prior to the excavation of the ductline, the Contractor shall request Hawaiian Telcom to locate existing ductline wherever required. For underground cable locating and marking, five (5) working days advance notice is required. Three (3) working days advance notice is required for any inspection by a designated representative.

4. The locations of existing utilities are approximate only. The Contractor shall exercise extreme caution and shall maintain proper clearances whenever construction crosses or is in closer proximity of Hawaiian Telcom facilities. The Contractor shall verify their locations and shall be liable for any damages to Hawaiian Telcom facilities. Any damages shall be reported immediately to Hawaiian Telcom's repair section at #611 (24 hours) or to the excavation permit section at 546-7746 (normal working hours, Monday through Friday, except holidays). As a result of his operations, adjustments to the new ductline alignment, if required, shall be made to provide the required clearances.

5. The Contractor shall take necessary precaution not to damage existing cables or ducts. A Hawaiian Telcom inspector or designated representative is required to be at any job site whenever there will be a breakage into or entry into any structure that contain Hawaiian Telcom facilities. Temporary cable and duct supports shall be provided wherever necessary.

6. The Contractor shall notify Hawaiian Telcom's inspector or designated representative a minimum of 72 hour prior to excavation, bracing, or backfilling of Hawaiian Telcom's structures or facilities.

7. All applicable construction work shall be done in accordance with the "Hawaiian Telcom Standard Specifications for Placing Telephone Systems" dated January 2007, all subsequent amendments and additions, and all other pertinent standards for telephone construction. Contractor shall familiarize his personnel by obtaining applicable specifications.

8. When excavation is adjacent to or beneath Hawaiian Telcom's existing structures or facilities, the Contractor shall:

   A. Sheet and/or brace the excavation to prevent slides, cave-ins, or settlements to ensure no movement to Hawaiian Telcom's structures or facilities.
   B. Protect existing structures and/or facilities with beams, struts, or underpinning while excavating beneath them to ensure no movement to Hawaiian Telcom's structures or facilities.

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

10. The Contractor shall saw-cut AC pavement and concrete gutter whenever new manholes, handholes, or ductlines are to be placed and shall restore to existing condition or better.

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

12. The underground pipes, cables, or ductlines know to exist by the Engineer from his search of records are indicated on the plans. The Contractor shall verify the locations and depths of the facilities and exercise proper care in excavating in the area. Wherever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for the new lines.

13. Wherever connections to existing utilities are shown on the plans, the Contractor shall expose the existing lines prior to excavation of the main trenches to verify their locations and depths.

14. The Contractor, at his own expense, shall keep the project and surrounding area free from dust nuisance. The cost for supplementary measures, which will be required by the State, shall be borne by the Contractor.

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

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

17. When connecting to manhole walls, all existing reinforcing bars shall be left intact. Ducts shall be adjusted in the field in order to clear reinforcing.

18. The Contractor shall be responsible for laying out all required lines and grades and shall preserve all bench marks and working points necessary to lay out the work correctly. The new ductline shall be adjusted by the Contractor to suit the existing conditions and the details as described in the plans.

19. Minimum concrete strength shall be:
    for ductline 2500 psi at 28 days
    for manhole 3000 psi at 28 days or as specified in design notes

20. Bends in the duct alignments, due to changes in grade shall have a minimum radius of 25 feet. All 90 degree c-bends at a pole or at the building floor slab penetration, shall have a bend radius of ten times the diameter of the duct or greater.

21. After ductline has been completed, a mandrel with a square front not less than 12" long and having a diameter of 1/4" less than the inside diameter of the duct, shall be pulled through each duct after which a brush with stiff bristles shall be pulled through to make certain that no particles of earth, sand, or gravel have been left inside. Ducts shall be completely dry and clean.

22. All ducts and conduits shall have an 1800# polyester mule-tape (Neptco, WP1800P), Hawaiian Telcom material code no. 571154) installed throughout its entire length. All ducts shall be capped to prevent entry of foreign material during construction and at the completion of installation.

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No.9548-C
HAWAII, U.S.A.

4/30/18
EXP DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES - 2

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A
Project No. HWY-0-01-15

Scale: None Date: April 2016

SHEET No. N-04 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	7	52

HAWAIIAN ELECTRIC COMPANY NOTES

1. *Location of HECO Facilities*

   The location of HECO's overhead and underground facilities shown on the plans are from existing records with varying degrees of accuracy and are not guaranteed as shown. The Contractor shall verify in the field the locations of the facilities and shall exercise proper care in excavating and working in the area. Wherever connections of new utilities to existing utilities and utility crossings are shown, the Contractor shall expose the existing lines at the proposed connections and crossings to verify the depths prior to excavation for the new lines. The Contractor shall be responsible for any damages to HECO's facilities whether shown or not shown on the plans.

2. *Compliance with Hawaii Occupational Safety and Health Laws*

   The Contractor shall comply with the State of Hawaii's occupational safety and health laws and regulations, including without limitation, those related to working on or near exposed or energized electrical lines and equipment.

3. *Excavation Clearance*

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

4. *Caution!!! Electrical Hazard!!!*

   Existing HECO overhead and underground lines are energized and will remain energized during construction unless prior special arrangements have been made with HECO. Only HECO personnel are to handle these energized lines and erect temporary guards to protect these lines from damage. The Contractor shall work cautiously at all times to avoid accidents and damage to existing HECO facilities, which can result in electrocution.

5. *Overhead Lines*

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

   At any time should the Contractor anticipate that his work will result in the need to encroach within the minimum required clearance as stated in the law, the Contractor shall notify HECO at least four (4) weeks prior to the planned encroachment so that, if feasible, the necessary protections (e.g. relocate or deenergize HECO lines) can be investigated. HECO may also be able to blanket its distribution (12kV and below) lines to provide a visual aid in preventing accidental contact. HECO's cost of safeguarding or identifying its lines will be charged to the Contractor.

   Contact HECO's Customer Installations Department at 543–7846 for assistance in identifying and safeguarding overhead power lines.

6. *Pole Bracing*

   A minimum clearance of 10 feet must be maintained when excavating around utility poles and/or their anchor system to prevent weakening or pole support failure. Should work require excavating within 10 feet of a pole and/or its anchor system, the Contractor shall protect, support, secure, and take all other precautions to prevent damage to or leaning of these poles. The Contractor is responsible for all pole bracing designs and structural calculations, as well as the associated costs to brace, repair, or straighten poles. All means of structural support for the pole and/or anchor system proposed by the Contractor shall be submitted to HECO's Customer Installations Department (543–7846) for review a minimum of ten (10) working days prior to implementation. The cost of HECO's review/assistance in providing proper support and protection of its poles will be charged to the Contractor.

7. *Underground Lines*

   The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines. HECO's existing electrical cables are energized and will remain energized during construction. Only HECO personnel are to break into existing HECO facilities, handle these cables, and erect temporary guards to protect these cables from damage. The cost of HECO's assistance in providing proper support and protection of its underground lines will be charged to the Contractor. For assistance/coordination in providing proper support and protection of these lines, the Contractor shall call HECO's Customer Installations Department at 543–7846 a minimum of ten (10) working days in advance.

   Special precautions are required when excavating near HECO's 138kV underground lines (see HECO instructions to consultants/contractors on "Excavation Near HECO's Underground 138kV Lines" for detailed requirements).

   For verification of underground lines, the Contractor shall call the Hawaii One Call Center at 866–423–7287 minimum of five (5) working days in advance.

8. *Underground Fuel Pipelines*

   The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of HECO's underground fuel oil pipelines. Special precautions are required when excavating near HECO's underground fuel oil pipelines (see HECO's specific fuel pipeline "guidelines" to consultants/contractors on excavation near HECO's underground fuel pipelines for detailed requirements).

9. *Excavations*

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

   a. *arranging for HECO standby personnel to observe work at Contractor's cost.*
   b. *sheeting, bracing, or otherwise supporting the excavation and stabilizing the existing ground to render it safe and secure and to prevent possible slides, cave–ins, and settlements.*
   c. *properly supporting existing structures or facilities with beams, struts, under–pinnings, or other necessary methods to fully protect it from damage.*
   d. *backfilling with proper backfill material including special thermal backfill where existing (refer to Engineering Department for Thermal Backfill Specifications).*

10. *Relocation of HECO Facilities*

    Any work required to relocate or modify HECO facilities shall be done by HECO, or by the Contractor under HECO's supervision. The Contractor shall be responsible for all coordination, and shall provide necessary support for HECO's work, which may include, but not be limited to, staking of pole/anchor locations, identifying right of way and property lines, excavation and backfill, permits and traffic control, barricading, and restoration of pavement, sidewalks, and other facilities.

    All costs associated with any relocation or modification (either temporary or permanent) for the convenience of the Contractor, or to enable the Contractor to perform his work in a safe and expeditious manner in fulfilling his contract obligations shall be borne by the Contractor.

11. *Conflicts*

    Any redesign or relocation of HECO's facilities not shown on the plans may be cause for lengthy delays. The Contractor acknowledges that HECO is not responsible for any delay or damage that may arise as a result of any conflicts discovered or identified with respect to the location or construction of HECO's electrical facilities in the field, regardless of whether the Contractor has met the requested minimum advance notices. In order to minimize any delay or impact arising from such conflicts, HECO should be notified immediately upon discovery or identification of such conflict.

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HAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No. 9548-C
HAWAII, U.S.A.
4/30/18
EXP DATE
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES – 3

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A
Project No. HWY-0-01-15

Scale: None Date: April 2016

SHEET No. N-05 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	8	52

HAWAIIAN ELECTRIC COMPANY NOTES (CONT.)

12. *Damage to HECO Facilities*

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

In case of damage or suspected damage to HECO's fuel pipeline, the Contractor shall immediately notify HECO's Honolulu power plant shift supervisor at 533–2102 (a 24–hour number) so HECO personnel can secure the damaged section and report any oil spills to the proper authorities. In case of damage or suspected damage to the Waiau or Kahe fuel pipelines, the Contractor shall also notify Chevron at 682–2227. All costs associated with the damage, repair, and oil spill cleanup shall be borne by the Contractor.

13. *HECO Stand–by Personnel*

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

The Contractor shall call HECO's Customer Installations Department at 543–7846 a minimum of five (5) working days in advance to arrange for HECO stand–by personnel.

14. *Clearances*

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

Minimum Separation Clearances to Existing Underground Ductlines Horizontal (Parallel)

Utility Being Installed	Existing Direct Buried Cable	Existing Direct Buried In Conduit (No Concrete Encasement)	Existing 3" Concrete Encasement	Applicable Notes:
HECO DB Conduits	12"	3"	0"	
HECO 3" Encasement	0"	0"	0"	
Telephone/CATV DB	12"	12"	6"	
Telephone/CATV DB Ducts	12"	12"	6"	
Telephone/CATV 3" Encasement	0"	0"	0"	5
Traffic Signal	12"	12"	12"	
Water DB	36"	36"	36"	1, 4
Water Service Laterals	12"	12"	12"	
Water (Concrete Jacketed)	36"	36"	36"	1, 4
Gas DB	12"	12"	12"	1
Gas (Concrete Jacketed)	12"	12"	12"	1
Sewer DB	36"	36"	36"	1, 2
Sewer (Concrete Jacketed)	36"	36"	36"	1, 2
Drain	12"	12"	12"	1
Fuel Pipelines				3

Notes:

1. *Where space is available, parallel clearance to other utilities, or foreign structures other than communication or traffic signal shall be 36".*
2. *If 36" clearance cannot be met:*
   - *if clearance is less than 12", jacket sewer line with reinforced concrete (per HECO's std. 30–1030) for a distance of 5' plus pipe diameter.*
   - *if clearance is between 12" and 36", jacket sewer line with plain concrete.*
3. *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.*

Minimum Separation Clearances To Existing Underground Ductlines Vertical (Crossing)

Utility Being Installed	Existing Direct Buried Cable	Existing Direct Buried In Conduit (No Concrete Encasement)	Existing 3" Concrete Encasement	Applicable Notes:
HECO DB Conduits	6"	3"	0"	
HECO 3" Encasement	0"	0"	0"	
Telephone/CATV DB	12"	12"	6"	
Telephone/CATV DB Ducts	12"	12"	6"	
Telephone/CATV 3" Encasement	0"	0"	0"	5
Traffic Signal	12"	12"	6"	
Water Service Laterals	6"	6"	6"	
Water DB	6"	6"	6"	2
Water (Concrete Jacketed)	6"	6"	6"	2
Gas DB	12"	12"	12"	
Gas (Concrete Jacketed)	12"	12"	12"	
Sewer DB	24"	24"	24"	1
Sewer (Concrete Jacketed)	24"	24"	24"	1
Drain	12"	12"	6"	
Fuel Pipelines				3

Notes:

1. *If clearance cannot be met:*
   - *if clearance is less than 12", jacket sewer line with reinforced concrete (per HECO's std. 30–1030) for a distance of 5' plus pipe digmeter.*
   - *if clearance is between 12" and 24", jacket sewer line with plain concrete.*
2. *12" vertical clearance for pipe diameters greater than 16".*
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.*

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No. 9548-C
HAWAII, U.S.A.

4/30/18
EXP DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES – 4

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A
Project No. HWY-0-01-15

Scale: None Date: April 2016

SHEET No. N-06 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	9	52

HAWAIIAN ELECTRIC COMPANY NOTES (CONT.)

The Contractor shall notify the construction manager & HECO of any heat sources (power cable duct bank, steamline, etc.) encountered that are not properly identified on the drawing.

15. *Indemnity*

The Contractor shall indemnify, defend and hold harmless HECO from and against all losses, damages, claims, and actions, including but not limited to reasonable attorney's fees and costs based upon or arising out of damage to property or injuries to persons, or other tortious acts caused or contributed to by Contractor or anyone acting under its direction or control or on its behalf; provided Contractor's indemnity shall not be applicable to any liability based upon the sole negligence of HECO.

CATV NOTES

1. *The Contractor shall procure and pay for all licenses and permits and shall give all notices necessary and incident to the due and lawfull prosecution of the work.*

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

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

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

5. *The underground pipes, cables, or ductlines known to exist by the Engineer from his search of records are indicated on the plans. The Contractor shall verify the locations and depths of the facilities and exercise proper care in excavating in the areas. Wherever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for the new lines.*

6. *The Contractor, at his own expense, shall keep the project and surrounding area free from dust nuisance. The cost for supplementary measures, which will be required by the State, shall be borne by the Contractor.*

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

8. *The Contractor shall take necessary precaution not to damage existing cables or ducts. Any work involving existing cables or ducts shall be done in the presence of the Oceanic Cable Company inspector or his representative.*

9. *The Contractor shall notify the Oceanic Cable Company inspector 72 hours prior to the start of work on CATV infrastructure, pouring of concrete, or backfilling. Oceanic's inspector, David Estocado, can be reached at 306-2662.*

10. *Wherever connections to existing utilities are shown on the plans, the Contractor shall expose the existing lines prior to excavation of the main trenches to verify their locations and depths.*

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

12. *The Contractor shall be responsible for laying out all required lines and grades and shall preserve all bench marks and working points necessary to lay out the work correctly. The new ductline shall be adjusted by the Contractor to suit the existing conditions and the details as described in the plans.*

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

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

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

16. *For any field assistance or verification of CATV facilities, the Contractor shall call the Technical Operations Center at 625-8378.*

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

18. *Any damage to Oceanic's facilities shall be reported to OCI's Repair Dispatch Department at 625-8437.*

19. *All existing improvements that are disturbed during the construction phase shall be restored to its original or better condition at no cost to the State in accordance with State standards.*

20. *Trenching to be by hand digging near and across existing utility lines.*

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

22. *Underground utilities shown hereon is for information only. No guarantee is made on the accuracy or completeness of said installation.*

23. *For underground cable locating and marking, five working days advance notice is required. Three working days advance notice is required for any inspection by a designated representative. Contractor shall take necessary precaution not to damage any existing cables or ducts. Oceanic's inspector or designated representative is required to be at any job site whenever there will be a breakage into or entry into any structure that contain Oceanic's facilities.*

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No. 9548-C
HAWAII, U.S.A.

4/30/18
EXP DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
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UTILITY NOTES - 5

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A
Project No. HWY-0-01-15

Scale: None Date: April 2016

SHEET No. N-07 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	10	52

WATER POLLUTION AND EROSION CONTROL NOTES

A. GENERAL:

1. See Special Provision 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 the 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 Maui, Molokai, Kauai, and Hawaii.

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 and special provisions, 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.

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 30 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 each week and within 24 hours of any rainfall event of 0.25 inches or greater within a 24 hour period. For construction areas discharging 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 day.

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.

9. Include designated Concrete Washout Area(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.

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No.9548-C
HAWAII, U.S.A.
4/30/18
EXP DATE
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
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WATER POLLUTION AND EROSION CONTROL NOTES–1
MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A
Project No. HWY–0–01–15

Scale: None Date: April 2016

SHEET No. N–08 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	11	52

WATER POLLUTION AND EROSION CONTROL NOTES (CONT)

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.

14. For projects without an NPDES Permit for Construction Activities, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

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	Cleaning Solvents
Detergents	Wood
Paints (enamel and latex)	Masonry Block
Metal Studs	Herbicides and
Tar	Pesticides
Fertilizers	Curing Compounds
Petroleum Based Products	Adhesives

   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 job.

   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 label.

   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. 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 or 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.

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No.9548-C
HAWAII, U.S.A.
4/30/18
EXP DATE
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WATER POLLUTION AND EROSION CONTROL NOTES-2
MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A
Project No. HWY-0-01-15
Scale: None Date: April 2016
SHEET No. N-09 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	12	52

WATER POLLUTION AND EROSION CONTROL NOTES (CONT)

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.

2. Comply with all applicable State and Federal Permit conditions. Permits may include but are not limited to the following:

   a. NPDES Permit for Construction Activities

   b. NPDES Permit for Construction Dewatering

   c. NPDES Permit for Hydrotesting Waters

   d. Water Quality Certification

   e. Stream Channel Alteration Permit

   f. Section 404 Army Corps of Engineer Permit

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

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.

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
   b. SC-5 Vegetated Filter Strips and Buffers
   c. SC-8 Compost Filter Berm
   d. SC-13 Sandbag Barrier
   e. SC-14 Brush or Rock Filter

3. Control offsite runoff from entering construction area
   a. EC-8 Run-On Diversion
   b. SC-6 Earth Dike
   c. SC-7 Temporary Drains and Swales

4. Incorporate applicable Site Management BMP
   a. SM-1 Employee Training
   b. SM-2 Material Delivery and Storage
   c. SM-3 Material Use
   d. SM-4 Protection of Stockpiles
   e. SM-6 Solid Waste Management
   f. SM-7 Sanitary/Septic Waste Management
   g. SM-9 Hazardous Waste Management
   h. SM-10 Spill Prevention and Control
   i. SM-11 Vehicle and Equipment Cleaning
   j. SM-12 Vehicle and Equipment Maintenance
   k. SM-13 Vehicle and Equipment Refueling
   l. SM-14 Scheduling
   m. SM-15 Location of Potential Sources of Sediment
   n. SM-16 Preservation of Existing Vegetation
   o. 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).

7. 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.

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No.9548-C
HAWAII, U.S.A.
4/30/18
EXP DATE
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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WATER POLLUTION AND EROSION CONTROL NOTES-3

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A

Project No. HWY-0-01-15

Scale: None Date: April 2016

SHEET No. N-10 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-15	2016	13	52

EROSION CONTROL/BEST MANAGEMENT PRACTICES NOTES

1. The Contractor, at his own expense, shall keep the project areas and surrounding areas free from dust nuisance. The work shall be done in conformance with air pollution control standards contained in Hawaii Administrative Rules: Chapter 11–60, "Air Pollution Control".

2. Measures to control erosion and other pollutants shall be in place before any grading work is initiated. These measures shall be properly constructed and maintained throughout the construction period of each site.

3. Construction shall be sequenced to avoid disturbance at all project sites at one time and minimize exposure time of the cleared surface area.

4. The Contractor shall observe and comply with the State Department of Health regulations regarding storm water discharge.

5. All erosion control measures shall be checked and repaired as necessary, for example, weekly in dry periods and within twenty–four hours after any rainfall of 0.25 inches or greater within a 24–hour period. During prolonged rainfall, daily checking is necessary. During an event of above normal rainfall, the Contractor shall remove the sediment and drain inlet filter and reinstall them after the event has passed. The Contractor shall maintain records of all checks and repairs.

6. Inlet protection shall be implemented at all storm drain inlets and catch basins as indicated to prevent any sediment laden runoff from leaving the site. Inlet protection devices shall be removed during periods of above normal rainfall and replaced after the event has passed. For inlet protection details, see Sheet C–01.

7. The Contractor shall install fiber rolls as shown on plans.

8. Good housekeeping shall be utilized to ensure protection of roadways from mud, dirt, and debris.

9. The Contractor shall provide erosion control measures for their construction, staging, and storage areas and shall inspect and monitor his construction, staging, and storage areas to ensure that no non–storm water discharges are emitted. If such sources are identified the Contractor shall provide immediate mitigative measures.

10. No sediment laden runoff shall leave the site.

11. Water trucks shall be utilized to minimize the amount of airborne dust.

12. Contractor shall ensure the proper working order and conduct regular maintenance of all construction equipment. All construction equipment shall be serviced offsite and no oil or fuel shall be stored on the site.

13. The Contractor shall dispose of vegetation and equipment and hydraulic oils off–site.

14. At the end of the grading operation, existing catch basins and drain inlets surrounding the project site shall be inspected and any accumulated sediment and debris found shall be removed. Flushing into the catch basins or drain inlets is prohibited.

15. Grass shall be established on disturbed areas which are at final grade or will not be worked on for longer than 14 days. Alternatives to grass include 2" minimum straw mulch cover, erosion blankets with anchors, 6–mil plastic sheets, chemical soil stabilizer, sediment traps or ponds, or interceptor dikes/swales.

16. The Contractor shall designate a specific individual to be responsible for erosion and sediment controls on each project site.

17. Clearing and grubbing shall be held to the minimum necessary for grading and equipment operation.

18. Construction shall be staged and phased for large projects. Areas of one phase shall be stabilized before another phase is initiated. Stabilization shall be accomplished by temporarily or permanently protecting the disturbed soil surface from rainfall impacts and runoff.

19. Temporary soil stabilization with appropriate vegetation shall be applied on areas that will remain unfinished for more than 14 calendar days.

20. Storm water flowing toward the construction area shall be diverted by using appropriate control measures, as practical.

21. Water must be discharged in a manner that the discharge shall not cause or contribute to a violation of the basic water quality criteria as specified in the Hawaii Administrative Rules, Section 11–54–04.

22. All grading work shall be done in conformance 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 applicable provisions of Chapter 54, Water Quality Standards and Chapter 55, Water Pollution Control, Title II, Administrative Rules of the State Department of Health.

23. The Contractor shall schedule construction during the dry weather periods and shall be prepared in case of rainfall events. The Contractor shall provide for temporary bypass or detention of storm water flows or other measures to avoid flooding of properties upstream or adjacent to the site.

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JAY M. K. STONE
LICENSED PROFESSIONAL ENGINEER
No. 9548-C
HAWAII, U.S.A.

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
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WATER POLLUTION AND EROSION CONTROL NOTES–4

MISCELLANEOUS PERMANENT BEST MANAGEMENT PRACTICES, PHASE 2A

Project No. HWY-0-01-15

Scale: None Date: April 2016

SHEET No. N–11 OF 11 SHEETS