STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS
HONOLULU, HAWAII

SPECIAL PROVISIONS PROPOSAL CONTRACT AND BOND

FOR

KAHULUI BEACH ROAD INTERSECTION IMPROVEMENTS AT KANALOA AVENUE

PROJECT NO. 3400A-01-20

DISTRICT OF KAHULUI

ISLAND OF MAUI

NOTICE TO BIDDERS
Hawaii Revised Statutes (HRS),
Chapter 103D

The receiving of bids for **KAHULUI BEACH ROAD INTERSECTION IMPROVEMENTS AT KANALOA AVENUE, DISTRICT OF KAHULUI, ISLAND OF MAUI, PROJECT NO. 3400A-01-20**, will begin as of the HIePRO Release Date. Bidders shall register and submit complete bids through HIePRO only. Refer to the following HIePRO link for important information on Vendor Registration: https://hiepro.ehawaii.gov/welcome.html.

The solicitation plans, specifications, proposal, and additional documents designated or incorporated by reference shall be available in HIePRO.

HIePRO OFFER DUE DATE & TIME is November 15, 2024, at 2:00 p.m., Hawaii Standard Time (HST). **Bidders shall submit and upload the complete proposal to HIePRO prior to the offer due date and time. Proposals received after the due date and time shall not be considered. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Bidders shall not include confidential and/or proprietary documents as part of their proposal. The record of each bidder and their respective proposal shall be open to public inspection. FAILURE TO UPLOAD THE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION.**

The scope of work consists of upgrading the existing traffic signal system with a new traffic controller assembly, new electrical service equipment, and new traffic signal standards and signal heads. The existing pedestrian facilities will also be improved with newly raised concrete islands and curb ramps. The estimated cost of construction is between $900,000.00 and $1,100,000.00.

To be eligible for the award, bidders shall possess a valid State of Hawaii General Engineering "A" license **at the time of bidding.**

A virtual pre-bid conference is scheduled for October 10, 2024, at 10:00 a.m., HST. Please call Microsoft Teams to join the pre-bid conference at 1-808-829-4853, Phone Conference ID: 355 736 796#. All prospective bidders and/or their respective representatives are encouraged to attend,

however, attendance is not mandatory. All information presented at the pre-bid conference shall be provided for clarification and information only. Any amendments to the solicitation shall be made by formal addendum and posted in HIePRO.

All Request for Information (RFI) questions and Substitution Requests shall be submitted to HIePRO **no later than October 18, 2024, at 2:00 p.m., HST.** RFI questions received after the stated deadline shall not be addressed. Substitution Requests received after the stated deadline shall not be considered. Verbal RFI(s) shall not receive a response. All responses to RFI questions shall be provided for clarification and information only and issued by formal addendum. Any amendments to the solicitation shall be made by formal addendum and posted in HIePRO.

If there is a conflict between the solicitation and information stated in the pre-bid conference, the meeting minutes, and/or the responses to RFI questions, the solicitation shall govern and control, unless as amended by formal addendum.

Apprenticeship Preference. A five (5) percent bid adjustment for bidders that are party to apprenticeship agreements pursuant to HRS § 103-55.6 is applicable to this project.

Employment of State Residents on Construction Procurement Contracts. Compliance with HRS § 103B-3 is a requirement for this project whereby a minimum of 80 percent of the bidder's work force on this project shall consist of Hawaii residents.

Campaign contributions by State and County Contractors. Contractors are hereby notified of the applicability of HRS § 11-355 which states that campaign contributions are prohibited from specified State or county government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body. For more information, contact the Campaign Spending Commission at (808) 586-0285.

Protests. Any protest of this solicitation shall be submitted in writing to the Director of Transportation, in accordance with HRS § 103D-701 and Hawaii Administrative Rules § 3-126.

The Equal Employment Opportunity Regulations of the Secretary of Labor implementing Executive Order 11246, as amended, shall be complied with on this project.

The United States (U.S.) Department of Transportation Regulation entitled "Nondiscrimination in

Federally Assisted Programs of the U.S. Department of Transportation", Title 49, Code of Federal Regulations (CFR), Part 21, is applicable to this project. Bidders are hereby notified that the Hawaii Department of Transportation (HDOT) shall affirmatively ensure that the contract entered pursuant to this advertisement shall be awarded to the lowest responsible bidder without discrimination on the grounds of race, color, national origin, or sex (as directed by 23 CFR Part 200).

Driving While Impaired (DWI) Education. The HDOT encourages all organizations contracted with HDOT to have an employee education program preventing DWI. DWI is defined as operating a motor vehicle while impaired by alcohol or other legal or illegal substances. HDOT promotes this type of program to accomplish our mission to provide a safe environment for motorists, bicyclists, and pedestrians utilizing our State highways, and expects its contractors to do so as well.

For additional information, contact Larry D. Hail, Highways Maui Design Engineer, by phone at (808) 873-3567, or by email at larry.d.hail@hawaii.gov.

The State reserves the right to reject any or all proposals and to waive any defects in said proposals in the best interest of the public.

ROBIN K. SHISHIDO
Deputy Director of Transportation for Highways

HIePRO RELEASE DATE: October 2, 2024

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INSTRUCTIONS FOR CONTRACTOR'S LICENSING

"A" general engineering contractors and "B" general building contractors are reminded that due to the Hawaii Supreme Court's January 28, 2002 decision in Okada Trucking Co., Ltd. v. Board of Water Supply, et al., 97 Haw. 450 (2002), they are prohibited from undertaking any work, solely or as part of a larger project, which would require the general contractor to act as a specialty contractor in any area where the general contractor has no license. Although the "A" and "B" contractor may still bid on and act as the "prime" contractor on an "A" or "B" project *(See, HRS § 444-7 for the definitions of an "A" and "B" project.)*, respectively, the "A" and "B" contractor may only perform work in the areas in which they have the appropriate contractor's license *(An "A" or "B" contractor obtains "C" specialty contractor's licenses either on its own, or automatically under HAR § 16-77-32.)*. The remaining work must be performed by appropriately licensed entities. It is the sole responsibility of the contractor to review the requirements of this project and determine the appropriate licenses that are required to complete the project.

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HONOLULU, HAWAII

SPECIAL PROVISIONS

These Special Provisions shall supplement and/or amend the applicable provisions of the Hawaii Standard Specifications for Road and Bridge Construction, 2005, hereinafter referred to as the "Standard Specifications".

Amend **Section 101 - TERMS, ABBREVIATIONS, AND DEFINITIONS** to read as follows:

"DIVISION 100 - GENERAL PROVISIONS

SECTION 101 - TERMS, ABBREVIATIONS, AND DEFINITIONS

101.01 Meaning of Terms. The specifications are generally written in the imperative mood. In sentences using the imperative mood, the subject, "the Contractor shall", is implied. In the material specifications, the subject may also be the supplier, fabricator, or manufacturer supplying material, products, or equipment for use on the project. The word "will" generally pertains to decisions or actions of the State.

When a publication is specified, it refers to the most recent date of issue, including interim publications, before the bid opening date for the project, unless a specific date or year of issue is provided.

101.02 Abbreviations. Meanings of abbreviations used in the specifications, on the plans, or in other contract documents are as follows:

AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AGC	Associated General Contractors of America
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APA	American Plywood Association

ARA	American Railway Association
AREA	American Railway Engineering Association
ASA	American Standards Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASTM	American Society for Testing and Materials
AWG	American Wire Gauge
AWPA	American Wood Preserver's Association
AWS	American Welding Society
AWWA	American Water Works Association
BMP	Best Management Practice
CCO	Contract Change Order
CFR	Code of Federal Regulations
CRSI	Concrete Reinforcing Steel Institute
DCAB	Disability and Communication Access Board, Department of Health, State of Hawaii
DOTAX	Department of Taxation, State of Hawaii
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards, General Services Administration, U.S. Department of Defense
HAR	Hawaii Administrative Rules
HDOT	Department of Transportation, State of Hawaii

HIOSH	Occupational Safety and Health, Department of Labor and Industrial Relations, State of Hawaii
HMA	Hot Mix Asphalt
HRS	Hawaii Revised Statutes
ICEA	Insulated Cable Engineers Association (formerly IPCEA)
IMSA	International Municipal Signal Association
IRS	Internal Revenue Service
ITE	Institute of Transportation Engineers
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways, FHWA, U.S. Department of Transportation
NCHRP	National Cooperative Highway Research Program
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Forest Products Association
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration/Act, U.S. Department of Labor
SAE	Society of Automotive Engineers
SI	International Systems of Units
UFAS	Uniform Federal Accessibility Standards
UL	Underwriter's Laboratory
USGS	U.S. Geological Survey
VECP	Value Engineering Cost Proposal

101.03 Definitions. Whenever the following words, terms, or pronouns are used in the contract documents, unless otherwise prescribed therein and without regards to the use or omission of uppercase letters, the intent and meaning shall be interpreted as follows:

Addendum (plural - Addenda) - A written or graphic document, including drawings and specifications, issued by the Director during the bidding period. This document modifies or interprets the bidding documents by additions, deletions, clarifications or corrections.

Addition (to the contract sum) **-** Amount added to the contract sum by change order.

Advertisement - A public announcement inviting bids for work to be performed or materials to be furnished.

Amendment - A written document issued to amend the existing contract between the State and Contractor and properly executed by the Contractor and Director.

Award - Written notification to the bidder that the bidder has been awarded a contract.

Bad Weather Day (or Unworkable Day) - A day when weather or other conditions prevent a minimum of four hours of work with the Contractor's normal work force on critical path activities at the site.

Bag - 94 pounds of cement.

Barrel - 376 pounds of cement.

Base Course - The layer or layers of specified material or selected material of a designed thickness placed on a subbase or subgrade to support a surface course.

Basement Material - The material in excavation or embankments underlying the lowest layer of subbase, base, pavement, surfacing or other specified layer.

Bid - See Proposal.

Bidder - An individual, partnership, corporation, joint venture or other legal entity submitting, directly or through a duly authorized representative or agent, a proposal for the work or construction contemplated.

Bidding Documents (or Solicitation Documents) - The published solicitation notice, bid requirements, bid forms and the proposed contract documents including all addenda and clarifications issued prior to receipt of the bid.

Bid Security - The security furnished by the bidder from which the State may recover its damages in the event the bidder breaches its promise to enter into a contract with the State, or fails to execute the required bonds covering the work contemplated, if its proposal is accepted.

Blue Book - EquipmentWatch Cost Recovery (formerly known as EquipmentWatch Rental Rate Blue Book), available from EquipmentWatch, a division of Penton, Inc.

Calendar Day - See Day.

Change Order (or Contract Change Order) - A written order signed by the Engineer issued with or without the consent of the Contractor directing changes in the work, contract time or contract price. The purposes of a change order include, but are not limited to (1) establishing a price or time adjustment for changes in the work; (2) establishing full payment for direct, indirect, and consequential costs, including costs of delay; (3) establishing price adjustment or time adjustment for work covered and affected by one or more field orders; or (4) settling Contractor's claims for direct, indirect, and consequential costs, or for additional contract time, in whole or in part.

Completion - See Substantial Completion and Final Completion.

Completion Date - The date specified by the contract for the completion of all work on the project or of a designated portion of the project.

Comptroller - the Comptroller of the State of Hawaii, Department of Accounting and General Services.

Contract - The written agreement between the Contractor and the State, by which the Contractor shall provide all labor, equipment, and materials and perform the specified work within the contract time stipulated, and by which the State of Hawaii is obligated to compensate the Contractor at the prices set forth in the contract documents.

Contract Certification Date - The Date on which the Deputy Comptroller for the State of Hawaii (or authorized representative) signs the Contract Certification.

Contract Completion Date - The calendar day on which all work on the project, required by the contract, must be completed. See CONTRACT TIME.

Contract Documents - The contract, solicitation, addenda, notice to bidders, Contractor's bid proposal (including wage schedule, list of subcontractors and other documentations accompanying the bid), notice to proceed, bonds, general provisions, special provisions, specifications, drawings, all modifications, all written amendments, change orders, field orders, orders for minor changes in the work, the Engineer's written interpretations and clarifications issued on or after the effective date of the contract.

Contract Item (Pay Item) - A specific unit of work for which there is a price in the contract.

Contract Modification (Modification) - A change order that is mutually agreed to and signed by the parties to the contract.

Contract Price - The amount designated on the face of the contract for the performance of work.

Contract Time (or Contract Duration) - The number of calendar or working days provided for completion of the contract, inclusive of authorized time extensions. Contract time shall commence on the Start Work Date and end on the Substantial Completion Date. If in lieu of providing a number of calendar or working days, the contract requires completion by a certain date, the work shall be completed by that date.

Contracting Officer - See Engineer.

Contractor - Any individual, partnership, firm, corporation, joint venture, or other legal entity undertaking the execution of the work under the terms of the contract with the State.

Critical Path - Longest logical sequence of activities that must be completed on schedule for the entire project to be completed on schedule.

Day - Any day shown on the calendar, beginning at midnight and proceeding up to, but not including, midnight the following day. If no designation of calendar or working day is made, "day" shall mean calendar day.

Department - The Department of Transportation of the State of Hawaii (abbreviated HDOT).

Director - The Director of the HDOT acting directly or through duly authorized representatives.

Plans (or Drawings) - The contract drawings in graphic or pictorial form including the notes, tables and other notations thereon indicating the design, location, character, dimensions, and details of the work.

Engineer - The Highway Administrator, Highways Division, HDOT, or the authorized person delegated to act on the Administrator's behalf.

Equipment - All machinery, tools, and apparatus needed to complete the contract.

Field Order - A written order issued by the Engineer or the Engineer's authorized representative to the Contractor requiring a change or changes to the contract work. A field order may (1) establish a price adjustment or time adjustment; or (2) may declare that no adjustment will be made to contract price or contract time; or (3) may request the Contractor to submit a proposal for an adjustment to the contract price or contract time.

Final Acceptance - The Status of the project when the Engineer finds that the Contractor has satisfactorily completed all contract work in compliance with the contract including all plant establishment requirements, and all the materials have been accepted by the State.

Final Completion - The date set by the Director that all work required by the contract has been completed in full compliance with the contract documents.

Final Inspection - Inspection where all contract items (with the exception of Planting Period and Plant Establishment Period) are accepted by the Engineer. Substantial Completion will be issued by the Engineer based on the satisfactory results of the Final Inspection.

Float - The amount of time between when an activity can start and when an activity must start, i.e., the time available to complete non-critical activities required for the performance of the work without affecting the critical path.

Guarantee - Legally enforceable assurance of the duration of satisfactory performance of quality of a product or work.

Hawaii Administrative Rules - Rules adopted by the State in accordance with Chapter 91 of the Hawaii Revised Statutes, as amended.

Hawaii eProcurement System (HIePRRO) – The State of Hawaii eProcurement System for issuing solicitations, receiving proposal and responses, and issuing notices of award.

Highway (Street, Road, or Roadway) - A public way within a right-of-way designed, intended, and set aside for use by vehicles, bicyclists, or pedestrians.

Highways Division - The Highways Division of the Hawaii Department of Transportation constituted under the laws of Hawaii for the administration of highway work.

Holidays - The days of each year which are set apart and established as State holidays pursuant to Chapter 8 of the Hawaii Revised Statutes, as amended.

Inspector - The Engineer's authorized representative assigned to make detailed inspections of contract performance, prescribed work, and materials supplied.

Laboratory - The testing laboratory of the Highways Division or other testing laboratories that may be designated by the Engineer.

Laws - All Federal, State, and local laws, executive orders and regulations having the force of law.

Leveling Course - An aggregate mixture course of variable thickness used to restore horizontal and vertical uniformity to existing pavements or shoulders.

Liquidated Damages - The amount prescribed in Subsection 108.08 - Liquidated Damages for Failure to Complete the Work or Portions of the Work on Time, to be paid to the State or to be deducted from any payments payable to or, which may become payable to the Contractor.

Lump Sum (LS) - When used as a payment method means complete payment for the item of work described in the contract documents.

Material - Any natural or manmade substance or item specified in the contract to be incorporated in the work.

Notice to Bidders - The advertisement for proposals for all work or materials on which bids are required. Such advertisement will indicate the location of the work to be done or the character of the material to be furnished and the time and place for the opening of proposals.

Notice to Proceed - Written notice from the Engineer to the Contractor identifying the date on which the Contractor is to begin procuring materials and required permits and adjusting work forces, equipment, schedules, etc. prior to beginning physical work.

Pavement - The uppermost layer of material placed on the traveled way or shoulders or both. Pavement and surfacing may be interchangeable.

Pavement Structure - The combination of subbase, base, pavement, surfacing or other specified layer of a roadway constructed on a subgrade to support the traffic load.

Payment Bond - The security executed by the Contractor and surety or sureties furnished to the Department to guarantee payment by the Contractor to laborers, material suppliers and subcontractors in accordance with the terms of the contract.

Physical Work - Physical construction activities on the project site or at appurtenant facilities including staging areas. It includes; (i) building or installing any structures or facilities including, but not limited to sign erection; BMP installation; field office site grading and building; (ii) removal, adjustment, or demolition of physical obstructions on site; (iii) any ground breaking activities; and (iv) any utility work. It does not include pre-construction environmental testing (such as water quality baseline measurements) that may be required as part of contract.

Pre-Final Inspection - Inspection scheduled when Contractor notifies Engineer that all physical work on the project, with the exception of planting period and plant establishment period, has been completed. Notice from Contractor of substantial completion will suspend contract time until Contractor receives punchlist from Engineer.

Profile Grade - The elevation or gradient of a vertical plane intersecting the top surface of the proposed pavement.

Project Acceptance Date - The calendar day on which the Engineer accepts the project as completed. See Final Completion.

Proposal (or Bid) - The offer of a Bidder, on the prescribed HDOT form, to perform the work and to furnish the labor and materials at the prices quoted.

Public Traffic - Vehicular or pedestrian movement on a public way.

Punchlist - A list compiled by the Engineer specifying work yet to be completed or corrected by the Contractor in order to substantially complete the contract.

Questionnaire - The specified forms on which the bidder shall furnish required information as to its ability to perform and finance the work.

Request for Change Proposal - A written notice from the Engineer to the Contractor requesting that the Contractor provide a price and/or time proposal for contemplated changes preparatory to the issuance of a field order or change order.

Right-of-Way - Land, property, or property interests acquired by a government agency for, or devoted to transportation purposes.

Roadbed - The graded portion of a highway within top and side slopes, prepared as a foundation for the pavement structure and shoulders.

Roadside - The area between the outside edges of the shoulders and the right-of-way boundaries. Unpaved median areas between inside shoulders of divided highways and infield areas of interchanges are included.

Section and Subsection - Section or subsection shall be understood to refer to these specifications unless otherwise specified.

Shop Drawings - All drawings, diagrams**,** illustrations, schedules and other data or information which are specifically prepared or assembled by or for the Contractor and submitted by the Contractor to illustrate some portion of the work.

Shoulder - The portion of the roadway next to the traveled way for: accommodation of stopped vehicles, placement of underground facilities, emergency use, and lateral support of base and surface courses.

Sidewalk - That portion of the roadway primarily constructed for use by pedestrians.

Solicitation - An invitation to bid or request for proposals or any other document issued by the Department to solicit bids or offers to perform a contract. The solicitation may indicate the time and place to receive the bids or offers and the location, nature and character of the work, construction or materials to be provided.

Specifications - Compilation of provisions and requirements to perform prescribed work.

(A) Standard Specifications. Specifications by the State intended for general application and repetitive use.

(B) Special Provisions. Revisions and additions to the standard specifications applicable to an individual project.

Standard Plans - Drawings provided by the State for specific items of work approved for repetitive use.

State - The State of Hawaii, its Departments and agencies, acting through its authorized representative(s).

State Waters – All waters, fresh, brackish, or salt, around and within the State, including, but not limited to, coastal waters, streams, rivers, drainage ditches, ponds, reservoirs, canals, ground waters, and lakes; provided that drainage ditches, ponds, and reservoirs required as a part of a water pollution control system are excluded.

Start Work Date - Date on which Contractor begins physical work on the contract. This date shall also be the beginning of Contract Time.

Structures - Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other such features that may be encountered in the work.

Subbase - A layer of specified material of specified thickness between the subgrade and a base.

Subcontract - Any written agreement between the Contractor and its subcontractors which contains the conditions under which the subcontractor is to perform a portion of the work for the Contractor.

Subcontractor - An individual, partnership, firm, corporation, joint venture or other legal entity, as licensed or required to be licensed under Chapter 444, Hawaii Revised Statutes, as amended, which enters into an agreement with the Contractor to perform a portion of the work**.**

Subgrade - The top surface of completed earthwork on which subbase, base, surfacing, pavement, or a course of other material is to be placed.

Substantial Completion - The Status of the project when the Contractor has completed the work, except for the planting period and plant establishment period, and each of the following requirements are met:

(1) All traffic lanes (including shoulders, ramps, sidewalks and bike paths) are in their final configuration as designed and the final wearing surface has been installed;

(2) All operational and safety devices have been installed in accordance with the contract documents including guardrails, end treatments, traffic barriers, required signs and pavement markings, drainage, parapet, and bridge and pavement structures;

(3) All required illumination and lighting for normal and safe use and operation is installed and functional in accordance with the contract documents;

(4) All utilities and services are connected and working;

(5) The need for temporary traffic controls or lane closures at any time has ceased, except for lane closures required for routine maintenance;

(6) The building, structure, improvement or facility can be used for its intended purpose.

Substantial Completion Date - The date the Substantial Completion is granted by the Engineer in Writing and Contract Time stops.

Superintendent - The employee of the Contractor who is responsible for all the work and is a Contractor's agent for communications to and from the State.

Surety - The qualified individual, firm or corporation other than the Contractor, which executes a bond with and for the Contractor to insure its acceptable performance of the contract.

Surfacing - The uppermost layer of material placed on the traveled way or shoulders. This term is used interchangeably with pavement.

Traveled Way - The portion of the roadway for the movement of vehicles, exclusive of shoulders.

Unsuitable Material - Materials that contain organic matter, muck, humus, peat, sticks, debris, chemicals, toxic matter, or other deleterious materials not suitable for use in earthwork.

Utility - A line, facility, or system for producing, transmitting, or distributing communications, power, electricity, heat, gas, oil, water, steam, waste, or storm water.

Utility Owner - The entity, whether private or owned by a State, Federal, or County governmental body, that has the power and responsibility to grant approval for, or undertake construction work involving a particular utility.

Water Pollutant - Dredged spoil, solid refuse, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, soil, sediment, cellar dirt and industrial, municipal, and agricultural waste.

Water Pollution - (1) Such contamination or other alteration of the physical, chemical, or biological properties of any state waters, including change in temperature, taste, color, turbidity, or odor of the waters, or **(2)** Such discharge of any liquid, gaseous, solid, radioactive, or other substances into any state waters, as will or is likely to create a nuisance or render such waters unreasonably harmful, detrimental, or injurious to public health, safety, or welfare, including harm, detriment, or injury to public water supplies, fish and aquatic life and wildlife, recreational purposes and agricultural and industrial research and scientific uses of such waters or as will or is likely to violate any water quality standards, effluent standards, treatment and pretreatment standards, or standards of performance for new sources adopted by the Department of Health.

Work - The furnishing of all labor, material, equipment, and other incidentals necessary or convenient for the successful execution of all the duties and obligations imposed by the contract.

Working Day - A calendar day in which a Contractor is capable of working four or more hours with its normal work force, exclusive of:

(1) Saturdays, Sundays, and recognized legal State holidays and such other days specified by the contract documents as non-working days,

(2) Day in which the Engineer suspends work for four or more hours through no fault of the Contractor."

END OF SECTION 101

Make this section a part of the Standard Specifications:

"SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS

102.01 Prequalification of Bidders. Prospective bidders shall be capable of performing the work for which they are bidding.

In accordance with HRS Chapter 103D-310, the Department may require any prospective bidder to submit answers to questions contained in the 'Standard Qualification Questionnaire For Prospective Bidders On Public Works Contracts' furnished by the Department, properly executed and notarized, setting forth a complete statement of the experience of such prospective bidder and its organization in performing similar work and a statement of the equipment proposed to be used, together with adequate proof of the availability of such equipment. Whenever it appears to the Department, from answers to the questionnaire or otherwise, that the prospective bidder is not fully qualified and able to perform the intended work, the Department will, after affording the prospective bidder an opportunity to be heard and if still of the opinion that the bidder is not fully qualified to perform the work, refuse to receive or consider any bid offered by the prospective bidder. All information contained in the answers to the questionnaire shall be kept confidential. Questionnaire so submitted shall be returned to the bidders after serving their purpose.

No person, firm or corporation may bid where (1) the person, firm, or corporation, or (2) a corporation owned substantially by the person, firm, or corporation, or (3) a substantial stockholder or an officer of the corporation, or (4) a partner or substantial investor in the firm is in arrears in payments owed to the State or its political subdivisions or is in default as a surety or failure to do faithfully and diligently previous contracts with the State.

102.02 Contents of Proposal Forms. The Department will furnish prospective bidders with proposal forms posted in HIePRO stating:

(1) The location,

(2) Description of the proposed work,

(3) The approximate quantities,

(4) Items of work to be done or materials to be furnished,

(5) A schedule of items, and

(6) The time in which the work shall be completed.

Papers bound with or attached to the proposal form are part of the proposal. The bidder shall not detach or alter the papers bound with or attached to the proposal when the bidder submits its proposal through HIePRO.

Also, the bidder shall consider other documents including the plans and specifications a part of the proposal form whether attached or not.

102.03 (Unassigned)

102.04 Estimated Quantities. The quantities shown in the contract are approximate and are for the comparison of bids only. The actual quantity of work may not correspond with the quantities shown in the contract. The Department will make payment to the Contractor for unit price items in accordance with the contract for only the following:

(1) Actual quantities of work done and accepted, not the estimated quantities; or

(2) Actual quantities of materials furnished, not the estimated quantities.

The Department may increase, decrease, or omit each scheduled quantities of work to be done and materials to be furnished. When the Department increases or decreases the estimated quantity of a contract item by more than 15% the Department will make payment for such items in accordance with Subsection 104.06 - Methods of Price Adjustment.

102.05 Examination of Contract and Site of Work. The bidder shall examine carefully the site of the proposed work and contract before submitting a proposal.

By the act of submitting a bid for the proposed contract, the bidder warrants that:

(1) The bidder and its Subcontractors have reviewed the contract documents and found them free from ambiguities and sufficient for the purpose intended;

(2) The bidder and its workers, employees and subcontractors have the skills and experience in the type of work required by the contract documents bid upon;

(3) Neither the bidder nor its employees, agents, suppliers or subcontractors have relied upon verbal representations from the Department, its employees or agents, including architects, engineers or consultants, in assembling the bid figure; and

(4) The basis for the bid figure is solely on the construction contract documents.

Also, the bidder warrants that the bidder has examined the site of the work. From its investigations, the bidder acknowledges satisfaction on:

(1) The nature and location of the work;

(2) The character, quality, and quantity of materials;

(3) The difficulties to be encountered; and

(4) The kind and amount of equipment and other facilities needed.

Subsurface information or hydrographic survey data furnished are for the bidders' convenience only. The data and information furnished are the product of the Department's interpretation gathered in investigations made at the specific locations. These conditions may not be typical of conditions at other locations within the project area or that such conditions remain unchanged. Also, conditions found at the time of the subsurface explorations may not be the same conditions when work starts. The bidder shall be solely responsible for assumptions, deductions, or conclusions the bidder may derive from the subsurface information or data furnished.

If the Engineer determines that the natural conditions differ from that originally anticipated or contemplated by the Contractor in the items of excavation, the State may treat the difference in natural conditions, as falling within the meaning of Subsection 104.02 – Changes.

102.06 Preparation of Proposal. The submittal of its proposal shall be on forms furnished by the Department. The bidder shall specify in words or figures:

(1) A unit price for each pay item with a quantity given;

(2) The products of the respective unit prices and quantities;

(3) The lump sum amount; and

(4) The total amount of the proposal obtained by adding the amounts of the several items.

The words and figures shall be in ink or typed. If a discrepancy occurs between the prices written in words and those written in figures, the prices written in words shall govern.

When an item in the proposal contains an option to be made, the bidder shall choose in accordance with the contract for that particular item. Determination of an option will not permit the Contractor to choose again.

The bidder shall sign the proposal properly in ink. A duly authorized representatives of the bidder or by an agent of the bidder legally qualified and acceptable to the Department shall sign, including one or more partners of the bidder and one or more representatives of each entity comprising a joint venture.

When an agent, other than the officer(s) of a corporation authorized to sign contracts for the corporation or a partner of a partnership, signs the proposals, a 'Power of Attorney' shall be on file with the Department or submitted with the proposal. Otherwise, the Department will reject the proposal as irregular and unauthorized.

The bidder shall submit acceptable evidence of the authority of the partner, member(s) or officer(s) to sign for the partnership, joint venture, or corporation respectively with the proposal. Otherwise, the Department will reject the proposal as irregular and unauthorized.

102.07 Irregular Proposals. The Department may consider proposals irregular and may reject the proposals for the following reasons:

(1) The proposal is a form not furnished by the Department, altered, or detached;

(2) The proposal contains unauthorized additions, conditions, or alternates. Also, the proposal contains irregularities that may tend to make the proposal incomplete, indefinite, or ambiguous to its meaning;

(3) The bidder adds provisions reserving the right to accept or reject an award. Also, the bidder adds provisions into a contract before an award;

(4) The proposal does not contain a unit price for each pay item listed except authorized optional pay items; and

(5) Prices for some items are out of proportion to the prices for other items.

(6) If in the opinion of the Director, the bidder and its listed subcontractors do not have the Contactor's licenses or combination of Contractor's licenses necessary to complete the work.

Where the prospective bidder is bidding on multiple projects simultaneously and the proposal limits the maximum gross amount of awards that the bidder can accept at one bid letting, the proposal is not irregular if the limit on the gross amount of awards is clear, and the Department selects the awards that can be given.

102.08 Proposal Guaranty. The Department will not consider a proposal of $25,000 or more unless accompanied by:

(1) A deposit of legal tender; or

(2) A valid surety bid bond, underwritten by a company licensed to issue bonds in the State of Hawaii, in the form and composed, substantially, with the same language as provided herewith and signed by both parties; or

(3) A certificate of deposit, share certificate, cashier's check, treasurer's check, teller's check, or official check drawn by, or a certified check accepted by and payable on demand to the State by a bank, savings institution, or credit union insured by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA).

(a) The bidder may use these instruments only to a maximum of $100,000.

(b) If the required security or bond amount totals over $100,000 more than one instrument not exceeding $100,000 each and issued by different financial institutions shall be acceptable.

(c) The instrument shall be made payable at sight to the Department.

(d) If bidder elects options (1) or (3) above for its bid security, said bid security shall be in its original form and shall be submitted before the bid deadline to the Contract Office, Department of Transportation, Aliiaimoku Hale, 869 Punchbowl Street, Room 105, Honolulu, Hawaii 96813. Original surety bid bonds do not need to be submitted to the Contracts Office. Bidders are reminded that a copy of its surety bid bond shall be included with its bid submitted and uploaded to HIePRO.

In accordance with HRS Chapter 103D-323, the above shall be in a sum not less than 5% of the amount bid.

102.09 Delivery of Proposal. Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Any additional support

documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Bidders shall not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection. Original (wet ink, hard copy) proposal documents are not required to be submitted. Contract award shall be based on evaluation of proposals submitted and uploaded to HIePRO.

FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.

If there is a conflict between the specification document and the HIePRO solicitation, the specifications shall govern and control, unless otherwise specified.

102.10 Withdrawal or Revision of Proposals. Bids may be modified or withdrawn prior to the bid opening date and time. Withdrawal or revision of proposal shall be completed, and submitted and uploaded to HIePRO prior to the bid opening date and time.

102.11 Public Opening of Proposals. Not applicable.

102.12 Disqualification of Bidders. The Department may disqualify a bidder and reject its proposal for the following reasons:

(1) Submittal of more than one proposal whether under the same or different name.

(2) Evidence of collusion among bidders. The Department will not recognize participants in collusion as bidders for any future work of the Department until such participants are reinstated as qualified bidders.

(3) Lack of proposal guaranty.

(4) Submittal of an unsigned or improperly signed proposal.

(5) Submittal of a proposal without a listing of subcontractors or containing only a partial or incomplete listing of subcontractors.

(6) Submittal of an irregular proposal in accordance with Subsection 102.07 - Irregular Proposals.

(7) Evidence of assistance from a person who has been an employee of the agency within the preceding two years and who participated while in State office or employment in the matter with which the contract is directly concerned, pursuant to HRS Chapter 84-15.

(8) Suspended or debarred in accordance with HRS Chapter 104-25.

(9) Failure to complete the prequalification questionnaire, if applicable.

(10) Failure to attend the mandatory pre-bid meeting, if applicable.

102.13 Material Guaranty. The successful bidder may be required to furnish a statement of the composition, origin, manufacture of materials, and samples.

102.14 Substitution of Materials and Equipment Before Bid Opening. See Subsection 106.13 for Substitution Of Materials and Equipment After Bid Opening.

(A) General. When brand names of materials or equipment are specified in the contract documents, they are to indicate a quality, style, appearance, or performance and not to limit competition. The bidder shall base its bid on one of the specified brand names unless alternate brands are qualified as equal or better in an addendum. Qualification of such proposed alternate brands shall be submitted via email to the Contact person listed in HIePRO for the solicitation and also post a question in HIePRO under the question/answer tab referencing the email with the request. The request must be posted in HIePRO no later than 14 calendar days before the bid opening date, not including the bid opening date

An addendum will be issued to inform all prospective bidders of any accepted substitution in accordance with Subsection 102.17 – Addenda .

(B) Statement of Variances. The statement of variances must list all features of the proposed substitution that differ from the contract documents and must further certify that the substitution has no other variant features. The brochure and information submitted shall be clearly marked showing make, model, size, options, and any other features requested by the Engineer and must include sufficient evidence to evaluate each feature listed as a variance. A request will be denied if submitted without sufficient evidence. If after installing the substituted product, an unlisted variance is discovered, the Contractor shall immediately replace the product with a specified product at no increase in contract price and contract time.

(C) Substitution Denial. Any substitution request not complying with the above requirements will be denied.

102.15 Preferences.

(A) Preference for Hawaii Products. In accordance with ACT 174, SLH 2022, effective June 27, 2022, Hawaii Products Preference shall not apply to solicitations for public works construction. Therefore, the Hawaii Products Preference shall not apply to this project.

(B) Preferences for Apprenticeship Programs. In accordance with ACT 17, SLH 2009 – Apprenticeship Program, a 5% bid adjustment for bidders that are parties to apprenticeship agreements pursuant to Hawaii Revised Statutes (HRS) Section 103-55.6 may be applied to the bidder's price for evaluation purposes. These procedures apply to public works projects with estimated cost of $250,000 or more and entered into under the provisions of HRS Chapter 103.

The following provisions apply to this Apprenticeship Program.

(1) Definitions

(a) "Apprenticeable trade", HRS Section 103-55.6 (c), shall have the same meaning as 'apprenticeable occupation' pursuant to Hawaii Administrative Rules (HAR) Section 30-1-5.

(b) "Department" means the department of labor and industrial relations.

(c) "Director" means the director of labor and industrial relations.

(d) "Employ" means the employment of a person in an employer-employee relations.

(e) "Governmental body" means as defined in HRS Section 103D-104.

(f) "Party to an apprenticeship agreement" means party to a registered apprenticeship program with the department of labor and industrial relations.

(g) "Preference" means the 5% by which the qualified bidder's offer amount would be decreased for evaluation purposes.

(h) "Public work" shall be as defined in HRS Section 104-2 and HAR Section 12-22-1.

(i) "Registered apprenticeship program" means a construction trade program approved by the department pursuant to HAR Section 12-30-1 and Section 12-30-4.

(j) "Sponsor" means an operator of an apprenticeship program and in whose name the program is approved and registered with the department of labor and industrial relations pursuant to HAR Section 12-30-1.

(k) Offeror – Entity/bidder submitting a proposal to undertake a project.

(l) Procurement Officer – Director of Transportation or his authorized representative.

(2) Qualification Procedures

(a) Any bidder seeking the preference must be a party to an apprenticeship agreement registered with the department at the time the offer is made for each apprenticeable trade the bidder will employ to construct the public works projects for which the offer is being made.

1. The apprenticeship agreement shall be registered and conform to the requirements of HRS Chapter 372.

2. Subcontractors do not have to be a party to an apprenticeship agreement for the bidder to obtain the preference.

3. The bidder is not required to have apprentices in its employ at the time of submittal of an offer to qualify for the preference.

(b) The department shall:

1. Develop and maintain a list of construction trades in registered apprenticeship programs which conform to HRS Chapter 372; and

2. Electronically post the list, including any amendments, on the department website (http://labor.hawaii.gov).

(c) Bidder is responsible to comply with all submission requirements for registration of its apprenticeship program before requesting a preference.

(d) Bidder shall provide a certification by the sponsor of the respective registered apprenticeship programs covering the relevant trade(s) for the public works project.

(e) *Certification Form 1* issued by the department shall include:

1. Contractor information;

2. Solicitation reference;

3. Trade(s);

4. Date and name of apprenticeship program;

5. Signature of authorized training coordinator or training trust fund administrator certifying that the contractor is a participant in the program, and that the program is registered with the department;

6. Contract information for sponsor's authorized representative signing the form;

7. Number of apprentices enrolled in the program, number who successfully completed the apprenticeship program in the past 12 months, including whether the contractor is signatory to a collective bargaining agreement for that trade, or if not, provide for attachment of a copy of the agreement between the contractor and the program.

(3) Solicitation Procedures.

(a) If the NTB indicates that this project is covered by this preference, and the offer is less than $250,000 this preference will still be applicable in determining the lowest bidder.

(b) A claim for this preference must include the following:

1. Allow bidder seeking to claim the preference to state the trades the bidder will employ to perform the work;

2. For each trade to be employed to perform the work, the bidder shall submit a completed signed original *Certification Form 1* verifying participation in an apprenticeship program registered with the department;

3. The *Certification Form 1* shall be authorized by an apprenticeship sponsor of the department's list of registered apprenticeship programs. The authorization shall be an original signature by an authorized official of the apprenticeship sponsor; and

4. The completed *Certification Form 1* for each trade must be submitted by the bidder with the offer. Previous certifications shall not apply unless allowed by the solicitation.

(c) Upon receiving *Certification Form 1*, the procurement officer will verify with the department that the apprenticeship program is on the list of apprenticeship programs registered with the department. If the programs are not confirmed by the department, the bidder will not qualify for the preference.

(4) Evaluation and Contract Award

(a) If the bidder certifies participation in an apprenticeship program for each trade which will be employed by the bidder for the project, the procurement officer shall apply the preference and decrease the bidder's total bid amount by five per cent (5%) for evaluation purposes.

(b) Should the bidder qualify for other statutory preferences (for example, Hawaii products), all applicable preferences shall be applied to the bidder's price.

(c) The contract amount shall be the original offer amount, exclusive of any preference; the preference is only for evaluation purposes.

(d) Any claims challenging a bidder's representation that the bidder is a participant in an apprenticeship program(s) as claimed, shall be submitted to the procurement officer. The procurement officer will refer the challenge to the department of labor and industrial relations who shall investigate any such claims and shall make a determination.

(5) Contract Administration

(a) For the duration of a contract awarded utilizing the apprenticeship preference, the contractor shall certify each month that work is being conducted on the project, that it continues to be a participant in the relevant apprenticeship program for each trade it employs.

(b) Monthly certification shall be made on *Monthly Certification Form 2* prepared and made available by the department, be a signed original by the respective apprenticeship program sponsors authorized official, and submitted by the contractor with its monthly payment requests.

(c) Should the contractor fail or refuse to submit its monthly certification forms, or at any time during the construction of the project, cease to be a part to a registered apprenticeship agreement for each apprenticeable trades the contractor employs, or will employ, the contractor will be subject to the following sanctions:

1. Withholding of the requested payment until the required form(s) are submitted;

2. Temporary or permanent cessation of work on the project , without recourse to breach of contract claims by the contractor; provided the agency shall be entitled to restitution for nonperformance or liquidated damages claims; or

3. Proceed to debar or suspend pursuant to HRS Section 103D-702.

(d) If events such as “acts of God,” acts of a public enemy, acts of the State or any other governmental body in its sovereign or contractual capacity, fires, floods, epidemics, freight embargoes, unusually severe weather, or strikes or other labor disputes prevent the contractor from submitting the certification forms, the contractor shall not be penalized as provided herein, provided the contractor completely and expeditiously complies with the certification process when the event is over.

This subsection shall not apply when its application will disqualify the State from receiving federal funds or aid.

(C) Preference for Recycled Products. Recycled Products shall not apply to this project.

(D) Evaluation Procedures and Contract Award. For bid evaluation, the Engineer will evaluate the bids by applying the applicable preferences selected by the bidders according to the contract. The Engineer will base the calculations for adjustments upon the original bid prices offered. If more than one preference applies, the evaluated bid price shall be the sum of the original bid price plus applicable preference adjustments.

If a bidder has designated use of a Hawaii Product and fails to provide the product, the contract will become void, and no payments will be made.

The Engineer will award the contract to the responsible bidder submitting the responsive bid with the lowest evaluated bid price. The contract amount of the contract awarded shall be the original bid price offered exclusive of any preference.

102.16 Certification for Safety and Health Program for Bids in excess of $100,000. In accordance with HRS Chapter 396-18, the bidder or offeror, by signing and submitting this proposal, certifies that a written safety and health plan for this project will be available and implemented by the notice to proceed date for this project. Details of the requirements of this plan may be obtained from the State Department of Labor and Industrial Relations, Occupational Safety and Health Division (HIOSH).

102.17 Addenda. Addenda issued shall become part of the contract documents. Addenda to the bid documents will be provided to all prospective bidders via HIePRO. Each addendum shall be an addition to the contract documents. The terms and requirements of the bid documents (i.e., drawings, specifications and other bid and contract documents) cannot be changed prior to the bid opening except by a duly issued addendum."

END OF SECTION 102

Make this section a part of the Standard Specifications:

"SECTION 103 - AWARD AND EXECUTION OF CONTRACT

103.01 Consideration of Proposals. The Department will compare the proposals in terms of the summation of the products of the approximate quantities and the unit bid prices after the submittal date and time established in HIePRO. If a discrepancy occurs between the unit bid price and the bid price, the unit bid price shall govern.

The Department reserves the right to reject proposals, waive technicalities or advertise for new proposals, if the rejection, waiver, or new advertisement favors the Department.

103.02 Award of Contract. The award of contract, if it be awarded, will be made within 60 calendar days after the opening of bids, to the lowest responsible and responsive bidder whose proposal complies with all the prescribed requirements. The Department may request the bidders to allow the Department to consider the bids for the issuance of an award beyond the 60-calendar day period. Agreement to such an extension must be made by a bidder in writing. Only bidders who have agreed to such an extension will be eligible for the award.

(1) Requirement for Award. The Bidder, as proof of compliance with the requirements of section 103D-310(c), HRS, upon award of a contract made pursuant to section 103D-302, HRS, shall provide the documents listed below. The documents shall be submitted promptly to the Department. If a valid certificate/clearance is not submitted on a timely basis upon award, the Bidder may be deemed non-responsible. See also Subsection 108.03 – Preconstruction Data Submittal.

(A) Tax Clearance. Pursuant to §103D-310(c), 103-53 and 103D-328, HRS, the bidder shall submit a tax clearance certificate from the State of Hawaii Department of Taxation (DOTAX) and the Internal Revenue Service (IRS), subject to section 103D-328, HRS, current within six months of issuance date.

FORM A6, TAX CLEARANCE CERTIFICATE, is available at the following website:

https://tax.hawaii.gov/

To receive DOTAX Forms by fax or mail, phone (808) 587-4242 or 1-800-222-3229.

The application for the Tax Clearance Certificate is the responsibility of the bidder. Bidder shall submit directly to the DOTAX or IRS. The approved certificate may then be submitted to the Department.

(B) DLIR Certificate of Compliance. Pursuant to §103D-310(c), HRS, the bidder shall submit a certificate of compliance for Hawaii Employment Security Law (Chapter 383, HRS), Workers' Compensation Law (Chapter 386, HRS), Temporary Disability Insurance (Chapter 392, HRS), and Prepaid Health Care Act (Chapter 393, HRS), from the State of Hawaii Department of Labor and Industrial Relations (DLIR), current within six months of issuance date.

FORM LIR#27, APPLICATION FOR CERTIFICATE OF COMPLIANCE WITH SECTION 3-122-112, HAR, is available at the following website:

http://labor.hawaii.gov/

Contact the DLIR Unemployment Insurance Division at (808) 586-8926 for additional information.

Inquiries regarding the status of a LIR#27 Form may be made by calling the DLIR Disability Compensation Division at (808) 586-9200.

The application for the Certificate of Compliance is the responsibility of the bidder. Bidder shall submit directly to the DLIR. The approved certificate may then be submitted to the Department.

(C) DCCA Certificate of Good Standing. Pursuant to §103D-310(c), HRS, the bidder shall submit a certificate of good standing from the business registration division (BREG) of the State of Hawaii Department of Commerce and Consumer Affairs (DCCA), current within six months of issuance date, to demonstrate it is either:

(1) Incorporated or organized under the laws of the State; or

(2) Registered to do business in the State as a separate branch or division that is capable of fully performing under the contract.

A Hawaii business that is a sole proprietorship, is not required to register with the BREG, and therefore not required to submit a certificate of good standing. Bidders are advised of costs associated with registering and obtaining a Certificate of Good Standing from the DCCA.

To purchase a CERTIFICATE OF GOOD STANDING, go to On-Line Services at the following website:

http://cca.hawaii.gov/

The application for the Certificate of Good Standing is the responsibility of the bidder. Bidder shall submit directly to the DCCA. The approved certificate may then be submitted to the Department.

(D) Hawaii Compliance Express (HCE). In lieu of the certificates referenced in subsection A, B, and C, the bidder may make available proof of compliance through a state procurement office designated certification process.

103.03 Cancellation of Award. The Department reserves the right to cancel the award of contracts before the execution of said contract by the parties. There will be no liability to the awardee and to other bidders.

103.04 Return of Proposal Guaranty. The Department will return the proposal guaranties, except those of the three lowest bidders, after the Department checks the proposals. The Department will return the proposal guaranties of the remaining two lowest bidders, not awarded the contract, within five working days following the execution of the contract. The Department will return the successful bidder's proposal guaranty after the successful bidder furnishes a bond and executes the contract.

103.05 Requirement of Contract Bond. At the time of execution of the contract, the successful bidder shall file a good and sufficient performance bond and a payment bond on the forms furnished by the Department conditioned for the full and faithful performance of the contract in accordance with the terms and intent thereof and for the prompt payment to all others for all labor and material furnished by them to the bidder and used in the prosecution of the work provided for in the contract. The bonds shall be of an amount equal to 100 percent of the amount of the contract price and include 5 percent of the contract amount estimated to be required for extra work. The bidder shall limit the acceptable performance and payment bonds to the following:

(a) Legal tender;

(b) Surety bond underwritten by a company licensed to issue bonds in the State of Hawaii; or

(c) A certificate of deposit; share certificate; cashier's check; treasurer's check, teller's check drawn by or a certified check accepted by and payable on demand to the State by a bank savings institution or credit union insured

by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA).

1. The bidder may use these instruments only to a maximum of $100,000.

2. If the required security or bond amount totals over $100,000 more than one instrument not exceeding $100,000 each and issued by different financial institutions shall be acceptable.

Such bonds shall also by the terms inure to the benefit of any and all persons entitled to file claims for labor done or material furnished in the work so as to give them a right of action as contemplated by HRS Section 103D-324.

103.06 Execution of the Contract. The contract bond and HRS Chapter 104 - Compliance Certificate, similar to a copy of the same annexed hereto, shall be executed by the successful bidder and returned within ten days after the award of the contract or within such further time as the Director may allow after the bidder has received the contract for execution.

The contract shall not bind the Department unless said parties execute the contract and the Director of Finance endorses the bidder's certificate in accordance with HRS Section 103-39.

103.07 Failure to Execute Contract. Failure to execute the contract and file acceptable bonds shall be cause for the cancellation of the award in accordance with Subsection 103.06 - Execution of the Contract. Also, the Contractor forfeits the proposal guaranty which becomes the property of the Department. This is not a penalty, but liquidated damages sustained by the State. The Department may then make award to the next lowest responsible and responsive bidder or the Department may readvertise and construct the work under contract."

END OF SECTION 103

SECTION 104 – SCOPE OF WORK

Make the following amendment to said Section:

(I) Amend **Section 104.11(B) Contractor's Duty to Locate and Protect Utility** by adding the following after line 291:

"**(4)** The Contractor shall contact the Hawaii One Call Center at 811 prior to any execution in a public right of way or on private property."

(II) Amend **Section 104.06 Methods of Price Adjustment** as follows:

"104.06 Methods of Price Adjustment. Any adjustment in the contract price pursuant to a change or claim shall be made in one or more of the following ways:

(1) By written agreement on a fixed price adjustment before commencement of the pertinent performance.

(2) By unit prices or other price adjustments specified in the contract or subsequently agreed upon before commencement of the pertinent performance.

(3) The Engineer may base the adjustment for a lump sum item on a calculated proportionate unit price. The Engineer will calculate the proportionate unit price by dividing the original contract lump sum price by the actual or original estimated quantity established by the contract documents.

(4) In any other lawful manner as the parties may mutually agree upon before commencement of the pertinent performance.

(5) At the sole option of the Engineer, work may be paid for on a force account basis in accordance with Subsection 109.06 - Force Account Provisions and Compensation.

(6) By the cost variations attributable to the events or situations with adjustment of profit and fee, all as specified in the contract or subsequently agreed upon before commencement of the pertinent performance.

(7) In the absence of agreement by the parties:

(A) For change orders with value not exceeding $50,000 by documented actual costs of the work, allowing for overhead and profit as set forth in Section 109.05 - Allowances for Overhead and Profit. A change order shall be issued within fifteen days of

submission by the contractor of proper documentation of completed force account work, whether periodic (conforming to the applicable billing cycle) or final. The Engineer shall return any documentation that is defective, to the contractor within fifteen days after receipt, with a statement identifying the defect; or

(B) For change orders with value exceeding $50,000 by a unilateral determination by the Engineer of the costs attributable to the events or situations with adjustment of profit and fee, all as computed by the Engineer in accordance with applicable sections of HAR Chapters 3-123 and 3-126, and Section 109.05 - Allowances for Overhead and Profit. When a unilateral determination has been made, a unilateral change order shall be issued within ten days. Upon receipt of the unilateral change order, if the contractor does not agree with any of the terms or conditions, or the adjustment or nonadjustment of the contract time or contract price, the contractor shall file a notice of intent to claim within thirty days after the receipt of the written unilateral change order. Failure to file a protest within the time specified shall constitute agreement on the part of the contractor with the terms, conditions, amounts, and adjustment or nonadjustment of the contract time or the contract price set forth in the unilateral change order.

A contractor shall be required to submit cost or pricing data if any adjustment in contract price is subject to the provisions of HAR Chapter 3-122, Subchapter 15. A fully executed change order or other document permitting billing for the adjustment in price under any method listed in Subsections 104.06(1) through 104.06(7) shall be issued within ten days after agreement on the method of adjustment."

END OF SECTION 104

SECTION 105 – CONTROL OF WORK

Make the following amendments to said Section:

(I) Amend **105.01 – Authority** to read as follows:

"**105.01 Authority.**

(A) Authority of the Engineer. The Engineer is the representative of the Director and has all the authority of the Director with respect to the contract. The Engineer will make decisions on all questions that may arise regarding the contract, such as, but not limited to:

(1) Interpretation of the contract documents.

(2) Acceptability of the materials furnished and work performed.

(3) Manner of performance and rate of progress of the work.

(4) Acceptable fulfillment of the contract on the part of the Contractor.

(5) Compensation under the contract.

The Engineer's decisions on questions, claims, and disputes will be final and conclusive subject to Subsection 107.15 – Disputes and Claims.

The Engineer may delegate specific authority to act for the Engineer to a specific person or persons. Such delegation of authority shall be established in writing and shall become effective upon delivery to the Contractor.

(B) Authority of the Inspectors. Inspectors, as a representative of the Engineer or other agencies, will inspect the work done and materials furnished. Such inspection may extend to the preparation, fabrication or manufacture of the materials to be used. The Inspector does not have authority vested in the Engineer unless specifically delegated in writing. The Inspector may not alter or waive the provisions of the contract, issue instructions contrary to the contract, or act as agent or representative of the Contractor.

Failure of an Inspector at any time to reject non-conforming work shall not be considered a waiver of the State's right to require work in strict conformity with the contract documents as a condition of final acceptance.

(C) Authority of the Consultant and Construction Management. The State may engage consultants and construction managements to perform duties in connection with the work. Unless otherwise specified in writing to the Contractor, such retained consultants and construction managements shall have no greater authority than an Inspector."

(II) Amend **Subsection 105.02 - Submittals** by revising the first paragraph from lines 52 to 61 to read as follows:

"**105.02 Submittals.** The contract contains the description of various items that the Contractor must submit to the Engineer for review and acceptance. The Contractor shall review all submittals for correctness, conformance with the requirements of the contract documents and completeness before submitting them to the Engineer. The submittal shall indicate the contract items and specifications subsections for which the submittal is provided. The submittal shall be legible and clearly indicate what portion of the submittal is being submitted for review. The Contractor shall provide six copies of the required submissions at the earliest possible date."

(III) Amend **Subsection 105.08 (A) - Furnishing Drawings and Special Provisions** to read as follows:

"**(A) Furnishing Drawings and Special Provisions.** The State will furnish the Contractor an electronic set of the special provisions and plans." The Contractor shall have and maintain at least one set of plans and specifications on the work site, at all times.

(IV) Amend **Subsection 105.14(D) – No Designated Storage Area** from lines 421 to 432 to read as follows:

"**(D) No Designated Storage Area.** If no storage area is designated within the contract documents, materials and equipment may be stored anywhere within the State highway right-of-way, provided such storage and access to and from such site, within the sole discretion of the Engineer, does not create a public or traffic hazard or an impediment to the movement of traffic."

(V) Amend **105.16(A) – Subcontract Requirements** by adding the following paragraph after line 483:

The 'Specialty Items' of work for this project are as follows:

Section No.	Description
606	All Contract Items under Section 606 - Guardrail
623	All Contract Items under Section 623 - Traffic Signal System
629	All Contract Items under Section 629 - Pavement Markings
631	All Contract Items under Section 631 - Traffic Control Regulatory, Warning, and Miscellaneous Signs
645	Contract Item No. 645.0100 under Section 645 – Work Zone Traffic Control”

(VI) Amend **Subsection 105.16(B) – Substituting Subcontractors** from line 487 to line 494 to read:

(B) Substituting Subcontractors. Under HRS Chapter 103D-302, the Contractor is required to list the names of persons or firms to be engaged by the Contractor as a subcontractor or joint contractor in the performance of the contract. No subcontractor may be added or deleted, unless authorized by the Engineer. Substitutions will be allowed only if the subcontractor:

END OF SECTION 105

SECTION 106 – MATERIAL RESTRICTIONS AND REQUIREMENTS

Make the following amendment to said Section:

(I) Amend **106.05(B) – Deviation** by revising the third sentence from line 106 to 108 to read as follows:

"Any deviations will be subject to Subsection 102.14 – Substitution of Materials and Equipment Before Bid Opening.

(II) Amend **106.11 Steel and Iron Construction Material** from line 238 to line 277 to read as follows

"**106.11 Steel and Iron Construction Material.** (Not Applicable)"

END OF SECTION 106

SECTION 107 - LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Make the following amendments to said Section:

(l) Amend **Section 107.01 Insurance Requirements** from lines to 81 to read as follows:

> **"(A) Obligation of Contractor.** Contractor shall not commence any work until it obtains, at its own expense, all required insurance described herein. Such insurance shall be provided by an insurance company authorized by the laws of the State to issue such insurance in the State of Hawaii. Coverage by a "Non-Admitted" carrier is permissible provided the carrier has a Best's Rating of "A-VII" or better. The Contractor shall maintain and ensure all insurance policies are current for the full period of the contract until final acceptance of the work by the State.
>
> The Certificate of Insurance shall contain: a clause that it is agreed that any insurance maintained by the State of Hawaii will apply in excess of, and not contribute with, insurance provided by this policy; and shall be accompanied by endorsement form CG2010 or equivalent naming the State as an additional insured to the policy which status shall be maintained for the full period of the contract until final acceptance of the work by State.
>
> The Contractor shall obtain all required insurance as part of the contract price. Where there is a requirement for the State of Hawaii and its officers and employees to be named as additional insureds under any Contractor's insurance policy, before the State of Hawaii issues the Notice to Proceed, the Contractor shall obtain and submit to the Engineer a Certificate of Insurance and a written policy endorsement that confirms the State of Hawaii and its officers and employees are additional insureds for the specific State project number and project title under such insurance policies. The written policy endorsement must be issued by the insurance company insuring the Contractor for the specified policy type or by an agent of such insurance company who is vested with the authority to issue a written policy endorsement. The insurer's agent shall also submit written confirmation of such authority to bind the insurer. Any delays in the issuance of the Notice to Proceed attributed to the failure to obtain the proof of the State of Hawaii and its officers and employees' additional insured status shall be charged to the Contractor.

A mere Certificate of Insurance issued by a broker who represents the Contractor (but not the Contractor's insurer), or by any other party who is not authorized to contractually name the State as an additional insured under the Contractor's insurance policy, is not sufficient to meet the Contractor's insurance obligations.

Certificates shall contain a provision that coverages being certified will not be cancelled or materially changed without giving the Engineer at least thirty (30) days prior written notice. Contractor will immediately provide written notice to the Director should any of the insurance policies evidenced on its Certificate of Insurance form be cancelled, reduced in scope or coverage, or not renewed upon expiration. Should any policy be canceled before final acceptance of the work by the State, and the Contractor fails to immediately procure replacement insurance as specified, the State, in addition to all other remedies it may have for such breach, reserves the right to procure such insurance and deduct the cost thereof from any money due or to become due to the Contractor.

Nothing contained in these insurance requirements is to be construed as limiting the extent of Contractor's responsibility for payment of damages resulting from its operations under this contract, including the Contractor's obligation to pay liquidated damages, nor shall it affect the Contractor's separate and independent duty to defend, indemnify and hold the State harmless pursuant to other provisions of this contract. In no instance will the State's exercise of an option to occupy and use completed portions of the work relieve the Contractor of its obligation to maintain the required insurance until the date of final acceptance of the work.

All insurance described herein shall be primary and cover the insured for all work to be performed under the contract, all work performed incidental thereto or directly or indirectly connected therewith, including but not limited to traffic detour work, barricades, warnings, diversions, lane closures, and other work performed outside the work area and all change order work.

The Contractor shall, from time to time, furnish the Engineer, when requested, satisfactory proof of coverage of each type of insurance required covering the work. Failure to comply with the Engineer's request may result in suspension of the work, and shall be sufficient grounds to withhold future payments due the Contractor and to terminate the contract for Contractor's default.

(B) Types of Insurance. Contractor shall purchase and maintain insurance described below which shall provide coverage against claims arising out of the Contractor's operations under the

contract, whether such operations be by the Contractor itself or by any subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

(1) Workers' Compensation. The Contractor shall obtain worker's compensation insurance for all persons whom they employ in carrying out the work under this contract. This insurance shall be in strict conformity with the requirements of the most current and applicable State of Hawaii Worker's Compensation Insurance laws in effect on the date of the execution of this contract and as modified during the duration of the contract.

(2) Auto Liability. The Contractor shall obtain Auto Liability Insurance covering all owned, non-owned and hired autos with a Combined single Limit of not less than $1,000,000 per occurrence for bodily injury and property damage with the State of Hawaii named as additional insured. Refer to SPECIAL CONDITIONS for any additional requirements.

(3) General Liability. The Contractor shall obtain General Liability insurance with a limit of not less than $2,000,000 per occurrence and in the Aggregates for each of the following:

(a) Products - Completed/Operations Aggregate,

(b) Personal & Advertising Injury, and

(c) Bodily Injury & Property Damage

The General Liability insurance shall include the State as an Additional Insured. The required limit of insurance may be provided by a single policy or with a combination of primary and excess policies. Refer to SPECIAL CONDITIONS for any additional requirements.

(4) Builders Risk For All Work. The Contractor shall take out a policy of builder's risk insurance for the full replacement value of the project work; from a company licensed or otherwise authorized to do business in the State of Hawaii; naming the State as an additional insured under each policy; and covering all work, labor, and materials furnished by such Contractor and all its subcontractors against loss by fire, windstorm, tsunamis, earthquakes, lightning, explosion, other perils covered by the standard Extended Coverage Endorsement, vandalism, and malicious mischief. Refer to SPECIAL CONDITIONS for any additional requirements."

(ll) Add **Section 107.18 Citizen and Residential Labor Force** after line 745 to read as follows:

"107.18 Citizen and Residential Labor Force.

(A) Citizen Labor. No person shall be employed as a laborer or mechanic unless such person is a citizen of the United States or eligible to become one; provided that persons without such qualifications may be employed with the approval of the Governor until persons who are citizens and are competent for such services are available for hire.

(B) Residential Labor Force. In accordance with Act 192; SLH 2011, no less than eighty (80) percent of the bidder's labor force working on the contract shall be provided by Hawaii residents. This act applies to all construction procurements under HRS Chapter 103D; however this act does not apply to procurements for professional services under Section 103D-304 and small purchases under Section 103D-305. This act is also applicable to any subcontract of $50,000.00 or more in connection with this contract.

Resident means a person who is physically present in the State of Hawaii at the time the person claims to have established the person's domicile in the State of Hawaii and shows the person's intent is to make Hawaii the person's primary residence.

(C) Percentage of workforce shall be determined by dividing the labor hours (including subcontractors) provided by residents working on the project divided by the total number of hours worked by all employees of the contractor in the performance of the contract. Hours worked by employees within shortage trades as determined by the Department of Labor and Industrial Relations shall not be included in the calculation of this percentage.

(D) Certification of compliance with the forgoing provisions shall be made by the contractor in the form of a written oath submitted to the Procurement Officer on a monthly basis for the duration of the contract.

(E) Sanctions for non compliance with these provisions are as follows:

(1) With respect to the General Contractor, withholding of payment on the contract until the Contractor or its Subcontractor complies with HRS Chapter 103B as amended by Act 192, SLH 2011.

(2) Proceedings for debarment or suspension of the Contractor or Subcontractor under Hawaii Revised Statutes § 103D-702.

This Section shall not apply when its application will disqualify the State from receiving federal funds or aid."

END OF SECTION 107

Amend **Section 108 – PROSECUTION AND PROGRESS** to read as follows:

"SECTION 108 – PROSECUTION AND PROGRESS

108.01 Notice to Proceed (NTP). A Notice To Proceed will be issued to the Contractor not more 30 calendar days after the contract certification date. The Engineer may suspend the contract before issuing the Notice To Proceed, in which case the Contractor's remedies are exclusively those set forth in Subsection 108.10 – Suspension of Work.

The Contractor shall be allowed up to 14 calendar days after the Notice to Proceed to begin physical work. The Start Work Date will be established when this period ends or on the actual day that physical work begins, whichever is first. Charging of Contract Time will begin on the Start Work Date. The Contractor shall notify the Engineer, in writing, at least five working days before beginning physical work.

In the event that the Contractor fails to start physical work within the time specified, the Engineer may terminate the contract in accordance with Subsection 108.11 – Termination of Contract for Cause.

During the period between the Notice to Proceed and the Start Work Date the Contractor should adjust work forces, equipment, schedules, and procure materials and required permits, prior to beginning physical work.

Any physical work done prior to the Start Work Date will be considered unauthorized work. If the Engineer does not direct that the unauthorized work be removed, it shall be paid for after the Start Work Date and only if it is acceptable.

In the event that the Engineer establishes, in writing, a Start Work Date that is beyond 60 calendar days from the Notice to Proceed date, the Contractor may submit a claim in accordance with, Subsection 107.15 – Disputes and Claims for increased labor and material costs which are directly attributable to the delay beyond the first 60 calendar days after the Notice to Proceed date.

The Contractor shall notify the Engineer at least 24 hours before restarting physical work after a suspension of work pursuant to Subsection 108.10 – Suspension of Work.

Once physical work has begun, the Contractor shall work expeditiously and pursue the work diligently to completion with the contract time. If a portion of the work is to be done in stages, the Contractor shall leave the area safe and usable for the user agency and the public at the end of each stage.

108.02 Prosecution of Work. Unless otherwise permitted by the Engineer, in writing, the Contractor shall not commence with physical construction unless sufficient materials and equipment are available for either continuous construction or completion of a specified portion of the work.

108.03 Preconstruction Submittals. The awardee shall submit to the Engineer for information and review the pre-construction submittals within 21 calendar days from award. Until the items listed below are received and found acceptable by the Engineer, the Contractor shall not start physical work unless otherwise authorized to do so in writing and subject to such conditions set by the Engineer. Charging of Contract Time will not be delayed, and additional contract time will not be granted due to Contractor delay in submitting acceptable preconstruction submittals. No progress payment will be made to the Contractor until the Engineer acknowledges, in writing, receipt of the following preconstruction submittals acceptable to the Engineer:

(1) List of the Superintendent and other Supervisory Personnel, and their contact information.

(2) Name of person(s) authorized to sign for the Contractor.

(3) Work Schedule including hours of operation.

(4) Initial Progress Schedule (See Subsection 108.06 – Progress Schedule).

(5) Water Pollution and Siltation Control Submittals, including Site-Specific Best Management Practice Plan.

(6) Solid Waste Disposal form.

(7) Tax Rates.

(8) Insurance Rates.

(9) Certificate of Insurance, satisfactory to the Engineer, indicating that the Contractor has in place all insurance coverage required by the contract documents.

(10) Schedule of agreed prices.

(11) List of suppliers.

(12) Traffic Control Plan, if applicable.

108.04 Character and Proficiency of Workers. The Contractor shall at all times provide adequate supervision and sufficient labor and equipment for prosecuting the work to full completion in the manner and within the time required by the contract. The superintendent and all other representatives of the Contractor shall act in a civil and honest manner in all dealings with the Engineer, all other State officials and representatives, and the public, in connection with the work.

All workers shall possess the proper license, certification, job classification, skill, training, and experience necessary to properly perform the work assigned to them.

The Engineer may direct the removal of any worker(s) who does not carry out the assigned work in a proper and skillful manner or who is disrespectful, intemperate, violent, or disorderly. The worker shall be removed forthwith by the Contractor and will not work again without the written permission of the Engineer.

108.05 Contract Time.

(A) Calculation of Contract Time. When the contract time is on a working day basis, the total contract time allowed for the performance of the work will be the number of working days shown in the contract plus any additional working days authorized in writing as provided hereinafter. The count of elapsed working days to be charged against contract time, will begin from the Start Work Date and will continue consecutively to the date of Substantial Completion. When multiple shifts are used to perform the work, the State will not consider the hours worked over the normal eight working hours per day or night as an additional working day.

When the contract is on a calendar day basis, the total contract time allowed for the performance of the work will be the number of days shown in the contract plus any additional days authorized in writing as provided hereinafter. The count of elapsed days to be charged against contract time will begin from the Start Work Date and will continue consecutively to the date of Substantial Completion. The Engineer will exclude days elapsing between the orders of the Engineer to suspend work and resume work for suspensions not the fault of the Contractor.

(B) Modifications of Contract Time. Whenever the Contractor believes that an extension of contract time is justified, the Contractor shall serve written notice on the Engineer not more than five working days after the occurrence of the event that causes a delay or justifies a contract time extension. Contract time may be adjusted for the following reasons or events, but only if and to the extent the critical path has been affected:

(1) Changes in the Work, Additional Work, and Delays Caused by the State. If the Contractor believes that an extension of time is justified on account of any act or omission by the State, and is not adequately provided for in a field order or change order, it must request the additional time as provided above. At the request of the Engineer, the Contractor must show how the critical path will be affected and must also support the time extension request with schedules, as well as statements from its subcontractors, suppliers, or manufacturers, as necessary. Claims for compensation for any altered or additional work will be determined pursuant to Subsection 104.02 – Changes.

Additional time to perform the extra work will be added to the time allowed in the contract without regard to the date the change directive was issued, even if the contract completion date has passed. A change requiring time issued after contract time has expired will not constitute an excusal or waiver of pre-existing Contractor delay.

(2) Delay for Permits. For delays in the routine application and processing time required to obtain necessary permits, including permits to be obtained from State agencies, the Engineer may grant an extension provided that the permit takes longer than 30 days to acquire and the delay is not caused by the Contractor, and provided that as soon as the delay occurs, the Contractor notifies the Engineer in writing that the permits are not available. Permits required by the contract that take less than 30 days to acquire from the time which the appropriate documents are granted shall be acquired between Notice to Proceed and Start Work Date or accounted for in the contractor's progress schedule. Time extensions will be the exclusive relief granted on account of such delays.

(3) Delays Beyond Contractor's Control. For delays caused by acts of God, a public enemy, fire, inclement weather days or adverse conditions resulting therefrom, earthquakes, floods, epidemics, quarantine restrictions, labor disputes impacting the Contractor or the State, freight embargoes and other reasons beyond the Contractor's control, the Contractor may be granted an extension of time provided that:

(a) In the written notice of delay to the Engineer, the Contractor describes possible effects on the completion date of the contract. The description of delays shall:

1. State specifically the reason or reasons for the delay and fully explain in a detailed chronology how the delay affects the critical path.

2. Include copies of pertinent documentation to support the time extension request.

3. Cite the anticipated period of delay and the time extension requested.

4. State either that the above circumstances have been cleared and normal working conditions restored as of a certain day or that the above circumstances will continue to prevent completion of the project.

(b) The Contractor shall notify the Engineer in writing when the delay ends. Time extensions will be the exclusive relief granted and no additional compensation will be paid the Contractor for such delays.

(4) Delays in Delivery of Materials or Equipment. For delays in delivery of materials or equipment, which occur as a result of unforeseeable causes beyond the control and without fault of the Contractor, its subcontractor(s) or supplier(s), time extensions shall be the exclusive relief granted and no additional compensation will be paid the Contractor on account of such delay. The delay shall not exceed the difference between the originally scheduled delivery date and the actual delivery date. The Contractor may be granted an extension of time provided that it complies with the following procedures:

(a) The Contractor's written notice to the Engineer must describe the delays and state the effect such delays may have on the critical path.

(b) The Contractor, if requested, must submit to the Engineer within five days after a firm delivery date for the material and equipment is established, a written statement regarding the delay. The Contractor must justify the delay as follows:

1. State specifically all reasons for the delay. Explain in a detailed chronology the effect of the delay on the critical path.

2. Submit copies of purchase order(s), factory invoice(s), bill(s) of lading, shipping manifest(s), delivery tag(s), and any other documents to support the time extension request.

3. Cite the start and end date of the delay and the time extension requested.

(5) Delays for Suspension of Work. When the performance of the work is totally suspended for one or more days (calendar or working days, as appropriate) by order of the Engineer in accordance with Subsections 108.10(A)(1), 108.10(A)(2), or 108.10(A)(5) the number of days from the effective date of the Engineer's order to suspend operations to the effective date of the Engineer's order to resume operations shall not be counted as contract time and the contract completion date will be adjusted. During periods of partial suspensions of the work, the Contractor will be granted a time extension only if the partial suspension affects the critical path. If the Contractor believes that an extension of time is justified for a partial suspension of work, it must request the extension in writing at least five working days before the partial suspension will affect the critical operation(s) in progress. The Contractor must show how the critical path was increased based on the status of the work and must also support its claim if requested, with statements from its subcontractors. A suspension of work will not constitute a waiver of pre-existing Contractor delay.

(6) Contractor Caused Delays. No time extension will be granted under the following circumstances:

(a) Delays within the Contractor's control in performing the work caused by the Contractor, subcontractor, supplier, or any combination thereof.

(b) Delays within the Contractor's control in arrival of materials and equipment caused by the Contractor, subcontractor, supplier, or any combination thereof, in ordering, fabricating, and delivery.

(c) Delays requested for changes which do not affect the critical path.

(d) Delays caused by the failure of the Contractor to make submittals in a timely manner for review and acceptance by the Engineer, such as but not limited to shop drawings, descriptive sheets, material samples, and color samples except as covered in Subsection 108.05(B)(3) – Delays Beyond Contractor's Control and 108.05(B)(4) – Delays in Delivery of Materials or Equipment.

(e) Delays caused by the failure to submit sufficient information and data in a timely manner in the proper form in order to obtain necessary permits related to the work.

(f) Failure to follow the procedure within the time allowed by contract to request a time extension.

(g) Failure of the Contractor to provide evidence sufficient to support the time extension request.

(7) Reduction in Time. If the State deletes or modifies any portion of the work, an appropriate reduction of contract time may be made in accordance with Subsection 104.02 - Changes.

108.06 Progress Schedules.

(A) Forms of Schedule. All schedules shall be submitted using the specific computer program designated in the bid documents. If no such scheduling software program is designated, then all schedules shall be submitted using the latest version of Microsoft Project by Microsoft or approved equivalent software program.

Schedule submittals shall be as follows:

(1) For Contracts $2,000,000 or less or For Contract Time 100 Working Days or 140 Calendar Days or Less. For contracts of $2,000,000 or less or for contract time of 100 working days or 140 calendar days or less, the progress schedule will be a Time Scaled Logic Diagram (TSLD). The Contractor shall submit a TSLD submittal package meeting the following requirements and having these essential and distinctive elements:

(a) The major features of work, such as but not limited to BMP installation, grubbing, roadway excavation, structure excavation, structure construction, shown in the chronological order in which the Contractor proposes to work that feature or work and its location on the project. The schedule shall account for normal inclement weather, unusual soil or other

conditions that may influence the progress of the work, schedules, and coordination required by any utility, off or on site fabrications, and other pertinent factors that relate to progress;

(b) All features listed or not listed in the contract documents that the Contractor considers a controlling factor for the timely completion of the contract work.

(c) The time span and sequence of the activities or events for each feature, and its interrelationship and interdependencies in time and logic to other features in order to complete the project.

(d) The total anticipated time necessary to complete work required by the contract.

(e) A chronological listing of critical intermediate dates or time periods for features or milestones or phases that can affect timely completion of the project.

(f) Major activities related to the location on the project.

(g) Non-construction activities, such as submittal and acceptance periods for shop drawings and material, procurement, testing, fabrication, mobilization, and demobilization or order dates of long lead material.

(h) Set schedule logic for out of sequence activities to retain logic. In addition, open ends shall be non-critical.

(i) Show target bars for all activities.

(j) Vertical and horizontal sight lines both major and minor shall be used as well as a separator line between groups. The Engineer will determine frequency and style.

(k) The file name, print date, revision number, data and project title and number shall be included in the title block.

(l) Have columns with the appropriate data in them for activity ID, description, original duration, remaining duration, early start, early finish, total float, percent complete, resources. The resource column shall list who is responsible for the work to be done in the activity. These columns shall be to the left of the bar chart.

(2) For Contracts Which Have A Contract Amount More Than $2,000,000 Or Having A Contract Time Of More Than 100 Working Days Or 140 Calendar Days. For contracts which have a contract amount more than $2,000,000 or contract time of more than 100 working days or 140 calendar days, the Contractor shall submit a Timed-Scaled Logic Diagram (TSLD) meeting the following requirements and having these essential and distinctive elements:

(a) The information and requirements listed in Subsection 108.06(A)(1) – For Contracts $2,000,000 or Less or For Contract Time 100 Working Days or 140 Calendar Days or Less.

(b) Additional reports and graphics available from the software as requested by the Engineer.

(c) Sufficient detail to allow at least weekly monitoring of the Contractor and subcontractor's operations.

(d) The time scaled schematic shall be on a calendar or working days basis. What will be used shall be determined by how the contract keeps track of time. It will be the same. Plot the critical calendar dates anticipated.

(e) Breakdown of activity, such as forming, placing reinforcing steel, concrete pouring and curing, and stripping in concrete construction. Indicate location of work to be done in such detail that it would be easily determined where work would be occurring within approximately 200 feet.

(f) Latest start and finish dates for critical path activities.

(g) Identify responsible subcontractor, supplier, and others for their respective activity.

(h) No individual activity shall have duration of more than 20 calendar days unless requested and approved by the Engineer.

(i) All activities shall have work breakdown structure codes and activity codes. The activity codes shall have coding that incorporates information for phase, location, who is responsible for doing work and type of operation and activity description.

(j) Incorporate all physical access and availability restraints.

(B) Inspection and Testing. All schedules shall provide reasonable time and opportunity for the Engineer to inspect and test each work activity.

(C) Engineer's Acceptance of Progress Schedule. The submittal of, and the Engineer's receipt of any progress schedule, shall not be deemed an agreement to modify any terms or conditions of the contract. Any modifications to the contract terms and conditions that appear in or may be inferred from an acceptable schedule will not be valid or enforceable unless and until the Engineer exercises discretion to issue an appropriate change order. Nor shall any submittal or receipt imply the Engineer's approval of the schedule's breakdown, its individual elements, any critical path that may be shown, nor shall it obligate the State to make its personnel available outside normal working hours or the working hours established by the Contract in order to accommodate such schedule. The Contractor has the risk of all elements (whether or not shown) of the schedule and its execution. No claim for additional compensation, time, or both, shall be made by the Contractor or recognized by the Engineer for delays during any period for which an acceptable progress schedule or an updated progress schedule as required by Subsection 108.06(E) – Contractor's Continuing Schedule Submittal Requirements had not been submitted. Any acceptance or approval of the schedule shall be for general format only and shall not be deemed an agreement by the State that the construction means, methods, and resources shown on the schedule will result in work that conforms to the contract requirements or that the sequences or durations indicated are feasible.

(D) Initial Progress Schedule. The Contractor shall submit an initial progress schedule. The initial progress schedule shall consist of the following:

(1) Four sets of the TSLD schedule.

(2) All the software files and data to re-create the TSLD in a computerized software format as specified by the Engineer.

(3) A listing of equipment that is anticipated to be used on the project. Including the type, size, make, year of manufacture, and all information necessary to identify the equipment in the Rental Rate Blue Book for Construction Equipment.

(4) An anticipated manpower requirement graph plotting contract time and total manpower requirement. This may be superimposed over the payment graph.

(5) A Method Statement that is a detailed narrative describing the work to be done and the method by which the work shall be accomplished for each major activity. A major activity is an activity that:

(a) Has a duration longer than five days.

(b) Is a milestone activity.

(c) Is a contract item that exceeds $10,000 on the contract cost proposal.

(d) Is a critical path activity.

(e) Is an activity designated as such by the Engineer.

Each Method Statement shall include the following items needed to fulfill the schedule:

(a) Quantity, type, make, and model of equipment.

(b) The manpower to do the work, specifying worker classification.

(c) The production rate per eight hour day, or the working hours established by the contract documents needed to meet the time indicated on the schedule. If the production rate is not for eight hours, the number of working hours shall be indicated.

(6) Two sets of color time-scaled project evaluation and review technique charts ("PERT") using the activity box template of Logic – Early Start or such other template designated by the Engineer.

If the contract documents establish a sequence or order for the work, the initial progress schedule shall conform to such sequence or order.

(E) Contractor's Continuing Schedule Submittal Requirements. After the acceptance of the initial TSLD and when construction starts, the Contractor shall submit four plotted progress schedules, two PERT charts, and reports on all construction activities every two weeks (bi-weekly). This scheduled bi-weekly submittal shall also include an updated version of the project schedule in a computerized software format as specified by the Engineer. The submittal shall have all the information needed to re-create that time period's TSLD plot and reports. The bi-weekly submittal shall include, but not limited to, an update of activities based on actual durations,

all new activities and any changes in duration or start or finish dates of any activity.

The Contractor shall submit with every update, in report form acceptable to the Engineer, a list of changes to the progress schedule since the previous schedule submittal. The Engineer may change the frequency of the submittal requirements but may not require a submittal of the schedule to be more than once a week. The Engineer may decrease the frequency of the submittal of the bi-weekly schedule.

The Contractor shall submit updates of the anticipated work completion graph, equipment listing, manpower requirement graph or method statement when requested by the Engineer. The Contractor shall submit such updates within 4 calendar days from the date of the request by the Engineer.

The Engineer may withhold progress payment until the Contractor is in compliance with all schedule update requirements

(F) Float. All float appearing on a schedule is a shared commodity. Float does not belong to or exist for the exclusive use or benefit of either the State or the Contractor. The State or the Contractor has the opportunity to use available float until it is depleted. Float has no monetary value.

(G) Scheduled Meetings. The Contractor shall meet on a bi-weekly basis with the Engineer to review the progress schedule. The Contractor shall have someone attending the meeting that can answer all questions on the TSLD and other schedule related submittals.

(H) Accelerated Schedule; Early Completion. If the Contractor submits an accelerated schedule (shorter than the contract time), the Engineer's review and acceptance of an accelerated schedule does not constitute an agreement or obligation by the State to modify the contract time or completion date. The Contractor is solely responsible for and shall accept all risks and any delays, other than those that can be directly and solely attributable to the State, that may occur during the work, until the contract completion date. The contract time or completion date is established for the benefit of the State and cannot be changed without an appropriate change order or Substantial Completion granted by the State. The State may accept the work before the completion date is established, but is not obligated to do so.

If the TSLD indicates an early completion of the project, the Contractor shall, upon submittal of the schedule, cooperate with the Engineer in explaining how it will be achieved. In addition, the Contractor shall submit the above explanation in writing which shall include the State's part, if any, in achieving the early completion date. Early completion of the project shall not rely on changes to the Contract Documents unless approved by the Engineer.

(l) Contractor Responsibilities. The Contractor shall promptly respond to any inquiries from the Engineer regarding any schedule submission. The Contractor shall adjust the schedule to address directives from the Engineer and shall resubmit the TSLD package to the Engineer until the Engineer finds it acceptable.

The Contractor shall perform the work in accordance with the submitted TSLD. The Engineer may require the Contractor to provide additional work forces and equipment to bring the progress of the work into conformance with the TSLD at no increase in contract price or contract time whenever the Engineer determines that the progress of the work does not insure completion within the specified contract time.

108.07 Weekly Meeting. In addition to the bi-weekly schedule meetings, the Contractor shall be available to meet once a week with the Engineer at the time and place as determined by the Engineer to discuss the work and its progress including but not limited to, the progress of the project, potential problems, coordination of work, submittals, erosion control reports, etc. The Contractor's personnel attending shall have the authority to make decisions and answer questions.

The Contractor shall bring to weekly meetings a detailed work schedule showing the next three weeks' work. Number of copies of the detailed work schedule to be submitted will be determined by the Engineer. The three-week schedule is in addition to the TSLD and shall in no way be considered as a substitute for the TSLD or vice versa. The three-week schedule shall show:

(a) All construction events, traffic control and BMP related activities in such detail that the Engineer will be able to determine at what location and type of work will be done for any day for the next three weeks. This is for the State to use to plan its manpower requirements for that time period.

(b) The duration of all events and delays.

(c) The critical path clearly marked in red or marked in a manner that makes it clearly distinguishable from other paths and is acceptable to the Engineer.

(d) Critical submittals and requests for information (RFI's).

(e) The project title, project number, date created, period the schedule covers, Contractor's name and creator of the schedule on each page.

Two days prior to each weekly meeting, the Contractor shall submit a list of outstanding submittals, RFIs and issues that require discussion.

108.08 Liquidated Damages for Failure to Complete the Work or Portions of the Work on Time. The actual amount of damages resulting from the Contractor's failure to complete the contract in a timely manner is difficult to accurately determine. Therefore, the amount of such damages shall be liquidated damages as set forth herein and in the special provisions. The State may, at its discretion, deduct the amount from monies due or that may become due under the contract.

When the Contractor fails to reach substantial completion of the work for which liquidated damages are specified, within the time or times fixed in the contract or any extension thereof, in addition to all other remedies for breach that may be available to the State, the Contractor shall pay liquidated damages to the State, in the amount of $6,000 per working day.

(A) Liquidated Damages Upon Termination. If the State terminates on account of Contractor's default, liquidated damages may be charged against the defaulting Contractor and its surety until final completion of work.

(B) Liquidated Damages for Failure to Complete the Punchlist. The Contractor shall complete the work on any punchlist created after the pre-final inspection, within the contract time or any extension thereof.

When the Contractor fails to complete the work on such punchlist within the contract time or any extension thereof, the Contractor shall pay liquidated damages to the State of 20 percent of the amount of liquidated damages established for failure to substantially complete the work within contract time. Liquidated damages shall not be assessed for the period between:

(1) Notice from the Contractor that the project is substantially complete and the time the punchlist is delivered to the Contractor.

(2) The date of the completion of punchlist as determined by the Engineer and the date of the successful final inspection, and

(3) The date of the Final Inspection that results in Substantial Completion and the receipt by the Contractor of the written notice of Substantial Completion.

(C) Actual Damages Recoverable If Liquidated Damages Deemed Unenforceable. In the event a court of competent jurisdiction holds that any liquidated damages assessed pursuant to this contract are unenforceable, the State will be entitled to recover its actual damages for Contractor's failure to complete the work, or any designated portion of the work within the time set by the contract.

108.09 Rental Fees for Unauthorized Lane Closure or Occupancy. In addition to all other remedies available to the State for Contractor's breach of the terms of the contract, the Engineer will assess the rental fees in the amount of $500 for every one-to fifteen-minute increment for each roadway lane closed to public use or occupied beyond the time periods authorized in the contract or by the Engineer. The maximum amount assessed per day shall be $5,000. The State may, at its discretion, deduct the amount from monies due or that may become due under the contract. The rental fee may be waived in whole or part if the Engineer determines that the unauthorized period of lane closure or occupancy was due to factors beyond the control of the Contractor. Equipment breakdown is not a cause to waive liquidated damages.

108.10 Suspension of Work.

(A) Suspension of Work. The Engineer may, by written order, suspend the performance of the work, either in whole or in part, for such periods as the Engineer may deem necessary, for any cause, including but not limited to:

(1) Weather or soil conditions considered unsuitable for prosecution of the work.

(2) Whenever a redesign that may affect the work is deemed necessary by the Engineer.

(3) Unacceptable noise or dust arising from the construction even if it does not violate any law or regulation.

(4) Failure on the part of the Contractor to:

(a) Correct conditions unsafe for the general public or for the workers.

(b) Carry out orders given by the Engineer.

(c) Perform the work in strict compliance with the provisions of the contract.

(d) Provide adequate supervision on the jobsite.

(5) The convenience of the State.

(B) Partial and Total Suspension. Suspension of work on some but not all items of work shall be considered a "partial suspension". Suspension of work on all items shall be considered "total suspension". The period of suspension shall be computed from the date set out in the written order for work to cease until the date of the order for work to resume.

(C) Reimbursement to Contractor. In the event that the Contractor is ordered by the Engineer in writing as provided herein to suspend all work under the contract for the reasons specified in Subsections 108.10(A)(2), 108.10(A)(3), or 108.10(A)(5) of the "Suspension of Work" paragraph, the Contractor may be reimbursed for actual direct costs incurred on work at the jobsite, as authorized in writing by the Engineer, including costs expended for the protection of the work. An allowance of 5 percent for indirect categories of delay costs will be paid on any reimbursed direct costs, including extended branch and home-office overhead and delay impact costs. No allowance will be made for anticipated profits. Payment for equipment which is ordered to standby during such suspension of work shall be made as described in Subsection 109.06(H) - Idle and Standby Equipment.

(D) Cost Adjustment. If the performance of all or part of the work is suspended for reasons beyond the control of the Contractor except an adjustment shall be made for any increase in cost of performance of this contract (excluding profit) necessarily caused by such suspension, and the contract modified in writing accordingly.

However, no adjustment to the contract price shall be made for any suspension, delay, or interruption:

(1) For weather related conditions.

(2) To the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor.

(3) Or, for which an adjustment is provided for or excluded under any other provision of this Contract.

(E) Claims for Adjustment. Any adjustment in contract price made shall be determined in accordance with Subsections 104.02 – Changes and 104.06 – Methods of Price Adjustment.

Any claims for such compensation shall be filed in writing with the Engineer within 30 days after the date of the order to resume work or the claim will not be considered. The claim shall conform to the requirements of Subsection 107.15(D) – Making of a Claim. The Engineer will take the claim under consideration, may make such investigations as are deemed necessary and will be the sole judge as to the equitability of the claim. The Engineer's decision will be final.

(F) No Adjustment. No provision of this clause shall entitle the Contractor to any adjustments for delays due to failure of its surety, the cancellation or expiration of any insurance coverage required by the contract documents, for suspensions made at the request of the Contractor, for any delay required under the contract, for suspensions, either partial or whole, made by the Engineer under Subsection 108.10(A)(4) of the "Suspension of work" paragraph.

108.11 Termination of Contract for Cause.

(A) Default. If the Contractor refuses or fails to perform the work, or any separable part thereof, with such diligence as will assure its completion within the time specified in this contract, or any extension thereof, or commits any other material breach of this contract, and further fails within seven days after receipt of written notice from the Engineer to commence and continue correction of the refusal or failure with diligence and promptness, the Engineer may, by written notice to the Contractor, declare the Contractor in breach and terminate the Contractor's right to proceed with the work or the part of the work as to which there has been delay or other breach of contract. In such event, the State may take over the work, perform the same to completion, by contract or otherwise, and may take possession of, and utilize in completing the work, the materials, appliances, and plants as may be on the site of the work and necessary therefore. Whether or not the Contractor's right to proceed with the work is terminated, the Contractor and the Contractor's sureties shall be liable for any damage to the State resulting from the Contractor's refusal or failure to complete the work within the specified time.

(B) Additional Rights and Remedies. The rights and remedies of the State provided in this contract are in addition to any other rights and remedies provided by law.

(C) Costs and Charges. All costs and charges incurred by the State, together with the cost of completing the work under contract, will be

deducted from any monies due or which would or might have become due to the Contractor had it been allowed to complete the work under the contract. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay the State the amount of the excess.

In case of termination, the Engineer will limit any payment to the Contractor to the part of the contract satisfactorily completed at the time of termination. Payment will not be made until the work has satisfactorily been completed and all required documents, including the tax clearance required by Subsection 109.11 – Final Payment are submitted by the Contractor. Termination shall not relieve the Contractor or Surety from liability for liquidated damages.

(D) Erroneous Termination for Cause. If, after notice of termination of the Contractor's right to proceed under this section, it is determined for any reason that good cause did not exist to allow the State to terminate as provided herein, the rights and obligations of the parties shall be the same as, and the relief afforded the Contractor shall be limited to, the provisions contained in Subsection 108.12 – Termination for Convenience.

108.12 Termination For Convenience.

(A) Terminations. The Director may, when the interests of the State so require, terminate this contract in whole or in part, for the convenience of the State. The Director will give written notice of the termination to the Contractor specifying the part of the contract terminated and when termination becomes effective.

(B) Contractor's Obligations. The Contractor shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the Contractor shall stop work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work subject to the State's approval. The Engineer may direct the Contractor to assign the Contractor's right, title, and interest under terminated orders or subcontracts to the State. The Contractor must still complete the work not terminated by the notice of termination and may incur obligations as necessary to do so.

(C) Right to Construction and Goods. The Engineer may require the Contractor to transfer title and to deliver to the State in the manner and to the extent directed by the Engineer, the following:

(1) Any completed work.

(2) Any partially completed construction, goods, materials, parts, tools, dies, jigs, fixtures, drawings, information, and contract rights (hereinafter called "construction material") that the Contractor has specifically produced or specially acquired for the performance of the terminated part of this contract.

(3) The Contractor shall protect and preserve all property in the possession of the Contractor in which the State has an interest. If the Engineer does not elect to retain any such property, the Contractor shall use its best efforts to sell such property and construction materials for the State's account in accordance with the standards of HRS Chapter 490:2-706.

(D) Compensation.

(1) The Contractor shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data, submitted to the extent required by HAR Subchapter 15, Chapter 3-122. If the Contractor fails to file a termination claim within one year from the effective date of termination, the Engineer may pay the Contractor, if at all, an amount set in accordance with Subsection 108.12(D)(3).

(2) The Engineer and the Contractor may agree to a settlement provided the Contractor has filed a termination claim supported by cost or pricing data submitted as required and that the settlement does not exceed the total contract price plus settlement costs reduced by payments previously made by the State, the proceeds of any sales of construction, supplies, and construction materials under Subsection 108.12(C)(3), and the proportionate contract price of the work not terminated.

(3) Absent complete agreement, the Engineer will pay the Contractor the following amounts less any payments previously made under the contract:

(a) The cost of all contract work performed prior to the effective date of the notice of termination work plus a 5 percent markup on the actual direct costs, including amounts paid to subcontractor, less amounts paid or to be paid for completed portions of such work; provided, however, that if it appears that the Contractor would have sustained a loss if the entire contract would have been completed, no markup shall be allowed or included and the amount of compensation shall

be reduced to reflect the anticipated rate of loss. No anticipated profit or consequential damage will be due or paid.

(b) Subcontractors shall be paid a markup of 10 percent on their direct job costs incurred to the date of termination. No anticipated profit or consequential damage will be due or paid to any subcontractor. These costs must not include payments made to the Contractor for subcontract work during the contract period.

(c) The total sum to be paid the Contractor shall not exceed the total contract price reduced by the amount of any sales of construction supplies, and construction materials.

(4) Cost claimed, agreed to, or established by the State shall be in accordance with HAR Chapter 3-123.

108.13 Pre-Final and Final Inspections.

(A) Inspection Requirements. Before the Engineer undertakes a final inspection of any work, a pre-final inspection must first be conducted. The Contractor shall notify the Engineer that the work has reached substantial completion and is ready for pre-final inspection.

(B) Pre-Final Inspection. Before notifying the Engineer that the work has reached substantial completion, the Contractor shall inspect the project and test all installed items with all of its subcontractors as appropriate. The Contractor shall also submit the following documents as applicable to the work:

(1) All written guarantees required by the contract.

(2) Two accepted final field-posted drawings as specified in Section 648 – Field-Posted Drawings;

(3) Complete weekly certified payroll records for the Contractor and Subcontractors.

(4) Certificate of Plumbing and Electrical Inspection.

(5) Certificate of building occupancy as required.

(6) Certificate of Soil and Wood Treatments.

(7) Certificate of Water System Chlorination.

(8) Certificate of Elevator Inspection, Boiler and Pressure Pipe Inspection.

(9) Maintenance Service Contract and two copies of a list of all equipment installed.

(10) Current Tax clearance. The contractor will be required to submit an additional tax clearance certificate when the final payment is made.

(11) And any other final items and submittals required by the contract documents.

(C) Procedure. When in compliance with the above requirements, the Contractor shall notify the Engineer in writing that the project has reached substantial completion and is ready for pre-final inspection.

The Engineer will then make a preliminary determination as to whether or not the project is substantially complete and ready for pre-final inspection. The Engineer may, in writing, postpone until after the pre-final inspection the Contractor's submittal of any of the items listed in Subsection 108.13(B) – Pre-Final Inspection, herein, if in the Engineer's discretion it is in the interest of the State to do so.

If, in the opinion of the Engineer, the project is not substantially complete, the Engineer will provide the Contractor a punchlist of specific deficiencies in writing which must be corrected or finished before the work will be ready for a pre-final inspection. The Engineer may add to or otherwise modify this punchlist from time to time. The Contractor shall take immediate action to correct the deficiencies and must repeat all steps described above including written notification that the work is ready for pre-final inspection.

After the Engineer is satisfied that the project appears substantially complete a final inspection shall be scheduled within ten working days after receipt of the Contractor's latest letter of notification that the project is ready for final inspection.

If, as a result of the pre-final inspection, the Engineer determines the work is not substantially complete, the Engineer will inform the Contractor in writing as to specific deficiencies which must be corrected before the work will be ready for another pre-final inspection. If the Engineer finds the work is substantially complete but finds deficiencies that must be corrected before the work is ready for final inspection, the Engineer will prepare in writing and deliver to the Contractor a punchlist describing such deficiencies.

At any time before final acceptance, the Engineer may revoke the determination of substantial completion if the Engineer finds that it was not warranted and will notify the Contractor in writing the reasons therefore together with a description of the deficiencies negating the declaration.

When the date of substantial completion has been determined by the State, liquidated damages for the failure to complete the punchlist, if due to the State will be assessed in pursuant to Subsection 108.08(B) - Liquidated Damages for Failure to Complete the Punchlist.

(D) Punchlist; Clean Up and Final Inspection. Upon receiving a punchlist after pre-final inspection, the Contractor shall promptly devote all required time, labor, equipment, materials and incidentals to correct and remedy all punchlist deficiencies. The Engineer may add to or otherwise modify this punchlist until substantial completion of the project.

Before final inspection of the work, the Contractor shall clean all ground occupied by the Contractor in connection with the work of all rubbish, excess materials temporary structures and equipment, shall remove all graffiti and defacement of the work and all parts of the work and the worksite must be left in a neat and presentable condition to the satisfaction of the Engineer.

Final inspection will occur within ten working days after the Contractor notifies the Engineer in writing that all punchlist deficiencies remaining after the pre-final inspection have been completed and the Engineer concurs. If the Engineer determines that deficiencies still remain at the final inspection, the work will not be accepted and the Engineer will notify the Contractor, in writing, of the deficiencies which shall be corrected and the steps above repeated.

If the Contractor fails to correct the deficiencies and complete the work by the established or agreed date, the State may correct the deficiencies by whatever method it deems appropriate and deduct the cost from any payments due the Contractor.

108.14 Substantial Completion and Final Acceptance.

(A) Substantial Completion. When the Engineer finds that the Contractor has satisfactorily completed all work for the project in compliance with the contract, with the exception of the planting period and the plant establishment period, the Engineer will notify the Contractor, in writing, of the project's substantial completion, effective as of the date of the final inspection. The substantial completion date shall determine end of contract time and relieve contractor of any additional accumulation of liquidated damages for failure to complete the punchlist.

(B) Final Acceptance. When the Engineer finds that the Contractor has satisfactorily completed all contract work in compliance with the contract including all plant establishment requirements, and all the materials have been accepted by the State, the Engineer will issue a Final Acceptance Letter. The Final Acceptance date shall determine the commencement of all guaranty periods subject to Subsection 108.16 – Contractor's Responsibility for Work; Risk of Loss or Damage.

108.15 Use of Structure or Improvement. The State has the right to use the structure, equipment, improvement, or any part thereof, at any time after it is considered by the Engineer as available. In the event that the structure, equipment or any part thereof is used by the State before final acceptance, the Contractor is not relieved of its responsibility to protect and preserve all the work until final acceptance.

108.16 Contractor's Responsibility for Work; Risk of Loss or Damage. Until the written notice of final acceptance has been received, the Contractor shall take every precaution against loss or damage to any part of the work by the action of the elements or from any other cause whatsoever, whether arising from the performance or from the non-performance of the work. The Contractor shall rebuild, repair, restore and make good all loss or damage to any portion of the work resulting from any cause before its receipt of the written notice of final acceptance and shall bear the risk and expense thereof.

The risk of loss or damage to the work from any hazard or occurrence that may or may not be covered by a builder's risk policy is that of the Contractor and Surety, unless such risk of loss is placed elsewhere by express language in the contract documents.

108.17 Guarantee of Work.

(1) Regardless of, and in addition to, any manufacturers' warranties, all work and equipment shall be guaranteed by the Contractor against defects in materials, equipment or workmanship for one year from the date of final acceptance or as otherwise specified in the contract documents.

(2) When the Engineer determines that repairs or replacements of any guaranteed work and equipment is necessary due to materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the contract, the Contractor shall, at no increase in contract price or contract time, and within five working days of receipt of written notice from the State, commence to all of the following:

(a) Correct all noted defects and make replacements, as directed by the Engineer, in the equipment and work.

(b) Repair or replace to new or pre-existing condition any damages resulting from such defective materials, equipment or installation thereof.

(3) The State will be entitled to the benefit of all manufacturers and installers warranties that extend beyond the terms of the Contractor's guaranty regardless of whether or not such extended warranty is required by the contract documents. The Contractor shall prepare and submit all documents required by the providers of such warranties to make them effective, and submit copies of such documents to the Engineer. If an available extended warranty cannot be transferred or assigned to the State as the ultimate user, the Contractor shall notify the Engineer who may direct that the warranted items be acquired in the name of the State as purchaser.

(4) If a defect is discovered during a guarantee period, all repairs and corrections to the defective items when corrected shall be guaranteed for a new duration equal to the original full guarantee period. The running of the guarantee period shall be suspended for all other work affected by any defect. The guarantee period for all other work affected by any such defect shall restart for its remaining duration upon confirmation by the Engineer that the deficiencies have been repaired or remedied.

(5) Nothing in this section is intended to limit or affect the State's rights and remedies arising from the discovery of latent defects in the work after the expiration of any guarantee period.

108.18 No Waiver of Legal Rights. The following will not operate or be considered as a waiver of any portion of the contract, or any power herein reserved, or any right to damages provided herein or by law:

(1) Any payment for, or acceptance of, the whole or any part of the work.

(2) Any extension of time.

(3) Any possession taken by the Engineer.

A waiver of any notice requirement or of any noncompliance with the contract will not be held to be a waiver of any other notice requirement or any other noncompliance with the contract.

108.19 Final Settlement of Contract.

(A) Closing Requirements. The contract will be considered settled after the project acceptance date and when the following items have been satisfactorily submitted, where applicable:

(1) All written guarantees required by the contract.

(2) Complete and certified weekly payrolls for the Contractor and its subcontractor's.

(3) Certificate of plumbing and electrical inspection.

(4) Certificate of building occupancy.

(5) Certificate for soil treatment and wood treatment.

(6) Certificate of water system chlorination.

(7) Certificate of elevator inspection, boiler and pressure pipe installation.

(8) Tax clearance.

(9) All other documents required by the Contract or by law.

(B) Failure to Meet Closing Requirements. The Contractor shall meet the applicable closing requirements within 60 days from the date of Project Acceptance or the agreed to Punchlist complete date. Should the Contractor fail to comply with these requirements, the Engineer may terminate the contract for cause."

END OF SECTION 108

SECTION 109 - MEASUREMENT AND PAYMENT

Make the following amendment to said Section:

(I) Amend **Subsection 109.05 Allowances for Overhead and Profit** by revising lines 101 to 110 to read as follows:

"**(1)** 20 percent of the direct cost for any work performed by the Contractor's own labor force.

(2) 20 percent of the direct cost for any work performed by each subcontractor's own labor force.

(3) For the Contractor or any subcontractor for work performed by their respective subcontractor or tier subcontractor, 10 percent of the amount due to the performing subcontractor or tier subcontractor."

(II) Amend **109.08(A) Monthly Payment** by adding the following after line 411:

"**(1) Retainage.** If the Engineer finds that the Contractor is progressing satisfactorily in completing the project work and:

a. Less than 50% of the whole contract cost is complete, the Engineer shall retain 5% of the value of the work done until the Engineer makes final payment;

b. More than 50% of the whole contract cost is complete, the Engineer may make the remaining progress payments in full.

c. After satisfactory completion of work other than landscaping items, the Engineer may adjust the amount of retainage to 15% of the landscaping items or 2½% of the total contract amount whichever is less. Do not use this subsection if the contract is only landscaping."

(III) Amend **Subsection 109.08(B) Payment for Material On Hand** by revising lines 421 to 423 to read as follows:

"**(2)** The materials shall be stored and handled in accordance with Subsection 105.14 – Storage and Handling of Materials and Equipment."

(IV) Amend **Subsection 109.11 Final Payment** by revising lines 568 to 576 to read as follows:

"**(3)** A current "Certificate of Vendor Compliance" issued by the Hawaii Compliance Express (HCE). The Certificate of Vendor Compliance is used to certify the Contractor's compliance with

(a) Section 103D-328, HRS (for all contracts $25,000 or more) which requires a current tax clearance certificate issued by the Hawaii State Department of Taxation and the Internal Revenue Service;

(b) Chapters 383, 386, 392, and 393, HRS; and

(c) Subsection 103D-310(c), HRS. The State reserves the right to verify that compliance is current prior to the issuance of final payment. Contractors are advised that non-compliance status will result in final payment being withheld until compliance is attained.

Sums necessary to meet the claims of any governmental agencies may be withheld from the sums due the Contractor until said claims have been fully and completely discharged or otherwise satisfied."

END OF SECTION 109

SECTION 201 – CLEARING AND GRUBBING

Make the following amendments to said Section:

(I) Amend **201.04 – Measurement** by revising lines 167 to 168 to read as follows:

"**201.04 Measurement.** The clearing and grubbing will be paid on a lump sum basis. Measurement for payment will not apply."

(II) Amend **201.05 – Payment** by revising lines 170 to 179 to read as follows:

"**201.05 Payment.** The Engineer will pay for the accepted clearing and grubbing at contract price per pay unit. Payment will be full compensation for the work prescribed in this section and the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

Pay Item	**Pay Unit**
Clearing and Grubbing	Lump Sum"

END OF SECTION 201

Amend **Section 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL** to read as follows:

"SECTION 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL

209.01 Description. This section describes the following:

(A) Including detailed plans, diagrams, and written Site-Specific Best Management Practices (BMP); constructing, maintaining, and repairing temporary water pollution, dust, and erosion control measures at the project site, including local material sources, work areas and haul roads; removing and disposing hazardous wastes; control of fugitive dust (defined as uncontrolled emission of solid airborne particulate matter from any source other than combustion); and complying with applicable State and Federal permit conditions.

(B) Work associated with construction stormwater, dewatering, and hydrotesting activities and complying with conditions of the National Pollutant Discharge Elimination System (NPDES) permit(s) authorizing discharges associated with construction stormwater, dewatering, and hydrotesting activities.

(C) Potential pollutant identification and mitigation measures are listed in Appendix A for use in the development of the Contractor's Site-Specific BMP.

Requirements of this section also apply to construction support activities including concrete or asphalt batch plants, rock crushing plants, equipment staging yards/areas, material storage areas, excavated material disposal areas, and borrow areas located outside the State Right-of-Way. For areas serving multiple construction projects, or operating beyond the completion of the construction project in which it supports, the Contractor shall be responsible for securing the necessary permits, clearances, and documents, and following the conditions of the permits and clearances, at no cost to the State.

209.02 Materials. Comply with applicable materials described in Chapters 2 and 3 of the current HDOT "Construction Best Management Practices Field Manual". In addition, the materials shall comply with the following:

(A) Grass. Grass shall be a quick growing species such as rye grass, Italian rye grass, or cereal grasses. Grass shall be suitable to the area and provide a temporary cover that will not compete later with permanent cover. Alternative grasses are allowable if acceptable to the Engineer.

(B) Fertilizer and Soil Conditioners. Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Engineer. Fertilizer shall conform to Subsection 619.02(H)(1) - Commercial Fertilizer.

(C) Hydro-mulching. Hydro-mulching used as a temporary vegetative stabilization measure shall consist of materials in Subsections 209.02(A) - Grass, and 209.02(B) – Fertilizer and Soil Conditioners. Mulches shall be recycled materials including bagasse, hay, straw, wood cellulose bark, wood chips, or other material acceptable to the Engineer. Mulches shall be clean and free of noxious weeds and deleterious materials. Potable water shall meet the requirements of Subsection 712.01 - Water. Submit alternate sources of irrigation water for the Engineer's acceptance if deviating from 712.01 - Water. Installation and other requirements shall be in accordance with portions of Section 641- Hydro-Mulch Seeding including 641.02(D) - Soil and Mulch Tackifier, 641.03(A) – Seeding, and 641.03(B) - Planting Period. Install non-vegetative controls including mulch or rolled erosion control products while the vegetation is being established. Water and fertilize grass. Apply fertilizer as recommended by the manufacturer. Replace grass the Engineer considers unsuitable or sick. Remove and dispose of trash and debris. Remove invasive species. Mow as needed to prevent site or signage obstructions, fire hazard, or nuisance to the public. Do not remove down stream sediment control measures until the vegetation is uniformly established, including no large bare areas, and provides 70 percent of the density of pre-disturbance vegetation. Temporary vegetative stabilization shall not be used longer than one year.

(D) Silt Fences. Comply with ASTM D6462, Standard Practice for Silt Fence Installation.

Alternative materials or methods to control, prevent, remove and dispose pollution are allowable if acceptable to the Engineer.

209.03 Construction.

(A) Preconstruction Requirements.

(1) Water Pollution, Dust, and Erosion Control Meeting. Schedule a water pollution, dust, and erosion control meeting with the Engineer after Site-Specific BMP is accepted in writing by the Engineer. Meeting shall be scheduled a minimum of 7 calendar days prior to the Start Work Date. Discuss sequence of work, plans and proposals for water pollution, dust, and erosion control.

(2) Water Pollution, Dust, and Erosion Control Submittals. Submit a Site-Specific BMP Plan within 21 calendar days of date of award. Submission of complete and acceptable Site-Specific BMP Plan is the sole responsibility of the Contractor and additional contract time will not be issued for delays due to incompleteness. Include the following:

(a) Written description of activities to minimize water pollution and soil erosion into State waters, drainage or sewer systems. BMP shall include the following:

1. An identification of potential pollutants and their sources.

2. A list of all materials and heavy equipment to be used during construction.

3. Descriptions of the methods and devices used to minimize the discharge of pollutants into State waters, drainage or sewer systems.

4. Details of the procedures used for the maintenance and subsequent removal of any erosion or siltation control devices.

5. Methods of removing and disposing hazardous wastes encountered or generated during construction.

6. Methods of removing and disposing concrete and asphalt pavement cutting slurry, concrete curing water, and hydrodemolition water.

7. Spill Control and Prevention and Emergency Spill Response Plan.

8. Fugitive dust control, including dust from grinding, sweeping, or brooming off operations or combination thereof.

9. Methods of storing and handling of oils, paints and other products used for the project.

10. Material storage and handling areas, and other staging areas.

11. Concrete truck washouts.

12. Concrete waste control.

13. Fueling and maintenance of vehicles and other equipment.

14. Tracking of sediment offsite from project entries and exits.

15. Litter management.

16. Toilet facilities.

17. Other factors that may cause water pollution, dust and erosion control.

(b) Provide plans indicating location of water pollution, dust and erosion control devices; provide plans and details of BMPs to be installed or utilized; show areas of soil disturbance in cut and fill, indicate areas used for construction staging and storage including items (1) through (17) above, storage of aggregate (indicate type of aggregate), asphalt cold mix, soil or solid waste, equipment and vehicle parking, and show areas where vegetative practices are to be implemented. Indicate intended drainage pattern on plans. Include flow arrows. Include separate drawing for each phase of construction that alters drainage patterns. Indicate approximate date when device will be installed and removed.

(c) Construction schedule.

(d) Name(s) of specific individual(s) designated responsible for water pollution, dust, and erosion controls on the project site. Include home, cellular, and business telephone numbers, fax numbers, and e-mail addresses.

(e) Description of fill material to be used.

(f) For projects with an NPDES Permit for Construction Activities, submit information to address all sections in the Storm Water Pollution Prevention Plan (SWPPP).

(g) For projects with an NPDES Permit, information required for compliance with the conditions of the Notice of General Permit Coverage (NGPC)/NPDES Permit.

(h) Site-Specific BMP Review Checklist. The checklist may be downloaded from HDOT's Stormwater Management website at http://stormwaterhawaii.com.

Date and sign Site-Specific BMP Plan. Keep accepted copy on site or at an accessible location so that it can be made available at the time of an on-site inspection or upon request by the Engineer, HDOT Third-Party Inspector, and/or DOH/EPA Representative. Amendments to the Site-Specific BMP Plan shall be included with original Site-Specific BMP Plan. Modify SWPPP if necessary to conform to revisions. Include date of installation and removal of Site-Specific BMP measures. Obtain written acceptance by the Engineer before implementing revised Site-Specific BMPs in the field.

Follow the guidelines in the current HDOT "Construction Best Management Practices Field Manual", in developing, installing, and maintaining Site-Specific BMPs for all projects. 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, notify the Engineer immediately for interpretation. For the purposes of clarification "applicable bid documents" include the construction plans, standard specifications, special provisions, Permits, and the SWPPP when applicable.

Follow Honolulu's City and County "Rules for Soil Erosion Standards and Guidelines" for all projects on Oahu. Use respective Soil Erosion Guidelines for Maui, Kauai and Hawaii projects.

(B) Construction Requirements. Do not begin work until submittals detailed in Subsection 209.03(A)(2) - Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by the Engineer.

Install, maintain, monitor, repair and replace site-specific BMP measures, such as for water pollution, dust and erosion control; installation, monitoring, and operation of hydrotesting activities; removal and disposal of hazardous waste indicated on plans, concrete cutting slurry, concrete curing water; or hydrodemolition water. Site-Specific BMP measures shall be in place, functional and accepted by HDOT personnel prior to initiating any ground disturbing activities.

If necessary, furnish and install rain gage in a secure location prior to field work including installation of site-specific BMP. Provide rain gage with a tolerance of at least 0.05 inches of rainfall. Install rain gage on project site in an area that will not deter rainfall from entering the gate opening. Do not install in a location where rain water may splash into rain gage. The rain gage installation shall be stable and plumbed. Maintain rain gage and replace rain gage that is stolen, does not function properly or accurately, is worn out, or needs to be relocated. Do not begin field work until rain gage is installed and Site-Specific BMPs are in place. Rain gage data logs shall be readily available. Submit rain gage data logs weekly to the Engineer.

Address all comments received from the Engineer.

Modify and resubmit plans and construction schedules to correct conditions that develop during construction which were unforeseen during the design and pre-construction stages.

Coordinate temporary control provisions with permanent control features throughout the construction and post-construction period.

Limit maximum surface area of earth material exposed at any time to 300,000 square feet. Do not expose or disturb surface area of earth material (including clearing and grubbing) until BMP measures are installed and accepted in writing by the Engineer. Protect temporarily or permanently disturbed soil surface from rainfall impact, runoff and wind before end of the work day.

Immediately initiate stabilizing exposed soil areas upon completion of earth disturbing activities for areas permanently or temporarily ceased on any portion of the site. 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 for a period of 14 or more calendar days, but such activities will resume in the future. The term “immediately” is used in this section to define the deadline for initiating stabilization measures. “Immediately” means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

For projects with an NPDES Permit for Construction activities:

(1) For construction areas discharging into waters not impaired for nutrients or sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

(2) 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.

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.

Any of the following types of activities constitutes initiation of stabilization:

(1) Prepping the soil for vegetative or non-vegetative stabilization;

(2) Applying mulch or other non-vegetative product to the exposed area;

(3) Seeding or planting the exposed area;

(4) Starting any of the activities in items (1) – (3) above on a portion of the area to be stabilized, but not on the entire area; and

(5) Finalizing arrangements to have stabilization product fully installed in compliance with the deadline for completing initial stabilization activities.

Any of the following types of activities constitutes completion of initial stabilization activities:

(1) For vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized; and/or

(2) For non-vegetative stabilization, the installation or application of all such non-vegetative measures.

If the Contractor is unable to meet the deadlines above due to circumstances beyond the Contractor's control, and the Contractor is using vegetative cover for temporary or permanent stabilization, the Contractor may comply with the following stabilization deadlines instead as agreed to by the Engineer:

(1) Immediately initiate, and complete within the timeframe shown above, the installation of temporary non-vegetative stabilization measures to prevent erosion;

(2) Complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on the site; and

(3) Notify and provide documentation to the Engineer the circumstances that prevent the Contractor from meeting the deadlines above for stabilization and the schedule the Contractor will follow for initiating and completing initial stabilization and as agreed to by the Engineer.

Follow the applicable requirements of the specifications and special provisions including Section 619 Planting and Section 641 Hydro-Mulch Seeding.

Immediately after seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the seeded or planted area, select, design, and install non-vegetative erosion controls that provide cover (e.g., mulch, rolled erosion control products) to the area while vegetation is becoming established.

Protect exposed or disturbed surface area with mulches, grass seeds or hydromulch. Spray mulches at a rate of 2,000 pounds per acre. Add tackifier to mix at a rate of 85 pounds per acre. Apply grass seeds at a rate of 125 pounds per acre. For hydromulch, use the ingredients and rates required for mulches and grass seeds. Submit recommendations from a licensed Landscape Architect when deviating from the application rates above.

Apply fertilizer to mulches, grass seed or hydromulch per manufacturer's recommendations. Submit recommendations from a licensed Landscape Architect when deviating from the manufacturer's recommendations.

Install velocity dissipation measures when exposing erodible surfaces greater than 15 feet in height.

BMP measures shall be in place and operational at the end of work day or as required by Section 209.03(B) Construction Requirements**.**

Install and maintain either or both stabilized construction entrances and wheel washes to minimize tracking of dirt and mud onto roadways. Restrict traffic to stabilized construction areas only. Clean dirt, mud, or other material tracked onto the road, sidewalk, or other paved area by the end of the same day in which the track-out occurs. Modify stabilized construction entrances to prevent mud from being tracked onto road. Stabilize entire access roads if necessary.

Chemicals may be used as soil stabilizers for either or both erosion and dust control if acceptable to the Engineer.

Provide temporary slope drains of rigid or flexible conduits to carry runoff from cuts and embankments. Provide portable flume at the entrance. Shorten or extend temporary slope drains to ensure proper function.

Protect ditches, channels, and other drainageways leading away from cuts and fills at all times by either:

(1) Hydro-mulching the lower region of embankments in the immediate area.

(2) Installing check dams and siltation control devices.

(3) Other methods acceptable to the Engineer.

Provide for controlled discharge of waters impounded, directed, or controlled by project activities or erosion control measures.

Cover exposed surface of materials completely with tarpaulin or similar device when transporting aggregate, soil, excavated material or material that may be source of fugitive dust.

Cleanup and remove any pollutant that can be attributed to the Contractor.

Install or modify Site-Specific BMP measures due to change in the Contractor's means and methods, or for omitted condition that should have been allowed for in the accepted Site-Specific BMP or a Site-Specific BMP that replaces an accepted Site-Specific BMP that is not satisfactorily performing. Modifications to Site-Specific BMP measures shall be accepted in writing by the Engineer prior to implementation.

Properly maintain all Site-Specific BMP measures.

For projects with an NPDES Permit for Construction Activities:

(1) For construction areas discharging into nutrient or sediment impaired waters, inspect, prepare a written report, and make repairs to BMP measures at the following intervals:

(a) Weekly.

(b) Within 24 hours of any rainfall of 0.25 inch or greater which occurs in a 24-hour period.

(c) When existing erosion control measures are damaged or not operating properly as required by Site-Specific BMP.

(2) For construction areas discharging to waters not impaired for nutrients or sediments, inspect, prepare a written report, and make repairs to BMP measures at the following intervals:

(a) Weekly.

(b) When existing erosion control measures are damaged or not operating properly as required by Site-Specific BMP.

For projects without an NPDES Permit for Construction activities, inspect, prepare a written report, and make repairs to BMP measures at the following intervals:

(a) Weekly.

(b) When existing erosion control measures are damaged or not operating properly as required by Site-Specific BMP.

Temporarily remove, replace or relocate any Site-Specific BMP that must be removed, replaced or relocated due to potential or actual flooding, or potential danger or damage to project or public.

Maintain records of inspections of Site-Specific BMP work. Keep continuous records for duration of the project. Submit copy of Inspection Report to the Engineer within 24 hours after each inspection.

The Contractor's designated representative specified in Subsection 209.03(A)(2)(d) shall address any Site-Specific BMP deficiencies brought up by the Engineer immediately, including weekends and holidays, and complete work to fix the deficiencies 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. Address any Site-Specific BMP deficiencies brought up by the State's Third-Party Inspector in the timeframe above or as specified in the Consent Decree or MS4 NPDES

Permit, whichever is more stringent. The Consent Decree timeframe requirement applies statewide. The MS4 NPDES Permit only applies to Oahu. In this section, "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. When installation of a new pollution prevention control or a significant repair is needed, complete installation or repair no later than 7 calendar days from the time of notification/Contractor discovery. Notify the Engineer and document why it is infeasible to complete the installation or repair within 7 calendar days and complete the work as soon as practicable and as agreed to by the Engineer. Address Site-Specific BMP deficiencies discovered by the Contractor within the timeframe above. The Contractor's failure to satisfactorily address these Site-Specific BMP deficiencies, the Engineer reserves the right to employ outside assistance or use the Engineer's own labor forces to provide necessary corrective measures. The Engineer will charge the Contractor such incurred costs plus any associated project engineering costs. The Engineer will make appropriate deductions from the Contractor's monthly progress estimate. Failure to apply Site-Specific BMP measures may result in one or more of the following: assessment of liquidated damages, suspension, or cancellation of Contract with the Contractor being fully responsible for all additional costs incurred by the State.

(C) Discharges of Storm Water Associated with Construction Activities. If work includes disturbance of one acre or more, an NPDES Permit authorizing Discharges of Storm Water Associated with Construction Activity (CWB-NOI Form C) or Individual Permit authorizing storm water discharges associated with construction activity is required from the Department of Health Clean Water Branch (DOH-CWB).

Do not begin construction activities until all required conditions of the permit are met and submittals detailed in Subsection 209.03(A)(2) – Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by the Engineer.

(D) Discharges Associated with Hydrotesting Activities. If hydrotesting activities require effluent discharge into State waters or drainage systems, an NPDES Hydrotesting Waters Permit (CWB-NOI Form F) or Individual Permit authorizing discharges associated with hydrotesting from DOH-CWB is required from the DOH-CWB.

Do not begin hydrotesting activities until the DOH-CWB has issued an Individual NPDES Permit or Notice of General Permit Coverage (NGPC). Conduct Hydrotesting operations in accordance with the conditions of the permit or NGPC.

(E) Discharges Associated with Dewatering Activities. If dewatering activities require effluent discharge into State waters or drainage systems, an NPDES Dewatering Permit (CWB-NOI Form G) or Individual Permit authorizing discharges associated with dewatering from DOH-CWB is required from the DOH-CWB.

Do not begin dewatering activities until the DOH-CWB has issued an Individual NPDES Permit or Notice of General Permit Coverage (NGPC). Conduct dewatering operations in accordance with the conditions of the permit or NGPC.

(F) Solid Waste. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 21 calendar days of date of award. 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, or as directed by the Engineer.

(G) Construction BMP Training. The Contractor's representative responsible for development of the Site-Specific BMP Plan and implementation of Site-Specific BMPs in the field shall attend the State's Construction Best Management Practices Training. The Contractor shall keep training logs updated and readily available.

209.04 Measurement.

(A) Installation, maintenance, monitoring, and removal of BMP will be paid on a lump sum basis. Measurement for payment will not apply.

(B) The Engineer will only measure additional water pollution, dust and erosion control required and requested by the Engineer on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

209.05 Payment. The Engineer will pay for accepted pay items listed below at contract price per pay unit, as shown in the proposal schedule. Payment will be full compensation for work prescribed in this section and contract documents.

The Engineer will pay for each of the following pay items when included in proposal schedule:

Pay Item	Pay Unit
Installation, Maintenance, Monitoring, and Removal of BMP	Lump Sum
Additional Water Pollution, Dust, and Erosion Control	Force Account

An estimated amount for force account is allocated in proposal schedule under ‘Additional Water Pollution, Dust, and Erosion Control’, but actual amount to be paid will be the sum shown on accepted force account records, whether this sum be more or less than estimated amount allocated in proposal schedule. The Engineer will pay for BMP measures requested by the Engineer that are beyond scope of accepted Site-Specific BMP on a force account basis.

No progress payment will be authorized until the Engineer accepts in writing Site-Specific BMP or when the Contractor fails to maintain project site in accordance with accepted BMP.

For all citations or fines received by the Department for non-compliance, including compliance with NPDES Permit conditions, the Contractor shall reimburse State within 30 calendar days for full amount of outstanding cost State has incurred, or the Engineer will deduct cost from progress payment.

The Engineer will assess liquidated damages up to $27,500 per day for non-compliance of each BMP requirement and all other requirements in this section.

Appendix A

The following list identifies potential pollutant sources and corresponding BMPs used to mitigate the pollutants. Each BMP is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual or 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.

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Construction debris, green waste, general litter	• *Separate contaminated clean up materials from construction and demolition (C&D) wastes.* • *Provide waste containers (e.g., dumpster or trash receptacle) of sufficient size and number to contain construction and domestic wastes.* • *Inspect construction waste and recycling areas regularly.* • *Schedule solid waste collection regularly.* • *Schedule recycling activities based on construction/demolition phases.* • *Empty waste containers weekly or when they are two-thirds full, whichever is sooner.* • *Do not allow containers to overflow. Clean up immediately if they do.* • *On work days, clean up and dispose of waste in designated waste containers.* • *See Solid Waste Management Section SM-6 for additional requirements.* • *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.* • *Collect and dispose of all waste materials in trash dumpsters. Place dumpsters, with secure watertight lids, away from storm water conveyances and drains, in a covered materials storage area.* • *Dispose of construction and non- construction solid waste in accordance with State DOH regs.* • *Load removed non- recyclable vegetation directly onto trucks; cover and transport to a licensed facility*	*See Solid Waste Management Section SM-6. Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.*

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Materials associated with the operation and maintenance of equipment, such as oil, fuel, and hydraulic fluid leakage	• *Use off-site wash racks, repair and maintenance facilities, and fueling sites when practical.* • *Designate bermed wash area if cleaning on site is necessary.* • *Place drip pans or drop cloths under vehicles and equipment to absorb spills or leaks.* • *Provide an ample supply of readily available spill cleanup materials.* • *Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.* • *Do not clean surfaces or spills by hosing the area down.* • *Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.* • *Inspect on-site vehicles and equipment regularly and immediately repair leaks.* • *Regularly inspect fueling areas and storage tanks.* • *Train employees on proper maintenance and spill practices and procedures and fueling and cleanup procedures.* • *Store diesel fuel, oil, hydraulic fluid, or other petroleum products or other chemicals in water-tight containers and provide cover or secondary containment.* • *Do not remove original product labels and comply with manufacturer's labels for proper disposal.* • *Dispose of containers only after all the product has been used.* • *Dispose of or recycle oil or oily wastes according to Federal, State, and Local requirements.* • *Store soaps, detergents, or solvents under cover or other means to prevent contact with rainwater.* • *See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM-11, SM-12, and SM-13 and Material Storage and Handling Section SM-2 for additional requirements.*	*See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM-11, SM-12, and SM-13, and Material Storage and Handling, Section SM-2, and Spill Prevention and Control SM-10.*

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Soil erosion from the disturbed areas	• *Provide Soil Stabilization, Slope Protection, Storm Drain Inlet Protection SC-1, Perimeter Controls and Sediment Barriers, Sediment Basins and Detention Ponds, Check Dams SC-3 ,Level Spreader EC-6, Paving Operations SM-20, Construction Roads and Parking Area Stabilization SC-10, Controlling Storm Water Flowing Onto and Through the Project, Post-Construction BMPs, and Non-Structural BMPs (Construction BMP Training SM-1, Scheduling SM-14, Location of Potential Sources of Sediment SM-15, Preservation of Existing Vegetation SM-17).* • *Delineate, and clearly mark off, with flags, tape, or other similar marking device all natural buffer areas defined in the SWPPP.* • *Preserve native topsoil where practicable.* • *In areas where vegetative stabilization will occur, restrict vehicle/equipment use in areas to avoid soil compaction or condition soil to promote vegetative growth.* • *For Storm Drain Inlet Protection, clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised.* • *Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same day in which it is found or by the end of the following work day if removal by the same day is not feasible.* • *Sediment basins shall be designed and maintained in accordance with HAR Chapter 11-55.* • *Minimize disturbance on steep slopes (Greater than 15% in grade).* • *If disturbance of steep slopes are unavoidable, phase disturbances and use stabilization techniques designed for steep grades.* • *For temporary drains and swales use velocity dissipation devices within and at the outlet to minimize erosive flow velocities.*	*Soil Stabilization* *1. SM-22 Topsoil Management* *2. EC-12 Seeding and Planting* *3. EC-14 Mulching* *4. EC-11 Geotextiles and Mats* *Slope Protection* *1. EC-12 Seeding and Planting* *2. EC-14 Mulching* *3. EC-11 Geotextiles and Mats* *4. EC-4 Slope Roughening, Terracing, and Rounding* *5. EC-7 Slope Drains and Subsurface Drains* *6. EC-9 Slope Interceptor or Diversion Ditches/Berms* *SC-1 Storm Drain Inlet Protection*

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Pollutant Source	***Appropriate Site-Specific BMP to be Implemented***	*BMP Requirements*
		Perimeter Controls and Sediment Barriers *1. SC-7 Silt Fence or Filter Fabric Fence* *2. SC-2 Vegetated Filter Strips and Buffers* *3. SC-6 Compost Filter Berm/Sock* *4. SC-8 Sandbag Barrier* *5. SC-9 Brush or Rock Filter* *Sediment Basins and Detention Ponds* *1. SC-4 Sediment Trap* *2. SC-5 Sediment Basin* *SC-3 Check Dams* *EC-6 Level Spreader* *SM-20 Paving Operations* *SC-10 Construction Roads and Parking Area Stabilization*

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Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
		Controlling Storm Water Flowing onto and Through the Project *1. EC-3 Run-On Diversion* *2. EC-5 Earth Dike, Swales and Ditches* *Post Construction BMPs* *1. EC-2 Flared Culvert End Sections* *2. EC-10 Rip-Rap and Gabion Inflow Protection* *3. EC-8 Outlet Protection and Velocity Dissipation Devices* *4. SM-22 Topsoil Management* *Non-Structural BMPs* *1. SM-1 Construction BMP Training* *2. SM-14 Scheduling* *3. SM-15 Location of Potential Sources of Sediment* *4. SM-17 Preservation of Existing Vegetation*

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Sediment from soil stockpiles	• *Locate stockpiles a minimum of 50 feet or as far as practicable from concentrated runoff or outside of any natural buffers identified on the SWPPP.* • *Place bagged materials on pallets and under cover.* • *Provide physical diversion to protect stockpiles from concentrated runoff.* • *Cover stockpiles with plastic or comparable material when practicable.* • *Place silt fence, fiber filtration tubes, or straw wattles around stockpiles.* • *Do not hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any storm water conveyance (unless connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or state water.* • *Unless infeasible, contain and securely protect stockpiles from the wind.* • *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.* *See Stockpile Management Section SM-3 for additional requirements.*	*See Stockpile Management Section SM-3. Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.*
Emulsified asphalt or prime/tack coat	• *Provide training for employees and contractors on proper material delivery and storage practices and procedures.* • *Restrict paving operations during wet weather to prevent paving materials from being discharged.* • *Use asphalt emulsions such as prime coat when possible.* • *Protect drain inlet structures and manholes during application of tack coat, seal coat, slurry seal, and fog seal.* • *Keep ample supplies of drip pans and absorbent materials on site.* • *Inspect inlet protection devices.* • *See Material Storage and Handling Section SM-2 and Paving Operations Section SM-20 for additional requirements.* • *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.*	*See Material Storage and Handling Section SM-2,* and Stockpile Management Section SM-3, *Paving Operations Section SM-20, Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.*

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Materials associated with painting, such as paint and paint wash solvent	• *Hazardous chemicals shall be well-labeled and stored in original containers.* • *Keep ample supply of cleanup materials on site.* • *Dispose container only after all of the product has been used.* • *Remove as much paint from brushes on painted surface.* • *Rinse from water-based paints shall be discharged into the sanitary sewer system where possible. If not, direct all washwater into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation.* • *Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies.* • *Do not dump liquid wastes into the storm drainage system.* • *Filter and re-use solvents and thinners.* • *Dispose of oil-based paints and residue as a hazardous waste.* • *Ensure collection, removal, and disposal of hazardous waste complies with regulations.* • *Immediately clean up spills and leaks.* • *Properly store paints, solvents, and epoxy compounds.* • *Properly store and dispose waste materials generated from painting and structure repair and construction activities.* • *Mix paints in a covered and contained area, when possible, to minimize adverse impacts from spills.* • *Do not apply traffic paint or thermoplastic if rain is forecasted.* • *See Material Storage and Handling Use SM-2, Hazardous Materials and Waste Management Section SM-9, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-21 for additional requirements.* *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.*	*See Material Storage and Handling Use Section SM-2, Stockpile Management Section SM-3, Hazardous Materials and Waste Management Section SM-9, Waste Management, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-21, Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.*

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Industrial chemicals, fertilizers, and/or pesticides	• *Hazardous chemicals shall be well-labeled and stored in original containers.* • *Keep ample supply of cleanup materials on site.* • *Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.* • *Do not clean surfaces or spills by hosing the area down.* • *Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.* • *Dispose container only after all of the product has been used.* • *Retain a complete set of safety data sheets (formerly MSDS) on site.* • *Store industrial chemicals in water-tight containers and provide either cover or secondary containment.* • *Provide cover when storing fertilizers or pesticides to prevent these chemicals from coming into contact with rainwater.* • *Restrict amount of pesticide prepared to quantity necessary for the current application.* • *Do not apply fertilizers or pesticides during or just before a rain event.* • *Do not apply to stormwater conveyance channels with flowing water.* • *Comply with fertilizer and pesticide manufacturer's recommended usage and disposal instructions. Document departures from manufacturer's specifications in Attachment J.* • *Apply fertilizers 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.* • *Follow federal, state, and local laws regarding fertilizer application.* • *Do not dispose of toxic liquid wastes (solvents, used oils, and paints) or chemicals (additives, acids, and curing compounds) in dumpsters allocated for construction debris.*	*See Material Storage and Handling Use Section SM-2, Stockpile Management Section SM-3, and Hazardous Materials and Waste Management Section SM-9, and Spill Prevention and Control SM-10*

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	• *Ensure collection, removal, and disposal of hazardous waste complies with regulations. Hazardous waste that cannot be reused or recycled shall be disposed of by a licensed hazardous waste hauler.* *See Material Storage and Handling Use SM-2, and Hazardous Materials and Waste Management Section SM-9 for additional requirements.*	
Hazardous waste (Batteries, Solvents, Treated Lumber, etc.)	• *Do not dispose of toxic materials in dumpsters allocated for construction debris.* • *Ensure collection, removal, and disposal of hazardous waste complies with regulations.* • *Hazardous waste that cannot be reused or recycled shall be disposed of by a licensed hazardous waste hauler.* • *Segregate and recycle wastes from vehicle/equipment maintenance activities such as used oil or oil filters, greases, cleaning solutions, antifreeze, automotive batteries, and hydraulic and transmission fluids.* • *Store waste in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, and local requirements.* • *All containers stored outside shall be kept away from surface waters and within appropriately sized secondary containment (e.g., spill berms, decks, spill containment pallets). Provide cover if possible.* • *Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.* • *Do not clean surfaces or spills by hosing the area down.* • *Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.*	*See Hazardous Materials and Waste Management Section SM-9 and Vehicle and Equipment Maintenance SM-12*

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	• *Ensure collection, removal, and disposal of hazardous waste complies with manufacturer's recommendations and is in compliance with federal, state, and local requirements.* • *See Hazardous Materials and Waste Management Section SM-9 and Vehicle and Equipment Management, Vehicle and Equipment Maintenance SM-12 for additional requirements.*	
Metals and Building Materials	• *Inspect construction waste and recycling areas regularly.* • *Schedule solid waste collection regularly.* • *If building materials or metals are stored on site (such as rebar or galvanized poles) store under cover under tarps or in containers.* • *Minimize the amount of material stored on site.* • *Do not stockpile uncovered metals or other building materials in close proximity to discharge points.* • *See Solid Waste Management Section SM-6 for additional requirements.*	*See Solid Waste Management Section SM-6*
Contaminated Soil	• *See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Materials and Waste Management Section SM-9 for additional requirements.* • *At minimum contain contaminated material soil by surrounding with impermeable lined berms or cover exposed contaminated material with plastic sheets.*	*See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Materials and Waste Management Section SM-9*

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Fugitive Dust Control and Dust Control Water	• Do not over spray water for dust control purposes which will result in runoff from the area. • Apply water as conditions require. • Washing down of debris or dirt into drainage, sewage systems, or State waters is not allowed. • Minimize exposed areas through the schedule of construction activities. • Utilize vegetation, mulching, sprinkling, and stone/gravel layering to quickly stabilize exposed soil. • Direct construction vehicle traffic to stabilized roadways. • Cover dump trucks hauling material from the site with a tarpaulin. See Dust Control Section SM-19 for additional requirements.	See Dust Control Section SM-19
Concrete Truck Wash Water	• Disposal of concrete truck wash water via percolation is prohibited. • Wash concrete-coated vehicles or equipment off-site or in the designated wash area. • Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies. • Runoff from the on-site concrete wash area shall be contained in a temporary pit or level bermed area where the concrete can set. • Design the area so that no overflow can occur due to inadequate wash area sizing or precipitation. • The temporary pit shall be lined with plastic to prevent seepage of wash water into the ground. • Allow wash water to evaporate or collect wash water and all concrete debris in a concrete washout system bin. • Do not dump liquid wastes into storm drainage system. • Dispose of liquid and solid concrete wastes in compliance with federal, state, and local standards. • See Waste Management, Concrete Wash and Waste Management Section SM-4 for additional requirements.	See Waste Management, Concrete Wash and Waste Management Section SM-4

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Sediment Track-Out	• *Include Stabilized Construction Entrance at all points that exit onto paved roads.* • *A sediment trapping device is required if a wash rack is used in conjunction with the stabilized construction entrance/exit.* • *The pavement shall not be cleaned by washing down the street.* • *If sweeping is ineffective or it is necessary to wash the streets, wash water must be contained either by construction of a sump, diverting the water to an acceptable disposal area, or vacuuming the wash water.* • *Use BMPs for adjacent drainage structures.* • *Remove sediment tracked onto the street by the end of the day in which the track-out occurs.* • *Restrict vehicle use to properly designated exit points.* • *Include additional BMPs that remove sediment prior to exit when minimum dimensions cannot be met.* *See Stabilized Construction Entrance/Exit Section SC-11 for additional requirements.*	*See Stabilized Construction Entrance/Exit Section SC-11*
Irrigation Water	• *Consider irrigation requirements.* • *Where possible, avoid species which require irrigation.* • *Design, timing and application methods of irrigation water to eliminate the runoff of excess irrigation water into the storm water drainage system.* *See Seeding and Planting Section EC-12 and California Stormwater BMP Handbook SD-12 Efficient Irrigation included in SWPPP Attachment A for additional requirements.*	*See Seeding and Planting Section EC-12 and California Stormwater BMP Handbook SD-12 Efficient Irrigation*
Hydrotesting Effluent	• *If work includes removing, relocation or installing waterlines, and Contractor elects to flush waterline or discharge hydrotesting effluent into State waters or drainage systems, the Contractor shall prepare and obtain HDOT acceptance of a NOI/NPDES Permit Form F application for HDOT submittal to DOH CWB at least 30 calendar days prior to the start of Hydrotesting Activities if necessary. Site specific BMPs will be included in the NOI/NPDES Permit Form F submittal.*	*Site specific BMPs will be included in the NOI/NPDES Permit Form F submittal.*

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Pollutant Source	***Appropriate Site-Specific BMP to be Implemented***	***BMP Requirements***
Dewatering Effluent	*If excavation or backfilling operations require dewatering, and Contractor elects to discharge dewatering effluent into State waters or existing drainage systems, Contractor shall prepare and obtain HDOT acceptance of a NOI/NPDES Permit Form G application for HDOT submittal to DOH CWB at least 30 calendar days prior to the start of Dewatering Activities if necessary. See Site Planning and General Practices, Dewatering Operations Section SM-18 for additional requirements.*	*See Dewatering Operations SM-18. Site specific BMPs will be included in the NOI/NPDES Permit Form G submittal.*
Saw-cutting Slurry	• *Saw cut slurry shall be removed from the site by vacuuming.* • *Provide storm drain protection during saw cutting. See Paving Operations Section SM-20 for additional requirements.* *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.*	*See Paving Operations Section SM-20, Storm Drain Inlet Protection SC-1, Perimeter sediment controls where applicable*
Concrete Curing Water	• *Avoid overspraying of curing compounds.* • *Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.* *See California Stormwater BMP Handbook NS-12 Concrete Curing included in SWPPP Attachment A for additional requirements.*	*See California Stormwater BMP Handbook NS-12 Concrete Curing*

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Plaster Waste Water	• *Direct all washwater into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation.* • *Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies.* • *Any significant residual materials remaining on the ground after the completion of construction shall be removed and properly disposed. If the residual materials contaminate the soil, then the contaminated soil shall also be removed and properly disposed of.* • *Plaster waste water shall not be allowed to flow into drainage structures or State waters. See Material, Storage and Handling Use SM-2, Stockpile Management Use Section SM-3, and Hazardous Materials and Waste Management Section SM-9 for additional requirements.*	*See Material, Storage and Handling Use Section SM-2, Stockpile Management Use Section SM-3, and Hazardous Materials and Waste Management Section SM-9*
Water-Jet Wash Water	• *For Water-Jet Wash Water used to clean vehicles, use off site wash racks or commercial washing facilities when practical.* • *See Vehicle and Equipment Cleaning Section SM-11 for additional information.* • *For Water-Jet Wash Water used to clean impervious surfaces, the runoff shall not be allowed to flow into drainage structures or State Waters.*	*See Vehicle and Equipment Cleaning Section SM-11*
Sanitary/Septic Waste	• *Locate Sanitary facilities in a convenient place away from drainage facilities.* • *Position sanitary facilities so they are secure and will not be tipped over or knocked down.* • *Wastewater shall not be discharged to the ground or buried.* • *A licensed service provider shall maintain sanitary/septic facilities in good working order.* • *Schedule regular waste collection by a licensed transporter.* • *See Sanitary Waste Section SM-7 for additional requirements.*	*See Sanitary Waste Section SM-7.*

"

END OF SECTION 209

Make the following Section a part of the Standard Specifications:

"SECTION 212 – ARCHAEOLOGICAL MONITORING

212.01 Description. This section describes having an Archaeological Monitor hired by the Contractor to be present during all ground disturbing activities at the location shown on the plans and as directed by the Engineer.

An archaeological monitoring plan prepared by Pacific Consulting Services, Inc. has been submitted and written acceptance with comments has been provided by the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD). Copies of the accepted archaeological monitoring plan are on file at the office of the Engineer.

212.02 Materials. None.

212.03 Construction. Actual onsite time and specific actions to be followed in the event of inadvertent discoveries will be discussed and agreed upon by the Contractor and the Archaeological Monitor at the pre-construction meeting.

(A) Selection of Archaeological Monitor. The Contractor shall obtain the services of a qualified Archaeologist or Archaeological firm to investigate the sites prior to clearing and grubbing and to monitor construction activities during clearing and grubbing and/or drilling and excavation activities for historic remains such as artifacts, burials, concentrations of shell or charcoal.

The Archaeological Monitor shall work in compliance with Hawai`i Revised Statutes Chapter 6E. The Contractor is prohibited from hiring the Archaeologist that has prepared the approved Archaeological Monitoring Plan for this project. In addition, the Archaeological Monitor shall have an active permit with the State Historic Preservation Division to provide archaeological services. The SHPD Archaeology Branch maintains a listing of State of Hawaii permitted archaeological firms annually. The latest list can be found at the SHPD website or at the following link:

https://dlnr.hawaii.gov/shpd/about/branches/archaeology/

(B) Schedule. The Contractor shall be responsible for ensuring that the Archaeological Monitor is aware of all pertinent construction schedules and that the monitor is present for all subsurface excavation activities within the project area.

(C) Archaeological Monitoring. The Archaeological Monitor and the Contractor are responsible for ensuring that on-site work is halted in an area of significant findings and to protect any such find from any further damage

(i.e., construction fencing, protective covering, etc.). The SHPD office shall be consulted for recommended appropriate mitigation actions.

In the event of the discovery of human remains, work shall cease in the immediate find area. *In situ* human remains shall be left in place, and any disturbed human remains shall only be removed after written notification is received from the SHPD. The monitoring archaeologist shall be responsible for notifying the SHPD office (Culture and History Branch), which, in consultation with the Maui & Lanai Island Burial Council (MLIBC) regional representative, shall determine appropriate mitigation measures.

Close down construction activities in areas where potentially significant discoveries have been made until they have been properly evaluated. Construction activities may continue in unaffected portions of the project area.

Field procedures to be followed for documentation of discovered cultural features or human skeletal remains include:

(1) standard field methods including recordation of profiles showing stratigraphy, cultural layers, etc.;

(2) mapping and photographing of finds other than human remains;

(3) excavation of cultural materials and/or exposed features.

The SHPD archaeologist shall be notified and consulted with regarding treatment of identified features such as cultural layers, artifact or midden concentrations and structural remains.

The Contractor shall take into account the necessity for machine excavation at a speed slow enough to allow for reasonable visual inspection of the work. The Archaeological Monitor shall make a “best effort” to search for significant material culture remains (i.e. artifacts, features, midden, skeletal remains, etc.). Machine excavation speed will need to be slowed in an area where significant material culture remains have been identified.

Significant archaeological discoveries, if they occur, shall be protected and identified by construction “caution” tape, fencing, or other reasonable means, until the SHPD office and the Archaeological Monitor decide appropriate mitigation actions. All recovered material culture remains—with the possible exception of charcoal samples for radiometric analysis—shall remain on Maui. Standard laboratory methods shall be utilized by the Archaeological Monitor in the event that cultural materials are recovered during monitoring and/or mitigation work.

One monitor in most instances shall carry out the necessary fieldwork. Tasks will include observation of grubbing and earth-moving activities.

In the event of night work, the Contractor shall supply adequate lighting for the Archaeological Monitor.

The Contractor shall abide by HRS Chapter 6E-11 which specifies the following: “It shall be unlawful for any person or corporate, to take, appropriate, excavate, injure, destroy, or alter any historic property or aviation artifact located on the private lands of any owner thereof without the owner’s written permission being first obtained. It shall be unlawful for any person, natural or corporate, to take, appropriate, excavate, injure, destroy, or alter any historic property located upon lands owned or controlled by the State or any of its political subdivisions, except as permitted by the department.”

Field methods utilized shall include photographic recordation (where appropriate), artifact excavation (recovery and recordation), profile documentation of cultural layers and stratigraphy, excavation and recordation of exposed features, and mapping of all pertinent features on an appropriate site map. A daily log (field notes) of activities and findings shall also be kept. Gathered information shall be utilized in the preparation of the monitoring report to be submitted to the SHPD.

In the event human skeletal remains are inadvertently disturbed, the SHPD office, the SHPD Cultural Historian, and the MLIBC regional representative shall be notified, and appropriate mitigation actions determined.

The Archaeological Monitor shall periodically visit the monitoring site as often as is necessitated by the nature of the construction activities and archaeological findings. If significant discoveries are made, appropriate mitigation measures shall be discussed with the SHPD office.

The Archaeological Monitor shall curate all cultural materials recovered from this monitoring project on Maui, with the exception of human remains. When analysis is completed, recovered material culture remains shall be turned over to the appropriate parties. The SHPD and the landowner will approve long-term curation arrangements of significant material culture remains.

212.04 Measurement. The Engineer will measure the work required for the archaeological monitoring, including remedial measures, on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation and as ordered by the Engineer.

212.05 Payment. The Engineer will pay for the accepted archaeological monitoring,

including remedial measures, on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation. Payment will be full compensation for the work prescribed in this section, by the Engineer, and in the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

Pay Item	**Pay Unit**
Archaeological Monitoring	Force Account

The Engineer will not pay for work required that is due to the Contractor's convenience, negligence, carelessness or failure to properly monitor excavation activity."

END OF SECTION 212

SECTION 304 – AGGREGATE BASE COURSE

Make the following amendments to said Section:

(I) Amend **304.04 – Measurement** by revising lines 54 to 55 to read as follows:

"**304.04 Measurement.** The Engineer will not measure aggregate base course for payment."

(II) Amend **304.05 – Payment** by revising lines 57 to 66 to read as follows:

"**304.05 Payment.** The Engineer will not pay for the aggregate base course separately. The Engineer shall consider the cost for the accepted aggregate base course as included in the contract price of the various contract items. The cost for the work prescribed in this section and the contract."

END OF SECTION 304

SECTION 305 – AGGREGATE SUBBASE COURSE

Make the following amendments to said Section:

(I) Amend **305.04 – Measurement** by revising lines 54 to 55 to read as follows:

"**305.04 Measurement.** The Engineer will not measure aggregate subbase course for payment."

(II) Amend **305.05 – Payment** by revising lines 57 to 66 to read as follows:

"**305.05 Payment.** The Engineer will not pay for the aggregate subbase course separately. The Engineer shall consider the cost for the accepted aggregate subbase course as included in the contract price of the various contract items. The cost for the work prescribed in this section and the contract."

END OF SECTION 305

SECTION 401 – HOT MIX ASPHALT (HMA) PAVEMENT

Make the following amendments to said Sections:

(I) Amend **Section 401.02 Materials**, by adding the following after line 14:

"Warm Mix Asphalt Additive 702.06"

(II) Amend **Section 401.02(A) General**, by adding the following paragraph after line 24:

"The manufacture of HMA may include warm mix asphalt (WMA) processes in accordance with these specifications. WMA processes include combinations of organic additives, chemical additives, and foaming."

(III) Amend **Section 401.02(A) General**, by replacing lines 36 - 37 to read as follows:

"In surface and binder courses, aggregate for HMA may include RAP quantities up to 20 percent of total mix weight."

(IV) Amend **Section 401.02(C) Submittals**, by adding the following paragraph after line 89:

"The Contractor may use warm mix asphalt (WMA) processes in the production of HMA. The Contractor shall submit to the Engineer for approval, the proposed process and how it will be used in the manufacture of HMA. The process submittal shall include the temperature range of the WMA."

(V) Amend **Section 401.03(B)(3) Asphalt Pavers**, from line 200 to include the following:

"**(h)** Equipped with a mean of preventing the segregation of the coarse aggregate particles from the remainder of the bituminous plant mix when that mix is carried from the paver hopper back to the paver augers. The means and methods used shall be approved by the paver manufacturer and may consist of chain curtains, deflector plates, or other such devices and any combination of these.

The following specific requirements shall apply to the identified bituminous pavers:

(1) Blaw-Knox bituminous pavers shall be equipped with the Blaw-Knox Materials Management Kit (MMK).

(2) Cedarapids bituminous pavers shall be those that were manufactured in 1989 or later.

(3) Barber-Green/Caterpillar bituminous pavers shall be equipped with deflector plates as identified in the December 2000 Service Magazine entitled “New Asphalt Deflector Kit {6630, 6631, 6640}”.

Prior to the start of using the paver for placing plant mix, the Contractor shall submit for approval a full description in writing of the means and methodologies that will be used to prevent bituminous paver segregation. Use of the paver shall not commence prior to receiving approval from the Engineer.

The Contractor shall supply a Certificate of Compliance that verifies that the approved means and methods used to prevent bituminous paver segregation have been implemented on all pavers used on the project and is working in accordance with the manufacturer’s requirements.”

(VI) Amend **Section 401.03(F)(1) HMA Pavement Courses One and a Half Inches Thick Or Greater**, from lines 499 to 505 to read as follows:

“**(1) HMA Pavement Courses One and a Half Inches Thick Or Greater.** Where HMA pavement compacted thickness indicated in the contract documents is 1-1/2 inches or greater, compact to not less than 92.0 percent nor greater than 97.0 percent of the maximum specific gravity determined in accordance with AASHTO T 209, modified by deletion of Supplemental Procedure for Mixtures Containing Porous Aggregate.”

(VII) Amend **Section 401.03(F)(3) HMA Pavement Courses One and a Half Inches Thick or Greater In Special Areas Not Designated For Vehicular Traffic**, from lines 530 to 538 to read as follows:

“**(3) HMA Pavement Courses One and a Half Inches Thick or Greater In Special Areas Not Designated For Vehicular Traffic.** For areas such as bikeways that are not part of roadway and other

areas not subjected to vehicular traffic, compact to not less that 90.0 percent of maximum specific gravity determined in accordance with AASHTO T 209, modified by deletion of Supplemental Procedure for Mixtures Containing Porous Aggregate. Increase asphalt content by at least 0.5 percent above that used for HMA pavements designed for vehicular traffic."

(VIII) Amend **Section 401.04 Measurement**, from lines 597 to 603 to read as follows:

"**401.04 Measurement.** The Engineer will not measure HMA pavement for payment."

(IX) Amend **Section 401.05 Payment**, from lines 605 to 635, to read as follows:

"**401.05 Payment.** The Engineer will not pay for the HMA pavement separately. The Engineer shall consider the cost for the accepted HMA pavement as included in the contract price of the various contract items. The cost for the work prescribed in this section and the contract."

END OF SECTION 401

SECTION 511 – DRILLED SHAFTS

Make the following amendments to said Section:

(I) Amend **511.04 – Measurement** by revising lines 971 to 1017 to read as follows:

"**(B)** The Engineer will measure drilled shaft per cubic yard.

(C) The Engineer will measure standard excavation per cubic yard."

(II) Amend **511.05 – Payment** by revising lines 1019 to 1173 to read as follows:

"**511.05 Payment.** The Engineer will pay for the accepted quantities of drilled shafts at the contract lump sum price or cubic yard as shown in the proposal.

Payment will be full compensation for work prescribed in this section and the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

Pay Item	**Pay Unit**
Furnishing Drilled Shaft Drilling Equipment	Lump Sum

The Engineer will pay for:

(A) 60 percent of the contract bid price when drilling equipment is on job site, assembled, and ready to drill foundation shafts.

(B) 40 percent of the contract bid price upon completion of drilling shafts, and placing shaft concrete up to top of shafts.

Drilled Shaft_____	Cubic Yard

The Engineer will pay for:

(A) 60 percent of the contract bid price upon completion of drilling.

(B) 15 percent of the contract bid price upon completion of furnishing, assembling, and placing steel cage.

(C) 15 percent of the contract bid price upon completion of furnishing and placing concrete.

(D) 10 percent of the contract bid price upon completion of removing and disposing of excavated material.

Standard Excavation _____ Cubic Yard

The Engineer will pay for:

(A) 80 percent of the contract bid price upon completion of excavating for drilled shaft by using conventional tools include augers fitted with soil or rock teeth, drilling buckets, and overreaming (belling buckets) attached to drilling equipment.

(B) 20 percent of the contract bid price upon completion of removing and disposing of excavated material."

END OF SECTION 511

DIVISION 600 - MISCELLANEOUS CONSTRUCTION

Amend **Section 601 - STRUCTURAL CONCRETE** to read as follows:

SECTION 601 - STRUCTURAL CONCRETE

601.01 Description. This section describes structural concrete consisting of Portland Cement, fine aggregate, coarse aggregate, and water. This will include adding admixtures for the purpose of entraining air, retarding or accelerating set, tinting, and other purposes as required or permitted. To reduce the embodied carbon footprint of concrete, concrete design on the island of Oahu shall include the use of carbon dioxide mineralization or equivalent technology. Other methods to reduce the cement content such as use of supplementary cementitious materials (SCMs) or admixtures such as C-S-H nanoparticle-based strength-enhancing admixture (CSH-SEA) or equivalent may also be used to reduce the embodied carbon footprint including the combination thereof the previously mentioned methods.

601.02 Materials.

Portland Cement	701.01
Fine Aggregate for Concrete	703.01
Coarse Aggregate for Portland Cement Concrete	703.02
Admixtures	711.03
Water	712.01

Use coarse aggregate for lightweight concrete conforming to ASTM C330 except Sections 5, 7 and 9.

601.03 Construction.

(A) Quality Control. Portland Cement concrete production requires Contractor responsibility for quality control of materials during handling, blending, mixing, curing, and placement operations.

Sample, test, and inspect concrete to ensure quality control of component materials and concrete. Sampling and testing for quality control in accordance with standard methods shall be performed by certified ACI Concrete Field Technician Grade I. Perform quality control tests for slump, air content, temperature, and unit weight during production of structural concrete other than concrete for incidental construction. Submit quality control test results.

(B) Design and Designation of Concrete. Design concrete mixture for concrete work specified. Submit mix design using State Highways Division form DOT 4-151 or an Engineer accepted equivalent form. Do not start work until the Engineer accepts mix design. The Engineer will accept concrete mix design using information given in Table 601.03-1 - Design of Concrete, and other pertinent requirements.

Whenever 28-day compressive strength, f'_c, is 4,000 psi or greater, designate concrete by required minimum 28-day compressive strength.

The 28-day compressive strength, f'_c, less than 4,000 psi listed in Table 601.03-1 – Design of Concrete, is for design information and designation of class only.

Proportion concrete designated by compressive strength such that concrete conforms to required strength.

Design concrete placed in bridge decks and pavements exposed to traffic wear, with air content of 3 percent, including entrapped and entrained air. Maintain air content for plastic concrete within tolerance of 1 percent air content, plus or minus, during the work.

Use Class BD concrete in bridge deck unless concrete is designated by compressive strength. Incorporate anti-corrosion and shrinkage reduction, water-reducing and set-retarding admixture into concrete mix design, with capability of varying degree of retardation without adversely affecting other characteristics of concrete. Submit design admixture dosage.

Class A concrete shall be used when type of concrete is not indicated in the contract documents.

Design concrete as specified in Table 601.03-1 – Design of Concrete.

TABLE 601.03-1 - DESIGN OF CONCRETE (800 Maximum Cement Content lbs./c.y.)					
Class of Concrete	**28-Day Strength** f'_C, psi.	**Minimum Cement Content lbs./c.y.**	**Maximum Water-Cement Ratio, lb./lb.**	**Minimum Cement Content with Mineralized CO2 lbs./c.y.**	**Maximum Water-Cement Ratio with Mineralized CO2 lb./lb.**
A	3000	532	0.59	504	0.62
B	2500	475	0.66	450	0.70
C	2000	418	0.75	396	0.79
D	1500	380	0.85	360	0.87
BD	3750	610	0.49	NA	NA
SEAL	3000	610	0.55	NA	NA
Designated by Strength f'_c or $^*f'_r$	As Specified	610	0.49	NA	NA
$^*f'_r$ = Specified Modulus of Rupture					

Concrete Design – Projects on Oahu will utilize CO_2 Mineralization technology or equivalent. Supplementary cementitious materials (SCMs), CSH-SEA or equivalent or combination thereof the previously mentioned methods may also be used. Concrete design shall allow a reduction of portland cement content while maintaining the concrete design strength, durability and other requirements. See Table 601.03-1 Design of Concrete specified limits for adjusted minimum cement content and water cement ratio when using CO_2 mineralization. Material certifications for the above shall include a list of at least 3 projects that used the technology, SCMs, admixtures or combination thereof.

Use the absolute volume method to proportion concrete materials in accordance with requirements of concrete designated by class, cement content in pounds per cubic yards, or specified 28-day compressive strength. Use absolute volumetric proportioning methods as outlined in the American Concrete Institute (ACI) Standard 211.1, "Recommended Practices for Selecting Proportions for Normal and Heavyweight Concrete."

Use coarse aggregate size No. 57 (one inch to No. 4) or No. 67 (3/4 inch to No. 4) for concrete. For concrete placed in bottom slabs and stems of box girders, use No. 67 size aggregate. Smaller size aggregates may be permitted when encountering limited space between forms and reinforcement or between reinforcement when accepted by the Engineer in writing. Maximum aggregate size shall not be greater than 1/3 of the space between reinforcing steel bars or reinforcing steel and the form.

Use the following standard methods in Table 601.03-2 – Standard Methods for determining compliance with requirements indicated in this subsection:

TABLE 601.03-2 – STANDARD METHODS

Sampling Fresh Mixed Concrete	AASHTO T 141
Mass Per Cubic Meter (Cubic Foot) Yield and Air Content (Gravimetric) of Concrete	AASHTO T 121
Slump of Hydraulic Cement Concrete	AASHTO T 119
Air Content of Freshly Mixed Concrete by the Pressure Method	AASHTO T 152
Specific Gravity and Absorption of Fine Aggregate	AASHTO T 84
Specific Gravity and Absorption of Coarse Aggregate	AASHTO T 85
Temperature of Freshly Mixed Portland Cement Concrete	ASTM C1064
Making and Curing Concrete Test Specimens in the Field	AASHTO T 23
Compressive Strength of Molded Concrete Cylindrical Specimens	AASHTO T 22 (4 inch by 8 inch or 6 inch by 12 inch cylinders)
Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	AASHTO T 97

When concrete is designated by compressive strength, f'_c, or flexural strength, f'_r, or includes CO2 Mineralization technology, CSH-SEA or SCMs, the Engineer will require prequalification of materials and mix proportions proposed for use before placing such concrete. The Engineer will prequalify concrete based on past performance records using statistical computations of population sizes and (n-1) weighting, or trial batch test reports in compliance with computed minimum average strength for material and mix proportions. The Engineer will determine minimum average strength on probability of not more than one in 20 tests falling below specified strength for the following conditions:

(1) When past performance records are available, furnish the following documented performance records:

(a) Minimum of 15 consecutive 28-day strength tests from projects having same materials and mix proportions.

(b) Two groups totaling 30 or more test results representing similar materials in which mix proportion strengths are within 20 percent of specified strength, from data obtained within one year of proposed use.

The Engineer will analyze performance records to establish standard deviation.

(2) When sufficient past performance records are not provided, the Engineer will assume current standard deviation to be 500 psi for compressive strength, f'_c, and 50 psi for flexural strength, f'_r.

Unless sufficient performance records are available from other projects at DOT Materials Testing and Research Branch, submit test performance records or trial test reports for prequalifications, based on data of most recent tests made on concrete of proposed mix design, and data obtained within one year of proposed use.

When shrinkage reducing admixtures are used, submit test results showing compliance to the Contract Documents' requirements.

Include the following information in test data and trial batch test reports: date of mixing; mixing equipment and procedures used; size of batch in cubic yards and weight, type, and source of ingredients used; slump of concrete; air content of concrete when using air entraining agent; age at time of testing; and strength of concrete cylinders tested.

Show that concrete strength tests equal or exceed minimum average strength in trial test reports. Test is average 28-day test results of five consecutive concrete cylinders or concrete beams taken from single batch. No cylinder or beam shall have strength less than 85 percent of minimum average strength.

Submit test data and trial test reports signed by official of firm that performed tests.

The Engineer reserves the right to stop work when a series of low strength tests occur. Do not continue concrete work until cause is established and the Engineer is informed of and accepts, necessary corrective action to be taken.

(C) Batching. Measure and batch materials in accordance with the following provisions:

(1) Portland Cement. Either sacked or bulk cement may be used. Do not use fraction of sack of cement in concrete batch unless cement is weighed.

Weigh bulk cement on weighing device accepted by the Engineer. Seal and vent bulk cement-weighing hopper properly to preclude dusting during operation. Do not suspend discharge chute from weighing hopper. Arrange discharge chute so that cement will not lodge in hopper or leak from hopper.

Batching accuracy shall be within 1 percent, plus or minus, of required weight.

(2) Water. Measure water by volume or by weight. Use readily adjustable device for measurement of water, with accuracy within 1 percent, plus or minus, of quantity of water required for batch. Arrange device so that variable pressure in water supply line does not affect measurements. Equip measuring tanks with outside taps and valves or other accepted means to allow for checking calibration.

(3) Aggregates. When storing and stockpiling aggregates, avoid separation of coarse and fine particles within each size, and do not intermix various sizes before proportioning. Protect stored or stockpiled aggregates from dust or other foreign matter. Do not stockpile together, aggregates from different sources and of different gradations.

When transporting aggregates from stockpiles or other sources to batching plant, ensure uniform grading of material is maintained. Do not use aggregates that have become segregated or mixed with earth or foreign matter. Stockpile or bin aggregates at least 12 hours before batching. Produce or handle aggregates by hydraulic methods and wash and drain aggregates. If aggregates exhibit high or non-uniform moisture content, the Engineer will order storage or stockpiling for more than 12 hours.

Proportion aggregates by weight, with the exception that aggregates in concrete for minor structures, curbs, and sidewalks may be proportioned by either volume or weight. For volumetric proportioning, use measuring boxes of known capacity to measure quantity of each aggregate size.

Use batch weight based on dry materials plus total weight of moisture (both absorbed and surface) contained in aggregate. Measure individual aggregates to within 2 percent, plus or minus, of required weight, and total weight of aggregates to within 1 percent, plus or minus, of required weight.

(4) Admixtures. Store, proportion, and dispense admixtures in accordance with the following provisions:

(a) Liquid Admixtures. Dispense chemical admixtures, air entraining admixtures, and corrosion inhibiting admixtures in liquid form. Use mechanical dispensers for liquid admixtures with sufficient capacity to measure prescribed quantity for each batch of concrete. Include graduated measuring unit in each dispenser to measure liquid admixtures to within 5 percent, plus or minus, of prescribed quantity for each batch. Read graduations accurately from point of measuring unit, and control proportioning operations to permit visual check of batch accuracy before discharging. Mark each measuring unit clearly for type and quantity of admixture.

Arrange with supplier to provide sampling device consisting of valve located in safe and accessible location for sampling admixtures.

When using more than one liquid admixture for concrete mix, use separate measuring unit for each liquid admixture and dispense separately to avoid interaction that may interfere with admixture efficiency and adversely affect concrete. Dispense liquid admixture by injecting so as not to mix admixture at high concentrations.

When using liquid admixtures in concrete that is completely mixed in paving or continuous mixers, operate dispensers automatically with batching control equipment. Equip such dispensers with automatic warning system that shall provide visible or audible signals at points where proportioning operations are controlled, when the following occurs:

a. Quantity of admixture measured for each batch of concrete varies from pre-selected dosage by more than 5 percent; or

b. Entire contents of measuring unit from dispenser is not emptied into each batch of concrete.

Unless liquid admixtures are added to batch with pre-measured water, discharge liquid admixtures into stream of water that disperses admixtures uniformly throughout batch. An exception is that air-entraining admixtures may be dispensed directly into moist sand in batching bins, provided adequate control of concrete air content can be maintained.

Measure and disperse special admixtures, as recommended by admixture manufacturer, and as accepted by the Engineer. Special admixtures include high-range water reducers requiring dosages greater than capacity of conventional dispensing equipment. For site-added, high-range water reducers, use calibrated, portable dispenser supplied by manufacturer.

(b) Mineral Admixtures. Protect mineral admixtures from exposure to moisture until used. Pile sacked material of each shipment to permit access for tally, inspection, and identification.

Provide adequate facilities to ensure that mineral admixtures meeting specified requirements are kept separate from other mineral admixtures and that only specified mineral admixtures are allowed to enter into the work. Provide safe and suitable facilities for sampling mineral admixtures at weigh hopper or in feed line immediately in advance of hopper.

Incorporate mineral admixtures into concrete using equipment conforming requirements for Portland Cement weigh hoppers and charging and discharging mechanisms specified in ASTM C94 and Subsection 601.03(C) - Batching.

When concrete is completely mixed in stationary paving or continuous mixers, weigh mineral admixture in separate weigh hopper. Introduce mineral admixture and cement simultaneously into mixer, proportionately with aggregate.

When interlocks are required for cement-charging mechanisms, and cement and mineral admixtures are weighed cumulatively, interlock their charging mechanisms to prevent introduction of mineral admixture until mass of cement in weigh hopper is within tolerances specified in Subsection 601.03(C)(1) - Portland Cement.

In determining maximum quantity of free water that may be used in concrete, consider mineral admixture and supplementary cementitious materials (SCMs) to be cement.

(5) Bins and Scales. At batching plant, use individual bins, hoppers, and scale for each aggregate size. Include separate bin, hopper, and scale for bulk cement and fly ash.

Except when proportioning bulk cement for pavement or structures, cement weigh hopper may be attached to separate scale for individual weighing or to aggregate scale for cumulative weighing. If cement is weighed cumulatively, weigh cement before other ingredients.

When proportioning for pavement or structures, keep bulk cement scale and weigh hopper separate and distinct from aggregate weighing equipment.

Use springless-dial or beam-type batching scales. When using beam-type scales, make provisions to show operator that required load in weighing hopper is approaching. Use devices that show condition within last 200 pounds of load and within 50 pounds of overload.

Maintain scale accuracy to 0.5 percent throughout range of use. Design poises to lock to prevent unauthorized change of position. Use scales inspected by the State Measurement Standards Branch of the Department of Agriculture to ensure their continued accuracy. Provide not less than ten 50-pound weights for testing scales.

Batching plants may be equipped to proportion aggregates and bulk cement by automatic weighing devices.

(6) Batching and Hauling. When mixing is to be performed at work site, transport aggregates from batching plant to mixer in batch boxes, vehicle bodies, or other containers of adequate capacity and construction. Use partitions to separate batches and prevent spilling from one compartment to another while in transit or during dumping.

Transport bulk cement to mixer in tight compartments carrying full quantity of cement required for batch. Once cement is placed in contact with aggregates, batches shall be mixed and placed within 1-1/2 hours of contact. Cement in original shipping packages may be transported on top of aggregates. Ensure that each batch contains number of sacks required by job mix.

Deliver batches to mixer intact. Charge each batch into mixer without loss of cement. When carrying more than one batch on truck, charge batch into mixer without spilling material from one batch compartment into another.

(D) Mixing. Mix concrete in mechanically operated mixers.

Use stationary or truck mixers that distribute materials thoroughly and produce concrete uniform in color and appearance. When there is variation in mixed concrete attributable to worn pickup or throw-over blades, the Engineer will inspect mixer. If inspection reveals that blades are worn more than one inch below original height of manufacturer's design, repair or replace blades. Upon request, make copy of manufacturer's design, showing dimensions and arrangement of blades.

Charge batches into central or truck mixers so that portion of mixing water enters ahead of cement and aggregates. Deliver uniform flow of water. Place entire amount of batch water in mixer by end of first quarter of mixing period. When mixers with multiple compartment drums are used, time required to transfer material between compartments will be included as mixing time. Use drum rotation speed as designated by manufacturer. If mixing does not produce concrete of uniform and smooth texture, provide additional revolutions at same speed until thorough mixing of each concrete batch is attained. Begin measuring mixing time from time cement, aggregates, and 60 percent of water are in drum. Do not exceed manufacturer's rated capacity for volume of concrete mixed in each batch.

Equip central or truck mixers with attachment for automatically timing mixing of each concrete batch. Timing device shall include automatic feature for locking discharge chute and device for warning operator when required mixing duration has been met. If timing or locking device fails to operate, immediately furnish clock or watch that indicates seconds, to mixer operator. If timing device is not repaired within three days after becoming inoperative, shut down batching operation until timing device is repaired.

For stationary mixers, use mixing time between 50 seconds and 5 minutes. Select mixing time, as necessary, to produce concrete that meets uniformity criteria when tested in accordance with Section 11.3.3 of ASTM C94. The Contractor may designate mixing time for which uniformity tests are to be performed, provided mixing time is not less than 50 seconds or more than 5 minutes. Before using concrete for pavements or structures, mix concrete to meet specified uniformity requirements. The Contractor shall furnish labor, sampling equipment, and materials required for conducting uniformity tests of concrete mixture. The Engineer will furnish required testing equipment, including scales, cubic measure, and air meter; and will perform tests. The Engineer will not pay separately for labor, equipment, materials, or testing, but will consider the costs incidental to concrete. After batching and mixing operational procedures are established, the Engineer will not allow changes in procedures without the Contractor re-establishing procedures by conducting uniformity tests. Repeat mixer performance tests whenever appearance of concrete or coarse aggregate content of samples is not conforming to requirements of ASTM C94. For truck mixers, add four seconds to specified mixing time if timing starts as soon as skip reaches its maximum raised position.

Unless otherwise indicated in the contract documents or accepted by the Engineer, concrete shall be mixed at proportioning plant. Operate mixer at agitating speed while in transit. Concrete may be truck-mixed only when cement or cement and mixing water are added at point of delivery. Begin mixing truck-mixed concrete immediately after introduction of mixing water to cement and aggregates, or introduction of cement to aggregates.

Inclined-axis, revolving drum truck mixers shall conform to Truck Mixer, Agitator and Front Discharge Concrete Carrier Standards TMMB 100-01, 15th Revision, published by Truck Mixer Manufacturers Bureau. Truck mixers shall produce thoroughly mixed and uniform mass of concrete and shall discharge concrete without segregation.

Manufacturer's standard metal rating plate shall be attached to each truck mixer, stating maximum rating capacity in terms of volume of mixed concrete for various uses and maximum and minimum mixing speeds. When using truck mixers for mixing, adhere to maximum capacity shown on metal rating plate for volume of concrete in each batch.

Operate truck mixers at mixing speed designated by manufacturer, but at not less than 6 or more than 18 revolutions per minute. Mix truck-mixed concrete initially between 70 and 100 revolutions at manufacturer-designated mixing speed, after ingredients, including water, are in mixer. Water may be added to mixture not more than two times after initial mixing is completed. Each time that water is added, turn drum an additional 30 revolutions or more at mixing speed until concrete is mixed uniformly.

When furnishing shrink-mixed concrete, transfer partially mixed concrete at central plant to truck mixer. Apply requirements for truck-mixed concrete. The Engineer will not credit number of revolutions at mixing speed for partial mixing in central plant.

When accepted by the Engineer, hand mixing may be allowed. The entire concrete placement at one location shall not exceed 1/3 cubic yard. It shall be hand mixed on a watertight, level platform. Use no aluminum to construct platform. Measure proper amount of coarse aggregate in measuring boxes and spread on platform. Spread fine aggregate on that coarse aggregate layer. Limit coarse and fine aggregate layers to total depth of one foot. Spread dry cement on this mixture. Turn whole mass not less than two times dry. Add sufficient clean water, distributed evenly. Turn whole mass again, not less than three times, not including placing in carriers or forms.

(E) Transporting Mixed Concrete. Transport central-mixed concrete to delivery point in truck agitators or truck mixers operating at speed designated by equipment manufacturer as agitating speed; or in non-agitating hauling equipment, provided consistency and workability of mixed concrete upon discharge at delivery point is suitable for placement and consolidation in place; and provided mixed concrete after hauling to delivery point conforms to uniformity criteria when tested as specified in Section 12.5 of ASTM C94.

For revolving drum truck mixers transporting central-mixed concrete, limit concrete volume to manufacturer's rated capacity for agitator operation. Maintain agitating speed for both revolving drum mixers and revolving blade type agitators as designated on manufacturer's data plate. Equip truck mixers or truck agitators with electrically or mechanically actuated counters. Actuate counters after introducing cement to aggregates.

Bodies of non-agitating hauling equipment shall be smooth, watertight, metal containers equipped with gates to permit control of concrete discharge. Protect open-topped haul vehicle against weather with cover accepted by the Engineer.

When hauling concrete in non-agitating trucks, complete discharge within 30 minutes after introducing mixing water to cement and aggregates.

When truck mixer or agitator is used for transporting central-mixed concrete to delivery point, complete discharge within 1-1/2 hours, or before 250 revolutions of drum or blades, whichever comes first after introduction of mixing water to cement and aggregates, or cement to aggregates. For truck-mixed concrete, complete concrete discharge within 1-1/2 hours, or before 300 revolutions of drum or blades, whichever comes first. These limitations are permitted to waived if concrete is of such slump after the 1-1/2 hour time or 300-revolution limit has been reached, that it can be placed, without addition of water to the batch.

Submit delivery tickets from manufacturers of truck-mixed concrete and central-mixed concrete with each truckload of concrete before unloading at jobsite. Printed, stamped, or written delivery ticket shall include the following information:

(1) Name of concrete plants.

(2) Serial number of ticket.

(3) Date and truck number.

(4) Name of Contractor.

(5) Specific project, route, or designation of job (name and location), and truck overweight permit number when required.

(6) Specific class or designation of concrete in accordance with contract documents.

(7) Quantity of concrete in cubic yards.

(8) Time of loading batch or mixing of cement and aggregates.

(9) Water added by receiver of concrete and receiver's initials.

(10) Information necessary to calculate total mixing water added by producer. Total mixing water includes free water on aggregates, water, and water added by truck operator from mixer tank.

(11) Readings of non-resettable revolution counters of truck mixers after introduction of cement to aggregates, or introduction of mixing water to cement aggregates.

(12) Supplier's mix number or code.

Furnish additional information designated by the Engineer and required by job specifications upon request.

(F) Consistency. Regulate quantity of water used in concrete mixes so that concrete consistency, as determined by AASHTO T 119 test method, is within nominal slump range specified in Table 601.03-3 - Slump for Concrete or as stated on the accepted concrete mix design. If concrete slump exceeds nominal slump, adjust mixture of subsequent batches. If slump exceeds maximum slump, the Engineer will reject concrete unless deemed satisfactory for its use.

The Engineer will also reject harsh or unworkable concrete that cannot be properly placed. Remove rejected concrete at no increase in contract price or contract time.

Slump for concrete shall be as specified in Table 601.03-3 – Slump for Concrete.

TABLE 601.03-3 - SLUMP FOR CONCRETE

Type of Work	Nominal Slump Inches	Maximum Slump Inches
Concrete Pavements	0 – 3	3-1/2
Reinforced Concrete Structures: Sections Over 12 Inches Sections 12 Inches Thick or Less	 0 – 4 2 – 5	 5 6
Non-Reinforced Concrete Facilities	1 – 3	4
Concrete Placed Underwater	6 – 8	9
Bridge Decks	0 – 3	3-1/2

In adverse or difficult conditions that may affect placement of concrete, the above slump limitations may be exceeded for placement workability, with the addition of admixture conforming to Subsection 711.03 - Admixtures, if accepted by the Engineer in writing and provided water-cement ratio is maintained. Provide additional cement and water, or admixture at no increase in contract price or contract time.

(G) Forms. Construct forms in accordance with applicable sections.

(H) Placing Concrete. Place concrete in accordance with applicable sections.

(I) Finishing Concrete Surfaces. Finish concrete surfaces in accordance with applicable sections.

(J) Curing Concrete. Cure concrete in accordance with applicable sections.

601.04 Measurement. The Engineer will measure concrete in accordance with the applicable sections.

601.05 Payment. The Engineer will pay for the accepted concrete under the applicable sections.

END OF SECTION 601

SECTION 602 – Reinforcing Steel

Make the following amendments to said Section:

(I) Amend **602.02 – Materials** by revising lines 11 to 14 to read as follows:

"Submit Certificate of compliance for reinforcing steel. Steel bars shall conform to ASTM A1035-16 and AASHTO M 334 Grade 100 specifications. Bar identifiers shall be clearly shown on reinforcing bars. Reinforcing steel shall have a maximum of 0.15% Carbon. Reinforcing steel Chromium minimum shall meet AASHTO M 344 M/M 334-17."

(II) Amend **602.04 – Measurement** by revising lines 803 to 808 to read as follows:

"**602.04 Measurement.** The Engineer will not measure reinforcing steel for payment."

(III) Amend **602.05 – Payment** by revising lines 810 to 830 to read as follows:

"**602.05 Payment.** The Engineer will not pay for the accepted reinforcing steel separately. The Engineer shall consider the cost for the accepted reinforcing steel as included in the contract price of the various contract items. The cost is for the work prescribed in this section and the contract documents."

END OF SECTION 602

SECTION 623 – TRAFFIC SIGNAL SYSTEM

Make the following amendment to said Section:

(I) Amend **Section 623.04 - Measurement** by replacing lines 578 to 579 to read:

"**623.04 Measurement.** The Engineer will not measure demolition, software for controller, interconnect, or electrical risers for payment.

(A) The Engineer will measure the controller assembly, foundation for traffic signal controller, traffic signal standard, foundation for traffic signal standard, pedestrian or traffic signal assembly, pedestrian pushbutton, pullbox, loop detector sensing unit, emergency vehicle preemption optical receiver, and advance warning beacon assembly per each in accordance with the contract documents.

(B) The Engineer will measure the EVP cable, traffic signal interconnect subduct, traffic signal ductline, secondary electrical ductline and conductors per linear foot in accordance with the contract documents.

(C) The Engineer will measure Hawaiian Electric Company service connection fees and transformer installation on a force account basis according to Subsection 109.06 – Force Account Provisions and Compensation."

(II) Amend **Section 623.05 – Payment** by replacing lines 581 to 594 to read:

"**623.05 Payment.** The Engineer will pay for the controller assembly at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawing; furnishing and mounting the controller cabinet; furnishing, assembling, wiring, software, and housing the controller and auxiliary equipment; painting the controller cabinet; testing; providing turn-on service; submitting warranty; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for the traffic signal standard at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawing; furnishing and installing the traffic signal standard; wiring; bonding and grounding; testing; providing turn-on service; submitting warranty; and furnishing equipment, tools, labor, materials; and other incidentals necessary to complete the work.

The Engineer will pay for the foundation for controller cabinet and traffic signal standard at the contract unit price per each complete in place. The price includes full compensation for excavating and backfilling; forming; furnishing and placing the reinforcing steel; mixing, placing, and curing the concrete; furnishing

and setting the anchor bolts; restoring the pavement; and furnishing equipment, tools, materials and other incidentals necessary to complete the work.

The Engineer will pay for the pedestrian and traffic signal assembly at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawing; assembling the signal heads; wiring; bonding and grounding; painting the signal head mounting; testing; providing turn-on service; submitting warranty; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for the pedestrian pushbutton with instruction sign at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawing; furnishing and installing the pedestrian pushbutton with the instruction sign; wiring; bonding and grounding; testing; providing turn-on service; submitting warranty; and furnishing equipment, tools, labor, materials; and other incidentals necessary to complete the work.

The Engineer will pay for the pullbox at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawing; furnishing and installing the pullbox at the designated locations; saw cutting; excavating and backfilling; restoration of concrete sidewalks, asphalt concrete pavement and landscaping; coating the frames and covers; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will not pay for the loop detector sensing unit. Existing loop detectors shall remain operational during construction. If the existing loop detectors are damaged, the contractor will be responsible for any costs including (but not limited to) saw cutting; cleaning and blowing the saw cut areas; furnishing and inserting the loop cable; splicing in the pullbox; filling the saw cut groove with epoxy sealer or hot applied rubberized sealant; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will not pay for the interconnect or electrical risers. The work includes furnishing and installing the riser; and furnishing equipment, tools, labor, materials, and other incidentals necessary to complete the work. The Engineer will consider the cost for risers as included in the contract price for the various contract items.

The Engineer will not pay for demolition of the existing traffic signal system. The work includes, but not limited to, removing the existing traffic signal standards, concrete bases, and other incidentals necessary to complete the work. The Engineer will consider the cost for demolition as included in the contract price for the various contract items.

The Engineer will pay for the emergency vehicle preemption (EVP) optical receiver at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawing; furnishing and installing the EVP; wiring; bonding and grounding; testing; providing turn-on service; submitting warranty; and furnishing equipment, tools, labor, materials; and other incidentals necessary to complete the work.

The Engineer will pay for the EVP cable at the contract unit price per linear foot complete in place. The price includes full compensation for furnishing and installing the preemption detector cable from the detector to the cabinet; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for the traffic signal ductlines at the contract unit price per linear foot complete in place. The price includes full compensation for saw cutting; trenching; excavating and backfilling, including asphalt concrete pavement, aggregate base course and aggregate subbase course for trench repair; concrete curb and/or gutter and concrete sidewalk repair; furnishing, installing, bonding, and grounding the conduits and interconnect subducts; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for the traffic signal interconnect subduct at the contract unit price per linear foot complete in place when included in the proposal schedule. The price includes full compensation for furnishing and installing; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for the traffic signal cables at the contract unit price per linear foot complete in place. The price includes full compensation for furnishing, installing, splicing, and taping the cable; furnishing and installing interconnect fabric subducts; making the connections; providing turn-on service; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for the service and metering equipment assembly at the contract price per pay unit. The price includes full compensation for furnishing and installing the meter/main safety socket box, pipe stanchions, pullbox, support structure, ground rod, conduit, conductors; secondary electrical ductlines, saw cutting, excavating and backfilling; furnishing, installing, grounding, terminating conductors, demolition, and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for Hawaiian Electric Company service connection fees and transformer installation on a force account basis according to Subsection 109.06 – Force Account Provisions and Compensation. An estimate amount for the force account is allocated in the proposal schedule under

Hawaiian Electric Company Service Connection Fees and Transformer Installation Fees. The actual amount to be paid will be the sum shown on the accepted force account records whether this sum be more or less than the estimated amount allocated in the proposal schedule.

The Engineer will pay for the accepted advance warning beacon assembly at the contract unit price per each complete in place when included in the proposal schedule. The price includes full compensation for furnishing and installing the advance warning beacon from the beacon to the meter, and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for the relocation of the existing camera detection system at the contract price per pay unit. The price includes full compensation to relocate the existing cameras to the new Type II traffic signal standard mastarms, cables, mountings, and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will consider full compensation for additional materials and labor not shown in the contract that are necessary to complete the installation of the various systems incidental to the various contract items. The Engineer will not allow additional compensation.

The Engineer will pay for the following pay items when included in the proposal schedule:

Pay Item	**Pay Unit**
Controller Assembly with Software _____	Each
Type _____ Traffic Signal Standard _____, Complete	Each
Foundation for _____	Each
_____ Signal Assembly _____	Each
Pedestrian Pushbutton with Instruction Sign	Each
_____ Type _____ Pullbox	Each
EVP Optical Receiver with _____	Each
Traffic Signal Ductline _____	Lin. Ft.
EVP Cable	Lin. Ft.
No. _____, _____ Cable	Lin. Ft.

Hawaiian Electric Company Service Connection Fees and Transformer Installation Fees	Force Account
Relocate Camera Detection System, Complete	Lump Sum
Service and Metering Equipment Assembly, Complete	Lump Sum”

END OF SECTION 623

SECTION 629 - PAVEMENT MARKINGS

Make the following amendments to said Section:

(I) Amend **Subsection 629.03(B) – Temporary Pavement Markings** by revising the third paragraph from line 62 to 63 to read:

"Maintain and replace temporary pavement markings, flexible delineators, and barricades. "

(II) Amend **Table 629.03 – 1 – Temporary Pavement Markings** to read as follows:

"TABLE 629.03-1 TEMPORARY PAVEMENT MARKINGS	
TYPE	**PAVEMENT MARKINGS**
Passing Permitted - Both Sides	Single 4-inch yellow stripe 5 feet in length spaced 20 feet on center with Type D markers spaced 40 feet on center and located on center of 5-foot length of stripe.
Passing Prohibited - Both Sides	Double solid 4-inch yellow stripes with Type D markers placed 20 feet on center on one of 4-inch yellow stripes selected by the Engineer.
Passing Permitted - One Side Only	Single continuous 4-inch yellow stripe with Type D markers placed on stripe 20 feet on center on no-passing side and single 4-inch yellow stripes 5 feet in length spaced 20 feet on center on passing side.
Lane Lines - Lane Changing Permitted	Single 4-inch yellow or white stripe 5 feet in length spaced 20 feet on center with Type C or Type D markers spaced 40 feet on center.
Lane Lines - Lane Changing Prohibited	Double solid 4-inch white stripes with Type C markers placed 20 feet on center on one of the 4-inch white stripes selected by the Engineer.
Crosswalk	Two 12-inch white transverse lines spaced 8 feet on center or as ordered by the Engineer.
Stop Line	Single 12-inch white transverse line.
Note: Paint may be used for temporary markings in areas where final paving is not complete."	

(III) Amend **629.04 – Measurement** by revising lines 292 to 294 to read as follows:

"**629.04 Measurement.**

(A) The Engineer will measure thermoplastic and preformed pavement marking tape per linear foot in accordance with the contract documents. The longitudinal pavement markings will be measured per linear foot as a single stripe for the width specified in the contract and in the proposal. The Engineer will include the longitudinal gaps for skip striping, up to thirty (30) feet long, in the measurement.

The Engineer will not measure the crosswalk markings when contracted on a lump sum basis.

The Engineer will not measure the thermoplastic and pavement marking tape when contracted on a lump sum basis.

The Engineer will not measure temporary pavement markings including flexible delineator posts with reflector makers or Type I Barricades and temporary signs installed for the longitudinal guidance of public traffic over reconstructed areas, cold planed surfaces, newly paved surfaces or other unmarked or scarified areas for payment.

The Contractor shall consider the work required for the removal of pavement markings incidental to the various contract items, except as provided in the proposal or elsewhere in the contract. If the contract stipulates that the Engineer will make payment for the removal of pavement markings, the Engineer will measure the removal of pavement markings.

(B) The Engineer will measure the pavement markers per each for the types shown in the proposal.

The Engineer will not measure the pavement markers when contracted on a lump sum basis.

(C) The Engineer will measure the painted stripes that are twelve (12) inches wide or less as a single stripe. The Engineer will measure the painted stripes over twelve (12) inches wide as two (2) stripes. The Engineer will measure the double stripes that are twelve (12) inches or less in total width including the transverse space between the stripes as a single stripe.

The Engineer will not measure the painted pavement striping including curb markings when contracted on a lump sum basis.

The Engineer will measure the longitudinal pavement markings by the linear foot or per gallon according to the contract. Longitudinal

gaps for skip striping that are 30 feet or less will be included in the measurement.

The Engineer will not measure the crosswalk markings when contracted on a lump sum basis.

(IV) Amend **629.05 – Payment** by revising lines 296 to 330 to read as follows:

"**629.05 Payment.**

(A) The Engineer will pay for thermoplastic and preformed pavement marking tape at the contract price per linear foot or on a lump sum basis according to the contract, complete in place, including primers.

The Engineer will pay for double four (4) inch striping with a four (4) inch space between stripes at the contract price per linear foot or on a lump sum basis according to the contract.

The Engineer will pay for crosswalk markings at the contract price per lane of traffic marked, per each or on a lump sum basis according to the contract.

The contract unit price paid shall be full compensation for furnishing labors, materials, tools, equipment and incidentals and for doing the work involved in furnishing and installing pavement markings complete in place according to the contract.

The Engineer will not pay for the temporary pavement markings including flexible delineator posts with reflector markers or Type I Barricades and temporary signs installed for the longitudinal guidance of public traffic over reconstructed areas, cold planed surfaces, newly paved surfaces or other unmarked or scarified areas for payment if not shown in the proposal separately. The Engineer will consider them incidental to the various contract items.

If the contact specifies payment for removal of pavement markings under unit price pay items, the Engineer will pay for the accepted quantities at the contract unit prices bid. The prices shall be full compensation for removing such items according to the contract.

(B) The Engineer will pay for the various types of pavement markers at the contract price per each or on a lump sum basis according to the contract, complete in place, including adhesives.

(C) The Engineer will pay for painted pavement striping at the contract price per linear foot or on a lump sum basis according to the contract.

The Engineer will pay for quantities of crosswalk marking at the contract price per lane of traffic marked, per each or on a lump sum basis according to the contract.

The Engineer will pay for the following pay items when included in the proposal schedule:

Pay Item	Pay Unit
_____ - Inch Pavement Striping (Thermoplastic Extrusion) _____	Linear Foot
Crosswalk Markings (Thermoplastic Extrusion)	Lump Sum
Type ____ Pavement Marker	Each

END OF SECTION 629

SECTION 631 – TRAFFIC CONTROL, REGULATORY, WARNING, AND MISCELLANEOUS SIGNS

Make the following amendment to said Section:

(I) Amend Section 631.03(C) Labeling of Signs, from lines 42 to 51 to read:

"**(C) Labeling of Signs**. Label back of each sign with sign stickers as directed by the State. Sign stickers will be provided by the State."

(II) Amend **Section 631.04 – Measurement** by replacing lines 67 to 69 to read:

"**631.04 Measurement.** The Engineer will measure regulatory, warning, and miscellaneous signs as complete units of the type and design specified in the proposal.

The Engineer will not measure removal and disposal and storing of existing and temporary signs that the Contractor will not incorporate in the completed highway for payment."

(III) Amend **Section 631.05 – Payment** by replacing lines 71 to 99 to read as follows:

"**631.05 Payment.** The Engineer will pay for regulatory, warning, and miscellaneous signs at the contract price per each for the type and design specified complete in place. Payment will be full compensation for excavating and backfilling, furnishing and installing materials, furnishing equipment, tools, labors and incidentals necessary to complete the work.

The Engineer will not pay for removing and disposing or storing of existing and temporary signs that the Contractor will not incorporate in the completed highway separately. The Engineer will consider them incidental to the various contract items.

The Engineer will pay for the following pay items when included in the proposal schedule:

Pay Item	**Pay Unit**
Regulatory Sign (10 Square Feet or Less)	Each
Regulatory Sign (10 Square Feet or Less) (Sign and Post)	Each
Street Name Sign on Mast Arm	Each"

END OF SECTION 631

SECTION 632 – MARKERS

Make the following amendment to said Section:

(I) Amend **Section 632.04 - Measurement** by replacing lines 79 to 81 to read:

"**632.04 Measurement.** The Engineer will not measure reflector marker and Type II object marker for payment."

(II) Amend **Section 632.05 – Payment** by replacing lines 83 to 100 to read:

"**632.05 Payment.** The Engineer will not pay for reflector marker and Type II object marker separately. The Engineer shall consider the cost for the accepted reflector marker and Type II object marker as included in the contract price of the various contract items. The cost for the work prescribed in this section and the contract.

END OF SECTION 632

SECTION 634 – PORTLAND CEMENT CONCRETE SIDEWALKS

Make the following amendment to said Section:

(I) Amend **Section 634.04 - Measurement** by replacing lines 60 to 61 to read:

"**634.04 Measurement.** The Engineer will not measure Portland cement concrete sidewalks for payment."

(II) Amend **Section 634.05 – Payment** by replacing lines 62 to 72 to read:

"**634.05 Payment.** The Engineer will not pay for the Portland cement concrete sidewalks separately. The Engineer shall consider the cost for the accepted Portland cement concrete sidewalks as included in the contract price of the various contract items. The cost for the work prescribed in this section and the contract."

END OF SECTION 634

Make the following Section a part of the Standard Specifications:

SECTION 636 – E-CONSTRUCTION

636.01 Description. This section specifies requirements for performing the Project in a "paperless" manner, using electronic tools for all submittals, communications, quantity tracking, testing, and sampling, scheduling, quality control, and performance monitoring.

636.02 General Requirements. The Contractor shall implement the use of the E-Construction platform, as provided by the HDOT and directed by the Engineer, for use throughout the project. Paper-based or hard copy submittals will not be accepted.

This Special Provision shall take precedence over all other Specification sections with respect to providing and receiving paper copy communications, submittals, and any project records. Where conflicts exist, and a decision between a hard-copy item and a corresponding electronic version is needed, the electronic version shall be selected, unless otherwise directed by the Engineer.

636.03 Construction

(A) Plans and Specifications. Project drawings will not be provided to the Contractor in hard copy format. An electronic version will be provided in the E-Construction platform for use during the project.

The Contractor shall note all changes to the work, including all subcontractor's work, in electronic format using the E-Construction platform Red annotations shall be used to note changes. Blue annotations shall be used for any additional notes that will be helpful for the State in interpreting the field posted drawings. Other drafting standards may be implemented by the Engineer and shall be adhered to by the Contractor. Changes shall be input by the Contractor and reviewed by the Engineer monthly. The Contractor shall make any changes that the Engineer requires.

(B) Submittals. The Contractor shall provide all required submittals, as listed within the contract documents, via the E-Construction platform. All review, approval, and resubmittal regarding submittals shall also be documented within the E-Construction platform

(C) Correspondence. Electronic mail (email) shall be the preferred method of electronic communication. All communications that affect project scope, schedule, cost, or quality, including changes and requests for information, shall be submitted as directed by the Engineer.

(D) Prosecution and Progress. The Contractor shall provide all administrative, management, and project support documents required by various specification sections, using the E-Construction platform. These elements include, but are not limited to:

(1) Preconstruction Submittals (Section 108.03)
(2) Correspondence regarding Contract Time and Delays (Section 108.05)
(3) Progress Schedules (Section 108.06)
(4) Weekly Meeting preparatory materials (Section 108.07)
(5) Samples, certifications, material data, installation instructions, and shop drawings (Sections 105 and 106)
(6) Field-posted Drawings (Section 648)
(7) Pre-Final Inspection submittals (Section 108.13)
(8) Warranty documentation (Section 108.17)
(9) Project Closing Documents (Section 108.19)

In addition to the foregoing, the Contractor shall provide any other materials, correspondence, and submittals using the E-Construction platform as directed by the Engineer.

(E) Resources. The Contractor shall provide a comprehensive list of Contractor labor and equipment, including all subcontractor labor and equipment, that will be deployed on the project, using spreadsheet-based templates provided in the E-Construction platform. All template fields shall be completed. The submitted information shall comply with the requirements of Specification Section 108 – Prosecution and Progress (identification of labor and equipment resources) and Specification Section 109 - Measurement and Payment (cost data) and represent all individual personnel with labor categories and rates, and all equipment owned or rented, with associated rates, on this project. Updates for additional personnel or equipment shall be accomplished by the Contractor at will and shall be completed when directed by the Engineer.

636.04 Measurement. The Engineer will measure additional E-Construction programs, additional licenses, or additional equipment, if ordered by the Engineer, on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

636.05 Payment. The Engineer will pay for the additional E-Construction programs, additional licenses, or additional equipment, on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

The Engineer may withhold progress payment until the Contractor is in compliance with all E-Construction requirements.

Pay Item	Pay Unit
Additional E-Construction Programs, additional licenses or additional equipment	Force Account

An estimated amount for force account may be allocated in the proposal schedule under "Additional E-Construction Programs, additional licenses or additional equipment." The actual amount to be paid will be the sum shown on accepted force account records.

END SECTION 636

SECTION 638 – PORTLAND CEMENT CONCRETE CURB AND GUTTER

Make the following amendments to said Section:

(I) Amend **638.04 – Measurement** by revising lines 130 to 131 to read as follows:

"**638.04 Measurement.** The Engineer will not measure curb and/or gutter for payment."

(II) Amend **638.05 – Payment** by revising lines 133 to 148 to read as follows:

"**638.05 Payment.** The Engineer will not pay for the curb and/or gutter separately. The Engineer shall consider the cost for the accepted curb and/or gutter as included in the contract price of the various contract items. The cost for the work prescribed in this section and the contract."

END OF SECTION 638

SECTION 645 - WORK ZONE TRAFFIC CONTROL

Make the following amendments to said Section:

(I) Amend **Subsection 645.03 Construction** by adding this paragraph after line 170 to read as follows:

"**(1) Covers.** Use sign covers when existing signs confuse the public or are in conflict with TCP signs installed. Sign covers shall be commercially manufactured and accepted by the Engineer before use. Sign covers shall at all times and under all conditions not allow any portion of the sign being covered to be visible. If more than one side of the sign has words or symbols cover all sides of the sign until needed. "Homemade" or "field made" covers shall not be used. Covering of sign identification markings are not required if that is the only markings on that side of the sign. Sign covers shall be maintained.

Removal of the existing sign in lieu of the use of sign covers may be acceptable to the Engineer provided the previously removed existing sign is immediately reinstalled when directed. Removal of existing post(s) and mounting hardware is required if not used to mount the new TCP sign. New mounting hardware shall be used to mount the TCP signs if the existing hardware is in an unacceptable condition in the opinion of the Engineer. In addition, should the sign or post during storage, in the opinion of the Engineer, become unacceptable or lost or stolen the Contractor shall replace the sign or post with a new sign or post. Use new hardware to reinstall the sign regardless whether it is an existing sign or new."

(II) Amend **Subsection 645.03(F) Lane Closures** Line 253 by changing "Oahu" to Maui".

(III) Amend **Subsection 645.03(H) Advertisement** from line 391 to line 392 to read as follows:

"Place advertisement for three consecutive days and within one week before traffic pattern changes, in publication as ordered by the Engineer. In lieu of the advertisement(s), the Engineer may substitute the use of two portable changeable message boards and accessories at no additional cost for three days for each required advertisement."

(IV) Amend **Subsection 645.04 - Measurement** from line 394 to line 403 to read as follows:

"**645.04 Measurement.**

(A) Traffic control as specified in Subsection 645.03 – Construction including sign covers and the initial advertisement(s) will be measured on contract

lump sum basis. Measurement for payment will not apply.

(B) The Engineer will measure additional police officers, additional traffic control devices, and additional advertisements, if ordered by the Engineer, on a force account basis, in accordance with Subsection 109.06 – Force Account Provisions and Compensation.'

(V) Amend **Subsection 645.05 - Payment** from lines 405 to 428 to read:

"**645.05 Payment.** The Engineer will pay for the accepted traffic control, additional police officers, and additional traffic control devices, and additional advertisements at the contract price per pay unit, as shown in the proposal schedule. Payment will be full compensation for the work prescribed in this section and the contract documents.

The Engineer will pay for the following pay items when included in the proposal schedule:

Pay Item	**Pay Unit**
Traffic Control	Lump Sum
Additional Police Officers, Additional Traffic Control Devices, and Additional Advertisements	Force Account

An estimated amount for the force account may be allocated in the proposal schedule under "Additional Police Officers, Additional Traffic Control Devices, and Additional Advertisements", but the actual amount to be paid will be the sum shown on the accepted force account records, whether this sum be more or less than the estimated amount allocated in the proposal schedule.

The Engineer will not pay for request submittals. The Engineer will not consider claims for additional compensation of late submittals or requests by Contractor."

END OF SECTION 645

SECTION 650 – CURB RAMPS

Make the following amendments to said Section:

(I) Amend **650.04 – Measurement** by revising lines 41 to 42 to read as follows:

"**650.04 Measurement.**

(A) Curb ramps will be paid on a lump sum basis. Measurement for payment will not apply.

The Engineer will measure detectable warning mats per each in accordance with the contract documents.

(B) The Engineer will measure accepted curb ramps and detectable warning mats per each in accordance with the contract documents."

(II) Amend **650.05 – Payment** by revising lines 45 to 51 to read as follows:

"**650.05 Payment.**

(A) The Engineer will pay for the accepted curb ramps on a contract lump sum basis. Payment will be full compensation for work prescribed in this section and the contract documents. The price includes full compensation for saw cutting; trenching; excavating and backfilling, including asphalt concrete pavement, aggregate base course and aggregate subbase course; concrete curb and/or gutter and concrete sidewalk and/or concrete island construction; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

(B) The Engineer will pay for the accepted detectable warning mats at the contract unit price per each. Payment will be full compensation for the work prescribed in this section and the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

	Pay Item	**Pay Unit**
(A)	Curb Ramp, Type _____	Lump Sum
(B)	Detectable Warning Mat	Each"

END OF SECTION 650

Make the following a part of the standard specifications:

"**SECTION 651 - ELECTRICAL GENERAL REQUIREMENTS**

651.01 GENERAL CONDITIONS

(A) Comply with Hawaii State Laws and regulations including State of Hawaii Department of Transportation requirements and regulations that apply to construction and repair project.

(B) Electrical characteristics for this project shall be 120/240 volts secondary, single phase, three wire. Final connections to the power distribution system at the existing utility pole shall be made by the utility company.

651.02 RELATED WORK SPECIFIED IN OTHER SECTIONS

This section applies to Section 651 – ELECTRICAL GENERAL REQUIREMENTS, Section 652 – WIRING SYSTEMS and Section 753 – UNDERGROUND ELECTRICAL WORK unless specified otherwise in the individual sections.

651.03 REFERENCE SPECIFICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

(A) INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

(1) IEEE C2 (2017; Errata 1-2 2017; INT 1 2017) National Electrical Safety Code

(2) IEEE 100 (2000; Archived) The Authoritative Dictionary of IEEE Standards Terms

(B) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

(1) NFPA 70 (2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code

(C) Comply with ordinances of the county having jurisdiction over this project.

(D) Applicable portions of the latest edition of Standard Specifications for Public Works Construction, issued by the County, are included as a part of this Section.

(E) Installation of any aerial or underground distribution system for public utility service use shall comply with Chapter 6-73, Hawaii Administrative Rules, "Installation, Operation, and Maintenance of Overhead and Underground Electrical Supply and Communication Lines."

(F) Obtain and comply with all utility company standards and drawings related this project.

651.04 SUBMITTALS

(A) Submittals required in the sections which refer to this section shall conform to the following additional requirements. Submittals shall include the manufacturer's name, trade name, place of manufacture, catalog model or number, nameplate data, size, layout dimensions, capacity, project specification and technical paragraph reference. Submittals shall also include applicable industry and technical society publication references, and years of satisfactory service, and other information necessary to establish contract compliance of each item to be provided. Photographs of existing installations are unacceptable and will be returned without approval. Transmittal letter shall include a listing of all items by manufacturer and catalog number which are included in the submittal package and shall clearly identify the submittal with this project.

(B) Submittals for each manufactured item shall be current manufacturer's descriptive literature of cataloged products, equipment drawings, diagrams, performance and characteristic curves, and catalog cuts. Handwritten and typed modifications and other notations not part of the manufacturer's preprinted data may result in the rejection of the submittal. Should manufacturer's data require supplemental information for clarification, the supplemental information shall be submitted as specified for certificates of compliance.

(C) Submit drawings a minimum of 11 inches by 17 inches in size using a minimum scale of 1/8 inch per foot, except as specified otherwise. Include wiring diagrams and installation details of equipment indicating proposed location, layout and arrangement, control panels, accessories, piping, ductwork, and other items that must be shown to ensure a coordinated installation. Wiring diagrams shall identify circuit terminals and indicate the internal wiring for each item of equipment and the interconnection between each item of equipment. Drawings shall indicate adequate clearance for operation, maintenance, and replacement of operating equipment devices.

(D) Where installation procedures or part of the installation procedures are required to be in accordance with manufacturer's instructions, submit printed copies of those instructions prior to installation. Installation of the item shall not proceed until manufacturer's instructions are received. Failure to submit manufacturer's instructions shall be cause for rejection of the equipment or material.

(E) Submit manufacturer's certifications as required for products, materials, finishes, and equipment as specified in the technical sections. Certificates from material suppliers are not acceptable. Preprinted certifications and copies of previously submitted documents will not be acceptable. The

manufacturer's certifications shall name the appropriate products, equipment, or materials and the publication specified as controlling the quality of that item. Certification shall not contain statements to imply that the item does not meet requirements specified, such as "as good as"; "achieve the same end use and results as materials formulated in accordance with the referenced publications"; or "equal or exceed the service and performance of the specified material." Certifications shall simply state that the item conforms to the requirements specified. Certificates shall be printed on the manufacturer's letterhead and shall be signed by the manufacturer's official authorized to sign certificates of compliance.

(F) Where equipment or materials are specified to conform to industry and technical society reference standards of organizations such as American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), National Electrical Manufacturers Association (NEMA), and Underwriters Laboratories Inc. (UL), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance.

(G) In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing. The certificate shall state that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

(H) Submit text of posted operating instructions for each system and principal item of equipment as specified in the technical sections.

(I) All shop drawings and other required submittals shall be submitted in electronic PDF format.

651.05 DEFINITIONS

(A) Unless otherwise specified or indicated, electrical and electronics terms used in these specifications, and on the drawings, shall be as defined in IEEE 100.

(B) The technical sections referred to herein are those specification sections that describe products, installation procedures, and equipment operations and that refer to this section for detailed description of submittal types.

(C) The technical paragraphs referred to herein are those paragraphs in PART 2 - PRODUCTS and PART 3 - EXECUTION of the technical sections that describe products, systems, installation procedures, equipment, and test methods.

651.06 QUALITY ASSURANCE

(A) Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material,

design and workmanship. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period.

(B) Equipment, materials, installation, and workmanship shall be in accordance with the mandatory and advisory provisions of NFPA 70.

(C) Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished.

(D) The equipment items shall be supported by service organizations which are reasonably convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract. Where two or more items of the same class of equipment are required, these items shall be products of a single manufacturer; however, the component parts of the item need not be the products of the same manufacturer unless stated in the technical section.

(E) Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.

(F) In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the County Building Department.

651.07 NAMEPLATE

(A) Electrical Apparatus: Provide laminated plastic nameplates for each panelboard, equipment enclosure, relay, enclosed circuit breaker, and disconnect switch. Each nameplate inscription shall identify the function and, when applicable, the position. Nameplates shall be melamine plastic, 0.125-inch thick, white center core. Surface shall be matte finish. Corners shall be square. Accurately align lettering and engrave into the core. Minimum size of nameplates shall be 1 by 2.5 inches. Lettering shall be a minimum of 0.25-inch high normal block style.

(B) Electrical Devices: Provide an adhesive vinyl nameplate for all miscellaneous devices requiring power. The nameplate shall indicate the panel serving the device and the corresponding circuit assignment. Lettering shall be 1/8” high. “Dymo” type impression labels utilizing an adhesive embossing tape are not acceptable. Utilize the Brother label maker system or approved substitute.

651.08 ELECTRICAL REQUIREMENTS

Electrical installations shall conform to IEEE C2, NFPA 70, and requirements specified herein.

651.09 INSTRUCTION TO STATE PERSONNEL

Where specified in the technical sections, furnish the services of competent instructors to give full instruction to personnel in the adjustment, operation, and maintenance of the specified systems and equipment, including pertinent safety requirements as required. Instructors shall be thoroughly familiar with all parts of the installation and shall be trained in operating theory as well as practical operation and maintenance work. Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over for regular operation. The number of man-days (8 hours per day) of instruction furnished shall be as specified in the individual section. When more than 4 man-days of instruction are specified, use approximately half of the time for classroom instruction. Use other time for instruction with equipment or system. When significant changes or modifications in the equipment or system are made under the terms of the contract, provide additional instructions to acquaint the operating personnel with the changes or modifications.

651.10 AS-BUILT DRAWINGS

Submit as-built drawings at the conclusion of the construction period.

651.11 PAYMENT OF FEES

(A) Obtain and pay for all building and/or electrical permits as required.

(B) Pay for all utility company charges related to this project where charges are required.

651.12 JOBSITE CONDITIONS

(A) These specifications are accompanied by construction drawings including building and site plans of all trades showing locations of all outlet, switches, service runs, feeder runs, devices, and other electrical equipment. The locations are approximate and before installing, study adjacent architectural details and make installation in most logical manner. Any device may be relocated within 10’-0” before installation at direction of the Contracting Officer without additional cost to the State.

(B) Before installing, verify all dimensions and sizes of equipment.

(C) Verify that electrical system may be installed in strict accordance with the original design, the Drawings and Specifications and the manufacturer’s recommendation.

(D) In the event of discrepancy, immediately notify the Contracting Officer. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

651.13 PAINTING OF EQUIPMENT

(A) Electrical equipment shall have factory-applied painting systems which shall meet the requirements specified in the technical sections.

(B) Painting of Electrical Equipment shall be as follows:

(1) Exterior Locations: Prime all exposed conduits, boxes, fittings, support channels, mounting hardware and accessories with a 2-part epoxy primer and finish with 2 coats of an aliphatic acrylic urethane paint. Paint finish to match the surface on which they are mounted or to match the finish of the adjacent surfaces. Stainless steel materials need not be painted.

651.14 NAMEPLATE MOUNTING

Provide number, location, and letter designation of nameplates as indicated. Fasten nameplates to the device with a minimum of two sheet-metal screws or two rivets.

651.15 COORDINATION OF WORK WITH THE UTILITY COMPANIES

Coordinate all work for this project with the utility companies involved. The contractor is responsible for obtaining all utility company requirements and incorporating them in the work. The Contracting Officer shall be informed if there are any differences between what is required by the utility companies and what is shown on the contract documents before any work is performed.

651.16 INSPECTION

Arrange for periodic inspection by the local authorities and deliver certificate of final inspection to the State. Arrange for periodic inspection by the utility companies of work over which they have jurisdiction and obtain their approval therefor.

651.17 AS-BUILT DRAWINGS

Submit as-built drawings incorporating all field changes and modifications on reproducible media at the conclusion of the project.

END OF SECTION 651”

Make the following a part of the standard specifications:

"SECTION 652 – WIRING SYSTEMS

652.01 GENERAL CONDITIONS

Comply with Hawaii State Laws and regulations including State of Hawaii Department of Transportation requirements and regulations that apply to construction and repair project.

652.02 RELATED WORK SPECIFIED IN OTHER SECTIONS

Section 651 – ELECTRICAL GENERAL REQUIREMENTS applies to this section with additions and modifications specified herein.

652.03 REFERENCE SPECIFICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

(A) NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

(1) NEMA TC 2 (2020) Standard for Electrical Polyvinyl Chloride (PVC) Conduit

(2) NEMA TC 3 (2016) Standard for Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing

(B) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

(1) NFPA 70 (2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code

(C) UNDERWRITERS LABORATORIES, INC. (UL)

(1) UL 6 (2007; Reprint Sep 2019) UL Standard for Safety Electrical Rigid Metal Conduit-Steel

(2) UL 50 (2015) UL Standard for Safety Enclosures for Electrical Equipment, Non-Environmental Considerations

(3) UL 360 (2013; Reprint Oct 2020) Liquid-Tight Flexible Steel Conduit

(4) UL 514B (2012; Reprint May 2020) Conduit, Tubing and Cable Fittings

(5) UL 651 (2011; Reprint Mar 2020) Standard for Schedule 40 and 80 Rigid PVC Conduit and Fittings

652.04 SUBMITTALS

(A) Manufacturer's Catalog Data:

(1) Circuit breakers

(2) Large junction boxes

(3) Metering equipment

(B) Shop Drawings:

(1) Metering equipment

(C) Field Test Reports: Submit test results for approval in report form.

(1) 600-volt wiring test

(2) Grounding system test

(D) All shop drawings and other required submittals shall be submitted in electronic PDF format.

652.05 QUALITY ASSURANCE

In each standard referred to herein, consider the advisory provisions to be mandatory, as though the word "shall" has been substituted for "should" wherever it appears. Interpret references in these standards to "authority having jurisdiction," or words of similar meaning, to mean County Building Department.

652.06 MATERIALS AND EQUIPMENT

Materials, equipment, and devices shall, as minimum, meet requirements of UL, where UL standards are established for those items, and requirements of NFPA 70.

652.07 CONDUIT AND FITTINGS

(A) Plastic-coated Rigid Steel Conduit: NEMA RN 1, UL 6, Type 40 (40 mils thick).

(B) Rigid Nonmetallic Conduit: PVC Type EPC-40, in accordance with NEMA TC 2, UL 651.

(C) Fittings for Rigid Nonmetallic Conduit: NEMA TC 3, UL 514B.

652.08 CABINETS, JUNCTION BOXES, AND PULL BOXES

UL 50. Volume greater than 100 cubic inches, galvanized, zinc-coated, if sheet steel. Provide of special materials (stainless steel, non-metallic, etc.) where indicated in the contract documents.

652.09 WIRES AND CABLES

(A) Wires and cables shall meet applicable requirements of NFPA 70 and UL for type of insulation, jacket, and conductor specified or indicated. Wires and cables manufactured more than 12 months prior to date of delivery to site shall not be used.

(B) Conductors: No. 10 AWG and smaller diameter shall be solid; No. 8 AWG and larger diameter shall be stranded. Conductors shall be copper.

(C) Minimum Conductor Sizes: Minimum size for branch circuits shall be No. 12 AWG.

(D) Color Coding: Provide for service, feeder, branch, control, and signaling circuit conductors. Color shall be green for grounding conductors and white for neutrals; except where neutrals of more than one system are installed in same raceway or box, other neutral shall be white with colored (not green) stripe.

Color of ungrounded conductors in different voltage systems shall be as follows:

(1) 120/240 volt, single phase: red and black

(E) Insulation: Unless specified or indicated otherwise or required by NFPA 70, power and lighting wires shall be 600-volt, Type THHN/THWN-2. Provide only conductors with 90-degrees C insulation or better.

(F) Bonding Conductors: Solid bare copper wire for sizes No. 8 AWG and smaller diameter; Class B, stranded bare copper wire for sizes No. 6 AWG and larger diameter.

(G) Service Entrance Cables: Service Entrance (SE) and Underground Service Entrance (USE) Cables

652.10 SPLICES AND TERMINATION COMPONENTS

Connectors for No. 10 AWG and smaller diameter wires shall be insulated, pressure-type (twist-on splicing connector). Provide solderless terminal lugs on stranded conductors.

Circuit Breakers: Thermal magnetic-type with interrupting capacity as indicated. Breaker terminals shall be UL listed as suitable for type of conductor provided. Plug-in circuit breakers and series rated circuit breakers unacceptable.

652.11 GROUNDING AND BONDING EQUIPMENT

Ground rods shall be copper-clad steel, with minimum diameter of 3/4 inch and minimum length of 10 feet.

652.12 NAMEPLATES

Provide as specified in Section 651 – ELECTRICAL GENERAL REQUIREMENTS.

652.13 INSTALLATION

Electrical installations shall conform to requirements of NFPA 70 and to requirements specified herein.

652.14 UNDERGROUND SERVICE

Underground service conductors and associated conduit shall be continuous from service entrance equipment to outdoor power system connection.

652.15 SERVICE ENTRANCE IDENTIFICATION

Service entrance disconnect devices, switches, or enclosures shall be labeled or identified as such.

652.16 WIRING METHODS

(A) Provide insulated conductors installed in conduit, except where specifically indicated or specified otherwise or required by NFPA 70 to be installed otherwise. Provide insulated, green equipment grounding conductor in feeder and branch circuits, including lighting circuits. Grounding conductor shall be separate from electrical system neutral conductor. Provide insulated, green conductor for grounding conductors installed in conduit or raceways. Minimum conduit size shall be 1/2 inch in diameter for low voltage lighting and power circuits. Vertical distribution in multiple story buildings shall be made with metal conduit in fire-rated shafts. Metal conduit shall extend through shafts for minimum distance of 6 inches. Conduit which penetrates fire walls, fire partitions, or floors shall be metallic on both sides of fire walls, fire partitions, or floors for minimum distance of 6 inches.

(B) Conduit, Underground: Underground portion shall be encased in minimum of 3 inches of concrete and shall be installed minimum 24 inches below slab or grade.

(C) Conduit, Above ground: Plastic-coated rigid steel.

652.17 CONDUIT INSTALLATION

(A) Conduit Support: Support conduit by stainless steel pipe straps.

(B) Fasteners: Fasten by wood screws to wood; by hollow wall anchors, toggle bolts or threaded drywall anchors in hollow wall construction; by toggle bolts or concrete screw anchors on hollow masonry units; by concrete insert-type anchors, concrete screw anchors, or expansion-type anchors in concrete or brick; and by machine screws, welded threaded studs, or spring-tension clamps on steel work. Spring-steel fasteners may be used for lighting branch circuit conduit supports in suspended ceilings in dry locations. Threaded C-clamps may be used on rigid steel conduit only. Do not weld conduits or pipe straps to steel structures. Fasteners shall be medium- or heavy-duty type only. Plastic insert-type fasteners are not acceptable. Load applied to fasteners shall not exceed one-fourth proof test load. Fasteners attached to concrete ceiling shall be vibration-resistant and shock-resistant. Holes cut to depth of more than 1 1/2 inches in reinforced concrete beams or to depth of more than 3/4 inch in concrete joints shall not cut main reinforcing bars. Fill unused holes. Utilize stainless steel materials where indicated.

(C) Directional Changes in Conduit Runs: Make changes in direction of runs with symmetrical bends or cast-metal fittings. Make field-made bends and offsets with hickey or conduit-bending machine. Do not install crushed or deformed conduits. Avoid trapped conduits. Prevent plaster, dirt, or trash from lodging in conduits, boxes, fittings, and equipment during construction. Free clogged conduits of obstructions.

(D) Pull String: Install pull string in empty conduits in which wire is to be installed by others. Pull string shall be plastic having minimum 200-pound tensile strength. Leave minimum 12 inches of slack at each end of pull string.

(E) Locknuts and Bushings: Fasten conduits to sheet metal boxes and cabinets with two locknuts where required by NFPA 70, where insulated bushings are used, and where bushings cannot be brought into firm contact with the box; otherwise, use minimum single locknut and bushing. Locknuts shall have sharp edges for digging into wall of metal enclosures. Install bushings on ends of conduits, and provide insulating type where required by NFPA 70.

652.18 BOXES, OUTLETS, AND SUPPORTS

(A) Provide boxes as indicated. Each box shall have volume required by NFPA 70 for number of conductors enclosed in box. Provide gaskets for boxes installed in wet locations. Fasten boxes and supports with wood screws on wood; by hollow wall anchors, toggle bolts or threaded drywall anchors in hollow wall construction; by toggle bolts or concrete screw anchors on hollow masonry units; by concrete insert-type anchors, concrete screw anchors, or expansion-type anchors in concrete or brick, and with machine screws or welded studs on steel. Provide stainless steel materials where indicated.

(B) Service Pull Boxes: NEMA 3R constructed of stainless steel. Size as indicated in drawings. Pull box shall be sealable.

652.19 MOUNTING HEIGHTS

Mount circuit breakers so height of any operating handle at its highest position is maximum 78 inches above floor. Measure mounting heights of wiring devices and outlets to center of device or outlet.

652.20 CONDUCTOR IDENTIFICATION

Provide conductor identification within each enclosure where tap, splice, or termination is made. For conductors No. 6 AWG and smaller diameter, color coding shall be by factory-applied, color-impregnated insulation. For conductors No. 4 AWG and larger diameter, color coding shall be by plastic-coated, self-sticking markers; colored nylon cable ties and plates; or heat shrink-type sleeves. Identify control circuit terminations.

652.21 SPLICES

Make splices in accessible locations. Make splices in conductors No. 10 AWG and smaller diameter with insulated, pressure-type connector. Make splices in conductors No. 8 AWG and larger diameter with solderless connector, and cover with insulation material equivalent to conductor insulation.

652.22 COVERS AND DEVICE PLATES

Covers shall be gasketed.

652.23 GROUNDING AND BONDING

(A) In accordance with NFPA 70. Ground-exposed, noncurrent-carrying metallic parts of electrical equipment, metallic raceway systems, grounding conductor in metallic and nonmetallic raceways, and neutral conductor of wiring systems. Make ground connection at main service equipment.

(B) Grounding Conductor: Provide insulated, green equipment grounding conductor in feeder and branch circuits, including lighting circuits. Grounding conductor shall be separate from electrical system neutral conductor. Provide insulated, green conductor for grounding conductors installed in conduit or raceways.

(C) Resistance: Maximum resistance-to-ground of grounding system shall not exceed 25 ohms under dry conditions. Where resistance obtained exceeds 25 ohms, contact the Contracting Officer for further instructions.

652.24 FIELD QUALITY CONTROL

(A) Devices Subject to Manual Operation: Each device subject to manual operation shall be operated at least five times, demonstrating satisfactory operation each time.

(B) Test on 600-volt Wiring: Test 600-volt wiring to verify that no short circuits or accidental grounds exist. Perform insulation resistance tests on wiring No. 6 AWG and larger diameter using instrument which applies voltage of approximately 500 volts to provide direct reading of resistance. Minimum resistance shall be 250,000 ohms.

(C) Grounding System Test: Test grounding system to ensure continuity and resistance to ground is not excessive. Test each ground rod for resistance to ground before making connections to rod; tie grounding system together and test for resistance to ground. Make resistance measurements in dry weather, not earlier than 48 hours after rainfall. Submit written results of each test to Contracting Officer, and indicate location of rods as well as resistance and soil conditions at time measurements were made.

END OF SECTION 652"

SECTION 699 – MOBILIZATION

Make the following amendments to said Section:

(I) Amend **699.03 Applicability** by revising from lines 21 to 24 to read as follows:

"**699.03 Applicability.** Maximum bid allowed for this item is an amount not to exceed 6 percent of the sum of all items excluding the bid price of this item."

(II) Amend **699.05 Payment** by revising from lines 44 to 47 to read as follows:

"Mobilization (Not to exceed 6 percent of the sum of all items excluding the bid price of this item) Lump Sum"

END OF SECTION 699

SECTION 750 – TRAFFIC CONTROL SIGN AND MARKER MATERIALS

Make the following amendments to said Section:

(I) Amend **Subsection 750.01(A)(1) Retroreflectorization** by replacing lines 8 through 31 to read:

"(1) Retroreflectorization. The following shall be retroreflectorized:

(a) Background for illuminated guide signs and exit number panels ("E" designation) with ASTM D 4956 Type XI retroreflective sheeting.

(b) Background for non-illuminated guide signs and exit number panels ("D" designation) with ASTM D 4956 Type XI retroreflective sheeting.

(c) Messages, arrows, and borders of guide signs and exit number panels ("D" and "E" designations) with ASTM D 4956 Type XI retroreflective sheeting.

(d) Regulatory and warning signs, directional signs ("DIR" designation), route and auxiliary markers, shield symbols, yellow "EXIT ONLY" panels, construction warning signs, and barricade rails, completely, with Type III, IV, or IX retroreflective sheeting.

(e) Pedestrian, school, bicycle crossing series, completely with Type IX fluorescent yellow green retroreflective sheeting."

(II) Amend **Subsection 750.01(B) Backing** by replacing lines 72 through 73 to read:

"Aluminum sheet shall conform to ASTM B 209, alloy 5052-H38 or 6061-T6 flat sheet."

(III) Amend **Subsection 750.01(E) Retroreflective Sheeting Materials** by replacing lines 1126 through 1137 to read:

"**(E) Retroreflective Sheeting Materials.** Retroreflective sheeting includes white or colored sheeting having smooth outer surface.

Retroreflective sheeting shall be classified in accordance with ASTM D 4956.

The coefficient of retroflection shall meet the minimum requirements of ASTM D 4956 for the type of reflective sheeting specified.

The color shall conform to the latest appropriate standard color tolerance chart issued by the U.S. Department of Transportation, Federal Highway Administration and to the daytime and nighttime color requirements of ASTM D 4956.

Test methods and procedures shall be in accordance with ASTM.

(IV) Amend **Subsection 750.02 Sign Posts** by replacing lines 1168 through 1172 to read:

"**(C) Square Tube Posts.** Square and other tube posts shall conform to ASTM A 653 for cold-rolled, carbon steel sheet, commercial quality; or ASTM A 787 for electric-resistance-welded, metallic-coated carbon steel mechanical tubing."

END OF SECTION 750

Make the following a part of the standard specifications:

"SECTION 753 - UNDERGROUND ELECTRICAL WORK

753.01 GENERAL CONDITIONS

Comply with Hawaii State Laws and regulations including State of Hawaii Department of Transportation requirements and regulations that apply to construction and repair project.

753.02 RELATED WORK SPECIFIED IN OTHER SECTIONS

Section 651 – ELECTRICAL GENERAL REQUIREMENTS applies to this with additions and modifications specified herein.

753.03 REFERENCES SPECIFICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

(A) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

(1) ASTM D1557 (2012; E 2015) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3) (2700 kN-m/m3)

(B) INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

(1) IEEE C2 (2017; Errata 1-2 2017; INT 1 2017) National Electrical Safety Code

(C) NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

(1) NEMA RN 1 (2005; R 2013) Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit

(D) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

(1) NFPA 70 (2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code

(E) UNDERWRITERS LABORATORIES, INC. (UL)

(1) UL 467 (2013; Reprint Jun 2017) Grounding and Bonding Equipment

(2) UL 510 (2020) Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape

(3) UL 651 (2011; Reprint Mar 2020) Standard for Schedule 40 and 80 Rigid PVC Conduit and Fittings

(F) In the text of this section, the words conduit and duct are used interchangeably and have the same meaning.

753.04 SUBMITTALS

(A) Submit the following to the Contracting Officer:

(1) 600 volt cable tests

(2) Grounding electrodes and system tests

(3) Pipe stanchion product data

(B) All shop drawings and other required submittals shall be submitted in electronic PDF format.

753.05 MATERIALS AND EQUIPMENT

(A) Materials and equipment shall be new, and equipment satisfying the requirements of NEC Articles 90-6 and 110-3 shall be listed or labeled by a nationally recognized electrical testing laboratory.

(B) Brand names and catalog numbers indicate standards of design and quality required. In case of obsolescence, supersedure, or error in catalog number, the associated description and intent implied by the application shall govern.

753.06 CONDUIT, DUCTS, AND FITTINGS

(A) Plastic Conduit and Tubing: UL 651, Schedule 40 PVC or Schedule 80 PVC as indicated.

(B) Conduit Sealing Compound: Compounds for sealing ducts and conduit shall have a putty-like consistency workable with the hands at temperatures as low as 2 degrees C (35 degrees F), 35 degrees F, shall neither slump at a temperature of 150 degrees C (300 degrees F), 300 degrees F, nor harden materially when exposed to the air. Compounds shall adhere to clean surfaces of fiber or plastic ducts; metallic conduits or conduit coatings; concrete, masonry, or lead; any cable sheaths, jackets, covers, or insulation materials; and the common metals. Compounds shall form a seal without dissolving, noticeably changing characteristics, or removing any of the ingredients. Compounds shall have no injurious effect upon the hands of workmen or upon materials.

(C) Fittings:

(1) PVC Conduit Fittings: UL 514B, UL 651.

753.07 WIRING AND MATERIALS

(A) Tape: UL 510, plastic insulating tape, capable of performing in a continuous temperature environment of 80 degrees C.

(B) Wire and Cable Conductor Sizes: As designated by American Wire Gauge AWG). Conductors shall be copper. Insulated conductors shall bear the date of manufacture imprinted on the wire insulation with other identification. Do not use wire and cable manufactured more than 6 months before delivery to the job site. Provide conductor identification within each enclosure where a tap, splice or termination is made.

(C) Pull Wire: Plastic rope having a minimum tensile strength of 200 pounds in each empty duct. Leave a minimum of 24 inches of slack at each end of the pull wires.

(D) Grounding and Bonding Equipment: UL 467.

753.08 ASBESTOS PROHIBITION

No asbestos containing materials or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos-free.

753.09 INSTALLATION AND WORKMANSHIP

(A) These specifications are accompanied by diagrammatic electrical plans showing approximate locations of manholes, handholes, electrical equipment, ductline runs and other utilities. Contractor shall study plans and details of other trades and make installation in most logical manner. Verify all dimensions on drawings and sizes of equipment at job site before proceeding with the work. Any device may be relocated within 10 feet before installation at the direction of the Contracting Officer without cost to the State.

(B) Construction Methods: Program the work and coordinate with other facets of this project. Construction shall conform to accepted industry practices and to the recommendations of the American Electricians Handbook by Croft (latest edition), National Electrical Code and applicable instructions of manufacturers of equipment and materials supplied for this project.

753.10 CONCRETE

Concrete shall be composed of fine aggregate, coarse aggregate, portland cement,

and water so proportioned and mixed as to produce a plastic, workable mixture. Fine aggregate shall be of hard, dense, durable, clean, and uncoated sand. The coarse aggregate shall be reasonably well graded from 3/16 to one inch. The fine and coarse aggregates shall be free from injurious amounts of dirt, vegetable matter, soft fragments or other deleterious substances. Water shall be fresh, clean and free from salts, alkali, organic matter, and other impurities. Concrete shall have a compressive strength of 3000 psi at the age of 28 days. Slump shall not exceed 3 inches. Retempering of concrete will not be permitted. Concrete shall be cured for a period of not less than 7 days, and concrete made with high early strength portland cement shall be repaired by patching honeycombed or otherwise defective areas with cement mortar.

753.11 EARTHWORK FOR UTILITIES

(A) General Excavation and Trenching: Keep excavations free from water while construction is in progress. Notify the Architect immediately in writing if it becomes necessary to remove rock or hard, unstable, or otherwise unsatisfactory material to a depth greater than indicated. Make trench sides as nearly vertical as practicable except where sloping of sides is allowed. Sides of trenches shall not be sloped from the bottom of the trench up to the elevation of the top of the conduit. Excavate ledge rock, boulders, and other unyielding material to an overdepth at least 6 inches below the bottom of the conduit unless otherwise indicated or specified. Blasting will not be permitted. Use gravel placed in 6 inch maximum layers to refill overdepths to the proper grade. At Contractor’s option, the excavations may be cut to an overdepth of not less than 4 inches and refilled to required grade as specified. Grade bottom of trenches accurately to provide uniform bearing and support for each section of conduit on undisturbed soil at every point along its entire length. Trench dimensions shall be as indicated.

(B) Backfilling: Construct backfill in two operations (initial and final) as indicated and specified in this section. Place initial backfill in 6 inch maximum loose lifts to one foot above conduit unless otherwise specified. Ensure that initially placed material is tamped firmly under pipe haunches. Bring up evenly on each side and along the full length of conduit. Ensure that no damage is done to the conduit or its protective coating. Place the remainder of the backfill (final backfill) in 9 inch maximum loose lifts unless otherwise specified. Compact each loose lift as specified in paragraph entitled "Compaction" before placing the next lift. Where settlements greater than the tolerance typically allowed for grading occur in trenches due to improper compaction, excavate to the depth necessary to rectify the problem, then backfill and compact the excavation as specified herein and restore the surface to the required elevation. Coordinate backfilling with testing of conduits. Provide buried warning and identification tape installed in accordance with the manufacturer's recommendation.

(C) Compaction: Use hand-operated, plate-type, vibratory, or other suitable hand tampers in areas not accessible to larger rollers or compactors. Avoid

damaging conduits and protective conduit coatings. Compact material in accordance with the following unless otherwise specified. If necessary, alter, change, or modify selected equipment or compaction methods to meet specified compaction requirements.

(1) Compaction of Conduit and Initial Backfill: Compact each lift to a dense consistency as evidenced by little to no settlement of the gravel under repeated passes with the compaction equipment but not less than a minimum of five passes of a hand operated type vibratory compactor with the vibrator turned on.

(2) Compaction of Final Backfill: Moisture condition the final backfill to between optimum and 3 percent wet of the optimum content and compact to at least 90 percent ASTM D 1557 maximum dry unit weight. Under areas to be seeded or sodded, compact succeeding layers of final backfill to 85 percent of ASTM D 1557 maximum dry unit weight. For conduits under structures and pavements, the top 24 inches of backfill below the finish subgrade level shall consist of controlled backfill placed in not more than 8 inch thick loose horizontal lifts, moisture conditioned to within 2 percent of optimum moisture content, and compacted to at least 95 percent of ASTM D 1557 maximum dry unit weight.

753.12 UNDERGROUND DUCT WITH CONCRETE ENCASEMENT

(A) Construct underground duct lines of individual conduits encased in concrete. Except where rigid galvanized steel conduit is indicated or specified, the conduit shall be Schedule 40 PVC. Do not mix different kinds of conduit in any one duct bank. As each conduit run is completed, draw a stiff bristle brush through until conduit is clear of particles of earth, sand and gravel; after which draw a nonflexible testing mandrel not less than 12 inches long with a diameter 1/4 inch less than the inside diameter of the conduit through the conduit; then immediately install conduit plugs. The concrete encasement surrounding the bank shall be rectangular in cross-section and shall provide at least 3 inches of concrete cover for ducts. Separate conduits by a minimum concrete thickness of 2 inches, except separate light and power conduits from control, signal, and telephone conduits by a minimum concrete thickness of 3 inches.

(1) Under roads and paved areas, encase ducts in concrete. Extend the concrete encasement at least 5 feet beyond the edges of paved areas and roads. Where conduit runs under existing roads or other paved areas, cut and patch the pavement as indicated.

(2) Underground duct burial depth requirements shall be as indicated in the drawings.

753.13 DUCT AND CONDUIT PLACEMENT

Duct lines shall have a continuous slope downward toward underground structures and away from buildings with a pitch of not less than 3 inches in 100 feet. Except at conduit risers, accomplish changes in direction of runs exceeding a total of 10 degrees, either vertical or horizontal, by long sweep bends having a minimum radius of curvature of 25 feet. Sweep bends may be made up of one or more curved or straight sections or combinations thereof. Manufactured bends shall have a minimum radius of 18 inches for use with conduits of less than 3 inches in diameter and a minimum radius of 36 inches for ducts of 3 inches in diameter and larger.

753.14 UNDERGROUND CONDUIT FOR SERVICE FEEDERS, CONCRETE ENCASED

Protect the ends of the conduit by threaded caps or bushings, and coat the threads with graphite grease or other suitable coating. Clean and plug conduit until conductors are installed.

753.15 CABLE PULLING

Test existing duct lines with a mandrel and thoroughly swab out to remove foreign material before pulling cables. Pull cables down grade with the feed-in point at the underground structure or building of the highest elevation. Accumulate cable slack at each junction box where space permits by training cable around the interior to form one complete loop. Maintain minimum allowable bending radii in forming such loops.

753.16 CABLE LUBRICANTS

Use lubricants that are specifically recommended by the cable manufacturer for assisting in pulling jacketed cables. Cable lubricants shall be soapstone, graphite, or talc for rubber or plastic jacketed cables. Lubricant shall not be deleterious to the cable sheath, jacket, or outer coverings.

753.17 CABLE PULLING TENSIONS

Tensions shall not exceed the maximum pulling tension recommended by the cable manufacturer.

753.18 SECONDARY CABLE RUNS IN NONMETALLIC DUCT CONDUIT

Although not indicated, include an insulated copper equipment grounding conductor sized as required by the rating of the overcurrent device supplying the phase conductors, in nonmetallic duct, for secondary cable runs, 600 volts and less.

753.19 CABLE TERMINATING

Protect terminations of insulated cables from accidental contact, deterioration of coverings and moisture by providing terminating devices and materials. Install terminations of insulated cable cable joints in accordance with the manufacturer's

requirements. Make terminations with materials and methods as indicated or specified herein or as designated by the written instructions of the cable manufacturer and termination kit manufacturer.

753.20 GROUNDING

Noncurrent carrying metallic parts associated with electrical equipment shall have a maximum resistance to solid "earth" ground not exceeding the following values:

Grounded secondary distribution system neutral and noncurrent carrying metal parts associated with distribution systems and grounds not otherwise covered.	25 ohms

When work in addition to that indicated or specified is directed in order to obtain specified ground resistance, provisions of the contract covering "Changes" shall apply.

753.21 GROUNDING ELECTRODES

Provide cone pointed, driven ground rods, driven full depth plus 6 inches, installed when indicated to provide an earth ground of the value before stated for the particular equipment being grounded.

753.22 GROUNDING CONNECTIONS BY EXOTHERMITE TYPE PROCESS

Make grounding connections which are buried or otherwise normally inaccessible, excepting specifically those connections for which access for periodic testing is required, by exothermite type process. Make thermite welds strictly in accordance with the weld manufacturer's written recommendations. Welds which have "puffed up" or which show convex surfaces indicating improper cleaning are not acceptable. Mechanical connectors are not required at thermite weldments.

753.23 GROUNDING CONDUCTORS

Bare soft-drawn copper wire No. 4 AWG minimum unless otherwise indicated or specified.

753.24 GROUND ROD CONNECTIONS

Connect exposed copper-bonded steel ground rods only to insulated, THW or RHW copper ground conductor and weld the connection.

Insulate entire area of the rod in the vicinity of the weld and the connecting wire and seal against moisture penetration.

753.25 EARTHWORK – RECONDITIONING OF SURFACES

Unpaved Surfaces: Restore to their original elevation and condition unpaved surfaces disturbed during installation of duct. Preserve sod, topsoil, ground cover plants and trees removed during excavation and reinstall after backfilling is completed. Replace sod that is damaged by sod of quality equal to that removed. When the surface is disturbed in a newly seeded area, re-seed the restored surface with the same quantity and formula of seed as that used in the original seeding, and provide topsoiling, fertilizing, liming, seeding, sodding, sprigging, or mulching.

753.26 SEALING

When the installation is complete, the Contractor shall seal all conduit and other entries into the equipment enclosure with an approved sealing compound. Seals shall be of sufficient strength and durability to protect all energized live parts of the equipment from rodents, insects, or other foreign matter.

753.27 FIELD QUALITY CONTROL

Test 600 volt class conductors to verify that no short circuits or accidental grounds exist. Make tests using an instrument which applies a voltage of approximately 500 volts to provide a direct reading in resistance; minimum resistance shall be 250,000 ohms.

753.28 GROUND RODS

Perform ground-impedance measurements utilizing the fall-of-potential method in accordance with IEEE Std 81. On systems consisting of interconnected ground rods, perform tests after interconnections are complete. On systems consisting of a single ground rod perform tests before any wire is connected. Take measurements in normally dry weather, not less than 48 hours after rainfall.

Use a portable megohmmeter tester in accordance with manufacturer's instructions to test each ground or group of grounds. The instrument shall be equipped with a meter reading directly in ohms or fractions thereof to indicate the ground value of the ground rod or grounding systems under test.

753.29 PIPE STANCHIONS

Provide in accordance with HECo requirements and as specified.

753.30 FOLLOW-UP VERIFICATION

Upon completion of acceptance checks and tests, the Contractor shall show by demonstration in service that circuits and devices are in good operating condition and properly performing the intended function. As an exception to requirements stated elsewhere in the contract, the Contracting Officer shall be given 5 working days advance notice of the dates and times of checking and testing.

END OF SECTION 753"

SECTION 755 – PAVEMENT MARKING MATERIALS

Make the following amendments to said Section:

(I) Amend **Subsection 755.02 (C) Retroreflective Pavement Markers** by revising lines 223 to 236 to read:

"Exterior surface of shell shall be smooth and contain one or two retroreflective faces of specified color."

(II) Amend **Subsection 755.05 (C)(1) Material Properties** by adding the following after line 869:

> "**(f)** The glass spheres shall not contain more than 200 ppm (total) arsenic, 200 ppm (total) antimony nor more than 200 ppm (total) lead, when tested according to EPA Methods 3052 and 6010C. Other suitable x-ray fluorescence spectrometry analysis methods may be used to screen samples of glass spheres for arsenic and lead content."

END OF SECTION 755

SECTION 770 – TRAFFIC SIGNAL MATERIALS

Make the following amendments to said Section:

(I) Amend **Subsection 770.01(A)(5) – Finish** by revising the last paragraph from line 41 to 43 to read:

"**(5) Finish.** Complete standard and other ferrous material after fabrication shall be hot-dipped and zinc-coated, internally and externally in accordance with AASHTO M 232 and AASHTO M 111. In addition, apply Valmont product F-540 or approved equal according to product specifications to reduce corrosion impacts to the Traffic Signal Standards."

(II) Amend **Subsection 770.01(B)(7) – Zinc Coating** by revising the last paragraph from line 124 to 126 to read:

"**(7) Zinc-coating.** Steel and iron parts of base, shaft and mast arm shall be zinc-coated in accordance with AASHTO 232. Washers and nuts may be hot-dip zinc-coated or electro-zinc-coated. In addition, apply Valmont product F-540 or approved equal according to product specifications to reduce corrosion impacts to the base, shaft and mast arm."

(III) Amend **Subsection 770.02(A)(1) – Optical Units** by revising the first paragraph from line 211 to 216 to read:

"**(b)** To ensure quality and performance, LED head shall have prior history of testing and use by CALTRANS and shall exceed ITE standards. Failure on one LED shall not affect other LED's. LED head shall have fully-encapsulated electronic circuitry and configuration for 12-inch ball."

(IV) Amend **Subsection 770.02(A) – Standard Traffic Signal Heads** from line 285 to 290 to read:

"(4) Back Plates. Louvered back plates shall be furnished and installed on mast arm mounted signal heads. Back plates shall be constructed of aluminum alloy 3003-H14 sheet having minimum thickness of 0.058 inch and minimum dimensions equal to signal head size plus five-inch border, with a one-inch retro-reflective border around the outside edge of the front surface. Back plates shall be dull black in color."

(V) Amend **Subsection 770.04 – Pedestrian Signal** from line 447 to 600 to read:

"(A) Purpose.

The purpose of this specification is to provide the minimum requirements for the LED "walking person" and "hand" icon

pedestrian signal modules with countdown. This specification is only for the nominal overall message-bearing surface of 16 x 18 in. This specification is not intended to impose restrictions upon specific designs and materials that conform to the purpose and the intent of this specification. This specification refers to definitions and practices described in "Pedestrian Traffic Control Signal Indications" published in the *Equipment and Materials Standards of the Institute of Transportation Engineers*, (referred to in this document as "PTCSI") and in the Applicable Sections of Manual on Uniform Traffic Control Devices (MUTCD) 2009 Section 4E.

(B) Physical and Mechanical Requirements.

The modules shall fit into existing pedestrian signal housings built for the PTCSI sizes stated in Section 1 of the "walking person" and "hand" icon pedestrian signal indication Standard without modification to the housing and shall not require special tools for installation.

Installation of a retrofit replacement module into existing pedestrian signal housing shall only require the removal of the existing optical unit components, shall be weather tight and fit securely in the housing; and shall connect directly to existing electrical wiring. The LED module shall have a visual appearance similar to that of an incandescent lamp (ie: Smooth and non-pixilated). Screwed on lenses are not allowed. Only modules with internal mask shall be utilized. No external silk-screen shall be permitted.

When not illuminated, the WALKING PERSON, UPRAISED HAND, and COUNTDOWN DIGITS shall not be readily visible. The countdown digits of the pedestrian signal module shall be located to the right of the associated UPRAISED HAND. The display of the number of remaining seconds shall begin only at the beginning of the pedestrian change interval. After the countdown displays zero, the display shall remain dark until the beginning of the next countdown. The walking person, hand icons and countdown digits shall be incandescent looking.

The units shall not have any external attachments, dip switches, toggle switches or options that will allow the mode to be changed from counting the clearance cycle, to the full walk/don't walk cycle or any other modification to the icons or digits.

For each nominal module, use the corresponding minimum H (height) and W (width) measurements:

Module Size	Icon	Icon	Countdo	Countdo	Countdown

	Height	Width	wn Height	wn Width	Segment Width
(16 x 18 in)	11 in	7 in	9 in	7 in	0.7 in

All exposed components of a module shall be suitable for prolonged exposure to the environment. As a minimum, the module shall be rated for use in the ambient operating temperature range, measured at the exposed rear of the module, of -40°C to +74°C (-40°F to +165°F).

The module shall be a single, self-contained device, not requiring on-site assembly for installation into an existing pedestrian signal housing. The power supply shall be located inside the pedestrian signal module. The assembly and manufacturing process for the module shall be designed to assure all internal LED and electronic components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

The front window shall be a transparent polycarbonate material with internal masking to prevent the icons and digits from being visible when not in operation. External masking or silk-screen technology shall not be permitted.

Each module shall be identified on the backside with the manufacturer's name, model, serial number and operating characteristics. The operating characteristics shall include the nominal operating voltage and stabilized power consumption, in watts and/or Volt-Amperes.

(C) Photometric Requirements

For a minimum period of 60 months, the maintained minimum luminance values for the modules under operating conditions, when measured normal to the plane of the icon surface, shall not be less than:

- Walking person: 2,200 cd/m^2;
- Hand: 1,400 cd/m^2.
- Countdown digits: 1,400 cd/m^2;

The luminance of the emitting surface, measured at angles from the normal of the surface, may decrease linearly to a value of 50% of the values listed above at an angle of 15 degrees. The LED module shall have a visual appearance similar to that of an incandescent lamp (ie: Smooth and non-pixilated).

Maximum permissible luminance: When operated within the temperature range, the actual luminance for a module shall not

exceed three times the required peak value of the minimum maintained luminance. Luminance uniformity: The uniformity of the signal output across the emitting section of the module lens (i.e. the hand, person or countdown icon) shall not exceed a ratio of 5 to 1 between the maximum and minimum luminance values (cd/m^2).

The standard colors for the LED Pedestrian Signal Module shall be White for the walking person and Portland Orange for the hand icon and the countdown digits.

(D) Electrical Requirements

All wiring and terminal blocks shall meet the requirements of Section 13.02 of the VTCSH Standard. Maximum of three secured, color coded, 1 meter (39 in) long 600 V, 16 AWG minimum, jacketed wires, conforming to the National Electrical Code, rated for service at +105°C, are to be provided for electrical connection. The conductors shall be color coded with orange for the hand, blue for the walking person and white as the common lead.

LED modules shall operate from a 60 $\pm$ 3 Hertz ac line power over a voltage range from 80 to 135 VAC RMS. Nominal operating voltage for all measurements shall be 120 $\pm$ 3 VAC RMS. Fluctuations in line voltage over the range of 80 to 135 VAC RMS shall not affect luminous intensity by more than $\pm$ 10 %. To prevent the appearance of flicker, the module circuitry shall drive the LEDs at frequencies greater than 100 Hz when modulated, or at DC, over the voltage range specified.

Low Voltage Turn Off: There should be no illumination of the module when the applied voltage is less than 35 VAC RMS. To test for this condition, each icon must first be fully illuminated at the nominal operating voltage. The applied voltage shall then be reduced to the point where there is no illumination. This point must be greater than 35 VAC RMS.

Turn-ON and Turn-OFF Time: A module shall reach 90% of full illumination (turn-ON) within 75 msec of the application of the nominal operating voltage. The signal shall cease emitting visible illumination (turn-OFF) within 75 msec of the removal of the nominal operating voltage.

Default Condition: For abnormal conditions when nominal voltage is applied to the unit across the two-phase wires (rather than being applied to the phase wire and the neutral wire) the pedestrian signal unit shall default to the hand symbol. The on-board circuitry of a module shall include voltage surge protection:

- To withstand high-repetition noise transients and low-repetition high-energy transients as specified in NEMA Standard TS-2 2003; Section 2.1.8
- Section 8.2 IEC 1000-4-5 & Section 6.1.2 ANSI/IEEE C62.41.2-2002, 3kV, 2 ohm
- Section 8.0 IEC 1000-4-12 & Section 6.1.1 ANSI/IEEE C62.41.2-2002, 6kV, 30 ohm

The LED signal and associated on-board circuitry shall meet the requirements of the Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 regulations concerning the emission of electronic noise by Class A digital devices. The modules shall provide a power factor of 0.90 or greater when operated at nominal operating voltage, and 25ºC (77ºF). Total harmonic distortion induced into an AC power line by the module, operated at nominal operating voltage, and at 25ºC (77ºF) shall not exceed 20%.

The current draw shall be sufficient to ensure compatibility and proper triggering and operation of load current switches and conflict monitors in signal controller units. Off State Voltage Decay: When the module is switched from the On state to the Off state the terminal voltage shall decay to a value less than 10 VAC RMS in less than 100 milliseconds when driven by a maximum allowed load switch leakage current of 10 milliamps peak (7.1 milliamps AC).

(E) Module Functions

The module shall operate in one mode: *Clearance Cycle Countdown Mode Only.* The module shall start counting when the flashing don't walk turns on and will countdown to "0" and turn off when the steady "Don't Walk" signal turns on. The m*odule shall not have user accessible switches or controls for the purpose of modifying the cycle, icons or digits.* At power on, the module enters a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark. The unit shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The digits shall go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.

The module shall allow for consecutive cycles without displaying the steady Hand icon ("Don't Walk"). The module shall recognize preemption events and temporarily modify the crossing cycle accordingly. If the controller preempts during the walking man, the countdown shall follow the controller's directions and shall adjust from walking man to flashing hand. It shall start to count down

during the flashing hand. If the controller preempts during the flashing hand, the countdown shall continue to count down without interruption. The next cycle, following the preemption event, shall use the correct, initially programmed values. This specification is worded such that the flashing don't walk time is not modified.

If the controller output displays Don't Walk steady condition or if both the hand /person go dark and the unit has not arrived to zero, the unit suspends any timing and the digits shall go dark.

(F) Warranty

Manufacturers will provide the following warranty provisions. Replacement or repair of an LED signal module that fails to function as intended due to workmanship or material defects within the first 5 years (60 months) from the date of delivery."

(VI) Amend **Subsection 770.05(A)- Controller Assembly,** from line 603 to 643 to read:

"(A) Controller Assembly.

Controller assembly shall include Model FLeX controller (or approved equal by HDOT), cabinet, and auxiliary equipment. Unless otherwise indicated in the contract documents, only manufacturers and products listed for Model FLeX Controller Unit on State of California Department of Transportation (CALTRANS) "Qualified Products List (QPL) for Controller Assemblies for the Model FLeX Traffic Controller" shall be acceptable. Copy of QPL is available from HDOT, phone (808) 873-3535.

Testing and quality control requirements shall be as specified in Subsection 623.03(G)(2)(a).

Controller assemblies are described and shall be supplied as follows:

(1) Model FLeX controller assembly and Model 332A controller cabinet refers to latest Model FLeX controller assembly and Model 332A controller cabinet listed on CALTRANS QPL.

(2) The FLeX controller Omni software shall be compatible with the controller provided and the HDOT-Maui District Advanced Traffic Management System (ATMS).

(3) Each controller assembly listed in Table 770.05-1 – Controller Assembly Requirements contains sufficient equipment for a minimum full 8-vehicle, 4-pedestrian, and 4-preemption phase intersection, even though the contract documents may not require it.

TABLE 770.05-1 – CONTROLLER ASSEMBLY REQUIREMENTS	
Item	Quantity
Model FLeX Controller with Omni software	1
Model 412C Prom Module	1
Model 400 Modem	1
332A Aluminum Cabinet	1
Model 200 Load Switches	12
Model 204 Flasher	All
Model 242 Isolators	3
Model FS/ST Isolator	All
Flash Transfer Relays	All
Software	1
Model 262C Detector Amplifiers (Rotary Sw Type)	8
Model 2010ECL Conflict Monitor (Non-QPL)	1
Model M762 Preempt. Car (Non-QPL) with M768 Auxiliary Input Panel	2
Model GPS Time Source (Non-QPL)	1
Cellular Access Point (Non-QPL)	1

(B) Model FLeX Controller with Omni Software. Model FLeX controller shall meet the following additional requirements:

(1) Meet the ATC Model 2070 Controller Standard.

(2) Have the capability to interface with existing Model 170 Controllers."

(VII) Amend **Subsection 770.05(B) - Model 170E Controller** by deleting line 643.

(VIII) Amend **Subsection 770.05(C)(5)** from line 660 to 665 to read:

"**(5)** Not Used."

(IX) Amend **Subsection 770.05(D) – Auxiliary Equipment** from line 697 to 741 to read:

"(1) Model 2010ECL Conflict Monitor.

An Eberle Design Inc. (EDI) model 2010ECL Signal Monitor, or approved equal. Conflict monitor shall meets all requirements of the CalTrans “TSCE Specifications 1/89”.

(2) Model M762 Optical Preemption Module with M768 Auxiliary Input Panel.

M762 shall be card-type and shall interface with Model 170 cabinet preemption slots of input file. Each M762 Module shall have two channels of preemption. M762 shall include firmware to discriminate between two valid priority signals, to prioritize valid same priority signals on a first come, first served basis, and to override low priority signal if high priority is received. M762 Module shall receive input signals (9.639 and 14.035 Hz) to permit priority preemption operation within 170 local intersection program. M762 shall optically isolate output signals and shall trigger active low signal to controller for high priority and pulsed active low signal for low priority. M768 Auxiliary Input Panel shall be used to interconnect M762 with the terminals inside the traffic cabinet. The State’s preemption systems employ the 3M/Global Traffic Technologies Opticom System. New preemption equipment shall be 3M/Global Traffic Technologies Opticom or accepted equal that is fully compatible with 3M/Global Traffic Technologies Opticom.

(3) Security Tumbler for Signal Cabinet. The signal control cabinet door locks (2 locks for each cabinet) are keyed to take Best Lock Series tumblers. The contractor shall furnish and install 2 lock cylinders that will fit in the current locks on the signal cabinet. The lock cylinders keys shall be one of a kind, licensed to the County of Maui, and each cylinder shall have 1 set of keys with “do not duplicate” stamped on each key.

(4) GPS Time Source. The GPS time source unit shall be a precision Time Standard for use on 170 Traffic Signal Controllers. It utilizes time signals broadcast from the GPS satellite network and is traceable to the National Institute of Standards (NIST). The unit incorporates a precision GPS receiver and a microprocessor to decode the time signals and interface to the traffic control equipment.

The standard features of the GSP unit shall include, but not limited to, Time and date information includes Year, Month, Day, Hour, Minute, and Second, All functions are automatic, no jumpers or switches to set, Time zone, baud rate, and Daylight savings operation set with dumb terminal, User set parameters stored in non-volatile EEPROM, 24 hour backup for time keeping, Standard 3 wire RS232 interface, Automatic daylight savings and leap second time corrections, LED status indicator,

operates on controller +5 Volts from communications port, antenna mounts to top of cabinet, and no external wires to run."

(5) Celluar Access Point. The Cellular Router shall be a Digi WR 44-L500_CEI-RF or approved equal, include all hardware, antennae, and other components necessary to ensure communication between the controller and HDOT's Advanced Traffic Management System (ATMS), and include service to Verizon Wireless until the end of the warranty period."

(X) Amend **Subsection 770.06(G) – Type 7 Preemption Detector (Opticom) Cables** from line 788 to 798 to read:

"(G) Type 7 – Preemption Detector (Opticom) Cables.

Preemption detector (Opticom) cables are specific cables that run continuously from optical detectors mounted on traffic signal standards to terminal blocks for M762 phase module located in controller cabinet. Each detector shall be furnished with its own cable running back to controller cabinet. 3M/Global Traffic Technologies' M138 Optical Detector Cable shall be furnished for detector cable because its is compatible and consistent with requirements for Opticom Preemption System. M138 cable shall be furnished that is BerkTek Type B, shield jacked, three-insulated conductor cable, 20 AWG, one – 20 AWG bare stranded grounds, 600 volts, orange-blue-yellow color coded and 5/16 inch diameter."

(XI) Amend **Subsection 770.11(A) – Description** from line 997 to 1009 to read:

"(A) Description.

Preemption Detectors shall be located on traffic signal standards to convert optical signals emitted from an emergency vehicle to electrical pulses for emergency preemption of traffic signals. Electrical signals from optical detector shall be transmitted by 4-conductor cable to preemption module M762 located in input slot of controller cabinet. M762 preemption module shall direct and hold controller in preemption mode until signal disappears. Preprogrammed selection of phases and signal displays shall be controlled by Local Intersection Program. The State's preemption system employ 3M/Global Traffic Technologies Opticom System. New preemption equipment shall be by 3M/Global Traffic Technologies Opticom or equal accepted by the Engineer, that is fully compatible with 3M/Global Traffic Technologies Opticom. Astro-mini brackets or similar device for attaching preemption detector to poles shall be included."

(XII) Amend **Subsection 770.11(B)(1) – Type 7 Cable** from line 1012 to 1021 to read:

"(1) Type 7 Cable.

Type 7 preemption detector (Opticom) cables shall be specific cables that run continuously from optical detectors mounted on traffic signal standards to terminal blocks for M762 phase module in controller cabinet. Type 7 preemption detector cable shall be compatible with 3M/Global Traffic Technologies' M138 Optical Detector cable and shall be consistent with requirements for Opticom Preemption System. M138 cable shall be BerkTek Type B, shield jacket, 3-insulated conductor, 20AWG stranded copper, 1-20AWG bare stranded ground, 600 volts, orange-blue-yellow color coded, and 5/16 inch diameter."

(XIII) Add the following after line 1030:

"770.12 – Pedestrian Signal Push Button With Integral Sign.

(A) Description.

The pedestrian push button unit shall consist of an assembly that can be secured to traffic poles with standard screws, be tamper proof, weatherproof, and constructed so that electrical shocks are impossible to receive.

(B) Materials.

(1) The housing for the push button assembly shall be of cast and/or machined aluminum. The push button assembly shall be weatherproof with a water diverting groove set in the outside diameter of the actuator button receptor. The housing shall be designed to reduce vandalism and shall mount on the side or top of a pole with a minimum 2-inch diameter button. The push button housing shall be capable of mounting in an 'up button' or 'down button' configuration. All wire connections shall be accessible from the back of the assembly.

(2) An ADA acceptable raised directional sign shall be installed with stainless steel fasteners to the housing. The sign shall consist of a raised walking person and a raised arrow indication. Paint the unit black and paint the raised walking person and arrow white. The sign shall be capable of mounting in an 'up button' or 'down button' configuration. The raised walking person and arrows shall be directional and match the indication as shown in the plans.

(3) The pushbutton shall extend from the sign faceplate approximately three inches. The pushbutton actuator shall be convex in design having a flat area on the face for uses of a stylus,

ADA acceptable, two inches in diameter, and have a tension of less than five pounds when pressed. The button shall be manufactured in a way that it cannot be stuck in a closed (constant call) position.

(4) The pedestrian push button shall be a piezo electric type and be UL listed. The button shall have a stainless steel actuator and shall be mounted within the housing with stainless steel, non-corrosive, tamper proof fasteners. The unit shall operate between 12-24V DC or AC, 3 inch round mounts with 4 mounting bolts. The pedestrian button shall give an audio and visual signal each time the pedestrian button is activated."

(XIV) Add **Subsection 770.13 – Above-Ground Radar Presence Detection** to read:

"**(A) Description.**

The Above-Ground Radar Presence Detection System (RPD) shall detect vehicles by transmitting electromagnetic radar signals through the air and provide a non-intrusive means of detecting traffic. The signals shall bounce off vehicles in their paths and part of the signal is returned to the RPD. The returned signals are then processed to determine traffic parameters.
RPDs shall not be affected by normal weather and environmental conditions nor shall they require cleaning and can maintain performance over a wide range of ambient temperatures.

(B) Materials.

For each approach to be detected, one RPD corner radar shall be used.

(1) Preassembled Backplate. Each RPD shall have a traffic cabinet preassembled backplate and shall be a cabinet side mount or rack mount with the following:

(a) AC/DC power conversion
(b) Surge protection
(c) Terminal blocks for cable landing
(d) Communication connection points

(2) Contact Closure Input File Cards. The RPD shall use contact closure input file cards with 2 or 4 channel capabilities. The contact closure input file cards for the RPD shall be compatible with industry standard detector racks.

(C) Performance.

(1) Sensor Outputs.

Support a minimum of 16 channels, support user-selectable zone to channel mapping, use AND logic to trigger channels when all selected zones are active. use OR logic to combine multiple zones to a channel output, and shall have channel output extend and delay functionality.

Algorithms shall mitigate detections from wrong way or cross traffic and have fail-safe mode capabilities for contact closure outputs if communication is lost.

(2) Detectable Area.

(a) Detection Range. Detect and report presence in lanes with boundaries as close as 6 ft. (1.8 m) and located within the 140 ft. (42.7 m) arc from the base of the pole on which the RPD is mounted.

(b) Field of View. Detect and report presence for vehicles within a 90 degree field of view.

(c) Lane Configuration. Detect and report in up to 10 lanes, curved lanes and areas with islands and medians.

(D) Maintenance.

The RPD shall not require cleaning or adjustment to maintain performance and not rely on battery backup to store configuration information. Once it is calibrated, it shall not require recalibration to maintain performance unless the roadway configuration changes. The mean time between failures shall be 10 years, which is estimated based on manufacturing techniques.

(E) Physical Properties.

Not to exceed 4.2 lbs. (1.9 kg) in weight and 13.2 in. by 10.6 in. by 3.3 in. (33.5 cm x 26.9 cm x 8.4 cm) in its physical dimensions. All external parts shall be ultraviolet-resistant, corrosion-resistant, and protected from fungus growth and moisture deterioration.

(1) Enclosure.

The RPD shall be enclosed in a Lexan EXL polycarbonate.

The enclosure shall be classified “f1” outdoor weather ability in accordance with UL 746C.

The RPD shall be classified as watertight according to the NEMA 250 standard.

The RPD enclosure shall conform to test criteria set forth in the NEMA 250 standard for type 4X enclosures. Test results shall be provided for each of the following type 4X criteria:

- External icing (NEMA 250 clause 5.6)
- Hose-down (NEMA 250 clause 5.7)
- 4X corrosion protection (NEMA 250 clause 5.10)
- Gasket (NEMA 250 clause 5.14)

The RPD shall be able to withstand a drop of up to 5 ft. (1.5 m) without compromising its functional and structural integrity.

The RPD enclosure shall include a connector that meets the MIL-C-26482 specification. The MIL-C-26482 connector shall provide contacts for all data and power connections.

(2) Electrical.

The RPD shall consume less than 10 W.

The RPD shall operate with a DC input between 9.8 VDC and 28 VDC.

The RPD shall have onboard surge protection.

(3) Communication Ports.

The RPD shall have two communication ports, and both ports shall communicate independently and simultaneously.

The RPD shall support the upload of new firmware into the RPD's non-volatile memory over either communication port. The RPD shall support the user configuration of the following:

- Response delay
- Push port

The communication ports shall support a 9600 bps baud rate.

(F) Design.

The RPD shall be designed with a matrix of 16 radars.

(1) Frequency Stability. The circuitry shall be void of any manual tuning elements that could lead to human error and degraded performance over time.

All transmit modulated signals shall be generated by means of digital circuitry, such as a direct digital synthesizer, that is referenced to a frequency source that is at least 50 parts per million (ppm) stable over the specified temperature range, and ages less than 6 ppm per year. Any upconversion of a digitally generated modulated signal shall preserve the phase stability and frequency stability inherent in the digitally generated signal.

The RPD shall not rely on temperature compensation circuitry to maintain transmit frequency stability.
The bandwidth of the transmit signal of the RPD shall not vary by more than 1% under all specified operating conditions and over the expected life of the RPD.

(2) Antenna. The RPD antennas shall be designed on printed circuit boards.

The vertical beam width of the RPD at the 6 dB points of the two-way pattern shall be 65 degrees or greater. The antennas shall cover a 90 degree horizontal field of view.
The sidelobes in the RPD two-way antenna pattern shall be -40 dB or less. Low sidelobes ensure that the performance from the antenna beam widths is fully achieved.

(3) Resolution. The RPD shall transmit a signal with a bandwidth of at least 245 MHz.

(4) RF Channels. The RPD shall provide at least 8 RF channels so that multiple units can be mounted in the same vicinity without causing interference between them.

(5) Verification. The RPD shall have a self-test that is used to verify correct hardware functionality. The RPD shall have a diagnostics mode to verify correct system functionality.

(G) Configuration.
The RPD shall have a method for automatically defining traffic lanes, stop bars and zones with- out requiring user intervention. This auto-configuration process shall execute on a processor internal to the RPD and shall not require an external PC or other processor.

The auto-configuration process shall work under normal intersection operation and may require several cycles to complete.

(1) Manual Configuration. The auto-configuration method shall not prohibit the ability of the user to manually adjust the RPD configuration.

The RPD shall support the configuring of lanes, stop bars and detection zones in 1-ft. (0.3-m) increments.

(2) Mobile-based Software.

The RPD shall include graphical user interface software that displays all configured lanes and the current traffic pattern using a graphical traffic representation.

The RPD shall include the ability to do counting and pulsed channels.

The graphical interface shall operate on Windows Mobile, Windows XP, Windows Vista and Windows 7 in the .NET framework.

The software shall support the following functionality: operate over a TCP/IP connection, give the operator the ability to save/back up the RPD configuration to a file or load/restore the RPD configuration from a file, allow the backed-up sensor configurations to be viewed and edited, provide zone and channel actuation display, provide a virtual connection option so that the software can be used without connecting to an actual sensor and local or remote sensor firmware upgradability.

(H) Operating Conditions.

The RPD shall maintain accurate performance in all weather conditions, including rain, freezing rain, snow, wind, dust, fog and changes in temperature and light, including direct light on sensor at dawn and dusk.

RPD operation shall continue in rain up to 1 in. (2.5 cm) per hour.
The RPD shall be capable of continuous operation over an ambient temperature range of -40°F to 165.2°F (-40°C to 74°C).

The RPD shall be capable of continuous operation over a relative humidity range of 5% to 95% (non-condensing).

(I) Testing.

(1) FCC. Each RPD shall be certified by the Federal Communications Commission (FCC) under CFR 47, part 15, section 15.249 as an intentional radiator.
The FCC certification shall be displayed on an external label on each RPD according to the rules set forth by the FCC.
The RPD shall comply with FCC regulations under all specified operating conditions and over the expected life of the RPD.

(2) NEMA TS 2-2003 Testing.

The RPD shall comply with the applicable standards stated in the NEMA TS 2-2003 standard. Third party test results shall be made available for each of the following tests:

- Shock pulses of 10 g, 11 ms half sine wave
- Vibration of 0.5 g up to 30 Hz
- 300 V positive/negative pulses applied at one pulse per second at minimum and maximum DC supply voltage
- Cold temperature storage at -49°F (-45°C) for 24 hours
- High temperature storage at 185°F (85°C) for 24 hours
- Low temp, low DC supply voltage at -29.2°F (-34°C) and 10.8 VDC
- Low temp, high DC supply voltage at -29.2°F (-34°C) and 26.5 VDC
- High temp, high DC supply voltage at 165.2°F (74°C) and 26.5 VDC
- High temp, low DC supply voltage at 165.2°F (74°C) and 10.8 VDC

(J) Manufacturing.

The RPD shall be manufactured and assembled in the USA.
The internal electronics of the RPD shall utilize automation for surface mount assembly, and shall comply with the requirements set forth in IPC-A-610C Class 2, Acceptability of Electronic Assemblies.

The RPD shall undergo a rigorous sequence of operational testing to ensure product functionality and reliability. Testing shall include the following:

- Functionality testing of all internal sub-assemblies
- Unit level burn-in testing of 48 hours' duration or greater
- Final unit functionality testing prior to shipment

Test results and all associated data for the above testing shall be provided for each purchased RPD by serial number, upon request.

(K) Support.

The RPD manufacturer shall provide both training and technical support services.

(1) Training.
The manufacturer-provided training shall be sufficient to fully train installers and operators in the installation, configuration, and use of the RPD to ensure accurate RPD performance.

The manufacturer-provided training shall consist of comprehensive classroom labs and hands-on, in-the-field, installation and configuration training.

Classroom lab training shall involve presentations outlining and defining the RPD, its functions, and the procedures for proper operation. These presentations shall be followed by hands-on labs in which trainees shall practice using the equipment to calibrate and configure a virtual RPD. To facilitate the classroom presentation and handson labs, the manufacturer-provided training shall include the following items:

- Knowledgeable trainer or trainers thoroughly familiar with the RPD and its processes
- Presentation materials, including visual aids, printed manuals and other handout materials for each student
- Computer files, including video and raw data, to facilitate the virtual configuration of the RPD
- Laptop computers or Windows CE handheld devices with the necessary software, and all necessary cables, connectors, etc.
- All other equipment necessary to facilitate the virtual configuration of the RPD

Field training shall provide each trainee with the hands-on opportunity to install and configure the RPD at roadside. Training shall be such that each trainee will mount and align the RPD correctly.

(2) Technical Assistance.

Manufacturer-provided technical support shall be available according to contractual agreements, and a technical representative shall be available to assist with the physical installation, alignment, and auto-configuration of each supplied RPD. Technical support shall be provided thereafter to assist with troubleshooting, maintenance, or replacement of RPDs should such services be required.

(L) Documentation.

RPD documentation shall include an instructional training guide and a comprehensive user guide as well as an installer quick-reference guide and a user quick-reference guide.

The RPD manufacturer shall supply the following documentation and test results at the time of the bid submittal:

- FCC CFR 47 certification (frequency compliance)
- IED 6100-4-5 class 4 test report (surge)

(M) Warranty. The RPD shall be warranted free from material and workmanship defects for a period of two years from date of shipment.

(N) Mounting and Installation.

(1) Mounting Assembly.

The RPD shall be mounted directly onto a mounting assembly fastened to a mast arm, pole or other solid structure.

The RPD mounting assembly shall provide the necessary degrees of rotation to ensure proper installation.

The RPD mounting assembly shall be constructed of weather-resistant materials and shall be able to support a 20-lb. (9.1- kg) load.

(2) Mounting Location.

The RPD shall be mounted at a height that is within the manufacturer's recommended mounting heights.

The RPD shall be mounted at an offset from the first lane that is consistent with the RPD's minimum offset.

The RPD shall be mounted so that at least 20 feet along the farthest lane to be monitored is within the field view of the RPD.

The RPD shall be mounted with its cable connector down and shall be tilted so that the RPD is aimed at the center of the lanes to be monitored. Typically, the RPD is tilted off of vertical by 20–30 degrees.

The RPD shall be mounted on a vertical signal pole or on the horizontal mast arm.

The RPD shall be mounted so that its field of view is not occluded by poles, signs or other structures.

RPDs that are mounted within 20 ft. (6.1 m) of each other or that are monitoring the same intersection shall be configured

to operate on different RF channels regardless of the pointing direction of the RPDs.

It is recommended that the manufacturer be consulted to verify final RPD placement if the RPD is to be mounted near large planar surfaces (sound barrier, building, parked vehicles, etc.) that run parallel to the monitored roadway.

(3) Cabling.

The cable end connector shall meet the MILC- 26482 specification and shall be designed to interface with the appropriate MIL-C-26482 connector. The connector backshell shall be an environmentally sealed shell that offers excellent immersion capability. All conductors that interface with the connector shall be encased in a single jacket, and the outer diameter of this jacket shall be within the backshell's cable O.D. range to ensure proper sealing. The backshell shall have a strain relief with enough strength to s upport the cable slack under extreme weather conditions. Recommended connectors are Cannon's KPT series, and recommended backshells are Glenair Series 37 cable sealing backshells.

The cable shall be the Orion Wire Combo-2204-2002-PVCGY or an equivalent cable that conforms to the following specifications:

- The RS-485 conductors shall be a twisted pair.
- The RS-485 conductors shall have nominal capacitance conductor to conductor of less than 40 pF/ft at 1 kHz.
- The RS-485 conductors shall have nominal conductor DC resistance of less than 16.7 ohms/1000 ft. (304.8 m) at 68°F (20°C).
- The power conductors shall be one twisted pair with nominal conductor DC resistance of less than 11.5 ohms/1000 ft. (304.8 m) at 68°F (20°C).
- Each wire bundle or the entire cable shall be shielded with an aluminum/mylar shield with a drain wire.

The cable shall be terminated only on the two farthest ends of the cable.

The cable length shall not exceed 2000 ft (609.6 m) for the operational baud rate of RS-485 communications (9.6 Kbps). If 12 VDC is being supplied for the RPD then the cable length shall not exceed 110 ft. (33.5 m).

If 24 VDC is being supplied for the RPD then the cable length shall not exceed 600 ft. (182.9 m).

Both communication and power conductors can be bundled together in the same cable as long as the abovementioned conditions are met.

(4) In Cabinet Interface Equipment.

The RPD shall be installed using the preassembled traffic cabinet backplate or an equivalent that provides input power surge suppression, sensor cable surge suppression, AC to DC power conversion (if necessary), and terminal blocks. The surge protection devices shall meet or exceed the EN 61000-4-5 Class 4 specifications.

(5) Power Supply.

If needed, the RPD shall be installed using an equivalent AC to DC power converter that meets the following specifications:

The power converter shall be power rated at 48 W for temperatures less than 140°F (60°C) with a 5% power decrease for each degree increase up to 158°F (70°C).

The power converter shall operate in the temperature range of to -29.2°F to 165.2°F (–34°C to 74°C). The power converter shall operate in the humidity range of 5% to 95% at 77°F (25°C) non-condensing. The power converter shall accept an input voltage of 85 to 264 VAC or 120 to 370 VDC.

The power converter shall operate at an input frequency of 47 Hz to 63 Hz. The power converter shall produce an output voltage of 24 VDC ±4%.

The power converter shall withstand a voltage across its input and output of 2 kV. The power converter shall withstand a voltage across its input and ground of 1.5 kV.
The power converter shall conform to safety standards UL 60950 and EN 60950.

The power converter shall conform to EMC standards EN 55022 Class B and EN 61000-3-2, 3.

In brown-out conditions (i.e. < 85 VAC input), the output voltage of the power converter shall be less than 1 VDC.
The terminal blocks shall be color-coded insulation displacement terminal blocks.

The terminal blocks shall be prewired to the other in-cabinet equipment so that no wiring other than cable terminations, connecting input power and connecting input file cards shall be required during installation.

(6) Input File Cards.
The Click 114, Click 112 or an equivalent that meets the following specifications shall be used. The input file cards shall be compatible with 170, 2070, NEMA TS 1, and NEMA TS 2 style input racks.
The input file card shall translate data packets from the RPD into contact closure outputs.

The input file card shall support presence detection.

The input file card shall receive data packets over an RS-485 bus at a baud rate of 9600 bps.

The input file card shall autobaud and auto-detect an RPD over wired and wireless communication channels that have a maximum latency of 500 ms.

The input file card shall comply with the NEMA TS 2-1998 Traffic Controller Assemblies with NTCIP Requirements (Section 2.8 specification).

END OF SECTION 770

Requirements of Chapter 104, HRS
Wages and Hours of Employees on Public Works Law

Chapter 104, HRS, applies to every public works construction project over $2,000, regardless of the method of procurement or financing (purchase order, voucher, bid, contract, lease arrangement, warranty, SPRB).

Rate of Wages for Laborers and Mechanics

- Minimum prevailing wages (basic hourly rate plus fringe benefits), as determined by the Director of Labor and Industrial Relations and published in wage rate schedules, shall be paid to the various classes of laborers and mechanics working on the job site. [§104-2(a), (b), Hawaii Revised Statutes (HRS)]

- If the Director of Labor determines that prevailing wages have increased during the performance of a public works contract, the rate of pay of laborers and mechanics shall be raised accordingly. [§104-2(a) and (b), HRS; §12-22-3(d) Hawaii Administrative Rules (HAR)]

Overtime

- Laborers and mechanics working on a Saturday, Sunday, or a legal holiday of the State or more than eight hours a day on any other day shall be paid overtime compensation at not less than one and one-half times the basic hourly rate plus the cost of fringe benefits for all hours worked. If the Director of Labor determines that a prevailing wage is defined by a collective bargaining agreement, the overtime compensation shall be at the rates set by the applicable collective bargaining agreement [§§104-1, 104-2(c), HRS; §12-22-4.1, HAR]

Weekly Pay

- Laborers and mechanics employed on the job site shall be paid their full wages at least once a week, without deduction or rebate, except for legal deductions, within five working days after the cutoff date. [§104-2(d), HRS]

Posting of Wage Rate Schedules

- Wage rate schedules with the notes for prevailing wages and special overtime rates, shall be posted by the contractor in a prominent and easily accessible place at the job site. A copy of the entire wage rate schedule shall be given to each laborer and mechanic employed under the contract, except when the employee is covered by a collective bargaining agreement. [§104-2(d), HRS]

Withholding of Accrued Payments

- If necessary, the contracting agency may withhold accrued payments to the contractor to pay to laborers and mechanics employed by the contractor or subcontractor on the job site any difference between the wages required by the public works contract or specifications and the wages received. [§104-2(e), HRS]

Certified Weekly Payrolls and Payroll Records

- A certified copy of all payrolls shall be submitted weekly to the contracting agency. [§104-3(a), HRS; §12-22-10, HAR]

- The contractor is responsible for the submission of certified copies of the payrolls of all subcontractors. The certification shall affirm that the payrolls are correct and complete, that the wage rates listed are not less than the applicable rates contained in the applicable wage rate schedule, and that the classifications for each laborer or mechanic conform with the work the laborer or mechanic performed. [§104-3(a), HRS; §12-22-10, HAR]

- Payroll records shall be maintained by the contractor and subcontractors for three years after completion of construction. The records shall contain: [§104-3(b), HRS; §12-22-10, HAR]
  - the name and home address of each employee
  - the last four digits of social security number
  - a copy of the apprentice's registration with DLIR
  - the employee's correct classification
  - rate of pay (basic hourly rate + fringe benefits)
  - itemized list of fringe benefits paid
  - daily and weekly hours worked
  - weekly straight time and overtime earnings
  - amount and type of deductions
  - total net wages paid
  - date of payment

- Records shall be made available for examination by the contracting agency, the Department of Labor and Industrial Relations (DLIR), or any of its authorized representatives, who may also interview employees during working hours on the job. [§§104-3(c), 104-22(a), HRS; §12-22-10, HAR]

Termination of Work on Failure to Pay Wages

- If the contracting agency finds that any laborer or mechanic employed on the job site by the contractor or any subcontractor has not been paid prevailing wages or overtime, the contracting agency may, by written notice to the contractor, terminate the contractor's or subcontractor's right to proceed with the work or with the part of the work in which the required wages or overtime compensation have not been paid. The contracting agency may complete this work by contract or otherwise, and the contractor or contractor's sureties shall be liable to the contracting agency for any excess costs incurred. [§104-4, HRS]

Apprentices

- Apprentice wage rates apply to contractors who are a party to a bona fide apprenticeship program which has been registered with the DLIR. In order to be paid apprentice rates, apprentices must be parties to an agreement either registered with or recognized as a USDOL nationally approved apprenticeship program by the DLIR, Workforce Development Division, (808) 586-8877, and the apprentice must be individually registered by name with the DLIR. [§12-22-6(1) and (2), HAR]

- The number of apprentices on any public work in relation to the number of journeyworkers in the same craft classification as the apprentices employed by the same employer on the same public work may not exceed the ratio allowed under the apprenticeship standards registered with or recognized by the DLIR. A registered or recognized apprentice receiving the journeyworker rate will not be considered a journeyworker for the purpose of meeting the ratio requirement. [§12-22-6(3), HAR]

Enforcement

- To ensure compliance with the law, DLIR and the contracting agency will conduct investigations of contractors and subcontractors. If a contractor or subcontractor violates the law, the penalties are: [§104-24, HRS]

  - First Violation — Equal to 25% of back wages found due or $250 per offense up to $2,500, whichever is greater.
  - Second Violation — Equal to amount of back wages found due or $500 for each offense up to $5,000, whichever is greater.
  - Third Violation — Equal to two times the amount of back wages found due or $1,000 for each offense up to $10,000, whichever is greater; and
    Suspension from doing any new work on any public work of a governmental contracting agency for three years.

  ▪ A violation would be deemed a second violation if it occurs within two years of the **first notification of violation**, and a third violation if it occurs within three years of **the second notification of violation**. [§104-24, HRS; §12-22-25(b), HAR]

  ▪ **Suspension**: For a first or second violation, the department shall immediately suspend a contractor who fails to pay wages or penalties until all wages and penalties are paid in full. For a third violation, the department shall penalize and suspend the contractor as described above, **except that if the contractor continues to violate the law, then the department shall immediately suspend the contractor for a mandatory three years. The contractor shall remain suspended until all wages and penalties are paid in full.** [§§104-24, 104-25, HRS]

- **Suspension**: Any contractor who fails to make payroll records accessible or provide requested information within 10 days, or fails to keep or falsifies any required record, shall be assessed a penalty including suspension as provided in Section 104-22(b) and 104-25(a)(3), HRS. [§104-3(c), HRS; §12-22-26, HAR]

- If any contractor interferes with or delays any investigation, the contracting agency shall withhold further payments until the delay has ceased. Interference or delay includes failure to provide requested records or information within ten days, failure to allow employees to be interviewed during working hours on the job, and falsification of payroll records. The department shall assess a penalty of $10,000 per project, and $1,000 per day thereafter, for interference or delay. [§104-22(b), HRS; §12-22-26, HAR]

- Failure by the contracting agency to include in the provisions of the contract or specifications the requirements of Chapter 104, HRS, relating to coverage and the payment of prevailing wages and overtime, is not a defense of the contractor or subcontractor for noncompliance with the requirements of this chapter. [§104-2(f), HRS]

For additional information, visit the department's website at *http://labor.hawaii.gov/wsd*
or contact any of the following DLIR offices:

Oahu (Wage Standards Division) .....(808) 586-8777
Hawaii Island.....(808) 974-6464
Maui and Kauai .....(808) 243-5322

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HONOLULU, HAWAII

P R O P O S A L

6/02/98

PROPOSAL TO THE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

PROJECT: **Kahului Beach Road Intersection Improvements at Kanaloa Avenue District of Kahului, Island of Maui**

PROJECT NO.: 3400A-01-20

COMPLETION TIME: **160 Working Days from the Start Work Date from the Department.**

DESIGN PROJECT MANAGER:

NAME:	**Larry Hail**
ADDRESS:	**650 Palapala Drive**
PHONE NO.:	**(808) 873-3567**
EMAIL:	**larry.d.hail@hawaii.gov**
FAX NO.:	**(808) 873-3544**

ELECTRONIC SUBMITTAL: **Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Bidders shall refer to SPECIAL PROVISIONS 102.09 Delivery of Proposal for complete details. FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

Director of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sir:

The undersigned bidder declares the following:

1. It has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal.

2. It has not been assisted or represented on this matter by any individual who has, in a State capacity, been involved in the subject matter of this contract within the past two years.

3. It has not and will not, either directly or indirectly offered or given a gratuity (i.e.. an entertainment or gift) to any State or County employee to obtain a contract or favorable treatment under a contract.

The undersigned bidder further agrees to the following:

1. If this proposal is accepted, it shall execute a contract with the Department to provide all necessary labor, machinery, tools, equipment, apparatus and any other means of construction, to do all the work and to furnish all the materials specified in the contract in the manner and within the time therein prescribed in the contract, and that it shall accept in full payment therefore the sum of the unit and/or lump sum prices as set forth in the attached proposal schedule for the actual quantities of work performed and materials furnished and furnish satisfactory security in accordance with Section 103D-324, Hawaii Revised Statutes, within 10 days after the award of the contract or within such time as the Director of Transportation may allow after the undersigned has received the contract documents for execution, and is fully aware that non-compliance with the aforementioned terms will result in the forfeiture of the full amount of the bid guarantee required under Section 103D-323, Hawaii Revised Statutes.

2. That the quantities given in the attached proposal schedule are approximate only and are intended principally to serve as a guide in determining and comparing the bids.

3. That the Department does not either expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable by the Director of Transportation, and that all increased or decreased quantities of work shall be performed at the unit prices set forth in the attached proposal schedule except as provided for in the specifications.

4. In case of a discrepancy between unit prices and the totals in said Proposal Schedule, the unit prices shall prevail.

5. Agrees to begin work within 10 working days after the date of notification to commence with the work, which date is in the notice to proceed, and shall finish the entire project within the time prescribed.

6. The Director of Transportation reserves the right to reject any or all bids and to waive any defects when in the Director's opinion such rejections or waiver will be for the best interest of the public.

The bidder acknowledges receipt of and certifies that it has completely examined the following listed items: Hawaii Standard Specifications for Road and Bridge Construction, 2005, the Notice to Bidders, the Special Provisions, the Technical Provisions, the Proposal, the Contract and Bond Forms, and the Project Plans.

In accordance with Section 103D-323, Hawaii Revised Statutes, this proposal is accompanied with a bid security in the amount of 5% of the total amount bid, in the form checked below. (Check applicable bid security submitted with bid.)

_____ Surety Bid Bond (Use standard form),

_____ Cash,

_____ Cashier's Check,

_____ Certified Check, or

_____ _____
(Fill in other acceptable security.)

The undersigned bidder acknowledges receipt of any addendum issued by the Department by recording in the space below the date of receipt.

Addendum No. 1 _____ Addendum No. 3 _____

Addendum No. 2 _____ Addendum No. 4 _____

In accordance with Section 103D-302, Hawaii Revised Statutes, the undersigned as bidder has listed the name of each person or firm, who will be engaged by the bidder on the project as Joint Contractor or Subcontractor and the nature of work to be done by each. It is understood that failure to comply with the aforementioned requirements may be cause for rejection of the bid submitted.

	Name of Subcontractor	Nature and Scope of Work
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

	Name of Joint contractor	Nature and Scope of Work
1.		
2.		
3.		

("None" or if left blank indicates no Subcontractor or Joint Contractor; if more space is needed, attach additional sheets.)

The undersigned hereby certifies that the bid prices contained in the attached proposal schedule have been carefully checked and are submitted as correct and final.

This declaration is made with the understanding that the undersigned is subject to the penalty of perjury under the laws of the United States and is in violation of the Hawaii Penal Code, Section 710-1063, unsworn falsification to authorities, of the Hawaii Revised Statutes, for knowingly rendering a false declaration.

_____
Bidder

By _____
Authorized Signature

_____
Title

_____
Business Address

_____

_____
Email Address

_____
Date

_____
Contact Person (If different from above.)

_____
Phone Number and Email Address

NOTE:

If bidder is a CORPORATION, the legal name of the corporation shall be set forth above, the corporate seal affixed, together with the signature(s) of the officer(s) authorized to sign contracts for the corporation. Please attach to this page current (not more than six months old) evidence of the authority of the officer(s) to sign for the corporation.

If bidder is a PARTNERSHIP, the true name of the partnership shall be set forth above, with the signature(s) of the general partner(s). Please attach to this page current (not more than six months old) evidence of the authority of the partner authorized to sign for the partnership.

If bidder is an INDIVIDUAL, the bidder's signature shall be placed above.

If signature is by an agent, other than an officer of a corporation or a partner of a partnership, a POWER OF ATTORNEY must be on file with the Department before opening bids or submitted with the bid. Otherwise, the Department may reject the bid as irregular and unauthorized.

PREFERENCES

Bidders agree that preferences shall be taken into consideration to determine the low bidder in accordance with said Sections and the rules promulgated, however, the award of contract will be in the amount of the bid offered exclusive of any preferences.

A. HAWAII PRODUCTS PREFERENCE

In accordance with ACT 174, SLH 2022, effective June 27, 2022, Hawaii Products Preference shall not apply to solicitations for public works construction. Therefore, the Hawaii Products Preference shall not apply to this project.

B. APPRENTICESHIP PROGRAMS PREFERENCE

In accordance with ACT 17, SLH 2009 – Apprenticeship Program, a 5% bid adjustment for bidders that are parties to apprenticeship agreements pursuant to Hawaii Revised Statutes (HRS) Section 103-55.6 may be applied to the bidder's price for evaluation purposes.

Any bidder seeking this preference must be a party to an apprenticeship agreement registered with the Department of Labor and Industrial Relations at the time the offer is made for each apprenticeable trade the bidder will employ to construct the public works projects for which the offer is being made.

The bidder is responsible for complying with all submission requirements for registration of its apprenticeship program before requesting the preference.

( ) Yes, I wish to be considered for the Apprenticeship Programs Preference. I have included Certification Form(s) 1 with my bid.

C. RECYCLED PRODUCT PREFERENCE

Recycled product preference shall not apply to this proposal.

PROPOSAL SCHEDULE					
ITEM NO.	ITEMS	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.0100	Clearing and Grubbing	L.S.	L.S.	L.S.	$ _____
209.0100	Installation, Maintenance, Monitoring and Removal of BMP	L.S.	L.S.	L.S.	$ _____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 5,000.00
212.0100	Archaeological Monitoring	F.A.	F.A.	F.A.	$ 20,000.00
511.0100	Standard Excavation for Traffic Signal with 50' Mast Arm	5	C.Y.	$ _____	$ _____
511.0200	Standard Excavation for Traffic Signal with 40' Mast Arm	4	C.Y.	$ _____	$ _____
511.0300	Drilled Shaft for Traffic Signal with 50' Mast Arm	5	C.Y.	$ _____	$ _____
511.0400	Drilled Shaft for Traffic Signal with 40' Mast Arm	4	C.Y.	$ _____	$ _____
623.0100	Type I Traffic Signal Standard, H=8 FT, Complete	1	Each	$ _____	$ _____
623.0200	Type I Traffic Signal Standard, H=10 FT, Complete	4	Each	$ _____	$ _____
623.0300	Type II Traffic Signal Standard with 40-Feet Mast Arm, Complete	1	Each	$ _____	$ _____
623.0400	Type II Traffic Signal Standard, H=17 FT with 50-Feet Mast Arm, Complete	1	Each	$ _____	$ _____
623.0500	Foundation for Type I Signal Standard	5	Each	$ _____	$ _____
623.0600	Foundation for Controller Cabinet	1	Each	$ _____	$ _____
623.0700	Controller Assembly with Software (Flex Model Traffic Signal Controller Unit, Type 332L Cabinet, and Auxiliary Equipment)	1	Each	$ _____	$ _____
623.0800	Traffic Signal Assembly, (1-Way, 12-Inch, 1-3 Section Vertical with Type TP-1W Mounting)	2	Each	$ _____	$ _____

PROPOSAL SCHEDULE					
ITEM NO.	ITEMS	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.0900	Traffic Signal Assembly, (2-Way, 12-Inch, 2-3 Section Vertical with Type TP-2W Mounting)	1	Each	$ _____	$ _____
623.1000	Traffic Signal Assembly, (3-Way, 12-Inch, 2-3 Section Vertical with Type TP-2W Mounting)	1	Each	$ _____	$ _____
623.1100	Traffic Signal Assembly, (1-Way, 12-Inch, 1-3 Section Vertical with Backplate and Type MA-1W(1) Mounting)	5	Each	$ _____	$ _____
623.1200	EVP Optical Receiver with Mast Arm Mounting	2	Each	$ _____	$ _____
623.1300	EVP Optical Receiver with Top of Pole Mounting	1	Each	$ _____	$ _____
623.1400	Pedestrian Signal Assembly, (1-Way, 12-Inch, One Vertical with Type TP-1W Mounting)	1	Each	$ _____	$ _____
623.1500	Pedestrian Signal Assembly, (1-Way, 12-Inch, One Vertical with Type C-1W Mounting)	3	Each	$ _____	$ _____
623.1600	Pedestrian Push Button with Instruction Sign	5	Each	$ _____	$ _____
623.1700	Traffic Signal Ductline, Four 2-Inch Conduit, Sch 40 PVC, Concrete Encased	305	L.F.	$ _____	$ _____
623.1800	Traffic Signal Ductline, Five 2-Inch Conduit, Sch 40 PVC, Concrete Encased	60	L.F.	$ _____	$ _____
623.1900	Traffic Signal Ductline, Six 2-Inch Conduit, Sch 40 PVC, Concrete Encased	130	L.F.	$ _____	$ _____
623.2000	Traffic Signal Ductline, One 3-Inch Conduit and Six 2-Inch Conduit, Sch 40 PVC, Concrete Encased	10	L.F.	$ _____	$ _____
623.2100	No. 14, 2-Conductor Cable	1,755	L.F.	$ _____	$ _____

PROPOSAL SCHEDULE					
ITEM NO.	ITEMS	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.2200	No. 14, 26-Conductor Traffic Control Cable	675	L.F.	$ _____	$ _____
623.2300	No. 2, 3-Conductor Power Cable	40	L.F.	$ _____	$ _____
623.2400	EVP Cable	565	L.F.	$ _____	$ _____
623.2500	Relocate Camera Detection System, Complete	L.S.	L.S.	L.S.	$ _____
623.2600	Type C Pullbox	1	Each	$ _____	$ _____
623.2700	Traffic Rated Type Pullbox	3	Each	$ _____	$ _____
623.2800	Replace Existing Type B Pullbox	5	Each	$ _____	$ _____
623.2900	Replace Existing Type C Pullbox	1	Each	$ _____	$ _____
623.3000	Service and Metering Equipment Assembly, Complete	L.S.	L.S.	L.S.	$ _____
623.3100	Hawaiian Electric Company Service Connection Fees and Transformer Installation Fees	F.A.	F.A.	F.A.	$ 20,000.00
629.0100	8-inch Pavement Striping (Thermoplastic Extrusion) White	200	L.F.	$ _____	$ _____
629.0200	Crosswalk Markings (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$ _____
629.0300	Type "C" Pavement Marker	20	Each	$ _____	$ _____
631.0100	Regulatory Sign (10 Sq. Ft. or Less)	3	Each	$ _____	$ _____
631.0200	Regulatory Sign (10 Sq. Ft. or Less) (Sign and Post)	3	Each	$ _____	$ _____
631.0300	Street Name Sign on Mast Arm	2	Each	$ _____	$ _____
636.0100	Additional E-Construction Programs, Additional Licenses or Additional Equipment	F.A.	F.A.	F.A.	$ 10,000.00

PROPOSAL SCHEDULE					
ITEM NO.	**ITEMS**	**APPROX. QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
643.0100	Maintenance of Existing Landscape Areas	F.A.	F.A.	F.A.	$ 10,000.00
645.0100	Traffic Control	L.S.	L.S.	L.S.	$ _____
645.0200	Additional Police Officers, Additional Traffic Control Devices and Advertisements	F.A.	F.A.	F.A.	$ 30,000.00
648.0100	Field-Posted Drawings	L.S.	L.S.	L.S.	$ _____
650.0100	Curb Ramp, Type C	L.S.	L.S.	L.S.	$ _____
650.0200	Detectable Warning Mat	5	Each	$ _____	$ _____
699.0100	Mobilization (Not to Exceed 6 percent of the Sum of All Items Excluding the Bid Price of this Item)	L.S.	L.S.	L.S.	$ _____

a. TOTAL AMOUNT FOR COMPARISON OF BIDS..... $ _____

PROPOSAL SCHEDULE NOTES

1. Bids shall include all Federal, State, County and other applicable taxes and fees.

2. The TOTAL AMOUNT FOR COMPARISON OF BIDS shall be used to determine the lowest responsible bidder.

3. Bidders shall complete all unit prices and amounts. Failure to do so shall be grounds for rejection of bid.

4. If a discrepancy occurs between unit bid price and the bid price, the unit bid price shall govern.

5. Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Bidders shall not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection. Original (wet ink, hard copy) proposal documents are not required to be submitted. Contract award shall be based on evaluation of proposals submitted and uploaded to HIePRO.

PROPOSAL SCHEDULE

The bidder is directed to Subsection 105.16 – Subcontracts.

The bidder's attention is directed to Sections 696 - Field Office and Project Site Laboratory and 699 - Mobilization for the limitation of the amount bidders are allowed to bid.

If the bid price for any proposal item having a maximum allowable bid indicated therefore in any of the contract documents is in excess of such a maximum amount, the bid price for such proposal item shall be adjusted to reflect the limitation thereon. The comparison of bids to determine the successful bidder and the amount of contract to be awarded shall be determined after such adjustments are made, and such adjustments shall be binding upon the bidder.

The bidder is directed to Section 717 – Cullet and Cullet-Made Materials regarding recycling of waste glass.

SURETY BID BOND

Bond No. _____

KNOW ALL BY THESE PRESENTS:

That we, _____
(Full name or legal title of offeror)

as Offeror, hereinafter called the Principal, and

_____
(Name of bonding company)

as Surety, hereinafter called Surety, a corporation authorized to transact business as a Surety in the State of Hawaii, are held and firmly bound unto

_____
(State/county entity)

as Owner, hereinafter called Owner, in the penal sum of

_____
(Required amount of bid security)

Dollars ($_____), lawful money of the United States of America, for the payment of which sum well and truly to be made, the said Principal and the said Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS:

The Principal has submitted an offer for _____

_____
(Project by number and brief description)

NOW, THEREFORE:

The condition of this obligation is such that if the Owner shall reject said offer, or in the alternate, accept the offer of the Principal and the Principal shall enter into a contract with the Owner in accordance with the terms of such offer, and give such bond or bonds as may be specified in the solicitation or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof as specified in the solicitation then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed this _____ day of _____, _____

(Seal) _____
Name of Principal (Offeror)

_____
Signature

_____
Title

(Seal) _____
Name of Surety

_____
Signature

_____
Title

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HONOLULU, HAWAII

FORMS

Contents

CONTRACT

THIS AGREEMENT, made this day of _____, by and between the STATE OF HAWAII, by its Director of Transportation, hereinafter referred to as "STATE", and «CONTRACTOR», «STATE_OF_INCORPORATON», whose business/post office address is «ADDRESS», hereinafter referred to as CONTRACTOR";

WITNESSETH: That for and in consideration of the payments hereinafter mentioned, the CONTRACTOR hereby covenants and agrees with the STATE to complete in place, furnish and pay for all labor and materials necessary for "«PROJECT_NAME_AND_NO»", or such a part thereof as shall be required by the STATE, the total amount of which labor, material and construction shall be computed at the unit and/or lump sum prices set forth in the attached proposal schedule and shall be the sum of «BASIC»----DOLLARS ($«BASIC_NUMERIC») as follows:

TOTAL AMOUNT FOR COMPARISON OF BIDS……$«BASIC_NUMERIC»

which sum shall be provided from State funds, all in accordance with the specifications, the special provisions, if any, the notice to bidders, the instructions to bidders, the proposal and plans for «PROJECT_NO_ONLY», and any supplements thereto, on file in the office of the Director of Transportation. These documents, together with all alterations, amendments, and additions thereto and deductions therefrom, are attached hereto or incorporated herein by reference and made a part of this contract.

The CONTRACTOR hereby covenants and agrees to complete such construction within «WORKING_DAYS» from the date indicated in the Notice to Proceed from the State subject, however, to such extensions as may be provided for in writing under the specifications.

For and in consideration of the covenants, undertakings and agreements of the CONTRACTOR herein set forth and upon the full and faithful performance thereof by the CONTRACTOR, the STATE hereby agrees to pay the CONTRACTOR the sum of «BASIC»---DOLLARS ($«BASIC_NUMERIC») in lawful money, but not more than such part of the same as is actually earned according to the STATE's determination of the actual quantities of work performed and materials furnished by the CONTRACTOR at the unit or lump sum prices set forth in the attached proposal schedule. Such payment, including any extras, shall be made, subject to such additions or deductions hereto or hereafter made in the manner and at the time prescribed in the specifications and this contract.

An additional sum of «EXTRAS»-----DOLLARS ($«EXTRA_NUMERIC») is hereby provided for extra work.

All words used herein in the singular shall extend to and include the plural. All words used in the plural shall extend to and include the singular. The use of any gender shall extend to and include all genders.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be duly executed the day and year first above written.

STATE OF HAWAII

_____
Director of Transportation

«CONTRACTOR» (Seal)

_____
Signature

_____
Print name

_____
Print Title

_____
Date

PERFORMANCE BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

_____
(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Obligee, in the amount of _____

_____
DOLLARS ($_____), to which payment Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above-bound Principal has signed a Contract with Obligee on _____, for the following project:_____
_____
_____
_____
_____
_____
hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE, the condition of this obligation is such that:

If the Principal shall promptly and faithfully perform, and fully complete the Contract in strict accordance with the terms of the Contract as said Contract may be modified or amended from time to time; then this obligation shall be void; otherwise to remain in full force and effect.

Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

In the event of Default by the Principal, of the obligations under the Contract, then after written Notice of Default from the Obligee to the Surety and the Principal and subject to the limitation of the penal sum of this bond, Surety shall remedy the Default, or take over the work to be performed under the Contract and complete such work, or pay moneys to the Obligee in satisfaction of the surety's performance obligation on this bond.

Signed this _____ day of _____, _____.

(Seal) _____
Name of Principal (Contractor)

* _____
Signature

_____
Title

(Seal) _____
Name of Surety

* _____
Signature

_____
Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

PERFORMANCE BOND

KNOW ALL BY THESE PRESENTS:

That we,_____
(full legal name and street address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto the

_____
_
(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

_____DOLLARS
($_____),
(Dollar amount of Contract)

lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ❑ **Legal Tender**;

- ❑ **Share Certificate** unconditionally assigned to or made payable at sight to _____
_
Description:_____
_____;

- ❑ **Certificate of Deposit**, **No.** _____, dated _____ issued by _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Cashier's Check No.** _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Teller's Check No.** _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Treasurer's Check No.** _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Official Check No.** _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Certified Check No.** _____, dated _____ accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project:_____
_____
_____
__hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The Condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, and shall deliver the Project to the Obligee, or to its successors or assigns, fully completed as in the Contract specified and free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder.

Signed and sealed this _____ day of _____, _____.

(Seal) _____
Name of Contractor

* _____
Signature

_____
Title

*ALL SIGNATURES MUST BE
ACKNOWLEDGED BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

_____,
(Name and Street Address of Bonding Company)
as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Obligee, in the amount of _____

_____
_____ Dollars ($_____), to which payment Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above-bound Principal has signed Contract with the Obligee on _____ for the following project:_____
_____
_____
_____
_____
hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to any Claimant, as hereinafter defined, for all labor and materials supplied to the Principal for use in the performance of the Contract, then this obligation shall be void; otherwise to remain in full force and effect.

1. Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

2. A "Claimant" shall be defined herein as any person who has furnished labor or materials to the Principal for the work provided in the Contract.

Every Claimant who has not been paid amounts due for labor and materials furnished for work provided in the Contract may institute an action against the Principal and its Surety on this bond at the time and in the manner prescribed in Section 103D-324, Hawaii Revised Statutes, and have the rights and claims adjudicated in the action, and judgment rendered thereon; subject to the Obligee's priority on this bond. If the full amount of the liability of the Surety on this bond is insufficient to pay the full amount of the claims, then after paying the full amount due the Obligee, the remainder shall be distributed pro rata among the claimants.

Signed this _____ day of _____, _____.

(Seal) _____
Name of Principal (Contractor)

* _____
Signature

_____
Title

(Seal) _____
Name of Surety

* _____
Signature

_____
Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto _____
(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

_____ DOLLARS ($_____),
(Dollar amount of Contract)

lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ❑ **Legal Tender**;

- ❑ **Share Certificate** unconditionally assigned to or made payable at sight to_____
  Description:_____

- ❑ **Certificate of Deposit, No.** _____, dated _____
  issued by _____
  drawn on _____
  a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Cashier's Check No.** _____, dated _____
  drawn on _____
  a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Teller's Check No.** _____, dated _____
  drawn on _____
  a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Treasurer's Check No.** _____, dated _____
  drawn on _____
  a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Official Check No.** _____, dated _____
  drawn on _____
  a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ❑ **Certified Check No.** _____, dated _____
  accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project:_____

_____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

AND IT IS HEREBY STIPULATED AND AGREED that this bond shall inure to the benefit of any and all persons entitled to file claims for labor performed or materials furnished in said work so as to give any and all such persons a right of action as contemplated by Sections 103D-324(d) and 103D-324(e), Hawaii Revised Statutes.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payments of mechanics' liens which may be filed of record against the Project, whether or not claim for the amount of such lien be presented under and against this bond.

Signed this _____ day of _____, _____.

(Seal) _____
Name of Contractor

* _____
Signature

_____
Title

*ALL SIGNATURES MUST BE
ACKNOWLEDGED BY A NOTARY PUBLIC

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

Approved by
0348-0046

1. Type of Federal Action:	2. Status of Federal Action:	3. Report Type:
❒ a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	❒ a. bid/offer/application b. initial award c. post-award	❒ a. initial filing b. material change For Material Change Only: year _____ quarter _____ date of last report _____

4. Name and Address of Reporting Entity: ❒ Prime ❒ Subawardee Tier _____, ***if known***: Congressional District, ***if known***:	5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime Congressional District, ***if known***:
6. Federal Department/Agency:	7. Federal Program Name/Destination: CFDA Number, ***if applicable***:
8. Federal Action Number, ***if known***:	9. Award Amount, ***if known:*** $
10. a. Name and address of Lobbying Entity ***(if individual, last name, first name, MI):***	b. Individuals Performing Services ***(including address if different from No. 10a)*** ***(last name, first name, MI):***

(attach Continuation Sheet(s) SF-LLL-A, if necessary)

11. Amount of Payment (***check all that apply***): $ _____ ❒ actual ❒ planned	13. Type of Payment (***check all that apply***): ❒ a. retainer ❒ b. one-time fee ❒ c. commission ❒ d. contingent fee ❒ e. deferred ❒ f. other; specify: _____
12. Form of Payment (***check all that apply***): ❒ a. cash ❒ b. in-kind; specify: nature _____ value _____	

14. Brief Description of Services Performed or to be Performed and Date(s) of Service, including officer(s), employees(s) or Member(s) contacted, for Payment Indicated in Item 11:

(attach Continuation Sheet(s) SF-LLL-A, if necessary)

15. Continuation Sheet(s) SF-LLL-A attached: ❒ Yes ❒ No

16. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____

Federal Use Only:	Authorized for Local Reproduction Standard Form - LLL

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee", then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal Agency). Include prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).

11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.

12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.

13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.

14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) or Congress that were contacted.

15. Check whether or not a SF-LLL-A Continuation Sheet(s) is attached.

16. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

DISCLOSURE OF LOBBYING ACTIVITIES
CONTINUATION SHEET

Approved by
0348-0046

Reporting Entity:_____ Page _____ of _____

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Standard Form - LLL-A

CHAPTER 104, HRS COMPLIANCE CERTIFICATE

The undersigned bidder does hereby certify to the following:

1. Individuals engaged in the performance of the contract on the job site shall be paid:

   A. Not less than the wages that the director of labor and industrial relations shall have determined to be prevailing for corresponding classes of laborers and mechanics employed on public works projects; and

   B. Overtime compensation at one and one-half times the basic hourly rate plus fringe benefits for hours worked on Saturday, Sunday, or a legal holiday of the State or in excess of eight hours on any other day.

2. All applicable laws of the federal and state governments relating to workers' compensation, unemployment compensation, payment of wages, and safety shall be fully complied with.

DATED at Honolulu, Hawaii, this _____ day of _____, 20___.

«CONTRACTOR»
Name of Corporation, Partnership, or Individual

_____
Signature and Title of Signer

Notary Seal
NOTARY ACKNOWLEDGEMENT

Subscribed and sworn before me this
_____day of_____
Notary signature_____
Notary public, State of _____
My Commission Expires:_____

Notary Seal
NOTARY CERTIFICATION

Doc. Date: _____ #Pages: ____
Notary Name: _____ _____Circuit
Doc. Description: _____
_____
Notary signature_____
Date _____

PROVISIONS TO BE INCLUDED IN CONSTRUCTION PROCUREMENT SOLICITATIONS

1. Definitions for terms used in HRS Chapter 103B as amended by Act 192, SLH 2011:

   a. "Contract" means contracts for construction under 103D, HRS.

   b. "Contractor" has the same meaning as in Section 103D-104, HRS, provided that "contractor" includes a subcontractor where applicable.

   c. "Construction" has the same meaning as in Section 103D-104, HRS.

   d. "General Contractor" means any person having a construction contract with a governmental body.

   e. "Procurement Officer" has the same meaning as in Section 103D-104, HRS.

   f. "Resident" means a person who is physically present in the State of Hawai'i at the time the person claims to have established the person's domicile in the State of Hawai'i and shows the person's intent is to make Hawai'i the person's primary residence.

   g. "Shortage trade" means a construction trade in which there is a shortage of Hawai'i residents qualified to work in the trade as determined by the Department of Labor and Industrial Relations.

2. HRS Chapter 103B as amended by Act 192, SLH 2011–Employment of State Residents Requirements:

   a. A Contractor awarded a contract shall ensure that Hawai'i residents comprise not less than 80% of the workforce employed to perform the contract work on the project. The 80% requirement shall be determined by dividing the total number of hours worked on the contract by Hawai'i residents, by the total number of hours worked on the contract by all employees of the Contractor in the performance of the contract. The hours worked by any Subcontractor of the Contractor shall count towards the calculation for this section. The hours worked by employees within shortage trades, as determined by the Department of Labor and Industrial Relations (DLIR), shall not be included in the calculation for this section.

EXHIBIT 1

b. Prior to award of a contract, an Offeror/Bidder may withdraw an offer/bid without penalty if the Offeror/Bidder finds that it is unable to comply with HRS Chapter 103B as amended by Act 192, SLH 2011.

c. Prior to starting any construction work, the Contractor shall submit the subcontract dollar amount for each of its Subcontractors.

d. The requirements of this section shall apply to any subcontract of $50,000 or more in connection with the Contractor; that is, such Subcontractors must also ensure that Hawai'i residents comprise not less than 80% of the Subcontractor's workforce used to perform the subcontract.

e. The Contractor and any Subcontractor whose subcontract is $50,000 or more shall comply with the requirements of HRS Chapter 103B as amended by Act 192, SLH 2011.

1) Certification of compliance shall be made in writing under oath by an officer of the General Contractor and applicable Subcontractors and submitted with the final payment request.

2) The certification of compliance shall be made under oath by an officer of the company by completing a "Certification of Compliance for Employment of State Residents" form and executing the Certificate before a licensed notary public.

3) In addition to the certification of compliance as indicated above, the Contractor and Subcontractors shall maintain records such as certified payrolls for laborers and mechanics who performed work at the site and time sheets for all other employees who performed work on the project. These records shall include the names, addresses and number of hours worked on the project by all employees of the Contractor and Subcontractor who performed work on the project to validate compliance with HRS Chapter 103B as amended by Act 192, SLH 2011. The Contractor and Subcontractors shall retain these records and provide access to the State for a minimum period of four (4) years after the final payment, except that if any litigation, claim, negotiation, investigation, audit or other action involving the records has been started before the expiration of the four-year period, the Contractor and Subcontractors shall retain the records until completion of the action and resolution of all issues that arise from it, or until the end of the four-year period, whichever occurs later. Furthermore, it shall be the Contractor's responsibility to enforce compliance with this provision by any Subcontractor.

f. A General Contractor or applicable Subcontractor who fails to comply with this section shall be subject to any of the following sanctions:

1) With respect to the General Contractor, withholding of payment on the contract until the Contractor or its Subcontractor complies with HRS Chapter 103B as amended by Act 192, SLH 2011.

2) Proceedings for debarment or suspension of the Contractor or Subcontractor under Hawai'i Revised Statues §103D-702.

3. Conflict with Federal Law: This section shall not apply if the application of this section is in conflict with any federal law, or if the application of this section will disqualify the State from receiving Federal funds or aid.

EXHIBIT 1

CERTIFICATION OF COMPLIANCE
FOR
EMPLOYMENT OF STATE RESIDENTS
HRS CHAPTER 103B, AS AMENDED BY ACT 192, SLH 2011

Project Title: _____

Agency Project No: _____

Contract No.: _____

As required by Hawai'i Revised Statutes Chapter103B, as amended by Act 192, Session Laws of Hawaii 2011–Employment of State Residents on Construction Procurement Contracts, I hereby certify under oath, that I am an officer of _____ and
(Name of Contractor or Subcontractor Company)
for the Project Contract indicated above, _____ was in
(Name of Contractor or Subcontractor Company)
compliance with HRS Chapter 103B, as amended by Act 192, SLH 2011, by employing a workforce of which not less than eighty percent are Hawai'i residents, as calculated according to the formula in the solicitation, to perform this Contract.

☐ I am an officer of the **Contractor** for this contract.

☐ I am an officer of a **Subcontractor** for this contract.

CORPORATE SEAL

_____
(Name of Company)

_____
(Signature)

_____
(Print Name)

_____
(Print Title)

Subscribed and sworn to me before this
_____ day of _____, 2011.

_____
Notary Public, 1st Circuit, State of Hawai'i
My commission expires: _____

Doc. Date: _____ # of Pages_____ 1st Circuit
Notary Name: _____
Doc. Description: _____
_____
_____

_____
Notary Signature Date
NOTARY CERTIFICATION

EXHIBIT 2