STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

SPECIAL PROVISIONS PROPOSAL CONTRACT, AND BOND

FOR

KUHIO HIGHWAY
CONCRETE BARRIER INSTALLATION

VICINITY OF LANIKAI STREET

PROJECT NO. 56A-01-24M

DISTRICT OF KAWAIHAU

ISLAND OF KAUAI

FY 2025

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

The receiving of bids for KUHIO HIGHWAY CONCRETE BARRIER INSTALLATION, VICINITY OF LANIKAI STREET, DISTRICT OF KAWAIHAU, ISLAND OF KAUAI, ProjectNo.56A-01-24M, 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 August 2, 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 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 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 construction of concrete barrier and pavement section, installation of crush attenuator and reflector marker. The estimated construction cost is between $300,000.00 and $500,000.00.

To be eligible for 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 July 11, 2024, 10:00 a.m., HST. Interested bidders shall contact Eric Fujikawa, Project Manager, directly at eric.i.fujikawa@hawaii.gov, no later than five working days prior to the scheduled pre-bid conference to receive the meeting invitation. 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 in HIePRO **no later than July 19, 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 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 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 Department of Transportation shall affirmatively ensure that the contract entered into 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 Hawaii Department of Transportation (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 Eric Fujikawa, Project Manager, by phone at (808) 241-3015, or by email at eric.i.fujikawa@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: July 3, 2024

TABLE OF CONTENTS

DIVISION 500 - PAVEMENTS		
Section	**Description**	**Pages**
503	Concrete Structures	503-1a

DIVISION 600 - INCIDENTAL CONSTRUCTION		
Section	**Description**	**Pages**
601	Structural Concrete	601-1a – 601-19a
602	Reinforcing Steel	602-1a
624	Water System	624-1a
632	Markers	632-1a
634	Portland Cement Concrete Curb and Gutter	634-1a
636	E-Construction	636-1a – 636-3a
638	Portland Cement Concrete Sidewalk	638-1a
645	Work Zone Traffic Control	645-1a – 645-3a
671	Protection of Threatened and Endangered Species	671-1a – 671-9a
699	Mobilization	699-1a

DIVISION 700 - MATERIALS		
Section	**Description**	**Pages**
701	Hydraulic Cement	701-1a
702	Bituminous Materials	702-1a – 702-2a
703	Aggregates	703-1a – 703-2a
717	Cullet and Cullet-Made Materials	717-1a – 717-2a
750	Traffic Control Sign and Marker Materials	750-1a – 750-2a

Requirements of Chapter 104, HRS
Wages and Hours of Employees on Public Works Law

Proposal Title Page

Proposal ……..…… P-1 – P-5
Proposal Schedule ……..…… P-6 – P-9

Surety Bid Bond

Sample Form Title Page

Contract

Performance Bond (Surety)

END OF TABLE OF CONTENTS

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

S P E C I A L P R O V I S I O N S

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

101.02

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.

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.

HAWAII ePROCUREMENT SYSTEM (HIePRO) - The State of Hawaii eProcurement System for issuing solicitations, receiving proposals and responses, and issuing notices of award.

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 (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 <u>confidential and/or proprietary</u> shall be uploaded as a <u>separate file</u> to HIePRO. Do 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.

<u>FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.</u>

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.

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.

Procurement Officer – Director of Transportation or his authorized representative.

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.

(2) 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.

(3) 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, 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.

(4) 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.

(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.

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.

(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
203	Contract Item No. 203.0100 under Section 203 – Excavation and Embankment
304	Contract Item No. 304.0100 under Section 304 – Aggregate Base Course
305	Contract Item No. 305.0100 under Section 305 – Aggregate Subbase
401	Contract Item No. 401.0400 under Section 401 – Hot Mix Asphalt (HMA) Pavement
503	Contract Item No. 503.0100 under Section 503 – Concrete Structures
624	All Contract Items under Section624 – Water System Structures
634	Contract Item No. 634.0100 under Section 634 – Portland Cement Concrete Sidewalks
645	Contract Item No. 645.1000 under Section 645 – Work Zone Traffic Control
638	Contract Item No. 638.1200 under Section 638 – Portland Cement Concrete Curb and Gutter"

(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:

(I) 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."

(II) 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 than thirty (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 fourteen (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 (5) 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 fourteen (14) 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 fourteen (14) calendar days after the Notice to Proceed date.

The Contractor shall notify the Engineer at least twenty four (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 twenty one (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 (8) 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 (5) 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 thirty (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 thirty (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 (5) 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 (1) 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 (5) 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 One Hundred (100) Working Days or One Hundred Forty (140) Calendar Days or Less. For contracts of $2,000,000 or less or for contract time of one hundred (100) working days or one hundred forty (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 One Hundred (100) Working Days Or One Hundred Forty (140) Calendar Days. For contracts which have a contract amount more than $2,000,000 or contract time of more than one hundred (100) working days or one hundred forty (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 One Hundred (100) Working Days or One Hundred Forty (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 twenty (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 (5) 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 (8) 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 (8) 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 (2) 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 four (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 (3) weeks' work. Number of copies of the detailed work schedule to be submitted will be determined by the Engineer. The three (3) 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 (3) 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 (3) 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 (2) 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 $ 5,000.00 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 $2,500 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 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 thirty (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 (7) 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 (1) 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 (10) 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 (10) 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 (1) 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 (5) 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 sixty (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 203 – EXCAVATION AND EMBANKMENT

Make the following amendments to said Section:

(I) Amend **203.03(C)(2)(a) – Maximum Dry Unit Weight** from line 245 to line 255 to read as follows:

> "**(a) Maximum Dry Unit Weight.** Test for maximum dry unit weight according to AASHTO T 180, and apply the correction for fraction larger than 3/4 inch. Use Hawaii Test Method HDOT TM 5 for sample preparation of sensitive soils when so designated by the Engineer."

(II) Amend **203.04 – Measurement** by revising lines 345 to 366 to read as follows:

"**203.04 Measurement.**

(A) The Engineer will measure roadway excavation per cubic yard. The Engineer will compute quantities of roadway excavation by average end area method and centerline distances. Curvature correction will not be applied to quantities within roadway prism, as indicated in the contract documents. In computing excavation quantities from outside the roadway prism, where roadway centerline is used as a base, curvature correction will be applied when centerline radius is 1,000 feet or less.

When roadway excavation quantities by average end area method cannot be computed due to the nature of a particular operation or changed conditions, the Engineer will determine and use computation method that will produce an accurate quantity estimate."

(III) Amend **203.05 – Payment** by revising lines 368 to 457 to read as follows:

"**203.05 Payment.** The Engineer will pay for the accepted pay item listed below 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 each of the following pay item when included in the proposal schedule:

Pay Item	**Pay Unit**
Roadway Excavation	Cubic Yard

The Engineer will pay for:

(1) 15 percent of the contract bid price upon completion of obliterating old roadways and hauling.

(2) 30 percent of the contract bid price upon completion of preparing subgrade.

(3) 40 percent of the contract bid price upon completion of placing selected material in final position, rounding of slopes, and using water for compaction.

(4) 15 percent of the contract bid price upon completion of disposing of surplus excavation material.

The Engineer will pay for accepted quantities of subexcavation, as roadway excavation at the contract unit price per cubic yard, when ordered by the Engineer, for work prescribed in Subsection 203.03(A)(4) – Subexcavation. Payment will be full compensation for the work prescribed therein and in the contract documents.

The Engineer will pay for accepted quantities of unlined gutter excavation as roadway excavation at the contract unit price per cubic yard, when gutter is located as follows: within median area of a divided highway; and between roadbed shoulder and adjacent cut slope. Payment will be full compensation for removing and disposing of excavated material; backfilling and compacting; and for the work prescribed in the contract documents.

The Engineer will not pay for stockpiling selected material, placing selected material in final position, or placing selected material in windrows along tops of roadway slopes for erosion control work, separately and will consider the cost as included in the unit prices for the various excavation contract pay items. The cost is for work prescribed in this section and the contract documents.

The Engineer will not pay for overhaul separately and will consider the cost as included in the unit prices for the various excavation contract pay items. The cost is for work prescribed in this section and the contract documents.

The Engineer will not pay for embankment separately and will consider the cost as included in the unit price for roadway excavation. The cost is for work prescribed in this section and the contract documents."

END OF SECTION 203

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 hydro-mulch. 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.

575

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.*

576

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*

578

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*

579

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*

580

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.*

581

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.*

582

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*

583

584

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*

585

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*

586

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*

587

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.*

588

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*

589

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

SECTION 304 – AGGREGATE BASE COURSE

Make the following amendments to said Sections:

(I) Amend **Section 304.04 Measurement**, from line 54 to 55 to read as follows:

"**304.04 Measurement.** The Engineer will measure aggregate base course per cubic yard in accordance with the contract documents."

(II) Amend **Section 304.05 Payment**, from line 57 to 66 to read as follows:

"**304.05 Payment.** The Engineer will pay for the accepted aggregate base course at the contract price per cubic yard. 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**
Aggregate Base Course	Cubic Yard"

END OF SECTION 304

SECTION 305 – AGGREGATE SUBBASE COURSE

Make the following amendments to said Sections:

(I) Amend **Section 305.04 Measurement**, from line 54 to 55 to read as follows:

"**305.04 Measurement.** The Engineer will measure aggregate subbase course per cubic yard in accordance with the contract documents."

(II) Amend **Section 305.05 Payment**, from line 57 to 66 to read as follows:

"**305.05 Payment.** The Engineer will pay for the accepted aggregate subbase course at the contract price per cubic yard. 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**
Aggregate Subbase Course	Cubic Yard"

END OF SECTION 305

Amend Section 401- HOT MIX ASPHALT (HMA) PAVEMENT to read as follows:

"SECTION 401 – HOT MIX ASPHALT (HMA) PAVEMENT

401.01 Description. This section describes furnishing and placing dense graded HMA pavement (herein referred to as HMA) on a prepared surface.

401.02 Materials.

Asphalt Cement (PG 64-16)	702.01(A)

Use for non-surface mixes, unless otherwise specified in the project documents.

Asphalt Cement (PG 64E-22)	702.01(B)

Use for all surface mixes, except for on Lanai and Molokai, and unless otherwise specified in the project documents. Polymer modified asphalt (PMA) pavement refers to asphalt mix using PG 64E-22, unless otherwise indicated.

Emulsified Asphalt	702.04
Warm Mix Asphalt Additive	702.06
Aggregate for Hot Mix Asphalt Pavement	703.09
Filler	703.15
Hydrated Lime or a liquid anti-strip approved by the engineer	712.03

(A) General. HMA pavement shall be plant mixed and shall include mixture of aggregate and asphalt binder and may include reclaimed asphalt pavement (RAP) or filler, or both.

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.

HMA pavement shall include surface course and may include one or more binder courses, depending on HMA pavement thickness indicated in the contract documents.

RAP is defined as removed or reprocessed pavement materials containing asphalt and aggregates. Process RAP by crushing until 100 percent of RAP passes 3/4-inch sieve. Size, grade uniformly, and combine materials such that blend of RAP and aggregate material conforms to grading requirements of Subsection 703.09 - Aggregate for Hot Mix Asphalt

Pavement.

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

Quantity of filler material to correct deficiencies in aggregate gradation passing the No. 200 sieve shall not exceed 3 percent by weight of fine aggregates.

(B) Job-Mix Formula and Tests. Design job-mix formula in accordance with procedures contained in current edition of Asphalt Institute's *Mix Design Methods for Asphalt Concrete and Other Hot Mix Types,* Manual Series No. 2 (MS-2) for either Marshall Method or Hveem Method of Mix Design.

Limit compacted lift thickness and asphalt content of job-mix formula as specified in Table 401.02-1 - Limits of Compacted Lift Thickness and Asphalt Content.

TABLE 401.02-1 - LIMITS OF COMPACTED LIFT THICKNESS AND ASPHALT CONTENT

MIX NO.	II	III	IV	V
Minimum to Maximum Compacted Thickness for Individual Lifts (Inches)	2-1/4 to 3	2 to 3	1-1/2 to 3	1-1/4 to 3
Asphalt Content Limits (Percent of Total Weight of Mix)	3.8 to 6.1	4.3 to 6.1	4.3 to 6.5	4.8 to 7.0

Asphalt content limits for porous aggregate may be exceeded only if it is requested ahead of placement and is reviewed then accepted in writing by the Engineer.

Meet job-mix formula design criteria specified in Table 401.02-2 - Job-Mix Formula Design Criteria.

TABLE 401.02-2 - JOB-MIX FORMULA DESIGN CRITERIA	
Hveem Method Mix Criteria (AASHTO T 246 and AASHTO T 247)	
Stability, minimum	37
Air Voids (percent)[1]	3 - 5
Marshall Method Mix Criteria (AASHTO T 245)	
Compaction (number of blows each end of specimen)	75
Stability, minimum (pounds)	1,800
Flow (x 0.01 inch)	8 - 16
Air Voids (percent)[1]	3 - 5
Notes: 1. Air Voids: AASHTO T 166 or AASHTO T 275; AASHTO T 209, AASHTO T 269.	

Minimum percent voids in mineral aggregates (VMA) of job-mix formula shall be as specified in Table 401.02-3 - Minimum Percent Voids in Mineral Aggregates (VMA).

TABLE 401.02-3 - MINIMUM PERCENT VOIDS IN MINERAL AGGREGATES (VMA)					
Nominal Maximum Particle Size, (Inches)	1-1/2	1	3/4	1/2	3/8
VMA, (percent)[1]	11.0	12.0	13.0	14.0	15.0
Notes: 1. VMA: See Asphalt Institute Manual MS-2					

(C) Submittals. Establish and submit job-mix formula for each type of HMA pavement mix indicated in the contract documents a minimum of 30 days before paving production. Job mix shall include the following applicable information:

(1) Design percent of aggregate passing each required sieve size.

(2) Design percent of asphalt binder material (type determined by type of mix) added to the aggregate (expressed as % by weight of total mix),

(3) Design proportion of processed RAP.

(4) Design temperature of mixture at point of discharge at paver.

(5) Source of aggregate.

(6) Grade of asphalt binder.

(7) Test data used to develop job-mix formula.

Except for item (4) in this subsection, if design requirements are modified after the Engineer accepts job-mix formula, submit new job-mix formula before using HMA produced from modified mix design. Submit any changes to the design temperature of mixture at point of discharge for acceptance by the Engineer.

Submit a certificate of compliance for the asphalt binder, accompanied by substantiating test data from a certified testing laboratory.

(D) Range of Tolerances for HMA. Provide HMA within allowable tolerances of accepted job mix formula as specified in Table 401.02-4 - Range of Tolerances HMA. These tolerances are not to be used for the design of the job mix, they are solely to be used during the testing of the production field sample of the HMA mix.

TABLE 401.02-4 - RANGE OF TOLERANCES HMA	
Passing No. 4 and larger sieves (percent)	± 7.0
Passing No. 8 to No. 100 sieves (inclusive) (percent)	± 4.0
Passing No. 200 sieve (percent)	± 3.0
Asphalt Content (percent)	± 0.4
Mixture Temperature (degrees F)	± 20

The tolerances shown are the allowable variance between the physical characteristics of laboratory job mix submitted mix design and the production or operational mix, i.e., field samples.

401.03 Construction.

(A) Weather Limitations. Placement of HMA shall not be allowed under the following conditions:

(1) On wet surfaces, e.g., surface with ponding or running water, surface that has aggregate or surface that appears beyond surface saturated dry, as determined by the Engineer.

(2) When air temperature is below 50 degrees F and falling. HMA may be applied when air temperature is above 40 degrees F and rising. Air temperature will be measured in shade and away from artificial heat.

(3) When weather conditions prevent proper method of construction.

(B) Equipment.

(1) Mixing Plant. Use mixing plants that conform to AASHTO M 156, supplemented as follows:

(a) All Plants.

1. Automated Controls. Control proportioning, mixing, and mix discharging automatically. When RAP is incorporated into mixture, provide positive controls for proportioning processed RAP.

2. Dust Collector. AASHTO M 156, Requirements for All Plants, Emission Controls is amended as follows:

Equip plant with dust collector. Dispose of collected material. In the case of baghouse dust collectors, dispose of collected material or return collected material uniformly.

3. Modifications for Processing RAP. When RAP is incorporated into mixture, modify mixing plant in accordance with plant manufacturer's recommendations to process RAP.

(b) Drum Dryer-Mixer Plants.

1. Bins. Provide separate bin in cold aggregate feeder for each individual aggregate stockpile in mix. Use bins of sufficient size to keep plant in continuous operation and of proper design to prevent overflow of material from one bin to another.

2. Stockpiling Procedures. Separate aggregate for Mix II, Mix III and Mix IV into at least three stockpiles with different gradations as follows: coarse, intermediate, and fine. Separate aggregates for Mix V into at least two stockpiles. Stockpile RAP separately from virgin aggregates.

3. Checking Aggregate Stockpile. Check condition of the aggregate stockpile often enough to ensure that the aggregate is in optimal condition.

(c) Batch and Continuous Mix Plants.

1. Hot Aggregate Bin. Provide bin with three or more separate compartments for storage of screened aggregate fractions to be combined for mix. Make partitions between compartments tight and of sufficient height to prevent spillage of aggregate from one compartment into another.

2. Load Cells. Calibrated load cells may be used in batch plants instead of scales.

(2) Hauling Equipment. Use trucks that have tight, clean, smooth metal beds for hauling HMA.

Thinly coat truck beds with a minimum quantity of non-stripping release agent to prevent mixture from adhering to beds. Diesel or petroleum-based liquid release agents, except for paraffin oil, shall not be used. Drain excess release agent from truck bed before loading with HMA.

Provide a designated clean up area for the haul trucks.

Equip each truck with a tarpaulin conforming to the following:

(a) In good condition, without tears and holes.

(b) Large enough to be stretched tightly over truck bed, completely covering mix. The tarpaulin shall be secured in such a manner that it remains stretched tightly over truck bed and HMA mix until the bed is about to be raised up in preparation for discharge.

(3) Asphalt Pavers. Use asphalt pavers that are:

(a) Self-contained, power-propelled units.

(b) Equipped with activated screed or strike-off assembly, heated if necessary.

(c) Capable of spreading and finishing courses of HMA mixtures in lane widths applicable to typical section and thicknesses indicated in the contract documents.

(d) Equipped with receiving hopper having sufficient capacity for uniform spreading operation.

(e) Equipped with automatic feed controls to maintain uniform depth of material ahead of screed.

(f) Equipped with automatic screed controls with sensors capable of sensing grade from outside reference line, sensing transverse slope of screed, and providing automatic signals to control screed grade and transverse slope.

(g) Capable of operating at constant forward speeds consistent with satisfactory laying of mixture.

(h) Equipped with a means 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.** Blaw-Knox bituminous pavers shall be equipped with the Blaw-Knox Materials Management Kit (MMK).

2. **Cedarapids Bituminous Pavers.** Cedarapids bituminous pavers shall be those that were manufactured in 1989 or later.

3. Barber-Green/Caterpillar Bituminous Pavers. 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}”.

Bituminous pavers not listed above shall have similar attachments or designs that shall make them equivalent to the bituminous pavers listed above. The Engineer will solely decide if it is equal to or better that the setups described for the equipment listed above.

Submit for review and acceptance, prior to the start of using the paver for the placing of plant mix, a full description in writing of the means and methods that will be used to prevent the bituminous paver from having both aggregate and temperature segregation. Use of any paver that has not been accepted is prohibited until acceptance of the paver is received from the Engineer. Any pavement placed with an unaccepted paver will be regarded as not compliant work and may not be paid for and may require removal.

Supply a Certificate of Compliance that verifies that the manufacturer’s approved means and methods used to prevent bituminous paver from having both aggregate and temperature segregation have been implemented on all pavers used on the project and are working in accordance with the manufacturer’s requirements and Contract Documents.

(4) Rollers. Rollers shall be self-propelled, steel-tired tandem, pneumatic-tired, or vibratory-type rollers capable of reversing without shoving or tearing the just placed HMA mixture. Provide sufficient number, sequencing, type, and rollers of sufficient weight to compact the mixture to required density while mixture is still in workable condition. Equipment shall not excessively crush aggregate. Operate rollers in accordance with manufacturer's recommendations and Contract Documents. The use of intelligent compaction is encouraged and may be required elsewhere in the Contract Documents.

(a) Steel-Tired Tandem Rollers. Steel-tired tandem rollers used for initial breakdown or intermediate roller passes shall have minimum gross weight of 12 tons and shall provide minimum 250-pound weight per linear inch of width on drive wheel.

Steel-tired tandem rollers used for finish roller passes

shall have minimum total gross weight of 3 tons.

Do not use roller with grooved or pitted rolling drum or worn scrapers or wetting pads. Replace excessively worn scrapers and wetting pads before use.

(b) Pneumatic-Tired Rollers. Pneumatic-tired rollers shall be oscillating-type, equipped with smooth-tread pneumatic tires of equal size and diameter. Maintain tire pressure within 5 pounds per square inch of designated operational pressure when hot. Space tires so that gaps between adjacent tires are covered by following set of tires.

Pneumatic-tired rollers used for breakdown or intermediate roller passes shall have a ballast capable of establishing an operating weight per tire of not less than 3,000 pounds. Equip rollers with tires having minimum 20-inch wheel diameter with tires inflated to 70 to 75 pounds per square inch pressure when cold and 90 pounds per square inch when hot. Equip rollers with skirt-type devices to maintain temperature of tires during rolling operations.

Pneumatic-tired rollers used for kneading finished asphalt surfaces shall have a ballast capable of establishing an operating weight per tire of not less than 1,500 pounds. Equip rollers with tires having minimum 15-inch wheel diameter with tires inflated to 50 to 60 pounds per square inch pressure. If required, equip rollers with skirt-type devices to maintain temperature of tires during rolling operations.

(c) Vibratory Rollers. Vibratory rollers shall be steel-tired tandem rollers having minimum total weight of 3 tons. Equip vibratory rollers with amplitude and frequency controls and speedometer. Operate vibratory roller in accordance with manufacturer's recommendations. For very thin lifts, 1 inch or less in thickness, vibratory rollers shall not be used in the vibratory mode. Instead, operate the unit in the static mode.

(5) Hand Tools. Keep hand tools used in production, hauling, and placement of HMA clean and free of contaminants. Diesel or mineral spirits or other cleaning material that is potentially deleterious to HMA may be used to clean hand tools providing:

(a) It does not contaminate HMA with cleaning material.

(b) Clean hand tools over catch pan with capacity to hold all

the cleaning material.

(c) Remove all diesel or mineral spirits or other cleaning material that is potentially deleterious to HMA from hand tools before using with HMA.

(d) Hand tools used shall be in a condition such that it meets the requirements that it was manufactured for, e.g., a straightedge shall meet the straightness requirement of the manufacturer.

(6) Material Transfer Vehicle (MTV).

(a) Usage. MTV usage applies to surface courses of paving projects on all Islands except Lanai, unless otherwise indicated. When placing HMA surface course use MTV to independently deliver mixtures from hauling equipment to paving equipment. MTV usage will not be required for the following:

1. Projects with less than 1,000 tons of HMA.

2. Temporary pavements.

3. Bridge deck approaches.

4. Shoulders.

5. Tapers.

6. Turning lanes.

7. Driveways.

8. Areas with low overhead clearances.

(b) Equipment. When using MTV, install minimum 10-ton-capacity hopper insert in conventional paver hopper. Provide the following equipment:

1. High-capacity truck unloading system in MTV capable of receiving HMA from hauling equipment.

2. MTV storage bin with minimum 15-ton capacity.

3. An auger mixing system in one of the following: the MTV storage bin, or paver hopper insert, or paver

hopper to continuously mix HMA prior to discharging to the paver's conveyor system.

Avoid stop-and-go operations by coordinating plant production rate, number of haul units, and MTV and paver speeds to provide a continuous, uniform, segregation-free material flow and smooth HMA pavement. Maintain uniform paver speed to produce smooth pavements.

(c) Performance Evaluation. Evaluate the performance of MTV and mixing equipment by measuring mat temperature profile immediately behind paver screed on first day of paving and when it feels the need to do so due to perceived changes in performance or as directed by the Engineer.

Use a hand-held temperature device that has been calibrated within the past 12 months. It shall be an infrared temperature gun is capable of measuring in one degree or finer increments between the temperatures of 80 degrees to 400 degrees F with a laser to indicate where the temperature reading is being taken. Six temperature profile measurements shall be taken of mat surface using infrared temperature gun at 50-foot intervals behind paver. Each temperature profile shall consist of three surface temperature measurements taken transversely across the mat in approximately a straight line from screed while paver is operating. For each profile, temperatures shall be measured approximately 1 foot from each edge and in middle of mat. The difference between maximum and minimum temperature measurements for each temperature profile shall not exceed 10 degrees F. If any two or more temperature profiles exceeds the allowable 10-degree F temperature differential, halt paving operation and adjust MTV or mixing equipment to ensure that material placed by paver meets specified temperature requirements. Redo the measuring of mat temperature profile until adjustment of the MTV or mixing equipment is adequate. Submit all temperature profiles to the Engineer by next business day. Information on the report shall show location and temperature readings and time test was performed. Enough information shall be given, so the Engineer will be able to easily locate the test site of the individual measurement.

When requested temperature profile measurements shall be done in the presence of the Engineer.

Once adjustments are made, repeat measurement procedure for the next two placements to verify that material

placed by paver meets specified temperature requirements. Terminate paving if temperature profile requirements are not met during repeated measurement procedure. If equipment fails to meet requirements after measurement procedure is repeated once, replace equipment before conducting any further temperature profile measurements

The Engineer may perform surface temperature profile measurements at any time during project. The Engineer may in lieu of a hand-held infrared temperature device use an infrared camera or device that is capable of measuring temperatures to locate cold spots. If such cold spots exist, the Engineer may require adjustments to the MTV.

If bleeding or fat spots occur in the pavement adjust means and methods to eliminate such pavement defects and perform remedial repair to pavement acceptable to the Engineer. Bleeding is defined as excess binder occurring on the surface of the pavement. It may create a shiny, glass-like, reflective appearance and may be tacky to the touch. Fat spots are localized bleeding.

(d) Transport.

1. Trailered MTV. Transport MTV by means of truck-tractor/trailer combination in accordance with Chapter 104 of Title 19, Department of Transportation, entitled “The Movement by Permit of Oversize and Overweight Vehicles on State Highways”.

2. Crossing Bridges for Self-Powered MTV. When self-powered MTV exceeds legal axle or total weight limits for vehicles under the HRS, Chapter 291, conform to the following when crossing bridges within project limits unless otherwise indicated in the Contract Documents:

a. Completely remove mix from MTV.

b. Move MTV at relatively constant speed not exceeding 5 miles per hour. MTV will not be allowed to stop on bridge.

c. No other vehicle or equipment will be allowed on bridge.

d. The MTV shall not attempt to cross a bridge where the posted load limit is less than or equal to the weight of the MTV empty. Permission to cross the bridge shall be obtained from the Engineer and HWY-DB in writing.

(C) Preparation of Surface. Clean existing pavement in accordance with Section 310 - Brooming Off. Apply tack coat in accordance with Section 407 - Tack Coat. Tack coat shall not be applied to surfaces to receive an application of joint adhesive.

Where indicated in the Contract Documents, bring irregular surfaces to uniform grade and cross section by furnishing and placing one or more leveling courses of HMA Mix V. Spread leveling course in variable thicknesses to eliminate irregularities in existing surface. Place leveling course such that maximum depth of each course, when thoroughly compacted, does not exceed 3 inches.

In multiple-lift leveling course construction, spread subsequent lifts beyond edges of previously spread lifts in accordance with procedures contained in current edition of the Asphalt Institute's *Construction of Hot Mix Asphalt Pavements,* Manual Series No. 22 (MS-22) for leveling wedges.

Notify the Engineer of existing surfaces that may not be in a condition that will have enough strength to be a good bonding surface or foundation and should be removed or have remedial repairs done before new pavement placement.

(D) Plant Operation.

(1) Preparation of Asphalt Binder. Uniformly heat asphalt binder and provide continuous supply of heated asphalt cement from storage to mixer. Do not heat asphalt binder above the recommendation of the supplier for modified binders or above 350 degrees F for neat binders.

(2) Preparation of Aggregate. Dry and heat aggregate material at temperature sufficient to produce design temperature of job-mix formula. Do not exceed 350 degrees F. Adjust heat source used for drying and heating to avoid damage to and contamination of aggregate. When dry, aggregate shall not contain more than 1 percent moisture by weight.

For batch plants, screen aggregates immediately after heating

and drying into three or more fractions. Convey aggregates into separate compartments ready for batching and mixing with asphalt binder.

(3) Mixing. Measure aggregate and asphalt; or aggregate, RAP, and asphalt into mixer in accordance with an accepted job-mix formula. Mix until components are completely mixed and adequately coated with asphalt binder in accordance with AASHTO M 156. Percent of coated particles shall be 95 percent when tested in accordance with AASHTO T 195.

(4) Plant Inspection. For control and acceptance testing during periods of production, provide a testing laboratory that meets the requirements of AASHTO M 156. Provide space, utilities, and equipment required for performing specified tests.

(E) Spreading and Finishing. Prior to each day's paving operation, check screed or strike-off assembly surface with straight edge to ensure straight alignment and there is no damage or wear to the machine that will affect performance. Provide screed or strike-off assembly that produces finished surface without tearing, shoving, and gouging HMA. Discontinue using spreading equipment that leaves ridges, indentations, or other marks, or combination thereof in surface that cannot be eliminated by rolling or affects the final smoothness of the pavement or be prevented by adjustment in operation.

Maintain HMA at minimum 250 degrees F temperature at discharge to paver. The Engineer shall observe the contractor measuring the temperature of mix in hauling vehicle just before depositing into spreader or paver or MTV.

Deposit HMA in a manner that minimizes segregation. Raise truck beds with tailgates closed before discharging HMA.

Lay, spread, and strike off HMA upon prepared surface. Where practical, use asphalt pavers to distribute mixture.

Where practical, control horizontal alignment using automatic grade and slope controls from reference line, slope control device. Existing pavements or features shall not be used for grade control alone.

Obtain sensor grade reference, horizontal alignment by using established grade and slope controls. For subsequent passes, substitution of one ski with joint-matching shoe riding on finished adjacent pavement is acceptable. Use of a comparable non-contact mobile reference system and joint matching shoe is acceptable.

Avoid stop-and-go operation. Maintain a constant forward speed of

paver during paving operation and minimize other methods that impact smoothness.

Offset longitudinal joint in successive lifts by approximately 6 inches. Incorporate into paving method an overlap of material of 1-inch +/- 0.5 inches at the longitudinal joint. The HMA overlap material shall be left alone when initially placed and shall not be bumped back or pushed back with a lute or any other hand-held device. If the overlap exceeds the maximum amount, remove the excess with a flat shovel, allowing recommended amount of overlap HMA material to remain in place to be compacted. Do not throw the removed excess HMA material on to the paving mat. The longitudinal joint in a surface course when total roadway width is comprised of two lanes shall be near the centerline of pavement or near lane lines when roadway is more than two lanes in width. The longitudinal joint shall not be constructed in the wheel path or under the longitudinal lane lines. Make a paving plan drawing showing how the longitudinal joint will not be located in these areas.

Control the horizontal alignment of the longitudinal edge of the HMA mat being installed so that the edge is parallel to the centerline or has a uniform alignment, e.g., the edge of the mat is straight line or uniform curve, no wavy edge, etc. to have a consistent amount of HMA material at the joint.

Check the compaction of the longitudinal joint during paving often enough to ensure that it will meet the compaction requirements.

If nuclear gauges and ground penetrating radar are used as the contractor’s quality control method, they shall be properly calibrated and periodically checked by comparison to cores taken from the pavement. The use of sand as an aid in properly seating the gauge may also be considered for improving the accuracy of the gauge.

In areas where irregularities or unavoidable obstacles make use of mechanical spreading and finishing equipment impracticable, spread, rake, and lute mixture by hand tools. For such areas, deposit, spread evenly, and screed mixture to required compacted thickness.

Demonstrate competence of personnel operating grade and crown control device before placing surface courses. If automatic control system becomes inoperative during the day's work, the Engineer will permit the Contractor to finish day's work using manual controls. The Engineer may also allow additional HMA to be ordered and placed using manual controls if it will provide a safer work site for the public to travel through. Do not resume work until automatic control system is made operative. The Engineer may waive requirement for electronic screed control device when paving gores, shoulders, transitions, and miscellaneous reconstruction areas where the use of the devices is not practical.

When production of HMA can be maintained and when practicable, use pavers in echelon shall be used to place surface course in adjacent lanes.

At the end of each workday, HMA pavement that is open to traffic shall not extend beyond the panel of the adjacent new lane pavement by more than the distance normally placed in one workday. At end of each day's production, construct tapered transitions along all longitudinal and transverse pavement drop-offs; this shall apply to areas where existing pavement is to meet newly placed pavement. Use slopes of 6:1 for longitudinal taper transitions and 48:1 for transverse tapered transitions. Maximum drop-off height along the joints shall be 2 inches. Also, using a 48:1 slope provides a taper around any protruding object, e.g., manholes, drain boxes, survey monuments, inlets, etc., that may be above pavement surface when opened to the public. If the object is below the surface of the pavement then fill the depression until it is level with the surrounding pavement or raise depressed objects to the finish grade of the placed pavement. Remove and dispose of all transition tapers before placing adjoining panel or next layer of HMA. Notify traveling public of pavement drop-offs or raised objects with signs placed in every direction of traffic that may use and encounter pavement drop-offs or protruding objects or holes.

Use the same taper rates for areas where there is a difference in elevation due to construction work.

At end of each workweek, complete full width of the roadway's pavement, including shoulders, to same elevation with no drop-offs.

(F) Compaction. Immediately after spreading and striking off HMA and adjusting surface irregularities, uniformly compact mixture by rolling.

Initiate compaction at highest mix temperature allowing compaction without excessive horizontal movement. Temperature shall not be less than 220 degrees F.

Finish rolling using tandem roller while HMA temperature is at or above 175 degrees F.

On superelevated curves, begin rolling at lower edge and progress to higher edge by overlapping of longitudinal trips parallel to centerline.

If necessary, repair damage immediately using rakes and fresh mix. Do not displace line and grade of HMA edges during rolling.

Keep roller wheels properly moistened with water or water mixed with

small quantities of detergent. Use of excess liquid, diesel, and petroleum-based liquids will not be allowed on rollers.

Along forms, curbs, headers, walls and other places not accessible to rollers, compact mixture with hot hand tampers, smoothing irons, or mechanical tampers. On depressed areas, trench roller or cleated compression strips under roller may be used to transmit compression.

Before the start of compaction or during compaction or both remove pavement that is loose, broken, or contaminated, or combination thereof; pavement that shows an excess or deficiency in asphalt binder content; and pavement that is defective in any way. Replace with fresh HMA pavement of same type, and compact. Remove and replace defective pavement and compact at no increase in contract price or contract time.

Operate rollers at slow and uniform speed with no sudden stops. The drive wheels shall be nearest to the paver. Continue rolling to attain specified density and until roller marks are eliminated.

Rollers shall not be parked on the pavement placed that day or shift.

(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 93.0 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.

Place HMA pavement in individual lifts that are within minimum and maximum allowable compacted thickness for various types of mixture as specified in Table 401.02-1 - Limits of Compacted Lift Thickness and Asphalt Content.

(2) HMA Pavement Courses Less Than One and a Half Inches Thick. Where HMA pavement compacted thickness indicated in the contract documents is less than 1-1/2 inches, compaction to a specified density will not be required.

Use only non-vibratory, steel-tired, tandem roller. Roll entire surface with minimum of two roller passes. A roller pass is defined as one trip of the roller in one direction over any one spot.

For intermediate rolling, roll entire surface with minimum of four passes of roller.

Finish rolling using steel-tired, tandem roller. Continue rolling until entire surface has been compacted with minimum of three passes of roller, and roller marks have been eliminated.

Do not use rollers that will excessively crush aggregate.

(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 than 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. Paved shoulders shall be compacted in the same manner as pavements designed for vehicular traffic.

(G) Joints, Trimming Edges and Utility Marking. At HMA pavement connections to existing pavements, make joints vertical to depth of new pavement. Saw cut existing pavement and cold plane in accordance with Section 415 - Cold Planing of Existing Pavement to depth equal to thickness of surface course or as indicated in the Contract Documents.

At HMA connections to previously placed lifts, form transverse joints by cutting back on previous run to expose full depth of course. Dispose of material trimmed from edges. Protect end of freshly laid mixture from rollers.

Before and after paving, identify and mark location of existing utility manholes, valves, and handholes on finished surface. Adjust existing frames and covers and valve boxes to final pavement finish grade in accordance with Section 604 - Manholes, Inlets and Catch Basins and Section 626 - Manholes and Valve Boxes for Water and Sewer Systems.

(1) Longitudinal joints. Submit for review the means and methods that will be used to install longitudinal joints at the required compaction and density. Compact longitudinal joints to be not less than 91.0 percent of the maximum specific gravity determined in accordance with AASHTO T 209, modified by deletion of Supplemental Procedure for Mixtures Containing Porous Aggregate. Verify the compaction of the longitudinal joints meets requirements by using non-destructive testing methods during paving and submit the results on the daily quality control test reports.

Test for compaction and density regardless of layer thickness. Compaction and density of the longitudinal joint shall be determined by using six-inch diameter cores. For longitudinal joints made using butt joints cores

shall be taken over the joint with half of the core being on each side of the joint. For longitudinal joints using notched wedge joints, center core over the center of the wedge so that 50 percent of the material is from the most recently paved material and the remaining 50 percent of the core is from the material used to pave the previous layer. One core shall be taken at a maximum of every 1,500 lineal feet (LF) of the second side of the longitudinal joint and any fraction of that length for each day of paving with a minimum of one core taken for each longitudinal joint per day. Cores taken for the testing of the longitudinal joint may be used to determine pavement thickness.

When the longitudinal joints are found to have less than 91.0 percent of the maximum specific gravity, overband all longitudinal joints within the entire lot represented by the non-compliant core, PG binder seal coat, or other type of joint enrichment accepted by the Engineer. The overband shall not decrease the skid resistance of the pavement under any ambient weather condition. Submit overband material's catalog cuts, test results and application procedure for review and acceptance by the Engineer before use. Center the overband over the longitudinal joint. The overband shall be placed in a uniform width and horizontal alignment. The overband shall have no holidays or streaking in its placement. The width of the overband shall be based on how the longitudinal joint was constructed or as directed by the Engineer. If a butt joint is used, the overband width shall be a minimum of 12-inches. For butt wedge or wedge joints the overband width shall be the width of the wedge plus an additional six-inches minimum. Replace any pavement markings damaged or soiled by the overband remedial repair process.

For longitudinal joints that have a compaction of less than 89 percent of the maximum specific gravity; removal may be required by the Engineer instead of overbanding the non-compliant joint.

Persistent low compaction results may be cause to suspend work and remove non-conforming work. During the suspension of paving, revise means and methods used in constructing longitudinal joints and submit to the Engineer for review and acceptance. Suspension may occur when:

(1) Two or more longitudinal joints tests fail to meet the minimum compaction

(2) One sample reveals that the joint compaction is 89 percent or less.

(H) HMA Pavement Samples. Obtain test samples from compacted HMA pavement within 72 hours of lay down. Provide minimum 4-inch diameter cores consisting of undisturbed, full-depth portion of compacted mixture taken at locations designated by the Engineer in accordance with the "Sampling and Testing Guide for Acceptance and Verification" in Hawaii DOT Highways Division, *Quality Assurance Manual for Materials*, Appendix 3. Cores shall be taken in the presence of the Engineer. Turn cores over to Engineer immediately after cores have been taken.

For pavement samples for longitudinal joints provide 6-inch diameter cores minimum. For pavement samples for other than longitudinal joints 4-inch diameter cores minimum shall be taken. All cores shall consist of undisturbed, full-depth of the lift of the compacted mixture taken at locations designated by the Engineer in accordance with the "Sampling and Testing Guide for Acceptance and Verification" in Hawaii DOT Highways Division, *Quality Assurance Manual for Materials*, appendix 3.

Cores that separate shall indicate to the Engineer that there is insufficient bonding of layers. Modify the previously used paving means and methods to prevent future debonding of layers. Debonding of a core sample after adjustment of the Contractor's methods will be an indication of continued non-conforming work and the Engineer may direct removal of the layer at no additional cost or contract time.

Restore HMA pavement immediately after obtaining samples. Clean core hole and walls of all deleterious material that will prevent the complete filling of the core hole and the bonding of the new HMA to the existing. Apply tack coat to vertical faces of sample holes. Fill sampled area with new HMA pavement of same type as that removed. If hand compaction is used; fill in layers not exceeding the minimum thickness stated in Table 401.02-1 - Limits of Compacted Lift Thickness And Asphalt Content. Compact each layer to compaction requirements. If Mechanical Compaction methods are used, then layers may be the maximum layer thickness stated in Table 401.02-1 - Limits of Compacted Lift Thickness And Asphalt Content. Using tires or hand tamping to compact the HMA material to restore the pavement shall not be considered as mechanical compaction.

Only sample and test leveling course if 1-1/2 inches or greater. No compaction requirements for less than 1-1/2 inches.

(I) HMA Pavement Thickness Tolerances.

Thickness of finished HMA pavement shall be within 0.25 inch of thickness indicated in the Contract Documents. Pavement not meeting the thickness requirements of the Contract Documents may be required by the Engineer to be removed and replaced.

Corrective methods taken on pavement exceeding specified tolerances, e.g., insufficient thickness by methods accepted by the Engineer, including removal and replacement, shall be at no increase in contract price or contract time.

The checking of pavement thickness shall be done after all remedial repairs, e.g., smoothness compliance repairs, compaction, have been completed, reviewed, and accepted by the Engineer.

(J) Quality Control Using New Technology. The Engineer and MTRB reserves the right to utilize new technology and methods to improve the detection of noncompliant work on the project. The technology or method may be used to locate defects in the work, e.g., ground penetrating radar to locate delaminations, moisture damage, thin sections, voids, non-compliant compaction, other non-destructive testing to locate flaws. The defect will be verified by the methods stated in the Contract Documents or by other established conventional means. If the technology or method has already been accepted elsewhere or has standardized testing procedures the results may be judged acceptable by the Engineer and no further testing will be required. These new technologies and methods may be used for the selection of sampling locations.

(K) Protection of HMA Pavement. Except for construction equipment directly connected with paving operations, keep traffic off HMA pavement.

Protect HMA pavement from damage until it has cooled and set.

Do not refuel equipment or clean equipment or hand tools over paved surfaces unless catch pan or device that will contain spilled fuel and other products is provided. After completion of refueling or cleaning, remove catch pan or device without spilling any of the collected content.

Do not park roller or other paving equipment on HMA pavement paved within 24 hours of laydown.

(L) Pavement Joint Adhesive

(1) Pavement Joint Adhesive on Joints. Use on all asphalt pavement construction where joints are formed at such locations but not limited to the following:

(a) Adjacent asphalt pavements, e.g., trafficked lanes, shoulders, etc.

(b) Asphalt pavement and adjacent concrete pavement or

curb and gutter or any other surface where the bonding of the asphalt pavement and concrete surface is desired,

(c) Transverse joints between asphalt pavements not placed at the same time or if the pavement's temperature on one side of the joint is below the minimum temperature the mix can be at, during asphalt pavement compaction or installation.

(d) Cut face of an existing pavement where it will have new HMA pavement placed against it, e.g., utility trenches, partial or full depth repairs, etc.

Pavement joint adhesive is not required on a longitudinal construction joint between adjacent hot mix asphalt pavements formed by echelon paving. Echelon paving is defined as paving multiple lanes side-by-side with adjacent pavers slightly offset at the same time.

A longitudinal construction joint between one shift's work and another shall have pavement joint adhesive applied at the joint. Any longitudinal construction joint formed, with the temperature on one side of the joint that is below the minimum temperature the mix can be when compacted to contract requirements during asphalt pavement installation, shall have pavement joint adhesive applied at the joint.

(2) Material requirements. Asphalt joint adhesive shall meet requirements as specified in Table 401.03-1 - Asphalt Joint Adhesive Specifications.

TABLE 401.03-1 – ASPHALT JOINT ADHESIVE SPECIFICATIONS

TEST		SPECIFICATION
Brookfield Viscosity, 204 °C [400 °F]	ASTM D 3236	4,000-10,000 cp
Cone Penetration, 25 °C [77 °F]	ASTM D 5329	60-100 dmm
Resilience, 25 °C [77 °F]	ASTM D 5329	30% minimum
Ductility, 25 °C [77 °F]	ASTM D 113	30 cm minimum
Ductility, 4 °C [39.2 °F]	ASTM D 113	30 cm minimum
Tensile Adhesion, 25 °C [77 °F]	ASTM D 5329	500% minimum
Softening Point	ASTM D 36	77 °C [170 °F] min.
Asphalt Compatibility	ASTM D 5329	Pass

(3) Construction Requirements for Asphalt Joint Adhesive

(a) Equipment Requirements. Use a jacketed double

boiler type melting unit, with both agitation and recirculation systems. Provide a pressure feed wand application system.

(b) Material Handling. Submit a copy of the manufacturer's recommendations for heating, re-heating, and applying the joint adhesive material. Follow manufacturer's recommendations. Do not remove the joint adhesive from the package until immediately before it is placed in the melter. Joint adhesive boxes must be clearly marked with the name of the manufacturer, the trade name of the adhesive, the manufacturer's batch and lot number, the application/pour temperature, and the safe heating temperature. Feed additional material into the melter at a rate equal to the rate of material used.

Verify the pouring temperature of the joint adhesive at least once per hour at the point of discharge. Stop production if the adhesive falls below the recommended application/pour temperature. When the temperature of the adhesive exceeds the maximum safe heating temperature, stop production, empty the melter, and dispose of that adhesive in an environmentally safe method. No payment will be made for this material or its disposal.

Do not blend or mix different manufacturer’s brands or different types of adhesives.

(c) Joint Adhesive Application: The face of the joint that the new asphalt pavement will bind to shall be clean and dry before the joint adhesive is applied. Apply the pavement joint adhesive material to the entire face of the surface where HMA pavement shall be installed. The thickness of the asphalt adhesive application shall be approximately 1/8 inch. Use an application shoe attached to the end of application wand. Do not overlap the joint by greater than 1/2-inch at the top of the joint or two-inches at the bottom of the joint. Apply the joint adhesive immediately in front of the paving operation. If the adhesive is tracked by construction vehicles, repair the damaged area, and restrict traffic from driving on the adhesive.

(d) Field Sampling. Take a sample from the application wand during the first 20 minutes of placing sealant. One sample should be taken per manufacturer’s batch or minimum of every 6 months on the Project in the presence of the Engineer.

Each sample shall consist of one quart in an aluminum or steel sample container. The sampling container shall be labeled with Contractor's name; project name and number; date and time sample taken; location of where material was used at, e.g., from where to where it was used at in stations; manufacturer and lot number of the sealant. Turn over samples to Engineer without Engineer losing sight of the sample. The Engineer reserves the right to conduct supplementary sampling and testing of the sealant material.

(M) Pavement Smoothness Rideability Test. Perform surface profile tests frequently to ensure that the means and methods being used produces pavement that is compliant with the surface profile smoothness requirement. Test the pavement surface for smoothness with High-Speed Inertial Profiler to determine the International Roughness Index (IRI) of the pavement. For the locations determined by the Engineer, a 10-foot straightedge shall be used to measure smoothness.

All smoothness testing must be performed with the presence of the Engineer. The High-Speed Inertial Profiler operator shall be a certified operator by MTRB or the manufacturer.

The High-Speed Inertial Profiler operator's certification shall be no older than five years old at the date of the Notice to Proceed and at the day of the pavement profile measurement.

The finished pavement shall comply to all the following requirements:

(a) Smoothness Test using 10-Foot Straightedge (Manual or rolling) The 10-foot straightedge is used to identify the locations that vary more than 3/16 inch from the lower edge when the 10-foot straightedge is laid on finished pavement on the direction parallel with the centerline or perpendicular to centerline. Remove the high points that cause the surface to exceed that 3/16 inch tolerance by grinding.

The Contractor shall use a 10-foot straightedge for the following locations:

1. Longitudinal profiling parallel to centerline, when within 15 feet of a bridge approach or existing pavement which is being joined.

2. Transverse profiling of cross slopes, approaches, and as otherwise directed. Lay the straightedge in a direction perpendicular to the centerline.

3. When pavement abuts bridge approaches or pavement not under this Contract, ensure that the longitudinal slope deviations of the finished pavement comply with Contract Document's requirements.

4. Short pavement sections up to 600 feet long, including both mainline and non-mainline sections on tangent sections and on horizontal curves with a centerline radius of curve less than 1,000 feet.

5. Within a superelevation transition on horizontal curves having centerline curve radius less than 1,000 feet, e.g., curves, turn lanes, ramps, tapers, and other non-mainline pavements.

6. Within 15 feet of transverse joint that separates pavement from existing pavement not constructed under the contract, or from bridge deck or approach slab for longitudinal profiling.

7. At miscellaneous areas of improvement where width is less than 11 feet, such as medians, gore areas, and shoulders.

8. As otherwise directed by the Engineer. The Engineer may confine the checking of through traffic lanes with the straightedge to joints and obvious irregularities or choose to use it at locations not specifically stated in this Section.

(b) High-Speed Inertial Profiler

There shall be a minimum 3 profile runs per lane, for each wheel path (left and right) which is approximately three feet from edge lane line. The segment length shall be 0.1 mi. The final segments in a lane that are less than 0.1 mi shall be evaluated as an independent segment and pay adjustments will be prorated for length. The profiles shall be taken in the direction of traffic only.

The latest version of FHWA ProVAL software shall be used to conduct profile analysis to determine IRI and areas of localized roughness. The IRI values shall be reported in units of in/mi.

Areas of localized roughness will be identified by using ProVAL's "Smoothness Assurance" analysis, calculating IRI with a continuous short interval of 25 feet and the 250-mm filter applied.

Additional runs may be required by the Engineer if the data indicate a lack of repeatability of results. A 92% agreement is required for repeatability and IRI values shall have at minimum a 95% confidence level.

(N) Required Pavement Smoothness

The IRI for the left and right wheel paths in an individual lane will be computed and then averaged to determine the Mean Roughness Index (MRI) values. The MRI will be used to determine acceptance and pay adjustment. Each lane shall be tested and evaluated separately.

There are three (3) categories of target MRI values. Refer to table 401.03-2 – Pavement Smoothness Categories:

TABLE 401.03-2 – PAVEMENT SMOOTHNESS CATEGORIES

Category	Description	MRI
Type A	Three or more opportunities for improving ride	Shall not exceed 60 in/mi
Type B	Two opportunities for improving ride	Shall not exceed 70 in/mi
Type C	One opportunity for improving ride	Shall not exceed 75 in/mi

An opportunity for improving ride is considered as one (1) lift of asphalt pavement, including but not limited to HMAB, HMA, PMA, and SMA.

For the location where a 10-foot manual straightedge is required, the surface shall not vary more than 3/16 inch from the lower edge of a straightedge.

No pre-final inspection, final inspection, and substantial completion granted will be made until the pavement meets smoothness requirement and all required profile reports are submitted to the Engineer and MTRB and are accepted.

(O) Request for Profile Testing by the Department.

For Type C, prior to pavement activities, the Engineer will measure the smoothness of the existing pavement.

The Contractor shall submit a written request to the Engineer to perform all required profile tests.

The request shall be made at least 30 days before desired testing date and shall include an approximate acceptance profile testing date, a plan view drawing of the area to be tested with the limits of the test area highlighted.

The Contractor shall reimburse HDOT for any incurred cost related to any Contractor-caused cancellation or a deduction to the monthly payment will be made.

(P) Department Requirements for Profile Testing. When a request for testing is made, the requested area to be tested shall be 100% of the total area indicated to be paved in the Contract Documents unless the requirement is waived by the Engineer and MTRB.

Department acceptance surface tests will not be performed earlier than 14 days after HMA placement.

Clean debris and clear obstructions from area to be tested, as well as a minimum of 100 feet before and beyond the area to be tested before testing starts for use as staging areas. Provide traffic control for all profile testing.

The Engineer or MTRB or both may cancel the profile testing if the test area is not sufficiently clean, traffic control is unsatisfactory, or the area is not a safe work environment or test area does not meet Contract Document requirements. This canceled profile test will count as one profile test.

(Q) Cost of Acceptance Profile Testing by The Department. The Engineer, MTRB, or State's Third-Party Consultant will perform one initial profile test, at no cost to the Contractor for each area to be tested.

The Department's High-Speed Inertial Profiler pavement profile will be used to determine if the pavement's profile, i.e., smoothness is acceptable.

If the profile of the pavement does not meet the requirements of the Contract Documents, the Contractor shall perform remedial work, i.e. corrective work then retest the area to ensure that the area has the required MRI, i.e., smoothness, before requesting another profile test by the Engineer.

(1) Additional testing. Additional testing, by the Department beyond the initial test will be performed at cost to the Contractor as follows:

(a) $2,500 per test will be required when Department personnel or State's Third-Party Consultant is used.

(R) Remedial Work for Pavements.

(1) Corrective work shall be required for any 25 ft interval with a localized roughness in excess of 160 in/ mi. The Engineer may waive localized roughness requirements for deficiencies resulting from

manholes or other similar appurtenances. Adjust manholes or other similar appurtenances so that using a 10-ft. straightedge the area around that manhole or other similar appurtenance shall not have more than 3/16-in. variation between any 2 contacts on the straightedge.

If corrective action is not successful, the Engineer may require continued corrective action, or apply a payment adjustment of $250 per occurrence.

(2) Corrective work shall also be required for any 0.1 mile interval with an average MRI above 95.0 in/mi for Types A and B. For Type A, correct the deficient section to an MRI of 60 in/mi or less. For Type B, correct the deficient section to an MRI of 70 in/mi or less. For Type C, corrective work may be required by the Engineer for 0.1 mile intervals that have an average MRI above the threshold shown in Tables 401.03-4 - Smoothness Pay Disincentives With MRI and 401.03-5 - Smoothness Disincentives for Percent Improvement as applicable.

If corrective action does not produce the required improvement, the Engineer may require continued corrective action, or apply payment adjustment as shown in Tables 401.03-4 - Smoothness Pay Disincentives With MRI and 401.03-5 - Smoothness Disincentives for Percent Improvement.

(3) The Contractor shall notify the Engineer at least 24 hours prior to commencement of the corrective work. The Contractor shall not commence corrective work until the methods and procedure have been approved in writing by the Engineer.

(4) All smoothness corrective work for areas of localized roughness shall be for the entire lane width. Pavement cross slope shall be maintained through corrective areas.

(5) The remedial repair areas shall be neat, rectangular areas having a uniform surface appearance.

(6) If grinding is used on HMA pavement, the surface shall have nearly invisible grinding marks to passing motorist.

(7) Other methods may include milling and overlaying HMA pavement. The length, depth of the milling and the replacement material will be solely decided by the Engineer.

(8) The finished repaired pavement surface shall leave no ridges or valleys or fins of pavement other than those allowed below.

(9) Remedial repairs shall not leave any drainage structures' inlets higher than the surrounding pavement or alter the Contract Document's drainage pattern.

(10) For items in the pavement other than drainage structures, e.g., manhole frame and covers, survey monuments, expansion joints etc., the finish pavement, ground or not, shall not be more than 1/4 inch in elevation difference. Submit to the Engineer remedial repair method to correct these conditions for acceptance.

(11) Pick up immediately grinding operation residue by using a vacuum attached to grinding machine or other method acceptable to the Engineer.

(a) Any remaining residue shall be picked up before the end of shift or before the area is open to traffic, whichever is earlier.

(b) Prevent residue from flowing across pavement or from being left on pavement surface or both.

(c) Residue shall not be allowed to enter the drainage system.

(d) The residue shall not be allowed to dry or remain on the pavement.

(e) Dispose of all material that is the result of the remedial repair operation, e.g., HMA residue, wastewater, and dust at a legal facility.

(12) Complete corrective work before determining pavement thickness for HMA pavements in accordance with Subsection 401.03(I) – HMA Pavement Thickness Tolerances.

(13) All HMA wearing surface areas that have been ground shall receive a coating, e.g., a coating material that will restore any lost impermeability of the HMA due to the grinding of the surface. The coating used shall not be picked up or tracked by passing vehicles or be degraded after a short period of time has passed, i.e., it shall have a service life equal to or greater than the HMA pavement. The coating shall not decrease the pavement's friction value. The coating's limits shall be the full width of the lane regardless how small. If the remedial repair area extends into the next lane, then the repair area will be full lane width also. Extend the length of coating areas in order for the coating area to look like the rest of the road and does not have patches

on it, i.e., make the road look uniform in color. The coating shall be of a color that matches the surrounding pavement. The areas receiving the coating shall not be open to traffic until it has cured enough so that it cannot be picked up or tracked by passing vehicles or degrade. Submit means and methods of the coating and type of coating to the Engineer or MTRB for review and acceptance. Do not proceed with the coating without acceptance from the Engineer.

(14) Recompacting cold HMA, i.e., HMA that has reached ambient temperature is not an acceptable remedial repair method.

(15) Replace all pavement markings damaged or discolored by remedial repairs.

(16) Reprofile the corrected area and provide the Engineer the results that show the corrective action, i.e., remedial repairs were successful.

(S) Pavement Smoothness and Acceptance.

(1) Price and payment in various paving sections, e.g., 401 (Hot Mix Asphalt Pavement), shall be full compensation for all work and materials specified in the various paving sections and this section, including but not limited to furnishing all labor, materials, tools, equipment, testing, incidentals and for doing all work involved in micro milling, milling (cold planing), grinding existing or new pavement, removing residue, cleaning the pavement, necessary disposal of residue, furnishing of any water or air used in cleaning the pavement and any other related ancillary work or material or services. Also, it includes any remedial work, e.g., re-paving, surface grinding, application of a coating, curing compound, and replacement of damaged pavement markings.

(2) The contract price in those sections may be adjusted for pavement smoothness by the Engineer. The pavement smoothness contract unit price adjustments and work acceptance will be made in accordance with the following schedules.

TABLE 401.03-3 –SMOOTHNESS PAY INCENTIVES		
Category	**MRI (in/mi)**	**Pay Adjustment $ per 0.1 mi**
Type A	<30.0	$580
	30.0- less than 35.0	$480
	35.0- less than 40.0	$380
	40.0- less than 45.0	$280
	45.0- less than 50.0	$180
	50.0- less than 55.0	$80
	55.0- less than 60.0	$0
Type B	<35.0	$420
	35.0- less than 40.0	$360
	40.0- less than 45.0	$300
	45.0- less than 50.0	$240
	50.0- less than 55.0	$180
	55.0- less than 60.0	$120
	60.0- less than 65.0	$60
	65.0- less than 70.0	$0
Type C	<40.0	$280
	40.0- less than 45.0	$240
	45.0- less than 50.0	$200
	50.0- less than 55.0	$160
	55.0- less than 60.0	$120
	60.0- less than 65.0	$80
	65.0- less than 70.0	$40
	70.0- less than 75.0	$0

1280
1281

(3) Pay Pavement Smoothness Adjustment will be based on the initial measured MRI for both left and right wheel path, prior to any corrective work for the 0.10-mile section, except for sections that the Contractor has chosen to remove and replace. For sections that are replaced, assessments will be based on the MRI determined after replacement.

(a) The Pavement Smoothness Adjustment will be computed using the plan surface area of pavement shown in the Contract Documents. This Pavement Smoothness Adjustment will apply to the total area of the 0.10-mile section for the lane width represented by MRI for the same lane. It does not include any other price adjustments specified in the Contract Documents. Those price adjustments will be, for each adjustment, calculated separately using the original contract price to determine the amount of adjustment to be made to the contract price. Sections shorter than 0.1 mile and longer than 50 feet shall be prorated.

(b) For 0.1 mile intervals with an average MRI above the threshold shown in Table 401.03-3 – Smoothness Pay Incentives, the Engineer shall apply a disincentive payment adjustment up to the limit shown.

i. For Types A and B, payment adjustments shall be applied up to an MRI of 95.0 per Table 401.03-4 – Smoothness Pay Incentives.

ii. For Type C, the payment adjustment shall be dependent on the average MRI of the pavement prior to paving activities
    1. If the MRI of the pavement prior to paving activities is 125.0 in/mi or less, the payment adjustment shall be per Table 401.03-4 - Smoothness Pay Disincentives With MRI.
    2. If the MRI of the pavement prior to paving activities is more than 125.0 in/mi, the disincentive payment adjustment shall be per Table 401.03-5 - Smoothness Disincentives for Percent Improvement and based on the percent improvement using the following formula:

% Improvement = (Initial segment MRI – Final segment MRI) x 100 / (Initial Segment MRI)

TABLE 401.03-4 –SMOOTHNESS PAY DISINCENTIVES WITH MRI		
Category	**MRI (in/mi)**	**Pay Adjustment $ per 0.1 mi**
Type A	60.0- less than 70.0	-$100
	70.0- less than 75.0	-$250
	75.0- less than 80.0	-$350
	80.0- less than 85.0	-$450
	85.0- less than 95.0	-$550
	> 95.0	Corrective Work
Type B	70.0- less than 75.0	-$100
	75.0- less than 80.0	-$200
	80.0- less than 85.0	-$300
	85.0- less than 95.0	-$400
	> 95.0	Corrective Work
Type C (pre-paving MRI < 125)	75.0- less than 80.0	-$50
	80.0- less than 85.0	-$100
	85.0- less than 90.0	-$150
	90.0- less than 100.0	-$200
	>100.0	-$250

TABLE 401.03-5 –SMOOTHNESS PAY DISINCENTIVES FOR PERCENT IMPROVEMENT		
Category	**Percent Improvement %**	**Pay Adjustment $ per 0.1 mi**
Type C (pre-paving MRI > 125)	≥ 40	$0
	20.0- less than 40.0	-$100
	< 20	-$200

(c) Incentives will not apply to areas where payment deductions or remedial repairs has been made for non-compliant work, e.g., low compaction, thin pavement, thermal segregation, low compressive or flexural strength, non-compliant alignment. Incentives will also not apply to areas where corrective work was required to meet contract smoothness requirements, unless the pavement section was

replaced. All areas where corrective work was performed shall be tested again to ensure the smoothness requirements are met.

(d) There will be no incentive price adjustments to the contract prices regardless of the pavement meeting the Contract Documents' requirements for incentive contract price adjustment, when 25% of the total area paved of that particular type of pavement on the project has failed to meet any of the Contract document requirements, e.g., smoothness, thickness, unit weight, asphalt content, pavement defects, compaction, flexural or compressive strength. Areas exempt from the smoothness requirements may not be included in the total area calculation unless it is non-compliant.

(e) For contracts using lump sum the method described in Subsection 104.06 Methods of Price Adjustment paragraph (3), will be used to calculated proportionate unit price, i.e., the Engineer's calculated theoretical unit price. This calculated proportionate unit price will be used to calculate the unit price adjustment.

401.04 Measurement. The Engineer will measure HMA pavement per ton in accordance with the Contract Documents.

401.05 Payment. The Engineer will pay for the accepted HMA pavement 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.

(A) Price and payment in Section 401 – HMA Pavement will be full compensation for all work and materials specified in this Section including furnishing all labor, materials, tools, equipment, testing, pavement profiles and incidentals and for doing all work involved in grinding existing or new pavement, removing residue, and cleaning the pavement, including necessary disposal of residue and furnishing any water or air used in cleaning the pavement and remedial work needed to conform to the requirements of the Contract Documents.

(B) No payment for the Contractor's pavement profile work required in this section will be made. The Contractor's pavement profile work shall be considered incidental to the various paving items unless stated otherwise.

(C) Engineer will pay or deduct for the following pay item when included in proposal schedule:

Pay Item	Pay Unit
_____ HMA Pavement, Mix No. _____	Ton

(1) 70% of the contract unit price or the theoretical calculated unit price upon completion of submitting a job-mix formula acceptable to the Engineer; preparing the surface, spreading, and finishing the mixture; and compacting the mixture.

(2) 20% of the contract unit price or the theoretical calculated unit price upon completion of cutting samples from the compacted pavement for testing; placing and compacting the sampled area with new material conforming to the surrounding area; protecting the pavement; and compaction acceptance. Maintain temporary pavement markings and other temporary work zone items, maintain a clean work site.

(3) 10% of the contract unit price or calculate the unit price when the final configuration of the pavement markings is in place.

The Engineer will pay for adjusting existing frames and covers and valve boxes in accordance with and under Section 604 – Manholes, Inlets and Catch Basins. Adjustments for existing street survey monument frames and covers will be paid for as if each were a valve box frame and cover.

The Engineer may, at his sole discretion, use the sliding scale factor as specified in Table 401.05-1 – Sliding Scale Pay Factor for Compaction to accept HMA pavements compacted between 90.0 percent and 98.0 percent. If the sliding scale factor is used, the Engineer will make payment for the material in that production day at a reduced price by multiplying the contract unit price by the pay factor. The Engineer is not obligated to allow non-compliant work to remain in place and may choose to require removal of the pavement that is less than 93.0 percent or greater than 97.0 percent.

Removal of non-compliant pavement shall be in accordance with Subsection 105.12 Removal of Non-Conforming and Unauthorized Work.

Table 401.05-1 – Sliding Scale Pay Factor for Compaction	
Percent Compaction	**Percent of Quantity Paid**
> 98.0	Removal
>97.0 - 98.0	95
93.0- 97.0	100
90.0 - <93.0	80
<90.0	Removal

END OF SECTION 401”

SECTION 407 – TACK COAT

Make the following amendment to said Section:

(I) Amend **Section 407.03(D) - Application of Tack Coat**, from lines 63 to 72 to read:

"Apply tack coat on existing asphalt or concrete surface, or both, to be overlayed by HMA or PMA course. Once water has evaporated from asphalt emulsion, tack coat is said to have set. Place HMA or PMA overlay after tack coat has set and within four hours of application. For multiple lift construction of HMA or PMA, tack coat application will not be waived. Remove all deleterious material to bonding before applying the tack coat to the entire surface to receive the next lift.

Before placing HMA or PMA course, apply tack coat to contact surfaces of curbs, gutters, manholes, other structures, vertical faces of existing pavements, and exposed transverse and longitudinal edges of each course. Apply tack coat on all surfaces that will have an asphalt pavement placed on it in a uniform, full coverage manner, e.g., no visible streak, holidays in the application, no differences in the application rate, i.e., the thickness of the tack coat. The exception to this requirement shall be surfaces that will have pavement joint adhesive applied to it which shall not require any tack coat."

END OF SECTION 407

SECTION 415 – COLD PLANING OF EXISTING PAVEMENT

Make the following amendments to said Sections:

(I) Amend **Section 415.04 Measurement**, from line 67 to 68 to read as follows:

"**415.04 Measurement.** The Engineer will measure cold planing per square yard in accordance with the contract documents."

(II) Amend **Section 415.05 Payment**, from line 70 to 79 to read as follows:

"**415.05 Payment.** The Engineer will pay for the accepted pay items listed below 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 one of the following pay items when included in the proposal schedule:

Pay Item	**Pay Unit**
Cold Planing of Existing Pavement	Square Yard

(1) 80 percent of the contract bid price upon completion of removing the indicated thickness and clean and sweep before opening to public traffic;

(2) 20 percent of the contract bid price upon completion of removing the material and disposing of the removed material."

END OF SECTION 415

SECTION 503 - CONCRETE STRUCTURES

Make the following amendments to said Section:

(I) Amend **503.04 – Measurement** by revising lines 1201 to 1205 to read as follows:

"**503.04 Measurement.** The Engineer will measure the concrete by cubic yard according to the dimensions shown in the contract or as ordered by the Engineer.

The Engineer will not make deductions for the volume occupied by reinforcing steel, piles, floor drains, weepholes, timber bumpers, pipes less than eight (8) inches, conduits, or expansion joint materials."

(II) Amend **503.05 – Payment** by revising lines 1206 to 1223 to read as follows:

"**503.05 Payment.** The Engineer will pay for the accepted quantities of concrete complete in place at the contract unit price per cubic yard for the pay items listed below and contained in the proposal.

The contract unit price paid shall be full compensation for the concrete; for placing, curing and finishing; for furnishing materials including admixtures and cement (including extra cement added to concrete deposited under water); for furnishing and installing drains, scuppers, premolded joint fillers, joint seals, waterproofing at construction joints, waterstops, pipes and conduits; for furnishing and installing metal rockers, anchor bolts, structural shapes for expansion joints and other similar items; for timber bumpers, forms, form lining and falsework or centering, bearing pads, structural steel bearing plates; and for equipment, tools, labor, materials and incidentals necessary to complete the work.

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

Pay Item	Pay Unit
Concrete Barrier	Cubic Yard

The Engineer will pay for excavation and backfill for foundations in accordance with and under Section 205 – Excavation and Backfill for Bridge and Retaining Structures and Section 206 – Excavation and Backfill for Drainage Facilities."

END OF SECTION 503

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

"SECTION 601 - STRUCTURAL CONCRETE

601.01 Description. This section describes structural concrete, which consists of Portland Cement, fine aggregate, coarse aggregate, and water. It may also include adding admixtures for the purpose of entraining air, retarding or accelerating set, tinting, and other purposes as required or permitted. All concrete designs for structural concrete to be placed on HDOT Highway projects must use technology to reduce the embodied carbon footprint of concrete used in the highway infrastructure. e.g., carbon dioxide mineralization or equivalent technology such as C-S-H nanoparticle-based strength-enhancing admixture (CSH-SEA), or technology or material that allows the reduction in the size of the carbon footprint of the mix, e.g., strength improving admixtures, supplementary cementitious materials (SCMs), or other Engineer accepted methods that can reduce the embodied carbon footprint of the concrete.

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 for Sections 5, 7, and 9.

601.03 Construction.

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

Sample, test, and inspect concrete to ensure the quality of the components, materials, and concrete using quality control methods and testing. Sampling and testing for quality control must be performed by certified ACI Concrete Field Technician Grade I following the requirements of the standard test methods. Perform quality control tests for the slump, air content, temperature, unit weight, a Box Test for slip form concrete, or other required properties during the 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 equivalent form accepted by the Engineer. Do not start work until the Engineer accepts the mix design. The Engineer will accept a concrete mix design complying with the information given in Table 601.03-1 - Design of Concrete, and other pertinent requirements.

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

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

Proportion concrete that is designated by a compressive strength so that the concrete conforms to the required strength.

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

Use Class BD concrete in the bridge deck unless the concrete is designated by compressive strength. Incorporate into the bridge deck concrete: water-reducing, shrinkage-reducing, and migrating corrosion-inhibiting admixtures. Allow also, set-retarding admixtures in the concrete with the capability to vary the degree of retardation without adversely affecting other characteristics of concrete. Submit all the design admixture dosages.

Class A concrete must be used when the 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 CO_2 lbs./c.y.	Maximum Water-Cement Ratio with Mineralized CO_2 lb./lb.	Minimum Cement Content with SCM lbs. /c.y.	Maximum Water-Cement Ratio with SCM lb./lb.
A	3000	532	0.59	504	0.62	NA	NA
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	NA	NA
$^*f'_r$ = Specified Modulus of Rupture							

Structural Concrete Design – The Carbon Dioxide mineralization process is our preferred method for CO_2 footprint reduction for structural concrete. Other Carbon Dioxide reduction options, materials, or technologies may be considered for structural concrete mix designs if a Carbon Dioxide mineralization system on the island is unavailable, or Carbon Dioxide is in short supply. Other options to reduce concrete's Carbon Dioxide footprint includes but are not limited to adding Supplementary Cementitious Materials, admixtures, blended hydraulic cements, or a combination thereof. Additional means and methods of CO_2 footprint reduction not listed herein may be used if their use can be justified and accepted by the Engineer.

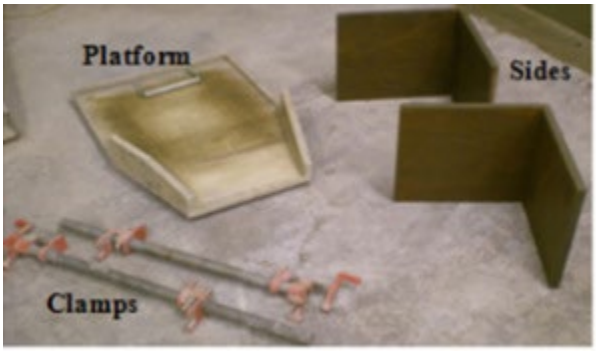
The reduced carbon footprint concrete mix design for all islands must have a reduction of Portland Cement content and still comply with the concrete design strength and other durability requirements as specified. See Table 601.03-1 Design of Concrete's specified limits for cement content, water cement ratio, and other properties when using CO_2 mineralization.

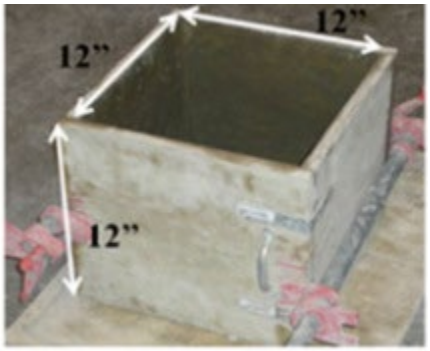
It should be noted that in some cases the use of SCMs in mixes may not result in it having the same strength curve as their cement counterpart and more curing time will be needed to meet and exceed the design strength. In such cases, the Contractor may request a waiver from the 28-day limit. Submit laboratory test data with the request to the Engineer. The waiver may be granted on a case-by-case

basis, e.g., mass concrete. The Engineer reserves the right to limit the amount of SCMs in the mix or reject the mix design.

Slipform Concrete Design – The Box Test method measures the response of a slip form concrete mixture to vibration and the ability of the concrete to hold a vertical edge, thus determining the workability and suitability of the concrete mixture for slip-formed paving applications

Dimensions of the Box Test





The Figure above shows the components and the constructed inside dimensions. The Box Test used:

4 pcs - ½" nominal thickness or greater HDO Plyform with a hard, semi-opaque surface of thermosetting phenolic resin-impregnated material for the Test Box form, with a length, width, and height such that when the Test Box is constructed must have internal dimensions of 12" X12" X 12".

1 pc - ½" nominal thickness or greater HDO Plyform with a hard, semi-opaque surface of thermosetting phenolic resin-impregnated material approximately 24" X 24" or greater for the platform. It is optional that the platform is constructed as shown in the photos.

4 pcs- 2" X 2" L-brackets to be attached at two opposite external corners to hold the two Plyform pieces in an L-shape. (More brackets may be used if determined it is needed to keep the Test Box forms square, ridged, and in an L-shape.) Screws, glue, etc. if used must not cause bulges or protrude into the interior of the form.

Two each - 1.5ft pipe clamps

I each - hand scoop

1 each - 1" square head pencil vibrator that must be able to vibrate at a minimum of 12,500 vibrations per minute. Provide a power source for the vibrator. Round-headed or larger vibrators must not be used.

1 each - ruler

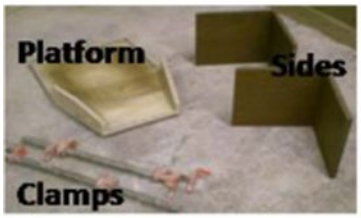
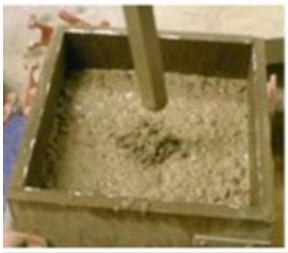
1 each – 16-inch by 24-inch L-shaped steel framing square.

1 each – 18 or 24-inch I-Beam Level Spirit Level Tool

The Box Test Steps

Sample concrete according to AASHTO R 60 Standard Practice for Sampling Freshly Mixed Concrete.

Dampen the forms and platform with form oil and assemble the Box Test components (forms, platform, and clamps) on a flat and level surface. The assembled 1 ft³ Test Box is held together by the pipe clamps and L-brackets on the platform. Scoop into the box the fresh concrete, each scoop must be uniformly distributed in the box, so each layer is approximately uniformly level. Stop the concrete placement when it reaches a height of approximately 9.5". Do not do any compaction during the placement of the concrete except for the dropping of concrete in the Test Box. With the vibrator at 12,500 vibrations per minute and keeping the head of the vibrator perpendicular to the platform and centered in the box, consolidate the concrete by inserting the 1" square head pencil vibrator. Take three seconds to lower the vibrator into the concrete until it almost reaches the bottom of the box. Do not touch the platform with the vibrator. Upon reaching the proximity of the bottom of the box immediately start raising the vibrator upward taking three seconds to remove the vibrator from the concrete. Do not do any further compaction or finishing of the concrete. Immediately, and carefully remove the pipe clamps from the side of the box, and then carefully with minimal disturbance of the concrete, remove the Box Test forms in an ascending vertical direction. Care must be taken to ensure the concrete will not stick to the L-shaped side wall forms. Immediately do a surface void evaluation and edge slump measurement of the concrete sample.

	**Step 1**	Gather the different components of the Box Test.
	**Step 2**	Construct box and place clamps tightly around box. Hand scoop mixture into box until the concrete height is 9.5" (241.3 mm).
	**Step 3**	Insert vibrator downward for 3 seconds and upward for 3 seconds. Remove vibrator.
	**Step 4**	After removing clamps and the forms, inspect the sides for surface voids and edge slumping.

Surface Void Evaluations

The grading of the response of a mixture to vibration must be assessed by comparing the surface voids observed on the sides of the box using Figure 3.

The void area for any of the four sides must not exceed what is shown in photo 2 of Figure 3, i.e., the void area must not be similar to the void areas shown in photos 3 and 4 or exceed them, to be considered an acceptable mix design for slip form pavement concrete.

If a mixture responded well to vibration, the overall surface voids should be minimal because the mortar was able to flow and fill these voids, hence the surface would have a small total void area. However, if the sides of the concrete formed by the box test had large amounts of surface voids, the mixture did not acceptably respond to the vibration. If the concrete did not respond acceptably to the vibration the mix design must be adjusted until the voids do not exceed the voids shown in photo 2 of Figure 3.

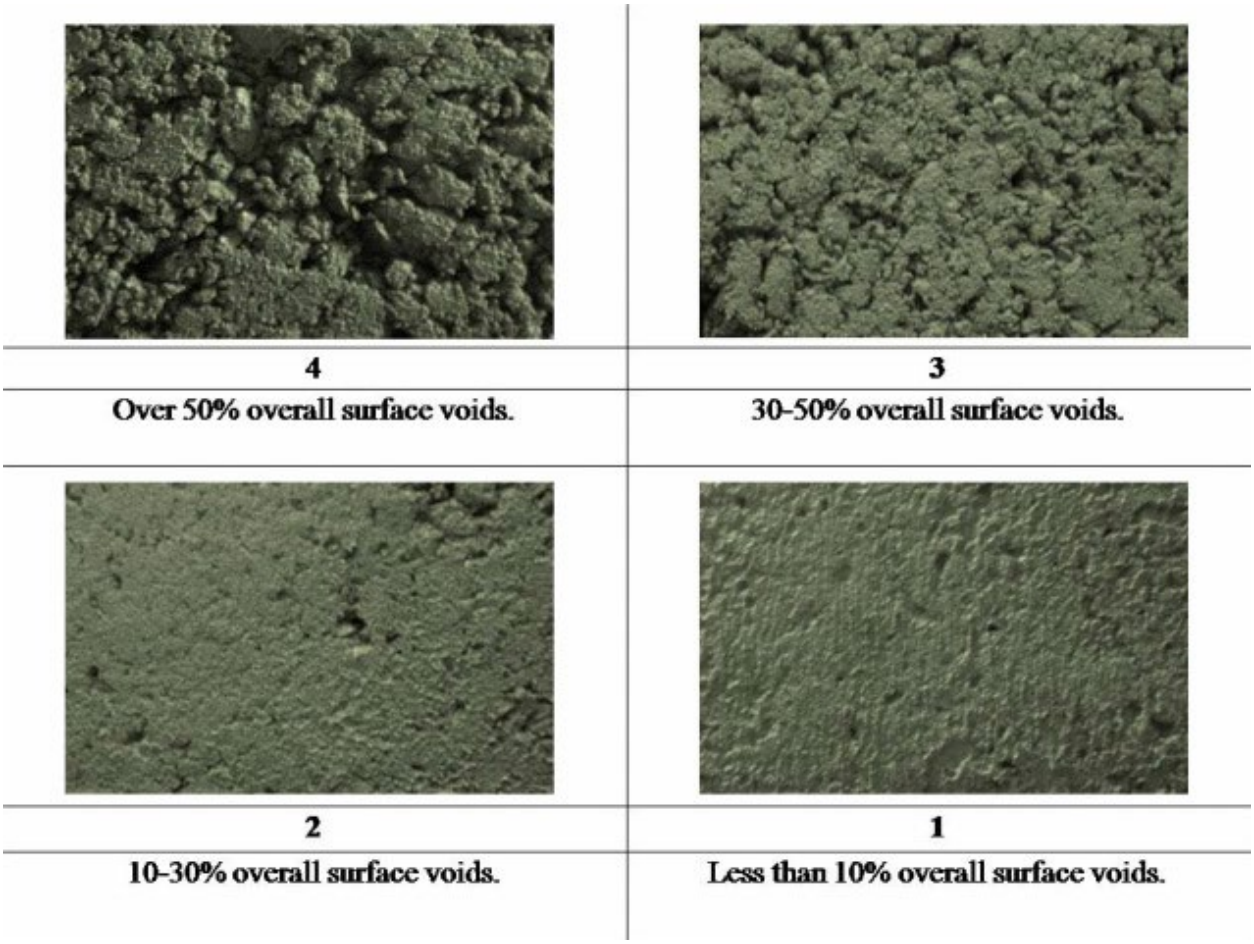


Figure 3 shows the estimated surface voids.

Top or Bottom Edge Slumping

The top or bottom edge slumping must be measured by placing an L-shaped steel framing square straightedge at the point the concrete sample protrudes at each face the most. Use the I-Beam Spirit Level and a tape measure or ruler with the L-shaped steel framing square to measure the distance between the I-Beam Level Spirit Level and the upper surface of the concrete sample along its edge. that is not protruding and is vertical to find the length of the longest extruding point for each face. Do a measurement on each of the four sides, measuring the top and bottom slump of the test sample.

If no vertical face can be found on a side the concrete mix design is not suitable for use in slip forming. If the top or bottom edge slumping exceeds ¼“ for any side, the concrete mix design is not suitable for use in slip forming.

Videos of Box Test

https://youtu.be/XnKbxs3bAoQ

https://youtu.be/P6MKXItCiU8

Verify that the concrete is an acceptable concrete mix design by performing a minimum of two more acceptable consecutive Box Tests that did not exceed the maximum void area and edge slump requirements. If the two acceptable consecutive Box Tests cannot be accomplished, then adjust the concrete mix design and start the testing process over again.

In addition to the Box Test performed during the testing of the mix design in the Contractor's material testing laboratory perform additional Box Tests on production concrete in the field during the test strip or first production pour whichever is earliest. Adjust the mix if the results indicate the concrete does not meet the above requirements. Perform Box Test in the field once a month if pouring is continuous or when the Engineer requests it to be performed.

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 must 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	AASHTO T 85

Aggregate	
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 CO_2 Mineralization technology, CSH-SEA, or SCMs, prequalification of materials and mix proportions proposed for use before placing such concrete is mandatory. The Engineer will prequalify concrete based when data is available 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 the minimum average strength on the probability of not more than one in 20 tests falling below the 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 the 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 the proposed use.

The Engineer will analyze performance records to establish the standard deviation.

(2) When sufficient past performance records are not provided, the Engineer will assume the 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 (MTRB), submit test performance records or trial test reports for prequalifications, based on data of the most recent

tests made on the concrete of the proposed mix design. The data must be from tests that have been performed within one year of the proposed use and done at an accredited material testing laboratory by certified material testing personnel.

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

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

Submit test data and trial test reports signed by an official of an accredited laboratory 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 the cause is established and the Engineer is informed of and accepts, the 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 a fraction of the sack of cement in the 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 the discharge chute from the weighing hopper. Arrange the discharge chute so that cement will not lodge in the hopper or leak from the hopper.

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

(2) Water. Measure water by volume or by weight. Use a readily adjustable device for measurement of water, with accuracy within 1 percent, plus or minus, of the quantity of water required for a batch. Arrange the device so that variable pressure in the 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 may order storage or stockpiling for more than 12 hours or remixing of the stockpile, or other remedial methods. Keep using remedial methods until moisture content problems are resolved. When there is clay or dirt on the aggregate wash the aggregate until they are in a quantity that no longer affects the concrete mix and is accepted by the Engineer.

Proportion aggregates by weight, with an exception being 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 the quantity of each aggregate size.

Use batch weight based on dry materials plus the 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 the total weight of aggregates to within 1 percent, plus or minus, of the required weight.

(4) Admixtures. Ensure that all admixtures used are compatible with all the other admixtures used in the concrete mix. Store, proportion, and dispense admixtures in accordance with the following provisions:

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

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

sampling admixtures. Sampling is not required if not otherwise provided.

When using more than one liquid admixture for concrete mix, use a 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 are completely mixed in paving or continuous mixers, operate dispensers automatically with batching control equipment. Equip such dispensers with an automatic warning system that will provide visible or audible signals at the point where proportioning operations are controlled, when the following occurs: quantity of admixture measured for each batch of concrete varies from pre-selected dosage by more than 5 percent, or the entire contents of measuring unit from the dispenser are not emptied into each batch of concrete.

Unless liquid admixtures are added to the batch with pre-measured water, discharge liquid admixtures into the stream of water that disperses admixtures uniformly throughout the 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 the admixture manufacturer, and as accepted by the Engineer. Special admixtures include high-range water reducers requiring dosages greater than the capacity of conventional dispensing equipment. For site added, high-range water reducers, use calibrated, portable dispenser supplied by the manufacturer.

(b) Mineral Admixtures. Protect mineral admixtures from exposure to moisture or other deleterious conditions 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 can enter the work's concrete mix. Provide safe and suitable facilities for sampling mineral admixtures at weigh hopper or in the feed line immediately in advance of the hopper.

Incorporate mineral admixtures into the concrete using

equipment complying with the 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 a separate weigh hopper. Introduce mineral admixture and cement simultaneously into the 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 the introduction of mineral admixture until the mass of cement in the weighing hopper is within tolerances specified in Subsection 601.03(C)(1) - Portland Cement.

In determining the maximum quantity of free water that may be used in concrete, consider mineral admixture to be cement.

(5) Bins and Scales. At the batching plant, use individual bins, hoppers, and scales for each aggregate size. Include a separate bin, hopper, and scale for bulk cement and fly ash.

Except when proportioning bulk cement for pavement or structures, the cement weigh hopper may be attached to a separate scale for individual weighing or to an 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 a springless-dial or beam-type batching scales. When using beam-type scales, make provisions to show the operator that the required load in the weighing hopper is approaching. Use devices that show conditions within the last 200 pounds of load and within 50 pounds of overload.

Maintain scale accuracy to 0.5 percent throughout the range of use. Design poises to lock to prevent an 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 the work site, transport aggregates from batching plant to the 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 the mixer in tight compartments carrying the full quantity of cement required for the batch. Once the cement is placed in contact with aggregates, batches must 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 the number of sacks required by the job mix.

Deliver batches to mixer intact. Charge each batch into the mixer without loss of cement. When carrying more than one batch on a truck, charge the batch into the mixer without spilling material from one batch compartment into another.

(D) Mixing. Mix concrete in mechanically operated mixers. When accepted by the Engineer, batches that do not exceed 1/3 cubic yard may be hand-mixed in accordance with methods described at end of this subsection.

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 the mixer. If the inspection reveals that blades are worn more than one inch below the original height of the manufacturer's design, or are damaged repair or replace blades. Upon request, make a copy of the manufacturer's design, showing the 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 a uniform flow of water. Place the entire amount of batch water in the mixer by end of the first quarter of the mixing period. When mixers with multiple compartment drums are used, the time required to transfer material between compartments will be included as mixing time. Use drum rotation speed as designated by the manufacturer. If mixing does not produce concrete of uniform and smooth texture, provide additional revolutions at the same speed until thorough mixing of each concrete batch is attained. Begin measuring mixing time from the time cement, aggregates, and 60 percent of water are in the drum. Do not exceed the manufacturer's rated capacity for the volume of concrete mixed in each batch.

Equip central or truck mixers with an attachment for automatically timing the mixing of each concrete batch. The timing device must include an automatic feature for locking the discharge chute and a device for warning the operator when the required mixing duration has been met. If the timing or locking device fails to

operate, immediately furnish a clock or watch that indicates seconds, to the mixer operator. If the timing device is not repaired within three days after becoming inoperative, shut down batching operation until the 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 must furnish labor, sampling equipment, and materials required for conducting uniformity tests, including the Box Test, and the Contractor's quality control for the concrete mixture. The Engineer will not furnish for the Contractor's quality control, testing equipment, e.g., scales, cubic measure, and air meter; and will not perform the Contractor's quality control tests. The Engineer will not pay separately for the Contractor's quality control, e.g., 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 the appearance of concrete or coarse aggregate content of samples is not complying with the requirements of ASTM C94. For truck mixers, add four seconds to the specified mixing time if timing starts as soon as the skip reaches its maximum raised position.

Unless otherwise indicated in the Contract Documents or accepted by the Engineer, concrete must 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 the point of delivery. Begin mixing truck-mixed concrete immediately after the introduction of mixing water to cement and aggregates, or introduction of cement to aggregates.

Inclined-axis, revolving drum truck mixers must comply with Truck Mixer, Agitator and Front Discharge Concrete Carrier Standards TMMB 100-01, 15th Revision, or later published by Truck Mixer Manufacturers Bureau. Truck mixers must produce a thoroughly mixed and uniform mass of concrete and must discharge concrete without segregation.

The manufacturer's standard metal rating plate must 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 the maximum capacity shown on the metal rating plate for the volume of concrete in each batch.

Operate truck mixers at the mixing speed designated by the 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 the mixer. Water may be added to the mixture not more than two times after the initial mixing is completed. The addition of water at the project site must comply with the requirements of Subsection 503.03. Each time that water is added, turn the drum an additional 30 revolutions or more at mixing speed until the concrete is mixed uniformly.

When furnishing shrink-mixed concrete, transfer partially mixed concrete at the central plant to a truck mixer. Apply requirements for truck-mixed concrete. The Engineer will not credit the number of revolutions at mixing speed for partial mixing in the central plant.

When accepted by the Engineer, concrete batches not exceeding 1/3 cubic yard may be hand-mixed on a watertight, level platform. Measure the proper amount of coarse aggregate in measuring boxes and spread it on the platform. Spread fine aggregate on that coarse aggregate layer. Limit coarse and fine aggregate layers to a total depth of one foot. Spread dry cement on this mixture. Turn whole mass not less than two times dry. Add sufficient clean water, and distributed it evenly. Turn whole mass again, not less than three times, not including placing in carriers or forms. Mortar mixers of appropriate size may be used when accepted by the Engineer.

(E) Transporting Mixed Concrete. Transport central-mixed concrete to the delivery point in truck agitators or truck mixers operating at speed designated by the equipment manufacturer as agitating speed; or in non-agitating hauling equipment, provided consistency and workability of mixed concrete upon discharge at the delivery point suitable for placement and consolidation in place. The mixed concrete after hauling to the delivery point must comply with the 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 the manufacturer's rated capacity for agitator operation. Maintain agitating speed for both revolving drum mixers and revolving blade type agitators as designated on the manufacturer's metal data plate. Equip truck mixers or truck agitators with electrically or mechanically actuated counters. Activate counters after introducing cement to aggregates.

Bodies of non-agitating hauling equipment must be smooth, watertight, metal containers equipped with gates to permit control of concrete discharge. Protect open-topped haul vehicle against the weather and wind 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 a truck mixer or agitator is used for transporting central-mixed

concrete to the delivery point, complete discharge within 1-1/2 hours, after the introduction of mixing water to cement and aggregates, or cement to aggregates. For truck-mixed concrete, complete concrete discharge within 1-1/2 hours. This time limitation is permitted to be waived by the Engineer if after the 1-1/2-hour time limit has been reached, the concrete has a slump that it can be placed, without the addition of water to the batch and hydration of the concrete has not started, i.e., the temperature of the concrete is less than 90 degrees F or the required maximum temperature of the concrete. Also, the set time is increased by the use of a retarder in the mix design and acceptance of the increased set time is obtained before use from the Engineer.

Submit delivery tickets from manufacturers of truck-mixed concrete and central-mixed concrete with each truckload of concrete before unloading at the jobsite. Printed, stamped, or written delivery ticket must include the following information:

(1) Name of concrete plants.

(2) Serial number of the ticket.

(3) Date and truck number.

(4) Name of Contractor.

(5) Specific project, route, or designation of job (name and location).

(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 the receiver of concrete and receiver's initials.

(10) Information that is necessary to calculate the total mixing water added by the producer. Total mixing water includes free water on aggregates, water, and water added by the truck operator from the mixer tank at the project site.

(11) The amount of water held back from the batched concrete mix that can be added to the concrete mix at the project and still not cause the mix to exceed the accepted mix design water to cement ratio.

(12) Readings of non-resettable revolution counters of truck mixers after the introduction of cement to aggregates, or introduction of mixing water to

cement aggregates

(13) Supplier's mix number or code and include the mix design name.

Furnish additional information designated by the Engineer and required by job specifications upon request.

(F) Consistency. Regulate the quantity of water and admixtures used in concrete mixes so that concrete consistency, as determined by the AASHTO T 119 test method, is within the nominal slump range specified in Table 601.03-3 - Slump for Concrete. If the concrete slump exceeds the nominal slump, adjust subsequent batches of the mixture. If slump exceeds maximum slump, the Engineer will reject concrete unless it is solely deemed by the Engineer as satisfactory for use.

The Engineer will also reject harsh or unworkable concrete that cannot be properly placed. Remove rejected concrete at no increase in the contract price or contract time.

Slump for concrete must 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

*A waiver to the maximum slump requirement may be requested from the Engineer. Submit justification for the granting of the waiver request along with how the mix design's components ensure that the mix will not segregate.

In adverse or difficult conditions that may affect the 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 the design mix redesign is accepted by the Engineer in writing and the water-cement ratio is complies with Contract Documents requirements. Provide additional cement and water, or admixture at no increase in the 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 amendment to said Section:

(I) Amend **Section 602.03(D) – Placing and Fastening** by adding following paragraph after line 114 to read:

> "Welded-wire fabric must not be laid on the ground and "pulled up" after the concrete is placed or "walked in" after placing the concrete or using small piles of fresh concrete. Use supports tied to the WWF, e.g. precast concrete spacer blocks to maintain the proper elevation of the WWF. Plastic spacers must not be used. The number of precast concrete spacer blocks must be used in a quantity that will prevent sagging, bending, or when walked upon, and still, maintain the required clearances."

END OF SECTION 602

SECTION 624 – WATER SYSTEM

Make the following amendment to said Section:

(I) Amend **Section 622.04 - Measurement** by replacing lines 587 to 588 to read:

"**624.04 Measurement.** The Engineer will measure relocation of water meter and adjustment air relief valve per each as complete units of the type and design specified in the proposal."

(III) Amend **Section 622.05 – Payment** by replacing lines 592 to 596 to read:

"**624.05 Payment.** The Engineer will pay for relocation of water meter and adjustment air relief valve at the contract price per each for the type and design specified complete in place. 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**
Relocation of Water Meter	Each
Adjustment of Air Relief Valve	Each"

END OF SECTION 624

SECTION 632 – MARKERS

Make the following amendment to said Section:

(I) Amend **Section 632.03 – Construction** by adding this paragraph after line lines 77 to read as follows:

"**(e) Type V Object Marker (OM5).** OM5 shall be Type XI retroreflective sheeting marker. One complete unit of OM5 shall be the complete installation of retroreflective sheetings per post".

(II) Amend **Section 632.04 - Measurement** by replacing lines 79 to 81 to read:

"**632.04 Measurement.** The Engineer will measure reflector marker per each as complete units of the type and design specified in the proposal."

(III) Amend **Section 632.05 – Payment** by replacing lines 83 to 100 to read:

"**632.05 Payment.** The Engineer will pay for reflector marker at the contract price per each for the type and design specified complete in place. 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**
Reflector Marker (RM-3)	Each"

END OF SECTION 632

SECTION 634 – PORTLAND CEMENT CONCRETE SIDEWALK

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 measure concrete sidewalk square yard as complete units of the type and design specified in the proposal."

(III) Amend **Section 634.05 – Payment** by replacing lines 65 to 68 to read:

"**634.05 Payment.** The Engineer will pay for concrete sidewalk at the contract price per square yard for the type and design specified complete in place. 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**
Portland Cement Concrete Sidewalk	Square Yard"

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 amendment to said Section:

(I) Amend **Section 638.04 - Measurement** by replacing lines 130 to 131 to read:

"**638.04 Measurement.** The Engineer will measure concrete curb per linear foot as complete units of the type and design specified in the proposal."

(III) Amend **Section 638.05 – Payment** by replacing lines 133 to 148 to read:

"**638.05 Payment.** The Engineer will pay for concrete curb at the contract price per linear foot for the type and design specified complete in place. 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**
Curb, Type 2D _____	Each"

END OF SECTION 638

SECTION 645 - WORK ZONE TRAFFIC CONTROL

Make the following amendments to said Section:

(I) Amend **645.03 Construction** from line 64 to 66 to read as follows:

"Furnish two flaggers or police officers for each location that requires work zone traffic control. If TCP is included in the contract documents, furnish number of flaggers or police officers indicated in TCP."

(II) Amend **645.03 (B) Construction Signs** from line 162 to 169 by changing all references to "Construction Signs" to read "**Work Zone Signs**".

(III) 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."

(IV) Amend **Subsection 645.03 (F) Lane Closures** Line 253 by changing "Oahu" to "Kauai".

(V) Amend **Subsection 645.03 (G) Advisory Signs** from Line 314 to Line 324 to read as follows:

"**(G) Advisory Signs.** Advisory signs are not required for this project."

(VI) Amend **Subsection 645.03 (H) Advertisement** from Line 391 to Line 392 to read as follows:

"Place advertisement for three (3) consecutive days and within one (1) 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 (3) days for each required advertisement."

(VII) 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.'

(VIII) 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

Make the following Section a part of the Standard Specifications:

"SECTION 671 – PROTECTION OF THREATENED AND ENDANGERED SPECIES

671.01 Description. The endangered Hawaiian hoary bat or ʻōpeʻapeʻa (*Lasiurus cinereus semotus*) may roost, forage, and rear young in the general vicinity of the proposed project. The project site is located in a known flight corridor for the endangered Hawaiian petrel or ʻuaʻu (*Pterodroma sandwichensis*), the endangered Hawaiʻi distinct population segment (DPS) of the band-rumped storm-petrel or ʻakeʻake (*Oceanodroma castro*), and the threatened Newell's shearwater or ʻaʻo (*Puffinus auricularis newelli*), hereinafter referred to as Hawaiian seabirds. Endangered Hawaiian waterbirds, including the Hawaiian stilt or ae'o (*Himantopus mexicanus knudseni*), the Hawaiian coot or ʻalae keʻokeʻo (*Fulica americana alai*), the Hawaiian gallinule or ʻalae ʻula (*Gallinula galeata sandvicensis*), and the Hawaiian duck or koloa (*Anas wyvilliana*) are known to be in the general vicinity of the project and may be attracted to the project staging areas even in sub-optimal locations if water is present. Also to be considered is the threatened Hawaiian goose or nēnē (*Branta [=Nesochen] sandvicensis*) which may use the construction staging areas or areas adjacent to the roadway. The endangered Hawaiian monk seal or ʻīlio holo i ka uaua (*Neomonachus schauinslandi)* and sea turtles, including the endangered Hawksbill Sea Turtle or 'ea (*Eretmochelys imbricate*), and the threatened Central North Pacific DPS of the Green Sea Turtle or honu (*Chelonia mydas*) are in the general vicinity of the proposed project and may transit or visit the proposed project area.

The Contractor shall protect these threatened and endangered species throughout the construction duration.

671.02 Materials. None

671.03 Construction.

(A) Pre-Construction and Construction Requirements. Comply with the following conditions and the notes in the Contract Plans:

(1) Hawaiian Hoary Bat. Hawaiian hoary bats nest in both native and non-native woody vegetation.

The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to the Hawaiian hoary bat:

(a) There shall be no disturbance, removal, or trimming of woody plants greater than 15 feet (4.6 meters) tall during the bat birthing and pup rearing season (June 1 through September 15).

(b) Barbed wire shall not be used for fencing.

(2) Hawaiian Seabirds. Hawaiian seabirds may traverse the project area at night during breeding, nesting and fledgling season,

which extends from March 1 through December 15. Permanent lighting poses a very high risk of seabird attraction so new highway lighting should not be installed to protect seabird flyways and preserve the night sky. Additional or increased lighting exacerbates the problem of Newell's shearwater fallout.

Fallout shall be defined as the occurrence of seabirds being harmed, injured or killed and falling to the ground due to: 1) collision with structures such as wires, poles, or other objects; 2) light attraction and the resulting collision with structure associated with or near the light sources; or, 3) the exhaustion from circling the light source.

If nighttime work will be required in conjunction with the development of the project, the Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to Hawaiian seabirds:

(a) Before beginning any work at the project site, the Contractor shall:

i. Collect information regarding the protection of seabirds and seabird fallout.

ii. Submit to the Engineer for acceptance a protection of seabirds training plan including a detailed description of information and materials the Contractor intends to use in the training classes. The training plan shall be submitted to the Engineer for acceptance at least 15 days in advance of the class. If the Engineer rejects the training plan, the Contractor shall revise and promptly propose another training plan.

iii. Disseminate information regarding the protection of seabirds and seabird fallout by conducting training classes for all employees, subcontractors, suppliers and other personnel working on the project, including HDOT personnel, on such topics as the Save Our Shearwater (SOS) program, proper use of temporary lighting, procedures to store and report downed seabirds, and the consequences of non-compliance with the laws regarding threatened and endangered seabirds. The Engineer may request for additional topics related to seabirds to be included in the training classes.

Training classes shall be taught by authorized representatives of the USFWS, the

Department of Land and Natural Resources, the SOS program or other qualified personnel accepted by the Engineer.

iv. Furnish the Engineer with evidence that the Contractor has held training classes, including the dates of the classes, identify who conducted the training, and the content and nature of the training.

(b) The Contractor shall comply to the following construction requirements:

i. As directed by the Engineer, the Contractor shall conduct additional training classes during the project to update all employees, subcontractors, suppliers, HDOT personnel and other personnel on new and/or updated information regarding the protection of seabirds and seabird fallout.

ii. No permanent streetlights shall be installed as part of the project.

iii. All temporary lights used for night work (between sunset and sunrise) shall contain less than 2% wavelengths less than 550 nm, and shall be downward-facing and shielded so the bulb can only be seen from below. Temporary lights shall include but are not limited to flood lights, light towers, lights for construction equipment and other lights as determined by the Engineer. All traffic control devices, including warning lights, arrow boards, portable changeable message signs and other lighting device as determined by the Engineer shall be shielded.

iv. Nighttime construction and the use of all temporary lights shall cease during the peak seabird fledgling period (September 15 through December 15).

v. The Contractor shall furnish and maintain a small (approximately 10" x 12" x 19"), portable cat kennel on site to temporarily hold a downed seabird. The Contractor shall obtain acceptance of the cat kennel from the Engineer prior to use.

vi. If a downed dead seabird is found, the Contractor shall contact the USFWS (Ms. Megan Laut at 808-792-9400) within 24 hours.

vii. If the downed seabird is alive, the Contractor shall:

I. Pick up the seabird from behind as soon as possible using a clean towel, t-shirt or cloth by gently wrapping it around its back and wings.

II. Place the seabird in the cat kennel and immediately contact the SOS Program Coordinator at 808-635-5117 for further instructions on where to deliver the seabird.

III. Deliver the seabird to the location determined by the coordinator of the SOS program and as directed by the Engineer.

IV. Keep the seabird in a cool, quiet location and out of direct sunlight with adequate ventilation.

V. The Contractor and any personnel on-site shall not feed, provide water, handle or release the seabird.

viii. The Contractor shall maintain records of all downed seabirds for the duration of the project. The records shall include the date, time, location and condition (dead or alive) the seabird was found and delivered. Submit a copy of the records to the Engineer after finding each and every downed seabird.

(3) Hawaiian Waterbirds. Hawaiian waterbirds occupy fresh and brackish water marshes, coastal estuaries and natural or manmade ponds. Hawaiian stilts also occupy areas with ephemeral or persistent standing water, conditions of which can be found in culverts and drainage structures. Because this project occurs near water, threats to these species from this project may include predation, reduced reproductive success, disturbance from human activity and injury or mortality from vehicle strikes.

The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to Hawaiian waterbirds:

(a) In areas where known presence of Hawaiian waterbirds occurs, post, implement and enforce reduced

speed limits, and inform project personnel and Contractors of the presence of these endangered species on-site.

(b) Because water resources occur in the project site, employ U.S. Fish and Wildlife Service (USFWS) Best Management Practices for Work in Aquatic Environments.

(c) Where appropriate habitat occurs within the vicinity of the project area, survey for Hawaiian waterbirds and nests prior to initiation of project work using survey biologists familiar with the species' biology. Survey biologists should be trained and capable of identifying adults and juveniles of each species, nesting behaviors, and nests. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).

i. Surveys for species and nests should be repeated when a delay of work occurs that is three days or more (during which the birds may attempt to nest).

ii. If a nest or active brood is found, contact USFWS within 24 hours for further guidance.

iii. Establish and maintain a 100-ft buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.

iv. A biological monitor that is familiar with the species' biology shall be present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely affected.

(d) A biological monitor is required during Hawaiian stilt nesting season from February 15 through August 31.

i. A biological monitor that is familiar with the species biology and approved by the Federal Highways Administration will conduct Hawaiian stilt nest surveys where appropriate habitat occurs within the proposed maintenance site prior to cleaning culverts and drainage structures.

ii. Surveys will take place within three days of project initiation and after any subsequent delay of work of three or more days (during which the birds may attempt to nest).

(4) Hawaiian Goose. Hawaiian goose or nēnē uses various habitat types. Threats to the species from this project include disturbance from human presence, and injury and mortality from vehicle strikes. An increased human presence at the project site could disturb nēnē nesting, foraging, or loafing in the area.

The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to the nēnē:

(a) Nēnē in or near the project area shall not be approached, fed, or disturbed in any way.

(b) All food and or beverage waste shall be disposed of in appropriate, covered trash receptacles.

(c) If nēnē are observed loafing, foraging, or otherwise present within the project area during the breeding season (September 1 through April 30), a trained biologist familiar with nēnē nesting behavior will survey the area in and around the project area for nests prior to work each day. Surveys will be repeated after any subsequent delay of work of three or more days (during which the birds may attempt to nest).

(d) If a nest is identified within a radius of 150 feet of the project area, or a previously undiscovered nest is found within the 150-foot radius after work begins, all work shall cease and the USFWS will be contacted immediately for further guidance.

(e) Reduced speed limits shall be posted and implemented in areas where nēnē are known to be present, and project personnel and Contractors will be informed of the presence of endangered species on-site.

(f) There shall be no feeding of birds or dogs on the project site.

(5) Hawaiian Monk Seal. The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to the Hawaiian monk seal:

(a) All regular on-site staff shall be trained to identify the Hawaiian monk seal and trained on appropriate steps to take if this species is present on-site.

(b) Construction activities shall not take place if a Hawaiian monk seal is in the construction area or within 150 feet of the construction area. Construction can only begin after the animal voluntarily leaves the area. If a monk seal/pup pair is present a minimum 300-foot buffer shall be observed. If a Hawaiian Monk Seal is noticed after work has already begun, that work may continue only if, in the best judgment of the Biological Monitor, that there is no way for the activity to adversely affect the animal(s).

(c) Any construction-related debris that may pose an entanglement threat to Hawaiian monk seals shall be removed from the construction area at the end of each day and at the conclusion of the construction project.

(d) Workers shall not attempt to feed, touch, ride, or otherwise intentionally interact with any listed species.

(6) Sea Turtles. Sea turtles may nest on any sandy beach in the Pacific Islands. Nesting occurs on beaches from May through September, peaking in June and July, with hatchlings emerging through November and December. Construction can compact and erode sand and sediments, destroy sea turtle nests, erode beaches, create runoff of contaminants, and create light that disorients hatchlings and deters nesting. Off-road vehicle traffic on beaches, including construction equipment, directly affecting sea turtles and their nests by crushing individuals and degrading habitat with erosion and compacting sand and sediment.

To avoid and minimize project-related adverse effects to sea turtles and their nests, incorporate these conservation measures:

(a) No vehicle use or modifying the beach/dune environment during the sea turtle nesting or hatching season, which extends from May through December.

(b) Employ U.S. Fish and Wildlife Service Recommended Standard Best Management Practices when working in aquatic environments.

(c) Remove any project-related debris, trash, and equipment from the beach or dune if not actively in use.

(d) Do not stockpile project-related materials in the intertidal zone, reef flats, stream channels, or river channels.

Optimal turtle nesting habitat is a dark beach, free of barriers that could restrict sea turtle movement. Lighting and human

presence deters nesting turtles from approaching, laying eggs, and successfully nesting. Artificial light disorients sea turtles and they become exhausted, causing them to nest in inappropriate locations, such as at or below the high tide line. Artificial lighting also disorients hatchlings as they emerge from nests. Sea turtles need darkness on beaches so they can successfully navigate back to the ocean. In-water work at night shall be avoided, unless emergency maintenance and repair of erosion and sediment controls are necessary to meet permit conditions.

The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to sea turtles and their young from lighting:

(a) Avoid nighttime work during the nesting and hatching season, which extends from May through December.

(b) Minimize the use of lighting and shield all project-related lights to ensure this light is not visible from any beach.

(c) If full shielding of light is not possible, or if you require the use of headlights, fully enclose the light source using light filtering tape or filters.

(7) Essential Fish Habitat. The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to essential fish habitat:

(a) Contractor shall conduct a pre-construction biological survey to determine whether infrastructure materials (e.g, riprap, piles, boulders) are colonized with benthic communities. If infrastructure materials (e.g, riprap, piles, boulders) that are colonized with benthic communities will be removed or destroyed as part of permitted activities, Contractor shall prepare relocation plan for HDOT approval, and relocate these materials to an appropriate receiving site.

(b) The Contractor shall prevent debris from falling into the water.

(B) Compliance Requirements. The Contractor shall protect all species noted above for the duration of construction. Failure to comply with the construction requirements, harm or a taking of an individual during the construction duration shall be enforceable by the USFWS as set forth by the Endangered Species Act. Resultant penalties and/or fines shall be at the Contractor's expense without cost or liability to the State.

671.03 Measurement. The Engineer will measure the work required for the protection of threatened and endangered species on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation and as ordered by the Engineer.

671.04 Payment. The Engineer will pay for the accepted protection of threatened and endangered species 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**
Protection of Threatened and Endangered Species	Force Account

An estimated amount may be allocated in the proposal schedule under "Protection of Threatened and Endangered Species", 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."

END OF SECTION 671

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

Amend Section 701- HYDRAULIC CEMENT to read as follows:

"**SECTION 701 - HYDRAULIC CEMENT**

701.01 Portland Cement. Portland cement shall consist of Type I or Type II portland cement, Type IL portland-limestone cement, or Type IP portland-pozzolan cement.

Type I and Type II portland cement shall conform to AASHTO M 85 and the 28-day compressive strength requirement cited in AASHTO M 85, Table 4.

Type IL portland-limestone cement and Type IP portland-pozzolan cement shall conform to AASHTO M 240.

Mineral admixtures may be used to replace a portion of the required Portland cement in accordance with Subsection 711.03 - Admixtures.

Safe and suitable facilities for sampling cement shall be provided at the weigh hopper or in the feedline immediately in advance of the hopper. Cement shall be stored in a weathertight building that will protect cement from dampness and minimize warehouse set, and stored in such a manner to permit easy access for proper inspection and identification of each shipment.

Cement which for any reason has become partially set or which contains caked lumps shall not be used.

Different types of cement shall not be mixed or used in the same unit of construction. Cement used in the manufacture of cast-in-place concrete for exposed surfaces of like elements of a structure shall be from the same mill.

Certificate of compliance that complies with Subsection 106.07 – Certificate of Compliance shall be submitted to the Engineer before using any cement. Certificate of compliance shall include pertinent information as to the type of cement; and applicable chemical and physical test results from samples taken at local distribution sites or concrete batch plants.

Once certificate of compliance has been accepted, the Engineer may permit use of cement before release by the laboratory. Cement furnished without an accepted certificate of compliance shall not be used until the Engineer has had sufficient time to make appropriate tests and has accepted cement for use.

If cement does not conform to requirements of the contract documents, as determined by laboratory test samples, use of cement from the same source shall be delayed until the Engineer can make tests on each cement lot delivered."

END OF SECTION 701

SECTION 702 – BITUMINOUS MATERIALS

Make the following amendments to said Section:

(I) Amend **Subsection 702.01** by replacing lines 4 to 5 to read:

"**702.01 Asphalt Cement.**

(A) PG 64-16. Performance graded (PG) asphalt binder (neat or unmodified) shall conform to AASHTO M 320.

(B) PG 64E-22. Performance graded binder (polymer modified) shall conform to AASHTO M 332 and meet the following additional requirement:

AASHTO T 315 Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR). Phase angle on original binder shall be less than 77 degrees.

(C) Submittals. Submit, before usage, a Certificate of Compliance, accompanied by substantiating test data, showing conformance with Performance Graded Asphalt Binder Specification. The Engineer will not accept the PG binder without adequate documentation."

(II) Amend **Subsection 702.04** to add under line 32:

Polymer modified asphalt shall conform to AASHTO M 316, except cationic type CQS-1P or CQS-1hP used for micro surfacing shall meet the requirements in Table 702.04-1.

TABLE 702.04-1 – Polymer Modified Emulsion for Micro Surfacing Requirements

Property	Test Procedure (AASHTO)	Specification Min	Specification Max
Emulsion Properties			
Viscosity, Saybolt-Furol, @ 122^{0}F, SFS	T59	15	150
Sieve Test, %	T59		0.1
Residue by Evaporation, %	T59	62	
Residue Properties From Low Temperature Evaporation		AASHTO R-78[b]	
MSCR @ 70^0 C, Recovery @ 3.2 kPa, %	T350	80	
MSCR @ 70^{0}C, J_{nr} @3.2, 1/kPa	T350		0.50

Notes:

(a) Maintain the test temperature at 350°F (177°C) for 20 minutes.
(b) After recovering the residue from AASHTO R-78, the sample may be annealed prior to testing to remove any excess moisture and provide for a consistent sample. The annealing can be accomplished by placing 20 grams of residue in a 6 oz. metal container (approx. 3-inch diameter) and heating to 163^{0}C for no more than 15 minutes. The sample should be stirred with a spatula every 5 minutes. The sample can then be poured directly into a 25mm DSR silicone mold for evaluation.

(III) Amend **Subsection 702.06 (Unassigned)** by replacing line 23 to read:

"**702.06 Warm Mix Asphalt (WMA) Additive.** Additives for WMA shall be approved by the Engineer."

END OF SECTION 702

SECTION 703 – AGGREGATES

Make the following amendments to said Section:

(I) Amend **TABLE 703.01-3 FINE AGGREGATE GRADING REQUIREMENTS, HAWAII AND KAUAI** to read as follows:

"

TABLE 703.01-3 - FINE AGGREGATE GRADING REQUIREMENTS, HAWAII AND KAUAI		
Sieve Sizes	**Percent Passing by Weight**	
	Calcareous Sand	**Crusher Screenings**
3/8 Inch	100	100
No. 4	95 – 100	95 - 100
No. 8	-	50 - 85
No. 16	-	32 - 60
No. 30	-	-
No. 50	-	15 - 30
No. 100	0 – 5	5 - 20

"

(II) Amend **Subsection 703.11** by replacing subsection to read:

"703.11 Aggregate for Slurry Seal and Micro Surfacing. Aggregate for slurry seal and micro surfacing shall consist of crushed rock and shall be free of dirt, clay, and other deleterious material. Aggregate shall be nonplastic in accordance with AASHTO T 89 and AASHTO T 90 and shall not contain free water, which is defined as water that is free to move under influence of gravity.

Aggregate for slurry seal and micro surfacing shall conform to Table 703.11-1 – Slurry System Test Requirements and Table 703-11-2 – Slurry System Grading Requirements:

TABLE 703.11-1 – SLURRY SYSTEM TEST REQUIREMENTS			
Test	**Method**	**Slurry Seal**	**Micro Surfacing**
Sand Equivalent, min	**AASHTO T 176**	45	65
Magnesium Sulfate Soundness, max loss, %, 4 cycles[c]	**AASHTO T 104**	25	25
Los Angeles Abrasion, %, max[c]	AASHTO T 96	35	30 (a)
Notes: (a) Perform tests on aggregate before crushing. (b) Do not use predominantly limestone or dolomite aggregate. (c) The abrasion and soundness test is to be run on the parent aggregate.			

26

TABLE 703.11-2 - SLURRY SYSTEM GRADING REQUIREMENTS				
Sieve Size	**Percent Passing by Weight.325**			**Stockpile Tolerance (Percent)**
	Type 1	**Type 2**	**Type 3**	
3/8 Inch	-	100	100	-
No. 4	100	90 - 100	70 - 90	± 5
No. 8	90 - 100	65 - 90	45 - 70	± 5
No. 16	65 - 90	45 - 70	28 - 50	± 5
No. 30	40 - 65	30 - 50	19 - 34	± 5
No. 50	25 - 42	18 - 30	12 - 25	± 4
No. 100	15 - 30	10 - 21	7 - 18	± 3
No. 200	10 - 20	5 - 15	5 - 15	± 2
Type 1 - Crack filling and fine seal. Type 2 - Medium seal. Type 3 - 1st and/or 2nd application, two-course seal.				

27

28 **END OF SECTION 703**

SECTION 717 – CULLET AND CULLET-MADE MATERIALS

Make the following amendments to said Section:

(I) Amend **Subsection 717.01 – Cullet and Cullet-Aggregate Mixtures as Construction Materials** by revising the third paragraph from line 16 to 20 to read:

"Debris shall not exceed values specified in Tables 717.02-1 - Cullet in Roadway Applications, 717.03-1 - Cullet in Utility Applications, and 717.04-1 - Cullet in Drainage Applications. Debris is defined as deleterious material that includes plastics, papers, and non-ceramic constituents of cullet. Hazardous material will not be allowed in cullet such as but not limited to, TV or other cathode ray tubes, fluorescent light bulbs, and any toxic or hazardous materials. Test cullet stockpile for toxic or hazardous materials every 90 days and submit the results to the Engineer."

(II) Amend **Subsection 717.01 – Cullet and Cullet-Aggregate Mixtures as Construction Materials** by adding the following paragraph after line 21:

"Cullet shall not be used in concrete."

(III) Amend **Table 717.03-1 – Cullet in Utility Applications** from line 37 to line 39 to read:

TABLE 717.03-1 - CULLET IN UTILITY APPLICATIONS

Utility Trench Bedding and Backfill Applications	Maximum Cullet Content (Percent By Weight)	Maximum Debris Level (Percent By Weight Of Cullet)
Sewer Pipes	25	0.3
Electrical Conduits	25	0.3
Fiber Optic Lines	25	0.3

(IV) Amend **Table 717.04-1 – Cullet in Drainage Applications** from line 47 to line 49 to read:

TABLE 717.04-1 - CULLET IN DRAINAGE APPLICATIONS		
Drainage Fill Applications	Maximum Cullet Content (Percent By Weight)	**Maximum Debris Level (Percent By Weight Of Cullet)**
Retaining Walls	25	0.2
Foundation Drains	25	0.2
Drainage Blankets	25	0.2
French Drains	25	0.2

END OF SECTION 717

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 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

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:	**KUHIO HIGHWAY** **CONCRETE BARRIER INSTALLATION** **VICINITY OF LANIKAI STREET** **District of Kawaihau** **Island of Kauai**
PROJECT NO.:	**56A-01-24M**
COMPLETION TIME:	**SIXTY (60) Working days from the Start Work Date from the Department.**

DESIGN PROJECT MANAGER:

NAME:	**Eric I. Fujikawa**
ADDRESS:	**1720 Haleukana St. Lihue, Kauai, Hawaii 96766**
PHONE NO.:	**(808) 241-3015**
EMAIL:	**eric.i.fujikawa@hawaii.gov**
FAX NO.:	**(808) 241-3011**

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. Do not include confidential and/or proprietary documents with the proposal. See 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: the Hawaii Standard Specifications for Road and Bridge Construction dated 2005, the Notice to Bidders, the Special Provisions, if any, 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. The bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Joint Contractor or Subcontractor. For each listed firm, the Bidder declares the respective firm is a Sub- or Joint Contractor and subject to evaluation as a Sub- or Joint Contractor. 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.	

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 (Company Name)

By_____
Authorized Signature

_____
Print Name and Title

_____

_____
Business Address

_____ _____
Business Telephone Email

_____
Date

_____
Contact Person (If different from above)

Phone:_____ Email:_____

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.

PROPOSAL SCHEDULE					
ITEM NO.	**ITEM**	**APPROX. QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
203.0100	Roadway Excavation	40	CY	$_____	$_____
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	LS	LS	LS	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	FA	FA	FA	$ 20,000.00
304.0100	Aggregate Base Course	6	CY	$_____	$_____
305.0100	Aggregate Subbase Course	5	CY	$_____	$_____
401.0400	HMA Pavement Mix No. IV	15	TN	$_____	$_____
415.0110	Cold Planing of Existing Pavement	1100	SY	$_____	$_____
503.0100	Concrete Barrier	60	CY	$_____	$_____
624.0300	Relocation of Water Meter	1	EA	$_____	$_____
624.0410	Adjusting Air Relief Valve	1	EA	$_____	$_____
632.0124	Reflector Marker (RM-3)	20	EA	$_____	$_____
634.0100	Portland Cement Concrete Sidewalk	110	SY	$_____	$_____
636.1000	Additional E-Construction Programs, Additional Licenses, or Additional Equipment	FA	FA	FA	$ 2,000.00
638.1200	Curb, Type 2D	14	LF	$_____	$_____

PROPOSAL SCHEDULE					
ITEM NO.	**ITEM**	**APPROX. QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
645.1000	Traffic Control	LS	LS	LS	$_____
645.2000	Additional Police Officers, Additional Traffic Control Devices, and Additional Advertisements	FA	FA	FA	$ 30,000.00
648.1000	Field-Posted Drawings	LS	LS	LS	$_____
671.1000	Protection of Threatened and Endangered Species	FA	FA	FA	$ 5,000.00
699.1000	Mobilization (Not to Exceed 6 Percent of the Sum of All Items Excluding the Bid Price of this Item)	LS	LS	LS	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT

Total Amount for Comparison of Bids ……..……. $ _____

1.0 Bids shall include all Federal, State, County and other applicable taxes and fees.

2.0 The Total Amount for Comparison of Bids shall be used to determine the lowest responsible bidder.

3.0 Bidders shall complete all unit prices and amounts. Failure to do so shall be grounds for rejection of bids

4.0 If a discrepancy occurs between unit bid price and the bid price, the unit bid price shall govern.

5.0 **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. Do 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.

PROPOSAL SCHEDULE

The bidder is directed to Subsection 105.16 – Subcontracts.

The bidder's attention is directed to Section 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

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.

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