



**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII**

**SPECIAL PROVISIONS
PROPOSAL
CONTRACT AND BOND**

FOR

**SEISMIC RETROFIT,
HALEAKALA HIGHWAY ROUTE 377,
WAIALE GULCH, ALAE (NAALAE GULCH),
AND PULEHU GULCH (POHAKUOKALA) BRIDGES**

FEDERAL-AID PROJECT NO. STP-0377(008)

DISTRICT OF MAKAWAO

ISLAND OF MAUI

FY 2026

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

The receiving of bids for **SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377, WAIALE GULCH, ALAE (NAALAE GULCH), AND PULEHU GULCH (POHAKUOKALA) BRIDGES, DISTRICT OF MAKAWAO, ISLAND OF MAUI, FEDERAL-AID PROJECT NO. STP-0377(008)**, 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 AND TIME is October 15, 2026, 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 seismic retrofit of the Waiale Gulch, Alae, and Pulehu Gulch Bridges. Improvements include removal of debris from the piers; wrapping the piers with carbon fiber, removal of a portion of the backfill from behind the abutments

and backfilling with controlled low strength material (CLSM) and tying the abutment to the CLSM backfill; replacement of the creep blocks at the bents; pier footing upgrades; installing pavement; installing pavement markers and temporary erosion control measures; installing scour countermeasures near Alae Bridge Pier 1; and traffic control. The estimated cost of construction is between \$10,000,000.00 and \$14,000,000.00.

To be eligible for award, bidders shall possess a valid State of Hawaii General Engineering “A” license **prior to the award of contract.**

A virtual pre-bid conference is scheduled for September 22, 2026, at 10:30 a.m., HST. Interested bidders shall contact Jillian Chen, Project Manager, directly at jillian.m.chen@hawaii.gov, no later than two 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 September 25, 2026, 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.

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).

Disadvantaged Business Enterprise. The U.S. Department of Transportation Regulations entitled "Participation by Disadvantaged Business Enterprise in Department of Transportation Financial Assistance Programs", Title 49, CFR, Part 26, is applicable to this project. Bidders are hereby notified that the Department of Transportation shall enforce compliance with the applicable requirements of the Disadvantaged Business Enterprise program with respect to this project.

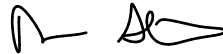
Bidders shall read the following included in the solicitation:

1. “CIVIL RIGHTS COMPLIANCE AND DISADVANTAGED BUSINESS
ENTERPRISE SPECIAL PROVISIONS”

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 Jillian Chen, Project Manager, by phone at (808) 692-8439, or by email at jillian.m.chen@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: September 15, 2026

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INSTRUCTIONS FOR CONTRACTOR'S LICENSING

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

CIVIL RIGHTS COMPLIANCE AND DISADVANTAGED BUSINESS ENTERPRISE SPECIAL PROVISIONS

I. GENERAL

This project is subject to Title 49 Code of Federal Regulations (CFR), Part 26, entitled "Participation by Disadvantaged Business Enterprise in Department of Transportation Financial Assistance Programs," hereinafter referred to as the "DBE Regulations" and is incorporated and made a part of this contract herein by this reference, as revised by the United States Department of Transportation's (USDOT) DBE Interim Final Rule (IFR) issued October 3, 2025 (hereinafter referred to as IFR). The following shall be incorporated as part of the contract documents for compliance. If any requirements herein conflict with the general provisions or special provisions applicable to this project, the requirements herein shall prevail unless specifically superseded or amended in the special provisions or by addendum.

II. POLICY

The Hawai'i Department of Transportation's (HDOT) and its political subdivision's Disadvantaged Business Enterprise (DBE) program will operate in a nondiscriminatory manner and without regard to race or sex, while maximizing efficiency of service.

Bidders/offerors, subcontractors, consultants, vendors, suppliers, distributors, manufacturers, trucking companies, service providers, etc. shall fully inform themselves with respect to the requirements of the DBE Regulations.

HDOT's DBE program remains in effect pursuant to 49 CFR Parts 23 and 26. However, consistent with the USDOT's IFR effective October 3, 2025, HDOT has suspended race-conscious measures including DBE contract goals, counting of DBE participation, and associated special provisions, pending the completion of HDOT's DBE certification reevaluation. Where indicated, HDOT reserves the right to reinstate or amend DBE special provisions at a later date, subject to approval by the appropriate USDOT operating administration.

HDOT reserves the right to reimplement, revise, or otherwise modify any reserved provisions, in whole or in part, following its reevaluation period or upon receipt of additional federal guidance. Upon such reimplementation, contractors will be notified in writing and shall comply with the updated requirements as directed by HDOT.

III. NON-DISCRIMINATION POLICY

Each contract signed with a prime contractor (and each subcontract the prime contractor signs with a subcontractor) shall include the following assurance:

"The contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26, as revised by the

DBE IFR, in the award and administration of USDOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate which may include, but is not limited to: 1) withholding monthly progress payments; 2) assessing sanctions; 3) liquidated damages; and/or 4) disqualifying the contractor from future bidding as non-responsible.”

The prime contractor agrees to include the above statements in any subsequent contracts that it enters into with other contractors and shall require those contractors to include similar statements in further agreements.

- IV. **BIDDER/OFFEROR RESPONSIBILITIES (RESERVED)**
- V. **PROPOSAL REQUIREMENTS (RESERVED)**
- VI. **COUNTING DBE PARTICIPATION TOWARDS CONTRACT GOAL (RESERVED)**
- VII. **USE OF JOINT CHECKS UNDER THE DBE PROGRAM (RESERVED)**
- VIII. **DEMONSTRATION OF GOOD FAITH EFFORTS FOR CONTRACT AWARD (RESERVED)**
- IX. **ADMINISTRATIVE RECONSIDERATION (RESERVED)**
- X. **AWARD OF CONTRACT (RESERVED)**
- XI. **REPLACEMENT OF A DBE ON A PROJECT WITH A CONTRACT GOAL (RESERVED)**
- XII. **CONTRACT COMPLIANCE**

This contract is subject to contract compliance tracking, and the prime contractor and all subcontractors are required to report payments electronically in the HDOT online Vendor Management System (hereafter referred to as “online tracking system”.) The prime contractor shall report the date payment was made by HDOT and shall report payment to all subcontractors for the audit period. The prime contractor and all subcontractors are responsible for responding by any noted response date or due date to any instructions or request for information, and to check the online tracking system on a regular basis to manage contact information and contract records.

The prime contractor is responsible for ensuring all subcontractors have completed all requested items and that their contact information is accurate and up-to-date. HDOT may require additional information related to the contract to be provided electronically through the online tracking system at any time before, during, or after contract award. Information related to contractor access of the online tracking system will be provided to designated point of contact with each contractor upon award of the contract. The online

tracking system is web-based and can be accessed at the following internet address:
<https://hdot.dbesystem.com/>.

XIII. PAYMENT

- A. HDOT will make an estimate in writing each month based on the items of work performed and materials incorporated in the work and the value therefore at the unit prices or lump sum prices set forth in the contract. All progress estimates and payments will be approximate only and shall be subject to correction at any time prior to or in the final estimate and payment. HDOT will not withhold any amount from any payment to the contractor, including retainage.
- B. The contractor shall pay all subcontractors within 10 calendar days after receipt of any progress payments from HDOT. This clause applies to all subcontractors, and all tiers of subcontracts. As per HRS § 103-10.5 Prompt payment, the contractor will verify that payment or retainage has been released to the subcontractors or its suppliers within the specified time through entries in HDOT's online tracking system during the corresponding monthly audits. Prompt payment will be monitored and enforced through the contractor's reporting of payments to its subcontractors and suppliers in the online tracking system.

Subcontractors, including lower tier subcontractors and/or suppliers will confirm the timeliness and the payment amounts received utilizing the online tracking system. Discrepancies will be investigated by the DBE Program Office and the project engineer. Payments to the subcontractors, including lower tier subcontractors, and including retainage released after the subcontractor or lower tier subcontractor's work has been completed to HDOT's satisfaction, will be reported by the Contractor or the subcontractor.

- C. When any subcontractor has satisfactorily completed its work as specified in the subcontract, and there are no bona fide disputes, the contractor shall make prompt and full payment to the subcontractor of all monies due, including retainage, within 10 calendar days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented, as required by HDOT. The contractor must obtain the prior written approval from HDOT before it can continue to withhold retainage from any subcontractor who has completed its portion of the work. This clause applies all subcontractors, and all tiers of subcontracts.

XIV. RECORDS

The contractor shall maintain and keep all records necessary for HDOT to determine compliance with the contractor's compliance obligations. The records shall be available at reasonable times and places for inspection by HDOT and appropriate Federal agencies.

The records to be kept by the contractor shall include:

1. The names, address, phone number, and contact person of consultants, subcontractors, manufacturers, suppliers, distributors, truckers and vendors;
2. The nature of work of each consultant, subcontractor, manufacturer, supplier, distributor, trucker and vendor;
3. The dollar amount contracted with each consultant, subcontractor, manufacturer, supplier, distributor, trucker and vendor; and
4. Cumulative dollar amount of all change orders to the subcontract.

XV. FAILURE TO COMPLY WITH STATED REQUIREMENTS

The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT assisted contracts. All contractors, subcontractors, manufacturers, suppliers, and distributors are hereby advised that failure to carry out all requirements specified herein shall constitute a material breach of contract that may result in termination of the contract or such other remedy as deemed appropriate by HDOT including but not limited to: 1) withholding monthly progress payments; 2) assessing sanctions; 3) liquidated damages; and/or 4) disqualifying the contractor from future bidding as non-responsible.

CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Davis-Bacon and Related Act Provisions
- IV. Contract Work Hours and Safety Standards Act Provisions
- V. Subletting or Assigning the Contract
- VI. Safety: Accident Prevention
- VII. False Statements Concerning Highway Projects
- VIII. Implementation of Clean Air Act and Federal Water Pollution Control Act
- IX. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- X. Certification Regarding Use of Contract Funds for Lobbying
- XI. Use of United States-Flag Vessels

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A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only).

I. GENERAL

1. Historically, contracting agencies using Federal-aid highway funds were required to ensure Form FHWA-1273 was physically incorporated into all contracts and subcontracts. Effective June 10, 2026, this requirement was eliminated [91 FR 25492]. Future use of Form FHWA-1273 is now optional on the part of the contracting agency using Federal-aid highway funds. FHWA continues to make Form FHWA-1273 available as a convenience to contracting agencies. Contracting agencies must continue to ensure compliance with the provisions cited in Form FHWA-1273 in accordance with the provisions regardless of the use of Form FHWA-1273. Accordingly, the contracting agency retains the authority to determine whether the contractor must use Form FHWA-1273 to physically incorporate required contract provisions in each subcontract and in lower tier contracts. Where permitted by the contracting agency, the contractor may choose other ways to include required contract provisions in each subcontract, besides incorporating Form FHWA-1273. Contract provisions in Form FHWA-1273 are not required to be physically included in subcontracts for design services on Federal-aid design-build contracts, or in purchase orders, rental agreements and other agreements for supplies or services.

The applicable provisions of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor or design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's

immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION

The contractor and all subcontractors must comply with the following policies: 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27, including any amendments thereto.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27, including any amendments thereto.

The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract.

1. Assurances Required:

a. The requirements of 49 CFR Part 26, including any amendments thereto, and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26, including any amendments thereto, in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E, including any amendments thereto, are incorporated by reference. 49 CFR Part 21.

III. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in

paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the

classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. Fringe benefits not expressed as an hourly rate. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. Unfunded plans. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. Interest. In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. Withholding requirements. The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered

necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. Priority to withheld funds. The Department has priority to funds withheld or to be withheld in accordance with paragraph 2.a. of this section or Section IV, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its repurchase costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number

of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH-347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with [29 CFR part 30](#), including any amendments thereto.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section III. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (1) through (11) of this section, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the

contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

IV. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the

Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* \$33 as of January 15, 2025 (See 90 FR 1859) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section III paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its procurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

V. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of

the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1. of this section refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph 1. of this section is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on longstanding interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however,

contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VI. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the

character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

VIII. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

IX. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the

eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers to any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered

transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

X. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XI. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the

extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS** (40 U.S.C. sections 14501(d) and 14701
and the Appalachian Regional Commission Code as
authorized under 40 U.S.C. section 14302)

This provision is applicable to all Federal-aid projects funded
under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 40 U.S.C. 14501 allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

SPECIAL PROVISIONS

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

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

“DIVISION 100 - GENERAL PROVISIONS

SECTION 101 - TERMS, ABBREVIATIONS, AND DEFINITIONS

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

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

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

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

46	ARA	American Railway Association
47		
48	AREA	American Railway Engineering Association
49		
50	ASA	American Standards Association
51		
52	ASCE	American Society of Civil Engineers
53		
54	ASLA	American Society of Landscape Architects
55		
56	ASTM	American Society for Testing and Materials
57		
58	AWG	American Wire Gauge
59		
60	AWPA	American Wood Preserver's Association
61		
62	AWS	American Welding Society
63		
64	AWWA	American Water Works Association
65		
66	BMP	Best Management Practice
67		
68	CCO	Contract Change Order
69		
70	CFR	Code of Federal Regulations
71		
72	CRSI	Concrete Reinforcing Steel Institute
73		
74	DCAB	Disability and Communication Access Board, Department of
75		Health, State of Hawaii
76		
77	DOTAX	Department of Taxation, State of Hawaii
78		
79	EPA	U.S. Environmental Protection Agency
80		
81	FHWA	Federal Highway Administration,
82		U.S. Department of Transportation
83		
84	FSS	Federal Specifications and Standards,
85		General Services Administration, U.S. Department of Defense
86		
87	HAR	Hawaii Administrative Rules
88		
89	HDOT	Department of Transportation, State of Hawaii
90		

91	HIOSH	Occupational Safety and Health, Department of Labor and
92		Industrial Relations, State of Hawaii
93		
94	HMA	Hot Mix Asphalt
95		
96	HRS	Hawaii Revised Statutes
97		
98	ICEA	Insulated Cable Engineers Association (formerly IPCEA)
99		
100	IMSA	International Municipal Signal Association
101		
102	IRS	Internal Revenue Service
103		
104	ITE	Institute of Transportation Engineers
105		
106	MUTCD	Manual on Uniform Traffic Control Devices for Streets and
107		Highways, FHWA, U.S. Department of Transportation
108		
109	NCHRP	National Cooperative Highway Research Program
110		
111	NEC	National Electric Code
112		
113	NEMA	National Electrical Manufacturers Association
114		
115	NFPA	National Forest Products Association
116		
117	NPDES	National Pollutant Discharge Elimination System
118		
119	OSHA	Occupational Safety and Health Administration/Act,
120		U.S. Department of Labor
121		
122	SAE	Society of Automotive Engineers
123		
124	SI	International Systems of Units
125		
126	UFAS	Uniform Federal Accessibility Standards
127		
128	UL	Underwriter's Laboratory
129		
130	USGS	U.S. Geological Survey
131		
132	VECP	Value Engineering Cost Proposal
133		
134		

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

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

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

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

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

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

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

Bag - 94 pounds of cement.

Barrel - 376 pounds of cement.

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

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

Bid - See Proposal.

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

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

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

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

Calendar Day - See Day.

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

Completion - See Substantial Completion and Final Completion.

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

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

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

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

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

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

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

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

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

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

Contracting Officer - See Engineer.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Subcontractor - An individual, partnership, firm, corporation, or 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:

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

549
550 **(2)** Day in which the Engineer suspends work for four or more hours
551 through no fault of the Contractor.”

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556

END OF SECTION 101

1 Make this section a part of the Standard Specifications:

2
3 **"SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS**
4

5
6 **102.01 Prequalification of Bidders.** Prospective bidders shall be capable of
7 performing the work for which they are bidding.
8

9 In accordance with HRS Chapter 103D-310, the Department may require
10 any prospective bidder to submit answers to questions contained in the 'Standard
11 Qualification Questionnaire For Prospective Bidders On Public Works Contracts'
12 furnished by the Department, properly executed and notarized, setting forth a
13 complete statement of the experience of such prospective bidder and its
14 organization in performing similar work and a statement of the equipment
15 proposed to be used, together with adequate proof of the availability of such
16 equipment. Whenever it appears to the Department, from answers to the
17 questionnaire or otherwise, that the prospective bidder is not fully qualified and
18 able to perform the intended work, the Department will, after affording the
19 prospective bidder an opportunity to be heard and if still of the opinion that the
20 bidder is not fully qualified to perform the work, refuse to receive or consider any
21 bid offered by the prospective bidder. All information contained in the answers to
22 the questionnaire shall be kept confidential. Questionnaire so submitted shall be
23 returned to the bidders after serving their purpose.
24

25 No person, firm or corporation may bid where (1) the person, firm, or
26 corporation, or (2) a corporation owned substantially by the person, firm, or
27 corporation, or (3) a substantial stockholder or an officer of the corporation, or (4)
28 a partner or substantial investor in the firm is in arrears in payments owed to the
29 State or its political subdivisions or is in default as a surety or failure to do
30 faithfully and diligently previous contracts with the State.
31

32 **102.02 Contents of Proposal Forms.** The Department will furnish
33 prospective bidders with proposal forms posted in HlePRO stating:
34

- 35 (1) The location,
36
37 (2) Description of the proposed work,
38
39 (3) The approximate quantities,
40
41 (4) Items of work to be done or materials to be furnished,
42
43 (5) A schedule of items, and
44
45 (6) The time in which the work shall be completed.
46

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 HlePRO.

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 are 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.

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

141
142 When an item in the proposal contains an option to be made, the bidder
143 shall choose in accordance with the contract for that particular item.
144 Determination of an option will not permit the Contractor to choose again.

145
146 The bidder shall sign the proposal properly in ink. A duly authorized
147 representatives of the bidder or by an agent of the bidder legally qualified and
148 acceptable to the Department shall sign, including one or more partners of the
149 bidder and one or more representatives of each entity comprising a joint venture.

150
151 When an agent, other than the officer(s) of a corporation authorized to
152 sign contracts for the corporation or a partner of a partnership, signs the
153 proposals, a 'Power of Attorney' shall be on file with the Department or submitted
154 with the proposal. Otherwise, the Department will reject the proposal as irregular
155 and unauthorized.

156
157 The bidder shall submit acceptable evidence of the authority of the
158 partner, member(s) or officer(s) to sign for the partnership, joint venture, or
159 corporation respectively with the proposal. Otherwise, the Department will reject
160 the proposal as irregular and unauthorized.

161
162 **102.07 Irregular Proposals.** The Department may consider proposals
163 irregular and may reject the proposals for the following reasons:

164
165 (1) The proposal is a form not furnished by the Department, altered, or
166 detached;

167
168 (2) The proposal contains unauthorized additions, conditions, or
169 alternates. Also, the proposal contains irregularities that may tend to
170 make the proposal incomplete, indefinite, or ambiguous to its meaning;

171
172 (3) The bidder adds provisions reserving the right to accept or reject an
173 award. Also, the bidder adds provisions into a contract before an award;

174
175 (4) The proposal does not contain a unit price for each pay item listed
176 except authorized optional pay items; and

177
178 (5) Prices for some items are out of proportion to the prices for other
179 items.

180
181 (6) If in the opinion of the Director, the bidder and its listed
182 subcontractors do not have the Contractor's licenses or combination of
183 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 103, 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 HlePRO.

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

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

If there is a conflict between the specification document and the HlePRO 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 HlePRO 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. As specified in the Notice to Bidders, all requests shall be posted as a question in HlePRO under the "Question and Answer" tab. Supporting documents for specific request shall be emailed to the Project Manager specified in the Notice to Bidders. Request must be posted in HlePRO and supporting documents received by the Project Manager by September 25, 2026.

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.

321
322 **102.15 Preferences.** Preferences shall not apply to this project.
323

324 **102.16 Certification for Safety and Health Program for Bids in excess of**
325 **\$100,000.** In accordance with HRS Chapter 396-18, the bidder or offeror, by
326 signing and submitting this proposal, certifies that a written safety and health plan
327 for this project will be available and implemented by the notice to proceed date
328 for this project. Details of the requirements of this plan may be obtained from the
329 State Department of Labor and Industrial Relations, Occupational Safety and
330 Health Division (HIOSH).
331

332 **102.17 Addenda.** Addenda issued shall become part of the contract
333 documents. Addenda to the bid documents will be provided to all prospective
334 bidders via HlePRO. Each addendum shall be an addition to the contract
335 documents. The terms and requirements of the bid documents (i.e., drawings,
336 specifications and other bid and contract documents) cannot be changed prior to
337 the bid opening except by a duly issued addendum.”
338

339
340 **END OF SECTION 102**

1 Make this section a part of the Standard Specifications:

2
3 **“SECTION 103 - AWARD AND EXECUTION OF CONTRACT**
4

5
6 **103.01 Consideration of Proposals.** The Department will compare the
7 proposals in terms of the summation of the products of the approximate quantities
8 and the unit bid prices after the submittal date and time established in HlePRO. If
9 a discrepancy occurs between the unit bid price and the bid price, the unit bid price
10 shall govern.

11
12 The “Buy America” provisions in the Surface Transportation Assistance Act
13 of 1982 is applicable to Federal-aid projects. Bidders may submit a bid based
14 upon the furnishing and use of domestic steel or foreign steel. Manufacturing
15 processes for domestic steel shall occur in the United States.

16
17 The Department reserves the right to reject proposals, waive technicalities
18 or advertise for new proposals, if the rejection, waiver, or new advertisement favors
19 the Department.
20

21 **103.02 Award of Contract.** The award of contract, if it be awarded, will be
22 made within 60 calendar days after the opening of bids, to the lowest responsible
23 and responsive bidder whose proposal complies with all the prescribed
24 requirements. The Department may request the bidders to allow the Department
25 to consider the bids for the issuance of an award beyond the 60-calendar day
26 period. Agreement to such an extension must be made by a bidder in writing. Only
27 bidders who have agreed to such an extension will be eligible for the award. No
28 response to request shall mean the bidder shall no longer be eligible for award.
29

30 **(1) Requirement for Award.** The Bidder, as proof of compliance
31 with the requirements of section 103D-310(c), HRS, upon award of a
32 contract made pursuant to section 103D-302, HRS, shall provide the
33 documents listed below. The documents shall be submitted promptly
34 to the Department. If a valid certificate/clearance is not submitted on
35 a timely basis upon award, the Bidder may be deemed non-
36 responsible. See also Subsection 108.03 – Preconstruction Data
37 Submittal.
38

39 **(A) Tax Clearance.** Pursuant to §103D-310(c), 103-53 and 103D-328,
40 HRS, the bidder shall submit a tax clearance certificate from the State of
41 Hawaii Department of Taxation (DOTAX) and the Internal Revenue Service
42 (IRS), subject to section 103D-328, HRS, current within six months of
43 issuance date.
44

45 FORM A6, TAX CLEARANCE CERTIFICATE, is available at
46 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 insure 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

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

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

STP-0377(008)
104-1a

7/17/26

(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.

The 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."

(II) 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.”

(III) Amend by adding the following **Section 104.13 Staging Area** after line 319:

“104.13 Staging Area. The Contractor shall be responsible for securing staging area(s) outside of the HDOT right-of-way. Securing a staging area includes obtaining property owners consent and all necessary permits to utilize the site.

Payment for securing staging area(s) is considered incidental to the various contract pay items."

END OF SECTION 104

1 **SECTION 105 – CONTROL OF WORK**

2
3 Make the following amendments to said Section:

4
5
6 **(I) Amend 105.01 – Authority to read as follows:**

7
8 **“105.01 Authority.**

9
10 **(A) Authority of the Engineer.** The Engineer is the representative of
11 the Director and has all the authority of the Director with respect to the
12 contract. The Engineer will make decisions on all questions that may
13 arise regarding the contract, such as, but not limited to:

14
15 **(1)** Interpretation of the contract documents.

16
17 **(2)** Acceptability of the materials furnished and work performed.

18
19 **(3)** Manner of performance and rate of progress of the work.

20
21 **(4)** Acceptable fulfillment of the contract on the part of the
22 Contractor.

23
24 **(5)** Compensation under the contract.

25
26 The Engineer's decisions on questions, claims, and disputes will be
27 final and conclusive subject to Subsection 107.15 – Disputes and Claims.

28
29 The Engineer may delegate specific authority to act for the
30 Engineer to a specific person or persons. Such delegation of authority
31 shall be established in writing and shall become effective upon delivery to
32 the Contractor.

33
34 **(B) Authority of the Inspectors.** Inspectors, as a representative of
35 the Engineer or other agencies, will inspect the work done and materials
36 furnished. Such inspection may extend to the preparation, fabrication or
37 manufacture of the materials to be used. The Inspector does not have
38 authority vested in the Engineer unless specifically delegated in writing.
39 The Inspector may not alter or waive the provisions of the contract, issue
40 instructions contrary to the contract, or act as agent or representative of
41 the Contractor.

42
43 Failure of an Inspector at any time to reject non-conforming work
44 shall not be considered a waiver of the State's right to require work in strict
45 conformity with the contract documents as a condition of final acceptance.

47 **(C) Authority of the Consultant and Construction Management.**

48 The State may engage consultants and construction managements to
49 perform duties in connection with the work. Unless otherwise specified in
50 writing to the Contractor, such retained consultants and construction
51 managements shall have no greater authority than an Inspector.”

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

55
56 **“105.02 Submittals.** The contract contains the description of various items
57 that the Contractor must submit to the Engineer for review and acceptance. The
58 Contractor shall review all submittals for correctness, conformance with the
59 requirements of the contract documents and completeness before submitting
60 them to the Engineer. The submittal shall indicate the contract items and
61 specifications subsections for which the submittal is provided. The submittal
62 shall be legible and clearly indicate what portion of the submittal is being
63 submitted for review. The Contractor shall provide six copies of the required
64 submissions at the earliest possible date.”

65
66 **(III) Amend Subsection 105.08(A) - Furnishing Drawings and Special**
67 **Provisions** to read as follows:

68
69 **“(A) Furnishing Drawings and Special Provisions.** The State will
70 furnish the Contractor an electronic set of the special provisions and
71 plans. The Contractor shall have and maintain at least one set of plans
72 and specifications on the work site at all times.”

73
74 **(IV) Amend Subsection 105.14(D) – No Designated Storage Area** from lines
75 421 to 432 to read as follows:

76
77 **“(D) No Designated Storage Area.** If no storage area is designated
78 within the contract documents, materials and equipment may be stored
79 anywhere within the State highway right-of-way, provided such storage
80 and access to and from such site, within the sole discretion of the
81 Engineer, does not create a public or traffic hazard or an impediment to
82 the movement of traffic.”

83
84 **(V) Amend 105.16(A) – Subcontract Requirements** by adding the following
85 paragraph after line 483:

86
87 “The 'Specialty Items' of work for this project are as follows:

89	Section	Description
90	No.	
91		
92	301	All Contract Items under Section 301 – Hot Mix and Asphalt
93		Course
94		
95	401	All Contract Items under Section 401 – Hot Mix Asphalt
96		Pavement
97		
98	629	All Contract Items under Section 629 - Pavement Markings
99		
100	645	Contract Item No. 645.1000 under Section 645 – Work Zone
101		Traffic Control”
102		

103 **(VI)** Amend **Subsection 105.16(B) – Substituting Subcontractors** from line
104 487 to line 494 to read:

105
106 **“(B) Substituting Subcontractors.** Under HRS Chapter 103D-302, the
107 Contractor is required to list the names of persons or firms to be engaged
108 by the Contractor as a subcontractor or joint contractor in the performance
109 of the contract. No subcontractor may be added or deleted, unless
110 authorized by the Engineer. Substitutions will be allowed only if the
111 subcontractor:”

112
113
114 **END OF SECTION 105**

1 Make the following amendments to said Section:

2
3 **SECTION 106 – MATERIAL RESTRICTIONS AND REQUIREMENTS**
4
5

6 **(I)** Amend **106.04 – Material Sample** by revising lines 87 and 88 to read as
7 follows:

8
9 “For Sampling and Testing Guide for Acceptance and Verification (dated
10 July 2023), see Attachment 1 of Section 106.”
11

12 **(II)** Amend **106.05(B) – Deviations** by revising the third sentence from line 106
13 to 108 to read as follows:

14
15 “Any deviations will be subject to Subsection 102.14 – Substitution of
16 Materials and Equipment Before Bid Opening.”
17

18 **(III)** Replace **106.11 – Steel and Iron Construction Material** lines 238 through
19 277 with the following:

20
21 **“106.11 Domestic Materials Procurement Preference.** Federal-aid contracts
22 are subject to the Domestic Materials Procurement Preference, as established by
23 the Buy America Act (1978 Surface Transportation Assistance Act) and the Build
24 America, Buy America (BABA) Act (2021 Infrastructure Investment and Jobs Act).
25 This requirement applies to the following categories of products and materials that
26 are permanently incorporated into the project.
27

28 **(1)** Iron or Steel Products, 23 CFR § 635.410 (Buy America).
29

30 **(2)** Construction Materials, 2 CFR Part 184 (BABA).
31

32 **(3)** Manufactured Products, 23 CFR § 635.410 (Buy America).
33

34 **(4)** Other materials, including BABA Section 70917(c) materials.
35

36 An article, material, or supply should not be considered to fall into multiple
37 categories, except for precast concrete products and ITS and electronic hardware
38 system cabinets and enclosures which are designated as falling into 2 categories:
39 Manufactured Products and Steel or Iron in accordance with 23CFR
40 635.410(c)(2)(i) and (ii) and 106.11(C). The classification of an article, material, or
41 supply into the categories must be based on its status at the time it is brought to
42 the work site for incorporation into an infrastructure project. In general, the work
43 site is the location of the infrastructure project at which the iron, steel,
44 manufactured products, and construction materials will be incorporated.
45

(A) Iron and Steel Products. For Federal-aid projects, steel and iron products permanently incorporated into the project shall be melted and manufactured in the United States in accordance with 23 CFR § 635.410 Buy America Requirements.

Steel or iron products means articles, materials, or supplies that consist wholly or predominantly of iron or steel or a combination of both and the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product, and a good faith estimate of the cost of iron or steel components.

Manufacturing includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (cutting, drilling, welding, bending, etc.) and coating. Coating includes epoxy coating, galvanizing, aluminizing, painting, and any other coating that protects or enhances the value of steel or iron.

(B) Construction Materials. Construction materials mean articles, materials, or supplies that consist of only one of the items listed below, except as provided in Subsection 106.11(C) – Manufactured Products subparagraphs (1) and (2). All manufacturing processes, as defined in 23 CFR § 184.6 for these construction materials, must occur in the United States.

- (1)** Non-ferrous metals.
- (2)** Plastic and polymer-based products such as:
 - (a)** Polyvinylchloride.
 - (b)** Composite building materials.
 - (c)** Polymers used in fiber optic cables.
- (3)** Glass (including optic glass).
- (4)** Fiber optic cable (including drop cable).
- (5)** Optical fiber.
- (6)** Lumber.
- (7)** Engineered wood.

92
93 **(8)** Drywall.

94
95 BABA Section 70917(c) materials, as defined in 2 CFR § 184.3, do
96 not require domestic sourcing or domestic material certification. BABA
97 Section 70917(c) materials means:

98
99 **(1)** Cement and cementitious materials.

100
101 **(2)** Aggregates such as stone, sand, or gravel.

102
103 **(3)** Aggregate binding agents or additives.

104
105 **(C) Manufactured Products.** Buy America requirements apply to
106 manufactured products. Manufactured products are defined as articles,
107 materials, or supplies that have been processed into a specific form and
108 shape or combined with other articles, materials, or supplies to create a
109 product with different properties than the individual articles, materials, or
110 supplies. For Federal-aid projects, all manufactured products must be
111 produced in the United States.

112
113 For projects let on or after October 1, 2025, manufactured products
114 shall be manufactured, including final assembly, in the United States.

115
116 For projects let on or after October 1, 2026, manufactured products
117 shall be manufactured, including final assembly, in the United States. The
118 cost of the components of the manufactured product that are mined,
119 produced, or manufactured in the United States shall be greater than 55
120 percent of the total cost of all components of the manufactured product.

121
122 **(1)** Precast Concrete – Precast Concrete products that are
123 classified as manufactured products, components of precast
124 concrete products that consist wholly or predominantly of iron or steel
125 or a combination of both, shall also meet the requirements of
126 Subsection 106.11(A) – Iron and Steel Products.

127
128 **(2)** Intelligent Transportation and Electronic Hardware Systems –
129 Intelligent transportation systems and other electronic hardware
130 systems that are installed in the highway right of way or other real
131 property and classified as manufactured products. The cabinets or
132 other enclosures of such systems that consist wholly or
133 predominantly of iron or steel or a combination of both shall also
134 meet the requirements of Subsection 106.11(A) – Iron and Steel
135 Products.

137 **(D) Contractor Domestic Materials Preference (DMP) Form.** The
138 Prime Contractor shall provide a Contractor Domestic Materials Preference
139 Form using the E-Construction platform. A DMP form must be submitted for
140 iron, steel, construction materials, and manufactured products delivered to
141 the project and permanently incorporated into the work. The Prime
142 Contractor shall provide supporting documentation to assure the article,
143 material, or supply meets the Domestic Materials Procurement Preference
144 requirements as established in the Buy America Act (1978 Surface
145 Transportation Assistance Act) and the Build America, Buy America (BABA)
146 Act (2021 Infrastructure Investment and Jobs Act).”
147
148



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS

Contractor Domestic Materials Preference (DMP) Form
(Required by Subsection 106.11)

Project Name:	
Project Number:	
Prime Contractor:	

Type of Material: ☐ Iron or Steel Product ☐ Construction Material ☐ Manufactured Product
Specify Main Type of Construction Material: ☐ Non-ferrous Metal ☐ Plastic & polymer-based products
☐ Glass ☐ Fiber optic cable ☐ Optical fiber ☐ Lumber ☐ Engineered wood ☐ Drywall

Description of Material or Product:

Pay Item No.:
Pay Item Name:
Description:

The following certification establishes the acceptance of materials or products according to the Contract Provisions, 2 CFR Part 184 and 23 CFR § 635.410.

- ☐ **Iron or Steel Product:** The materials furnished under this certification were produced in the United States, including all manufacturing processes, from the initial melting stage through the application of coatings.
- ☐ **Construction Material:** All manufacturing processes for the materials furnished under this certification occurred in the United States.
- ☐ **Manufactured Product:** The products furnished under this certification were produced in the United States.

The Prime Contractor shall provide supporting documentation to assure the article, material, or supply meets requirements. I understand that submitting false statements and/or information may result in civil and criminal penalties.

Prime Contractor's Authorized Representative Signature	Date
Printed Name	Title

*****NOTE***** Contractor DMP Form must be filled out in ACC and submitted in ACC Forms module. Reference the form in the materials submittal.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS

Domestic Materials Reference Guide

Iron and Steel Products

- "Produced in the United States" means all manufacturing processes — from initial melting through application of coatings — must occur within the United States.

Construction Materials

For the materials listed below, all manufacturing processes must take place in the United States:

1. Non-Ferrous Metals (e.g., aluminum, copper): Smelting, melting thru shaping, coating, and assembly must all occur in the U.S.
2. Plastic and Polymer-Based Products: Every step — from mixing the raw plastic materials all the way to creating the final product — must occur in the U.S.
3. Glass: From raw material melting through annealing, cooling, and cutting, all processes must occur the U.S.
4. Fiber Optic Cable (including drop cable): All steps — starting with ribboning (if needed), then buffering, stranding the fibers together, and adding the outer jacket must occur in the US. Plus, the fiber optic cable must also meet the same U.S. manufacturing standards for making glass and optical fiber, but it doesn't have to follow the standards for non-ferrous metals, plastics and polymer- based products, or any others.
5. Optical Fiber: From the first step of making the preform (the solid glass rod) all the way through pulling it into thin fiber (the "draw" process), all must occur in the U.S.
6. Lumber: From debarking through treatment and planing, all processes must occur in the U.S.
7. Drywall: Blending gypsum and additives through panel cutting and drying must occur in the U.S.
8. Engineered Wood Products: Combining materials and creating the final form must occur in the U.S.

Manufactured Products

To qualify as "produced in the United States," two conditions must be met:

1. The product must be manufactured (including final assembly) in the U.S.
2. The cost of U.S.-mined, produced, or manufactured components must be greater than 55% of the total cost of all components.

Component cost determination:

- Purchased components: Includes purchase price, transport to manufacturing site, and duties.
- Manufacturer-made components: Include all production and transport costs (excluding profit).

Important Dates:

- For projects let on or after October 1, 2025: Products must be manufactured (including final assembly) in the U.S.
- For projects let on or after October 1, 2026: Products must meet both the U.S. manufacturing requirement and the greater than 55% U.S. components cost requirement. This means the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States shall be greater than 55 percent of the total cost of all components of the manufactured product.

NOTE Contractor DMP Form must be filled out in ACC and submitted in ACC Forms module. Reference the form in the materials submittal.

SAMPLING AND TESTING GUIDE FOR ACCEPTANCE AND VERIFICATION - Bituminous (HWY-LB)

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
01. ASPHALT CONCRETE	301, 401						
A. Asphalt Binder	702.01	1 every 6 months for each source/ asphalt plant	If less than 250 tons of asphalt concrete mix per project, Certificate of Compliance with test results	QC every 3 months, verification every 6 months	Plant line	2 qts.	
B. Aggregate	703.09						
(1) Gradation		1 per approximately every 1,000 tons of asphalt concrete mix	If less than 150 tons per project, visual inspection	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Plant conveyor belt, stockpile, or ignition oven	Approximately 10 lbs.	
(2) Sand Equivalent		1 per approximately every 2,500 tons of asphalt concrete mix	If less than 150 tons per project, none	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Plant conveyor belt or stockpile	Approximately 10 lbs.	
(3) Los Angeles Abrasion, Flat & Elongated Pieces, Absorption		1 per year per source, minimum	N/A	1 per year per source	Plant conveyor belt or stockpile	Approximately 30 lbs.	
(4) Complete Aggregate Test		When new source is proposed for use or when aggregate changed	N/A	When new source is proposed for use or when aggregate changed	Plant conveyor belt/ stockpile	Approximately 200 lbs.	
C. Uncompacted AC Mixture For Specific Gravity	301, 401	1 per approximately every 500 tons of asphalt concrete mix, minimum 1 per day	If less than 150 tons per project, none.	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	From jobsite roadway or off truck bed	Approximately 7 lbs.	
D. Uncompacted AC Mixture For Asphalt Content & Design Check	401	1 per approximately every 7,500 tons of asphalt concrete mix	If less than 150 tons per project, none	1 per project minimum	Plant - Off truck bed	Approximately 40 lbs.	
E. Compacted AC Cores (Mat)	301, 401	1 per approximately every 250 tons of asphalt concrete mix, minimum 3 per day	If less than 150 tons per project, none.	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - Pavement	4 in. diameter cores	
F. Compacted AC Cores (Joint)	401	1 per approximately every 1,500 lineal feet of paving on the second side of joint, minimum 1 per day	If less than 150 tons per project, none.	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - Pavement	6 in. diameter cores	
G. Joint Adhesive	401	Certificate of Compliance with test results, 1 per manufacturer batch, approximately every 6 months, min 1 per project	If less than 250 tons of asphalt concrete mix per project, Certificate of Compliance with test results	1 per project minimum	Jobsite - From application wand	1 qt.	
02. TACK COAT	407 702.04	1 per source, approximately every 3 months	If less than 250 tons of asphalt concrete mix per project, Certificate of Compliance with test results	1 per project minimum	Supplier's Plant - Storage tank before dilution	1 gal.	

Attachment 1

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
03. SLURRY SEAL	404						
A. Asphalt Emulsion	702.04	1 per project	If less than 500 gals. per project, Certificate of Compliance with test results	1 per project minimum	Storage tank at jobsite	2 gals	
B. Aggregate	703.11						
(1) Gradation		1 per approximately every 20,000 yd ² slurry seal	If less than 2,500 yd ² per project, visual inspection.	1 per project minimum	Jobsite	Approximately 10 lbs.	
(2) Sand Equivalent		1 per approximately every 50,000 yd ² slurry seal	If less than 2,500 yd ² per project, none	1 per project minimum	Jobsite	Approximately 5 lbs.	
04. UNTREATED PERMEABLE BASE	306						
A. Primer For Permeable Base Course	420 702.04	1 per source, approximately every 3 months (See Note 3)	If less than 500 gals. per project, Certificate of Compliance with test results	1 per project minimum	Storage tank before dilution	1 gal.	
05. PAVING FABRIC	412						
A. Asphalt Binder	702.01	Certificate of Compliance with test results (See Note 3)	N/A	N/A			
06. WATERPROOFING ASPHALT	503 705.06	Certificate of Compliance with test results	N/A	N/A			
07. WATERPROOFING PRIMER	503 705.06	Certificate of Compliance with test results	N/A	N/A			
08. ASPHALT SATURATED FABRIC	503 705.06	Certificate of Compliance with test results	N/A	N/A			
09. TRAFFIC PAINT	629 755.01	Certificate of Compliance with test results	N/A	N/A			
10. PAVEMENT MARKER BITUMINOUS ADHESIVE	629 755.03	Certificate of Compliance with test results, 1 per lot of markers	If less than 100 markers per project, Certificate of Compliance with test results	1 per project minimum		1/2 box per lot	
11. THERMOPLASTIC	629 755.05	Certificate of Compliance with test results	N/A	N/A			
12. PAVEMENT MARKING TAPE	629 755.04	Certificate of Compliance with test results	N/A	N/A			

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
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SAMPLING AND TESTING GUIDE FOR ACCEPTANCE AND VERIFICATION - Geotechnical (HWY-LG)

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
13. CUT SUBGRADE	203						
A. Gradation, Sand Equivalent, Proctor	203	1 per soil type	If less than 2500 ft ² per project, visual inspection,	1 per project	Jobsite - On roadbed	220 lbs.	
B. Compaction (See Note 6G)		Visual inspection and/or probe rod to determine stiffness of subgrade. Minimum of 1 field density compaction test per soil type, if determined necessary by the Engineer (HDOT).	If less than 2500 ft ² per project, visual inspection,	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
14. EMBANKMENT FILLS & IMPORT BORROW	203						
A. Gradation, Sand Equivalent, Proctor	203	1 per soil type, approximately every 1,500 yd ³	N/A	1 per project	Jobsite - On roadbed	220 lbs.	
B. Compaction (See Note 6G)		1 every other lift per 10,000 yd ²	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
15. STRUCTURAL BACKFILL	206						
A. Gradation, Proctor	703.20	1 per approximately every 1,500 yd ³ per type, per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. Sand Equivalent	703.20	1 per source per year	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	50 lbs.	
C. Compaction (See Note 6G)	206	1 every other lift per 1,000 ft ²	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
16. TRENCH BACKFILL AND BED COURSE	206						
A. BED COURSE Gradation	703.17	1 per approximately every 1,500 yd ³ (or 2,000 tons), but not less than 1 per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. BED COURSE L.A. Abrasion	703.17	1 per material source per year	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	50 lbs.	
A. TRENCH BACKFILL Gradation, Proctor; Resistivity & pH as Required	703.21	1 per approximately every 1,500 yd ³ per type, per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. TRENCH BACKFILL Sand Equivalent	703.21	1 per material source per year	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	50 lbs.	

Attachment 1

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
C. TRENCH BACKFILL Compaction (See Note 6G)	206	1 every other lift per 300 lin. ft	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
17. AGGREGATE BASE COURSE	304						
A. Gradation, Plasticity Index, Proctor	703.06	1 per approximately every 1,500 yd ³ (or 2,000 tons) per material source but not less than 1 per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. Sand Equivalent, L.A. Abrasion, Flat & Elongated Pieces, Crushed Particles	703.06	1 per material source per year	N/A	1 per material source	Jobsite - On roadbed	100 lbs.	
C. Compaction (See Note 6G)	304	1 every other lift per 1,000 ft ²	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
18. AGGREGATE SUBBASE	305						
A. Gradation, Plasticity Index, Proctor	703.17	1 per approximately every 1,500 yd ³ (or 2,000 tons), but not less than 1	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. Sand Equivalent	703.17	1 per material source per year	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	50 lbs.	
C. Compaction (See Note 6G)	305	1 every other lift per 1,000 ft ²	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
19. UNTREATED PERMEABLE BASE	306						
B. Coarse Aggregate and Filler	703.04						
(1) Gradation		1 per approximately every 2,500 yd ³ (or 3,000 tons) per material source per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
(2) L.A. Abrasion, Flat & Elongated Pieces		1 per material source per year	N/A	1 per material source	Jobsite - On roadbed	220 lbs.	
20. PAVING FABRIC	412						
A. Paving Fabric	716.04	Certificate of Compliance and Certified test results	N/A	N/A			
21. UNDERDRAINS	605						
A. Perforated/Unperforated Pipe	706.12	Certificate of Compliance	N/A	N/A			
B. Permeable Separator	716.03	Certificate of Compliance	N/A	N/A			
C. Crushed Rock							
(1) Gradation, L.A. Abrasion	605 703.04	1 per 3,000 tons	If less than 500 tons per project, Certificate of Compliance	1 per project	Jobsite - On roadbed	150 lbs.	
22. GEOSYNTHETICS	412, 605 648, 716	Certificate of Compliance	N/A				

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
23. PLANTING SOIL	617						
A. Designation (USDA Classification)		1 per source of planting soil	N/A	N/A	Jobsite	50 lbs.	

SAMPLING AND TESTING GUIDE FOR ACCEPTANCE AND VERIFICATION - Structural (HWY-LS)

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
24. CONCRETE (PAVEMENT, STRUCTURAL AND MISCELLANEOUS)							
A. Cement (See Note 3)	701	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd ³ of concrete placed or as required for control	If concrete is used for incidental construction, Certificate of Compliance	N/A	Weigh hopper or in the feed line immediately in advance of the hopper or as determined by Central Laboratory	Approximately 30 lbs.	
B. Aggregate (See Note 3)	703.01						
(1) Fine & Coarse Aggregate	703.02						
(a) Gradation		1 for approximately every month or 1,000 yd ³ of concrete placed or as required for control	(See Note 4S)	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Stockpile/(See Note 5S)	Approximately 50 lbs. (C.A.) (1 ea. 1/2 bag) 10 lbs. (F.A.) (1 ea. 1/5 bag)	
(b) Specific Gravity		When aggregate changed or as required for source information	N/A	N/A	Stockpile/(See Note 5S)	Approximately 10 lbs. (C.A.) (1 ea. 1/5 bag) 5 lbs. (F.A.) (1 ea. 1/5 bag)	
(c) Moisture		As required for information	N/A	N/A	Stockpile/(See Note 5S)	5 lbs. (C.A.) (1 ea. 1/5 bag)	
(2) Coarse Aggregate							
(a) Clay Lumps and Friable Particles; L.A. Abrasion; and Flat and Elongated Pieces		When aggregate changed or approximately once a year	N/A	N/A	Stockpile/(See Note 5S)	Approximately 200 lbs. (4 ea. 1/2 bag)	
(3) Fine Aggregate							
(a) Sand Equivalent		If required, 1 for approximately every month or 3,000 yd ³ of concrete placed or as required for control	(See Note 4S)	When required, 1 per 5,000 yd ³	Stockpile/(See Note 5S)	Approximately 5 lbs. (1 ea. 1/5 bag)	
(b) Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only		When aggregate changed or approximately once a year	N/A	N/A	Stockpile/(See Note 5S)	Approximately 50 lbs. (1 ea. 1/2 bag)	

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
(4) Complete		When new source is proposed for use or when aggregate changed	N/A	N/A	Stockpile / (See Note 5S)	Annual or Start of a Project. Approximately 200 lbs. (C.A.) (4 ea. 1/2 bag) 100 lbs. (F.A.) (2 ea. 1/2 bag)	
C. Water (See Note 3)	712.01	1 per source. (Obviously suitable source as drinking water requires no sampling)	N/A	N/A	At point of use	Approximately 3 gals. - Use glass or plastic jugs w/ lined sealed lids	
D. Admixture	711	When admixture is initially used in state work, Certificate of Compliance with test results	If previously used in other state work, Certificate of Compliance	N/A			Current Certificate of Compliance with test results dated within 1-year from the date of the approved concrete design.
25. CONCRETE (PAVEMENT, STRUCTURAL AND MISCELLANEOUS) CONT'D							
E. Concrete Mixture - Pavements	411						
(1) Compressive Strength (14-days)	601	1 set per half day or as required for control	1 set per half day of pour or as required for control.	1 per project	At point concrete deposited in the work	1 set of 3 - 4"x8" cylinders	
(2) Flexural Strength (14-days) and as required by Central Laboratory		1 set per half day or as required for control	1 set per half day of pour or as required for control. Cylinder samples only If less than 50 yd ³ total per project (approximately 2 buspads.)	1 per project.	At point concrete deposited in the work	1 set of 2 - 6"x6"x 21" beams (4"x8" cylinders per design mix after sampling beams on 3 consecutive pour dates and satisfactory flexural strength.) See Remarks.	Sample cylinders and beams for 3 consecutive pour days. Correlate compressive to flexural strength. Subsequent sampling with cylinders only unless otherwise specified.
(3) Yield, Cement Factor, and Unit Weight (See Note 3)		As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project		When yield test used for payment, 1 per project	At point concrete deposited in the work		
(4) Slump Test		When test specimen are fabricated or when consistency or uniformity is questionable	When test specimen are fabricated or when consistency or uniformity is questionable	1 per project (Observation)	At point concrete deposited in the work		
(5) Entrained Air		When entrained air is specified, 1 approximately every 300 yd ³ or as necessary for control or as required for control.	N/A	When entrained air is specified, 1 per project	At point concrete deposited in the work		

Attachment 1

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
F. Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	503 504 507						
(1) Compressive Strength (28 days)	508 511 601	1 set for approximately 300 yd ³ of concrete placed for concrete specified by class (< 4000 psi); 1 set for each 150 yd ³ and fractional thereof placed on any day or as required for acceptance for concrete specified by strength (≥ 4000 psi)	1 set per day of pour	1 per project	At point concrete deposited in the work	1 set of 3 - 4"x8" cylinders	
(2) Yield, Cement Factor, and Unit Weight (See Note 3)		As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project	N/A	When yield test used for payment, 1 per project	At point concrete deposited in the work		
(3) Slump Test		When test specimen fabricated or when consistency or uniformity is questionable	When test specimen are fabricated or when consistency or uniformity is questionable	1 per project (Observation)	At point concrete deposited in the work		
(4) Entrained Air		If entrained air is specified, 1 approximately every 300 yd ³ or as necessary for control or as required for control	N/A	When entrained air is specified, 1 per project	At point concrete deposited in the work.		
G. Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction including Controlled Low Strength Material (CLSM), Non-Shrink Grout and Mortars).	314 601 604 607						
(1) Compressive Strength (28 days)	608 609 610 621 622 623 640 649 712.04	1 set for each day when volume exceeds 25 yd ³ or as required for acceptance for concrete and grout specified by strength (> 4000 psi)	Concrete - Sample not required if total volume is less than 25 yd ³ in one day. For pour on separate days, sample per accumulative 100 yd ³ Grout -- No sample if total volume is less than 1 yd ³ in one day. Contact the Central Lab for accumulated volumes > 1 yd ³ .	1 per project. When total days run less than 25 yd ³ , none	At point concrete deposited in the work	Concrete - 1 set of 3 - 4"x8" cylinders. CLSM - 1 set of 2 - 6"x12" cylinders. Grout - 1 set of 3 - 2"x2" cubes.	CLSM - Store 6"x12" cylinders on site for 4-days. Deliver to the Lab in molds and Do not strip. (ASTM D4832 and D5971). Grout - Follow ASTM C109 or C1107 or Contact Central Lab for sampling method.
(2) Yield, Cement Factor, and Unit Weight (See Note 3)		As necessary to assure accuracy of mix design or as necessary for control	N/A	If yield test used for payment, one (1) per project	At point concrete deposited in the work		
(3) Slump Test		When test specimen are fabricated or when consistency or uniformity is questionable	N/A	1 per project (Observation)	At point concrete deposited in the work		

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
(4) Entrained Air		When entrained air is specified, 1 approximately every 300 yd ³ or as required for control	N/A	When entrained air is specified, 1 per project	At point concrete deposited in the work		
26. CEMENT TREATED PERMEABLE BASE	309						
A. Cement (See Note 3)	701	Accepted by manufacturer's or supplier's Certificate of Compliance supplemented with check testing. Check sample for approximately every 5,000 yd ³ of concrete placed or as required for control	N/A	N/A	Weigh hopper or in the feed line immediately in advance of the hopper or as determined by Central Laboratory	Approximately 30 lbs.	
B. Aggregate (See Note 3)	703.02	1 per day or as required for control	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	(See Note 5S)	Approximately 250 lbs.	
27. CURING COMPOUND	411, 503 711.01	Certificate of Compliance	N/A	N/A			
28. JOINT FILLER	411, 503 705.01	Certificate of Compliance	N/A				
29. JOINT SEALER	411, 503 705.04	Certificate of Compliance	N/A	N/A			
30. RUBBER STOP	503 705.07	Certificate of Compliance	N/A	N/A			
31. METAL GUARDRAIL	606 710.04	Certificate of Compliance and Certified test results	N/A	N/A			
32. GUARDRAIL HARDWARE	710.08	Certificate of Compliance and Certified test results	N/A	N/A			
33. BRIDGE RAILINGS AND POST	507 710.09, 710.10	Certificate of Compliance and Certified test results	N/A	N/A			
34. NEOPRENE BEARING PAD	503 712.09	Certificate of Compliance and Certified test results	N/A	N/A			
35. VITRIFIED CLAY PIPE	625 706.08	Certificate of Compliance	N/A	N/A			
36. REINFORCED CONCRETE GUARDRAIL POST	606 710.06	Certificate of Compliance and Certified test results	N/A	N/A			
37. PAVEMENT MARKERS	629 755.02	Certificate of Compliance with Certified test results and 1 sample per batch. For Reflective Markers which conforms to ASTM D4280 Certificate of Compliance with Certified test results.	If less than 100 markers per project, Certificate of Compliance with Certified test results	1 for every 25,000 or less or 1 per batch	Jobsite or source	10 for non-reflective markers and 6 for reflective markers	
38. PAVEMENT MARKERS EPOXY	629 755.03	Certificate of Compliance	NA	NA			
39. PLASTIC (PVC) PIPE	625 706.09	Certificate of Compliance and Certified test results	N/A	N/A		PVC Pipe for sewer system. See Item 53 for Conduit, Electrical	

Attachment 1

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
40. WOVEN FENCE	607 710.02	Certificate of Compliance and Certified test results	N/A	N/A			
41. CONCRETE PIPE	603 706.02 706.17	Certificate of Compliance. 1 joint length for approximately every 50 joint lengths for 3 edge bearing load test. Inspected at plant and released by Central laboratory	If less than 100 lin. ft. per project, Certificate of Compliance		Strength tests usually performed at plant		
42. CORRUGATED METAL PIPE	603 707.02 707.03	Visual, accepted by manufacturer's or supplier's Certificate of Compliance. Inspected at plant and released by Central Laboratory		N/A	At fabrication point or at time of use		
43. REINFORCING STEEL	504 602 610 709.01	Sample each size up to Bar Size #8 for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. Bar Sizes #9 and larger are approved by fabricator's certified analysis (Certification of Compliance).	If less than 200 lbs. per project, Certificate of Compliance		Jobsite or source	3 specimen 36" long	Manufacturer's imprinted markings on samples must match certificate of compliance or fabricator's certified analysis
44. WIRE MESH REINFORCEMENT	602 709.01	Certificate of Compliance with Certified test results and 1 sample per type per lot	If less than 200 lbs. per project, Certificate of Compliance		Jobsite	3 feet x 3 feet from flat sheet	Flat sheet is required 709.01(C)
45. WIRE ROPE OR CABLE	709.02	Certificate of Compliance with Certified test results and 1 sample per type per lot	1 set per project	1 set per project	Jobsite	2 strands 4 ft. long	
46. STRUCTURAL PLATE ARCHES	707.08	Certificate of Compliance		N/A			
47. PRE-STRESSED STRANDS	504 709.03	Certificate of Compliance with Certified test results and 1 sample per type per lot	1 set per project	1 set per project	Jobsite	2 strands 4 ft. long	
48. STEEL PRODUCTS	602.02	Certificate of Compliance and Certified test results	N/A	N/A			
49. BARB WIRE	607 710.01	Certificate of Compliance	N/A	N/A			
50. BOLTS & HARDWARE	713.01 713.03 713.04	Certificate of Compliance and Certified test results	N/A	N/A			
51. BRICK	704	Certificate of Compliance	N/A	N/A			

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
52. CHAIN LINK FENCE	607						
A. Fabric	722	Certificate of Compliance and 1 sample per lot or per project	If less than 200 ft ² per project, Certificate of Compliance	1 sample per project or 1 sample per lot	Jobsite	3 ft. length, full height	
B. Posts		Certificate of Compliance and 1 sample per lot or per project	If less than 30 lin. ft. per project, Certificate of Compliance	1 sample per project or 1 sample per lot	Jobsite	12 inch length section taken from each end of one full length post. Total of 2 sections per post	
C. Tension Wire		Certificate of Compliance and 1 sample per lot or per project	If less than 100 lin. ft. per project, Certificate of Compliance	1 per sample per project or 1 sample per lot	Jobsite	3 ft. length	
D. Tie Wire		Certificate of Compliance and 1 sample per lot or per project	If less than 25 lbs. per project, Certificate of Compliance	1 sample per project or 1 sample per lot	Jobsite	3 ft. length	
E. Fittings		Certificate of Compliance	N/A	N/A			

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MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
53. CONDUITS	616.02, 622, 623, 712.27						
A. Steel Conduit		Certificate of Compliance and Certified test results	N/A	N/A			
B. Plastic Conduit		Certificate of Compliance	N/A	N/A			
C. Liquid-tight Flexible Metal Conduit and Fittings		Certificate of Compliance	N/A	N/A			
D. Rigid Steel Conduit PVC Coated		Certificate of Compliance	N/A	N/A			
54. ELECTRICAL CONDUCTOR WIRES AND CABLES	616.02, 622, 623, 760.04, 770.06	Certificate of Compliance and manufacturer's specifications	N/A	N/A			
55. PLANTING, SEED	619, 641	Certificate of Compliance, seed specifications, and Certified test results	N/A	N/A			
56. PRESERVATIVES FOR TIMBER	502 714.02	Certificate of Compliance and manufacturer's specifications	N/A	N/A			

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
57. SIGN POSTS - SQUARE TUBE, CHANNEL, SQUARE TUBE	630, 631, 632, 645, 750.02	Certificate of Compliance and Certified test results	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
58. SIGN AND ROUTE MARKER FASTENERS	630, 631, 632, 645, 750.03	Certificate of Compliance and Certified test results	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
59. SHEET ALUMINUM BACKING	630, 631, 632, 645, 750.01	Certificate of Compliance and Certified test results	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
60. RETROREFLECTIVE SHEETING AND REFLECTIVE MARKERS	630, 631, 632, 645, 750.01, 750.07	Certificate of Compliance and manufacturer's specifications/ designer's approval	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
61. LIGHT POLES	622, 760.01						
A. Aluminum poles with anchor base and bolts	622, 718.01, 760.01	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
B. Wood Poles	622, 714.02, 760.01	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
62. LUMINAIRE MAST ARM	622, 760.02	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
63. LUMINAIRES FOR ROADWAY, UNDERPASS, SIGN, AND PEDESTRIAN STAIRWAY LIGHTING	622, 760.03	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
64. PHOTOELECTRIC CONTROL UNIT FOR ROADWAY LIGHTING SYSTEMS	622, 760.07	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.

Attachment 1

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
65. TRAFFIC SIGNAL STANDARDS	623, 770.01						
A. Type I: Shaft, anchor base and bolts	623, 718.01, 770.01	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
B. Type II: Mast arm, shaft, anchor base and bolts	623, 718.01, 760.03	Designer Approval, Certificate of Compliance	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
66. TRAFFIC SIGNAL HEADS	623, 770.02	Designer's Approval, Certificate of Compliance, manufacturer's specifications,	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
67. CONTROLLER EQUIPMENT	623, 770.05	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
68. FIBER OPTIC CABLE	647.02	Certificate of Compliance /Designer Approval	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
68. DETECTABLE WARNINGS	650.03	Certificate of Compliance, manufacturer's specifications, and designer's approval	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.

- Note 1. Specification Nos. shown are the common references encountered in most construction projects. For non-standard items, consult the Materials Testing & Research Branch.
- Note 2. Sampling and testing performed by the State or County to validate contractor test data when Contractor Quality Control sampling and testing are used in the Materials Acceptance Program. This is allowed only when specified in the contract documents and approved by FHWA for federal aid projects. When the Contractor Quality Control (QC) test data is utilized by HDOT or its designated agent in the acceptance determination, HDOT or its designated agent shall perform verification sampling and testing. The Contractor's QC sampling and testing frequency shall not be less than the acceptance sampling and testing frequency. The verification testing by HDOT or its agent should be performed at a frequency of 1 to 1 for the first 5 QC tests, and not less than 10 percent of the acceptance frequency in the quality assurance plan thereafter. If statistical comparisons of the QC test data against HDOT or its agent's test data indicates dissimilarity, the verification sampling and testing frequency should revert back to 1 to 1.
- Note 3. Not required if the same source is being used on other projects and test is being made. Not necessary to duplicate the test for the sake of the record. The actual test results may be used anywhere they are applicable. (Established Source with Acceptable Quality Control/System Basis)
- Note 4S. When gradation is being determined by a qualified plant technician at the plant, the guide schedule for gradation and sand equivalent as sampled by the plant inspector may be reduced to approximately 1/5. However, the schedule should be supplemented with the contractor's quality control results.
- Note 5S. One of the following locations listed in order of preference: (a) Belt from weigh hopper to central or transit mixer; (b) Belt which feeds batch plant bins immediately preceding the weigh hopper, (c) Discharge gate of weigh hopper, (d) Discharge gates of bins feeding the weigh hopper at the batch plant. The location and method of sampling are to be determined and agreed upon by the Engineer and the Contractor. Once selected, the location and method of sampling are not to be changed during the life of the project, or so long as there is no change in Plant's configuration or operation.
- Note 6G. The field compaction testing frequency for soils and aggregate materials is provided as a preliminary guide and should be project specific, finalized and documented by the Project Engineer. If necessary, consult the HDOT project Geotechnical Engineer or Materials Testing and Research Branch for the recommended testing frequency.

Compact each lift to approximately 6 inches thick. Perform density test every other lift. For every fifty (50) field compaction tests, performed by nuclear gauge method or e-gauge method OR every 6 months, whichever comes first, perform one sand cone test (in accordance with HDOT TM 1-00 and TM 3-00) side by side testing with e-gauge or nuclear gauge. Test result should be within 3% compaction.

If there is uncertainty of testing frequency, perform compaction test every other lift per 300 lineal ft or 1,000 ft²

Submit a sample card of compaction testing monthly and at the end of the project. The following shall be provided in each sample card:

1. pdf file of compaction summary of the month for record,
2. Excel file of compaction summary of the month for data consolidation. All numbering shall be sequential and cumulative throughout the project.
3. Sand cone test results.
4. If e-gauge or nuclear gauge is used, include additional information as indicated in HWY-L website and/or e-gauge or nuclear gauge guide.
5. All maximum density test results used in the sample card from Laboratory Proctor Tests.

END OF SECTION 106

1 **SECTION 107 - LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

2
3 Make the following amendments to said Section:

4
5 **(I)** Amend **Section 107.01 Insurance Requirements** from lines 5 to 81 to
6 read as follows:

7
8 **“(A) Obligation of Contractor.** Contractor shall not commence any
9 work until it obtains, at its own expense, all required insurance described
10 herein. Such insurance shall be provided by an insurance company
11 authorized by the laws of the State to issue such insurance in the State of
12 Hawaii. Coverage by a “Non-Admitted” carrier is permissible provided the
13 carrier has a Best’s Rating of “A-VII” or better. The Contractor shall
14 maintain and ensure all insurance policies are current for the full period of
15 the contract until final acceptance of the work by the State.
16

17 The Certificate of Insurance shall contain: a clause that it is agreed
18 that any insurance maintained by the State of Hawaii will apply in excess
19 of, and not contribute with, insurance provided by this policy; and shall be
20 accompanied by endorsement form CG2010 or equivalent naming the
21 State as an additional insured to the policy which status shall be
22 maintained for the full period of the contract until final acceptance of the
23 work by State.
24

25 The Contractor shall obtain all required insurance as part of the
26 contract price. Where there is a requirement for the State of Hawaii and
27 its officers and employees to be named as additional insureds under any
28 Contractor’s insurance policy, before the State of Hawaii issues the Notice
29 to Proceed, the Contractor shall obtain and submit to the Engineer a
30 Certificate of Insurance and a written policy endorsement that confirms the
31 State of Hawaii and its officers and employees are additional insureds for
32 the specific State project number and project title under such insurance
33 policies. The written policy endorsement must be issued by the insurance
34 company insuring the Contractor for the specified policy type or by an
35 agent of such insurance company who is vested with the authority to issue
36 a written policy endorsement. The insurer’s agent shall also submit
37 written confirmation of such authority to bind the insurer. Any delays in
38 the issuance of the Notice to Proceed attributed to the failure to obtain the
39 proof of the State of Hawaii and its officers and employees’ additional
40 insured status shall be charged to the Contractor.
41

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

47
48 Certificates shall contain a provision that coverages being certified
49 will not be cancelled or materially changed without giving the Engineer at
50 least thirty (30) days prior written notice. Contractor will immediately
51 provide written notice to the Director should any of the insurance policies
52 evidenced on its Certificate of Insurance form be cancelled, reduced in
53 scope or coverage, or not renewed upon expiration. Should any policy be
54 canceled before final acceptance of the work by the State, and the
55 Contractor fails to immediately procure replacement insurance as
56 specified, the State, in addition to all other remedies it may have for such
57 breach, reserves the right to procure such insurance and deduct the cost
58 thereof from any money due or to become due to the Contractor.
59

60 Nothing contained in these insurance requirements is to be
61 construed as limiting the extent of Contractor's responsibility for payment
62 of damages resulting from its operations under this contract, including the
63 Contractor's obligation to pay liquidated damages, nor shall it affect the
64 Contractor's separate and independent duty to defend, indemnify and hold
65 the State harmless pursuant to other provisions of this contract. In no
66 instance will the State's exercise of an option to occupy and use
67 completed portions of the work relieve the Contractor of its obligation to
68 maintain the required insurance until the date of final acceptance of the
69 work.
70

71 All insurance described herein shall be primary and cover the
72 insured for all work to be performed under the contract, all work performed
73 incidental thereto or directly or indirectly connected therewith, including
74 but not limited to traffic detour work, barricades, warnings, diversions, lane
75 closures, and other work performed outside the work area and all change
76 order work.
77

78 The Contractor shall, from time to time, furnish the Engineer, when
79 requested, satisfactory proof of coverage of each type of insurance
80 required covering the work. Failure to comply with the Engineer's request
81 may result in suspension of the work, and shall be sufficient grounds to
82 withhold future payments due the Contractor and to terminate the contract
83 for Contractor's default.
84

85 **(B) Types of Insurance.** Contractor shall purchase and maintain
86 insurance described below which shall provide coverage against claims
87 arising out of the Contractor's operations under the contract, whether such
88 operations be by the Contractor itself or by any subcontractor or by
89 anyone directly or indirectly employed by any of them or by anyone for
90 whose acts any of them may be liable.
91

92 **(1) Workers' Compensation.** The Contractor shall obtain
93 worker's compensation insurance for all persons whom they
94 employ in carrying out the work under this contract. This insurance
95 shall be in strict conformity with the requirements of the most
96 current and applicable State of Hawaii Worker's Compensation
97 Insurance laws in effect on the date of the execution of this contract
98 and as modified during the duration of the contract.
99

100 **(2) Auto Liability.** The Contractor shall obtain Auto Liability
101 Insurance covering all owned, non-owned and hired autos with a
102 Combined single Limit of not less than \$1,000,000 per occurrence
103 for bodily injury and property damage with the State of Hawaii
104 named as additional insured. Refer to SPECIAL CONDITIONS for
105 any additional requirements.
106

107 **(3) General Liability.** The Contractor shall obtain General
108 Liability insurance with a limit of not less than \$2,000,000 per
109 occurrence and in the Aggregates for each of the following:
110

111 (a) Products - Completed/Operations Aggregate,

112 (b) Personal & Advertising Injury, and

113 (c) Bodily Injury & Property Damage
114
115
116

117 The General Liability insurance shall include the State as an
118 Additional Insured. The required limit of insurance may be provided
119 by a single policy or with a combination of primary and excess
120 policies. Refer to SPECIAL CONDITIONS for any additional
121 requirements.
122

123 **(4) Builders Risk For All Work.** The Contractor shall take out
124 a policy of builder's risk insurance for the full replacement value of
125 the project work; from a company licensed or otherwise authorized
126 to do business in the State of Hawaii; naming the State as an
127 additional insured under each policy; and covering all work, labor,
128 and materials furnished by such Contractor and all its
129 subcontractors against loss by fire, windstorm, tsunamis,
130 earthquakes, lightning, explosion, other perils covered by the
131 standard Extended Coverage Endorsement, vandalism, and
132 malicious mischief. Refer to SPECIAL CONDITIONS for any
133 additional requirements."
134
135
136

END OF SECTION 107

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

2
3 **“SECTION 108 – PROSECUTION AND PROGRESS**

4
5
6 **108.01 Notice to Proceed (NTP).** A Notice To Proceed will be issued to the
7 Contractor not more 30 calendar days after the contract certification date. The
8 Engineer may suspend the contract before issuing the Notice To Proceed, in
9 which case the Contractor’s remedies are exclusively those set forth in
10 Subsection 108.10 – Suspension of Work.

11
12 The Contractor shall be allowed up to 14 calendar days after the Notice to
13 Proceed to begin physical work. The Start Work Date will be established when
14 this period ends or on the actual day that physical work begins, whichever is first.
15 Charging of Contract Time will begin on the Start Work Date. The Contractor
16 shall notify the Engineer, in writing, at least five working days before beginning
17 physical work.

18
19 In the event that the Contractor fails to start physical work within the time
20 specified, the Engineer may terminate the contract in accordance with
21 Subsection 108.11 – Termination of Contract for Cause.

22
23 During the period between the Notice to Proceed and the Start Work Date
24 the Contractor should adjust work forces, equipment, schedules, and procure
25 materials and required permits, prior to beginning physical work.

26
27 Any physical work done prior to the Start Work Date will be considered
28 unauthorized work. If the Engineer does not direct that the unauthorized work be
29 removed, it shall be paid for after the Start Work Date and only if it is acceptable.

30
31 In the event that the Engineer establishes, in writing, a Start Work Date
32 that is beyond 60 calendar days from the Notice to Proceed date, the Contractor
33 may submit a claim in accordance with, Subsection 107.15 – Disputes and
34 Claims for increased labor and material costs which are directly attributable to
35 the delay beyond the first 60 calendar days after the Notice to Proceed date.

36
37 The Contractor shall notify the Engineer at least 24 hours before restarting
38 physical work after a suspension of work pursuant to Subsection 108.10 –
39 Suspension of Work.

40
41 Once physical work has begun, the Contractor shall work expeditiously
42 and pursue the work diligently to completion with the contract time. If a portion of
43 the work is to be done in stages, the Contractor shall leave the area safe and
44 usable for the user agency and the public at the end of each stage.

47 **108.02 Prosecution of Work.** Unless otherwise permitted by the Engineer, in
48 writing, the Contractor shall not commence with physical construction unless
49 sufficient materials and equipment are available for either continuous
50 construction or completion of a specified portion of the work.

51
52 **108.03 Preconstruction Submittals.** The awardee shall submit to the
53 Engineer for information and review the pre-construction submittals within 21
54 calendar days from award. Until the items listed below are received and found
55 acceptable by the Engineer, the Contractor shall not start physical work unless
56 otherwise authorized to do so in writing and subject to such conditions set by the
57 Engineer. Charging of Contract Time will not be delayed, and additional contract
58 time will not be granted due to Contractor delay in submitting acceptable
59 preconstruction submittals. No progress payment will be made to the Contractor
60 until the Engineer acknowledges, in writing, receipt of the following
61 preconstruction submittals acceptable to the Engineer:

- 62
63 (1) List of the Superintendent and other Supervisory Personnel, and
64 their contact information.
- 65
66 (2) Name of person(s) authorized to sign for the Contractor.
- 67
68 (3) Work Schedule including hours of operation.
- 69
70 (4) Initial Progress Schedule (See Subsection 108.06 – Progress
71 Schedule).
- 72
73 (5) Water Pollution and Siltation Control Submittals, including Site-
74 Specific Best Management Practice Plan.
- 75
76 (6) Solid Waste Disposal form.
- 77
78 (7) Tax Rates.
- 79
80 (8) Insurance Rates.
- 81
82 (9) Certificate of Insurance, satisfactory to the Engineer, indicating that
83 the Contractor has in place all insurance coverage required by the
84 contract documents.
- 85
86 (10) Schedule of agreed prices.
- 87
88 (11) List of suppliers.
- 89
90 (12) Traffic Control Plan, if applicable.
- 91

92 **108.04 Character and Proficiency of Workers.** The Contractor shall at all
93 times provide adequate supervision and sufficient labor and equipment for
94 prosecuting the work to full completion in the manner and within the time required
95 by the contract. The superintendent and all other representatives of the
96 Contractor shall act in a civil and honest manner in all dealings with the Engineer,
97 all other State officials and representatives, and the public, in connection with
98 the work.

99
100 All workers shall possess the proper license, certification, job
101 classification, skill, training, and experience necessary to properly perform the
102 work assigned to them.

103
104 The Engineer may direct the removal of any worker(s) who does not carry
105 out the assigned work in a proper and skillful manner or who is disrespectful,
106 intemperate, violent, or disorderly. The worker shall be removed forthwith by the
107 Contractor and will not work again without the written permission of the Engineer.

108
109 **108.05 Contract Time.**

110
111 **(A) Calculation of Contract Time.** When the contract time is on a
112 working day basis, the total contract time allowed for the performance of
113 the work will be the number of working days shown in the contract plus
114 any additional working days authorized in writing as provided hereinafter.
115 The count of elapsed working days to be charged against contract time,
116 will begin from the Start Work Date and will continue consecutively to the
117 date of Substantial Completion. When multiple shifts are used to perform
118 the work, the State will not consider the hours worked over the normal
119 eight working hours per day or night as an additional working day.

120
121 When the contract is on a calendar day basis, the total contract time
122 allowed for the performance of the work will be the number of days shown
123 in the contract plus any additional days authorized in writing as provided
124 hereinafter. The count of elapsed days to be charged against contract
125 time will begin from the Start Work Date and will continue consecutively to
126 the date of Substantial Completion. The Engineer will exclude days
127 elapsing between the orders of the Engineer to suspend work and resume
128 work for suspensions not the fault of the Contractor.

129
130 **(B) Modifications of Contract Time.** Whenever the Contractor
131 believes that an extension of contract time is justified, the Contractor shall
132 serve written notice on the Engineer not more than five working days after
133 the occurrence of the event that causes a delay or justifies a contract time
134 extension. Contract time may be adjusted for the following reasons or
135 events, but only if and to the extent the critical path has been affected:

137 **(1) Changes in the Work, Additional Work, and Delays**
138 **Caused by the State.** If the Contractor believes that an extension
139 of time is justified on account of any act or omission by the State,
140 and is not adequately provided for in a field order or change order,
141 it must request the additional time as provided above. At the
142 request of the Engineer, the Contractor must show how the critical
143 path will be affected and must also support the time extension
144 request with schedules, as well as statements from its
145 subcontractors, suppliers, or manufacturers, as necessary. Claims
146 for compensation for any altered or additional work will be
147 determined pursuant to Subsection 104.02 – Changes.
148

149 Additional time to perform the extra work will be added to the
150 time allowed in the contract without regard to the date the change
151 directive was issued, even if the contract completion date has
152 passed. A change requiring time issued after contract time has
153 expired will not constitute an excusal or waiver of pre-existing
154 Contractor delay.
155

156 **(2) Delay for Permits.** For delays in the routine application and
157 processing time required to obtain necessary permits, including
158 permits to be obtained from State agencies, the Engineer may
159 grant an extension provided that the permit takes longer than 30
160 days to acquire and the delay is not caused by the Contractor, and
161 provided that as soon as the delay occurs, the Contractor notifies
162 the Engineer in writing that the permits are not available. Permits
163 required by the contract that take less than 30 days to acquire from
164 the time which the appropriate documents are granted shall be
165 acquired between Notice to Proceed and Start Work Date or
166 accounted for in the contractor's progress schedule. Time
167 extensions will be the exclusive relief granted on account of such
168 delays.
169

170 **(3) Delays Beyond Contractor's Control.** For delays caused
171 by acts of God, a public enemy, fire, inclement weather days or
172 adverse conditions resulting therefrom, earthquakes, floods,
173 epidemics, quarantine restrictions, labor disputes impacting the
174 Contractor or the State, freight embargoes and other reasons
175 beyond the Contractor's control, the Contractor may be granted an
176 extension of time provided that:
177

178 **(a)** In the written notice of delay to the Engineer, the
179 Contractor describes possible effects on the completion date
180 of the contract. The description of delays shall:
181

1. State specifically the reason or reasons for the delay and fully explain in a detailed chronology how the delay affects the critical path.
2. Include copies of pertinent documentation to support the time extension request.
3. Cite the anticipated period of delay and the time extension requested.
4. State either that the above circumstances have been cleared and normal working conditions restored as of a certain day or that the above circumstances will continue to prevent completion of the project.

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

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

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

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

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

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

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

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

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

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

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

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

(d) Delays caused by the failure of the Contractor to make submittals in a timely manner for review and acceptance by the Engineer, such as but not limited to shop drawings, descriptive sheets, material samples, and color

samples except as covered in Subsection 108.05(B)(3) –
Delays Beyond Contractor's Control and 108.05(B)(4) –
Delays in Delivery of Materials or Equipment.

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

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

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

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

108.06 Progress Schedules.

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

Schedule submittals shall be as follows:

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

(a) The major features of work, such as but not limited to
BMP installation, grubbing, roadway excavation, structure
excavation, structure construction, shown in the
chronological order in which the Contractor proposes to work
that feature or work and its location on the project. The
schedule shall account for normal inclement weather,
unusual soil or other conditions that may influence the
progress of the work, schedules, and coordination required
by any utility, off or on site fabrications, and other pertinent
factors that relate to progress;

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

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

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

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

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

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

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

(i) Show target bars for all activities.

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

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

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

(2) For Contracts Which Have A Contract Amount More Than \$2,000,000 Or Having A Contract Time Of More Than 100 Working Days Or 140 Calendar Days. For contracts which have

a contract amount more than \$2,000,000 or contract time of more than 100 working days or 140 calendar days, the Contractor shall submit a Timed-Scaled Logic Diagram (TSLD) meeting the following requirements and having these essential and distinctive elements:

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

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

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

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

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

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

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

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

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

(j) Incorporate all physical access and availability restraints.

411 **(B) Inspection and Testing.** All schedules shall provide reasonable
412 time and opportunity for the Engineer to inspect and test each work
413 activity.
414

415 **(C) Engineer's Acceptance of Progress Schedule.** The submittal of,
416 and the Engineer's receipt of any progress schedule, shall not be deemed
417 an agreement to modify any terms or conditions of the contract. Any
418 modifications to the contract terms and conditions that appear in or may
419 be inferred from an acceptable schedule will not be valid or enforceable
420 unless and until the Engineer exercises discretion to issue an appropriate
421 change order. Nor shall any submittal or receipt imply the Engineer's
422 approval of the schedule's breakdown, its individual elements, any critical
423 path that may be shown, nor shall it obligate the State to make its
424 personnel available outside normal working hours or the working hours
425 established by the Contract in order to accommodate such schedule. The
426 Contractor has the risk of all elements (whether or not shown) of the
427 schedule and its execution. No claim for additional compensation, time, or
428 both, shall be made by the Contractor or recognized by the Engineer for
429 delays during any period for which an acceptable progress schedule or an
430 updated progress schedule as required by Subsection 108.06(E) –
431 Contractor's Continuing Schedule Submittal Requirements had not been
432 submitted. Any acceptance or approval of the schedule shall be for
433 general format only and shall not be deemed an agreement by the State
434 that the construction means, methods, and resources shown on the
435 schedule will result in work that conforms to the contract requirements or
436 that the sequences or durations indicated are feasible.
437

438 **(D) Initial Progress Schedule.** The Contractor shall submit an initial
439 progress schedule. The initial progress schedule shall consist of the
440 following:
441

442 **(1)** Four sets of the TSLD schedule.
443

444 **(2)** All the software files and data to re-create the TSLD in a
445 computerized software format as specified by the Engineer.
446

447 **(3)** A listing of equipment that is anticipated to be used on the
448 project. Including the type, size, make, year of manufacture, and all
449 information necessary to identify the equipment in the Rental Rate
450 Blue Book for Construction Equipment.
451

452 **(4)** An anticipated manpower requirement graph plotting
453 contract time and total manpower requirement. This may be
454 superimposed over the payment graph.
455

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

- (a) Has a duration longer than five days.
- (b) Is a milestone activity.
- (c) Is a contract item that exceeds \$10,000 on the contract cost proposal.
- (d) Is a critical path activity.
- (e) Is an activity designated as such by the Engineer.

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

- (a) Quantity, type, make, and model of equipment.
- (b) The manpower to do the work, specifying worker classification.
- (c) The production rate per eight hour day, or the working hours established by the contract documents needed to meet the time indicated on the schedule. If the production rate is not for eight hours, the number of working hours shall be indicated.

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

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

(E) Contractor's Continuing Schedule Submittal Requirements.

After the acceptance of the initial TSLD and when construction starts, the Contractor shall submit four plotted progress schedules, two PERT charts, and reports on all construction activities every two weeks (bi-weekly). This scheduled bi-weekly submittal shall also include an updated version of the project schedule in a computerized software format as specified by the Engineer. The submittal shall have all the information needed to re-create that time period's TSLD plot and reports. The bi-weekly submittal

shall include, but not limited to, an update of activities based on actual durations, all new activities and any changes in duration or start or finish dates of any activity.

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

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

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

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

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

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

If the TSLD indicates an early completion of the project, the Contractor shall, upon submittal of the schedule, cooperate with the

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

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

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

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

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

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

(b) The duration of all events and delays.

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

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

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

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

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

When the Contractor fails to reach substantial completion of the work for which liquidated damages are specified, within the time or times fixed in the contract or any extension thereof, in addition to all other remedies for breach that may be available to the State, the Contractor shall pay liquidated damages to the State, in the amount of \$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 \$500 for every one-to fifteen-minute increment for each roadway lane closed to public use or occupied beyond the time periods authorized in the contract or by the Engineer. The maximum amount assessed per day shall be \$5,000.

A rental fee will be assessed for each day of full roadway closure that extends beyond 20 consecutive calendar days for each bridge. A full roadway closure day begins at 8:30 a.m. to 8:29 a.m. of the following day. Partial full roadway closure days after 8:30 a.m. will be counted as a full day. The rental fee assessed will be:

(A) \$11,000 per full roadway closure day for Alae Bridge

(B) \$40,000 per full roadway closure day for Pulehu Gulch Bridge

(C) \$72,000 per full roadway closure day for Waiale Gulch Bridge

The Contractor shall be assessed per day. There is no maximum amount that can be assessed.

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 lane rental fees.

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.

732
733 However, no adjustment to the contract price shall be made for any
734 suspension, delay, or interruption:
735

736 (1) For weather related conditions.
737

738 (2) To the extent that performance would have been so
739 suspended, delayed, or interrupted by any other cause, including
740 the fault or negligence of the Contractor.
741

742 (3) Or, for which an adjustment is provided for or excluded
743 under any other provision of this Contract.
744

745 **(E) Claims for Adjustment.** Any adjustment in contract price made
746 shall be determined in accordance with Subsections 104.02 – Changes
747 and 104.06 – Methods of Price Adjustment.
748

749 Any claims for such compensation shall be filed in writing with the
750 Engineer within 30 days after the date of the order to resume work or the
751 claim will not be considered. The claim shall conform to the requirements
752 of Subsection 107.15(D) – Making of a Claim. The Engineer will take the
753 claim under consideration, may make such investigations as are deemed
754 necessary and will be the sole judge as to the equitability of the claim.
755 The Engineer's decision will be final.
756

757 **(F) No Adjustment.** No provision of this clause shall entitle the
758 Contractor to any adjustments for delays due to failure of its surety, the
759 cancellation or expiration of any insurance coverage required by the
760 contract documents, for suspensions made at the request of the
761 Contractor, for any delay required under the contract, for suspensions,
762 either partial or whole, made by the Engineer under Subsection
763 108.10(A)(4) of the "Suspension of work" paragraph.
764

765 **108.11 Termination of Contract for Cause.** 766

767 **(A) Default.** If the Contractor refuses or fails to perform the work, or
768 any separable part thereof, with such diligence as will assure its
769 completion within the time specified in this contract, or any extension
770 thereof, or commits any other material breach of this contract, and further
771 fails within seven days after receipt of written notice from the Engineer to
772 commence and continue correction of the refusal or failure with diligence
773 and promptness, the Engineer may, by written notice to the Contractor,
774 declare the Contractor in breach and terminate the Contractor's right to
775 proceed with the work or the part of the work as to which there has been
776 delay or other breach of contract. In such event, the State may take over
777 the work, perform the same to completion, by contract or otherwise, and

may take possession of, and utilize in completing the work, the materials, appliances, and plants as may be on the site of the work and necessary therefore. Whether or not the Contractor's right to proceed with the work is terminated, the Contractor and the Contractor's sureties shall be liable for any damage to the State resulting from the Contractor's refusal or failure to complete the work within the specified time.

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

(C) Costs and Charges. All costs and charges incurred by the State, together with the cost of completing the work under contract, will be deducted from any monies due or which would or might have become due to the Contractor had it been allowed to complete the work under the contract. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay the State the amount of the excess.

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

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

108.12 Termination For Convenience.

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

(B) Contractor's Obligations. The Contractor shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the Contractor shall stop work to the extent specified. The Contractor shall also terminate outstanding orders and

subcontracts as they relate to the terminated work. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work subject to the State's approval. The Engineer may direct the Contractor to assign the Contractor's right, title, and interest under terminated orders or subcontracts to the State. The Contractor must still complete the work not terminated by the notice of termination and may incur obligations as necessary to do so.

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

(1) Any completed work.

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

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

(D) Compensation.

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

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

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

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

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

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

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

108.13 Pre-Final and Final Inspections.

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

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

(1) All written guarantees required by the contract.

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

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

(4) Certificate of Plumbing and Electrical Inspection.

(5) Certificate of building occupancy as required.

(6) Certificate of Soil and Wood Treatments.

(7) Certificate of Water System Chlorination.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1008 If the Contractor fails to correct the deficiencies and complete the
1009 work by the established or agreed date, the State may correct the
1010 deficiencies by whatever method it deems appropriate and deduct the cost
1011 from any payments due the Contractor.

1012
1013 **108.14 Substantial Completion and Final Acceptance.**
1014

1015 **(A) Substantial Completion.** When the Engineer finds that the
1016 Contractor has satisfactorily completed all work for the project in
1017 compliance with the contract, with the exception of the planting period and
1018 the plant establishment period, the Engineer will notify the Contractor, in
1019 writing, of the project's substantial completion, effective as of the date of
1020 the final inspection. The substantial completion date shall determine end
1021 of contract time and relieve contractor of any additional accumulation of
1022 liquidated damages for failure to complete the punchlist.

1023
1024 **(B) Final Acceptance.** When the Engineer finds that the Contractor
1025 has satisfactorily completed all contract work in compliance with the
1026 contract including all plant establishment requirements, and all the
1027 materials have been accepted by the State, the Engineer will issue a Final
1028 Acceptance Letter. The Final Acceptance date shall determine the
1029 commencement of all guaranty periods subject to Subsection 108.16 –
1030 Contractor's Responsibility for Work; Risk of Loss or Damage.
1031

1032 **108.15 Use of Structure or Improvement.** The State has the right to use the
1033 structure, equipment, improvement, or any part thereof, at any time after it is
1034 considered by the Engineer as available. In the event that the structure,
1035 equipment or any part thereof is used by the State before final acceptance, the
1036 Contractor is not relieved of its responsibility to protect and preserve all the work
1037 until final acceptance.
1038

1039 **108.16 Contractor's Responsibility for Work; Risk of Loss or Damage.**
1040 Until the written notice of final acceptance has been received, the Contractor
1041 shall take every precaution against loss or damage to any part of the work by the
1042 action of the elements or from any other cause whatsoever, whether arising from
1043 the performance or from the non-performance of the work. The Contractor shall
1044 rebuild, repair, restore and make good all loss or damage to any portion of the
1045 work resulting from any cause before its receipt of the written notice of final
1046 acceptance and shall bear the risk and expense thereof.
1047

1048 The risk of loss or damage to the work from any hazard or occurrence that
1049 may or may not be covered by a builder's risk policy is that of the Contractor and
1050 Surety, unless such risk of loss is placed elsewhere by express language in the
1051 contract documents.
1052

1053 **108.17 Guarantee of Work.**

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

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

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

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

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

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

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

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

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

(2) Any extension of time.

(3) Any possession taken by the Engineer.

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

108.19 Final Settlement of Contract.

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

(1) All written guarantees required by the contract.

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

(3) Certificate of plumbing and electrical inspection.

(4) Certificate of building occupancy.

(5) Certificate for soil treatment and wood treatment.

(6) Certificate of water system chlorination.

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

(8) Tax clearance.

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

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

108.20 Night Work

1147 There will be no night work from September 15 to December 15.

1148

1149 There will be no night work at Alae (Naalae Gulch) and Pulehu Gulch
1150 (Pohakuokala) Bridges between 9:00 p.m to 7:00 a.m.”

1151

1152

1153

END OF SECTION 108

1 **SECTION 109 – MEASUREMENT AND PAYMENT**

2
3 Make the following amendments to said Section:

4
5 **(I) Amend Subsection 109.05 Allowances for Overhead and Profit** by
6 revising lines 101 to 110 to read as follows:

7
8 **“(1) 20 percent of the direct cost for any work performed by the**
9 **Contractor’s own labor force.**

10
11 **(2) 20 percent of the direct cost for any work performed by each**
12 **subcontractor’s own labor force.**

13
14 **(3) For the Contractor or any subcontractor for work performed**
15 **by their respective subcontractor or tier subcontractor, 10 percent**
16 **of the amount due to the performing subcontractor or tier**
17 **subcontractor.”**

18
19 **(II) Amend Subsection 109.08(B) Payment for Material On Hand** by
20 revising lines 421 to 423 to read as follows:

21
22 **“(2) The materials shall be stored and handled in accordance**
23 **with Subsection 105.14 – Storage and Handling of Materials and**
24 **Equipment.”**

25
26 **(III) Amend Subsection 109.11 Final Payment** by revising lines 568 to 576
27 to read as follows:

28
29 **“(3) A current “Certificate of Vendor Compliance” issued by the**
30 **Hawaii Compliance Express (HCE). The Certificate of Vendor**
31 **Compliance is used to certify the Contractor’s compliance with**

32
33 **(a) Section 103D-328, HRS (for all contracts \$25,000 or**
34 **more) which requires a current tax clearance certificate**
35 **issued by the Hawaii State Department of Taxation and the**
36 **Internal Revenue Service;**

37
38 **(b) Chapters 383, 386, 392, and 393, HRS; and**

39
40 **(c) Subsection 103D-310(c), HRS. The State reserves**
41 **the right to verify that compliance is current prior to the**
42 **issuance of final payment. Contractors are advised that non-**
43 **compliance status will result in final payment being withheld**
44 **until compliance is attained.**

45
46 Sums necessary to meet the claims of any governmental
47 agencies may be withheld from the sums due the Contractor until

48 said claims have been fully and completely discharged or
49 otherwise satisfied."
50
51
52

53 END OF SECTION 109

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

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

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

Clearing and Grubbing _____

STP-0377(008)
201-1a

7/17/26

1 **SECTION 202 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

2
3 Make the following amendments to said Section:

4
5 **(I)** Amend **202.03 (B) – Removal of Concrete Structures** by revising lines
6 68 to 75 to read as follows:

7
8 **“(B) Removal of Concrete Structures.** Cut, with power-driven abrasive saw,
9 a 1/2-inch-deep joint (unless as otherwise stipulated on the drawings) at interface
10 of concrete that is to remain and that which is to be removed. Cut neat and true
11 with no shattering or spalling of concrete to remain in place. Use demolition
12 equipment no larger than allowed in the concrete drawings. Do not damage
13 existing reinforcing steel to remain, unless otherwise explicitly shown.

14
15 Demolish concrete to the limits as shown on the plans using pneumatic
16 breakers that do not exceed the weight limits as stipulated in the contract
17 documents. When using electric breakers, use tools with equal energy to their
18 pneumatic counterpart.”

19
20 **(II)** Add the following paragraphs to Subsection **202.03(C) Removal of**
21 **Bridges**, line 118, to read as follows:

22
23 “All concrete and/or reinforcing steel removed shall be recycled by an
24 appropriately licensed or certified concrete recycling facility.”

25
26 **(III)** Add the following paragraphs to Section **202.03 Construction** line 118 to
27 read as follows:

28
29 **“(D) Cleaning of Existing Bridge Bearings.** Remove all deleterious materials
30 from bridge bearings and on top of bent caps. For metal bearings to remain,
31 clean the bearing by applying a suitable degreaser and solvent agent to clean the
32 surface of the metal, ensuring to remove any dirt or oxidation on the surface.
33 Concrete bent caps, diaphragms, and ends of girders shall be free of all foreign
34 material.

35
36 **(E) Removal of Existing Bearings.** Cut, with power driven abrasive saw, a
37 3/4-inch-deep joint around perimeter of existing bearings at the interface of
38 concrete that is to remain and that which is to be removed at both the soffit of
39 girders and top of bent cap.

40
41 Demolition shall be to a depth necessary to remove embedded bearing
42 plate and masonry plate studs. No larger than a 15-lb pneumatic breaker shall be
43 used when removing concrete in these areas. Care shall be taken when
44 removing concrete in these areas to not damage existing reinforcing steel.

Remove steel rocker bearings, grout pad, and demolished concrete and dispose of at an appropriately licensed or certified recycling facility.”

(IV) Amend **202.04 – Measurement** by revising lines 119 to 120 to read as follows:

“202.04 Measurement.

(A) **Clean Existing Bearings.** Clean Existing Bearings will be paid on a lump sum basis. Measurement for payment will not apply.

(B) **Removal of Existing Bearings.** Removal of Existing Bearings will be paid on a lump sum basis. Measurement for payment will not apply.”

(V) Amend **202.05 – Payment** by revising lines 122 to 131 to read as follows:

“202.05 Payment.

(A) **Clean Existing Bearings.** The Engineer will pay for accepted Clean Existing Bearings on a contract lump sum basis. Payment will be full compensation for work prescribed in this section and contract documents.

(B) **Removal of Existing Bearings.** The Engineer will pay for accepted Removal of Existing Bearings on a contract lump sum basis. Payment will be full compensation for work prescribed in this section and contract documents.

If the proposal does not show a contract item for the removal of structures and obstructions, the Engineer will not pay for the removal of structures and obstructions separately. The Contractor shall consider them incidental to the various contract items.

The Engineer will pay for specific items stipulated for demolition, removal and disposal at the contract price bid per unit specified in the proposal. The price shall be full compensation for removal, hauling, and disposal of the items and salvage of materials removed. Salvaging of materials removed includes their custody, preservation, storage on the right-of-way. Also, the price shall be full compensation 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.

92	Pay Item	Pay Unit
93		
94	Clean Existing Bearings	Lump Sum
95		
96	Removal of Existing Bearings	Lump Sum"
97		
98		
99		
100	END OF SECTION 202	

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

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

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.”

“203.05 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 each of the following pay items when included in the proposal schedule:

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 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

1 **SECTION 205 – EXCAVATION AND BACKFILL FOR BRIDGE AND**
2 **RETAINING STRUCTURES**

3
4 Make the following amendments to said Section:

5
6
7 **(I)** Amend **205.01 Description** by revising subparagraph (A) between lines 5
8 and 8 to read as follows:

9
10 **“(A)** Excavating and backfilling behind bridge abutments to depths and
11 lines established on the contract drawings.”

12
13 **(II)** Amend **205.03(A)(1) General** by adding the following paragraph
14 after line 47 to read as follows:

15
16 “The Contractor shall be responsible for protecting the sides of the
17 excavations from cave-ins. The Contractor shall submit shop drawings and
18 calculations for any bracing or shoring to be installed. The shop drawings and
19 calculations shall be stamped by a registered Hawaii Structural Engineer and a
20 registered Civil Engineer specializing in Geotechnical Engineering in the State of
21 Hawaii. If the Contractor decides not to brace the cut slope, the Contractor shall
22 submit when requested by the Engineer, calculations, showing the stability of the
23 slope, stamped by a registered Civil Engineer specializing in Geotechnical
24 Engineer in the State of Hawaii. The shop drawings and calculations shall be
25 reviewed and accepted by the Engineer before proceeding with the construction.”

26
27 **(III)** Amend **205.03(B) Structure Backfill** by revising lines 151 to 194 to
28 read as follows:

29
30 **“(B) Structure Backfill.** Place backfill material as shown on the
31 contract drawings behind abutment as indicated on the contract drawings.

32
33 When spreading and compacting backfill, do not operate heavy equipment
34 closer to abutment, than the distance equal to the height of backfill above top of
35 footing. Compact area remaining, in layers not more than 4 inches in compacted
36 thickness, with power-driven hand tampers suitable for material being
37 compacted.

38
39 Place backfill material in uniform horizontal layers not exceeding 8 inches
40 in loose thickness, before compaction. Moisten and compact each layer of
41 backfill until relative compaction of not less than 95 percent is achieved in
42 accordance with Subsection 203.03(C)(2) – Relative Compaction Test. The
43 Engineer may reduce 95 percent compaction requirement in situations where
44 such compaction is not feasible.

When the Engineer cannot use field density test, compact each layer of backfill with vibratory or other accepted equipment on granular backfill material.

Compaction of backfill material by ponding or jetting will not be allowed.”

(IV) Amend **205.03(C) Filter Material** by revising lines 196 to 202 to read as follows:

“(C) Lightweight Cellular Concrete Backfill. Place lightweight cellular concrete backfill as indicated on the contract drawings and in accordance with the requirements of Special Provisions Section 627 – Lightweight Cellular Concrete (LCC) Fill for Utilities and Structures.”

(V) Amend **205.04 – Measurement** by revising lines 206 to 214 to read as follows:

“(A) Structure Excavation. Structure excavation will be paid per cubic yard. The limits for payment of structure excavation shall be shown on the plans and contract documents.

(B) Lightweight Cellular Concrete Backfill. Lightweight Cellular Concrete Backfill will be paid per cubic yard. The limits for payment of lightweight cellular concrete backfill will be shown on the plans and contract documents.”

(VI) Amend **205.05 – Payment** by revising lines 216 to 230 to read as follows:

“205.05 Payment. The Engineer will pay for the accepted pay items listed below per cubic yard 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 items when included in the proposal schedule:

Pay Item	Pay Unit
Structure Excavation for _____	Cubic Yard
Lightweight Cellular Concrete Backfill for _____	Cubic Yard”

END OF SECTION 205

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

3
4
5 **"SECTION 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION**
6 **CONTROL**

7
8 **209.01 Description.** This section describes the following:

9
10 **(A)** Detailed plans, diagrams, and written Site-Specific Best Management
11 Practices (BMP); constructing, maintaining, and repairing temporary water
12 pollution, dust, and erosion control measures at the project site, including
13 local material sources, work areas, and haul roads; removing and disposing
14 hazardous wastes at a DOH permitted facility; control of fugitive dust (defined
15 as uncontrolled emission of solid airborne particulate matter from any source
16 other than combustion); and complying with applicable State and Federal
17 permit conditions.

18
19 **(B)** Work associated with construction stormwater, dewatering, and
20 hydrotesting activities and complying with conditions of the National Pollutant
21 Discharge Elimination System (NPDES) permit(s) authorizing discharges
22 associated with construction stormwater, dewatering, and hydrotesting
23 activities.

24
25 **(C)** Work associated with U.S. Department of Army, Section 404 Permit,
26 and State Department of Health, Section 401 Water Quality Certification.

27
28 **(D)** Potential pollutant identification and mitigation measures are listed in
29 Appendix A for use in the development of the Contractor's Stormwater
30 Pollution Prevention Plan.

31
32 **(E) Definitions.** Whenever the following words or terms are used in
33 contract documents, unless otherwise prescribed therein and without regard
34 to the use or omission of uppercase letters, the intent and meaning shall be
35 interpreted as follows:

36
37 **(1)** Qualified Environmental Professional (QEP). The QEP is the
38 individual or individuals responsible for preparation, implementation,
39 and revisions to the applicable project-specific plan.

40
41 **(2)** Stormwater Pollution Prevention Plan (SWPPP). A SWPPP is
42 required for all projects with an individual NPDES Permit for
43 construction stormwater, a Notice of General Permit Coverage
44 (NGPC) for construction stormwater.

45
46 **(3)** Stormwater Pollution Prevention Plan and In-Water Pollution

Prevention Plan (SWPPP/IWPPP). A SWPPP/IWPPP is required for all projects that are covered under a Department of the Army, Section 404 Permit.

(4) Site-specific BMP Plan (SSBMPP). A SSBMPP is required for all projects not covered under Subsections 209.01(E)(2) or 209.01(E)(3).

For purposes of this Section, the term SWPPP shall be deemed to refer to the applicable project-specific plan required under Subsections 209.01(E)(2), 209.01(E)(3), or 209.01(E)(4), unless otherwise specifically stated.

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", the current "An Integrated Storm Water Management Approach and a Summary of Clear Water Diversion and Isolation Best Management Practices for Use in the State of Hawaii, by the Federal Highway Administration and Hawaii Department of Transportation, Practitioners Guide" hereafter called "Practitioners Guide", and the manufacturers specifications and/or the project's contract documents. 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 downstream 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 of pollution sources are allowable if acceptable to the Engineer.

209.03 Construction.

(A) Preconstruction Requirements.

(1) SWPPP Meeting(s). The State may schedule SWPPP review meeting(s) with the Contractor and the Contractor's QEP to discuss the State's comments on the SWPPP, the status of comment resolution, and the schedule for finalizing the SWPPP. The Contractor and QEP shall be available to attend such meeting(s) within 48 hours of the State's request. At each meeting, the Contractor and QEP shall review the State's comments, identify the actions that will be taken to address each comment, and provide a schedule for submitting the revised SWPPP to the State.

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

(3) Water Pollution, Dust, and Erosion Control Submittals. Submit a completed SWPPP for the first ninety (90) days of

construction activities, or for the duration of the entire construction project, within 21 calendar days of contract award. The SWPPP shall be accepted in writing by the Engineer. Submission of a complete and acceptable SWPPP is the sole responsibility of the Contractor. Additional contract time will not be granted for delays resulting from incomplete or unacceptable SWPPP submissions.

All revisions to the SWPPP shall be submitted in Microsoft Word with tracked changes enabled. Revisions not submitted in Microsoft Word with tracked changes will be rejected by the State and shall be revised and resubmitted at no additional cost. The SWPPP submittal shall include the following:

(a) Written description of activities to reduce erosion and minimize pollutants entering 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 a SWPPP for the first ninety (90) days of construction activities indicating the 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, aggregate (indicate type of aggregate), asphalt cold mix, soil or solid waste, equipment and vehicle parking; and areas where vegetative practices are to be implemented. Indicate intended drainage pattern on plans. Include flow arrows. Include a separate drawing for each phase of construction that alters drainage patterns or Contractor's sequencing for in-water work. 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 cellular and business telephone numbers, fax numbers, and e-mail addresses. Individual(s) shall have authority to resolve complaints and inquiries. The Engineer will forward public complaints and inquiries regarding erosion, sediment, and dust emanating from construction activities to

the designated individual(s).

The Contractor shall employ the services of a QEP responsible for preparing, implementing, and updating the SWPPP. The QEP shall have experience on at least one (1) project in the past five (5) years and shall have attended a Construction BMP workshop within the past three (3) years.

The Contractor shall provide the resume and the list of projects that support the qualification of the QEP to the Engineer for approval.

(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 SWPPP.

(g) For projects with an Army Corps Section 404 Permit, complete all sections in the SWPPP/IWPPP.

(h) For projects with an NPDES Permit, include information required for compliance with the conditions of the NGPC/NPDES Permit.

(i) For projects with a Section 404 Permit/Nationwide Verification, include information required for compliance with the general and regional conditions.

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

Complete, date and sign SWPPP. The Site-Specific BMP Review Checklist shall be an attachment to the SWPPP. Keep a certified copy of the SWPPP 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, the State's Third-Party Inspector, and/or DOH/EPA Representative. Amendments to the SWPPP shall be appended to the original SWPPP. Modify SWPPP if necessary to conform to field conditions. Include date of installation and removal of Site-Specific BMP measures. The SWPPP or SWPPP Amendment shall be certified by the Engineer before implementing revised Site-Specific BMPs in the field.

277 Follow the guidelines in the current HDOT "Construction
278 Best Management Practices Field Manual" in developing,
279 installing, and maintaining land-based Site-Specific BMPs for
280 all projects.

281
282 Follow the guidelines in the current HDOT "Practitioners
283 Guide" in developing, installing, and maintaining in-water or
284 over water Site-Specific BMPs. BMPs in sections 5.5 to 5.13
285 of the Practitioners Guide describe BMPs which are authorized
286 clear water isolation techniques within the Temporary Impact
287 Area described in the Army Corps Section 404 Permit
288 application and/or other contract documents. Notify the
289 Engineer of request to include other clear water isolation
290 techniques not included in the manual when submitting
291 SWPPP/IWPPP.

292
293 For any conflicting requirements between the Manual
294 and applicable bid documents, the applicable bid documents
295 will govern. Should a requirement not be clearly described
296 within the applicable bid documents, notify the Engineer
297 immediately for interpretation. For the purposes of clarification
298 "applicable bid documents" include the construction plans,
299 standard specifications, special provisions, permits, and the
300 SWPPP or SWPPP/IWPPP when applicable.

301
302 Use respective Soil Erosion Guidelines for Oahu, Maui,
303 Kauai and Hawai'i projects.

304
305 **(4) Additional Pre-construction in-water work requirements.** For
306 projects with an Army Corps Section 404 Permit, two (2) pre-
307 construction in-water inspections shall be completed at least ten (10)
308 calendar days prior to the start of in-water construction activities. Pre-
309 construction in-water inspections are intended to create a baseline for
310 water quality and indicate the U.S. Army Corps of Engineers (USACE)
311 jurisdiction.

312
313 **(B) Construction Requirements.** Do not begin work until all submittals
314 detailed in Subsection 209.03(A)(2) - Water Pollution, Dust, and Erosion
315 Control Submittals are completed and accepted in writing by the Engineer.
316 The SWPPP or SWPPP/IWPPP for all Oahu projects is certified by the Duly
317 Authorized Representative. Upon certification of the SWPPP for the first 90
318 days of construction activities, the Contractor shall submit an amendment to
319 the SWPPP within 21 calendar days of the approved SWPPP to update the
320 SWPPP for the next 90 days of construction activities or for the remainder of
321 construction activities at the Contractor's discretion. The work associated
322 with the proposed Site-Specific BMP plan shall not start until the SWPPP

amendment has been certified. This amendment process will recur for the remainder of construction.

Install, maintain, monitor, repair and replace site-specific BMPs, including but not limited to water pollution, dust, and erosion control measures. Work shall also include installation, monitoring, and operation of hydrotesting activities; removal and disposal of hazardous waste indicated in the contract documents, concrete cutting slurry, concrete curing water, and hydrodemolition water. Site-Specific BMP measures shall be in place, functional, and accepted by the Engineer prior to initiating any ground disturbing activities.

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

Prior to the start of authorized construction activities by certified SWPPP or certified SWPPP amendment(s), the Contractor shall address all comments received from the Engineer.

Sediment and Erosion Control measures shown in the Contract Documents are minimum BMP requirements and do not constitute an acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents, including applicable permit document requirements. Cost shall be included with the applicable pay items in this section.

The Contractor shall modify, update, and resubmit plans and construction schedules to correct conditions that develop during construction which were unforeseen during the design and pre-construction stages. Include changes in the SWPPP.

BMP measures shall be in place and operational at the end of each workday or as required by Subsection 209.03(B) – Construction Requirements.

Install and maintain stabilized construction entrances and/or 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 road if necessary.

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 properly installed and accepted in writing by the Engineer. Protect temporarily or permanently disturbed soil surface from rainfall impact, runoff, and wind before end of each workday.

(1) Stabilization. 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 workday, following the day when the earth-disturbing activities have temporarily or permanently ceased.

(a) 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.

(b) 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.

(c) 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.

(d) 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.

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

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

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

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

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

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

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

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

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

(2) Dust Control. Chemicals may be used as soil stabilizers for erosion and/or dust control if acceptable to the Engineer. Chemicals may include mineral-based binders with surfactants to minimize water consumption.

If dust screens are required, maintain dust screens until permanent ground cover has been established. Revise dust screen installations, as necessary, to complete work and to meet environmental and climate changes.

When applying water for dust control comply with the following:

(a) Apply water uniformly by pressure-type tank truck equipped with spray system and adequate control apparatus. Ensure uniform application of water. Use watering systems such as pipe, hose, and spray apparatus, only if uniform application of water can be ensured.

(b) Apply water as conditions require. Prevent water from wetting vehicles, pedestrians, and existing pavements. Repair or compensate for damages caused by watering.

(c) Employ BMPs with regard to dust control water leaving project site or entering into drainage or sewer systems or State waters. Washing down of debris or dirt into drainage or sewer systems or State waters will not be allowed.

Continue monitoring for dust until the Substantial Completion Date.

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.

(3) Maintenance and Inspection. Install or modify Site-Specific BMP measures due to change in the Contractor's means and methods, or for omitted conditions that should have been accounted for in the accepted SWPPP 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 and updated in the SWPPP prior to implementation at no additional cost to the State.

Properly maintain all Site-Specific BMP measures.

Obtain Engineer's acceptance prior to removing BMPs.

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

(a) For all projects:

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.

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

1. Weekly.

2. 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 as directed by the Engineer. Re-install once flooding, or potential danger or damage to project or public is no longer a risk.

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

inspection and after deficiencies have been corrected. Keep copies 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, the State's Third-Party Inspector, and/or DOH/EPA Representative.

The Contractor's designated representative specified in Subsection 209.03(A)(3)(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 workday 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 MS4 NPDES Permit or Enforcement Response Plan Construction Site Runoff Control, whichever is more stringent. The MS4 NPDES Permits only apply to Oahu and Maui (Kahului). The Enforcement Response Plan Construction Site Runoff Control only applies to Oahu and Maui. 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 workday.

When installation of a new pollution prevention control or a significant repair is needed, complete installation or repair no later than seven 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 seven 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. Address any inquiries or complaints forwarded by the Engineer from the public regarding dust from construction activities and correct deficiencies in dust control methods immediately or by the next working day if a problem is identified at a time in the day in which it is too late to respond or initiate correcting deficiencies or as directed by the Engineer. If the Contractor fails 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 or failure to follow any other guidelines in this section 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) Additional Construction Requirements for In-Water Work.

Comply with all requirements and conditions of the Section 401 WQC/Army Corps Section 404 Permit.

Obtain site photographs of the construction site including the in-water work area daily. Photographs (facing both upstream and downstream) shall consist of: (1) 50 feet upstream of the in-water work area; (2) immediately downstream of the in-water work area; and (3) 50 feet downstream of the work area. All photographs shall be prepared, labeled and annotated with appropriate captions on the HDOT Inspection Report for In-Water Work. All photographs shall be prepared, labeled and annotated with appropriate captions on 8 ½" x 11" sheet(s). Submit the photographs to the Engineer weekly within two (2) working days of the end of the weekly period. A site plan showing the location and orientation of the photographs shall also be included. The digital files of the photographs and/or documents containing the photographs, the site plan and other accompanying documents, if necessary, shall be placed on a CD and submitted to the Engineer. The file format shall be acceptable to the Engineer.

Obtain and submit to the Engineer post-construction site photographs within five (5) working days after the completion of each phase of the proposed construction activities. The photographs, site plan, digital files and other accompanying documents shall be submitted to the Engineer.

The Contractor shall be responsible for the effectiveness and adequacy of the implemented Site-Specific BMP measures, and other environmental protection measures. The Contractor shall review and assess these measures daily or as required by the permits. If there are any indications of a discharge at any time, including a turbidity plume, stop work immediately and investigate the source of the discharge. If possible, contain the area where the discharge is emanating from. If the discharge poses an immediate threat to the public or environment, call 911 immediately.

(1) If the BMPs require reinstallation in accordance with the accepted SWPPP/IWPPP, the Contractor shall cease activities, take immediate corrective action, document the corrective action taken, and provide a written report to the Engineer by the close of the workday.

(2) If the BMPs do not require repair or modification, determine what activities are causing the discharge and provide a report to the Engineer proposing corrective action. Monitor following corrective

691 action to ensure the effectiveness of the corrective action.

692
693 **(3)** If the BMPs require modification, the Contractor shall cease
694 activities, and submit an amendment to the SWPPP/IWPPP within 24
695 hours to the Engineer for review. Do not resume work until the
696 proposed SWPPP/IWPPP amendments are certified in writing by the
697 Engineer. Upon the Engineer's acceptance, the Contractor shall take
698 immediate corrective action and document the corrective action taken.

699
700 **Section 404 Department of the Army Permit.**

701
702 Implement only the Site-Specific BMPs on the SWPPP/IWPPP
703 accepted by the Engineer. Immediately notify the Engineer if the BMPs are
704 insufficient for preventing discharge of pollutants. The Contractor shall be
705 responsible for any revisions required to modify the Section 404 Permit at no
706 additional cost to the State and no extension of time if the Contractor
707 discharges unauthorized fill.

708
709 Notify the Engineer immediately if BMPs have been damaged or
710 displaced or result in a discharge of material. The Engineer must notify the
711 USACE and obtain approval prior to recovery of discharged materials outside
712 the Temporary Impact Area.

713
714 **Severe Storm Contingency Plan.**

715
716 Provide a Severe Storm Contingency Plan and implement each
717 response appropriately.

718
719 **(D) Discharges of Storm Water Associated with Construction**
720 **Activities.** If work includes disturbance of one acre or more, an NPDES
721 Permit authorizing Discharges of Storm Water Associated with Construction
722 Activity (CWB-NOI Form C) or Individual Permit authorizing storm water
723 discharges associated with construction activity is required from the
724 Department of Health Clean Water Branch (DOH-CWB).

725
726 Do not begin construction activities until all required conditions of the
727 permit are met and submittals detailed in Subsection 209.03(A)(3) – Water
728 Pollution, Dust, and Erosion Control Submittals are completed and accepted
729 in writing by the Engineer.

730
731 **(E) Discharges Associated with Hydrotesting Activities.** If
732 hydrotesting activities require effluent discharge into State waters or drainage
733 systems, an NPDES Hydrotesting Waters Permit (CWB-NOI Form F) or
734 Individual Permit authorizing discharges associated with hydrotesting from
735 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.

(F) 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.

(G) Solid Waste. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 30 calendar days of contract certification date. Keep copies 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, the State's Third-Party Inspector, and/or DOH/EPA Representative. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer by the last day of each month. This should also include documentation from any intermediary facility where solid waste is handled or processed, haul tags as applicable, and any documentation as requested by the Engineer. Solid Waste generated by the project shall be taken directly to a DOH-Solid and Hazardous Waste Branch permitted facility as indicated on the Solid Waste Disclosure Form. Notify Engineer at minimum 48 hours prior to removal of material from site. All material not used on the project shall be considered solid waste. No material from the project shall be classified as inert fill material for re-use without testing, obtaining required approvals/permits, proving disposal locations/quantities, and obtaining prior written authorization from the Engineer.

(H) Construction BMP Training. The Contractor's representative responsible for development of the SWPPP and implementation of Site-Specific BMPs in the field shall attend the State's annual Construction Best Management Practices Training during the project duration. 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 the 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

Payment for all work prescribed in this section including: submittals, sampling, testing, reporting, dust control measures, installation, maintenance, monitoring, removal of BMPs, all items as detailed in Subsection 209.03(A)(2) including all items to submit a SWPPP, SWPPP amendments, BMPs for SWPPP submittals, Grading/Stockpiling Permit Submittal and fees, and Solid Waste Disclosure form, shall be paid for under the lump sum pay item shown in the proposal schedule. This includes payment for the installation or modification of Site-Specific BMP measures due to change in the Contractor's means and methods, or for omitted condition that should have been accounted for in the required Site-Specific BMP or a Site-Specific BMP that requires repair or replacement of an accepted Site-Specific BMP that is not satisfactorily performing.

Additional Water Pollution, Dust, and Erosion Control	Force Account
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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, changes dictated by DOH/EPA/Third Party Inspectors, Washouts from large storm events, litter attributed to public liked dumped furniture or litter clearly shown not coming from the Contractor or Subcontractors in the work area, contaminated soil remediation and for the services of a Qualified Environmental Professional to prepare and complete the SWPPP and SWPPP amendments.

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

829

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

834

835 The Engineer will assess liquidated damages up to \$27,500 per day for non-
836 compliance of each BMP requirement and all other requirements in this section as
837 deemed commensurate with the non-compliance.

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839

Appendix A

The following list identifies potential pollutant sources and corresponding BMPs used to mitigate the pollutants. Each BMP is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual or appropriate Supplemental Sheets. The Manual may be obtained from the HDOT Statewide Stormwater Management Program Website at <http://www.stormwaterhawaii.com/resources/contractors-and-consultants/> under Construction Best Management Practices Field Manual. Supplemental BMP sheets are located at <http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/> under Concrete Curing and Irrigation Water.

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

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

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

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

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Sediment from soil stockpiles</i>	• <i>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.</i> • <i>Place bagged materials on pallets and under cover.</i> • <i>Provide physical diversion to protect stockpiles from concentrated runoff.</i> • <i>Cover stockpiles with plastic or comparable material when practicable.</i> • <i>Place silt fence, fiber filtration tubes, or straw wattles around stockpiles.</i> • <i>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.</i> • <i>Unless infeasible, contain and securely protect stockpiles from the wind.</i> • <i>Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. See Stockpile Management Section SM-3 for additional requirements.</i>	<i>See Stockpile Management Section SM-3, Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.</i>
<i>Emulsified asphalt or prime/tack coat</i>	• <i>Provide training for employees and contractors on proper material delivery and storage practices and procedures.</i> • <i>Restrict paving operations during wet weather to prevent paving materials from being discharged.</i> • <i>Use asphalt emulsions such as prime coat when possible.</i> • <i>Protect drain inlet structures and manholes during application of tack coat, seal coat, slurry seal, and fog seal.</i> • <i>Keep ample supplies of drip pans and absorbent materials on site.</i> • <i>Inspect inlet protection devices.</i> • <i>See Material Storage and Handling Section SM-2 and Paving Operations Section SM-20 for additional requirements.</i> • <i>Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.</i>	<i>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.</i>

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.

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Industrial chemicals, fertilizers, and/or pesticides</i>	• <i>Hazardous chemicals shall be well-labeled and stored in original containers.</i> • <i>Keep ample supply of cleanup materials on site.</i> • <i>Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.</i> • <i>Do not clean surfaces or spills by hosing the area down.</i> • <i>Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.</i> • <i>Dispose container only after all of the product has been used.</i> • <i>Retain a complete set of safety data sheets (formerly MSDS) on site.</i> • <i>Store industrial chemicals in water-tight containers and provide either cover or secondary containment.</i> • <i>Provide cover when storing fertilizers or pesticides to prevent these chemicals from coming into contact with rainwater.</i> • <i>Restrict amount of pesticide prepared to quantity necessary for the current application.</i> • <i>Do not apply fertilizers or pesticides during or just before a rain event.</i> • <i>Do not apply to stormwater conveyance channels with flowing water.</i> • <i>Comply with fertilizer and pesticide manufacturer's recommended usage and disposal instructions. Document departures from manufacturer's specifications in Attachment J.</i> • <i>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.</i> • <i>Follow federal, state, and local laws regarding fertilizer application.</i> • <i>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.</i>	<i>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</i>

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

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	• Ensure collection, removal, and disposal of hazardous waste complies with manufacturer's recommendations and is in compliance with federal, state, and local requirements. • See Hazardous Materials and Waste Management Section SM-9 and Vehicle and Equipment Management, Vehicle and Equipment Maintenance SM-12 for additional requirements.	
<i>Metals and Building Materials</i>	• 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
<i>Contaminated Soil</i>	• 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

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Fugitive Dust Control and Dust Control Water</i>	• 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
<i>Concrete Truck Wash Water</i>	• 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

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Sediment Track-Out</i>	• <i>Include Stabilized Construction Entrance at all points that exit onto paved roads.</i> • <i>A sediment trapping device is required if a wash rack is used in conjunction with the stabilized construction entrance/exit.</i> • <i>The pavement shall not be cleaned by washing down the street.</i> • <i>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.</i> • <i>Use BMPs for adjacent drainage structures.</i> • <i>Remove sediment tracked onto the street by the end of the day in which the track-out occurs.</i> • <i>Restrict vehicle use to properly designated exit points.</i> • <i>Include additional BMPs that remove sediment prior to exit when minimum dimensions cannot be met.</i> <i>See Stabilized Construction Entrance/Exit Section SC-11 for additional requirements.</i>	<i>See Stabilized Construction Entrance/Exit Section SC-11</i>
<i>Irrigation Water</i>	• <i>Consider irrigation requirements.</i> • <i>Where possible, avoid species which require irrigation.</i> • <i>Design, timing and application methods of irrigation water to eliminate the runoff of excess irrigation water into the storm water drainage system.</i> <i>See Seeding and Planting Section EC-12 and California Stormwater BMP Handbook SD-12 Efficient Irrigation included in SWPPP Attachment A for additional requirements.</i>	<i>See Seeding and Planting Section EC-12 and California Stormwater BMP Handbook SD-12 Efficient Irrigation</i>
<i>Hydrotesting Effluent</i>	• <i>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.</i>	<i>Site specific BMPs will be included in the NOI/NPDES Permit Form F submittal.</i>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Dewatering Effluent</i>	<i>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.</i>	<i>See Dewatering Operations SM-18. Site specific BMPs will be included in the NOI/NPDES Permit Form G submittal.</i>
<i>Saw-cutting Slurry</i>	• <i>Saw cut slurry shall be removed from the site by vacuuming.</i> • <i>Provide storm drain protection during saw cutting. See Paving Operations Section SM-20 for additional requirements.</i> <i>Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.</i>	<i>See Paving Operations Section SM-20, Storm Drain Inlet Protection SC-1, Perimeter sediment controls where applicable</i>
<i>Concrete Curing Water</i>	• <i>Avoid overspraying of curing compounds.</i> • <i>Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.</i> <i>See California Stormwater BMP Handbook NS-12 Concrete Curing included in SWPPP Attachment A for additional requirements.</i>	<i>See California Stormwater BMP Handbook NS-12 Concrete Curing</i>

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.

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END OF SECTION 209

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209-34a**

9/09/26

1 **SECTION 301 – HOT MIX ASPHALT BASE COURSE**

2
3 Make the following amendments to said Sections:

4
5 **(I)** Amend **Section 301.03(B) Compaction** by revising the second
6 paragraph from lines 84 to 87 to read as follows:

7
8 “Compact mixture immediately upon completion of spreading
9 operations to density of not less than 92.0 percent of maximum theoretical
10 specific gravity in accordance with AASHTO T 209, modified by deletion of
11 Supplemental Procedure for Mixtures Containing Porous Aggregate.”

12
13 **(II)** Amend **Section 301.04 Measurement** from lines 98 to 100 to read as
14 follows:

15
16 **“301.04 Measurement.** The Engineer will measure HMAB course per
17 ton in accordance with contract documents.”

18
19 **(III)** Amend **Section 301.05 Payment**, from lines 102 to 111 to read as
20 follows:

21
22 **“301.05 Payment.** The Engineer will pay for the accepted pay items listed
23 below at the contract price per pay unit, as shown in the proposal schedule.
24 Payment will be full compensation for the work prescribed in this section and the
25 contract documents.

26
27 The Engineer will pay for one of the following pay items when included in
28 the proposal schedule:

29

Pay Item	Pay Unit
Hot Mix Asphalt Base Course _____	Ton

30
31
32
33
34 **(1)** 80% of the contract unit price upon completion of submitting a job-
35 mix formula acceptable to the Engineer; preparing the surface, spreading,
36 and finishing the mixture; and compacting the mixture by rolling;

37
38 **(2)** 20% of the contract unit price upon completion of cutting samples
39 from the compacted pavement for testing; placing and compacting the
40 sampled area with new material conforming to the surrounding area;
41 protecting the pavement; and final analysis.

42
43 The Engineer may, in lieu of requiring removal and replacement, use the
44 sliding scale factor to accept HMAB compacted below 92.0 percent. The
45 Engineer will make payment for the material in that production day at a reduced

price arrived at by multiplying the contract unit price by the pay factor shown in Table 301.05-1.

Table 301.05-1 – Sliding Scale Pay Factor	
Percent Compaction	Percent Payment
92.0 or greater	100
90.0 to less than 92.0	80
Less than 90.0	Removal

END OF SECTION 301

1 **SECTION 305 – AGGREGATE SUBBASE COURSE**

2
3 Make the following amendments to said Section:

4
5 **(I)** Amend **305.04 – Measurement** by revising lines 54 to 55 to read as
6 follows:

7
8 **“305.04 Measurement.** The Engineer will measure aggregate subbase per
9 cubic yard in accordance with the contract documents.”

10
11 **(II)** Amend **305.05 – Payment** by revising lines 57 to 66 to read as follows:

12
13 **“305.05 Payment.** The Engineer will pay for the accepted aggregate
14 subbase at the contract price per pay unit, as shown in the proposal schedule.
15 Payment will be full compensation for the work prescribed in this section and the
16 contract documents.

17
18 The Engineer will pay for the following pay item when included in the
19 proposal schedule:

20	21 Pay Item	22	23 Pay Unit
24	Aggregate Subbase _____	25	Cubic Yard”

26
27 **END OF SECTION 305**

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“313.04 Measurement. The Engineer will measure filter fabric per square yard in accordance with the contract documents.”

“313.05 Payment. The Engineer will pay for the accepted filter fabric per square yard. Payment will be full compensation for the work prescribed in this section and contract documents.

Pay Item	Pay Unit
Filter Fabric _____	Square Yard"

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7/17/26

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

2
3 **“SECTION 401 – HOT MIX ASPHALT (HMA) PAVEMENT**

4
5 **401.01 Description.** This section describes furnishing and placing dense graded
6 HMA pavement (herein referred to as HMA) on a prepared surface.

7
8 **401.02 Materials.**

9
10 Asphalt Cement (PG 64-16) 702.01(A)

11
12 Use for non-surface mixes, unless otherwise specified in the project documents.

13
14 Asphalt Cement (PG 64E-22) 702.01(B)

15
16 Use for all surface mixes, except for on Lanai and Molokai, and unless otherwise
17 specified in the project documents. Polymer modified asphalt (PMA) pavement
18 refers to asphalt mix using PG 64E-22, unless otherwise indicated.

19
20 Emulsified Asphalt 702.04

21
22 Warm Mix Asphalt Additive 702.06

23
24 Aggregate for Hot Mix Asphalt Pavement 703.09

25
26 Filler 703.15

27
28 Hydrated Lime or a liquid anti-strip approved by the engineer 712.03

29
30 **(A) General.** HMA pavement shall be plant mixed and shall include
31 mixture of aggregate and asphalt binder and may include reclaimed asphalt
32 pavement (RAP) or filler, or both.

33
34 Polymer Modified Asphalt (herein referred to as PMA) pavement shall
35 conform to all HMA pavement requirements, but with the use of asphalt
36 binder specified in Subsection 702.01(B) – Asphalt Cement (PG 64E-22).

37
38 The manufacture of HMA may include warm mix asphalt (WMA)
39 processes in accordance with these specifications. WMA processes include
40 combinations of organic additives, chemical additives, and foaming.

41
42 HMA pavement shall include surface course and may include one or
43 more binder courses, depending on HMA pavement thickness indicated in
44 the contract documents.

45
46 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.

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

182
183 **3. Checking Aggregate Stockpile.** Check
184 condition of the aggregate stockpile often enough to
185 ensure that the aggregate is in optimal condition.

186
187 **(c) Batch and Continuous Mix Plants.**

188
189 **1. Hot Aggregate Bin.** Provide bin with three or
190 more separate compartments for storage of screened
191 aggregate fractions to be combined for mix. Make
192 partitions between compartments tight and of sufficient
193 height to prevent spillage of aggregate from one
194 compartment into another.

195
196 **2. Load Cells.** Calibrated load cells may be used in
197 batch plants instead of scales.

198
199 **(2) Hauling Equipment.** Use trucks that have tight, clean, smooth
200 metal beds for hauling HMA.

201
202 Thinly coat truck beds with a minimum quantity of non-stripping
203 release agent to prevent mixture from adhering to beds. Diesel or
204 petroleum-based liquid release agents, except for paraffin oil, shall not
205 be used. Drain excess release agent from truck bed before loading
206 with HMA.

207
208 Provide a designated clean up area for the haul trucks.

209
210 Equip each truck with a tarpaulin conforming to the following:

211
212 **(a)** In good condition, without tears and holes.

213
214 **(b)** Large enough to be stretched tightly over truck bed,
215 completely covering mix. The tarpaulin shall be secured in such
216 a manner that it remains stretched tightly over truck bed and
217 HMA mix until the bed is about to be raised up in preparation
218 for discharge.

219
220 **(3) Asphalt Pavers.** Use asphalt pavers that are:
221

- (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.

264 **3. Barber-Green/Caterpillar Bituminous Pavers.**

265 Barber-Green/Caterpillar bituminous pavers shall be
266 equipped with deflector plates as identified in the
267 December 2000 Service Magazine entitled "New
268 Asphalt Deflector Kit {6630, 6631, 6640}".

269
270 Bituminous pavers not listed above shall have similar
271 attachments or designs that shall make them equivalent to the
272 bituminous pavers listed above. The Engineer will solely
273 decide if it is equal to or better than the setups described for the
274 equipment listed above.

275
276 Submit for review and acceptance, prior to the start of
277 using the paver for the placing of plant mix, a full description in
278 writing of the means and methods that will be used to prevent
279 the bituminous paver from having both aggregate and
280 temperature segregation. Use of any paver that has not been
281 accepted is prohibited until acceptance of the paver is received
282 from the Engineer. Any pavement placed with an unaccepted
283 paver will be regarded as not compliant work and may not be
284 paid for and may require removal.

285
286 Supply a Certificate of Compliance that verifies that the
287 manufacturer's approved means and methods used to prevent
288 bituminous paver from having both aggregate and temperature
289 segregation have been implemented on all pavers used on the
290 project and are working in accordance with the manufacturer's
291 requirements and Contract Documents.

292
293 **(4) Rollers.** Rollers shall be self-propelled, steel-tired tandem,
294 pneumatic-tired, or vibratory-type rollers capable of reversing without
295 shoving or tearing the just placed HMA mixture. Provide sufficient
296 number, sequencing, type, and rollers of sufficient weight to compact
297 the mixture to required density while mixture is still in workable
298 condition. Equipment shall not excessively crush aggregate. Operate
299 rollers in accordance with manufacturer's recommendations and
300 Contract Documents. The use of intelligent compaction is encouraged
301 and may be required elsewhere in the Contract Documents.

302
303 **(a) Steel-Tired Tandem Rollers.** Steel-tired tandem rollers
304 used for initial breakdown or intermediate roller passes shall
305 have minimum gross weight of 12 tons and shall provide
306 minimum 250-pound weight per linear inch of width on drive
307 wheel.

308
309 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.

Furnish and install Tensar Rapid Repair PG100 or approved equal prior to PMA placement. The surface shall be cleaned and free from dirt prior to Tensar placement. Install per manufacturer's recommendations.

(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 frequency 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 notch 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,

906 shoulders, etc.

907
908 **(b)** Asphalt pavement and adjacent concrete pavement or
909 curb and gutter or any other surface where the bonding of the
910 asphalt pavement and concrete surface is desired,

911
912 **(c)** Transverse joints between asphalt pavements not
913 placed at the same time or if the pavement's temperature on
914 one side of the joint is below the minimum temperature the mix
915 can be at, during asphalt pavement compaction or installation.

916
917 **(d)** Cut face of an existing pavement where it will have new
918 HMA pavement placed against it, e.g., utility trenches, partial or
919 full depth repairs, etc.

920
921 Pavement joint adhesive is not required on a longitudinal
922 construction joint between adjacent hot mix asphalt pavements
923 formed by echelon paving. Echelon paving is defined as paving
924 multiple lanes side-by-side with adjacent pavers slightly offset at the
925 same time.

926
927 A longitudinal construction joint between one shift's work and
928 another shall have pavement joint adhesive applied at the joint. Any
929 longitudinal construction joint formed, with the temperature on one
930 side of the joint that is below the minimum temperature the mix can be
931 when compacted to contract requirements during asphalt pavement
932 installation, shall have pavement joint adhesive applied at the joint.

933
934 **(2) Material requirements.** Asphalt joint adhesive shall meet
935 requirements as specified in Table 401.03-1 - Asphalt Joint Adhesive
936 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:

1016 **(a) Smoothness Test using 10-Foot Straightedge (Manual or**
1017 **rolling)** The 10-foot straightedge is used to identify the locations that
1018 vary more than 3/16 inch from the lower edge when the 10-foot
1019 straightedge is laid on finished pavement on the direction parallel with
1020 the centerline or perpendicular to centerline. Remove the high points
1021 that cause the surface to exceed that 3/16 inch tolerance by grinding.

1022
1023 The Contractor shall use a 10-foot straightedge for the following
1024 locations:

- 1025
1026 **1.** Longitudinal profiling parallel to centerline, when within
1027 15 feet of a bridge approach or existing pavement which is
1028 being joined.
- 1029
1030 **2.** Transverse profiling of cross slopes, approaches, and as
1031 otherwise directed. Lay the straightedge in a direction
1032 perpendicular to the centerline.
- 1033
1034 **3.** When pavement abuts bridge approaches or pavement
1035 not under this Contract, ensure that the longitudinal slope
1036 deviations of the finished pavement comply with Contract
1037 Document's requirements.
- 1038
1039 **4.** Short pavement sections up to 600 feet long, including
1040 both mainline and non-mainline sections on tangent sections
1041 and on horizontal curves with a centerline radius of curve less
1042 than 1,000 feet.
- 1043
1044 **5.** Within a superelevation transition on horizontal curves
1045 having centerline curve radius less than 1,000 feet, e.g.,
1046 curves, turn lanes, ramps, tapers, and other non-mainline
1047 pavements.
- 1048
1049 **6.** Within 15 feet of transverse joint that separates
1050 pavement from existing pavement not constructed under the
1051 contract, or from bridge deck or approach slab for longitudinal
1052 profiling.
- 1053
1054 **7.** At miscellaneous areas of improvement where width is
1055 less than 11 feet, such as medians, gore areas, and shoulders.
- 1056
1057 **8.** As otherwise directed by the Engineer. The Engineer
1058 may confine the checking of through traffic lanes with the
1059 straightedge to joints and obvious irregularities or choose to
1060 use it at locations not specifically stated in this Section.
- 1061

1062 **(b) High-Speed Inertial Profiler**

1063
1064 There shall be a minimum 3 profile runs per lane, for each
1065 wheel path (left and right) which is approximately three feet from edge
1066 lane line. The segment length shall be 0.1 mi. The final segments in
1067 a lane that are less than 0.1 mi shall be evaluated as an independent
1068 segment and pay adjustments will be prorated for length. The profiles
1069 shall be taken in the direction of traffic only.

1070
1071 The latest version of FHWA ProVAL software shall be used to
1072 conduct profile analysis to determine IRI and areas of localized
1073 roughness. The IRI values shall be reported in units of in/mi.

1074
1075 Areas of localized roughness will be identified by using
1076 ProVAL's "Smoothness Assurance" analysis, calculating IRI with a
1077 continuous short interval of 25 feet and the 250-mm filter applied.

1078
1079 Additional runs may be required by the Engineer if the data
1080 indicate a lack of repeatability of results. A 92% agreement is required
1081 for repeatability and IRI values shall have at minimum a 95%
1082 confidence level.

1083
1084 **(N) Required Pavement Smoothness**

1085
1086 The IRI for the left and right wheel paths in an individual lane will be
1087 computed and then averaged to determine the Mean Roughness Index (MRI)
1088 values based on Table 401.03-2 – Pavement Smoothness Categories. The
1089 MRI will be used to determine acceptance and pay adjustment. Each lane
1090 shall be tested and evaluated separately.

1091
1092 There are three (3) categories of target MRI values:

1093

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

1094
1095 An opportunity for improving ride is considered as one (1) lift of asphalt
1096 pavement, including but not limited to HMAB, HMA, PMA, and SMA.
1097

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 Table 401.03-4 – Smoothness Pay Disincentives with MRI and Table 401.03-5 – Smoothness Pay 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 Table 401.03-4 – Smoothness Pay Disincentives with MRI and Table 401.03-5 – Smoothness Pay Disincentives for Percent Improvement as applicable.

1190 (3) The Contractor shall notify the Engineer at least 24 hours prior
1191 to commencement of the corrective work. The Contractor shall not
1192 commence corrective work until the methods and procedure have
1193 been approved in writing by the Engineer.

1194
1195 (4) All smoothness corrective work for areas of localized
1196 roughness shall be for the entire lane width. Pavement cross slope
1197 shall be maintained through corrective areas.

1198
1199 (5) The remedial repair areas shall be neat, rectangular areas
1200 having a uniform surface appearance.

1201
1202 (6) If grinding is used on HMA pavement, the surface shall have
1203 nearly invisible grinding marks to passing motorist.

1204
1205 (7) Other methods may include milling and overlaying HMA
1206 pavement. The length, depth of the milling and the replacement
1207 material will be solely decided by the Engineer.

1208
1209 (8) The finished repaired pavement surface shall leave no ridges
1210 or valleys or fins of pavement other than those allowed below.

1211
1212 (9) Remedial repairs shall not leave any drainage structures' inlets
1213 higher than the surrounding pavement or alter the Contract
1214 Document's drainage pattern.

1215
1216 (10) For items in the pavement other than drainage structures, e.g.,
1217 manhole frame and covers, survey monuments, expansion joints etc.,
1218 the finish pavement, ground or not, shall not be more than 1/4 inch in
1219 elevation difference. Submit to the Engineer remedial repair method
1220 to correct these conditions for acceptance.

1221
1222 (11) Pick up immediately grinding operation residue by using a
1223 vacuum attached to grinding machine or other method acceptable to
1224 the Engineer.

1225
1226 (a) Any remaining residue shall be picked up before the end
1227 of shift or before the area is open to traffic, whichever is earlier.

1228
1229 (b) Prevent residue from flowing across pavement or from
1230 being left on pavement surface or both.

1231
1232 (c) Residue shall not be allowed to enter the drainage
1233 system.

1235 (d) The residue shall not be allowed to dry or remain on the
1236 pavement.

1237
1238 (e) Dispose of all material that is the result of the remedial
1239 repair operation, e.g., HMA residue, wastewater, and dust at a
1240 legal facility.

1241
1242 (12) Complete corrective work before determining pavement
1243 thickness for HMA pavements in accordance with Subsection
1244 401.03(I) – HMA Pavement Thickness Tolerances.

1245
1246 (13) All HMA wearing surface areas that have been ground shall
1247 receive a coating, e.g., a coating material that will restore any lost
1248 impermeability of the HMA due to the grinding of the surface. The
1249 coating used shall not be picked up or tracked by passing vehicles or
1250 be degraded after a short period of time has passed, i.e., it shall have
1251 a service life equal to or greater than the HMA pavement. The coating
1252 shall not decrease the pavement's friction value. The coating's limits
1253 shall be the full width of the lane regardless how small. If the remedial
1254 repair area extends into the next lane, then the repair area will be full
1255 lane width also. Extend the length of coating areas in order for the
1256 coating area to look like the rest of the road and does not have patches
1257 on it, i.e., make the road look uniform in color. The coating shall be of
1258 a color that matches the surrounding pavement. The areas receiving
1259 the coating shall not be open to traffic until it has cured enough so that
1260 it cannot be picked up or tracked by passing vehicles or degrade.
1261 Submit means and methods of the coating and type of coating to the
1262 Engineer or MTRB for review and acceptance. Do not proceed with
1263 the coating without acceptance from the Engineer.

1264
1265 (14) Recompact cold HMA, i.e., HMA that has reached ambient
1266 temperature is not an acceptable remedial repair method.

1267
1268 (15) Replace all pavement markings damaged or discolored by
1269 remedial repairs.

1270
1271 (16) Reprofile the corrected area and provide the Engineer the
1272 results that show the corrective action, i.e., remedial repairs were
1273 successful.

1274
1275 **(S) Pavement Smoothness and Acceptance.**

1276
1277 (1) Price and payment in various paving sections, e.g., 401 (Hot
1278 Mix Asphalt Pavement), shall be full compensation for all work and
1279 materials specified in the various paving sections and this section,
1280 including but not limited to furnishing all labor, materials, tools,

1281 equipment, testing, incidentals and for doing all work involved in micro
1282 milling, milling (cold planing), grinding existing or new pavement,
1283 removing residue, cleaning the pavement, necessary disposal of
1284 residue, furnishing of any water or air used in cleaning the pavement
1285 and any other related ancillary work or material or services. Also, it
1286 includes any remedial work, e.g., re-paving, surface grinding,
1287 application of a coating, curing compound, and replacement of
1288 damaged pavement markings.

1289
1290 **(2)** The contract price in those sections may be adjusted for
1291 pavement smoothness by the Engineer. The pavement smoothness
1292 contract unit price adjustments and work acceptance will be made in
1293 accordance with the following schedules.
1294

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

1295
1296

(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 Disincentives with MRI.

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 Pay 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	≥ 40	\$0
(pre-paving MRI > 125)	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

1353 areas where corrective work was required to meet contract
1354 smoothness requirements, unless the pavement section was
1355 replaced. All areas where corrective work was performed shall
1356 be tested again to ensure the smoothness requirements are
1357 met.

1358
1359 **(d)** There will be no incentive price adjustments to the
1360 contract prices regardless of the pavement meeting the
1361 Contract Documents' requirements for incentive contract price
1362 adjustment, when 25% of the total area paved of that particular
1363 type of pavement on the project has failed to meet any of the
1364 Contract document requirements, e.g., smoothness, thickness,
1365 unit weight, asphalt content, pavement defects, compaction,
1366 flexural or compressive strength. Areas exempt from the
1367 smoothness requirements may not be included in the total area
1368 calculation unless it is non-compliant.

1369
1370 **(e)** For contracts using lump sum the method described in
1371 Subsection 104.06 Methods of Price Adjustment paragraph
1372 (3), will be used to calculate proportionate unit price, i.e., the
1373 Engineer's calculated theoretical unit price. This calculated
1374 proportionate unit price will be used to calculate the unit price
1375 adjustment.
1376

1377 **401.04 Measurement.**

1378
1379 **(A)** The Engineer will measure PMA pavement per ton in accordance with
1380 the Contract Documents.

1381
1382 **(B)** Engineer will measure additional State pavement profiling work when
1383 applicable on a cost-plus basis as specified in this section and as ordered by
1384 Engineer. The Engineer will issue a billing for the pavement profile work done
1385 for the time period with the invoices and receipts that the billing was based
1386 on attached to the Contractor for each contract item. The Contractor's
1387 pavement profile work required in this section will not be measured and will
1388 be considered incidental to the various paving items unless stated otherwise.

1389
1390 **(C)** Engineer will measure Tensar Rapid Repair PG100 or approved equal
1391 per square yard in accordance with the Contract Documents.
1392

1393 **401.05 Payment.** The Engineer will pay for the accepted PMA pavement at the
1394 contract price per pay unit, as shown in the proposal schedule. Payment will be full
1395 compensation for the work prescribed in this section and the contract documents.
1396

1397 **(A)** Price and payment in Section 401 – HMA Pavement will be full
1398 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) Engineer will pay for Tensar Rapid Repair PG100. Payment will be full compensation for all work and materials specified in this Section including furnishing all labor, materials, tools, equipment, and incidentals needed to conform to the requirements of the Contract Documents.

(C) 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.

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

Pay Item	Pay Unit
----------	----------

_____ PMA 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.

Tensar Rapid Repair PG100 _____	Square Yard
---------------------------------	-------------

The Engineer will not pay for adjusting existing frames and covers and valve boxes. Adjusting of existing frames and covers and valve boxes shall be considered incidental to the various paving items.

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
Greater than 98.0	Removal
Greater than 97.0 to 98.0	95
93.0 to 97.0	100
90.0 to less than 93.0	80
Less than 90.0	Removal

END OF SECTION 401

Amend Section 503 – Concrete Structures to read as follows:

"SECTION 503 - CONCRETE STRUCTURES

503.01 Description. This section describes the construction of concrete bridge elements.

503.02 Materials.

Structural Concrete	601
Reinforcing Steel	602
Joint Filler	705.01
Dowels	709.01(E)
Curing Materials	711.01
Admixtures	711.03
Steel Reinforced Elastomeric Bearings	506
Grout	712.04

Concrete materials and production methods must be selected so that the concrete temperature at delivery complies with the specified temperature limits. Ensure that the materials, means, and methods used prevent plastic shrinkage cracks from forming.

All concrete must comply with the concrete CO₂ footprint reduction requirements of Section 601 – Structural Concrete.

503.03 Construction.

(A) Falsework, Formwork, or Centering. Falsework, or centering is temporary construction work on which other work is wholly or partially supported until permanent construction is strong enough to support itself. This includes form lining and sheathing, as well as necessary supporting members, hardware, and bracing. Formwork is a temporary structure or mold used to retain the plastic fluid concrete in its designated shape until it hardens. Formwork must have enough strength to resist the fluid pressure exerted by plastic concrete and any additional fluid pressure effects generated by vibrations.

47 Submit falsework and centering erection plans including soil bearing
48 value, stress sheets, superstructure placing diagram and sequence,
49 falsework and centering removal procedures, and design calculations for
50 falsework and centering, as a complete package, stamped and signed by a
51 Hawaii Licensed Structural Engineer. Submit manufacturer's certificates or
52 perform tests, as necessary, to demonstrate the adequacy of devices
53 proposed for use or to verify design assumptions.

54
55 Do not start falsework, formwork, or centering construction until the
56 Engineer has accepted drawings and calculations. Acceptance of drawings
57 or inspections of the system by the Engineer does not relieve the Contractor
58 from the responsibility of results obtained by using such drawings and
59 calculations.

60
61 Use AASHTO Guide Design Specifications for Bridge Temporary
62 Works for the design of Falsework, Formwork, or Centering. For allowable
63 stresses not specified in AASHTO, the Contractor's structural engineer may
64 use UBC/ICBO industry specifications or codes upon acceptance. Avoid
65 cantilevered falsework members. Limit maximum deflection due to the
66 weight of dead and live loads to 0.4 percent of the span. Provide camber
67 strips to compensate for deflections or other movements greater than 1/4
68 inch.

69
70 Take the length of spans to be the smaller of the center-to-center
71 distance between supports or clear span plus member depth. Design
72 formwork for the bottom slab of box girders to carry dead and live loads of
73 both top and bottom slabs, as well as loads of webs, unless calculations
74 indicate the bottom slab is to carry loads of top slabs temporarily imposed
75 upon it.

76
77 Arrange a falsework system so that loads imposed produce
78 symmetrical and approximately equal reactions. Submit falsework soil
79 pressure, pile capacity, and ground preparation, with supporting data and
80 documentation. Show these items on working drawings. When structures
81 cross over waterways and other flood-prone areas, use special consideration
82 in the design of supporting falsework to prevent the reduction in support
83 capacity due to the effects of flood and standing water.

84
85 The design load for falsework or centering includes dead and live
86 vertical loads, slope load of the structure, and lateral loads. The minimum
87 vertical live load to be used in the design is 50 pounds per square foot of
88 surface area plus 150 pounds per linear foot, applied at the outside edge of
89 cantilevered members. Add minimum vertical live load to the actual weight of
90 required construction equipment. Use minimum lateral load in design to be
91 the greater of either 3 percent of total dead load or 150 pounds per linear
92 foot. Apply minimum lateral load at the top surface of falsework support.

When falsework, scaffolding, or work is over or adjacent to existing roadways, install the aforementioned to withstand vehicle impact. Maintain falsework, scaffolding, or work until its removal. Temporary bracing shall be provided, as necessary to withstand all imposed loads during erection, construction and removal of falsework. When the aforementioned is within the clear zone install a barrier system with appropriate deflection and of sufficient length with a terminal impact attenuator. Both must have successfully passed a MASH TL-3 crash test. The falsework, formwork, centering, working platform, or work must be constructed so it does not allow any objects, e.g., water, debris, dust, tools, or material to fall on the traveling public, pedestrians, roadway, roadside, etc.

Show stresses and deflection of load supporting members in design calculations. Show anticipated total settlements of falsework and forms on falsework drawings, including falsework footing pressure and settlement, and joint take-up. Do not exceed 1 inch for anticipated settlements of falsework. Provide tell-tales attached to soffit forms, readable from the ground, at sufficient locations to determine total settlements and deflections resulting from concrete placement. Check for any movement or deformation of forms and falsework that may exceed the calculated or anticipated deflection or settlement. If the movement or deformation is exceeded, take appropriate action. This action may include halting concrete placement to install additional bracing or changing the rate or sequence of concrete placement to achieve the required lines and grade. Discontinue concrete placement when settlements deviate more than $\pm 3/8$ inch from those indicated on falsework drawings. In such affected areas, provide corrective measures prior to initial set of concrete. Remove unacceptable concrete.

In designing falsework and centering, assume the weight of 160 pounds per cubic foot for concrete. Design and construct falsework to provide the necessary rigidity and to support loads without appreciable settlement or deformation. Use screw jacks or hardwood wedges to take up settlement in formwork either before or during the placement of concrete. Design falsework for support of superstructure to support loads that would be superimposed as if the entire superstructure were placed at once. Design vertical falsework members supporting spans with a single hinge, or double hinges within a span, for twice tributary falsework requirements at a distance of 10 feet on each side of hinges, measured parallel to the centerline of the girder. Apply requirements to conventionally reinforced and prestressed concrete structures. Design falsework for prestressed concrete structures for additional loads caused by prestressing.

Place falsework or centering upon footing safe against undermining and softening when footing-type foundations are to be used. Show the bearing value of soil in shop drawings of falsework or centering.

Set falsework to give finished structure camber specified. Construct arch centering in accordance with centering plans accepted by the Engineer. Make provisions for the gradual lowering of centers and for rendering the arch self-supporting. Use jacks to correct slight settlements that may occur during the placement of concrete.

Use manufactured items complying to AASHTO standards. When items are not covered by AASHTO, use standards of nationally known organizations such as AISC for steel, ACI for concrete, and NFPA for lumber. In all cases, furnish data listing the manufacturer's design criteria complying to design specifications and recommendations, or perform tests, as necessary, to show the adequacy of the proposed device.

Install falsework lighting in accordance with Section 633 – Falsework Lighting.

(B) Forms.

(1) Construction. Use wood or metal forms that are impervious to moisture, non-staining to concrete, mortar tight and sufficiently rigid to prevent distortion due to pressure of concrete and other loads, including vibration, incidental to construction. Construct and maintain forms to prevent joints from opening. Formwork joints shall be filled with approved material that is impervious to moisture, will not stain concrete, and produces tight joints.

Unless otherwise indicated in the contract documents, place minimum $\frac{3}{4}$ inch by $\frac{3}{4}$ inch chamfer at sharp edges of exposed concrete surfaces. Give girder and coping forms bevels or drafts to ensure easy removal.

Set and maintain forms true to lines designated. When forms appear to be unsatisfactory, either before or during concrete placement, the Engineer may stop work until defects are corrected.

When forms are submerged in water and concrete is placed in the dry, make forms watertight below high water level.

Cover knotholes and damaged areas in wood forms with metal patches.

Control rate of depositing concrete in forms to prevent form deflection or form panels that exceed permitted deflections. When structure height is greater than 6 feet, submit the rate of depositing concrete.

185 Use forms for concrete surfaces not completely enclosed or
186 hidden below the permanent ground surface that complies with
187 requirements, in this subsection, for exposed-surface forms. Interior
188 surfaces of underground drainage structures will be considered
189 completely enclosed surfaces.

190
191 Before using forming systems for exposed surfaces, submit
192 form design and materials data for each system.

193
194 Design and construct forms for exposed concrete surfaces so
195 that the formed surface of concrete does not undulate excessively
196 between studs, joists, form stiffeners, form fasteners, or walls.
197 Undulations exceeding either 3/32 inch or 1/270 of the center-to-
198 center distance between studs, joists, form stiffeners, form fasteners,
199 or walls will be considered to be excessive. The Engineer will reject
200 portions of concrete structure with surface undulations over limits
201 specified herein. The Engineer will stop the use of the forms or
202 forming systems which produce a concrete surface with excessive
203 undulations until the Contractor makes modification acceptable to the
204 Engineer.

205
206 Form exposed surfaces of each concrete structure element
207 with the same forming material or with materials that produce similar
208 concrete surface textures, color, and appearance.

209
210 For exposed surfaces, provide form panel facing consisting of
211 continuous sections of form facing material, unbroken by joint marks,
212 against which concrete is placed.

213
214 **(2) Form Lumber.** Use form lumber, except for curved and
215 special surfaces, of five-ply panel boards or dressed shiplap, used
216 with or without form liners. Rough lumber may be used for unexposed
217 surfaces in the finished structure. Three-ply panel boards may be
218 used for forming soffit of unexposed portions of box girder top slabs.
219 When requested by the Engineer, submit certificates verifying grade
220 and species of any piece of lumber which does not have a grade or
221 species stamp.

222
223 Use plywood complying to the latest edition of "United States
224 Product Standard PS-1 for Construction and Industrial Plywood" for
225 forms. Place form panels in uniform widths of not less than 36 inches
226 and of uniform lengths of not less than 6 feet, except where
227 dimensions of members formed are less than specified panel
228 dimensions. Place plywood panels with the grain of outer plies in
229 direction of the span.

Place form panels in a neat, symmetrical pattern, subject to acceptance of the Engineer. Place panels with long dimensions horizontal and with horizontal joints level and continuous. Stagger and position perpendicular to vertical joints, as shown in the Contract Documents.

(3) Form Ties. Use form ties of sufficient strength and number to hold the form securely in place and prevent the spreading of forms during concrete placement. The following will not be allowed:

(a) Ties consisting of twisted wire loops to hold forms in position.

(b) Non-metallic forming ties, anchorages, forming supports, or other accessories that may be embedded permanently in concrete.

(c) Driven-type anchorages for fastening forms or form supports to concrete.

Construct form ties or anchorages within forms to permit removal to a depth of at least 1 inch from the face, without injury to concrete. Design fittings for form ties or anchorages so that, upon removal, cavities left are of the smallest possible size. Fill cavities completely with cement mortar and leave surface sound, smooth, even, and uniform in color.

(4) Walls. For narrow walls and columns where the bottom of the form is inaccessible, leave lower form boards loose.

(5) Diaphragms. For diaphragms poured as part of a seismic retrofit, where bridge girders and deck are existing, provisions for vent holes, drain ports, and ports for pumping shall be supplied. Vent holes shall be placed at the top of forms to allow proper air bleed. Drain ports shall be installed at the lowest elevation of the form. As an alternative to the vent holes and ports for pumping, provide core holes through the existing concrete deck to aid in concrete placement.

(6) Surface Treatment. Immediately before each use, clean and treat forms with non-staining form oil that will permit the ready release of forms and will not discolor concrete.

(7) Metal Forms. Specifications for forms regarding design, mortar tightness, filleted corners, beveled projections, bracing, alignment, removal, reuse, and oiling apply to metal forms. The metal thickness used for forms must be such that forms will remain true to

shape. Countersink bolts and rivet heads. Design clamps, pins, or other connecting devices to hold forms rigidly together and to allow removal without injury to concrete. Metal forms that are rough or crooked will not be allowed.

(8) Reuse of Forms. Maintain shape, strength, rigidity, water tightness, and surface smoothness of reused forms. Resize warped or bulged lumber before using.

(C) Removal of Falsework and Forms. Before removing shoring beneath elements, remove forms to allow the Engineer to inspect the condition of concrete.

Remove supports using a method that permits concrete to uniformly and gradually take stresses caused by its weight.

After placing concrete, remove or release falsework and forms no earlier than removal times specified in Table 503.03-1 – Removal of Falsework and Forms. The Engineer will determine the exact removal time.

TABLE 503.03-1 - REMOVAL OF FALSEWORK AND FORMS

Structural Element	Anchor Beam	Corbel	Tie Slab	Bent Cap	Creep Block
Removal Time (Days)	1	0.5	0.5	2	1
Diaphragms and Cheekwalls With Maximum Height of (Feet)	2	5	10		
Removal Time (Days)	0.5	1	2		

(D) Loading. At concrete diaphragm and bent cap locations any induced external loads (i.e. hydraulic jacking or supporting weight of bridge superstructure) will not be allowed until concrete has cured for a minimum of 3 days and the concrete has reached a minimum of 4,000 psi compressive strength.

Concrete compressive strength results shall be obtained from cylinder test specimens. Cure concrete test specimens in accordance with paragraph 9.4 of AASHTO T 23. Submit information to Engineer for review and approval

prior to placing external load on elements.

Material storage of any kind on structure, within 15 days of concrete placement, will not be allowed. After a minimum of 15 days has elapsed since concrete placement, materials weighing no more than 50 percent of the design live load may be stored on the structure. Submit shop drawings showing locations and weights of stored materials.

Release falsework before placing loads on the structure.

Live loads will not be allowed on bridge deck until concrete diaphragms have cured for a minimum of 3 days and reached 28-day compressive strength.

Backfill behind abutment in accordance with Section 205 - Excavation and Backfill for Bridge and Retaining Structures and Section 627 – Lightweight Cellular Concrete (LCC) Fill for Utilities and Structures.

(E) Placing Concrete.

(1) General. Place and consolidate concrete by methods that must not cause aggregate segregation or unsound concrete and must result in dense, homogeneous concrete, free of voids, rock pockets, and other defects. Use concrete while it is plastic and has sufficient workability for placement. Retempering or remixing concrete that has partially hardened will not be allowed. Allow no more than a 30-minute interval between placement of two consecutive batches or partially hardened will not be allowed. Allow no more than a 30-minute interval between the placement of two consecutive batches or loads of concrete.

Do not deviate from the schedule for placing concrete without permission from the Engineer.

The project site's addition of water to concrete ready-mix concrete in a truck mixer after the arrival at the location of concrete placement **IS LIMITED**. The addition of water above the amount in the accepted mix design mixture may affect the concrete properties, such as the water/cementitious (W/C) ratio which may result in a reduction of concrete strength, aggregate segregation, durability, increased shrinkage, mix uniformity and the increased its susceptibility to cracking. These unwanted properties may cause a reduction in service life and may increase the possibility of catastrophic failure of the structure. Hence, exceeding the W/C ratio is prohibited.

When a truck mixer is used for mixing or the delivery of

concrete, no water from the truck system or elsewhere will be allowed to be added after the initial introduction of mixing water for the batch. The additional water may be added to the concrete mix when all the following conditions exist:

- Job site water must be started to be added not later than 15 minutes after the concrete ready-mix truck had arrived at the project site. Parking the ready-mix truck off the project site, waiting in a queue or both will be considered arriving on the project site.
- The addition of water later than 15 minutes may be requested only before use from the Engineer when justified with additional data. The additional time needed and justification must be stated in the request.
- The slump of the concrete is less than that specified in the accepted mix design.
- The water added will not exceed the total amount of water specified in the accepted mix design or specification, i.e., exceeds the accepted water/cementitious (W/C) ratio (W=weight of water in batch, in pounds; and C= weight of cementitious materials in batch, in pounds).
- The temperature of the concrete has not exceeded the amount set in the Contract Documents.

The maximum amount of water that may be added to the concrete at the project site must be the smallest amount of water used to obtain the result of the following three restrictions:

- Bring the slump up to the accepted mix design or specified level, or
- Must not exceed 1½ gallons of water per cubic yard of concrete, or
- Must not cause the total amount of water to exceed the amount of water in the accepted mix design, i.e., change the W/C.

For example: If 1½ gallons of water per cubic yard of concrete increases the W/C beyond the accepted W/C then 1½ gallons of water must not be used. The maximum amount of water that can be added must be limited to the amount of water that would bring the mix to the accepted W/C even though the design mix slump has not been reached.

Adjustments are usually made to achieve the design mix slump requirements and must not exceed the accepted design mix's maximum slump.

The addition of water within the initial 15 minutes at the project site must be injected into the mixer under pressure and direction to assure uniformity. The drum or blades must be turned an additional 30 revolutions or more, if necessary, at mixing speed, until the uniformity of the concrete is assured. **WATER MUST NOT BE ADDED TO THE BATCH AT ANY LATER TIME!**

When macro or micro fibers are part of the mix design, excessive rotation of the drum may cause a deleterious effect on the concrete fiber mix. The fiber manufacturer's recommendations must be followed.

Pertinent Required Controlling Measures:

- Maximum allowable slump established from the accepted concrete design mixtures and job specifications.
- The concrete slump from the first portion of concrete discharged from the truck needs to be estimated or determined. The estimated concrete discharged must be subtracted from the W/C calculation. For example, 10yds of concrete is in the truck, and $\frac{1}{4}$ cy is discharged. The delivery tag indicates 1gal/cy can be added to the mix without exceeding the accepted W/C. The maximum amount of water that can be added is $9\frac{3}{4}$ gal providing the addition of that amount of water does not cause the slump to be more than the accepted concrete mix design's slump requirement. The addition of water to obtain workability and meet job specifications is the contractor's responsibility. However, the quantity of water added must be documented on the collected delivery tickets. The delivery tags must note the amount of water that can be added at the project site and still not exceed the total amount of water in the accepted concrete mix design, i.e., held back water. When the amount of held back water is not shown on the delivery tag it will be assumed that the concrete mix has the maximum total water allowed by the accepted mix design and no additional water will be allowed to be added at the project site.
- Do not allow water to be added to the concrete if the maximum slump is already obtained, or more than $\frac{1}{4}$ cubic yard has been discharged from the mixer.
- $1\frac{1}{2}$ gallons of water or less per cubic yard may be used to obtain the desired slump. The slump must not exceed the maximum design slump and job specifications. The added water must not cause the batch's accepted W/C to increase.
- Tests for the acceptance of concrete based on slump must be made in accordance with AASHTO T 141 & T 119.

Tests must be made after the addition of water at the project site to determine if the concrete's slump is compliant.

- When the concrete mix does not meet the requirements of this Section the concrete will be considered non-conforming, i.e., non-compliant. The action taken will comply with Subsection 105.12 Removal of Non-Conforming and Unauthorized Work.

This portion of the Section applies to most ready mixed concrete delivered. Special concrete mixes, e.g., Superplasticized concrete, mixes that have conditions that do not fall in a normal range of concrete as determined by the Engineer or require a special sequence are not applicable without a prior written request with supporting documentation, e.g., the admixture manufacturers' and ready-mix supplier's recommendations and approval. The request must be submitted before its use to the Engineer for its acceptance. The Engineer has the right to unilaterally accept or reject the request and rescind its acceptance.

Water blast laitance and foreign material and moisten interface surfaces with water immediately before placing concrete over subgrade or construction joint. Leave no ponding water or have the surface glistening. Remove excess water by vacuuming or dry, oil-free compressed air.

Formwork for diaphragm pours shall be flooded with potable water and held for a minimum of 12 hrs. This presoak period is critical to ensuring existing concrete is SSD and that forms are watertight. Drain water from ports at the lowest elevation to ensure no standing water remains in the formwork just prior to concrete placement.

Submit method and sequence of concrete placement. Place concrete on the structure only after forms have been cleared of debris and the Engineer has checked and accepted forms and reinforcing steel.

Place concrete for anchor beam, corbel, and tie slab on the ground that is free from water. Dewater, sheath, place filter material, and do other work, as required by field conditions, to ensure saturated surface dry foundation bed. Costs for obtaining a saturated surface dry foundation bed will be included in the price for structure excavation.

Begin placing concrete at the low point and proceed in the upgrade direction. Remove struts, stays, braces, or blockings when concrete placed has reached elevation rendering them unnecessary.

491
492 Deposit concrete in approximately horizontal layers to avoid
493 flowing along the forms. When less than a complete layer is placed in
494 one operation, terminate the layer at a vertical bulkhead. Layer depth
495 must not exceed 20 inches and must be such that the succeeding
496 layer must be placed before the previous layer has attained its initial
497 set. Place concrete in layers that can be satisfactorily consolidated
498 with vibrators.
499

500 Thoroughly work the external surface of the concrete with a
501 vibrator. Work to force coarse aggregate from the surface and to
502 bring mortar against forms, producing a smooth finish, nearly free
503 from water and air pockets, and honeycomb.
504

505 Fill each part of the form by depositing concrete as close to the
506 final position as possible. Work coarse aggregate back from forms
507 and around reinforcement without displacing bars. After the initial set
508 of concrete, do not jar forms and do not place stress on the ends of
509 projecting reinforcing.
510

511 After concrete placement stops, remove accumulations of
512 mortar on reinforcing steel and surfaces of forms before the next
513 concrete placement. If concrete is wet, prevent dried mortar chips,
514 other foreign material, and dust from falling onto the wet concrete
515 surface. If the concrete has set, clean reinforcing steel in a manner
516 that will not be detrimental to concrete to reinforcing steel bond.
517

518 **(2) Diaphragms.** Pour diaphragms according to one of the two
519 following methods:
520

521 **(a) Top Down Deck Coring.** Core two 5-inch diameter
522 holes through the top of deck at each diaphragm location. One
523 hole will serve as the injection port and the other as the
524 vent/observation port. Locate holes at the low end side and
525 high end side of the diaphragm in regards to the deck cross
526 slope in order to prevent air entrapment beneath the deck
527 soffit.
528

529 Pump concrete through the injection port beginning at
530 the low end of the deck cross-slope. Continue pumping
531 concrete until a steady and uniformly consistent flow of
532 concrete appears at the top of the deck on the vent port side.
533

534 Once full, the concrete level in the core holes shall be
535 maintained at the top of the deck. Excess concrete above and
536 around core hole shall be removed and cleaned.

(b) Bottom Up Pressure Pumping. Install threaded mechanical ports or PVC sleeves through the lower third of the diaphragm formwork. Ports must be capable of being capped/valved under pressure.

Provide a bird mouth vent (overflow pocket) or a 2-inch diameter vent pipe at the highest point of the formwork, flush against the deck soffit.

Connect the pump hose to the lower port. Pump concrete upward displacing air through the top vent. Pumping shall continue until concrete overflows from the bird mouth or vent pipe. Close the injection valve or cap the port while the pump is under slight pressure to ensure concrete elevation does not drop.

Following formwork removal, grind any concrete protrusions at bird mouth locations.

(3) Chutes and Troughs. The use of aluminum for chutes, tremies, troughs, or pipes will not be allowed. Place concrete to avoid segregation of materials and displacement of reinforcement.

When plans require steep slopes, equip chutes with baffle boards, or furnish chutes in short lengths that reverse the direction of movement.

Use of long troughs, chutes, and pipes of a minimum 6-inch diameter will be allowed only with written authorization by the Engineer. Incline chutes or pipes to allow concrete to flow at the required consistency. The addition of water to the concrete mix to promote free flow in chutes of low inclination must not be allowed.

Do not drop concrete into forms from a vertical distance of more than 5 feet unless confined by closed chutes or pipes.

Keep chutes, troughs, and pipes clean and free from coatings of hardened concrete by thoroughly flushing them with water after each run. Discharge flushing water away from in-place concrete.

(4) Vibrating. Consolidate concrete, except for concrete placed underwater, using high-frequency internal vibrators. The minimum transmitted vibration frequency must be 4,500 impulses per minute and must be such as to visibly affect the mass of concrete (radius of influence) of a 1-inch slump over a radius of at least 18 inches. Use a

sufficient number of vibrators to properly consolidate incoming concrete within 15 minutes after depositing concrete in forms. Make at least two vibrators available at the structure site when placing more than 25 cubic yards of concrete. One vibrator must be used at the place where concrete is being deposited. This first vibrator must level the poured concrete and it must follow the depositing chute as it moves. During leveling the concrete is temporarily liquefied due to the rapid oscillatory motion transmitted to the concrete by the vibrator and the concrete flows into the corners of the forms and around the reinforcement.

The second vibrator must consolidate and de-aerate the concrete removing the entrapped air bubbles making them rise to the surface and escape. Have at least one additional vibrator in reserve in addition to the two being used to level and consolidate the concrete.

Apply vibrators at a center-to-center insertion spacing approximately 1.5 times the radius of influence. Minimize lift lines by totally inserting the vibrator vertically at the depth of the lift being vibrated plus 6 inches into the previous lift. Insert vibrators in a vertical position, perpendicular to the concrete surface, at a uniform spacing over the entire concrete placement area. Dragging vibrators through concrete to another vibration point must not occur. Attaching vibrators to or holding them against forms or reinforcing steel must also not be allowed.

External vibrators accepted by the Engineer may be used to consolidate concrete at diaphragm pour locations provided forms are constructed sufficiently rigid to resist displacement or damage from external vibration.

When required, supplement vibration by hand spading with suitable tools to ensure proper and adequate compaction. Manipulate vibrators to work concrete thoroughly around reinforcement and embedded fixtures, and into corners and angles of forms. Do not use vibrators to cause concrete to flow or run into position, instead of placing the concrete and vibrating it. Vibrate sufficiently to compact but avoid prolonging vibration to the point where segregation occurs.

(5) Hot Weather Concreting. When the ambient temperature is expected to meet or exceed 90 degrees F or the concrete construction involves flatwork concrete construction, ACI 305 R-20 Guide to Hot Weather Concreting or its latest edition or variant must be part of the Contractor's means and methods. Handling, placing, protection, and curing procedures must limit the concrete temperatures or water evaporation, or both that can reduce the strength, serviceability, and durability of the member or structure. Submit a Hot Weather

629 Concreting action plan to the Engineer for review and acceptance. Do
630 not place concrete where the temperature is above 90 degrees F
631 unless the design mix and placement method comply with ACI 305 R-
632 20 Guide to Hot Weather Concreting or its latest edition or variant.

633
634 Weather conditions, e.g., rain, temperature, wind, and humidity, must
635 be monitored and addressed. Include the assumed temperature of
636 concrete to be used in the initial calculation of the evaporation rate
637 using the ACI 305 R's evaporation rate chart or ACPA's Evaporation
638 Rate Calculator. Have action plans that are to be used should bad
639 weather conditions, e.g., high wind, rain, high temperature, occur or
640 will occur during pour and under what condition weather conditions
641 must cause a cancellation or delay of the concrete placement.
642 Measurements of the conditions used to determine the evaporation
643 rate must be taken at the location where the concrete is currently
644 being placed, e.g., near the chute, the concrete bucket, the discharge
645 nozzle of the concrete pump, etc. List make and model of weather
646 monitoring instruments, to be used at the location of concrete
647 placement, to measure the ambient air temperature, relative humidity,
648 and wind velocity to determine the on-site real-time evaporation rate.
649 All-in-one meters that utilize the ACI 305 R's chart or other accepted
650 method for determining evaporation rate may be used if found
651 acceptable by the Engineer. Submit catalogs of weather monitoring
652 instruments. Submit weather reports with evaporation rates within 48
653 hours of the completion of the concrete pour. Weather reports must
654 be in a format and have information acceptable to the Engineer.

655
656 If the evaporation rate is, or is likely to become, or trending to
657 be 0.05 lb/ft²/hr or greater, employ the measures to prevent moisture
658 loss such as but not limited to the application of evaporation retarder,
659 application of supplemental moisture by fogging or reduction of the
660 concrete temperature during batching, reduction of wind velocity or
661 other means accepted by the Engineer that was included in the
662 accepted hot weather concreting plan. Check evaporation rate every
663 15 minutes during and after placement until the concrete has taken a
664 final set or use ACI 305 R-20's or its latest edition or variant if
665 inspection requirements are more frequent.

666
667 If the temperature of any of the surfaces the concrete may
668 come in contact with, e.g., reinforcement, embedments, forms and
669 has a temperature greater than 100°F, or is 10°F greater than the
670 concrete's temperature that is being placed, use a fogger to moisten
671 and cool the hot surfaces to below whichever temperature is lower.
672 Remove all standing or ponding water immediately before placing
673 concrete. If compressed air is used to remove the water the air must
674 be oil-free.

(6) Evaporation Retarders and Finishing Aids. Evaporation retarders and finishing aid solutions may be used when accepted by the Engineer. Adjust dilution rates to fit the local climate following the manufacturer's recommendations and receiving the Engineer's acceptance. Evaporation retarders and finishing aids must be "stand-alone" products. Products that are both evaporation retarder and finishing aid must **NOT** be used. They must be designed for highway pavement use. Evaporation retarders and finishing aids must not deleteriously change the water to cementitious material ratio (W/CM), i.e., water to cement ratio (W/C) of the concrete's surface, or affect the physical properties of the surface it is being applied to causing defects, e.g., chalking, color change, dusting, weaken surface, popouts, brittleness, spalling, cracking, or other unacceptable properties, submit test results that show compliance to these requirements. Evaporation retarders and finishing aid solutions must have different tints and tints must not be noticeable on the hardened cured concrete. Apply solutions with equipment that is labeled in a manner that easily identifies them from a distance.

Evaporation retarders must be allowed to form their protective film before the finishing aid solution is applied. Evaporation retarders and finishing aids must not be used interchangeably, using them interchangeably will damage the concrete surface. Misuse or adverse effects occurring to the concrete attributed to the evaporation retarders or finishing aids or both by the Engineer may result in the withdrawal of the Engineer's acceptance of the product and the immediate halting of the use of the product at no cost or increase in Contract time. The concrete will be considered non-compliant and must be removed or an Engineer accepted remedial repair be performed. The Engineer will solely decide what work method is to be used.

(7) Certified Concrete Flatwork Finisher Requirement. Perform the placement and finishing operations of concrete flatwork with a minimum ratio of one certified ACI Concrete Flatwork Finisher and Technician with 4,500 hours of acceptable work experience (certified craftsman) per three concrete finishers (concrete finishers without ACI Concrete Flatwork Finisher and Technician certification and 4,500 hours of acceptable work experience) at each location on the project site having flatwork done. The concrete flatwork must be under the direct supervision of a certified craftsman. Designate the certified craftsman who will be supervising and responsible for determining the quality of the finish of the concrete flatwork being performed. No flatwork must be performed without the required amount of certified craftsmen present.

721
722 (a) Flatwork concrete is defined as any concrete work that
723 requires tools or machines to be used during the placement
724 and finishing operations of concrete. Concrete flatwork
725 includes concrete work that requires a specified finishing,
726 smoothness, or rigid surface tolerances such as girder seats,
727 bent/pier caps, tie slabs, and concrete repairs which exceed
728 one square foot per day.

729
730 (b) Areas that are not considered flatwork concrete are the
731 top of foundations or structures that will have backfill material
732 placed directly on the concrete surface.

733
734 (c) Submit copies of the craftsman's current ACI
735 certification 30 days before concrete flatwork begins for the
736 Engineer's review and acceptance. The Engineer has the right
737 to require the removal, replacement, retraining, and re-
738 certification of a certified craftsman if that person does not, in
739 the opinion of the Engineer, demonstrate the ability to place
740 and finish concrete in accordance with the practices
741 recommended in the ACI Concrete Flatwork Finisher
742 Certification Program and to meet the finishing standards
743 required by the Contract Documents.

744
745 (d) Any cost or impact to the contractor in providing,
746 training, certification, retraining, replacement, or re-certification
747 is incidental to the contract items that require concrete flatwork.

748
749 (F) **Joints.** Before backfilling with earth or other materials against the
750 joints, all construction, expansion, contraction, and control joints must be
751 waterproofed with flashing compound waterproofing as detailed in the
752 Standard Plans and if shown in the contract drawings.

753
754 (1) **Construction Joints.** Place construction joints only at
755 locations indicated in the Contract Documents, perpendicular to
756 principal lines of stress, and at points of minimum shear.

757
758 Before placing concrete on substrate concrete at the
759 construction joint, the following work must be performed:

760
761 (a) Remove laitance, loose particles, dust, dirt, impervious
762 membrane curing compound, and any other material foreign to
763 the construction joint and the projecting reinforcement.

764
765 (b) Roughen horizontal construction joint by abrasive blast
766 cleaning, hydrodemolition, or other Engineer accepted

767 methods to the full amplitude of approximately $\frac{1}{4}$ inch.”

768
769 Before placing new concrete, draw forms tightly against the
770 concrete already in place. Thoroughly clean, high-pressure water
771 blast laitance and foreign material, and saturate the old surface with
772 water to a saturated surface-dry condition immediately before placing
773 new concrete. Place concrete in substructures so that horizontal
774 construction joints are truly horizontal. Where possible, place joints
775 such that they will be hidden from view in the finished structure.
776 Where vertical construction joints are necessary, extend reinforcing
777 bars across joints to make the structure monolithic. Do not place
778 construction joints through surfaces that are to be treated
779 architecturally.
780

781 When a construction joint is necessary because of an
782 emergency, furnish and place reinforcing steel across the construction
783 joint as ordered by the Engineer, at no increase in the contract price
784 or contract time.
785

786 **(2) Expansion Joints.** Construct expansion joints of type and in
787 the location indicated in the Contract Documents. Expansion joints
788 may be of friction, open, filled compression, mortise, or special type.
789

790 **(a) Filled Compression Joints.** Construct filled
791 compression joints with premolded expansion joint filler. Cut
792 preformed joint filler to the same shape as the area to be
793 covered. Furnish one-piece, preformed joint filler, sized to
794 leave a gap along exposed surfaces to a thickness as shown
795 on the contract drawings. When specified, punch holes to
796 accommodate dowels. Fix preformed joint filler firmly against
797 the surface of concrete already in place with cold asphalt
798 roofing cement complying to ASTM D 4586. Do not nail the
799 premolded expansion joint filler to the concrete or use a
800 fastening method that will not compress more than the
801 thickness of the premolded expansion joint filler. When
802 necessary use more than one piece to cover the surface,
803 fasten and hold abutting ends in shape by stapling. Cover joint
804 between separate pieces with a layer of two-ply roofing felt and
805 cover one side with cold asphalt roofing cement complying to
806 ASTM D 4586. Fill edges at exposed faces with wooden strips
807 of the same thickness as joint material. Saturate wooden strips
808 with oil and provide sufficient draft to make wooden strips
809 readily removable after placing concrete. Immediately after
810 removing forms, inspect the expansion joint. Clean and
811 remove concrete or mortar that may have been sealed across
812 the joint.

813
814 Remove stones, forms, and other foreign matter that
815 might interfere with joint efficiency.
816

817 **(G) Protection and Curing.** Protect concrete from mechanical damage
818 and damage caused by exposure to the sun, rain, and flowing water. Do not
819 allow concrete to dry out from the time of concrete placement until the end of
820 the minimum curing period. The minimum curing period must be as follows:
821

822 **(1)** Cure structures for at least 7 days. Maintain a temperature of
823 structural concrete at not less than 45 degrees F for 72 hours after
824 placing. Maintain temperature at not less than 40 degrees F for an
825 additional 4 days. Any concrete exposed with formwork removed prior
826 to 7-days shall be subject to curing requirements. Submit a written
827 outline of the proposed method for protecting concrete.
828

829 **(H) Curing Methods.** Cure concrete for cast-in-place structures by water
830 curing, impervious membrane curing, or forms-in-place curing. Cure
831 concrete surfaces that are to receive Class 2 Rubbed Finish, by water curing
832 or forms-in-place curing. Cure surfaces of construction joints by application
833 of water curing or non-membrane curing compound that seals concrete
834 without reducing interface bonding capacity. Submit proposed curing
835 methods, including copies of test results and manufacturer's catalog no later
836 than 30 working days before the first concrete pour. There must be no
837 concrete pouring until the Engineer accepts the curing method including the
838 curing compound and its application method. The procedures for protecting
839 and curing concrete will be considered adequate if (1) or (2) are satisfied:
840

841 **(1)** Average strength of field-cured cylinders at test age designated
842 for determination of f'_c is equal to or at least 85 percent of that of
843 companion standard-cured cylinders
844

845 **(2)** Average strength of field-cured cylinders test age exceeds f'_c
846 by more than 500 psi
847

848 If the curing method does not meet one of the aforementioned criteria the
849 curing method must be modified or changed until it is compliant.
850

851 The Contractor shall have the option to use curing compound SINAK
852 LITHIUM CURE 1000 or approved equal for bridge structures when approved
853 by the Engineer. Six copies of the manufacturer's brochure and certificates
854 of test results shall be submitted. All work shall conform with the
855 manufacturer's recommendations.
856

857 **(3) Water Curing.** Water cure by keeping concrete continuously
858 wet with fresh water, using water fogging, acceptable water-saturated

coverings, or ponding. Keep wood forms that remain in place sufficiently damp to prevent opening at joints and drying of concrete.

After surface water has evaporated, apply moisture to the concrete surface using a fog spray. Continue applying moisture to the surface until regular curing begins. Use adequate water supply and sufficient moisture to fog and water cure concrete without damaging the surface or texture of concrete. The temperature of water used must be at least 50°F and not be more than 35°F colder than the surface temperature of the concrete at the time the water and concrete come in contact.

Prevent curing water from falling on traveled roadways under a structure or into waterways. Channel curing water away from falsework and structure foundations.

(4) Impervious Membrane Curing. Seal the concrete surface thoroughly with a liquid membrane-forming compound. Apply compound uniformly having no holidays or streaking in each coat. In separate applications, use two or more coats of curing compound. Use a ratio of at least 1 gallon for every 100 square feet of concrete surface per coat. Apply each coat 180 degrees in the opposite direction to the previous coat's application direction.

The impervious membrane curing compound must be applied to the concrete following the surface finishing operation. Start the application of the curing compound immediately before the moisture sheen disappears from the surface, but before any drying shrinkage or craze, cracks begin to appear. In the event of any drying or cracking of the surface, increase the humidity in the area by using a fog spray with an atomizing nozzle as specified in Subsection 503.03(E)(5) "Hot Weather Concreting", fogging must be started immediately, and must all be continued until the application of the compound is resumed or started; however, the compound must not be applied over any resulting freestanding water. Do not blend the free-standing water into the concrete surface, allow it to evaporate, If the free-standing water is due to the foggers, stop them and adjust the foggers so they comply with the Contract Documents. Should the film of the compound be damaged from any cause before the expiration of 7 days after the concrete is placed, the damaged portion must be repaired immediately with an additional application of two coats of compound.

Use curing compounds that will not permanently darken concrete on exposed hardened surfaces of the concrete structure. Do not apply membrane curing compound on surfaces to which concrete

is to be bonded or to which waterproofing or epoxy is to be applied or will be deleterious to future work.

Keep concrete surfaces moist before applying the impervious membrane. If membrane film is broken or damaged during the specified curing period, apply new treatment to the affected area, duplicating the first application.

(5) Forms-In-Place Curing. Cure formed surfaces of concrete by retaining forms in place. Maintain forms in place for a minimum period of 7 days after concrete placement. Keep all form joints and joints between the end of forms and concrete, moisture-tight during the curing period. Reseal cracks in forms and cracks between forms and concrete by methods accepted by the Engineer.

(6) If the construction joint requires that it bonds with the concrete poured against it a lithium curing compound will be acceptable as a curing compound. A lithium sealer will not be accepted as a curing compound. The lithium curing compound must meet or exceed the requirements of ASTM C-309, and ASTM C-1315 and be a 28-day water cure equivalent. All work must comply with the manufacturer's recommendations.

(I) Finishing Concrete Surfaces. Apply the following requirements to several classes of surface finishes that ordinarily apply to various parts of concrete structures.

No additional water must be applied to the concrete surfaces to aid in the finishing operation. The application of water to aid the finishing operation will result in the concrete being non-compliant with the contract requirements and result in the rejection of the concrete pour. Finishing aids or evaporation retarders may be used only with written authorization by the Engineer. Only stand-alone finishing aids must be used to finish the concrete surface and only stand-alone evaporation retarders are used to minimize the evaporation rate of the plastic concrete. These solutions must not be used interchangeably.

(1) Class 1 Ordinary Surface Finish. Apply ordinary surface finish to concrete surfaces, either as a final finish or preparatory to applying a higher-class finish. On surfaces to be buried underground, that are enclosed, or not visible to the public, removal of fins and form marks and rubbing of mortared surfaces to obtain a uniform color will not be required.

After removing forms, remove form bolts and ties to a depth of at least 1 inch below the concrete surface. Clean, wet, and fill

951 resulting holes or depressions with mortar. Mortar must consist of one
952 part cement to two parts sand by volume. Add white cement to mortar
953 in sufficient quantity to tint mortar a shade lighter than the surrounding
954 concrete. Use mortar that is not more than 1 hour old and that bonds
955 indistinguishably with concrete. After the mortar has thoroughly
956 hardened, rub the surface with a carborundum stone to obtain the
957 same color mortar as in the surrounding concrete. Remove fins
958 caused by form joints and other projections. Remove stains and
959 discolorations visible from the travel way.

960
961 Clean and fill pockets with mortar, except for those scattered
962 pockets or pinholes less than 1/2-inch long or wide and less than
963 3/8-inch deep or have exposed reinforcing steel. Pockets must not
964 affect the strength of the structure or shorten the life of steel
965 reinforcement. Fill pockets on surfaces visible to pedestrian traffic
966 and surfaces exposed to streamflow, salt air, and saltwater. Use
967 mortar for filling pockets, as specified for bolt and tie holes. When
968 rock pockets affect the strength of a structure materially or shorten the
969 life of the structure or steel reinforcement, the Engineer will declare
970 concrete unacceptable and require removal and replacement of the
971 affected structure.

972
973 Clean, wet, and fill with mortar, all holes or depressions in
974 surfaces that are to receive Class 2 Rubbed Finish. Clean, wet, and
975 fill at least 7 days before starting Class 2 Rubbed Finish.

976
977 **(2) Class 2 Rubbed Finish.** Apply Class 2 Rubbed Finish to the
978 following surfaces:

979
980 **(a)** Cheek Walls

981
982 **(b)** Bent Cap

983
984 After completing Class I Ordinary Surface Finish, sand with
985 power sanders areas that do not exhibit a smooth, even surface of
986 uniform texture and appearance. Sand with power sanders areas to a
987 smooth, even surface of uniform texture and appearance.

988
989 Use power carborundum stones or disks to remove unsightly
990 bulges or irregularities.

991
992 The intent is to secure a smooth, even surface of uniform
993 appearance and to remove unsightly bulges or depressions due to
994 form marks and other imperfections. Scattered pockets or pinholes
995 permitted under ordinary finish will not be considered to affect
996 uniformity or texture. The extent of sanding and grinding must be as

specified.

The final operation for this finish consists of removing powder on the surface resulting from sanding and grinding. When additional repairs are made after sanding and grinding, repeat sanding and grinding after a repair has cured. Leave the finished surface free from powder and other foreign matter by power washing and wiping with a clean cloth. Collect and dispose of wash water.

(3) Class 6 Float Finish. Attain Class 6 Float Finish as follows:

(a) Finishing Top of Tie Slabs and Anchor Beams. For tie slabs and anchor beams, obtain a smooth riding surface of uniform texture, true to the required grade and cross-section.

Place concrete at a minimum finished deck placement rate of 20 linear feet per hour. Measure rate along the centerline of the roadway. Employ experienced operators and concrete finishers to finish the concrete. Keep necessary finishing tools and equipment on hand at the worksite and in satisfactory condition for use.

Complete finishing operations only during daylight hours unless acceptable lighting facilities are provided.

Place the concrete in a uniform heading, approximately perpendicular to the roadway centerline. Limit the rate of concrete placement to that which can be finished before the beginning of the initial set. Do not place concrete more than 10 feet ahead of strike-off. Spread concrete during its initial deposit within the forms to a uniform height, and it requires a strike-off that does not exceed 3 inches of concrete.

Finish tie slabs and anchor beams with concrete wearing surfaces in accordance with Subsection 503.03(l)(3)(a)1. - Manual Finishing.

During the finishing operation while concrete is still plastic, test the surface with a 10-foot straight edge. Test surface from the side, in the presence of the Engineer. Make necessary corrections to attain the required tolerance after the concrete has hardened. Where concrete is to be covered with a minimum 1-inch-thick layer of bituminous surfacing, earth, or another cover, the surface of the concrete must not vary more than 1/4 inch from the lower edge of a 10-foot straight edge.

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1. Manual Finishing. After placing and consolidating concrete, finish providing a uniform surface.

Use template or strike board to alternately tamp and strike off concrete and move forward with combined longitudinal and transverse motions. Leave uniform mortar or grout film of suitable consistency on the concrete surface after the last pass of the template or strike board.

Use template or strike board of rigid construction, capable of resisting deflection and distortion when in use.

Set supports or headers to required elevations to form anchor beam and tie slab surfaces to line and grade indicated in the Contract Documents.

Supports or headers for concrete placement must be completely in place for the full length of concrete placement and must be secured before placing concrete.

Following the completion of the preliminary strike-off, finish float the concrete surface in a direction parallel to the roadway centerline.

Float with two separate floats made of acceptable material, each between 12 to 16 feet long. Use float boards 1 inch thick and 4 to 8 inches wide, with rigid ribs. Provide adjusting screws at not more than 24-inch centers between rib and float board. Maintain float board flat and true. Equip each float with adjustable handles at each end. Rib and truss each float, as necessary, to ensure the float board has a true, rigid surface.

Operate floats with combined longitudinal and transverse motions, planing off high areas and floating material removed into low areas. Lap each pass with the previous pass by half-length of float. Continue floating until a smooth surface is obtained.

Place the first float into operation as soon as the concrete surface condition permits. Keep the first float

1089 in continuous operation until subsidence has taken
1090 place. Operate the second float as far back of the first
1091 float as concrete workability permits.
1092

1093 **(J) Cleaning Up.** Upon completion of finishing operation and before
1094 prefinal inspection of the structure, remove falsework, excavated or useless
1095 material, rubbish, temporary structures, facilities, and temporary buildings.
1096 Replace or restore public or private fences or property damaged during
1097 prosecution of work. Leave bridge site and adjacent highway in neat and
1098 presentable condition. Remove excavated material or falsework placed in
1099 the stream channel during construction before the pre-final inspection.
1100

1101 **(K) Tolerance for Concrete Construction and Materials.** Comply with
1102 the tolerances specified in the specification: ACI 117 Standard Specifications
1103 for Tolerance for Concrete Construction and Materials.
1104

1105 The Engineer shall have the right to reject all work which is not in
1106 compliance with the contract documents.
1107

1108 **503.04 Measurement.** Concrete will be paid on a lump sum basis. Measurement
1109 for payment will not apply.
1110

1111 The Engineer will not make deductions for the volume occupied by reinforcing
1112 steel or expansion joint materials.
1113

1114 **503.05 Payment.** The Engineer will pay for the accepted quantities of concrete
1115 complete in place on a contract lump sum basis. Payment will be full compensation
1116 for work prescribed in this section and the contract documents.
1117

1118 The contract unit price paid shall be full compensation for the concrete; for
1119 placing, curing and finishing; for furnishing materials including admixtures and
1120 cement, for furnishing and installing premolded joint fillers, for forms, form lining and
1121 falsework or centering, bearing pads, structural steel bearing plates; and for
1122 equipment, tools, labor, materials and incidentals necessary to complete the work.
1123

1124 The Engineer will pay for the following pay item when included in the
1125 proposal schedule:
1126

1127	Pay Item	Pay Unit
1128		
1129	Concrete for _____	Lump Sum
1130		

1131 The Engineer will pay for excavation and backfill for foundations in
1132 accordance with and under Section 205 – Excavation and Backfill for Bridge and
1133 Retaining Structures.
1134

1138

STP-0377(008)
503-26a

7/17/26

Amend **Section 506 – Bearing and Expansion Plates** to read as follows:

“SECTION 506 – STEEL REINFORCED ELASTOMERIC BEARINGS

506.01 Description. This work includes the furnishing of all materials, labor, tools, equipment, transportation, necessary storage, access, supervision, submittals, and services for the supply and installation of steel reinforced elastomeric bridge bearings.

506.02 Materials. Bearings shall be steel reinforced elastomeric pads consisting of alternate layers of steel reinforcement and elastomer, bonded together.

(A) General. Materials for the steel reinforced elastomeric bearings shall conform to AASHTO M 251 and the requirements of this Section. All bearings shown on the plans have been designed in accordance with AASHTO LRFD Bridge Design Specifications, Method B and shall be fabricated by the manufacturer to meet the dimensions and requirements shown on the plans and within these specifications.

(B) Elastomer. The elastomer shall be 100 percent virgin polychloroprene (neoprene). The elastomer compound shall be classified as Grade 0 and shall meet the physical properties detailed in Table 506-1 – Physical Properties of Elastomer.

TABLE 506-1 – PHYSICAL PROPERTIES OF ELASTOMER		
GRADE 0 POLYCHLOROPRENE		
Properties	Test Method (ASTM)	Required Value
Basic Properties		
Hardness (Shore A)	D 2240	60 ± 5
Tensile Strength, min	D 412	2,250 psi
Elongation at Break, min	D 412	350%
Shear Modulus (G) @ 73° F	D 4014 Annex A or D 5992	0.110 ksi to 0.160 ksi (Nominal: 0.130 ksi)
Specific Gravity	D 792	Report Value
Tear Strength, min	ASTM D624 (Die C)	250 lb/in

Accelerated Aging (Oven Aged) 70 hrs @ 212° F		
Hardness Change, max	D 2240	± 15 points
Tensile Strength Change, max	D 412	± 15%
Elongation Change, max	D 412	-40%
Ozone Resistance 100 hrs @ 100° F @ 20% strain	D 1149	No Cracks
Compression Set, max	D 395 (Method B) 22 hrs @ 158° F	25%

(C) Steel Reinforcement. Internal steel laminates shall be rolled mild steel conforming to ASTM A36 or ASTM A1011.

(1) Steel laminates shall be of the thickness shown on the plans.

(2) Edges of steel laminates shall be smoothed and free of sharp edges, burrs, or slivers that could damage the elastomer or inhibit bonding.

(D) Adhesive. Adhesive used for bonding the elastomeric bearing pad to the concrete structure shall be a two-component epoxy resin system conforming to ASTM C881, Type I, II, or IV, and shall meet the requirements of Grade 3 (for use in temperatures above 40° F) and Class C (for use in temperatures above 60° F).

(E) Leveling Grout (If Applicable). Leveling grout shall be a high-performance, three-component, pre-packaged epoxy-grout material capable of developing a minimum compressive strength of 9,000 psi in 1 day and 15,000 psi in 7-days in accordance with ASTM C 579 at 75° F. Compressive Modulus of Elasticity shall be a minimum 2,100,000 psi in accordance with ASTM C 579.

506.03 Construction.

(A) Submittals.

(1) Shop Drawings. Shop drawings detailing the bearing dimensions, arrangement of laminates, total thickness, fabrication tolerances, and material designations shall be submitted.

(2) Certificate of Compliance. A certificate of compliance from an independent certified laboratory affirming that the elastomeric pads comply with all requirements of this specification and AASHTO M 251 shall be submitted.

62 (3) **Test Reports.** Certified test reports for all lot testing as
63 required in Subsection 506.03(C) – Testing and Acceptance, shall
64 be submitted.

65
66 (4) **Product Data Sheet.** The product data sheet for the
67 adhesive material shall be submitted. The data sheet shall list
68 ASTM compliance, material mixing instructions, working time, and
69 time to full cure.

70
71 (5) **Certification Letter.** A certification letter from the adhesive
72 manufacturer showing that the product is suitable for bonding
73 polychloroprene (neoprene) to concrete and meets the minimum
74 performance requirements of these specifications shall be
75 submitted.

76
77 (B) **Fabrication.**

78
79 (1) Bearings shall be molded as a single unit under pressure
80 and heat.

81
82 (2) Laminated pads shall comprise bonded alternating layers of
83 elastomer and steel.

84
85 (3) The top and bottom layers of reinforcement and all edges of
86 the bearing pad shall be covered with a minimum 1/4-inch thick
87 elastomer (or as otherwise shown on the plans).

88
89 (4) Position of any reinforcement layer within the pad shall not
90 deviate more than 1/8-inch from the correct position.

91
92 (5) Dimensional tolerance, flash tolerance, finish, and
93 appearance shall meet the requirements of AASHTO M 251.

94
95 (6) The sides of each bearing shall be permanently marked with
96 the manufacturer's name or logo, elastomer type, grade, and the lot
97 number in accordance with AASHTO M 251.

98
99 (C) **Testing and Acceptance.**

100
101 (1) **Lot Testing Required.** Testing shall be performed on every
102 lot of bearings produced for the project. A lot shall be defined in
103 accordance with AASHTO M 251.

104
105 (2) **Bond Strength.** The bond between the elastomer and the
106 steel laminate shall be tested in accordance with ASTM D 429,
107 Method B. The minimum peel strength shall be 40 lb/in.

108
109 (3) **Dynamic Testing (HWY-TC-13).** Samples and test
110 specimens shall show no deterioration of elastomer or bond
111 between elastomer and steel reinforcement when tested in

accordance with Hawaii Test Method HWY-TC-13. Test shall be run for 10,000 cycles. Load shall be 800 psi. Translation shall be $\pm 0.5t$ (where t = total thickness of elastomer). Testing speed shall not exceed 4 ½ inches per minute.

(4) Compressive Proof Load. Every bearing shall be subjected to a short-term compressive proof load test in accordance with AASHTO M 251 and ASTM D 695. Any bearing exhibiting evidence of lack of bond, surface defects, or failing to meet the compressive strain requirements shall be rejected.

(5) Test Sample Preparation. All elastomer test samples for material property verification, including but not limited to the Ozone Resistance Test (ASTM D 1149) and Bond Strength Test (ASTM D 429), shall be solvent-wiped using an appropriate, non-reactive solvent (such as acetone or isopropyl alcohol) prior to testing to remove surface contaminants and mold release agents.

(D) Installation.

(1) Bearings shall be installed at the locations and orientations as shown on the plans.

(2) The concrete surfaces above and below the bearing shall be flat, clean, dry, and free of defects.

(3) Prior to installation, the concrete surface that the bearing will be adhered to shall be prepared by shotblasting to achieve a clean, sound surface profile (CSP 5, as defined by ICRI 310.2R).

(4) Bearings shall be free from damage, oil, grease, and contaminants. Surface of the bearing shall be dry and solvent wiped immediately prior to installation.

(5) The adhesive shall be mixed in accordance with the manufacturer's requirements. Masking shall be applied to all concrete edges around bearing location so adhesive does not protrude more than ¼ inch beyond the planned bearing area. A generous layer of adhesive shall be applied to the surface of the concrete to ensure complete coverage. The bearing shall be set at the plan location and seated securely into the adhesive to ensure complete coverage on the surface of the elastomer. Masking shall be removed within the adhesive gel time window, and any spills or overruns shall be cleaned.

(a) Adhering Bearing to Abutment/Pier. For new bearing installations or bearing replacements where the top of abutment/pier is level, adhesive shall be applied directly to the surface of the abutment/pier.

(b) Adhering Bearing to Girder. For bearing replacements where the top of the abutment/pier is not level and a leveling grout is to be placed below, adhesive shall be applied directly to the surface of the girder. The bearing pad shall be supported under its own weight until the adhesive is fully cured. Levelling grout shall be placed beneath the bearing to the top of the abutment/pier as shown on the plans.

(6) The bearing shall not be disturbed or subjected to any pressure until the adhesive has reached a minimum of 80% of its published ultimate compressive strength AND the leveling grout has reached a minimum of 4,000 psi compressive strength AND a minimum of 3-day cure time. Following this period, the weight of the bridge superstructure may be released onto the bearings.

506.04 Measurement.

(A) Steel Reinforced Elastomeric Bearings. The Engineer will measure steel reinforced elastomeric bearings per each.

506.05 Payment.

(A) Steel Reinforced Elastomeric Bearings. The Engineer will pay for accepted steel reinforced elastomeric bearings at the contract unit price per each. Payment will be full compensation for furnishing all materials (including leveling grout and epoxy adhesive), fabrication, testing, delivery, installation, surface preparation, and for all labor, tools, equipment, 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
Steel Reinforced Elastomeric Bearing	Each"

END OF SECTION 506

Make this Section a part of the Standard Specifications

“SECTION 510 – SCOUR PROTECTION

510.01 Description. This section describes the scour protection countermeasures.

510.02 Materials.

Portland Cement 701.01

Fine Aggregate for Concrete 703.01

Water 712.01

Geotextiles for Stabilization Applications 716.06

Riprap rock shall be in accordance with Table 510.02-1 – Riprap Rock Size Gradation in inches and Table 510.02-2 – Riprap Rock Weight Gradation in pounds.

TABLE 510.02-1 RIPRAP ROCK SIZE GRADATION

Nominal Riprap Class by Median Particle Diameter		d ₁₅		d ₅₀		d ₈₅		d ₁₀₀
Class	Size	Min.	Max.	Min.	Max.	Min.	Max.	Max.
III	12 in	7.3	10.5	11.5	14.0	15.5	18.5	24.0
IV	15 in	9.2	13.0	14.5	17.5	19.5	23.0	30.0

Uniformity ratio (d_{85}/d_{15}) shall be between 1.5 and 2.5.

TABLE 510.02-2 RIPRAP ROCK WEIGHT GRADATION

Nominal Riprap Class by Median Particle Weight		W ₁₅		W ₅₀		W ₈₅		W ₁₀₀
Class	Weight	Min.	Max.	Min.	Max.	Min.	Max.	Max.
III	150 lbs	32	93	120	210	310	510	1100
IV	300 lbs	62	180	240	420	600	1000	2200

All rock shall be free from dirt, clay, sand, rock fines, and other material not meeting the required gradation limits. Rocks used for riprap should only break with difficulty, have no earthy odor, no closely spaced discontinuities (joints or bedding planes), and should not absorb water easily.

The Contractor shall designate in writing the source from which rock material will be obtained and submit documentation for approval by the Engineer that the material meets contract requirements. Rock from approved sources shall be excavated, selected, and processed to meet the specified quality and grading requirements at the time the rock is installed.

All stones shall have a minimum specific gravity of 2.50 and shall have a length to thickness ratio ≤ 3.0 .

Grout shall be Portland Cement based grout with a minimum 28-day compressive strength of 3000 PSI. Wet grout density shall range between 120 to 140 lb/ft³.

Recommended concrete mix for one cubic yard:

<u>Material</u>	<u>Quantity</u>
Portland Cement	740 to 760 lbs
Fine Aggregate (sand), dry	1,180 to 1,200 lbs
¼" Crusher Chips (fine Gravel), dry	1,180 to 1,200 lbs
Water	420 to 450 lbs
Air Entrained	5 to 7%

510.03 Construction.

Remove sediment and loose material from the existing scour hole.

Free foundation bed of brush, trees, stumps, roots, debris, and other objectionable materials. Existing portions of the grouted rubble paving mattress may be retained and incorporated into the final riprap scour protection. Prior to placing geotextile fabric, provide three (3) days notice to Engineer for inspection of foundation.

Place geotextile fabric in accordance with manufacturer's recommendations or as indicated in the contract documents. Compaction of bedding is not required, but the surface of such material shall be finished reasonably smooth and free of mounds, dips, and windrows.

Class III riprap armor stones shall be placed by equipment or by hand to the depth and height specified. Distribute the stones to prevent large accumulations of either large or small stones. Riprap shall be placed over the geotextile by methods that do not stretch, tear, puncture, or reposition the fabric. Equipment shall be operated to minimize the drop height of the stone without the equipment contacting or damaging the geotextile. Remove and replace geotextile fabric that is displaced or damaged during riprap placement at no cost to the State.

Class IV partially grouted riprap shall be placed by equipment to the depth and height specified. Distribute the stones to prevent large accumulations of either large or

small stones. Riprap should be placed so that the top of the riprap layer is level with the ambient channel bed elevation.

Once the stones are in place, fill only $\frac{1}{3}$ to $\frac{1}{2}$ of the total void space with grout. Do not fully grout all the void spaces. Grout shall be placed by hand or using a hose or tremie method and shall not segregate when being applied. If using a hose or tremie method, ensure the nozzle is sufficiently sized to fit into the void spaces for proper placement of grout. Grouting may be done line-by-line or spot-by-spot to produce conglomerate-like elements. Grout quantity for Class IV partially grouted riprap shall be 2.7 to 3.2 ft³/yd².

If grouting quantities are exceeded such that it creates an impermeable armor layer, the rocks shall be removed and replaced at no cost to the State.

(A) Submittals. Submit six (6) sets of material gradation for Class III and Class IV Riprap Armor Stone for approval by the Engineer.

510.04 Measurement. The Engineer will measure riprap per cubic yard in accordance with the contract documents.

510.05 Payment. The Engineer will pay for the accepted pay items listed below at 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
Riprap, Class ____	Cubic Yard
Partially Grouted Riprap, Class ____	Cubic Yard

- (1) 40% of the contract unit price upon completion of excavating to the required depth and preparing the foundation bed;
- (2) 20% of the contract unit price upon completion of installing geotextile fabric;
- (3) 40% of the contract unit price upon completion of placing and distributing stones and grout and removing and replacing displaced or damaged geotextile fabric damaged during riprap placement."

END OF SECTION 510

1 Make the following Section a part of the Standard Specifications:

2
3 **"SECTION 520 – BRIDGE JOINT REPAIR AND REPLACEMENT**

4
5 **520.01 Description.** This work includes removal and disposal of existing
6 bridge joints, cleaning the concrete surface, and installing new bridge joint
7 systems.

8
9 **520.02 Materials.** Bridge joints repairs shall be installed per Silicone
10 Specialties, Inc. Expansion Joint System (SSI XJS) or equivalent. Contractor shall
11 submit six (6) copies of the manufacturer's specifications, recommendations and
12 details to the Engineer three weeks before its use.

13
14 **(A) Bridge Joint Header Material.** The polymer mortar material shall
15 be Silspec 900 Polymer Nosing System (PNS) mixed with Silspec Blended
16 Aggregate or equivalent. The polymer shall be a two-component, rapid
17 curing liquid that cures to a dense, semi-flexible, weather, abrasion and
18 impact resistant polymer mortar. The aggregate shall be furnished by the
19 manufacturer. A polyurethane based header material will not be accepted.
20 The material shall have the following properties:

21
22 **(1) Mixed Cured Polymer Without Aggregate:**

23
24 Tensile Strength, 2000 PSI min. (ASTM D 638)
25 Elongation, 45-65% (ASTM D 638)
26 Shore D Hardness @ 77° F., 65-75 (ASTM D 2240)
27 Gel Time, 15-25 minutes (AASHTO M200-73)

28
29 **(2) Mixed Cured Polymer With Aggregate:**

30
31 Compressive Strength at 24 hours, 3000 PSI min. (ASTM C 579
32 Method B)
33 Bond Strength, 2000 PSI min. (ASTM C 882)
34 Abrasion Resistance, 1.0 max (ASTM C 501, Taber H-22)

35
36 **(B) Bridge Joint Sealant Material.** The joint sealant material shall be
37 Dow Corning 902 RCS (Rapid Cure Silicone) or equivalent. Joint sealant
38 shall be a self-leveling, cold-applied, rapid-cure, two-part, 100 percent
39 silicone rubber sealant designed to seal expansion joints. The Joint
40 Sealant shall meet the following physical requirements.

41
42 Skin over time at 77° F, 20 minutes max. (MIL-S-8802)
43 Elongation, 600% min. (ASTM D 3583, Section 14 modified)
44 Modulus @ 100%, 3 psi - 12 psi (ASTM D 3583, Section 14 modified)

45
46 **(C) Primer for Silicone Sealant.** The primer shall be in accordance with

the silicone manufacturer's recommendations.

(D) Bridge Joint Backer Rod Material. Provide a backer rod material that is extruded, soft type, low-density polyethylene, with a skin-like outer texture that will not bond to the silicone sealant.

520.03 Construction Requirements. Completely remove existing joint system. Remove taps (fastening bolts) and top plate. Completely remove all traces of adhesives or bituminous substances. Additional cleaning and abrasive blasting shall be per the manufacturer's recommendations. Compressed air, if used, shall be filtered to separate oil and moisture.

Repair all spalled concrete under the joints as recommended by the manufacturer and as ordered by the Engineer. Inspect existing bottom plate irons for any defects. If accepted by the Engineer as sound, the bottom plate irons shall remain in place. Unnecessary damage caused to the concrete by the Contractor in the removal of the existing joint system shall be repaired at no cost to the State.

The cleaned concrete channels shall be inspected and accepted by the Engineer before the installation of the header material.

Mixing, placing and curing of the header material shall be in accordance with the manufacturer's recommendations. The surrounding materials shall be completely dry prior to placement of the header and joint materials. The Contractor shall be prepared to keep all materials completely dry if it rains during the installation and curing. The Contractor shall remove and reinstall joints that are installed or cured in moist conditions at no cost to the State.

Remove the temporary joint form when the header has cured. Abrasive blast the joint faces to remove all residues from the form material and other contaminants.

The Engineer shall inspect the header before the installation of the joint material.

Apply primer to the joint faces in accordance with the manufacturer's recommendations. Install backer rod and sealant in accordance with the manufacturer's recommendations.

A qualified representative of the manufacturer shall be present at the start of work to ensure proper installation.

520.04 Measurement. The Engineer will measure bridge joint repair per linear foot.

The Engineer will measure removal and repair of the bottom plate irons, if ordered by the Engineer, on a force account basis in accordance with Subsection

109.06 – Force Account Provisions.

520.05 Payment. The Engineer will pay for the accepted pay item listed below at the contract unit 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 item when included in the proposal schedule:

Pay Item	Pay Unit
Bridge Joint Repair _____	Linear Foot
Removal and Repair of the Bottom Plate Irons _____	Force Account"

END OF SECTION 520

1 Make the following Section a part of the Standard Specifications:
2

3 **“SECTION 577 – FIBER REINFORCED POLYMER SYSTEMS**
4

5 **577.01 Description.** The work includes the furnishing of all materials,
6 labor, tools, equipment, transportation, necessary storage, access, supervision,
7 submittals, and services for the supply, installation and finish of all structural
8 strengthening using externally bonded FRP composite systems.
9

10 **577.02 Materials.** Materials for the FRP systems shall be carbon fiber and
11 conform to ACI 440.2R, Guide for the Design and Construction of Externally
12 Bonded FRP Systems for Strengthening Concrete Structures and the AASHTO
13 Guide Specifications for Design of Bonded FRP Systems for Repair and
14 Strengthening of Concrete Bridge Elements. In addition, the materials shall
15 conform to the following:
16

17 **(A) Dry Fiber Properties**
18

- 19 (1) Tensile Strength – 580,000 psi
20
21 (2) Tensile Modulus – 33.4×10^6 psi
22
23 (3) Ultimate Elongation – 1.7%
24

25 **(B) Composite Gross Laminate Design Properties of one layer**
26 **(ASTM D7290)**
27

- 28 (1) Ultimate Tensile Strength – 130,000 psi ASTM D3039
29
30 (2) Tensile Modulus – 12.6×10^6 psi – ASTM D3039
31
32 (3) Elongation at Break – 0.90% - ASTM D3039
33
34 (4) Nominal Laminate Thickness – 0.04 in. or as otherwise
35 noted on the plans and in accordance with ASTM D1777
36

37 **(C) Anchor Properties**
38

- 39 (1) Ultimate Tensile Strength – 100,000 psi – ASTM D7205
40
41 (2) Tensile Modulus – 11.9×10^6 psi – ASTM D7205
42
43 (3) Ultimate Elongation – 0.8% - ASTM D7205
44
45 (4) Density – 0.025 lb/in³ (Weight per Inch Length)
46

47 **577.03 Construction.**
48

49 **(A) Submittals.**
50

51 (1) Manufacturer's manual indicating product standards,
52 physical and chemical characteristics, technical specifications,
53 limitations, installation instructions, maintenance instructions and
54 general recommendations regarding each individual material.
55

56 (2) A list of no fewer than 10 successful installations and 5 years
57 of experience by the certified applicator's onsite supervisor and/or
58 foreman. The certified applicator shall have written consent from
59 the material manufacturer stating that they have been fully trained
60 and certified to install the proposed system. The certifications shall
61 be current (dated within one-year of the project schedule).
62

63 (3) Shop drawings detailing the type, locations, dimensions,
64 numbers of layers, and orientation of all FRP materials, fiber anchor
65 locations, embedment depths, diameter, and splay details, as well
66 as the coatings to be installed. Design shall follow criteria in the
67 latest ACI 440.2R and AASHTO Guide Specifications for Design of
68 Bonded FRP Systems for Repair and Strengthening of Concrete
69 Bridge Elements.
70

71 (4) Manufacturer's product data sheets indicating physical,
72 mechanical, and chemical characteristics of all materials used in
73 the FRP system. Include independent laboratory testing
74 substantiating the required ASTM D7565 and/or ASTM D3039
75 (ultimate and design tensile modulus, stress and strain).
76

77 (5) FRP system shall be compliant with testing requirements per
78 ICC AC125 and provide a current ICC Evaluation Service Report,
79 compliant with the latest locally adopted International Building Code
80 (IBC). The submitted Evaluation Service Report shall cover the type
81 of element to be strengthened (i.e. columns, beams) and the type
82 of strengthening required (i.e. shear, flexure, axial), including
83 seismic loading.
84

85 (6) Independent laboratory testing verifying the submitted fiber
86 anchor design properties. A minimum of 20 specimens of each
87 anchor type (i.e. GFRP or CFRP) shall be submitted.
88

89 (7) Manufacturer's Material Safety Data Sheets (MSDS) for all
90 materials to be used.
91

92 (8) Certification by the manufacturer that supplied products
93 comply with local regulations controlling use of volatile organic
94 compounds (VOC's).
95

96 (9) Written repair procedures for how all voids, bubbles, and
97 delaminations will be repaired in the finished FRP system. The
98 Manufacturer shall outline the limitations for acceptance including
99 severity of defect and size.
100

101 (10) Submit paint manufacturer's paint product data information
102 with specified paint color and gloss level.

103
104 (11) Submit work access platform (if applicable) design and
105 calculations.

106
107 (12) Polymer-modified repair material for patching concrete
108 defects at locations that will receive FRP strengthening and at hole
109 locations installed for work access platform.

110
111 (13) Low Viscosity Epoxy for pressure injection of cracks, cap
112 seal material, and equipment data for mixing and pumping.

113
114 **(B) Delivery, Handling, and Storage**

115
116 (1) Deliver all Fiber Reinforced Polymer (FRP) materials,
117 resins, saturants, adhesives, and related components to the site in
118 the manufacturer's original, unopened containers clearly labeled
119 with the product name, batch number, date of manufacturer, and
120 shelf life. Materials shall be from the same manufacturer and
121 system as approved for the project.

122
123 (2) Upon delivery, inspect all materials for damage,
124 contamination, or evidence of exposure to moisture or temperature
125 extremes. Materials showing signs of damage, expired shelf life, or
126 nonconformance with manufacturer requirements shall be rejected
127 and removed from the site.

128
129 (3) Handle all FRP components in accordance with the
130 manufacturer's recommendations to prevent damage,
131 contamination, or deformation of fibers. Do not drop, drag, crease,
132 or otherwise distort fabric materials. Prevent contact with dust, oils,
133 solvents, and other contaminants that could impair bond
134 performance.

135
136 (4) Store all FRP materials in a clean, dry, and well-ventilated
137 area, protected from direct sunlight, moisture, and sources of heat.
138 Maintain storage temperatures within the manufacturer's specified
139 range, typically between 40°F and 90°F, unless otherwise
140 recommended. Epoxy resins and hardeners shall be stored off the
141 ground, in their original containers, and protected from freezing and
142 high humidity.

143
144 (5) Do not use any materials that have exceeded the
145 manufacturer's specified shelf life. Prior to mixing and application,
146 ensure that all components have stabilized to the manufacturer's
147 recommended application temperature range. The Contractor shall
148 maintain a record of batch numbers and expiration dates for all the
149 FRP system materials used on the project.

151
152 **(C) Surface Preparation.**
153

154 **(1) "Contact Critical" Applications:**
155

156 **(a)** The surface to receive the composite shall be free
157 from fins, sharp edges and protrusions that will cause voids
158 behind the installed FRP system or that, in the opinion of the
159 Engineer will damage the fibers. Existing uneven surfaces
160 to receive composite shall be filled with the system epoxy
161 filler or other material approved by the Engineer. All
162 substrates shall be clean, sound, and free of surface
163 moisture. Remove dust, laitance, grease, curing
164 compounds, waxes, impregnations, foreign particles, and
165 other bond inhibiting materials from the surface. If moisture
166 is present, use the manufacturer suggested wet prime
167 epoxy, if available.
168

169 **(b)** Repair all damaged concrete, spalls, and irregular
170 surfaces to create a flat, or slightly convex, surface. Fill
171 surfaces with thickened epoxy to eliminate air surface voids
172 greater than 0.5 inch diameter.
173

174 **(c)** Round off sharp and chamfered corners to a minimum
175 radius of 0.75 inch or as otherwise noted on the plans by
176 means of grinding or forming with the system's thickened
177 epoxy. Variations in the radius along the vertical edge shall
178 not exceed 0.5 inch for each 12 inch of the members length.
179

180 **(2) "Bond-Critical" Applications:**
181

182 **(a)** Surface preparation shall be in accordance with
183 recommendations of ACI 546R and ICRI 03730 by means of
184 abrasive blasting or grinding to remove existing laitance and
185 expose the aggregate.
186

187 **(b)** Surfaces to receive FRP composite shall be prepared
188 to a minimum ICRI CSP-3 concrete surface profile. The
189 Contractor shall have ICRI concrete surface profile chips on
190 site to demonstrate the resultant profile is in accordance with
191 the specifications. These requirements shall govern over the
192 manufacturer's surface profile requirements, even if more
193 stringent.
194

195 **(c)** Round off sharp and chamfered edges/corners (to be
196 wrapped around) and pre-drilled anchor holes (where
197 required) to a minimum radius of 0.75" by means of grinding
198 or forming with the system's thickened epoxy. Variations in
199 the radius along the edge shall not exceed 0.5 inch for each
200 12 inch of the members length.
201

(d) Pressure inject any cracks larger than 0.010 inch wide with epoxy in accordance with ACI 503.7.

(e) Repair all defective concrete.

(f) All substrates shall be clean, sound, and free of surface moisture. Remove dust, laitance, grease, curing compounds, waxes, impregnations, foreign particles, and other bond inhibiting materials from the surface. All contact surfaces shall then be cleaned by hand or with compressed air within 24 hours of receiving FRP application.

(3) Contractor shall prepare a min. 2'-0" x 2'-0" sample area of concrete to the roughness and cleanliness requirements of the specification and plans for review and acceptance by the Engineer prior to commencing with application of the FRP.

(D) Installation.

(1) Construction of the FRP system shall conform to the latest version of ACI 440.2R and AASHTO Guide Specifications for Design of Bonded FRP Systems for Repair. A representative of the FRP system manufacturer shall initially and periodically observe and monitor all aspects of surface preparation, mixing, and application of materials.

(2) Prepare the epoxy matrix by combining components at a weight (or volume) ratio specified by the manufacturer. The components of epoxy resin shall be mixed with a mechanical mixer until uniformly mixed, typically 5 minutes at 400-600 revolutions per minute.

(3) Saturation of the carbon fiber fabric shall be performed and monitored according to the manufacturer's specified fiber-epoxy resin ratio. Fabric shall be completely saturated prior to application to contact surface in order to ensure complete impregnation. Saturation shall be supervised and checked by the certified installer. Both the epoxy resin and fabric shall be measured accurately, combined, and applied uniformly at the rates shown on the approved working drawings and per manufacturer's recommendations.

(4) After preparing surfaces, use a roller or trowel to apply one prime coat of epoxy resin to the substrate (2 mil min.). Allow primer to become tacky to the touch.

(5) Fill any uneven surfaces or recesses with thickened epoxy.

(6) Apply saturated fabric to substrate surface by hand lay-up, using methods that produce a uniform, constant tensile force that is distributed across the entire width of the fabric, and ensure proper

orientation of the fabric. Under certain application conditions, the system may be placed entirely by hand methods assuring a uniform, even final appearance. Gaps between composite bands may not exceed 0.5 inch width in the fabric's transverse joint unless otherwise noted on project drawings. A lap length of at least 6 inches per ply is required at all necessary overlaps in the primary fiber direction of the fabric.

(7) Orient fabric as designated by the designer. Fabric alignment shall not exceed 3 degrees misalignment from planned alignment.

(8) Apply subsequent layers, continuously or spliced, until designed number of layers is achieved, per shop drawings.

(9) Use a roller or hand pressure to release or roll out entrapped air, and ensure that each individual layer is firmly embedded and adhered to the preceding layer or substrate.

(10) Apply thickened epoxy finish coat (15-30 mils) over the entire surface of fabric including termination points, edges, and seams. Feather edge finish coat to concrete 2" beyond the boundaries of the fabric.

(11) Apply final finish coats in accordance with subsection 577.03(G) - Finishing. All additional finishes shall be applied between 24 and 72 hours after final application of epoxy. If finish is provided beyond 72 hours of the application of the epoxy, the surface must be roughened by hand sanding or brush blasting, prior to finishing.

(12) Protect the FRP system from environmental contamination, disturbance and damage during application and curing of the system.

(13) Ambient and substrate temperature shall be between 40° F to 100° F during installation.

(14) Installation Instructions for FRP Drill and Epoxy Anchors:

(a) Drill holes for FRP anchors to the depth and diameter as specified on the plans using a hammer drill with an appropriately sized carbide drill bit.

(b) Remove concrete dust by inserting a blow pipe nozzle to the bottom of the hole and blowing oil-free and water-free compressed air at a minimum of 90 psi and for a minimum of 4 seconds while rotating and withdrawing the nozzle simultaneously. Repeat this step for a total of 2 cycles.

304 (c) Clean the walls of the hole with an appropriately sized
305 steel wire brush. Brush should provide resistance when
306 inserted. Insert brush to the bottom of the hole and withdraw
307 while slightly rotating. Repeat this step for a total of 2 cycles.

308
309 (d) Repeat blowing operation by reinserting a blow pipe
310 nozzle to the bottom of the hole and blowing oil-free and
311 water-free compressed air at a minimum of 90 psi and for a
312 minimum of 4 seconds while rotating and withdrawing the
313 nozzle simultaneously. Repeat this step for a total of 2
314 cycles.

315
316 (e) Fill the hole 1/2 to 2/3 full with an injectable anchoring
317 epoxy as provided by the FRP manufacturer. Begin injecting
318 the epoxy from the bottom of the hole to prevent air pockets.
319 Withdraw the injection nozzle as the hole fills up. For
320 horizontal or overhead applications, an adhesive retaining
321 cap shall be used.

322
323 (f) Insert FRP anchor into the epoxy filled hole. Rotate
324 anchor 180 degrees as the anchor is pushed to the bottom
325 of the hole. Do not disturb until the epoxy is fully cured.

326 327 (E) Inspection and Testing

328
329 (1) Monitor and record the mixing of all epoxy components for
330 proper ratio and adherence to manufacturer's recommendations,
331 batch numbers for fabric and epoxy used each day, and note
332 locations of installation. Measure square footage of fabric and
333 volume of epoxy used each day. Submit report to the Engineer.

334
335 (2) Direct tension adhesion testing shall be conducted using the
336 method described by ASTM D7522 and/or ASTM D4541. A
337 minimum of two tests shall be performed for each day's work area
338 or for every 500 square feet of surface area to be covered by the
339 FRP application, whichever is smaller. Pull-off tests shall be
340 performed on a representative adjacent area to the area being
341 strengthened whenever possible. Tests shall be performed on
342 each type of substrate or for each surface preparation technique
343 used.

344
345 (3) The epoxy bonded to the prepared surface shall be allowed
346 to cure as per manufacturer's requirements before execution of the
347 direct tension pull-off test. The locations of the pull-off tests shall
348 be representative and on flat surfaces. If no adjacent areas exist,
349 the tests shall be conducted on areas of the installed FRP system
350 subjected to relatively low stress during service.

351
352 (4) The minimum acceptable value for any pull-off test is 175
353 pounds per square inch. The average of the tests shall not be less
354 than 200 pounds per square inch. Additional tests may be

performed to qualify the work at each identified area. Each pull-off test is to exhibit a failure mode in the substrate and not the epoxy-to-substrate bond plane.

(5) ASTM D7522-D4541 testing is only required for “Bond-Critical” applications of the FRP system (i.e. bond of FRP-to-concrete is critical to strengthening performance of the system)

(6) Prepare a minimum of one “sample batch” daily consisting of two 12 inch by 12 inch samples of cured composite. Each sample of the “sample batch” will be taken at appropriate times during the day as to ensure the maximum material deviance in the components of the FRP composite.

(7) Prepare sample on a smooth, flat, level, surface covered with polyethylene sheeting, or 16 mil plastic film, prime with epoxy resin. Then place one layer of saturated fabric and apply additional topping of epoxy. Cover with plastic film and squeegee out all bubbles. Samples shall be stored in a sample box and not moved for a minimum 48 hours after casting. The prepared, identified samples shall be given to a pre-approved and experienced independent testing laboratory approved by the Engineer. The laboratory shall then precondition samples for 48 hours at 140° F before testing.

(8) A minimum of fifteen-percent of all 12-inch-by-12-inch sample panels shall be tested by the laboratory approved by the Engineer. Testing specimens shall be cut from samples and tested for ultimate tensile strength, tensile modulus and percentage elongation as per ASTM D7565 and/or ASTM D3039 in the longitudinal fiber direction. Tensile and all other material properties must meet or exceed FRP composite system properties as required by structural calculations. If one coupon does not achieve the design properties, additional coupons from the same sample shall be tested. If these coupons fail (on average), coupons from the other 12-inch-by-12-inch sample, from the same batch for that day, shall be tested. If all tested samples of the sample batch do not meet the conditions of acceptance, 25 percent of all samples shall be tested. Testing results shall be submitted to the Engineer not later than three weeks after testing.

(9) FRP design values must be lower than the calculated mean determined from the test results received from the ASTM D7565 and/or ASTM D3039 field test specimens. Acceptable minimum values for ultimate tensile strength, tensile modulus, and elongation shall not be below the submitted design values unless calculations are performed using the tested values that exhibit an acceptable capacity as per the original design demands and concept.

(10) The Engineer will test the completed FRP system install using a small hammer to check for hollow sounding areas. A hollow

406 sound generally will indicate that the FRP material has a void or
407 has delaminated from the concrete substrate.

408
409 **(11)** Small voids and bubbles on the order of 3 inch diameter and
410 voids and delaminations on the order of 6 inches in diameter or an
411 area of 5 inch x 5 inch shall require remediation prior to acceptance
412 by the Engineer.

413
414 **(F) Repair of Defective Concrete.** Contractor shall submit a repair
415 plan which gives the locations and types of defective work. The plan shall
416 propose repair procedures and materials for each type of work. The plan
417 will be accepted by the Engineer prior to commencing with repair works.
418 Repairs shall meet accepted industry standards for each type of defect
419 and equal or exceed the values of the designed strengthening.

420
421 **(G) Finishing.** FRP surface shall be finished with a high build epoxy
422 primer and mid-coat and an aliphatic polyurethane topcoat. Prior to
423 painting, FRP shall be cleaned and prepared according to manufacturer's
424 recommendations. Acceptable coatings shall be as follows or as otherwise
425 approved by the Engineer:

426
427 Primer: TYFO PWC (epoxy coating) @ 5 mils DFT
428 Mid Coat: TYFO PWC (epoxy coating) @ 5 mils DFT
429 Initial Top Coat: TYFO U (aliphatic polyurethane) @ 3-5 mils DFT
430 Final Top Coat: TYFO U (aliphatic polyurethane) @ 3-5 mils DFT

431
432 No field thinning of the paint will be allowed.

433
434 Color of the top Coat shall be Concrete Grey. Sheen of the top coat shall
435 be flat or satin.

436
437 Submit material data sheets for all finishing work to the Engineer for
438 review and acceptance prior to ordering of materials. Contractor shall
439 provide a finish test section of a minimum 6 square feet for acceptance by
440 the Engineer. Redo test section until accepted by Engineer. Production
441 finish shall closely match test section.

442 443 **577.04 Measurement.**

444
445 **(A) Externally Bonded Carbon Fiber Reinforced Polymer (CFRP)**
446 **Composite System.** The CFRP system will be paid on a lump sum basis.
447 Measurement for payment will not apply.

448
449 **(B) Carbon Fiber Reinforced Polymer Anchors.** The CFRP Anchors
450 will be paid on a lump sum basis. Measurement for payment will not apply.

451
452 **(C) Finish for CFRP System.** Finish for CFRP system will be paid on a
453 lump sum basis. Measurement for payment will not apply.

577.05 Payment.

(A) Externally Bonded Carbon Fiber Reinforced Polymer (CFRP) Composite System. The Engineer will pay for accepted externally bonded CFRP composite system on a contract lump sum basis. Payment will be full compensation for work prescribed in this section and contract documents.

(B) Carbon Fiber Reinforced Polymer Anchors. The Engineer will pay for accepted carbon fiber reinforced polymer anchors on a contract lump sum basis. Payment will be full compensation for work prescribed in this section and contract documents.

(C) Finish for CFRP System. The Engineer will pay for accepted finish for CFRP system on a contract lump sum basis. 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 the proposal schedule:

Pay Item	Pay Unit
Externally Bonded Carbon Fiber Reinforced Polymer (CFRP) Composite System	Lump Sum
Carbon Fiber Reinforced Polymer Anchors	Lump Sum
Finish for CFRP System	Lump Sum"

END OF SECTION 577

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 blended hydraulic cements such as Portland-limestone cement, 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 Sections 5, 7 and 9.

601.03 Construction.

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

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

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

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

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

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

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

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

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

TABLE 601.03-1 - DESIGN OF CONCRETE
(800 Maximum Cement Content lbs. /c.y.)

Class of Concrete	28-Day Strength f'_c, psi.	Minimum Cement Content lbs. /c.y.	Maximum Water-Cement Ratio, lb./lb.	Minimum Cement Content with Mineralized CO₂ lbs./c.y.	Maximum Water-Cement Ratio with Mineralized CO₂ lb./lb.	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							

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Structural Concrete Design – The Carbon Dioxide mineralization process is our preferred method for CO₂ 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 CO₂ 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 CO₂ 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.

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

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

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

TABLE 601.03-2 – STANDARD METHODS	
Sampling Fresh Mixed Concrete	AASHTO T 141
Mass Per Cubic Meter (Cubic Foot) Yield and Air Content (Gravimetric) of Concrete	AASHTO T 121
Slump of Hydraulic Cement Concrete	AASHTO T 119
Air Content of Freshly Mixed Concrete by the Pressure Method	AASHTO T 152
Specific Gravity and Absorption of Fine Aggregate	AASHTO T 84
Specific Gravity and Absorption of Coarse Aggregate	AASHTO T 85
Temperature of Freshly Mixed Portland Cement Concrete	ASTM C1064
Making and Curing Concrete Test Specimens in the Field	AASHTO R-100 Formerly T 23
Compressive Strength of Molded Concrete Cylindrical Specimens	AASHTO T 22 (4 inch by 8 inch or 6 inch by 12 inch cylinders)
Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	AASHTO T 97

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

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

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

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

The Engineer will analyze performance records to establish standard deviation.

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

Unless sufficient performance records are available from other projects at DOT Materials Testing and Research Branch (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.

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

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

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

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

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

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

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

191
192 Weigh bulk cement on weighing device accepted by the Engineer. Seal
193 and vent bulk cement-weighing hopper properly to preclude dusting
194 during operation. Do not suspend discharge chute from weighing
195 hopper. Arrange discharge chute so that cement will not lodge in
196 hopper or leak from hopper.

197
198 Batching accuracy shall be within 1 percent, plus or minus, of
199 required weight.

200
201 **(2) Water.** Measure water by volume or by weight. Use readily
202 adjustable device for measurement of water, with accuracy within 1
203 percent, plus or minus, of quantity of water required for batch. Arrange
204 device so that variable pressure in water supply line does not affect
205 measurements. Equip measuring tanks with outside taps and valves or
206 other accepted means to allow for checking calibration.

207
208 **(3) Aggregates.** When storing and stockpiling aggregates, avoid
209 separation of coarse and fine particles within each size, and do not
210 intermix various sizes before proportioning. Protect stored or stockpiled
211 aggregates from dust or other foreign matter. Do not stockpile together,
212 aggregates from different sources and of different gradations.

213
214 When transporting aggregates from stockpiles or other sources
215 to batching plant, ensure uniform grading of material is maintained. Do
216 not use aggregates that have become segregated or mixed with earth
217 or foreign matter. Stockpile or bin aggregates at least 12 hours before
218 batching. Produce or handle aggregates by hydraulic methods and
219 wash and drain aggregates. If aggregates exhibit high or non-uniform
220 moisture content, the Engineer will order storage or stockpiling for more
221 than 12 hours.

222
223 Proportion aggregates by weight, with the exception that
224 aggregates in concrete for minor structures, curbs, and sidewalks may
225 be proportioned by either volume or weight. For volumetric
226 proportioning, use measuring boxes of known capacity to measure
227 quantity of each aggregate size.

228
229 Use batch weight based on dry materials plus total weight of
230 moisture (both absorbed and surface) contained in aggregate.
231 Measure individual aggregates to within 2 percent, plus or minus, of
232 required weight, and total weight of aggregates to within 1 percent, plus
233 or minus, of required weight.

(4) Admixtures. All admixtures shall be compatible with each other. Admixtures which significantly increase the drying shrinkage or creep in the concrete may be rejected by the Engineer. Store, proportion, and dispense admixtures in accordance with the following provisions:

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

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

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

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

- a. Quantity of admixture measured for each batch of concrete varies from pre-selected dosage by more than 5 percent; or
- b. Entire contents of measuring unit from dispenser is not emptied into each batch of concrete.

Unless liquid admixtures are added to batch with pre-measured water, discharge liquid admixtures into stream of water that disperses admixtures uniformly throughout batch. An exception is that air-entraining admixtures may be dispensed

280 directly into moist sand in batching bins, provided adequate
281 control of concrete air content can be maintained.

282
283 Measure and disperse special admixtures, as
284 recommended by admixture manufacturer, and as accepted by
285 the Engineer. Special admixtures include high-range water
286 reducers requiring dosages greater than capacity of
287 conventional dispensing equipment. For site-added, high-range
288 water reducers, use calibrated, portable dispenser supplied by
289 manufacturer.

290
291 **(b) Mineral Admixtures.** Protect mineral admixtures from
292 exposure to moisture until used. Pile sacked material of each
293 shipment to permit access for tally, inspection, and identification.

294
295 Provide adequate facilities to ensure that mineral
296 admixtures meeting specified requirements are kept separate
297 from other mineral admixtures and that only specified mineral
298 admixtures are allowed to enter into the work. Provide safe and
299 suitable facilities for sampling mineral admixtures at weigh
300 hopper or in feed line immediately in advance of hopper.

301
302 Incorporate mineral admixtures into concrete using
303 equipment conforming requirements for Portland Cement weigh
304 hoppers and charging and discharging mechanisms specified in
305 ASTM C94 and Subsection 601.03(C) - Batching.

306
307 When concrete is completely mixed in stationary paving
308 or continuous mixers, weigh mineral admixture in separate
309 weigh hopper. Introduce mineral admixture and cement
310 simultaneously into mixer, proportionately with aggregate.

311
312 When interlocks are required for cement-charging
313 mechanisms, and cement and mineral admixtures are weighed
314 cumulatively, interlock their charging mechanisms to prevent
315 introduction of mineral admixture until mass of cement in weigh
316 hopper is within tolerances specified in Subsection 601.03(C)(1)
317 - Portland Cement.

318
319 In determining maximum quantity of free water that may
320 be used in concrete, consider mineral admixture and
321 supplementary cementitious materials (SCMs) to be cement.

322
323 **(5) Bins and Scales.** At batching plant, use individual bins,
324 hoppers, and scale for each aggregate size. Include separate bin,
325 hopper, and scale for bulk cement and fly ash.

326
327 Except when proportioning bulk cement for pavement or
328 structures, cement weigh hopper may be attached to separate scale for
329 individual weighing or to aggregate scale for cumulative weighing. If
330 cement is weighed cumulatively, weigh cement before other
331 ingredients.

332
333 When proportioning for pavement or structures, keep bulk
334 cement scale and weigh hopper separate and distinct from aggregate
335 weighing equipment.

336
337 Use springless-dial or beam-type batching scales. When using
338 beam-type scales, make provisions to show operator that required load
339 in weighing hopper is approaching. Use devices that show condition
340 within last 200 pounds of load and within 50 pounds of overload.

341
342 Maintain scale accuracy to 0.5 percent throughout range of use.
343 Design poises to lock to prevent unauthorized change of position. Use
344 scales inspected by the State Measurement Standards Branch of the
345 Department of Agriculture to ensure their continued accuracy. Provide
346 not less than ten 50-pound weights for testing scales.

347
348 Batching plants may be equipped to proportion aggregates and
349 bulk cement by automatic weighing devices.

350
351 **(6) Batching and Hauling.** When mixing is to be performed at work
352 site, transport aggregates from batching plant to mixer in batch boxes,
353 vehicle bodies, or other containers of adequate capacity and
354 construction. Use partitions to separate batches and prevent spilling
355 from one compartment to another while in transit or during dumping.

356
357 Transport bulk cement to mixer in tight compartments carrying
358 full quantity of cement required for batch. Once cement is placed in
359 contact with aggregates, batches shall be mixed and placed within
360 1-1/2 hours of contact. Cement in original shipping packages may be
361 transported on top of aggregates. Ensure that each batch contains
362 number of sacks required by job mix.

363
364 Deliver batches to mixer intact. Charge each batch into mixer
365 without loss of cement. When carrying more than one batch on truck,
366 charge batch into mixer without spilling material from one batch
367 compartment into another.

368
369 **(D) Mixing.** Mix concrete in mechanically operated mixers. When
370 accepted by the Engineer, batches that do not exceed 1/3 cubic yard may be
371 hand-mixed in accordance with methods described at end of this subsection.

372
373 Use stationary or truck mixers that distribute materials thoroughly and
374 produce concrete uniform in color and appearance. When there is variation in
375 mixed concrete attributable to worn pickup or throw-over blades, the Engineer
376 will inspect mixer. If inspection reveals that blades are worn more than one
377 inch below original height of manufacturer's design, repair or replace blades.
378 Upon request, make copy of manufacturer's design, showing dimensions and
379 arrangement of blades.
380

381 Charge batches into central or truck mixers so that portion of mixing
382 water enters ahead of cement and aggregates. Deliver uniform flow of water.
383 Place entire amount of batch water in mixer by end of first quarter of mixing
384 period. When mixers with multiple compartment drums are used, time
385 required to transfer material between compartments will be included as mixing
386 time. Use drum rotation speed as designated by manufacturer. If mixing does
387 not produce concrete of uniform and smooth texture, provide additional
388 revolutions at same speed until thorough mixing of each concrete batch is
389 attained. Begin measuring mixing time from time cement, aggregates, and 60
390 percent of water are in drum. Do not exceed manufacturer's rated capacity for
391 volume of concrete mixed in each batch.
392

393 Equip central or truck mixers with attachment for automatically timing
394 mixing of each concrete batch. Timing device shall include automatic feature
395 for locking discharge chute and device for warning operator when required
396 mixing duration has been met. If timing or locking device fails to operate,
397 immediately furnish clock or watch that indicates seconds, to mixer operator. If
398 timing device is not repaired within three days after becoming inoperative, shut
399 down batching operation until timing device is repaired.
400

401 For stationary mixers, use mixing time between 50 seconds and 5
402 minutes. Select mixing time, as necessary, to produce concrete that meets
403 uniformity criteria when tested in accordance with Section 11.3.3 of ASTM
404 C94. The Contractor may designate mixing time for which uniformity tests are
405 to be performed, provided mixing time is not less than 50 seconds or more
406 than 5 minutes. Before using concrete for pavements or structures, mix
407 concrete to meet specified uniformity requirements. The Contractor shall
408 furnish labor, sampling equipment, and materials required for conducting
409 uniformity tests of concrete mixture. The Engineer will furnish required testing
410 equipment, including scales, cubic measure, and air meter; and will perform
411 tests. The Engineer will not pay separately for labor, equipment, materials, or
412 testing, but will consider the costs incidental to concrete. After batching and
413 mixing operational procedures are established, the Engineer will not allow
414 changes in procedures without the Contractor re-establishing procedures by
415 conducting uniformity tests. Repeat mixer performance tests whenever
416 appearance of concrete or coarse aggregate content of samples is not
417 conforming to requirements of ASTM C94. For truck mixers, add four seconds

to specified mixing time if timing starts as soon as skip reaches its maximum raised position.

Unless otherwise indicated in the contract documents or accepted by the Engineer, concrete shall be mixed at proportioning plant. Operate mixer at agitating speed while in transit. Concrete may be truck-mixed only when cement or cement and mixing water are added at point of delivery. Begin mixing truck-mixed concrete immediately after introduction of mixing water to cement and aggregates, or introduction of cement to aggregates.

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

Manufacturer's standard metal rating plate shall be attached to each truck mixer, stating maximum rating capacity in terms of volume of mixed concrete for various uses and maximum and minimum mixing speeds. When using truck mixers for mixing, adhere to maximum capacity shown on metal rating plate for volume of concrete in each batch.

Operate truck mixers at mixing speed designated by manufacturer, but at not less than 6 or more than 18 revolutions per minute. Mix truck-mixed concrete initially between 70 and 100 revolutions at manufacturer-designated mixing speed, after ingredients, including water, are in mixer. Water may be added to mixture not more than two times after initial mixing is completed. Each time that water is added, turn drum an additional 30 revolutions or more at mixing speed until concrete is mixed uniformly.

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

When accepted by the Engineer, hand mixing may be allowed. The entire concrete placement at one location shall not exceed 1/3 cubic yard. It shall be hand mixed on a watertight, level platform. Use no aluminum to construct platform. Measure proper amount of coarse aggregate in measuring boxes and spread on platform. Spread fine aggregate on that coarse aggregate layer. Limit coarse and fine aggregate layers to total depth of one foot. Spread dry cement on this mixture. Turn whole mass not less than two times dry. Add sufficient clean water, distributed evenly. Turn whole mass again, not less than three times, not including placing in carriers or forms.

(E) Transporting Mixed Concrete. Transport central-mixed concrete to

delivery point in truck agitators or truck mixers operating at speed designated by equipment manufacturer as agitating speed; or in non-agitating hauling equipment, provided consistency and workability of mixed concrete upon discharge at delivery point is suitable for placement and consolidation in place; and provided mixed concrete after hauling to delivery point conforms to uniformity criteria when tested as specified in ASTM C94.

For revolving drum truck mixers transporting central-mixed concrete, limit concrete volume to manufacturer's rated capacity for agitator operation. Maintain agitating speed for both revolving drum mixers and revolving blade type agitators as designated on manufacturer's data plate. Equip truck mixers or truck agitators with electrically or mechanically actuated counters. Actuate counters after introducing cement to aggregates.

Bodies of non-agitating hauling equipment shall be smooth, watertight, metal containers equipped with gates to permit control of concrete discharge. Protect open-topped haul vehicle against weather with cover accepted by the Engineer.

When hauling concrete in non-agitating trucks, complete discharge within 30 minutes after introducing mixing water to cement and aggregates.

When truck mixer or agitator is used for transporting central-mixed concrete to delivery point, complete discharge within 1-1/2 hours, or before 250 revolutions of drum or blades, whichever comes first after introduction of mixing water to cement and aggregates, or cement to aggregates. For truck-mixed concrete, complete concrete discharge within 1-1/2 hours, or before 300 revolutions of drum or blades, whichever comes first. These limitations are permitted to be waived if concrete is of such slump after the 1-1/2 hour time or 300-revolution limit has been reached, that it can be placed, without addition of water to the batch.

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

- (1) Name of concrete plants.
- (2) Serial number of ticket.
- (3) Date and truck number.
- (4) Name of Contractor.
- (5) Specific project, route, or designation of job (name and location),

and truck overweight permit number when required.

(6) Specific class or designation of concrete in accordance with contract documents.

(7) Quantity of concrete in cubic yards.

(8) Time of loading batch or mixing of cement and aggregates.

(9) Water added by receiver of concrete and receiver's initials.

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

(11) 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 quantity of water used in concrete mixes so that concrete consistency, as determined by AASHTO T 119 test method, is within nominal slump range specified in Table 601.03-3 - Slump for Concrete or as stated on the accepted concrete mix design. If concrete slump exceeds nominal slump, adjust mixture of subsequent batches. If slump exceeds maximum slump, the Engineer will reject concrete unless deemed satisfactory for its use.

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

Slump for concrete shall be as specified in Table 601.03-3 – Slump for Concrete.

TABLE 601.03-3 - SLUMP FOR CONCRETE		
Type of Work	Nominal Slump Inches	Maximum Slump Inches
Concrete Pavements	0 – 3	3-1/2
Reinforced Concrete Structures:		
Sections Over 12 Inches	0 – 4	5
Sections 12 Inches Thick or Less	2 – 5	6
Non-Reinforced Concrete Facilities	1 – 3	4
Concrete Placed Underwater	6 – 8	9
Bridge Decks	0 – 3	3½

*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.

If the slump of the ready mix concrete upon delivery is below the design slump, water may be added provided:

- (1) Water shall not be added to the concrete if more than ¼ cubic of concrete has been discharged from the mixer.
- (2) Water may be added only up to 30 minutes after the average travel time to the jobsite.
- (3) The maximum slump, the maximum water/cement ratio, and the maximum water per cubic yard shall not be exceeded.
- (4) Not more than 1 ½ gallons of water per cubic yard shall be added to the concrete, but not more than the amount of "held-back" water.
- (5) The amount of "held-back" water from the approved mix design shall be shown on the delivery ticket.

586 In adverse or difficult conditions that may affect placement of concrete,
587 the above slump limitations may be exceeded for placement workability, with
588 the addition of admixture conforming to Subsection 711.03 - Admixtures, if
589 accepted by the Engineer in writing and provided water-cement ratio is
590 maintained. Provide additional cement and water, or admixture at no increase
591 in contract price or contract time.

592
593 **(G) Forms.** Construct forms in accordance with applicable sections.

594
595 **(H) Placing Concrete.** Place concrete in accordance with applicable
596 sections.

597
598 **(I) Finishing Concrete Surfaces.** Finish concrete surfaces in accordance
599 with applicable sections.

600
601 **(J) Curing Concrete.** Cure concrete in accordance with applicable
602 sections.

603
604 **601.04 Measurement.** The Engineer will measure concrete in accordance with the
605 applicable sections.

606
607 **601.05 Payment.** The Engineer will pay for the accepted concrete under the
608 applicable sections.”

609
610
611 **END OF SECTION 601**

SECTION 602 - REINFORCING STEEL

Make the following amendments to said Section:

(I) Amend **Subsection 602.03(D) Placing and Fastening** by revising the first sentence of the first paragraph between lines 58 and 60 to read as follows:

“Unless otherwise indicated in the contract documents, place and fasten reinforcing steel in accordance with the CRSI Placing Reinforcing Bars and the CRSI *Manual of Standard Practice*.”

(II) Amend **Subsection 602.03(D) Placing and Fastening** by adding the following sentence to Note 1 in Table 602.03-1 Placement Tolerances at line 68:

“Note 1 is not applicable for deck slabs, approach slabs, and sleeper slabs.”

(III) Amend **Subsection 602.03(D) Placing and Fastening** by amending the last sentence of paragraph three at line 79 and 80 to read as follows:

“All plastic bar supports will be allowed only in prestressed concrete members and for vertical positions in drilled shafts.”

(IV) Amend **Subsection 602.03(E)(1)(b)** by revising the number 33 to read 50 at line 159.

(V) Amend **Subsection 602.03(E)(3) Butt-Joined Splices** by replacing the last sentence of the first paragraph between lines 262 and 263 with the following sentence:

“Completed butt splices shall develop not less than the specified tensile strength of the unspliced bars.”

(VI) Amend **Subsection 602.03(E)(3)(b) 1. General** by deleting the words “of 125 percent of specified yield strength” in subparagraph d. at lines 443 and 444.”

END OF SECTION 602

1 Make the following section a part of the Standard Specifications:

2
3 **"SECTION 621 – INVASIVE SPECIES MANAGEMENT**

4
5 **621.01 Description.** This section describes the best management practices for
6 the prevention, identification, control, eradication, and reporting of invasive plant
7 and animal species (collectively, invasive species). Invasive species impacts can
8 include damage to infrastructure, public health and safety issues, reduction of
9 biodiversity, and reduced cover of desirable native and/or nonnative species. The
10 material found in Section 621 – Invasive Species Management shall be applied to
11 the following sections, as appropriate: Section 201 – Clearing and Grubbing,
12 Sections 202 – Removal of Structures and Obstructions, 203 – Excavation and
13 Embankment, 204 –Excavation and Backfill for Miscellaneous Facilities, 205 –
14 Excavation and Backfill for Bridge and Retaining Structures, and 206 –Excavation
15 and Backfill for Drainage Facilities, which cover various excavations; Section 209
16 – Temporary Water Pollution, Dust, and Erosion Control; Section 619 – Planting;
17 Section 641 – Hydro-Mulch Seeding; Section 642 – Landscape Maintenance; and
18 Section 643 – Maintenance of Existing Landscape Areas.

19
20 **(A) Definitions.** Whenever the following words, terms, or pronouns are
21 used in contract documents, unless otherwise prescribed therein and
22 without regard to the use or omission of uppercase letters, the intent and
23 meaning shall be interpreted as follows:

24
25 **(1) Alien Species.** Any species, including its seeds, eggs,
26 spores, or other biological material capable of propagating that
27 species, that is not native to that ecosystem.

28
29 **(2) Botanist/Arborist.** A person with a minimum of 5 years of
30 experience in the botanical field, including the identification,
31 eradication, control, and reporting of invasive plant species. The
32 CONTRACTOR's selected botanist/arborist shall be approved by the
33 Engineer.

34
35 **(3) Hawaii Invasive Species Council (HISC).** Inter-
36 departmental collaboration comprised of the Departments of Land &
37 Natural Resources (DLNR), Agriculture (DOA), Health (DOH),
38 Transportation (DOT), Business, Economic Development & Tourism
39 (DBEDT), and the University of Hawaii (UH). The HISC was
40 established in 2003 for the special purpose of providing policy level
41 direction, coordination, and planning among state departments,
42 federal agencies, and international and local initiatives for the control
43 and eradication of harmful invasive species infestations throughout
44 the State and for preventing the introduction of other invasive species
45 that may be potentially harmful.

46 **(4) Invasive Species.** An alien species whose introduction does,
47 or is likely to, cause economic or environmental harm or harm to
48 human health.

49
50 **(5) Invasive Species Committee (ISC).** Committees located in
51 Hawai'i that are island-based partnerships of government agencies,
52 nongovernmental organizations, and private businesses protecting
53 each island from the most threatening invasive weeds and pests.
54

55 **(6) Noxious Weed.** Any plant species that is, or that may be
56 likely to become, injurious, harmful, or deleterious to the agricultural,
57 horticultural, aquacultural, or livestock industry of the state and to
58 forest and recreational areas and conservation districts of the state,
59 as regulated by the Secretary of Agriculture and the federal land
60 management agencies and the State of Hawai'i Department of
61 Agriculture (HDOA) Hawai'i Revised Statutes (HRS) Chapter 152.
62 The HDOA Noxious Weed List can be found in HRS 4:6:68 (Noxious
63 Weed Rules).
64

65 **(7) Pest.** Any insect, rodent, nematode, fungus, weed, or any
66 other form of terrestrial or aquatic plant or animal life or virus,
67 bacteria, or other microorganism (except viruses, bacteria, or other
68 microorganisms on or in living humans or other living animals) that
69 the Engineer declares to be a pest (Federal Insecticide, Fungicide,
70 and Rodenticide Act, Section 2(t)).
71

72 **(8) Physical Construction.** Activities associated with clearing,
73 grubbing, grading, excavating, filling of land, or other similar site work
74 activities and that cause ground disturbance and/or site disturbance.
75

76 **(9) Propagule.** A vegetative structure that can become detached
77 from a plant and give rise to a new plant, e.g., a bud, sucker, or spore.
78

79 **(10) Priority Invasive Plants for the State of Hawai'i**
80 **Department of Transportation Construction Projects.**
81

82 **(a)** Plants and weeds identified in State of Hawai'i
83 Department of Transportation (HDOT) contract specifications.
84

85 **(b)** Plants on the U.S. Department of Agriculture Federal
86 Noxious Weed List and in HRS 4:6:68 (Noxious Weed Rules)
87 *provided that* the HDOA and/or the ISC also recommend that
88 weed as a target.
89

(c) Species identified as targets for the early detection, eradication, or containment and control by the local island ISC in each county, found at the following websites:

1. Hawai'i Island: <https://www.biisc.org/>
2. Kaua'i: <https://www.kauaiisc.org/>
3. Maui: <https://mauiinvasive.org/>
4. O'ahu: <https://www.oahuisc.org/>

(d) Species determined by HDOT to impact roadside maintenance operations, infrastructure, or health and safety of the public (as determined by the Engineer). These species can be found in Chapter 2 of the HDOT Invasive Species Project Prioritization Plan.

(e) Species that are actively controlled by neighboring landowners and agreed upon by the Engineer, as identified during pre-construction consultation with landowners (as applicable).

(11) Priority Pests for the State of Hawai'i Department of Transportation.

(a) Animals and pathogens designated as high-priority invasive species for early detection, eradication, or containment by the ISCs or HDOA in each county.

(b) Animals and pathogens known to impact roadside maintenance operations, infrastructure, or public safety, as determined by HDOT.

(c) Animals and pathogens that are of concern to neighboring landowners and the Engineer agrees should be targets for HDOT.

(12) Weed. Any plant growing where it is not wanted, as determined by the Engineer.

(13) Wildlife Biologist. A person with a minimum of 5 years of experience in the wildlife field, including identification, eradication, control, and reporting of invasive animal species. The CONTRACTOR's selected Wildlife Biologist shall be approved by the Engineer.

136 **621.02 Materials.**

137
138 **(A) Free from Invasive Plants or Pests.** All material, including plant
139 material, gravel, sand, and soil, provided for the project shall be free of
140 invasive plants or pests. Such action is to prevent the introduction of
141 invasive species onto the project site.

142
143 **(B) Plant Material Sources.**

144
145 **(1)** The CONTRACTOR shall buy plants propagated on the island
146 where the plants will be planted. The CONTRACTOR shall provide
147 the Engineer with the names of the nursery or nurseries they will use
148 to provide landscaping plants in accordance with Section 619 –
149 Planting. A Botanist/Arborist and a Wildlife Biologist (collectively,
150 Biologists) shall inspect the nursery for the presence of invasive
151 species on the property and in planting materials destined for the
152 project site within 90 days of planting. Inspection results shall be
153 provided to the Engineer in a report.

154
155 **(2)** Should plants not be available on-island, imported plants from
156 off-island may be used but shall not be brought directly to the project
157 site. State of Hawai'i Plant Quarantine Branch–certified nurseries
158 should be given priority when selecting off-island plant imports (State
159 of Hawai'i Plant Industry Division 2020, available at:
160 <https://hdoa.hawaii.gov/1pi/pq/certified-nurseries/>). These plants
161 shall not be mixed with locally grown plants and shall be first
162 quarantined in a location away from the project site for a period not
163 less than 30 days in an area approved by the Engineer. Biologists
164 shall inspect all plants imported from off-island to ensure that they
165 are free from invasive species, such as coqui frogs
166 (*Eleutherodactylus coqui*), fire ants (*Wasmannia auropunctata* and
167 *Solenopsis geminata*), and weed seedlings, that could arrive
168 inadvertently. The Biologists shall screen out any priority invasive
169 plants or other potentially invasive plants or organisms, including
170 imported plants that appear to be sick or carrying disease. Any plant
171 that appears to be diseased shall be submitted to the University of
172 Hawai'i College of Tropical Agriculture and Humane Resources
173 extension agents for positive identification of the disease. The
174 Biologists may also seek assistance from other organizations,
175 including the State of Hawai'i Department of Land and Natural
176 Resources (DLNR), HDOA, and the local island ISC in the
177 identification or detection of non-plant invasive species. Imported
178 plants shall be planted out only after they have been determined to
179 be free of unwanted weeds or animal pests at the quarantine location
180 determined by the Engineer. All pests or invasive species shall be

reported by calling the Hawai'i Invasive Species Council at 808-643-PEST (7378) to determine appropriate treatment.

(3) In conjunction with Section 641 – Hydro-Mulch Seeding, a botanist/arborist shall inspect seeded areas a minimum of 45 days after hydroseed is applied.

(C) Construction Material.

(1) The Contractor shall make sure all material stockpile sites are free of invasive plants (including seeds and propagules) and animals. Stockpile site surveys shall be included in the Biologists' inventory report.

(2) All imported materials, including gravel, soil, rock, and sand shall be free of invasive species.

(3) All materials shall be stockpiled at a designated staging area to prevent contamination. If possible, permanent containment areas shall be constructed for long-term projects.

(4) Stockpiles of materials such as gravel, soil, rock, and sand shall be inspected every 6 months by the Biologists to ensure that they are not encroached upon by invasive plants or animals (a buffer of 30 feet shall be maintained).

(5) If invasive species are present, the CONTRACTOR shall either chemically or mechanically remove them, as determined by the Engineer.

621.03 Construction.

(A) Responsibility.

(1) Any priority invasive plants and priority pests that establish after notice to proceed and prior to final acceptance by the Engineer that were not present before construction shall be the sole responsibility of the CONTRACTOR to remove or control. Acceptable removal is dependent on the type of species and shall be approved by the Engineer.

(2) The CONTRACTOR shall be responsible for the control or eradication of priority invasive plants and/or priority pests that are already established at a project site before construction begins. CONTRACTOR responsibility is determined by the Engineer. Removal of already established species shall be paid from the force account; see Payment section below.

(3) The CONTRACTOR shall ensure that weed and/or pest removal is carried out in a legal manner, including obtaining all necessary training, licenses, and permits from applicable regulatory agencies for the specific methods proposed for removal and disposal of invasive species.

(B) Inventory of Invasive Species before Physical Construction.

(1) A full list of plant and animal species present at the site (botanical inventory and faunal inventory, respectively) is required for projects that have more than 1 acre or 43,560 square feet of roadside soil or vegetation and which will remain as soil or vegetation at the end of the construction project. The botanical and faunal inventory can either be combined into one report or the floral and faunal inventories can be reported on separately. Biologists shall provide one electronic copy of each inventory report to the Engineer. Botanical and faunal inventories shall be undertaken within 30 days before physical construction activities (e.g., site work, clearing, grubbing, ground disturbance, and/or any other site disturbance) are initiated. The postconstruction botanical and faunal inventories shall be undertaken during the Plant Establishment Period, which extends 9 months from the accepted completion date of the Planting Period. See Section 619 – Planting for definitions on the Planting Period and the Plant Establishment Period. The botanical and faunal inventory of the right-of-way shall be done by Biologists hired by the CONTRACTOR. The botanical inventory report shall include scientific names of plant species and their abundance (area covered and/or number of plants, as appropriate, depending on growth form). For priority invasive plants, the inventory shall provide details on GPS location (NAD 83) and reproductive status: mature (reproductive parts present) or immature. For priority invasive animals, the inventory shall include scientific names of faunal species and shall provide details on GPS location (NAD 83) and individual(s) detected.

(2) The Biologists shall inventory and report any priority invasive plants and/or priority invasive pests within 30 feet of any proposed on-site stockpiles for gravel, sand, and soil that may be sourced for the construction project.

268 **(C) Invasive Species Removal Plan.**

269
270 **(1)** If invasive species are found before physical construction,
271 including within 30 feet of material stockpile locations, the
272 CONTRACTOR shall submit an invasive species removal plan for
273 approval by the Engineer. This plan shall include specific removal
274 methods for all priority invasive species identified by the Engineer,
275 such as physical removal and/or chemical treatments, and a detailed
276 post-removal monitoring plan. The plan should address how to
277 prevent the spread of the invasive species if not removed. A cost to
278 remove and a cost to prevent the spread shall be submitted by the
279 CONTRACTOR. Preparation of the removal plan will be paid for
280 from the force account.

281
282 **(2)** If the invasive species is/are not removed prior to physical
283 construction, the CONTRACTOR shall surround areas of all invasive
284 plants with a protective 4-foot-high, orange plastic mesh or
285 equivalent fence accepted by the Engineer, supported on a minimum
286 6-foot-long steel T-post. The CONTRACTOR shall provide signage
287 on the fence that states "not to disturb or work within the fenced
288 area." Fences shall be erected before removal work begins and shall
289 not be removed until removal work is completed. For trees or shrubs,
290 flagging tape can be used to mark plants. The CONTRACTOR shall
291 contact the local island ISC to determine the best method to contain
292 invasive animals.

293
294 **(D) Removal of Priority Invasive Species Found before Physical**
295 **Construction.**

296
297 **(1)** The CONTRACTOR shall be required to remove invasive
298 plants and/or priority pests present at the site after approval of the
299 removal plan or implement mitigation measures to prevent their
300 spread. Removal of invasive species present prior to construction
301 will be paid from the force account. Removal shall be completed
302 prior to any physical construction at the project site.

303
304 **(2)** The CONTRACTOR shall be responsible for ensuring the
305 plant and animal removal is carried out in a legal manner, including
306 obtaining all necessary training, licenses, and permits from
307 applicable regulatory agencies for the specific methods proposed for
308 clearing and removing invasive species.

309
310 **(3)** If pesticides are proposed for use in the removal plan, the
311 CONTRACTOR shall ensure that their application is supervised by a
312 licensed commercial applicator. The labels for pesticides being used
313 must be in the applicator's possession; the applicator shall have

proper safety equipment and be prepared to handle chemical spills before they occur. The CONTRACTOR shall use the least toxic chemical that shall achieve the desired results. If a chemical spill occurs, the Engineer must be notified, and the proper authorities shall be notified in accordance with the pesticide label requirements. A record of chemical applications shall be kept by the commercial applicator and submitted to the Engineer.

(4) Green waste resulting from invasive species removal shall be disposed in a manner that will prevent spread by seeds or regrowth from plant fragments. Material contaminated with invasive species shall be covered and secured during transport to prevent other areas from becoming contaminated. In addition, seeds and fruit shall be placed and secured in bags by the CONTRACTOR. As determined by the Engineer, plant material shall be incinerated or buried in a landfill.

(E) Post-removal Monitoring and Inspection. A Biologist shall carry out post-removal monitoring at least every 6 months to confirm that the removal plan was successfully implemented. The post-removal monitoring is intended to ensure that the treated areas remain free of invasive species during the construction. Before handing the site over to the Engineer, the CONTRACTOR shall perform an inspection of the entire construction site. The Engineer shall determine whether the CONTRACTOR has met the responsibilities for invasive species removal based on the post-removal inspection report.

(F) Decontaminating Equipment, Machinery, and Vehicles.

(1) Clean Equipment.

(a) All CONTRACTOR equipment and vehicles shall arrive at the work site clean and visibly free of any soil, plants, or plant parts (e.g., seeds); insects and insect eggs; reptiles and amphibians and their eggs; or any other invasive species. Routine clean-down procedures shall be implemented to prevent contaminants from building up using visible inspection and power washing equipment. All equipment cleaning and sanitation shall be incidental to the lump-sum pay items.

(b) The CONTRACTOR shall certify that equipment is arriving free of soil and debris capable of transporting viable invasive plant parts, seeds, or propagules, or invasive animals. The CONTRACTOR shall provide the Engineer with sequentially numbered decals and an accompanying spreadsheet with the decal numbers indicated in one column

and subsequent column headings for the date of inspection and license plate number. Decals shall include the contract number and be consistent with the format supplied by the Engineer. The CONTRACTOR shall place the decal on construction project machinery and vehicles, and the Engineer will initial and date the decal after an inspection determines that the vehicles are acceptably clean. After initialing the decal on the vehicle/ machinery, the Engineer will use the submitted spreadsheet to record the date of inspection and license plate number. The CONTRACTOR shall remove the decal after project completion.

(c) Vehicles or equipment that are off-site for 1 or more working days shall be cleaned and inspected at least once prior to their arrival at site. For other vehicles left on-site, the CONTRACTOR shall attempt to maintain reasonable standards of vehicle hygiene, and frequency of inspection will be determined by the Engineer.

(d) All vehicles and equipment brought in for construction work from off-island are required to be thoroughly washed at the port of export before they arrive at the project site. If invasive species are found at the project site, all vehicles that are deemed to be contaminated by the Engineer must be washed before leaving the project site and being returned to its island of origin, or if not feasible or appropriate at the project site, then at an approved alternative site.

(e) Cleaning Stations.

1. The Engineer will designate a cleaning station for the project site. The location of cleaning stations shall be recorded using a GPS unit and provided to the Engineer. The Engineer will consider the following when selecting and approving a cleaning station at the project site:

a. The cleaning stations shall not contribute to further contamination of machinery. To prevent this, gravel or other appropriate material shall be used to minimize contact with mud or dirt, which may contain invasive plant seeds.

b. Cleaning stations shall be located in low-value areas (e.g., away from native vegetation) or off-site.

c. The designated cleaning area must provide an environment for operators to safely undertake clean-down procedures (i.e., is safe for road traffic and personnel).

d. Cleaning station locations must be clearly posted with signs that say: "Cleaning Station."

2. The CONTRACTOR shall only use designated cleaning stations at the project site to decontaminate equipment, machinery, and vehicles. All earthwork equipment shall be cleaned and be completely free of soil, seeds, vegetative matter, or other debris that could contain plant seeds or propagules prior to arrival and/or before leaving the project site. Manual clean-down procedures consist of using hand tools such as brushes, brooms, air compressors, vacuums, and/or high-pressure water guns. If using high-pressure water, apply only as much water as needed to avoid unnecessary run-off. As part of the cleaning, the CONTRACTOR must pay particular attention to key areas such as the chassis and wheels. A clean-down checklist for vehicles shall include the following:

a. Underside: wheels, rollers, tracks, wheel arches, wheel trim, bumpers, mud flaps, tire rims, axle, differentials, and spare tire

b. Digging apparatus, blades, and buckets

c. Interior: foot wells, carpets, and under mats

d. Engine bay: radiator, air filters, grille, recess under windscreen wipers, and transmission gearbox

e. Tray and trunk (for soil, seed, and plant material)

3. The CONTRACTOR shall clean and inspect equipment before it arrives at the project site. Equipment shall be considered free of soil, seeds, and other such debris after a visual inspection confirms it.

Visual inspection shall include the complete exterior, including undercarriages, tires, wheel wells, and grille. Disassembly of equipment components or specialized inspection tools are not required. The Engineer will maintain a log of vehicle inspections. Earthwork equipment shall not be allowed to operate within the state right-of-way until approved by the Engineer.

4. Priority pests found hitchhiking on equipment shall be reported to HDOA by calling 808-643-PEST (7378).

5. Equipment shall not be sprayed with pesticides as a preventative measure. Spraying equipment with pesticides is not consistent with label specifications. Additionally, many pesticides target a wide range of vegetation and invertebrates and using pesticides in this way may harm nontarget vegetation and invertebrates.

6. The CONTRACTOR shall thoroughly inspect seeding equipment prior to conducting seeding activities to ensure they are free of invasive plant propagules.

(G) Ensuring No Invasive Species Become Established during Construction.

(1) The CONTRACTOR is responsible for keeping the construction site free of invasive species. Monitoring shall be carried out by the CONTRACTOR after removal of invasive species found prior to construction, every 6 months during construction, after physical construction, and after the Plant Establishment Period, before handing the site over to the State. This monitoring shall be undertaken by a Botanist/Arborist for invasive plants and a Wildlife Biologist for invasive animals who shall provide an inventory report which will include scientific names of plant and animal species and their abundance (e.g., area covered and/or number of plants, as appropriate, depending on growth form; and number of individual animals detected). The invasive species inventory report can either report on invasive plants and animals separately or joined as a single document. The report for priority invasive plants shall provide GPS (NAD 83) locations and reproductive status, and the report for priority invasive pests shall provide GPS (NAD 83) locations and the number of individuals detected. Each Biologist shall provide one electronic copy of each inventory report to the Engineer.

(2) Invasive Species Information Signage at the Project Site. Invasive species and noxious weed signage shall be prominently posted at the CONTRACTOR's workplace and at the project site. Signage shall include one laminated 8.5 × 11-inch color page for each HDOT priority invasive species relevant to the project site. The CONTRACTOR may obtain free digital files with invasive species photographs that shall be printed and laminated for use on the project site; these are available at: <http://www.hawaiiinvasivespecies.org>. All signage shall include "Call 808-643-PEST (7378)."

(3) Training. HDOT and the CONTRACTOR's field staff shall attend a mandatory training by biologists knowledgeable about invasive plants and animals about on-site decontamination protocols, identification of priority invasive species and pests, and reporting procedures, once annually (or prior to any physical construction). The local island ISC should be contacted for training information. Trainers shall record the name and date of training for those individuals that complete the training, which shall be provided to the Engineer upon request.

(4) Unannounced Inspections. The CONTRACTOR shall provide unfettered access to the state right-of-way to any ISC staff, HDOA staff, or anyone else acting for the Engineer for the purpose of detecting or monitoring invasive species.

(H) Post-Physical Construction Prior to Returning the Site to the State—Post-Construction Inventory. The CONTRACTOR shall conduct a post-construction invasive species inventory to verify and confirm that the CONTRACTOR maintained the site in the original condition after the initial removal of invasive species was conducted. If additional invasive species are found, the CONTRACTOR would be responsible to develop a removal plan, remove the invasive species found, and conduct post-removal monitoring at their own expense. The removal plan shall be subject to Engineer approval.

621.04 Measurement.

(A) Invasive species control measures include inventory of Invasive Species before Construction, Monitoring of Invasive Species during and after Construction, and Post-Construction Inventory Prior to Returning the Site to the State will be paid on a lump sum basis. Measurement for payment will not apply.

(B) The development of the invasive species removal plan, removal of invasive species established before physical construction and not part of

the project's physical construction work, as well as the post-removal monitoring, shall be paid with force account funds. The Engineer will measure invasive species removal planning, removal, and monitoring required and requested by Engineer on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

621.05 Payment. The Engineer will pay for the accepted invasive species management on a contract lump-sum basis after the final acceptance of the project. 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
Inventory of Invasive Species before Construction_____	Lump sum
Invasive Species Removal Plan _____	Force account
Removal of Plants and Animals Established before Physical Construction or Site Work, Post-removal Monitoring _____	Force account
Monitoring of Invasive Species during and after Construction _____	Lump sum
Post-Construction Inventory Prior to Returning the Site to the State _____	Lump sum

An estimated amount for the force account is allocated in the proposal schedule under Existing Invasive Species Removal, which includes the Invasive Species Removal Plan and the Removal of Plants and Animals Established before Physical Construction or Site Work, Post-removal Monitoring. The actual amount to be paid will be the sum shown on accepted force account records, whether this sum is more or less than the estimated amount allocated in the proposal schedule.”

END OF SECTION 621

1 Make this Section a part of the Standard Specifications:

2
3 **"SECTION 627 – LIGHTWEIGHT CELLULAR CONCRETE (LCC) FILL**
4 **FOR UTILITIES AND STRUCTURES**
5

6 **627.01 Description.** This work includes furnishing and placing Lightweight
7 Cellular Concrete as fill material behind abutment backwalls and other works
8 where firm support is needed for utilities and structural elements.
9

10 **627.02 Materials.** Lightweight Cellular Concrete (LCC) is a mixture of
11 Portland cement, clean salt free sand, foaming agent, and clean water. The
12 Contractor shall proportion the LCC to produce a material that is self-compacting
13 and capable of being excavated years later with hand tools. The proportions of
14 the LCC shall:
15

- 16 (a) produce a uniform, flowable mixture that is essentially self-leveling
17 when placed;
18
- 19 (b) have a maximum 28-day compressive strength of 90 psi;
20
- 21 (c) have a maximum unit weight of 45 pcf;
22
- 23 (d) conform to Section 601 - Structural Concrete.
24

25 The Contractor may use aggregates that are different from Subsection
26 703.01 - Fine Aggregates for Concrete subject to acceptance by the Engineer.
27 Aggregate shall stay in suspension in the LCC to the extent required for proper
28 flow.
29

30 Comply with applicable portions of ACI 523.1 Guide for Cast-in-Place Low-
31 Density Cellular Concrete unless overridden by these requirements herein.
32

33 If the manufacturer of the cement changes, the mix design shall be revised if
34 applicable and must be compliant with all the properties of the cellular concrete.
35

36 An air entrainment admixture (AEA) may be used as the foaming agent. The
37 AEA shall not be a surfactant or a synthetic detergent. The AEA shall be
38 formulated with polymers that are chemically stable and inert. Special equipment
39 shall be used to produce evenly-sized and evenly-dispersed air bubbles that do
40 not react with other ingredients or decay with agitation. The air bubbles shall be
41 produced before the concrete is placed into the mixer or ready-mix truck.
42

43 **627.03 Construction Requirements.**
44

- 45 (A) **Placement.** Before placing any LCC, thoroughly check the
46 excavation sides and bottom for cracks, voids, or other defects that may
47 cause the LCC to flow away from the area. Plug or repair these defects.
48 Do not place any LCC until the Engineer inspects the area.
49

50
51
52 Place the LCC to the designated fill line in lifts not exceeding 2'-0"
53 in height or as specified by the Engineer without vibration or other means
54 of compaction. Provide sufficient mixing capacity to allow the LCC to be
55 placed without interruption. Each lift height shall be allowed to cure for a
56 minimum of 24hrs. prior to placement of any subsequent lifts.
57

58 Fill the area to full depth as shown in the contract or as specified by
59 the Engineer.
60

61 The mixture shall fill all voids during the backfill operation.
62

63 Due to the existing roadway grades, the LCC will need to be placed
64 with both transverse and longitudinal slopes to match the elevations of the
65 corbel, anchor beam, and tie slab. Due to the self-leveling nature of the
66 material, the Contractor shall overpour the LCC in these areas and trim it
67 to grade once set. Alternative methods for maintaining slopes may be
68 proposed for consideration by the Engineer.
69

70 When filling utility troughs, secure the pipes, conduits, etc. within
71 the trough by means of straps, or other means of restraints as shown on in
72 the contract documents, or method accepted by the Engineer.
73

74 Seal the waterline, conduits, etc. as necessary to prevent LCC
75 getting into the waterline, conduits, etc.
76

77 Place the LCC by chute, pumping, or other methods acceptable by
78 the Engineer. During placement operations, place the LCC evenly to
79 avoid dislocating any waterline utilities due to fluid pressure from the LCC
80 fill. Keep LCC level approximately even on both sides of the pipe. Do not
81 drop the cellular concrete from heights that may decrease the volume of
82 the pre-formed foam and densify the cellular concrete. Place in stages as
83 necessary to prevent uplift of unanchored utilities. Place in stages as
84 necessary to prevent uplift of unanchored utilities.
85

86 Air cure LCC in accordance with manufacturer's instructions.
87

88 **(B) Acceptance.** Proportion and place the LCC as specified herein.
89 In general, the strength desired is the maximum hardness that can be
90 excavated years later using handheld conventional excavating tools.
91 Submit a manufacturer's certification of the LCC and include the
92 unconfined 28 day compressive strengths and tested in place density.
93 The material certification shall include the actual test data for each mixture
94 used.
95

96 **627.04 Method of Measurement.** The Engineer will not measure LCC for
97 payment.

98
99
100
101
102
103
104

627.05 Basis of Payment. The Engineer will pay for LCC separately in the contract prices of Section 205 - Excavation and Backfill for Bridge and Retaining Structures. Payment will be full compensation for the work prescribed in this section and the contract documents.

END OF SECTION 627”

SECTION 629 - PAVEMENT MARKINGS

Make the following amendments to said Section:

(I) Amend **Subsection 629.03(B) – Temporary Pavement Markings** by revising the third paragraph from line 62 to 63 to read:

“Maintain and replace temporary pavement markings, flexible delineators, and barricades.”

(II) Amend **Table 629.03 – 1 – Temporary Pavement Markings** to read as follows:

“TABLE 629.03-1 TEMPORARY PAVEMENT MARKINGS	
TYPE	PAVEMENT MARKINGS
Passing Permitted - Both Sides	Single 4-inch yellow stripe 5 feet in length spaced 20 feet on center with Type D markers spaced 40 feet on center and located on center of 5-foot length of stripe.
Passing Prohibited - Both Sides	Double solid 4-inch yellow stripes with Type D markers placed 20 feet on center on one of 4-inch yellow stripes selected by the Engineer.
Passing Permitted - One Side Only	Single continuous 4-inch yellow stripe with Type D markers placed on stripe 20 feet on center on no-passing side and single 4-inch yellow stripes 5 feet in length spaced 20 feet on center on passing side.
Lane Lines - Lane Changing Permitted	Single 4-inch yellow or white stripe 5 feet in length spaced 20 feet on center with Type C or Type D markers spaced 40 feet on center.
Lane Lines - Lane Changing Prohibited	Double solid 4-inch white stripes with Type C markers placed 20 feet on center on one of the 4-inch white stripes selected by the Engineer.
Crosswalk	Two 12-inch white transverse lines spaced 8 feet on center or as ordered by the Engineer.
Stop Line	Single 12-inch white transverse line.
Note: Paint may be used for temporary markings in areas where final paving is not complete.”	

(III) Amend **629.04 – Measurement** by revising lines 292 to 294 to read as follows:

19 **"629.04 Measurement.**

20
21 **(A)** The Engineer will measure thermoplastic and preformed pavement
22 marking tape per linear foot in accordance with the contract documents.
23 The longitudinal pavement markings will be measured per linear foot as a
24 single stripe for the width specified in the contract and in the proposal.
25 The Engineer will include the longitudinal gaps for skip striping, up to thirty
26 (30) feet long, in the measurement.

27
28 The Engineer will not measure temporary pavement markings
29 including flexible delineator posts with reflector markers or Type I
30 Barricades and temporary signs installed for the longitudinal guidance of
31 public traffic over reconstructed areas, cold planed surfaces, newly paved
32 surfaces or other unmarked or scarified areas for payment.

33
34 The Contractor shall consider the work required for the removal of
35 pavement markings incidental to the various contract items, except as
36 provided in the proposal or elsewhere in the contract. If the contract
37 stipulates that the Engineer will make payment for the removal of
38 pavement markings, the Engineer will measure the removal of pavement
39 markings.

40
41 **(B)** The Engineer will measure the pavement markers per each for the
42 types shown in the proposal.

43
44 **(C)** The Engineer will measure the painted stripes that are twelve (12)
45 inches wide or less as a single stripe. The Engineer will measure the
46 painted stripes over twelve (12) inches wide as two (2) stripes. The
47 Engineer will measure the double stripes that are twelve (12) inches or
48 less in total width including the transverse space between the stripes as a
49 single stripe."

50
51 **(IV)** Amend **629.05 – Payment** by revising lines 296 to 330 to read as follows:

52
53 **"629.05 Payment.**

54
55 **(A)** The Engineer will pay for thermoplastic and preformed pavement
56 marking tape at the contract price per linear foot according to the contract,
57 complete in place, including primers.

58
59 The Engineer will pay for double six (6) inch striping with a four (4)
60 inch space between stripes at the contract price per linear foot basis
61 according to the contract.

62
63 The contract unit price paid shall be full compensation for furnishing
64 labors, materials, tools, equipment and incidentals and for doing the work

involved in furnishing and installing pavement markings complete in place according to the contract.

The Engineer will not pay for the temporary pavement markings including flexible delineator posts with reflector markers or Type I Barricades and temporary signs installed for the longitudinal guidance of public traffic over reconstructed areas, cold planed surfaces, newly paved surfaces or other unmarked or scarified areas for payment if not shown in the proposal separately. The Engineer will consider them incidental to the various contract items.

(B) The Engineer will pay for the various types of pavement markers at the contract price per each basis according to the contract, complete in place, including adhesives.

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

Pay Item	Pay Unit
_____ Pavement Striping (Type ____ Tape or _____ Thermoplastic Extrusion) _____	Linear Foot
Type ____ Pavement Marker _____	Each"

END OF SECTION 629

1 Make the following Section a part of the Standard Specifications:

2
3 **“SECTION 636 – E-CONSTRUCTION**
4
5

6 **636.01 Description.** This section specifies requirements for performing the
7 Project in a “paperless” manner, using electronic tools for all submittals,
8 communications, quantity tracking, testing and sampling, scheduling, quality
9 control, and performance monitoring.

10
11 **636.02 General Requirements.** The Contractor shall implement the use of the
12 E-Construction platform, as provided by the HDOT and directed by the Engineer,
13 for use throughout the project. Paper-based or hard copy submittals will not be
14 accepted.

15
16 This Special Provision shall take precedence over all other Specification
17 sections with respect to providing and receiving paper copy communications,
18 submittals, and any project records. Where conflicts exist, and a decision between
19 a hard-copy item and a corresponding electronic version is needed, the electronic
20 version shall be selected, unless otherwise directed by the Engineer.

21
22 **636.03 Construction**
23

24 **(A) Plans and Specifications.** Project drawings will not be provided to
25 the Contractor in hard copy format. An electronic version will be provided
26 in the E-Construction platform for use during the project.

27
28 The Contractor shall note all changes to the work, including all
29 subcontractor’s work, in electronic format using the E-Construction
30 platform. Red annotations shall be used to note changes. Blue annotations
31 shall be used for any additional notes that will be helpful for the State in
32 interpreting the field posted drawings. Other drafting standards may be
33 implemented by the Engineer and shall be adhered to by the Contractor.
34 Changes shall be input by the Contractor and reviewed by the Engineer
35 monthly. The Contractor shall make any changes that the Engineer
36 requires.

37
38 **(B) Submittals.** The Contractor shall provide all required submittals, as
39 listed within the contract documents, via the E-Construction platform. All
40 review, approval, and resubmittal regarding submittals shall also be
41 documented within the E-Construction platform.

42
43 **(C) Correspondence.** Electronic mail (email) shall be the preferred
44 method of electronic communication. All communications that affect project
45 scope, schedule, cost, or quality, including changes and requests for
46 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 Data Submittal (Section 108.03)
- (2)** Correspondence regarding Contract Time (Section 108.05) and Delays
- (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 – Control of Work and 106 -Material Restrictions and Requirements)
- (6)** Field-posted Drawings (Section 648)
- (7)** Pre-Final and Final Inspection submittals (Section 108.13)
- (8)** Warranty documentation – Guarantee of Work (Section 108.17)
- (9)** Project Closing Documents – Final Settlement of Contract (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.

(F) Electronic Ticketing. The Contractor/supplier shall provide electronic material tickets for all loads of Asphalt Mix (Hot Mix Asphalt Concrete, Hot Mix Asphalt Base Course, or Stone Matrix Asphalt), Portland Cement Concrete (PCC), or Construction Aggregates delivered to the project.

The Contractor/supplier may use the plant ticketing system of their choice to create the material ticket data.

Digital material records created, altered, or voided by a person with direct knowledge of the event (the weighmaster or batch person) must be transmitted directly from the plant computer system (scale and batch) to the Department of Transportation at or near the time of the event.

Should digital material records be transmitted to the Department of Transportation through other methods, the weighmaster or batch person must certify the digital material records received by the Department of Transportation daily.

The Department's minimum service level expectation is to receive tickets no later than 5 minutes from when they were created, 99.5% of the time. The Department of Transportation may reject any ticket(s) received later than 5 minutes from when the ticket was created.

(1) Ticket data shall include the following:

(a) Material ticket data will be submitted to the agency via direct connection or a Hypertext Transfer Protocol (HTTPS) post as JavaScript Object Notation (JSON) documents.

(b) Material suppliers must test to confirm that ticketing data can be shared from the originating system no less than 10 days before the project starts. The topic shall be discussed at the pre-construction meeting.

(c) Ticket data must be available immediately upon project start so that tickets can be viewed without delay.

(d) Provide the same data currently accessible and viewed by agency users previously on printed tickets for state projects.

(2) The Contractor shall submit material ticket data in accordance with the plant manufacturer's system recommendations to provide the following unless otherwise directed by the Engineer:

(a) Net weight (or volume for ready mix concrete) of material being transported to the nearest 0.01 ton or cubic yard.

(b) Running daily total of net weight of material (or volume for ready mix concrete) being transported to the nearest 0.01 ton or cubic yard.

(c) Each material ticket shall contain the following:

a. General Ticket information (All Materials)

1. Date
2. State Project Name
3. State Project Number
4. Name of Contractor
5. Name of Material Supplier
6. Customer Name
7. Hauler
8. Unique Truck ID
9. Plant/scale name (source)
10. Unit of Measure
11. Ticketed time
12. Ticket Number

b. Asphalt Mix

1. Material Name/Description
2. Gross Weight (if not automatic)
3. Tare Weight (if not automatic)
4. Net weight
5. Mix Design Number
6. Weighmaster

c. Portland Cement Concrete

1. Loaded time (water/cement time)
2. Wet and dry batch weights (if computer generated)
3. Water:
 - i. In aggregate
 - ii. Total water
 - iii. Water/cement ratio
 - iv. Allowable water to add
4. Admixtures (including brand names if available):
 - i. Retarder and weights
 - ii. Water reducer and weights
 - iii. Air entrainment and weights
 - iv. Special performance admixtures and weights
 - v. Concrete fibers
5. Mix Design
6. Slump

184 7. Truck Revolution

185
186 d. Construction Aggregates:

- 187
188 1. Material Name/Description
189 2. Gross Weight (if not automatic)
190 3. Tare Weight (if not automatic)
191 4. Net weight
192 5. Mix Design Number
193 6. Weighmaster

194
195 e. Optional Additional Truck Status (Will be
196 accepted when available – All Materials)

- 197
198 1. Left plant
199 2. Arrive at project
200 3. Begin unload
201 4. Finish unload
202 5. Leave project

203
204 **636.04 Measurement.** The Engineer will measure additional E-Construction
205 programs, additional licenses, or additional equipment, if ordered by the Engineer,
206 on a force account basis in accordance with Subsection 109.06 – Force Account
207 Provisions and Compensation.

208
209 **636.05 Payment.** The Engineer will pay for the additional E-Construction
210 programs, additional licenses, or additional equipment, on a force account basis in
211 accordance with Subsection 109.06 – Force Account Provisions and
212 Compensation.

213
214 The Engineer may withhold progress payment until the Contractor is in
215 compliance with all E-Construction requirements.

216

217 Pay Item	218 Pay Unit
219 Additional E-Construction Programs, additional licenses 220 or additional equipment	221 Force Account

222 An estimated amount for force account may be allocated in the proposal
223 schedule under “Additional E-Construction Programs, additional licenses or
224 additional equipment.” The actual amount to be paid will be the sum shown on
225 accepted force account records.”

226
227
228
229 **END SECTION 636**

Amend **Section 645 – WORK ZONE TRAFFIC CONTROL** to read as follows:

“SECTION 645 - WORK ZONE TRAFFIC CONTROL

645.01 Description. This section describes the following:

(A) Furnishing, installing, maintaining, and subsequently removing work zone traffic control devices, and personnel. Work zone traffic control shall include providing flaggers and police officers.

(B) Keeping roads for public traffic open and in passable condition; providing and maintaining temporary access crossings for trails, businesses, parking lots, garages, residences, farms, parks, and other driveways; taking necessary work precautions for the protection, safety, and convenience of the public; should pedestrian facilities exist, taking necessary measures for safe and accessible passage, with route information and ADAAG compliance, for pedestrians traveling through or near work zone; taking necessary precautions to protect work zone workers from situations that place workers at increased risk from motorized traffic.

(C) Taking safety and precautionary measures, such as illuminating roadway obstructions during hours of darkness, in accordance with Chapter 286, HRS; Title 19, Subtitle 5, Chapters 127, 128, and 129, HAR; and *MUTCD*.

645.02 Materials.

Signs	750.01
Sign Posts	750.02
Fasteners for Signs and Route Markers	750.03
Reflector Marker	750.07
Flexible Delineator Posts and Reflectors	750.08
Traffic Delineators	750.09
Preformed Pavement Marking Tape	755.04

Submit electronic crashworthy documentation, including but not limited to, drawings in pdf and CADD, crash test reports, and FHWA eligibility letters certifying compliance with MASH 2016, for signs, sign supports, barricades, tubular markers, cones, vertical panels, and other traffic control devices. Only devices that are

deemed crashworthy will be allowed.

Upon request of the Engineer, furnish self-certified MASH 2016 compliant letter from vendor(s) for each type of Category 1 traffic control device, as defined by FHWA and/or AASHTO, including single-piece traffic cone, single-piece drum, and tubular marker.

Traffic control devices, including signs, barricades, warning lights, arrow boards, portable changeable message signs, cones, tubular markers, and temporary concrete barriers shall conform to the American Traffic Safety Services Association (ATSSA), *Quality Guidelines for Temporary Traffic Control Devices and Features* and the *MUTCD*.

Protective devices including barricades, warning signs, lights, and temporary signals shall conform to Title 19, Subtitle 5, Chapters 127, 128, and 129, HAR. Retroreflectorization for protective devices such as barricades, tubular markers, and warning signs shall conform to Subsection 750.01 – Signs.

645.03 Construction. Furnish, install, and maintain barricades, signs, cones, tubular markers, lights, flashing signals, and other traffic control devices.

Furnish two police officers for each location that requires work zone traffic control. If the Traffic Control Plan (TCP) is included in the contract documents, furnish number of police officers indicated in the TCP, whichever is greater.

When directing traffic, flaggers, or police officers, or both shall be in direct communication with each other.

TCP for lane closure on two-lane road will consider intersections and driveway access. Maximum length of a lane closure on a two-lane road is 1,000 feet.

Submit TCP and schedule at least 15 working days before work starts. Submit modifications and deviations from accepted TCP and schedule at least 15 working days before start of work requiring modification or deviation. Illegible TCP will not be accepted.

Include the following in TCP and schedule:

- (1) Signs (type, size, designation, and placement).
- (2) Traffic movements shown by arrows.
- (3) Positions of flaggers and police officers.

(4) Barricades, cones, tubular markers, and additional traffic control devices and measures necessary for protection of work and public safety; and placement, spacing, distances, and reference points for traffic control devices.

(5) Layout, drawn to scale, of traffic control devices, including information needed to layout TCP.

(6) Brief description of work.

(7) Dates of work.

(8) Times of day affected.

(9) Proposed public information sign.

(10) Proposed news release.

Place sign or device situated farthest upstream from work zone first. Then place others progressively downstream toward work zone.

Extend cones or tubular markers to point where cones or tubular markers are visible to approaching traffic.

For signs with messages on both faces, cover inapplicable message before placement.

Keep barricades, construction and warning signs, and other traffic control devices in good condition. Repair, clean, or replace barricades, signs, or other devices as required to maintain effectiveness and appearance. The Engineer alone will decide suitable condition of each barricade, sign, or other traffic control device.

Remove or cover regulatory and warning signs that conflict with TCP. Restore signs upon completion of work or as ordered by the Engineer. Affix object markers to post(s) of covered sign.

Promptly remove or cover construction and warning signs that are not applicable or not in use.

For sign covers, fully covers signs as indicated in the Acceptable category of the ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features. Covers that are deemed to be in the Marginal or Unacceptable categories will not be accepted. Covers that are fabricated from rigid materials will also not be accepted unless it is certified to be MASH 2016 compliant.

Promptly remove traffic control devices that are no longer needed.

Remove traffic control devices in reverse order of installation, starting closest to work zone and continuing away from work zone.

Maintain abutting owners' existing access until replacement access is usable. Obtain permission from abutting owners, including conditions for closing existing access. Submit copy of agreement with abutting owners before beginning work in the affected area.

When working on existing facility that will be kept open to traffic, provide smooth and even surface for public traffic use. Only work on a portion of roadway at one time, and stage construction from one side to other while routing traffic over opposite side.

During subgrade and paving operations, paved shoulders may be used for public traffic.

Do not store material or equipment where it will interfere with public traffic. Remove equipment and other obstructions out of right-of-way or clear zone to permit free and safe passage of public traffic during non-working hours or suspension of work. For storage of materials and equipment, see Subsection 105.14 – Storage and Handling of Materials and Equipment.

Notify Fire Department, in writing, at least 24 hours before blocking or closing road access. Keep fire hydrants accessible to Fire Department by not placing material or other obstructions within five feet of fire hydrant or closer than permitted by applicable ordinances, rules, and regulations.

Notify the Engineer and County, including Bus Systems Division, Police Department, Fire Department, Emergency Medical Services, and Department of Health in writing at least five days before start of construction.

(A) Signs. Install signs sufficiently ahead of location where operations may interfere with use of road by traffic and at intermediate points where new work crosses or coincides with existing road.

Place signs in accordance with TCP as accepted by the Engineer.

(B) Construction Signs. Erect construction signs at the beginning of project and at the end of project at the location indicated by the Engineer. These signs shall remain for the duration of the highway project. Maintain these signs. Place these signs besides the required traffic control signs called for herein.

The construction signs shall be new and become the property of the Contractor.

183 **(C) Barricades.**
184

185 **(1) General.** Provide, erect, and maintain necessary barricades
186 suitable for protection of work and safety of the public.
187

188 Barricades shall be in good condition. Barricade application
189 and installation shall be in accordance with accepted TCP.
190

191 Provide sand bags if required or ordered by the Engineer.
192 Sand bags and installation method shall comply with *MUTCD* and be
193 accepted by the Engineer prior to use. Do not place sand bags on
194 striped barricade rail.
195

196 During hours of darkness, install steady burn or flashing lamps
197 on barricades selected by the Engineer. Attach lamps on barricade
198 ends closest to traveled way and visible to oncoming traffic.
199

200 Do not install signs on barricades unless signs and barricades
201 have been crash tested as a unit and accepted under NCHRP Report
202 350.
203

204 **(2) Retroreflectorization.** Retroreflectorize barricade rails and
205 attachment with retroreflective sheeting in accordance with
206 Subsection 750.01(C)(4) - Type III or IV Retroreflective Sheeting (High
207 Intensity) or Subsection 750.01(C)(5) - Hardened Aluminum-Backed
208 Retroreflective Sheeting.
209

210 Retroreflectorize both vertical faces of each barricade rail.
211

212 **(3) Color.** Provide white colored rails, frames, and braces with
213 front and back rail faces having 6-inch-wide alternating orange or red
214 and white stripes sloping downward toward traveled way at angle of
215 45 degrees from vertical. Use stripe colors in accordance with the
216 following:
217

218 **(a)** Use orange and white stripes for the following
219 conditions:
220

- 221 1. Construction work.
- 222
- 223 2. Detours.
- 224
- 225 3. Maintenance work.
- 226

227 **(b)** Use red and white stripes for the following conditions:
228

1. On roadways with no outlet, such as dead-ends and cul-de-sacs.

2. Ramps or lanes closed for operational purposes.

3. Permanent or semi-permanent closure or termination of roadway.

(4) Maintenance. Keep barricades in good condition. Repair, repaint, clean, or replace barricades to maintain effectiveness and appearance. Immediately replace missing or damaged barricades, lamps, sandbags, and other accepted weights.

Clean and repair barricades before relocating to other locations.

(D) Traffic Delineators. Install traffic delineators in accordance with accepted TCP.

Maintain traffic delineators in good condition. Immediately replace missing or damaged tubular markers.

Clean delineators prior to relocating to new location.

(E) Cones. Install traffic cones in accordance with accepted TCP.

Maintain traffic cones. Keep traffic cones clean and in good repair. Immediately replace lost, stolen, or damaged traffic cones.

Clean cones prior to relocating to new location.

(F) Lane Closures.

(1) One lane closures will be allowed only from 8:30 a.m. to 3:00 p.m., Monday through Friday. Exceptions to lane closure hours specified require written acceptance by the Engineer. Placement and removal of all work zone devices within the travel lanes, such as arrow boards, cones, etc., are restricted to allowable closure times. No increase in contract price or contract time will be given for lane closure restrictions specified.

Closure of only one lane of traffic will be allowed during lane-closure hours. Keep lanes open to traffic and allow flow at posted speed limit during non-lane closure hours.

(2) Full Bridge Closure. Each bridge can be fully closed one time for up to 20 consecutive days (20 calendar days; 24 hours per a day). Only one bridge can be fully closed at any one time. No night work will be allowed from September 15 to December 15. The Alae Bridge cannot be fully closed between Thanksgiving Day and New Year's Day, inclusive.

No time extension will be given for the above restrictions. The contract time for the project has accounted for any loss of time due to the above restrictions.

If applicable, coordinate lane closures with adjacent project(s) at no increase in contract price or contract time.

Rental fees will be assessed in accordance with Subsection 108.09 – Rental Fees for Unauthorized Lane Closure or Occupancy, for failure to open lanes to traffic during peak hours. Morning and afternoon peak hours shall be from 5:30 a.m. to 8:30 a.m. and 3:00 p.m. to 6:00 p.m., respectively, Monday through Friday.

Before scheduling work, submit requests for detours and lane closures as follows:

(1) Detours - 8 weeks before implementing detours.

(2) Lane closures - 6 weeks before implementing lane closures.

Include the following with detour and lane closure requests:

(1) Explanation of proposed changes to existing traffic pattern.

(2) Installation schedule for informational and traffic control signs.

(3) Publication schedule for legal notices.

(4) Plan showing proposed informational signs.

(5) Plan showing lane changes or detours in accordance with accepted TCP, including details at beginning of multi-lane highway lane changes and detours.

Detours or lane closures will not be allowed before the Engineer accepts detour or lane closure request.

TABLE 645-I - FOR TRAFFIC CONTROL PLAN							
POSTED SPEED LIMIT (M.P.H.)	SIGN SPACING (D) (FEET)	TAPER LENGTH (T) (FEET)		LONGI- TUDINAL BUFFER SPACE (B) (FEET)	SPACING OF CONES OR TUBULAR MARKERS (FEET)		
		W = 12' OR LESS	W = GREATER THAN 12' *		TAPER	TANGENT	WORK AREA
20	250	200	W x 17	35	20	20	10
25	250	200	W x 17	55	25	25	10
30	250	250	W x 20	85	30	30	10
35	250	250	W x 20	120	35	35	10
40	500	350	W x 30	170	40	40	10
45	500	550	W x 45	220	45	45	10
50	1000	600	W x 50	280	50	50	10
55	1000	700	W x 55	335	55	55	10
* W = width of lane or shoulder							

(G) Advisory Signs. Submit advisory sign shop drawings. Construct, install, maintain, and remove two advisory signs as ordered by the Engineer. Place signs at locations designated by the Engineer. Provide signs, minimum 8 feet wide by 4 feet high, with black letters on orange background, and with three 4.00 pounds/foot flanged channel posts for each sign.

Include starting date and hours of construction in sign message. Use letter heights of 8 inches, Series D. The Engineer will review and accept advisory signs' wording before fabrication. Install advisory signs two weeks before start of construction. Remove advisory signs immediately after construction has been completed or as ordered by the Engineer.

(H) Advertisement. Place advertisement in newspaper, as ordered by the Engineer, for the following traffic pattern changes or night work:

- (1) Detours.
- (2) Lane closure.
- (3) Permanent road closure.
- (4) Permanent new route that changes previous route.

Include the following information:

- 345 (1) Map of traffic pattern change limits.
346
347 (2) Map showing lane(s) closure and detour pattern.
348
349 (3) Notice of starting and ending dates and duration.
350
351 (4) Explanation of lane(s) closure or detours in "Notice To
352 Motorist".
353

354 Quality of map shall conform to the following requirements:
355

- 356 (1) No freehand printing or penciling.
357
358 (2) Highlight important features by darkening, cross-hatching,
359 crossing-out, or coloring important words, as necessary.
360
361 (3) Provide maps with minimum size of five columns wide and four
362 columns deep. Lesser width columns may be considered to balance
363 against size of drawing.
364

- 365 (4) Text specifications.
366
367 (a) Work being featured - 3/16-inch text.
368
369 (b) Major roads and features - 1/8-inch text.
370
371 (c) Other roads and features- first letter of sentence upper
372 case.
373
374 (d) "NOTICE TO MOTORIST" in upper case.
375
376 (e) Message - first letter of sentence upper case.
377

- 378 (5) Line Thickness.
379
380 (a) Important feature being advertised - line thicker than
381 rest of map.
382
383 (b) Directional arrow - bolder than rest of lines shown on
384 map, when important, to show route traffic should use.
385

- 386 (6) Show reference direction such as "TO HONOLULU" with arrow
387 Submit the following:
388

- 389 (a) "Notice to Motorists" before placement in newspaper, six
390 weeks before start of work.

(b) Actual size of notice to be published in newspaper. The Engineer will not allow size reduction of notices once accepted. Submit final, camera-ready "Notice to Motorists" advertisement.

Place advertisement for three consecutive days and within one week before traffic pattern changes, in publication as ordered by the Engineer.

645.04 Measurement.

(A) Traffic control as specified in Subsection 645.03 - Construction will be measured on a contract lump sum (LS) basis and will not include any work performed under other specific traffic control contract bid items. Measurement for payment will not apply.

(B) The Engineer will measure additional police officers, additional traffic control devices, and advertisement, if ordered by the Engineer, on a force account basis, in accordance with Subsection 109.08 - Force Account Provisions and Compensation.

645.05 Payment. The Engineer will pay for the accepted traffic control, traffic control device, police officers, flaggers, additional traffic control devices, specific traffic control contract bid items and advertisement 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.

Costs associated with the provision of uniformed law enforcement to maintain safe and efficient travel through highway work zones and their payment terms are explained in more detail in Section III. D. of HDOT's WORK ZONE SAFETY MANAGEMENT GUIDELINES.

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, Traffic Control Devices, and Advertisement _____	Force Account

An estimated amount for the force account may be allocated in the proposal schedule under "Additional Police Officers And Additional Traffic Control Devices", 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

437 allocated in the proposal schedule.

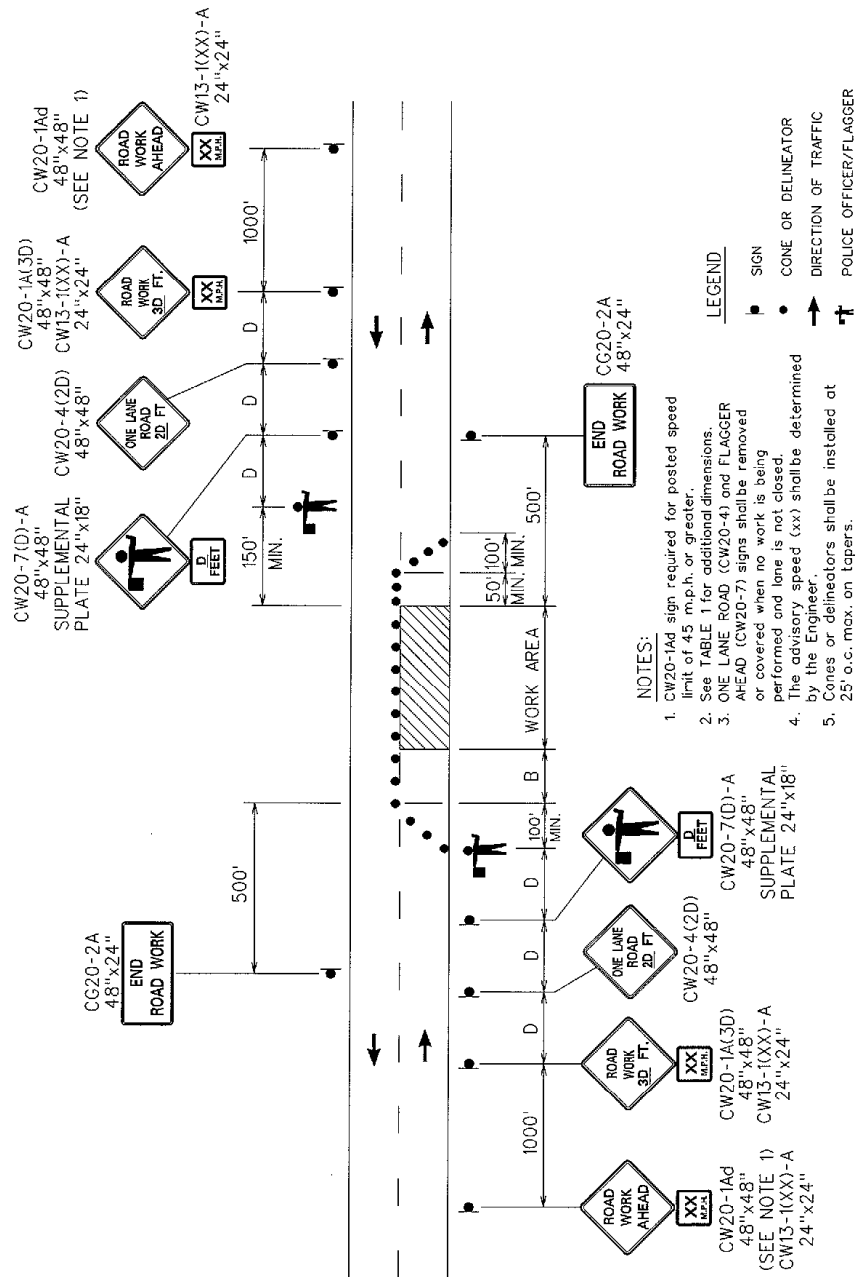
438

439 The Engineer will not pay for request submittals. The Engineer will not
440 consider claims for additional compensation of late submittals or requests by
441 Contractor.

442

443

444



TWO-LANE HIGHWAY - ONE LANE CLOSED
FIGURE 1 - TRAFFIC CONTROL PLAN

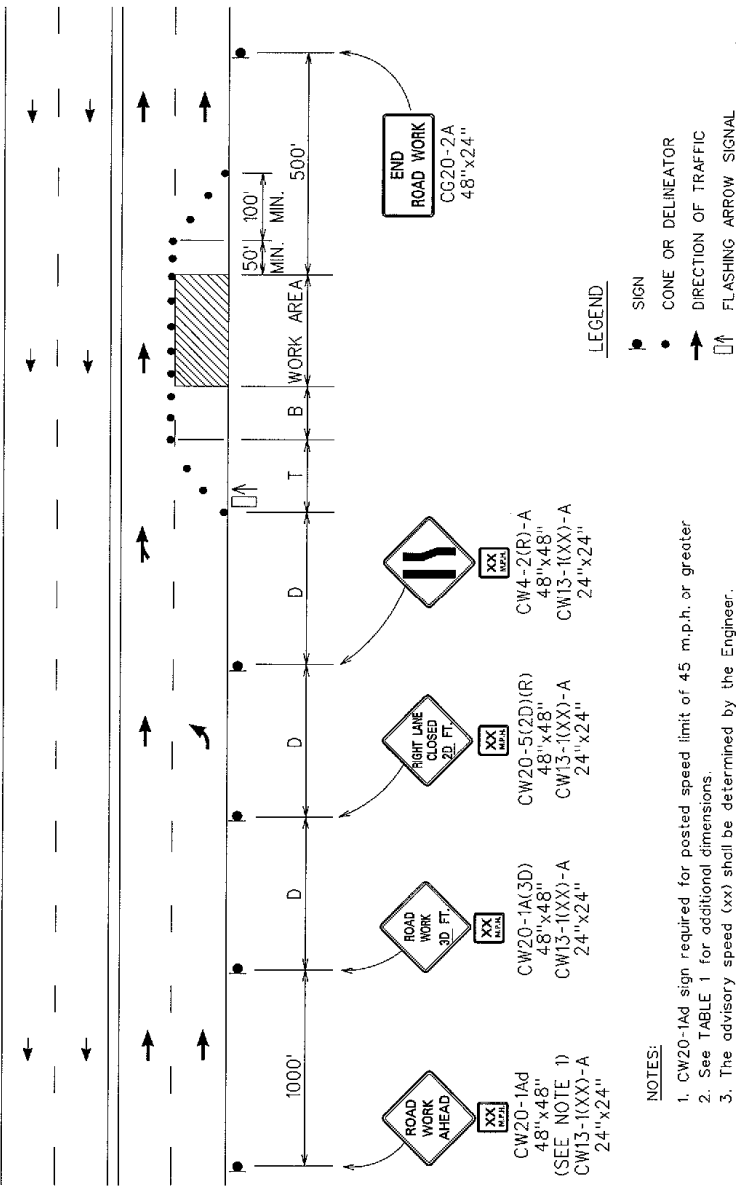
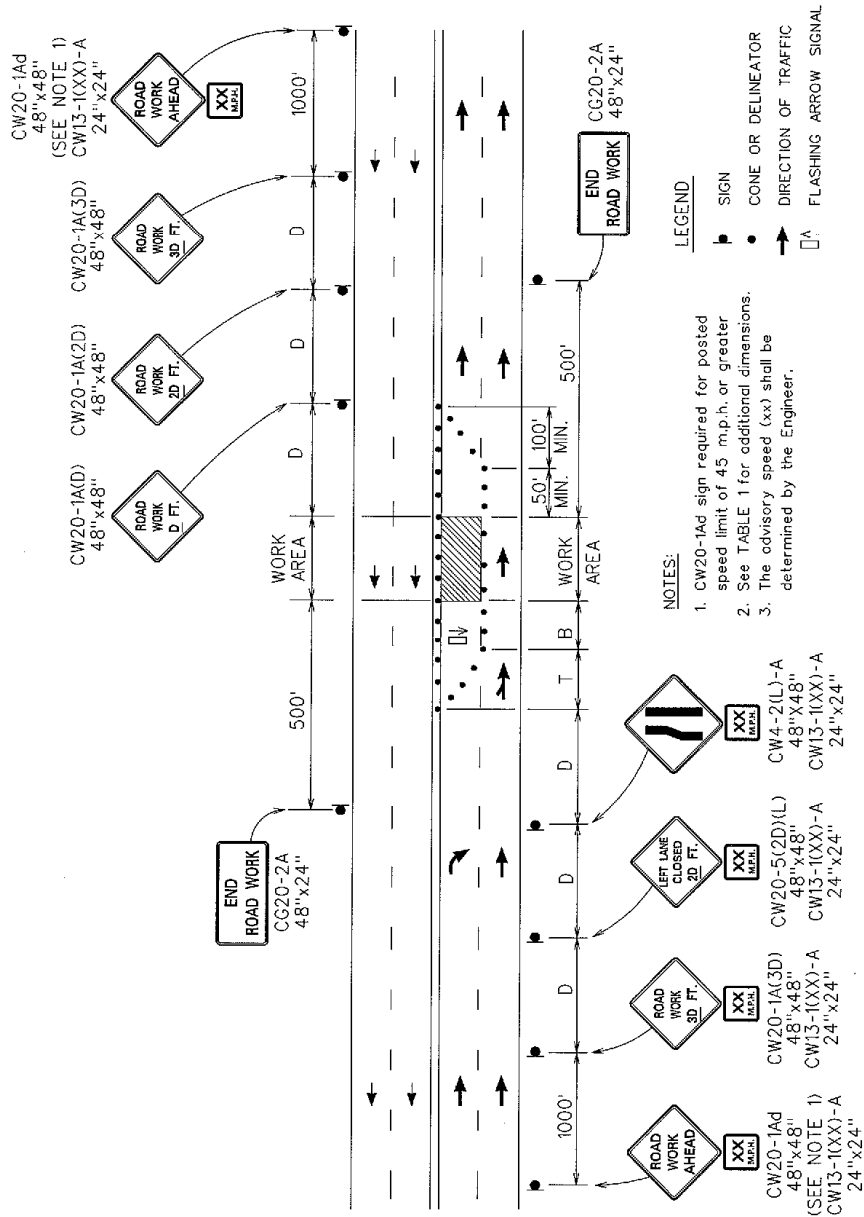


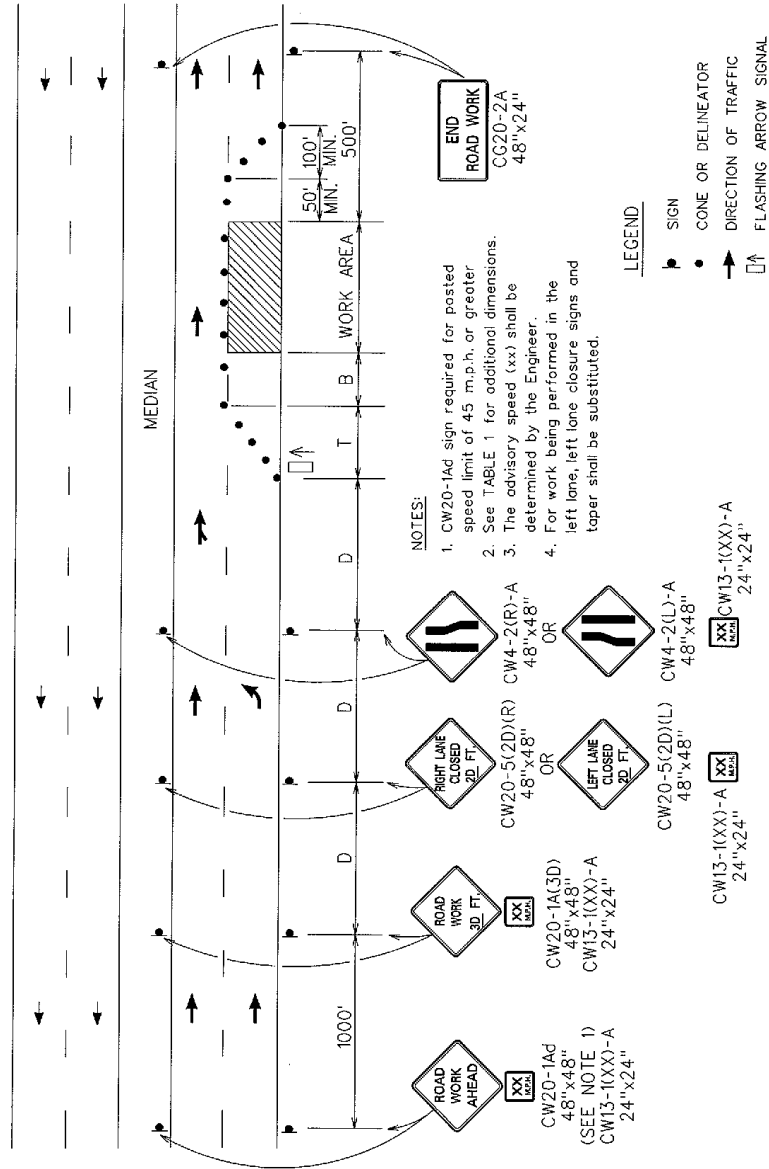
FIGURE 2 - TRAFFIC CONTROL PLAN

MULTILANE UNDIVIDED HIGHWAY - RIGHT LANE CLOSED



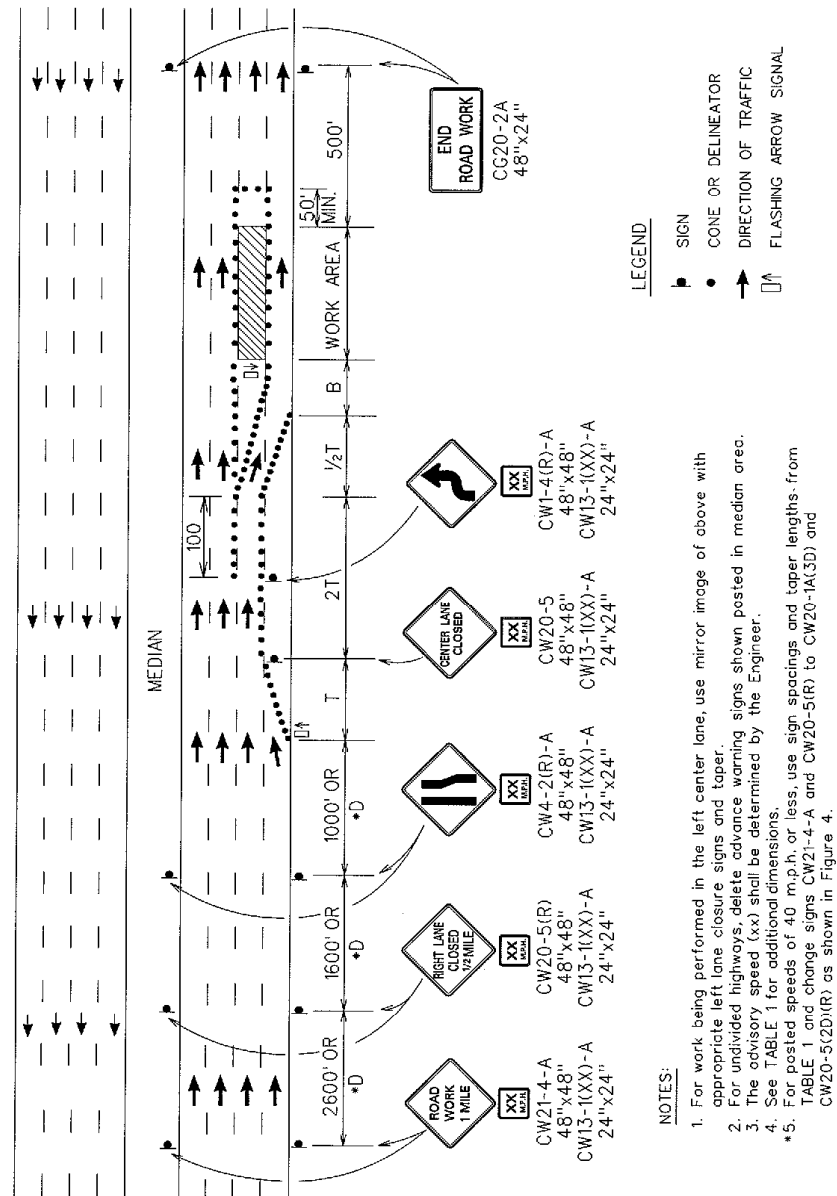
MULTILANE UNDIVIDED HIGHWAY - LEFT LANE CLOSED

FIGURE 3 - TRAFFIC CONTROL PLAN



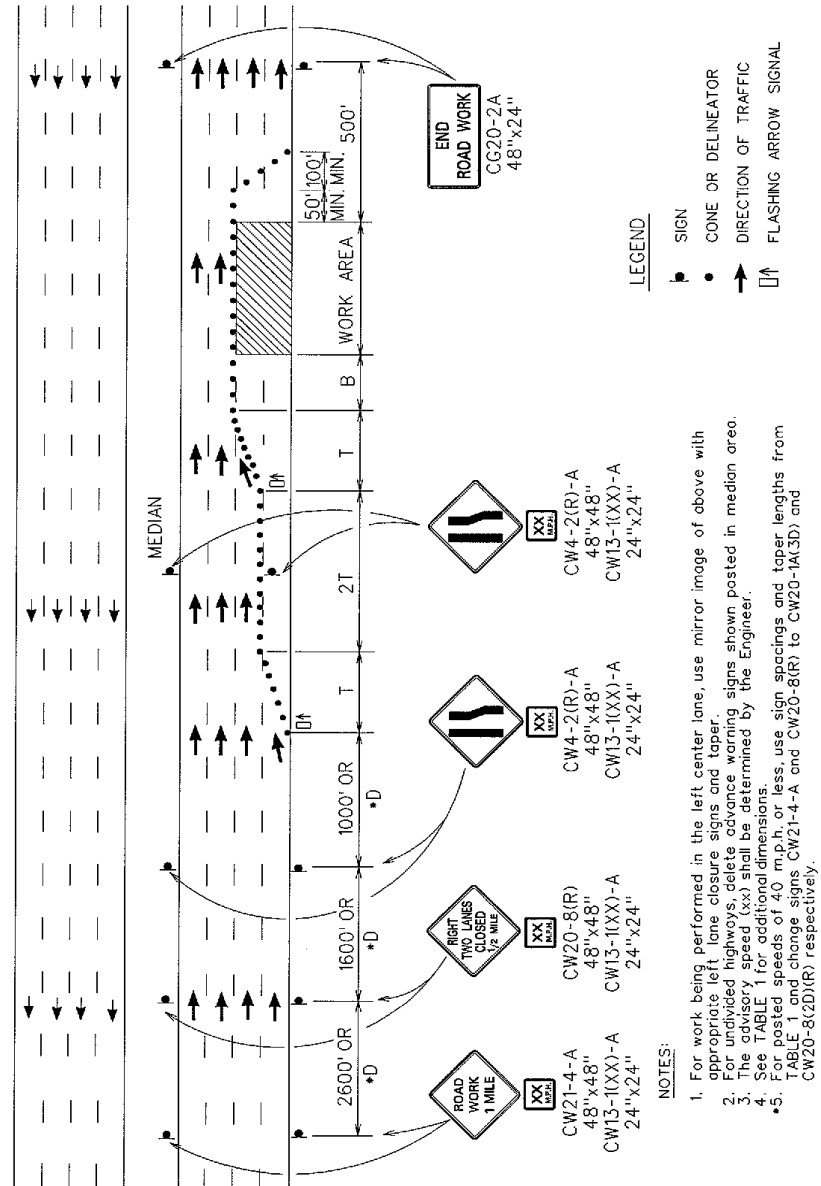
MULTILANE DIVIDED HIGHWAY - ONE LANE CLOSED

FIGURE 4 - TRAFFIC CONTROL PLAN



MULTILANE HIGHWAY - CENTER LANE CLOSED

FIGURE 5 - TRAFFIC CONTROL PLAN



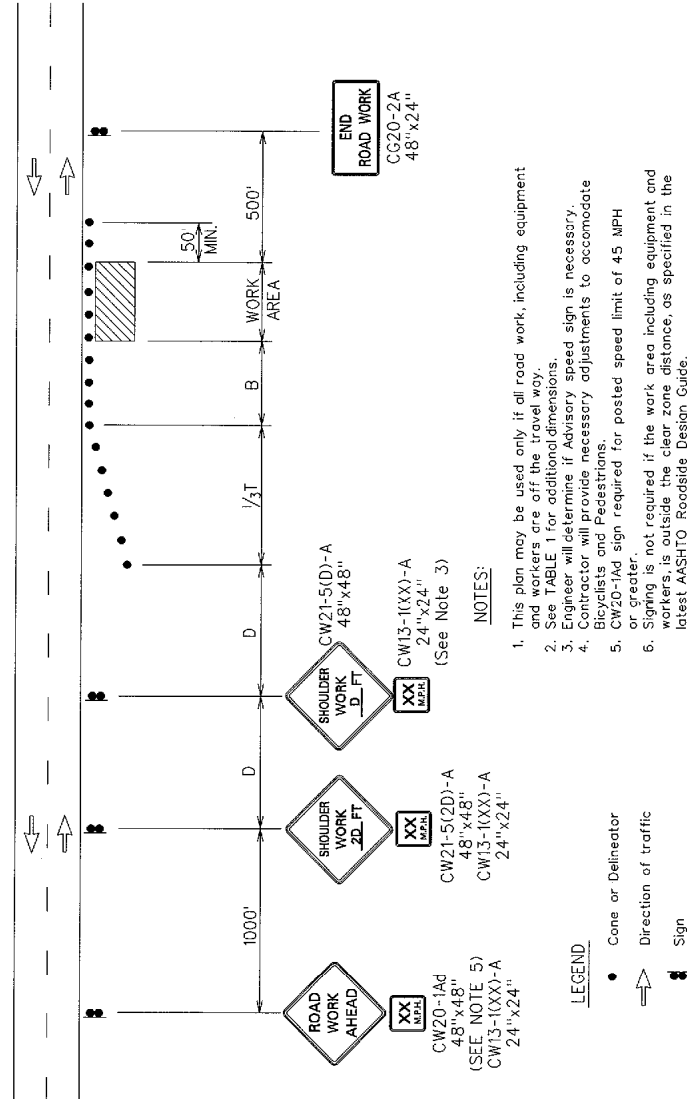
MULTILANE HIGHWAY - MULTIPLE LANE CLOSED

FIGURE 6 - TRAFFIC CONTROL PLAN

END OF SECTION 645

STP-0377(008)
645-18a

9/04/26



WORKING ON SHOULDER OR ROADSIDE
FIGURE 7 - TRAFFIC CONTROL PLAN

1 Make the following Section a part of the Standard Specifications:

2
3 **"SECTION 657 – SOIL NAILS**

4
5 **657.01 Description.** The Work shall consist of constructing permanent soil
6 nails behind the bridge abutments as specified in the Contract Documents.
7 Furnish all labor, materials, and equipment required for completing the Work.
8 Select the method of excavation, drilling method and equipment, and grouting
9 procedures to meet the performance requirements specified herein.

10
11 Soil nailing work shall include drilling soil nail drill holes to the specified
12 minimum diameter, length, and orientation indicated on the Plans; providing,
13 placing and grouting the reinforcing bars into the drill holes; and performing
14 verification and proof nail testing.

15
16 The term "Soil Nail" as used in these specifications is intended as a generic
17 term and refers to a reinforcing bar grouted into a drilled hole installed in any type
18 of ground conditions including soil and rock.

19
20 **657.02 Materials.**

21
22 **(A) General.** No asbestos containing materials or equipment shall be
23 used under this Section. The Contractor shall ensure that all materials
24 and equipment incorporated in the project are asbestos-free.

25
26 **(B) Materials.** Furnish materials new and without defects. Remove
27 defective materials from the job site at no additional cost to the State.
28 Materials for soil nail structures shall consist of the following:

29
30 **(1) Solid Bar Nail.** ASTM A615 - Grade 75, Hot-Dip Zinc
31 Galvanized in accordance with ASTM A123/A153, Deformed bar
32 continuous without splices or welds. New, straight, undamaged, and
33 fully encapsulated, as shown on the Plans. Threaded a minimum of
34 6 inches at the end anchorage to allow for proper attachment of
35 bearing plate and nuts. Threading shall be continuous spiral
36 deformed ribbing provided by the bar deformations.

37
38 **(2) Encapsulation.** Minimum 0.1-inch thick corrugated HDPE
39 (AASHTO M252) or corrugated PVC (ASTM D1784). Encapsulation
40 shall provide at least 0.25 inches of grout cover over the reinforcing
41 bar. Encapsulation shall be resistant to ultra violet light degradation,
42 normal handling stresses, and grouting pressures. The
43 encapsulation shall be fabricated in the factory with a proper end cap
44 on one side.

45
46 **(3) Centralizers.** Manufactured plastic assembly (wood shall not
47 be used) sized for the hole diameter. Should be securely attached to

the nail bar, sized to position the nail bar at the center of the drill hole; sized to allow tremie pipe insertion to the bottom of the drill hole; and sized to allow grout to freely flow up the drill hole.

(4) Nail Grout. Grout for the soil nails shall be a pre-bagged neat cement, non-shrink grout with silica fume admixture and anti-washout additive in conformance with ASTM C1107. Grout shall achieve minimum 8,000 psi compressive strength at 28-days per ASTM C-109 Mortar and Sand. See plans for additional grout requirements.

Water for mixing grout shall be potable, clean and free of injurious quantities of substances known to be harmful to Portland cement or steel.

(5) Admixtures. ASTM C494. Admixtures that control bleed, improve flowability, reduce water content and retard set may be used in the grout subject to review and acceptance by the Engineer. Accelerators are not permitted. Admixtures shall be compatible with the grout and mixed in accordance with the manufacturer's recommendations.

(6) Cement. ASTM C150, Type I, II, III or V.

(7) Film Protection. Polyethylene film per AASHTO M171.

(C) Materials Handling and Storage. Store cement to prevent moisture degradation and partial hydration. Do not use cement that has become caked or lumpy.

Store steel reinforcement on supports to keep the steel from contacting the ground. Damage to the exposed nail steel as a result of abrasion, cuts, nicks, welds, and weld splatter shall be cause for rejection. Do not ground welding leads to nail bars. Protect nail steel from dirt, rust, and other deleterious substances prior to installation. Heavy corrosion or pitting of the exposed nails shall be cause for rejection. Place protective wrap over anchorage end of nail bar to which bearing plate and nut will be attached to protect the nail during handling, installation, grouting and shotcreting.

657.03 Construction.

(A) Soil Nail Contractor's Experience Requirements and Submittal.

The qualifications of the soil nailing Contractor shall conform to the minimum experience requirements below.

93 Submit a project reference list verifying the successful completion of
94 at least three permanent soil nail installation projects during the past 5 years
95 that have a similar scope of work to this project. A brief description of each
96 project with the Owner's name and current phone number shall be included.
97

98 The soil nailing Contractor shall have his/her on-site staff personnel
99 having sufficient experience in the construction of permanent soil nails. As
100 a minimum, the on-site supervisor and drill rig operators shall have
101 experience installing permanent soil nails on at least three projects over the
102 past 5 years.
103

104 At least 30 days before starting the construction, the soil nail
105 Contractor shall submit 8 copies of the completed project reference list and
106 a list identifying the on-site supervisors and drill rig operators assigned to
107 the project. The personnel list shall contain a summary of each individual's
108 experience and be complete enough for the Engineer to determine whether
109 each individual satisfies the required qualifications. The Engineer will
110 accept or reject the submission. Work shall not be started nor materials
111 ordered until the Engineer's written acceptance of the Contractor's
112 qualification is given.

113 The Engineer may suspend the Work if the Contractor uses non-
114 accepted personnel for the Work that has not been accepted by the
115 Engineer. If work is suspended, the Contractor shall be fully liable for all
116 resulting costs and no adjustment in contract time will result from the
117 suspension.
118

119 **(B) Submittals.** Upon acceptance of the soil nailing Contractor's
120 qualifications submittal set forth in Section 657.03(A) Soil Nail Contractor's
121 Experience Requirements and Submittal, submit 8 copies of the following
122 information, in writing, to the Engineer for review and acceptance.
123

124 Provide the following submittal items at least 30 days prior to
125 initiating the soil nail construction:
126

127 **(1)** The proposed start date and proposed detailed construction
128 sequence including the following:
129

130 **(a)** Proposed disposal site for the unsuitable materials from the
131 clear and grubbing operation and the staged excavation.
132

133 **(b)** Plan describing how surface water will be diverted, controlled
134 and disposed of.
135

136 **(c)** Proposed methods and equipment for excavating the soil
137 and/or rock to the excavation as indicated in the Plans.
138

- 139 (d) Measures to ensure excavation slope stability during various
140 stages of construction and excavation where discontinuous rows of
141 nails will be installed (if applicable); information on space
142 requirements for installation equipment; temporary shoring plans (if
143 applicable); information on provisions for working in the proximity of
144 underground facilities or utilities (if applicable).
145
146 (e) Proposed nail drilling methods and equipment.
147
148 (2) Nail grout mix design including the following:
149
150 (a) Product data sheet from pre-bagged grout supplier with
151 published 28-day compressive strength results and all required
152 admixtures.
153
154 (b) Product data sheet for added corrosion inhibitor.
155
156 (3) Proposed nail grout placement procedures and equipment.
157
158 (4) Proposed nail testing methods and equipment setup including the
159 following:
160
161 (a) Details of the jacking frame and appurtenant bracing for nail
162 testing.
163
164 (b) Details showing methods of providing the temporary
165 unbonded length and of grouting the temporary unbonded length of
166 test nails after completion of testing.
167
168 (c) Equipment list.
169
170 (d) Identification number and certified calibration records for each
171 test jack and pressure gauge and load cell to be used. Jack and
172 pressure gauge shall be calibrated as a unit. Calibration records
173 shall include the date tested, identification number, and the
174 calibration test results and shall be certified to an accuracy of at least
175 2 percent of the applied certification loads by a qualified independent
176 testing laboratory within 180 days prior to submittal.
177
178 (5) Manufacturer Certificates of Compliance for the soil nail centralizers.
179
180 (6) Shop drawings for falsework (formwork), if applicable.
181

182 The Contractor will not be allowed to begin construction or
183 incorporate materials into the work until the submittal requirements are
184 found acceptable to the Engineer. Changes or deviations from the accepted

submittals must be resubmitted for acceptance. No adjustments in contract time will be allowed due to incomplete or unacceptable submittals.

Upon delivery of the encapsulated nail bars to the project site, provide Certified mill test results for the encapsulated nail bars from each heat specifying the ultimate strength, yield strength, elongation and composition.

(C) Construction Requirements.

(1) Pre-Construction Meeting. A pre-construction meeting will be scheduled by the Engineer and held prior to the start of construction. The Engineer, designer, prime Contractor, soil nail Contractor and Geotechnical Engineer shall attend the meeting. The excavation Contractor, shotcreting Contractor and survey Contractor, if different than the prime or soil nail Contractor, shall also attend. Attendance is mandatory.

The pre-construction meeting will be conducted to clarify the construction requirements for the work, to coordinate the construction schedule and activities, and to identify contractual relationships and delineation of responsibilities among the prime Contractor and the various Subcontractors – particularly those pertaining to excavation and nail installation and testing. Soil nail construction requires special care with excavation in the vicinity of live traffic with significant effort compared to general earthwork excavation. The Contractor shall take this into account during bidding.

(2) Site Drainage Control. Provide positive control and discharge of all surface water that will affect construction of the soil nails. Maintain all pipes or conduits used to control surface water during construction. Repair damage caused by surface water at no additional cost to the State. Upon substantial completion of the nail installation, remove surface water control pipes or conduits from the site. Alternatively; with the acceptance of the Engineer, pipes or conduits that are left in place, may be fully grouted and abandoned or left in a way that protects the structure and all adjacent facilities from migration of fines through the pipe or conduit and potential loss of ground.

The regional groundwater table is anticipated to be below the level of the excavation based on the available geotechnical information. Localized areas of perched water or seepage may be encountered during excavation at the interface of geologic units or from localized groundwater seepage areas. These perched groundwater conditions shall not be considered as “differing site conditions” by the Contractor.

Immediately contact the Engineer if unanticipated existing subsurface drainage features and/or structures are discovered during

excavation. Suspend work in these areas until remedial measures meeting the Engineer's acceptance are implemented. Capture surface water runoff flows (and flows from existing subsurface drainage structures) independently of the drainage network and convey them to an outfall structure or storm sewer, as accepted by the Engineer. Cost of remedial measures required to capture and dispose of water resulting from encountering unanticipated man-made subsurface drainage features and/or structures will be paid for as Extra Work.

(3) Excavation. Coordinate the work and the excavation such that the soil nails can be safely constructed. The Contractor shall protect, at all times, the existing structures and features above, below and around the soil nail during excavation for the soil nails. Perform the construction and excavation sequence in accordance with the Contract Documents and accepted submittals. Exercise care in the excavation for the soil nails to minimize substantial excavation overbreak. Care shall also be taken and accounted for in the pricing to minimize the impact to the environment in the area. No excavations steeper than those specified herein or shown on the Plans shall be made above or below the soil nails without the written acceptance of the Engineer.

(4) Excavation and Alignment Survey Control. Be responsible for:

- (a)** Providing both the survey reference and control points along the top of the excavation alignment.
- (b)** Providing necessary survey and alignment control during excavation to the bottom of the soil nails.
- (c)** Locating and drilling each drill hole within the allowable tolerances.
- (d)** Performing the excavation and nail installation in a manner that will allow for constructing the future anchor beam to the specified height and thickness while maintaining required clearances.

(5) General Excavation. Complete clearing, grubbing, grading and excavation around the vicinity of the soil nails (if required) before commencing excavation. Do not over excavate the original ground behind or at the ends, beyond the limits shown on the Plans. Do not perform general excavation that will affect the soil nail. General excavation shall be coordinated with the soil nailing work and the excavation shall proceed from the top down.

(6) Soil Nail Structure Excavation. Structure excavation in the vicinity of the soil nails will require special care and effort compared to general

earthwork excavation. Take this special structure excavation requirement into account during bidding. Due to the close coordination required between the soil nail Contractor and the excavation Contractor, the excavation Contractor shall perform the structure excavation for the soil nails under the direction of the soil nail Contractor.

Excavation shall be done so that it will:

- (a) Prevent over excavation;
- (b) prevent ground loss, swelling, air slaking, or loosening;
- (c) prevent loss of support for completed portions of the excavation face; and
- (d) prevent loss of soil moisture at the face.

Notify the Engineer immediately if raveling or local instability of the excavation face occurs. Unstable areas shall be temporarily stabilized by means of buttressing the exposed face with an earth berm or other methods. Suspend work in unstable areas until remedial measures are developed.

(7) Excavation Face Protrusions, Voids or Obstructions. Remove all portions of cobbles, boulders, rubble or other subsurface obstructions encountered at the excavation face that will protrude into the anchor cap beam. Determine method of removal of face protrusions, including method to safely secure remnant pieces left behind the excavation face and for promptly backfilling voids resulting from removal of protrusions extending behind the excavation face. Notify the Engineer of the proposed method(s) for removal of face protrusions at least 24 hours prior to beginning removal. Voids, over-break or over-excavation beyond the planned excavation line resulting from the removal of face protrusions or excavation operations shall be backfilled with the specified backfill material, as accepted by the Engineer. Removal of face protrusions and backfilling of voids or over-excavations shall be considered incidental to the work.

(8) Nail Installation. Install the soil nails as specified herein or on the Plans. Install the production soil nails before the construction of the anchor cap beam.

The Contractor shall place an initial shotcrete or glass fiber reinforced shotcrete to protect and stabilize the face of the excavation as shown in the Contract Documents. Cost of the initial shotcrete or glass fiber reinforced shotcrete shall be incidental to the cost of the soil nail installation.

The Engineer may add, eliminate, or relocate nails to accommodate actual field conditions. Cost adjustments associated with these modifications shall be made in accordance with the Contract Documents. The cost of any redesign, additional material, or installation modifications resulting from actions of the Contractor shall be borne by the Contractor.

(9) Drilling. The specified size drill holes for the soil nails shall be made at the locations, orientations, and lengths shown on the plans or as directed by the Engineer. No drilling or installation of production nails will be permitted until successful pre-production verification testing of nails is completed in that unit and approved by the Engineer. Install verification test nails using the same equipment, methods, nail inclination and drillhole diameter as planned for the production nails. Perform pre-production verification tests in accordance with the Verification Testing Section prior to installation of production nails in the specific lift in which the designated verification test nails are located. The location of the verification tests (one per bridge) will be as indicated on the Plans or specified herein.

Subsurface exploration at the locations of the soil nails was conducted at selected locations as part of the project. The Contractor may assume that the subsurface materials to be encountered at the soil nail locations will consist of the geologic formations identified in the boring logs shown in the Contract Documents.

Thoroughly investigate the site and select the appropriate drilling equipment and methods for the drilling. Use of drilling muds such as bentonite slurry to assist in drill cutting removal is not allowed but compressed air may be used. Care shall be exercised by the Contractor to avoid disturbing the existing structures and features near the soil nails when compressed air is used for the drilling. Where hard drilling conditions such as rock, cobbles, boulders, or obstructions are encountered, percussion or other suitable drilling equipment capable of drilling and maintaining stable drill holes through such materials shall be used. The Engineer will not make separate payment for excavation of materials of different densities and character (hardness) or employment of special tools and procedures necessary to install the soil nails.

Immediately suspend or modify the drilling operations if ground subsidence is observed or if adjacent structures and/or features are damaged from the drilling operation. Immediately stabilize the adverse conditions at no additional cost to the State.

(10) Nail Bar Installation. Provide fully encapsulated nail bars in accordance with the schedules included in the Plans. Provide centralizers sized to position the bar within 1 inch of the center of the drill hole. Position centralizers as shown in the Contract Documents so that the maximum center-to-center spacing does not exceed 10 feet. Also, locate centralizers

within 2 feet from the top and bottom of the drill hole. Securely attach centralizers to the fully encapsulated bar so that they will not shift during handling or insertion into the drill hole, will still allow grout tremie pipe insertion to the bottom of drill hole, and will allow grout to flow freely up the hole.

Inspect each fully encapsulated nail bar before installation and repair or replace damaged bars. Check uncased drill holes for cleanliness prior to insertion of the soil nail bar. Insert fully encapsulated nail bars with centralizers into the drill hole to the required length without difficulty and in a way that prevents damage to the drill hole, bar, or corrosion protection. Do not drive or force partially inserted soil nails into the hole. Remove nails that cannot be fully inserted to the design depth and clean the drill hole to allow unobstructed installation.

(11) Nail Installation Tolerance.

(a) Nail location and orientation tolerances are as follows:

1. Nail head location, deviation from plan design location: 6 inches in any direction.
2. Nail inclination, deviation from plan: + or - 3 degrees.
3. Location tolerances are applicable to only one nail and not cumulative over the large area. Center nail bars within 1 inch of the center of the drill hole.

(b) Nails that do not satisfy the specified tolerances, due to the Contractor's installation methods, shall be replaced at no additional cost to the State. Backfill abandoned nail drill holes with tremied grout. Nails that encounter unanticipated obstructions during drilling shall be relocated, as accepted by the Engineer. Cost of drilling and backfilling drill holes abandoned due to unanticipated obstructions will be paid as Extra Work. Drilling through hard basalt formation shall be anticipated by the Contractor and shall not be considered unanticipated obstructions by the Contractor.

(12) Grout Mix Design. Submit the proposed nail grout mix design to the Engineer for review and acceptance in accordance with the submittal section.

(13) Grout Testing. Previous test results for the proposed grout mix completed within one year of the start of work may be submitted for initial verification of the required compressive strengths for installation of initial production nails. During production, test nail grout in accordance with ASTM C109 at a frequency of no less than one test for each day of grout

placement or every 10 cubic yards of grout placed whichever is more frequent. Provide grout cube test results for 3-day and 28-day compressive strength in accordance with ASTM C109 to the Engineer within 24 hours of testing.

(14) Grouting Equipment. Grout equipment shall produce a uniformly mixed grout free of lumps and undispersed cement, and shall be capable of continuously agitating the mix. Use a positive displacement grout pump equipped with a pressure gauge, which can measure at least twice but no more than three times the intended grout pressure. Size the grouting equipment to enable the entire nail to be grouted in one continuous operation. Place the grout within 60 minutes after mixing or within the time recommended by the admixture manufacturer, if admixtures are used. Grout not placed in the allowed time limit shall not be used. Soil nails using such grout will be rejected.

(15) Grouting Methods. Grout the drill hole after installation of the nail bar. Each drill hole shall be grouted within 24 hours of completion of drilling, unless otherwise accepted by the Engineer. Inject the grout at the lowest point of each drill hole through a grout tube, casing, hollow-stem auger, or drill rods. Keep the outlet end of the conduit delivering the grout below the surface of the grout as the conduit is withdrawn to prevent the creation of voids. Completely fill the drill hole in one continuous operation. Cold joints in the grout column are not allowed except at the top of the test bond length of tested production nails and the initial grout line at the top of drilled holes.

Control temperature of grout to not exceed 85° F at the end of the grouting hose coupling to fill tube. Protect materials, mixing and grouting equipment and grout hoses from temperature increases related to high ambient temperatures or solar heating.

During casing removal for drill holes advanced by either cased or hollow-stem auger methods, maintain sufficient grout level within the casing to offset the external groundwater/soil pressure and prevent hole caving. Maintain grout head or grout pressures sufficient to ensure that the drill hole will be completely filled with grout and to prevent unstable soil or groundwater from contaminating or diluting the grout. Record the grout pressures for soil nails installed using pressure grouting techniques. Control grout pressures to prevent excessive ground heave or fracturing.

Remove the grout and nail if grouting is suspended for more than 30 minutes or does not satisfy the requirements of this specification or the Plans, and replace with fresh grout and undamaged nail bar at no additional cost to the State.

(16) Nail Testing. Perform both verification and proof testing of designated test nails. Perform a minimum of pre-production verification test

per bridge location on sacrificial test nails at locations shown on the Plans or listed herein. Perform proof tests on production nails at locations selected by the Engineer after complete installation based on the drilling and grouting records.

Perform proof testing on at least 10 percent of the production nails in the presence of the Engineer at the locations selected by the Engineer.

Do not perform nail testing until the nail grout has cured for at least 72 hours and attained at least their specified 3-day compressive strength. Testing in less than 72 hours will only be allowed if the Contractor submits compressive strength test results, for tests performed by a qualified independent test laboratory, verifying that the nail grout mix has provided the specified 3-day compressive strengths in the lesser time.

(17) Test Nail Unbonded Length. Provide temporary unbonded lengths for each test nail. Isolate the test nail bar from the reaction frame used during testing. Accepted test nails may be incorporated as production nails provided the temporary test unbonded length is fully grouted subsequent to testing. Submit the proposed test nail isolation methods, methods for providing an unbonded test length, and methods for grouting the unbonded length subsequent to testing to the Engineer for review and acceptance in accordance with the Submittal section. Where temporary casing of the unbonded length of test nails is provided, install the casing in a way that prevents any reaction between the casing and the grouted bond length of the nail and/or stressing apparatus.

(18) Testing Equipment. Testing equipment shall include dial gauges, dial gauge support, jack and pressure gauge, electronic load cell, and a reaction frame. The load cell is required for the creep test portion of the test. Provide description of test setup and jack, pressure gauge, and load cell calibration curves in accordance with Submittals section.

Design the testing reaction frame to be sufficiently rigid and of adequate dimensions such that excessive deformation of the testing equipment does not occur. Independently support and center the jack over the nail bar so that the bar does not carry the weight of the testing equipment. Align the jack, bearing plates, and stressing anchorage with the bar such that unloading and repositioning of the equipment will not be required during the test.

Apply and measure the test load with an electric load cell and digital readout device associated with a hydraulic jack pressure gauge. The pressure gauge shall be graduated in 50 psi increments or less. The jack and pressure gauge shall have a pressure range not exceeding twice the anticipated maximum test pressure. Jack ram travel shall be sufficient to allow the test to be done without resetting the equipment.

Monitor the nail load during proof tests with both the load cell and the pressure gauge. Use the load cell to maintain constant load hold during the creep test load hold increment of the test.

Measure the nail head movement with a dial gauge capable of measuring up to 0.001 inches. The dial gauge shall have a travel sufficient to allow the test to be done without having to reset the gauge. Visually align the gauge to be parallel with the axis of the nail and support the gauge independently from the jack or reaction frame. Use two dial gauges when the test setup requires reaction against a rock cut face.

(19) Pre-Production Verification Testing of Sacrificial Test Nail. Pre-production verification testing shall be performed in the presence of the Engineer prior to ordering of materials for production nails and installation of production nails to verify the Contractor's installation methods and nail pullout resistance. Perform pre-production verification test at the location and elevation shown on the Plans, unless otherwise approved by the Engineer. Perform a minimum of one (1) verification test at each bridge at a location selected by the Engineer and each different drilling/grouting method proposed to be used by the Contractor. Verification test nail will be sacrificial and not incorporated as production nails.

Changes in the drilling or installation methods proposed by the Contractor may require additional verification testing as determined by the Engineer and shall be provided at no additional cost to the State. Construct verification test nail using the same equipment, installation methods, nail inclination, and drill hole diameter as planned for the production nails. Payment for additional verification tests required due to differing site conditions, if ordered by the Engineer, shall be paid under the corresponding item in the proposal.

Test nails shall have both bonded and temporary unbonded lengths. Prior to testing, only the bonded length of the test nail shall be grouted. The temporary unbonded length of the test nail shall be at least 3 feet. The bonded length of the test nail shall be as shown on the Plans.

The allowable bar structural load during testing shall not be greater than 90 percent of the yield strength for Grade 75 bars. The Contractor shall provide larger verification test bar sizes, if required to safely accommodate the minimum test bond length and testing to 2 times the allowable pullout resistance requirements, at no additional cost.

The verification test bonded length (LBV) shall not exceed the test allowable bar structural load divided by two times the allowable pullout resistance value.

The following equation shall be used to determine the maximum bonded length for verification test nails to avoid overstressing the nail bar:

$$L_{BV} = (C \times f_Y \times A_S) / (2 \times Q_d)$$

Where:

L_{BV} = Maximum Verification Test Nail Bonded Length (ft)

C = 0.9 for Grade 75 bars

f_Y = Bar Yield or Ultimate Stress (ksi) (Note: f_Y = 75 ksi for Grade 75 bars)

A_S = Bar Steel Area (ft²)

Q_d = Allowable pullout resistance (kips/ft), as specified on the Plans or in the Geotechnical Report

The Design Test Load (DTL) during verification testing shall be determined as follows:

$$DTL = L_{BV} \times Q_d$$

Where:

DTL = Design Test Load (kips)

L_{BV} = As-built bonded test length (ft)

Q_d = Allowable pullout resistance (kips/ft)

The Maximum Test Load (MTL) shall be:

$$MTL = 2.0 \times DTL$$

Verification test nail shall be incrementally loaded to a maximum test load of 200 percent of the Design Test Load (DTL) in accordance with the following loading schedule. The soil nail movements shall be recorded at each load increment.

VERIFICATION TEST LOADING SCHEDULE	
<u>LOAD</u>	<u>HOLD TIME</u>
AL (0.05-DTL maximum)	1 minute
0.25 DTL	10 minutes
0.50 DTL	10 minutes
0.75 DTL	10 minutes
1.00 DTL	10 minutes
1.25 DTL	10 minutes
1.50 DTL (Creep Test)	60 minutes
1.75 DTL	10 minutes
2.00 DTL (Maximum Test Load)	10 minutes

The alignment load (AL) shall be the minimum load required to align the testing apparatus and shall not exceed 5 percent of the Design Test Load (DTL). Dial gauges shall be set to "zero" after the alignment load has been applied.

Each load increment shall be held for at least 10 minutes. The verification test nail shall be monitored for creep at the 1.50 DTL load increment. Nail movements during the creep portion of the test shall be measured and recorded at 1 minute, 2, 3, 5, 6, 10, 20, 30, 50, and 60 minutes. The load, during the creep test, shall be maintained within 2 percent of the intended load by use of the load cell.

Unload in intervals of 50 percent of the Design Test Load after completion of the maximum test load and hold period. At each interval, hold the load until movement stabilizes and record nail movements.

(20) Proof Testing of Production Nails. Perform proof testing on at least 10 percent of the production nails in the presence of the Engineer at the locations selected by the Engineer in the field during construction.

Production proof test nails shall have both bonded and temporary unbonded lengths. Prior to testing, only the bonded length of the test nail shall be grouted. The temporary unbonded length of the test nail shall be at least 3 feet. The bonded length of the test nail shall be determined based on the production nail bar grade and size such that the allowable bar structural load is not exceeded during testing, but shall not be less than the length shown on the plans. The allowable bar structural load during testing shall not be greater than 90 percent of the yield strength for Grade 75 bars.

The proof test nail bonded length (L_{BP}) shall not exceed the test allowable bar load divided by 1.5 times the allowable pullout resistance value, or minimum lengths, whichever is greater. The following equation shall be used for sizing the proof test nail bonded length to avoid over-stressing the production nail bar size.

$$L_{BP} = C \times f_y \times A_s / 1.5 \times Q_d, \text{ or minimum lengths, whichever is greater.}$$

L_{BP} = Maximum Proof Test Nail Bonded Length (feet)

C = 0.9 for Grade 75 bars

f_y = Bar Yield Stress (75 ksi)

A_s = Bar Steel Area (square inches)

1.5 = Pullout resistance safety factor

Q_d = Allowable pullout resistance

The Design Test Loads (DTL) during proof testing are shown on the project plans.

The Maximum Test Load (MTL) during proof testing shall be determined by the following equation:

$$\text{MTL} = \text{Maximum Test Load (kip)} = 1.5 \times \text{DTL}$$

Proof test shall be performed by incrementally loading the proof test nail to a maximum test load of 150 percent of the Design Test Load (DTL). The nail movement at each load shall be measured and recorded by the Engineer. The test load shall be monitored by a load cell and a jack pressure gauge with a sensitivity range meeting the requirements of pressure gauges. At load increments other than the maximum test load, the load shall be held for 1 minute. The soil nail movements shall be recorded at each load increment. Perform the proof test loading in accordance with the following loading schedule.

PROOF TEST LOADING SCHEDULE	
LOAD	HOLD TIME
AL (0.05-DTL maximum)	1 minute
0.25 DTL	1 minute
0.50 DTL	1 minute
0.75 DTL	1 minute
1.00 DTL	1 minute
1.25 DTL	1 minute
1.50 DTL (Maximum Test Load)	See Below - *

The alignment load (AL) shall be the minimum load required to align the testing apparatus and shall not exceed 5 percent of the Design Test Load (DTL). Dial gauges shall be set to "zero" after the alignment load has been applied.

All load increments shall be maintained at minimum the load stated in the table above and not exceed 5 percent of the intended load. *Depending on performance, either 10 minute or 60 minute creep tests shall be performed at the maximum test load (1.50 DTL). The creep period shall start as soon as the maximum test load is applied and the nail movement shall be measured and recorded at 1 minute, 2, 3, 5, 6, and 10 minutes. Where the nail movement between 1 minute and 10 minutes exceeds 0.04 inches, the maximum test load shall be maintained an additional 50 minutes and movements shall be recorded at 20, 30, 50, and 60 minutes.

Unload in intervals of 50 percent of the Design Test Load after completion of the maximum test load and hold period. At each interval, hold the load until movement stabilizes and record nail movements.

(21) Test Nail Acceptance Criteria. A test nail will be considered acceptable by the Engineer when:

1. For the verification tests, a total creep movement of less than 0.08 inch per log cycle of time between the 6 and 60 minute readings is measured during creep testing and the creep rate is linear or decreasing throughout the creep test load hold period.

2. For the proof tests, a total creep movement of less than 0.04 inch is measured between the 1 and 10 minute readings or a total creep movement of less than 0.08 inch is measured between the 6 and 60 minute readings and the creep rate is linear or decreasing throughout the creep test load hold period.

3. The total measured movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the test nail unbonded length.

4. A pullout failure does not occur at any load increment. Pullout failure is defined as the load at which attempts to further increase the test load simply result in continued pullout movement of the test nail. The pullout failure load shall be recorded as part of the test data.

Successful proof tested production nails meeting the above test acceptance criteria may be incorporated as production nails, provided that:

1. The unbonded length of the test nail drill hole has not collapsed during testing,

2. The minimum required drill hole diameter has been maintained,

3. The specified corrosion protection is provided, and

4. The test nail length is equal to or greater than the scheduled production nail length.

Test production nails meeting these requirements shall be completed by satisfactorily grouting up the unbonded test length. Maintaining the temporary unbonded test length for subsequent grouting is the Contractor's responsibility. If the unbonded test length of production test nails cannot be satisfactorily grouted subsequent to testing, the test nail shall become sacrificial and shall be replaced with an additional production nail installed at no additional cost to the State.

(22) Test Nail Rejection. If a test nail does not satisfy the acceptance criterion, the Contractor shall determine the cause. Such nails shall be considered not compliant and rejected.

(23) Verification Test Nails. The Engineer will evaluate the results of each verification test. Installation methods that do not satisfy the nail testing requirements will be rejected. The Contractor shall propose alternative methods and install replacement verification test nail. Replacement test nails shall be installed and tested at no additional cost to the State.

(24) Proof Test Nails. The Engineer may require the Contractor to replace some or all of the installed production nails between a failed proof test nail and the adjacent passing proof test nail. Alternatively, the Engineer may require the installation and testing of additional proof test nails to verify that adjacent previously installed production nails have sufficient load carrying capacity. Contractor modifications may include, but are not limited to, the installation of additional proof test nails; increasing the drill hole diameter to provide increased capacity; modifying the installation or grouting methods; reducing the production nail spacing from that shown in the Contract Documents and installing more production nails at a reduced capacity; or installing longer production nails if the pullout capacity behind the failure surface controls the allowable nail design capacity. Installation and testing of additional proof test nails or installation of additional or modified nails as a result of proof test nail failure(s) will be at no additional cost to the State. The Engineer shall select the nails to be proof tested.

(25) Nail Installation Record. Records documenting the soil nail construction will be maintained by the Contractor, unless specified otherwise. The Contractor shall provide the Engineer with as-built drawings showing as-built nail locations within 5 days after completion of the anchor cap beam.

657.04 Measurement.

(A) Furnishing soil nail drilling and grouting equipment will be paid on a lump sum basis. Measurement for payment will not apply.

(B) The Engineer will measure soil nails per linear foot in accordance with the contract documents. The length to be paid will be the length measured along the bar centerline from the back face of the anchor cap beam to the bottom tip end of the nail bar as shown on the plans.

(C) The Engineer will measure the pre-production verification test of sacrificial soil nails per each successfully completed and accepted.

(D) The Engineer will measure the proof test of production soil nails per each successfully completed and accepted.

(E) The Engineer will measure structure excavation for soil nails under Section 205 – Excavation and Backfill for Bridge and Retaining Structures

657.05 Payment.

(A) The Engineer will pay for furnishing soil nail drilling and grouting equipment on a lump sum basis. The price includes full compensation for furnishing and moving the drilling equipment to the project; setting up at the locations; removing the equipment to the project; setting the equipment up at the locations; removing the equipment from the project; and furnishing labors, materials, tools, and incidentals necessary to complete the work. The Engineer will pay for 60% of the amount bid for this item when the soil nail installation equipment is on the job site, assembled, and ready to install soil nails. The Engineer will pay for the remaining 40% of the amount bid when the Contractor has installed all soil nails and proof-tested all required soil nails.

(B) The Engineer will pay for the accepted soil nails at the contract unit price per linear foot for the diameter specified. The price includes full compensation for soil nail excavation, furnishing and installing reinforcement bar and grout within the bonded and unbonded lengths, performing grout tests, and furnishing labor, materials, equipment, tools, and incidentals necessary to complete the work.

(C) The Engineer will pay for the accepted pre-production verification test of sacrificial soil nails per each. The price includes full compensation for soil nail excavation; furnishing and installing sacrificial test soil nail reinforcement bar and grout within the bonded and unbonded lengths; performing the verification test; and furnishing labor, materials, testing equipment, tools, and incidentals necessary to complete the work.

(D) The Engineer will pay for the accepted proof test of production soil nails per each. The price includes full compensation for costs related to the performance of the load test, furnishing labor, materials, tools, equipment, and incidentals necessary to complete the work.

The Engineer will make payment under:

Pay Item	Pay Unit
Furnishing Soil Nail Drilling and Grouting Equipment _____	Lump Sum
Production Soil Nails _____	Linear Feet

806
807 Pre-Production Verification Test of Sacrificial
808 Soil Nails _____ Each
809
810 Proof Test of Production Soil Nails _____ Each
811
812 The Engineer will pay for structure excavation for soil nails under
813 Section 205 – Excavation and Backfill for Bridge and Retaining Structures.”
814
815
816 **END OF SECTION 657**

The following Section shall be made part of the Standard Specifications:

“SECTION 671 – PROTECTION OF ENDANGERED SPECIES

671.01 Description. Construction work in the project site may affect the following federally listed species: Blackburn's Sphinx Moth (*Manduca blackburni*); Hawaiian Petrel (*Pterodroma sandwichensis*), Band-Rumped Storm Petrel (*Hydrobates castro*), and Newell's Shearwater (*Puffinus newelli*), collectively referred to as Hawaiian Seabirds; Hawaiian Hoary Bat (*Lasiurus cinereus semotus*); Hawaiian Stilt (*Himantopus mexicanus knudseni*), Hawaiian Coot (*Fulica alai*), and Hawaiian Duck (*Anas wyvilliana*), collectively referred to as Hawaiian Waterbirds; and Hawaiian Goose (*Branta sandvicensis*).

671.02 Materials. None.

671.03 Construction

(A) Preconstruction Requirements. Comply with the following conditions before beginning any work:

(1) Inform all project personnel about the potential presence of endangered species on site.

(2) A biological monitor that is familiar with Hawaiian Waterbirds biology shall conduct a waterbird nest surveys within the project site prior to project initiation. Surveys shall be repeated within three (3) days after project initiation and after any subsequent delay of work three (3) or more days (during which birds may attempt to nest). If a nest or active brood is found:

(a) Contact the US Fish and Wildlife Service (Service) within 48 hours for further guidance.

(b) Cease all potentially disruptive activities and habitat alteration within a 100-foot buffer around all active nests and/or broods. The buffer shall be maintained until the chicks/ducklings have fledged.

(c) A biological monitor that is familiar with the species' biology shall be present on the project site during all construction and earth moving activities until the chicks/ducklings fledge.

(3) A biologist familiar with the Blackburn's Sphinx Moth shall survey areas of proposed activities for the species and its larval host plants prior to work initiation.

47
48 (a) Surveys shall be conducted during the wettest portion of
49 the year (usually November-April or several weeks after a
50 significant rain) and within 4-6 weeks prior to construction.

51
52 (b) Surveys shall include searches for eggs, larvae, and
53 signs of larval feeding (chewed stems, frass, or leaf damage).

54
55 (c) If native aiea or tree tobacco over 3 feet tall, or adult
56 Blackburn's Sphinx Moths, eggs or larvae are found during
57 surveys, do not disturb them and contact the Service for
58 additional guidance to avoid impacts.

59
60 (d) If no Blackburn's Sphinx Moth, Aiea, or Tree Tobacco are
61 found during surveys:

62
63 1. Prevent Tree Tobacco from entering the project
64 site during construction

65
66 2. Monitor the site every 4-6 weeks for new tree
67 tobacco growth before, during, and after the proposed
68 ground-disturbing activity. Remove any new Tree
69 Tobacco before they become 3 feet tall.

70
71 3. Tree Tobacco can be monitored by any staff
72 provided with picture placards of Tree Tobacco at
73 different life stages.

74
75 **(B) Construction Requirements.**

76
77 (1) In areas where Hawaiian Geese and Hawaiian Waterbirds are
78 known to be present, post and implement reduced speed limit signs as
79 directed by the Engineer. Inform project personnel and contractors
80 about the presence of endangered species on-site.

81
82 (2) All temporary lights used for night work (between sunset and
83 sunrise) shall be downward-facing and shielded. Temporary lights
84 shall include but are not limited to flood lights, light towers, lights for
85 construction equipment and other lights as determined by the
86 Engineer. All traffic control devices, including warning lights, arrow
87 boards, portable changeable message signs, and other lighting
88 devices as determined by the Engineer shall be shielded.

89
90 (3) Outdoor lights shall only be used when necessary and shall be
91 turned off when activity is not occurring in the lighted area.
92

(4) Night work and the use of all temporary lights shall cease during the peak seabird fallout period from September 15 through December 15.

(5) Disturbing, removing, or trimming woody plants greater than 15 feet tall will not be allowed during the Hawaiian Hoary Bat birthing and pup rearing season from June 1st through September 15th.

(6) No barbed wire shall be used for fencing.

(7) Do not approach, feed, or disturb Hawaiian Geese.

(8) If Hawaiian Geese are observed loafing or foraging within the project area during the breeding season from September 1 through April 30, work shall cease in the area, and a biologist familiar with the nesting behavior of geese shall survey for nests in and around the area prior to the resumption of any work. Surveys shall be repeated after any subsequent delay of work of three (3) or more days (during which the birds may attempt to nest). If a nest is found:

(a) Contact the Service for further guidance if a nest is discovered with a radius of 150-foot.

(b) Cease all work immediately within a 150-foot radius of the nest.

671.04 Measurement. The Engineer will measure the work required for the protection of endangered species on a force account basis according to Subsection 109.06 – Force Account Provisions and Compensation and as ordered by the Engineer.

671.05 Payment. The Engineer will pay for the accepted protection of endangered species on a force account basis according to 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 Endangered Species _____	Force Account

An estimated amount for the force account is allocated in the proposal schedule under 'Protection of Endangered Species', but the actual amount to be paid will be the sum shown on the accepted force account records."

END OF SECTION 671

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1 **SECTION 699 – MOBILIZATION**
2

3 Make the following amendments to said Section:
4

5 **(I)** Amend **699.03 Applicability** by revising from lines 21 to 24 to read as
6 follows:
7

8 **“699.03 Applicability.** Maximum bid allowed for this item is an amount not to
9 exceed 6 percent of the sum of all items excluding the bid price of this item.”
10

11 **(II)** Amend **699.05 Payment** by revising from lines 44 to 47 to read as follows:
12

13 “Mobilization (Not to exceed 6 percent of the sum of all items
14 excluding the bid price of this item) _____ Lump Sum”
15
16
17

18 **END OF SECTION 699**

1 **SECTION 702 – BITUMINOUS MATERIALS**

2
3 Make the following amendments to said Section:

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

6
7 **“702.01 Asphalt Cement.**

8
9 **(A) PG 64-16.** Performance graded (PG) asphalt binder (neat or
10 unmodified) shall conform to AASHTO M 320.

11
12 **(B) PG 64E-22.** Performance graded binder (polymer modified) shall
13 conform to AASHTO M 332 and meet the following additional requirement:

14
15 AASHTO T 315 Determining the Rheological Properties of Asphalt
16 Binder Using a Dynamic Shear Rheometer (DSR). Phase angle on original
17 binder shall be less than 77 degrees.

18
19 **(C) Submittals.** Submit, before usage, a Certificate of Compliance,
20 accompanied by substantiating test data, showing conformance with
21 Performance Graded Asphalt Binder Specification. The Engineer will not
22 accept the PG binder without adequate documentation.”

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

25
26 **“702.06 Warm Mix Asphalt (WMA) Additive.** Additives for WMA shall be
27 approved by the Engineer.”

28
29
30
31
32
33 **END OF SECTION 702**

1 **SECTION 705 – JOINT MATERIALS FOR CONCRETE STRUCTURES**

2
3 Make the following amendments to said Section:

4
5 **(I)** Amend **705.05 Flashing Compound** from lines 37 to 45 to read as
6 follows:

7
8 **“705.05 Flashing Compound.** Flashing compound for waterproofing of
9 joints as specified in Standard Plan B-01 shall be asphaltic mastic, asbestos free,
10 conforming to ASTM D4586. Product furnished shall adhere to damp concrete and
11 masonry surfaces.”

12
13 **(II)** Amend **Section 705 - Joint Materials for Concrete Structures** by
14 adding the following Subsection:

15
16 **“705.13 Asphalt Roll Roofing (Organic Felt).** Asphalt roll roofing, roofing
17 felt shall conform to ASTM D6380 Type III or ASTM D224 Type III.”

18
19
20 **END OF SECTION 705**
21

1 **SECTION 709 - REINFORCING STEEL, WIRE ROPE**
2 **AND PRESTRESSING STEEL**
3
4

5 Make the following amendment to said Section:
6

7 **(I) Amend 709.01(A) Bar Reinforcement** by adding the following after the
8 last paragraph:
9

10 **“(4)** Reinforcing steel bars shall conform to ASTM A706 Grade 60.
11

12 The Contractor shall furnish the materials specified for testing at no cost to
13 the State. The Contractor shall be responsible for delivering the materials in time
14 for testing ahead of anticipated use.”
15

16
17 **END OF SECTION 709**
18

1 **SECTION 717 – CULLET AND CULLET-MADE MATERIALS**

2
3 Make the following amendments to said Section:

4
5 **(I) Amend Subsection 717.01 – Cullet and Cullet-Aggregate Mixtures as**
6 **Construction Materials** by revising the third paragraph from line 16 to 20 to

7 read:
8
9 “Debris shall not exceed values specified in Tables 717.02-1 - Cullet in
10 Roadway Applications, 717.03-1 - Cullet in Utility Applications, and 717.04-1 -
11 Cullet in Drainage Applications. Debris is defined as deleterious material that
12 includes plastics, papers, and non-ceramic constituents of cullet. Hazardous
13 material will not be allowed in cullet such as but not limited to, TV or other
14 cathode ray tubes, fluorescent light bulbs, and any toxic or hazardous materials.
15 Test cullet stockpile for toxic or hazardous materials every 90 days and submit
16 the results to the Engineer.”

17
18 **(II) Amend Subsection 717.01 – Cullet and Cullet-Aggregate Mixtures as**
19 **Construction Materials** by adding the following paragraph after line 21:

20
21 “Cullet shall not be used in concrete.”

22
23 **(III) Amend Table 717.03-1 – Cullet in Utility Applications** from line 37 to
24 line 39 to read:

25
26 “

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

27 “

(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

1 **SECTION 750 – TRAFFIC CONTROL SIGN AND MARKER MATERIALS**

2
3 Make the following amendments to said Section:

4
5 **(I)** Amend **Subsection 750.01(A)(1) Retroreflectorization** by replacing lines
6 8 through 31 to read:

7
8 **“(1) Retroreflectorization.** The following shall be retroreflectorized:

9
10 **(a)** Background for illuminated guide signs and exit number panels (“E”
11 designation) with ASTM D 4956 Type XI retroreflective sheeting.

12
13 **(b)** Background for non-illuminated guide signs and exit number panels
14 (“D” designation) with ASTM D 4956 Type XI retroreflective sheeting.

15
16 **(c)** Messages, arrows, and borders of guide signs and exit number
17 panels (“D” and “E” designations) with ASTM D 4956 Type XI
18 retroreflective sheeting.

19
20 **(d)** Regulatory and warning signs, directional signs (“DIR” designation),
21 route and auxiliary markers, shield symbols, yellow “EXIT ONLY” panels,
22 construction warning signs, and barricade rails, completely, with Type III,
23 IV, or IX retroreflective sheeting.

24
25 **(e)** Pedestrian, school, bicycle crossing series, completely with Type IX
26 fluorescent yellow green retroreflective sheeting.”

27
28 **(II)** Amend **Subsection 750.01(B) Backing** by replacing lines 72 through 73
29 to read:

30
31 “Aluminum sheet shall conform to ASTM B 209, alloy 5052-H38 or 6061-
32 T6 flat sheet.”

33
34 **(III)** Amend **Subsection 750.01(E) Retroreflective Sheeting Materials** by
35 replacing lines 1126 through 1137 to read:

36
37 **“(E) Retroreflective Sheeting Materials.** Retroreflective sheeting
38 includes white or colored sheeting having smooth outer surface.

39
40 Retroreflective sheeting shall be classified in accordance with ASTM D
41 4956.

42
43 The coefficient of retroreflection shall meet the minimum requirements of
44 ASTM D 4956 for the type of reflective sheeting specified.

45
46 The color shall conform to the latest appropriate standard color tolerance
47 chart issued by the U.S. Department of Transportation, Federal Highway

Administration and to the daytime and nighttime color requirements of ASTM D 4956.

Test methods and procedures shall be in accordance with ASTM.”

(IV) Amend **Subsection 750.02 Sign Posts** by replacing lines 1168 through 1172 to read:

“(C) Square Tube Posts. Square and other tube posts shall conform to ASTM A 653 for cold-rolled, carbon steel sheet, commercial quality; or ASTM A 787 for electric-resistance-welded, metallic-coated carbon steel mechanical tubing.”

END OF SECTION 750

1 **SECTION 755 – PAVEMENT MARKING MATERIALS**
2

3 Make the following amendments to said Section:
4

5 **(I)** Amend **Subsection 755.02 (C) Retroreflective Pavement Markers** by
6 revising lines 223 to 236 to read:

7
8 “Exterior surface of shell shall be smooth and contain one or two
9 retroreflective faces of specified color.”
10

11 **(II)** Amend **Subsection 755.05 (C)(1) Glass Beads** by adding the following
12 after line 869:

13
14 **(f)** The glass spheres shall not contain more than 200 ppm (total)
15 arsenic, 200 ppm (total) antimony nor more than 200 ppm (total)
16 lead, when tested according to EPA Methods 3052 and 6010C.
17 Other suitable x-ray fluorescence spectrometry analysis methods
18 may be used to screen samples of glass spheres for arsenic and
19 lead content.”
20
21
22
23

24 **END OF SECTION 755**
25
26

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 journeymen 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 journeyman rate will not be considered a journeyman 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

"General Decision Number: HI20260001 05/27/2026

State: Hawaii

Construction Types: Building, Heavy, Highway and Residential

Counties: Hawaii Counties of
Hawaii, Honolulu, Kalawao, Kauai and
Maui

BUILDING CONSTRUCTION PROJECTS

RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories)

HIGHWAY CONSTRUCTION PROJECTS

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
1	01/16/2026
2	05/18/2026
3	05/27/2026

ASBE0132-001 09/07/2025

	Rates	Fringes
ASBESTOS WORKERS/INSULATOR (INCLUDES APPLICATION OF ALL INSULATING MATERIALS, PROTECTIVE COVERINGS, COATINGS AND FINISHES TO ALL TYPES OF MECHANICAL SYSTEMS. ALSO THE APPLICATION OF FIRESTOPPING MATERIAL FOR WALL OPENINGS AND PENETRATIONS IN WALLS, FLOORS, CEILINGS AND CURTAIN WALLS.).....	\$ 46.90	29.75

BOIL0627-005 01/01/2025

	Rates	Fringes
BOILERMAKER.....	\$ 49.37	31.25

BRHI0001-001 09/05/2023

	Rates	Fringes
BRICKLAYER: POINTERS, CAULKERS AND WEATHERPROOFERS..	\$ 48.28	32.23
BRICKLAYERS AND STONEMASONS.....	\$ 48.03	32.23

BRHI0001-002 09/05/2023

	Rates	Fringes
TILE, MARBLE & TERRAZZO WORKER (TERRAZZO BASE GRINDERS).....	\$ 44.69	33.00
TILE, MARBLE & TERRAZZO WORKER (TERRAZZO FLOOR GRINDERS AND TENDERS).....	\$ 43.14	33.00
TILE, MARBLE & TERRAZZO WORKER (TILE, MARBLE AND TERRAZZO WORKERS).....	\$ 46.50	33.00

CARP0745-001 09/01/2025

	Rates	Fringes
CARPENTERS: (CARPENTERS; HARDWOOD FLOOR LAYERS; PATENT SCAFFOLD ERECTORS (14 FT. AND OVER); PILEDRIERS; PNEUMATIC NAILERS; WOOD SHINGLERS AND TRANSIT AND/OR LAYOUT MAN).....	\$ 55.50	29.81
CARPENTERS: MILLWRIGHTS AND MACHINE ERECTORS.....	\$ 55.75	29.81
CARPENTERS: POWER SAW OPERATORS (2 H.P. AND OVER)...	\$ 55.65	29.81

CARP0745-002 09/01/2025

	Rates	Fringes
DRYWALL AND ACOUSTICAL WORKERS AND LATHERS.....	\$ 55.75	29.81

ELEC1186-001 08/24/2025

	Rates	Fringes
ELECTRICIANS.....	\$ 56.55	33.16
ELECTRICIANS: CABLE SPLICERS.....	\$ 63.90	33.38
ELECTRICIANS: TELECOMMUNICATION WORKER.....	\$ 41.00	16.28

ELEC1186-002 08/24/2025

	Rates	Fringes
LINE CONSTRUCTION: CABLE SPLICERS.....	\$ 63.90	33.38
LINE CONSTRUCTION: GROUND MEN/TRUCK DRIVERS.....	\$ 42.41	27.14
LINE CONSTRUCTION: HEAVY EQUIPMENT OPERATORS.....	\$ 50.90	30.75
LINE CONSTRUCTION: LINEMEN.....	\$ 56.55	33.16
LINE CONSTRUCTION: TELECOMMUNICATION WORKER.....	\$ 41.00	16.28

ELEV0126-001 01/01/2025

	Rates	Fringes
ELEVATOR MECHANIC A. VACATION: EMPLOYER CONTRIBUTES 8% OF BASIC HOURLY RATE FOR 5 YEARS SERVICE AND 6% OF BASIC HOURLY RATE FOR 6 MONTHS TO 5 YEARS SERVICE AS VACATION PAY CREDIT. B. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS' DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY AND CHRISTMAS DAY.....	\$ 73.85	38.44

ENGI0003-002 09/01/2025

	Rates	Fringes
DIVER TENDER: OTHER THAN AQUA LUNG.....	\$ 59.94	35.68
DIVER: (AQUA LUNG) (SCUBA) (over 30 feet).....	\$ 81.72	35.68
DIVER: (AQUA LUNG) (SCUBA) (up to 30 feet).....	\$ 72.35	35.68
DIVER: OTHER THAN AQUA LUNG.....	\$ 81.72	35.68
HELICOPTER WORK, AIRBORNE HOIST OPERATOR FOR HELICOPTER.....	\$ 61.52	35.68
HELICOPTER WORK: CO-PILOT OF HELICOPTER.....	\$ 61.66	35.68
HELICOPTER WORK: PILOT OF HELICOPTER.....	\$ 62.83	35.68
POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 1: FORK LIFT (UP TO AND INCLUDING 10 TONS); PARTSMAN (HEAVY DUTY REPAIR SHOP PARTS ROOM WHEN NEEDED). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET 0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET 1.75.....	\$ 57.96	35.68
POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 2: CONVEYOR OPERATOR (HANDLING BUILDING MATERIAL); HYDRAULIC MONITOR; MIXER BOX OPERATOR (CONCRETE PLANT). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE		

OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET

0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15

BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 58.07

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 3: BRAKEMAN; DECKHAND; FIREMAN; OILER; OILER/GRADECHECKER; SIGNALMAN; SWITCHMAN; HIGHLINE CABLEWAY SIGNALMAN; BARGEMAN; BUNKERMAN; CONCRETE CURING MACHINE (SELF-PROPELLED, AUTOMATICALLY APPLIED UNIT ON STREETS, HIGHWAYS, AIRPORTS AND CANALS); LEVEEMAN; ROLLER (5 TONS AND UNDER); TUGGER HOIST. BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET 0.50 BOOMS

AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 58.24

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 4: BOOM TRUCK OR DUAL PURPOSE ""A"" FRAME TRUCK (5 TONS OR LESS); CONCRETE PLACING BOOM (BUILDING CONSTRUCTION); DINKY OPERATOR; ELEVATOR OPERATOR; HOIST AND/OR WINCH (ONE DRUM); STRADDLE TRUCK (ROSS CARRIER, HYSTER AND SIMILAR BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET 0.50 BOOMS

AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN

ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 58.51

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 5:
ASPHALT PLANT FIREMAN; COMPRESSORS, PUMPS,
GENERATORS AND WELDING MACHINES ("BANK" OF 9 OR
MORE, INDIVIDUALLY OR COLLECTIVELY); CONCRETE PUMPS
OR PUMPCRETE GUNS; LUBRICATION AND SERVICE ENGINEER
(GREASE RACK); SCREEDMAN. BOOMS AND/OR LEADS
(HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER
50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING
JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF
100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM
FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS)
IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS
OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR
LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130
FEET 0.50 BOOMS
AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING
180 FEET 0.75 BOOMS AND/OR LEADS OF 180
FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET

1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER)
WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB)
SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR
WORKED ON SAID CRANE (50 TONS AND OVER) IN
ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 58.82

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 6:
BOOM TRUCK OR DUAL PURPOSE "A" FRAME TRUCK (OVER 5
TONS); COMBINATION LOADER/BACKHOE (UP TO AND
INCLUDING 3/4 CU. YD.); CONCRETE BATCH PLANTS (WET
OR DRY); CONCRETE CUTTER, GROOVER AND/OR GRINDER
(SELF-PROPELLED UNIT ON STREETS, HIGHWAYS,
AIRPORTS, AND CANALS); CONVEYOR OR CONCRETE PUMP
(TRUCK OR EQUIPMENT MOUNTED); DRILLING MACHINERY
(NOT TO APPLY TO WATERLINERS, WAGON DRILLS OR JACK
HAMMERS); FORK LIFT (OVER 10 TONS); LOADER (UP TO
AND INCLUDING 3 AND 1/2 CU. YDS); LULL HIGH LIFT
(UNDER 40 FEET); LUBRICATION AND SERVICE ENGINEER
(MOBILE); MAGINNIS INTERNAL FULL SLAB VIBRATOR (ON
AIRPORTS, HIGHWAYS, CANALS AND WAREHOUSES); MAN OR
MATERIAL HOIST; MECHANICAL CONCRETE FINISHER (LARGE
CLARY, JOHNSON BIDWELL, BRIDGE DECK AND SIMILAR);
MOBILE TRUCK CRANE DRIVER; PORTABLE SHOTBLAST
CONCRETE CLEANING MACHINE; PORTABLE BORING MACHINE
(UNDER STREETS, HIGHWAYS, ETC.); PORTABLE CRUSHER;
POWER JUMBO OPERATOR (SETTING SLIP FORMS, ETC., IN
TUNNELS); ROLLERS (OVER 5 TONS); SELF-PROPELLED
COMPACTOR (SINGLE ENGINE); SELF-PROPELLED PAVEMENT
BREAKER; SKIDSTEER LOADER WITH ATTACHMENTS; SLIP
FORM PUMPS (POWER DRIVEN BY HYDRAULIC, ELECTRIC,
AIR, GAS, ETC., LIFTING DEVICE FOR CONCRETE FORMS);
SMALL RUBBER TIRED TRACTORS; TRENCHER (UP TO AND
INCLUDING 6 FEET); UNDERBRIDGE PERSONNEL AERIAL
PLATFORM (50 FEET OF PLATFORM OR LESS). BOOMS
AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A
CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR
MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS)
WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER
HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE
(UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING
SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT
INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT
NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO
BUT NOT INCLUDING 180 FEET 0.75 BOOMS
AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250
FEET 1.15 BOOMS AND/OR

LEADS OVER 250 FEET 1.50 THE OPERATOR OF A

CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 59.47

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 7: CRUSHER PLANT ENGINEER, DOZER (D-4, CASE 450, JOHN DEERE 450, AND SIMILAR); DUAL DRUM MIXER, EXTEND LIFT; HOIST AND/OR WINCH (2 DRUMS); LOADER (OVER 3 AND 1/2 CU. YDS. UP TO AND INCLUDING 6 YARDS.); MECHANICAL FINISHER OR SPREADER MACHINE (ASPHALT), (BARBER GREENE AND SIMILAR) (SCREEDMAN REQUIRED); MINE OR SHAFT HOIST; MOBILE CONCRETE MIXER (OVER 5 TONS); PIPE BENDING MACHINE (PIPELINES ONLY); PIPE CLEANING MACHINE (TRACTOR PROPELLED AND SUPPORTED); PIPE WRAPPING MACHINE (TRACTOR PROPELLED AND SUPPORTED); ROLLER OPERATOR (ASPHALT); SELF-PROPELLED ELEVATING GRADE PLANE; SLUSHER OPERATOR; TRACTOR (WITH BOOM) (D-6, OR SIMILAR); TRENCHER (OVER 6 FEET AND LESS THAN 200 H.P.); WATER TANKER (PULLED BY EUCLIDS, T-PULLS, DW-10, 20 OR 21, OR SIMILAR); WINCHMAN (STERN WINCH ON DREDGE). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET

0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15

BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 59.79

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 8: ASPHALT PLANT OPERATOR; BARGE MATE (SEAGOING); CAST-IN-PLACE PIPE LAYING MACHINE; CONCRETE BATCH PLANT (MULTIPLE UNITS); CONVEYOR OPERATOR (TUNNEL); DECKMATE; DOZER (D-6 AND SIMILAR); FINISHING MACHINE OPERATOR (AIRPORTS AND HIGHWAYS); GRADESETTER; KOLMAN LOADER (AND SIMILAR); MUCKING MACHINE (CRAWLER-TYPE); MUCKING MACHINE (CONVEYOR-TYPE); NO-JOINT PIPE LAYING MACHINE; PORTABLE CRUSHING AND SCREENING PLANT; POWER BLADE OPERATOR (UNDER 12); SAURMAN TYPE DRAGLINE (UP TO AND INCLUDING 5 YDS.); STATIONARY PIPE WRAPPING, CLEANING AND BENDING MACHINE; SURFACE HEATER AND PLANER OPERATOR, TRACTOR (D-6 AND SIMILAR); TRI-BATCH PAVER; TUNNEL BADGER; TUNNEL MOLE AND/OR BORING MACHINE OPERATOR UNDERBRIDGE PERSONNEL AERIAL PLATFORM (OVER 50 FEET OF PLATFORM). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO
BUT NOT INCLUDING 180 FEET 0.75 BOOMS
AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250
FEET 1.15 BOOMS AND/OR
LEADS OVER 250 FEET 1.50 THE OPERATOR OF A
CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR
MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR
PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS
AND OVER) IN ACCORDANCE WITH THE FOLLOWING
SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING
250 FEET 1.25 BOOMS
OVER 250 FEET

1.75.....\$ 59.90

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 9:
COMBINATION MIXER AND COMPRESSOR (GUNIT); DO-MOR
LOADER AND ADAMS ELEGRADER; DOZER (D-7 OR EQUAL);
WHEEL AND/OR LADDER TRENCHER (OVER 6 FEET AND 200
TO 749 H.P.). BOOMS AND/OR LEADS (HOURLY
PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS)
WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR
OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET
OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH
HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN
ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
80 FEET UP TO BUT NOT INCLUDING 130 FEET OR
LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130
FEET 0.50 BOOMS
AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING
180 FEET 0.75 BOOMS AND/OR LEADS OF 180
FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET
1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER)
WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB)
SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR
WORKED ON SAID CRANE (50 TONS AND OVER) IN
ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 60.01

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 9A:
DOZER (D-8 AND SIMILAR); GRADESETTER (WHEN REQUIRED
BY THE CONTRACTOR TO WORK FROM DRAWINGS, PLANS OR
SPECIFICATIONS WITHOUT THE DIRECT SUPERVISION OF A
FOREMAN OR SUPERINTENDENT); PUSH CAT; SCRAPERS (UP
TO AND INCLUDING 20 CU. YDS); SELF-PROPELLED
COMPACTOR WITH DOZER; SELF-PROPELLED, RUBBER-TIRED
EARTHMOVING EQUIPMENT (UP TO AND INCLUDING 20 CU.
YDS) (621 BAND AND SIMILAR); SHEEP'S FOOT; TRACTOR
(D-8 AND SIMILAR); TRACTORS WITH BOOM (LARGER THAN
D-6, AND SIMILAR). BOOMS AND/OR LEADS (HOURLY
PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS)
WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR
OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET
OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH
HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN
ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
80 FEET UP TO BUT NOT INCLUDING 130 FEET OR
LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130
FEET 0.50 BOOMS
AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING
180 FEET 0.75 BOOMS AND/OR LEADS OF 180
FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET
1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER)
WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB)
SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR
WORKED ON SAID CRANE (50 TONS AND OVER) IN
ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 60.24

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 10:
CHICAGO BOOM; COLD PLANERS; HEAVY DUTY REPAIRMAN OR

WELDER; HOIST AND/OR WINCH (3 DRUMS); HYDRAULIC SKOOPER (KOEHRING AND SIMILAR); LOADER (OVER 6 CU. YDS. UP TO AND INCLUDING 12 CU. YDS.); SAURMAN TYPE DRAGLINE (OVER 5 CU. YDS.); SELF-PROPELLED, RUBBER-TIRED EARTHMOVING EQUIPMENT (OVER 20 CU. YDS. UP TO AND INCLUDING 31 CU. YDS.) (637D AND SIMILAR); SOIL STABILIZER (P & H OR EQUAL); SUB-GRADER (GURRIES OR OTHER AUTOMATIC TYPE); TRACTORS (D-9 OR EQUIVALENT, ALL ATTACHMENTS); TRACTOR (TANDEM SCRAPER); WATCH ENGINEER. BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 60.30

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 10A: BOAT OPERATOR; CABLE-OPERATED CRAWLER CRANE (UP TO AND INCLUDING 25 TONS); CABLE-OPERATED POWER SHOVEL, CLAMSHELL, DRAGLINE AND BACKHOE (UP TO AND INCLUDING 1 CU. YD.); DOZER D9-L; DOZER (D-10, HD41 AND SIMILAR) (ALL ATTACHMENTS); GRADALL (UP TO AND INCLUDING 1 CU. YD.); HYDRAULIC BACKHOE (OVER 3/4 CU. YDS. UP TO AND INCLUDING 2 CU. YDS.); MOBILE TRUCK CRANE OPERATOR (UP TO AND INCLUDING 25 TONS) (MOBILE TRUCK CRANE DRIVER REQUIRED); SELF-PROPELLED BOOM TYPE LIFTING DEVICE (CENTER MOUNT) (UP TO AND INCLUDING 25 TONS) (GROVE, DROTT, P&H, PETTIBONE AND SIMILAR; TRENCHER (OVER 6 FEET AND 750 H.P. OR MORE); WATCH ENGINEER (STEAM OR ELECTRIC). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET

0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 60.45

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 11: AUTOMATIC SLIP FORM PAVER (CONCRETE OR ASPHALT); BAND WAGON (IN CONJUNCTION WITH WHEEL EXCAVATOR); CABLE-OPERATED CRAWLER CRANES (OVER 25 TONS BUT LESS THAN 50 TONS); CABLE-OPERATED POWER SHOVEL,

CLAMSHELL, DRAGLINE AND BACKHOE (OVER 1 CU. YD. UP TO 7 CU. YDS.); GRADALL (OVER 1 CU. YDS. UP TO 7 CU. YDS.); DW-10, 20, ETC. (TANDEM); EARTHMOVING MACHINES (MULTIPLE PROPULSION POWER UNITS AND 2 OR MORE SCRAPERS) (UP TO AND INCLUDING 35 CU. YDS., ""STRUCK"" M.R.C.); HIGHLINE CABLEWAY; HYDRAULIC BACKHOE (OVER 2 CU. YDS. UP TO AND INCLUDING 4 CU. YDS.); LEVERMAN; LIFT SLAB MACHINE; LOADER (OVER 12 CU. YDS); MASTER BOAT OPERATOR; MOBILE TRUCK CRANE OPERATOR (OVER 25 TONS BUT LESS THAN 50 TONS); (MOBILE TRUCK CRANE DRIVER REQUIRED); PRE-STRESS WIRE WRAPPING MACHINE; SELF-PROPELLED BOOM-TYPE LIFTING DEVICE (CENTER MOUNT) (OVER 25 TONS M.R.C); SELF-PROPELLED COMPACTOR (WITH MULTIPLE-PROPULSION POWER UNITS); SINGLE ENGINE RUBBER TIERED EARTHMOVING MACHINE (WITH TANDEM SCRAPER); TANDEM CATS; TRENCHER (PULLING ATTACHED SHIELD). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 60.60

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 12: CLAMSHELL OR DIPPER OPERATOR; DERRICKS; DRILL RIGS; MULTI-PROPULSION EARTHMOVING MACHINES (2 OR MORE SCRAPERS) (OVER 35 CU. YDS. ""STRUCK""M.R.C.); OPERATORS (DERRICKS, PILEDRIVERS AND CRANES); POWER SHOVELS AND DRAGLINES (7 CU. YDS. M.R.C. AND OVER); SELF-PROPELLED RUBBER-TIERED EARTHMOVING EQUIPMENT (OVER 31 CU. YDS.) (657B AND SIMILAR); WHEEL EXCAVATOR (UP TO AND INCLUDING 750 CU. YDS. PER HOUR); WHEEL EXCAVATOR (OVER 750 CU. YDS. PER HOUR).\$ 60.96

35.68

POWER EQUIPMENT OPERATOR - TUNNEL WORK, GROUP 12A: DOZER (D-11 OR SIMILAR OR LARGER); HYDRAULIC EXCAVATORS (OVER 4 CU. YDS.); LIFTING CRANES (50 TONS AND OVER); PIONEERING DOZER/BACKHOE (INITIAL CLEARING AND EXCAVATION FOR THE PURPOSE OF PROVIDING ACCESS FOR OTHER EQUIPMENT WHERE THE TERRAIN WORKED INVOLVES 1-TO-1 SLOPES THAT ARE 50 FEET IN HEIGHT OR DEPTH, THE SCOPE OF THIS WORK DOES NOT INCLUDE NORMAL CLEARING AND GRUBBING ON USUAL HILLY TERRAIN NOR THE EXCAVATION WORK ONCE THE ACCESS IS PROVIDED); POWER BLADE OPERATOR (CAT 12 OR EQUIVALENT OR OVER); STRADDLE LIFTS (OVER 50 TONS); TOWER CRANE, MOBILE; TRAVELING TRUSS CRANES; UNIVERSAL, LIEBHERR, LINDEN, AND SIMILAR TYPES OF TOWER CRANES (IN THE ERECTION, DISMANTLING, AND MOVING OF EQUIPMENT THERE SHALL BE AN ADDITIONAL OPERATING ENGINEER OR HEAVY DUTY REPAIRMAN); YO-YO CAT OR DOZER. BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN

ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
80 FEET UP TO BUT NOT INCLUDING 130 FEET OR
LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130
FEET 0.50 BOOMS
AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING
180 FEET 0.75 BOOMS AND/OR LEADS OF 180
FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET
1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER)
WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB)
SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR
WORKED ON SAID CRANE (50 TONS AND OVER) IN
ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 61.32

35.68

POWER EQUIPMENT OPERATORS:, GROUP 1: FORK LIFT (UP
TO AND INCLUDING 10 TONS); PARTSMAN (HEAVY DUTY
REPAIR SHOP PARTS ROOM WHEN NEEDED). BOOMS AND/OR
LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE
(UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE
(INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH
LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR
PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER
50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130
FEET OR LEADS OF 100 FEET UP TO BUT NOT
INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT
NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR
LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER
250 FEET 1.50 THE OPERATOR OF A CRANE (50
TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE
(INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM
FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND
OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:
BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 57.66

35.68

POWER EQUIPMENT OPERATORS:, GROUP 2: CONVEYOR
OPERATOR (HANDLING BUILDING MATERIAL); HYDRAULIC
MONITOR; MIXER BOX OPERATOR (CONCRETE PLANT).
BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR
OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET
OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50
TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE
A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID
CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE
FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT
NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO
BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP
TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS
AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250
FEET 1.15 BOOMS AND/OR

LEADS OVER 250 FEET 1.50 THE OPERATOR OF A
CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR
MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR
PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS
AND OVER) IN ACCORDANCE WITH THE FOLLOWING
SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING
250 FEET 1.25 BOOMS

OVER 250 FEET

1.75.....\$ 57.77

35.68

POWER EQUIPMENT OPERATORS:, GROUP 3: BRAKEMAN;
DECKHAND; FIREMAN; OILER; OILER/GRADECHECKER;
SIGNALMAN; SWITCHMAN; HIGHLINE CABLEWAY SIGNALMAN;
BARGEMAN; BUNKERMAN; CONCRETE CURING MACHINE
(SELF-PROPELLED, AUTOMATICALLY APPLIED UNIT ON
STREETS, HIGHWAYS, AIRPORTS AND CANALS); LEVEEMAN;
ROLLER (5 TONS AND UNDER); TUGGER HOIST. BOOMS
AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A

CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 57.94

35.68

POWER EQUIPMENT OPERATORS:, GROUP 4: BOOM TRUCK OR DUAL PURPOSE ""A"" FRAME TRUCK (5 TONS OR LESS); CONCRETE PLACING BOOM (BUILDING CONSTRUCTION); DINKY OPERATOR; ELEVATOR OPERATOR; HOIST AND/OR WINCH (ONE DRUM); STRADDLE TRUCK (ROSS CARRIER, HYSTER AND SIMILAR). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET 0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 58.21

35.68

POWER EQUIPMENT OPERATORS:, GROUP 5: ASPHALT PLANT FIREMAN; COMPRESSORS, PUMPS, GENERATORS AND WELDING MACHINES (""BANK"" OF 9 OR MORE, INDIVIDUALLY OR COLLECTIVELY); CONCRETE PUMPS OR PUMPCRETE GUNS; LUBRICATION AND SERVICE ENGINEER (GREASE RACK); SCREEDMAN BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET

0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15

BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS

OVER 250 FEET

1.75.....\$ 58.52

35.68

POWER EQUIPMENT OPERATORS:, GROUP 6: BOOM TRUCK OR DUAL PURPOSE ""A""FRAME TRUCK (OVER 5 TONS); COMBINATION LOADER/BACKHOE (UP TO AND INCLUDING 3/4 CU. YD.); CONCRETE BATCH PLANTS (WET OR DRY); CONCRETE CUTTER, GROOVER AND/OR GRINDER (SELF-PROPELLED UNIT ON STREETS, HIGHWAYS, AIRPORTS, AND CANALS); CONVEYOR OR CONCRETE PUMP (TRUCK OR EQUIPMENT MOUNTED); DRILLING MACHINERY (NOT TO APPLY TO WATERLINERS, WAGON DRILLS OR JACK HAMMERS); FORK LIFT (OVER 10 TONS); LOADER (UP TO AND INCLUDING 3 AND 1/2 CU. YDS); LULL HIGH LIFT (UNDER 40 FEET); LUBRICATION AND SERVICE ENGINEER (MOBILE); MAGINNIS INTERNAL FULL SLAB VIBRATOR (ON AIRPORTS, HIGHWAYS, CANALS AND WAREHOUSES); MAN OR MATERIAL HOIST; MECHANICAL CONCRETE FINISHER (LARGE CLARY, JOHNSON BIDWELL, BRIDGE DECK AND SIMILAR); MOBILE TRUCK CRANE DRIVER; PORTABLE SHOTBLAST CONCRETE CLEANING MACHINE; PORTABLE BORING MACHINE (UNDER STREETS, HIGHWAYS, ETC.); PORTABLE CRUSHER; POWER JUMBO OPERATOR (SETTING SLIP FORMS, ETC., IN TUNNELS); ROLLERS (OVER 5 TONS); SELF-PROPELLED COMPACTOR (SINGLE ENGINE); SELF-PROPELLED PAVEMENT BREAKER; SKIDSTEER LOADER WITH ATTACHMENTS; SLIP FORM PUMPS (POWER DRIVEN BY HYDRAULIC, ELECTRIC, AIR, GAS, ETC., LIFTING DEVICE FOR CONCRETE FORMS); SMALL RUBBER TIRED TRACTORS; TRENCHER (UP TO AND INCLUDING 6 FEET); UNDERBRIDGE PERSONNEL AERIAL PLATFORM (50 FEET OF PLATFORM OR LESS). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 59.17

35.68

POWER EQUIPMENT OPERATORS:, GROUP 7: CRUSHER PLANT ENGINEER, DOZER (D-4, CASE 450, JOHN DEERE 450, AND SIMILAR); DUAL DRUM MIXER, EXTEND LIFT; HOIST AND/OR WINCH (2 DRUMS); LOADER (OVER 3 AND 1/2 CU. YDS. UP TO AND INCLUDING 6 YARDS.); MECHANICAL FINISHER OR SPREADER MACHINE (ASPHALT), (BARBER GREENE AND SIMILAR) (SCREEDMAN REQUIRED); MINE OR SHAFT HOIST; MOBILE CONCRETE MIXER (OVER 5 TONS); PIPE BENDING MACHINE (PIPELINES ONLY); PIPE CLEANING MACHINE (TRACTOR PROPELLED AND SUPPORTED); PIPE WRAPPING MACHINE (TRACTOR PROPELLED AND SUPPORTED); ROLLER OPERATOR (ASPHALT); SELF-PROPELLED ELEVATING GRADE PLANE; SLUSHER OPERATOR; TRACTOR (WITH BOOM) (D-6, OR SIMILAR); TRENCHER (OVER 6 FEET AND LESS THAN 200 H.P.); WATER TANKER (PULLED BY EUCLIDS, T-PULLS, DW-10, 20 OR 21, OR SIMILAR); WINCHMAN (STERN WINCH ON DREDGE). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE,

SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR
WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE
WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP
TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100
FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130
FEET UP TO BUT NOT INCLUDING 180 FEET

0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND
INCLUDING 250 FEET 1.15

BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE
OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM
OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A
PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE
(50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING
SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING
250 FEET 1.25 BOOMS
OVER 250 FEET

1.75.....\$ 59.49

35.68

POWER EQUIPMENT OPERATORS:, GROUP 8: ASPHALT PLANT
OPERATOR; BARGE MATE (SEAGOING); CAST-IN-PLACE PIPE
LAYING MACHINE; CONCRETE BATCH PLANT (MULTIPLE
UNITS); CONVEYOR OPERATOR (TUNNEL); DECKMATE; DOZER
(D-6 AND SIMILAR); FINISHING MACHINE OPERATOR
(AIRPORTS AND HIGHWAYS); GRADESETTER; KOLMAN LOADER
(AND SIMILAR); MUCKING MACHINE (CRAWLER-TYPE);
MUCKING MACHINE (CONVEYOR-TYPE); NO-JOINT PIPE
LAYING MACHINE; PORTABLE CRUSHING AND SCREENING
PLANT; POWER BLADE OPERATOR (UNDER 12); SAURMAN
TYPE DRAGLINE (UP TO AND INCLUDING 5 YDS.);
STATIONARY PIPE WRAPPING, CLEANING AND BENDING
MACHINE; SURFACE HEATER AND PLANER OPERATOR,
TRACTOR (D-6 AND SIMILAR); TRI-BATCH PAVER; TUNNEL
BADGER; TUNNEL MOLE AND/OR BORING MACHINE OPERATOR
UNDERBRIDGE PERSONNEL AERIAL PLATFORM (OVER 50 FEET
OF PLATFORM). BOOMS AND/OR LEADS (HOURLY
PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS)
WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR
OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET
OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH
HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN
ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
80 FEET UP TO BUT NOT INCLUDING 130 FEET OR
LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130
FEET 0.50 BOOMS
AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING
180 FEET 0.75 BOOMS AND/OR LEADS OF 180
FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET

1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER)
WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB)
SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR
WORKED ON SAID CRANE (50 TONS AND OVER) IN
ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF
180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 59.60

35.68

POWER EQUIPMENT OPERATORS:, GROUP 9: COMBINATION
MIXER AND COMPRESSOR (GUNITE); DO-MOR LOADERAND
ADAMS ELEGRADER; DOZER (D-7 OR EQUAL); WHEEL AND/OR
LADDER TRENCHER (OVER 6 FEET AND 200 TO 749 H.P.).
BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR
OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET
OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50
TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE
A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID
CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE
FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT
NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO
BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP
TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS
AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250
FEET

1.15 BOOMS AND/OR

LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 59.71

35.68

POWER EQUIPMENT OPERATORS:, GROUP 9A: DOZER (D-8 AND SIMILAR); GRADESETTER (WHEN REQUIRED BY THE CONTRACTOR TO WORK FROM DRAWINGS, PLANS OR SPECIFICATIONS WITHOUT THE DIRECT SUPERVISION OF A FOREMAN OR SUPERINTENDENT); PUSH CAT; SCRAPERS (UP TO AND INCLUDING 20 CU. YDS); SELF-PROPELLED COMPACTOR WITH DOZER; SELF-PROPELLED, RUBBER-TIRED EARTHMOVING EQUIPMENT (UP TO AND INCLUDING 20 CU. YDS) (621 BAND AND SIMILAR); SHEEP'S FOOT; TRACTOR (D-8 AND SIMILAR); TRACTORS WITH BOOM (LARGER THAN D-6, AND SIMILAR). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET 0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET

1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.25 BOOMS OVER 250 FEET

1.75.....\$ 59.94

35.68

POWER EQUIPMENT OPERATORS:, GROUP 10: CHICAGO BOOM; COLD PLANERS; HEAVY DUTY REPAIRMAN OR WELDER; HOIST AND/OR WINCH (3 DRUMS); HYDRAULIC SKOOPER (KOEHRING AND SIMILAR); LOADER (OVER 6 CU. YDS. UP TO AND INCLUDING 12 CU. YDS.); SAURMAN TYPE DRAGLINE (OVER 5 CU. YDS.); SELF-PROPELLED, RUBBER-TIRED EARTHMOVING EQUIPMENT (OVER 20 CU. YDS. UP TO AND INCLUDING 31 CU. YDS.) (637D AND SIMILAR); SOIL STABILIZER (P & H OR EQUAL); SUB-GRADER (GURRIES OR OTHER AUTOMATIC TYPE); TRACTORS (D-9 OR EQUIVALENT, ALL ATTACHMENTS); TRACTOR (TANDEM SCRAPER); WATCH ENGINEER. BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET

0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15

BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS

OVER 250 FEET

1.75.....\$ 60.00 35.68

POWER EQUIPMENT OPERATORS:, GROUP 10A: BOAT OPERATOR; CABLE-OPERATED CRAWLER CRANE (UP TO AND INCLUDING 25 TONS); CABLE-OPERATED POWER SHOVEL, CLAMSHELL, DRAGLINE AND BACKHOE (UP TO AND INCLUDING 1 CU. YD.); DOZER D9-L; DOZER (D-10, HD41 AND SIMILAR) (ALL ATTACHMENTS); GRADALL (UP TO AND INCLUDING 1 CU. YD.); HYDRAULIC BACKHOE (OVER 3/4 CU. YDS. UP TO AND INCLUDING 2 CU. YDS.); MOBILE TRUCK CRANE OPERATOR (UP TO AND INCLUDING 25 TONS) (MOBILE TRUCK CRANE DRIVER REQUIRED); SELF-PROPELLED BOOM TYPE LIFTING DEVICE (CENTER MOUNT) (UP TO AND INCLUDING 25 TONS) (GROVE, DROTT, P&H, PETTIBONE AND SIMILAR; TRENCHER (OVER 6 FEET AND 750 H.P. OR MORE); WATCH ENGINEER (STEAM OR ELECTRIC). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET

0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15

BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 60.15 35.68

POWER EQUIPMENT OPERATORS:, GROUP 11: AUTOMATIC SLIP FORM PAVER (CONCRETE OR ASPHALT); BAND WAGON (IN CONJUNCTION WITH WHEEL EXCAVATOR); CABLE-OPERATED CRAWLER CRANES (OVER 25 TONS BUT LESS THAN 50 TONS); CABLE-OPERATED POWER SHOVEL, CLAMSHELL, DRAGLINE AND BACKHOE (OVER 1 CU. YD. UP TO 7 CU. YDS.); GRADALL (OVER 1 CU. YDS. UP TO 7 CU. YDS.); DW-10, 20, ETC. (TANDEM); EARTHMOVING MACHINES (MULTIPLE PROPULSION POWER UNITS AND 2 OR MORE SCRAPERS) (UP TO AND INCLUDING 35 CU. YDS., "" STRUCK"" M.R.C.); HIGHLINE CABLEWAY; HYDRAULIC BACKHOE (OVER 2 CU. YDS. UP TO AND INCLUDING 4 CU. YDS.); LEVERMAN; LIFT SLAB MACHINE; LOADER (OVER 12 CU. YDS); MASTER BOAT OPERATOR; MOBILE TRUCK CRANE OPERATOR (OVER 25 TONS BUT LESS THAN 50 TONS); (MOBILE TRUCK CRANE DRIVER REQUIRED); PRE-STRESS WIRE WRAPPING MACHINE; SELF-PROPELLED BOOM-TYPE LIFTING DEVICE (CENTER MOUNT) (OVER 25 TONS M.R.C); SELF-PROPELLED COMPACTOR (WITH MULTIPLE-PROPULSION POWER UNITS); SINGLE ENGINE RUBBER TIED EARTHMOVING MACHINE (WITH TANDEM SCRAPER); TANDEM CATS; TRENCHER (PULLING ATTACHED SHIELD). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET

1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A

CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 60.30

35.68

POWER EQUIPMENT OPERATORS:, GROUP 12 CLAMSHELL OR DIPPER OPERATOR; DERRICKS; DRILL RIGS; MULTI-PROPULSION EARTHMOVING MACHINES (2 OR MORE SCRAPERS) (OVER 35 CU. YDS. ""STRUCK""M.R.C.); OPERATORS (DERRICKS, PILEDRIVERS AND CRANES); POWER SHOVELS AND DRAGLINES (7 CU. YDS. M.R.C. AND OVER); SELF-PROPELLED RUBBER-TIRED EARTHMOVING EQUIPMENT (OVER 31 CU. YDS.) (657B AND SIMILAR); WHEEL EXCAVATOR (UP TO AND INCLUDING 750 CU. YDS. PER HOUR); WHEEL EXCAVATOR (OVER 750 CU. YDS. PER HOUR). BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET

0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15

BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS AND OVER) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.25 BOOMS OVER 250 FEET

1.75.....\$ 60.66

35.68

POWER EQUIPMENT OPERATORS:, GROUP 12A: DOZER (D-11 OR SIMILAR OR LARGER); HYDRAULIC EXCAVATORS (OVER 4 CU. YDS.); LIFTING CRANES (50 TONS AND OVER); PIONEERING DOZER/BACKHOE (INITIAL CLEARING AND EXCAVATION FOR THE PURPOSE OF PROVIDING ACCESS FOR OTHER EQUIPMENT WHERE THE TERRAIN WORKED INVOLVES 1-TO-1 SLOPES THAT ARE 50 FEET IN HEIGHT OR DEPTH, THE SCOPE OF THIS WORK DOES NOT INCLUDE NORMAL CLEARING AND GRUBBING ON USUAL HILLY TERRAIN NOR THE EXCAVATION WORK ONCE THE ACCESS IS PROVIDED); POWER BLADE OPERATOR (CAT 12 OR EQUIVALENT OR OVER); STRADDLE LIFTS (OVER 50 TONS); TOWER CRANE, MOBILE; TRAVELING TRUSS CRANES; UNIVERSAL, LIEBHERR, LINDEN, AND SIMILAR TYPES OF TOWER CRANES (IN THE ERECTION, DISMANTLING, AND MOVING OF EQUIPMENT THERE SHALL BE AN ADDITIONAL OPERATING ENGINEER OR HEAVY DUTY REPAIRMAN); YO-YO CAT OR DOZER. BOOMS AND/OR LEADS (HOURLY PREMIUMS): THE OPERATOR OF A CRANE (UNDER 50 TONS) WITH A BOOM OF 80 FEET OR MORE (INCLUDING JIB), OR OF A CRANE (UNDER 50 TONS) WITH LEADS OF 100 FEET OR MORE, SHALL RECEIVE A PER HOUR PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (UNDER 50 TONS) IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: BOOMS OF 80 FEET UP TO BUT NOT INCLUDING 130 FEET OR LEADS OF 100 FEET UP TO BUT NOT INCLUDING 130 FEET

0.50 BOOMS AND/OR LEADS OF 130 FEET UP TO BUT NOT INCLUDING 180 FEET 0.75 BOOMS AND/OR LEADS OF 180 FEET UP TO AND INCLUDING 250 FEET 1.15 BOOMS AND/OR LEADS OVER 250 FEET 1.50 THE OPERATOR OF A

CRANE (50 TONS AND OVER) WITH A BOOM OF 180 FEET OR MORE (INCLUDING JIB) SHALL RECEIVE A PER HOUR

PREMIUM FOR EACH HOUR WORKED ON SAID CRANE (50 TONS
AND OVER) IN ACCORDANCE WITH THE FOLLOWING
SCHEDULE: BOOMS OF 180 FEET UP TO AND INCLUDING
250 FEET 1.25 BOOMS

OVER 250 FEET		
1.75.....	\$ 61.02	35.68
POWER EQUIPMENT OPERATORS:, GROUP 13: TRUCK DRIVER (UTILITY, FLATBED, ETC.).....	\$ 57.94	35.68
POWER EQUIPMENT OPERATORS:, GROUP 13A: DUMP TRUCK, 8 CU.YDS. AND UNDER (WATER LEVEL); WATER TRUCK (UP TO AND INCLUDING 2,000 GALLONS).....	\$ 58.21	35.68
POWER EQUIPMENT OPERATORS:, GROUP 13B: WATER TRUCK (OVER 2,000 GALLONS); TANDEM DUMP TRUCK, OVER 8 CU. YDS. (WATER LEVEL).....	\$ 58.52	35.68
POWER EQUIPMENT OPERATORS:, GROUP 13C: TRUCK DRIVER (SEMI-TRAILER. ROCK CANS, SEMI-DUMP OR ROLL-OFFS)...	\$ 59.17	35.68
POWER EQUIPMENT OPERATORS:, GROUP 13D: TRUCK DRIVER (SLIP-IN OR PUP).....	\$ 59.49	35.68
POWER EQUIPMENT OPERATORS:, GROUP 13E: END DUMPS, UNLICENSED (EUCLID, MACK, CATERPILLAR OR SIMILAR); TRACTOR TRAILER (HAULING EQUIPMENT); TANDEM TRUCKS HOOKED UP TO TRAILER (HAULING EQUIPMENT)	\$ 59.60	35.68
STAND-BY DIVER: (AQUA LUNG) (SCUBA).....	\$ 62.97	35.68
STAND-BY DIVER: OTHER THAN AQUA LUNG.....	\$ 62.97	35.68

ENGI0003-004 09/01/2025

	Rates	Fringes
DREDGING (BOAT OPERATORS): BOAT DECKHAND.....	\$ 57.94	35.68
DREDGING (BOAT OPERATORS): BOAT OPERATOR.....	\$ 60.15	35.68
DREDGING (BOAT OPERATORS): MASTER BOAT OPERATOR....	\$ 60.30	35.68
DREDGING:, CLAMSHELL OR DIPPER DREDGING: GROUP 1: CLAMSHELL OR DIPPER OPERATOR.....	\$ 60.66	35.68
DREDGING:, CLAMSHELL OR DIPPER DREDGING: GROUP 2: MECHANIC OR WELDER; WATCH ENGINEER.....	\$ 60.00	35.68
DREDGING:, CLAMSHELL OR DIPPER DREDGING: GROUP 3: BARGE MATE; DECKMATE.....	\$ 59.60	35.68
DREDGING:, CLAMSHELL OR DIPPER DREDGING: GROUP 4: BARGEMAN; DECKHAND; FIREMAN; OILER. HYDRAULIC SUCTION DREDGING CLASSIFICATIONS.....	\$ 57.94	35.68
DREDGING:, DERRICKS: GROUP 1: OPERATORS (DERRICKS, PILEDRIERS AND CRANES).	\$ 60.66	35.68
DREDGING:, DERRICKS: GROUP 2: SAURMAN TYPE DRAGLINE (OVER 5 CUBIC YARDS).	\$ 60.00	35.68
DREDGING:, DERRICKS: GROUP 3: DECKMATE; SAURMAN TYPE DRAGLINE (UP TO AND INCLUDING 5 YARDS).	\$ 59.60	35.68
DREDGING:, DERRICKS: GROUP 4: DECKHAND, FIREMAN, OILER.....	\$ 57.94	35.68
DREDGING:, HYDRAULIC SUCTION DREDGES: GROUP 1: LEVERMAN.	\$ 60.30	35.68
DREDGING:, HYDRAULIC SUCTION DREDGES: GROUP 2: WATCH ENGINEER (STEAM OR ELECTRIC).	\$ 60.15	35.68
DREDGING:, HYDRAULIC SUCTION DREDGES: GROUP 3: MECHANIC OR WELDER.	\$ 60.00	35.68
DREDGING:, HYDRAULIC SUCTION DREDGES: GROUP 4: DOZER OPERATOR.	\$ 59.94	35.68
DREDGING:, HYDRAULIC SUCTION DREDGES: GROUP 5: DECKMATE.	\$ 59.60	35.68
DREDGING:, HYDRAULIC SUCTION DREDGES: GROUP 6: WINCHMAN (STERN WINCH ON DREDGE).....	\$ 59.49	35.68
DREDGING:, HYDRAULIC SUCTION DREDGES: GROUP 7: DECKHAND (CAN OPERATE ANCHOR SCOW UNDER DIRECTION OF DECKMATE); FIREMAN; LEVEEMAN; OILER.....	\$ 57.94	35.68

ENGI0003-044 09/01/2025

	Rates	Fringes
POWER EQUIPMENT OPERATORS (PAVING): ASPHALT CONCRETE MATERIAL TRANSFER.....	\$ 58.67	34.86
POWER EQUIPMENT OPERATORS (PAVING): ASPHALT PLANT OPERATOR.....	\$ 59.07	34.86
POWER EQUIPMENT OPERATORS (PAVING): ASPHALT RAKER...	\$ 57.68	34.86

POWER EQUIPMENT OPERATORS (PAVING): ASPHALT SPREADER OPERATOR.....	\$ 59.16	34.86
POWER EQUIPMENT OPERATORS (PAVING): COLD PLANER.....	\$ 59.47	34.86
POWER EQUIPMENT OPERATORS (PAVING): COMBINATION LOADER/BACKHOE (OVER 3/4 CU.YD.).....	\$ 57.68	34.86
POWER EQUIPMENT OPERATORS (PAVING): COMBINATION LOADER/BACKHOE (UP TO 3/4 CU.YD.).....	\$ 56.70	34.86
POWER EQUIPMENT OPERATORS (PAVING): CONCRETE SAWS AND/OR GRINDER (SELF-PROPELLED UNIT ON STREETS, HIGHWAYS, AIRPORTS AND CANALS).....	\$ 58.64	34.86
POWER EQUIPMENT OPERATORS (PAVING): GRADER.....	\$ 59.47	34.86
POWER EQUIPMENT OPERATORS (PAVING): LABORER, HAND ROLLER.....	\$ 57.18	34.86
POWER EQUIPMENT OPERATORS (PAVING): LOADER (2 1/2 CU. YDS. AND UNDER).....	\$ 58.64	34.86
POWER EQUIPMENT OPERATORS (PAVING): LOADER (OVER 2 1/2 CU. YDS. TO AND INCLUDING 5 CU. YDS.).....	\$ 58.96	34.86
POWER EQUIPMENT OPERATORS (PAVING): ROLLER OPERATOR (FIVE TONS AND UNDER).....	\$ 57.41	34.86
POWER EQUIPMENT OPERATORS (PAVING): ROLLER OPERATOR (OVER FIVE TONS).....	\$ 58.84	34.86
POWER EQUIPMENT OPERATORS (PAVING): SCREED PERSON...	\$ 58.64	34.86
POWER EQUIPMENT OPERATORS (PAVING): SOIL STABILIZER.	\$ 59.47	34.86

IRON0625-001 09/01/2025

	Rates	Fringes
IRONWORKERS A. EMPLOYEES WILL BE PAID \$.50 PER HOUR MORE WHILE WORKING IN TUNNELS AND COFFER DAMS; \$1.00 PER HOUR MORE WHEN REQUIRED TO WORK UNDER OR ARE COVERED WITH WATER (SUBMERGED) AND WHEN THEY ARE REQUIRED TO WORK ON THE SUMMIT OF MAUNA KEA, MAUNA LOA OR HALEAKALA.....	\$ 50.50	43.46

LAB00368-001 09/02/2024

	Rates	Fringes
LABORERS: DRILLER.....	\$ 44.75	25.96
LABORERS: FINAL CLEAN UP.....	\$ 31.40	21.37
LABORERS: GUNITE/SHOTCRETE OPERATOR AND HIGH SCALER.	\$ 42.25	25.96
LABORERS: MASON TENDER/HOD CARRIER.....	\$ 42.25	25.96
LABORERS: POWDERMAN.....	\$ 42.75	25.96
LABORERS: WINDOW WASHER (BOSUN CHAIR).....	\$ 41.25	25.96
SEE LABORERS: LABORER I IN FOOTER.....	\$ 41.75	25.96
SEE LABORERS: LABORER II IN FOOTER.....	\$ 39.15	25.96

LAB00368-002 09/03/2024

	Rates	Fringes
LANDSCAPE & IRRIGATION LABORERS, GROUP 1: INSTALLATION OF NON-POTABLE PERMANENT OR TEMPORARY IRRIGATION WATER SYSTEMS PERFORMED FOR THE PURPOSES OF LANDSCAPING AND IRRIGATION ARCHITECTURAL HORTICULTURAL WORK; THE INSTALLATION OF DRINKING FOUNTAINS AND PERMANENT OR TEMPORARY IRRIGATION SYSTEMS USING POTABLE WATER FOR LANDSCAPING AND IRRIGATION ARCHITECTURAL HORTICULTURAL PURPOSES ONLY. THIS WORK INCLUDES (A) THE INSTALLATION OF ALL HEADS, RISERS, VALVES, VALVE BOXES, VACUUM BREAKERS (PRESSURE AND NON-PRESSURE), LOW VOLTAGE ELECTRICAL LINES AND, PROVIDED SUCH WORK INVOLVES ELECTRICAL WIRING THAT WILL CARRY 24 VOLTS OR LESS, THE INSTALLATION OF SENSORS, MASTER CONTROL PANELS, DISPLAY BOARDS, JUNCTION BOXES, CONDUCTORS, INCLUDING ALL OTHER COMPONENTS FOR CONTROLLERS, (B) AND METALLIC (COPPER, BRASS, GALVANIZED, OR SIMILAR) PIPE, AS WELL AS PVC OR OTHER PLASTIC PIPE INCLUDING ALL WORK INCIDENTAL THERETO, I.E., UNLOADING, HANDLING AND DISTRIBUTION OF ALL PIPES FITTINGS, TOOLS, MATERIALS AND EQUIPMENT, (C) ALL SOLDERING WORK IN CONNECTION WITH THE ABOVE WHETHER DONE BY TORCH, SOLDERING IRON, OR OTHER MEANS; (D) TIE-IN TO MAIN LINES, THRUST BLOCKS (BOTH PRECAST		

AND POURED IN PLACE), PIPE HANGERS AND SUPPORTS INCIDENTAL TO INSTALLATION OF THE ENTIRE IRRIGATION SYSTEM, (E) MAKING OF PRESSURE TESTS, START-UP TESTING, FLUSHING, PURGING, WATER BALANCING, PLACING INTO OPERATION ALL IRRIGATION EQUIPMENT, FIXTURES AND APPURTENANCES INSTALLED UNDER THIS AGREEMENT, AND (F) THE FABRICATION, REPLACEMENT, REPAIR AND SERVICING OF LANDSCAPING AND IRRIGATION SYSTEMS. OPERATION OF HAND-HELD GAS, AIR, ELECTRIC, OR SELF-POWERED TOOLS AND EQUIPMENT USED IN THE PERFORMANCE OF LANDSCAPE AND IRRIGATION WORK IN CONNECTION WITH ARCHITECTURAL HORTICULTURE; CHOKE-SETTING, SIGNALING, AND RIGGING FOR EQUIPMENT OPERATORS ON JOB-SITE IN THE PERFORMANCE OF SUCH LANDSCAPING AND IRRIGATION WORK; CONCRETE WORK (WET OR DRY) PERFORMED IN CONNECTION WITH SUCH LANDSCAPING AND IRRIGATION WORK. THIS WORK SHALL ALSO INCLUDE THE SETTING OF ROCK, STONE, OR RIPRAP IN CONNECTION WITH SUCH LANDSCAPE, WATERSCAPE, ROCKSCAPE, AND IRRIGATION WORK; GRUBBING, PICK AND SHOVEL EXCAVATION, AND HAND ROLLING OR TAMPING IN CONNECTION WITH THE PERFORMANCE OF SUCH LANDSCAPING AND IRRIGATION WORK; SPRIGGING, HANDSEEDING, AND PLANTING OF TREES, SHRUBS, GROUND COVERS, AND OTHER PLANTINGS AND THE PERFORMANCE OF ALL TYPES OF GARDENING AND HORTICULTURAL WORK RELATING TO SAID PLANTING; OPERATION OF FLAT BED TRUCKS (UP TO AND INCLUDING 2 1/2 TONS).:\$ 28.40

17.15

LANDSCAPE & IRRIGATION LABORERS, GROUP 3: MAINTENANCE OF TREES, SHRUBS, GROUND COVERS, LAWNS AND OTHER PLANTED AREAS, INCLUDING THE REPLANTING OF TREES, SHRUBS, GROUND COVERS, AND OTHER PLANTINGS THAT DID NOT "TAKE" OR WHICH ARE DAMAGED; PROVIDED, HOWEVER, THAT RE-PLANTING THAT REQUIRES THE USE OF EQUIPMENT, MACHINERY, OR POWER TOOLS SHALL BE PAID FOR AT THE RATE OF PAY SPECIFIED UNDER LANDSCAPE AND IRRIGATION LABORER, GROUP 1; RAKING, MOWING, TRIMMING, AND RUNING, INCLUDING THE USE OF "WEED EATERS", HEDGE TRIMMERS, VACUUMS, BLOWERS, AND OTHER HAND-HELD GAS, AIR, ELECTRIC, OR SELF-POWERED TOOLS, AND THE OPERATION OF LAWN MOWERS (NOTE: THE OPERATION OF SIT-DOWN TYPE AND "GANG" MOWERS SHALL BE PAID FOR AT THE RATE OF PAY SPECIFIED UNDER LANDSCAPE & IRRIGATION LABORER, GROUP 2); GUYWIRING, STAKING, PROPPING, AND SUPPORTING TREES; FERTILIZING, CHEMICAL SPRAYING USING SPRAY EQUIPMENT WITH LESS THAN 200 GALLON CAPACITY, MAINTAINING IRRIGATION AND SPRINKLER SYSTEMS, INCLUDING THE STAKING, CLAMPING, AND ADJUSTMENT OF RISERS, AND THE ADJUSTMENT AND/OR REPLACEMENT OF SPRINKLER HEADS, (NOTE: THE CLEANING AND GLUING OF PIPE AND FITTINGS SHALL BE PAID FOR AT THE RATE OF PAY SPECIFIED UNDER LANDSCAPE & IRRIGATION LABORER(GROUP 1); WATERING BY HAND OR SPRINKLER SYSTEM AND THE PERFORMANCE OF OTHER TYPES OF GARDENING, YARDMAN, AND HORTICULTURAL-RELATED WORK.....\$ 23.00

17.15

LANDSCAPE & IRRIGATION LABORERS, GROUP 2: LAYOUT OF IRRIGATION AND OTHER NON-POTABLE IRRIGATION WATER SYSTEMS AND THE LAYOUT OF DRINKING FOUNTAINS AND OTHER POTABLE IRRIGATION WATER SYSTEMS IN CONNECTION WITH SUCH LANDSCAPING AND IRRIGATION WORK. THIS INCLUDES THE LAYOUT OF ALL HEADS, RISERS, VALVES, VALVE BOXES, VACUUM BREAKERS, LOW VOLTAGE ELECTRICAL LINES, HYDRAULIC AND ELECTRICAL CONTROLLERS, AND METALLIC (COPPERS, BRASS, GALVANIZED, OR SIMILAR) PIPE, AS WELL AS PVC OR OTHER PLASTIC PIPE. THIS WORK ALSO INCLUDES THE READING AND INTERPRETATION OF PLANS AND SPECIFICATIONS IN CONNECTION WITH THE LAYOUT OF LANDSCAPING, ROCKSCAPE, WATERSCAPE, AND IRRIGATION WORK; OPERATION OF HYDRO-MULCHING MACHINES (SPRAYMAN AND DRIVER), DRILLERS, TRENCHERS (RIDING

TYPE, DAVIS T-66, AND SIMILAR) AND FORK LIFTS USED IN CONNECTION WITH THE PERFORMANCE OF SUCH LANDSCAPING AND IRRIGATION WORK; TREE CLIMBERS AND CHAIN SAW TREE TRIMMERS, SPORADIC OPERATION (WHEN USED IN CONNECTION WITH LANDSCAPING, ROCKSCAPE, WATERSCAPE, AND IRRIGATION WORK) OF SKID-STEER LOADERS (BOBCAT AND SIMILAR), CRANES (BANTAM, GROVE, AND SIMILAR), HOPTOS, BACKHOES, LOADERS, ROLLERS, AND DOZERS (CASE, JOHN DEERE, AND SIMILAR), WATER TRUCKS, TRUCKS REQUIRING A STATE OF HAWAII PUBLIC UTILITIES COMMISSION TYPE 5 AND/OR TYPE 7 LICENSE, SIT-DOWN TYPE AND ""GANG"" MOWERS, AND OTHER SELF-PROPELLED, SIT-DOWN OPERATED MACHINES NOT LISTED UNDER LANDSCAPE & IRRIGATION MAINTENANCE LABORER; CHEMICAL SPRAYING USING SELF-PROPELLED POWER SPRAYING EQUIPMENT (200 GALLON CAPACITY OR MORE).....\$ 29.40	17.15
LANDSCAPE & IRRIGATION LABORERS: GROUP 2 LAYOUT OF IRRIGATION AND OTHER NON-POTABLE IRRIGATION WATER SYSTEMS AND THE LAYOUT OF DRINKING FOUNTAINS AND OTHER POTABLE IRRIGATION WATER SYSTEMS IN CONNECTION WITH SUCH LANDSCAPING AND IRRIGATION WORK. THIS INCLUDES THE LAYOUT OF ALL HEADS, RISERS, VALVES, VALVE BOXES, VACUUM BREAKERS, LOW VOLTAGE ELECTRICAL LINES, HYDRAULIC AND ELECTRICAL CONTROLLERS, AND METALLIC (COPPERS, BRASS, GALVANIZED, OR SIMILAR) PIPE, AS WELL AS PVC OR OTHER PLASTIC PIPE. THIS WORK ALSO INCLUDES THE READING AND INTERPRETATION OF PLANS AND SPECIFICATIONS IN CONNECTION WITH THE LAYOUT OF LANDSCAPING, ROCKSCAPE, WATERSCAPE, AND IRRIGATION WORK; OPERATION OF HYDRO-MULCHING MACHINES (SPRAYMAN AND DRIVER), DRILLERS, TRENCHERS (RIDING TYPE, DAVIS T-66, AND SIMILAR) AND FORK LIFTS USED IN CONNECTION WITH THE PERFORMANCE OF SUCH LANDSCAPING AND IRRIGATION WORK; TREE CLIMBERS AND CHAIN SAW TREE TRIMMERS, SPORADIC OPERATION (WHEN USED IN CONNECTION WITH LANDSCAPING, ROCKSCAPE, WATERSCAPE, AND IRRIGATION WORK) OF SKID-STEER LOADERS (BOBCAT AND SIMILAR), CRANES (BANTAM, GROVE, AND SIMILAR), HOPTOS, BACKHOES, LOADERS, ROLLERS, AND DOZERS (CASE, JOHN DEERE, AND SIMILAR), WATER TRUCKS, TRUCKS REQUIRING A STATE OF HAWAII PUBLIC UTILITIES COMMISSION TYPE 5 AND/OR TYPE 7 LICENSE, SIT-DOWN TYPE AND ""GANG"" MOWERS, AND OTHER SELF-PROPELLED, SIT-DOWN OPERATED MACHINES NOT LISTED UNDER LANDSCAPE & IRRIGATION MAINTENANCE LABORER; CHEMICAL SPRAYING USING SELF-PROPELLED POWER SPRAYING EQUIPMENT (200 GALLON CAPACITY OR MORE).....\$ 29.40	17.15

LAB00368-003 09/02/2024

	Rates	Fringes
UNDERGROUND LABORER, GROUP 1: WATCHMEN; CHANGE HOUSE ATTENDANT.....\$ 42.35	42.35	25.91
UNDERGROUND LABORER, GROUP 2: SWAMPER; BRAKEMAN; BULL GANG-MUCKERS, TRACKMEN; DUMPMEN (ANY METHOD); CONCRETE CREW (INCLUDES RODDING AND SPREADING); GROUT CREW; REBOUNDMEN.....\$ 43.85	43.85	25.91
UNDERGROUND LABORER, GROUP 3: CHUCKTENDERS AND CABLETENDERS; POWDERMAN (PRIME HOUSE); VIBRATORMAN, PAVEMENT BREAKERS.....\$ 44.35	44.35	25.91
UNDERGROUND LABORER, GROUP 4: MINERS - TUNNEL (INCLUDING TOP AND BOTTOM MAN ON SHAFT AND RAISE WORK); TIMBERMAN, RETIMBERMAN (WOOD OR STEEL OR SUBSTITUTE MATERIALS THEREOF); BLASTERS, DRILLERS, POWDERMAN (IN HEADING); MICROTUNNEL LABORER; HEADMAN; CHERRY PICKERMAN (WHERE CAR IS LIFTED); NIPPER; GROUT GUNMEN; GROUT PUMPMAN & POTMAN; GUNITE, SHOTCRETE GUNMEN & POTMEN; CONCRETE FINISHER (IN TUNNEL); CONCRETE SCREED MAN; BIT GRINDER; STEEL FORM RAISERS & SETTERS; HIGH		

PRESSURE NOZZLEMAN; NOZZLEMAN (ON SLICK LINE); SANDBLASTER-POTMAN (COMBINATION WORK ASSIGNMENT INTERCHANGEABLE); TUGGER.....	\$ 45.35	25.91
UNDERGROUND LABORER, GROUP 5: SHAFT WORK & RAISE (BELOW ACTUAL OR EXCAVATED GROUND LEVEL); DIAMOND DRILLER; GUNITE OR SHOTCRETE NOZZLEMAN; RODMAN; GROUNDMAN.....	\$ 45.70	25.91
UNDERGROUND LABORER, GROUP 6: SHIFTER.....	\$ 45.95	25.91
UNDERGROUND LABORER, GROUP 7: SHIFTER (SHAFT WORK & RAISER).....	\$ 46.40	25.91

PAIN1791-001 07/01/2025

	Rates	Fringes
PAINTERS: BRUSH.....	\$ 44.05	30.05
PAINTERS: SANDBLASTER; SPRAY.....	\$ 44.05	30.05

PAIN1889-001 07/01/2025

	Rates	Fringes
GLAZIERS.....	\$ 48.50	40.20

PAIN1926-001 03/02/2025

	Rates	Fringes
SOFT FLOOR LAYERS.....	\$ 43.27	35.18

PAIN1944-001 01/01/2025

	Rates	Fringes
TAPER.....	\$ 47.36	32.00

PLAS0630-001 09/04/2023

	Rates	Fringes
PLASTERER.....	\$ 46.12	34.53

PLAS0630-002 09/04/2023

	Rates	Fringes
CEMENT MASONS.....	\$ 44.12	33.63
CEMENT MASONS: TROWEL MACHINE OPERATORS.....	\$ 44.27	33.63

PLUM0675-001 07/06/2025

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER & SPRINKLER FITTER.....	\$ 53.83	33.19

ROOF0221-001 11/06/2022

	Rates	Fringes
ROOFERS (INCLUDING BUILT UP, COMPOSITION AND SINGLE PLY).....	\$ 43.15	21.21

SHEE0293-001 03/02/2025

	Rates	Fringes
SHEET METAL WORKER.....	\$ 50.16	33.32

SUHI1997-002 09/15/1997

	Rates	Fringes
DRAPERY INSTALLER.....	\$ 13.60	1.20
FENCE ERECTOR (CHAIN LINK FENCE).....	\$ 9.33	1.65

LABORERS: LABORER I: AIR BLASTING RUN BY ELECTRIC OR PNEUMATIC COMPRESSOR; ASPHALT
LABORER, IRONER, RAKER, LUTEMAN, & HANDROLLER, AND ALL TYPES OF ASPHALT SPREADER
BOXES; ASPHALT SHOVELER; ASSEMBLY & INSTALLATION OF MULTIPLATES, LINER PLATES, RINGS,
MESH, MATS; BATCHING PLANT (PORTABLE & TEMPORARY); BORING MACHINE OPERATOR
(UNDER STREETS & SIDEWALKS); BUGGYMOBILE; BURNING & WELDING; CHAINSAW, FALLER,
LOGLOADER, & BUCKER; COMPACTORS (JACKSON JUMPING JACK & SIMILAR); CONCRETE BUCKET

DUMPMAN; CONCRETE CHIPPING; CONCRETE CHUTEMAN/HOSEMAN (POURING CONCRETE) (THE HANDLING OF THE CHUTE FROM READY-MIX TRUCKS FOR SUCH JOBS AS WALLS, SLABS, DECKS, FLOORS, FOUNDATIONS, FOOTINGS, CURBS, GUTTERS, & SIDEWALKS); CONCRETE CORE CUTTER (WALLS, FLOORS, & CEILING); CONCRETE GRINDING OR SANDING; CONCRETE: HOOKING ON, SIGNALING, DUMPING OF CONCRETE FOR TREME WORK OVER WATER ON CAISSONS, PILINGS, ABUTMENTS, ETC.; CONCRETE: MIXING, HANDLING, CONVEYING, POURING, VIBRATING, OTHERWISE PLACING OF CONCRETE OR AGGREGATES OR BY ANY OTHER PROCESS; CONCRETE: OPERATION OF MOTORIZED WHEELBARROWS OR BUGGIES OR MACHINES OF SIMILAR CHARACTER, WHETHER RUN BY GAS, DIESEL, OR ELECTRIC POWER; CONCRETE PLACEMENT MACHINE OPERATOR: OPERATION OF SOMERO HAMMERHEAD, COPPERHEADS, OR SIMILAR MACHINES; CONCRETE PUMP MACHINE (LAYING, COUPLING, UNCOUPLING OF ALL CONNECTIONS & CLEANING OF EQUIPMENT); CONCRETE SHOVELERS/LABORERS (WET OR DRY); CONCRETE SCREEDING FOR ROUGH STRIKE-OFF: RODDING OR STRIKING-OFF, BY HAND OR MECHANICAL MEANS PRIOR TO FINISHING; CONCRETE VIBRATOR OPERATOR; CORING HOLES: WALLS, FOOTINGS, PIERS OR OTHER OBSTRUCTIONS FOR PASSAGE OF PIPES OR CONDUITS FOR ANY PURPOSE & THE POURING OF CONCRETE TO SECURE THE HOLE; CRIBBERS, SHORER, LAGGING, SHEETING, & TRENCH JACKING & BRACING, HAND-GUIDED LAGGING HAMMER WHALING BRACING; CURBING (CONCRETE & ASPHALT); CURING OF CONCRETE (IMPERVIOUS MEMBRANE & FORM OILER) MORTAR & OTHER MATERIALS BY ANY MODE OR METHOD; CUT GRANITE CURB SETTER (SETTING, LEVELING & GROUTING OF ALL PRECAST CONCRETE OR STONE CURBS); CUTTING & BURNING TORCH (DEMOLITION); DRI PAK-IT MACHINE; ENVIRONMENTAL ABATEMENT: REMOVAL OF ASBESTOS, LEAD, & BIO HAZARDOUS MATERIALS (EPA &/OR OSHA CERTIFIED); FALLING, BUCKING, YARDING, LOADING OR BURNING OF ALL TREES OR TIMBER ON CONSTRUCTION SITE; FORKLIFT (9 FT. & UNDER); GAS, PNEUMATIC, & ELECTRIC TOOLS; GRATING & GRILL WORK FOR DRAINS OR OTHER PURPOSES; GREEN CUTTER OF CONCRETE OR AGGREGATE IN ANY FORM, BY HAND, MECHANICAL MEANS, GRINDSTONE OR AIR &/OR WATER; GROUT: SPREADING FOR ANY PURPOSE; GUINEA CHASER (GRADE CHECKER) FOR GENERAL UTILITY TRENCHES, SITEWORK, & EXCAVATION; HEADERBOARD MAN (ASPHALT OR CONCRETE); HEAT WELDER OF PLASTIC (LABORERS' AGC CERTIFIED WORKERS) (WHEN WORK INVOLVES WATERPROOFING FOR WATERPONDS, ARTIFICIAL LAKES & RESERVOIR) HEAT WELDING FOR SEWER PIPES & FUSION OF HDPE PIPES; HEAVY HIGHWAY LABORER (RIGGING, SIGNALING, HANDLING, & INSTALLATION OF PRE-CAST CATCH BASINS, MANHOLES, CURBS & GUTTERS); HIGH PRESSURE NOZZLEMAN - HYDRAULIC MONITOR (OVER 100# PRESSURE); JACKHAMMER OPERATOR; JACKING OF SLIP FORMS: ALL SEMI & UNSKILLED WORK CONNECTED THEREWITHIN; LAYING OF ALL MULTI-CELL CONDUIT OR MULTI-PURPOSE PIPE; MAGNESITE & MASTIC WORKERS (WET OR DRY) (INCLUDING MIXER OPERATOR); MORTAR MAN; MORTAR MIXER (BLOCK, BRICK, MASONRY, & PLASTERING); NOZZLEMAN (SANDBLASTING &/OR WATER BLASTING): HANDLING, PLACING & OPERATION OF NOZZLE; OPERATION, MANUAL OR HYDRAULIC JACKING OF SHIELDS & THE USE OF SUCH OTHER MECHANICAL EQUIPMENT AS MAY BE NECESSARY; PAVEMENT BREAKERS; PAVING, CURBING & SURFACING OF STREETS, WAYS, COURTS, UNDER & OVERPASSES, BRIDGES, APPROACHES, SLOPE WALLS, & ALL OTHER LABOR CONNECTED THEREWITH; PILECUTTERS; PIPE ACCESSMENT IN PLACE, BOLTING & LINING UP OF SECTIONAL METAL OR OTHER PIPE INCLUDING CORRUGATED PIPE; PIPELAYER PERFORMING ALL SERVICES IN THE LAYING & INSTALLATION OF PIPE FROM THE POINT OF RECEIVING PIPE IN THE DITCH UNTIL COMPLETION OF OPERATION, INCLUDING ANY & ALL FORMS OF TUBULAR MATERIAL, WHETHER PIPE, HDPE, METALLIC OR NON-METALLIC, CONDUIT, & ANY OTHER STATIONARY-TYPE OF TUBULAR DEVICE USED FOR CONVEYING OF ANY SUBSTANCE OR ELEMENT, WHETHER WATER, SEWAGE, SOLID, GAS, AIR, OR OTHER PRODUCT WHATSOEVER & WITHOUT REGARD TO THE NATURE OF MATERIAL FROM WHICH TUBULAR MATERIAL IS FABRICATED; NO-JOINT PIPE & STRIPPING OF SAME, PIPEWRAPPER, CAULKER, BANDER, KETTLEMEN, & MEN APPLYING ASPHALT, LAYKOLD, TREATING CREOSOTE & SIMILAR-TYPE MATERIALS (6-INCH) PIPE & OVER); PIPING: RESURFACING & PAVING OF ALL DITCHES IN PREPARATION FOR LAYING OF ALL PIPES; PIPE LAYING OF LATERAL SEWER PIPE FROM MAIN OR SIDE SEWER TO BUILDINGS OR STRUCTURE (EXCEPT CONTACTOR MAY DIRECT WORK BE DONE UNDER PROPER SUPERVISION); PIPE LAYING, LEVELING & MARKING OF THE JOINT USED FOR MAIN OR SIDE SEWERS & STORM SEWERS; LAYING OF ALL CLAY, TERRA COTTA, IRONSTONE, VITRIFIED CONCRETE, HDPE OR OTHER PIPE FOR DRAINAGE; PLACING & SETTING OF WATER MAINS, GAS MAINS & ALL PIPE INCLUDING REMOVAL OF SKIDS; PLASTER MORTAR MIXER/PUMP; PNEUMATIC IMPACT WRENCH; PORTABLE SAWMILL OPERATION: CHOKER SETTERS, OFF BEARERS, & LUMBER HANDLERS CONNECTED WITH CLEARING; POSTHOLE DIGGER (HAND HELD, GAS, AIR & ELECTRIC); POWDERMAN'S TENDER; POWER BROOM SWEEPERS (SMALL); PREPARATION & COMPACTION OF ROADBEDS FOR RAILROAD TRACK LAYING, HIGHWAY CONSTRUCTION, & THE PREPARATION OF TRENCHES, FOOTINGS, ETC., FOR CROSS-COUNTRY TRANSMISSION BY PIPELINES, ELECTRICAL TRANSMISSION OR UNDERGROUND LINES OR CABLES (BY MECHANICAL MEANS); RAISING OF STRUCTURE BY MANUAL OR HYDRAULIC JACKS OR OTHER METHODS & RESETTING OF STRUCTURE IN NEW LOCATIONS, INCLUDING ALL CONCRETE WORK; RAMMING OR COMPACTION; RIGGING IN CONNECTION WITH LABORERS' WORK (EXCEPT DEMOLITION), SIGNALING (INCLUDING THE USE OF WALKIE TALKIE) CHOKE SETTING, TAG LINE USAGE; TAGGING & SIGNALING OF BUILDING MATERIALS INTO HIGH RISE UNITS; RIPRAP, STONEPAVER, & ROCK SLINGER (INCLUDES PLACEMENT OF STACKED CONCRETE, WET OR DRY & LOADING, UNLOADING, SIGNALING, SLINGING & SETTING OF OTHER SIMILAR MATERIALS); ROTARY SCARIFIER (INCLUDING MULTIPLE HEAD CONCRETE CHIPPING SCARIFIER); SALAMANDER HEATER, DRYING OF PLASTER, CONCRETE MORTAR OR OTHER AGGREGATE; SCAFFOLD ERECTOR LEADMAN; SCAFFOLDS: (SWING & HANGING) INCLUDING MAINTENANCE THEREOF; SCALER; SEPTIC TANK/CESSPOOL & DRAIN FIELDS DIGGER & INSTALLER; SHREDDER/CHIPPER (TREE

BRANCHES, BRUSH, ETC.); STRIPPING & SETTING FORMS; STRIPPING OF FORMS: OTHER THAN PANEL FORMS WHICH ARE TO BE RE-USED IN THEIR ORIGINAL FORM, & STRIPPING OF FORMS ON ALL FLAT ARCH WORK; TAMPERS (BARKO, WACKER, & SIMILAR TYPE); TANK SCALER & CLEANERS; TARMAN; TREE CLIMBERS & TRIMMERS; TRENCHER (INCLUDES HAND-HELD, DAVIS T-66 & SIMILAR TYPE); TRUCKS (FLATBED UP TO & INCLUDING 2 1/2 TONS WHEN USED IN CONNECTION WITH ON-SITE LABORERS' WORK; TRUCKS (REFUSE & GARBAGE DISPOSAL) (FROM JOB SITE TO DUMP); VIBRA-SCREED (BULL FLOAT IN CONNECTION WITH LABORERS' WORK); WELL POINTS, INSTALLATION OF OR ANY OTHER DEWATERING SYSTEM.

LABORERS: LABORER II: ASPHALT PLANT LABORER; BORING MACHINE TENDER; BRIDGE LABORER; BURNING OF ALL DEBRIS (CRATES, BOXES, PACKAGING WASTE MATERIALS); CHAINMAN, RODMEN, & GRADE MARKERS; CLEANING, CLEARING, GRADING &/OR REMOVAL FOR STREETS, HIGHWAYS, ROADWAYS, APRONS, RUNWAYS, SIDEWALKS, PARKING AREAS, AIRPORTS, APPROACHES, & OTHER SIMILAR INSTALLATIONS; CLEANING OR RECONDITIONING OF STREETS, WAYS, SEWERS & WATERLINES, ALL MAINTENANCE WORK & WORK OF AN UNSKILLED & SEMI-SKILLED NATURE; CONCRETE BUCKET TENDER (GROUNDMAN) HOOKING & UNHOOKING OF BUCKET; CONCRETE FORMS; MOVING, CLEANING, OILING & CARRYING TO THE NEXT POINT OF ERECTION OF ALL FORMS; CONCRETE PRODUCTS PLANT LABORERS; CONVEYOR TENDER (CONVEYING OF BUILDING MATERIALS); CRUSHED STONE YARDS & GRAVEL & SAND PIT LABORERS & ALL OTHER SIMILAR PLANTS; DEMOLITION, WRECKING & SALVAGE LABORERS: WRECKING & DISMANTLING OF BUILDINGS & ALL STRUCTURES, WITH USE OF CUTTING OR WRECKING TOOLS, BREAKING AWAY, CLEANING & REMOVAL OF ALL FIXTURES, ALL HOOKING, UNHOOKING, SIGNALING OF MATERIALS FOR SALVAGE OR SCRAP REMOVED BY CRANE OR DERRICK; DIGGING UNDER STREETS, ROADWAYS, APRONS OR OTHER PAVED SURFACES; DRILLER'S TENDER; CHUCK TENDER, OUTSIDE

NIPPER; DRY-PACKING OF CONCRETE (PLUGGING & FILLING OF SHE-BOLT HOLES); FENCE &/OR GUARDRAIL ERECTOR: DISMANTLING &/OR RE-INSTALLATION OF ALL FENCE; FINEGRADER; FIREWATCHER; FLAGMAN (CONING, PREPARING, STABLISHING & REMOVING PORTABLE ROADWAY BARRICADE DEVICES); SIGNAL MEN ON ALL CONSTRUCTION WORK DEFINED HEREIN, INCLUDING TRAFFIC CONTROL SIGNAL MEN AT CONSTRUCTION SITE; GENERAL EXCAVATION; BACKFILLING, GRADING & ALL OTHER LABOR CONNECTED THEREWITH; DIGGING OF TRENCHES, DITCHES & MANHOLES & THE LEVELING, GRADING & OTHER PREPARATION PRIOR TO LAYING PIPE OR CONDUIT FOR ANY PURPOSE; EXCAVATIONS & FOUNDATIONS FOR BUILDINGS, PIERS, FOUNDATIONS & HOLES, & ALL OTHER CONSTRUCTION. PREPARATION OF STREET WAYS & BRIDGES; GENERAL LABORER: CLEANING & CLEARING OF ALL DEBRIS & SURPLUS MATERIAL. CLEAN-UP OF RIGHT-OF-WAY. CLEARING & SLASHING OF BRUSH OR TREES BY HAND OR MECHANICAL CUTTING. GENERAL CLEAN UP: SWEEPING, CLEANING, WASH-DOWN, WIPING OF CONSTRUCTION FACILITY & EQUIPMENT (OTHER THAN ""LIGHT CLEAN UP (JANITORIAL) LABORER. GARBAGE & DEBRIS HANDLERS & CLEANERS. APPLIANCE HANDLING (JOB SITE) (AFTER DELIVERY UNLADING IN STORAGE AREA); GROUND & SOIL TREATMENT WORK (PEST CONTROL); GUNITE/SHOTCRETE OPERATOR TENDER; JUNK YARD LABORERS (SAME AS SALVAGE YARD); LASER BEAM ""TARGET MAN"" IN CONNECTION WITH LABORERS' WORK; LAYOUT PERSON FOR PLASTIC (WHEN WORK INVOLVES WATERPROOFING FOR WATERPONDS, ARTIFICIAL LAKES & RESERVOIRS); LIMBERS, BRUSH LOADERS, & PILERS; LOADING, UNLOADING, CARRYING, DISTRIBUTING & HANDLING OF ALL RODS & MATERIAL FOR USE IN REINFORCING CONCRETE CONSTRUCTION (EXCEPT WHEN A DERRICK OR OUTRIGGER OPERATED BY OTHER THAN HAND POWER IS USED); LOADING, UNLOADING, SORTING, STOCKPILING, HANDLING & DISTRIBUTION OF WATER MAINS, GAS MAINS & ALL PIPES; LOADING & UNLOADING OF ALL MATERIALS, FIXTURES, FURNISHINGS & APPLIANCES FROM POINT OF DELIVERY TO STOCKPILE TO POINT OF INSTALLATION; HOOKING & SIGNALING FROM TRUCK, CONVEYANCE OR STOCKPILE; MATERIAL YARD LABORERS; PIPELAYER TENDER; PIPEWRAPPER, CAULKER, BANDER, KETTLEMEN, & MEN APPLYING ASPHALT, LAYKOLD, CREOSOTE, & SIMILAR-TYPE MATERIALS (PIPE UNDER 6 INCHES); PLASTERER LABORER; PREPARATION, CONSTRUCTION & MAINTENANCE OF ROADBEDS & SUB-GRADE FOR ALL PAVING, INCLUDING EXCAVATION, DUMPING, & SPREADING OF SUB-GRADE MATERIAL; PRESTRESSED OR PRECAST CONCRETE SLABS, WALLS, OR SECTIONS: ALL LOADING, UNLOADING, STOCKPILING, HOOKING ON OF SUCH SLABS, WALLS OR SECTIONS; QUARRY LABORERS; RAILROAD, STREETCAR, & RAIL TRANSIT MAINTENANCE & REPAIR; ROUSTABOUT; RUBBISH TRUCKS IN CONNECTION WITH BUILDING CONSTRUCTION PROJECTS (EXCLUDING CLEARING, GRUBBING, & EXCAVATING); SALVAGE YARD: ALL WORK CONNECTED WITH CUTTING, CLEANING, STORING, STOCKPILING OR HANDLING OF MATERIALS, ALL CLEANUP, REMOVAL OF DEBRIS, BURNING, BACK-FILLING & LANDSCAPING OF THE SITE; SANDBLASTING TENDER (POT TENDER): HOSES & POTS OR MARKERS; SCAFFOLDS: ERECTION, PLANKING & REMOVAL OF ALL SCAFFOLDS USED FOR SUPPORT FOR LATHERS, PLASTERS, BRICK LAYERS, MASONS, & OTHER CONSTRUCTION TRADES CRAFTS; SCAFFOLDS: (SPECIALLY DESIGNED BY CARPENTERS) LABORERS SHALL TEND SAID CARPENTER ON ERECTION & DISMANTLING THEREOF, PREPARATION FOR FOUNDATION OR MUDSILLS, MAINTENANCE; SCRAPING OF FLOORS; SCREEDS: HANDLING OF ALL SCREEDS TO BE REUSED; HANDLING, DISMANTLING & CONVEYANCE OF SCREEDS; SETTING, LEVELING & SECURING OR BRACING OF METAL OR OTHER ROAD FORMS & EXPANSION JOINTS; SHEETING PILING/TRENCH SHORING (HANDLING & PLACING OF SKIP SHEET OR WOOD PLANK TRENCH SHORING); SHIP SCALERS; SHIPWRIGHT TENDER; SIGN ERECTOR (SUBDIVISION TRAFFIC, REGULATORY, & STREET-NAME SIGNS); SLOPER; SLURRY SEAL CREWS (MIXER OPERATOR, APPLICATOR, SQUEEGEE MAN, SHUTTLE MAN, TOP MAN); SNAPPING OF WALL TIES & REMOVAL OF TIE RODS; SOIL TEST OPERATIONS OF SEMI & UNSKILLED LABOR SUCH AS FILLING SAND

BAGS; STRIPER (ASPHALT, CONCRETE OR OTHER PAVED SURFACES); TOOL ROOM ATTENDANT (JOB SITE); TRAFFIC DELINEATING DEVICE APPLICATOR; UNDERPINNING, LAGGING, BRACING, PROPPING & SHORING, LOADING, SIGNALING, RIGHT-OF-WAY CLEARANCE ALONG THE ROUTE OF MOVEMENT, THE CLEARANCE OF NEW SITE, EXCAVATION OF FOUNDATION WHEN MOVING A HOUSE OR STRUCTURE FROM OLD SITE TO NEW SITE; UTILITIES EMPLOYEES; WATER MAN; WATERSCAPE/HARDSCAPE LABORERS; WIRE MESH PULLING (ALL CONCRETE POURING OPERATIONS); WRECKING, STRIPPING, DISMANTLING & HANDLING CONCRETE FORMS AN FALSE WORK.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than **⬢SU⬢**, **⬢UAVG⬢**, **⬢SA⬢**, or **⬢SC⬢** denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the

example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE:

UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ♦SU♦ identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

♦SU♦ wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ♦SA♦ identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ♦SA♦ identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to

davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION"

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: Seismic Retrofit, Haleakala Highway Route 377
Waiale Gulch, Alae (Naalae Gulch), and
Pulehu Gulch (Pohakuokala) Bridges
District of Makawao
Island of Maui

**FEDERAL-AID
PROJECT NO.:** STP-0377(008)

COMPLETION TIME: 470 Calendar days from the Start Work Date from
the Department.

DBE PROJECT GOAL: None specified

DESIGN PROJECT MANAGER:

NAME: Jillian Chen
ADDRESS: 601 Kamokila Boulevard, Rm 609
Kapolei, HI 96707
PHONE NO.: (808) 692-8439
EMAIL: Jillian.m.chen@hawaii.gov

ELECTRONIC SUBMITTAL: Bidders shall submit and upload the complete proposal to HlePRO 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 HlePRO. See SPECIAL PROVISIONS 102.09 DELIVERY OF PROPOSALS for complete details. FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HlePRO 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.
4. It will not maintain for its employees any segregated facilities at any of its establishments.
5. Does not and will not permit its employees to perform their services at any location under its control, where segregated facilities are maintained.

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 1032D-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. Unless amended by Special Provision, 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.
7. The undersigned Bidder further agrees to the following: Pursuant to HRS §103D-405(d), any contractor (including consultants) paid for services to develop or prepare specifications or work statements shall be precluded from submitting an offer or receiving a contract for that particular solicitation. This includes the preparation of reports relied upon by HDOT in the development of the project scope.

The Bidder acknowledges receipt of and certifies that it has completely examined the following listed items: Hawaii Standard Specifications for Road and Bridge Construction, 2005, and/or the General Provisions for Construction Projects for AIR and WATER Transportation Facilities Division dated 2016, as applicable, the Notice to Bidders, Special Provisions, Proposal, Contract, Bond Forms, and 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 Subcontractor or Joint Contractor and the nature of work to be done by each on the following page. The Bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Subcontractor or Joint Contractor. For each listed firm, the Bidder declares the respective firm is a Subcontractor or Joint Contractor and is subject to evaluation as a Subcontractor or Joint Contractor. It is understood that failure to comply with the aforementioned requirements may be cause for rejection of the bid submitted.

SUBCONTRACTOR LISTING
(Attach additional sheets if necessary.)

	NAME OF FIRM	NATURE OF WORK
SUBCONTRACTOR:		
1.	_____	_____
	1a ¹ . _____	_____
2.	_____	_____
	2a. _____	_____
3.	_____	_____
	3a. _____	_____
4.	_____	_____
	4a. _____	_____
5.	_____	_____
	5a. _____	_____
6.	_____	_____
	6a. _____	_____
7.	_____	_____
	7a. _____	_____

NOTES:

The Name of Firm and Nature of Work shall be indicated for all listed firms. The Bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Sub- or Joint Contractor.

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.

¹ Second tier subcontractors

JOINT CONTRACTOR LISTING
(Attach additional sheets if necessary.)

	NAME OF FIRM	NATURE OF WORK
JOINT CONTRACTOR:		
1.	_____	_____
	1a ¹ . _____	_____
2.	_____	_____
	2a. _____	_____
3.	_____	_____
	3a. _____	_____
4.	_____	_____
	4a. _____	_____
5.	_____	_____
	5a. _____	_____
6.	_____	_____
	6a. _____	_____
7.	_____	_____
	7a. _____	_____

NOTES:

The Name of Firm and Nature of Work shall be indicated for all listed firms. The Bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Sub- or Joint Contractor.

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.

¹ Second tier joint contractors

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)

Authorized Signature

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

SEISMIC RETROFIT OF WAIALE GULCH BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.3010	Clearing and Grubbing - Waiale Gulch Bridge	0.3	Acre	\$ _____	\$ _____
202.3000	Clean Existing Bearings	L.S.	L.S.	L.S.	\$ _____
202.3100	Removal of Existing Bearings	L.S.	L.S.	L.S.	\$ _____
203.3010	Roadway Excavation - Waiale Gulch Bridge	13	C.Y.	\$ _____	\$ _____
205.3010	Structure Excavation for Abutment No. 1	40	C.Y.	\$ _____	\$ _____
205.3020	Structure Excavation for Abutment No. 2	70	C.Y.	\$ _____	\$ _____
205.3030	Lightweight Cellular Concrete Backfill for Abutment No. 2	40	C.Y.	\$ _____	\$ _____
209.3010	Installation, Maintenance, Monitoring, and Removal of BMP - Waiale Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
209.3020	Additional Water Pollution, Dust, and Erosion Control - Waiale Gulch Bridge	F.A.	F.A.	F.A.	\$ 60,000.00
301.3110	Hot Mix Asphalt Base Course - Waiale Gulch Bridge	12	TONS	\$ _____	\$ _____
305.3110	Aggregate Subbase - Waiale Gulch Bridge	8	C.Y.	\$ _____	\$ _____
401.3410	PMA Pavement, Mix. No. IV - Waiale Gulch Bridge	59	Tons	\$ _____	\$ _____
401.3510	Tensar Rapid Repair PG100 - Waiale Gulch Bridge	540	S.Y.	\$ _____	\$ _____
415.3410	Cold Planing - Waiale Gulch Bridge	395	S.Y.	\$ _____	\$ _____

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PROPOSAL SCHEDULE
SEISMIC RETROFIT OF WAIALE GULCH BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
503.3100	Concrete for Corbel	L.S.	L.S.	L.S.	\$ _____
503.3200	Concrete for Tie Slab	L.S.	L.S.	L.S.	\$ _____
503.3300	Concrete for Anchor Beam	L.S.	L.S.	L.S.	\$ _____
503.3400	Concrete for Pier Cap	L.S.	L.S.	L.S.	\$ _____
503.3500	Concrete for Built Up Diaphragms	L.S.	L.S.	L.S.	\$ _____
503.3600	Concrete for Creep Blocks	L.S.	L.S.	L.S.	\$ _____
503.3700	Concrete for Timber Bumper Repair	L.S.	L.S.	L.S.	\$ _____
506.3100	Steel Reinforced Elastomeric Bearings	12	Each	\$ _____	\$ _____
520.3100	Bridge Joint Repair - Waiale Gulch Bridge	48	L.F.	\$ _____	\$ _____
520.3200	Removal and Repair of the Bottom Plate Irons - Waiale Gulch Bridge	F.A.	F.A.	F.A.	\$ <u>20,000.00</u>
577.3100	Externally Bonded Carbon Fiber Reinforced Polymer (CFRP) Composite System	L.S.	L.S.	L.S.	\$ _____
577.3200	Carbon Fiber Reinforced Polymer Anchors	L.S.	L.S.	L.S.	\$ _____
577.3300	Finish for CFRP System	L.S.	L.S.	L.S.	\$ _____
602.3100	Reinforcing Steel for Corbel	L.S.	L.S.	L.S.	\$ _____

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PROPOSAL SCHEDULE
SEISMIC RETROFIT OF WAIALE GULCH BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
602.3200	Reinforcing Steel for Tie Slab	L.S.	L.S.	L.S.	\$ _____
602.3300	Reinforcing Steel for Anchor Beam	L.S.	L.S.	L.S.	\$ _____
602.3400	Reinforcing Steel for Pier Cap	L.S.	L.S.	L.S.	\$ _____
602.3500	Reinforcing Steel for Built Up Diaphragms	L.S.	L.S.	L.S.	\$ _____
602.3600	Reinforcing Steel for Creep Blocks	L.S.	L.S.	L.S.	\$ _____
602.3700	Reinforcing Steel for Timber Bumper Repair	L.S.	L.S.	L.S.	\$ _____
621.3010	Inventory of Invasive Species before Construction - Waiale Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
621.3020	Invasive Species Removal Plan - Waiale Gulch Bridge	F.A.	F.A.	F.A.	\$ <u>5,000.00</u>
621.3030	Removal of Plants and Animals Established before Physical Construction or Site Work, Post-removal Monitoring - Waiale Gulch Bridge	F.A.	F.A.	F.A.	\$ <u>20,000.00</u>
621.3040	Monitoring of Invasive Species during and after-Construction - Waiale Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
621.3050	Post-Construction Inventory Prior to Returning the Site to the State - Waiale Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
629.3015	4-Inch Double Pavement Striping (Type I Tape or Thermoplastic Extrusion) - Waiale Gulch Bridge	165	LF	\$ _____	\$ _____

PROPOSAL SCHEDULE

SEISMIC RETROFIT OF WAIALE GULCH BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.3025	6-Inch Pavement Striping (Type I Tape or Thermoplastic Extrusion) - Waiale Gulch Bridge	330	LF	\$ _____	\$ _____
629.3030	Type C Pavement Marker - Waiale Gulch Bridge	8	Each	\$ _____	\$ _____
629.3040	Type D Pavement Marker - Waiale Gulch Bridge	8	Each	\$ _____	\$ _____
636.3000	Additional E-Construction Programs, additional licenses or additional equipment	FA	FA	FA	\$ <u>10,000.00</u>
645.3010	Traffic Control - Waiale Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
645.3020	Additional Police Officers, Additional Traffic Control Devices, and Advertisement - Waiale Gulch Bridge	FA	FA	FA	\$ <u>40,000.00</u>
648.3000	Field-Posted Drawings - Waiale Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
657.3010	Furnishing Soil Nail Drilling and Grouting Equipment - Waiale Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
657.3020	Production Soil Nails - Waiale Gulch Bridge	360	L.F.	\$ _____	\$ _____
657.3030	Pre-Production Verification Test of Sacrificial Soil Nails - Waiale Gulch Bridge	1	Each	\$ _____	\$ _____
657.3040	Proof Test of Production Soil Nails - Waiale Gulch Bridge	2	Each	\$ _____	\$ _____

PROPOSAL SCHEDULE
SEISMIC RETROFIT OF WAIALE GULCH BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
671.3000	Protection of Endangered Species - Waiale Gulch Bridge	FA	FA	FA	\$ <u>20,000.00</u>
696.1000	Field Office Trailer (Not to Exceed \$50,000.00)	L.S.	L.S.	L.S.	\$ _____
699.3000	Mobilization (Not to Exceed 6 Percent of the Sum of All Items Excluding the Bid Price of this Item) - Waiale Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
SUBTOTAL BID ITEMS - Waiale Gulch Bridge					\$ _____

PROPOSAL SCHEDULE
SEISMIC RETROFIT OF ALAE (NAALAE GULCH) BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.1010	Clearing and Grubbing - Alae Bridge	0.4	Acre	\$ _____	\$ _____
202.1000	Clean Existing Bearings	L.S.	L.S.	L.S.	\$ _____
203.1010	Roadway Excavation - Alae Bridge	14	C.Y.	\$ _____	\$ _____
205.1010	Structure Excavation for Abutment No. 1	71	C.Y.	\$ _____	\$ _____
205.1020	Structure Excavation for Abutment No. 2	51	C.Y.	\$ _____	\$ _____
205.1300	Lightweight Cellular Concrete Backfill for Abutment No. 1	52	C.Y.	\$ _____	\$ _____
205.1400	Lightweight Cellular Concrete Backfill for Abutment No. 2	28	C.Y.	\$ _____	\$ _____
206.1000	Removal of Loose Material	5	C.Y.	\$ _____	\$ _____
209.1010	Installation, Maintenance, Monitoring, and Removal of BMP - Alae Bridge	L.S.	L.S.	L.S.	\$ _____
209.1020	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	\$ <u>50,000.00</u>
301.1110	Hot Mix Asphalt Base Course - Alae Bridge	11	TONS	\$ _____	\$ _____
305.1110	Aggregate Subbase - Alae Bridge	9	C.Y.	\$ _____	\$ _____
313.1000	Filter Fabric (Mirafi FW404)	20	S.Y.	\$ _____	\$ _____
401.1410	PMA Pavement, Mix. No. IV - Alae Bridge	57	Tons	\$ _____	\$ _____

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PROPOSAL SCHEDULE
SEISMIC RETROFIT OF ALAE (NAALAE GULCH) BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
401.1510	Tensar Rapid Repair PG100 - Alae Bridge	480	S.Y.	\$ _____	\$ _____
415.1410	Cold Planing - Alae Bridge	370	S.Y.	\$ _____	\$ _____
503.1100	Concrete for Corbel	L.S.	L.S.	L.S.	\$ _____
503.1200	Concrete for Tie Slab	L.S.	L.S.	L.S.	\$ _____
503.1300	Concrete for Anchor Beam	L.S.	L.S.	L.S.	\$ _____
503.1400	Concrete for Built Up Diaphragms	L.S.	L.S.	L.S.	\$ _____
503.1500	Concrete for Creep Blocks	L.S.	L.S.	L.S.	\$ _____
508.1000	Cement Rubble Masonry	L.S.	L.S.	L.S.	\$ _____
510.1100	Riprap, Class III	40	C.Y.	\$ _____	\$ _____
510.1200	Partially Grouted Riprap, Class IV	30	C.Y.	\$ _____	\$ _____
520.3100	Bridge Joint Repair - Alae Bridge	44	L.F.	\$ _____	\$ _____
520.3200	Removal and Repair of the Bottom Plate Irons - Alae Bridge	F.A.	F.A.	F.A.	\$ 20,000.00
602.1100	Reinforcing Steel for Corbel	L.S.	L.S.	L.S.	\$ _____
602.1200	Reinforcing Steel for Tie Slab	L.S.	L.S.	L.S.	\$ _____

PROPOSAL SCHEDULE
SEISMIC RETROFIT OF ALAE (NAALAE GULCH) BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
602.1300	Reinforcing Steel for Anchor Beam	L.S.	L.S.	L.S.	\$ _____
602.1400	Reinforcing Steel for Built Up Diaphragms	L.S.	L.S.	L.S.	\$ _____
602.1500	Reinforcing Steel for Creep Blocks	L.S.	L.S.	L.S.	\$ _____
621.1010	Inventory of Invasive Species before Construction - Alae Bridge	L.S.	L.S.	L.S.	\$ _____
621.1020	Invasive Species Removal Plan - Alae Bridge	F.A.	F.A.	F.A.	\$ <u>5,000.00</u>
621.1030	Removal of Plants and Animals Established before Physical Construction or Site Work, Post-removal Monitoring - Alae Bridge	F.A.	F.A.	F.A.	\$ <u>20,000.00</u>
621.1040	Monitoring of Invasive Species during and after-Construction - Alae Bridge	L.S.	L.S.	L.S.	\$ _____
621.1050	Post-Construction Inventory Prior to Returning the Site to the State - Alae Bridge	L.S.	L.S.	L.S.	\$ _____
629.1015	4-Inch Double Pavement Striping (Type I Tape or Thermoplastic Extrusion) - Alae Bridge	200	LF	\$ _____	\$ _____
629.1025	6-Inch Pavement Striping (Type I Tape or Thermoplastic Extrusion) - Alae Bridge	400	LF	\$ _____	\$ _____

PROPOSAL SCHEDULE
SEISMIC RETROFIT OF ALAE (NAALAE GULCH) BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.1030	Type C Pavement Marker - Alae Bridge	10	Each	\$ _____	\$ _____
629.1040	Type D Pavement Marker - Alae Bridge	10	Each	\$ _____	\$ _____
645.1010	Traffic Control - Alae Bridge	L.S.	L.S.	L.S.	\$ _____
645.1020	Additional Police Officers, Additional Traffic Control Devices, and Advertisement - Alae Bridge	FA	FA	FA	\$ <u>40,000.00</u>
648.1000	Field-Posted Drawings - Alae Bridge	L.S.	L.S.	L.S.	\$ _____
657.1010	Furnishing Soil Nail Drilling and Grouting Equipment - Alae Bridge	L.S.	L.S.	L.S.	\$ _____
657.1020	Production Soil Nails - Alae Bridge	240	L.F.	\$ _____	\$ _____
657.1030	Pre-Production Verification Test of Sacrificial Soil Nails - Alae Bridge	1	Each	\$ _____	\$ _____
657.1040	Proof Test of Production Soil Nails - Alae Bridge	2	Each	\$ _____	\$ _____
671.1000	Protection of Endangered Species - Alae Bridge	FA	FA	FA	\$ <u>20,000.00</u>
699.1000	Mobilization (Not to Exceed 6 Percent of the Sum of All Items Excluding the Bid Price of this Item) - Alae Bridge	L.S.	L.S.	L.S.	\$ _____
SUBTOTAL BID ITEMS - Alae (Naalae Gulch) Bridge					\$ _____

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PROPOSAL SCHEDULE

SEISMIC RETROFIT OF PULEHU GULCH (POHAKUOKALA) BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.2010	Clearing and Grubbing - Pulehu Gulch Bridge	0.2	Acre	\$ _____	\$ _____
202.2000	Clean Existing Bearings	L.S.	L.S.	L.S.	\$ _____
203.2010	Roadway Excavation - Pulehu Gulch Bridge	22	C.Y.	\$ _____	\$ _____
205.2010	Structure Excavation for Abutment No. 1	32	C.Y.	\$ _____	\$ _____
205.2020	Structure Excavation for Abutment No. 2	32	C.Y.	\$ _____	\$ _____
209.2010	Installation, Maintenance, Monitoring, and Removal of BMP - Pulehu Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
209.2020	Additional Water Pollution, Dust, and Erosion Control - Pulehu Gulch Bridge	F.A.	F.A.	F.A.	\$ 40,000.00
301.2110	Hot Mix Asphalt Base Course - Pulehu Gulch Bridge	20	TONS	\$ _____	\$ _____
305.2110	Aggregate Subbase - Pulehu Gulch Bridge	14	C.Y.	\$ _____	\$ _____
401.2410	PMA Pavement, Mix. No. IV - Pulehu Gulch Bridge	43	Tons	\$ _____	\$ _____
401.1510	Tensar Rapid Repair PG100 - Pulehu Gulch Bridge	380	S.Y.	\$ _____	\$ _____
415.2410	Cold Planing - Pulehu Gulch Bridge	270	S.Y.	\$ _____	\$ _____
503.2100	Concrete for Corbel	L.S.	L.S.	L.S.	\$ _____
503.2200	Concrete for Tie Slab	L.S.	L.S.	L.S.	\$ _____

PROPOSAL SCHEDULE

SEISMIC RETROFIT OF PULEHU GULCH (POHAKUOKALA) BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
503.2300	Concrete for Anchor Beam	L.S.	L.S.	L.S.	\$ _____
503.2400	Concrete for Built Up Diaphragms	L.S.	L.S.	L.S.	\$ _____
503.2500	Concrete for Creep Blocks	L.S.	L.S.	L.S.	\$ _____
520.3100	Bridge Joint Repair - Pulehu Gulch Bridge	44	L.F.	\$ _____	\$ _____
520.3200	Removal and Repair of the Bottom Plate Irons - Pulehu Gulch Bridge	F.A.	F.A.	F.A.	\$ <u>20,000.00</u>
602.2100	Reinforcing Steel for Corbel	L.S.	L.S.	L.S.	\$ _____
602.2200	Reinforcing Steel for Tie Slab	L.S.	L.S.	L.S.	\$ _____
602.2300	Reinforcing Steel for Anchor Beam	L.S.	L.S.	L.S.	\$ _____
602.2400	Reinforcing Steel for Built Up Diaphragms	L.S.	L.S.	L.S.	\$ _____
602.2500	Reinforcing Steel for Creep Blocks	L.S.	L.S.	L.S.	\$ _____
621.2010	Inventory of Invasive Species before Construction - Pulehu Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
621.2020	Invasive Species Removal Plan - Pulehu Gulch Bridge	F.A.	F.A.	F.A.	\$ <u>5,000.00</u>
621.2030	Removal of Plants and Animals Established before Physical Construction or Site Work, Post-removal Monitoring - Pulehu Gulch Bridge	F.A.	F.A.	F.A.	\$ <u>20,000.00</u>

PROPOSAL SCHEDULE

SEISMIC RETROFIT OF PULEHU GULCH (POHAKUOKALA) BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
621.2040	Monitoring of Invasive Species during and after-Construction - Pulehu Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
621.2050	Post-Construction Inventory Prior to Returning the Site to the State - Pulehu Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
629.2015	4-Inch Double Pavement Striping (Type I Tape or Thermoplastic Extrusion) - Pulehu Gulch Bridge	205	LF	\$ _____	\$ _____
629.2025	6-Inch Pavement Striping (Type I Tape or Thermoplastic Extrusion) - Pulehu Gulch Bridge	405	LF	\$ _____	\$ _____
629.2030	Type C Pavement Marker - Pulehu Gulch Bridge	10	Each	\$ _____	\$ _____
629.2040	Type D Pavement Marker - Pulehu Gulch Bridge	10	Each	\$ _____	\$ _____
645.2010	Traffic Control - Pulehu Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
645.2020	Additional Police Officers, Additional Traffic Control Devices, and Advertisement - Pulehu Gulch Bridge	FA	FA	FA	\$ <u>40,000.00</u>
648.2000	Field-Posted Drawings - Pulehu Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
657.2010	Furnishing Soil Nail Drilling and Grouting Equipment - Pulehu Gulch Bridge	L.S.	L.S.	L.S.	\$ _____

PROPOSAL SCHEDULE

SEISMIC RETROFIT OF PULEHU GULCH (POHAKUOKALA) BRIDGE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
657.2020	Production Soil Nails - Pulehu Gulch Bridge	280	L.F.	\$ _____	\$ _____
657.2030	Pre-Production Verification Test of Sacrificial Soil Nails -Pulehu Gulch Bridge	1	Each	\$ _____	\$ _____
657.2040	Proof Test of Production Soil Nails - Pulehu Gulch Bridge	2	Each	\$ _____	\$ _____
671.2000	Protection of Endangered Species - Pulehu Gulch Bridge	FA	FA	FA	\$ <u>20,000.00</u>
699.2000	Mobilization (Not to Exceed 6 Percent of the Sum of All Items Excluding the Bid Price of this Item) - Pulehu Gulch Bridge	L.S.	L.S.	L.S.	\$ _____
SUBTOTAL BID ITEMS - Pulehu Gulch (Pohakuokala) Bridge					\$ _____

PROPOSAL SCHEDULE - SUMMARY

AMOUNT

SUBTOTAL BID ITEMS - Waiale Gulch Bridge

\$ _____

SUBTOTAL BID ITEMS - Alae (Naalae Gulch) Bridge

\$ _____

SUBTOTAL BID ITEMS - Pulehu Gulch (Pohakuokala) Bridge

\$ _____

TOTAL AMOUNT FOR COMPARISON OF BIDS

\$ _____

1 **PROPOSAL SCHEDULE**

2
3 The bidder is directed to Subsection 105.16 – Subcontracts.

4
5 The bidder's attention is directed to Sections 696 - Field Office and Project
6 Site Laboratory and 699 - Mobilization for the limitation of the amount bidders are
7 allowed to bid.

8
9 If the bid price for any proposal item having a maximum allowable bid
10 indicated therefore in any of the contract documents is in excess of such a
11 maximum amount, the bid price for such proposal item shall be adjusted to reflect
12 the limitation thereon. The comparison of bids to determine the successful
13 bidder and the amount of contract to be awarded shall be determined after such
14 adjustments are made, and such adjustments shall be binding upon the bidder.

15
16 The bidder is directed to Section 717 – Cullet and Cullet-Made Materials
17 regarding recycling of waste glass.

18
19 1. Bids shall include all Federal, State, County and other applicable taxes
20 and fees.

21
22 2. The TOTAL AMOUNT FOR COMPARISON OF BIDS shall be used to
23 determine the lowest responsible bidder.

24
25 3. Bidders shall complete all unit prices and amounts. Failure to do so shall
26 be grounds for rejection of bid.

27
28 4. If a discrepancy occurs between unit bid price and the bid price, the unit
29 bid price shall govern.

30
31 5. **Bidders shall submit and upload the complete proposal to HlePRO**
32 **prior to the bid opening date and time. Proposals received after said due**
33 **date and time shall not be considered. Any additional support documents**
34 **explicitly designated as confidential and/or proprietary shall be uploaded**
35 **as a separate file to HlePRO. Bidders shall not include confidential and/or**
36 **proprietary documents with the proposal. The record of each bidder and**
37 **respective bid shall be open to public inspection. Original (wet ink, hard**
38 **copy) proposal documents are not required to be submitted. Contract award**
39 **shall be based on evaluation of proposals submitted and uploaded to**
40 **HlePRO.**

41
42 6. **FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HlePRO**
43 **SHALL BE GROUNDS FOR REJECTION OF THE BID.**

44
45 7. If there is a conflict between the specification document and the HlePRO
46 solicitation, the specifications shall govern and control, unless otherwise
47 specified.

SURETY BID BOND

Bond No. _____

KNOW TO 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
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 _____, _____

Name of Principal (Offeror) (Seal)

Signature

Print Name and Title

Name of Surety (Seal)

Signature

Print Name and Title

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HONOLULU, HAWAII

SAMPLE FORMS

Contract

Performance Bond (Surety)

Performance Bond

Labor and Material Payment Bond (Surety)

Labor and Material Payment Bond

Disclosure of Lobbying Activities (Standard Form - LLL and LLL-A)

Statement of Compliance (Form WH-348)

Chapter 104, HRS Compliance Certificate

C O N T R A C T

THIS AGREEMENT, made this day _____, 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,
materials 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 shall be provided from the following funds:

Federal Funds.....
State Funds.....
TOTAL AMOUNT.....

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 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 and shall be provided from the following funds:

Federal Funds.....
State Funds.....
Total.....

Where Federal funds are involved, it is covenanted and agreed by and between the parties hereto that the sum of ----«FEDERAL_BASIC»----DOLLARS (\$«FEDERAL_BASIC_NUMERIC») and ----«FEDERAL_EXTRAS»----DOLLARS (\$«FEDERAL_EXTRAS_NUMERIC»), a portion of the contract price and extras, respectively, shall be paid out of the applicable Federal funds, and that this contract shall be construed to be an agreement to pay said sums to the Contractor only out of the aforesaid Federal funds if and when such Federal funds shall be received from the Federal Government, and that this contract shall not be construed to be a general agreement to pay said portions at all events out of any funds other than those which may be so received from the Federal Government; provided, that if the Federal share of the cost of the project is not immediately forthcoming from the Federal Government, the STATE may advance the CONTRACTOR the anticipated Federal reimbursement of the cost of the completed portions of the work from funds which have been appropriated by the STATE for its pro rata share.

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»

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 Oblige, hereinafter called Oblige, in the amount

_____ DOLLARS
(\$ _____),
(Dollar amount of Contract)

lawful money of the United States of America, for the payment of which to the said Oblige, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ☐ **Legal Tender;**
- ☐ **Share Certificate** unconditionally assigned to or made payable at sight to _____
Description: _____;
- ☐ **Certificate of Deposit, No.** _____, dated _____
issued _____ by _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Cashier's Check No.** _____, dated _____
drawn _____ on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Teller's Check No.** _____, dated _____
drawn _____ on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Treasurer's Check No.** _____, dated _____
drawn _____ on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Official Check No.** _____, dated _____
drawn _____ on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ☐ **Certified Check No.** _____, dated _____, accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project: _____

_____ hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The Condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, and shall deliver the Project to the Obligee, or to its successors or assigns, fully completed as in the Contract specified and free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder.

Signed and sealed this _____ day of _____,
_____.

(Seal) _____
Name of Contractor

* _____
Signature

Title

*ALL SIGNATURES MUST BE
ACKNOWLEDGED BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

_____,
(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Obligee, in the amount of _____

_____ Dollars (\$ _____), to which payment Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above-bound Principal has signed Contract with the Obligee on _____
_____ for the following project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to any Claimant, as hereinafter defined, for all labor and materials supplied to the Principal for use in the performance of the Contract, then this obligation shall be void; otherwise to remain in full force and effect.

1. Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

2. A "Claimant" shall be defined herein as any person who has furnished labor or materials to the Principal for the work provided in the Contract.

Every Claimant who has not been paid amounts due for labor and materials furnished for work provided in the Contract may institute an action against the Principal and its Surety on this bond at the time and in the manner prescribed in Section 103D-324, Hawaii Revised Statutes, and have the rights and claims adjudicated in the action, and judgment rendered thereon; subject to the Obligee's priority on this bond. If the full amount of the liability of the Surety on this bond is insufficient to pay the full amount of the claims, then after paying the full amount due the Obligee, the remainder shall be distributed pro rata among the claimants.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)
as Contractor, hereinafter called Contractor, is held and firmly bound unto _____
(State/County entity)
its successors and assigns, as Obligee, hereinafter called Obligee, in the amount
_____ DOLLARS (\$ _____),
(Dollar amount of Contract)

lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ☐ **Legal Tender;**
- ☐ **Share Certificate** unconditionally assigned to or made payable at sight to _____
Description: _____
- ☐ **Certificate of Deposit, No.** _____, dated _____
issued by _____
drawn on _____
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Cashier's Check No.** _____, dated _____
drawn on _____
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Teller's Check No.** _____, dated _____
drawn on _____
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Treasurer's Check No.** _____, dated _____
drawn on _____
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Official Check No.** _____, dated _____
drawn on _____
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ **Certified Check No.** _____, dated _____
accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____
entered into a contract with Obligee for the following Project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

AND IT IS HEREBY STIPULATED AND AGREED that this bond shall inure to the benefit of any and all persons entitled to file claims for labor performed or materials furnished in said work so as to give any and all such persons a right of action as contemplated by Sections 103D-324(d) and 103D-324(e), Hawaii Revised Statutes.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payments of mechanics' liens which may be filed of record against the Project, whether or not claim for the amount of such lien be presented under and against this bond.

Signed this _____ day of _____, _____.

(Seal) _____
Name of Contractor

* _____
Signature

Title

*ALL SIGNATURES MUST BE
ACKNOWLEDGED BY A NOTARY PUBLIC

DISCLOSURE OF LOBBYING ACTIVITIES
Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

Approved by
0348-0046

1. Type of Federal Action: ☐ a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance		2. Status of Federal Action: ☐ a. bid/offer/application b. initial award c. post-award		3. Report Type: ☐ a. initial filing b. material change For Material Change Only: year _____ quarter _____ date of last report _____	
4. Name and Address of Reporting Entity: ☐ Prime ☐ Subawardee Tier _____, <i>if known</i> : Congressional District, <i>if known</i> :			5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime Congressional District, <i>if known</i> :		
6. Federal Department/Agency:			7. Federal Program Name/Destination:		
			CFDA Number, <i>if applicable</i> :		
8. Federal Action Number, if known:			9. Award Amount, if known: \$		
10. a. Name and address of Lobbying Entity <i>(if individual, last name, first name, MI):</i>			b. Individuals Performing Services (including <i>address if different from No. 10a)</i> <i>(last name, first name, MI):</i>		
(attach Continuation Sheet(s) SF-LLL-A, if necessary)					
11. Amount of Payment (check all that apply): \$ _____ ☐ actual ☐ planned			13. Type of Payment (check all that apply): ☐ a. retainer ☐ b. one-time fee ☐ c. commission ☐ d. contingent fee ☐ e. deferred ☐ f. other; specify: _____		
12. Form of Payment (check all that apply): ☐ a. cash ☐ b. in-kind; specify: nature _____ value _____					
14. Brief Description of Services Performed or to be Performed and Date(s) of Service, including officer(s), employees(s) or Member(s) contacted, for Payment Indicated in Item 11: (attach Continuation Sheet(s) SF-LLL-A, if necessary)					
15. Continuation Sheet(s) SF-LLL-A attached: ☐ Yes ☐ No					
16. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.			Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____		
Federal Use Only:			Authorized for Local Reproduction Standard Form - LLL		

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee", then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal Agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10.
 - (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.
 - (b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) or Congress that were contacted.
15. Check whether or not a SF-LLL-A Continuation Sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction (0348-0046), Washington, D.C. 20503.
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DISCLOSURE OF LOBBYING ACTIVITIES
CONTINUATION SHEET

Approved by
0348-0046

Reporting Entity: _____ Page _____ of _____

STATEMENT OF COMPLIANCE

Date _____

I, _____ do hereby state:

(Name of signatory party) (Title)
(1) That I pay or supervise the payment of the persons employed by _____ on
(Contractor or subcontractor)
the _____; that during the payroll period commencing on the _____ day of _____,
(Building or work)
_____ and ending the _____ day of _____, all persons employed on said project have been paid the
full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said
_____ from the full weekly wages earned by any person and that no deductions have
(Contractor or subcontractor)
been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in
Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948.63
Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 2760, and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that
the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage
determination incorporated into the contract; that the classifications set forth therein for each laborers or mechanic conform with
the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered
with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor,
or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States
Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐

In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above—
Referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to
appropriate program for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐

Each Laborer or mechanic listed in the above referenced payroll has been paid as indicated on the payroll, an
amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe
benefits as listed in the contract, except as noted in Section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARK

NAME AND TITLE	SIGNATURE
THE WILFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.	

INSTRUCTIONS FOR PREPARATION OF STATEMENT OF COMPLIANCE

This statement of compliance meets needs resulting from the amendment of the Davis-Bacon Act to include fringe benefits provisions. Under this amended law, the contractor is required to pay fringe benefits as predetermined by the Department of Labor, in addition to payment of the minimum rates. The contractor's obligation to pay fringe benefits may be met by payment of the fringes to the various plans, funds, or programs or by making these payments to the employees as cash in lieu of fringes.

The contractor should show on the face of his payroll all monies paid to the employees whether as basic or as cash in lieu of fringes. The contractor shall represent in the statement of compliance that he is paying to others fringes required by the contract and not paid as cash in lieu of fringes. Detailed instructions follow:

Contractors who pay all required fringe benefits:

A contractor who pays fringe benefits to approved plans, funds, or programs in amounts not less than were determined in the applicable wage decision of the Secretary of Labor shall continue to show on the face of his payroll the basic cash hourly rate and overtime rate paid to his employees, just as he has always done. Such a contractor shall check paragraph 4(a) of the statement to indicate that he is also paying to approved plans, funds, or programs not less than the amount predetermined as fringe benefits for each craft. Any exception shall be noted in Section 4(c).

Contractors who pay no fringe benefits:

A contractor who pays no fringe benefits shall pay to the employee and insert in the straight time hourly rate column of his payroll an amount not less than the predetermined rate for each classification plus the amount of fringe benefits determined for each classification in the applicable wage decision. Inasmuch as it is not necessary to pay time and a half on cash paid in lieu of fringes, the overtime rate shall be not less than the sum of the basic predetermined rate, plus the half time premium on the basic or regular rate plus the required cash in lieu of fringes at the straight time rate. To simplify computation of overtime, it is suggested that the straight time basic rate and cash in lieu of fringes be separately stated in the hourly rate column, thus \$3.25/.40. In addition, the contractor shall check paragraph 4(b) of the statement to indicate that he is paying fringe benefits in cash directly to his employees. Any exceptions shall be noted in Section 4(c).

Use of Section 4(c), Exceptions

Any contractor who is making payment to approved plans, funds, or programs in amounts less than the wage determination requires is obliged to pay the deficiency directly to the employees as cash in lieu of fringes. Any exceptions to Section 4(a) or 4(b), whichever the contractor may check, shall be entered in Section 4(c). Enter in the Exception column the craft, and enter in the Explanation column the hourly amount paid the employees as cash in lieu of fringes, and the hourly amount paid to plans, funds, or programs as fringes.

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 _____