DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01010 – PROJECT REQUIREMENTS

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

The General Conditions, DHHL Construction General Conditions, Special Conditions, and other applicable documents preceding these specifications shall govern all work specified hereinafter in all Divisions and Sections.

1.2 APPLICABLE REGULATIONS

The Contractor shall comply with all local laws, ordinances, rules and regulations pertaining to such work and must obtain all required permits, licenses, and certificates and publish and post all notices required thereby.

1.3 DESCRIPTION OF WORK

A. The project generally consists of the installation of traffic calming improvements which include but are not limited to: selective demolition and removal work; installation of new asphalt concrete speed tables; installation of new concrete sidewalk, concrete curb, concrete curb ramps, pavement markings, signs and sign posts; and performing miscellaneous work appurtenant to the project.

B. The Contractor shall provide all labor, materials, tools and equipment necessary for the construction of the project including all incidental items necessary to complete the work as shown on the drawings and specified herein.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. Schedule of work included in these specification sections are given for convenience and shall not be considered as a comprehensive list of items necessary to complete the work of any section.

B. Perform operations and furnish equipment, tools, materials, related items and labor necessary to execute, complete and deliver the Work as required by the Contract Documents. The Contractor shall employ the usual standard practice of coordinating the work covered in each section with the work of other sections. The necessary information and the items, accessories, anchors, connections, patterns, templates, etc., shall be delivered when required, in order to prevent any delay in the progress and completion of the work.

C. These specifications are divided for convenience into titled divisions and Sections as set forth in the TABLE OF CONTENTS preceding these specifications and

shall not be considered an accurate or complete segregation of the several units of labor and materials. No responsibility, either direct or implied is assumed by the STATE for omissions or duplications of the subject matter. The Contractor will be held responsible for the complete work whenever or wherever the parts are described in one or more trade heads. Any mention in these Sections or indication on the drawings or articles, materials, operations, or methods, require that the Contractor furnish each item so mentioned or indicated, of the kind, type, or design and quality of each item so mentioned on the drawings, and that the Contractor furnish all labor, materials, equipment, incidentals and supervision necessary to complete the work in accordance with the drawings and the true meaning and intent of these specifications, even though such mention of articles, materials, operations, methods, quality, qualifications or condition are not expressed in complete sentences.

D. The Contractor shall not alter from the drawings and specifications. In the event of errors or discrepancies, the Contractor shall immediately notify the Project Manager. All figured dimensions take precedence over scaled measurements. No important dimension shall be determined by scale.

E. If the Contractor proposes to deviate from the construction drawings, design that is suited to the Contractor's purposes shall be prepared by and stamped by a civil engineer licensed in the State of Hawaii. The design and additional costs for the Contractor's proposed changes and obtaining approvals from the State and/or City and County of Honolulu, shall be the responsibility of the Contractor. No additional time will be allowed for the design and processing for approval of the Contractor's final design changes, unless agreed to by the Project Manager.

F. Specifications and drawings are prepared in abbreviated form and may include incomplete sentences. Omissions of words or phrases such as "the Contractor shall", "as shown on the drawing", "a", "an", and "the" are intentional. Omitted words and phrases shall be provided by inference to form complete sentences. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the work.

G. The words "shall", "shall be", or "shall comply with", depending on the context, are implied where a colon (:) is used within a sentence or phrase.

H. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

I. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.

J. Conflicting Requirements: If compliance with 2 or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or levels, comply with the most stringent requirement. Refer to uncertainties and requirements that are different, but apparently equal, to Project Manager for a decision before proceeding.

1.5 REFERENCE STANDARDS

All work shall be done in accordance with the most current standards as listed below as amended and/or amplified herein.

ASA	American Standard Association.
ASTM	American Society of Testing and Materials.
AISC	American Institute of Steel Construction.
ACI	American Concrete Institute.
SS	Standard Specifications for Public Works Construction, Department of Public Works, City and County of Honolulu.
SD	Standard Details of the Department of Public Works, City and County of Honolulu

1.6 EXISTING UTILITIES

A. Location of existing utilities and facilities shown are approximate only and are not guaranteed. The Contractor shall verify, in the field, the location of all existing utilities. The Contractor shall be fully responsible for any and all damages, injuries, death, expense, etc., to property personnel and the public resulting from accidents to or from existing facilities and/or utilities.

B. Should existing utilities not shown on the plans be encountered in the field during the operation, the Contractor shall promptly notify the Project Manager for instructions. Failure to do so will make the Contractor liable for any and all damages arising from his operations. Upon instructions of the Project Manager, the Contractor may be required to relocate or adjust the existing utilities. The Contractor shall not be compensated extra for any additional material required of differences in location of existing utilities in the plan and in the field.

1.7 FIELD VERIFICATION

Field-verify all new and existing utilities, survey benchmarks/controls and dimensions affecting the work of this contract before ordering products and materials.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01070 – HEALTH AND SAFETY

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

1.2 REFERENCES

The latest publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

A. ANSI A10.14 - Construction and Demolition Operations - Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use

B. 29 CFR 1910.120 - Hazardous Waste Operations and Emergency Response

C. The Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, effective May 16, 1972, as amended

D. NFPA 241 - Safeguarding Construction, Alteration, and Demolition Operations

1.3 DEFINITIONS

A. Industrial Hygienist: An industrial hygienist is an individual who is certified by the American Board of Industrial Hygiene.

B. Recordable Occupational Injuries or Illnesses: Any occupational injuries or illnesses which result in serious injuries, lost workday cases, non-fatal cases or significant mishaps.

C. Serious Injuries: Fatalities, regardless of the time between the injury and death, or the length of the illness; hospitalization of three or more employees and property damage in excess of $200,000.

D. Lost Workday Cases: Injuries other than fatalities that result in lost workdays.

E. Non-Fatal Cases: Cases without lost workdays which result in transfer to another job or termination of employment, or require medical treatment (other than first aid) or involve property damage in excess of $10,000 but less than $200,000 or involve: loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses which are reported to the employer but are not classified as fatalities or lost workday cases.

F. Significant Contractor Mishap: Any Contractor mishap which involves falls of 4 feet or more, electrical mishaps, crane mishaps, trenching/entrapment mishaps, hazardous material/hazardous waste mishaps, equipment mishaps, and fire mishaps which result in a lost time injury, or property damage of $10,000 or more, but less than $200,000; or when fire department or emergency medical treatment (EMT) assistance is required.

G. Medical Treatment: Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician or registered professional personnel.

H. First Aid: Any one-time treatment, and any follow-up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care. Such one-time treatment, and follow-up visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel.

I. Lost Workdays: The number of days (consecutive or not) after, but not including, the day of injury or illness during which the employee would have worked but could not do so; that is, could not perform all or any part of his normal assignment during all or any part of the workday or shift, because of the occupational injury or illness.

1.4 SUBMITTALS

Submit the following in accordance with Section 01300 –SUBMITTAL PROCEDURES.

A. Site Specific Accident Prevention Plan.

B. Health and Safety Plan.

C. Activity Hazard Analysis.

PART 2 – PRODUCTS

2.1 ACCIDENT PREVENTION PLAN

A. Submit Site Specific Accident Prevention Plan (APP), or Health and Safety Plan (HASP) if required by 29 CFR 1910.120, at least 15 calendar days prior to start of work at the jobsite. Conform to requirements of Federal, State and local safety and health laws and regulations. The APP shall be site specific and shall include:
   1. All elements: Minimum Basic Outline for Preparation of Accident Prevention Plan.

2. Name and safety related qualifications of superintendent. Superintendent shall demonstrate the ability to manage the onsite Contractor safety program through appropriate management controls and maintain a log of safety inspections performed. The superintendent shall be able to identify hazards and shall have the direct responsibility for expending resources necessary to correct the hazards. The superintendent shall maintain applicable safety reference material on the jobsite.

3. Emergency action plan to include a map denoting the route to the nearest emergency care facility with emergency phone numbers which will be displayed in clear view for onsite employees.

4. The Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, effective May 16, 1972, as amended, is applicable and made a part of the Contract. The Contractor shall carefully read and strictly comply with its requirements.

B. Activity Hazard Analysis (AHA): AHA shall be prepared for each major phase of work and submitted to Project Manager a minimum of 15 calendar days prior to the start of that phase. AHA shall be posted on a conspicuous location at job site readily available for all personnel to review. As a minimum, AHA shall define activity being performed, sequence of work, specific hazards anticipated, control measures to eliminate or reduce each hazard to acceptable levels, training requirements for all involved, and the competent person in charge of that phase of work.

C. Health and Safety Plan (HASP): Retain a certified industrial hygienist to perform a hazard analysis, and prepare detailed plan for demolition, removal, and disposal of materials. Meet with Project Manager to discuss work procedures and safety precautions. HASP shall include:

1. Location, size, and details of control areas.

2. Location and details of decontamination systems.

3. Interface of trades involved in the construction.

4. Sequencing of work.

5. Disposal plan.

6. Sampling protocols.

7. Testing labs.

8. Protective equipment.

9. Pollution control.

10. Evidence of compliance with 29 CFR 1910.120.

PART 3 – EXECUTION

3.1 FIRE PROTECTION

A. Compliance: NFPA 241, and City and County of Honolulu fire regulations.

B. Fire Kettles: Melt kettles for asphalt, and similar materials shall not be closer than 25 feet to buildings or combustible materials. Provide a minimum of two 20 pound ABC all-purpose type extinguishers at melting kettle and area of hot material application. Equip kettles with heat controls and means of agitation to ensure controlled uniform temperatures throughout contents to prevent spot heating. Do not heat contents above flash point.

3.2 SAFETY INSPECTIONS

The Contractor shall conduct daily safety inspections and document the results on forms provided by the Contractor.

3.3 WEEKLY SAFETY MEETING

Attach safety meeting minutes to the Contractor's daily report. Documentation shall include the contract name with a list of topics discussed and names of attendees.

3.4 DRUG PREVENTION PROGRAM

Conduct a proactive drug/alcohol use prevention program for all workers, prime and subcontractor, on the site. Assure that no employees either use illegal drugs or consume alcohol during work hours, assure no employees under the influence of drugs or alcohol during work hours.

3.5 MULTI-EMPLOYER

Prime/general Contractor is the "Controlling Employer" and controlling authority for all work site safety and health of the subcontractors.

3.6 ACCIDENT REPORTING REQUIREMENTS

A. Accountability: The prime Contractor shall identify, in the APP, who shall complete exposure data (hours worked); accident investigations, reports and logs; and immediate notification of accidents to include subcontractors.

B. Accident Scene Preservation: For OSHA serious accidents, the prime Contractor shall ensure the accident site is secured and evidence is protected remaining undisturbed until released by the Project Manager.

C. Notification: Notify Project Manager of any accident meeting the definition of OSHA recordable within 4 hours. Information shall include Contractor name; contract title; type of contract; name of activity, installation or location where mishap occurred; date and time of mishap; names of personnel injured; extent of property damage, if any; and brief description of mishap (to include type of construction equipment used, PPE used, etc.)

D. Additional Requirements: In addition to OSHA reporting requirements, initial notification shall be made of any accident involving significant mishaps.

E. Reporting Requirements: For OSHA recordable accidents, the prime Contractor shall conduct a suitable investigation, complete the forms and provide to the Project Manager within 5 days of the accident.

F. Monthly Exposure Report: Monthly exposure reporting, to the Project Manager is required by the 5th of each month. This report is a compilation of manhours worked each month for all on site workers, both prime and subcontractor.

3.7 OSHA CITATIONS/VIOLATIONS

Provide the Project Manager with a copy of each OSHA citation, OSHA report and Contractor response. Correct violations/citations promptly and provide written corrective actions to the Project Manager. The Contractor shall pay any penalties promptly.

3.8 SAFETY QUALIFICATIONS

Qualifications for on-site Superintendent or Safety Representative

A. Demonstrate the ability to manage the onsite Contractor safety program through appropriate management controls, and maintain a log of safety inspections performed.

B. Able to identify hazards and have the direct responsibility for expending resources necessary to abate the hazards.

C. Must have worked on similar types of projects that are equal to or exceed the scope of the project assigned with the same responsibilities.

D. Must submit training certifications showing the place and dates of any training.

3.9 TEMPORARY BARRICADES

Contractor shall provide for barricading around all work areas to prevent public access. Temporary pedestrian routes shall be accessible and comply with ADAAG Section 402 requirements.

3.10 FENCING

Fencing shall be provided along the construction site at all unattended open manholes, operating equipment (pumps, generators, etc.) and open excavations to control access by unauthorized people. Fencing shall be installed to be able to restrain a force of at least 200 pounds against it.

3.11 SIGNS

Place warning signs at the construction area perimeter designating the presence of construction hazards requiring unauthorized persons to keep out. Signs shall be placed on all sides of the project, with at least one sign every 300 feet. All points of entry shall have signs designating the construction site as a hard hat area.

3.12 HAZARDOUS NOISE

Provide hazardous noise signs, and hearing protection, wherever equipment and work procedures produce sound-pressure levels greater than 85 dBA steady state or 140 dBA impulse, regardless of the duration of the exposure.

3.13 ASBESTOS MATERIALS PROHIBITION

No asbestos-containing materials or equipment shall be used for this project. The contractor shall ensure that all materials incorporated in the project are asbestos-free and shall submit a written certification confirming this.

3.14 MATERIALS SAFETY DATA SHEET (MSDS)

The Materials Safety Data Sheet (MSDS) of any hazardous materials used or supplied by the Contractor shall be given to the Project Manager.

3.15 MATERIAL HANDLING EQUIPMENT

Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufactures

printed operating instructions. Crane supported work platforms shall only be used in extreme conditions if the Contractor proves that using any other access to the work location would provide a greater hazard to the workers. AHA shall address all safeguarding measures. Christmas tree lifting is prohibited.

3.16 TRAFFIC WORK

All work around/involving roadways, to include roadway excavations and utility crossings, will be conducted in accordance with Manual of Uniform Traffic Control Devices. Contractors shall provide and ensure appropriate road closure and detour signs are established as necessary for motor traffic management. All road closures shall be coordinated with the Project Manager in advance. Self-illuminated (lighted) barricades shall be provided during hours of darkness. Brightly-colored (orange) vests are required for all personnel working in roadways. Road closures shall require a road closure plan showing the location of signage.

END OF SECTION

SECTION 01300 – SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. Where required by the specifications, the Contractor shall submit descriptive information which will enable the Project Manger to advise whether the Contractor's proposed materials, equipment or methods of work are in general conformance to the design concept and in compliance with the drawings and specifications.

C. Shop drawings and submittals shall be made in accordance with Section 5.5 – Shop Drawings and Other Submittals, of the DHHL Construction General Conditions.

D. Information to be submitted shall consist of:

1. Drawings
2. Specifications
3. Manufacturer's Instruction Manuals
4. List of Deviations
5. Performance Schedule
6. Submittal Schedule
7. Laboratory Test/Reports
8. Descriptive Data
9. Certificates
10. Samples
11. Test Results and such other information, all as specifically required in the specifications.

1.2 CONTRACTOR'S RESPONSIBILITIES

A. GENERAL

1. The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the submittal.

2. Submittals shall contain all required information, including satisfactory identification of items, units, and assemblies in relation to the plans and specifications. The Contractor shall verify that the material and equipment described in each submittal conform to the requirements of the specifications and drawings.

3. Submittals shall be made only by the Contractor, who shall indicate by a signed stamp on the submittals, that the Contractor has checked the submittals, and that the work shown conforms to the contract requirements and has been checked for dimensions and relationship with work of all other trades involved. If information shows deviations from the specifications or drawings, the Contractor, by statement in writing accompanying the information, shall identify the deviations and state the reason(s) therefore.

4. The Contractor shall ensure that there is no conflict with other submittals and shall notify the Project Manager in each case where its submittal may affect the work of another contractor or DHHL. The Contractor shall ensure coordination of submittals among the related crafts and subcontractors.

5. All equipment manufacturer's instruction submittals, including follow-up submittals, shall be submitted no later than 30 days following the Notice to Proceed no later than the time necessary to procure the item or avoid schedule delays as established by the Contractor's construction schedule.

6. The Contractor shall maintain at the job site two sets of full size contract drawings, marking them in red to show all variations between the construction actually provided and that indicated or specified in the contract documents, including buried or concealed herein, or where variations in scope or character of work from that of the original contract are authorized, the drawings shall be marked to define the construction actually provided. Where equipment installation is involved, the size, manufacturer's name, model number and power input or output characteristics are applicable shall be shown on the as-built drawings. The representations of such changes shall conform to standard and detail as necessary to clearly portray the as-built construction. The drawings shall be maintained and updated on a daily basis. Monthly and final payments of the Contractor shall be subject to prior approval of the drawings. On completion of the work, both sets of marked-up drawings shall be

delivered to the Project Manager and shall be subject to his approval before acceptance.

7. All changes made to the submittal drawings by the Contractor in the form of written or typewritten markings shall be initialed and dated by the Contractor.

8. The stamp below, certified by the Contractor, shall appear on the title sheet of each submittal on a cover sheet of submittals 8-1/2" X 11" format, or on one face of cardstock tag (min. 3" x 6") securely attached to sample. The tag shall clearly identify the nature of the sample. The back of this tag will be used by the Project Manager for his/her receipt, review, and log stamp and for comments that relate to the sample.

NAKINI STREET AND HULI STREET TRAFFIC CALMING IMPROVEMENTS
DHHL CONTRACT NO. IFB-XX-HHL-XXX

(Contractor's Name) _____

(Signature) _____ (Date) _____

This submittal has been checked and verified in accordance with the requirements of the contract documents and any equipment submitted herewith can be installed in the allocated spaces.

Submittal No. _____

Specification Section No. _____

Paragraph No. _____

Contract Drawing Ref. _____

Subcontractor _____

Supplier _____

Manufacturer _____

Exceptions Taken: Yes _____ No _____

Details of Exception _____

_____

9. The person signing the Contractor's submittals tamp shall be the one designated under the contract agreement with the DHHL. The signature shall be in original ink. Stamped signature will not be acceptable. Submittal form shall be filled out, signed, and dated.

10. When the Contractor takes any exception to the submittal drawings, such exception shall be brought to the attention of the Project Manager. The exception shall be submitted with the shop drawings together with sufficient details and justifications

1.3 SUBMITTALS

A. Submittals referred to herein shall include shop drawings and other submittals for both shop and field-fabricated items. The submittals shall include satisfactory identification of items, units, and assemblies in relation to the specification section number, and the system or equipment identification shown on the Drawings, or as provided in the applicable specification section.

B. Should the Contractor propose any item on his shop drawings, or incorporate an item into the work, and that item should subsequently prove to be defective or otherwise unsatisfactory, (regardless of the Project Manager's preliminary review), the Contractor shall, at his own expense, replace the item with another item that will perform satisfactorily.

C. Submittal Schedule: Within 30 days after receipt of the Notice to Proceed, the Contractor shall submit to the Project Manager induplicate, a schedule, listing all items that will be submitted to the Project Manager for review and approval. The schedule shall include, among other things, a list of shop drawing and manufacturers literature, certificates of compliance, material samples, and guarantees. The schedule shall indicate the type of item, contract requirement reference, the Contractor's scheduled dates for submitting the above items and projected needs for approval answers and procurement dates. In preparing the schedule, the Contractor shall allow the appropriate amount of time for the Project Manager's review and approval as stated in the DHHL Construction General Conditions, Section 5.5; additional time shall be allowed to provide for possible resubmittal. Also, scheduling shall be coordinated with the approved construction schedule.

D. Samples: Where required in the specifications, and as determined necessary by the Project Manager, samples of materials, appliances, and fittings to be used or offered for use in connection with the work shall be submitted to the Project Manager at the Contractor's expense, with information as to their sources with all shipping chargers prepaid, and in such quantities and sizes as may be required for proper examination to establish the quality or equality thereof, as applicable. All samples shall be submitted in ample time to enable the Project Manager to make any necessary examinations, without delay to the work. The Contractor will be

held responsible for any loss of the time due to his/her neglect or failure to deliver the required samples to the Project Manager, as specified.

E. Testing: Laboratory tests and examinations that the Project Manager elects to make in its own laboratory will be made at no cost to the Contractor, except that, if a sample of any material or equipment proposed for use by the Contractor fails to meet the specifications, the cost of testing subsequent samples shall be borne by the Contractor. All tests required by the specifications to be performed by an independent laboratory shall be made at the sole expense of the Contractor.

1.4 TRANSMITTAL PROCEDURE

A. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittals of various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.

B. A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "XXX"; where "XXX" is the sequential number assigned by the Contractor. Resubmittals shall have the following format: "XXX-Y"; where "XXX" is the originally assigned submittal number, and "Y" is a sequential letter assigned for resubmittals, i.e., A, B, or C being the 1st, 2nd, and 3rd resubmittals, respectively.

C. Contact: Submittals shall be sent to;

Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

Attention: Mr. Darrell Ing

D. Deviation from Contract: If the Contractor proposes to provide material or equipment which does not conform to the specifications and drawings, it shall indicate so under "deviations" on the submittal transmittal form accompanying the submittal copies. The Contractor shall prepare its reason for a change, including cost and time differential. The Contractor shall be responsible for omission or deviation in the submittal. Failure to identify deviation shall be subject to rejection of the submittal without review.

E. Submittal Completeness: Submittals which do not have all the information required to be submitted, including deviations, shall be considered as not complying with the intent of the contract and are not acceptable and will be

returned without review. Contractor is advised to review and assure that all submittals are complete prior to submittal to the Project Manager.

1.5 REVIEW PROCEDURE

A. When a submittal is required, the Contractor shall submit to the Project Manager for review, the specified information in accordance with the DHHL Construction General Conditions and as follows:

1. Ten (10) copies of all submitted information.

2. Only one (1) set of sample materials need to be submitted, unless otherwise directed by the Project Manager.

B. Unless otherwise specified, within 45 calendar days after receipt of the submittal by the Project Manager, the submittal shall be reviewed, and the Project Manager shall return one (1) copy of the marked-up submittal or detailed shop drawing comment forms.

C. The resubmittals shall be a complete set and not just portions of the submittal that have been changed.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01310 – PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. This section includes administrative and procedural requirements for management of the project and documenting the progress of construction during performance of the work including the following:

1. Notice to Community Groups and Individuals.

2. General Project Coordination Procedures.

3. Project Meetings

4. Progress Reports.

1.2 NOTICE TO COMMUNITY GROUPS AND INDIVIDUALS

A. The Contractor shall be responsible for coordinating the Project work with affected residents and for notifying them in writing two (2) weeks prior to commencing any work affecting them. Work shall not commence until such timely notices have been given.

B. The required written notices shall be coordinated with the Project Manager and shall include the following information:

1. Brief description of the project.

2. Method of construction.

3. Dates that work will be performed.

4. Detailed description of the work that will be performed.

5. Description of the inconveniences that may be experienced by property owner, the duration of inconveniences, and the measures that will be taken to minimize the inconveniences.

6. Description of restoration that will be performed upon completion of the work.

7. Names and daytime and emergency telephone numbers of key Contractor and DHHL personnel.

8. If applicable, detail of the portions of access ways, roadways, and driveways that will be temporarily blocked or unavailable for public use and the alternate measures that will be provided.

C. The Contractor shall submit draft copies of all notices and maps indicating the areas in which written notifications will be provided to the Project Manager for approval a minimum of four (4) weeks prior to commencing any work.

D. Copies of all notice shall be submitted to the Project Manager at the same time they are mailed to property owners, lessees, and community groups.

E. The Contractor shall provide additional notification to residents, property owners, lessees, and community groups in close proximity to the work area one (1) week prior to commencing work and as directed by the Project Manager.

F. For Project work occurring near Blanche Pope Elementary School, the Contractor shall provide written notification to the school administrator one (1) month prior to commencing work in the area. The Contractor shall coordinate the schedule of work in the area with the Project Manager and school administrator to minimize the impact to operations at the school.

G. The Contractor shall maintain a notification log which will include:

1. Date and time of the notification.

2. The contact person's name.

3. If no contact was made, the notation that the information as left at the person's door.

1.3 PERFORMANCE AND COORDINATION

A. Contractor is in charge of the Work within the Project Contract Limits, and shall direct and schedule the Work. Include general supervision, management and control of the Work of this project, in addition to other areas more specifically noted throughout the Specifications. Final responsibility for performance, interface, and completion of the Work and the Project is the Contractor's responsibility.

B. The Contractor is responsible for jobsite Administration. Provide a competent superintendent on the job and provide an adequate staff to execute the Work. In addition, all workers shall dress appropriately and conduct themselves properly at all times. Loud abusive behavior, sexual harassment and misconduct will not be tolerated. Workers found in violation of the above shall be removed from the job site as directed by the Project Manager.

C. The State will hold the Contractor liable for all the acts of Subcontractors and shall deal only with the Prime Contractor in matters pertaining to other trades employed on the job.

D. Provide project interface and coordination to properly and accurately bring together the several parts, components, systems, and assemblies as required to complete the Project.

1. Provide interface and coordination of all trades, crafts and subcontracts. Ensure and make correct and accurate connections of abutting, adjoining, overlapping, and related work. Provide anchors, fasteners, accessories, appurtenances, and incidental items needed to complete the Work, fully, and correctly in accordance with the Contract Documents.

2. Provide additional structural components, bracing, blocking, miscellaneous metal, backing, anchors, fasteners, and installation accessories required to properly anchor, fasten, or attach material, equipment, hardware, systems and assemblies to the structure.

3. Provide excavation, backfilling, trenching and drilling for trades to install their work.

4. Provide concrete foundations, pads, supports, bases, and grouting for trades as needed to install their work.

5. Materials, equipment, component parts, accessories, incidental items, connections, and services required to complete the Work which are not provided by Subcontractors shall be provided by the Contractor.

6. Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.

1.4 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences as directed by the Project Manager at the project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Project Manager of scheduled meeting dates and times.

2. Agenda: The Contractor shall prepare the meeting agenda. Distribute the agenda to all invited attendees.

3. Minutes: The Contractor shall record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including the Project Manager, within seven (7) days of the meeting.

B. Pre-Construction Conference: The Project Manager may schedule a pre-construction conference before the start of construction, at a time convenient to the Project Manager, but no later than seven (7) days before the project start date or jobsite start date, whichever is later. Conference will be held at the project site or another convenient location. The Project Manager shall conduct the meeting to review responsibilities and personnel assignments.

C. Progress Meetings: The Contractor shall schedule and conduct progress meetings and conferences weekly or other intervals as directed by the Project Manager. Items to be discussed at the progress meetings include but are not limited to:

1. Construction schedule
2. Outstanding requests for information (clarification)
3. Interface requirements
4. Sequence of operations
5. Status of outstanding submittals
6. Deliveries
7. Off-site fabrication
8. Access
9. Site utilization
10. Temporary facilities and controls
11. Work hours
12. Hazards and risks
13. Progress cleaning
14. Quality and work standards
15. Force Account work

16. Change Orders and Change Proposals

17. Documentation of information for payment requests

D. Contractor's Construction Schedule: The Contractor shall review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

E. Corrective Action Plan: The Contractor shall provide a plan of corrective action for any item which is delayed or expected to be delayed, when that item impacts the Contract Time.

F. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issued revised schedule concurrently with the report of each meeting.

1.5 REPORTING

A. The Contractor shall distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

B. The Contractor and all Subcontractors shall keep a daily report of events.

C. The form of the Contractor Daily Report shall be as directed by the Project Manager.

D. Submit copies of the previous reports by Monday morning at 10:00 a.m.

E. Submit copies of the reports with the monthly payment request for the whole period since the last payment request submittal.

F. Deliver the reports in hard copy or by e-mail as directed by the Project Manager.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

A. Contractor's Construction Schedule.

B. Submittals Schedule.

C. Schedule of Prices.

D. Payment Application.

1.2 RELATED SECTIONS

A. Section 01310 – PROJECT MANAGEMENT AND COORDINATION.

B. Section 01300 – SUBMITTAL PROCEDURES.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical activities are activities on the critical path and control the total length of the project. They must start and finish on the planned early start and finish times.

2. Predecessor activity is an activity that must be completed before a given activity can be started.

B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of project.

C. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of the Contractor, expiring Project resources available as needed to meet schedule milestones and Contract completion date.

2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.

3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

F. Schedule of Prices: A statement furnished by Contractor allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Payment Applications.

1.4 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTAL PROCEDURES.

1. Schedule of Required Submittals: Submit three (3) sets of the list of the required submittals, by Specification Section, within 30 days after receipt of the Notice to Proceed or upon earlier written instructions from the Project Manager.

2. Construction Schedule: Submit eight (8) sets of the Construction Schedule for review within 15 days after the Notice to Proceed date or upon earlier written instructions from the Project Manager.

3. Schedule of Prices: Submit three (3) sets of the Schedule of Prices integrated with the Construction Schedule for review within 15 days after the Notice to Proceed date or upon earlier written instructions from the Project Manager.

4. Payment Schedule: Submit three (3) sets of a Preliminary Payment Schedule for review within 15 days after the Notice to Proceed date or upon earlier written instructions from the Project Manager.

B. Payment Application: Submit the payment application at earliest possible date as directed by the Project Manager, and no sooner than the last day of the month after all payroll affidavits, updated submittal registers, and schedules have been submitted.

1.5 COORDINATION

A. Schedules and Reports: Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate Contractors.

B. Construction Schedule: Coordinate Contractor's Construction Schedule with the Schedule of Prices, Submittals Schedule, loaded monthly event activity, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

C. Schedule of Prices: Coordinate preparation of the schedule with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Prices with other required administrative forms and schedules, including the following:

a. The Payment Application form and the Construction progress Report continuation sheet for the event cost estimate per time period.

b. Submittal Schedule.

D. Payment Schedule: Coordinate preparation of the payment schedule with preparation of Contractor's Construction Schedule.

PART 2 – PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Comply with DHHL Construction General Conditions. Furnish required submittals specified in this Section and in the Technical Sections. Submittals include one or more of the following: shop drawings, color samples, material samples, technical data, material safety data information, schedules of materials, schedules of operations, guarantees, certifications, operating and maintenance manuals, and field posted as-built drawings.

B. Furnish a schedule of submittals per Subsection 1.4 above, of this Specification.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Prices, and Contractor's Construction Schedule.

2. The schedule shall accommodate a minimum of forty-five (45) calendar days for the States's review, in accordance with DHHL Construction General Conditions.

3. Prepare and submit an updated list to the Project Manager at monthly intervals or as directed by the Project Manager. The listing shall reflect all approvals received since the last update.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE – GANTT CHART METHOD

A. The construction schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. The progress chart shall indicate the order in which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment).

B. The performance schedule shall also include clean-up, remedial, and restoration work, and all anticipated submittal dates, including dates for shop drawings, concrete mix designs, and all other submittals required by the Contract Documents.

C. Upon completion of the Project Manager's review, the Contractor shall amend the schedule as necessary to reflect the comments. If necessary, the Contractor shall participate in a meeting with the Project Manager to discuss the proposed schedule and changes required. Submit the revised schedule for review within seven (7) calendar days after receipt of the comments.

D. Use the reviewed schedule for planning, organizing and directing the work, for reporting progress, and for requesting payment for the work completed. Unless providing an update, do not make changes to the reviewed schedule without the Project Manager's approval.

E. If, in the opinion of the Project Manager, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve progress, including those that may be required by the Project Manager. The Project Manager may require the Contractor to increase the number of shifts, overtime operations, days of work, or amount of construction plant, and to submit for approval any

supplemental schedule or schedules in chart form as the Project Manager deems necessary to demonstrate how the approved rate of progress will be regained.

F. At all times, the performance schedule shall represent the Contractor's plan for orderly completion of the work. Update the construction schedule at monthly intervals or when directed by the Project Manager to revise the schedule. Reflect any changes occurring since the last update with each invoice for progress payment. Submit copies of the purchase orders and confirmation of the delivery dates as directed. The Project Manager's review of the updated schedule is to check that the updated schedule does not alter the construction performance period unless the period was revised through a change order or contract modification.

G. At the Contractor's option a Program Evaluation and Review Technique (PERT) chart may be used.

2.3 SCHEDULE OF PRICES

A. Furnish a schedule of prices per Project Manager.

B. Provide a breakdown of the Contract Sum in enough detail to facilitate developing and the continued evaluation of Payment Applications. Provide several line items for principal subcontract amounts, or for materials or equipment purchased or fabricated and stored, but not yet installed, where appropriate. Round amounts to nearest whole dollar; total shall equal the Contract Price.

C. Each item in the Schedule of Prices and Payment Application shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

D. The breakdown of lump sum bid items may be used by the Project Manager as a guide in determining progress payments. No progress payments will be processed until both parties agree to an acceptable breakdown of these bid items.

2.4 PAYMENT APPLICATION

A. Use the Schedule of Prices as the Monthly Construction Progress Report. Each Payment Application shall be consistent with previous applications and payments. The Project Manager shall determine the appropriateness of each payment application item.

B. The date for each progress payment is the last day of each month. The period covered by each Payment Application starts on the first day of the month or following the end of the preceding period and ends on the last day of the month.

C. Update the schedule of prices listed in the Payment application when Change Orders or Contract Modifications result in a change in the Contract Price.

D. Provide a separate line item for each part of the Work where Payment Application may include materials or equipment purchased or fabricated and stored, but not yet installed.

E. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.

F. Provide separate line items for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

G. Use the State-approved forms for Payment Applications. Furnish three (3) original and one (1) copy.

H. Complete every entry on form. Execute by a person authorized to sign legal documents on behalf of the Contractor.

1. Entries shall match data on the Schedule of Prices and Contractor's Construction Schedule. Use updated schedules if revisions were made. Include amounts of Change Orders and Contract Modifications issued before last day of construction period covered by application.

I. No payment will be made until the following are submitted each month:

1. Monthly Estimate, 4 copies.

2. Monthly Progress Report, 4 copies.

3. Statement of Contract Time, 4 copies.

4. Updated Submittal Register, 1 copy.

5. Updated Progress Schedule, 1 copy.

6. Updated As-Built drawings, 2 copies.

7. All Daily Reports, 1 copy.

8. All Payroll Affidavits for work done, 1 copy.

J. The State will withhold 5% retainage in compliance with Section 8.6 RETAINAGE of the DHHL Construction General Conditions.

K. Submit the signed original and 6 copies of each Payment Application for processing.

2.5 AS-BUILT CERTIFICATION

The Contractor shall maintain and update the job site as-built drawings on a daily basis. An as-built certification form shall be attached to the Contractor's monthly payment application. A sample of the As-Built Certification Form is provided as an attachment at the end of this Section. If the as-built certification form is not attached, the Project Manager shall reject the monthly payment application and return it to the contractor.

2.6 CONTRACTOR DAILY PROGRESS REPORTS

A. The General Contractor and all Subcontractors shall keep a daily report of report events.

B. The form of the Contractor Daily Progress Report shall be as directed by the Project Manager.

C. Submit copies of the previous week's reports on Monday morning at 10:00 a.m.

D. Submit copies of the reports with the monthly payment request for the whole period since the last payment request submittal.

E. Deliver the reports in hard copy or by e-mail as directed by the Project Manager.

PART 3 – EXECUTION (NOT USED)

(SAMPLE)

AS-BUILT CERTIFICATION

Project: _____

Contract No.: _____

This is to certify that the jobsite set(s) of full-size contract drawings including all approved post contract drawings, addendums and clarifications are marked in red showing all variations between the construction actually provided and that indicated or specified in the contract documents, including buried or concealed construction, are accurate and complete in accordance with the contract.

Submitted By:

_____ _____

Contractor Date

Has been shown to inspector:

_____ _____

Inspector Date

END OF SECTION

SECTION 01500 – CONSTRUCTION FACILITIES AND TEMPORARY UTILITIES

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. As specified in the DHHL Construction General Conditions.

B. Requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

C. Temporary utilities include, but are not limited to, the following:

1. Sanitary facilities, including toilets, and wash facilities.

2. Electric power service.

3. Communication services.

4. Potable water.

5. Lighting.

6. Fire protection.

D. Support facilities include, but are not limited to, the following:

1. Trash refuse disposal.

2. Erosion controls and site drainage.

E. Security and protection facilities and measures include, but are not limited to, the following:

1. Environmental protection.

2. Storm water control.

3. Tree and plant protection.

4. Barricades, warning signs, and lights.

1.2 USE CHARGES

A. General: Cost or use charges for temporary facilities are not chargeable to the State and shall be included in the Contract Price. Allow other entities to use

temporary services and facilities without cost, including, but not limited to, the following:

1. Other Contractors with agreements with the State working within the project limits.

2. Testing agencies.

3. The Project Manager and personnel of authorities having jurisdiction.

1.3 SUBMITTALS

A. Landfill Disposal Receipts: Submit copies of receipts issued by a landfill facility.

1.4 QUALITY ASSURANCE

A. The Contractor shall comply with all applicable Federal, State and City regulations and codes for temporary construction facilities and utilities.

B. Tests and Inspections: The Contractor shall arrange for authorities having jurisdiction to test and inspect each temporary utility as necessary prior to use. The Contractor shall obtain required certifications and permits and permits to install necessary temporary construction facilities and utilities.

1.5 REGULATORY REQUIREMENTS

A. Comply with the DHHL Construction General Conditions.

B. Comply with Occupational Safety and Health Standards, State of Hawaii, including but not limited to Part 3 – Construction Standards.

1.6 PROJECT CONDITIONS

The Contractor shall keep temporary services and facilities clean and neat at all times.

1.7 PREPARATION AND PROTECTION

A. Protection of Property: Continually maintain adequate protection of the work from damage and protect all property, including but not limited to buildings, equipment, furniture, grounds, vegetation, material, and utility systems. Repair, replace or pay the expense to repair damages resulting from Contractor's fault or negligence.

B. Before starting work to be applied to previously erected constructions, make a thorough and complete investigation of the recipient surfaces and determine their suitability to receive required additional construction and finishes. Make any

repair that is required to properly prepare surfaces and coordinate the Work to provide a suitable surface to receive following work.

C. Commencing work by any trade implies acceptance of existing conditions and surfaces as satisfactory for the application of subsequent work, and full responsibility for finished results and assumption of warranty obligations under the Contract.

D. Protect existing work to prevent damage by vandals or the elements. Provide temporary protection. Use curtains, barricades, or other appropriate methods.

E. Tree Protection: Protect existing trees, bushes, hedges, foliage, etc. during the progress of this project.

F. Repairs and Replacements: Promptly replace and repair damages to the approval of the Officer-in-Charge. Additional time required to secure replacements and to make repairs does not justify a time extension.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS

A. Provide new materials: Undamaged, previously used materials in serviceable condition may be used if approved by the Project Manager. Provide materials suitable for use intended.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required and to the satisfaction of the Project Manager at no additional cost to the State.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. Sanitary Facilities: The Contractor shall provide portable sanitary facilities for the duration of the project for their own use in accordance with the DHHL Construction General Conditions.

B. Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, overload protected disconnecting means and automatic ground fault interrupters.

C. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment. Protect wiring, in conduits or other, measures when exposed to possible damage or traffic areas.

D. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, as required.

3.3 SUPPORT FACILITIES INSTALLATION

A. Comply with the following:

1. Locate storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access or as directed by the Project Manager.

2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion.

B. Site Drainage: Dispose of rainwater in a lawful manner that will not result in flooding the Project or adjoining property nor endanger permanent Work or temporary facilities.

C. Trash, Refuse Disposal:

1. Department of Health – Illegal Dumping Notice.

a. This Notice to be printed out on 8.5”x11” paper.

b. This Notice to be posted in locations visible to all contractors, subcontractors, suppliers, vendors, etc. throughout the duration of the project.

2. Illegal Dumping of solid waste could subject the Contractor to fines and could lead to felony prosecution in accordance with Chapter 342H, HRS.

For more information, see the following web site: http://health.hawaii.gov/shwb/files/2013/06/illdump2011.pdf.

3. Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste.

4. Do not burn debris or waste materials on the project site.

5. Do not bury debris or waste material on the project site unless specifically allowed elsewhere in these specifications as backfill material.

6. Haul unusable debris and waste material to an appropriate off-site dump area.

   a. Water down debris and waste materials during loading operations or provide other measures to prevent dust or other airborne contaminants.

   b. Vacuum, wet mop, or damp sweep when cleaning rubbish and fines which can become airborne from floors or other paved areas. Do not dry sweep.

7. Clean-up shall include the collection of all waste paper and wrapping materials, cans, bottles, construction waste materials and other objectionable materials, and removal as required. Frequency of clean-up shall coincide with rubbish producing events.

3.4 ENVIRONMENTAL CONTROLS

A. The Contractor shall provide environmental controls in accordance with Section 01567 – ENVIRONMENTAL PROTECTION.

B. Erosion Control: The Contractor shall address erosion control in accordance with Section 02370 – SEDIMENT AND EROSION CONTROL.

3.5 BARRICADES AND ENCLOSURES

A. Description: Provide barricades as required, and as acceptable to the Project Manager, to prevent people from entering the project area and to protect enclosed property.

B. General: The Contractor shall take precaution to protect people and property from injury and damage. The Contractor shall augment the barricades and enclosures as required to delineate the work areas and provide the appropriate signage and

hazard lights, as directed by the Project Manager. Signs shall be neat, enamel painted and fabricated by personnel normally engaged in the sign industry.

C. Barricades: Before construction operations begin, erect temporary construction barricade(s) to prevent unauthorized persons from entering the project area and to the extent required by the Project Manager.

1. Provide gates in sizes and at locations necessary to accommodate delivery vehicles and other construction operations.

2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Provide Project Manager with 2 sets of keys.

3. Maintain temporary construction barricade(s) throughout the duration of the Work. During the course of the project, the Project Manager may require additional barricades be provided for the safety of the public. Contractor shall erect the additional barricade(s) at its own expense.

4. The Contractor shall be responsible for their own security and protection of their property, including mobilization yard barricades.

5. Barricades, in general, shall be neat, as required for protection and adequately anchored and braced.

6. Security shall be maintained against access onto the work areas at all times except the Contractor shall allow for authorized State personnel.

3.6 SAFETY MEASURES

Comply with the amended Section 3307 Protection of Adjoining Property of the 2006 International Building Code, by addition of a second paragraph which reads as follows:

"The Contractor doing the excavation or fill shall be responsible to implement safety measures, to include but not limited to safety nets, retaining walls or fences, and berms or trenches, to prevent falling rocks, boulders, soil, debris and other dangerous objects from falling, sliding or flowing onto adjoining properties, streets or natural watercourses, or otherwise causing injury or damage to persons or property in fulfillment of the Revised Ordinances of Honolulu (ROH) 1991."

3.7 OPERATION, TERMINATION, AND REMOVAL

A. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by theft, vandalism, heat temperatures and similar elements.

B. Termination and Removal

1. Remove each temporary facility when need for its service has ended, or when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion.

2. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility.

3. Repair damaged Work and replace construction that cannot be satisfactorily repaired.

C. Materials and facilities that constitute temporary facilities are the property of the Contractor.

END OF SECTION

SECTION 01567 – ENVIRONMENTAL PROTECTION

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. Furnish all labor, material and equipment and perform all work required for the prevention of environmental pollution during and as the result of construction operations under this contract.

C. This Section contains general specifications pertaining to the prevention of environmental pollution as a result of construction operations under this contract and shall be maintained until completion of the contract and become a part of the work of all other Sections as applicable. The requirements of this Section take precedence over conflicting or contradictory provisions of other Sections.

D. The work in this Section shall include the following:

1. Obtain all permits required by the State Department of Health and the City and County of Honolulu.

2. Provide all air and water quality testing and monitoring work required by the permits during construction.

3. Provide the facilities, equipment, and structural controls for minimizing adverse impacts upon the environment during the construction period.

E. Related Work Described Elsewhere: Additional information pertaining to pollution control work including erosion control and temporary grassing will be found in various specific technical sections.

1.2 DEFINITIONS

A. For the purpose of this specification, Environmental Pollution is defined as the presence of chemical, physical, or biological elements or agents which:

1. Adversely affect human/animal health or welfare.

2. Unfavorably alter ecological balances important to human/animal life.

3. Affect other species of importance to man.

4. Degrade the utility of the environment for its normal daily function, for aesthetic, and for recreational purposes.

B. The control of environmental pollution requires consideration of air, water and land, and involves noise control, solid waste management, and management of other pollutants.

1.3 APPLICABLE REGULATIONS

In order to provide for control of environmental pollution arising from the construction activities of the Contractor and his subcontractors in the performance of this contract, the work performed shall comply with the intent of the applicable Federal, State and local laws and regulations concerning environmental pollution control and abatement, including, but not limited to, the following regulations:

A. State of Hawaii, Department of Health, Administrative Rules, Chapter 55, WATER POLLUTION CONTROL; Chapter 54, WATER QUALITY STANDARDS.

B. State of Hawaii, Department of Health, Administrative Rules, Chapter 59, AMBIENT AIR QUALITY; Chapter 60.1, AIR POLLUTION CONTROL LAW.

C. State of Hawaii, Department of Health, Administrative Rules, Chapter 42, VEHICULAR NOISE CONTROL; Chapter 46, COMMUNITY NOISE CONTROLS.

D. The "Rules Relating to Water Quality", June 12, 2017, of the Hawaii Administrative Rules, Title 20, Department of Planning and Permitting, Chapter 3, hereafter referred to as the "DPP Water Quality Standards", including all revisions.

E. Other regulations as noted on the drawings.

1.4 PERFORMANCE AND COORDINATION

A. Comply with all applicable Federal and State laws, including the latest Hawaii Public Health regulations, local laws and regulations concerning pollution control and abatement.

B. The Contractor shall become familiar with the latest requirements of the National Pollutant Discharge Elimination System (NPDES) Permit and all other necessary permits to discharge water to State receiving waters, into storm drainage system or into the sanitary sewer system prior to bidding on this project. The Contractor shall apply and obtain all appropriate Federal, State, and County permits as required. The Contractor shall prepare and submit a written site-specific construction BMP Plan to the Project Manager and State Department of Health (DOH) thirty (30) calendar days prior to constructions as required.

C. The Contractor shall become familiar with the DPP Water Quality Standards.

D. Contractor shall designate one (1) individual as the Erosion and Sediment Plan (ESCP) Officer who will be responsible for implementation of Best Management Practices (BMPs) at the project site and conformance of the project to the DPP Water Quality Standards. This individual shall hold and maintain an ESCP Coordinator certification issued by the City and County of Honolulu Department of Planning and Permitting (DPP) for the duration of the project.

E. Notification: The Project Manager will notify the Contractor in writing of any non-compliance with the foregoing provisions and the action to be taken. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose of notification. After receipt of such notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to comply promptly, the Project Manager may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it was later determined that the Contractor was in compliance.

F. Sub-Contractor: Compliance with the provisions of this Section by subcontractors will be the responsibility of the Contractor.

1.5 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTAL PROCEDURES.

B. Water Quality Rules:

1. Submit the name, phone number, mailing address, and email address of the Contractor's Designated ESCP Officer to the Project Manager writing at least 2 weeks prior to commencing any work.

2. The ESCP Officer current certification issued by DPP.

3. Construction schedule.

4. BMP inspection records.

C. Site Specific Best Management Practices (BMP) Plan.

D. Wastewater Spill Containment and Mitigation Plan: A written description for a site-specific wastewater spill containment and mitigation plan in accordance with these Specifications.

PART 2 - PRODUCTS

2.1 LAND RESOURCES PROTECTION

A. General: Unless otherwise indicated on the drawings, existing land resources within the property lines and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project. Insofar as possible, confine construction activities to areas defined by the plans or specifications.

B. Restoration of Damage: Restore any trees or other landscape feature scarred or damaged by the Contractor's equipment or operations as nearly as possible to its original condition at the Contractor's expense. The Project Manager will decide what method of restoration shall be used and whether damaged trees or other landscape feature shall be treated and healed or removed from the site and replaced with new.

C. Location of Storage and Construction Facilities: The Contractor's storage and other temporary construction buildings required temporarily in the performance of the work shall be located on the State's property. The location shall be upon cleared portions of the job site or areas to be cleared, as indicated on the plans and approved by the Project Manager.

D. Post-Construction Clean-Up: Obliterate all signs of temporary construction facilities such as work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other vestiges of construction as directed by the Project Manager. No separate payment will be made for post-construction cleanup or obliteration and all cost thereof shall be considered a portion of the Contract Price, except as otherwise provided for in the Contract Documents.

2.2 HISTORICAL AND ARCHAEOLOGICAL FINDS

All items having any apparent historical or archeological interest discovered in the course of construction activities shall be carefully preserved. Leave the archeological find undisturbed and immediately report the find to the Project Manager and the State Historic Preservation Officers from the State Department of Land and Natural Resources at phone (808) 692-8015 to assess the significance of the find and recommend an appropriate mitigation measure, if necessary.

2.3 BURNING

No materials may be burned within the project contract limits at any time within the contract time.

2.4 WATER POLUTION

A. General

1. The Contractor shall not deposit at the site or in its vicinity, solid waste or discharge liquid waste, such as fuels, lubricants, bituminous waste, untreated sewage and other pollutants, which may contaminate any surface water or ground water.

2. Care shall be taken to ensure that no petroleum products, bituminous materials, or other hazardous substances, including debris, are allowed to fall, flow, leach, or otherwise enter any surface or ground water.

3. Contractor shall provide any necessary temporary drainage, dikes, and similar facilities to prevent erosion damage to the site. Run-off shall be controlled to prevent damage to surrounding area.

B. Erosion and Sediment Control Plan

1. The Contractor shall install and maintain temporary sediment control devices in accordance with the "City and County of Honolulu Storm Water Best Management Practice Manual, Construction, Final", dated November 2011 and comply with the DPP Water Quality Standards.

   a. An approved Erosion and Sediment Control Plan is included with the Plans. Additional or revised erosion and sediment control features, not shown on the approved Erosion and Sediment Control Plans, may be required depending on the Contractor's methods of operation and schedule, and shall be provided at no additional cost to the State.

   b. A copy of the approved Erosion and Sediment Control Plans shall be kept on site throughout the duration of the project and shall be accessible in accordance with

   c. Changes to the Erosion and Sediment Control Plans shall be prepared and submitted by the ESCP Officer to the Project Manager and DPP Director for approval prior to resuming work.

2. The Contractor's designated ESCP Officer shall be responsible for implementing the approved ESCP and for overseeing compliance with DPP and DOH requirements for erosion and sediment control.

C. Site Specific Construction BMP Plan: Develop a site-specific construction BMP Plan describing activities to minimize water pollution and soil erosion into State waters, drainage or sewer systems.

1. Include the identification of potential pollutants and their sources; a list of all materials and heavy equipment to be used during construction; descriptions of the methods and devices used to minimize the discharge of pollutants into State waters, drainage or sewer systems; details of the procedures used for the maintenance and subsequent removal of any erosion or siltation control devices; details of maintaining and ensuring proper operation of any devices used to minimize the discharge of pollutants including the removal of collected debris; methods of removing and disposing hazardous wastes encountered during construction; and methods of storing and handling of fuels, oils, paints and other products used for the project.

2. At minimum, show or address the following to the Project Manager: material storage and handling areas, and other staging areas; concrete truck washouts; fueling and maintenance vehicles and other equipment; use of form oils, paints and other products on the job site; tracking of sediment offsite from the project; litter management; dust control; spill control; and description of the nature of fill material to be used on the project.

3. Comply with the DPP Water Quality Standards.

4. Follow the guidelines in the "City and County of Honolulu Storm Water Best Management Practice Manual, Construction, Final", dated November 2011 in developing, installing, and maintaining the construction BMPs for the project. The manual can be obtained by downloading it from the City website at: www.honolulu.gov/dfmswq/.

5. Include and update Construction Schedule.

6. Incorporate the approved Erosion and Sediment Control Plan. Modifications may be required to accommodate construction means and methods and site-specific BMP conditions and shall be provided at no additional cost to the State. Changes to the approved Erosion and Sediment Control Plans shall be prepared and submitted by the Contractors ESCP Officer to the Project Manager and DPP Director for approval.

D. Water Pollution Conference: Schedule a water pollution and erosion control conference with the Project Manager at least 14 calendar days before the start of ground disturbance to discuss the sequence of work, plans and proposals for water pollution and erosion control. Submit a site-specific BMP plan, as detailed below, a minimum of 10 calendar days before the scheduled conference.

E. Construction Requirements

1. Do not begin work on the Project until the Site-Specific BMP Plan is approved by the Project Manager and the Water Pollution Conference has been executed.

2. Address all comments subsequently received from the Project Manager.

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

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

5. Apply accepted erosion control measures to all exposed erodible or stockpiled material within 14 calendar days of exposure. If after 14 calendar days, the erosion control measures have not been applied, apply an accepted erosion control measure on the fifteenth day at no cost to the State. Failure to apply erosion control measures will result in the increase in the amount of retainage and/or the withholding of the monthly progress payment.

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

7. The Contractor's designated ESCP Officer shall inspect all BMPs, and shall make any necessary repairs and adjustments to all BMPs continuously for the duration of the project at the following intervals:

    a. Preconstruction: prior to any ground disturbing activities,

    b. Weekly during dry periods,

    c. Within 24 hours of any rainfall of 0.25 inch or greater which occurs in a 24-hour period. The Contractor's designated ESCP Officer shall be responsible to monitor and record the weather conditions and report such rainfall events to the Project Manager,

    d. Daily during periods of prolonged rainfall,

    e. When existing erosion control measures are damaged or not operating properly as specified by the Project Manager,

    f. Temporary removal of construction BMPs that may affect drainage or cause a potential flooding hazard in the event of a weather advisory warning.

g. Conclusion: after all disturbed areas have been stabilized and temporary BMP's have been removed.

8. The Contractor's designated ESCP Officer shall maintain a record of all inspections and repairs made using the appropriate BMP inspection checklist provided in the DPP Water Quality Standards. Records shall be updated continuously for the duration of the project and submit weekly to the Project Manager. A Project Log containing all inspection reports shall be kept in a 3-ring binder or electronically and accessible from the project site at all times in accordance with the DPP Water Quality Standards.

9. Protect finished and previously seeded areas from damage and from spillover materials placed in the upper lifts of the embankment.

10. The Contractor's designated ESCP Officer shall address any water pollution and erosion control concerns brought up by the Project Manager within 24 hours of notification. If the Contractor fails to satisfactorily address these concerns, the Project Manager's own labor forces may provide the necessary corrective measures. The Project Manager will charge the Contractor such incurred costs plus any associated project engineering costs. The Project Manager will make appropriate deductions from the Contractor's monthly progress estimate.

11. When there are conflicts between these requirements and laws, rules, or regulations of other Federal or State local agencies, the more restrictive laws, rules, or regulations shall apply.

12. Failure to conform with the above requirements and regulations of the Federal or State local agencies will be cause for temporary or permanent suspension of operations. If operations are suspended due to the Contractor's failure to conform, the Contractor shall maintain the project during the period of suspension at no cost to the State.

F. Non-Compliance: The Project Manager will notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses to comply promptly, the Project manager with the authorization of the Project Manager may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action

2.5 DUST CONTROL

A. For the duration of the contract, the Contractor, at his own expense, shall keep the project area and the surrounding areas free from dust that would cause a hazard or

nuisance to the work or the operations of other contractors or to persons or property. The work shall be in conformance with the Air Pollution Control Standards and the Regulations of the State Department of Health. Contractor shall construct dust fence as designated on plan and submit dust fence assembly and materials used for fence. Approved temporary methods of stabilization consisting of sprinkling or similar methods may be permitted to control dust. If approved, sprinkling must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor must have sufficient competent equipment on the job to accomplish this if sprinkling is used. Chemicals or oil treating shall not be used.

B. Control dust as the work proceeds and whenever a dust nuisance or hazard occurs. Controls shall be maintained from the start of construction until completion of the project or as directed by the Project Manager. No separate or direct payment will be made for dust control and the cost thereof shall be considered incidental to and included in the Contract price.

C. The Contractor shall construct dust screens around all non-granular stockpile materials and spoil materials.

2.6 NOISE CONTROL

A. Noise shall be kept within acceptable levels at all times in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 46 - Community Noise Control. The Contractor shall obtain and pay for the Community Noise Permit from the State Department of Health when construction equipment or other devices emit noise at levels exceeding the allowable limits. Construction equipment and on-site vehicles or devices requiring an exhaust of gas or air shall have mufflers. The Contractor shall comply with conditional use of the permit as specified in the rules and the conditions issued with the permit. Should there be a baseyard or stockpile area located adjacent to residences, mitigative measures, such as barriers or berms, shall be developed in the event that noise complaints are received.

B. The Contractor shall implement the best available control technology to ensure that the maximum permissible sound levels of 55 dBA (Class A Zoning District – Residential) are not exceeded as measured from the property line or 50 feet from the generator, whichever is closer.

C. Where required, the Contractor shall obtain and maintain a Community Noise Permit. The Contractor shall comply with the conditional use of the permit as specified in the rules and the conditions issued with the permit.

D. The Contractor is forewarned that failure to employ best management noise limiting practices could lead to complaints from the public and/or penalties by the State of Hawaii Department of Health as provided in section 342F-11, HRS, and

section 11-46-18, HAR Title 11 Chapter 46. The Contractor is responsible for all monetary fines or corrective action required as a result of complaints from the public and/or penalties from the City, State or Federal agencies at no additional cost to the State.

E. Blasting and use of explosives will not be permitted.

F. Construction activities shall not emit noise in excess of the maximum permissible sound levels. No work shall be conducted on weekends and/or holidays unless approved by the Project Manager.

G. Compliance with the provisions of this Section by the subcontractors will be the responsibility of the Contractor.

H. The Project Manager will notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses to comply promptly, the Project Manager may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action.

I. The Contractor is forewarned that failure to employ best management noise limiting practices could lead to complaints from the public. The State of Hawaii Department of Health is empowered to reduce the allowable hours of work or to revoke the noise variance in its entirety on the basis of public complaints, even if the Contractor is monitored to be within the preceding numerical noise limits. The Contractor shall not be given a time extension or compensated for additional costs or damages due to a reduction of work hours or revocation of the variance.

2.7 EMISSION CONTROL

The Contractor shall not be allowed to operate equipment and vehicles that show excessive emissions of exhaust gases until corrective repairs or adjustments are made as determined by the Project Manager.

2.8 MAINTENANCE

During the life of this Contract, maintain all environmental protection and pollution controls specified herein as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created.

2.9 WASTEWATER DISCHARGE/SPILLS

A. The Contractor shall be liable for any treatment of discharges that are required before disposal and for any fines, clean-up costs and damages, which may occur

through the violation of any federal, state and city law or regulation which may be applicable.

B. The Contractor shall be liable for all clean-up costs, fines and damages resulting from wastewater spill related to any construction activities. The Contractor shall not store chemicals, materials or equipment at the work site unless specifically authorized by the Project Manager.

C. The Contractor shall, prior to commencing construction, prepare a wastewater spill containment and mitigation plan. This plan shall be submitted for approval to the Project Manager. The plan shall investigate and include reporting requirements in conformance with State DOH Protocol for Sewage Spills and the City and County of Honolulu. The plan shall also include immediate coordination with DOH and the City through the Project Manager. The Contractor shall obtain a current official copy of the Protocol from the State DOH.

D. The Contractor shall anticipate and capture wastewater spills in containers for planned disposal at existing facilities. The disposal of captured wastewater will require approval from City, DOH, and the Project Manager. The wastewater spill containment and mitigation plan shall include, at a minimum, spill containment, disposal, clean up and treatment methods for the captured wastewater. The Contractor shall be liable for any costs associated with the transport and treatment of wastewater discharges that may be required before ultimate disposal.

2.10 POLLUTANTS AND HAZARDOUS MATERIALS

A. The Contractor shall provide the appropriate pretreatment methods and/or devices to remove pollutants if discharging into the City Sewer System such that the effluent complies with the Revised Ordinances of Honolulu (ROH) 14-1.9, as amended, applicable City, State and Federal regulation. It will be unacceptable for the Contractor to pump and discharge polluted water into the existing sewer system during dewatering without treatment.

B. The Contractor shall, at a minimum, remediate polluted water and shall monitor the treatment process on a regular basis. Only treated water meeting the City's basic water quality criteria shall be discharged into the existing sewer system after receiving approval.

C. During construction, excavation spoils and dewatered materials shall be tested to determine if pollutants, as defined by the DOH, are present in the sediment, excavation spoils and dewatered materials.

D. Pollutants, if encountered in the sediment, excavation spoils and dewatered materials, shall be removed from the polluted materials in accordance with applicable U.S. Environmental Protection Agency (EPA) rules and regulations, EPA's Resource Conservation and Recovery Act (RCRA), U.S. Department of

Transportation regulations and State of Hawaii Department of Health rules, regulations and policies.

E. If the pollutants are defined as hazardous waste under RCRA, the Contractor shall clean-up, handle, store, treat, remove and dispose the polluted materials as hazardous waste under RCRA.

F. If the pollutants are not hazardous, the requirements of RCRA shall not apply. However, the Contractor shall remove the pollutants as defined above by DOH from the polluted excavation spoils and dewatered materials by treatment, and then dispose the treated materials and pollutants, if necessary, in accordance with DOH policies. Excavations shall not be backfilled with the original untreated excavation material if pollutants are present in this material, unless it can be demonstrated to the DOH that backfilling with clean soils will become contaminated or that backfilling with the treated originally excavated material will become recontaminated due to the existing polluted conditions at the site. In excavations where contamination of the backfill would occur, the backfill to the top of the groundwater table may consist of the original excavated contaminated material covered with uncontaminated material placed on top of the contaminated backfill and a cap of asphalt or concrete as provided to ensure no contaminated materials exist between the groundwater table and the surface.

G. The Contractor shall submit to the State copies of all test results. The Contractor shall furnish to the State affidavits certifying that polluted excavation spoils and dewatered materials have been treated, all pollutants as defined by the DOH have been removed from the materials, and only treated water meeting the DOH basic water quality criteria has been discharged in the existing drainage system and treated soils backfilled into the excavation.

H. The State will monitor the Contractor's work, if pollutants are encountered, to ensure compliance with the above requirements.

2.11 DISPOSAL

A. Construction waste, such as crates, boxes, building materials, pipes and other rubbish shall be disposed of at the County Disposal areas. Large size objects shall be reduced to a size acceptable by the County Specifications. Other areas or methods proposed by the Contractor will be approved only if the Project Manager determines that their effect on the environment is equal to or less than those described herein.

B. Removal of wastes shall be a continuous on-going operation. Wastes and debris shall not be allowed to accumulate in large open piles.

C. Wind-blown wastes and debris shall be collected by the Contractor and disposed as described above.

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01700 – EXECUTION REQUIREMENTS

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. General: This Section includes general procedural requirements governing execution of the Work including the following:

1. Construction layout.

2. Field engineering and surveying.

3. General installation of products.

4. Progress cleaning.

5. Starting and adjusting.

6. Protection of installed construction.

7. Correction of the Work.

1.2 SUBMITTALS

A. Landfill Receipts: Submit copy of receipts issued by a landfill facility.

1.3 NOTIFICATION

The Contractor shall contact the Project Manager at least three (3) working days prior to starting any onsite work.

1.4 PROJECT AND SITE CONDITIONS

Project Limits: Contract Project Limits indicate only in general the limits of the work involved. Perform necessary and incidental work, which may fall outside of these demarcation lines. Confine construction activities within the Project Limits and do not spread equipment and materials indiscriminately about the area.

1.5 QUALITY ASSURANCE

Land Surveyor Qualifications: A professional land surveyor with a license to practice in Hawaii.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 EXAMINING THE SITE

A. Contractor and Subcontractors are expected to visit the site and make due allowances for difficulties and contingencies to be encountered. Compare contract documents with work in place. Become familiar, with existing conditions, the conditions to be encountered in performing the Work, and the requirements of the Drawings and Specifications.

B. Verify construction extents, lines, grades, dimensions and elevations indicated on the Drawings before any clearing, excavation or construction begins. Bring any discrepancy to the attention of the Project Manager, and make any change in accordance with the Project Manager's instruction.

C. Obtain all field measurements required for the accurate fabrication and installation of the Work included in this Contract. Verify governing dimensions and examine adjoining work on which the Contractor or Subcontractor's work is in any way dependent. Submit differences discovered during the verification work to the Project Manager for interpretations before proceeding with the associated work. Exact measurements are the Contractor's responsibility.

D. Furnish or obtain templates, patterns, and setting instructions as required for the installation of all Work. Verify dimensions in the field.

E. Contractor shall accept the site in the condition that exists at the time access is granted to begin the Work. Verify existing conditions and dimensions shown and other dimensions not indicated but necessary to accomplish the Work.

F. Locate all general reference points and take action to prevent their destruction. Layout work and be responsible for lines, elevations and measurements and the work executed. Exercise precautions to verify figures and conditions shown on Drawings before layout of work.

3.2 SITE UTILITIES AND TONING

A. Cooperate, coordinate and schedule Work to maintain construction progress, and accommodate the operations and work of the owners of underground or overhead utility lines or other property in removing or altering the lines or providing new services.

B. Contact all the various utility companies before the start of the Project to ascertain any existing utilities and to develop a full understanding of the utility

requirements with respect to this Project. Furnish the Project Manager with evidence that the utility companies were contacted.

C. Should the Contractor discover the existence and location of utilities in the Contract Drawings are not correct, do not disturb the utilities and immediately notify the Project Manager.

D. Do not disturb or modify any utilities encountered, whether shown or not on the Contract Drawings, unless otherwise instructed in the Drawings and Specifications or as directed by the Project Manager. Repair and restore to pre-damaged condition any utilities or any other property damaged by construction activities.

E. Transfer to "Field Posted As-Built" drawings the location(s) and depth(s) of new and existing utilities that differ from the Contract Drawings. Locate by azimuth and distance and depth(s) from fixed referenced points.

F. Prior to the start of trenching work, verify and confirm the presence, location and depth of existing underground utility lines in the area affected by the project, by "toning" or by other appropriate means acceptable to the Project Manager. The intent of this advanced toning is to afford the Project Manager an opportunity to identify utility lines that may or may not be shown on the Drawings and issue a directive to address the existing conditions.

1. Perform toning using instruments specifically developed and designed for the detection of underground pipes and cable utilities.

2. Notify the Project Manager 48 hours in advance before toning operations. Provide information on the proposed toning method and other pertinent information.

G. Upon completion of the toning operation, submit drawings that show the location and approximate depth of the existing and newly discovered utility lines. Identify the type of utility lines. Also, identify where utility lines indicated on the Drawings are not shown in their approximate location or where new utility lines are found or pointed out in the field.

H. After ascertaining the exact location and depth of utilities within the project area, mark and protect the locations.

1. Acquaint personnel working near utilities with the type, size, location, depth of the utilities, and the consequences that might result from disturbances.

2. Do not start trenching or start similar operations until reasonable and appropriate precautions to protect the utilities are taken.

I. For newly identified utility lines, if directed by the Project Manager, manually excavate within 2-feet of the utility line to avoid damage. Under this directive, manual excavation is considered additional work.

3.3 FIELD MEASUREMENTS

A. General: Take field measurements to fit and install the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Submit a Request For Information (RFI) immediately upon discovery of the need for clarification of the Contract Documents. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.4 CONSTRUCTION LAYOUT

Construction layout, grades, lines, and levels shall be in accordance with Section 01710 – GRADES, LINES AND LEVELS.

3.5 FIELD ENGINEERING

A. Reference Points: Locate existing permanent or temporary benchmarks, control points and similar reference points before beginning the Work. Preserve and protect permanent control points during construction operations.

1. Do not change or relocate existing control points without the Project Manager's approval. Report lost or destroyed permanent control points promptly. Report the need to relocate permanent control points to the Project Manager before proceeding.

2. Replace lost or destroyed permanent control points promptly. Base all replacements on the original survey control points.

B. Benchmarks: Establish and maintain permanent or temporary benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.

3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.6 INSTALLATION

Install materials, items, fixtures required by the various Divisions and Sections of the Specifications in accordance with Contract Documents, by workers specially trained and skilled in performance of the particular type of work, to meet product guarantees and regulatory agency requirements. Should the Drawings or Specifications be void of installation requirements, install the materials, items, and fixtures in accordance with the manufacturer's current specifications, recommendations, instructions and directions.

3.7 CLEANING

A. General:

1. The Contractor shall, throughout the duration of the Project, keep all streets, sidewalks, driveways, easements, public and private properties, common areas, and staging areas clean and free from all debris produced from the Project. The Contractor shall keep the project work area and surrounding area neat and free from dust nuisance. The State may require supplementary measures as necessary. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

B. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

C. Do not hold waste more than 7 days unless approved otherwise by the Project Manager.

D. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

1. To minimize complaints, each day's work zone(s) shall be limited in scope to the extent it can be completed or viewed by the public as being worked on. Upon completion of each phase of the Project, the Contractor shall immediately remove all excess material and shall thoroughly clean the affected area.

2. Upon completion of the Work, the Contractor shall remove all equipment, signs, and unused materials provided for the Work and shall restore the

project site to a neat and clean condition and do all the other required cleaning as specified above or as directed by the Project Manager.

3. Should the Contractor fail to comply with the foregoing provisions, the State may, with or without notice, cause the cleaning to be done and deduct the cost of such work from any moneys due the Contractor under this contract.

E. Site: Maintain Project site free of waste materials and debris.

F. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

G. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If no specific cleaning materials is recommended, use only cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

H. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

I. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

J. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

K. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

L. Protection of Construction in Progress: During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

M. Maintenance on Completed Construction: Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

N. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Each

day's work zone(s) shall be limited in scope to the extent it can be completed or viewed by the public as being worked on. Upon completion of each phase of the Project, the Contractor shall immediately remove all excess material and shall thoroughly clean the affected area.

O. Completion of Work: Upon completion of the work, the Contractor shall remove all equipment, signs and unused materials provided for the Work and shall restore the project site to a neat and clean condition and do all the other required cleaning as specified above or as directed by the Project Manager. Should the Contractor fail to comply with the foregoing provisions, the State may, with or without notice, cause the cleaning to be done and deduct the cost of such work from any moneys due the Contractor under this contract.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions to provide proper temperature and relative humidity conditions.

3.9 CORRECTION OF THE WORK

A. Repair or replace defective construction. Restore damaged substrates and finishes. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

C. Repair defective components that do not operate properly. Remove and replace operating components that cannot be repaired.

END OF SECTION

SECTION 01710 – GRADES, LINES, AND LEVELS

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. Furnish all labor, materials and equipment necessary to lay out the entire work and verify all dimensions and elevations, all as shown on the drawings and as specified herein.

1. It shall be the responsibility of the Contractor to examine the project site and determine for himself the existing conditions.

2. Obvious conditions of the site existing on the date of the bid opening shall be accepted as part of the work, even though they may not be clearly indicated on the drawings and/or described herein or may vary there from.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 Responsibility: The laying out of base lines for the entire work shall be done by the Contractor, and he shall be solely responsible for their accuracy.

3.2 Verification: The Contractor shall verify all dimensions and elevations as shown on the drawings. Upon discovery of any error, omission, or discrepancy in the layout work, the Contractor shall notify the Project Manager in writing immediately.

A. Contractor and Subcontractors are expected to visit the site and make due allowances for difficulties and contingencies to be encountered. Compare contract documents with work in place. Become familiar, with existing conditions, the conditions to be encountered in performing the Work, and the requirements of the Drawings and Specifications.

B. Verify construction extents, lines, grades, dimensions and elevations indicated on the Drawings before any clearing, excavation or construction begins. Bring any discrepancy to the attention of the Project Manager and make any change in accordance with the Project Manager's instruction.

3.3 General: Lay out the Work using accepted construction and surveying practices.

A. Establish benchmarks, control points, lines and levels as needed to locate each element of Project.

B. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.

C. Inform installers of lines and levels to which they must comply.

D. Check the location, level and plumb, of every major element as the Work progresses.

E. Notify the Project Manager when deviations from required lines and levels exceed allowable tolerances.

3.4 Site Improvements: Locate and lay out site improvements, including full extents of concrete sidewalks, concrete curb ramps, concrete curbs, pavements, and speed tables.

END OF SECTION

SECTION 01770 – CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. This Section includes administrative and procedural requirements for contract closeout, including the following:

1. Project Record Documents.

2. Warranties.

3. Instruction for the State's personnel.

1.2 SUBSTANTIAL AND FINAL COMPLETION

A. Preliminary Procedures: Before requesting a Final Inspection to determine Substantial Completion, complete the following items in addition to requirements of Section 7.31 – Substantial Completion and Final Inspection of the DHHL Construction General Conditions:

1. Advise the Project Manager of pending insurance changeover requirements.

2. Submit specific warranties, final certifications, and similar documents.

3. Arrange to deliver tools, spare parts, extra materials, and similar items to a location designated by the Project Manager. Label with manufacturer's name and model number where applicable.

4. Submit test, adjust, and balance records.

5. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

6. Submit changeover information related to the State's occupancy, use, operation, and maintenance.

7. Complete final cleaning requirements, including touch up painting.

8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

1.3 PROJECT RECORD DOCUMENTS AND REQUIREMENTS

A. General

1. Do not use Project Record Documents for daily construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Project Manager's reference during normal working hours. Maintain these documents as specified in paragraph entitled "Record Drawings" hereinafter.

2. Where the recorded changes depicted on the Contractor's Field Posted Record ("As-Builts") Drawings are in the form of shop drawings, the Contractor shall provide those shop drawings on vellum sheets in the same material and size as the drawings transmitted to the Contractor. The new drawing sheets shall be titled and numbered to conform to the construction drawings and clearly indicate what information they supersede in the actual construction drawings. For example, a new drawing that replaces drawing C103, could be numbered C103a.

3. The Contractor shall bring to the attention of the Project Manager any discrepancy between the changes made by the Consultant and those depicted on addendum, PCD, and sketch changes. The Project Manager will resolve any conflicts.

4. Submit final Record Documents (Field Posted Record Drawings) within 10 days after the Final Inspection Date but no later than the Contract Completion Date.

5. The Contractor shall guarantee the accuracy of its final Record Documents. The State shall hold the Contractor liable for costs that the State incurs as a result of inaccuracies in the Contractor's Record Documents.

6. Prepare and submit construction photographs and electronic files, damage or settlement surveys, and similar final record information as required by the Project Manager.

7. Deliver tools, spare parts, extra materials, and similar items to a location designated by the Project Manager. Label with manufacturer's name and model number where applicable.

B. Record Drawings

1. Maintain a duplicate full size set of Field Posted Record ("As-Builts") Drawings at the job site. Clearly and accurately record all deviations from alignments, elevations and dimensions, which are stipulated on the

drawings and for changes directed by the Project Manager that deviate from the drawings.

2. Record changes immediately after they are constructed in place and where applicable, refer to the authorizing document (Field Order, Change Order, or Contract Modification). Use red pencil to record changes. Make Field Posted Record Drawings available to the Project Manager at any time so that its clarity and accuracy can be monitored.

    a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.

    b. Accurately record information in an understandable drawing technique.

    c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

    d. Mark the contract drawings or the shop drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross reference on contract drawings.

    e. Mark important additional information that was either shown schematically or omitted from original Drawings.

    f. Locate concealed utilities by dimension from bench marks or permanent structures. Locate site utilities by dimensions, azimuth and lengths from bench marks or permanent structures.

    g. Note field order numbers, Change Order numbers, Contract Modification numbers, Alternate numbers, post-construction drawing numbers (PCD) and similar identification (RFI numbers) where applicable.

    h. The Contractor shall initial each deviation and each revision marking.

3. Use the final updated Contract Drawing set plus applicable shop drawings for making the final Field Posted Record Drawings submittal.

4. Certify drawing accuracy and completeness. Label and sign the record drawings.

5. Label the title sheet and on all sheets in the margin space to the right of the sheet number, written from the bottom upward, with the title “FIELD

POSTED RECORD DRAWINGS" and certification information as shown below. Provide a signature line and company name line for each subcontractor that will also certify the respective drawing. Adjust size to fit margin space.

FIELD POSTED RECORD DRAWINGS Certified By: _____ Date: _____
[Contractor's Company Name]

6. Revise the Drawing Index and label the set "FIELD POSTED RECORD DRAWINGS". Include the label "A COMPLETE SET CONTAINS [_____] SHEETS" in the margin at the bottom right corner of each sheet. Quantify the total number of sheets comprising the set.

7. If the Project Manager determines a drawing does not accurately record a deviation or omits relevant information, the State will correct any FIELD POSTED RECORD DRAWINGS sheet. Contractor will be charged for the State's cost to correct the error or omission.

8. Use the final Field Posted Record Drawings sheets to create one electronic version of the set. The set shall be recorded in Adobe Acrobat PDF (Portable Document Format). Create a single indexed, bookmarked PDF file of the entire set of drawings and record on the CD. Submit one set of the final Field Posted Record Drawings sheets and the complete electronic CD set(s).

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces

PART 3 – EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. In addition to requirements of the DHHL Construction General Conditions, conduct cleaning and waste-removal operations to comply with local laws and ordinances and federal and local environmental and antipollution regulations. Perform cleaning using personnel specializing in and skilled in cleaning and maintenance work. Perform repair work using personnel skilled in executing the type of work being repaired. Perform all work to the highest trade standards applicable to that type of work.

B. Cleaning: Comply with manufacturers written instructions unless noted otherwise. Complete the following cleaning operations before requesting final inspection for entire Project or for a portion of Project:

1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits resulting from construction activities.

3. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.

4. Remove tools, construction equipment, machinery, temporary construction, and surplus material from Project site.

5. Remove all lumps, splatters, spots and stains caused by paint, adhesive, asphalt, concrete, mortar, sealant or other foreign material from exposed or finished surfaces. Remove all temporary labels.

6. Clean exposed exterior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

7. Leave Project clean and ready for use.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the property. Do not discharge volatile, harmful, or dangerous materials into drainage and sewer systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

DIVISION 02 – SITE WORK

SECTION 02050 – DEMOLITION AND REMOVAL

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. Furnish all materials, labor and equipment necessary to demolish and remove all concrete slabs, structures, pavement, walls, and all other existing improvements as shown in the drawings to be demolished and as specified herein.

C. Condition At Site

1. Visit the site, examine and note all existing conditions and extent of work involved for completion of this work.

2. Accept obvious conditions of existing premises on date of bid opening as part of the work, even though they may not be indicated on the Drawings or may vary therefrom.

3. Exercise every precaution to preserve and protect from damage all existing structures, plants, trees, walls, private and public utilities above and below ground, etc., that are to remain. Repair any damage to the satisfaction of the Project Manager.

D. Permits, Notices, Etc.

1. Procure and pay for all necessary permits or certificates required in connection with this work.

2. Serve proper notices and consult with the Project Manager regarding any temporary disconnections of electrical or other utility lines which may interfere with this work. Properly disconnect all such lines where necessary before commencing with the Work.

E. Existing Utility Lines: Existence of underground utility lines other than those shown is not definitely known. Should any be encountered, immediately notify the Project Manager and follow his direction as to procedure at no additional cost to the State.

1.2 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTAL PROCEDURES.

1. Landfill Disposal Receipts: Submit copies of receipts issued by a landfill facility.

2. Plans and Procedures: Submit a plan and list of procedures for performing the demolition and removal work.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 DEMOLITION AND REMOVAL

A. Execute all work in an orderly manner, with proper safety precautions observed at all times. Provide warning signs, lights, barricades, etc. as required or as directed by the Project Manager.

B. Demolish all improvements indicated on the drawings completely on the site. Do not remove from the site, portions of any structure or any improvements, either as a whole or substantially as a whole, for reuse elsewhere. Break up and remove pavement in areas noted on the drawings.

C. Cut portions of pavements which are to remain to a depth of 1-1/2" with a power-driven abrasive saw. The saw cut shall be neat and true with no shattering or spalling of the portion of concrete to remain in place or to be joined with the new work.

D. Removed material having no salvage value, as determined by the Project Manager, shall become the property of the Contractor and shall be removed from the premises. Removed material with salvage value, as determined by the Project Manager, shall be stored where directed.

E. Backfill all voids, trenches, holes, depressions and pits created by the removal of such miscellaneous improvements as described in Section 02300 - EARTHWORK.

3.2 LIMITS OF WORK

The Limits of Work shown on the drawings indicate only in general, limits of the work involved. Perform any and all necessary and incidental work which may fall outside of these demarcation lines. Confine all construction activities within the Limits of Work and do not spread equipment and materials indiscriminately about the area

3.3 MAINTAINING TRAFFIC

A. Conduct operations and schedule work for minimum interference to streets, driveways, sidewalks, etc. Confine all work, equipment, materials and personnel, as much as possible, to the work area as indicated so as not to interfere with the normal function of adjacent streets and site operations.

B. Schedule all work involving excessive noise, dust, dirt, or any other detrimental aspect of this work in order that there will be a minimum disruption of the normal site operations.

3.4 DEBRIS

Remove all debris existing or accumulated from this work completely and promptly from the site to the satisfaction of the Project Manager. Burning of debris on the site is not permitted.

3.5 CLEANING

Keep the premises clean, neat and orderly at all times. Promptly remove all tools, debris, materials, apparatus, temporary toilets, lights, barriers, etc. from the site upon completion of this work.

END OF SECTION

SECTION 02300 – EARTHWORK

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. The subsurface information and data furnished are for the Contractor's convenience only. They represent the subsurface conditions at the specific boring locations and at the time of exploration only. There is no guarantee, either expressed or implied, that the subsurface conditions indicated are representative of those existing throughout the work. No assurance if given that these conditions are representative of the conditions at other locations of the project site or at other times. The Contractor is solely responsible for any and all assumptions, deductions, or conclusions which he may make or derive from his examination of the subsurface information and data provided herein. The State and its Consultants shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

C. Licensed Geotechnical Engineer: The Contractor shall retain and pay for the services of a geotechnical engineer to monitor earthwork and perform testing during the earthwork operations. The geotechnical engineer shall be a licensed civil engineer licensed in the state of Hawaii and specializing in geotechnical engineering with at least ten (10) years of licensed experience, of which at least eight (8) years shall have been in direct control or personal supervision of geotechnical engineering work.

D. It shall be the responsibility of the Contractor to examine the project site and determine for himself the existing conditions. Obvious conditions of the site existing on the date of the bid opening shall be accepted as part of the work, even though they may not be clearly indicated on the drawings and/or described herein

1.2 REFERENCES

A. The "Standard Specifications for Public Works Construction", September 1986, of the Department of Public Works, including all revisions, as applicable to the City and County of Honolulu, hereafter referred to as the "DPW Standard Specification", or as herein specified. (Paragraphs concerning Measurement and Payment are not applicable to this project.)

1.3 QUALITY ASSURANCE

A. Source Quality Control: Test import and on-site materials proposed for use to demonstrate that the materials conform to the specified requirements. Tests shall

be performed by a qualified independent testing laboratory and paid for by the Contractor.

B. The Contractor shall verify testing and reporting requirements with the Project Manager prior to the start of earthwork operations.

1.4 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTAL PROCEDURES.

1. Test Reports: Submit test reports as directed by the Project Manager. Contractor shall verify all requirements prior to the start of trenching operations.

2. Test for Moisture – Density Relations: Submit test results for each material at least 7 days prior to compacting of each material.

3. Certification of Compaction: An independent geotechnical testing laboratory working under the supervision of the Contractor's licensed civil engineer licensed in Hawaii shall test and certify all compaction work. Certifications and test results shall be submitted to the Project Manager within three (3) days of the test.

4. Field Dry Density and Moisture Content Tests: Submit field test data not listed above sufficiently in advance of construction so as not to delay work. Furnish a drawing showing test locations, test numbers, test elevations, and test results. Submit test results to the Project Manager within 3 days of test date.

5. Manufacturer's product literature: Submit manufacturer's product literature including description of material and physical properties and laboratory test data for bedding material, sub-bedding material, and structural fill to the Project Manager for approval at least 15 calendar days prior to construction.

1.5 PERMITS

A. Obtain necessary permits required from applicable agencies. All permit fees will be considered incidental to the work and a separate payment shall not be made.

1.6 REMOVAL AND REPAIR WORK

A. Contractor shall exercise every precaution to preserve and protect from damage all buildings, structures, roads, embankments, walls, fences, trees, walkways or utility improvements which are to remain.

1.7 CONTRACTOR'S RESPONSIBILITIES

A. All clearing, site preparation or earthwork performed on the project up to the approximate finish grade or subgrades shall be conducted by the Contractor under the inspection of the Contractor's Licensed Geotechnical Engineer.

B. It is the responsibility of the Contractor to assess the soil and ground water conditions presented in the plans and specifications and to employ suitable measures to permit construction to proceed.

C. It is the Contractor's responsibility to perform all quality control testing at no additional cost to the State.

D. It is the Contractor's responsibility to prepare the ground surface to receive fill and to place, spread, mix, moisture condition, and compact the fill in accordance with the specifications herein. The Contractor shall also remove all unsuitable and deleterious materials.

E. It is also the Contractor's responsibility to have suitable and sufficient compaction equipment on the job site to handle the amount of fill being placed. If necessary, excavation equipment shall be shut down to allow completion of compaction. Sufficient watering apparatus will also be provided by the Contractor with due consideration for the fill material, rate of placement, and the time of year.

F. Blasting as a means for removal of material is not allowed.

G. The Contractor's Licensed Geotechnical Engineer shall promptly notify both the Contractor and the Project Manager verbally of any failing compaction tests and the results of such tests to the extent the tests show a lack of compliance with specifications. These items shall also be documented by the Contractor's Licensed Geotechnical Engineer.

H. If field density tests indicate inadequate compaction or moisture content, the Contractor shall moisture condition and recompact and retest until adequate compaction and adequate moisture content is achieved.

I. During construction, drainage shall be provided to minimize ponding of water adjacent to or on foundation and pavement areas. Ponded areas shall be drained immediately. Any subgrade soil that has become soft due to ponding shall be removed to firm material and replaced with properly compacted structural fill at no additional cost to the State.

1.8 BARRICADES

A. Barricade: Erect temporary barricades to prevent people from entering into the project area to the extent as approved by the Project Manager. The extent of

barricades may be adjusted as necessary with the approval of the Project Manager. This work shall be accomplished at no additional cost to the State.

B. Adequate precautions shall be taken before commencing and during the course of the work to ensure the protection of life, limb, and property.

C. The Contractor shall protect from damage all surrounding buildings, structures, roads, embankments, walls, fences, utilities, trees, walks, pavements, etc. Any damage shall be repaired or replaced by the Contractor to the satisfaction of the Project Manager at no additional cost to the State.

1.9 CONSTRUCTION LINES, LEVELS, AND GRADES

A. The Contractor shall verify all lines, levels and elevations indicated on the drawings or as directed by the Project Manager before any clearing, excavation or construction begins. Any discrepancy shall be immediately brought to the attention of the Project Manager and any changes shall be made in accordance with his instructions. The Contractor shall not be entitled to extra payment if he fails to report the discrepancies before proceeding with any work whether within the area affected or not.

B. The establishment of grades and staking out the entire work shall be done in accordance with Section 01710 – Grades, Lines, and Levels. The Contractor shall be solely responsible for their accuracy. Erect and maintain substantial batter boards showing construction lines and levels.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Structural Fill.

1. Structural fill shall be well-graded, non-expansive granular material. Structural fill shall have a maximum particle size of 3 inches, and a state that between 8 and 20 percent of soil by weight shall pass the #200 sieve. In addition, the plasticity index (P.I.) of that portion of the soil passing the #40 sieve shall not be greater than 10. CBR expansion values shall be no greater than 1.0 percent and fill material shall have a minimum CBR value of 15 percent, when tested in accordance with ASTM D 1833.

B. Aggregate Base Course

1. Aggregate base course shall conform to Section 31 – AGGREGATE BASE COURSE of the DPW Standard Specifications.

C. Topsoil

1. Topsoil shall conform to Section 50 – SOIL PREPARATION of the DPW Standard Specifications.

PART 3 – EXECUTION

3.1 EXCAVATION

A. Protective Measures: All excavations shall be kept free from standing water. The Contractor shall do all pumping and draining that may be necessary to remove water to the extent required in carrying on the work.

B. General

1. All earthwork shall be performed and supported in accordance with applicable State, Federal, and local safety regulations, including current OSHA excavation and trench safety standards.

2. The Contractor shall comply with all applicable safety codes and regulations relating to open cut excavations and the use of sheeting and shoring to protect their workers and surrounding properties where necessary. The Contractor's excavation shoring and sheeting shall be designed to protect against excavation instability, boiling, blowout, and/or heave of the excavation bottoms.

3. Surface water shall be directed away from excavations and construction areas to prevent erosion and undermining of foundations and softening of subgrade. Completely drain construction site during periods of construction to keep soil materials sufficiently dry.

4. Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction.

5. Excavate to contours and dimensions and depths indicated on the Plans. Notify the Project Manager immediately in writing in the event that it becomes necessary to remove material to a depth greater than indicated. Refill excavations cut below the depths indicated with structural fill and compact as specified herein. Excavate soil disturbed or weakened by construction operations or soils softened from exposure to weather at no additional cost to the State. Refill with structural fill and compact as specified herein. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing.

6. Unauthorized excavations carried below specified levels shall be filled with structural fill to the proper level as directed by the Project Manager at the Contractor's expense.

3.2 SURPLUS MATERIAL

A. Unless otherwise specified in the Plan or Specifications, or ordered by the Project Manager, surplus excavated material shall become the Contractor's property and shall be removed from the work site and disposed of in accordance with Federal, State, and County regulations at no additional cost to the State.

3.3 SUBGRADE PREPARATION

A. The subgrade in areas to receive fill shall be scarified to a depth of at least 6 inches, thoroughly moisture conditioned to between optimum moisture content and 2 percent wet of optimum moisture content for this material, and compacted to a relative compaction of at least 95 percent. Any soft or yielding soils revealed during the subgrade compaction shall be excavated to firm materials and replaced with properly compacted structural fill.

B. Protect compacted subgrade from exposure to weather elements. If shrinkage cracks appear on the excavated or compacted subgrade, the subgrade shall be scarified and thoroughly moisture conditioned and recompacted to provide a firm base and to close all cracks.

3.4 FILL PLACEMENT

A. Granular fill shall be placed in not more than 8-inch thick loose lifts and compacted to at least 95 percent compaction as determined by ASTM D 1557.

3.5 COMPACTION

A. Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same soil established in accordance with ASTM D 1557 test procedures. Optimum moisture content is the water content (percentage by dry weight) corresponding to the maximum dry density.

B. Place structural fill and structural backfill under footing, concrete slabs, and pavements in loose horizontal lifts of not more than 8 inches. Do not place material on surfaces that are muddy. Compact with equipment well suited to the soil being compacted. Moisture condition to about 2 percent above optimum moisture content. Compact each lift to as specified before placing the overlaying lift. Compaction shall be accomplished continuously over the entire area. Sufficient passes shall be made to ensure that specified density is obtained.

C. Place structural fill and structural backfill material adjacent to footings, structures, and footing and excavation backfill. Compact fill in a manner that prevents

wedging action or eccentric loading upon or against the structures. Step or serrate slopes bounding or within areas to be backfilled to prevent sliding of the fill. Moisten or aerate material as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Do not place material on surfaces that are muddy. Do not use equipment for backfilling operations or for the formation of embankments against structures that will overload the structure. Backfilling against concrete will be done only after the concrete has attained its 28-day compressive strength.

D. Fill and backfill shall not be constructed when weather conditions detrimentally affect the quality of the finished course. Do not construct fill and backfill in the rain or on saturated subgrade. If weather conditions are windy, hot or arid, with high rate of evaporation, schedule the placement in cooler portions of the day and furnish equipment to add moisture to the fill or backfill during and after placement.

E. Each layer of fill and backfill shall be thoroughly compacted from edge to edge using suitable compaction equipment designed for the purpose. All field dry density and moisture content testing and reporting shall be conducted under the supervision of the Contractor's Licensed Geotechnical Engineer. If field density test indicates inadequate compaction or moisture content, the Contractor shall moisture condition, recompact, and retest until adequate compaction and adequate moisture content is achieved. Verify that test results conform to the specified requirements, and that sufficient tests are performed. The minimum degree of compaction for each layer (as determined by the ASTM D 1557 test procedure) shall be as follows:

1. Subgrade 95%

2. Structural Fill 95%

3.6 GRADING

A. The complete excavation and fill surface shall be true to grade and elevation and shall provide a firm base. Tolerances shall be 0.10 feet.

B. Provide protective slope covers over exposed materials for erosion control.

3.7 FIELD QUALITY CONTROL

A. Subgrade areas shall not receive fill material until approved by the Project Manager.

B. Perform field density tests in randomly selected locations using ASTM D1556 or ASTM D6938 as follows:

1. One test per 400 square feet or fraction thereof for subgrade and in each lift or fill, but not less than 2 tests on subgrade and 2 tests on each lift of fill.

2. Where ASTM D6938 is used to test field compaction densities, verify the results of the tests by performing at least one test per day using ASTM D1556 at a location already tested by ASTM D6938 and at least one additional test using ASTM D1556 for every 10 tests performed with a nuclear device, also at locations already checked by ASTM D6938.

C. Where compaction and minimum relative compaction are indicated, test backfill and fill material for moisture-density relations in accordance with ASTM D 1557. Perform at least one moisture-density relations test for each material used and provide additional tests for each change of source. Furnish a plan showing test location, test number, elevation, and test results to the Project Manager within 3 days of the test date. If field density tests indicate inadequate compaction, the Contractor shall re-compact and retest until adequate compaction is achieved. Verify that test results conform to the specified requirements, and that sufficient tests are performed.

D. Any work determined to be not in compliance shall be removed and properly replaced at no additional cost to the State

3.8 CLEAN UP

A. Clean up and remove all debris accumulated from construction operations from time to time and when directed by the Project Manager. Upon completion of the construction work and before final acceptance of work, remove all surplus materials, equipment, etc. and leave entire jobsite clean and neat.

END OF SECTION

SECTION 02370 – SEDIMENT AND EROSION CONTROL

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. All erosion and sediment control measures are to be placed prior to any ground disturbance activity. The Contractor shall ensure that erosion and sediment control measures are implemented and maintained as necessary.

C. An approved Erosion and Sediment Control Plan (ESCP) is included with the Plans. Additional or revised erosion and sediment control features, not shown on the approved ESCP, may be required depending on the Contractor's methods of operation and schedule.

1.2 REFERENCES

A. "City and County of Honolulu Storm Water Best Management Practice Manual for Construction", dated November 2011, as amended, hereafter referred to as the "City BMP Manual".

B. The "Rules Relating to Water Quality", June 12, 2017, of the Hawaii Administrative Rules, Title 20, Department of Planning and Permitting, Chapter 3, hereafter referred to as the "DPP Water Quality Standards", including all revisions.

C. Hawaii Administrative Rules, Title 11, Department of Health, Chapter 54, "Water Quality Standards" and Chapter 55 "Water Pollution Control".

1.3 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTAL PROCEDURES.

1. Product Data: The Contractor shall furnish to the Project Manager manufacturer's printed product data, clearly marked, indicating proposed materials.

2. 2. Project schedule including schedule to implement erosion and sediment control measure shall be submitted in accordance with the DPP Water Quality Standards.

3. ESCP Revisions: Any proposed changes to the ESCP by the Contractor shall be made in accordance with Section 01567 – ENVIRONMENTAL PROTECTION and prepared and submitted by the Contractor's ESCP

Officer to the Project Manager and DPP Director for approval prior to resuming work. Any fees incurred by DPP for the ESCP revisions shall be paid for by the Contractor at no additional cost to the State.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Geotextile Filter Fabric

1. The needle punched nonwoven geotextile fabric for sediment and erosion control shall meet the following minimum physical requirements:

Fabric Property	Test Method	Unit	Min. Avg. Roll Value
Grab Tensile Strength	ASTM D-4632	lb	230
Grab Tensile Elongation	ASTM D-4632	%	50
Trapezoid Tear Strength	ASTM D-4533	lb	95
CBR Puncture Strength	ASTM D-6241	lb	600
Apparent Opening Size (AOS)	ASTM D-4751	US Sieve	100
Permittivity	ASTM D-4491	sec^{-1}	1.4
Permeability	ASTM D-4491	cm/sec	0.31
Flow Rate	ASTM D-4491	$gal/min/ft^2$	110
UV Resistance (at 500 hours)	ASTM D-4355	% strength retained	80

2. Any request to substitute an equivalent filter fabric shall be subject to review and approval by the Project Manager.

3. The fabric shall be kept in a dry location and shall be protected from the direct rays of the sun.

4. Manufactures: Mirafi - S800, or approved equal.

B. Filter Sock:

1. Composite Filter Media: Sanitized, mature compost with no identifiable feedstock constituents or offensive odors meeting all local, state, and Federal quality requirements. Biosolids compost shall meet the Standards for Class A Biosolids outlined in 40 Code of Federal Regulations (CFR)

Part 503.

Compost used for filtration shall meet the following parameters:

Parameter	Unit	Value
pH:		6 - 8
Moisture Content:	%, wet weight	30 - 60
Organic Matter:	%, dry weight	25 - 65
Particle Size:	% passing mesh size, dry weight	2 in. = 100% 0.375 in. = 10 – 30%
Stability (CO_2 Rate):	Mg CO_2-C per gram of organic matter per day	< 8
Physical Contaminants (Manmade Inerts):	%, dry weight	< 1

2. Filter Sock: Filter sock shall utilize an outer layer of filtration mesh, and an inner layer of containment netting. All layers shall collectively enclose the compost filtration media. Compost filter sock shall be 12" nominal diameters or as indicated on the Drawings.

3. Compost Filter Socks shall be constructed using a commercial pneumatic bark blower of lengths of at least 20 linear feet.

4. Manufactures: EnviroTech BioSolutions – BioSock, or approved equal.

C. Drain Inlet Filter:

1. Drain Inlet Filter shall be a sewn geotextile fabric unit fitted to the individual grates and completely enclosing the grates. It shall have lifting devices to allow manual inspection of the storm drain system. The fabric of the protection device shall have the following characteristics:

Fabric Property	**Test Method**	**Units**	**Value**
Grab Tensile Strength	ASTM D4632	lb	450 x 300
Grab Tensile Elongation	ASTM D4632	%	40 x 25
Puncture Strength	ASTM D4833	lb	130
Mullen Burst Strength	ASTM D3786	psi	600
Trapezoid Tear Strength	ASTM D4533	lb	165 x 150
Apparent Opening Size (AOS)	ASTM D4751	US Sieve	30
Permittivity	ASTM D4491	sec^{-1}	3.5
Permeability	ASTM D4491	cm/sec	0.25
Flow Rate	ASTM D4491	$gal/min/ft^2$	250

UV Resistance (at 500 hours)	ASTM D4355	% strength retained	70

2. Manufactures: Dandy Bag manufactured by Dandy Products, Inc. or approved equal.

D. Catch Basin Filter:

1. Catch Basin Filter shall be a sewn fabric unit enclosing a porous structure in the form of a cylindrical tube placed in front of and extending beyond the inlet opening on both sides. It shall also have a pouch on the street side of the sewer unit for aggregate or other material to hold the unit in place. The fabric of the protection device shall have the following characteristics:

Fabric Property	**Test Method**	**Units**	**Value**
Grab Tensile Strength	ASTM D4632	lb	450 x 300
Grab Tensile Elongation	ASTM D4632	%	40 x 25
Puncture Strength	ASTM D4833	lb	130
Mullen Burst Strength	ASTM D3786	psi	600
Trapezoid Tear Strength	ASTM D4533	lb	165 x 150
Apparent Opening Size (AOS)	ASTM D4751	US Sieve	30
Permittivity	ASTM D4491	sec^{-1}	3.5
Permeability	ASTM D4491	cm/sec	0.25
Flow Rate	ASTM D4491	$gal/min/ft^2$	250
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	70

2. Manufacturers: Dandy Curb manufactured by Dandy Products, Inc. or approved equal.

PART 3 – EXECUTION

3.1 CONSTRUCTION

A. Contractor shall comply with all provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activities as delineated in HAR 11-55 and HAR 11-55 Appendix C.

B. Contractor shall also comply with all construction BMP requirements as delineated in the DPP Water Quality Standards for a Trenching Category Project.

C. The ESCP Officer will be responsible for implementing the approved ESCP and for overseeing compliance with City and State requirements for erosion and sediment control for the duration of the project. The ESCP Officer shall be authorized to sign any reports, checklists, Storm Water Pollution Prevention Plans, and all other documents required by the permits and this Section.

D. Prior to starting any construction, the Contractor shall install the temporary BMPs as indicated on the Plans in accordance with the City BMP Manual, the Water Quality Standards, and per manufacturer's specifications to prevent silt and debris from leaving the project site. The most stringent requirements shall apply.

E. If necessary, based on their assessment of the actual site conditions, additional BMP measures shall be implemented to prevent silt and debris from leaving the project site as determined by the ESCP Coordinator. The cost to install, maintain, and remove additional BMP measures shall be borne by the Contractor at no additional cost to the State.

F. During grading operations, maintain the grade to prevent damage to adjoining property from water and eroding soil.

G. Install temporary berms, cut off ditches and other provisions needed for construction methods and operations. Should there be a question if the temporary measures are insufficient to prevent erosion, the Project Manager shall make the final determination.

H. Catch Basin and Drain Inlet Protection

1. Protection devices shall be installed per manufacturer's instructions at all storm drain inlets and catch basins as indicated on the plans to prevent any sediment laden runoff from leaving the site.

2. Catch basin and inlet protection devices shall be removed during periods of above normal rainfall and replaced after the event has passed.

I. Filter Socks

1. Filter Socks shall be installed per manufacturer's instructions or the following, wherever is more stringent.

2. Overlap: Where multiple sections of filter socks are required to form a continuous run, the sections shall have a minimum overlap of 12 inches.

3. Anchoring: The Contractor shall anchor the filter sock as required using sand bags as indicated by the manufacturer's instructions.

J. Erosion and sediment control measures shall be adjusted as directed by the Contracting Officer at no additional cost to the State.

K. Temporary seeding shall be placed on exposed surfaces that will not be brought to final grading or permanent cover treatment within 14 days of the exposure to reduce erosion and sedimentation by stabilizing exposed soils. Seeded areas shall be checked regularly for bare spots, washouts, and healthy growth to assure that a good stand of grass is being maintained. Reseed areas that fail to establish vegetation cover as soon as such areas are identified.

3.2 DUST CONTROL

A. Prevent dust from becoming airborne at all times including non-working hours, weekends and holidays in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 60.1 - Air Pollution Control and in accordance with Section 01567 – ENVIRONMENTAL PROTECTION.

B. For the duration of the contract, in areas subject to surface and air movement of dust, where on-site or off-site damage is likely to occur, one or more of the following preventive measures shall be taken for dust control:

1. Minimize the period of soil exposure through the use of temporary ground cover, environmentally friendly chemicals, or other temporary stabilization practices.

2. Sprinkle the site with water until surface is wet. Repeat as needed.

C. Contractor is responsible for all damage claims due to their negligence to control dust.

3.3 MAINTENANCE

A. The ESCP Officer shall inspect all BMPs, and shall make any necessary repairs and adjustments to all BMPs continuously at the frequency indicated and for the duration of the project in accordance with the approved ESCP.

B. Sediment control measures shall remain in place until the upstream area is permanently stabilized.

C. Maintain a record of all inspections and repairs made. Update records continuously for the duration of the project and submit to the Project Manager as required by the DPP Water Quality Standards.

D. Sediment control measures shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.

E. Silt barriers shall be inspected for depth of sediment, tears, and to see if the device

is securely anchored. Any deficiencies shall be repaired immediately.

F. Should the any portion of the sediment control measures decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the ineffective portion shall be replaced promptly at no additional cost to the State.

G. Sediment deposits on filter socks shall be removed after each storm event and/or when deposits reach approximately 2/3 the height of the barrier or when the sediments limit or prevent the flow of water through the compost filter sock.

H. Any sediment deposits remaining in place after the sediment or dust barrier is no longer required shall be graded to conform to the existing grade, prepared, and seeded.

I. Upon completion of the project and after permanent BMPs such as grassing have been established, the sediment control measures shall be removed from the project site and disposed of properly. The compost filtration media previously contained within the mesh and netting may be dispersed on-site and left as a soil cover and amendment.

J. Upon completion of the project and after permanent BMPs such as ground cover have been established, existing drain inlets, catch basins, and drainage systems surrounding the project site shall be inspected and any accumulated sediment and debris found shall be removed and disposed of in accordance with all regulations, to the acceptance of the Project Manager at no additional cost to the State. Flushing into the drainage system is prohibited.

3.4 CONFORMANCE

A. Failure to conform to the above requirements and regulations will be cause for temporary or permanent suspension of operations. If operations are suspended due to the Contractor's failure to conform, the Contractor shall maintain the project during the period of suspension at no cost to the State.

B. Any fines, penalties, or violations assessed to the project by the City or State as a result of the Contractor's actions, negligence, or inactivity shall be paid for by the Contractor at no additional cost to the State.

END OF SECTION

SECTION 02560 – ASPHALT CONCRETE PAVEMENT

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. Asphaltic concrete shall consist of a mixture of aggregate and bituminous material, mixed at a central plant in the proportions hereinafter specified and spread and compacted on a prepared subgrade surface.

C. Contractor shall maintain and provide safe pedestrian and vehicular access throughout the Project at all times unless authorized otherwise by the Project Manager.

1.2 REFERENCES

A. The "Standard Specifications for Public Works Construction", September 1986, of the Department of Public Works, including all revisions, as applicable to the City and County of Honolulu, hereafter referred to as the "DPW Standard Specifications", or as herein specified. (Paragraphs concerning Measurement and Payment are not applicable to this project.)

B. The "Hawaii Standard Specifications for Road and Bridge Construction", dated 2005, as revised, of the State of Hawaii Department of Transportation, hereafter referred to as the "State DOT Standard Specifications", or as herein specified. (Paragraphs concerning Measurement and Payment are not applicable to this project.)

1.3 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTAL PROCEDURES.

1. Submit copies of the job-mix formula, affidavits from the manufacturers or suppliers of all materials proposed to be furnished and installed under this section, certify that such material delivered to the project conforms to the requirements of these specifications and provide the Material Product Data and Material Safety Data for the materials proposed for use for the Project Manager's approval.

2. Test Reports: Submit test reports as directed by the Project Manager. Contractor shall verify all requirements prior to the start of earthwork operations.

3. Certification of Compaction: An independent geotechnical testing

laboratory working under the supervision of a licensed civil engineer licensed in Hawaii shall test and certify all compaction work. Certifications and test results shall be submitted to the Project Manager within three (3) days of the test.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Hot Mix Asphalt shall be City Mix No. 4 in accordance with the DPW Standard Specifications.

B. Tack Coat shall conform to AASHTO M 140, Type SS-1, SS-1h, CSS-1, or CSS-1h, emulsified asphalt

PART 3 – EXECUTION

3.1 INSTALLATION

A. Cold-plain existing asphalt pavement as shown in plans in accordance with Section 415 – COLD PLANING OF EXISTING PAVEMENT of the State DOT Standard Specifications.

B. Place asphalt pavement in accordance with Section 34 – ASPHALT CONCRETE PAVEMENT of the DPW Standard Specifications.

Where new asphalt pavement abuts existing asphalt pavement, provide smooth riding connection as indicated on the Plans.

3.2 TESTING

A. All costs for testing shall be borne by the Contractor. Two (2) core or cut samples, or using nuclear gauge, per speed table for the determination of the density of the completed speed table shall be obtained and/or tested by the Contractor at no extra cost to the State (including restoration of affected area). The size and locations of the samples will be determined by the Project Manager.

3.3 PAVEMENT MARKINGS

A. Striping and pavement markings shall be installed per Section 02577 – PAVEMENT MARKINGS.

3.4 FINAL INSPECTION

A. At the time of final inspection of the work performed under the Contract, the

work covered by this section shall be complete in every respect and operating as designed. All surplus materials of every character, resulting from the work of this section, shall have been removed. Any defects discovered in the work, subsequent to this inspection, shall be corrected prior to final acceptance.

B. Any existing asphaltic concrete pavements or surrounding surfaces that have been damaged by construction activities shall be repaired to the original condition and to the satisfaction of the Project Manager at no cost to the State.

END OF SECTION

SECTION 02577 – PAVEMENT MARKINGS

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. Furnish all labor, materials and equipment necessary to provide pavement markings on new asphalt pavement as indicated on the drawings and as specified herein.

1.2 REFERENCES

A. The "Hawaii Standard Specifications for Road and Bridge Construction", dated 2005, as revised, of the State of Hawaii Department of Transportation, hereafter referred to as the "State DOT Standard Specifications", or as herein specified. (Paragraphs concerning Measurement and Payment are not applicable to this project.)

1.3 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTAL PROCEDURES.

1. Product Data Sheets: Submit product data sheets, clearly marked, indicating proposed materials.

2. Product Data: Material Safety Data Sheets.

3. Product Certificates: Certificates from manufacturers or supplier's to verify that types of materials being supplied meet the requirements of these specifications.

4. Manufacturers Installation Instructions.

1.4 DELIVERY AND STORAGE

A. Deliver pavement markers, paints, and paint material in original sealed containers that plainly show the designated name, specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer. Provide storage facilities at the job site for maintaining materials at temperature recommended by the manufacturer.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pavement Markings

1. Pavement markings shall be in accordance with State DOT Standard Specifications Section 755.05 - Retroreflective Thermoplastic Compound Pavement Markings.

2. Pavement markings shall be colored as indicated on the drawings or as selected by the Project Manager.

3. Paint shall be in sealed containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's formulation number and directions, and name of the manufacturer, all of which shall be plainly legible at the time of use.

4. The paint shall be homogeneous, easily stirred to a smooth consistency, and shall show no hard settlement or other objectionable characteristics.

2.2 EQUIPMENT

A. All equipment, tools and machinery used in the performance of the work covered by this section of the specifications shall be suitable for pavement markings installation and removal, and shall be maintained in satisfactory operating condition at all times.

B. Paint Applicator: The equipment for applying paint to pavements shall be a self-propelled or mobile-drawn pneumatic spraying machine with suitable arrangements of atomizing nozzles and controls to obtain the specified results. The machine shall be capable of applying the stripe widths indicated on the drawings, shall have a speed during application of not less than five miles per hour, and shall be capable of applying the paint at the coverage rate specified hereinafter and at an even uniform thickness with clear-cut edges. The paint applicators shall have a paint reservoir of sufficient capacity and suitable gages to apply paint as specified herein. The reservoirs shall be equipped with suitable air-driven mechanical agitators. The spray mechanism shall be equipped with quick-action valves conveniently located, and shall include necessary pressure regulators and gages in full view and reach of the operator. Paint strainers shall be installed in the paint supply lines to ensure freedom from residue and foreign matter that may cause malfunction of the spray guns. The paint applicator shall be readily adaptable for attachment of an air-actuated dispenser for the reflective media. Pneumatic spray guns shall be provided for hand application of paint in areas where the mobile paint applicator cannot be used.

PART 3 – EXECUTION

3.1 PAVEMENT MARKING REMOVAL

A. Remove existing pavement markings indicated in the drawings in accordance with DOT Standard Specification Section 629.03 (D) – Removal of Existing Pavement Markings.

3.2 SURFACE PREPARATION – THERMOPLASTIC PAVEMENT MARKINGS

B. Bituminous Pavements: New asphalt concrete pavement shall be allowed to cure for a period of not less than seven days before the application of marking materials unless directed otherwise by the Project Manager.

C. Dust, clay, silt and sand shall be removed from the pavement to be marked before application of paint by sweeping, blow with compressed air, rinsing with water or a combination of these methods as required.

D. Rubber deposits, surface laitance and other substances adhering to the pavement shall be removed with stiff brooms, scrapers, wire brushes, sandblasting or mechanical abrasion.

3.3 CONTROL POINTS

A. The Contractor shall establish and space control points, satisfactory to the Project Manager, at intervals that will ensure accurate location of pavement markings.

3.4 TRAFFIC CONTROL

A. The Contractor shall furnish, install and maintain suitable warning and directional signs, barricades and other traffic control devices near the beginning and well ahead of the work site.

B. Traffic control devices shall be placed along the newly painted lines to control traffic and to prevent damage to the newly painted surfaces.

3.5 PAINT APPLICATION

A. Paint shall not be applied to damp or wet surfaces or when inclement weather threatens to interrupt normal progress of the work.

B. Traffic paints shall not be applied when air and pavement temperatures exceed 95 degrees

C. During periods of high winds, painting shall be discontinued.

D. Paint shall be applied with equipment specified herein and at the rate of coverage as recommended by the manufacturer.

E. The Contractor shall provide guide lines and templates as necessary to control paint application. Special precautions shall be taken in marking symbols. All edges of markings shall be sharply outlined.

F. Thermoplastic pavement markings and raised pavement markers shall be installed on new asphalt pavement in accordance with the State DOT Standard Specifications Section 629 – PAVEMENT MARKINGS.

G. The width of the lines supplied shall be within a tolerance of 1/4-inch. The center line of marking will not deviate more than one-inch laterally from a straight line at any point.

H. Workmanship shall conform to the best commercial practices consistent with these specifications. Areas not properly painted shall be repainted at no additional cost to the State.

I. Any spilled paints will be cleaned to the satisfaction of the Project Manager at no additional cost to the State.

J. The Contractor will keep the premises clean at all times. Paint, empty containers, and other material or equipment will not be stored or allowed to accumulate on or near the paved areas.

3.6 INSPECTION AND ACCEPTANCE

A. Pavement markings shall be subject to rigid inspection at all times and provisions of this specification will be strictly enforced.

B. Painting will not commence in any area until pavement surfaces have been inspected and the Project Manager's approval is given to the Contractor to proceed. Such approval will be obtained each day and after periods of precipitation.

C. If the Project Manager determines that the painted markings have not dried sufficiently in 90 minutes, painting shall be discontinued until the cause of slow drying is determined and corrected.

D. Areas found to be deficient in accordance with this specification will be rejected and complete replacement or repainting will be required.

E. Completed work will meet the Project Manager approval in all respects. Final acceptance will be contingent upon conformance with specification requirements

outlined in this specification.

3.7 PROTECTION OF WORK

A. Newly painted surfaces shall be protected from damage by vehicles and inadvertent contact during the time required for paint to harden sufficiently to withstand traffic or physical contact.

B. Any damage to newly painted markings due to Contractor's failure to provide adequate protection will be repaired at no additional cost to the State.

C. Any raised pavement markers removed and/or damaged by construction activities shall be repaired to the original condition and to the satisfaction of the Project Manager at no cost to the State. Install raised pavement markers in accordance with the State DOT Standard Specifications Section 629 – PAVEMENT MARKINGS.

END OF SECTION

SECTION 02890 – TRAFFIC SIGNS

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

1.2 REFERENCES

A. "Manual on Uniform Traffic Control Devices, 2009 Edition", including all revisions, of the U.S. Department of Transportation Federal Highway Administration.

B. The "Standard Specifications for Road and Bridge Construction, 2005", State of Hawaii, and all applicable updates, hereafter referred to as the "DOT Standard Specifications", or as herein specified. (Paragraphs concerning Measurement and Payment are not applicable to this project.)

1.3 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTAL PROCEDURES.

1. Product Data: The Contractor shall furnish to the Project Manager manufacturers printed product data and warranty information, clearly marked, indicating proposed sign materials.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Sign and Anchor Posts.

1. The sign and anchor posts shall be 12-gauge (0.105", U.S.S. Gauge) steel tube material conforming with ASTM designation A-446 Grade A for Cold-Rolled Carbon Steel Sheet commercial quality, ASTM designation A-570 for Hot-Rolled Carbon Steel Sheet commercial quality, or ASTM designation A787-94 for Hot-Rolled Carbon Steel structure.

2. Size: Sign posts shall be 2" x 2" square. The anchor post shall be a 2-1/4" x 2-1/4" square tube. Length of sign and anchor posts shall be in accordance with the Drawings.

3. Perforation: All sides shall have evenly spaced pre-drilled 7/16" diameter holes spaced 1" on-center on four sides along the length of the tube.

4. Fabrication: The sign and anchor posts shall be straight and shall have a smooth uniform finish. It shall be possible to telescope consecutive sizes of tubes freely with a minimum amount of play. All holes and cut off ends shall be free from burrs.

5. Finish: The sign and anchor posts shall be either hot dipped galvanized conforming to ASTM designation A-525 or triple coated by an in-line application of hot dipped galvanized zinc per AASHTO M-120 followed by a chromate conversion coating and a cross-linked polyurethane acrylic coating on the exterior with the inside surface given corrosion protection by an in-line application of a full zinc base organic coating testing in accordance with ASTM B-117

B. Fastening Hardware: All fastening hardware shall be as specified in the Drawings.

C. Signs: Signs and all finishings shall be in accordance with Section 631 – TRAFFIC CONTROL REGULATORY, WARNING, AND MISCELLANEOUS SIGNS of the DOT Standard Specifications.

D. Concrete Footing: Concrete sign post footing types shall be as indicated in the Plans and conforming to Section 39 – PORTLAND CEMENT CONCRETE of the DPW Standard Specifications.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Provide new materials including sign, sign posts, anchor posts, fastening hardware and concrete footing as shown in the Drawings and as required in these Specifications.

B. Signs: Signs shall be set level. Sign face shall be parallel or perpendicular to the edge of pavement as shown on the Drawings unless otherwise indicated. “Stop” signs shall be oriented parallel to the adjacent stop bars.

C. Sign and Anchor Posts: Sign posts shall be plumb and secure within the anchor post. Sign posts, anchor posts and all fastening hardware shall not be deformed or have any deterioration in their finish.

END OF SECTION

SECTION 03300 – CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Requirements as specified in the DHHL Construction General Conditions.

B. Furnish all labor, materials, tools, equipment and related items necessary to complete, in place, concrete curb ramps, curbs, and walkways in conformity with the dimensions and details shown on the plans.

1.2 REFERENCES

A. The "Standard Specifications for Public Works Construction", September 1986, of the Department of Public Works, including all revisions, as applicable to the City and County of Honolulu, hereafter referred to as the "DPW Standard Specifications", or as herein specified. (Paragraphs concerning Measurement and Payment are not applicable to this project.)

1.3 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTALS PROCEDURES.

1. Certificates: The Contractor shall furnish to the Project Manager affidavits from the manufacturers or supplier's certifying that types of materials being supplied meet the requirements of these specifications.

2. Reinforcing Steel: Certified mill test results or laboratory test results. Indicate bar size, yield strength, ultimate tensile strength, elongation and bend test. Provide chemical composition for rebars that are to be welded.

3. Design Mixes: Concrete design mixes.

4. Field quality-control test and inspection reports.

1.4 QUALITY ASSURANCE

A. Density testing shall be the responsibility of the Contractor at no additional expense to the State. Perform testing at an independent laboratory licensed in the State of Hawaii.

B. Contractor shall arrange and pay for concrete tests to be made by an independent testing laboratory acceptable to the Project Manager. Testing shall comply with ASTM C94.

1. Strength Tests: Strength tests shall be made from each 100 cubic yards of concrete or fraction thereof each day. For each test, three (3) cylinders shall be molded, one to be used for a 7-day test.

2. Air Content and Slump Tests: At the time samples are taken for strength tests, the laboratory shall make slump and air content tests.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials for concrete curb ramps, curbs, and walkways shall be in accordance with the below listed Sections of the DPW Standard Specifications, except as amended in the plans and/or specifications herewith. (Paragraphs concerning Measurement and Payment are not applicable to this project).

1. Aggregate Base Course - Section 31 (Maximum aggregate size shall be ¾-inch).

2. Portland Cement Concrete - Section 39.

3. Concrete Curb and Gutter – Section 41

4. Concrete Sidewalk – Section 42

5. Reinforcing Steel – Section 48

B. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

PART 3 – EXECUTION

3.1 INSTALLATION

A. The Contractor shall stake out area of new concrete structures using wooden stakes on which final finish elevations and base course elevations are clearly marked. All such stakes and elevations shall be approved by the Project Manager before any work is done.

B. Construct items in accordance with the below listed Sections of the DPW Standard Specifications, except as amended in the plans and/or specifications herewith.

1. Concrete Curb and Gutter – Section 41

2. Concrete Sidewalk – Section 42

C. Excavate to required depth and remove any soft, yielding material and replace with select fill in accordance with Section 02300 - EARTHWORK.

D. Compact subgrade and place base course material in accordance with Section 02300 - EARTHWORK. Maintain subgrade in a compacted condition until base course material is placed.

E. Moisten base course and forms immediately before placing concrete. Contractor shall take necessary precautions for placing concrete during hot and/or windy weather conditions.

F. The relatively moist condition of the prepared subgrade shall be maintained prior to placement of base course. The soils shall not be allowed to dry significantly prior to placement of the overlying fill.

G. The finished concrete walkway surfaces shall have a broom finish and be scored at intervals as indicated on the plans. Broom finish on ramps shall be perpendicular to path of travel.

3.2 FINAL INSPECTION

At the time of final inspection of the work performed under the Contract, the work covered by this Section shall be complete in every respect. Any defects discovered in the work, subsequent to this inspection, shall be corrected prior to final acceptance by the Project Manager.

END OF SECTION