TENANT IMPROVEMENT GUIDELINES

DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
STATE OF HAWAII

MANUAL 2

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B. SPECIFIC REQUIREMENTS BY PROJECT TYPE

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MANUAL 2 - INTRODUCTION

Manual 2 consists of various parts. Section 'A' of this manual discusses general design criteria for Civil, Landscape development, Architectural, Mechanical and Electrical, common to all tenants. Section 'B' outlines design criteria specific to different types of tenants, (ie. 'Food & Beverage', 'Retail', 'Airlines' etc.) Section 'C', the Appendix, contains the Temporary Water Service forms, and USDA Restricted Plants list. All Tenants are strongly encouraged to review individual design concerns with the Airport District Manager (ADM) during the early stages of their design to ensure their design meets the approval of the Department of Transportation, Airports Division.

The Tenant Improvement Guidelines (TIG) are minimum quality standards set by the State of Hawaii, Department of Transportation - Airports Division (DOTA), to assist Tenants in the development, design and construction of their leased space / facilities, or improvements to their leased space / facilities. These guidelines apply to all State of Hawaii, DOTA Tenants (lessees and permittees) including, but not limited to the following: Concessionaires, Airlines, Services, and Fixed based operators.

IMPORTANT NOTE:

In the event there is a discrepancy on interpretation of these guidelines or any other applicable rules or regulations, the Airport District Manager (ADM) has the right to final authority and determination of which rules to follow.

Depending on the size of a particular improvement project (especially for 'minor' improvements/modifications), the DOTA will have the right to final authority and determination, to waive any requirements set forth in these manuals.

A. GENERAL REQUIREMENTS BY TENANT'S DESIGN CONSULTANTS

In keeping with the character of each State airport, the Tenant's Design Consultant shall comply with the appropriate specific design standards and criteria set forth by this section. In addition, Tenant's Design Consultant shall also meet any minimum quality standards set forth by each individual airport.

- Civil 1.0
- Landscape 2.0
- Architectural 3.0
- Mechanical 4.0
- Electrical 5.0

1.0 - CIVIL

1.1 - GENERAL CRITERIA

1.1.1 Site Planning

A. Airport Masterplan or Land Use document - Proposed tenant improvements shall conform to an Airport Masterplan or Land Use document used for planning of on-site and off-site airport functions and facilities.

B. Existing Conditions - The tenant shall be responsible for obtaining all necessary information on the existing condition of the leased space as it relates to the planned improvements. The tenant shall also verify existing facility and utility service data at the job site.

C. “As-built” Information – Questions and clarifications regarding ‘As-built’ drawings and/or specifications shall be directed to Airport Property Management.

1.1.2 Site Plan

A. Schematic Plan

(a) Clearly shows existing facilities including buildings, contours, roadways, utilities and signs in the immediate area of the project site or relevant to the proposed work.
(b) Layouts of proposed roadways, access drives, parking areas, site utilities and buildings showing Intended land use, type of occupancy and type of construction.
(c) Site and project dimensions including maximum building or equipment heights.
(d) Access points and proximity to existing facilities
(e) Used for coordination with airport departments and other tenants

B. Surveys

(a) Boundary survey and/or topographic survey of proposed building or construction site may be required. All points shall be tied to an existing Airport Coordinate System.
(b) A ground survey verification of existing utility alignments and flow lines may be required.

C. Line-of-site Issues – The site plan should address potential line-of-site issues or problems. (including line-of-sight of ACTC)

D. Landscape Plan – See Manual Two: Section 2.0

E. Traffic Impact Analysis – May be required for all landside developments that will increase vehicular traffic on existing local or collector roads.

1.1.3 Site Work

A. Primary Goal and Description - Improve overall aesthetics of area and promote airport development. Includes site clearing, grubbing, grading, drainage, pavement & special structures.

1.1.4 Code Requirements and Regulations

See Manual One: Section B: 2.7

1.1.5 Design Review and Required Submittals

See Manual One: Sections B: 2.3 and B: 2.6

1.2 - DESIGN CRITERIA

1.2.1 Site Preparation

A. Grading

(a) Divert surface and subsurface storm water flows away from buildings and pavement to prevent saturation of subgrade and damage or weakening of structures.
(b) Preserve natural character of terrain as much as possible and minimize disturbance to existing ground forms.
(c) Unpaved areas adjacent to buildings shall be sloped to direct surface water and roof drainage away from buildings, with a minimum of 5% in first 10 feet of horizontal distance.
(d) Paved surfaces should be sloped no less then 0.5% to prevent ponding.
(e) Areas not occupied by buildings or pavement should have adequate continuous slopes to allow flow towards swales, drainageways, roads, storm drain inlets, etc.
(f) Natural flow retained or contained within improvements.

1.2.2 Storm Drain Design (Landside)

A. Design Standards

(a) Federal Aviation Advisory Circular, 150/5370-10A Airport Construction, latest change.
(b) "Rules and Regulations Related to Storm Drainage Standards" City and County of Honolulu, latest revision.
(c) Storm Drainage Standards of Maui, Kauai and Hawaii Counties, latest revision.

B. Determination of Design Discharge

(a) Drainage improvements should be compatible with the existing drainage system.
(b) Drainage Area, Design Storm Recurrence Interval, Runoff Coefficient, Time of Concentration, Rainfall Intensity with Correction Factor
(c) For drainage areas where downstream capacities are inadequate, runoff is limited to predevelopment conditions
(d) The Designer shall submit the following information for approval by the Airport District Manager:
  (i) Description and plan of existing drainage facility
  (ii) Description and plan of proposed drainage facility
  (iii) Construction plans
  (iv) Computations for runoff, conduit and channel sizes, slopes, losses, hydraulic gradient and other hydraulic information arranged in tabular form, as specified in Design Standards
  (v) Drainage Area map
  (vi) Additional data when interim drainage measures are required due to restrictions in downstream drainage systems
  (vii) Alternatives considered and recommended alternative
  (viii) Certification signed and sealed by Professional Engineer

C. Flow in Gutters

(a) Permissible spread on streets is the determining factor of the street's hydraulic capacity.
(b) On multiple lane roadways, the permissible spread of water will not close more then one travel lane in each direction.

D. Storm Drain Manholes and Inlets

(a) Location, spacing, manhole channelization details per Design Standards

(b) Highest priority in design should be given first to preventing clogging and then to minimizing traffic interference. Hydraulic adequacy then follows.

E. Closed Conduits - Sizes, gradients, materials, “n” values, loading requirements per Design Standards

F. Open Channels - Design requirements for determining channel sizes, channel right-of-ways, permissible velocities, “n” values, channel linings, freeboard, junctions, bends and superelevation, transitions, debris barriers, debris basins and energy dissipator per Design Standards

G. Culverts - Drainage culverts shall pass storm flow from the upstream side to downstream side of roadway without causing excessive downstream velocities.

1.2.3 Road Design

A. Design Standards

(a) Federal Aviation Advisory Circular, 150/5370-10A Airport Construction, latest change.
(b) Department of Transportation Highways Division (DOT-H), Statewide Uniform Design Manual for Streets and Highways
(c) DOT-H Roadway Construction Standards
(d) AASHTO Policy on Geometric Design of Highways and Streets

B. Roadway Classifications within Airport Boundaries

(a) Local roads and streets
(b) Collector roads and streets
(c) Ramps

C. Design Speeds

(a) Local roads and streets provide direct access to abutting property (parking lots, terminals) for local traffic circulation movements. Design speeds range between fifteen (15) and thirty-five (35) miles

per hour depending on terrain, adjacent development and other considerations.

(b) Collector roads and streets link neighborhoods or areas of similar composition with arterial streets or highways. Design speeds range between twenty-five (25) and thirty-five (35) miles per hour depending on terrain and adjacent development.

(c) On and off-ramp design speeds should be determined per DOT-H criteria.

D. Safe Stopping Sight Distance – to be determined per the Design Manual

E. Design Vehicle

(a) Roadway design controls are based, in part on physical and operating characteristics of a critical design vehicle (i.e., passenger, single unit truck, large semi-trailer combination, etc.) for which new or reconstructed roadways will be designed to serve.

(b) Firefighting and emergency equipment must be capable of maneuvering on all circulation roads.

F. Turning Radii - AASHTO Policy on Geometric Design of Highways and Streets contains detailed criteria for turning radii requirements.

(a) All turning radii should be designed to accommodate the wheel path of the critical design vehicle without encroachment of curbs.

(b) The minimum design radius at street intersections shall be thirty (30) feet.

(c) The minimum design radius at driveways shall be fifteen (15) feet.

(d) Other radii may be required for special circumstances.

G. Horizontal Curvature - The maximum degree of curvature of horizontal curves are based on design values for vehicle speed, superelevation and friction factors for representative pavement surfaces. See DOT-H Design Manual.

H. Superelevation - Minimum length of superelevation runoff is 100 feet.

I. Obstruction Clearances

(a) A clear, unobstructed relatively wide and flat (4:1 or flatter) area beyond the edge of the travel lane is required for all new and major reconstruction projects.

(b) Minimum horizontal clearances shall be in accordance with the DOT-H Design manual. The clearance shall be measured from the edge of the travel lane to the face of the obstruction.
(c) The minimum vertical clearance over the usable roadway including the shoulders for local and collector roads shall be seventeen (17) feet for Honolulu International Airport (HNL) and fifteen (15) feet for all other airports. These clearances allow for future resurfacing.
(d) Culvert headwalls and other drainage structures shall have appropriate safety measures.

J. Pavement Widths

(a) Minimum lane width for local and collector roadways, where practical shall be 12 feet. On curved sections where radii are 200 feet or less, lane widths shall be widened to 15 feet.
(b) All on and off-ramps and direct connections to arterials shall be designed for one (1) lane of traffic operation with provisions for emergency parking. The ramps shall have a minimum width of fourteen (14) feet.
(c) Bi-directional two-lane roads without usable shoulders require a total pavement width of at least thirty-four (34) feet.

K. Curbs - Curb with heights of six (6) inches shall be used on local, collector and service roads.

L. Speed Change Lanes - The required length of auxiliary lanes and size of median opening for turning vehicles shall be per the Design Manual.

M. Shoulders

(a) On one-lane ramps, shoulders shall be placed on each side of travel lane to allow a stalled or stopped vehicle to be passed.
(b) Outside shoulders shall be a minimum of six (6) feet and inside shoulders shall be a minimum of two (2) feet.

N. Maximum Ramp Grade – Maximum desirable grade on ramps shall be 10%.

O. Guardrails - Guardrail heights are 3 feet 6 inches.

P. Curb Ramps - Provide for wheelchair users.

Q. Walkway Ramps - Provide at pedestrian walkway grade changes in lieu of steps, except at pavement curbs.

1.2.4 Roadway Signs

A. Design Manual - The designer shall comply with all requirements set forth in "Signage and Graphics Design Manual", Airports Division, latest edition.

B. Coordination - The designer shall coordinate all new traffic signs with existing airport signage and any on-going airport roadway projects to ensure continuity of design.

C. Preliminary drawings - The designer shall prepare a set of preliminary signage/graphics drawings and submit the design concept to the State. All signage locations, message information, graphics and sign unit details shall be illustrated.

D. Sign Posts, Breakaway Features and Foundations - shall conform to DOT-H standards.

E. Signage/Graphics - shall be easily readable, simple, contain no redundancy, and shall convey only the information necessary.

F. Construction Traffic Control Signs - shall be provided during sequencing of construction, as required.

G. Pedestrian Safety – Safety of pedestrians traversing roadways shall be a basic consideration in sign designs and their placement.

H. Sight Distances - Signs shall be located with sufficient sight distances to turn-offs, access ramps, exits, etc. to allow drivers time for decisions and maneuvering.

I. Signs on Bridge Structures - Erection of signs on bridge structures requires written approval from the Airport District Manager.

1.2.5 Pavement Design

A. Airfield Pavements - designed for aircraft loading per standards and criteria of the Federal Aviation Administration (FAA)

B. Road Pavements - designed per AASHTO and DOT-H design standards

C. Pavement Types - Roadways, ramps, driveways and service loading areas may either be Portland cement concrete or asphalt concrete

pavement. Walkways, curbs and gutters shall be poured-in-place Portland cement concrete.

D. Cost Estimate - Design Engineer shall provide construction and maintenance cost estimate for both Portland cement concrete and asphalt concrete pavement with a recommendation to the State for approval.

E. Pavement Cross Slopes – All pavements at curbside shall slope towards curb and gutter at a 1-1/2% cross slope.

F. Existing Pavement – Pavement to remain shall be examined and if necessary, a design for reconditioning and improvement shall be provided by the designer.

G. Design Live Loads - In accordance with current AASHTO design standards. Roadway design loads shall be HS20-44 to accommodate airport traffic.

H. Construction and Contraction Joints - Provide sawed contraction joints in Portland cement concrete pavement including roadways, driveways, ramps, walkways, tug ramps, service loading and parking areas. Fill construction and contraction joints with joint backing and sealant.

I. Expansion Joints - Provide expansion joints with filler, bond breaker and sealant.

J. Pavement Transitions - To connect new pavement to existing pavement saw cut and replace existing pavement in lieu of feathering. At the interface between asphalt and Portland cement concrete, provide smoothing connections and transitions for load transfer.

1.2.6 Parking

A. General Requirements

(a) Adequate parking shall be provided for the public, employees and service vehicles.
(b) The designer shall coordinate the parking lot design with designers of adjacent properties to ensure all work will match properly in alignment, grade and elevation.

B. Entrance and Exit - Consideration should be given to locating good entrance and exit points connecting approach roadway and internal circulation.

C. Parking Lot Pavement Surface Type – The type of pavement is determined by the volume and composition of traffic, soil conditions, availability of materials, experience of contractors and initial and maintenance costs. Generally, all Hawaii airport parking lots will be surfaced with bituminous asphalt concrete or Portland cement concrete. However, there may be some areas where the parking lot surface is simply of graded earth or of stabilized materials such as gravel or coral.

D. Surface Drainage - Parking lots shall be curbed and have adequate surface drainage with a minimum slope of 0.5%.

E. Other Design Considerations - include parking space layout, pavement markings, lighting, traffic control devices and accessible parking.

F. Parking-related Equipment - Design proposals for parking-related equipment such as semaphore arms or gates for restricting access shall be approved by the Airport District Manager.

G. On-Street Parking - or curb parking shall be parallel parking along curb lines of certain low-speed enplaning or deplaning service roads. Approximate dimensions of stall shall be nine (9) feet wide by twenty-two (22) feet long.

H. Removable Type Curbing - is permitted to allow for future parking configurations with minimal reconstruction.

I. Off-Street Parking Spaces - shall be provided in connection with the following uses and requirements.

Use	Number of Full Size Parking Spaces	Required for Each
Office	1	300 sq. ft. gross floor area
Food & Beverage Service	1	100 sq. ft. gross floor area
Personal Service, Retail Use	1	200 sq. ft. gross floor area
Distribution, Warehouse	1	2,000 sq. ft. gross floor area
Manufacturing	1	1,000 sq. ft. gross floor area

J. Building Setbacks - along roads may be used for parking purposes only if no other alternative exists and upon approval of the Airport District Manager.

K. Ninety (90) Degree Parking Design - uses space most efficiently with cars able to utilize aisles in both directions and minimize travel distances.

L. Angled Parking Spaces - With parking angles less then 90 degrees, travel aisles must be one-way. To maximize space more then one parking angle layout may be used in a parking lot.

M. Handicap Parking – per A.D.A. requirements

1.2.7 Pavement Markings and Striping

A. Raised Pavement Markers and Reflectorized Paint Markings - Provide on all roadways per DOT-H requirements and standards.

B. Placement and Spacing - shall conform to DOT-H requirements and standards.

C. Parking And Service Loading Areas - Provide reflectorized paint markings in all parking and service loading areas.

1.2.8 Fencing and Gates

A. FAA Requirements - All fencing shall be designed in accordance with current FAA requirements.

B. Permanent Fencing and Gates - shall be 8 feet high chain link fabric, galvanized and vinyl coated or otherwise FAA approved.

C. Temporary Fencing - shall be galvanized and provided as required by the overall construction sequencing of the project.

D. Coordination - Location of fencing and gates shall be coordinated with DOT-Airports and adjacent tenants.

E. Aesthetics – All fencing on leased property is the responsibility of the tenant and shall be aesthetically pleasing. Chain link fencing shall be screened with plantings where appropriate.

F. AOA fencing vs. Non-AOA fencing requirements

1.2.9 Trash Handling

A. Coordination - The designer shall coordinate design requirements for trash handling services with the Airport District Manager.

B. Space Requirements - Adequate space shall be provided for trash handling devices and containers depending on the type of trash to be disposed.

C. Screening - All equipment used for handling and storage of trash, which may be in the public view, shall be screened.

D. Equipment Color - shall be furnished in a color to match other painted building equipment.

E. Dumpster Orientation – Dumpster-type containers shall be oriented for ease of approach of truck.

F. Cover or Enclosure - All trash containers shall be covered or otherwise enclosed to prevent access by wildlife and disturbance from high winds.

1.2.10 Walkways

A. Pedestrian Walkways - between buildings and other locations shall be constructed where needed.

B. Minimum width of walkway pavement is four (4) feet with proper cross slope for adequate drainage. Depending on location, a wider walkway may be required.

C. Minimum Walkway Pavement Section - shall be four (4) inch thick

D. Reinforcement - Flat 6-inch x 6-inch, W2.9 x W2.9 welded wire fabric on a minimum of 2-inch sand cushion. Rolled wire fabric is not permissible as walkway reinforcing.

E. Contraction Joints - shall be spaced at about every four (4) feet.

F. Expansion Joints - Premolded one-half (1/2) inch expansion joint material spaced at thirty-two (32) feet is required.

1.2.11 Other Exterior Utilities

A. General Information

(a) DOT-A cannot accept responsibility for utility locations shown on "as-built" drawings. It will be the tenant's responsibility to verify locations or the adequacy of "as-built" information prior to design and construction of utility extensions, duct banks or connections to those facilities.

B. Wastewater System Improvements

(a) Discuss the adequacy of the existing wastewater collection system at points of connection with the Airport District Manager.
(b) Wastewater systems and connections to existing systems shall be designed in accordance with the requirements and Design Standards of the Department of Wastewater Management.
(c) Provisions for continuous sewer service for existing tenants shall be made.
(d) Wherever possible, disposal of wastewater shall be by gravity to the airport wastewater collection system.
(e) The wastewater system shall be designed to carry design peak wet weather flows.
(f) All required laterals shall be provided to within five (5) feet of all building lines after coordination with designers of tenant spaces to assure proper alignment of wastewater collection system.

C. Water System Improvements

(a) Temporary water service may be provided for

(i) Construction interim measures, i.e.; dust control, job site office
(ii) Special conditions
(iii) For an existing service, if allowed
(iv) Cleanout
(v) Fire hydrant
(vi) Temporary in-ground service if existing unused service lateral or fire hydrant is not available.

(b) Tenant or designer to provide information requested in **TEMPORARY WATER METER (Approval Checklist)** and attached forms (see APPENDIX: Documents M.2-1).

(c) Permit period

(i) Temporary water service permitted for initial period not longer then 90 days for fire hydrant services and 120 days for in-ground services.
(ii) A 90 day extension must be requested in writing and approved by Airports Division, Maintenance Engineering Section.

(d) Backflow Prevention

(i) Backflow preventor shall be installed where service line provides potable water for domestic uses and connects with other closed or chemically treated systems (i.e.; fire protection, irrigation) that could potentially contaminate the potable water.

(ii) Tenant/designer is responsible for installing a DOT-Airports approved backflow prevention device after the water meter, according to DOT-Airports Division Rules and Regulations.
(iii) Drains off backflow preventor shall be drained to wastewater system.
(iv) Failure to install the required backflow prevention device may cause a backflow problem. An immediate consequence is the removal of water meter.
(v) Tenant/designer is responsible for providing information and obtaining approval on attached form titled **CROSS-CONNECTION CONTROL AND BACKFLOW AGREEMENT FOR WATER METERS AND TEMPORARY FIRE HYDRANT CONNECTIONS** (see APPENDIX: Document M.2-1F).

(e) New Water Service

Tenant/Designer shall:

(i) Assure proposed design meets peak flow plus fire flow demands for project as specified in BWS Water System Standards and National Fire Protection Association (NFPA) requirements.
(ii) Coordinate with Airport District Manager and Airport Property Manager to determine requirements.
(iii) Determine adequacy of existing county water system at points connection with county water engineers.
(iv) Make provisions for continuous service to existing tenants.
(v) Submit plans, specifications, project descriptions of proposed improvements, and obtain required approvals.

(vi) Coordinate and consult with architect regarding size, location and proper alignment of all necessary water laterals, which shall be provided within five (5) feet of all building lines.

(vii) Coordinate with landscape architect regarding stub outs for exterior irrigation systems.

(viii) Provide information required using attached form titled **REQUEST FOR NEW WATER SERVICE** (see APPENDIX: Document M.2-1E).

(ix) Tenant to pay directly to water supplier, applicable water development fees.

(f) Water System Corrosion Control

(i) Corrosion Control design and construction for water systems under the jurisdiction of the Board of Water Supply shall be governed by the latest edition of the **WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS, Volume 3 of WATER SYSTEM STANDARDS**

(ii) Subjects covered in the standard include:

- Soil evaluation requirements to determine appropriate corrosion control measures
- External corrosion control requirements
- Pipe coatings
- Cathodic protection design
- Installation and workmanship
- Inspection and Testing

D. Gas System Improvements

(a) Tenant/designer shall determine the location of existing gas mains servicing existing airport facilities.

(b) Coordinate with Gas Company to determine adequacy of existing operating pressure to meet additional demand.

(c) All existing gas lines servicing the airport must remain in service, providing uninterrupted service.

(d) All required extensions, alterations or replacement of gas lines shall be meet Gas Company Standards. Plans for proposed improvements requiring natural gas service shall be submitted to the Gas Company for review of demand requirements and available service limits.

2.0 - LANDSCAPE

2.1 GENERAL CRITERIA

2.1.1 Design Intent: The purpose of landscape improvements, required for all publicly visible exterior areas, is to create an outdoor environment that is both functional and aesthetically pleasing.

2.1.2 State's Provisions: The State shall be responsible to provide necessary utilities, including water for irrigation purposes, and access to the site or space.

2.1.3 Tenant Requirements: The Tenant shall be responsible for the following:

A. Fine Grading and Site Preparation
B. Irrigation Systems
C. Existing Tree & Palm
D. New Plantings
E. Maintenance

2.1.4 Codes and Reference Standards: In addition to the Code Requirements and regulations, the landscape shall conform to the requirements of the Department of Agriculture regarding restricting the use of host plant materials of the fruit fly (Bactrocera dorsalis Hendel) and mosquitoes. Refer to the APPENDIX for list of USDA Restricted plants.

2.2 DESIGN CRITERIA

2.2.1 General:

A. The landscape shall be designed to be appropriate to the setting (location) scale, and function of the site or space.

B. The landscape shall conform to applicable master plans or design guidelines for each Airport property.

C. All landscaped areas shall have permanent irrigation systems.

2.2.2 Parking Areas:

A. Paved parking areas shall have canopy trees uniformly distributed to provide shade and visual relief.

B. Quantity of trees shall conform to local ordinance requirements.

C. Parking areas shall be screened from public view.

3.0 - ARCHITECTURAL

3.1 – GENERAL

3.1.1 Interior finishes have a major effect on the character and image of every Tenant space. Tenants are encouraged to be creative in their selections and application of all interior finishes, using high quality, durable materials. It is important for the Tenant or the Tenant's representative (architect, graphic designer, etc.) to work with the DOTA representative, under the guidance of these Design Standards and the Design Review Process, to create a unique look for each Tenant operation within the Airport.

3.1.2 Tenants are reminded of the unique characteristics of airport users, including peaking volumes that change throughout the day. Tenants need to accommodate luggage and bag carts in space layouts and in their selection of the building materials for their space.

3.1.3 The Tenant is responsible for transitions between DOTA materials and Tenant materials. Special attention will be given to transitions during the Design Review Process. All interior finishes are provided by the Tenant at the Tenant's expense, unless otherwise indicated.

3.2 – FLOORING

3.2.1 Design Intent: Provide a flooring consistent with the overall character of the airport, compatible to the surrounding elements, and with quality standards appropriate to the type of use that is intended. Deviation from these guidelines may only be allowed, subject to *prior written approval* from the Airport District Manager.

3.2.2 State's Provisions:

A. Finish flooring material in the public areas, carried up to the lease line of the Tenant's space.

B. Provide the Tenant with the loft space flooring broom clean and ready to receive the Tenant's finish flooring.

3.2.3 Tenant Requirements:

A. General

(a) The Tenant shall provide all flooring within their space, at the Tenant's expense. High quality and durable materials such as heavy duty carpet, stone, wood or ceramic tile are required. The use of vinyl composition tile or sheet vinyl is not permitted in areas viewed by the public.

(b) In the event that the Tenant's floor material has a pattern, the Tenant shall provide a single color, non-patterned border unless otherwise specified, to separate DOTA flooring from the Tenant's patterned flooring. The border shall be 18 inches wide and shall run the entire length of the Tenant's entry. This threshold shall be provided at the Tenant's expense.

B. Tile flooring

(a) In public use areas

(i) High traffic use commercial quality tile flooring such as, but not limited to, the following:

- Paver tiles
- Ceramic tiles
- Porcelain tiles

(ii) Vinyl flooring (V/C tile) is not permitted.

(b) In private use areas

(i) High traffic use commercial quality tile flooring such as, but not limited to the following:

- Paver tiles
- Ceramic tiles
- Porcelain tiles

(ii) Vinyl flooring (V/C tile) is permitted.

C. Carpeting

(a) In public use areas: High traffic use commercial quality carpeting
(b) In private use areas: Any type of carpet meeting National Fire Protection Association requirements.

(c) Carpet shall meet the following Performance:

(i) Static Control:

- AATCC 134 Minimum of 3.0 KV resistance for 20% RH at 70^{o} F (21^{o} C)

(ii) Smoke Density:

- ASTM E 662 tests for smoke rating of 450 or less

(iii) Delamination:

- ASTM 3936 tests the permanent attachment of secondary backing to primary backing.
- Delamination strength should be a minimum of 5 lb. per in. (warp direction) and withstand wheel load of 1500 lbs.

(iv) Abrasion Resistance:

- Vetterman drum test ASTM D 5417, carpet should withstand minimum of 22,000 cycles without showing excessive wear, min. International Gray Scale rating of 3.
- Hexapod drum test ASTM D 5252, carpet should withstand minimum of 12,000 cycles without showing excessive wear, min. International Gray Scale rating of 3.

(v) Flammability:

- Passes CPSC-FF-1-70 Methenamine Pill and Floor Radiant Panel Test ASTM E 648 and/or NEPA 253. Carpet shall have a minimum critical radiant flux of 0.45 watts per square centimeter (cm^2). Carpet shall meet the "Standards for the Surface Flammability of Carpets."

D. The flooring selection is subject to *written* approval by the State in regards to the standards listed below.

(a) Keeping in character with the airport

(b) Compatibility with the surrounding elements

(c) Color

(d) Pattern

(e) Quality

(f) Safety

(g) Installation methods

(h) Maintenance factors

3.0 – ARCHITECTURAL (continued)

3.3 – WALLS

3.3.1 Design Intent: Provide interior and exterior walls consistent with the overall character of the airport, compatible to the surrounding elements and with quality standards appropriate to the type of use that is intended. Deviation from these guidelines may only be allowed, subject to *prior written approval* from the Airport District Manager.

3.3.2 State's Provisions: Demising walls/partitions defining the leased space to be constructed with metal studs at 24 inches on center from the floor to the structure above.

3.3.3 Tenant Requirements:

A. The use of high quality materials will be required.

B. All finish drywall or plaster work within the leased space.

C. All interior partitions and curtain walls within the leased space.

D. All special framing and supports required to support built-in wall standards and special display fixtures.

E. All interior finishes including:

(a) Paint

(b) Wall coverings

(c) Wood paneling

(d) Any combination wall finish and display systems such as slot wall

F. Plastic laminate, vinyl wall covering, rough textured wood, or imitation materials may be considered and permitted only for specific applications, as approved through the Design Review Process.

G. Provide wall partitions to meet code requirements.

H. Where stud walls are provided by DOTA, the Tenant must finish walls with gypsum board to achieve the required fire rating. Any penetration must be sealed appropriately.

3.0 – ARCHITECTURAL (continued)

3.4 – CEILING

3.4.1 Design Intent: Provide ceiling finishes consistent with the overall character of the airport, consistent with the surrounding elements, and with quality standards appropriate to the type of use that is intended. Deviation from the following guidelines may only be allowed, subject to *prior written approval* from the Airport District Manager.

3.4.2 State's Provisions:

A. The State provides ceiling material in all public spaces which terminate at the Tenant's lease line, unless otherwise indicated.

B. The State provides the general structure from which the Tenant can frame or hang general T-bar supports.

3.4.3 Tenant Requirements:

A. High quality ceiling materials and finishes are required within the lease line. Permitted materials include, but are not limited to the following:

(a) Gypsum wallboard, commercial quality finish. No spray textures allowed.

(b) Suspended acoustical tile ceilings

(i) Concealed spline
(ii) Acoustical tile 24" x 24" with reveal edges, or
(iii) Special design 24" x 48" modules (with approval from DOTA).

(c) Standard 24" x 48" module ceilings are not permitted in public use areas. The use of wood or other combustible material above ceilings is prohibited. Access panels or catwalks required to serve the Tenant's equipment shall be installed at the Tenant's expense.

B. System components shall support the ceiling assembly with maximum deflection of 1/360 of the span of any component.

C. The ceiling heights and conditions within the Tenant spaces vary depending on location.

D. The Tenant shall provide coordination with existing mechanical, plumbing, and sprinkler equipment above the ceiling.

E. Access panels shall be provided as required at locations determined by DOTA. All ceiling access panels, grills, diffusers, light tracks and fixtures shall be

recessed into or above the ceiling and shall be finished to match the ceiling. New ceiling, ceiling alterations, and access panels shall be provided at the Tenant's expense.

3.5 – DOORS WITHIN TENANT'S PREMISES

A. All doors within the Tenant's space shall be provided and installed at the Tenant's expense. These doors shall be designed to be compatible with the overall design of the space.

B. High quality doors such as solid core wood or metal shall be used, min. 3° x 7°.

C. The Tenant is encouraged to install kick plates to reduce damage to doors.

D. All hardware shall be high quality stainless steel, ball bearing hinge, lever handle in commercial grade quality. Automatic door closures are required.

3.6 – LIGHTING

3.6.1 Design Intent: Provide lighting consistent with the overall character of the airport, compatible with the surrounding elements and with quality standards appropriate to the type of use that is intended. Tenants are encouraged to balance creativity and technical performance of their lighting design. Deviation from the following guidelines may only be allowed, subject to *prior written approval* from the Airport District Manager.

3.6.2 State's Provisions:

A. Lighting in public use areas, outside of the Tenant's leased space.

B. Lighting for the generic signs at the entry of the Tenant's space for public walk-in type of concessions.

3.6.3 Tenant Requirements:

A. All fluorescent, incandescent, decorative and highlighting light fixtures within the leased space.

B. Window display lighting, if applicable.

C. Exiting and pathway lighting as required by code.

D. No bare lamps allowed.

E. Any DOTA provided lighting within the tenants space shall be maintained by the tenant. Only DOTA specified lamps may be used.

F. The tenant shall provide lighting for their primary sign at the Tenant's expense, unless otherwise indicated. This lighting shall be compatible with the overall design, shall not produce glare, and shall light the primary sign adequately for easy viewing by the public.

3.7 – PUBLIC ENTRANCES AND STOREFRONTS (IF APPLICABLE)

3.7.1 Design Intent: Provide public entrances and storefronts for Tenant spaces requiring public access into the concession-type space which is consistent with the overall character of the airport, compatible with the surrounding elements and with quality standards appropriate to the type of use that is intended. Deviation from the following guidelines may only be allowed, subject to *prior written approval* from the Airport District Manager.

3.7.2 State's Provisions:

A. All construction and finish materials for construction of the public portions of the storefront and the entry element.

B. The rolling security grille, with the required supports and guide rails, if applicable.

C. The window framing system, complete with painted finish (all sides) or glazing, if applicable.

3.7.3 Tenant Requirements:

A. Interior gypsum wallboard attached to the inside surface of the storefront framing system and all finishes within the leaseline.

B. Window display, bases, if applicable.

3.8 – MERCHANDISING DISPLAYS AND FIXTURES (IF APPLICABLE)

3.8.1 Design Intent: Provide merchandising displays and fixtures consistent with the overall character of the airport, compatible with the surrounding elements and with quality standards appropriate to the type of use that is intended. Deviation from the following guidelines may only be allowed, subject to *prior written approval* from the Airport District Manager.

A. Designed to maximize the impact of the retail facilities.

B. Flexible for multi-use.

C. Maintain visual and spatial continuity within the leased space by restricting centrally located floor displays and fixtures to 4'-6" (54") in height.

D. Designed to accommodate changing merchandising trends.

E. Permit the merchandise to sell itself, whenever possible.

F. Provide a finished and professional quality appearance.

3.8.2 State's Provisions: None.

3.8.3 Tenant Requirements:

A. Fabrication and installation of all portable and permanent fixtures and displays.

B. All merchandising displays, fixtures, merchandise and property belonging to the Tenant shall not exceed the lease line into the public areas, and shall not obstruct the movement of the public into their leased space.

C. The merchandising displays and fixtures shall be designed and constructed of materials appropriate for heavy commercial use.

(a) Permitted finishes:

(i) Plastic laminate
(ii) Commercial grade vinyl coverings
(iii) Tiles
(iv) Stone finishes
(v) Porcelain finishes
(vi) Epoxy
(vii) Glass
(viii) Metals
(ix) Finished wood, professional quality
(x) Similar durable finishes

(b) Non-permitted finishes:

(i) Paint
(ii) Contact paper clad particle board

3.0 – ARCHITECTURAL (continued)

3.9 – FINISHES / PAINT

Note: Deviation from the guidelines below may only be allowed, subject to *prior written approval* from the Airport District Manager.

3.9.1 Paint and finishes shall have a Class A, 0-25 flame-spread rating when applied to a noncombustible surface.

3.9.2 Acceptable types of finish coatings, whether transparent, translucent or opaque, include solvent based and water based systems.

3.9.3 Paint and finish systems shall be of compatible materials from substrate to the finish coat.

3.9.4 Specify specific surfaces which are to receive painted and finish systems. Generally, all exposed surfaces shall receive a factory or field applied finish system. Field painted or finish systems shall have a minimum of two finish coats.

3.9.5 Specify specific surfaces which do not require painted and finish systems.

3.9.6 Comply with ANSI/OSHA established color code required for color marking physical hazards, safety equipment locations, fire and other protective equipment.

3.9.7 Mechanical piping may be painted the same color as adjacent surfaces. Piping shall be identified by color bands and legends at areas adjacent to valves, couplings and at wall penetrations.

3.9.8 Interior masonry, plaster and gypsum wallboard shall be coated with a primer-sealer prior to application of finish coat. At masonry applications, primer-sealer shall be fill coat compatible with finish coat system.

3.9.9 Require exterior CMU to receive waterproof coating where applicable.

3.9.10 Painting over code required labels, equipment identification, performance rating, name, or other nomenclature plates is not allowed

3.10 – SURFACE PREPARATION REQUIREMENTS

3.10.1 Specify surface preparation requirements for each surface and type of paint or finish system specified. Deviation from these guidelines may only be allowed, subject to *prior written approval* from the Airport District Manager. General requirements are as follows:

A. Concrete: Surface shall cure 60 days minimum, remove latence and form oils by detergent washing (avoid sandblasting), floors may require chemical etching and/or bonding primer.

B. Concrete masonry units: Construction shall cure 30 days minimum, thoroughly clean with stiff fiber brush to remove loose sand granules, mortar spatters may be removed with high pressure spray.

C. Exterior wood surfaces: prime all surfaces prior to erection.

D. Ferrous metal: Specify required method of preparation to be in compliance with Steel Structures Painting Council (SSPC). Include application of rust-inhibiting primer, coordinate application of primer with requirements of cementitious fireproofing.

E. Galvanized metal: Thoroughly clean surfaces with rags saturated with mineral spirits then prime.

F. Aluminum: Abrade non-corroded surfaces with fine steel wool, wipe clean with rage saturated with mineral spirits.

G. Plaster / stucco: Surfaces shall cure 30 days minimum.

3.11 – QUEUING DEVICES

3.11.1 To provide the highest level of customer service at all State airports, queuing devices shall be used to moderate the circulation and flow of passengers and customers through the Tenant's space. Queuing devices shall be required for Airlines and Rental Car Agencies, and as deemed necessary by DOTA, for Food Concessionaires and Cart/Kiosk Concessionaires, to provide direction for and control of customer lines. Tenants shall provide attractive, movable, high quality stanchions within their space and should adjust their use of queuing devices according to tier peak periods.

3.11.2 Stanchions shall be of sturdy construction with a heavy, rust-proof base and manufactured for this specific use; ad hoc or temporary stanchions are not permitted. The base and stands should be finished in attractive, durable materials. Durable, retractable straps/tapes are required to provide the greatest amount of flexibility in layout and positioning. Stanchion colors, finishes, and materials shall be approved through the Design Review Process.

MECHANICAL – 4.0

4.1. - PLUMBING AND DRAINAGE

GENERAL CRITERIA:

4.1.1 Design Intent: Provide interior plumbing and drainage for tenants requiring such systems that are efficient, economical, maintainable and reliable.

4.1.2 Design Standards: Size all domestic water, sanitary waste, vent and downspout piping as shown in the latest Uniform Plumbing Code. Velocity through domestic water piping shall not exceed four feet per second. Design hot water temperatures will be 120°F except for kitchens which require 140°F. Boost temperatures locally at dishwashers to 180°F or as required by food service consultant.

4.1.3 Airport Water System Design: Pursuant to National Fire Protection Standards and Codes NFPA 402, NFPA 403, NFPA 414 NFPA 422, Federal Aviation Advisory Circulars on Airfield Water Systems, Airfield Fire Protection Standards, AC No: 150/5220-10B

4.1.4 Drawings and Specifications: Follow the submittal requirements of Manual One. All plumbing drawings shall be provided to a scale of 1/4" equals 1'-0" for toilet rooms and kitchens. Other plans may be at a scale of 1/8" equals 1'-0". Provide isometrics of all water and sanitary waste and vent systems.

4.1.5 Refer to APPENDIX for New and Temporary Water Service application forms & checklists:

A. Document M.2-1A: Temporary Water Meter (Approval Checklist)
B. Document M.2-1B: Notice for Service Holders of Temporary Water Meters
C. Document M.2-1C: Application for Temporary Water Service
D. Document M.2-1D: Request for '90 Days' extension of Temporary Water Service
E. Document M.2-1E: Request for New Water Service
F. Document M.2-1F: Cross-Connection Control & Backflow Prevention Agreement for Water Meters and Temporary Fire Hydrant Connections

DESIGN CRITERIA

4.1.6 Regulatory Requirements: Tenant work shall be per Underwriters, Public Utility, Local, State and Federal Codes, Ordinances, and applicable regulations. Work shall also comply with latest editions of all applicable

codes, ordinances and regulations codes, ordinances and regulations in effect as of the date of the Contract Documents. If discrepancies occur between the Contract Documents and any applicable codes, ordinances, acts, or standards, the most stringent requirements shall apply.

4.1.7 Codes and Reference Standards:

A. Uniform Building Code (UBC)

B. Uniform Plumbing Code (UPC)

C. Uniform Federal Accessibility Standards (UFAS)

D. Americans with Disabilities Act (ADA)

E. Water Systems Standards of Local City and County.

F. American Water Works Association (AWWA)

G. American Society of Mechanical Engineers (ASME)

H. American Society of Plumbing Engineers (ASPE)

I. American National Standards Institute (ANSI)

J. American Society of Testing Materials (ASTM)

K. Cast Iron Soil Pipe Institute (CISPI)

L. Hawaii State Model Energy Code

4.1.8 State's Provisions:

A. Water and sewer laterals to the leased space, size and location of which are determined by the State.

4.1.9 Tenant's Requirements:

A. Determine if there is a requirement for water metering. If required, co-ordinate compatibility requirements with the State regarding type of water metering and flow transmitter system.

B. Provide and install plumbing rough-in and fixtures not provided by the State.

C. Any damages or accidents affecting the Tenant's property, other property, or any persons incurred due to the installation or usage of the Tenant's plumbing system shall be repaired by and/or the responsibility of the Tenant.

4.1.10 Materials and Methods:

A. Piping: No foreign made pipe permitted. Only "lead free" water piping shall be used. Piping shall meet the following requirements:

(a) Cold Water Piping: Type "L" above ground, type "K" below ground.

(b) Hot Water Piping: Type "L" above ground, pre-insulated with type "K" underground, polyurethane insulation and PVC casing.

(c) Soil, Waste, Downspout and Vent lines 3" and under: Standard weight cast iron, hub and spigot or "No-Hub" conforming to C15P1 Standard 301-78.

(d) Vent piping under 3" above ground: DWV copper.

(e) Lawn Sprinkler Piping: Schedule 40 PVC pipe.

B. Pipe Identification: Use color-coded pipe marker bands with direction of flow arrows.

C. Valves: Bronze body, 150-psi minimum working pressure.

D. Pipe Hangers:

(a) Horizontal Steel or Cast Iron Piping: Hot dipped galvanized.

(b) Horizontal Copper Piping: Copper plated.

(c) Hanger Rods: Cadmium plated.

E. Pipe Insulation: All insulations, jackets, adhesives, coatings, vapor barrier mastics, etc., shall meet the requirements of NFPA Bulletin 90-A, ASTM E 84,and UL 723, with a flame spread of twenty-five (25) or less and smoke developed rating of fifty (50) or less. Insulation shall be as follows:

(a) All above ground insulated pipe: Heavy density sectional fiberglass with all service jacket.

(b) Hot Water Supply and Return Piping: 1-1/2" thick.

(c) Condensate Drain Lines: 1" thick.

(d) Insulated Piping Exposed to Weather: Cover with metal jacket made of 316 stainless steel, 0.010 inch thick and banded with stainless steel bands on 12-inch centers.

(e) Metal Saddles: No. 14-gauge.

F. Pipe Sleeves: Provide pipe sleeves for all pipes passing through walls and floors.

G. Plumbing Fixtures: Comply with UPC Section 1010, Water Conservation. All exposed metal work (P-traps, compression stops, etc.) shall be chrome plated.

CONSTRUCTION CRITERIA

4.1.11 Testing and Balancing:

A. Test the plumbing drainage system before work is concealed. Test water supply systems to 150-lbs. for thirty minutes. Repair leaks.

B. Chlorinate all new water piping for 8-hour period. Flush system clean until residual chlorine content is less than 0.2 parts per million.

4.2. – AIR CONDITIONING AND VENTILATION

GENERAL CRITERIA:

4.2.1 Design Intent: Provide air conditioning and ventilation for all leased spaces. The goals and objectives are to develop a mechanical tenant design that is efficient, economical, easily maintainable, reliable, and compatible with the State's systems.

4.2.2 Design Standards:

A. Outdoor design conditions: 87ºF db, 75º wb.

B. Indoor design conditions: 74ºF db, 50% RH.

C. Wall "U" value: 0.10 BTUH/SQ.FT./ºF.

D. Roof "U" value: 0.05 BTUH/SQ.FT./ºF.

E. Glass "U" value: 1.10 BTUH/SQ.FT./ºF.

F. Glass "SC" value: 0.69 or less.

G. Ventilation rates: In accordance with ASHRAE Standard 62-1989 or Hawaii State Department of Health Guidelines, whichever is larger. Bathroom exhaust rate shall be 2 cfm/sq. ft. for air-conditioned restrooms and 4 cfm/sq. ft. for non-air conditioned facilities.

H. Kitchen Ventilation Criteria:

(a) Provide three separate exhaust systems for dishwasher, grease hood and general exhaust. Do not combine these systems.

(b) Provide filtered make-up air.

(c) Grease hood exhaust ductwork velocity: Minimum 1800 fpm, maximum 2200 fpm.

(d) Provide kitchen hood exhaust scrubber consisting of filter module (99% efficiency per ASHRAE Standard 52-76), odor and bacteria control module, exhaust fan module and control panel with alarm lights, audible alarm and silencing switch.

I. Supply, return, exhaust and outside air ductwork friction loss: Not to exceed 0.10"/100 foot duct run.

J. Noise Criteria:

(a) The mechanical system shall be designed to minimize noise in the occupied space. The system and components shall be designed so as not to transmit or generate sound above a specified noise level in the space. Sound attenuators, duct liner, lower duct velocities and appropriate ductwork fittings and components shall be utilized as required to attain acceptable sound levels. Vibration isolation shall be utilized.

(b) Sound tests shall be conducted in accordance with accepted procedural standards in and around all major sound producing equipment to either confirm adequate attenuation

or to identify problem areas requiring additional modifications as required by the Project Manager.

(c) Equipment and ductwork noise levels to permit attaining sound pressure levels in all 8 octave bands in Tenant occupied spaces shall conform to noise criteria NC-35 curves. Mechanical equipment rooms shall conform to NC-50-60 curves. Motor drives for pumps or any equipment shall operate with noise levels not exceeding 90 dBA.

(d) Noise levels of 50 dBA nighttime and 60 dBA daytime will not be exceeded at the property lines.

K. Energy Conservation: As required by the Hawaii Model Energy Code.

4.2.3 Drawings and Specifications: Follow the submittal requirements of Manual One. All air conditioning and ventilation drawings shall be provided to a scale of 1/4" equals 1'-0" for equipment rooms, kitchens, toilets and congested areas. Other plans may be at a scale of 1/8" equals 1'-0". Provide piping diagrams, schematics or isometrics of chilled water, condensing water and refrigerant piping. Provide composite reflected ceiling plans.

DESIGN CRITERIA

4.2.4 Regulatory Requirements: Tenant work shall be per Underwriters, Public Utility, Local, State and Federal Codes, Ordinances, and applicable regulations. Work shall also comply with latest editions of all applicable codes, ordinances and regulations in effect as of the date of the Contract Documents. If discrepancies occur between the Contract Documents and any applicable codes, ordinances, acts, or standards, the most stringent requirements shall apply.

4.2.5 Codes and Reference Standards:

A. Uniform Building Code (UBC)

B. Uniform Plumbing Code (UPC)

C. Uniform Federal Accessibility Standards (UFAS)

D. Americans with Disabilities Act (ADA)

E. Water Systems Standards of Local City and County.

F. American Water Works Association (AWWA)

G. American Society of Mechanical Engineers (ASME)

H. American Society of Plumbing Engineers (ASPE)

I. American National Standards Institute (ANSI)

J. American Society of Testing Materials (ASTM)

K. Cast Iron Soil Pipe Institute (CISPI)

L. Hawaii State Model Energy Code

M. Uniform Mechanical Code (UMC)

N. National Electric Code (NEC)

O. Air Diffusion Council (ADC)

P. Air Moving and Conditioning Association (AMCA)

Q. Air Conditioning and Refrigeration Institute (ARI)

R. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)

S. Sheet Metal and Air Conditioning Contractor's National Association (SMACNA)

T. National Environmental Balancing Bureau (NEBB)

4.2.6 State's Provisions:

A. When available, State will provide from its central system, chilled water supply and return lines to each Tenant space. For individual lots and when central chilled water system is not available, Tenant provides complete new system.

B. When available, State will provide outside air make up ducts.

4.2.7 Tenant's Requirements:

A. Determine if there is a requirement for BTUH metering. If required, co-ordinate compatibility requirements with the State regarding type of BTUH metering and flow transmitter system.

B. For new lots, Tenant provides complete new system.

C. At locations where the air conditioning is provided from a State air-handling unit, Tenant shall provide all downstream air distribution system.

D. Furnish and install all required air conditioning, ventilation systems and equipment as required for the entire leased space. Install smoke detector in ducts as required by codes. Connect smoke detector(s) to the Tenant's fire alarm panel. Connect the Tenant's fire alarm panel to nearest State provided fire alarm terminal panel.

E. Install modulating control valve in chilled water supply line to air handler. Determine 2 way or 3 way compatibility with State's system.

F. Install flow control valve, Griswold or equal, in the air handler chilled water return line.

G. Any additional cooling and ventilation equipment required beyond the capacity provided by the State shall be provided by the Tenant at the Tenant's sole expense.

H. Any damages or accidents affecting the Tenant's property, other property, or any persons incurred due to the installation or usage of the Tenant's air conditioning and ventilation system, shall be repaired by and/or the responsibility of the Tenant.

4.2.8 Materials and Methods:

A. Piping: No foreign made pipe permitted. Piping shall meet the following requirements:

(a) Chilled Water Piping above ground: Schedule 40 black steel, ASTM A106, or copper type "L".

(b) Condensing Water Piping above ground: Schedule 40 black steel, ASTM A106.

(c) Underground Chilled Water Piping: Copper core type "K" or steel pre-insulated pressure pipe, ASTM A106, with PVC casing.

(d) Drain Piping: Type "L" copper.

(e) Freon Refrigerant Piping: Type "L" copper.

B. Pipe Identification: Use color-coded pipe marker bands with flow direction arrows.

C. Valves: Ductile iron, cast or malleable iron handles or wheels, 150-psi minimum working pressure.

D. Pipe Hangers:

(a) Horizontal Steel or Cast Iron Piping: Hot dipped galvanized.

(b) Horizontal Copper Piping: Copper plated.

(c) Hanger Rods: Cadmium plated.

E. Pipe Insulation: All insulations, jackets, adhesives, coatings, vapor barrier mastics, etc., shall meet the requirements of NFPA Bulletin 90-A, ASTM E 84,and UL 723, with a flame spread of twenty-five (25) or less and smoke developed rating of fifty (50) or less. Insulation shall be as follows:

(a) All above ground insulated pipe: Heavy density sectional fiberglass with all service vapor barrier jacket.

(b) Chilled Water Supply and Return Piping: 1-1/2" thick up to 3 inches, 2 inches for piping 3 inches and over.

(c) Condensate Drain Lines: 1" thick.

(d) Insulated Piping Exposed to Weather: Cover with metal jacket made of 316 stainless steel, 0.010 inch thick and banded with stainless steel bands on 12-inch centers.

(e) Metal Saddles: No. 14-gauge.

(f) Refrigerant suction pipe: 1-1/2" thick.

(g) Gauge cocks, thermometer wells and pressure taps: 1" thick.

F. Pipe Sleeves: Provide pipe sleeves for all pipes passing through walls and floors.

G. Supply, Return, and Exhaust Ducts and Secondary Condensate Pans: Galvanized steel of gauges and construction accordance with SMACNA "HVAC Duct Construction Standards-Metal and Flexible", but in any case no lighter than 24 gauge galvanized steel. All mitered elbows and changes in direction shall be vaned in accordance with SMACNA recommendations or other approved manner. All supply air and return air ducts and secondary condensate drain pan shall be insulted with 1" thick coated duct liner such as Schuller International Permacote Linacoustic duct liner or approved equal. Exterior 1-1/2" thick fiberglass insulation with reinforced aluminum foil may also be used.

H. Packaged Air Cooled Air Conditioning Units: Weather proofed factory fabricated and ARI certified.

I. Air Handling Units: Double walled, low-pressure draw through single zone or variable volume, ARI certified and ASHRAE Standard 62-89 compliant. Fin Spacing not to exceed 10 fins/inch.

J. Motors: NEMA high efficiency.

K. Instrumentation: Provide thermometers, pressure and filter gauges.

L. Fans: AMCA certified, direct or belt drive depending on air quantities.

M. Controls: Direct Digital Control (DDC) compatible with existing systems. Tie-in to existing energy management and control system.

N. Fire and Smoke Dampers: Conforming to U.L. Standard 555.

O. Seismic Restraints: Conform to SMACNA requirements and UBC seismic zoning criteria.

P. All manual control balancing dampers shall be the parallel-blade type. All operator controlled modulating dampers shall be opposed-blade type. Outside air intake dampers shall have air-tight seals at both the edges and ends of the blades. The seals shall be of a material that will not disintegrate with exposure to jet exhaust fumes.

CONSTRUCTION CRITERIA

4.2.9 Testing and Balancing:

A. Test all piping to 200 pounds pressure and make tight. Caulking will not be permitted. Hold pressure for 24 hours with not more than a two (2) pound loss.

B. Exercise care during testing pressures so as not to exceed the manufacturer's test pressures of valves, equipment, and related items.

C. Test the air distribution system and make substantially airtight at the static pressure indicated for the system. Substantially airtight is construed to mean that no air leakage is noticeable through the senses of feeling or hearing.

D. Obtain the services of an independent test and balance agency approved by the Engineer, that specializes in and whose business is limited to the testing and balancing of air conditioning systems. Select an agency having a record of experience of at least one year in testing and balancing of air conditioning systems.

E. Perform testing and balancing in complete accordance with all the forms in the latest edition of Test and Balance Analysis Report as published by the Associated Air Balance Council (AABC), the latest edition of National Environmental Balance Bureau (NEBB), or the latest edition of SMACNA "HVAC Systems – Testing, Adjusting, and Balancing".

4.3 FIRE SPRINKLER SYSTEMS

GENERAL CRITERIA:

4.3.1 Design Intent: Provide automatic fire sprinkling systems for one hundred (100) percent coverage of the Tenant's area. Fire sprinkling systems shall be efficient, economical, maintainable and reliable.

4.3.2 Design Standards: Hydraulically designed in accordance with Chapter 7, NFPA Standard 13. Design seismically restrained hangers and piping such that system is protected against damage by earthquakes. Conduct flow test or obtain necessary flow data from Civil Engineer or AIR-E.

4.3.3 Drawings and Specifications: Follow the requirements of Manual One. All fire protection drawings shall be provided to a scale of 1/4" equals 1'-0" for congested areas. Other plans to a scale of 1/8" equals 1'-0". Composite reflected ceiling plans showing sprinkler heads and other ceiling mounted items, such as, air outlets (exhaust, supply, return), light fixtures, smoke detectors and recessed speakers. Provide detailed performance specifications.

DESIGN CRITERIA

4.3.4 Regulatory Requirements:

A. Tenant work shall be per Underwriters, Public Utility, Local, State and Federal Codes, Ordinances, and applicable regulations. Work shall also comply with latest editions of all applicable codes, ordinances and regulations in effect as of the date of the Contract Documents. If discrepancies occur between the Contract Documents and any applicable codes, ordinances, acts, or standards, the most stringent requirements shall apply.

B. Comply with the requirements of the Hawaii Insurance Rating Bureau, Local Fire Department and Factory Mutual.

4.3.5 Codes and Reference Standards:

A. Uniform Building Code (UBC)

B. Uniform Fire Code (UFC)

C. National Fire Protection Association (NFPA)

D. American National Standards Institute (ANSI)

E. Underwriters Laboraties (UL) (FPED)

F. Factory Mutual (FM)

G. American Society of Testing Materials (ASTM)

4.3.6 State's Provisions:

A. Provide a riser, including a supervised main control valve, flow detector, and a riser supervisory system.

B. Provide a feed main with a supervised branch shut-off valve.

C. Connect supervisory switch wiring to the Tenant's fire alarm panel. Connect the tenant's fire alarm panel to the State fire alarm panel.

4.3.7 Tenant's Requirements:

A. Install new cross and branch mains piping including a water-flow switch and sprinkler heads as required or needed and connect to the supervised shut-off valve provided by the State.

B. Signal wiring from the branch line water-flow switch shall be terminated at the nearest State provided fire alarm terminal panel.

C. Modify existing sprinkler cross and branch mains as required or needed.

D. Relocate or install new sprinkler heads as required or needed.

E. Maintain and repair the Tenant's sprinkler system as required or needed.

F. Any damages or accidents affecting the Tenant's property, other property, or any persons incurred due to the installation or usage of the Tenant's sprinkler system, shall be repaired by and/or the responsibility of the Tenant.

G. For new lots, Tenant provides complete system including riser assembly, alarm check valves, alarm gong, supervisory system and fire department Siamese connection.

H. If main feeds from the State are not available, provisions shall be made for future connections.

4.3.8 Materials and Methods:

A. Underground Sprinkler Pipe: Ductlile iron pipe with mechanical joints conforming to American Water Works Association (AWWA) C151.

B. Above ground Sprinkler Pipe: Standard weight, black steel pipe. Type "L" copper pipe for 3" and under, only. Where permitted by NFPA, victaulic pipe and fittings may be used.

C. Drain Lines: Standard weight galvanized steel.

D. Valves: O, S & Y Underwriters pattern, iron body, brass trim. Apply two coats of Keysit #740 epoxy paint to valves exposed to weather.

E. Pipe Hangers:

(a) Horizontal Steel Piping: Hot dipped galvanized.

(b) Horizontal Copper Piping: Copper plated.

(c) Hanger Rods: Cadmium plated.

(d) Seismic Pipe Connectors: Stainless steel braided for steel pipe, bronze braided for copper pipe.

F. Flow Meter: FM approved with annubar flow sensor.

G. Flow Switches: U.L. approved.

H. Pressure Gauges: White dial face, black needle with gauge locks and "snubbers".

I. Sprinkler Heads: Listed in U.L. "Fire Protection Equipment Directory".

CONSTRUCTION CRITERIA

4.3.9 Construction Administration:

A. Comply with Article 87 of the Fire Code, Firesafety During Construction.

B. All equipment shall be cleaned, including but not limited to, valves, piping and sprinkler heads. All debris and construction materials shall be removed from the property.

C. Replace all sprinkler heads that are painted.

4.3.10 Tests and Chlorination:

A. Tests: As required by referenced codes and standards, Fire Prevention Bureau and Airports Division.

B. Test pressures: Not to exceed manufacturer's pressure ratings for valves and equipment. Remedy all defects.

C. Chlorination: Eight hours with chlorine content not less than 50 – parts per million (ppm). Flush system clean until residual chlorine content is less than 0.2 ppm.

5.0 - ELECTRICAL

5.1 – GENERAL CRITERIA

5.1.1 Standards: The electrical design and construction of the project shall conform to all Federal, State and City & County codes, laws, ordinances and orders. All materials and workmanship shall conform but not be limited to the following applicable codes and standards:

A. American National Standards Institute (ANSI)

B. American Society for Testing and Materials (ASTM)

C. Illuminating Engineering Society (IES)

D. National Board of Fire Underwriters (NBFU)

E. National Electrical Code (NEC)

F. National Electrical Manufacturer's Association (NEMA)

G. National Fire Protection Association (NFPA)

H. Underwriter's Laboratories, Inc. (UL)

I. FAA Advisory Circulars

5.1.2 Design Documents/Submittals: At a minimum, the electrical drawings, specifications and submittals shall be clear and thorough to meet or exceed professional standards of practice. The drawings and/or specifications shall include but not be limited to the following:

A. Electrical Symbols & Legend

B. Lighting System

C. Power System

D. Fire Alarm System

E. Telephone System

F. Communications System

G. Security System

H. Public Address System

I. Special Equipment

J. Panel Schedules

K. Single-line Diagrams

L. Electrical Site Plans

M. Energy Code Compliance Calculations

N. Illumination Level Calculations

O. Voltage Drop Calculations

P. Short Circuit Calculations

Q. Catalog Cut Sheets For Lighting, Power, Fire Alarm, Telephone, Communications, Security and Public Address Systems

5.2 – DESIGN CRITERIA

5.2.1 Lighting System

A. The tenant is responsible for all light fixtures within the leased area. This area includes building exteriors for stand-alone buildings. If applicable, window display lighting shall be the responsibility of the tenant. Emergency lighting in the leased area shall be the responsibility of the tenant and shall be provided to satisfy all codes and standards.

B. All illumination levels shall conform to the recommendations provided by the IES.

C. Light Fixtures: All light fixtures shall be energy efficient, commercial grade type with standard lamps and ballasts. Avoid use of non-standard lamps and ballasts.

(a) Lamps:

(i) Fluorescent tubes shall be 32 watt, T-8, rapid start, 3500K, 82 CRI, or better.
(ii) Compact fluorescent lamps shall be 3500K, 82 CRI, or better, wattage as required.

(iii) High intensity discharge lamps shall be high pressure sodium, metal halide or low pressure sodium (for exterior applications on the island of Hawaii).

(iv) Incandescent lamps shall be used for specialty or accent lighting systems, only.

(b) Ballasts:

(i) Fluorescent ballasts shall be electronic type, rapid start, Class "P" with "A" sound rating or better. All electronic ballasts shall have a maximum of 10% total harmonic distribution, a ballast factor of 95% minimum and a nominal power factor of 90% or higher.

(ii) High intensity discharge ballasts shall be constant wattage autotransformer or regulator type, high power factor.

(c) Emergency Lighting:

(i) All fluorescent light fixtures for emergency use shall include a self-contained battery pack for operation during power outages. If a stand-by power system or redundant power system is available, then the light fixtures may be connected to these systems in lieu of the battery pack.

(ii) Exit sign lights shall be light emitting diode (LED) type provided with a self-contained battery pack for operation during power outages. If a stand-by power system or redundant power system is available, then the exit sign lights may be connected to these systems in lieu of the battery pack.

(d) Lighting Controls:

(i) For interior locations, occupancy sensors or dimming systems shall be considered for energy conservation purposes.

(ii) For exterior locations, photoelectric switches or time switches shall be utilized to control night light or curfew light circuits.

(iii) Light switches shall be non-mercury, quiet, 20 amperes, 120-277V, silvered contacts.

5.2.2 Power System

A. Service & Distribution:

(a) Tenant is responsible for obtaining service from local utility company. Hawaiian Electric Company (HECO) distributes primary power throughout Honolulu International Airport at 11.5KV, 3-phase. The concourses and terminals contain transformer substations which meter and step-down power to 480Y/277V, 3-phase, 4-wire for distribution.

(b) Secondary power is distributed at 480Y/277V, 3-phase, 4-wire and 208Y/120V, 3-phase, 4-wire throughout the concourses and terminal. The tenant may tap power from either of these systems after verifying the system capacity for the new loads. Final approval to tap power from either system must be obtained from the DOT-A.

(c) The tenant is responsible for providing a state controlled, kilowatt-hour check meter (with output that can be interfaced to the State's energy monitoring and control system -EMCS) and main disconnect device for service to the leased area. Interfacing to EMCS shall also be tenant's responsibility. This meter and main disconnect device shall be located in the State controlled electric room where the power is tapped from. The tenant must obtain authorization from the DOT-A for access into the electric room.

(d) For stand-alone buildings, local utility company service must be requested by the tenant to serve the building. The tenant shall provide a transformer substation, including a kilowatt-hour meter, to step-down the power for distribution in the building. The tenant is also responsible for the power distribution system within the building.

(e) The tenant is responsible for his own power distribution system within the leased area. All electrical equipment provided for this system, including panelboards, step-down transformers circuit breakers, disconnect switches, etc., must be contained within the leased area. If emergency power is required, the tenant shall provide his own equipment. Access to the State's emergency power system is not allowed.

(f) The tenant shall provide a temporary power system during construction if construction power is required. The cost of the power usage shall be the responsibility of the tenant.

B. Interior Electrical

(a) Switchgear:

(i) The vertical and horizontal bus may be aluminum type, fully rated throughout the length of the switchgear.

(ii) The switchgear shall have front and rear alignment.

(iii) The switchgear structure shall be formed-up steel channels bolted together to form a rigid structure which steel side sheets and front and rear covers bolted.

(iv) Provide a utility metering compartment, if required, and circuit protective device compartments in the switchgear.

(v) The switchgear housing shall be painted with light gray enamel over a rust inhibiting treatment after fabrication and before assembly.

(b) Panelboards:

(i) The panelboards shall have copper bussing, door, trim, directory and plastic nameplate.

(ii) Circuit breakers for the panelboards shall be molded case, bolt-on type. Multiple-pole circuit breakers shall be factory assembled for the number of poles required. No twin type circuit breakers are allowed.

(c) Dry-type transformers: Heavy duty type, constant potential, class H insulation with average sound level not exceeding 55 decibels for indoor type.

(d) Convenience Receptacles:

(i) Single and duplex, 20 amperes, 125 volt, back and side wired, grounding type.

(ii) Ground fault interrupting receptacles shall have test and reset buttons with 5 milliamperes maximum leakage current.

(e) Raceways:

(i) Electrical metallic tubing (EMT) shall be used in concealed interior locations and where exposed in interior locations

above 4'-0" above the finished floor level. EMT shall not be used in exterior locations, exposed locations below 4'-0" above the finished floor level or in poured concrete floors and walls.

(ii) Galvanized rigid steel conduits (GRC) shall be used in exterior locations, exposed locations below 4'-0" above the finished floor level and in poured concrete floors and walls.

(iii) Polyvinyl chloride conduits (PVC) shall be used in all locations below grade, either direct buried or concrete encased and under concrete slabs. All distribution feeders shall be concrete encased.

(iv) Flexible metallic conduits shall be used in accessible ceiling spaces for connection to light fixtures or for connecting electrical equipment subject to movement or vibration. Flexible metallic conduits shall be liquidtight in wet/damp locations.

(v) The minimum raceway size shall be ¾".

(f) Conductors:

(i) All conductors shall be stranded copper.

(ii) Conductor insulation shall be THHN/THWN for interior installations; XHHW for exterior and below grade installations. RHW-USE insulation may be used for below grade installations.

(g) Outlet and Small Junction Boxes:

(h) For dry interior locations, pressed, zinc-coated steel, 4 inch by 4 inch by 1-½ inch deep minimum. In ceiling spaces, 4 -11/16 inch by 4 -11/16 inch by 2 -1/8 inch deep.

(i) For exterior locations, stainless steel, factory finished with threaded hubs for conduit connection.

(i) Device and Cover Plates:

(i) For interior locations, stainless steel, dull finish and/or 10B satin bronze finish with suitable hole for device.

(ii) For damp locations, cast metal, neoprene gasket with a spring hinge.

(iii) For wet locations, plug may be connected without affecting the nature of the cover.

C. Exterior Electrical

(a) All manholes and handholes in roadways or driveways shall be provided with heavy-duty traffic rated covers. Local utility company standard drawings (ie. those of HECO and Verizon Hawaii) shall be followed for all installations.

(b) All service entrance conduits shall be concrete encased.

(c) Obtain approval from the respective utility companies when exterior work involving the utilities is required.

5.2.3 Fire Alarm System

A. Tenant Spaces Within State Operated Buildings

(a) The tenant shall provide a stand alone automatic fire alarm system panel for his leased area in accordance with the applicable fire codes and the NFPA standards.

(b) The tenant or a designated representative shall monitor the fire alarm system twenty-four (24) hours a day. In the event of an alarm, the tenant or designated representative shall notify the proper authorities immediately.

(c) The fire alarm system shall be addressable type, electrically supervised and operate on low voltage. The system shall be in compliance with ADA guidelines and shall include manual pullstations, audible and visible signaling devices, and smoke detectors.

(d) The fire alarm system shall supply two dry contacts (one for alarm & the other for system trouble) for connection to the State's Fire Alarm Secondary Annunciation System (FASAS). An interface point shall be established by the State for interconnection to the tenant's fire alarm system. The tenant shall be responsible for providing the connection cable in conduit from his fire alarm system to this interface point. The tenant's system shall be tested annually to demonstrate that it is operational and compatible with the FASAS.

B. Tenant-Operated Stand-Alone Buildings

(a) The tenant shall provide a stand-alone automatic fire alarm system within the building in accordance with the applicable fire codes, NFPA standards and ADA guidelines. The tenant's fire alarm system shall be tested annually to demonstrate that it is operational and functioning properly.

(b) The tenant or a designated representative shall monitor the fire alarm system twenty-four (24) hours-a-day. In the event of an alarm, the tenant or designated representative shall notify the proper authorities immediately.

(c) The tenant's fire alarm system is not required to be connected to the State's FASAS.

5.2.4 Telephone / Communication System

A. Telephone System

(a) The Tenant will pay for all telephone equipment, materials (ie. cables) and labor necessary to install its telephone system. The State will provide access to its nearest telephone / communications room for use by the tenant for cabling and other work requiring access to the local exchange network. The Tenant shall route telephone cable in conduit to the nearest State controlled Telephone / Communications Room for connection to the local telephone system (ie. Verizon Hawaii). Access to sensitive State Telephone / Communications rooms must be coordinated with the State.

(b) The State has its own Private Automated exchange (PAX) system. The Tenant may request for service from this system in order to facilitate internal communications. An interface point shall be established by the State for interconnection to the Tenant's telephone system. The State will determine the cost of the PAX service based on the number of lines. Installation charges and monthly recurring fees will apply. Billing for recurring costs will be monthly and will vary based on the amount of features requested.

(c) Any damage or accidents incurred affecting the Tenant's property, other property, or any persons due to the installation or usage of the Tenant's telephone system shall be repaired by and/or the responsibility of the Tenant. If the Tenant fails to do so, the State will make the repairs at the Tenant's expense.

B. Communications System

(a) All communications equipment, materials (ie. cable) and labor necessary to install and operate a complete communications system, within the leased area, shall be at the Tenant's expense. The Tenant shall submit a request to the State for the installation of such a system. The request must indicate the intent and description of the system.

(b) The Tenant shall route communications cable in conduit to the nearest State controlled Communications Room for connection to the airport communications system. An interface point shall be established by the State for interconnection to the Tenant's communications system.

(c) Any damage or accidents incurred affecting the Tenant's property, other property, or any persons incurred due to the installation or usage of the Tenant's communications system shall be repaired by and/or the responsibility of the Tenant. If the Tenant fails to do so, the State will make the repairs at the Tenant's expense.

C. Public Address System

(a) If any public address system is to be utilized by the tenant, only a stand alone public address system, meeting all ADA requirements (ie. text screens), will be permitted for his leased space. It shall be the responsibility of the tenant to ensure that there is no interference with the airport public address system outside of his leased area.

5.2.5 Security System

A. The tenant shall provide a stand alone security alarm system for his leased area. It shall be the responsibility of the tenant to control access to restricted areas of the airport. If unauthorized access occurs, the tenant is responsible to notify the State's airport security office immediately.

5.2.6 Community Antenna Television System (CATV)

A. All CATV equipment, materials (i.e. cable) and labor necessary to install and operate a complete CATV system, within the leased area, shall be at the tenant's expense. The Tenant shall submit a request to the State for the installation of such a system. The request must indicate the intent and description of the system.

B. The Tenant shall route CATV cables in conduit to the nearest State controlled Communications Room for connection to the CATV system. An interface point shall be established by the State for interconnection to the Tenant's CATV system.

C. All CATV equipment and cabling that are required to be mounted or routed outside of the leased area must be coordinated with and approved by the DOT-A.

5.3 – CONSTRUCTION CRITERIA

5.3.1 General Requirements

A. The tenant's Contractor shall furnish all materials, labor, tools and equipment required to install all work, complete, as indicated in the design documents.

B. All materials shall be new and bear the UL approval label.

5.3.2 Lighting System

A. Fixture supports for light fixtures shall be of sufficient strength to support at least four times the weight of the fixture. Support all light fixtures weighing more than fifty pound separately from the outlet box. Light fixtures shall be arranged to hang vertically unless otherwise noted. Provide additional mounting hardware, as required, to mount light fixtures.

5.3.3 Interior Electrical

A. Raceways:

(a) All exposed raceways shall be installed parallel or perpendicular to structural or architectural elements. Raceways shall be securely fastened in place with two-hole galvanized pipe straps with screws, approved beam clamps or approved single or gang pipe hangers spaced not more than five feet apart. Vertical runs shall be supported at intervals not exceeding five feet with approved clamp hangers.

(b) Raceway bends and offsets shall be made with hickey or conduit bending machine. Bends shall be made so that interior cross sectional areas are not reduced.

(c) The use of running threads is not allowed. Where the use of standard threaded couplings is not possible, use approved watertight conduit unions.

(d) Cap raceways during construction with plastic or galvanized pipe caps to prevent entry of dirt or moisture. All raceways shall be swabbed out and dried prior to conductors or cables being pulled in.

(e) Raceways shall be mounted clear of other piping, valves or mechanical equipment.

(f) Insulating bushings and two locknuts shall be installed on the end of every run of raceway at sheet metal enclosures.

(g) Securely fasten raceways to outlet boxes and to structure support.

(h) Pass a smooth, bullet-shaped, wooden mandrel through all conduits below grade to test for burrs or obstructions. The mandrel shall be 12" long and have a diameter which is ¼" less than the diameter of the conduit unless otherwise indicated. If burrs or obstructions are encountered, repair the section of conduit at no additional cost.

(i) Provide pullstring in all empty raceways after raceways are cleaned. Pullstring shall be 200-pound nylon type.

(j) Provide expansion couplings for raceways passing through expansion joints.

(k) Provide fire stopping for all raceway penetrations of fire rated walls or ceilings.

B. Conductors:

(a) Mechanical means for pulling shall be torque-limiting type and not used for #2 AWG and smaller conductors.

(b) Pulling tensions shall not exceed the conductor manufacturer's recommendations.

(c) Powdered soapstone may be used as a lubricant for drawing conductors through raceways.

(d) Splices shall be made in accordance with the NEC. Splices shall be reinsulated. Remove all sharp points that can pierce tape. Splices made in underground pullboxes shall be watertight.

5.0 – ELECTRICAL (continued)

C. Boxes and Enclosures:

(a) Boxes on exterior walls shall be weatherproofed, stainless steel with threaded hubs and mounting ears.

(b) Outlet boxes in hollow tiles or concealed in other locations shall be provided with extensions or raised rings of such depth that metal will be flush with surrounding surface or opening.

(c) Provide a minimum of 2'-0" offset between flush mounted boxes located on opposite sides of a fire rated wall.

D. Light Switches: Switches shall be installed 4'-0" to center above the finished floor and four inches from door casings to center of switch for single gang switches and the same distance to center of switch nearest casing for multi-gang switches.

E. Convenience Receptacles: Receptacles shall be mounted horizontally, eighteen inches above the finished floor unless otherwise noted.

F. Finishing:

(a) All drilling, cutting, notching and patching required for installation shall be finished in a first class condition and be subject to acceptance by the DOT-A.

(b) Close all unused or abandoned knockouts in boxes or enclosures with metal cap matching the rating of the box or enclosure.

(c) Wipe clean all exposed raceways or boxes with rag and solvent. Unfinished raceways and boxes shall be prime painted and finished to match the background finish. Factory finished enclosures shall not be painted.

(d) Attachment of electrical equipment to wood shall be by wood screws; attachment to concrete by expansion anchors or powder charge driven studs and anchors with prior approval.

G. Testing and Inspection:

(a) If the DOT-A discovers any errors, the tenant's Contractor, at his own expense, shall take the necessary remedial action.

(b) Interior installations, 600V and less, shall be tested for insulation resistance after all wiring is installed and ready for connection to fixtures, outlets and equipment. Using a 500V megger, measure and record the insulation resistance from phase to phase and phase to neutral. Turn over a copy of all records to the DOT-A.

(c) The tenant's Contractor shall retape splices that have been bared for inspection. All portions of the electrical system shall be tested for proper operation and accidental grounds.

(d) If test or inspection reveals faulty equipment or installation, the tenant's Contractor shall take corrective action, at his own expense, as directed by DOT-A.

5.3.4 Exterior Electrical

A. Trench Excavation:

(a) Trench widths and depths shall be sufficient to accommodate proper installation of conduit banks. The bottom of the trench shall be flat and smooth.

(b) Trenches shall be widened at equipment pads, handholes and pullboxes to permit proper entry of conduits.

(c) All trench excavations for handholes and pullboxes in excess of the required depths shall be filled with concrete or crushed lava rock.

(d) Trenches for utility company conduits shall be inspected and approved by the respective utility company inspector before conduits are installed.

B. Backfill:

(a) Utility company ducts, handholes and pullboxes shall be inspected and approved prior to backfilling.

(b) Backfilling shall be to finish grades matching existing conditions. Backfill material shall be free of wood and debris.

(c) Backfill material shall be placed in maximum of 12" layers in loose thickness before compacting. Backfill material shall be thoroughly compacted with hand or mechanical tampers. Tamping utilizing the wheels or tracks of a vehicle is not allowed.

C. Conduit and Duct Banks:

(a) Apply thin coat of sealing compound on conduits and ducts at couplings and bells.

(b) Provide duct seals at entry points into handhole or pullboxes to prevent water from flowing between handholes and pullboxes.

(c) Anchor duct bank prior to pouring concrete encasement to prevent ducts from floating.

(d) When pouring concrete, prevent heavy masses of concrete from falling directly on the ducts. If unavoidable, provide planks for protection. Direct flow of concrete down the sides of the duct bank to the bottom allowing concrete to rise between ducts, filling all spaces uniformly. Work a long, flat spatula liberally and carefully up and down the vertical rows of ducts to eliminate voids in the concrete.

(e) Cure concrete for a minimum of 72 hours before permitting traffic and/or backfilling.

(f) Provide a four inch wide warning tape, yellow in color with black imprinted message “WARNING – ELECTRIC (or COMMUNICATIONS) CABLES BELOW” twelve inches below finish grade over ductlines. The color of the warning tape shall be as follows:

ELECTRIC – yellow
COMMUNICATIONS - orange

D. Concrete Work:

(a) Concrete shall be ready mixed according to ASTM C94-47. Free drop of concrete shall be limited to five feet.

(b) Placing: Clean and remove all debris from inside of forms and trenches before placing concrete. Place on clean, damp surface free from water. Place in horizontal layers not exceeding 18”. Vibrate structural concrete thoroughly during and immediately after placing to ensure dense watertight concrete.

(c) Forming: Forms shall be of good, sound lumber treated with non-staining form oil before each use.

(d) Patching: Patch all voids, pour joints and holes before concrete is thoroughly dry. Use mortar of same proportions as original concrete.

(e) Curing: Cure concrete using the impervious membrane method with liquid membrane compound. Apply two or more coats to obtain a total of one gallon for each 150 square feet of concrete surface.

B. SPECIFIC REQUIREMENTS BY PROJECT TYPE

In keeping with the character of each State airport, the Tenant's Design Consultant shall comply with the appropriate specific design standards and criteria set forth in this section. In addition, Tenant's Design Consultant shall also meet any minimum quality standards set forth by each individual airport.

Variance: The DOTA recognizes that situations arise which may warrant modification to these Tenant Improvement Guidelines (TIG). A written request for an exception shall be submitted to the Airport District Manager (ADM), stating the variance requested and the DOTA's applicable section of the guidelines. The DOTA will evaluate each request and will notify the tenant, in writing, of the decision within fifteen (15) working days.

6.0 – SUPPORT FACILITIES

6.1 - General Design Parameters

A. The Airport's primary concern with the design of Support Facilities focuses on design issues relevant to site development. The following items need to be addressed in the design of each individual support facility:

* Roads and Circulation
* Setbacks and Zoning Issues
* Building Heights
* Site Coverage
* Walls and Fences
* Signage
* Utilities and Service Easements
* Off Street Parking
* Density
* Orientation
* Grading
* Exterior Lighting
* Landscape and Irrigation

B. Support Facilities vary in form and function and no clear standards can govern all facilities. Support facilities will be reviewed on an individual basis, and Tenants are encouraged to establish an on-going review process with the designated Project Manager from the Engineering Division (AIR-E) at DOT Airports to ensure their designs meet with airport approval.

C. Generally, all support facilities shall conform to the following basic design criteria:

(a) Building design, roof type (flat, slope, etc.) shall be consistent with each Airport theme.
(b) Zoning regulations should establish that buildings of a like scale and similar usage should be grouped together.
(c) Entry and access into buildings should preferably be from south and east.
(d) Setbacks and Site Coverage requirements (refer to 6.3 & 6.4)

6.2 - Buildings

A. General Information

(a) This section defines general design criteria that applies to the design of building structures at all DOTA Airports. Manual 1 should be consulted for specific instructions, policies and procedures that also apply.

6.0 – SUPPORT FACILITIES (continued)

B. Overall Continuity

(a) DOTA desires to maintain an overall visual continuity to Airport development at each State airport, principally through uses of similar colors, materials, and methods of construction. This will permit DOTA to ensure a discernable, visual relationship among structures throughout each Airport statewide.

C. Aesthetic Requirements

(a) The designer is required to submit to DOTA sketches that accurately depict the appearance of the proposed facility. These sketches shall include, but not be limited to, the following information:

1. Type of material to be used in the outside wall construction.
2. Color and texture or proposed outside walls.
3. Signs, logos, etc. to be erected.
4. General location of the lot.
5. Significant landscaping proposed, such as berms, retaining walls, etc.

(b) DOTA shall determine of the proposed facility meets the aesthetic values and objectives for each airport. DOTA will then approve or disapprove the facility as proposed. Disapproved proposals shall be modified so that the desired objectives are met.

D. Glare

(a) It is imperative that all structures be glare controlled. Inherently high reflective materials, such as glass veneered curtain walls, shall not be used as a major building element. It is preferable to used non-reflective bronze glass as opposed to highly reflective silver or gold glass. All high sheen materials, such as aluminum or stainless steel panels, must be coated or clad with light-absorbing finish. Light colored aggregates on roofs are acceptable. Designers should review FAA requirements prior to final design.

E. Noise

(a) All structures, whose primary function is to house people-oriented activities, shall be designed by the suitable combination of building materials and execution of construction details in accordance with established architectural and acoustical principles to reduce the noise between the outside and inside of the building to the following levels.

(b) The methodology to be used shall be the Shell Isolation Rating (SIR) method set out by the U.S. Department of Commerce, National Bureau of Standards "Design Guide for Reducing Transportation Noise In and Around Buildings" – Publication: Building Science Series No. 84.

1. Schools, churches, hotels, meeting facilities and other spaces where noise intrusion is more sensitive than average and would disrupt the intended operation of space – SIR 40 dB.
2. Offices, shops, terminals, etc. where routine people-to-people and telephone communications occur frequently – SIR 30 dB.
3. Warehouses, freight facilities and other structures not involving significant communication between individuals – No Limit.

(c) The design shall take into account all possible paths into the facility to include, but not be limited to walls, roofs, windows, doors and ventilation openings.

(d) Mechanical noise levels shall be controlled by proper design of the noise producing mechanical and electrical equipment such as fans, mixing boxes, diffusers, pumps, transformers, emergency generators, etc., so as not to exceed acceptable levels as set forth by industry standard criteria. The acceptable noise level shall be described in terms of NC (Noise Criteria) as defined by the ASHRAE Handbook, Systems Volume, [Sound and Vibration Control Chapter] latest edition (American Society of Heating, Refrigeration and Air Conditioning Engineers).

F. Environmental Design

(a) The design of buildings should be sensitive to natural elements in planning wall openings, fenestrations, and building orientation. The Board desires energy efficient buildings and systems on the Airport property and solar protection should be considered for all fenestrations.

G. Permanency

(a) It is the intent that all structures erected upon the Airport property be wholly permanent in nature. Temporary buildings, modular construction, etc. will be allowed only as a temporary measure and only with the tenure clearly expressed and defined at the time of Tenant application.

6.0 – SUPPORT FACILITIES (continued)

H. Exterior materials

(a) It is the Airport's intention to maintain a consistent utilization of building materials on all Airport property. The following recommendations are to be used a guidelines and are most applicable in or near the Terminal Complexes:

1. Walls
2. Roofs
3. Entries
4. Door Locks

I. Exterior Mechanical Equipment

(a) All visible equipment, whether roof or ground mounted, must be painted alike and screened from view wherever possible. Color for such equipment, including roll-up doors, mechanical equipment, metal canopies, piping, electrical equipment, etc., and any other equipment of specialized function, shall match. Specially designed screens, suitable plant materials, and architectural enclosures can be used for screening purposes depending on the facility and location. Roof mounted equipment must be concealed behind parapet walls or in a screened enclosure of approved materials. Equipment should be grouped in clusters, preferably a single cluster to minimize the number of visible screens.

6.3 - Setback Requirement

A. Depends on airport location
B. Refer to "Development Standards for Leased Airport Property", Procedure No. 7.7 (revised 1-6-95); State of Hawaii, Dept. of Transportation – Airports Division.
C. Verify zoning requirement with City & County

6.4 - Site Coverage / Definitions

Air Cargo	The operation of a facility (facilities) for the handling and storage of cargo and mail.
Maintenance Hangars:	The operation of a facility for the maintenance and overhaul of air carrier aircraft, engines, parts, accessories, and equipment.

Airport Support Areas:	The operation of a facility by the State to support or protect the required activities of the airport, and (2) the operation of a facility by others to provide services that improve the overall effectiveness of the Airport.
Aviation Related:	The operation of a facility (or facilities) which are dependent upon proximity to the Airport for their effective performance or which enhance transportation and commerce within the airport area.
General Aviation (FBO) (Commercial)	The operation of a hangar and related building facilities by a business involved in the sale to the general public of services related to the operation, maintenance and servicing of general aviation aircraft.
General Aviation (Non-Commercial)	The operation of a hangar and related business facilities by an industrial, corporate, or business Tenant to hangar one or more aircraft it owns or operates solely in connection with the internal conduct of Tenant's business for the transporting of the Tenant's personnel, materials, and products.
Minimum Landscape (SITE)	Refers to the portion of the surface area of each building site that must be covered by landscaping, expressed as a percentage of the Building site, excluding landscaping coverage included in the Parking areas.
Minimum Landscape (Parking)	Refers to the portion of the surface area of each building site that must be landscaped within the parking areas on the Building Site.

7.0 – PAD SITES, STORAGE TANKS & OTHER AIRFIELD PROJECTS

7.1 Submittal Requirements - General

A. Schematic Design Phase

(a) All existing terminals, runways, taxiways, taxi lanes, aprons, ground support equipment areas, emergency roads, buildings and structures, contours, underground utilities, signs, etc. in the immediate area of the project site or relevant to the proposed work should be shown.
(b) All existing FAA NAVAIDS, duct banks, guidance signs, lighting fixtures, electrical ducts, vaults, handholes, and circuit locations should be shown and identified.
(c) Horizontal and vertical layouts for all proposed pad sites, airfield paving, emergency roads, and drainage features.
(d) Layouts for proposed airfield electrical circuits, NAVAIDS, underground utilities, etc.
(e) Limits and dimensions of all object free areas, safety areas, exclusion zones, NAVAIDS, critical areas, and FAR part 77 airspace surfaces that affect project site.
(f) Locations of proposed buildings, signs, NAVAIDS, AOA fences, etc.

B. Construction Documents Phase

(a) All proposed paving and facilities.
(b) Proposed grading and surface contours.
(c) Final profiles and flowlines for all drainage systems.
(d) Site access points and haul routes.
(e) Typical paving, jointing, sealing, drainage, electrical utilities, etc.
(f) All required sections and details.

7.2 Submittal Procedures – Above ground storage tank / Spray booth

A. *Tenant* to submit conceptual site, construction and operational plans for the State's comments & approval.

B. *Tenant* to submit final tenant site, construction and operational plans submitted for State approval along with a City and County Building Permit.

C. *State* to review final plans and, if approved, issue a letter of approval and lease approval to airport tenant. This letter will direct

tenant to obtain a Flammable and Combustible Tank Permit from the City and County.

(a) City and County Fire Department will require a copy of the State's approval letter and also two copies of the tenant's approved plans.
(b) City and County Fire Department will review plans for fire code compliance and coordinate approval with the airport tenant.

D. *Tenant* will furnish the State a copy of the C&C Fire Department approval and a Spill Prevention Countermeasure and Control Plan (if necessary).

E. *State* will issue a "Airport Building Permit" and if necessary, a "construction right of entry" to the tenant.

F. For Spray Booth, Tenant is required to obtain approval from Airport Fire Chief and H.I.O.S.H.

G. Upon completion of the project, *Tenant* shall submit a letter certifying the proper installation for record keeping purposes to the State and C&C Fire Department.

H. *Tenant* to furnish the State with a copy of the Flammable and Combustible Tank Permit issued by the C&C Fire Department prior to commencing with operations.

I. *State* personnel and C&C Fire Department may elect to conduct a site inspection to verify proper installation.

J. For further information, refer to the "General Procedures and Guidelines for Tank Installation Permits".

7.3 Above ground tank - Guidelines

A. Aboveground tanks over 100 gallons in capacity permanently installed or mounted and used for the storage of Class I, II & III-A liquids shall be provided with the means of identifying the flammability, reactivity, and health hazards of the tank contents in accordance with Section 79.109.

B. Aboveground tanks storing Class I, II or III-A shall be of concrete, masonry or protected steel.

7.0 – PAD SITES, STORAGE TANKS & OTHER AIRFIELD PROJECTS (continued)

C. Concrete pads shall be provided for aboveground tank installations and shall be extended to a minimum of 18 inches from the outside measurements of the tank assembly.

D. Provide adequate setbacks that comply with regulations as established in the "General Procedures and Guidelines for Tank Installation Permits", for the installation of aboveground tanks. NFPA states setback shall be minimum 15' from building. A reasonable distance to eliminate any fume irritation is 25' from building.

E. Vent piping shall be arranged so that flammable vapors will not enter building openings or be trapped under eaves or obstructions.

F. Aboveground storage tanks shall be subjected to UL Standard 2085 for environmental exposure condition for aging, high humidity, and salt spray.

G. Tanks shall be bonded or connected to a ground. The bond or ground or both shall be physically applied or shall be inherently present by the nature of the installation.

H. All electrical equipment and wiring shall be of a type specified by and installed in accordance with NFPA 70.

7.4 Underground tank - Guidelines

A. Underground tanks used for the storage of liquids shall be located a minimum of 3'-0" feet from basements, pits, cellars, and property lines. A minimum shell to shell separation of 18 inches shall be maintained between underground tanks.

B. Underground storage tanks shall be provided with approved leak detection.

C. Setback to the nearest building and/or property lines shall be a minimum of 3'-0".

D. Depth and Covering:

a. With 6" non-corrosive material surrounding it. Sand or Pea Gravel.
b. Minimum 2'-0" earth covering or 1'-0" earth with 4" concrete slab. (no vehicle traffic).

c. If subject to traffic, use either 3'-0" earth or 18" tamped earth plus 6" of reinforced concrete or 8" of asphalt. Asphalt or concrete must extend 1'-0" beyond tank.

E. Underground tanks to be anchored when required by code.

F. Vents:

(a) To be 5'-0" away from windows or property lines that can be built on.
(b) To be 8'-0" above fill pipe opening and not less than 12'-0" above adjacent ground level.
(c) Pipes to be protected against damage.
(d) Pipes to be laid to prevent sagging and forming traps.

G. Piping:

(a) Installed per UFC 79.701 re4quirements.
(b) To be hydrostatically tested at 150% of maximum of system or pneumatically tested to 110% maximum of system, but not less than 5# PSI pressure at the highest point.

H. All electrical equipment and wiring shall be of a type specified by and installed in accordance with NFPA 70.

I. Testing Procedures

(a) Tanks are to be tested prior to being used.
(b) Existing tanks may be required to be tested at the owner's expense if the fire chief has reasonable cause to suspect a leak.

7.5 Paint Spray Booth - Guidelines

A. Spray booths are pre-manufactured, self-contained modules assembled on site. It should be noted that most spray booths have not been tested as an assembly and, therefore, are not "listed" units.

B. Materials: Spray booths shall be substantially constructed of steel not less than No. 18 gage (.044 inch) in thickness or other approved noncombustible materials.

C. Size: The area of a paint spray booth shall not exceed 1500 square feet nor 10 percent of the basic area permitted for the major use of

the building as set forth in Table No. 5-C of the Uniform Building Code.

D. Surfaces: The interior surfaces of spray booths shall be smooth and continuous without edges and otherwise designed to prevent pocketing of residue, to permit the free passage of exhaust air from all parts of the interior and to facilitate washing and cleaning without injury.

E. Floors: The floor shall be of noncombustible material or shall be covered with a noncombustible, non-sparking material of such character to facilitate the safe cleaning and removal of residue.

F. Baffles: If installed, baffle plates shall be of a noncombustible material readily removable or accessible to facilitate cleaning and designed to provide an even flow of air through the booth and to prevent the deposit of over-spray before it enters the exhaust duct. Such plates shall not be installed in the exhaust ducts.

G. Deflectors: Each spray booth having a frontal area of more than 9 square feet and which is not equipped with doors shall have a metal deflector or fire curtain not less than 4-1/2 inches deep installed at the upper outer edge of the booth over the booth opening.

H. Separation: Each spray booth shall be separated from other operations by not less than 3 feet, or by a wall or partition, or by a greater distance as DOTA may require.

I. Clear Space: All portions of a spray booth shall be readily available for cleaning, and a clear space of not less than 3 feet shall be kept free of storage or combustible materials.

J. Light Fixtures: When spray booths are illuminated, it shall be done through heat-treated or hammered wire glass. Fixed lighting units only shall be used as a source of illumination, and panels shall be arranged so as to minimize breakage and so that normal accumulation of residue on the exposed surface of the panel will not be raised to a dangerous temperature by radiation or conduction from the source of illumination.

K. Exit Doors: Exit doors from pre-manufactured paint spray booths may be 2 feet 6 inches by 6 feet 8 inches.

7.0 – PAD SITES, STORAGE TANKS & OTHER AIRFIELD PROJECTS (continued)

L. Ventilation Requirements: All spraying areas shall be provided with mechanical ventilation adequate to prevent the dangerous accumulation of vapors. Mechanical ventilation shall be kept in operation at all times while spraying operations are being conducted and for a sufficient time thereafter to allow vapors from drying coated articles and dry finishing material residue to be exhausted.

M. Alternate methods of construction for Spray Booths must be approved by the DOTA and Fire Chief.

8.0 – GROUND TRANSPORTATION

8.1 - Baseyards:

A. The following are minimum standards of construction for improvements to be provided by the tenants of ground transportation baseyards at airports:

(a) All construction shall be with new materials and first-class workmanship equal to acceptable standards of practice for industrial construction and shall meet all applicable codes and regulations.

(b) Tenants shall be responsible for obtaining building permits required by the County.

(c) Buildings shall be setback a minimum of 10 feet from property lines.

(d) Grease traps shall be provided to collect all petroleum product spills.

(e) Drainage from car wash areas will not be permitted to be discharged outside of the leased premises. Wash water must be recycled or sent to County sanitary sewer. It may not go into storm drain system.

(f) Leased premises shall be fenced on all sides with 6-foot high chain-link fence with top rail. Fences between adjacent properties shall be directly on property line.

(g) Signs shall not exceed 18 inches in height and shall not be located higher than the top of the building. Illuminated signs, neon signs or other attention-gathering signs are prohibited.

(h) All plans shall be prepared by a registered architect or engineer and shall be submitted to the Airports Division and approved by said Division prior to start of construction.

B. The above standards do not apply to existing improvements except items (e), (f), (g) & (h) which shall be performed by the tenant within six months of the effective day of the new ground transportation lease. All new construction and additions to existing facilities shall comply with all items.

079.0 – FOOD / BEVERAGE

9.1 - General Design Parameters

A. The following general standards pertain to all Food & Beverage Concessionaires located in the terminal complex.

B. The Food & Beverage Concessionaire is reminded of potential abuse of its space by the airport luggage and bag carts and shall design the space with this in mind.

C. Food and Beverage Preparation Facilities must be screened from public view.

D. Walls may not be constructed directly in front of existing exterior glass curtain walls. If a wall is required in that area the Tenant shall be required to replace the glass panels with spandrel panels.

9.2 - Storefronts

A. Storefronts shall be designed to be self-supporting between structural supports and shall be capable of accepting all live loads, dead loads, and seismic loads imposed and transfer all loads into building structure.

B. Storefront shall be capable of expanding and contracting in all directions.

C. Concealed fasteners shall be used wherever possible. Where exposed, non-corrosive, Phillips flat-head machine screws of compatible material shall be used.

D. Entrance doors shall comply with building code requirements for barrier-free accessibility and the ADA Accessibility Guidelines. Doors which are single or double acting shall be self closing.

E. Components of the storefront system shall be as follows:

(a) Framing members shall provide for flush glazing on all sides with no projecting stops. Minimum face dimension shall be 2-1/4” for horizontal and vertical members.

(b) Doors shall be aluminum stile and rail type. Frame shall be tubular with mechanical joints and concealed reinforcing plates. Doors shall be medium, or wide stile, 1-3/4” thick factory glazed. Thin stile doors may be used in certain low occupancy areas.

(c) Hardware shall be manufacturer’s heavy duty units complying with ANSI A156.5, Grade 1.

9.0 – FOOD / BEVERAGE (continued)

9.3 - Wall Finishes

A. Walls in food preparation and services areas shall be non-porous, easy to maintain materials.

B. Recommended materials include: ceramic tile, stone tile, mirror, metal laminates, or solid surfacing plastic (Corian or equal).

C. Wall finishes in the public areas shall be reviewed and approved through the Design Review Process.

D. Vinyl wall coverings are not permitted in areas visible to the public.

9.4 - Flooring

A. In the Food & Beverage preparation and service areas, thin set quarry tile or ceramic tile are required in all areas for maintenance, slip resistance, and waterproofing.

B. Floor finishes in the public areas shall be reviewed and approved through the Design Review Process.

C. All kitchen, food handling, and restroom facility's flooring shall have a waterproof finish extending to 100 percent of the Concessionaires space, including extending the waterproof finish a minimum of 6 inches up on the walls.

D. Concessionaires shall also provide sealing and waterproofing at all floor penetrations per DOTA's specifications.

9.5 - Ceilings

A. The ceilings shall comply with the General Design Standards and shall comply with all applicable health code requirements.

B. Other high quality ceiling materials will be allowed in areas concealed from public view, provided they comply with applicable health code requirements.

C. Ceilings in Concessionaire spaces shall be provided at the Concessionaire's expense, unless otherwise indicated.

9.0 – FOOD / BEVERAGE (continued)

9.6 - Furniture

A. Concessionaires with interior seating shall provide high quality furniture that is compatible with the overall design of the space and with the aesthetics of the Airport.

B. Furniture shall be provided at the Concessionaire's expense.

C. Furniture shall be approved through the Design Review Process.

9.7 - Counters

A. Counters are one of the key elements that contribute to the Concessionaire's overall identity and character. The counter area shall be flexible and creative in design.

B. Concessionaires shall provide a clearly definable area for ordering and check-out.

C. A counter height of 34 inches is required with the exception of counter-front display cases.

D. A highly durable counter base shall be provided by the Concessionaire. The counter base shall be set back 4 inches from the counter-front to add variety and depth to the counter design. The height of the counter base shall be sufficient to accommodate customer toe space and cleaning equipment under the counter.

E. The counter-front is to be a durable, high quality material consistent with the Concessionaire's overall design image. Careful attention must be paid to the detailing of materials and how adjacent materials join.

a) Suggested Counter-front Materials:
   1. Stone
   2. Metal
   3. Wood
   4. Glass
   5. Tile (consistency of multiple, complimentary colors and size variation).
   6. Solid surfacing plastic (Corian, Fountainhead, Surell, or equal)
   7. Other materials, as approved through the Design Review Process

b) Scrutinized Counter-front Materials:
   1. Plastic laminates
   2. Metal laminates

3. Glass block
4. Countertop material must be durable, high quality, monolithic material. The Concessionaire is encouraged to add decorative elements such as wood or metal bullnose or a tile band along the face of the countertop.

c) Suggested Countertop Materials:
   1. Stone
   2. Stainless Steel
   3. Solid surfacing plastic (Corian, Fountainhead, Surell, or equal)

d) Scrutinized Countertop Material:
   1. Plastic laminates
   2. Metal laminates
   3. Glass
   4. Ceramic tile
   5. Wood

9.8 - Display Cases

A. Food presentation is an important aspect of the Concessionaires' counter design. Display cases for food presentation and preparation may be installed within the counter area and must be designed as an integral element of the counter and shall be reviewed and approved through the Design Review Process.

B. Display cases may be no more than 30 percent of the counter width, unless otherwise noted and may be a maximum of 4 feet 6 inches above the finished floor. The base of the display cases shall be set back 4 inches from the case front to accommodate customer toe space and cleaning equipment under the counter. All free standing display cases and coolers shall be reviewed and approved through the Design Review Process.

C. All glass areas of the face and sides shall be clear glass. Framing, grilles, and other metal parts exposed to the public view shall be wood or polished metal, such as stainless steel or brass. The back of the case, when viewed from the public space, shall be clear glass or mirror glass. Display cases shall be internally illuminated. Display cases shall be provided by the Concessionaire at the Concessionaire's expense. All display and signage information shall be contained within the Tenant's lease line space.

9.9 - Sneeze Guards and Tray Slides

A. If the Concessionaire incorporates a sneeze guard and/or tray slide, they must be custom designed as an integral part of the counter and must meet

health code requirements. The sneeze guards may be flush with the face of the front counter line and shall be no higher than 4 feet 6 inches above the floor. All joints are to be butt glazed glass to allow for maximum visibility. Transparent sheet plastic (Plexiglas) is not permitted.

B. Tray slides are to extend no more than 6 inches beyond the face of the counter and are to be constructed of materials which are compatible with the counter.

9.10 - Clutter Free Appearance

A. All Concessionaire areas visible to the public shall be carefully controlled to avoid a cluttered appearance. Dispensers for tray storage, cups, straws, cup covers, napkins, and condiment containers are to be recessed into the counter as an integral part of the counter design.

9.11 - Queuing Area / Devices

A. Queuing devices shall be provided by the Concessionaire to direct and control customer lines within the Concessionaire's space, as deemed necessary by DOTA. Temporary queuing devices are allowed in DOTA space when utilized to control crowds in public space during peak periods. All devices shall be compatible with the overall design of the space. Concessionaires should adjust the use of queuing devices according to their peak business periods.

B. Stanchion colors, finishes, and materials shall be approved through the Design Review Process.

9.12 - Back Walls

A. A back wall may be built behind the counter separating the public serving area from the food preparation area. The back wall is at the Concessionaire's option; however, it is encouraged that a separation exists to maintain a clean and clutter free view from the public area. The design of the back wall is to be an integral element of the design of the Concessionaire's space and shall be provided at the Concessionaire's expense.

9.13 - Equipment, Fixtures, and Furnishings

A. All equipment, fixtures, and furnishings shall be provided by the Concessionaire at the Concessionaire's expense. The equipment and its placement are important visual elements of the overall design and appearance of the space. Careful consideration is to be given to each piece

of equipment in the areas visible to the public. The furniture styles should be compatible with the overall design and the aesthetics of the public area.

B. All cash registers, drink dispensers and other equipment shall be recessed in the front countertop and are to be set back a minimum of 6 inches from the front counter edge. All equipment on the front counter is subject to Design Review by the DOTA, and no piece of equipment may exceed the 4 feet 6 inches height limit above the floor.

C. Simulated wood grain finishes are not permitted on any equipment. Natural metal, glass, or porcelain finishes are acceptable.

D. Condiment containers, napkin holders, and other containers are to be considered elements of design on the front counter and are to complement and be consistent with the colors and materials of the space. None of these elements are permitted on the top of sneeze guards or other pieces of equipment. All bulk paper goods and supplies are to be stored in areas not visible to the public.

E. Counters with stools, and/or tables and chairs may be used within the space. Furniture layouts must allow for easy circulation for customers with luggage.

F. All furniture elements shall be reviewed and approved through the Design Review Process and shall be below four(4) feet high to allow for unobstructed views.

G. Umbrellas and other high elements will not be allowed in the Terminal Building public area, unless approved by the ADM.

10.0 – RETAIL

10.1 - General Design Parameters

10.1.1 The following guidelines pertain to all Retail Concessionaires located in the terminal complex.

10.1.2 Refer to "Overseas Terminal Design Guidelines" (HNL) as quality reference standard for other airport locations.

10.1.3 The Tenant is reminded of the potential abuse of its space by the airport luggage and bag carts, and shall design the space with this in mind.

10.2 - Storefronts

10.2.1 The Concessionaire shall provide a storefront within the storefront area and is encouraged to be creative in the design to establish a distinctive and inviting image. The materials used in the storefront shall be of high quality materials which are compatible with the public areas of the concourses.

10.2.2 The storefront area shall include an overhead soffit which extends the entire length of the storefront entry. This soffit shall separate the DOTA provided ceiling from the Concessionaire-provided ceiling and creates a Concessionaire sign band. Additionally, the soffit shall house the overhead coiling security grille. The Concessionaire shall use the DOTA standard grille to provide continuity throughout the Airport. The Concessionaire shall provide the storefront, soffit, and security grille at the Concessionaire's expense.

10.2.3 In some concourse locations, the Concessionaire is provided with an extensive storefront wall which fronts the concourse. The storefront wall should contain windows and displays that showcase the Concessionaire's internal space and merchandise. These display windows should exhibit the quality and creativity of storefront displays and shall not be used as whole merchandising units. Displays shall be aesthetically pleasing and professionally arranged. The quality of finishes and materials used in these display windows shall be commensurate with the materials used in the concourse. To accurately review the proposal, DOTA requires the Concessionaire to provide the specifications for merchandise displays in windows, including material samples, artistic renderings, and photographs of similar finished units.

10.2.4 Storefront Base: The Concessionaire shall incorporate an approved base along their storefront to match the height of the adjacent DOTA-provided base.

10.2.5 Interior Display Walls at Exterior Windows:

A. In some locations, the Concourse Retail Concessionaire has an exterior window. In the event that the Concessionaire prefers to have a display wall, an interior wall may be built in front of the window. This wall shall be a minimum of 4 inches from the window wall and shall be finished to 6 inches above the finished ceiling. Air vents shall be provided at the base of the wall to allow for air circulation.

B. The Concessionaire shall provide a DOTA standard horizontal blind along the length of the window which shall be installed in the down / closed position prior to the installation of the interior wall. The blind will conceal the unfinished back side of the interior wall from view outside of the building. The interior display wall shall be provided at the Concessionaire's expense.

10.2.6 Display Lighting: The Concessionaire shall provide lighting specially designed to highlight the merchandise displays. Display cases shall be internally illuminated. Display lighting shall be provided at the Concessionaire's expense.

10.2.7 Storefronts shall be designed to be self-supporting between structural supports and shall be capable of accepting all live loads, dead loads, and seismic loads imposed and transfer all loads into building structure.

10.2.8 Storefronts shall be capable of expanding and contracting in all directions. Concealed fasteners shall be used wherever possible. Where exposed, non-corrosive, Philips flat-head machine screws of compatible material shall be used.

10.2.9 Storefronts shall be capable of expanding and contracting in all directions. Concealed fasteners shall be used wherever possible. Where exposed, non-corrosive, Philips flat-head machine screws of compatible material shall be used.

10.2.10 Entrance door shall comply with requirements of the UBC for barrier-free accessibility and the ADA Accessibility Guidelines. Doors which are single or double acting shall be self closing.

10.2.11 Storefronts used to separate conditioned and unconditioned spaces shall include concealed, low conductance thermal barrier.

10.2.12 Components of the storefront system shall be as follows:

A. Framing members shall provide for flush glazing on all sides with no projecting stops. Minimum face dimension shall be 2-1/4" for horizontal and vertical members.

B. Doors shall be aluminum stile and rail type. Frame shall be tubular with mechanical joints and concealed reinforcing plates. Doors shall be medium, or wide stile, 1-3/4" thick factory glazed. Thin stile doors may be used in certain low occupancy areas.

C. Hardware shall be manufacturer's heavy duty units complying with ANSI A156.5, Grade 1.

10.3 - Carts and Kiosks

10.3.1 Guidelines

A. To meet the varying needs of passenger service at Hawaii State airports, carts and kiosks shall be placed in public areas where the DOTA has provided ceiling and floor materials. The location and size of the carts and kiosks shall be determined by the ADM.

B. Carts are small, readily moveable concession units, designed to be creative and fun, that offer a limited variety of products. The maximum space allotted for the cart will be determined by DOTA.

C. Kiosks are free-standing concession units ranging in size from 100 to 300 square feet which offer customers a greater variety of products.

D. The Concessionaire shall provide the Cart, Kiosk and all accessories. Carts and Kiosks shall be designed, fabricated, and installed by the Concessionaire at their expense.

E. Cart closure system: The Cart must be designed using a roll-down shutter system with closure at lease line.

F. The Concessionaire shall note that all public areas in the Terminal are constantly subjected to high concentration and movement of people. Therefore, the location and size of the kiosks and carts shall not impede the queuing and circulation of people. The DOTA will scrutinize the Kiosk floor plan layout and placement to ensure that adequate floor space around the Kiosk is maintained for queuing.

10.3.2 Variance

A. The DOTA recognizes that situations arise which may warrant modification to these Tenant Improvement Guidelines. A written request for an exception shall be submitted to the Design Review

Committee, stating the variance requested and the DOTA's applicable section of the guidelines.

B. DOTA will evaluate each request and will notify the tenant, in writing, of the decision within ten(10) working days.

10.3.3 Cart and Kiosk Concession Standards

A. Cart / Kiosk Materials

a) The Cart and Kiosk is to be of durable, high quality material consistent with the overall design image. Careful attention must be paid to detailing of materials and how they join.

b) The Concessionaire is reminded of the potential abuse of the Cart / Kiosk by the airport luggage and bag carts and shall design with this in mind.

B. Canopy for Cart & Kiosk

a) The canopy is an overhead structure which completes the Concessionaire's identity and character. It is to be designed as an integral part of the Cart and Kiosk.

b) Each Concessionaire is required to design and fabricate a canopy for their Cart / Kiosk. Durable high quality materials are to be used in constructing the structure. It is also intended to hold the signage and lighting.

c) The horizontal bottom edge of the canopy shall be at 7 feet 6 inches above the floor. The overall height shall be consistent with fire code requirements by maintaining a minimum 18 inches clearance space between the top of the canopy structure and the terminal ceiling.

d) The canopy shall be provided at the Concessionaire's expense.

C. Signage

a) Refer to the "Signage and Graphics Design Manual", State of Hawaii, Dept. of Transportation – Airports Division, 2000.

b) Concessionaire's signage is an integral element of the design and overall image of their cart / kiosk. Signage is to be distinctive and easy to read. All signage, including menu board, product identification, and other signs, shall be compatible with

the overall design and be of a size and color to be readily visible.

c) Signage shall be provided at the Concessionaire's expense.

d) Primary Sign – Cart:

(i) Each Concessionaire is required to design, fabricate, and install one primary sign along the length of the canopy facing the public. Optional signage and graphics are encouraged on the cart.

(ii) The primary sign is intended to be the Concessionaire's name and logo only. The lettering shall be a maximum of 5 inches in height. The sign may be silk screened or surface mounted, individual dimensional letters not exceeding ½ inch deep.

e) Primary Sign – Kiosk:

(i) Each Concessionaire is required to design, fabricate and install at least one primary sign.

(ii) Maximum letter height is 8 inches and shall not exceed 48 inches in length. The method of attachment of this sign is to be considered part of the design.

D. Lighting

a) The Concessionaire shall provide all task and display lighting within their space at the Concessionaire's expense. Lighting visible to the public shall be directed toward the products to avoid glare.

b) Sufficient task lighting is to be provided to give overall illumination to the workspace (countertops and other work areas).

c) Merchandise Display lighting is to highlight the products being presented utilizing bright, highly focused lighting.

d) Display Case Lighting shall have internal lighting to light the merchandise.

e) Neon and/or exposed fluorescent lighting is not encouraged but will be considered by the State on a case-by-case basis.

f) All conduit, lighting attachments, and fixtures are to be designed and installed to be concealed from the public.

E. Electrical and Plumbing

a) Stub-outs will be provided by DOTA within the immediate zone of the Cart / Kiosk and shall be approved through the Design Review Process. No exposed electrical cords will be permitted.

b) Utilities will be paid for by the Concessionaire.

c) Typically, services such as water and drains are to be accessed at remote locations. In some conditions, plumbing may be required at the location of the Cart / Kiosk. This will be determined by the DOTA during the Design Review Process. Requests for plumbing shall be reviewed by the State and shall be constructed at the Concessionaire's expense.

F. Security

a) A security system, if desired by the Concessionaire, is to be designed integral with the structure. The system is to be constructed of materials similar to the Kiosk and is to give a consistent image even when closed.

b) The security system shall be provided at the Concessionaire's expense.

10.3.4 Interior Finishes / Aesthetics

A. The design and finishes of the Carts and Kiosks are key elements that contribute to the Concessionaire's overall identity and character. These standards are intended to support that identity.

a) Counters (Carts & Kiosks):

(i) Counters for the Kiosks (and Carts, if applicable) are one of the key elements that contribute to the Concessionaire's overall identity and character. The counter configuration varies according to the lease line and location within each Airport.

(ii) The counter shall be 34 inches high.

(iii) The counterfront is to be of durable, high quality materials consistent with the overall design image. Careful attention must be paid to the detailing of materials and how they join.

(iv) The Concessionaire is encouraged to add decorative elements such as wood or metal bullnose or another decorative accent band along the face of the countertop.

(v) A highly durable counter base shall be provided by the Concessionaire. The counter base shall be set back 4 inches from the counterfront to add variety and depth to the counter design. The height of the counter base shall be sufficient to accommodate customer toe space and cleaning equipment under the counter.

(vi) Counter materials: the Concessionaire shall utilize similar materials to those used in the surrounding area of the Airport (i.e. wood, stainless steel, etc.). This is to ensure design conformance with the décor of the terminal complex.

b) Counter Accessories (Food Carts and Kiosks)

(i) All sneeze guards are to be custom designed as an integral part of the Food Cart and Kiosk. The sneeze guards may be flush with the face of the front counter line and shall be no higher than 4 feet 6 inches above the floor. All horizontal joints are to be butt glazed glass to allow for maximum visibility.

(ii) Cup and napkin dispensers and condiment containers are to be recessed into the Cart / Kiosk top as an integral part of the design. All accessories shall be provided at the Concessionaire's expense.

c) Menu Boards (Food Carts and Kiosks)

(i) Menu boards are required for Food Carts & Kiosks and are critically important to provide efficient service to customers. Menu boards are to be designed as an integral element of the overall signage and character of the Food Cart & Kiosk. Menu boards shall be professionally prepared with changeable price and menu graphics. Hand lettered signs are not permitted. Menu boards shall be of similar style and colors as the other elements of the Cart and Kiosk, especially the primary sign and any graphic elements. A

non-glare material is to be used. Internally illuminated menu boards are not permitted.

(ii) The menu boards shall be of high quality, durable materials with finished and/or framed edges. It is to be attached in a professional manner to either the Food Cart / Kiosk, the equipment, or other elements of the Food Cart / Kiosk.

d) Merchandise Display (Retail Carts and Kiosks)

(i) Cart and Kiosk Concessionaires primarily involved with retail merchandise shall pay special attention to merchandise display. Merchandise shall be professionally displayed to be creative and distinctive, but may not be hung from the exterior of the Retail Cart and Kiosk. Merchandise display shall be considered an integral element in the overall design and must be approved through the Design Review Process.

e) Clutter Free Appearance

(i) The area available for the Cart and Kiosk is limited; therefore, special attention must be given to the organization of each element including merchandise display, menu board, equipment, trash receptacles, and accessories. All of these elements shall be designed as an integral part of the Cart and Kiosk.

(ii) Cart and Kiosk design and layout shall accommodate sufficient space for supplies and deliveries. Supplies shall not be visible to the public for any extended period of time (ie. when under service or receiving deliveries).

f) Equipment

(i) The Concessionaire shall provide all equipment at the Concessionaire's expense.

(ii) The equipment and its placement are important visual elements of the overall design and appearance of the Cart and Kiosk. Careful attention is to be given to each piece of equipment and how it is viewed by the public. All equipment is subject to the Design Review Process. Product names, logos, or advertisements shall not be visible to the public.

11.0 – AIRLINES

11.1 Signage

A. The Tenant's Contractor shall follow the requirements set forth in the State of Hawaii "Signage & Graphics Design Manual", Dept. of Transportation – Airports Division.

11.2 Display Material: The placement of display material shall be limited to the following in relation to airline leased areas:

A. Ticket counter and luggage check-in

a) One over-counter position identification at each position as approved by the DOTA.
b) Not more than one schedule rack. As approved by the State, for each position and only material from the airline relating to scheduling shall appear in the schedule rack. Credit card signs or material shall not be permitted except credit cards of the airline.
c) Direct line telephone for service shall be permitted on counter and must be removed when counter is manned. Call button, where required, shall be flush with counter top.
d) Except for the position identification signs, nothing shall be allowed to be suspended in any manner over, in back of, or in front of the ticket counter.
e) Company insignia on wall behind ticket counter shall be submitted to the Airports Administrator for approval prior to installation. Glossy sign face material is not permitted.
f) The wall behind the ticket counter shall not be altered in any way to break the architectural conformity to all other counter backwall areas. Application of color, in the form of paint or wallcovering of any material, or any form of decoration, or the affixing of any signing, equipment or lighting, shall be prohibited.
g) No adding machines, typewriters, radios, tape decks shall be permitted, except those required to conduct company business. Special operating equipment may be installed as approved by the State.
h) Airline signs, flight numbers, destination signs and other related signs originally installed by the State in ticket lobby area shall be maintained and revised by the State. Airline requests for sign changes shall be maintained and revised by the State. Airline requests for sign changes shall be sent to the State at least 30 days prior to the effective date of change.

11.0 – AIRLINES (Continued)

i) Luggage counter and conveyor housing tops shall be kept clear; no signs or equipment of any type shall be used.
j) Posters required by the federal government or IATA agreements shall be approved by the ADM before installation.

B. Holding Areas at Gates

a) Check-in desk tops shall be kept free of unnecessary material.
b) Airline identification sign shall be furnished by the State.
c) Ropes, tapes, relocated furniture and other barricades to channelize passenger movement is prohibited. (See 3.11 – Queing Devices)
d) Airline computer terminals shall be installed in the check-in counter. Free-standing consoles are prohibited.

C. Entrance or Corridor Doors to Airline Leasehold Area

a) Decals or special identification signs shall not be placed on office corridor doors exposed to public or common use areas within the terminal building without approval of the State.
b) Approved company door signing shall conform with State Division "Signage and Graphic Design Manual".
c) Doors secured with padlock and hasp shall not be permitted.
d) Airline Club Entrance Identification shall have only signing approved by the State and shall not exceed two square feet in total area.

D. General

a) Signs, extra tables, chairs, counters and equipment of any type visible to the public shall not be used without the approval of the DOTA.
b) Furniture in public areas and holding rooms shall not be moved to be used as barriers or crowd control purposes. The furniture is not to be moved for any reason unless authorized by the State. Barricades, ropes, stanchions and other passenger control and channeling devices will be furnished by the State, except where specifically approved by the State.
c) Airline wheelchairs shall be returned to authorized storage areas after the flight has departed.
d) No signs, decals, stickers, posters, etc., shall be permitted.

12.0 - TEMPORARY DISPLAY – HOLIDAY DECORATIONS

12.1 – Graphics & Signage Reference

12.1.1 The Tenants Contractor shall reference the State of Hawaii "Signage & Graphics Design Manual", Dept. of Transportation – Airports, for signage requirements.

12.2 - Holiday Decorations (Public Areas)

12.2.1 Tenants may display Christmas/Holiday Decorations in public areas as described below:

A. All holiday decoration must be within Tenant leased areas.

B. No decorations may be attached from the ceiling.

C. Live Christmas trees are not allowed; artificial Christmas trees are allowed.

12.2.2 The following lists the current pre-approved U.S. holidays and event display time frames:

A. Halloween, month of October only

B. Thanksgiving, month of November only

C. Christmas/Hanukkah months of December and January only

12.3 - Holiday Decorations (Counter Locations)

12.3.1 No illuminated decoration (including lights) may be used anywhere in public counter areas.

12.3.2 For counter tenants with back walls, decorations may be attached anywhere on the back wall including doors.

12.3.3 Decorations may sit on the floor or furniture behind counters.

12.3.4 Plants or holiday related decorations may sit on the counters, one per counter section or one per eight feet of counter; no other decorations may be attached or sit on the counters.

13.0 – TEMPORARY STRUCTURES - TRAILERS

13.1 Trailer Specifications

A. General

(a) The Tenant Improvement Guidelines, Standard Specifications for Road, Bridge, and Public Works Construction, ACI-318 and UBC shall apply to the work specified in this section.

B. Trailer Description

(a) Provide a double width trailer, 24 feet wide. Roof pitch shall be 2:12. Trailer shall be constructed with a skirt made of 1" x 2" slats to conceal the undercarriage of the trailer.

C. Submittals

(a) Submit the following in accordance with Section on Submittals. (Refer to Manual 1:B – Design Approval)

(b) Descriptive Data: Submit for approval descriptive data on all materials to be provided under this section. Data shall be sufficient to indicate conformance to all specified requirements.

(c) Erection Instructions and Diagrams: Instructions and diagrams as necessary to erect the trailer and install all components shall be submitted for approval and shall contain, but not limited to, the following:

(i) Anchor bolt layouts and size
(ii) Structural connections
(iii) Accessory installation
(iv) All details and instructions necessary for the complete assembly
(v) Shop drawings as necessary to supplement the instructions and drawings if required for the proper erection and installation of the trailer and components.

(d) Certificates of Compliance: Submit certificates from the manufacturer attesting that all materials conform to all requirements of this specification and referenced documents.

(e) Color: Color shall be one of three approved color schemes as follows:

(i) Color Scheme I:
Body of the trailer: ICI #1052, Jade Frost, MP#50GY 53/033
Base board: ICI#1586, Art Deco, MP#10RB 14/049
Window & corner trims: ICI #1586, Art Deco, MP#10RB 14/049

(ii) Color Scheme II:
Body of the trailer: ICI #997, Aleutian Shores, MP#30GY 51/109
Base board: ICI#266, Residence Row, MP#60YR 18/183
Window & corner trims: ICI #266, Residence Row, MP#60YR 18/183

(iii) Color Scheme III:
Body of the trailer: ICI #1171, Spring Shower, MP#30GG 74/063
Base board: ICI#1265, Blue Portico, MP#10BG 17/121
Window & corner trims: ICI #1265, Blue Portico, MP#10BG 17/121

D. Delivery and Storage

(a) Storage of trailer(s) shall be within tenant's lease space and shall not encroach into any adjoining lots. No storage of materials in public areas shall be permitted.

E. Design Requirements: Design loads shall be as indicated and as specified herein. Wind Loads shall be as indicated and as specified below.

(a) Roof Dead and Live Loads: Loads shall be applied on the horizontal projection of the roof structure. The minimum roof design load shall be 25 psf.

(b) Wind Loads: The trailer shall be able to withstand wind load of 90 mph, with an appropriate exposure level. The trailer shall be blocked, and strapped down to resist associated uplifting forces.

13.0 – TEMPORARY STRUCTURES - TRAILERS (continued)

(c) Seismic Loads: As required for appropriate seismic zone.

(d) Sidings: The trailer shall have 5/8” T1-11 with groove sidings.

(e) Roof: Roof shall have a 2:12 pitch.

(f) Trailer Skirt: Trailer shall have a skirt constructed of 1” x 4” with a 1” spacing between slats.

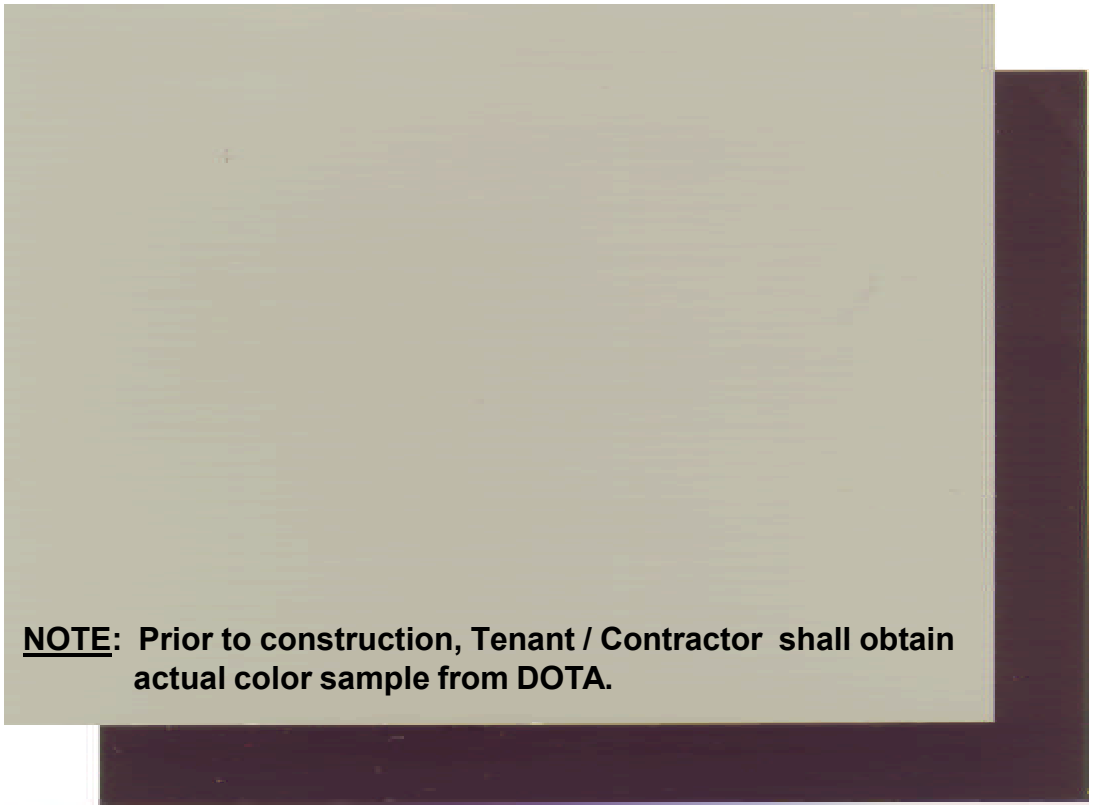
(g) Building Permits: Each tenant shall obtain a building permit from the local building department.

(h) ADA Requirements: Trailers shall meet all ADA requirements.

(i) Landscaping: Tenant shall landscape area surrounding the trailer as set forth in the Tenant Improvement Guidelines.

COLOR SCHEME 1

Body:
ICI #1052 * Jade Frost * MP #50GY 53/033

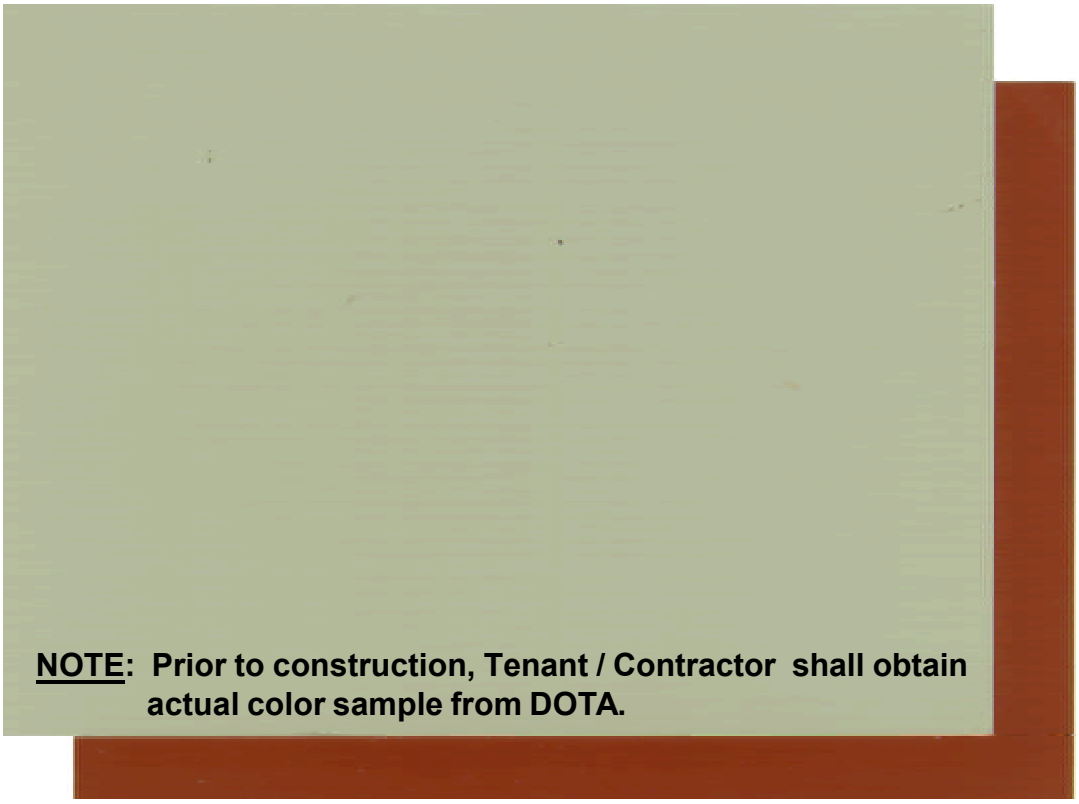


NOTE: Prior to construction, Tenant / Contractor shall obtain actual color sample from DOTA.

Base board / Window & Corner trims:
ICI #1586 * Art Deco * MP #10RB 14/049

COLOR SCHEME 2

Body:
ICI #997 * Aleutian Shores * MP #30GY 51/109

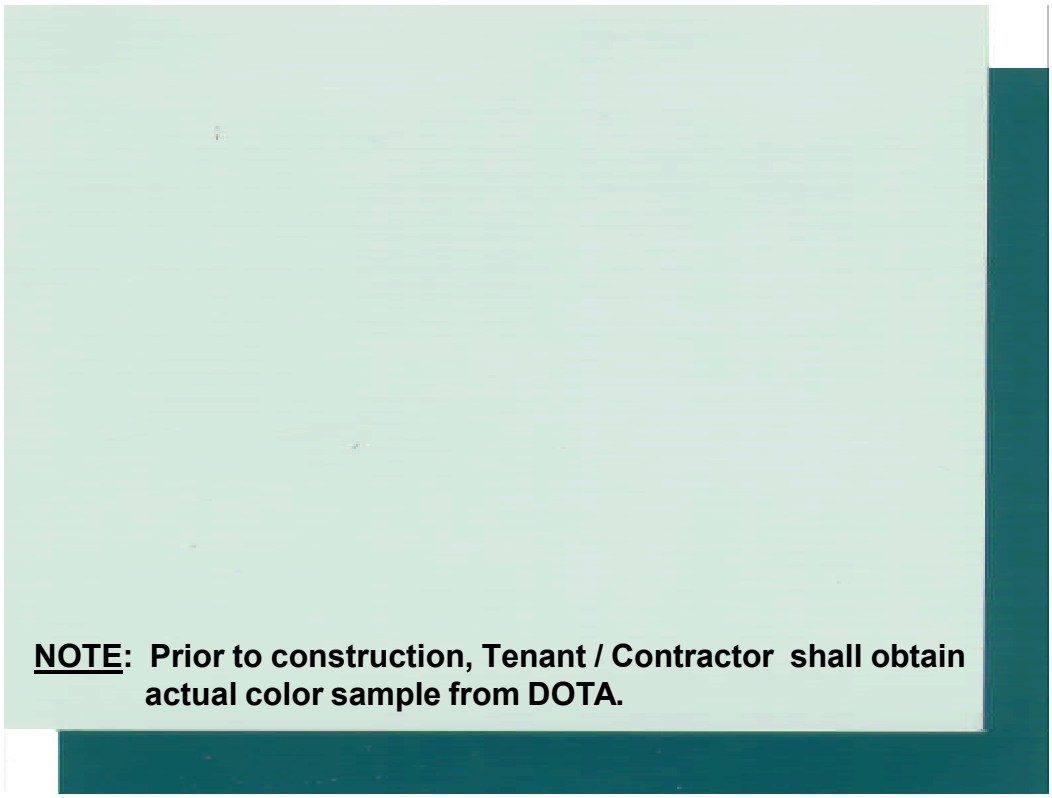


NOTE: Prior to construction, Tenant / Contractor shall obtain actual color sample from DOTA.

Base board / Window & Corner trims:
ICI #266 * Residence Row * MP #60YR 18/183

COLOR SCHEME 3

Body:
ICI #1171 * Spring Shower * MP #30GG 74/063



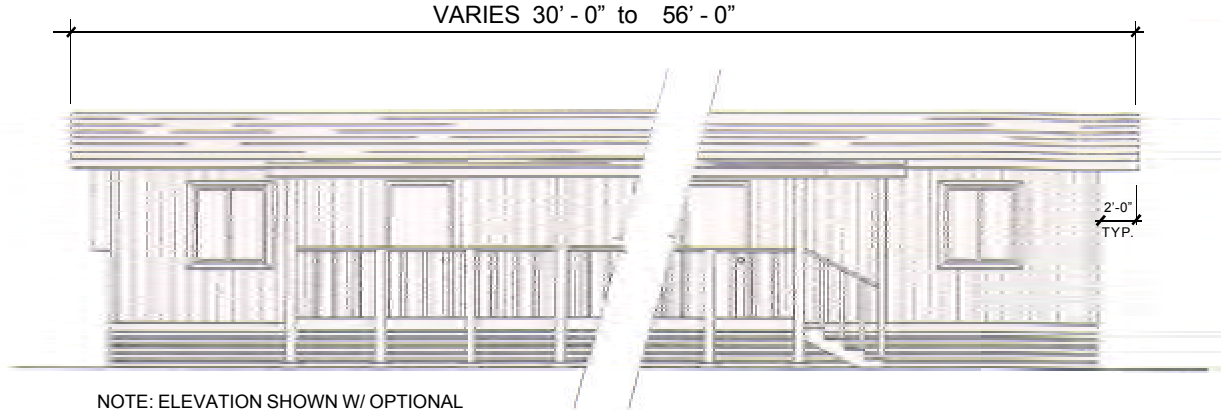
NOTE: Prior to construction, Tenant / Contractor shall obtain actual color sample from DOTA.

Base board / Window & Corner trims:
ICI #1265 * Blue Portico * MP #10BG 17/121

MOBILE OFFICE:

MOBILE OFFICE:

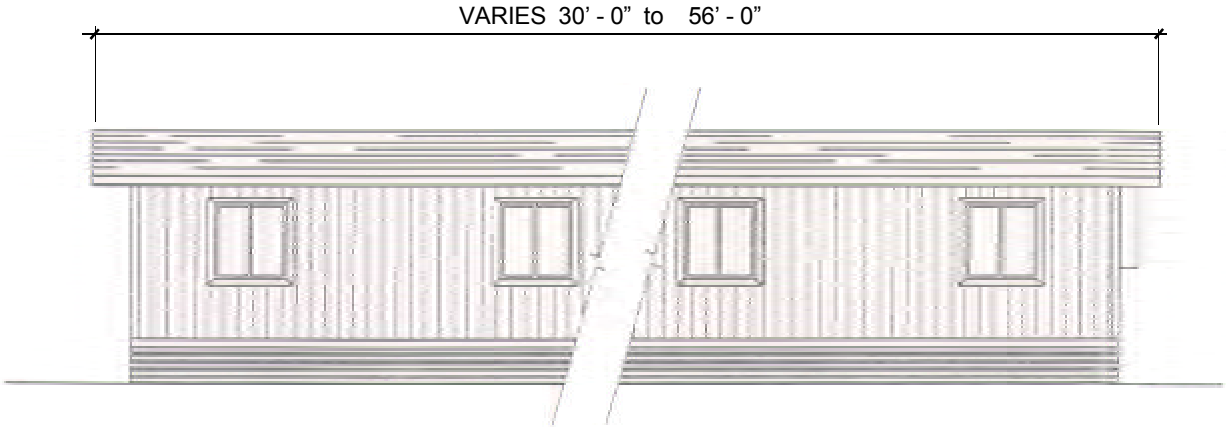
MOBILE OFFICE:



NOTE: ELEVATION SHOWN W/ OPTIONAL COVERED DECK

FRONT ELEVATION

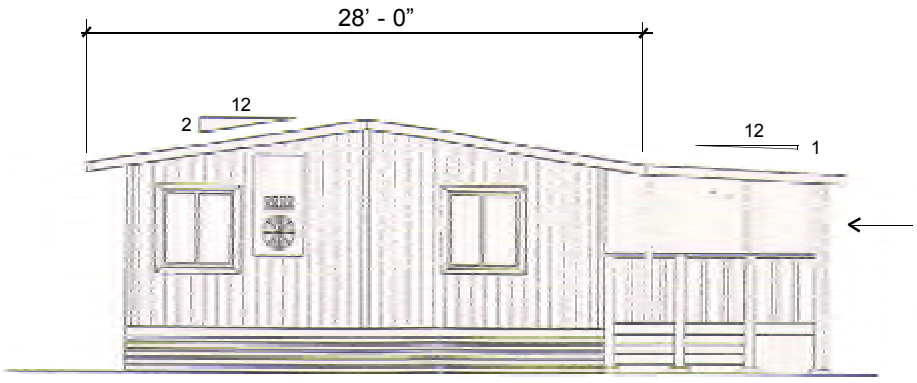
(Not to Scale)



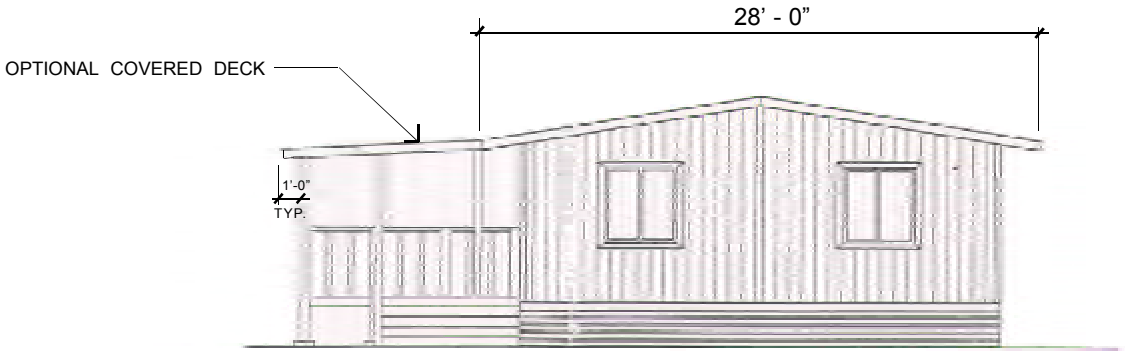
REAR ELEVATION

(Not to Scale)

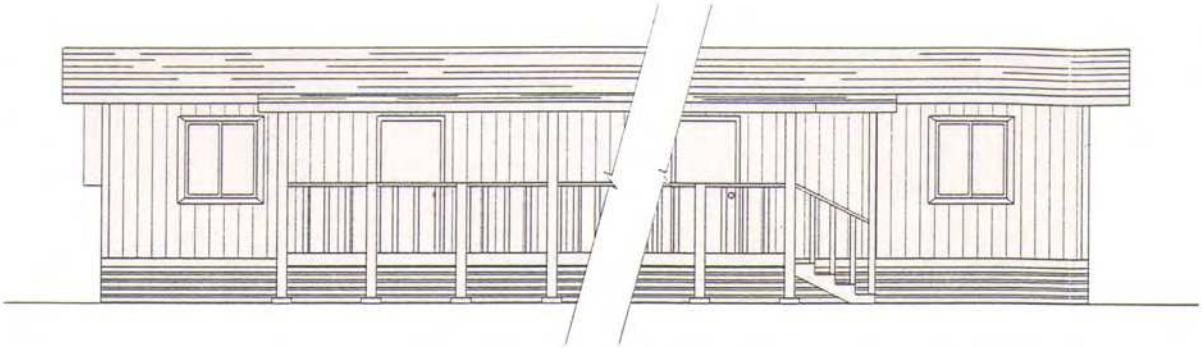
MOBILE OFFICE:

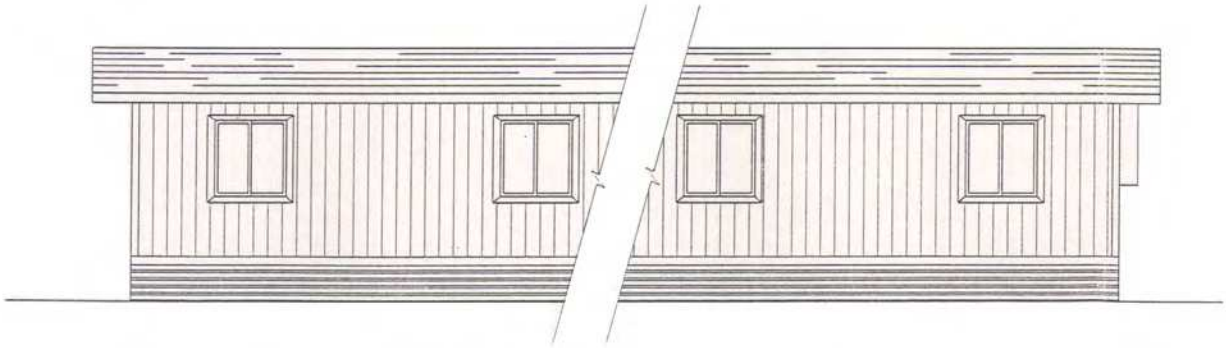


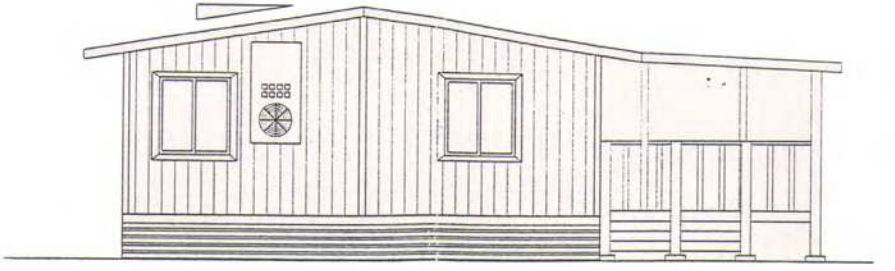
SIDE ELEVATION
(Not to Scale)

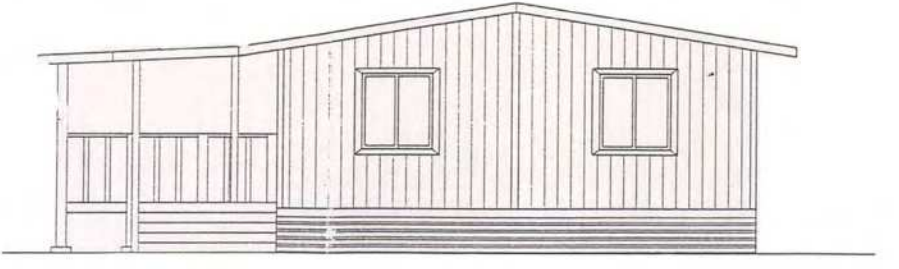


SIDE ELEVATION
(Not to Scale)









C. APPENDIX

SR #: _____ Premise ID#: _____

TEMPORARY WATER METER
(Approval Checklist)

1. Project Title/Owner: _____

2. Person requesting for temporary service: _____

   Business Ph# _____ Fax Ph# _____

3. Use: Specify: _____
   If for Dust Control/Irrigation
   Acres being graded/irrigation _____

4. How long will the temporary service be needed? _____

5. What is the water flow requirement? _____GPM

6. Are there any other temporary services for this project or in this general area?

   If yes, indicate location: _____

   _____

7. What other type of resources have been utilized for this project? (existing water meters, ponds, ditch water, etc.)

   _____

   _____

8. How are the resources and temporary meters being utilized? (filing frequency, usage)

   _____

   _____

_____

Airports Division use only

_____

Date: _____

Airports Inspector _____ Called/Dated _____

Notes _____

_____

Airports Project No. _____

DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
NOTICE FOR SERVICE HOLDERS OF

TEMPORARY WATER METERS

In consideration of DOT - Airports Division granting this special type service connection, the applicant hereby agrees to accept responsibility for the water quality and appurtenances.

NOTE: WATER CONTAMINATION WILL BE CHARGED TO APPLICANT

This is to advise you that the temporary meter will be removed as follows:

_____ 90 days for fire hydrant meters from _____

_____120 days for underground meters from _____

However, if you wish to continue the temporary water service, you may request for a 90-day extension. Each request submitted in writing no earlier than two (2) weeks prior to the termination (meter removal) date. ***If the request for extension is not received by _____, the service shall be automatically terminated and the meter will be removed.*** (Please follow sample letter format on reverse side).

Also, only the Airports Division is authorized to remove the temporary fire hydrant and underground meters. Should the temporary fire hydrant or underground meter be removed by the service holder from the authorized location, the water services shall be automatically terminated and the meter confiscated.

Once the meter is removed, a new application must be made. If approval is granted to reinstate the temporary water, the applicant will be levied the prevailing water usage charge. Application and payment must be made at 400 Rodgers Boulevard, Suite 700, Honolulu, HI 96819 and will be accepted from Monday thru Friday during the hours of 7:45 A.M. to 4:00 P.M., except holidays.

If you have any questions regarding this notice, please call 838-8847.

I, as the authorized representative/agent of the company named below, understand and agree to comply with all the conditions of this notice.

_____ Phone Number

_____ Company Name

_____ Fax Number

_____ Print Name
(Authorized Representative/Agent)

_____ Title

_____ Signature
(Authorized Representative/Agent)

APPLICATION FOR TEMPORARY WATER SERVICE

(Revised 7/15/98)

TEMPORARY WATER SERVICE, may be provided for the following:

a. construction interim, i.e., dust control, job site office, etc.
b. under special conditions

IF ALLOWED, the type of Temporary Service may be provided in the following order:

1. The use of **an existing service**, if adequate for the requested flow demand.

2. The use of a **cleanout** at the end of a main, if available. The contractor to coordinate with AIR-EM Section for the installation of a lateral.

3. The use of a **fire hydrant**, if available.

Note: --The use of a fire hydrant for filling of domestic water trucks shall not be approved.
--The Department will allow ONLY ONE temporary water service for a single project, unless the project can justify the need for more.
--If the hydrant is new and part of an on-going infrastructure installation, then written clearance to use the hydrant from the Project Manager assigned to that project is required.

4. In the event that an existing unused service lateral or fire hydrant is unavailable, **a temporary "in-ground" service**, may be allowed.

When applying for temporary service, please fill out the attached application forms. The following requested information is required to complete the forms.

a. name of Project/Owner
b. name of Party responsible for the water bill
c. billing address
d. a person authorized to sign up for the water service/RWS form
e. phone number and fax number
f. location where the temporary service is to be established
g. if applying for service from an O/F service, we will need a sketch plotting the location of the empty meter box(es)
h. if applying for a new "in-ground" service, provide a sketch with landmarks and dimensions for meter location
I. flow requirements
j. if applying for a hydrant connection:

1. Provide the hydrant number which is located on the side of the hydrant facing the roadway, (example: M-1234, L-2345, C-6578, and W-4523)
2. If the hydrant is new, a number may not be indicated. Provide a map that will clearly show the location of the requested new hydrant, especially if the area is undeveloped. Prior to the use of the new hydrant, an approval from the Project Manager assigned to the project will be required.
3. Please be able to provide alternate choices in the event we are not able to approve your first choice.

You will be required to coordinate the requirements for a backflow device with the Airports Division, Engineering Maintenance Section.

Please allow 5-10 working days for the approval of hydrant meters and meters to be installed in existing meter boxes. Also, allow 2-4 weeks for new in-ground water service installations.

Temporary water service shall be permitted for an initial period not longer than 90 days for fire hydrant services and 120 days for in-ground services, unless an extension is requested in writing and approved by the Airports Division, Maintenance Engineering Section. We suggest that the written request for extension be submitted two weeks prior to the expiration date of the service. This request can be mailed, faxed (838-8751), or hand carried. Please follow the attached "Sample Renewal Letter" for extension requests.

The party that applied for the temporary service will be responsible to confirm that AIR-EM has received the extension letter or a fax of the letter. If AIR-EM does not receive the extension letter, the temporary water service will be terminated.

To: State of Hawaii
Department of Transportation
Airports Division
Facilities Maintenance, AIR-EM
400 Rodgers Blvd., Suite 700
Honolulu, HI 96819

Date:

From: Contractor's Name
Contractor's Address

Subject: Request for "90 DAYS" Extension of Temporary Water Service

I would like to Request for an extension of the temporary water service to (Project Area) until (90 days from the date of this letter), for the following Premise ID# or Service Request Number which is shown on the billing statement.

Premise ID#:
Service Request #: _____

_____
Agent/Owner's Name and Title

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
400 Rodgers Blvd., Suite 700
Honolulu, HI 96819
Telephone: 838-8847

REQUEST FOR NEW WATER SERVICE

PROJECT TITLE_____

PROJECT NO._____ METER NO._____

PREMISE ADDRESS_____

We would like to install new water service and meter at above location and send all future bills for payment to:

CUSTOMER_____
First Name Middle Initial Last Name

MAILING ADDRESS_____

_____ ZIP CODE_____

The undersigned hereby applies to the Department of Transportation, Airports Division, for water service and meter at the above location: and, in consideration of the installation of such service and meter, agrees to pay all charges incurred upon such location for such water service and to abide by all rules, regulations and provisions prescribed by said Department, relating to water service and/or rates.

The Department of Transportation, Airports Division requires 7 calendar days written notification for any tie-in, testing or modification to the Airports utility systems. This requirement is necessary to review the request and make arrangements for maintenance or contract personnel to be present during the actual work. Plans for the work must be approved prior to making the request.

_____
Print Name

_____
Customer's Signature

_____
Customer's Employer

Bus:_____ Res:_____

Customer's Phone Nos.

_____
Effective Date

CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION AGREEMENT FOR WATER METERS AND TEMPORARY FIRE HYDRANT CONNECTIONS

PROJECT TITLE/OWNER _____

HYDRANT/METER ADDRESS _____

CONTRACTOR _____ PHONE _____

1. TYPE: _____ Temporary Meter/_____ Permanent Meter/_____ Fire Hydrant

2. USE: Specify: _____

3. Will you be adding chemicals, fertilizers, "hydromulch", or any other agents to the water you use:

   _____Yes _____No Other, specify_____

4. Backflow Prevention Device (B.P.D.) required: _____Yes _____No

   _____ Reduced Pressure Principle B.P.D.
   _____ Double Check Valve B.P.D.
   _____ 6-Inch Air Gap

5. CONDITIONS:

   a. The owner/contractor shall install, at his expense, a DOT-Airports Division approved Backflow Prevention Device, of the type specified above, after the water meter, according to DOT-Airports Division Rules and Regulations.

   b. Failure to install the required backflow prevention device of the use or activity that may pose a potential backflow problem may result in immediate removal of the water meter without prior notification. The owner shall be required to pay for water meter reinstallation.

AGREED: APPROVED:

_____ _____
Applicant's Signature Date Long Range Plan/Environ. Date

_____ CONCUR:
Print Name

_____ _____
Title Customer Service Division Date

(DOT-AIR use only)

SIZE: _____ HEIGHT: _____ SKETCH

MAKE:_____ MODEL: _____

SERIAL NUMBER: _____

METER NUMBER: _____

METER READING: _____

USDA Restricted Plants not permitted into the Mainland: **(as of 5/1/2000)**

- Berries of any kind including coffee berries
- Cactus plants or parts
- Cotton and cotton bolls
- Fresh flowers of gardenia, jade vine, mauna loa, sea grapes and other members of the bean family
- Fresh pulpy fruits (except pineapple)
- Seeds with fruit clinging and fresh seed pods
- Sugarcane
- Swamp cabbage (ungchoi)
- Sweet potato (raw)
- Noni

If you have any questions, please call 861-8490 / 2 (Oahu)

A HOST LIST OF FRUITFLY IN HAWAII:

1. Achras sapota L. – (Circle Tree, Chico, Sapodilla)
2. Actinidia chinensis (Kiwi, Chinese gooseberry)
3. Anacardium. occidentale L. (Cashew nut)
4. Annona muricata L. (Soursop)
5. Annona reticulata L. (Custard apple)
6. Annona squamosa L. (Sugar apple)
7. Artabotrys odoratissimus R. Br. (Climbing Ylang Ylang)
8. Artocarpus incisus (Thunb.) (Breadfruit)
9. Artocarpus heterophyllus Lam. (Jack fruit)
10. Averrhoa carambola L. (Carambola)
11. Bumelia lanyginosa Pers. (Chittim wood)
12. Bunchosia armeniaca (Cav.) (Bunchosia, Ciruelo)
13. Calocarpum. Sapota (Jacq) (Mamey sapote, Marmalade fruit)
14. Calophyllum inophyllum. L. (Alexandrian Laurel, Kamani)
15. Cananga odorata (Lam.) (Ylang-Ylang)
16. Capsicum frutescens var. abbreviatum L. (Nioi lei, Red pepper)
17. Capsicum frutescens var. grossum. L. (Bell pepper, Sweet pepper)
18. Carica papaya L. (Papaya, Pawpaw)
19. Carissa macrocarpa (grandiflora) A. Dc. (Natal Plum)
20. Casimiroa edulis Llave and Lex. (White Sapote)
21. Cestrum diurnum L. (Day Cestrum)
22. Chrysobalanus icaco L. (Coco Plum)
23. Chrysophyllum. cainito L. (Caimito, Star Apple)
24. Chrysophyllum oliviforme L. (Coimitillo, Satin Leaf)
25. Citrullus vulgaris schrod. (Watermelon)
26. Citrus aurantifolia (Christmann) (Lime)
27. Citrus aurantium L. (Sour Orange)
28. Citrus limon Osbeck (Lemon)
29. Citrus maxima (Burm) (Pummelo, Shaddock)
30. Citrus mitis Blco. (Calamondin)
31. Citrus nobilis var. deliciosa (Ten) (Ked Glove orange, Tangerine)
32. Citrus paradisi Nacf. (Grapefruit, Pomelo)
33. Citrus sinensis (L) (Common Orange, Kona Orange, Sweet Orange)
34. Coccinea grandis (Ivy Gourd)
35. Coccolobis uvifera, (L) (Sea Grape)
36. Coffea arabica L. (Arabian Coffee)

37. Coffea liberica Bull. (Liberian Coffee)
38. Cordia sebestena L. (Foreign Kou, Kou Haole, Geiger Tree)
39. Cordyline terminalis (L) (Ti)
40. Diospyros discolor Willd. (Mabolo, Velvet Apple)
41. Diospyros ferrea (Lama, Native Persimmon)
42. Diospyros khaki L. (Kaki, Oriental Persimmon)
43. Dovyalis hebecarpa (Gardn.) (Ceylon Gooseberry, Katambilla)
44. Durio sp. (Durian)
45. Eriobotrya Japonica (Thunb.) (Loquat)
46. Eugenia cumini (L.) (Jambolan Plum, Java Plum)
47. Eugenia dombeyi (Spreng) (Brazilian Plum)
48. Eugenia jambos L. (Rose Apple)
49. Eugenia uniflora L. (Surinam Cherry)
50. Euphoria longan (Lour.) (Dragon's Eye, Longan)
51. Feijoa Sewllowiana Berg. (Guvasteen)
52. Ficus carica L. (Common Fig)
53. Ficus lyrata Warb. (Fiddle Leaf Fig)
54. Ficus macrophylla Desf., (Moreton Bay Fig)
55. Ficus retusa L. (Chinese Banyan Fig, Malayan Fig)
56. Ficus rubiginosa Desf. (Port Jackson Fig)
57. Flaucourtia indica (Burm.f.) Merr. (Governor's Plum, Rukam, Romotehi)
58. Fortunella japonica (Thunb.) (Chinese Orange, Kumquat)
59. Fragaria chiloensis (L.) (Strawberry)
60. Garcinia mangostana L. (Mangosteen)
61. Garcinia xanthochymus Hock. (Gourka)
62. Gossypium barbadense L. (Cotton Plant, Sea Island Cotton)
63. Hydnocarpus kurzii (King) (Chaulmoogra)
64. Inga laurina (Sw) (Guama)
65. Inocarpus edulis Forst. (Tahitian Chestnut)
66. Juglans hindeii (California Walnut)
67. Juglans ragia L. (English Walnut)
68. Lansium domesticum (langsat, Lansones)
69. Latania loddigesii Mart. (Blue Lantan Palm)
70. Litchi chinensis Sonn. (Litchi)
71. Lucuma nervosa A. Dc. (Canistel, Egg Fruit)
72. Lycopersicon esculentum Mill. (Tomato)
73. Macadamia ternifolia F. – (Macadamia Nut, Queensland Nut)

74. Malus sylvestris (Apple)
75. Mammea americana L. (Mammee Apple)
76. Mangifera indica L. (Mango)
77. Manilkara hexandra (Roxb) (Cow Tree)
78. Melia azedarach L. (Bead Tree, Chinaberry Tree, Pride of India)
79. Mimusops elengi L. (Elengi, Pogada)
80. Momordica balsamine L. (Balsam Apple)
81. Momordica charantia L. (Balsam Pear, Bittermelon)
82. Morus nigra L. (Black Mulberry)
83. Murraya exotica L. (Jessamine Orange, Mock Orange)
84. Musa nana Lour. (Chinese Banana)
85. Musa paradisiaca var. sapientum (L) (Common Banana)
86. Nephelium lappaceum (Rambutan)
87. Noronhia emarginata (Lam.) (Madagascar Olive)
88. Ochrosia elliptica Labill. (Ochrosia)
89. Olea europaea L. (Olive)
90. Opuntia megacantha Salm-Dyck (Prickly Pear)
91. Pandanus odoritissimus L.f. (Pandanus, Screw Pine) – Allowed to be grown in Hawaiian Garden provided that fruit be removed.
92. Passiflora edulis Sims (Lilikoi, Purple Granadilla)
93. Passiflora edulis f. flavicarpa Degener (Yellow Lilikoi, Lilikoi-melemele)
94. Passiflora foetida L. (Love-in-a-mist, Pohapoha)
95. Passiflora laurifolia L. (Bell Apple, Yellow Granadilla)
96. Passiflora mollissima (HBK)
97. Passiflora subpeltata Ortega (White Passion Flower)
98. Persea Americana Mill. (Avocado, Alligator Pear)
99. Phoenix dactylifora L. (Date Palm)
100. Pimenta acris Kostel. (Bay Rum Tree)
101. Pimenta officinalis Lindl. (All spice)
102. Pithecellobium dulce (Roxb.) Benth. (Opiuma, Manila Tamarind)
103. Polyalthia longifolia Benth. (Custard Apple)
104. Prunus cerasifera Ehrh. x salicina Lindl. (Methley Plum)
105. Prunus persica (L) (Peach)
106. Psidium cattleianum Sabine (Purple Strawberry Guava)
107. Psidium cattleianum f. lucidum Degener (Yellow Strawberry Guava)
108. Psidium guajava L. (Common Guava)
109. Punica granatum&M L. (Pomegranate)
110. Pyrus malus L. (Apple)

111. Pyrus serotina var. culta Rehd. (Sand Pear)
112. Santalum album L. (Sandalwood)
113. Santalum paniculatum
114. Scaevola sericea Vahl. (Beach Naupaka)
115. Solanum aculeatissimum Jack. (Kikania Lei)
116. Solanum muricatum Alt. (Pepino)
117. Solanum pseudocapsicum L. (Jerusalem Cherry)
118. Spondias sulcis Forst. (Otaheite Apple, Wi Tree)
119. Spondias mombin L. (Hog Plum)
120. Syzigium malaccensis L. (Mountain Apple, Malay Apple)
121. Terminalia belerica Roxb. (Myrobalam Nut)
122. Terminalia catappa L. (False Kamani)
123. Terminalia melanocarpa Muell. (Myrobalam Nut)
124. Theobroma Cacao (Cocoa)
125. Thevetia Peruviana (Pers.) (Be Still, Yellow Oleander)
126. Triphasia trifolia (Burm.) (Limeberry)
127. Vaccinium reticulatum Smith (Ohelo Berry)
128. Vitis vinifera (Grape)
129. Wikstroemia phillyraefolia Gray
130. Wikstromia uva-ursi Gray
131. Yucca sp. (alnifolia?)
132. Zizyphus mauritiana Lam. (Indian Jujube)

Note: The above list was compiled by Mr. Bob Kunishi, USDA Entomologist (March 1998)