



LICENSEE DESIGN CRITERIA MANUAL SANGSTER INTERNATIONAL AIRPORT



March 2014

SECTION A - INTRODUCTION

A1 Intent of this Manual

This manual is intended to provide Licensees, their designers and contractors with information required for the design and construction of their improvements in the International Terminal Building at the Sangster International Airport in Montego Bay, Jamaica. This Manual contains the MBJ Airports Limited (MBJ) criteria for design, procedures for obtaining the required approval of designs, and regulations which will cover design and construction procedures throughout the project.

Familiarity with the contents of this manual, the Facility Permit process, and Schedule C of the License Agreement is required, as they form the basis of MBJ's approval of Licensee design and construction work.

A2 Other Reference Materials

This manual is to be read in conjunction with the License Agreement and all codes and regulations which are applicable to the work. In case of discrepancy between this manual and the License Agreement, the License Agreement shall take precedence and shall apply.

A3 Design Philosophy

This Section is to be completed with the support of the MBJ Project Architect.

The Airport is one of the first and last impressions visitors have of Montego Bay, the region and Jamaica. Consequently, layouts, thematic treatments and designs are important to create memorable and stimulating experiences for passengers and other users.

SECTION B - GENERAL PROCEDURES

B1 Licensee Design Coordination

Licensee design coordination for this project will be directed by MBJ Airports Limited (MBJ). Questions, comments and submissions should be directed to the MBJ Project Manager with responsibility for Construction matters at Telephone (876) 952-2712, Fax (876) 952-7366 and Cell (876) 469-1026.

B2 Permits, Fees and Approvals

Licensees are responsible for obtaining all permits, paying all fees and obtaining all required MBJ and other approvals. Construction shall not commence until all requisite approvals are obtained.

Licensees shall, upon completion of Licensee Work, secure all applicable certificates of inspection, and provide MBJ with a Statutory Declaration confirming that there are no builders, Workers' Compensation, or other liens or encumbrances affecting the Premises or the Building in respect to work, services or materials and equipment relating to Licensee

Work and that all accounts for work, services or materials and equipment have been paid in full with respect to all of Licensee Work. A letter of release as well as a Statutory Declaration will be required from the Contractor.

The Licensee shall, at all times during the performance of Licensee's Work, post the notice provided as Schedule B1 in two conspicuous places where work is being carried out.

MBJ should be contacted at (876) 952--2712 or fax (876) 952-7366.

B3 Letters of Assurance of Professional Design

Licensee shall provide Letters of Assurance as evidence that all works have been designed certified and completed in accordance with professional accreditation requirements. Contract documents and "as built" drawings must be certified and signed by accredited professionals.

B4 MBJ Supplied Drawings

As part of the Request for Proposal (RFP) documentation, MBJ will provide cut sheets detailing the following information:

1. Key Plan;
2. Location Plan;
3. Licensable Area, Size and Dimension;
4. Service Provided;
5. Systems Provided;
6. Finishes Provided;

B5 Licensee Authorized Work

The Licensee will not be permitted to perform/execute ANY works outside their licensed area. Any required works outside the licensed area will be coordinated by MBJ, executed by a third party, with a cost plus a markup to be borne by the Licensee.

Work performed by MBJ on behalf of the Licensee or to accommodate Licensee design requirements shall require Licensee to sign a "Construction Request Form", Attachment I in this document, prior to any work commencing. As soon as the nature of the work and the price is agreed upon any Licensee's base building changes shall be executed under the authority of a Construction Request Form. This will be prepared and issued by MBJ. MBJ will not perform work prior to receiving signed Licensee authorization. Costs, in accordance with Construction Request Form, shall be paid by Licensee directly to MBJ upon invoicing following completion of the work. All Licensee Work performed by MBJ at the Licensee's expense shall be charged to the Licensee at cost plus 15% for MBJ coordination,

supervision and administration. The Letter of Credit Security referred to in the General Provisions of Schedule C of the Licence shall be security for all of the Licensee's obligations including payment of Licensee's Work performed on the Licensee's behalf by the M.B.J.

B6 Licensee's Extra Requirements

If the Licensee requirements for any of the base building services supplied by MBJ exceed the standards or capacities outlined in the Licence and this manual, the Licensee may apply to MBJ for upgrading of such services. MBJ will review the application received and may, at its sole discretion, agree to the upgrade. If MBJ agrees, MBJ shall supply a quotation to the Licensee for such upgrade work and that amount shall be reimbursed by the Licensee to MBJ, on demand, following completion of the work by MBJ's contractor.

All related costs, including those of MBJ's consultants, plus 15% for MBJ coordination, supervision and administration shall be borne by the Licensee. Under no circumstances will the Licensee's contractor be permitted to make modifications to the base building systems.

B7 Safety and Security

It is the intention of MBJ to provide a safe, secure and healthy work place for each and every worker on the MBJ's property. This also applies to work performed within the Licensed Premises.

Each Licensee's managers, its supervisors and workers must accept responsibility to ensure that safety and security are the top priority. Nothing less will be accepted.

Licensee security during Licensee's Fixturing Period is the responsibility of Licensee. MBJ shall have no liability for any loss or damage including theft of building materials, equipment or supplies. The Licensee shall become familiar with and conform to the guidelines set out in the project "Safety and Security Manual" as attached.

B8 Late Opening Consequences

The consequences of late opening are addressed in the Request for Proposals (RFP) documentation.

B9 Working in the Airport

It is the responsibility of the Licensee and its contractor to obtain and become familiar with MBJ's guidelines as embodied in the Licence, this Manual and the Safety and Security Manual prior to commencement of Licensee's Work.

B10 Applicable Codes and Standards

1. The National Building Code of JS 217 Jamaica National Building
 2. The National Fire Code of _____
 3. The _____ Electrical Code JS 21Electrical Installations
 4. Aerodrome Standards and Recommended Practices, as published by _____
 5. All requirements of the Montego Bay Fire Department
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6. All Jamaica Civil Aviation Publications applicable to construction at Airports
7. National Building Code Barrier Free requirements are mandatory for all airport construction where there is access by the traveling public. It is recommended that all third party construction be carried out in accordance with these requirements whenever practical. (refer to Safety and Security Manual). At time of construction coordination, please contact MBJ Project Manager for further information.

SECTION C - LICENSEE DESIGN SUBMISSION

C1 General

1. Preparation and submission for MBJ's review of drawings, samples, and specifications for the fixturing of the premises must be in accordance with this Section and as set out in Schedule C of the Licence. These drawings shall be prepared by interior designers, architects and engineers registered to practice in and outside of Jamaica, examples of whose previous design work shall be of a standard acceptable to MBJ.
2. All Licensee Work shall be in accordance with the Facility Permit requirements. Attention is drawn in particular to the non-combustible classification of the building, related flame spread ratings and smoke development classification of materials and the seismic restraint of construction components. Documentation demonstrating compliance shall be provided by the Licensee if requested by MBJ.
3. Within 30 days of date of MBJ's notice to the Licensee of MBJ's intent to enter into a Licence, the Licensee shall prepare and submit its preliminary design to MBJ as set out in Subsection C2 herein, for MBJ's review and approval.

After review by MBJ, the Licensee will receive approval or comments from MBJ. If the Licensee's drawings are "accepted as noted", the comments noted must be incorporated into the Licensee's final design submission.

Within 14 days of MBJ's response to the Licensee's preliminary design submission, the Licensee shall submit its proposed final design, as set out in Subsection C3 herein, for MBJ's review and approval. The Licensee's final design submission shall include revisions to and incorporate MBJ's comments to the preliminary design as well as any base building modifications required by MBJ to accommodate the Licensee's final design.

Within 21 days of the Licensee's receipt of MBJ's approval of the Licensee's final design, the Licensee shall prepare and submit design/working drawings and specifications consisting of one (1) set of prints as set out in Subsection C4 herein, for MBJ's review and approval. MBJ shall notify the Licensee of its approval or otherwise of the Licensee's working drawings submission within 14 days of MBJ's receipt of same.

1. MBJ failure to notify the Licensee within the period specified in C1.3 above shall not imply approval.
2. All submission to be consistent in size 600mmx900mm.

C2 Preliminary Design Submission

The following indicates the minimum requirements of the Preliminary Design Submission. Licensee shall make the submission in duplicate except for sample board of which one is required.

1. Key Plan showing the location of Premises within the Airport.
2. Proposed Architectural/Service Plan showing furniture layout and floor finishes.
3. Colored perspective or elevation of proposed interior design with specifications.
4. Sample board of proposed materials, colors and finishes.
5. Key mechanical, electrical and telecommunication systems proposed, including base building modifications.

C3 Final Design Submission

The following indicates the minimum requirements of the Licensee's Final Design Submission which shall be made in two (2) copies (unless otherwise requested by MBJ).

1. Key Plan showing the location of the Premises within the Air Terminal Building.
 2. Preliminary Floor Plan(s) (1:50) showing interior design including materials and finishes.
 3. Reflected Ceiling Plan(s) (1:50) showing ceiling materials, various heights, location and type of all light fixtures and other mechanical or electrical ceiling mounted devices.
 4. Elevation and section showing concept including graphics and, materials finishes (1:25).
 5. Sample board (if revisions to Preliminary Submission were required by MBJ).
 6. Mechanical and electrical design including base building modifications.
 7. Licensee hoarding and dust control plans.
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C4 Design/Working Drawings Submission

The following indicates the minimum requirements of the Design/Working Drawings Submission consisting of one (1) set (CAD discs in DXF format to be provided if required by MBJ).

1. Architectural:

- (a) Key Plan showing location of the Premises within the Air Terminal Building;
- (b) Floor Plan(s) (1:50) indicating closure locations of partitions and type of construction, placement of fixtures, furnishings, floor patterns, material selections and washroom location (if any);
- (c) Reflected ceiling plan(s) (1:50) showing ceiling materials, various heights, location of all light fixtures, diffusers, grilles and sprinkler heads;
- (d) Interior Wall Elevations (1:50), sections and details sufficient for construction;
- (e) Elevation (1:25) showing ceiling materials, various heights, location of all light fixtures, signage and emergency exit(s);
- (f) Specifications, interior finish and color schedules;
- (g) Fixture cuts of all lighting, and plumbing fixtures including manufacturers name, catalogue number, catalogue cut, lamp types, mounting and custom designs;
- (h) Details of securing the Premises when closed;
- (i) Sample board of materials, finishes and colors if revised from previously approved Final Design Submission.

2. Structural (if applicable):

- (j) Drawings identifying means of seismic restraint for all code required application;
 - (k) Drawings and specifications for elements of fixturing or construction applying atypical point loads to the structure;
 - (l) Drawings indicating size and location of all intended slab or roof penetrations.
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3. Heating, Ventilating and Air Conditioning:

- a. Floor plan, fan coil units, duct layout, size, style and manufacturer of grilles and diffusers, thermostats and controls where applicable (1:50);
- b. Specifications and fixture cuts;
- c. Heat gain/loss calculations;
- d. Ventilation, make-up air requirements.

4. Plumbing (if applicable):

- a. Floor plan of services - 1:50;
- b. Specifications and fixture cuts;
- c. Venting requirements.

5. Sprinklers and Fire Protection:

- a. Sprinkler distribution changes, head layout and hydraulic calculations;
- b. Heat baffles (if applicable);
- c. Fire extinguisher locations.

6. Electrical:

- a. Floor plan showing electrical requirements (1:50). Include single line distribution diagram;
 - b. Fixture schedule showing quantity and watts for each fixture;
 - c. Special lighting, i.e. signs, logo, etc.;
 - d. Specifications of fixtures;
 - e. Total electrical demand and connected loads, service location and size of transformer (if required);
 - f. Completed table of electrical loads;
 - g. Fire alarm changes, layout, additions (if applicable).
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7. Letters of Assurance issued by Licensee's registered professionals (Architect/Designer/Engineer) as specified by the Facility Permit Guidelines.

C5 Post Construction Submissions

The following checklist indicates items to be submitted post construction.

1. Two (2) sets of complete and accurate as-built drawings signed by accredited professionals for the contractor/builder and CAD discs in DXF format, of all work provided within the Premises. Hard copy drawings shall be on reproducible mylar.
2. Operation and Maintenance Manual for all equipment installed including information/data sheets on all equipment, suggested maintenance/schedule names and contact numbers for the installing contractors.

NB. All maintenance within Licensee area is to be borne by Licensee.

SCHEDULE B1**NOTICE TO WORKERS, MATERIALMEN,
CONTRACTORS AND SUB-CONTRACTORS**

Take notice that the improvements made or to be made to this property are not at the request of the Government of Jamaica, as Represented by the Minister of Transport or the Airports Authority of Jamaica (the Owner) or MBJ Airports Limited (the Concessionaire) but rather are made or to be made at the Request of the Licensee.

The Owner and Concessionaire will not be responsible for the Improvements made or to be made to this property.

SECTION D - DESIGN CRITERIA AND TECHNICAL REQUIREMENTS**D1 General**

Design criteria have been developed to maintain design quality and consistency while encouraging designers to be imaginative and innovative.

MBJ will review each design submission on individual merit and in the context of neighboring storefronts, and reserves the right to require changes or reject a storefront design.

Prior to commencement of Licensee's design, the Licensee is to contact and meet with MBJ's Project Manager in order to clarify the particular conditions applicable to the Premises, and to discuss proposed solutions to layout, materials, and storefront design.

D2 Base Building

Items below will be provided at Licensee's expense unless otherwise specified in Schedule C of the Licence or on the cutsheet:

- i. Concrete/steel deck, steel structure;
- ii. Exposed metal deck to Licensee space or open to above, depending on location;
- iii. Party walls and walls dividing the Premises from a common area space, rear or exterior walls of drywall on steel studs. Drywall will be installed and taped to 3040 mm, u/s of beam, or at freestanding wall, based on location, and sanded;

D3 Structural

1. Services of adequate design capacity for completing MBJ's work for water, sewage and sprinklers shall be brought to convenient points of connection to MBJ's designated locations at the Premises. Core drilling of floors and or walls may be required for all tenancies needing plumbing and/or additional mechanical HVAC provisions. Core drilling through the concrete/steel deck floor slab, if required, must be performed by the contractor at the Licensee's expense. Locations and sizes of proposed core holes are to be submitted to the structural consultant for review and acceptance prior to performing this work. Consultant's fees for these reviews are at the Licensee's expense. Under no circumstances shall the Licensee or its contractor(s) at any time be permitted to drill or cut conduit or pipe sleeves or chases or duct equipment openings in the floor, columns, walls or roofs of the structure without prior written approval of MBJ. MBJ may, at its option, perform the work at the Licensee's expense.
 2. Under no circumstances shall the Licensee, its employees, its contractor(s) or its contractor(s) employees enter onto any roof or steel deck of the Building or make any opening in the roof without the prior written approval of MBJ. No roof-mounted antenna or satellite receiving dish antenna is permitted unless approved in writing by MBJ with respect to location and detail.
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3. The Licensee and its contractor(s) shall not impose a greater load on any concrete floor than the design live load of 4.8 kPa uniformly distributed (100 lbs. per square foot) or point loads approved in writing by the MBJ. No unusual loads may be suspended from the underside of the roof structure without MBJ's prior written approval.
4. No electrical wiring or conduit will be permitted through or under the main floor slab without written approval by MBJ.

D5 Heating, Ventilating and Air Conditioning Equipment

HVAC systems serving the Premises will be maintained and operated by MBJ. Should the Licensee's design require additional capacities than those provided under MBJ's Work, same shall be carried out by contractor at the Licensee's expense.

1. Design criteria governing MBJ's equipment:

Inside Air Temperatures:

2.
 - (a) Cooling equipment in Licensee's space will be in the form of constant volume terminals (and fan coil units if required). Each will provide cooling for solar transmission, lighting, miscellaneous electrical and people loads.
 - (b) Duct distribution in Premises to be designed and installed by the Licensee at its expense.
 3. Roof mounted exhaust fans, ecology units, shafts and related ductwork required within Licensees spaces shall be provided by the Licensee. This work must be coordinated by the MBJ. Any work outside the Licensee space will be arranged at the Licensee's expense.
 4. HVAC systems in the Licensee's space will be balanced by a certified air balancing contractor under contract with the MBJ, at Licensee's expense.
 5. Supply air, return air and sanitary exhaust distribution ductwork, ceiling diffusers, registers, grilles, smoke detector/pilot light, and any other equipment required by code and the MBJ, within the Premises for the HVAC system, shall be carried out at the Licensee's expense.
 6. The ceiling space, where enclosed, may be used as a return air plenum (except where fireproof spray exists), unless otherwise specified by MBJ.
 7. Acoustic criteria: Acceptable HVAC noise levels in occupied commercial licence spaces (the Premises) should be noise criteria (NC) 35-40. Measured at a height of 1.5-1.8m from floor level under the HVAC ducting
 8. Ecology units for food court and restaurant Licensees, where grease and smoke generating equipment is permitted by MBJ, shall be provided by the Licensee at
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MBJ's designated locations.

9. The Licensee must provide MBJ access within its Premises to all damper controls on ducts supplying air to public areas and to the Premises.
- 1.0 The Licensee shall provide kitchen equipment exhaust within the Premises including water wash exhaust hood, related ductwork and fire suppression system including tie in to base building systems and connection to ecology unit, as well as fire alarm tie in by the contractor at the Licensees expense.

D6 Plumbing

1. MBJ shall provide capped and valved connections for cold water, sewer and vent lines to point of entry in the Premises.
 2. The Licensee shall provide and pay for branch plumbing lines complete with plumbing fixtures required by Licensee to serve its Premises including grease interceptors and gas information meters.
 3. The Licensee shall provide and pay for installation of hot water heater or heaters complete with all related plumbing, mechanical and electrical. Gas fuelled hot water heaters are not permitted.
 4. The Licensees with drainage loads from food and beverage or related operations will be required to install grease interceptors which shall be mounted above the floor and within Licensee's space. The Licensee will maintain grease interceptors at The Licensee's expense.
 5. All grease traps should be located as close to fixtures or drain as possible and located such that they are fully accessible from the top cover.
 6. All domestic water lines are to be insulated with a minimum of 13mm fiberglass insulation and a vapor barrier.
 7. All copper piping shall be type 'K' or 'L'. All vent lines shall be DWV copper or cast iron. Plastic piping will not be permitted.
 8. Frequent or intensive water users will be metered by MBJ. Water meter, if required by MBJ, shall be installed, at MBJ's expense, in an accessible location for billing purposes.
 9. The Licensee's hot water tank pan and relief valve shall be piped to a floor drain.
 10. Under no circumstance shall the Licensee or the Licensee's contractor(s) install additional plumbing through the structural floor slab. Contractor shall make connections to under-floor plumbing services on behalf of the Licensee, at the Licensee's expense.
 11. All floor penetrations around pipes, conduits, ducts, etc. between levels must be sealed against water, smoke, and flame penetration using firestop materials listed by an accredited testing agency.
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12. All plumbing vent lines are to be group vented to a point as determined by MBJ.
13. Grease interceptors shall be installed in food operations as determined by the MBJ.
14. Sanitary sewer connections must comply with the Jamaica Sewer Use Bylaws.
15. For those Licensees that are located in an open area without access to a ceiling space, the sanitary vent cap-off shall be located below the floor and only one sink type fixture can be installed using an island vent system for connection of the sanitary vent.
16. "Y" clean outs and cast iron "P-traps" shall be supported, and shall be made accessible at all times.
17. Connections to base building domestic water lines shall be installed with backflow prevention valves where required by the applicable plumbing code at the Licensees expense.

D7 Sprinklers & Fire Protection

1. MBJ will provide and install sprinkler mains, branch lines and sprinkler heads in a grid layout to adequately cover undemised areas at the Licensee's expense
 2. Testing and installation of the Fire Alarm System in Premises by MBJ.
 3. The Licensee required modifications to the base building sprinkler system shall be performed at the Licensee's expense.
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D8 Electrical Power Service

1. MBJ to provide metered electrical service to accommodate an electrical load as set out in Schedule _ of the Licence for Licensee's lighting and power. Electrical service will be brought to MBJ's designated location in the Premises terminating at a suitable panel circuit, 120/208v, 100 amp, 3 phase, 4 wire, 50 Hz AC NBLP type combination disconnect switch/breaker panel (without breakers) for service less than 200 amps or 120/208v, 3 phase, 4 wire CDP type panel (without breakers) for service greater than 60 amps.
 2. The following additional components will be provided by MBJ:
 - (a) One 15 amp, 120V/220V, single pole emergency power circuit unmetered to an unfused disconnect switch located in the Licensee's main electrical panel;
 - Fire alarm detection circuit tie in by MBJ Airports Ltd.
 - Normal and emergency 120/208V, 225 amp, 3 phase, 4 wire electrical service to distribution panel, (without breakers) located in Licensee's space;
 - Fire alarm detection and alarm system and exit lights to meet code requirements for general coverage on an open floor basis with no ceiling;
 - Connection to fan coil unit (if applicable).
 3. Premises which shall be connected to MBJ's distribution and fire alarm system.
 4. MBJ will provide 10 ports patch panel (DSL, IP) empty communication conduit from nearest cable tray or MBJ's communication equipment room (CER) to MBJ's designated location at the premises. All the Licensee required telecommunication wiring between MBJ's equipment room and the Licensee's Premises including wall plates and wiring termination shall be installed by MBJ at Licensee's expense. The airport is serviced by a fibre optics backbone.
 5. Should the Licensee's electrical design require service capacities beyond those provided by MBJ, MBJ may (after review of the Licensee's requirements) perform the necessary upgrade at the Licensee's expense. Such upgrading shall not be performed by the Licensee under any circumstances.
 6. The following requirements shall be the responsibility of the Licensee:
 - a. Connection to and/or relocation, (if required in the Premises) to distribution panel, and above ceiling conduits (if any), branch wiring and associated panel breakers, outlets, cable trays and receptacles;
 - b. Licensee shall ensure that all wiring for lighting, power, fire alarm, telephone,
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data, television and low tension systems within walls and ceiling plenums is installed in metal conduit or metal raceways or cable trays. No exposed wiring is allowed;

- c. Wiring for all washroom equipment in the Premises as required by the Licensee, including hot water heater, baseboard heater, and lighting;
- d. Complete fire alarm tie in to existing system, EVAC speakers, breakglass pull stations and all associated testing and verification within Licensee's space, as required by code. Fire alarm EVAC speakers, breakglass pull stations and other related fire alarm system work required by Licensee must be carried out by a approved MBJ's contractor at the Licensee's expense. (See Schedule C.);
- e. All materials shall be new, CU / CSA / IEEE approved or equivalent and shall be of a standard not less than MBJ's base building;
- f. All wiring shall be copper. Branch wiring shall be minimum #12 gauge solid (stranded for #8 or larger). All wiring must be installed in conduit. BX cable may be used in partition walls with no horizontal runs around corners of walls and in ceiling for drops (maximum 3 metres) from the junction boxes to the light fixtures. Daisy chaining with BX wires between light fixtures is not permitted;
- g. Exhaust fans and make-up air units required by the Licensee must be interlocked and interfaced with the base building fire alarm system by contractor under contract with Licensee, at Licensee's expense;
- h. All life safety devices within the Premises to be in accordance with NFPA code. Tying-in of the Licensee's fire suppression system to the base building fire alarm system will be performed by MBJ at the Licensee's expense;
- i. All equipment and light fixtures shall be energy efficient and be considered Power Smart.

D9 Lighting Criteria

With the variety of the Licensee types created by the merchandising mix, a multiplicity of lighting designs to suit various uses may be employed.

In order to keep Licensees' electrical and AC loads within their allowable loads, the Licensees are encouraged to use low voltage lighting and other energy efficient fixtures.

Stores with merchandise display, either freestanding or in a display window will require the following:

- 1. The Licensees shall provide a high level of incandescent or quartz halogen illumination within the design control zone.
Exposed tube fluorescent will not be permitted in any Licensee's public/retail area.
- 2. Within the Premises, if base lamps (incandescent or fluorescent) are used, Licensee must shield these fixtures with a baffle designed to shield the lamps from

the Concourse at 1700mm eye level, unless otherwise approved by MBJ. MBJ reserves the right to adjust such baffles after installation is complete.

3. Neon may be permitted within the Premises subject to MBJ's approval. Exposed neon tubing should be kept off the floor to a minimum of 2400mm, or out of reach of the general public.
4. For other merchandising uses, such as cafes, bars and/or other uses that require a specific mood type lighting to create the desired atmosphere, approval of the design concept and fixtures must be obtained from MBJ.
5. Where tenancies are open to above, low voltage lighting will be required.
6. The Licensee lighting must be installed inside the Premises only, except for signage lighting as approved by MBJ.
7. The Licensee shall be responsible for the installation and connection of all exit lights in accordance with code requirements. All exit lights shall match the building standard specification.
8. Except as indicated above, the Licensee shall provide:
 - (a) Lighting fixtures, lamps and related equipment;
 - (b) Emergency lighting and additional exit lights required by the Licensee's design.

D10 Acoustics

1. Stores having loudspeakers for the purpose of providing quiet background music for their patrons' enjoyment shall take precautions to ensure that any sound or vibration is not transmitted to adjoining tenancies, including those above or below. Acoustic baffling may be required in partitions and ceiling, or the speakers themselves will have to be housed in sound-attenuating enclosures. Loudspeaker systems shall not interfere with building public safety public address announcements.
 2. Locations and output directions of loudspeakers located within the Licensee's premises shall be shown on Licensee's drawings.
 3. Licensees which generate loud noises shall provide, at their expense, acoustic insulation full height in all demising walls to the roof deck above with a rated construction of STC 55 or better.
 4. All Licensee sound systems shall be interlocked with the base building fire alarm system to terminate operation upon a signal from the fire alarm. Work to be carried out by MBJ's forces at Licensees expense.
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D11 Exhaust and Odors

1. The location of any exhaust system shall be subject to MBJ's approval.
2. Objectionable odors will be exhausted in such a manner as to prevent their release into the Building, or short circuiting into any fresh intakes. Where deemed necessary by MBJ, such exhaust systems shall incorporate activated charcoal filter(s) or other suitable device, fully and properly maintained.
3. Food service Licensees and restaurants shall provide all necessary kitchen exhaust ducts, exhaust hoods and kitchen equipment in accordance with Schedule C of the Licence. All kitchen exhaust systems shall be complete and shall conform with NFPA 96.
4. Where exhaust is required by the Licensee, the capacity of such exhaust shall not exceed the amount of fresh air supplied by MBJ for the Premises. Where exhaust air is required, the Licensee to supply all make-up air required as a result of Licensee construction.
5. There will be no exhausting permitted from the freestanding island kiosks.
6. The Licensee's air handling equipment may not, under any circumstances, exhaust air into the building's interior space and may not draw air from the building's environment.

D12 Ceiling Construction and Access

1. The ceiling membrane may be constructed of acoustic tile, drywall, plaster, or other materials approved by MBJ. There shall be no combustible materials in the ceiling space. Ceiling design shall incorporate access to all ceiling-mounted MBJ and Licensee equipment requiring inspection and maintenance. The required size and location of access points shall be determined by the Licensee's designer.
 2. Minimum ceiling height permitted within Licensee's space is 2400 mm (8'-0") above finished floor.
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D13 Interior Finishes and Materials**1. General:**

- (a) Licensee shall provide interior partitioning, painting and decorating, floor coverings, store fixtures and furnishings as approved by MBJ;
- (b) All work by the Licensee within the Premises shall be completed with new materials. Materials and workmanship shall be of uniformly high quality and used and/or performed in accordance with the very best standards of practice (in any event not less than MBJ's base building standards) and shall not be in contravention of any applicable laws, codes or regulations and shall be subject to the approval of MBJ. Any damage to the Premises or the Building caused by the Licensee or any of its employees, contractor(s) or workmen shall be repaired forthwith by and at the expense of Licensee.

2. MBJ Finishes:

- (a) Ceiling – Exposed structure, suspended gypsum board, suspended acoustic tile and suspended metal panels;
- (b) Flooring - carpet and porcelain tiles;
- (c) Demising Walls – Plastic laminate panels, gypsumboard panels and wood clapboard;
- (d) Bulkheads – Gypsum board;
- (e) Columns – gypsum board cladding.

MBJ reserves the right to reject any Licensee proposed finishes and materials which in MBJ's opinion are considered to be in aesthetic conflict with the Air Terminal Building's finishes, and/or adjacent approved Licensee finishes.

3. Acceptable Material Within the Licensed Premises:

The materials listed below have been selected to encourage variety and creativity of storefront design and their use is encouraged.

- (a) Glass - etched, sandblasted, tinted, clear, glass block;
 - (b) Plastic Laminates - solid colors, acceptable decorative patterns;
 - (c) Wood - natural, stained, painted;
 - (d) Mirror - clear, tinted;
 - (e) Metals - chrome, painted or stainless steel, bronze, copper, brass, light bronze anodized or painted aluminum, perforated, wrought iron, cast iron, gun metal;
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- (f) Tile - a variety of quality glazed and unglazed tiles are acceptable including brick, mosaics and terra cotta;
 - (g) Natural Stones - marbles, granites, slate, limestone.
4. Unacceptable Materials Within the Licensed Premises:
- (a) Artificial versions of stone, marble, etc.;
 - (b) Artificial versions of tile, brick, etc.;
 - (c) Indoor/outdoor carpet;
 - (d) Exposed H.I.D. lamps;
 - (e) Exposed incandescent lamp (exception: integral reflector lamps that provide filament shielding of 35 degrees or more);
 - (f) Any material that would constitute a fire and/or public hazard;
 - (g) Material that, in MBJ's opinion, are of low quality, non-durable and/or difficult to maintain;
 - (h) Fluorescent paint;
 - (i) Vinyl tile within the sales area.
5. Any transition in floor level shall not exceed 2% in slope and shall only occur at the interior side of Licensee's closure line. The closure line is defined as the line of the Licensee's storefront in the closed position.
6. When opaque materials are used within the Licensee design, the proportion between opaque and transparent materials will be subject to MBJ's approval.

D14 Entrances and Storefronts

Licensee storefront designs shall incorporate individuality and creativity which will contribute interest and character to the overall airport retail environment.

1. Storefront Entrance:

- (a) Sliding glass doors, when open, shall be stored in an enclosed space(s) concealed to the passerby;
 - (b) In the case where showcases extend beyond the store closure, sliding doors may be stacked and used as the back of the showcase during business hours;
 - (c) Swing frameless glass doors on bottom rail and top patch pivots are acceptable;
 - (d) Solid swing or sliding doors of approved material are acceptable;
 - (e) MBJ will supply and install flooring finishes to Licensee storefront enclosures in accordance with MBJ drawings.
 - (f) Overhead foiling shutters may not be used
-

2. A minimum of 70% of a storefront, measured in clear storefront opening square meters shall be made transparent. Transparency can be achieved by providing a combination of open entry, window glazing creating open views into the Licensee spaces, as well as the use of glazed window displays. Maximum storefront opening and transparency is encouraged while maintaining a strong storefront identity.
 3. Licensee are encouraged to create a "show window" design for their storefronts, with a distinct entrance and large display windows. It is required that all storefront entrance doors occur on or behind the Licence demising line. Swinging doors must not swing across Licensee's demising line.
 4. MBJ encourages the maximum use of clear frameless glass as a storefront material. The minimum opening width for any entrance is 1,830 mm (6'-0").
 5. Display pedestal or freestanding storefront elements are acceptable providing they are within the Premises and adhere to the parameters set forth in this manual.
 6. No surfaces or projection potentially hazardous to Airport pedestrian traffic may be used.
 7. Licensees without a rear exit may require a storefront egress door in accordance with code requirements.
 8. Licensees acknowledge that stud and drywall demising walls are not designed to support wall mounted fixtures
- Sliding Grilles - Sliding grille storefront finishes are subject to MBJ approval. Grilles shall be complete with emergency exit doors if required by code. Grilles shall store in an enclosed space when opened.
9. Wood Storefronts - Wood storefront closures, trim and fittings are subject to the code limitations applicable to non-combustible buildings.

D15 Licensee Signage Criteria

1. Imaginative designs which depart from traditional methods are encouraged. Licensees shall have identification signs designed in a manner compatible with and complementary to adjacent and facing storefronts and the overall design concept of the Airport. Licensees are encouraged to have signs designed as an integral part of the storefront design with letter size and location appropriately scaled and proportioned to the overall storefront design. All store identification designs and following elements shall be subject to MBJ approval:
 - (a) All signs and logos must conform to MBJ's Design Criteria and shall receive written approval from MBJ prior to fabrication;
 - (b) Any non-illuminated signs proposed for Licensee storefronts must be of a high quality.
Formed plastic letters will not be allowed;
 - (c) Licensees are encouraged to use non-illuminated graphics on any glass or solid panels in gold leaf, pressure sensitive vinyl or other method subject to MBJ approval;
 - (d) No exposed conduit, tubing, raceways, ballasts, transformers or other equipment

shall be permitted;

(e) Licensees having a corner storefront, with one or more elevations, may request incorporation of one main sign per elevation;

(f) Signage on the exterior of the Building will not be allowed;

(g) Labels or other identification (including sign manufacturer's label) are not permitted on the exposed surface of signs, except those required by code. Such labels or other identification shall be in an inconspicuous location;

(h) Edge or back lighted translucent signs and front-lighted opaque signs shall not produce a visible brightness/luminance which exceeds 200 foot lamberts;

(i) Illuminated letters (channel letters, neon, etc.) shall not produce a visible brightness/luminance which exceeds 250 foot lamberts;

(j) Licensees must provide access from within Premises for the servicing of sign components;

(k) The installation of all Licensee storefront signs shall be conducted in accordance with MBJ sign criteria, whether during initial store construction or as a sign replacement during the term of the Licence;

(l) Illuminated or non-illuminated (individual letters only) sign on main Licensee signage is limited to six types:

(i) Plastic face, metal return;

(ii) Metal face, metal return;

(iii) Plastic face, plastic return;

(iv) Metal channel with back lighting;

(v) Signs engraved or sandblasted in granite, marble or other stone;

(vi) Wood carved signs.

(m) Permanent promotional signs of any type or registered trademark other than those owned by Licensees will not be permitted on Licensees storefronts;

(n) "Box" signs or "suitcase" signs are not permitted;

(o) Moving signs or moving lights shall not be permitted. No advertising slogans shall be permitted. MBJ reserves the right to require the removal of any store advertising, displays, or decorating that in its sole opinion is offensive, distasteful, or in any way in conflict with the best interest of the Airport environment or the License.

3. Other Permitted Storefront Signs:

(a) Painted, silk-screened, etched or applied in gold/silver leaf to inner surface of glass;

(b) Suspended neon behind glass, forming letters or logo. Neon must be easily readable;

(c) Raised letters applied to glass or solid storefront - metallic finish (i.e. brass, bronze,

- copper) or solid color letters (i.e. lacquered, vinyl coated);
- (d) Sign/logo etched or cut out of solid material such as mirror or wood;
- (e) Artisan's plaque featured within storefront (bronze, brass, copper, etc.).

4. Other Sign Design Criteria

- i. Signs shall be suspended from or secured to MBJ requirements and approval.
- ii. (b) Sign construction shall be of high quality metal work, carved wood or etched glass, subject to MBJ approval.

D14 Waste Handling

- 1. Garbage compaction and/or refrigeration equipment must be installed in the Premises by the Licensee if perishable items are handled or if required by applicable governing laws, codes, and/or regulations.

D15 Seismic Restraint

- 1. The Licensee shall be responsible for their store design to conform with the seismic restraint requirements in the Building Code., as stated in section B11. Items covered shall include, but not be limited to, section D5 to section D17 of this manual.
-

2. The Licensee shall submit completed letters of assurance indicating “Assurance of Professional Design and Commitment for Field Review” before start of work in Licensee space and a completed “Assurance of Professional Field Review and Compliance” before occupancy.

SECTION E - BARRIER FREE DESIGN REQUIREMENTS

E1 Barrier Free Considerations

As a part of this manual, standards for barrier free design have been included. It will be every Licensee's responsibility to ensure that their store designs conform to current code requirements for barrier free access as laid out in the Jamaica Building Code with the MBJ amendments (Attachment II) Barrier Free Requirements for Construction at the Sangster International Airport.

MBJ has made an extraordinary commitment to persons with disabilities. The design and construction of buildings, the communications services, the choice of finishes, the furniture purchases, as well as the overall management approach have all been reviewed specifically to ensure that people with disabilities will have full use of facilities. More than just a social commitment, MBJ has recognized that as our society ages and as people with disabilities become more and more integrated into the activities of normal daily living, facilities such as the new terminal will need to support people of all abilities as a practical reality. Accessible design will also allow the Licensees to benefit from an increase in the number of special needs travelers. In fact, a large portion of the vacation traveling public is older adults (that will benefit from a barrier free approach) and one of six people in North America has a disability. MBJ recognizes that persons with disabilities represent a rapidly growing and largely untapped market force in our economy, and that they will play a large part in the activities at the Airport.

MBJ intends to promote the accessibility aspects of its facilities, and encourage persons with disabilities to use its services. Further, it is anticipated that there will be strong media coverage of this aspect of the Airport. Clearly, if the Licence holders want to take advantage of this large and rapidly growing market segment, and in the positive media exposure resulting from it, then creating and maintaining good access for persons with disabilities within each Premise is required. Following are guidelines for providing a barrier free environment in your Premises. You are encouraged to follow them when designing and constructing your Premises. If you require more information, contact MBJ.

E2 Licensee Access Recommendations

1. Store areas:

More and more retailers are recognizing persons with disabilities as part of their market. Basic recommendations include:

- (a) Power doors, or at least low resistance doors where doors are used;
- (b) Minimum aisle widths should be 921 mm, and aisles kept clear of displays;

- (c) Displays should be generally kept at eye level;
- (d) Counters should have low sections or cutouts to accommodate wheelchair users, on both the public side and the working or operating side;
- (e) Informational signage should comply with signage requirements for
- (f) the rest of the terminal - that is high contrast lettering generally mounted at eye level;
- (g) Floor surfaces should be slip resistance.
- (h) Other recommendations will depend on the nature of the retail outlet.

SECTION F - CONSTRUCTION REGULATIONS

F1 On-Site Start-up

Immediately following receipt of MBJ's notice of Fixturing Period, the Licensee shall arrange and perform a joint inspection of Premises with MBJ as set out in Schedule ___ to the Licence.

F2 General

1. All work at the Airport shall be performed by skilled workers using new material, to the highest standards of construction practice. All workmanship by the Licensee must be to the satisfaction of MBJ.
2. The Licensee will not work or store material in any part of the Concourse, or have any access to the Concourse during Licensee's construction period, unless otherwise approved by the MBJ.
3. The Licensee hoarding shall be approved by MBJ during design.
4. Access arrangements for the delivery of construction and other building materials must be approved and coordinated with MBJ.
5. Access to site arranged through MBJ.

F3 Labor Affiliations

This Airport project is an open site. All items of work undertaken by the Licensee shall be performed by contractor(s) and subcontractor(s) who will employ competent tradesmen who shall be paid fair wages for work at the Airport site. This project is classified as a right to work site.

F4 Working Hours

Should progress of construction of work performed within the regular working hours established by MBJ's base building contractor be insufficient to ensure a satisfactory

operation, the Licensee's forces may work overtime or in extra shifts. The Licensee's Coordinator, when first arriving on site, must check in with MBJ's Project Manager, who will inform him of rules and regulations to be observed on this project and provide orientation. The Licensee's contractor(s) and suppliers will be subject to restrictions which may be imposed by MBJ's contractor(s) and/or MBJ in regards to hours of work, scheduling and coordination of work.

F5 Safety and Security Regulations

All persons on the Airport site in connection with the Licensee Work shall comply fully with all safety regulations in force, and MBJ will cooperate with the concerned authorities in enforcing these regulations. Minors shall not be permitted on the construction site at any time. All Licensees must obtain and become familiar with MBJ's "Safety and Security Manual." The International Air Terminal Building is subject to Airport operational security restrictions at all times and they shall remain in effect throughout construction. All workers must be of legal working age.

F6 Public Safety

It is the responsibility of the Licensee to ensure that its contractor(s) exercise all caution in matters relating to public and construction safety and to comply with the standards set out in the MBJ's Safety and Security Manual. MBJ may issue to the Licensee's contractor(s) from time to time safety instructions which must be strictly observed and adhered to.

First Aid shall be available to the Licensee's contractor(s) from the MBJ by Nurse's Station at the Licensee's/Licensee Contractor's expense.

F7 Temporary Services

Workers on site shall use only those washroom facilities and water resources designated for construction personnel. Use of permanent building facilities is not permitted.

Licensee construction electrical power will be available from the Premises electrical panel. The Licensee will be charged for all metered power consumption.

F8 Roof Work

All Licensee work involving the roof, including openings through the roof and mounting equipment upon the roof, shall first have the written approval of MBJ. All work shall be performed by MBJ's contractor(s) at the Licensee's expense including any costs for security or conduct of the work. All rooftop equipment is to be painted to match the color of MBJ's equipment. Under no circumstances shall the Licensee enter upon the roof.

F9 Airport Access and Airport Security

The Licensees, its contractors and employees must conform to MBJ's rules and regulations with respect to Airport access and security and any expense as a result as set out by MBJ from time to time.

F10 Access to Licensed Premises

The Licensees having rear service doors shall use same for all routine access to Premises. The Licensees having no access other than from the Concourse shall use routes of access as designated by MBJ from time to time. Oversized objects may be delivered to the Premises only via Concourse routes similarly designated. The Licensee materials must be stored inside the Licensee's Premises.

F11 Insurance & Security

The Licensee, at all times throughout the Fixturing Period, shall carry the following insurance in the joint names of MBJ and the Licensee:

1. General Liability Insurance covering Licensee, its contractor(s) and subcontractor(s), in an amount not less than \$2,000,000.00 per occurrence in respect of any injury to or death of one or more persons and loss or damage to the property of others;
2. All risks insurance covering all property in the Premises owned by the Licensee or for which the Licensee is legally liable including, but not limited to, the Licensee's Work, the Licensee improvements and Licensee's merchandise, stock-in-trade, trade fixtures, furnishings and other personal property in an amount equal to its full replacement value as determined by MBJ or in the event of a dispute, by MBJ's independent insurance advisor;
3. Security of Premises during the Fixturing Period is the responsibility of the Licensee;
4. The Licensee shall provide certificates of insurance as set out above in a form acceptable to MBJ.

F13 Parking

The Licensees and the Licensee's contractor(s) shall park vehicles on site only in areas designated by MBJ. The cost shall be borne by the Licensee / Licensee Contractor.

F14 Damage to Property

The Licensee shall be held responsible for any damage to MBJ's property resulting from the actions of the Licensee, its employees, its contractor(s) and its supplier(s). Note particularly that any damage to MBJ's sprayed fireproofing shall be repaired by MBJ at the Licensee's expense.

F15 Construction Hoarding

Prior to commencing any work, the Licensee's contractor(s) shall install a temporary hoarding around the storefront of the Premises. The hoarding shall be of wood stud and plywood or drywall and metal stud construction sealed at the top, taped, sanded, and painted in a neutral color to be selected by the Airport's Architect. MBJ and the Licensee graphics will be determined through agreement between the MBJ and the Licensee. Care must be taken in protecting the bulkhead and the demising piers. The hoarding shall be

located a maximum of 925mm (3'-0") in front of the License demising line where possible and should be equal in height to the full storefront opening (i.e. the space between the floor and the underside of MBJ's bulkhead). The top shall be sealed with polyethylene.

In order to protect the Concourse flooring, the hoarding must not be fastened to the finished floor but rather, plywood strips shall be attached to the bottom of the hoarding perpendicular to length of storefront. This will facilitate the moving of any hoarding if required during working hours. Hoarding shall be securely braced into the Premises behind the License demising line. Temporary hoarding must be in place before any work commences in the Premises.

Hoarding identification shall be the responsibility of Licensee.

F16 Dust and Odor Control

Painting with noxious or hazardous materials should be avoided wherever possible or be scheduled outside of regular working hours. The Licensee shall effectively seal off the Premises when over spray from painting may occur and whenever sanding or dust is generated.

F17 Waste Removal

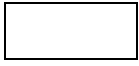
The Licensee and its contractor(s) shall maintain the Premises in a reasonably clean and orderly manner during the Fixturing Period and shall remove daily all excess material, trash and cartons resulting from the Licensee's Work and the Licensee's stocking of the Premises, to containers designated by MBJ's base building contractor from time to time. Gypsum products shall be separated and placed in separate designated containers.

F18 Liens

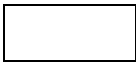
The Licensees shall not carry out any work until MBJ is provided with a waiver from every contractor and subcontractor and all persons supplying services, labor or materials in connection with the work, duly signed in the following form:

"To: MBJ Airports Limited (MBJ):

In consideration MBJ Airports Limited (MBJ) permitting the undersigned to be engaged in supplying work or materials in connection with the project at the Sangster International Airport site, the undersigned hereby waives and releases in accordance with the provisions of the Mechanics Lien Act, any claim of builders lien under the Mechanics Lien Act with respect to work to be done and materials to be supplied or work already done or materials supplied in connection with improvements at the said site. This waiver and release will not affect any worker earning wages within the meaning of the Mechanics Lien Act. If any claim of mechanics lien is filed on behalf of the undersigned or any subcontractor or person supplying work or materials in connection with any contract of the undersigned pertaining to the project, the undersigned will within 72 hours release and discharge or cause to be released and discharged such lien."



ATTACHMENT I



MBJ-Con

Construction Work Request Form

Form No.

F-011

Date: _____

Work Order No.:

00 -

(by MBJ-Con)

Depart: _____

By: _____

Date Received:

(by MBJ-Con)

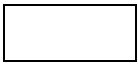
TASK DESCRIPTION/DETAILS

REFERENCE DRAWINGS

COMMENTS

MBJ'S SIGNATURE

CLIENT'S SIGNATURE



ATTACHMENT II

**BARRIER FREE REQUIREMENTS
FOR CONSTRUCTION
AT THE
SANGSTER INTERNATIONAL AIRPORT**

**FOR
SANGSTER INTERNATIONAL AIRPORT
(MBJ)
INTERNATIONAL AIR TERMINAL BUILDING**

BARRIER FREE REQUIREMENTS FOR CONSTRUCTION AT THE SANGSTER INTERNATIONAL AIRPORT

Background:

To ensure that development at the Sangster International Airport meets our commitment to utilize the “best practices” for barrier free design, the Jamaica Building Code code was reviewed and the “best practices” were selected.

Both the following “Requirements” and “Recommended Practices” are mandatory for MBJ developments. The “Requirements” are mandatory for non-MBJ construction and the “Recommended Practices” should be considered but are not mandatory.

These barrier free requirements are also referred to in the Licence. The Licensee Design Criteria Manual should be read in conjunction with the Licence.

Requirements:

Code Ref.

Exterior Walks:

Width of exterior barrier free path of travel: **shall be 1500mm wide** rather than 1100mm to allow for passing of two wheelchairs or a wheelchair and a baggage cart.

Ramps: (Gradients)

shall be used for ramp gradients with the exception that gradients shall not exceed 1:12 per 3.8.3.4.1(b). _____ is more definitive on these requirements and is seen as a higher standard.

Water Closet Stalls: (Door Requirements):

Follow _____ except **the door width specified in _____ as 760mm shall be increased to 815mm.**

Lavatories: (Mounting Heights)

To accommodate the newer wheelchair designs, the clear height under lavatory shall be 760mm rather than 685mm.

Reasonable requirements:

Building Requirements for Persons with Disabilities applies to buildings and occupancies that have “access to all areas where work functions can reasonably be expected to be performed by disabled persons _____.

It is recommended that the assumptions not be made about the limits of people with disabilities without consulting the appropriate organization or consultant.

Recommended Practices:

Signage:

With regards to recommendations for directional signs and signage indicating type of facilities and locations of facilities, consideration should be given to using the most specific and meaningful guidance.

Exterior Walks:

Design of path of travel, should specifically:

- a) Have a curb not less than 75mm high where, in the absence of walls, railings or other barriers on either or both sides of the walk, the vertical drop from the walk is more than 75mm.
- b) Have a not less than 1500mm wide walk of a different texture to that surrounding it where the line of travel is level and even with adjacent walking surfaces.
- c) Be free from obstructions for the full width of the walk to a height of not less than 1980mm, except that handrails are permitted to project not more than 100mm from either or both sides into the clear area...

The following points should also be considered:

Surfaces of walks should be hard, non-reflective, well drained, slip-resistant and should have a detectable surface where level with an adjacent surface. All joints should be flush, however a maximum height differential of 13mm is permitted.

Where two separate pathways meet (or cross) distinguishable surfaces assist people with vision with directional information and reduce road hazards. Textural distinguishable materials include asphalt concrete, textural concrete, lockstone or brickwork. Avoid cobblestone, flagstone, large exposed aggregate and soft surfaces such as crushed rock, earth or grass.

Avoid a vertical drop immediately adjacent to the side of walks. In existing conditions greater than 205mm and less than 305mm a detectable warning surface should be provided; if the drop is greater than 305mm, a cane detectable barricade should be provided.

Ease of movement is a prime concern. Level indirect routes or those with

gradients of 1:20 or less may be more convenient than direct routes with maximum allowable slopes and ramps.

Guy wires located within 1.2m of walkways must be enclosed from the ground level to 2.13m with a bright, plasticized cover.

Avoid protruding or free standing objects in an accessible exterior route. For example, sandwich stands, newspaper boxes, benches. Benches should be set off the main pathway on an accessible surface.

A minimum headroom clearance of 2032mm must be provided on all pathways.

Do not plant thorny plants, or plants with large seed pods where they might project, grow onto or drop onto accessible exterior routes.

Separate exterior accessible routes as much as possible from vehicular routes including bicycle routes. In existing conditions, where walks are depressed to permit vehicular crossing, a detectable warning surface should be provided on either side of the depression and if the slope in the direction of the walk is greater than 1:20, it should be designed as a ramp.

Routes from accessible parking areas should lead directly to the selected entrance without crossing driveways, wheel bumpers, parked cars, or other obstructions.

Water Closet Design:

To facilitate transfer from a wheelchair to a toilet and vice versa, the levels should be the same, or the toilet seat should be slightly lower than the wheelchair seat. The optimum height to the top of the toilet seat was 475mm, which corresponds to the seat height of the majority of wheelchairs, which varied from 470mm to 500mm. Times, and wheelchairs, have changed and there is now some debate as to whether this is still the optimum height. The 455mm high toilet is becoming difficult to find because other codes and standards are requiring lower toilets. One solution is the permanently installed high lift seat. Permanently installed high lift, vandal and theft resistant seats are available for installations on standard height toilet bowls and this combination could be considered as an alternate to the high bowl and regular seat required by this clause.

Lavatory Mounting Heights:

Paper towel dispensers or electric dryers should be mounted adjacent to a designated accessible sink to prevent wheelchair users or people using canes or crutches from having to travel with wet hands to reach the device. When paper towel dispensers are used, they should be levered

operated or allow sheets to be removed with one hand.

Toilet paper holders should also be easy to use for people with reduced dexterity or hand strength and be located within easy reach of the toilet, for example under the required grab bar. Holders that have a sharp tear off edge should not be used.

In addition, shelving should be color/brightness contrasted with the surrounding for greater visibility for those with vision impairments.

Showers:

The following additions are recommended.

Most wheelchair users and many other people with balance or strength limitations cannot get dressed without laying flat and to pull their pants up, put on their shoes and socks, etc. An accessible shower stall is rendered virtually useless to the people needing it most without an appropriate change bench. Elements of a change bench are:

- A padded bench (minimum 25mm thick form with waterproof cover) a minimum of 1830mm long and 900mm wide measuring 500mm to the surface of the pad
- A wall mounted 760mm grab bar centered on the length of the bench.
- A privacy curtain that encloses the entire bench area

Counter Requirements:

Wheelchairs are getting larger and the space requirements have increased slightly.

The following dimensions should be used:

Work surface	810mm – 860mm
Side reach	810mm – 860mm
Front reach	860mm – 910mm
View across	910mm – 1015mm

Counters used for work surfaces or a front reach pass across should have a minimum clear space underneath of 510mm deep by 815mm wide by 760mm high underneath.

Counters should be cane detectable with color/brightness contrasted surfaces and a non-glare, medium tone matte finish.

Drinking Fountains:

Particular care should be taken to either place the fountains in an alcove or to deflect pedestrian traffic around fountains. Things sticking out into the path of travel are the #1 complaint of the visually impaired.

Other recommendations are:

- **Exit doors** should be color/brightness contrasted with color specific to and consistent for emergency exit doors throughout building. Consistent raised signage should be provided on and adjacent to exit doors.
- **Alarms** should be placed immediately above exit doors or in such a manner as to provide an audible and or visual pathway to the doors. **Light pathing** to a safe exit should be provided.
- Consideration should be given to providing full coverage of any new facility with **visual alarms**. If this is not possible, then at least places where users are likely to be alone such as washrooms, secluded areas of the building or in areas of excessive noise, should be equipped with visual signals. Strobe lights should be paired with audible alarms at all emergency exits.

Note: Alpha Numeric Pagers are currently being government tested as a method of warning the deaf and hard of hearing staff members of emergencies. To date, the test has proven very successful.

- A method of **two-way communication** should be provided between each **safe holding area** and the primary entry or other location as approved by the fire department.