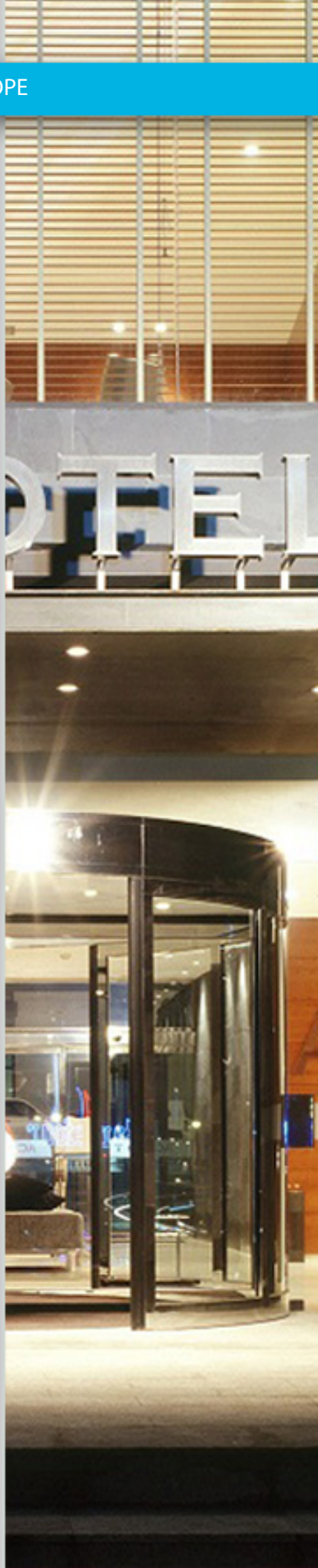
MARRIOTT

EUROPE

Marriott Hotels



globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

Exception: Fire Protection & Life Safety Design Standard references are to external codes only

English is the official and binding language of these design standards. The translated versions are provided as a courtesy only and are not controlling and have no legal effect.

MARRIOTT

EUROPE

Marriott Hotels

overview & project administration

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

GR1.1 EI Brand Overview

A. EI Marriott Hotels (MH) is a hotel brand dedicated to articulating clear values and tailoring the experience to the needs of our target guest.

In bringing the Brand to life, MH focuses on three guiding principals in the guest journey that are dynamic, thoughtful and polished. These Brand Values influence every guest touchpoint.

Visit the following resources to learn more about the Brand and Design Strategy.
• Marriott Global Source
• Internet: Marriotthotelsdesign.com

B. EI Marriott Hotels is designing for the new generation of travelers. The vision of Marriott Hotels is to be the leading global premium hotel brand amoung Gen X & Y travelers.

GR1.2 Interior Design

A. Overview: Interiors reflect the Brand voice with authenticity and high quality design.

B. EI Public Space: In the public spaces, the Brand aesthetic is achieved through a consistent approach to basic design standards for floors, walls, ceilings, millwork, details, furnishings, color and product durability.

C. EI Guestrooms: A contemporary environment for working, grooming, relaxing, refreshment and sleeping while maintaining a comfortable residential feel. See <7A>.

1. EI Casegoods: Feature contemporary detailing and fabricated with durability in mind for contract use.
2. EI Softgoods: Inspired by the project location and architectural design. See <GR4> .
3. EI Window Treatments: Derived from residential styles (yet comply with modern architecture) and are neutral in color. Provide blackout lining and decorative sheer.
4. EI Artwork: Exterior views, architectural features or natural materials can serve as art.

D. EI Quality Assurance: Compliance with MI requirements are verified by a

series of design submittals, reviews and documented agreements. See <2A> through <16> for additional detailed information

GR1.3 Design Standards

A. Disclaimer: These design guidelines and all materials, procedures, systems and content herein contained or depicted (the “Design Guidelines”) have been prepared for and/or developed by Marriott International, Inc. or its affiliate (“Marriott”), and are the sole and exclusive property of Marriott, which owns all right, title and interest therein, including all copyright, and which reserves all rights herein. All contents should be used only as authorized by Marriott and should not be copied either in whole or in part without its written consent. The content herein may be protected by patent, trademark, trade secret, copyright, or other intellectual property and proprietary rights and laws, and is the private and confidential property of Marriott. The contents contain proprietary trade secrets that are the private and confidential property of Marriott. Unauthorized use, disclosure, or reproduction of any kind of the Design Guidelines or any contents or material contained in these Design Guidelines is expressly prohibited. The contents hereof are to be returned immediately upon termination of any relationship or agreement giving the user authorization to possess or use such information or materials. Marriott reserves the right to take all actions and seek all available remedies, whether legal and/or equitable, for any unauthorized or illegal use of the Design Guidelines or any of its content. These documents are intended to serve as a starting point for complete design to be performed by licensed professionals. They have been prepared with the sole purpose of conveying the brand benchmark for this particular product only. The architect, engineer, designer or any other design professional of record is responsible for compliance with any and all laws or regulations of any type or description governing the proposed construction. These design guidelines may be altered, amended or supplemented by Marriott in its sole discretion from time to time. It is your responsibility to familiarize yourself with the contents of the Design Guidelines and to keep yourself apprised of any and all updates to it on https://lobo.marriott.com In the event of any inconsistency or conflict between a provision in these Design Guidelines and any federal, provincial, state or local statute, regulation, order or other law, such law will supersede the conflicting or inconsistent provision(s) of these Design Guidelines in all properties subject to that law. All owners/developers should seek independent legal counsel for advice concerning application of and compliance with any applicable law.

B. Purpose: The Hotel Design Standards have been prepared by Marriott International, Inc. (MI) to communicate hotel quality standards for the design of

hotels and resorts. These Design Standards describe the building, facilities, exterior environment, the quality and types of finishes that define a Marriott property. While the Design Standards are used to gain an understanding of the Brand and obtain initial pricing and budgeting parameters, the facility design, finishes furnishings, fixtures and equipment for a specific project will vary.

C. EI Document Organization: The Design Standards are organized into complementary Chapters to facilitate the integration of design requirements into the design process.

   1. EI General Requirement Chapters describe the project design process and design which include the following.
      • This Chapter
      • <GR2>
      • <GR3>
      • <GR4>

   2. EI Design Standard Chapters provide design criteria, facility requirements and general material qualities that facilitate the development of the final design and documentation.

D. Minimum Standards: The Design Standards are minimum MI requirements for developers, franchise partners and market managers. Where applicable codes, ordinances and laws take precedence and these are substantially different from MI requirements, review the differences with the responsible design team consultant and the MI Design Team to obtain resolution.

GR1.4 Project Application

A. Design Integration: The integration of the MI Brand and Design Standards creates a unique hotel that provides the consistency and quality guests require of a leading brand. These Design Standards establish a consistent level of quality for Marriott properties without defining a singular design statement or facility. It is desirable that each project embrace its regional context while maintaining the focus of the Brand and MI design concept.

   1. The Design Standards address the program of a full service, quality tier, mid-size, business hotel for the Master Blenders, the Brand's target customer. A Marriott Hotel typically includes the following, unless modified by MI and the project Facilities Program:

      a. Approximately 300 guestrooms

      b. One All Day Dining / Three-Meal per Day Restaurant

      c. MH Greatroom (Lobby)

d. 930 m² (10,000 sq. ft.) of function / meeting space.

e. Specialty Restaurant. See the project Facilities Program and <3> for programming requirements.

f. A Fitness Center

g. Guest (Concierge) Lounge

h. Retail

i. Application of the Design Standards to a substantially different program requires approval by MI.

2. Resort Hotels: Resort and leisure property features are similar to the business hotel model, except resorts require additional guest features and amenities. See the project Facilities Program for requirements and supplements such as the following:

a. Guestroom features such as larger bathrooms, closets and bedroom; balconies

b. Full-service Spa and Golf

c. Additional Recreation, Pool and Beach

d. Additional Food and Beverage

e. Additional Retail

B. Multi-use Buildings: In order to maintain operational and access control as required by the Loss Prevention Review, hotel exit stairs, utilities, facilities and services are not shared or connected to office, retail, residential, entertainment, recreational or other external uses. See <16>.

1. If shared facilities can not be avoided, submit and obtain approval from MI of alternate facilities that safeguard the hotel operations and access.

2. Entertainment Lounges, General and Service Retail, and Recreational Facilities not associated with the Fitness Center are only included in the hotel program under limited conditions when reviewed and approved by MI.

3. Facilities and services not approved or directly managed by MI are separate and independent of the property and therefore are not located within, proximate to, or associated with the hospitality facility.

C. Dimensions, Sizes & Measurements: Conversions from English to metric (SI) units are approximate. Verify, coordinate and confirm product and material dimensions for required design applications.

D. Cost Responsibilities: The organization of the Design Standards into Chapters

and the organization of each Chapter are not intended to assign design, control, procurement or cost responsibility to project team members.

E. "Star" Rating: If the property is intended to maintain a hotel rating system to qualify or register for a hotel classification, provide the services, features, and facilities required by Forbes (Mobile) 5 Star and AAA 5 Diamond standards.

GR1.5 Interpretations

A. General: Project specific conditions may require additional direction for issues not specifically addressed by the Design Standards. MI will provide additional interpretations and information to assist in integrating the Design Standards into the project design.

B. Modifications: The Design Standards may be modified by MI to reflect and respond to changing design, market, construction, operational conditions and regional operating needs and requirements.

C. Current Edition: Prior to relying on or implementing the Design Standards, verify with MI that this Design Standard edition is current and contains the latest modifications.

GR1.6 Code & Regulation Compliance

A. Architect & Engineer of Record: The project Owner and the Architect and Engineers of Record and consultants (design professionals) are responsible for compliance with governing laws, codes and regulations.

1. These Design Standards are not intended to negate the Design Professional's legal responsibilities for the protection of public health, safety or welfare. Nor, are they intended to alter responsibilities for good design practices such as accessibility, environmental protection, energy conservation, weather tight, safe buildings, etc.

2. MI reserves the right to request that a variance be submittted for code requirements that are in conflict with the Marriott Design Standards and operations.

B. Selecting Codes and Standards: Prior to the project's commencement, the Design Team proposes to the Owner and MI a recognized building code and standards for the building, finishes and furnishings.

1. Current Editions: MI uses current editions of codes and technical references as a basis for comments.
2. Fire Protection & Life Safety: Contact the MI Fire Protection & Life Safety Department and the Zurich Services Corporation. See <14>.
3. Code Integration: Follow these Design Standards when they exceed requirements of governing codes or accessibility guidelines.
4. Refer conflicts with Design Standards to the MI project team for resolution.

GR1.7 Accessibility

A. Meeting the Needs of All Guests: In keeping with the best traditions of Marriott's hospitality, we extend hotel services to all guests, including those with disabilities.
   1. We work diligently to apply the best current thinking on accessibility features to each new hotel, and each hotel renovation.
   2. Recognizing that we operate and acquire hotels originally built under previous requirements, we constantly seek to improve the physical accessibility of our hotels, removing existing barriers wherever feasible, as well as extending services where barriers remain.

B. Accessibility Standards Compliance: If governing accessibility standards do not exist, comply with the criteria as outlined by the U.S. ADA Standards for Accessible Design. At the minimum, comply with accessibility regulations of the country where the project is located and the following required criteria for persons with disabilities:
   1. Building Access: Provide an accessible public path of travel into the building and into spaces accessible to guests.
   2. Service: Provide access to services generally available to property guests.
   3. Public Toilets: Public area restrooms have accessible toilet compartments, urinals, and lavatories.
   4. Guestrooms: Provide a minimum of 3% of the total guestrooms as accessible (2% rooms with a tub, 1% rooms with a roll-in showers). Increase quantity based on market and governing norms.
   5. R ADA Reference: Internet site at: http://www.ada.gov

C. Conflicts: In cases where the governing accessibility laws conflict or are not mutually addressed, consult with MI to develop a program that accommodates the guest's expectations.

D. Accessibility Design Compliance:

1. Building Access and Route:

    a. Provide an accessible route for persons with disabilities to Building Entry Areas to comply with all applicable accessibility regulations.

    b. Public Entrances: Design 60% of public entrances, with at least one ground floor entrance and one pedestrian entrance from a parking structure for access by persons with disabilities.

    c. Doorways: At exterior and interior doorways, provide an 82 cm (32 inch) minimum clear opening with approach and strike side clearance. Typically, provide 46 cm (18 inch) minimum clear at the strike side to adjacent wall for an in-swinging door.

    d. Provide accessible check-in accommodations in compliance with governing accessibility regulations and coordinated with the Hotel Brand Design.

2. Signage: Comply with governing regulations for signage and graphics specifications. Follow signage specifications including the intent of the Americans with Disabilities Act (ADA) Accessibility Guidelines unless superseded by local governing regulations. Implement required and customized signage such as Braille if usage is prevalent in the region.

3. Recreation and Fitness:

    a. Locate recreation facilities and guest amenities along accessible routes. Design facilities for access by guests with disabilities.

    b. Where a boardwalk or similar beach access is provided, no less than one route is accessible for guests with disabilities.

    c. Swimming Pools: Provide a permanent transfer lift at each pool and whirl pool or other accommodation as required by governing regulation.

4. Accessible Guestrooms: Design room layout for use by guests with disabilities.

    a. Standard: Current version of the ADA Standards for Accessibility Design (https://www.ada.gov)

    b. Quantities: Provide Accessible guestroom quantities as required by the accessibility standards noted above.

    c. Hearing Impaired: Accommodate persons with hearing impairments as required by the accessibility standard noted above.
    • Provide doorbell strobe / chime (flush style) as required with an on / off switch inside room.

• Telephones with volume control handsets and text telephones as required by governing accessibility regulations are available at the front desk.

d. Incorporate the same Brand design requirements as in standard Guestrooms. Provide accessories equal to standard Guestrooms and elevated design aesthetics.
   • Accessories shall include but are not limited to grab bars, showering and bathing plumbing fixtures, shower and tub seats, accessible closet rod.

e. Bed Requirements:
   • Install bed with an overall height of 56 cm (22 inch) with an allowable range of 53 cm to 58 cm (21 to 23 inch) from finished floor to top of uncompressed mattress, unless otherwise dictated by applicable State or local laws.
   • Provide 18 cm (7 inch) high clearance under bed with a 76 cm (30 inch) minimum depth and 91 cm (36 inch) minimum width to accommodate a Hoyer or similar person lift unless otherwise dictated by applicable State or local laws.
   • On platform frames provide appropriate support for mattress where clear opening for lift occurs.

f. Connect accessible guestrooms (ADA rooms) to a standard guestroom.

g. Door Hardware to match hardware designed for standard guestrooms.

h. Viewer: Furnish two at accessible rooms; install lower viewer at 1.0 to 1.6 m (40 to 42 inch) above finish floor.

i. At accessible roll-in showers, provide a secondary floor drain outside the shower area.

GR1.8 EI Green & Sustainable Design

A. EI Marriott International (MI) supports green and sustainable practices as an integrated part of our hospitality business. We have an important facilitating role to play, working in partnership with our hotel Owners to implement sustainable design and operations, to conserve natural resources, protect indigenous wildlife, enhance indoor environmental quality, and reduce and recycle waste wherever possible. Operating with a greater awareness of green and sustainable design, we strive to support the environmental interests and concerns of our guests, associates, business partners and communities.

B. EI Marriott International is an active member and supporter of the following organizations.

1. EI The US Green Building Council and LEED Accreditation Program
2. EI The Center for Environmental Leadership in Business
3. EI Conservation International
4. EI The International Tourism Partnership
5. EI Energy Star Rated Products - for hotel brands worldwide

GR1.9 Building Materials, Products & Equipment

A. General: These Design Standards identify criteria for materials, products and equipment and not specifications and methods of workmanship. It is understood that the work is performed by skilled craftsmen of various trades that reflect the best quality defined by applicable industry standards. The criteria are for use by the design professionals to develop project specific specifications. Additionally, the Design Standards are used by the Architect, and other design team members, Owner and Contractor to assure the quality of a Hotel project.

B. Standard of Quality: The Design Standards identify specific products that meet the MI requirements. However, it is clearly not MI's intent to limit product use. MI will base the decision of acceptance when compared to products identified as the standard of quality. The Owner and Project team are fully responsible for submitting documentation and samples of required and alternate products to MI for consideration. Base initial budget projections on products defined in this Design Standard.

C. Labels and Nameplates: Omit manufacturer nameplates and other graphics

visible to guests, unless directed by MI.

D. Toxic & Carcinogenic Materials: Do not provide known toxic or carcinogenic materials. This includes concealed materials and products containing or manufactured with formaldehyde and asbestos. MI reserves the right to reject materials, including products specified or provided for the FF&E package, that may pose a health risk to guests or hotel employees. It is the responsibility of the Owner and the Owner's team to identify non-compliant materials and to provide MI with qualified written third party lab and testing reports that certify safety.

E. Technical Institute References: Use current editions.

F. Environmental Impacts: Adjust design for sites with high humidity, noise, etc. At ocean sites with salt exposure, select and provide applicable non-corrosive finishes, equipment and physical plant materials.

GR1.10 Design Review Process Model

A. Application: This model defines the design and review process requirements summarized in the governing MI Agreement for the project. Consult the governing MI Agreement for project specific requirements applicable to the project.

B. Design Sequence: This model assumes the entire project is designed and constructed in one focused process. Typically, project designs are developed in a series of parallel efforts (exterior, guestrooms, public areas, etc.) requiring adjustments to the process to address the intent of the governing Agreement.

C. Project Delivery: This model assumes a sequential evolution of the design and construction process. For projects employing a non-sequential process (fast-track, phased, etc.) adjustments to the process are required to conform to the governing Agreement intent.

D. Project Coordination: Consult with MI at the project kick-off meeting to develop a project specific design and construction review process based on the project's scope, budget, schedule and team composition organized to address the requirements of the governing Agreement.

E. Quality Assurance: Project design conformance with MI requirements is verified by a series of meetings, submissions and document reviews. The process includes the following design and construction phases, milestones and tasks.

1. Design Review Process

PHASES	MILESTONES & TASKS
Preliminary Design	• Criteria Summary • Facilities Program • Establish Preliminary Budget & Schedule • Hotel Development Committee (HDC) • Consultant Selection • Kick-Off Meetings
Concept Design	• Loss Prevention Risk Assessment • Concept Design Presentation • Review Meetings
Schematic Design	• Schematic Design Presentation • Review Meetings
Design Development	• Insurance Review • SMDR Presentation • Design Development Formal Presentation • Review Meetings
Construction Documents	• Review – 30-50% • Review – 90-100% • Guestroom Model
Construction	• Site Observations • Submittal Reviews • Turnover • Project Close Out

GR1.11 Preliminary Design Phase

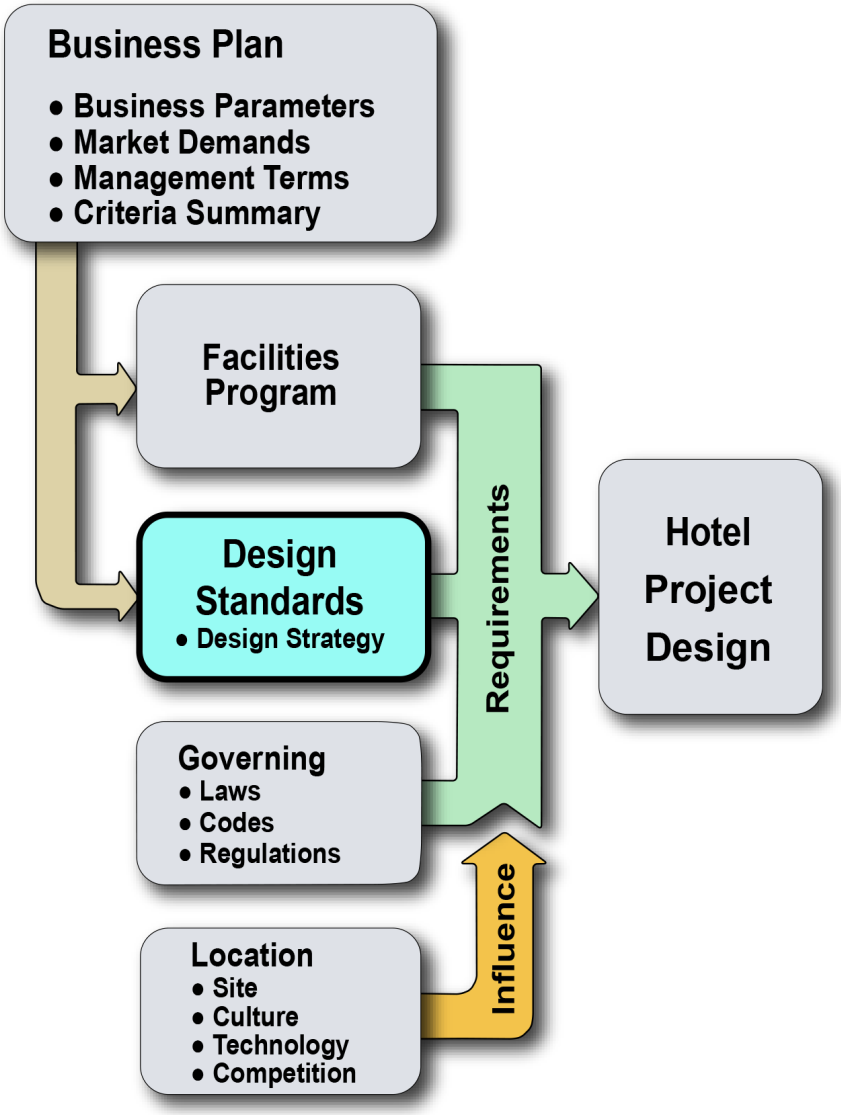
A. Criteria Summary & Facilities Program: An initial step in the design process is the Criteria Summary and project Facilities Program creation.

1. Criteria Summary: A Criteria Summary is developed by MI for each project to establish the number of guestrooms, amount of food and beverage and meeting space, amenities and other hotel program requirements based on a feasibility study. Obtain an approved Criteria Summary from the MI Design Manager.

2. Facilities Program: From the Criteria Summary a resulting project Facilities Program forms the foundation of the hotel design and governs the application of the Design Standards. If the Facilities Program is not provided by MI, the Owner's design team must provide one. Together, the dictates of the Criteria Summary and project Facilities Program are integrated with the customized application of Design Standards to guide the hotel design. Additionally, governing laws, building codes, regulations, site conditions and local parameters influence the hotel design.

3. Design Phase Submission: At each phase of the design process, the Architect submits a revised, as-designed project Facilities Program reflecting the current state of the project design.

4. Preliminary Design Process Diagram



B. Hotel Development Committee (HDC): Every project requires HDC approval.

1. The HDC evaluates variations to standards and carefully weighs the overall benefit the project offers MI.

2. Once a project is approved by the HDC, the building and interior designs are developed for the design review process.

C. Design Team Selection: The Owner is responsible to research and contract competent design consultants. For the Owner's reference and consideration, consult MI for a list of qualified design consultants specific to each project.

1. The consultants include but are not limited to the following:

   a. Project Management Company

   b. Architect

   c. Interior Designer

   d. Graphics Designer

e. Lighting Designer

f. Acoustic Consultant

g. Purchase Agent

h. Landscape Architect

i. Engineers - Civil, Mechanical, Electrical and Plumbing

j. F&B / Restaurant Concept Designer

k. Spa Designer & Spa Consultant

l. Retail Consultant

m. Kitchen Consultant / Designer

n. Laundry Designer

o. Audio / Visual Systems Consultant

p. Security System Designer

D. Initial Technical Service Conference: The initial meeting with the Owner and MI establishes the working process between the Owner's project management representative and the MI technical service representative. The MI representative is the main point of contact for issues pertaining to construction of a property. The purpose of this meeting is to review the following:

1. Project status and scope
2. Owner's Preliminary Project Schedule
3. Owner's Preliminary Project Budget
4. Project Administration

E. Design Kick-off Meeting: After obtaining the required approvals and appropriate agreements, design coordination commences with a project kick-off meeting. The goal is to generate a comprehensive concept of the project that includes functional and aesthetic space planning, architecture, interior design and exterior environment.

1. Design Immersion: The purpose of the Brand immersion is to provide insight to Brand positioning, present Brand and design foundation requirements and review specific project applications.

GR1.12 Design Phase Administration

A. Overview: Design phase reviews (preliminary, design development, etc.) require a series of sequential meetings, document submissions and presentations. Follow the guidelines below to ensure an efficient design review process.

B. Project Review Process:

1. Design Kick-off Meeting: At the initial design kick-off meeting, review project requirements and establish a schedule and content for reviews, submissions and presentations.
2. BP Sequence: Typically, interior design presentations are scheduled after the building designs are approved.
3. BP Resource: "Interior Design Process Guide"

C. Schedule: The Owner establishes and maintains the project schedule for tasks, meetings, presentations and documentation.

D. Budget: The Owner establishes and monitors the project budget. Project Owners and their professional consultants are strongly encouraged to utilize MI's Cost Code System to establish a common language and understanding. The categorization provides both a breakdown of various project elements and a distinction of responsibilities for control.

1. BP Budget

Category 1 Special Site Conditions	Extraordinary site and building conditions.
Category 2 Building	Site and building improvements (including fees and permits) not included in other Categories.
Category 3 Communications Systems	Cost and design fees for security, telephone and two-way radio systems.
Category 4 Trade Equipment	Cost and design fees for kitchen, laundry and housekeeping equipment.
Category 5 Operating Supplies and Equipment	Cost and fees for fixed asset supplies and hotel systems required to open a fully operational hotel.
Category 6 Furniture, Fixtures & Equipment	Cost and design & procurement fees for decorative items including FF&E, interior landscaping, graphics and decorative lighting.
Category 7 Architectural / Engineering Fees	Professional design fees (not included in other Categories).
Category 8 Land, Corporate Finances, Legal	Cost of land (closing costs, insurance, fees) and interest and finance fees.
Category 9 Operations	Cost necessary to open a hotel (items not included in Category 5) including pre-opening costs, working capital and project development costs.

E. Updates: At each design phase formal presentation, provide a revised project schedule, budget and Facilities Program reflecting the current status of the project design.

F. Loss Prevention Review - General: A Loss Prevention (LP) Review generates a project specific Risk Assessment that generates Functional Requirements. The Functional Requirements are integrated with the LP Review minimum requirements to produce a comprehensive project design that reasonably mitigates or eliminates risk factors associated with the property location, design and facilities. See <16>.

1. Managed Properties: The LP Review for MI Managed projects are conducted and overseen by MI's Global Security & Safety Technical Services department. Deviations from MI's LP Review process requires MI acceptance.

2. EI Franchise Properties: MI does not manage a franchise company's operations. The franchise shall determine the most effective method to

develop proper measures and to select systems that coincide with the franchise operations. The Loss Prevention Chapter is intended only as a guide to assist franchise management to develop proper measures based on the franchise company's unique methods of operations such as, personnel, staffing levels, technology, operational policies and experience.

GR1.13 Design Narrative

A. Intent: To insure that each project fulfills the vision of the Brand, create a design brief that defines the project's unique characteristics, establishes a unified design vocabulary and provides a basis for appropriately integrating the Design Standards into the project.

B. EI Process: As early in the design process as feasible, a select group of project principals meet (preferably at the project site) to review established project criteria, to observe existing site condition and to develop a design narrative script and story.

C. Content: At a minimum, the design narrative includes the following:

1. Vision: Verify compliance with the goals.
2. Facilities Program: Validate or recommend exceptions.
3. Sense of Place: Define elements of the locations history, culture and heritage that support design authenticity.
4. Competitive Set: Provide a strategy to manage competitive differentiation.
5. Brand: Initiate criteria for development.
6. Material Vocabulary: Establish types and palette of colors.
7. Design Concept: Develop a unique, locally inspired concept.
8. Environmental: Identify approaches to integrate, protect or sustain environmentally sensitive features.

D. Brand Immersion: Prior to the Concept Design Phase initiation and when the principal design team has been selected, attend a Brand immersion meeting to review the Brand goals and how they will be integrated with the Design Brief.

GR1.14 Concept Design Phase Requirements

A. Overview: The Concept Design phase generates a comprehensive concept of the project that includes functional and aesthetic space planning, architecture, interior design and exterior environment. Provide documentation to define parameters and adequately convey design, based on the accepted design narrative.

B. Architectural Documents: Provide exhibits and illustrative sketches / renderings in full color, depicting the Project design narrative and project objectives.

1. Facilities Program: current as-designed
2. Project Schedule
3. Project Budget
4. Research & Market Studies (laundry, sun orientation, sign, traffic, acoustics)
5. Vicinity Map: showing access and major surrounding developments
6. Site Plans: with boundaries, contours, parking, buildings and recreation facilities
7. Landscape Plan
8. Floor Plans
9. Typical Guestroom Floor Plans
10. Exterior Elevations and Sections
11. Exterior Image Boards

C. Interiors Documents: The concept design entails a loose or less formal presentation and includes mood photos, written words, a color palette, and possibly other items such as examples of lighting, architectural finishes, and FF&E to convey intent.

D. Engineering Documents:

1. Design Brief of the major building systems
2. Utility system locations and definitions

E. Governing Authority: Inform MI Project Director of meetings and drawing submissions for planning, building, fire and governing authorities that have project development jurisdiction. At initial meetings with the Fire Department, include a representative of the Marriott Fire Protection Department. Allow adequate time in the project schedule to coordinate this meeting.

GR1.15 Schematic Design Phase Requirements

A. Overview: Prepare a Schematic Design phase digital presentation incorporating MI's concept design plan review comments and accepted variances. Provide documentation required to clearly convey the design intent, project program criteria and compliance with Brand Standards.

B. Architectural Documents: Provide professionally prepared preliminary drawings and documents.

1. Facilities Program: as-designed
2. Schedule: updated
3. Budget: updated
4. Special Studies: laundry, elevator, acoustic, etc.
5. Vicinity Map: site access, surrounding development
6. Site Plan: site features, buildings, recreation, traffic, etc.
7. Landscape Plan: exterior planting, paving and recreation, in color
8. Building Plans: public spaces, guestrooms, back-of-house
9. Elevations and Sections: materials, color
10. Model: physical or digital
11. Fire & Life Safety: exit plan, separations, features
12. Loss Prevention: risk assessment

C. Interiors Documents:

1. Areas: guestrooms, corridors, entry, lobby areas, food & beverage, meeting spaces, recreation, spa
2. Floor Plans: floor material, furniture, fixture, equipment
3. Reflected Ceiling Plans: materials, heights, lighting
4. Elevations: as required to define design intent
5. Perspectives: views required to define design intent; professionally created
6. Guestrooms & Suites: enlarged plans, room matrix
7. Color & Materials Boards: samples and images; framed
8. Special Studies: Food & Beverage, Spa, Meeting Space and additional

Recreational and functional spaces.

D. Engineering Documents:

1. Utility Confirmations
2. System Descriptions
3. Space Allocations
4. Alternate System Analysis

E. Interim Working Sessions: Following the acceptance of Schematic Design documents, a series of informal meetings and reviews are conducted with MI and the Owner's design team to advance the design, offer design assistance and prepare documents for Design Development acceptance.

F. Senior Management Design Review (SMDR): At the end of the Schematic Design phase, prior to initiating the Design Development phase, projects are presented to senior managers to confirm mutual acceptance of the design and consistency with the project Brand and Design Standards. The formal presentation consists of the Schematic Design documentation rendered and enhanced with color, illustrations and samples to clearly convey the design intent. Consult the MI Project Director and the Interior Design Process Guide for the presentation schedule, format and deliverables as appropriate for the project type, scope and location. Provide copies of the presentation in a digital format to the principal stakeholders.

GR1.16 Design Development Phase Requirements

A. Overview: Prepare a Design Development phase digital presentation incorporating MI's Schematic Design phase and SMDR comments and accepted variances. Provide fully developed design documentation required to clearly convey the design intent, project program criteria and Brand Standards.

B. Architectural Documents: Provide detailed development drawings.

1. Facilities Program: as-designed
2. Vicinity, Site & Landscape Plans: all areas of the project including construction details and labeling to clearly communicate landscape / hardscape intent.
3. Building Plans, Elevations & Sections: all areas of the project
4. Special Studies: laundry, elevator, acoustics, recreation, etc.

5. Fire Protection & Life Safety: exit plan, separations, features

C. Interiors Documents:

1. Design Concept: fully developed and illustrated
2. Floor Plans & Elevations: all public areas of the project
3. Reflected Ceiling & Lighting Plans: materials, heights, lighting
4. Perspectives: views required to define design intent; professionally created
5. Guestrooms & Guest Floor Lounge: enlarged plans, room matrix
6. Materials, Finishes, Colors & FF&E: samples and images; framed
7. Millwork Design
8. Flooded Floor Plans: carpet designs
9. Special Studies: Food & Beverage, Spa, Meeting Space, etc.

D. Engineering Documents:

1. Design Narrative of Systems: updated
2. Space Allocations: plant rooms and vertical shafts
3. Riser Diagrams
4. Equipment Schedules
5. Calculations including load and service connection sizes

GR1.17 Construction Documents Phase Requirements

A. Overview: Prepare Construction Documents for review and acceptance incorporating MI's Design Development comments and accepted variances. Provide fully developed construction documentation required to clearly convey the design, project program criteria and Brand Standards.

B. Early Construction Document Submittal: Provide 30 to 50% Construction Documents as scheduled by MI.

C. Final Construction Document Submittal: Incorporate comments and accepted variances from the early review and provide 90% to 100% Construction Documents for review and final acceptance by MI. Provide updated project Facilities Program, budget and schedule.

GR1.18 Construction Phase Requirements

A. Overview: Construct the project in compliance with the accepted submittals and consistent with the Brand Standards.

B. Model Guestrooms: When the guestroom design is fully developed, as early in the schedule as appropriate, prepare 2 model guestrooms (K and two bed types) and 4-door portion of corridor for MI's review and acceptance. Incorporate MI's review comments and variances in the model guestrooms for review and final acceptance prior to ordering guestroom and guest corridor FF&E. Complete model rooms at least 12 months prior to the hotel scheduled opening. This schedule allows for the incorporation of corrections into the project prior to installation of interior walls, plumbing, HVAC and electrical rough-ins.

C. Site Observation: During the course of construction, provide MI with access to the project site to determine if the project is proceeding in compliance with the accepted submittals and Brand Standards. Provide updates to the schedule, budget and information MI requires for operational coordination.

D. Submittals: Provide Construction Phase submittals (shop drawings, product literature, samples, mock-ups, etc.) necessary for MI to review design and construction compliance based on the previous submittals and Brand Standards. Consult with MI to establish the scope of required Construction Phase submittals.

E. Substantial Completion: Inform MI of the anticipated date of Substantial Completion, as scheduled in the TSA or DRA agreement, and provide a review schedule for MI's final review process, turnover and opening operations. Provide Architect's Certificate of Substantial Completion and compliance with MI's accepted submittals.

GR1.19 BP Turnover Schedule

A. BP Overview: In order to facilitate orderly staffing and training in preparation for Substantial Completion and project opening, turnover building areas in accordance with the following schedule and priority.

B. BP Priority Sequence: Since the areas of the building in each priority group are dependent on the areas in the previous group, turnover areas complete (constructed, furnished, punched-out, accepted) prior to proceeding to the next priority. Reevaluate the date of Substantial Completion and revise the schedule, if appropriate, prior to proceeding to the next priority.

C. BP Turnover Prerequisites: The following items are required for areas of the project intended for turnover activities prior to Substantial Completion.

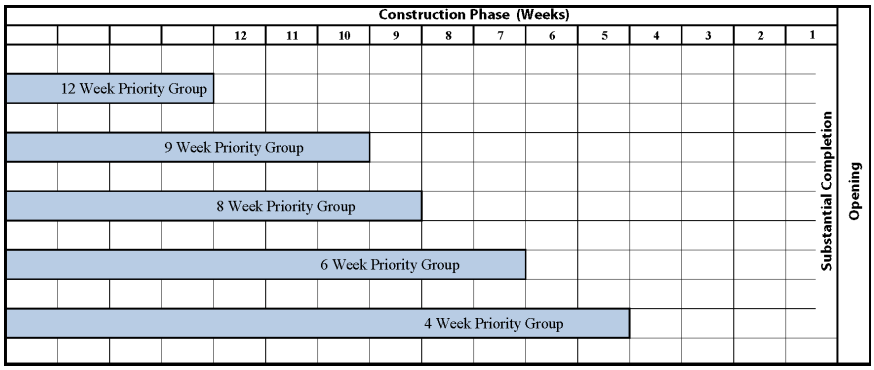
1. BP Fire Sprinklers: Fully operational
2. BP Means of Egress: A minimum of 2 clear, remote paths with adequate capacity
3. BP Toilet Facilities: Adequate men and women toilets and lavatories
4. BP Safety: Area free of construction activity
5. BP Circulation: Provide access to stairs, elevators and corridors required for staffing and training.
6. BP Sleeping Accommodations: Not permitted, unless approved by MI Fire Protection & Life Safety.

D. BP Project Schedule: Develop a customized turnover schedule that addresses the intent of this process and obtain acceptance by MI.

1. BP 12 Weeks Out - Priority Facilities:
   - Garage Storage
   - Purchasing / Receiving Office / Temporary Storage
   - Rough Landscaping
   - Ancillary Building Construction
2. BP 9 Weeks Out - Priority Facilities:
   - Store Rooms: Liquor / Beverage / Wine / Food
   - IT & Telecom System Room
   - Engineering Office, Window Washing Equipment
   - Guest Floor Service Elevators & Service Elevators
   - Ballroom (Hiring & Orientation)
3. BP 8 Weeks Out - Priority Facilities:
   - Receiving Area

- Kitchen & Coolers / Freezers
- Executive / Admin. / Sales & Catering Offices / Human Resources
- Call Center / Telephone System
- Security Office / Central Control Station (Fire Command)
- Electrical and Mechanical Rooms, Boilers / Chillers / Pump Rooms
- Service Level & Storage Areas / Banquet Storage
- Ballroom Service Corridor / Pantry
- Meeting Rooms (employee training)
- Housekeeping / Laundry & Valet
- Guestrooms 25% (Sequence to be determined.)

4. BP 6 Weeks Out - Priority Facilities:
   - Employee Dining Room / Locker Rooms / Linen Closets
   - Reception / Reception Desk / Concierge / Control Room
   - F&B: Lounge / Cafe / Bar / Dining Room
   - Public Area Restrooms
   - Retail / Business Center / Fitness Center
   - Pre-Function Areas / Meeting Rooms
   - Entry / Porte Cochere / Parking Areas
   - Guestrooms 66% / Guest Floor Lounge / Guest Elevators
   - Room Service / Service Bars / Count Room
   - Swimming Pool Decks / Pool Equipment
   - Landscape Maintenance Building & Equipment
5. BP 4 Weeks Out - Priority Facilities:
   - Guest Floors 100%
   - Safety Deposit Box Room / Luggage Storage / Coat Room
   - Window Washing
   - Finish Landscaping / Fountains
   - Recreational Facilities
6. BP Turnover Schedule



GR1.20 BP Project Close Out Requirements

A. BP Record Documents - As-constructed: Provide Record Documents (drawings and specifications) of the documents used to construct and furnish the project including testing, balance reports, fire protection certificates and governing authority documents required for occupancy. The documents shall include and integrate changes, supplements and accepted variances that represent the "as-constructed" (as-built) completed project status. Provide 2 copies of the documents to MI on CD in CADD and pdf formats and 2 half-size drawing sets.

B. BP Operations & Maintenance: Provide operating manuals, technical information, warranties and special tools required to efficiently operate and maintain the project's equipment, systems, finishes and furnishings. Provide documents in digital format defined by MI.

C. BP Training: Provide operations and maintenance training (before and after turnover as appropriate) required to efficiently operate and maintain the project's equipment, systems, finishes and furnishings. Instructors shall be qualified manufacturer's representatives, vendors, factory authorized technicians and installation contractors. Coordinate training scope and schedule with MI.

D. BP Warranties: Consult the Owner, design team and MI to coordinate requirements for extending warranties for equipment, materials and systems beyond the standard warranties provided by governing law, offered by the manufacturer or required by the construction contract. Consider the following variables:

1. BP Governing laws and legal process in the country of construction
2. BP Cost and benefit analysis of warranty terms
3. BP Exclusions, disclaimers, limitations and imposed obligations of extended warranties
4. BP Risk of product or system failure
5. BP Reputation of the company supporting the warranty

E. BP Attic Stock: Provide attic stock in compliance with project requirements to permit rapid and efficient replacement of damaged furniture, fixtures and equipment during the first one or two years of operation. Consult with the Owner, design team and MI to establish minimum criteria considering the following project variables that may suggest limiting attic stock requirements.

1. BP Storage: Verify if a secure, on-site storage area is available
2. BP Remote Storage: Consider the operational cost of off-site storage, if

required.

3. BP Damage: In order to remain serviceable, materials require a controlled environment such as heating (to prevent freezing), cooling and ventilation (to prevent mold and mildew) and shelving.
4. BP Cost: Carefully balance the cost of providing attic stock (initial cost of materials, storage and handling) against the cost of procuring materials on an as needed basis
5. BP Security: To ensure the attic stock is available when required, inventory control is required.
6. BP Custom Products: Attic stock is beneficial for the rapid replacement of "custom" products but is typically not critical for the replacement of "stock" products.
7. BP Remote Locations: Projects, such as resorts located a distance from their supply chain, may depend on attic stock to avoid long lead times for product replacements.
8. BP Safety Stock: Extra materials normally ordered to account for installation breakage and waste are not included as attic stock but, if available, may serve to minimize replacement risks and dependence on attic stock.

F. BP Operating Equipment & Supplies (OS&E) and Spare Parts: OS&E and spare parts required to operate the property are defined in <GR4>.

GR1.21 EI Definitions, Acronyms and Abbreviations

A. EI Definitions

A&E	Architect and Engineer
A/C	Air Conditioning
A/V	Audio / Visual
AC	Alternating Current
A&C	See GDS (Global Design Services)
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guide
AFF	Above Finish Floor; when measuring height distance
AGA	American Gas Association
AHU	Air Handling Unit
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refrigeration & Air-conditioning Engineers, Inc.
ASME	American Society of Mechanical Engineers
ASPE	American Society of Professional Engineers
ASTM	American Society for Testing and Materials
ATC	Automatic Temperature Control
ATM	Automatic Teller Machine
AWI	Architectural Woodworking Institute
BAS	Building Automation Systems; the computer system that coordinates and controls heating and cooling, mechanical, electrical, plumbing and safety systems. These systems typically include the EMS, ATC and DDC.
Call Accounting	Telephone system software that automatically charges guests for telephone and fax use.
CCCTV	Closed Circuit Color Television
CLTD	Cooling Load Temperature Difference
CRI	Carpet and Rug Institute
CWM	Construction Waste Management
DAS	Distributed Antenna System
Day Tank	Fuel oil tank, typically located with an emergency generator (large storage tank would feed fuel to “day tank”).
dBA	Decibel level, measurement of sound.
DDC	Direct Digital Control; an electronic control device; part of the BAS.
DHCP	Dynamic Host Configuration Protocol (protocol for automating the configuration of computers that use TCP / IP)
DNS	Domain Name System
DOAS	Dedicated Outdoor Air System
DX	Direct Expansion
Dx Units	Direct-Expansion (DX) Unitary HVAC System

B. EI Definitions

EIFS	Exterior Insulated Finish System
ETS	Environmental Tobacco Smoke
EMS	Energy Management System
FC	Foot Candle; measuring unit for lighting illumination
FDB	Fahrenheit Dry Bulb
FF&E	Fixtures Furniture and Equipment
FM	Factory Mutual is an insurance agency for building industry material, product, and assembly testing. FM publishes the Factory Mutual Data Handbook.
FRP	Fire Rated Panels
GDS	Global Design Services, formerly A&C (Architecture & Construction); a business division at Marriott headquarters that provides project services worldwide.
GFI	Ground Fault Interruptor (electrical)
GFS	Global Field Services
HPL	High Pressure Laminate
HVAC	Heating, Ventilation and Air Conditioning
IAQ	Indoor Air Quality
IBC	International Building Code
IEQ	Indoor Environmental Quality
IP	International Protocol
IR	Information Resources
LAN	Local Area Network
LDN	Level Day-Night
LEQ	Equivalent Continuous Noise Level
LFM	Lighting Fixture Matrix
LPD	Lighting Power Density
JW	JW Marriott; a MI Hotel Brand
MARSHA	Marriott's Hotel Reservation System for Hotel Accommodations
MCNC	Marriott's Computing & Networking Center
MDF	Main Distribution Frame
MEP	Mechanical, Electrical and Plumbing
MH	Marriott Hotels
MERV	Minimum Efficiency Reporting Value - a measurement of air filter efficiency
MGS	Marriott Global Source; a secure Intranet web site for Marriott Associates (ID and password required for access)
MI	Marriott International
MRL	Machine RoomLess
MSDS	Material Safety Data Sheet
NALO	North America Lodging Operations refers to properties within continental U.S. and Canada

C. EI Definitions

NC	Noise Coefficient
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation
NGS	Next Generation System is a property automated computerized management application integrated with the PMS and used to record and manage food, beverage, and gift sales; also see P.O.S. and PMS. <13>
NIC	Noise Insulation Class
NSF	National Sanitation Foundation
OCTV	Open Circuit Television
OS	Occupancy Sensors
OSHA	Occupational Safety & Health Administration
PCB	Poly Chlorinated Biphenyl; an environmental pollutant.
P.O.S.	Point of Sale computerized recording equipment used to manage food, beverage and gift sales; see PMS.
PABX	Private Automated (telephone) Branch Exchange.
PI	Property Internet
PMS	Property Management System is the property management computer application used to record and manage food, beverage and retail sales; see P.O.S. and NGS. <13>
PPV	Pay Per View
PSI	Pounds / Square Inch
RH	Renaissance Hotels; a Marriott International Brand
SMACNA	Sheet Metal & Air-conditioning Contractors National Association.
SOP	Standard Operating Procedures
STC	Sound Transmission Class
SRI	Solar Reflectance Index
TCA	Tile Council of America
TESC	Temporary Erosion and Sediment Control
UL	Underwriters Laboratories; an independent testing agency.
UTD	Up To Date
VFD	Variable Frequency Drive.
VSS	Video Surveillance System
VVVF	Variable Voltage, Variable Frequency

MARRIOTT

EUROPE

Marriott Hotels

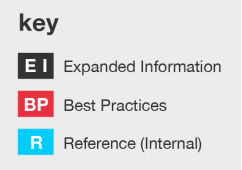
signage & graphics

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents



chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

GR2.1 Overview

A. Program: A comprehensive, integrated, project specific signage and graphics program is required that complements and reinforces the architectural and functional features of the property and the Brand with identifying devices and graphics for the following:

1. Directional & Information Graphics: Way finding.
2. Property Identity Signage
3. Traffic Regulation Signage: For vehicle site traffic control signage and graphics, see <1>.
    a. Provide for a safe, anticipated entry (vehicular or pedestrian maneuver). Study circulation patterns of guests, employees, service and visitors for pedestrian or vehicular traffic.
    b. Clarify and reinforce primary circulation paths.
4. Exterior: Engage a Marriott International (MI) accepted sign vendor for Brand logo signage (without trademark). The MI accepted vendor applies for and obtains permits and zoning approvals from the authorities having jurisdiction.
    a. Provide Guest direction on pathways.
    b. Provide signage at remote resort facilities such as beach and water conditions.
    c. Valet parking numbered spaces with 250 mm (10 inch) high letters.
    d. Provide discreet direction for service vehicles.
5. Interior: Provide a Signage and Graphics Program designed by a professional graphic designer.
    a. Include Back-of-House and remote facilities and amenities.
6. Loss Prevention: Documentation and criteria for Loss Prevention.

B. EI Resources: Graphics criteria, details and example documents are available on the Marriott Global Source (MGS) website.

1. EI Exterior Signage Specifications: Provided by MI project team.
2. EI Vendor Documents: Interior signage specifications provided by project's design team.
3. EI Contact: For additional signage information, contact MI Global Design Project Management.

C. Project Conditions: Review entire hotel building and site (actual site or architectural documents) for signage locations.

1. Language: Provide bi-lingual (English / host country) identifying devices and graphics if required by law, custom or to comply with the "star" rating of the designated hotel.

2. Coordination: Ensure full coordination of graphics elements with Interior Design, other related disciplines and system equipment.

3. BP Entry Points: Determine site and building entry points. Evaluate primary and secondary approaches to the site and / or building.

4. BP Scale: Determine overall scale of signs according to sight distances and impact on site design.

5. Sign Locations: Develop sign locations and forms which address the Signage and Graphics program.

6. Governing Regulations: Research government regulations and apply signage and graphic specifications. Follow signage specifications including the intent of the Americans with Disabilities Act (ADA) Accessibility Guidelines. Implement required and customized signage such as Braille if usage is prevalent in the region.

7. BP Remote Facilities: For properties where remote facilities exist, provide signage consistent with the signage specifications. Obtain MI approval for sign design and wording

D. Destinations: Identify destination points and establish hierarchy for destination points.

1. BP Destination Points: Typical hotel destinations include guestrooms, restaurants, meeting rooms, ballrooms, fitness center, the concierge, the front desk etc.

   a. BP Provide lead-in information for each through established decision points.

   b. BP Limit information to essential elements only.

2. BP Amenities: Include helpful guidelines for use of amenities as required.

3. BP Information Hierachy: Establish hierarchy for various types of information.

   a. BP Plan and document sign locations.

   b. BP Determine sign scale and formats.

E. Guestroom Numbering: Establish a logical room numbering system that is compatible with the Property Management System. See <7A> for conventions.

GR2.2 Primary Identity Signage

A. Property Identification: Contact MI for individual naming protocol.

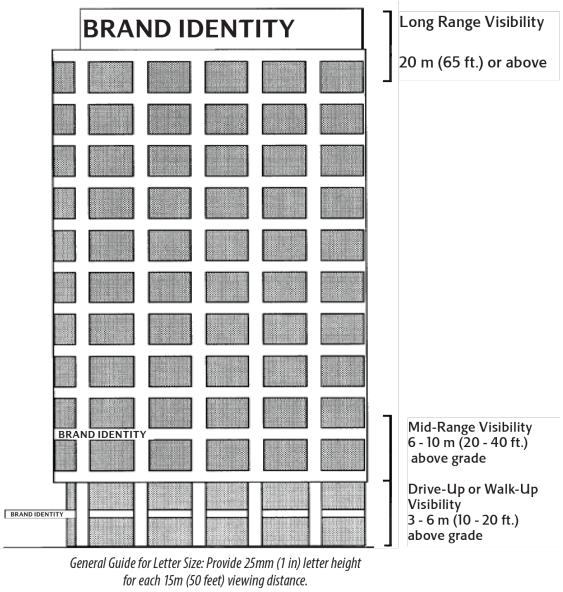
B. Exterior Identification: Provide exterior building, site and building entrance signs. See the Brand specific signage specifications.

1. BP Exterior Building Signs: Identify the building and site considering the farthest sight distances possible for a given property. Identify the property location directly to the most prominent, well-used, or highest visibility (airport, major roadway or walk-up approach) line of sight available. Determine signage requirements based on building location and orientation.
   • Typically, two, internally illuminated (long range) signs required
   • Site drive-in roadway entrance
   • Site walk-up entrance
   • Mid-range - if required, coordinate building identification with MI.
   • Building entrance identification

2. BP Include the following:
   • Provide blocking and structural support for mounting major interior and exterior signage.
   • Provide access to service illuminated exterior signs.
   • Electrical service to the major building exterior identity signage and other illuminates signs..

C. BP Example Diagrams: The following are recommendations for sign configurations.

1. BP Exterior Building Signage Example



D. Secondary Identification: Smaller scale signs identify secondary building and site entry points. Provide proper size and logo layout, with other variable sign features acceptable to MI.

E. Entry Plaques: Strictly formal in nature, these plaques may require special treatment that form part of perceived property image.

1. BP Location: Provide to identify immediate points of entry into the building. Mount wall plaques at eye level.
2. BP Size: Verify per project.
3. Brass or Bronze: Cast or etched brass or bronze may not be appropriate at some properties. When brass and bronze are not utilized, provide protective coatings on metal or other none corrosive metals such as stainless steel.

F. BP Directions - on Site: Depending on site conditions, a variety of roadside or pedestrian sign panels may be required to effectively direct visitors and guests.

G. BP Pedestrian Identification & Directional Signs: Provide decision point and destination point items only. Provide larger or smaller characters as applicable to overall sign shape and size variations that include other considerations for available space and sight distances.

1. BP Minimize information items and limit to three items whenever possible.
2. BP Provide subordinate signs associated with primary and secondary identification.

GR2.3 Interior Signage & Graphics

A. Guestroom Identification: Identify room numbers as described in <7A>, and coordinate sign / graphic and character style with property's brand concept and illustrated interior design drawings.

B. Facilities & Direction (including Guestroom Corridors): Locate signs at decision or destination points only.

1. BP Typically include the following.
   • Include frequently used facilities (destination points) only.
   • Provide for associations between destination points.
   • Scale sign and message size according to intended use.
   • Arrange message items in logical order.
   • Numbers follow ascending order (or according to prevailing local custom).
   • Alphabetize items of equal importance.
   • Nearby destination points, first; further destination points, last in order.
   • Use repetition of messages.

C. Primary Destination Points: Select primary facilities and identify them repeatedly within the graphics program, rather than to identify a great number of varied facilities throughout the program.

1. BP Typically include the following.
   • Include primary noted features of a given property.
   • Establish hierarchy of destination points.
   • Emphasize small quantity of primary destination point repeatedly.
   • Determine primary features according to intended property service.
   • Scale identification according to viewing distance.
   • Alter scale for aesthetic or operating requirements.
   • Position identification to maximize viewing distance.
   • Establish consistency for like-use destination points.
   • Impose unique format for unique, differentiated, destination points.

D. Secondary Destination Points: Include secondary service and amenity features of a given property.

1. BP Typically include the following.
   • Include essential services, consider guest needs and comfort.
   • Establish hierarchy of secondary destination points.
   • Emphasize subordination to primary destination points.
   • Scale identification according to viewing distance.
   • Alter scale for aesthetic or operating requirements.
   • Position identification to maximize viewing distance.
   • Establish consistency for like use destination points.
   • Establish consistency for location of information.

2. BP Typical Points:
   • House phones: Mount at entry to area
   • Restrooms
   • Club Lounge
   • Business Center

E. Other Destinations: Provide where guests may need direction for assistance.

1. BP Helpful signage to reinforce use of an obvious facility, such as the Fitness Center.
2. BP Lobby: Provide signage to direct guests, to the Mobile Key station.
3. BP Other: Additionally, stairways, special entry areas, and circulation corridors may be identified in order to assist guests in areas where directions are helpful.

F. Circulation Intersections: Identify “decision points” (intersection points along circulation path). Limit information to essential elements only.

1. BP Circulation route intersections in roadways, sidewalks or interior walkways.
2. BP Consider travel path, whether to turn left, right or proceed straight ahead.
3. BP Provide information that explains and clearly indicates each possible choice.

GR2.4 Food & Beverage Service

A. Application: Determine operating concept and features of the intended service and apply the following signage and graphics design parameters. See <3>.
   1. BP Scale: Size according to viewing distance.
      a. BP Alter scale for esthetic or operating requirements.
      b. BP Position identification to maximize viewing distance.
   2. BP Design Format: Impose unique format for differentiated, destination points. Often decorative in nature and vary greatly in scale and execution.

B. Identification / Service: Restaurant name, food concept, and decor style is determined by hotel operator and obtained from the operating team. This information will set a design direction for the restaurant entrance identification.
   1. BP Location: Incorporate signage into parameters of the interiors and architectural design.
   2. BP Appearance: Provide signage that complements the interior design concept and is consistent with hotel interior and exterior design. Physical form may be for interior or exterior, freestanding, wall mounted, or overhead. It may be a monument, a canopy, a pendant, plaque or sculptural shape, and may be internally or externally illuminated if required.

GR2.5 Meeting Spaces

A. Application: Determine hierarchy of facilities according to the operating team for ballroom and meeting room identification and directions. Coordinate with locations of electronic digital signage system. See <6> and <13A>.

1. BP Scale identification according to viewing distance.
2. BP Alter scale for aesthetic or operating requirements.
3. BP Position identification to maximize viewing distance.
4. BP Establish consistency for like use destination points.
5. BP Incorporate information into architectural trim where possible.
6. BP Impose unique format for differentiated, destination points.

B. Ballrooms: Identify in a prominent, simple, often architectural manner.

1. BP Mount individual characters to panels above or immediately adjacent to the various entry doors is preferred. Coordinate with the electronic digital signage system.
2. BP If this type of identification is not possible, find an alternate and review with MI.

C. Meeting Rooms: Identify with names provided by the hotel operating team.

1. BP Generally, locate room name adjacent to entry door.
2. BP Plan for individual event identification using electronic digital signage system.

D. Directions: Provide direction with arrow on plaques to principal functions of guest wings, public spaces and between levels. Indicate essential direction to Restaurants, Function Rooms, Restrooms and Guestrooms.

GR2.6 Daily Events & Information Announcements

A. Application: Provide systems for daily events information in Meeting Spaces. Include special consideration for large group meetings and presentation of daily events. Coordinate this effort with Interior design and IR Systems (<13A>) and see <13B>.

B. Delivery Methods: Event information is serviced in two methods, electronic and static. Coordinate and incorporate electrical and data requirements.

1. BP Electronic: These systems feed information to monitors throughout the property. If electronic, digital signage is required, contact MI for Digital Signage and Display criteria and see <13A>. A/V system criteria is included in <13B>.

2. Static Systems: If used, the graphics provider for program includes display areas for overall information that covers all areas and all meetings within the property.
   • Typically a paper display, changed daily, and presented in an area protected by a glass window overlay.
   • Displays may be either wall mounted or freestanding, desk type kiosks. Special circumstances may require other formats.

GR2.7 Life Safety & Loss Prevention Information

A. Codes & Standards - General: Consult with officials and building code jurisdictions at the property location.

1. Code requirement messages are not altered or expanded by the graphics program process.

2. EI Many jurisdictions have widely varied, strictly regulated requirements for sign size, format and text.

B. Types: Specific message types below are required by MI. See <16> for additional information.

1. Guestroom Emergency / Evacuation Information:
   • Standard
   • Standard, room opens to exterior
   • Earthquake standard
   • Earthquake standard, room opens to exterior
   • Fireplace use

2. Public Use Rooms / Food & Beverage Service Areas:
   - Maximum occupancy
   - Maximum occupancy diagram (include illustration)
   - Distilled spirits warning

3. Recreation / Pool Areas: Provide as applicable.
   - Pool area use
   - Pool capacity
   - Pool area use with maximum capacities
   - Diving warning (include illustration)
   - No lifeguard
   - Exercise room use
   - Mouth to mouth resuscitation (include illustration)
   - Whirlpool spa use
   - Sauna use
   - Steam room use
   - Tanning bed use
   - Emergency shut off

4. Vehicular Areas:
   - Clearance
   - Park at own risk

5. Public Corridors:
   - Stairs
   - Fire Extinguisher Cabinets
   - No Smoking Signs
   - Fire & Life Safety required equipment

C. Finishes:
   - Guestroom Emergency Exit: Wood frame and glass
   - Rate Card: Wood frame and glass

D. Distraction Graphic: See <16>.

GR2.8 Elevator Graphics & Signage

A. General: Follow information prescribed by Life Safety standards, codes and governing regulations. Because many jurisdictions have widely varied and strictly regulated requirements for sign size, format and text, it's imperative that terminology used for elevators and overall graphics program be carefully coordinated (same floor numbers, parking garage level, and similar designations).

B. R Coordination: Coordinate graphic and signage specifications with <12>.

C. Building Directory: Arrange in a floor-by-floor style, listing the facilities available at each floor accessed by the elevator.

1. BP Directional information for persons emerging from the elevator at each floor lobby.
2. BP Elevator cab building directory inside cab, near the elevator floor buttons in the cab.
3. BP Provide information explaining the use of special access floors.

D. BP Promotional Information: Provide promotional information for food and beverage services or other special amenities as required.

1. BP Use digital signage system (optional).
2. BP Identification of the floor buttons and other elevator controls is generally included as a part of the elevator equipment.

GR2.9 Digital Signage & Displays

A. General: Provide “electronic reader boards” or “visual information system” or “electronic way-finding system” to manage and visually display event information, food and beverage, and property activities.

1. Display: Design the electronic way-finding system display specific and unique to each property and distinct from the digital signage displays, where provided, to promote property services and activities.
2. Headend: Provide a “headend” system component that accepts and manages information, various visual displays throughout public circulation and assembly areas to present information.
3. Display Type: Provide large, flat panel system displays with non-glare or anti-glare viewing surfaces at key guest circulation junctures.
4. Door Side Graphic Displays: Provide small flat panel door side graphic displays integrated with the signage and locate at entrances to each event space room.
5. Property Information: Provide at least one channel for general property information and distribute only to guestroom televisions. Consult with the CTR for property specific requirements.

B. Features & Functions:

1. EI Display Information: Provide for meetings and events, includes name, time and event location. Large displays show meetings occurring or currently scheduled for each day. Door side displays show information specific to the meeting space.
2. BP Advanced Features: If required, provide features that display graphics, client logos and full motion video on large and / or door side displays.
3. Property LAN: Connect the system to the property LAN so programming and control is performed from a designated computer in the administration area.
4. BP PMS: Provide an interface with the digital signage and displays to the property management system (PMS) to permit automated posting of events and interconnect to the property television distribution system to provide meeting information to the guestroom televisions.

C. Displays:

1. Location: Provide large displays for directional information at each public area floor for anticipated guest traffic from elevators and to and from main entrances and event spaces. Locate displays to minimize retracing or backtracking.

2. Large Displays: Provide commercial quality flat panel LCD displays with frames or bezels having non or anti-glare protective glass.

    a. Determine large displays quantities through analysis of property configuration. Provide sufficient displays so the 19 mm (3/4 inches) minimum character height, a dwell time of 10 seconds for each information “page”, and a full day’s event information displayed, the maximum wait time to see any given event information does not exceed 30 seconds.

    b. Recess displays in a wall shadow box detail, or provide displays with a decorative bezel to integrate the interior architecture and adjoining finish. Provide adequate display device ventilation, and maintain the wall fire rating where mounting the display.

    c. EI Decorative framing or enclosure provides flexibility in display size to accommodate future displays with slightly different overall dimensions.

    d. Provide independent control of overhead speakers near large displays so programming that includes an audio signal is transmitted to the display area without interference from other local sound system programming.

3. Door Side Displays: Provide a door side, flat panel graphic displays at each side at each public entrance to each event space.

    a. LCD: Provide 38 cm (15 inch), diagonal measure, displays. Provide frames or bezels with non-glare or anit-glare protective glass.

    b. Mount displays on walls in the same or similar manner as required for large displays including accommodating different display sizes.

GR2.10 Back-of-House (BOH) Areas

A. General: Typically, doors leading from public spaces to BOH and pathways leading to BOH areas do not require identification, unless specifically required by governing regulation, or in the event that guests might inadvertently access a non-public door.

B. Application: BOH service corridors, service elevators, machine rooms, mechanical rooms, electrical rooms, elevator equipment rooms are identified on the BOH door side with the applicable public area name.

C. Material: Provide acrylic or aluminum with 2 integral color surfaces for production on a pantograph sign production machine.

D. Lettering: Typically, engraved white, Helvetica medium style 2.5 cm (1 inch) high on a 5 cm (2 inch) high reflex blue background. Where two room names are required, double the plaque height.

GR2.11 Coordination

A. Reference: Coordinate with the requirements of other Chapters including
- Site & Building Exterior
- Food & Beverage
- Meeting Spaces
- Guestrooms
- Guestroom Corridors
- Technology Infrastructure
- Audio/Visual
- Fire Protection & Life Safety
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

materials & products

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

GR3.1 Overview

A. EI Content: This Chapter identifies criteria for materials, products and equipment, and does not include specifications and methods of workmanship.

B. EI Standard of Quality: The Design Standards identify products that meet minimum design criteria.
   • Material, product and equipment manufacturers identified in the Design Standards are intended to establish a standard of quality rather than a singular solution. Marriott International (MI) will base their decision of acceptance when compared to products identified as the standard of quality.
   • It is understood that the work is performed by skilled craftsmen of various trades that reflect the best quality defined by applicable industry standards.
   • The criteria are for use by the design professionals to develop project specific specifications. Additionally, the Design Standards are used by the Architect, and other design team members, Owner and Contractor to assure the quality of the hospitality property.

C. EI Material & Product Criteria: The Design Standard Chapters are intended to guide the Design Team (Architects, Engineers, Interior Designers, Consultants, etc.) with selection of materials, products and systems.
   • The Design Team shall review the Design Standards and develop specifications consistent with the project requirements.
   • The material and product requirements, although not inclusive, are important to MI's established quality, the Brand and Operations.
   • If design and specifying conflicts arise, consult with MI for interpretation.

D. Labels & Nameplates: Omit manufacturer nameplates and other graphics visible to guests, unless directed by MI.

E. Toxic or Carcinogenic Materials: No known toxic or carcinogenic materials are required or included in the Design Standards for design and construction. This includes concealed materials and products containing or manufactured from formaldehyde foam and asbestos.
   • The Owner and the Owner's team has the responsibility to identify non-compliant materials and to provide MI with qualified written testing lab reports that certify compliance.
   • MI reserves the right to reject materials that may pose a health risk to guests or employees.

F. Environmental Impacts: Adjust design for sites with high humidity, noise, etc. At ocean sites with salt exposure, select and provide applicable non-corrosive finishes, equipment and plant materials.

GR3.2 EI Project Manual

A. EI Organization: MI may require project specifications organized by Division and 3 part, numbered Section format as described in the Construction Specification Institute (CSI) “Manual of Practice”.

B. EI Section: This term refers to the subordinate portion or paragraph of a chapter and not the “Section” organization as described by the CSI manual.

GR3.3 Division 01 - General Requirements

A. Codes & Standards: Use current editions of codes, industry standards and governing regulations referenced in this Design Standard to produce the intended quality of construction and finishes. In the schematic design phase, identify an accepted structural code, in addition to designing the project to meet applicable building codes. Also, see <14>.

B. Structural Loads: Design and construct the facilities and building components to safely accommodate structural loads (dead, live, wind and impact loads) in compliance with the current version of the applicable governing codes. Also, see <14>.

C. BP Seismic & Wind Loads: Required for MI managed properties. Prior to design, contact the Zurich Engineering & Regional Operations Office to obtain project criteria required by Marriott’s “Customized Servicing Agreement” with Zurich. Comply with criteria contained in the governing version of the applicable code for seismic design. Design and secure building systems, utilities and equipment to prevent injury and disruption of property functions.

D. Accessibility for Persons with Disabilities: Comply with governing requirements and the intent of the USA-DOJ Americans with Disabilities Act (ADA).

E. Construction Tolerance: Install building elements “visually” level, flat, straight and true to line, minimum 0.3 cm per 3 m (1/8 inch per 10 ft.) unless specifically required otherwise for operational reasons such as drainage.

F. Walkway Surfaces: Provide slip resistant walkway surfaces. Comply with <16> requirements.

GR3.4 Division 30 - Site Work

A. R General: See <1> requirements and the following.

- Site Design & Concepts
- Landscape Schedule
- Site Development
- Site Utilities, Drainage & Soil Treatment
- Traffic Circulation - Planning
- Traffic Control - Regulation Signage
- Paving & Hardscape
- Main Site Entrance
- Service / Delivery Entrance
- Parking Areas
- Parking Structures
- Landscaping
- Irrigation
- Water Features, Fountains and Site Amenities
- Site & Landscape Lighting

GR3.5 Division 03 - Concrete

A. General: Comply with standards for formwork, cast-in-place concrete, and reinforcement such as American Concrete Institute (ACI) Standards and governing authority requirements for quality control of concrete work. Define concrete finishes and provide concrete surfaces within standard dimensional tolerances.

GR3.6 Division 04 - Masonry

A. General: Comply with recognized industry standards.

1. Tolerances: 10 mm (3/8 inch) at rough openings and 10 mm in 3 m (3/8 inch in 10 ft.) maximum for plumb and level in walls between floors and ceilings.

2. Provide struck joint for walls to receive special coatings of paint, without a plaster finish.

B. Masonry Units: Provide specified unit size and weight, and fire rated masonry as required by code. Use masonry materials in the following areas where additional sound or moisture isolation is required.
- Service corridor or Back-of-House walls adjacent to public spaces.
- Fire walls and exit stair walls
- Laundry
- Kitchen

C. Acoustic Control: See requirements in other Chapters. Extend masonry walls from floor to underside of roof or to floor structure above and seal openings.

D. Stonework - Interior:

1. Tops and Dies: Provide natural stone for Reception Desks and Food & Beverage tops. Book match panels and tops as designed by Interior Designer. Provide panels and exposed edges with carved profiles.

2. Flooring: Provide slip resistant finish.
   - Thresholds: Where visible to Guests, provide natural stone at interior door openings requiring thresholds.

3. Installation: Align units with veining and pattern running in one direction, unless specifically approved otherwise.

4. Sealers: Select appropriate to location and comply with stone supplier and governing environment controls.

E. Stonework - Exterior: Provide samples and install mock-up panel with other exterior materials.

1. Pointing Mortar: ASTM Type I, white cement, ASTM C207 Type S hydrated lime and integral colored aggregate of stonework.

2. Anchors: Provide stainless steel back-up anchors and stone anchors.

3. Setting Buttons: Plastic or lead buttons of thickness to maintain uniform joint width.

GR3.7 Division 05 - Metals

A. Structural Steel: Comply with recognized industry standards for quality control applicable to structural steel work; ASTM A-36 or ASTM A572 and AISC "Manual of Steel Construction".

B. Expansion Control:

1. Expansion Joints: Place only in non-public spaces when possible and not visible. Extend finish materials over joints to reduce visible impact.

2. Fire Rating: Provide fire rated expansion joints as required by applicable construction assembly.

C. Access Panels - Public Areas: Avoid in public and guestroom spaces unless located in closet spaces. Otherwise, provide recessed access metal doors to accept gypsum board insert or trim access doors to match interior design details and finishes.

D. Fabrication:

1. Fabricate metal decorative work with mitered exposed corners and angles.

2. Form exposed non-welded connections with hair line joints flush and smooth.

3. Grind and finish brazed and welded surfaces flush and free of weld marks.

4. Conceal fastenings wherever possible. Use exposed fasteners of the same material and finish as adjacent surfaces.

E. Cold Formed Metal Framing:

1. Typical Framing:
   • Extend steel stud framing from floor to structure above, except Back-of-House spaces and offices where acoustics and fire protection requirements are not violated.
   • Above Operable Partitions: Extend steel framing from top of operable partitions to structure above and close voids.

2. Coating:
   • Corrosive Environments: Protect metal surfaces with coatings to provide a one year guarantee against corrosion
   • Prime paint miscellaneous metal items, except pre-finished items

F. Miscellaneous Metals:

1. Provide decorative and pipe railings, vertical ladders, protective angles, access panels, trench gratings, window washing davits and sockets, operable partitions and suspended and ceiling mounted light fixture supports,

miscellaneous bracing and framing steel. Prime paint or prepare steel materials for protective coatings, except pre-finished items.

2. Non-ferrous Materials: In environments where airborne salts or other elements are present, provide metal components / assemblies (in whole or in part) that are non-ferrous, such as aluminum with Kynar finish, designed to resist deterioration and corrosion.

3. Brass: Where exposed to view, provide brass finish with corrosion protective coating.

G. Ornamental Metal Railings: Provide handrails and railing systems capable of withstanding the minimum structural loads as stated in <16> without exceeding the allowable design working stress of materials involved.

1. Locate required splices away from railing center, preferably to sides, away from portions of the rail that a Guest is likely to see, or approach.

2. Provide adequate internal bracing at joints to maintain a tight, smooth appearance at the joint.

3. Materials and Finishes: Select as appropriate for project and site environment

GR3.8 Division 06 - Wood, Plastics & Composites

A. Architectural Woodwork Standards: Comply with American Woodworking Institute (AWI) Sections, or equivalent, for trade definitions, grade of millwork materials, fabrication, finishing and installation.

B. Millwork / Woodwork: Fabricate and install millwork and woodwork in compliance with AWI “Custom Grade” standards or equivalent, unless noted otherwise.
• Install with lines and surfaces straight, plumb and level securely anchored to supporting construction
• Scribe to adjacent construction where exposed to view.

C. Finish Hardware: Obtain MI acceptance for appearance and finish.

D. Rough Carpentry: Pressure treat or fire protect wood as appropriate for grounds, sleepers, blocking and nailers including, blocking for toilet accessories, partitions, draperies and window coverings, millwork, etc.

E. Public Space Millwork:

1. Doors & Frames: Includes millwork for doors and frames in public view. For fire rated doors, apply millwork to frames and doors compatible with adjacent surfaces. Provide exterior windows with interior wood trim and casing.

2. Where specialty lighting or mirrors are required within cabinet and millwork, pre-wire fabrications during shop fabrication.

3. If painted, provide face and back primed or with one coat of paint. If stained, provide pre-finished.

4. Back-of-House Areas: Provide custom grade for opaque millwork finishes.

F. Guestroom Millwork: See <GR4> for FF&E.

1. Casework Fabrication – General: Fabricate trim and connections with tolerances to allow movement for building air / moisture conditions during and after installation. Temper casework for project site environment a minimum of seven days in an enclosed, on-site environment that approximates the final in-place conditions.

2. Casework Materials & Finishes: Provide finishes for each material and submit samples including alternates for MI approval

   a. Wood Veneers:
      • Provide high quality architectural cabinet grade selected from flitch samples and provide proper quantity for each area.
      • Provide veneers of lengths necessary for full, unbroken uniformity of graining and medium light coloration, typical of each species.

   b. Wood Paneling and Wainscots:
      • Provide AWI premium veneers for transparent wood finish. Book match adjacent veneer leaves, veneer match within panels and sequence match for uniform size. Within paneling, include matching doors and access panels.
      • Panels: Class ‘A’ core plywood for design thickness and sizes. Provide bound edges where required

   c. Finishing for Millwork: Include staining, painting and antiquing.
      • Perform stained finishes in millwork contractor's shop. Shop prime and field paint millwork scheduled for painting.
      • Staining: Provide transparent and opaque stains to match design samples, seal when appropriate and apply multiple coats (minimum of two) of lacquer to achieve a finish void of any grain crevices, imperfections or lacquer residue.
      • Painted Moldings: In public spaces, provide approximately three paint color cuts.
      • Antiqued Finishes: Protect built-up antiqued finishes with clear satin luster lacquer seal.

3. Millwork Installation:
   • For grade specified, comply with AWI Section 1700 or WIC Section 26.

Install woodwork level and plumb within tolerance of 3 mm in 2400 mm (.12 inch in 96 inch) and securely anchor to substrate.

• Install with scribe and cut woodwork to fit adjoining work, seal cut surfaces and repair damaged finish at cuts.

• Install trim with minimum number of joints, using full-length pieces. Stagger joints in adjacent and related members.

G. Exterior Finish Carpentry: Provide vertical grain hardwood tolerant to environmental conditions of the site.

GR3.9 Division 07 - Thermal & Moisture Protection

A. General: Provide waterproofing, sealants, insulation and roofing.

1. Service Life: Select products and systems having a proven record of success (minimum of 5 years) for the application. Provide systems for low maintenance and minimum service life of 20 years.
2. Building Insulation: Provide for efficient thermal control from exterior heat and cold.
3. Slope & Drainage: Design structures to receive waterproofing with positive slope to drains to avoid standing water.
    a. Guest Bathroom: When linear drain is used provide #316 stainless steel trench drain with integral slope.
4. Roof Areas: When exposed to guest view, the architectural design shall have a visually clean, attractive and uniform appearance.

B. Waterproofing: Provide waterproofing for below grade walls and basement concrete slabs on grade consistent with recommendations of a soils engineer.

1. Suspended Slabs: Provide membrane waterproofing for kitchen, laundry, dishwashing pantries, mechanical rooms, steam rooms, locker room shower areas and public toilets on suspended slab.
    a. Guest Bathrooms: Provide membrane at entire bathroom floor.
2. Guestroom Shower Pan Options:

    • Prefabricated, pre-finished drop-in or pan / receptor designed to receive tile or stone finish for a watertight installation.

    • Sheet membrane, minimum 40 mil, formed in monolithic sheets complete with preformed corners. Run up wall behind wall tile.

    • Prefabricated, pre-finished enameled titanium steel with undercoating for

rigidness and is sound insulated

3. Standards:
   • Sheet membranes: High performance type; ANSI A118.12.
   • Water vapor transmission: ASTM E96

4. Balconies: Seal exterior building balconies.

C. Dampproofing: Provide on the following surfaces:

1. Exterior Face of Concrete Masonry Units (CMU): Dampproof back-up CMU used at public levels.

2. Exposed Exterior Wall Surfaces: Provide water repellent coating.

D. Building Insulation: Provide insulation types in thickness, compatible with construction assembly and location to meet governing energy codes.

E. Acoustic Insulation: Provide insulation in walls between steel studs, in walls of public areas and administration spaces to achieve the required STC rating minimums, in compliance with certified laboratory tested acoustic assemblies. See <7A>.

F. Fireproofing / Fire Stopping: Provide and comply with governing regulations.

1. Structural Members: Fireproof with asbestos free fire protection materials.

2. Fire Stopping: Provide at penetrations through fire rated walls and floors, except for conduits cast solid in concrete.

G. Sealant Joints: Design joints between building elements to accept sealants and to accommodate expansion and contraction of materials.

1. Exterior Sealants: Life Cycle: 10 years minimum service life

2. Sanitary Sealant:

   a. Required locations at bath, toilets and Food Preparation / Service areas.

   b. Edges of vanity and counters.

   c. Perimeter of bathtubs, water closets, and drains.

   d. Bottom of mirrors.

   e. Junction of wallcovering with door frame and stone or tile.

   f. Type: Provide one part silicone; mildew resistant / anti-microbial. NSF approved in kitchens.

3. Interior Sealants: Acrylic, paintable, at interior non-moving joints and at perimeter of vinyl wall covering. Do not use at sanitary joints or food service

areas.

4. Acoustical Sealants: Required at perimeter of field assembled walls for guestroom, public areas, other sound rated wall construction and around penetrations and items built into walls such as electrical receptacle boxes.

H. Roofing: Design roof for water management from the highest roof to the ground. Provide details at intersections, joints and flashing.

1. Membrane Roofing: Provide a 20 year, 3 ply built-up, hot applied and aggregate surfaced roof (on low-slope roofs) or single membrane TPO, EPDM or PVC system, or equal as appropriate for the location and weather conditions. Provide a 10 year roofing and 5 year sheet metal guarantee to include a 3 year labor guarantee.

2. Tile Roofing: Provide vitrified natural clay tile. Provide ridge, gable, flashing, booster, birdstop and accessories for a watertight installation. Provide 2 course membrane of 30 lb. minimum asphalt saturated felt below tile. Fabricate flashing and counter-flashing from stainless steel sheet, type 302 / 304, 26 gauge, 2D finish. Provide stainless steel fasteners.

3. Warranty: Provide warranty without monetary limitation, signed by roofing system manufacturer agreeing to promptly repair leaks in roof system and base flashing resulting in defects in materials or workmanship for 15 to 20 years. Verify warranty period with MI.

I. Sheet Metal Flashing & Trim: Comply with SMACNA Standards for Architectural Sheet Metal or equivalent.
• Provide sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing. Consider project location and materials to withstand climate and wind loads.
• Warranty: Provide not less than 2 year installation warranty. Warrant the product for not less than 10 years.
• Minimum 22 gauge; no exposed fasteners
• Coordinate color with building.

J. Traffic Coatings: Include single product source provisions. Provide watertight pedestrian and vehicular traffic coatings that will not deteriorate when exposed to ice and snow-melting compounds, sun, weather, wheel traffic, oil or other motor vehicle operating compounds. Meet or exceed ASTM C957.

K. Coating Surface Finish: Provide slip resistant on, wet or dry, flat surfaces and ramps without abrasion to guests' bare feet while walking. See <16>.

GR3.10 Division 08 - Openings (Doors & Windows)

A. Types:

• Wood Doors (visible to Guests / Public): Minimum of 45 mm (1 ¾ inch) for doors to 2100 mm (7 ft.) high and 55 mm (2 ¼ inch) for doors over 2100 mm (7 ft.). Provide raised panel doors, stain grade and solid core.

• Frames (for wood doors): 16 gauge welded hollow steel encased with wood trim (when in public view) or wood frames only, depending on location, construction details and code requirements. Include applied wood moldings, trim and casing attached to steel doors and frames.

• Metal Doors: 16 gauge hollow steel, 1 ¾ inch (44 mm) thick, heavy duty rating, G90 galvanized for exterior, service, exit, back-of-house doors. Provide wood veneer with applied moldings on doors and frames where visible to Guests and public.

• Metal Frames: 16 gauge interior and 14 gauge exterior steel frames; welded corners, transoms, sidelights, borrowed lights and other openings; use concealed fastenings. Anchor and reinforce to prevent deforming, deflection and maximum security.

• Interior Glass Doors: Tempered or tempered laminated; frameless 10 mm thick minimum. Each application is custom and requires appropriate hardware and design application.

B. Doors & Frames: Provide products designed and fabricated for commercial and hospitality projects.

1. R Guestroom & Suite Doors: See <7A> for the following applications.
   • Entry Door
   • Bathroom Door
   • Connector Doors
   • Balcony, Patio & Terrace Doors
2. Exit Stair Doors:
   a. Type: Hollow steel; 1.52 mm (U.S. 16 gauge)
   b. Frame: Hollow steel; 1.52 mm (U.S. 16 gauge)
   c. Finish: Factory primed; finish selected by Architect
   d. Rating: See <14>; closer required
3. Exterior Service / Exit Doors:
   a. Type: Hollow steel; 1.52 mm (U.S. 16 gauge) with closed top end
   b. Frame: Hollow steel; 1.98 mm (U.S. 14 gauge)

c. Finish: Galvanized or equivalent finish, specified by Architect, for exterior application.

d. Ratings: Comply with <14>, governing fire regulations and acoustical requirements.

4. Office Doors:

a. Type: Solid core wood construction; fully bonded.

b. Frame: Steel or wood and of sufficient fabrication strength to prevent forced entry with a hand tool.

c. Face: Selected by Interior Designer.

d. Executive Office: Provide full perimeter sound-seals for acoustics.

5. R Ballroom Doors: See <6>.

6. R Meeting Room Doors: See <6>. Include public areas of high abuse.

a. R Type: Solid wood with finish selected by Interior Designer.

b. R Frame: Hollow steel, minimum US 16 gauge with fully welded joints.

7. BP Service Doors (Back-of-House):

a. BP Type: Hollow steel, 1.52 mm (U.S. 16 gauge) with diagonal shaped Kraft paper type core.
• Door Louvers: Comply with SDI 111C for interior doors; blades or baffles formed of 0.6 mm (0.0239 inch) cold rolled steel sheet set into minimum 0.9 mm (0.0359 inch) steel frame.

b. BP Frame: Hollow steel, 1.52 mm (U.S. 16 gauge).

8. BP Custom Wood Doors:
• Boardroom, Club Lounge, Food & Beverage, Public Spaces
• Type: Door and frame type, profile, finish as selected by Interior Designer

9. BP Counting Room Doors: Dutch type door with 20 cm (8 inch) shelf and 91 cm (36 inch) wide. Verify with project team.

10. Shower Doors / Panels:

a. Standards: The following shall be stamped on the glass panels.
• Meet ANSI Z97
• Certification: SGCC or equal

b. Installation Requirements: Follow manufacturer's instructions.
• Blocking: 2x4 or 14 gauge steel strapping required.
• Inspect glass prior to install for chips, scratches, uniform cuts, etc.
• Store glass in safe, weather protected area.

• Verify plumb and true openings prior to installation.

• Ensure hardware does not directly come in contact with glass. Verify required gaskets, bumpers, etc are provided and installed.

• Ensure additional glass units are available to accommodate for breakage. Use only manufacturer's glass.

c. Design:
   • Minimize towel bars on glass
   • Avoid vertical bars with horizontal bars on moving doors.
   • Ensure rubber gaskets and bumpers are integrated into the design
   • Ensure door does not swing into other elements or bath accessories.

d. Training: A certified installer is required. Certification can be completed by one of the following:
   • Hands on training by the manufacturer
   • Manufacturer coordinates / installs model room with installer
   • Watch training videos by manufacturer

e. Manufacturers: Manufacturers shall conform to the performance criteria listed in these standards. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • Mincey Marble
   • Belstone
   • Continental Group
   • Architectural Concepts

C. Door Hardware: Select hardware for long-term durability, appearance, low maintenance, operational efficiency and security dependability.

1. General: Hardware shall address fire ratings, accessibility, codes, interior and exterior applications and operational requirements.

   a. Hinges: Commercial grade (Stanley, Hager, McKinney, Simonswerk)
      • Doors with door closers; ball-bearing hinges.
      • Hinges sized to comply with manufacturer’s standard recommendations.

      • Use continuous hinges on heavy abuse doors, such as Ballroom / Meeting Rooms; service doors, and doors wider than 106 cm (42 inches).

      • Finish specified by Interior Designer (usually satin brass). Painted hinges are not allowed.

   b. Locksets:
      • Guestroom Entry: See <7A> and <16>.
      • Guestroom Interior Connector / Suite: Standard duty, commercial grade.

• Back-of House: Locksets heavy-duty, commercial grade with proprietary keyway or electronic operation similar to guestrooms.
• Finish: Coordinate with Interior Design.
• Keys: Transfer to Owner’s representative.

c. Exit Devices:
• Heavy-duty commercial grade with vertical rod concealed in door.
• Exit Device Trim: Lever handles.
• Finish: Coordinate with Interior Design.

d. Door Closers:
• Commercial grade with delayed action, sweep, latch functions.
• Types: Floor (Rixson-Firemark, Dorma); concealed overhead (Dorma, Geze); surface (LCN)
• Back-of-House Door Closers: Heavy duty
• Capacity: At principal doors provide 550 kg (1,200 lb). Typical door opening force shall be 2.5 kg (5 lbs), or less.
• Finish: Manufacturer’s standard sprayed finishes as specified for the project

e. Flat Goods / Metal Thresholds:
• Door stops, wall type where possible. Do not use wall or floor type in Public Spaces.(Baldwin, HB Ives, 3M)
• Kickplate, minimum 1.52 mm (U.S. 16 gauge).
• Flush bolts, concealed type (HB Ives, Door Controls)
• Thresholds, extruded aluminum. Comply with accessibility regulations for threshold heights.
• Integrated automatic door bottom: Pemko

f. Miscellaneous: The following hardware manufacturer's products indicate the minimum standard of quality.
• Pivots (Rixson-Firemark)
• Button Stop (HB Ives, Baldwin)
• Privacy Door Guard (HB Ives, Pemko)
• Weatherstrip (Nat'l Guard Products, Pemko, Hager)
• Sound Seals (Nat'l Guard Products, Pemko, Hager)
• Automatic Door Bottom (Pemko)
• Electric Strikes, Security Door Control (Folger Adam)
• Silencers (HB Ives, Quality Hardware)
• Surface Bolts (Baldwin)
• Push/Pulls (custom by Interior Designer)
• Cabinet Hinges (Hafele)
• Cabinet Pulls (Hafele, by interior Designer)
• Door Viewer (Pemko)

2. R Guestroom Hardware - Miscellaneous: See <7A>.
3. Door Viewers: Size for door thickness. Provide 160° viewers with privacy cover for guestrooms, and 190° viewers in meeting space doors. See <7A> and <6>.
4. Special Function Hardware.
    a. BP Administrative Areas: For perimeter access, provide push button mechanical lockset as manufactured by Simplex.
    b. Encode Card Station: Provide Front Desk computer system stations for encoded cards to meet project requirements.
5. Automatic Door Hold-Open Devices: Provide electro-magnetic door hold-open devices with built-in 24 Volt controller.
    a. Mount devices on wall, connect to electrical service and to Fire Alarm System. See <15C> and <14>.
    b. Provide push button momentary wall switch to release doors.
6. Key Cabinet: Include for each project.
7. Hardware Schedule - Application:
    a. R Ballroom / Meeting Rooms: See <6>.
    b. R Guestroom Doors: See <7A>.
    c. BP Receiving Dock Entry: Continuous architectural type hinge; push plate; pulls; kickplate; door position switch; closures; seals; bottom seals; electronic operated remote control lock; power supply; motion detector; astragal.
    d. Exterior Service and Exit Doors: Latch set; cylinder lock or magnetic encoded card - electronic operated lock access compatible with guestroom lock system; door position switch; exit device; hinges; closer; stop / holder; stainless steel or brass kickplates; weather & bottom seals.
    e. Offices: Lockset; hinges; stop; silencers.
    f. Exit Stair: Latch set; hinges; closer; stop; silencer.
    g. Pantry: Lockset, hinges stop, silencers
    h. Public Toilet Rooms: Push/pull or privacy latchset for individual rooms, hinges, stop, silencer, closer
    i. Corridors:
        • To Service Lobby: Lockset, hinges, surface closer, stop
        • To Service Rooms: Lockset, hinges, concealed overhead closer, stop, silencer

8. Hardware Mounting Locations: Coordinate installation locations and requirements with door, frame and hardware manufacturers. Unless specific project, product, governing regulations and manufacturer's conditions dictate otherwise, install hardware at the following recommended mounting heights:

    a. Hinges:
        • Top: 12.7 cm (5 inch) from head to top of hinge leaf.
        • Bottom: 25 cm (10 inch) from bottom of hinge to finished floor.
        • Intermediates: Equal distances between top and bottom hinges; maximum 0.91 m (36 inch).

    b. Lever Handles: 0.97 m (38 inch) from finished floor to center line of handle.

    c. Privacy Door Guard: 1.14 m (45 inch) from finished floor to center line of guard. Screw guard to door.

    d. Dead Bolt: 1.22 m (48 inch) from finished floor to center line of dead bolt.

    e. Door Viewers: From finished floor to centerline of viewer.
        • Standard: 1.45 m (57 inch).
        • Accessible Guestrooms: 1.0 to 1.6 m (40 to 42 inch).

9. Lock System & Keying: See <16>.
    • Provide electronic RFID locks for each project Guestroom and Guest accessible areas.
    • For employee areas, provide electronic RFID locks per <16>.
    • For locks not on the project key system, see <16>.
    • Attic Stock: Review with operations for keying requirements.
    • Master Keying: Establish a grandmaster and master key schedule with Owner and project team.

D. Windows & Storefronts:

1. Construction: Commercial quality, thermally efficient (thermally broken), Low E, aluminum, with secondary weep (drainage) system.

2. Impact Resistance: Provide in regions that experience high velocity wind events and as required by code.

3. Exterior Finish: High performance, durable finish (Kynar, fluorocarbon, etc.).

E. Glass & Glazing – General: Provide glass and glazing in compliance with recommendations of glass and metal framing manufacturers, governing codes and the following.

1. Insulated Glass: Provide insulated (double glazing) glass unless energy, acoustic, code or impact resistance requires additional requirements.

2. Glass Color: Clear glass preferred; if energy or solar control is required, provide tinted or reflective glass that maintains natural looking exterior views and colors, and provides natural ambient light and color to the interior.

3. Mirrors: Provide safety backing for mirrors including mirrors at sliding mirror doors and wall mirrors. Set mirrors in compliance with National Association of Mirror Manufacturers recommendations. See <7A> for vanity mirror installation.

4. Safety Glazing: See Module <16>. Tempered or laminated at showers, bathtubs, entrance doors and sidelights, full-length mirrors and other locations subject to human impact. for overhead use laminated glazing above occupied areas.

F. Safety Glass & Glazing: Provide safety glass and glazing in compliance with the U.S. Consumer Product Safety Commission (CPSC), the governing codes and the following.

1. Impact Protection: Safety glass and glazing may not be required if protection is provided at a glass wall or window, such as a guard rail or where the glass wall is located on a 46 cm (18 inch) high curb AFF that reduces the opportunity for human impact. Verify design conditions with referenced standards.

2. Heat soaked glass is strongly recommended for any tempered glass in which spontaneous breakage may occur and will present a risk to the general public. Ensure the heat soak process follows the EN 14179-1 standard.

3. EI Reference: U.S. Consumer Product Safety Commission, Title 16 - Commercial Practices, Chapter II - Consumer Product Safety Commission, Part 1201 - Safety Standard for Architectural Glazing Materials.

GR3.11 Division 09 - Finishes

A. EI General: Preferred materials are typically shown for each space in other chapters of this Design Standard.

B. Ceramic and Stone Tile Standard: Comply with the Tile Council of North America (TCNA) Handbook or equivalent standard for ceramic tile installation, materials, workmanship and tile and stone installation.

C. Ceilings – General:

1. Food Preparation: Accessible, commercial duty, vinyl coated or non-corroding panels on an aluminum suspension system. Panels shall be capable of being repeatedly washed without damage. See <10>.

    a. Employee Cafeteria: Provide acoustical tile with aluminum suspended grid. When Cafeteria includes food service line, provide with washable ceiling surfaces same as for food preparation areas.

2. Guestrooms, Bathroom & Guest Corridors: See <7A> and <7B>.

3. BP Service Corridors / Back-of-House: Commercial duty, exposed grid, accessible, acoustical tile of a composition to resist cupping and deflection from moisture.

4. BP Administrative Offices: Accessible, commercial duty, exposed grid, acoustical, tegular edge tile system.

5. Public Areas, Lobby & Reception: Gypsum board, plaster and suspended acoustical tile (minimize use of acoustical ceiling tile). Coordinate ceiling designs with Interior Designer.

6. Type:
    • Gypsum Board: 16 mm (5/8 inch) minimum supported at 0.6 m (2 ft.) to avoid deflection.
    • Decorative / Custom Materials: Design appropriate thickness to avoid sagging and deflection.

D. Stud Wall Assembly & Finish System: Consult industry standards to verify product application and code requirements for wall assemblies.

1. Typical Application:
    • 15 mm (5/8 inch) thick gypsum board on each side of galvanized metal studs.
    • ASTM C840 - Finish Level: Provide level 4 finish system in areas with light texture or wallcovering and BOH. Provide level 5 for gloss and semi-gloss or non-textured flat paint exposed to guest view and as outlined in Gypsum

Association GA 214.

2. Acoustic Control: Comply with galvanized steel stud and gypsum board construction assembly standards that meet minimum acoustic requirements. See other Chapters such as <6> and <7A> for minimum wall assembly STC ratings.

3. Chases: 2 hour fire rated, gypsum board “shaft wall” or equal.

4. Wet Areas: Provide water resistant substrate wall material (such as cement board) for toilet, food preparation and other wet areas.

5. Cement Board: Provide cement (not gypsum) board (DensShield or Dur-o-Rock products) for guestroom showers, toilets, steam rooms, locker room wet areas and other wet areas as substrate (or backerboard) to install ceramic tile, thin stone and stone tile.

6. Exterior Gypsum Sheathing: 12 mm (1/2 inch) minimum thickness, meeting ASTM C79-78 for water resistant gypsum sheathing board, Type X, where indicated.

7. Lath and Plaster: For system types, additives and accessories, comply with recommendations of the Lath & Plaster Institute. Provide galvanized steel studs, framing and fasteners at exterior systems.

E. R Carpet & Carpet Pad: For public areas, Guestrooms and Guestroom Corridors, see <GR4> .

F. R Vinyl Wall Coverings – Standard: ASTM F793, Category 5 and see <GR4> .

1. Fire Characteristics: ASTM E 84; flame spread of 25 or less and a smoke development of 450 or less.

2. Mildew Resistance: Provide mildew resistant products and “strippable” adhesive. Include adhesive and manufacturer’s recommendations for primer coating, sizing, etc.

G. Painting:

1. Paint Products: Provide Sherwin Williams or MI accepted equal.

   a. Provide appropriate mold / mildew resistant additive in exterior paint

   b. Provide warranty based on the 7 to 10 year exterior repaint cycle.

2. Includes exposed surfaces unless surfaces are pre-finished with desired color or finish.
   • Access doors, panels, diffusers trims and grilles the same finish as adjacent surfaces.

• Interior of ducts showing through registers and grilles with flat black.
• Protect adjacent surfaces from paint and damage.
• Do not paint controls, sprinkler heads and covers, fire alarms and detectors, electrical fixtures or other items adversely affected by paint and coatings.

3. Surface Preparation: Caulk with joint sealant, fill voids, seal and sand substrate and coatings to provide tight, smooth surface for application of paint and stain. Prime unfinished surfaces prior to finish.

4. Finish: Paint and stain surfaces with multi-coat finish systems (2 minimum) as scheduled by the Architect and Interior Designer. In general, finish levels shall be as follows:

   a. Flat: Ceilings and walls not accessible to guests and employees.

   b. Semi-Gloss: Service areas, back-of-house, and toilet areas. Semi-gloss / Satin with 30% reflectability for guest areas as selected by Architect.

   c. Gloss: Food preparation, utility areas, main service corridor and wet areas.

   d. Antiquing: When antiquing finishes are required, provide three colors minimum. Include final glaze coat for protection.

   e. Staining: When required by Interior Design, provide factory finished millwork. Include two coats minimum of stain and seal with two coats of low luster lacquer.

   f. Scuff Resistant: High traffic guest corridors; sheen determined by Architect.

5. Exterior:
   • Paint exposed steel and devices. If not pre-finished, field paint rooftop and other exterior equipment with a rust-prohibitive paint to match adjacent surfaces.
   • Paint exterior surfaces, including trim and flashing as required with exterior grade paint.

H. Exterior Stucco: Provide 20 mm (¾ inch) thick 3 coat system over 1 kg (2.4 lb) membrane, backed-expanded metal lath on 12 mm (½ inch) minimum exterior gypsum sheathing. Provide necessary accessories such as control and expansion joints and metal trim. Submit for approval, texture and color samples.
• Mesh: Glass fiber reinforced concrete (GFRC) is acceptable; reinforced fiberglass sections are not
• Exterior Coating: Provide an acrylic polymer elastomeric coating to stucco work on mid and high-rise buildings (not required on buildings of 2 story and less).
• Guarantee: Provide a 2 year waterproofing guarantee for the stucco work

I. Flooring:

• Resilient Flooring: For BOH areas, vinyl composition tile (VCT) with 100 mm (4 inch) vinyl or rubber base in 25 m (100 ft.) lengths.

• Seamless Flooring: For kitchens, urethane resinous flooring system with integral cove base and slip resistant finish.

GR3.12 Division 10 - Specialties

A. Flagpoles: See <1>.

1. Type: Minimum three, 12 m (40 ft.) high, ground supported flagpoles for flags of country, state or province or local jurisdiction and Marriott International (MI).
2. Construction: Seamless aluminum, cone tapered, tubular with internal halyards
3. Finish: Anodized, dark bronze and waxed

B. BP Lockers & Benches - Employee Areas: Coordinate with <8B>.

1. BP Types: Double and single tier, metal lockers, and for cold climates, provide full height lockers.
2. BP Construction: Steel, ventilated with sloped tops and closed bottoms.
3. BP Size (overall): 0.3 (wide) x 0.5 x 1.8 m (1'-0" x 1'-8" x 6'-0").
4. BP Finish: Baked enamel
5. BP Features: Number-plates, latch with door hasp, clothes hooks.
6. BP Benches: Prefinished hardwood seats on steel frame supports.

C. R Operable Partitions: See Meeting Spaces, Ballrooms and Meeting Rooms in <6>.

D. Toilet Compartments:

1. Lobby Areas & Support: See <2A>.
   a. Compartment Front: Framed wall with same finish as room with wood louvered or paneled door.
   b. Side Partitions: High Pressure Laminate (HPL); 178 cm (70 inch) height minimum and floor clearance of 18 cm (7 inch) maximum.
   c. Hardware: Chrome plated hinges, brackets, latch with bumper, coat hook

and bumper.

2. Guestrooms / Suites: Selected by Interior Design and accepted by MI.

3. BP Employee Toilets:
   • Plastic laminate, floor mounted toilet partitions and wall mounted cubicles.
   • Provide mock-up to show partition material, color and hardware consistent with designer approved design. Provide partition blocking and support as recommended by partition manufacturer for project conditions.
   • Coordinate field measurements with toilet partitions, toilet accessories and fixtures.
   • Provide manufacturer's standard corrosion resistant anchoring assemblies complete with concealed leveling adjustment.
   • Provide privacy seals at door rails to prevent sight into stalls

E. Toilet & Bath Accessories:

1. Materials / Finishes - General:

   a. Stainless Steel: ASTM A167, Type 304, 22 gauge minimum for sheet materials.

   b. Backplates: For wall mounted accessories, provide concealed heavy duty cadmium plated steel backplate.

   c. Finish: Provide accessories with polished finish unless otherwise specified.

   d. Fasteners: Provide concealed mounting brackets where possible and secure with non-corrosive metal fasteners. Where exposed fasteners are used, provide non-corrosive types with heads finished to match finish of accessory unit.

   e. Installation: Provide level, plumb and securely anchored. Mount toilet accessories within range of reach limits of applicable accessibility regulations. Provide wood blocking to secure installation.

2. R Guestroom Toilet Accessories: See <7A>.

3. Public Toilet Accessories - Manufacturer: Provide products from one MI accepted manufacturer.

4. Public & Employee Toilet Room Accessories: Provide commercial grade, designer series with a residential look. Acceptable manufacturer: Bobrick

   a. Toilet-Seat-Cover Dispensers / Toilet Tissue Dispensers; Combination: Secure door of toilet-seat-cover dispenser to cabinet with full-length stainless steel piano-hinge and equipped with a tumbler lock.
      • Recessed wall mounted.

• Mounted on partition
• At accessible stall mounted on partition

b. Toilet-Seat-Cover Dispenser / Sanitary Napkin Disposal / Toilet Tissue Dispenser; Combination:
• Secure door of toilet-seat-cover dispenser to cabinet with full-length stainless steel piano-hinge and equipped with a tumbler lock.
• Secure self-closing door of napkin disposal to cabinet with spring-loaded, full-length stainless steel piano-hinge.
• Equip with international graphic symbol identifying napkin disposal. Furnish sanitary napkin disposal with a removable stainless steel receptacle.
• Recessed, wall mounted.

c. Toilet-Seat-Cover Dispenser / Sanitary Napkin Disposal / Toilet Tissue Dispenser; Partition-Mounted: Mount unit in partition and serving two toilet compartments.
• Secure door of toilet-seat-cover dispenser to cabinet with full-length stainless steel piano-hinge and equipped with a tumbler lock.
• Secure self-closing doors of napkin disposal to cabinet with spring loaded, full-length stainless steel piano-hinges and equipped with international graphic symbols identifying napkin disposal. Furnish napkin disposal with removable stainless steel receptacle and a tumbler lock.

d. Paper Towel Dispenser / Waste Receptacle; Combination Recessed:
• Use type with welded construction, with exposed surfaces satin finish. Flange shall be drawn, one-piece seamless beveled construction.
• Door is 5/16-inch solid high-pressure laminated plastic with concealed full-length stainless steel piano-hinge and two friction catches.

e. Napkin / Tampon Vendor Dispenser; Recessed: Combine two dispensing mechanisms in one cabinet to provide napkins or tampons at user's option.
• Dispensing Mechanism: Convertible to allow change of coin denomination without purchasing new mechanisms or removing unit from wall.
• Construction: All welded; 22 gauge cabinet; 18 gauge door.
• Door Facing: 5/16-inch solid high-pressure laminate plastic with concealed full-length stainless steel piano-hinge and cable door swing limiter.
• Coin Box: Each equipped with two tumbler door locks and double coin mechanisms for 50 cent operation.
• No brand name advertising on unit.

5. Grab Bars: Heavy-duty, having 1-1/4 inch diameter polished or satin chrome,

304 stainless steel.

a. Sizes:
   • 91 cm (36 inch), on wall behind water closet at accessible toilet stalls.
   • 107 cm (42 inch), on wall at side of water closet at accessible toilet stalls.

b. Supplier: Lodging Bathware Specialties.

6. Soap Dispenser: Vanity, countertop mounted at each lavatory in men and women restrooms.

   a. Unit: Designed to dispense vegetable oil liquid soaps, synthetic detergents, viscous lotion soaps and most antiseptic soaps.

   b. Valve: Operate with less than 5 pounds of force with type 304 stainless steel, bright polished finish piston and spout assembly.

   c. Translucent, shatter resistant polyethylene bottle container with 700 milliliter holding capacity.

   d. Product: SureTouch No. 91934 by Kimberly-Clark Corp. or equal

   e. Electric Hand Dryer: An alternate to paper towels.

F. Storage Shelving: Included as part of the Owner supplied package (OS&E category). Provide metal shelving system of type suitable for guest luggage and Marriott equipment, material and product storage.

1. BP Provide freestanding wall braced or wall supported type with fixed or adjustable shelving. Flange the running edge of shelves. Provide solid, grated or perforated shelves depending on required use and stored material.

2. BP Finish: Painted, G 90 galvanized, 16 gauge steel (unless otherwise noted), ASTM A-527.

   a. R See <9> and <11A> for maintenance and housekeeping storage shelving requirements.

   b. BP Alternate material such as plastic may be acceptable if performance equals galvanized steel. Obtain MI acceptance.

G. R Interior Signage & Graphics: See <GR2> .

H. Fireplace, Prefabricated, Gas Fired: See <14> and <16> for fireplace safeguards. Submit alternative fuel sources to MI Fire and Life Safety for review and acceptance.

1. Rating: A.F.U.E. (Annual Fuel Utilization Efficiency) with 65% or above rating.

2. Vent: Extend flue to exterior, through roof or wall.

3. Starter Control: Remote electric on wall.

4. Gas Piping Loop: Include in design.
5. Accessories: Include manufacturer's installed glass window and screen, remote starters, draft prevention devices. Design for high altitude applications where appropriate. See <16>.
6. Carbon Monoxide Detector: Required for fuel burning locations. See <16>.
7. Installer: Licensed to install pre-fabricated fireplace systems, flue, fuel piping, and controls with fireplace manufacturer's written approval.
8. Inspection: Comply with National Gas Codes and governing authority.

I. Fire Protection Specialties: Provide fully recessed extinguisher cabinets and installation accessories. Match adjoining wall finish and wrap material to cabinet edges.

J. R Safes: For Guestroom safe, see <7A>. For drop safe, house / cash and safe deposit boxes, see <8A> and <8B>.

K. Walk-off Mat: Fully recessed type in Vestibule.

GR3.13 R Division 11 - Equipment

A. R Appliances - Guestrooms: See <7A>.

B. R Receiving Area Equipment: See <9>.

C. R F&B Production Equipment: See <10> for kitchen and other food and beverage service areas.

D. R Washing & Drying Equipment: See <11A>.

E. R IT Equipment: Computer system and peripherals, see <13A>.

F. R Telephone Equipment: See <13A>.

G. R Audio / Visual (A/V) Equipment: See <13B>.

GR3.14 Division 12 - Furnishings

A. R FF&E: See for Furnishings, Fixtures & Equipment.

GR3.15 R Division 13 - Special Construction

A. R Saunas: See <4A>.

B. R Steam Rooms: See <4A>.

C. R Swimming Pools & Whirl Pools: See <4C>.

GR3.16 R Division 14 - Conveyances

A. R Elevators & Escalators: See <12>.

GR3.17 R Division 22 - Plumbing

A. R Plumbing: See <15B>.

GR3.18 R Division 23 - Mechanical

A. R Mechanical / HVAC: See <15A>.

GR3.19 R Division 26 - Electrical

A. R Electrical Systems & Lighting: See <1> and <15C>.

GR3.20 R Division 33 - Utilities

A. R Utilities: See <1>, <15A>, <15B> and <15C>.

MARRIOTT

EUROPE

Marriott Hotels

furniture, fixtures & equipment (ff&e)

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

GR4.1 Overview - FF&E

A. EI Introduction: This Chapter defines the required minimums and criteria for FF&E in Marriott International (MI) hotel brands and serves as a reference and guideline. The renovation and development principles are based on MI's hotel industry experience and product development research. This Chapter supplements the Design Standards for FF&E construction and fabrication including the following.
• Lobby Areas, see <2A>
• Food and Beverage, see <3>
• Meeting Spaces, see <6>
• Guestrooms, see <7A> The criteria for Lobby Areas, Public Spaces and Guestroom décor includes, but is not limited to, flooring, area rugs, carpet and padding, wall finishes, window treatments, casegoods, upholstered furniture, bedding, artwork, artifacts and decorative light fixtures.

B. EI Governing Regulations & Codes: When governing regulations and codes exceed the requirements contained herein, the governing regulations are understood as minimum prerequisites. During the project review process, MI may waive the Design Standards to comply with the project's governing provisions, market customs or practices.

C. Deviations or Exceptions: When market customs or existing property conversions are in non-compliance with these Design Standards, obtain MI review, interpretation and acceptance. Exceptions require submission to MI prior to material or product purchase and installation.

D. Slip Resistance: See <16> for the dynamic coefficient of friction minimum test standards on hard, flat walking surfaces and on ramps.

E. BP Attic Stock: Provide material and product stock over and above initial FF&E installation quantities. The attic stock list may be amended by MI to respond to the specific project requirements. Define products in sufficient time for project purchase. Generally, attic stock is delivered near project completion.

1. BP Public Spaces: Attic stock is required for public spaces in the following minimum quantities:
   a. BP Carpets: 5% over quantity ordered
   b. BP Wallcovering: 5 to 15% depending upon pattern and repeats
   c. BP Guestroom Corridors: Furniture unit if repeated on each floor, provide 1 of each
2. BP Guestrooms: Provide attic stock minimum quantities for guestrooms as

follows.

a. BP Mirrors: Minimum of 2.

b. BP Lamps & Ceiling Fixtures: Minimum of 2.

c. BP Lamp Shades: Minimum of 2 of each type.

d. BP Artwork: Minimum of 2 if Artwork is provided.

e. BP TVs, Radios & Cooler Units: 2-5% (Minimum of 5 each).

f. BP Mattress & Box Spring: Minimum 1 of each type

g. BP Upholstered Seating: Minimum of 1 Desk Chair.

h. BP Wallcovering: 5% of total quantity ordered

i. BP Carpet or Flooring: 5% of total quantity ordered.

j. BP Box Spring Covers / Bed Skirts: 5% of total quantity ordered

k. BP Decorative Bed Pillow Covers: 2% of total quantity (min 2).

GR4.2 Public Spaces

A. General: This section includes the FF&E criteria and finishes for Public Spaces in Marriott International hotel brands. Obtain MI acceptance for product, material and fabrication exceptions.

B. Floor Finishes:

1. Area Rugs: Provide Hand-Tufted, Hand Woven, Machine Woven or Axminster.

   a. Pile Weight: 88 oz per sq. yard minimum

   b. Pile Fiber: 100% wool; 80% wool/20% nylon • Wool Source: New Zealand Wool, British Wool or Mediterranean Blend

   c. Dye Method: Skein or solution dyed

   d. Pile Finish: Cut, cut & loop, tip sheared or carved.

   e. Rows Per Inch: Minimum 5.50 to 6.10

   f. Stitches Per Inch: 6.0

   g. Pile Height:
   • Cut Pile; 0.394” (10mm) - 0.472” (12mm)

• Loop Pile; 0.354: (9mm) - 0.433” (11mm)

h. Total Weight:
   • Cut; 141 oz per sq. yard to 152 oz per sq. yard
   • Loop; 138 oz per sq. yard to 149 oz per sq. yard

i. Backing:
   • Primary: 100% Cotton or Polyester
   • Secondary Backing: Integrated Non-Skit Backing, 100% Cotton, Scrim/Rubberized Latex or Action Bac. Provide manufacturer’s recommendation for non-slip padding.

j. Rug Edges: Bevel with a slope no greater than 1:2. Sewn on Synthetic or Cotton Binding Tape, Turned Edges or Hand Surged Edges are acceptable. A Binding tape that is close in color should be sewn on first with surged edges for added protection. Sew over the top of the tape with the serging yarn for a finished edge. Where binding tape is not used, provide a sewn on selvage edge of no less than (2) inches, fully coated with backing material. Provide with mitered edges which are in compliance with current ADA requirements. Serged edges with no binding tape are for low traffic areas only.

k. Yarn Treatment: Moth Proofed

l. Flammability: Passes ASTM D2859 CPSC FF 1-70 Pill Test and ASTM E-648 Class I Radiant Panel (EN 13501/Cfl-s1) .

m. Electrostatic Propensity: Permanent Anti-Stat less than 3.5 KV AATCC 134

n. Padding: Provide manufacturer’s recommendation for non-slip padding.

2. Carpet - Axminster:

a. Weave Type: Woven Axminster

b. Pile Fiber: 80% wool/20% nylon; Type 6.6
   • Wool Source: New Zealand Wool, British Wool or Mediterranean Blend

c. Dye Method: Skein dyed

d. Yarn Count: 2/47 Dewsbury / R660/2 Tex

e. Yarn Ply: 2
   • Single twist +10%: 3.6
   • 2-Ply twist +10%: 4.1

f. Backing Material: Polyester, polypropylene, conductive latex with superior film strength properties or suitable material; 6.5 oz per sq. yard back coat

g. Pitch Per Inch: 7 (27.6 per dm)

h. Finished Pile Weight: 36.2 oz per sq. yard (1026 g)
   • Row Per Inch: 9 (35.4 per dm)
   • Tufts per Square Inch: 63

i. Pile Density: 9 Row - 5214

j. Finished Pile Height: Cut-pile 7.1 mm (0.27 inch)

k. Bow & Squareness / Skew Tolerance: 1%

l. Standards:
   • Light Fastness, ISO-B02: 5
   • Wet Fastness, ISO105-E01: 4
   • Rubbing Fastness, ISO105-X12: 3
   • Thermall Resistance, ISO 8302
   • Horizontal & Vertical Resistance, ISO 10965

m. Flammability: Pass ASTM E-648-91 (EN 13501/Cfl-s1), Class 1 flammability rating, DOCFF 1-70 Pill Test or equivalent, or governing codes that meet or exceed these requirements.

n. Soil Inhibitors: Apply during fiber production; not topically applied after carpet fabrication.

o. Carpet Colors: Custom dyed to match design samples. State dye methods in writing to the Designer and MI.

p. Selvedges: Protected

q. Dye Lot: Minimal. Do not separate dye lots and do not inter-mix in one area unless approved by the MI.

r. Padding: Synthetic rubber or rubber compound; 1700 g per m² (64 oz./yd²) minimum weight; re-bond is not permitted; Tred-Mor series quality, 2580QL (quick release) or equal
   • Nylon Carpet: 907.2 g m² (32 oz./yd²) minimum weight padding

3. Carpet Installation:
   • Materials and methods for installation are accepted by carpet manufacturer and performed in compliance with carpet manufacturer's recommendations and written instructions.
   • Carpet areas receive wall to wall padding unless specified otherwise.
   • Carpet Pattern Match Tolerance: 0.8% before stretching
   • Pattern Match Finished: Exact
   • Provide double padding at stair nosings.
   • Undercarpet padding, double-stick installation method.
   • Seams: Install with commercial hot melt tape.

• Carpet Edges: Apply seam sealer to edges where carpet meets other floor materials.
• Adhesive: Parachem #902 or equal

4. Hard Floor Finishes: Provide slip resistant floor and ramp walking surfaces, see <16>.

   a. Stone: Provide non-porous, natural stone. Obtain MI acceptance on a project case-by-case basis for exceptions.

   b. Tile: Provide through body porcelain tile. Other ceramic tile types are not permitted.

   c. Wood: Provide commercial grade, solid hardwood with inherent stain resistance throughout.
   • Technical Review: Project interior designer reviews technical information with owner and MI Interior Design. Obtain MI acceptance.
   • Engineered Wood: Accepted.
   • 5-ply minimum or commercially appropriate for engineered wood; HDF or Birch plywood core based on installation condition
   • 16mm (5/8 inch) thickness; minimum wear layer to last 14 years for engineered wood
   • Faux Wood, Vinyl or Laminate Flooring: Not acceptable

   d. Concrete Finish: Provide impregnated concrete color, not topically stained.

5. Athletic Flooring: Commercial grade, impact absorbent backing
   • Rubber
   • Woven or luxury vinyl: Underlayment cushion required
   • Hardwood

6. Other Flooring: Cork, bamboo and leather flooring may be acceptable if acceptance is obtained from MI.

C. Window Treatments:

1. Blackout Treatment: Provide in function areas using audio / visual presentations such as meeting rooms, boardrooms, and ballrooms.

2. Fabrics: Pre-shrink fabrics before fabrication if the fiber is not previously treated for shrinkage. Treat fabrics to resist water and soil staining.

   a. Colorfastness: AATCC 16 Option 1 or 3-2003: 60 hours, Grade 4, ASTM D3691, 1974 or 16E (DIN EN ISO 105-B02 MIN, CLASS 4).

   b. Face Panels: Conceal secondary panel hems with face panels. Crocking: Pass AATCC 8-2001-4.0 dry, 3.5 wet or better (DIN EN ISO 105-X1).

c. Flammability: Provide flame retardant to pass NFPA-701 requirements and governing codes (DIN 4102 B1 OR DIN EN 13773 Class 1).

d. Tensile Strength: Pass ASTM D5034-95 (2001) Grab Test 15 pounds for fabrics less than 6 ounces.

e. Pil: ASTM D3511, Class 4.5 (DIN EN ISO 12945-2)

f. Seam Slippage: 24.3 kg/m² (15 lbs/in²)

g. Drapery Assembly: Fabricate continuous drapery panels from same weaving or dye lots. Where widths are joined, remove selvage edge and provide French seam. Fabricate to hang straight and even, with no pulling or puckering of fabric or loose threads and no panels showing defects or horizontal seams.

• Match patterns exactly at each vertical seam. Join vertical seams by overlock stitch without puckering and position vertical seam behind pleats from top to bottom. Seams shall be serged.

• Sew French pleats / pinch pleats evenly spaced with 100 mm (4 inch) minimum pleat spacing and tack at 65 mm (2 ½ inch) to 90 mm (3 ½ inch) from the top. If necessary, provide a second tacking at pleat tops for appearance retention depending on fabric used.

• Match threads with background color of fabric.

• For the headings, insert buckram between face fabric and the lining and stitch across top. On overlaps and returns use double fold back over the buckram by 12 inches. Extend lining to top of finished drapery (pillow case top).

• Sew drapery lining so only lining material is seen from the exterior of building. Line drapery with 200 mm (8 inches) double fold hem and blindstitch uniformly and evenly with covered weights at each vertical seam and side hem. Provide side hems with 38 mm (1½ inch) double turned and blind-stitched without puckering. Hems and side hems are not visible overlock stitching

• Provide drapery weights of appropriate size and weight to ensure proper hanging of drapery without sagging or pulling.

• Close open ends of hems by hand with blind stitching.

• Provide overdrapery length from floor to ceiling, unless otherwise specified, with maximum of ¾ inch and minimum of ½ inch from carpet or other finished floor surface, unless otherwisenoted on construction documents.

• Match patterns at seams and align across windows, vertically and horizontally, in same room.

• Fabricate in compliance with contract quality to withstand dry cleaning and hospitality use.

• Extend drapery for full length of tracks. On two way draw, provide

overlap of 75 mm (3 inch) minimum at opening to create a black-out condition.

3. Hardware: Provide commercial quality, extruded aluminum tracks and hardware warranted for commercial application.

    a. Protection: Provide galvanized hardware (including staples) or other non-corrosive treatment.

    b. Carriers: Ball bearing carriers are preferred over nylon carriers for ease of drapery movement. Overlap master carriers on center draw drapery treatments.

    c. Motorized Traverse: Electrically motorized traverse treatments are an option.
    • Calculate the drapery weight for motor power applications.
    • Provide window treatments with proper mechanisms for easy operation (opening and closing).

    d. Concealment: Conceal hardware from view.

4. Shades: Provide commercial quality system based on specific site comditions and appropriate for the application. Electronically motorized control is an option.

D. Wall Finishes:

1. Wallcoverings: Provide strippable, Type II, 678 g/m² (20 oz per LY) wallcovering minimum.

    a. Backing: Provide woven scrim / fabric scrim. Paper back is not permitted.

    b. Flammability: Comply with MI Standard Class 1 flammability rating and toxicity or governing codes that meet or exceed these requirements (in accordance to SBI-Euroclass / DIN 13501-1, B-s1-d0).

    c. Protective Coating: Provide wallcoverings with the manufacturer's clear, matte, liquid protector designed to resist scuffs and stains.

    d. Installation:
    • Provide mold and mildew resistant, commercial grade adhesives following manufacturer's recommendations.
    • Provide primers when recommended.

2. Option: Paint may be acceptable based on market conditions. Obtain MI acceptance.

3. Base:

    a. Wood, stone or tile as coordinated with flooring.

b. Base Height: Minimum of 10 cm (4 inch). Large scale bases are appropriate in large areas.

4. Specialty Finishes: Contract quality wood, stone, tile, glass, and specialty wall finishes are encouraged for utilization in feature areas and in food and beverage outlets.

E. Furniture - Public Spaces:

1. Casegoods - General: Fabricate furniture for commercial hospitality applications.

   a. Supplier is responsible for the structural integrity, finish durability and construction.

   b. Project interior designer reviews shop drawings and finish samples prior to production.

   c. Warranty: Warrant casegoods for commercial use.

2. Materials & Fabrication:

   a. Wood: Kiln dry 7 to 10% moisture content

   b. Panels: Corner block, glue and cross screw. Secure full size back panels at four corners for additional stability.

   c. Fasteners: Furniture quality screws with sufficient screw type bit. Provide clamp nails on mitered bases and aprons.

   d. Glue: Provide commercial, furniture grade to produce superior strength. Remove excess glue from visible areas before finishing.

   e. Joints: Mortise and tenon and/or double wood dowel joints. Strengthen joinery with screw cleats.
   • Glue and screw corner blocks in both directions.
   • Carefully match exposed finish surfaces to produce consistent veneer line and design.

3. Feature Pieces: Obtain MI acceptance for non-compliance with these furniture fabrication requirements.

4. Core, Top & Side Panels:

   a. Fiberboard or Flake Board: Industrial grade, 730 kg per m^3 (45 lbs/ft^3) density with balancing backer to face material

   b. Medium Density Fiberboard: MDF is acceptable when fully sealed with veneer. Seal exposed edges with polyurethane to prevent moisture seepage.

5. Top Material:

    a. Acceptable Tops: Provide wood veneer with protective finish, stone, glass, granite, and engineered stone. When glass is utilized over wood, provide 6 mm (1/4 inch) tempered glass on silicon pads.

    b. Wood Veneer: Provide balancing backer sheet with solid hardwood and polished or beveled edges.

    c. Preferred Top Material: Granite or sealed stone

    d. High Pressure Laminate: HPL tops not permitted.

    e. Inlaid Tops: Fill and seal inlaid seams and joints to prevent soil staining when hard material finish is provided.

6. Drawer Components:

    a. Wood Veneer: Provide with balancing backer sheet over fiberboard or flake board core. Cover exposed edges with veneer.

    b. Exposed Wood Frames: Solid, kiln dried hardwoods

    c. Drawer Glides: Silent, nylon ball bearing, contract quality drawer side glides components (such as K & V #1275 or equal).

    d. Drawer Stops: 34 kg (75 lbs.) load capacity

    e. Drawer Sides & Backs: One, 7 ply, 178 mm (7/16 inch) thick plywood, sanded and splinter free.
    • Sand finish parts smooth and seal with a moisture resistant coating.
    • Provide French or English drawer sides and dovetail to drawer fronts and English dovetail at back. Glue joints.

    f. Interior Drawer Box: Completely seal using wood construction or treated moisture protective coating. Provide masonite, melamine, or sealed plywood drawer bottoms to resist spills and stains.

7. Bases & Legs:

    a. Glides: Provide cushioned stainless steel glides for furniture on wood floors and heavy duty nylon glides on bases and legs for other floor finishes.

    b. Bottom Edges: Finish bottom edges to prevent moisture damage.

8. Hardware: Finish metal hardware and decorative details with corrosion protective coating.

9. Finishes: Provide casegoods with durable, commercial, hospitality quality finish.

F. Upholstered Furniture - General: Fabricate furniture for commercial hospitality use.

1. Submittals: Project interior designer reviews shop drawings and finish samples prior to production.
2. Warranty: Warrant fabrication for commercial use.
3. Frames: Solid hardwood, #1 common grade, kiln dry to a moisture content of 7 to 9%.
    a. Provide solid hardwoods suitable for finishing free of knots and blemishes for exposed wood frames.
    b. Provide frames of steam bent plywood construction for curved areas, and solid kiln dried hardwood frames for other applications.
    c. Provide stretchers to support legs (dining and side chairs).
    d. Corner block and screw frames.
4. Joints: At major joints, double dowel with corner blocks and screw and glue.
    a. Lag bolts are recommended to join seat frames to legs.
    b. Reinforce other joints with glue blocks or cleats.
5. Frame Finish: Provide catalyzed type finishes to match MI accepted finish samples. Test and warrant finishes for commercial use.
6. Springs: Provide sinuous wire springs for seats and seat backs.
    a. Provide springs of sufficient quality to retain 95% memory for five years.
    b. Provide a sufficient quantity of springs to ensure even weight distribution during use.
    c. Seat Springs: 8 gauge
    d. Back Springs: 11 gauge
    e. Attach springs with steel clips
    f. Cover seat springs with steel wire flexolator or equal product.
7. Seat Decking: Provide under seat cushions (not self decked). Provide woven synthetic material to cover back springs and apply foam on top.
8. Foam: Comply with US CA117 minimum requirements (or equivalent) or governing codes that meet or exceed the following requirements.
    a. Seat Cushions: 29.2 kg/m³ (1.8 lbs./ft³) minimum foam density, ILD (compression) 11.8 to 13.6 kg (26 to 30 lbs)

b. Backs: 24.3 kg/m³ (1.5 lbs/ft³) minimum foam den- density, ILD (compression) 6.8 kg (15 lbs)

c. Solid Foam Core: Cover with 2.5 cm (1 inch) layer of polyester batting.

d. Memory Quality: Provide sufficient foam quality to retain 85% memory for five years.

9. Loose Cushions: Reversible

10. Foam & Fabric Flammability: Comply with US CA117 minimum requirements (or equivalent) or governing codes that meet or exceed these standards; and in accordance to DIN 4102 B1 or DIN EN 1021 part 1+2; to be tested jointly with fire retardant upholstery foam.

11. Seams:

a. Depth & Stitches: Provide sufficient depth and stitches to eliminate seam slippage (opening).

b. Thread Quality: Provide thread of sufficient quality for contract use.

c. Fabric Test: Seating supplier shall test fabrics for seam slippage prior to production sewing.

12. Upholstered Arms:

a. Reinforce inside arms with cardboard or synthetic woven fabric padded with 2.5 cm (1 inch) of foam.

b. Cover outside arms covered by fabric with synthetic woven fabric.

13. Upholstered Outside Back: Provide foam pad and cover with fabric.

14. Glides: Provide cushion stainless steel glides for furniture on wood floors and heavy duty nylon glides for other floor finishes.

15. Upholstery Fabric:

a. Abrasion Resistance: Pass minimum test requirement of 30,000 double rubs using Wyzenbeck (back and forth) or Martindale (circular). Provide in accordance with Martindale DIN EN ISO 12947-2 / DIN EN 14465-2006 min. 30.000 rubs.

b. Flammability: Comply with US CA117 minimum requirements (or equivalent) or governing codes that meet or exceed these requirements; and in accordance to DIN 4102 B1 or DIN EN 1021 part 1+2; to be tested jointly with fire retardant upholstery foam.

c. Finish Protection: Treat with water and soil treatment. Provide acrylic or latex backing and lamination for stability.

d. Colorfastness to Light: Pass AATCC 16 Option 1 or 3-2003: 40 hours, Grade 4 (DIN EN ISO 12945-2 grade 4).

e. Crocking: 4.0 dry 3.5 wet or better (DIN EN ISO 105)

f. Pil: Brush Pill ASTM D3511-02, Class 4.5 (DIN EN ISO 12945-2 grade 4)

g. Seam Slippage: ASTM D3597-02-D434-95 for upholstery and panel fabrics: 35 lbs./inch²

h. Tensile Strength: Upholstery 3.5 kg/cm² (50 lbs per inch²), panel 2.4 kg/cm² (35 lbs/inch²)

i. Latex or Acrylic Backing: Back fabrics with an exposed seam in seat cushion for stability.

j. Fabric Cleaning: Clean with water based methods.

16. Leather: Provide top quality, aniline dyed leather, free of blemishes, scratches, and holes for upholstery. Obtain MI acceptance for other leather products and applications.

G. Boardrooms & Meeting Rooms - General:

1. Executive Style Arm Chairs: Ergonomic; provide in leather with a 5 prong spider base and dual wheel casters in Boardrooms.

2. Chairs: Meeting Spaces.
   • Provide stackable banquet chairs.
   • Provide with ganging devices when required by fire codes. See <14>.
   • Provide chairs with with lumbar support.

3. F&B Service: Provide console, or built-in millwork for food and beverage service.

4. Televisions: Mount TVs on a millwork panel or finished recessed application. Locate the wall installation to prevent sound transmission to and from adjoining room.

5. Connectivity: Provide in Boardroom to accommodate TV, A/V, data, PI, phone and computer cables and wires. See <13A>.

6. Wires: Conceal from view and provide cord management.

7. Lighting: Provide a combination of architectural and decorative lighting fixtures.

8. Controls: Locate light dimming control and media audio panels easily accessible to guests.

H. Artwork & Artifacts for Public Spaces - General:

1. Submittals: Submit project artwork and artifacts specification book and location documents, prior to purchase, to MI for review and to obtain acceptance.

2. Lighting: Provide art with the appropriate lighting.

3. Heritage Portrait: Includes Mr. Marriott Heritage Portrait for Marriott and JW Marriott Brands.

4. Frames: Custom, related to the artwork
   • Metal Frames: Natural metals; powder coatings not allowed
   • Frame Corners: Miter cut, glue and join with V-nail
   • Glass: Museum grade, non-glare

5. Security Hardware: Provide artwork with 3 point security hardware for secure mounting. Provide blocking in wall for larger art pieces.

I. Televisions & Media Screens - General:

1. Media LCD: Install monitors on walls to present continuous Marriott marketing as directed by MI. Locate in transition traffic spaces. Do not install behind the front desk.

2. Televisions: Mount on finished millwork panel or finished recessed panel.

3. Permanent Equipment: When the project requires permanent installations, provide electronic opening and closing panel mechanism to conceal the equipment in the ceiling. Design panel to blend with the ceiling. Install removable projectors at hang points determined by the project lighting designer.

4. Wires: Conceal from view.

J. Lighting for Public Spaces - General: For lamp types and lighting levels and coordinate with the following, see <15C> .

1. Design Consultant: MI recommends providing a lighting designer on each project. Review full lighting drawings with MI.

2. Standards: Provide UL approved and labeled products and comply with governing regulations and codes.

3. Fixtures: Provide a combination of ambient, decorative, and task lighting.

4. Lighting Controls:

   a. Provide dimmable lighting in front of house public areas, except restrooms and recreation facilities.

   b. Locate programmable dimming panel in back of house space for public

spaces.

5. Decorative Lighting:

    a. Metal Components: Seal with clear powder coating to withstand 1,000 hour salt spray test.

    b. Electric Cord: Provide sufficient cord length to reach electric outlet. Provide cord covers and cord management cord for lamps.

    c. Lamp Bases: Provide table and floor lamp bases with sufficient weight to prevent tipping.

GR4.3 Guestrooms & Suites

A. General: This section includes the FF&E criteria and finishes to support the Guestroom prototype specifications. Obtain MI acceptance for product, material and fabrication exceptions.

B. Floor Finishes:

1. Area Rugs: When required, provide on hard flooring such as tile, stone, wood.

    a. Requirement: Axminster. Comply with the specifications for Axminster Area Rugs as listed in Public Spaces.

    b. Exceptions: Obtain MI acceptance.

2. Carpet - Axminster: Option

    a. Weave Type: Woven Axminster.

    b. Pile Fiber: 80% Wool 20% Nylon; Type 6.6
    • Wool Source: New Zealand Wool, British Wool or Mediterranean Blend

    c. Dye Method: Skein dyed

    d. Yarn Count: 2/47 Dewsbury / R660/2 Tex

    e. Yarn Ply: 2
    • Single twist +10%: 3.6
    • 2-Ply twist +10%: 4.1

    f. Backing Material: Polyester, polypropylene, conductive latex with superior film strength properties or suitable material; 6.5 oz per sq. yard back coat.

    g. Pitch Per Inch: 7 (27.6 per dm)

h. Finished Pile Weight: 28.1 to 32.1 oz per sq. yard
   • Row Per Inch: 7 Row (27.6 per dm)
   • Row Per Inch (Suites): 8 Row (31.5 per dm)
   • Tufts per Square Inch: 7 Row=49; 8 Row=56
   • Total Weight: 60.96 oz per sq. yard (1728 g per m^2)

i. Pile Density: 7 Row=4055; 8 Row=4635

j. Finished Pile Height: Cut-pile 7.1 mm (0.27 inch)

k. Bow & Squareness / Skew Tolerance: 1%

l. Standards:
   • Light Fastness, ISO-B02: 5
   • Wet Fastness, ISO105-E01: 4
   • Rubbing Fastness, ISO105-X12: 3
   • Thermall Resistance, ISO 8302
   • Horizontal & Vertical Resistance, ISO 10965

m. Flammability: Pass ASTM E-648-91 (EN 13501/Cfl-S1), Class 1 Flammability rating or equivalent, DOCFF 1-70 PILL Test or applicable governing codes that meet or exceed these requirements.

n. Soil Inhibitors: Apply during fiber production; not topically applied after carpet fabrication.

o. Carpet Colors: Custom dyed to match design samples. State dye methods in writing to the Designer and MI.

p. Selvedges: Protected

q. Dye Lot: Minimal. Do not separate dye lots and do not inter-mix in one area unless approved by the MI.

r. Axminster Padding: Synthetic rubber or rubber compound; 1700 g per m^2 (64 oz./yd^2) minimum weight; re-bond is not permitted; Tred-Mor series quality, 2580QL (quick release) or equal.

3. Carpet - Tufted Broadloom:

   a. Construction: Cut & Loop Pile

   b. Pile Fiber: 100% Nylon Type 6 or 6.6

   c. Dyed Method: Solution Dyed

   d. Gauge: 1/10 (10x10)

   e. Stitches Per Inch: 10

   f. Twists Per Inch: 4.5

   g. Finished Pile Height: 0.25 inch

h. Face Weight: 32 oz; Suites 36 oz.
   • Total Face Weight: 64 oz.

i. Pile Density: 4600 oz per c/yd.

j. Yarn Pile: 2 Ply

k. Yarn Denier: 1350/2

l. Tuft Bind: Cut Pile - 3.5 lbs; Loop Pile - 6.25 lbs

m. Delamination: 4.5 lbs. ClasicBac / ActionBac

n. Backing:
   • Primary Backing: Polypropylene
   • Secondary Backing: Equal to ClasicBac or ActionBac-SBR Latex Pr-Coat and secondary coat laminated to a woven secondary backing.

4. Carpet Installation: Install carpet over padding, utilizing the stretch-in method. Install utilizing glue down in accessible rooms.
   • Seam: Locate one seam only per room toward demising room wall on bath side. No seams permitted in rooms with hard surface at entry and no visible seams at entry.
   • Carpet Edges: Seal off carpet edges where carpet meets other floor material.
   • Carpet Pattern Match Tolerance: 0.8% before stretching
   • Pattern Match Finished: Exact

5. Hard Floor Finishes: Provide slip resistant floor and ramp walking surfaces. See <16>.

   a. Stone: Provide non-porous, natural stone. Seal surface per manufacturer guidelines. Obtain MI acceptance for exceptions.

   b. Tile: Provide through body porcelain. Other ceramic tile types are not acceptable.

   c. Wood: Provide commercial grade, solid hardwood with inherent stain resistance throughout.
      • Technical Review: Project interior designer reviews technical information with owner and MI. Obtain MI acceptance.
      • Engineered Wood: Accepted
      • 5-ply minimum or commercially appropriate for engineered wood; HDF or Birch plywood core based on installation condition
      • 16mm (5/8 inch) thickness; minimum wear layer to last 14 years for engineered wood
      • Laminate Flooring: Not acceptable

   d. Luxury Vinyl Tile (LVT): See the MI "LVT General Specifications" for product and installation criteria.

6. Other Flooring: Cork or bamboo flooring may be acceptable if acceptance is obtained from MI.

C. Window Treatments:

1. Traverse Tracks: Provide to support window treatments.

2. Baton Pulls: Mount in front of curtain fabric.

3. Fabrics: Pre-shrink fabrics before fabrication, if the fiber is not previously treated for shrinkage. Treat fabrics to resist water and soil staining.

   a. Colorfastness: AATCC 16 Option 1 or 3-2003: 60 hours, Grade 4, ASTM D3691, 1974 or 16E (DIN EN ISO 105-B02 min. class 4)

   b. Wet & Dry Crocking: 4.0 dry, 3.5 wet or better (DIN EN ISO 105-X1)

   c. Pil: Brush Pill ASTM D3511, Class 4.5 (DIN EN ISO 12945-2 Grade 4)

   d. Seam Slippage: 24.3 kg/m² (15 lbs/in²)

   e. Tensile Strength: ASTM D5034-95 (2001) (Grab Test) 17.4 kg/m² (25 lbs/in²), warp and fill for fabrics over 6 ounces per square yard, and 24.3 kg/m² (15 lbs/in²) for fabrics less than 6 ounces.

   f. Flammability: Provide flame retardant to draperies, linings and sheers to pass US NFPA 701-04, Test Method I (vinyl coated blackout, Test Method 2) and as required by governing codes (DIN 4102 B1 or DIN EN 13773 class 1) . Provide inherent treatment during production; not topical after fabrication.

   g. Blackout: Provide 100% blackout for Guestrooms and Suites. Provide blackout lining to primary window treatment fabrics when blackout is not installed on a separate traverse track.

   h. Face Panels: Conceal secondary panel hems with face panels.

4. Hardware: Provide commercial quality, extruded aluminum tracks and hardware warranted for commercial applications.

   a. Tracks: Ceiling mounted tracks are preferred over wall mounted tracks.

   b. Protection: Provide galvanized hardware (including staples) or other non-corrosive treatment.

   c. Carriers: Ball bearing carriers are preferred over nylon carriers for easy opening and closing draperies.
      • Overlap master carriers on center draw drapery treatments. Block light 100% from center and edges.
      • Electric, motorized traverse tracks are an option.

d. Concealment: Conceal hardware in recessed architectural pocket or behind a wood or upholstered valance.

5. Decorative / Blackout Panels:

   a. Fullness: Minimum of 200% fullness. Increase fullness is determined by specific window and accompanying window treatment fabrics.

   b. Hems: Double hems 8 to 10 cm (3 to 4 inch) deep, sewn with blind hemstitch or weighted hankie hem is acceptable.

   c. Blackout: Provide blackout lined overdrape with 2 pass blackout.
      • Provide 3 pass blackout when blackout is provided on a separate track.
      • Overlap center draw draperies at center with master carrier to prevent light leakage.
      • Weight: Provide at corners and hems.
      • Drapery Finish Length: 1.3 cm (1/2 inch) above finish floor. Ensure absolute blackout.

6. Sheers:

   a. Fullness: Minimum of 250% fullness. Consider 300% if sheer is provided as over drapery material or as determined by sheer fabric.

   b. Hems: Double hems 8 to 10 cm (3 to 4 inch) deep sewn with blind hemstitch or serge over a chain weight. Overlap center draw hems at center master carrier.

   c. Weight: Provide at corners and hems.

   d. Finish Sheer Length: 1.3 cm (1/2 inch) above finished floor.

7. Shades: Verify dimensions with site conditions. Submit solution to Global Design for review.

   a. Fabric: Inherently antistatic, flame retardant, bacteria-resistance rated, fade and stain resistant, light filtering, room darkening / blackout fabrics providing 0%-25% openness factors. Fabrics to be composed of polyester yarn, fiberglass yarn, Thermoplastic-Olefin, acrylic coating, vinyl laminates, vinyl coatings, or cotton, or a combination of those listed. Finish selected by architect or designer.
      • Blackout: 0% opacity, 3 pass blackout
      • Sheer / Light: Filtering shade to be 5%-25% opacity

   b. Chain & Clutch Operating Mechanism: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated to allow precise control and ensure uniform look. Clutch will develop no more than ½ lb drag for ease of lifting. Spring lift-assist mechanism recommended by manufacturer for

situations where shade fabric weighs over 12 lb and for shades wider than 108 in a. Bead Chains: # 10 stainless steel bead ball chain with tensile strength of 110 lb; provide upper and lower limit ball stops.
• Loop Length: As required to operate the shade.
• Chain Retainer: Manufacturer's standard method: P-Clip or Chain Tensioner. Must meet all local safety codes.

c. Roller Tube: Circular shaped ribbed aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms internally, and weights and widths of fabrics without deflection.
• A double roller shade (blackout & light filtering) is required when traversing sheers are not part of the drapery treatment.
• Stack / stagger double rollers to prevent overly deep housing / header

d. End Plug: Shall consist of an outside sleeve rotating freely on a center shaft, providing the hearing surfaces on which the roller rides. Outside sleeve and center shaft to be made of heat-stabilized fiber-reinforced plastic to ensure smooth, wear resistant operation.

e. Sealed Hembar: Extruded aluminum weight bar sealed in pocket of shade fabric.

f. Mounting Hardware: Manufacturer's standard 0.07" nickel-plated C1008/1010 cold rolled steel. Bracket system shall allow for two shades to be installed onto one bracket system utilizing both blackout and mesh fabrics. End plug bracket shall have a lock-down retainer device. Brackets are reversible for right- or left-hand installation.

g. Fascia: L-shaped removable aluminum extrusion that conceals front and underside of roller and operating mechanisms without exposed fasteners. Manufacturer's standard height required to conceal roller and shade assembly when shade is fully open, but not less than 5 inches.

h. Channels: Mounted side channels with light seals and designed to eliminate light gaps at the sides of shades as shades are drawn down.
• Width: 2.5 inches (63.5 mm)
• Depth: 1 inch (25.4 mm)
• Provide bottom channel as needed to prevent light leakage

D. Wall Finishes:

1. Wallcovering: Provide strippable wall coverings.

a. New Construction: Minimum of Type I, 15 oz./LY (350 g/m²) wallcovering

b. Renovations: Minimum of Type II, 454 g/m² (20 oz. per LY) wallcovering.

c. Widths: Guestroom, 130 cm (54 inch); Guest Bath, 130 cm (54 inch) or

65 cm (27 inch).

d. Backing: Woven scrim / fabric scrim; paper back is not permitted unless acceptance is obtained from MI.

e. Flammability: Comply with MI Standard Class 1 flammability rating or governing codes for flammability and toxicity that meet or exceed the MI requirements (and in accordance to SBI-Euroclass / DIN 13501-1, B-s1-d0).

f. Protective Coating: Provide wallcoverings with the manufacturer's clear, matte, liquid protector designed to resist scuffs and stains.

g. Installation:
• Primers: Provide when necessary.
• Adhesives: Mold and mildew resistant, commercial grade following manufacturer's recommendations.

2. Paint: Obtain MI acceptance to utilize paint and paint products based on market requirements.

3. Base:

a. Wood, stone, porcelain tile

b. Height: Minimum of 10 cm (4 inch). Larger scaled bases are appropriate in larger areas.

E. Furniture for Guestroom:

1. Casegoods - General: Fabricate furniture for commercial hospitality applications.

a. Supplier is responsible for the structural integrity, finish durability and construction.

b. Project interior designer reviews shop drawings and finish samples prior to production.

c. Warranty: Warrant casegoods for commercial use.

2. Materials & Fabrication:

a. Wood: Kiln dry 7 to 10% moisture content

b. Panels: Corner block, glue and cross screw. Secure full size back panels at corners for stability.

c. Fasteners: Provide furniture quality screws with sufficient screw type bit. Provide clamp nails on mitered bases and aprons.

d. Glue: Provide commercial, furniture grade to produce superior strength. Remove excess glue from visible areas before finishing.

e. Joints: Mortise and tenon and double wood dowel. Strengthen joinery with screw cleats.
   • Glue and screw corner blocks in both directions.
   • Carefully match exposed finish surfaces to produce consistent veneer line and design.

f. Door Hinges: Provide commercial quality concealed hinges.

g. Refrigerator Enclosures: Design and fabricate casepieces to enclose refrigerators with ventilation in compliance with the refrigerator manufacturer's recommendations. Obtain recommendations prior to production.

3. Core, Top & Side Panels:

   a. Fiberboard or Flake Board: Industrial grade, 730 kg per m^3 (45 lbs/ft^3) density with balancing backer to face material

   b. Medium Density Fiberboard: MDF is acceptable when fully sealed with veneer. Seal exposed edges with polyurethane to prevent moisture seepage.

4. Top Material:

   a. Acceptable Tops: Provide MI acceptable wood veneer with protective polyurethane finish, stone, glass, granite, or engineered stone. If glass is utilized over sealed wood, provide 6 mm (1/4 inch) tempered glass with pencil polished edge on silicon pads.

   b. Wood Veneer: Provide balancing backer sheet with solid hardwood.

   c. High Pressure Laminate (HPL) Tops: Not permitted for International projects.

   d. Specialty Materials: Submit to MI for review and obtain MI acceptance.

5. Drawer Components:

   a. Wood Veneer: Provide with balancing backer sheet over fiberboard or flake board core. Cover exposed edges with veneer.

   b. Exposed Wood Frames: Solid, kiln dried hardwoods

   c. Drawer Glides: Silent, nylon ball bearing, contract quality drawer side glides components (such as K & V #1275 or equal)

   d. Drawer Stops: 34 kg (75 lbs.) load capacity required

   e. Drawer Sides & Backs: 178 mm (7/16 inch) thick plywood, sanded and splinter free
      • Sand finish parts smooth and seal with a moisture resistant coating.

• Provide French or English drawer sides and dovetail to drawer fronts and English dovetail at back; glue joints.

f. Interior Drawer Box: Completely seal using wood construction or treated moisture protective coating. Provide masonite, melamine, or sealed plywood drawer bottoms to resist spills and stains.

g. Drawer Face Panel: Mount to drawer face box for ease of maintenance and replacement.

6. Bases & Legs:

a. Glides: Provide cushioned stainless steel glides for furniture on wood floors and heavy duty nylon glides on bases and legs for other floor finishes. Provide leveling glides on large and tall pieces.

b. Bottom Edges: Finish bottom edges to prevent moisture damage.

7. Hardware: Finish metal hardware and decorative details with corrosion protective coating.

8. Finishes: Provide casegoods with durable, commercial, hospitality quality finish. If tops are not protected with glass, then coat tops with polyurethane or other moisture resistant finish.

F. Reading Lights: See “Lighting for Guestrooms” section in this document.

G. Upholstered Furniture - General: Fabricate furniture for commercial hospitality applications.

1. Submittals: Project interior designer reviews shop drawings and finish samples prior to production.

2. Warranty: Warrant fabrication for commercial use.

3. Frames: Solid hardwood, #1 common grade, kiln dry to a moisture content of 7 to 9%.

a. Provide solid hardwoods suitable for finishing free of knots and blemishes for exposed wood frames.

b. Provide frames of steam bent plywood construction for curved areas, and solid kiln dried hardwood frames for other applications.

c. Provide stretchers to support legs (dining and side chairs).

d. Corner block and screw frames.

4. Joints: At major joints, double dowel with corner blocks and screw and glue.

a. Lag bolts are recommended to join seat frames to legs.

b. Reinforce other joints with glue blocks or cleats

5. Frame Finish: Provide catalyzed type finishes to match MI acceptable finish samples. Test and warrant finishes for commercial use.

6. Springs: Provide sinuous wire springs for seats and seating backs where possible.

   a. Provide springs of sufficient quality to retain 95% memory for five years.

   b. Provide a sufficient quantity of springs to ensure even weight distribution during use.

   c. Seat Springs: 8 gauge

   d. Back Springs: 11 gauge

   e. Attach springs with steel clips.

   f. Cover seat springs with steel wire flexolator or equal product.

7. Seat Decking: Provide under seat cushions (not self decked). Provide woven synthetic material to cover back springs and apply foam on top.

8. Foam: Comply with US CA117 minimum requirements (or equivalent) or governing codes that meet or exceed the following requirements.

   a. Seat Cushions: 29.2 kg/m³ (1.8 lbs./ft³) minimum foam density, ILD (compression) 11.8 to 13.6 kg (26 to 30 lbs). Seat cushion foam for public spaces - 2.5 lb. per ft. minimum.

   b. Backs: 24.3 kg/m³ (1.5 lbs/ft³) minimum foam density, ILD (compression) 6.8 kg (15 lbs)

   c. Solid Foam Core: Cover with 2.5 cm (1 inch) layer of polyester batting.

   d. Memory Quality: Provide sufficient foam quality to retain 85% memory for five years.

9. Loose Cushions: Reversible

10. Fabric Flammability: Comply with US CA117 minimum requirements (or equivalent) or governing codes that meet or exceed these standards; and in accordance to DIN 4102 B1 or DIN EN 1021 part 1+2; to be tested jointly with fire retardant foam.

11. Seams:

    a. Depth & Stitches: Provide sufficient depth and stitches to eliminate seam slippage (opening).

    b. Thread Quality: Provide thread of sufficient quality for contract use.

c. Fabric Test: Seating supplier shall test fabrics for seam slippage prior to production sewing.

12. Upholstered Arms:

a. Reinforce inside arms with cardboard or synthetic woven fabric padded with 2.5 cm (1 inch) of foam.

b. Cover outside arms with synthetic woven fabric covered by fabric.

13. Upholstered Outside Back: Provide foam pad and cover with fabric.

14. Glides: Provide cushion stainless steel glides for furniture on wood floors and heavy duty nylon glides for other floor finishes.

15. Loveseat / Sofa Sleeper:

a. Sleeper Mechanism: Contract quality, Leggett and Platt Classic 3500 with Anti-Tilt Mechanism.

b. Instruction Label: Permanently apply operating instruction label to the webbing.

c. Sleeper Mattress: Beige ticking, 268 kg per m^3 (1.3 lbs per ft^3) density, 13.6 kg (30 lbs) compression. Springs are 3-1/2 inch, 13 gauge.

d. Sleeper Mattress:
- 090 - Roll Away 090x200 cm
- 100 - Twin 100x200 cm
- 120 - Super Twin 120x200 cm
- 140 - Double 140x200 cm
- 160 - Queen 160x200 cm
- 180 - King 180x200 cm
- 200 - Super King 200x200 cm

16. Desk Chair:

a. Style: Provide task style with adjustable height and swivel, 5 prong spider base with dual wheel casters. Provide arms unless otherwise acceptable to MI.

b. Clearance: Design to fit under desk with adequate legroom and clearance for arms, when applicable.

17. Upholstery Fabric:

a. Abrasion Resistance: Pass minimum test requirement of 30,000 double rubs minimum, using Wyzenbeck (back and forth) or Martindale (circular); and in accordance with Martindale DIN EN ISO 12947-2 / DIN EN 14465-2006 min. 30.000 rubs.

b. Flammability: Comply with US CA117 minimum requirements (or equivalent) or governing codes that meet or exceed these requirements. Provide in accordance to DIN 4102 B1 or DIN EN 1021 part 1+2; to be tested jointly with fire retardant upholstery foam.

c. Finish Protection: Treated with water and soil treatment. Provide acrylic or latex backing and laminate for stability.

d. Colorfastness to Light: Pass AATCC 16 Option 1 or 3-2003: 40 hours, Grade 4 (DIN EN ISO 105-B02 min. class 4).

e. Crocking: 4.0 dry, 3.5 wet or better (DIN EN ISO 105 X1).

f. Pil: Brush Pill ASTM D3511-02, Class 4.5 (DIN EN ISO 12945-2, Grade 4)

g. Seam Slippage: ASTM D3597-02-D434-95 for upholstery and panel fabrics, 2.4 kg/cm² (35 lbs per inch²)

h. Tensile Strength: Upholstery 3.5 kg/cm² (50 lbs per in²), panel 2.4 kg/cm² (35 lbs/inch²)

i. Latex or Acrylic Backing: Back fabrics with an exposed seam in seat cushion for stability.

j. Fabric Cleaning: Clean with water based methods.

18. Leather: Top quality, aniline dyed struck-through leather, free of blemishes, scratches and holes for upholstery. Obtain MI acceptance for other leather products and applications.

H. Bed / Bedding:

1. Bed Size Nomenclature:
   - Super King: 200 x 200 cm
   - King: 180 x 200 cm
   - Queen: 160 x 200 cm
   - Double: 140 to 150 x 200 cm
   - Super Twin: 120 x 200 cm
   - Twin: 100 to 110 x 200 cm

2. Requirements:

   a. International Projects: Provided by MI's Regional Operations.

3. Bed Skirt: Bed skirts are not allowed. If a box spring is provided, cover with a fitted cover.

4. Box Springs: Provide with washable, fitted cover

5. Bed Throw Size & Accent Pillow: Optional. If provided must be washable.
    a. Twin: 120 x 154 cm (48 to 50 x 61 inch)
    b. Double: 120 x 193 cm (48 to 50 x 76 inch)
    c. Queen: 120 x 213 cm (48 to 50 x 84 inch)
    d. King: 120 x 248 cm (48 to 50 x 98 inch)
    e. Design: Coordinate throws and pillows with the guestroom scheme.
6. Platform Base: Provide with integrated headboard, nightstands, lighting and power. For accessible guestrooms follow Accessible Guidelines for local jurisdiction.
    a. Mattress Support: Solid, uninterrupted platform surface; slats are not permitted. Mattress supporting surface shall not extend outside of or inside of the mattress size. Mattress support must have rounded corners.
7. Accessible Guestrooms:
    • Provide bed with an overall height of 56 cm (22 inch) with an allowable range of 53 cm to 58 cm (21 to 23 inch) from finished floor to top of uncompressed mattress, unless otherwise dictated by applicable State or local laws.
    • Provide 18 cm (7 inch) high clearance under bed with a 76 cm (30 inch) minimum depth and 91 cm (36 inch) minimum width to accommodate a Hoyer or similar person lift unless otherwise dictated by applicable State or local laws.
    • On platform frames provide appropriate support for mattress where clear opening for lift occurs.

I. Artwork & Artifacts – General:
1. Framed Artwork: Mitre cut corners, glue and join using V-nails.
2. Security Hardware: Provide 3 point security hardware to install artwork on walls
3. Adhesives: Not permitted
4. Custom Packages: Develop in compliance with the Brand Design Strategy, regional context and MI review. Regional artwork is preferred in guestrooms.

J. Lighting for Guestroom: See <15C> and coordinate with the following.
1. General: MI requires a minimum of four decorative fixtures in addition to architectural lighting and reading lights.
2. UL Approval & Label: Provide UL approved and labeled products for U.S. or

equivalent governing certification.

3. Codes: Comply with governing electrical codes for lighting.
4. Lamps: To maintain guest satisfaction, comply with color quality performance, instant on, silent, and flicker free operation equivalent to incandescent lamps.
5. Color: 2700 degrees Kelvin, 85 CRI
6. Energy Efficient Lamps: Provide 1700 Lumen output throughout the room for decorative fixtures.
7. Bed Lighting: Double bed configured rooms require a lighting fixture between bed pairs with two light sources and separate switching.
8. Controls: Locate fixture switches that are easily identified by and accessible to guests. Twist type switches are not permitted.
9. Reading Lights: Provide LED reading lights at headboard, with flexible adjustment and separate switch at the fixture.
    a. At king beds, provide one reading light on each side.
    b. In double bed configured rooms, provide one reading light at the outer side of each headboard.
10. Architectural Lighting:
    a. Entry Foyer: Recessed downlight (or decorative lighting) with switch at entry door
    b. Refreshment Service Alcove: Recessed downlight above the counter
    c. Headboard (optional): Recessed downlight above the headboard
    d. Closet / Wardrobe - International Projects: Instant on, flicker free light with automatic switch activated (on and off) with closet door opened and closed.
    e. Vanity Light: Recessed downlight above sink (and decorative lighting at vanity)
    f. Bathtub & Shower Light: Moisture resistant recessed downlight above bathtub and shower enclosure.
11. Decorative Lighting:
    a. Lamps: Provide energy efficient lamps, with light output equivalent to 1700 Lumens.
    b. Metal Components: Seal with clear powder coating to withstand 1000

hour salt spray test.

c. Cord: Provide electric cord of sufficient length to reach electrical outlet.

d. Bases: Provide table lamps and floor lamps with weighted bases to prevent tipping.

12. Lighting Levels: In Lux [Foot-Candles (fc)], see <15C>
    - Overall Lighting: 85 to 130 Lux (8 to 12 fc)
    - Desk Top: 485 to 538 Lux (45 to 50 fc)
    - Headboard: 410 to 430 Lux (38 to 40 fc)
    - Bath Vanity Top: 430 to 485 Lux (40 to 45 fc)
    - Overall Bathroom: 377 Lux (35 fc)

GR4.4 Guestroom Corridors

A. General: This section includes the FF&E criteria and finishes for Guestroom Corridors. Obtain MI acceptance for product, material and fabrication exceptions.

B. Floor Finishes:

1. Carpet - Axminster:

a. Weave Type: Woven Axminster

b. Pile Fiber: 80% Wool 20% Nylon; Type 6.6
   - Wool Source: New Zealand Wool, British Wool or Mediterranean Blend

c. Dye Method: Skein dyed

d. Yarn Count: 2/47 Dewsbury / R660/2 Tex

e. Yarn Ply: 2
   - Single twist +10%: 3.6
   - 2-Ply twist +10%: 4.1

f. Backing Material: Polyester, polypropylene, conductive latex with superior film strength properties or suitable material; 6.5 oz per sq. yard back coat

g. Pitch Per Inch: 7 (27.6 per dm)

h. Finished Pile Weight: 32.1 oz per sq. yard
   - Row Per Inch: 8 Row (31.5 per dm)
   - Tufts per Square Inch: 8 Row = 56
   - Total Weight: 60.96 oz per sq. yard

i. Pile Density: 8 Row = 4635

j. Finished Pile Height: Cut-pile 7.1 mm (0.27 inch)

k. Bow & Squareness / Skew Tolerance: 1%

l. Standards:
- Light Fastness, ISO-B02: 5
- Wet Fastness, ISO105-E01: 4
- Rubbing Fastness, ISO105-X12: 3
- Thermall Resistance, ISO 8302
- Horizontal & Vertical Resistance, ISO 10965

m. Selvedges: Protected

n. Flammability: Comply with ASTM E-648-91 (EN 13501/Cfl-s1), Class 1 flammability rating, DOCFF 1-70 Pill Test, or governing codes that meet or exceed these requirements.

o. Soil Inhibitors: Apply during fiber production. Not topically applied after carpet fabrication.

p. Carpet Colors: Custom dyed to match design samples. State dye methods in writing to the Designer and MI.

q. Dye Lot: Minimal. Do not separate dye lots and do not inter-mix in one area unless approved by the MI.

r. Axminster Padding: Synthetic rubber or rubber compound; 1700 g per m^2 (64 oz./yd^2) minimum weight; re-bond is not permitted; Tred-Mor series quality, 2580QL (quick release) or equal.
- Nylon Carpet: 907.2 g m^2 (32 oz./yd^2) minimum weight padding

2. Carpet Installation: Install carpet over padding. Provide double stick glue down method.
- Seal off carpet edges where carpet meets other floor materials.
- Carpet Pattern Match Tolerance: 0.8% before stretching
- Pattern Match Finished: Exact

3. Hard Floor Finishes: Provide slip resistant floor and ramp walking surfaces. See <16>.

a. Stone: Provide non-porous, natural stone with slip resistance. Obtain MI acceptance, on a case-by-case basis, for exceptions.

b. Tile: Provide slip resistant, through body porcelain tile. Other ceramic tile types are not acceptable.

4. Specialty Flooring: Obtain MI acceptance.

C. Wall Finishes - General:

1. Wallcoverings: Provide strippable wallcoverings, Type II, 454 g/m² (20 oz./LY).
    a. Width: 130 cm (54 inch)
    b. Backing: Woven scrim / fabric scrim. Paper back is not permitted.
    c. Flammability & Toxicity: Comply with MI Standard Class 1 Flammability Rating or governing code for flammability and toxicity that meet or exceed the requirements (in accordance to SBI-Euroclass / DIN 13501-1, B-s1-d0).
    d. Protective Coating: Provide wallcoverings with the manufacturer's clear, matte, liquid protector designed to resist scuffs and stains.
    e. Installation:
        • Primers: Provide when necessary.
        • Hardware: Prepare surfaces so non-decorative mounting hardware is not visible.
        • Adhesives: Provide mold and mildew resistant, commercial grade products following manufacturer's recommendations.
2. Corner Guards: 2 cm (3/4 inch) wide, coordinate with the interior design
    a. Install corner guards from top of base material to ceiling or lower edge of crown molding.
    b. Match wall color.
    c. Adhere with clear, silicone adhesive. Visible attachments such as screws are not permitted.
    d. Decorative millwork, glass, or other specialty finishes require MI acceptance.
3. Base:
    a. Type: Wood or profiled vinyl base.
    b. Base Height: Provide 10 cm (4 inch). Large scaled wood bases are appropriate in large areas. Countersink nails and screws.

D. Artwork & Artifacts - General:
1. Framed Artwork: Mitre cut corners, glue and join with V-nails.
2. Security Hardware: Provide 3 point security hardware to install artwork on walls.
3. Adhesives: Not permitted
4. Custom Packages: Develop according to Brand design strategy, design narrative, regional context and MI review.

E. Lighting for Guestroom Corridors: See <15C> and coordinate with the following.

1. Lighting Sources: Provide combination of architectural and decorative lighting.
2. UL Approval & Label: Provide UL approved and labeled products for U.S. or equivalent governing certification.
3. Codes: Comply with governing electrical codes for lighting.
4. Lamps: To maintain guest satisfaction, comply with color quality performance, instant on, silent, and flicker free operation equivalent to incandescent lamps; 2700 degree Kelvin, 85 CRI.
5. Guestroom Doorways: Provide well lighted entry at door.
6. Energy Saver Feature Lights: Provide flicker free, instant on that illuminates within 1 to 2 steps of guest entry.
7. Lighting Levels: In Lux [Foot-Candles (fc)], see <15C>
   • General Lighting: 108 Lux (10 fc)
   • Guestroom Entry: 160 Lux (15 fc)
   • Elevator Lobby: 160 Lux (15 fc)

GR4.5 Outdoor & Pool Furniture

A. General: This section includes the FF&E criteria for outdoor and pool furniture. Obtain MI acceptance for product, material and fabrication exceptions.

B. Aluminum Frames:

1. Frames: Extruded aluminum welded frames, 360 degree radius heli-arc welds (not riveted)
2. Weld Joints: Smooth and free of burrs
3. Screws: Buried in the frame
4. Finish: Electrostatic powder coated
5. Plastic Glides: On leg bottoms

C. Wood Frames: Provide teak, mahogany or other hardwood suitable for outdoors.

D. Seat & Back:

1. Rattan or Wicker: Provide synthetic woven HDPE (preferred over PVS). Provide UV protection and warrant against fading for 5 years.

2. Slings: Field replaceable; firmly attach in channels and warrant against tearing

3. Cushions: No concealed zippers. Attach to frames with loops; 100% acrylic fabric (Sunbrella or equal) and construct for outdoors.

    a. Filling is quick drain fiberfill or reticulated foam construction for outdoors.

    b. Provide drain holes if required.

E. Tables:

1. Table Tops: Provide acrylic or fiberglass at pools areas. Fully rimmed tempered glass is appropriate in other applications.

2. Outdoor Dining Tables: Provide umbrella holes with grommets in table center to support umbrellas.

F. Chaise Lounges:

1. Arms: When required, brace with vertical supports. To avoid hand and finger pinching, locate the adjustable latching bar that positions the chaise back, away from the frame edge.

G. Umbrellas:

1. Fabric: 100% solution dyed acrylic, Sunbrella or equal, 8 ounce per square yard.

2. Base: Provide weighted bases, as heavy as necessary, to support umbrella and to prevent roll-over.

GR4.6 EI Operating Supplies & Equipment (OS&E)

A. EI General Description: Operating Supplies and Equipment consist of fixed asset supplies and on-site technology required for a fully operational facility at the opening and first three months of operation. The selection and purchase of MI acceptable operating supplies requires an analysis of the property size, location and Brand standards.

B. EI Project Supplies List: Obtain the project list from MI that includes the complete list of operating supplies and equipment.

1. EI Front Desk & Bellstand Equipment
   • Golf umbrella, amenities on request, sharps safety kit, wheelchair, luggage / bell cart (non-polish required), name badge, indoor and outdoor flags, key cards
2. EI Administrative / Office Supplies and Equipment
   • Printed materials, stationary, general office supplies, folios luggage tags, key packs, guestroom directories, combination locks
   • Storeroom / control, shelving, stickers, inventory books
3. EI Guestroom Supplies - Bedroom
   • Ice bucket, tray & bag
   • Pens, note pads, wastebasket, stationery folders
   • Clock radios, luggage rack
   • Glassware, coaster / cover, coffee maker, coffee / supplies
   • Iron, ironing board & iron holder, valet bags, hangers
4. EI Guestroom - Bathroom / Amenities
   • Bath tissue & facial tissue
   • Hairdryer, bathrobe
   • Amenities, glassware
   • Shower curtains
5. EI Linens & Terry
   • Guestroom wash clothes, hand towels, bath towels, bath mat, bath rug
   • Pillows, pillow covers, pillow cases, sheets, blankets, mattress topper
   • Pool towels, exercise towels
   • F & B linens and banquet linens
6. EI Housekeeping Supplies & Equipment
   • Carts, glass rack carts, shelving
   • Floor care equipment, cleaning supplies
   • Roll away bed, cribs
   • Linen truck, laundry carts, scale

7. EI Engineering Supplies & Equipment
   - Hand tools, power tools & shop tools
   - Receiving area equipment
   - HVAC service equipment
   - Storage work benches
   - Safety equipment & illustrations
8. EI Communications & On-Site Technology
   - Radios & pagers; 2-way Radio ear pieces required for on-property radios
   - Fax machines, remind-o-timers, TDD equipment, ADA equipment
   - Property Management System
   - Back Office Accounting
   - Point of Sale
   - LAN Applications
9. EI Passenger Vehicles & Golf Cars
10. EI Uniforms
11. EI Food & Beverage (F&B)
    - China, glassware, hollow ware, flatware, linen napery, glass racks
    - Menus, guest checks, candles, vases, flowers, salt / pepper shakers, ashtrays
    - Buffet equipment, food containers, urns & pots, hot boxes, stands, chafers
    - Bar & rail matting, blenders, shakers, stir stix, picks, coffee equipment
    - Room service carts, Queen Mary cart, tray jacks
    - Kitchen equipment, appliances, spatulas, tongs, whips, utensils, ladles, knives, pots & pans, bakeware
    - Dishroom racks, dollies & cylinders (silverware)
12. EI Banquet
    - Props / decorations, flowers, vases, centerpieces
    - Backdrops, podiums, staging, dance floor, piano
    - Chairs & tables
13. EI Audio / Visual: See <13B>.
    - Reader boards
    - Flip charts, easels
    - Projectors

GR4.7 R Coordination

A. R Reference: Coordinate with requirements of other Chapters including:

- Overview & Project Administration
- Audio/Visual
- Fire Protection & Life Safety
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

site & building exterior

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

1.1 Site - General Planning

A. Design Overview: Marriott International (MI) properties represent exceptional, consistent service and comfort. The design for MI property buildings supports the image of quality by using high quality building materials, individual designs and adapting to the site and region. MI encourages respect for the diversity of site locations and supports designs that are sympathetic to the site context while retaining a sense of the property design.

B. Site Concepts & Planning: Incorporate the following into the project as referenced in the project Facilities Program.

1. Site Design: Provide efficient site circulation.

2. Exterior Site: Provide clarity of pedestrian and vehicular traffic, a sense of place and where applicable a mature, “park like” setting.

3. Co-Location: Where a Marriott International (MI) property is co-located with other Marriott Brands and facilities, provide a selective level of connectivity and separation as appropriate between buildings for public and service circulation. Consult with MI to establish project priorities and review solutions.

4. EI Urban Site: Generally, an urban site is a high density property and has limited exterior environment opportunities where outdoor guest amenities are developed. Typically, design focus is on the facility such as the entrance, motor court area of entry driveway and entry canopy, planters, limited site areas such as the roof area and courtyard, etc. Also, see <4A>.

5. EI Resort Sites: Generally, these sites are low density and inspire more opportunities for site development. Amenities typically include hotel entry, driveway, courtyard and garden areas, terraces, walkways, screen and planter walls, rails, fences, retaining walls and revetments, gazebos, plantings, lighting, irrigation systems, water features, ponds, fountains, etc. See <4C>, for swimming and whirl pools, beach interface, pool bars, etc.

6. Residential: When a hotel is co-located with a residential use, facilities and operations are segregated by use. In order to address the differing expectations of the “transient” hotel guest amid residents, the following are provided separately or managed to minimize conflicts:
   - Site access
   - Parking
   - Building entry
   - Elevators
   - Management and administrative employees
   - Utilities

• Services

7. Entrances: Provide for separate access for hotel, function area (see <6>) and service circulation to avoid conflicts.

8. Sound Mitigation: Provide an acoustic control study and develop a plan for mitigating noise and unwanted sound sources; see "Exterior Features" in this Chapter.

C. Exterior Design: Create a comprehensive project site concept. Coordinate the landscape design with the interior planting to reflect a contemporary, mature and natural green environment that complements the site and architecture.

1. EI Exterior Environment: This term, often referred to as “landscape / hardscape”, is defined as site amenities and improvements such as plantings, structures and finish site grading developed for the property.

2. Provide an exterior environment to reflect the project’s regional context showing consideration and sensitivity to indigenous plant and hardscape materials.

3. BP Develop site grading and amenities for the “landscape and hardscape” to reflect the site concept.

D. Loss Prevention Review: A Loss Prevention Review is required to develop a Risk Assessment associated with the property’s location, design and facilities. See <16>. The Risk Assessment review considers exterior features such as the following:

• Local crime and potential threats to building and occupants
• Perimeter site and building access
• Controlled access to utilities
• Location of air intakes
• Site and building lighting

E. BP Pet Area: For properties that allow pets, provide an area for guests to exersice their pet.

• Provide natural ground cover with drainage.
• Provide a water source near by to clean the area.
• Include walkways to access area.
• Isolate the area or insulate surounding spaces to muffle dog noises.
• Include a trash can with top.

1.2 Site Development

A. Site Selection: The ideal site maximizes exposure to the property and is adjacent to amenities and / or compatible facilities that results in an enhanced guest experience.

B. Slopes:

1. Earth slopes not to exceed 2:1
2. Seeded grassed sloped areas not to exceed 3:1
3. Sodded grassed slopes not to exceed 4:1
4. Fill slopes not to exceed 3:1 (unless compacted).

C. Zoning: Consider vehicular access, traffic limitations, required setbacks, parking requirements and storm water management requirements.

D. Guard Rails: In areas accessible to public, provide 1.07 m (42 inch) high, architecturally designed guard rails, and integrated with landscaping.

1. Space between railing elements to restrict a 10 cm (4 inch) ball.
2. Maximum between the bottom horizontal bar and structure 5 cm (2 inch).
3. Comply with governing regulations.
4. Avoid horizontal rail designs that allow climbing.

E. Retaining Walls: Provide materials compatible with the project theme developed with the landscape plan and the building architecture. Generally, minimize the use and quantity of retaining walls in the site design.

F. Hazardous and Environmental Conditions: Sites containing, or believed to contain environmental impact issues and conditions that require extensive environmental testing, may be developed if mitigated to determine site suitability. Neighboring sites with development standards that are consistent with those stipulated by MI are required to be free of odors and environmental issues.

1.3 Site Utilities, Drainage and Soil Treatment

A. General: Design site infrastructure and drainage to comply with governing regulations and drainage criteria for 100 year flood protection.

B. Utility Infrastructure: Exercise sensitivity to site aesthetics, select location of surface devices and obtain MI acceptance for drain inlets, electric load centers and transformers, backflow devices, utility vaults, cleanouts, water meters, etc.

C. R Utility Metering: Coordinate with <15A>, <15B> and <15C>.

D. Utility Materials: Locate primary building utilities (water, electric, gas, etc.) to limit unauthorized access and to mitigate the opportunity to contaminate or disrupt building activities. See <15A>, <15B>, <15C> and coordinate with <16>.

1. Electrical Load Centers & Transformers: Provide in service areas.
2. Water Meter & Backflow Prevention: Provide devices in vaults. Design vault finish surfaces compatible with surrounding hardscape.
3. Submeter: Provide with backflow preventer for metering irrigation water consumption and pool makeup water.

E. Site Drainage: Develop a comprehensive plan for the site and storm water management system.

1. Storm Water: Provide storm water management for anticipated rainfall conditions and prohibit pockets of standing water on paved surfaces, planted landscape and lawn areas.
2. BP Storm Management: Evaluate providing storm water management features that retain, store or reuse storm water to support green and sustainable goals. Incorporate a bio-retention program in line with local jurisdiction recommendations as part of the storm water plan.
3. Drainage: Provide positive drainage away from the building to minimize water infiltration. Do not allow water to release onto or cross over sidewalks.

F. Soil Treatment & Pest Control: Provide soil treatment to prevent infestation of termite and subterranean pests.

G. Electric Vehicle Chargers: Provide underground empty conduits to carry future power from electric distribution and control wiring from computer system to on-site vehicle charging equipment. See <15C>.

1.4 Traffic Circulation - Planning

A. BP General: When planning for traffic circulation, design the site appropriate to either an urban or resort property.

B. Driveways: Provide driveways to the hotel and other major property facilities.

1. Curbs, Curb Cuts & Ramps: Design from parking areas to meet accessibility guidelines and applicable governing regulations.
2. Bollards: Locate facilities to avoid damage by vehicles. When the location requires, provide bollards or similar protection devices around columns, planters, signs, trash enclosures, utility mains and other features vulnerable to damage by vehicular traffic.
3. Snow Storage: In areas of high snowfall, carefully analyze parking layout to ensure proper snow storage in parking lot if impossible or impractical to completely remove snow.

C. Traffic Circulation Features: Provide 2-way circulation with 90 degree parking in the following widths:

1. Curb to Curb: 19.5 m (64 ft.) and subject to utilization of front overhang design
2. Wall to Wall: 19.5 m (64 ft.)
3. Two-Way Drives: Minimum of 7 m (24 ft.) wide
4. Single Lane Driveways (exclusive of parking): Minimum width of 3.6 m (12 ft.)

1.5 Traffic Circulation - Control & Regulation Signage

A. Traffic Control Signage: Provide normal on-site traffic control signage to avoid electronic signaling devices.

1. Verify requirements with fire department having jurisdiction and other governing officials.
2. Indicate traffic direction, parking restrictions, roadway intersection regulations and speed and other limitations.
3. BP Altering standard symbols, conventional symbol size, or conventional regulatory colors and configurations is not recommended.
4. BP If allowed by governing authority, custom design “standard” type traffic control signage consistent with the image of the project. Typically, provide raised letters (such as carved letters) on MI selected and accepted background (generally, solid wood for resorts) signage material.

B. Symbol Standards: Use symbol standards generally prescribed by the governing Department of Transportation.

1. BP Examples of International sign panels (language varies by region / country).

C. Vehicular & Exterior Directional Signs: Coordinate vehicle signage with pedestrian and the overall project signage design and planning requirements.

• Provide directional signs for vehicular traffic in accordance with good safety standards.

• Provide directional signs for pedestrian circulation and from parking to hotel entrance.

1. BP Minimize information items; limit to three items whenever possible.
2. Provide decision point and destination point items only.

3. Scale / Distance: Include for vehicular use such as overhead clearance.
4. BP Minimize signage at Porte Cochere main building entrance but provide in compliance with governing authority.

1.6 Paving & Hardscape

A. Finish Surfaces: Design for clean appearance, easy maintenance and ability to be cleaned (to acceptable limits) of stains from motor oil, food spillage and other spotting substances.

B. Submittals: Concrete or ashalt. Obtain acceptance from MI for sample colors, materials and finishes.

C. Paving Materials:

1. Provide the following minimum thickness of finish course materials:
    a. Parking Lots: 60 mm (2-1/2 inch) asphalt concrete
    b. Service Drives: 100 mm (4 inch) asphalt concrete
    c. Dock: 125 mm (5 inch) reinforced concrete
2. BP Entry (site entry to the property): Use traffic rated decorative materials.

D. Concrete: Natural color, air entrained ready mix, typically with color admixture and exposed aggregate or broom finish.

E. Stone: Natural stone materials with grouted joints from 3 mm (1/8 inch) to 10 mm (3/8 inch) wide dependent on material and paving pattern. Typically, selected to minimize staining. Provide stone at food services terraces, courtyards, pool and spa decks, pool bar terrace. See <4C> and <4D>.

F. Curbs: Provide concrete or stone curbs to match entry paving from site entrance to hotel entry. Along outside edges of entry drive, provide rolled curb with matching curb / drive finishes.

G. Concrete Curbs: Provide concrete curbs and gutter with tooled joints as follows:

1. Integral curb and gutter at paved areas including site periphery, landscaping, lighting islands and parking.
    • Height: 15.24 cm (6 inch) maximum to avoid damage to guest vehicles.
2. BP Consider curb designs as dictated by local construction practices within governing jurisdiction.

H. Sealers: Provide penetrating type with a chemical composition that does not

change finish surface color, slip resistance or visual qualities. Natural stone density and degree of porosity are critical considerations for selection of sealers.

I. Drainage: Slope paving to fall to drain structures that are not in pedestrian pathways, and connect to site storm piping. Locate at perimeter of terrace decks to avoid conflicts with deck furniture.

J. Walkway Designs: In planning for sidewalks, give special consideration to the most direct route a guest would take from their car to building entrances. Designate pedestrian crosswalks, establish throughout parking areas and identify accordingly.

1. Sidewalks: 1.5 m (w) (5 ft.) at parking stalls and for primary circulation routes and 1.2 m (w) (4 ft.) minimum elsewhere and as directed by governing regulations.

2. Accessible Walkways: At ramps, provide appropriate slope, finish texture and comply with governing regulations and good safety practice.

3. Ramps: When changes in elevation are required at walkways, accommodate by ramps wherever possible. Design ramps with sufficient shallow slope so handrails are not necessary. Provide a slope no greater than 1:20 (5%) and cross slope of 1:50 (2%).

4. Steps: If steps are required, provide a minimum of three risers, slip resistant nosings and handrails on each side.

5. Lighting: Pole lights or bollards. See "Site Lighting" in this Chapter.

K. Walkway Materials: Create a hierarchy of walkway paving finishes that increase in detail and quality near hotel primary entrance, secondary entrances, hotel exits, recreation areas and as appropriate for garden areas:

1. Parking Areas: Concrete, light broom finish or exposed aggregate

2. Service Areas: Concrete, light broom finish

3. Site Circulation: Exposed aggregate and decorative concrete, masonry paving or stone

4. Landscape Walkways: Concrete, light broom finish, natural stone; exposed aggregate concrete, etc.

5. Garden & Recreation: Exposed aggregate concrete or stone

6. Concrete Finish: Exposed aggregate concrete surface, integrally mixed color, finish created by surface retardant or sandblasting and sealed with penetrating sealer.

7. Wood: Do not use protected wood products containing chemicals, that may

irritate skin. When wood walkways are used, attach with galvanized screws and install decking perpendicular to walking path to minimize splintering.

8. Wood Alternative: Review with MI

L. Vehicle Driveways: Provide driveways to access the hotel and other major site improvements and facilities.

1. Pavement: Medium duty asphalt paving, unless heavy duty asphalt or concrete is required because of soil conditions or service delivery demands.

2. Building Entrance: See Porte Cochere in this document. Provide transition paving and walkway to a roll curb design beyond covered Porte Cochere.

3. Curbs, Curb Cuts & Ramps: Design from parking areas to meet accessibility guidelines and applicable governing codes.

4. Bollards: Design to minimize the need for bollards or similar protection devices around columns, planters, signs, trash enclosures, utility mains and other features vulnerable to damage by vehicular traffic.

5. BP Speed Control: Consider vehicle speed control devices and normal traffic control signage to avoid electronic signaling devices. Verify requirements with governing fire department and other officials.

6. Snow Storage: In areas of high snow fall, carefully analyze parking layout to ensure proper snow storage in parking lot if possible or impractical to completely remove snow.

M. Queuing & Vehicle Holding Areas: Provide adequate queuing and holding areas at locations such as the Entry Canopy / Porte Cochere, Ballrooms, Restaurants, Retail, building service elevators and other concentrated access and loading.

N. R Pool Decks: See <4C>.

1.7 Main Site Entrance

A. Program: Provide entrance design that complements the site requirements as described above. Guests and other non-service visitors utilize the main site entrance. Provide with the following features:

1. Separate ingress and egress lanes with island.
2. If a gatehouse is required, provide a turnaround area for vehicles directed to exit the property.
   • Locate to avoid passing through access gate if possible.
   • Provide a turn back area beyond the gatehouse.
   • Provide an inconspicuous parking space for security vehicle adjacent to road.
3. Queuing space for vehicles within site to prevent traffic backup on public street.
4. Place and coordinate site irrigation system to ensure passing automobiles are not sprayed when entering.
5. Snow / ice melt system (depends on project location) at the entrance drive, in the queuing lanes (when gatehouse is provided) and adjacent walkways that are susceptible to snow buildup, ice formation, or other climate hazards in climates of heavy snowfall.
6. BP Water feature (if provided).
7. Lighting to emphasize entrance wall graphics, landscape materials, water features and (if included) the Gatehouse. Avoid illumination into adjacent areas.

B. Site Entrance Gatehouse (option): In master planned sites, when required by the project Facilities Program, provide a property entrance gatehouse to control guest ingress and egress. Coordinate with <16>. If required, provide working desk area for two employees and the following:

1. Mount on walls surveillance cameras and video monitors.
2. Computer monitor and keyboard
3. One telephone with two lines for each position
4. One emergency phone with 60 dB “whoop” ring
5. Gooseneck microphone with foot pedal
6. Storage for supplies and first aid

7. Fire control and annunciation panels
8. Administrative desk with one, two line telephone and lateral file
9. If governing code requires or if a public facility is not in reasonable proximity to the Gatehouse, provide utilities and fixtures for unisex toilet.

C. R Enhanced Security: See <16> for security features (inspection points, sniffing dogs, video surveillance systems, etc.) required in High Level Threat Condition “Red” areas.

1.8 Service & Delivery Entrance

A. Program:

1. A separate service entrance is required to exclude service and delivery vehicles from the main entrance and prevent vehicular conflict with guests.
2. Provide control signage and controlled access and egress.

B. Service Entrance Requirements:
• Entrance walls with property signage
• If a gatehouse is required, provide a turnaround area for vehicles directed to exit the property.
• Queuing space

1.9 Parking Areas

A. Traffic & Parking Analysis: Obtain Owner’s traffic and parking analysis for the proposed property and obtain MI's acceptance for parking quantities.

1. Define traffic circulation to and around the property.
2. Accommodate valet service, cars with personal drivers and self parking.
3. Design valet return route to Porte Cochere (or main Entry Canopy) for reduced guest waiting.
4. R See "Porte Cochere" in this Chapter for other vehicle access, lane, driveway requirements, etc.

B. Slopes: 4% maximum; level at accessible parking spaces.

C. Traffic Flow: Provide two way traffic.

D. Parking Spaces:

1. 90 degree parking for two-way lot traffic.

2. Accessible Spaces: Provide and comply with governing accessibility regulations.
   • Distribute spaces proximate to building entrances, so guests are not required to cross drive aisles to access a facility.
   • Distribute required quantities at building entrances.
   • Provide depressed curbs where accessible spaces are located, to facilitate access to sidewalks and building entries.

3. Sizes:
   • Self Parking: 2.6 x 5.8 m (8'-6" x 19 ft.) spaces
   • Aisles: 7.6 m (25 ft.)
   • Valet: 2.6 m (8'-6") wide, 18.9 m (62 ft.) bays and may be stacked multi spaced valet parking. Accessible parking spaces are not required for valet parking.

4. BP Compact Vehicle Spaces: Generally, not desired. Review vehicle mix or space reduction with MI.

5. Stall Lines: Define stalls with painted lines, white color.

6. Wheel Stops: Not permitted.

7. Charging Station: Provide for charging electric vehicles as required to meet the project program and environmental goals. See <15C>.

E. Lighting: Coordinate parking design with lighting and landscape consultants. See Site Lighting section for criteria.

1.10 Parking Structures

A. Program: Design parking structures to accommodate the appropriate mix of valet and self parking for the project. Design building to reflect the design and quality of the project.

B. BP Circulation: Provide circulation with 90 degree parking and design parking to separate service and delivery vehicles from guest parking.

1. BP Circulation Routes: Provide clear and distinct vehicle routes. If possible, provide separate entrances and exits for one-way in and one-way out circulation patterns and separate up and down scissors type ramps for changes in levels.
2. BP Size minimum bay widths for double loaded standard size vehicles and two-way circulation at 17 to 19.5 m (56 to 64 ft.), wall to wall.

C. Space Planning:

1. Ramp Gradients: Do not exceed 12% with a 6% blend at 3.05 m (10 ft.) from each end.
2. BP Columns and Structure: Arrange structural columns and similar impediments not to infringe on parking space widths. Space columns a minimum of 0.61 m (2 ft.) from the end of stall.
3. BP Do not exceed 30.2 m² (325 sq. ft.) per parking space. Base calculation on gross parking area (GPA) divided by parking capacity. Calculation excludes auxiliary spaces such as stairs, elevators and storage but includes car ramp and circulation areas.

D. BP Parking Stalls: Consult with MI to determine stall size and distribution. Adjust width based on climate, parking geometry, location and size of vehicles anticipated. Verify if sizes are dictated by governing codes or regulations.

1. BP Standard Size Cars: 2.6 x 5.5 m (8'-6" x 18'-0") minimum.
2. BP Define stalls with painted, white color lines.

E. BP Corrosion Protection:

1. BP Corrosion: In parking structures subject to corrosion due to extreme weather, road salts, atmospheric salts or similar conditions, provide a method of corrosion resistance.
2. BP Concrete Strength: Under corrosive conditions, design concrete structures for a minimum concrete strength of 27.58 MPa (4,000 psi), with 6%, plus or minus 1½%, air entrainment.

F. Floor Surfaces:

1. BP Wear Surface: Do not use lightweight concrete or similar standard for wear surfaces in vehicle driving areas.
2. BP Concrete: Light broom finish concrete and sealed or similar to minimize tire squealing. Avoid smooth steel troweled concrete.
3. Ramps: Provide slip resistant surface appropriate to the slope, climate and function. See <16>.
4. Drainage: Provide positive slope towards floor drains and trench drains at base of ramps.

G. Overhead Heights: Design clear heights for vehicle routes and ramps (free from encumbrances).

1. Clear Height: Typically, 2.13 m (7 ft.) minimum, although 2.2 m (7'-4") to 2.3 m (7'-8") accommodates a greater range of vehicle heights and conveys a sense of openness. Provide clearance for tall accessible vans with high roofs and comply with governing accessibility regulations.
2. BP Tall Vehicles: When primary parking level occurs at grade, consider increasing overhead height at that level to accommodate taller vehicles. Concentrate accessible and special van parking on one level.
3. Low Clearance: Provide ample signage and clearance devices, such as impact bars, to warn drivers of low clearance areas.
4. Accessibility: Provide appropriate clear height for van vehicles used by guests with disabilities.

H. Features – Parking Structures:

1. Paint Striping at Columns: Where columns occur, paint stall striping designations on each side of column.
2. Insulation: Provide adequate thermal and acoustical floor slab insulation if hotel is located above parking structure.
3. Wall Protection: Provide bumper rails (highway guards or similar protection) at walls.
4. BP Water: Consider wet type sweeping machine and include dedicated storage area for machine. Provide water fill connection at each parking level.
5. BP Natural Lighting: To reduce requirements for daytime lighting, lightwells are desirable at large decks.
6. BP Planting: Consider exterior planters or other feature of aesthetic value at perimeter of parking structure to mitigate an industrial appearance.

I. Loss Prevention: Provide facilities and controls based on Marriott Loss Prevention Review. See <16>.

1. Enclosures: Subject to Loss Prevention Review recommendations, parking decks may be enclosed with wire mesh or louver treatment if decks have open sides at, or below, street level.

2. Access Control: Provide guest, electronic key access to control gate and/or doors at entrances to parking structure.

    a. Night Time / After Hours: based on location, provide a roll down gate at vehicular entry points, with an electronic key access and intercom.

3. Door or Gate: Provide upward action door or gate with safety retract swing operating mechanisms. Types include painted wood, anodized aluminum or baked enamel access gates (with padding on access bars).

4. Location for Activation Mechanism: Locate at sufficient distance from device to provide a clear approach view and easy maneuverability, and to minimize traffic congestion and backups.

5. Override Switch: Provide switch inside parking structure and include manual chain operators, if permitted by governing regulations.

J. Elevator Vestibules: Design elevator vestibules and entrance areas into buildings from parking structures to reflect the design narrative / concept and quality level of the overall project.

    1. Glass Areas: When approved by governing authorities, provide large glass wall separations between parking structure and elevator lobbies.

    2. Elevator Access: At parking decks, provide control access using guest electronic key and/or intercom only. Connect the intercom to the Front Desk / Reception. Include graphics that read “For Assistance, Press Button”. See <16>.

    3. Storage: Provide area for storage of luggage carts at parking decks.

    4. Telephone (see <13A>): Provide house phone connection to operator at each floor level.

K. Parking Signage & Graphics: See . Provide to clearly indicate the following:

    1. Property name and logo when required in multi-use projects.

    2. Floor levels

    3. Parking stalls

    4. Parking stall numbers are 10 cm (4 inch) high

    5. Stop signs at floor and ceilings

    6. Determine if graphic pathways for pedestrian crossings are needed to control

pedestrian routes.

7. Impact columns and pipes (orange or yellow stripes)
8. Segmented areas at large decks and No Parking areas
9. Compact car spaces
10. Directions into and out of parking structure
11. Building entrances and exits
12. Orientation: Provide wall color and signage to help orient guests to stairs and elevators.
13. Provide ample signage and clearance devices, such as impact bars at entrances to prevent vehicle or structural damage to, or by, oversized and tall vehicles entering the parking structure.
14. If ceiling heights in parking stalls are lower than in drives, (under ramps, near main distribution piping, etc.) provide very clear graphic warnings.

L. Fire Protection - Parking Structure:

1. R Enclosed Structure: See <14>.
2. R Open Structures: See <14>.
3. Verify requirements with governing authorities for fire lanes, fire hydrants, smoke detector, fire extinguishers, strobes and horns, carbon monoxide detectors, etc.

M. Parking Structure Lighting: Design lighting to provide the appropriate level of illumination at the vehicle entrance, traffic lanes, parking areas and pedestrian circulation areas. See <15C>.

1. Provide clear sight lines and illumination at indoor and outdoor traffic transition areas to mitigate sun blindness effect.
2. BP At indoor and outdoor transition areas, provide light colored wall and ceiling finishes to minimize light contrast.
3. BP Provide light fixture protection from vehicle antennas.
4. BP Design light fixtures without visible light sources (glare) from the parking exterior.

N. BP Special Parking Structure Requirements:

1. BP Sweeping machine
2. BP Snow removal machine (if required)

3. BP Hose bib at each level spaced at a maximum of 60 m (200 ft.) on center with freeze protection
4. BP Convenience power outlets at 30 m (100 ft.) on center

O. BP Finishes - Parking Structure:

1. BP Floor: Light broom finish concrete and seal to prevent dusting
2. BP Base: None
3. BP Walls: Paint exposed concrete masonry or cast in place concrete.
4. BP Ceiling: Prefer to paint exposed structure.

1.11 Landscaping

A. Landscape Product: Develop a comprehensive landscape program and theme with the goal of creating a year round, mature, green, natural environment. In primary markets, a landscape architect is required.

1. Design Objectives: Create overall visual appeal.
   • Provide private and semi-private spaces.
   • Include regional plant materials in the landscape plan.
   • Ensure regional, custom and climate compatibility.
   • Coordinate landscaping requirements with vehicular routes, parking, pedestrian circulation, pavement, curbs, irrigation, exterior lighting and governing regulations.
2. EI The finished landscaping product and the overall image and atmosphere of the exterior property environment are critical to the property image with year-round appeal.
3. Sustainable Landscaping: The objective of a sustainable landscape design is to conserve water and energy, reduce storm water runoff, decrease waste and minimize use of natural resources. Provide a comprehensive sustainable Landscape Plan for enhancing the overall design concept of the Property.
   a. BP A licensed Landscape Architect is required to develop a comprehensive, connected, low maintenance, resource efficient, drought tolerant and sustainable landscape plan based on landscape ecology principles.
   b. Incorporate drought tolerant landscaping. Include other landscaping products such as rocks, boulders and lava for gardens, mulch, pavers, walls, etc. in lieu of grass.

c. Select native plants or plants which have adapted to local climate condition.

d. Integrate planting with overall property site storm water management program (see Site Utilities, Drainage and Soil Treatment).

e. BP Incorporate the use of captured rainwater, recycled wastewater, recycled greywater or water treated and conveyed by a public agency specifically for non-potable uses for irrigation.

f. Follow the locale jurisdiction and accepted landscape practices of the trade.

g. Maintenance: Avoid plants that produce berries that can stain or be poisonous.

h. Utilize permeable paving materials to reduce storm water runoff and allow rain water to infiltrate into the ground. Ensure that the permeable paving is cleaned, unclogged and maintained regularly to perform at optimal condition.

B. Plant Standards: Plant materials shall conform to the American Standards for Nursery Stock by AmericanHort for minimum size, height, spread, caliper, rootball, etc. and for container grown and B&B trees, shrubs, groundcover and annual flowers.

1. BP Rootball: Provide delivered plant materials to the site with tight firm rootballs.

2. BP Container Plants: For plants grown in containers, provide fully and deeply rooted and not recently transplanted in such a manner that roots have not had sufficient time to develop.

3. BP Comply with relevant ANSI standards.

C. Indoor Planting: Design Indoor planters for drainage, natural light and water proofing.

1. BP Interior Planters: Provide a 12 mm (1/2") drain mat with filter fabric on bottom and sides of planter with 2% grade planter floor slope toward the drain outlet.
• Minimum 45 cm (18 inch) depth with a permanent drain connected to the building sewer system.
• Lighting: Provide natural light to support plant growth. Artificial light for plant growth is not acceptable. Rotate and replace plants to maintain a vigorous, viable condition.
• Irrigation: Provide for permanent planting; drip irrigation is preferred.

1.12 Irrigation

A. System Design: Provide landscape irrigation.

1. Provide system that accommodates prevailing winds and static pressure reading to keep spray off of walks, terraces and tennis courts.
2. BP Design with sufficient quick coupler valves in irrigated areas to be reached with 30 m (100 ft.) of water hose.
3. BP Meter: Separate irrigation system from the domestic water system and meter separately.
4. BP Near Curbs: Install lines to abut hardscape edges. Routing lines through landscaping is not permitted. Provide adjustable sprinkler heads and flexible connections.
5. BP Consider “grey water” from water treatment facilities, or retained storm water, if available.

B. BP System Features: Fully automated and controlled by an electrical controller with 100% coverage of landscaped areas. Space heads in triangular pattern with overlapping head to head trajectory.

1. BP Control Valves: Electrically activated remote control valves. Provide separate valving for turf and planting beds because of different water requirements. Conveniently located near related zone and discreet from guest travel and view.
2. BP Automatic Controller: Electromechanical repeat cycle with a master control valve to prevent errant operation. Place in concealed locations.
3. BP Turf Heads: 10 cm (4 inch) minimum pop-up spray heads in small cut up areas of turf and high efficiency rotary gear driven heads in large expanse areas of turf.

C. Shrub & Groundcover: Provide 30 cm (12 inch) pop-up spray heads along turf borders, sidewalks and other areas along exterior perimeters without interference from vegetative growth. Zone separately from lawn areas.

1. BP At interior areas of the beds, provide shrub sprays on stationary copper risers with a flex pipe connection to lateral line.
2. BP Provide brass nozzles on the copper risers.

1.13 Water Features, Fountains & Site Amenities

A. Water Features: If programmed, provide fountains and water features that reflect the intrinsic environmental characteristics of the project location. These features are treated on a case by case basis, and require acceptance by MI.

B. Water Feature Design: If provided, design by a qualified fountain consultant, with the intent of creating a special brand narrative compatible with the geographic region, area, culture or other circumstance of significance unique to the property. Provide solutions for water quality control.

1. Blend lake or pond edges naturally into garden setting. Where a water's edge abuts a plaza, walkway or other guest spaces, design the edge treatment appropriately.

2. Create naturalistic features, including rock boulders, stones or outcroppings that represent the geographic region.

C. BP Site Amenities: Incorporate site fountains, gazebos, pavilions, etc. exterior environment design as appropriate to project for creating special spaces, function areas and features of interest.

D. EI Outdoor Recreation Facilities: The location of exterior recreation facilities is a principal consideration of resort site planning. See <4A> for the following:

1. EI Swimming Pools
2. EI Whirl (Spa) Pool
3. EI Tennis Courts
4. EI Golf Course Development
5. EI Beach Improvement and Amenities
6. EI Other Outdoor Recreation Facilities

E. Furniture: Provide seating layouts for exterior food and beverage areas, plant containers and furniture layouts at pool areas and terraces. Coordinate requirements with landscape architect and interior designer. See <3>.

1.14 Site & Landscape Lighting

A. Design Concept: Create a concept with the lighting consultant and landscape architect to define the approach for the landscape lighting design.

1. EI The ambience afforded by landscape lighting is especially important in transforming landscaped areas and gardens into a pleasant, special experience for guests.

2. BP Design Coordination: Carefully coordinate with the exterior building lighting. See exterior building requirements in this Chapter.

B. Environmental: In coastal and environmentally sensitive areas, research and comply with regulations governing environmental issues such as sea turtle nesting areas or migratory bird routes, etc.

C. R Electrical Service: For landscape lighting and exterior electrical service requirements. See <15C>.

D. Lighting Control: Provide site lighting controls on separate circuits from landscape lighting through either time clocks and / or photocells.

1. BP Provide photocell controls for each building or area of exterior lighting on a separate circuit.

2. BP Place photocells relative to natural light and shadow exposure for simultaneous operation.

E. Lighting for Driveways & Parking Areas: Provide a lighting concept to define the approach for the landscape lighting design.

1. BP Generally, low height, residential scale parking lot lighting fixtures are preferred over tall commercial type.

2. Lighting Type: Provide 100% downshield and lamps having a uniform soft white or 3000 K color range (not orange) color. Metal halide or LED lighting is preferred.

3. BP Location: Position light fixtures adjacent to perpendicular parking spaces a minimum of 0.9 m (3 ft.) from the face of curb to avoid conflicts with vehicular overhangs.

4. Light Pole Height: Do not exceed 6 m (20 ft.) or 3.5 m (12 ft.) in high profile areas such as Entry Canopy.

5. BP Impact Protection: Locate light poles to minimize the need for impact protection. If required, mount on 76 cm (30 inch) high concrete pedestals or protect with bollards.

6. BP Coordinate light pole locations with landscape plan to avoid locating adjacent to trees.

F. Walkway Lighting: Illuminate paved pathways. Provide subtle and discreet lighting. Use the surrounding landscape illumination to serve the purpose of walkway lighting wherever possible.

1. Fixtures: Provide durable, corrosive resistant fixtures and maximize concealment of light source.

2. Types:
   • Uplights: Provide attached flat lens, internal louver (if available) and rock guard louver.
   • Bullet Lights: Provide hex louver and eyebrow shield.
   • Niche Lights: Provide flush mount lens, flat bronze down louvered grilles for such fixtures as step lights, garden walls or bridge rails.
   • Quantum Fixtures: Shroud to prevent and control spillage of light source into areas not intended to be lit.

3. Lamps: Provide 3000 K color temperature range.

4. Junction Boxes: Discreetly locate and provide a concrete pad for stability.

G. Tennis Court Lights: 100% down shielded below the horizontal plane and back shielded to prevent light spillage away from the tennis courts.

H. Sign Lighting: Shroud to prevent spillage of light into areas other than lighted sign.

I. Underwater Fountain Fixtures: Permanently affix to bottom of fountain pool or recess within pool bottom.

1. Conceal electrical cords and wires 100% under pool bottom and route in conduits to light locations.

2. Underwater Fixtures: Comply with the NEC Article 680.

J. Special Features: Provide lighting for special feature items or holiday seasonal displays and points of interest through landscape lighting circuits. Provide additional circuit capacity at Entry Canopy and terraces.

K. Installation:

1. Transformers and Junction Boxes: Locate in exterior areas concealed from the public.

2. Junction Boxes: Exterior weatherproof junction boxes rated for NEMA 4X.

3. BP Timers or Sensors: For increased energy efficient reduce light levels at secondary and tributary walkways to 40% at non-peak hours and utilize

motion sensors to bring up to 100% levels when activated by pedestrians.

1.15 Building Structure

A. BP Guestroom Towers – Preferred System: Design for flat plate structural concrete systems without beams projecting into spaces, including slab perimeter to minimize the visual impact on interior spaces. See <7A> for interior, clear distance requirements and ceiling heights.

B. BP Public Space: Design structure to accommodate coffered ceilings and mechanical systems. Use mild steel reinforced concrete designs at public and BOH areas.

C. Expansion Joints: Position outside perimeter of public spaces and at foyers or other areas where they can be fully concealed.

D. BP Slab Depressions: Design structural floor slab depressions and slopes to accommodate flooring at locations such as commercial kitchens, cooler / freezer unit flooring, concealed door closers, fitness center, pools and exterior balconies.

1.16 Building & Fire Codes

A. Code Conflicts: Prior to start of the schematic design phase identify conflicts between governing codes and MI Design Standards and the project.

B. Area Separations: Plan and carefully design area separations away from public spaces or in the BOH areas. If fire doors are required in public spaces, provide flush with adjacent walls and with concealed electromagnetic hold open mechanisms.

1.17 Building Exterior & Features

A. General: Reflect an image consistent with quality and design the facilities sensitive to the regional context and natural characteristics of the site.

1. EI Marriott properties are highly residential utilizing a palette of natural materials and finishes.
2. Design the property with a focus on the arrival point to the property.

B. Design Concepts: Design the building exteriors with an image respectful of the natural characteristics of the site.

C. Exterior Materials:

1. Focus on high quality finishes at guest Entry and circulation locations.
2. BP Utilize specific color palette conducive to, and complementary to, the architectural style.
3. BP Articulate roof lines, balconies and other building features.

D. Acoustic Control: Select building envelope materials, building systems (including roof, doors, windows, louvers, etc.) and mechanical equipment based on the criteria below.

1. Environmental Noise Sources: If the project site is near a source of noise (airport, highway, high traffic areas, trains, industrial activity, mechanical equipment, etc.) that could be disruptive to guests, employ an acoustic consultant to conduct an acoustics survey and define acoustic criteria and controls. Consider project location, day / evening operations and adjacency to noise sources.
2. Guestroom Areas: Limit noise intrusion levels to Hourly Equivalent Levels (LEQ) of 45 dBA for day; 40 dBA at night.
    a. Short Term Noise: 50 dBA for short term (day / night) noise such as sirens and low level helicopter flights.
    b. Day - Night Level (LDN) of 45 dBA for aircraft noise level intrusion.
3. Meeting Spaces: Limit noise intrusion levels to 40 dBA or as determined by consultant's report and accepted by MI.

E. Windows, Washing & Maintenance:

1. Windows: Provide commercial class and double glazing, unless acoustic comfort and energy efficiency dictates additional glazing. See .
2. BP Window Washing: Provide for window washing and exterior building maintenance. Comply with governing regulations.

a. BP Typically, window washing is provided by a service contract. Contact local window washing companies to determine their standard for scaffold equipment arrangements and support requirements.

b. BP Design for the equipment required to accommodate the selected contract maintenance equipment.

c. BP Provide window washing equipment supports such as davits, anchorage and power service.

F. Insulation & Vapor Barrier: Required to provide long term energy efficiency and guest comfort and based on project energy evaluation and calculations. See <15A>.

G. Weather Resistance: Provide an all weather resistant building envelope.

1. BP Avoid reliance on a single stage (barrier) system for water and moisture resistance.

2. BP Provide secondary drainage capability and weep system to exterior wall / glazing system.

H. Roofs: See material and product requirements in and provide roofing with the following attributes.

1. Long term, low maintenance service life with neat appearance.

2. Positive slope to drain water without “ponding”.

3. In snow and ice regions, develop designs to prevent snow and ice build up and subsequent hazards of falling snow and ice from roofs. Consider cold roof designs or provide for roof snow and ice melt system.

4. BP Insulate to provide long term energy economy.

5. BP Design roof drainage system to include gutters, downspouts and/or internal water collection and piping to storm drainage system.

I. R Balconies: See the project Facilities Program and if applicable, coordinate with <7A>.

J. Service & Mechanical Equipment:
- Screen the equipment from public and guest views, at rooftop locations.
- Provide walk pads for service equipment.
- Anchor roof top equipment to withstand the maximum wind speeds.

K. Energy Compliance: Design building envelope / exteriors to comply with governing energy code and HVAC standards. Coordinate with exterior glazing for acoustical ratings, and resistance to condensation.

L. Air Intake: Locate outside air intakes minimum 10 m (30 ft.) above grade and away from public or accessible areas. See <15A> and <16>.

M. Awnings: Design awnings, structural framing, support for signage, lighting and awnings. Submit the awning designs and locations for review during the schematic phase.

• Awning Canopy: Cover bottom with fabric to create a soffit and contain recessed, flush mounted downlights.

• Downlights: Provide fixture types to allow light spillage upward into canopy volume to create a gentle illumination of logo at night.

• Building Signage: Primarily the canvas awning at the Entry Canopy, if used.

• Additional Awnings: Where approved, mount at secondary entrances or windows.

1.18 Building Entrance & Porte Cochere

A. Program: Facilitate the ability of MI to provide excellent guest service and create positive first and last impressions. Provide a well lighted, covered Porte Cochere or Canopy that complements the building and architectural style of the region.

B. Location: Vehicle arrival is at the primary entrance. See <2A>

C. EI Entry Canopy / Protection - Historic Buildings: Where a property occupies a historical city location it may be impossible to accommodate a covered structure due to strict façade and exterior modification restrictions. Therefore, consider the entry structure design on a case by case basis, dependent on the historic context.

D. Space Planning: Avoid circulation conflicts between vehicles and guests, and waiting, arriving and departing guests.

1. Provide cover to protect guests from weather elements at the building entrance.
2. Allow space for taxi and airport shuttle queuing within visual sight of building entry, but away from vehicle and guest entrance.
3. Provide bus routing and parking away from main entry Porte Cochere. Provide direction toward group arrival area for remote check in. See below and <6> for “Function / Group Entrance and Desk”.
4. Accommodate 10 to 12 valet / ride services parking pick up / drop-off and short term parking spaces at or adjacent to the Porte Cochere to avoid congestion at the primary entrance area. Verify exact number with MI.
5. Provide separate path for luggage handling by staff to a separate building entrance, away from guests’ view, preferably near luggage storage room.

6. Include space for ash / trash receptacles and coordinate with landscape amenities.

7. Provide a protected entrance and drop off area at secondary hotel entrances such as an exterior entry to large function and meeting area, restaurants and spa.

8. Provide exterior zones discreetly located away from entrances for public and staff smoking.

E. Size / Area:

1. Traffic Lanes: Typically, provide a minimum 3 lanes total, two 3.7 m (12 ft.) wide minimum covered traffic lanes through the Porte Cochere and one uncovered by-pass lane.

2. Vehicle Clearance: Sufficient to accommodate tallest fire truck, shuttle bus or emergency vehicle anticipated to use the facility, typically 4.5 m (14 ft.) overhead clearance.

3. Protection: Design to provide protection from the elements for 12 m (40 ft.) length of sidewalk drop-off area and for the width of traffic lanes.

4. Curb to Entrance Distance: Minimum 3 m (10 ft.) by length of protected drop-off area.

5. Supporting Columns: Position columns 0.9 m (3 ft.) in from curb lines (both sides) to prevent obstruction when opening vehicle doors.

F. Entrance & Porte Cochere Paving:

1. Paving Type: Minimize material types and patterns. Use products appropriate to the property location.

2. Rolled Curb: Provide rolled curb (to match paving) along both outside edges of entrance drive finished to match Entry Drive. Provide rolled curb at the entry side of drive. The intent is to avoid tire rub marks and damage to cars being quickly maneuvered in the Entry area.

3. Material Variations: Distinguish entry drive from walkway utilizing different material texture and color. Minimize material types and styles using appropriate paving for project site without elaborate patterns.

4. Paving Transition at Entry: Level and flush with walkway for full length of protected drop-off area to facilitate luggage carts and allow for disabled guest accessibility.

   a. Steps are not permitted at entrances.

   b. Warp shape of curb at ends of drop-off to avoid tripping hazard and to

permit easy movement of luggage.

5. Joints: Avoid placement of expansion joint near entrance.

6. Drainage: Slope paved surfaces away from entrances. Avoid placing drain grates at entrance area to minimize tripping.

G. Features:

1. R See <2A> for other entry features such as Bellman and Valet stations.

2. Slip Resistance: At walkways, provide slip resistant materials (such as masonry paving). See <16>.

3. BP Hose Bib: Provide concealed hose bib adjacent to drive to maintain area.

4. Lighting: Provide the Porte Cochere (Entry Canopy) with ambient lighting consistent with the Entry and Reception area interior design. See <15C> for lighting levels.

5. Power Outlets: Provide to operate cleaning and maintenance equipment, holiday and seasonal lighting.

6. Emergency Power: Provide at least one power outlet on emergency electric service to assist employees with arrivals and departures during power failures.

7. Background Music: Provide exterior speakers, connected to the property music system. See <13B>.

8. Snow & Ice Melt: When the project is in a region with frequent snowfall, such as a ski area, provide a snow and ice melt system at entrance drive.

9. Heating: In cold climates, provide radiant heating units integrated with the Porte Cochere or Entry Canopy. Design for the comfort of waiting guests.

H. Flagpoles: Provide three, 12 m (40 ft.) flagpoles of anodized aluminum with internal halyards. Provide 3.7 m (12 ft.) on center spacing between poles.

1. Locate as directed by Landscape Architect in the vicinity of the Porte Cochere.

2. Provide finished concrete footings compatible to surrounding hardscape. Design flush with finish grade.

3. Provide lighting for night flag flying. Use (3) 35 Watt LED fixtures, with flat lens, shielded and louvered. Place fixtures in line with poles, outside the two end poles and between center pole and end poles.

1.19 Event Entrance

A. Program: When required by the project Facilities Program, provide an exterior Porte Cochere and Prefunction entrance. It is similar, but secondary to the main hotel entrance, if it is anticipated that event and meeting space group traffic (cars and guests) will congest the main entrance and Lobby.

B. Location: Position and design event meeting entrance and desk to provide guests with a high level of service and image equal to the main entrance and lobby.

C. Features:

1. Architecturally, the scale and image of the Event Entrance is secondary to the primary Porte Cochere and Lobby Entrance to avoid confusing arriving guests.
2. Criteria for this entrance area are similar to primary Lobby Entrance. <2A>

1.20 Exterior Building Lighting

A. Building Entry: Provide unique style, custom designs by the architect and lighting designer.

1. BP Type: Establish architectural styles for the project's decorative light fixtures.
2. BP Locations: Building exterior at terraces, pilasters, function entrance, landscaped pathways, etc. Emphasize entrances and architectural features using decorative down lighting and / or up lighting.
3. BP Screen 100% of fixture light source with shields or louver attachments.

B. BP Wall & Column Sconce Fixtures:

1. BP Type: Flush mounted decorative wall fixtures, compatible with entry fixtures. Complement building architectural design and provide to enhance guest safety and security.
2. BP Locations: Provide on columns, arcades, pool bar areas, etc. Design to obtain simple elegant lighting without calling attention to the fixture.

C. Architectural Lighting: Provide understated and subtle fixture design for ambient light and architectural illumination. Review these design applications with MI.

1. BP Location: Coordinate fixture placement with the architecture, landscaping, interior design.

2. Light Screening: Screen fixtures 100% from guest view with light source concealed by shield and louver attachments.

3. BP Timers or Sensors: For energy efficient and controllable lighting systems. Reduce light levels at secondary facades to 40% at non-peak hours.

D. R Parking Structure Lighting: See section, “Parking Structures” in this Chapter.

E. R Lighting Levels: See <15C> for minimum illumination requirements.

1.21 Exterior Signage

A. Program: Provide property identifying devices and graphics. See <GR2> and the MGS (Marriott Global Source) website references.

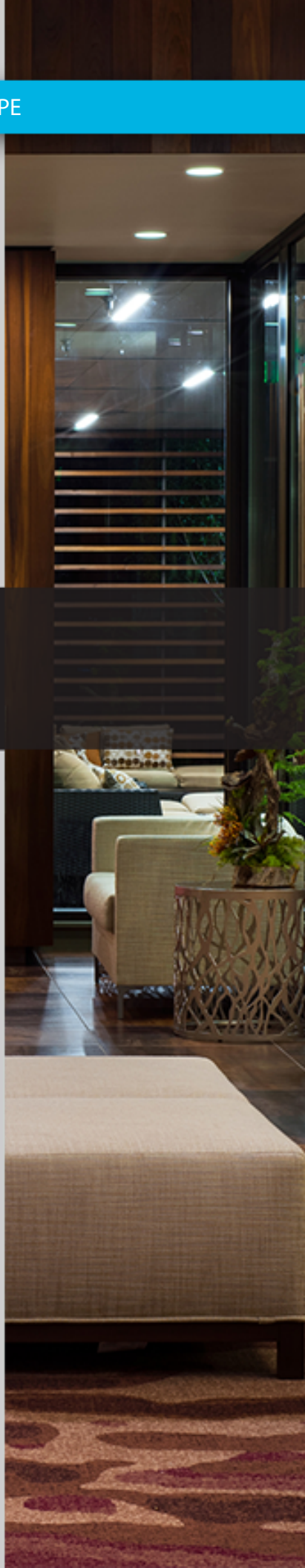
1.22 R Coordination

A. R Reference: Coordinate with requirements of other Chapters.

- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE



Marriott Hotels

lobby areas

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

2A.1 Overview

A. MH Greatroom: The Lobby and its Public Spaces are reinvented as the Marriott Hotel (MH) Greatroom where guests transition seamlessly between Social, Business, Creative and Personal activities through flexible furnishings, the latest technology and innovative F&B. Through great design, the Greatroom experience is flexible and adaptable, social and collaborative, comfortable and stylish.

1. Transition of mood and atmosphere from day to night is key to the success of the MH Greatroom, and must be thoughtfully designed and integrated to include dimmable lighting, a quality sound system, wireless access and high definition televisions.

2. Connectivity is also key to the MH Greatroom. Incorporate electrical outlets and flat screen connectivity throughout, including Points of Sale (P.O.S.) for efficient service.

3. EI Resources: See the following for more information.

   a. EI Marriott Global Source (MGS): MH Greatroom

B. Space Planning: Guest Services and the MH Greatroom are recognized as two distinct functional areas.

1. Welcome Area: Dedicated to guest service activities.

2. Social Area: MH Greatroom is a multifunctional environment defined as 4 key Greatroom experiences - welcome, gather, chill and collaborate.

C. Design: Amplify the hotel's distinctive signature; warm and inviting with an open sense of arrival and orientation within the MH Greatroom.

1. The overall style is modern, incorporating clean lines and a soothing residential color palette. Utilize varied ceiling heights for spatial interest and incorporate architectural details.

2. Market conditions most often dictate greater vertical height for more spatial volume; anything less than a two story height would require MI acceptance.

3. At transitional areas (public corridors, staircases, elevator lobbies, etc.), extend finishes, furnishings and design treatment similar to the MH Greatroom.

4. Avoid service circulation through lobby and its public spaces as much as possible.

D. Stairs, Steps & Ramps: Make stairs and steps apparent through use of essential

design elements in <16> (including ramps where required) and in compliance with governing regulations. Slip Resistance: See <16> for slip resistant walking surfaces.

E. R Windows & Safety Glass: See <16> for window, glass / glazing criteria and for safety glass requirements.

F. Water Features: When proposed for the MH Greatroom (more often at resort hotels) employ a consultant familiar with the water feature type proposed and the ability to address water filtration, aeration, treatment, maintenance, acoustics, aquatic life, waterproofing, loss prevention, electrical and lighting.

G. Property Technology: Provide Wi-Fi coverage (see <13A>) throughout the public spaces for guest access.

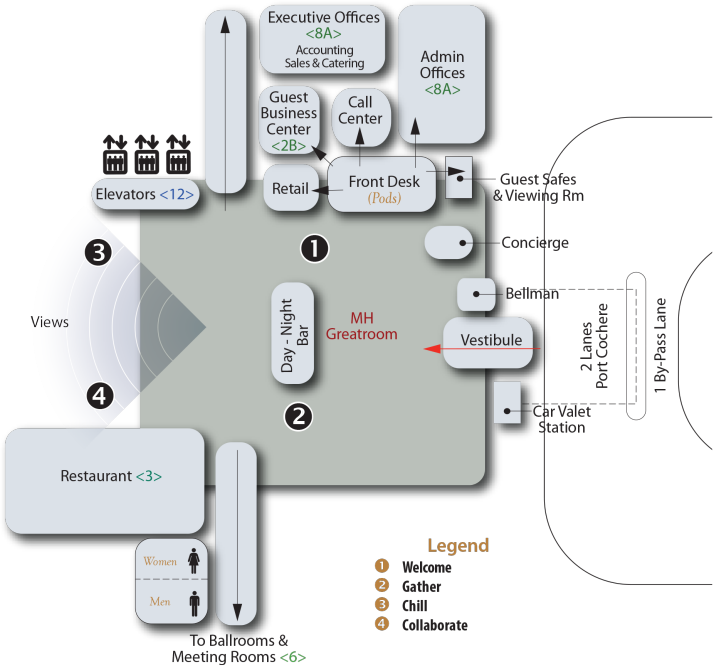
H. Finishes - MH Greatroom: Use a practical, yet dramatic combination of architectural finishes to create a modern appearance.

1. Floor: As a minimum, provide through body porcelain or natural stone floors accented by area rugs or carpets.
    a. Stone: Provide high quality grade marble, granite or similar natural stone.
    b. BP Use granite as an accent only.
2. Base: Wood base or tile base throughout consistent with floor material. Do not use carpet or resilient base.
3. Walls: Provide walls with decorative stained or painted millwork, architectural moldings and commercial grade wallcoverings.
4. Millwork: Provide detailed millwork, comprised of woods, stones and quality finishes throughout MH Greatroom and at feature walls and similar areas.
    a. BP Use architectural elements to embrace the design.
    b. BP Integrate decorative and accent lighting, artwork and artifacts.
5. Ceilings: Modern, multi-level gypsum board or plaster ceilings with millwork, decorative ceiling fixtures, light coves and recessed lighting. Coordinate ceiling design with seating groups.
6. Lighting: Provide unique design solutions with programmable dimmer controls to enhance the Hotel design narrative and Brand's design foundation for the space. Provide a combination of decorative, ambient and task lighting.

I. Signage & Graphics: Coordinate with <GR2>.

1. Integrate details thoughtfully and elegantly to minimize visual impact, while ensuring understanding and easy access.

J. BP Lobby Areas - Adjacency Diagram



2A.2 Hotel Entrance

A. Program: Provide a procession of spaces that give an energized, streamlined and efficient sense of arrival. See the project Facilities Program.
   • Highlight entrance with relevant design features and focal points.
   • Design entry area to assist guests with their arrival and departure experience.
   • Facilitate the ability to provide excellent service and to create a positive first and last guest impression.

B. Space Planning:

   1. Sequence: Create a subtle, but purposeful transition from arrival (exterior) to entry (interior) culminating in the new lobby experience, the MH Greatroom. Including the Porte Cochere <1>, accommodate the following spaces:
      • Vestibule Entrance
      • Car Valet Station
      • Limousine Desk
      • Bellman Services
      • Luggage Room
      • Central Control Station (Fire Command Room)

   2. BOH Entries: Provide Entry Areas for Back-of-House (BOH) service, without that service crossing Public Entry and Reception Areas.

3. Sight Lines: Carefully screen sight lines from Entry Areas to BOH to avoid undesirable sound and light transmission.

4. Utility Spaces: Carefully consider and incorporate the support, service and utility spaces (Janitor Closet, Luggage, MEP, etc.) necessary to complete the public entry area design.

C. Accessibility: Provide an accessible route for persons with disabilities to Entry Areas (typically corresponding to the primary route used by the public). Comply with all applicable accessibility regulations.

1. Public Entrances: Design 50% of public entrances, with at least one ground floor entrance and one pedestrian entrance from a parking structure for access by persons with disabilities.

2. Doorways: At exterior and interior doorways, provide an 82 cm (32 inch) minimum clear opening with approach and strike side clearance. Typically, provide 46 cm (18 inch) minimum clear at the strike side to adjacent wall for an in-swinging door.

D. Porte Cochere:

1. Provide an exterior building entrance canopy to protect guests from the weather at the main hotel entrance. See <1> for criteria.

2. Design complementary to the overall architecture of the building. In addition to the function of the entrance identity, create a distinctive, signature image.

E. Vestibule Entrance: Provide a transition area (or vestibule).

1. Space Planning:

a. Location: Place between exterior (Porte Cochere) and MH Greatroom.

b. Size / Area: Minimum of 2.5 m (8 ft.) between sets of doors. Provide a vestibule area to accommodate arriving and departing guests, luggage handling, guest with disabilities, and emergency exiting requirements.

2. Entry Design: Design to reinforce the hotel's brand narrative. Incorporate high quality, durable wall and decorative paving treatment, lighting, signage and landscaping to create a positive first and last impression.

a. Protect area floors from soil and wet weather debris; include walk-off surface in vestibule prior to hotel entrance.

b. Provide a separate luggage entrance to avoid congestion at the hotel entrance.

3. Vestibule:

a. Protect space and persons from regional temperate and cold climates

with temperature extremes. As required, include separate, dedicated HVAC in vestibule to reduce climate impact in Lobby.

b. Address vestibule enclosure design considering potential for “stack effect” drafts in highrise buildings.

4. Doors: Based on the anticipated traffic, provide combinations of swing, sliding and revolving doors, and fixed glazed door panels and leafs, appropriate to the market.

   a. Panel / Leaf Size: 0.91 m (3 ft.) wide minimum

   b. Doors are automatic, electronically actuated sliding glass doors or revolving door (power assisted revolving doors may be required because of door size).

5. BP Finishes: Extend Lobby finishes into exterior entrance.

6. R Signage: See for applicable entry signage and graphics.

7. Entrances From Parking Structure: Plan parking structure entrances to the Lobby (or public spaces) as dedicated stairs and shuttle elevators that deliver guests directly to the Lobby and where guests transfer to hotel passenger elevators in view of Front Desk. See <12>.

8. Secondary Entry Vestibules: Emulate design concept at Main Entry vestibule.

F. Car Valet Station: Provide an exterior service counter near the entrance to support car valet staff and limousine service. Typically, the valet service is provided by a third party operation.

1. Space Planning:

   a. Location: Exterior between Porte Cochere and Hotel Entrance.
   • Adjacent to exterior entrance of Luggage Room for efficient handling of luggage and shared use by Bellman.
   • Contiguous with interior Limousine Desk at locations requiring limousine service.
   • Consider separate drop-off space for properties with large function facilities, see <6>.

   b. Size / Area: Counter or Podium; 0.6 m (2 ft) width x 1 m (3'-4") long minimum.

2. Features: Include the following.

   a. BP Drawers, racks and shelves for holding car keys, luggage tags, pens, pencils, maps, etc.

   b. BP Key Organization: Provide a rack or drawers to organize and secure

car keys out of view of guests.

c. P.O.S. terminal and telephone outlet, see <13A>

d. BP Task lighting on desk, see <15C>

3. Parking Access: Review parking facility plans in the Loss Prevention Review process, see and <16>.

4. Finishes: Provide combination of high quality materials complementary to the hotel entrance design and detail finishes for exterior exposure.

a. Countertop: Stone or other exterior durable material, consistent with entrance finishes. Detail base with wood or stone.

G. Limousine Desk: At hotels where limousine and van service (chauffeured vehicles) is offered, provide a counter or office to support the service.

1. Space Planning:

a. Location: Adjacent to hotel entrance. Based on the size of the hotel and extent of service, guest access to limousine service may be provided at the Concierge Desk, interior Bell Station or at a dedicated counter or office.

b. Size / Area: Facility is usually a concession that may include combined car valet and limousine type service. While convenient, guest access at the Lobby is critical, shared resources, visual contact with traffic, and operational efficiency may dictate a combined service with the exterior Car Valet Station.

2. Features: Include the following:

a. Counter: Quality millwork, similar to the Concierge Desk.

b. R Telephone: See <13A>.

3. Finishes: Consistent with MH Greatroom interior design.

4. Driver's Lounge: At full service facilities, provide a waiting area for drivers near the parking area or parking structure and not visible to hotel guests.

H. Bellman Services: Provide bellman services to assist arriving and departing guests with their luggage to and from the hotel's main entry, Lobby and guestrooms.

1. Space Planning:

a. Locations: Bellman services include the following:

• Exterior (see <1>): At the Hotel Entrance / Porte Cochere and adjacent to the Luggage Room exterior entrance.

• Interior: Position a millwork counter / podium immediately adjacent to interior entrance to Luggage Room for efficient handling of luggage, for visual supervision of arriving and departing guests at entrance and with visual contact with Front Desk / check-in area (if possible).

b. Size / Area:
• Exterior (see <1>): Provide 1 m² (10 sq. ft.) per cart for cart staging.
• Interior: Minimum of 61 cm (2'-0") wide x 100 cm (3'- 4") long counter / podium.

2. Design Features: Provide exterior and interior areas, concealed from guest's view, that support efficient Bellman services:

a. Exterior: Provide to include the following:
• Luggage Cart Staging: In an enclosed room or alcove, screened from guest's view, for staging a minimum of 4 luggage carts. Verify with MI.
• Counter / Podium: Millwork; small area for pens, pencils, maps and baggage tags (may be included at Car Valet Station, when present.)
• Communications: Telephone outlet, radio or mobile phone, see <13A>
• Lighting: Task lighting with control switch

b. Interior: Provide a counter / podium near the interior of the Lobby Entrance to support hotel staff assisting guests with arrivals, departures and luggage.
• Counter / Podium: Design with lockable drawers, shelves, and include spaces for luggage tags, pens, pencils, paper, and small trash container.
• Communications: Telephone outlet, data connection, power outlet, see <13A>
• Lighting: Task lighting at counter with control switch.

3. Finishes: Provide the following:

a. Exterior: Durable and consistent with exterior entry design.

b. Interior: Fabricate counter / podium using millwork and stone / granite countertop to complement entrance and Lobby finishes.

l. Luggage Room: Provide a secure room for temporary storage of guest luggage.

1. Space Planning: Provide a space or alcove, adjacent to luggage room and near Bell Captain Station, to conceal empty luggage carts to avoid visual clutter at Hotel Entrance.

a. Location: Accessible direct from exterior (Porte Cochere), but not from main entry, and interior from the Lobby.
• Position directly adjacent to Bell Captain Station accessible through interior service doors.
• Conceal guest views from the Lobby area into this room.

• Where possible, provide a service corridor from the Luggage Room to the service elevator to avoid transporting luggage through the Lobby.

b. BP Size / Area:

• Luggage Cart Storage: Total carts = 3 per 100 guestrooms. Typically, in Porte Cochere and of carts in storage.

• Luggage Carts: 60 x 120 cm (2 x 4 ft.). Maintain clearance and stacking capacity in room and adjacent space.

2. Features: Include the following:

a. Doors: 1.1 m (3'-6") wide access door. Provide door locks to match guestroom lock system. See <7A> and <16>.

b. Shelving: Incorporate shelving and hanging storage devices.

3. Resorts: Provide additional capacity at resorts to include sports equipment and refrigerator for complimentary welcome drinks, flowers such as leis and gift storage.

4. BP Finishes: Include the following.

a. BP Floors: Resilient floor tile with resilient base.

b. BP Walls: Painted

c. BP Ceiling: Exposed structure or acoustic ceiling tile system.

J. Interior Signage & Graphics: Coordinate the design and placement with Marriott Interior Design Management and illustrate these elements on the Interior Design drawings.

K. Central Control Station (Fire Command Room): Coordinate with <14>.

1. Space Planning: If required, provide an area for fire department personnel to access fire alarms, annunciator panel, controls and hotel emergency systems.

a. Location: Coordinate location with fire department. Typically, locate at the main lobby entrance, receiving dock or engineering area.

b. EI Size / Area: Coordinate size to accommodate equipment and fire department's requirements. Typically, provide 8 m² (80 sq. ft.).

2. Access: Typically, provide a door with direct exterior access.

2A.3 Welcome Area

A. Program: Provide a transition area to welcome guests that provides areas for gathering, socializing and relaxing.

1. EI The Welcome area is primarily about arrival and orientation. It is a one stop experience where arriving and departing guests are welcomed throughout the day with a well orchestrated choice of personalized services including Check-in/out, Concierge, business services, retail, ATM and boarding pass printing.

2. Location: This area demands presence upon entering the hotel but is not in the direct path of entry. Position close to hotel entrance, open stairs and within view of passenger elevators.

   a. Create efficient traffic flow for check-in at Pods or Front Desk.

   b. Provide visibility from this area to bellman / doorman station and to the Feature Bar in the Social area where possible.

3. Size / Area: See the Figure for design & element requirements.

B. Design: Design check-in area to complement the MH Greatroom.

1. Provide arriving guests with check-in so they may proceed quickly to other property areas.

2. EI Check-in is the welcoming point, enhancing the guest's sense of arrival through tactile and inviting gestures.

3. Articulate the hotel Brand experience via feature wall, lighting, color, scent and imagery.

4. Include regional display of art or found objects.

5. Mobile Key Station: Easily recognizable by guests, locate between the entry and the Elevator Lobby.

C. Space Planning: Provide clear line-of-sight to other areas and to passenger elevators. Locate administrative check-in and guest support activities immediately adjacent to Check-in. The Welcome area includes the following design elements:

- Front Desk / Pods
- Concierge & Business Services
- Tour Desk (if provided)
- Safe Deposit Boxes & Viewing Room
- Retail
- Bellman and Valet
- ATM (if provided)

D. Front Desk / Pods: Provide this key area as the guest services and destination information resource for check-in, concierge and business services and for local information.

1. Front Desk: Design assisted check-in as pods (island units) or a counter where pods are not possible.

a. Pod Length: 1.2 m (4 ft.) minimum per station. Provide one pod (work station) for each 75 to 100 guestrooms; determine actual requirements based on property needs.

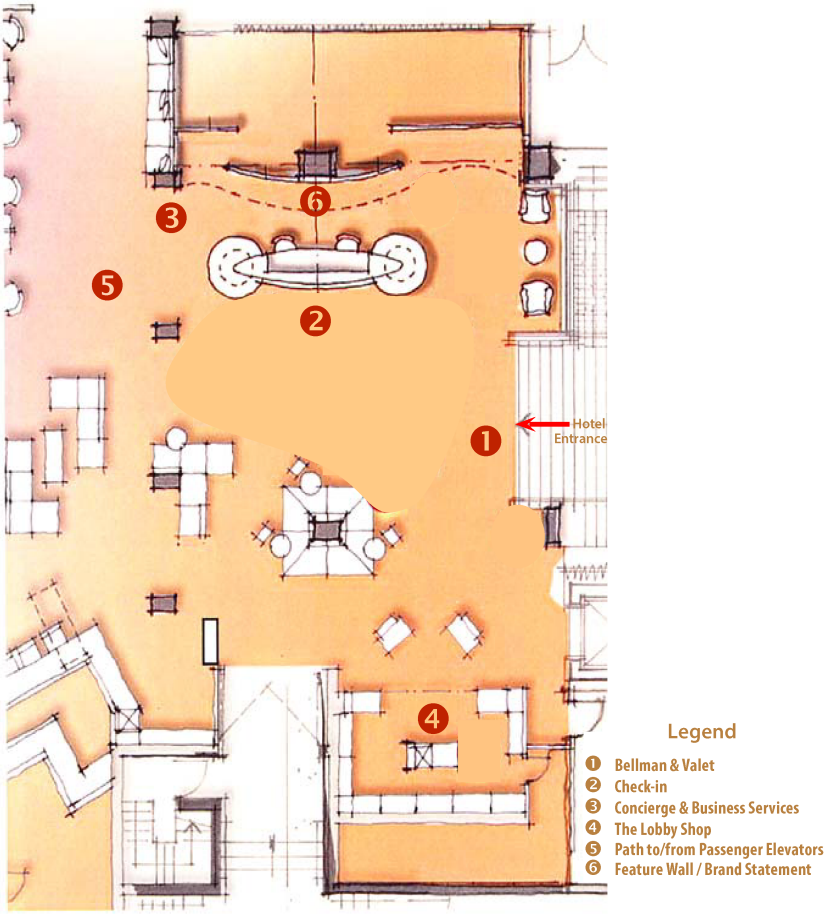
b. Counter Length: 1.8 m (6 ft.) minimum for two work stations as needed for each 75 guestrooms. Provide at least one open end to allow employees to attend to guests from the public / guest side.

c. Accessible Check-In: Coordinate accessible check-in and comply with governing accessibility regulations.

d. Work Space: 1.5 m (5 ft.) minimum, clear work space measured from back (employee side) edge of work surface counter to parallel back wall.
• Integrate reception and cashier functions into the work station.
• Separate Check-in area from Administration / Guest Support Office by a wall and door. See <8A>.

e. Guest Queuing: 3.7 m (12 ft.) minimum distance in front of counter.

f. BP Example: Welcome Area Diagram



2. Rear Wall: An uncluttered feature wall forms a back-drop for the employees and features only quality artwork, millwork, custom finish or sophisticated, decorative and well lighted elements. Avoid property logos, clocks and other functional elements.

3. Front Desk Equipment: Coordinate and locate the equipment (see <13A>) for convenient use by hotel employees. Minimize the visual impact to guest and conceal from guest view. Provide the following at the Front Desk area:
   • Telephone(s)
   • Printer: Copy / Fax / Printer / scanner unit in desk or within reach of employees
   • P.O.S. (Point of Sale)
   • PMS (Property Management System - monitor, CPU, keyboard)
   • Loss Prevention: Duress alarm, fixed camera, see <16>.

4. Finishes: Detail Front Desk Pods or counter in stone or a combination of stone and woodwork and appropriately scaled, with durable polished stone counter top and base. Design to conceal equipment on employee side from guest view.

   a. Floor: For area behind Check-in, provide 80/20 Axminster carpet with

pad, complementary to the Lobby finishes, or other floor materials and finish combinations acceptable to MI Interior Design Management. Design for long-term comfort of standing attendants.

E. Concierge & Business Services: Guest business services are typically provided at Front Desk (shared with Check-in).

1. Program: Based on hotel size concierge services may be performed from a Concierge desk, that is separate from, but adjacent to check-in.

2. R Business Services: When the guest Business Center is required (either remote from or connected to the Front Desk area), see <2B> for requirements.

3. Concierge Station / Desk: When required, provide a desk or counter as a guest information resource. Guest check-in and currency transactions (cashier) occur only at the Front Desk.

   a. Location: Convenient to Hotel Entrance, and next to, but apart from check-in for guest privacy. Situate in the path of guest circulation, readily identifiable to guests, although secondary to the Front Desk Pods, and within visual contact of check-in.

   b. Size / Area: 20 m² (215 sq. ft.) total. No smaller than a two-person counter or desk in any area or market.

   c. Design: Coordinate design with the Front Desk Pods design, materials and configuration, and with equipment and systems. See <13A> and <16>.
   • At properties where guest service requirements are limited, a business desk with two guest chairs may be adequate.
   • Counter or Desk Area: Minimum 2.1 m (7 ft.) long counter or executive quality desks; configure similar to Front Desk Pods. Determine size by region and based on amount and type of services provided in each area.
   • Provide ample storage space for placement of communications and travel planning support information.

   d. Equipment Technology (see <13A>): Provide the following equipment concealed from direct guest view:
   • Computer with required guest service applications and monitor
   • Boarding pass printing
   • Power Outlets: 2 per work station
   • Network connection
   • Telephone: Provide with PBX termination
   • Card key unit; electronic lock encoders

F. Tour Desk: Include a Tour Desk in the project, if required, to avoid congestion in

vicinity of check-in when tour groups register. Design and location of tour entrance and desk or counter provides guest with a level of service and image equal to the main hotel entrance.

1. BP Location: Tour desk may be located at a secondary hotel entrance and positioned to avoid circulation congestion with Hotel Entrance.
2. Design: Replicate assisted reception / registration facilities.

G. Safe Deposit Boxes & Viewing Room: Provide enclosed rooms to permit guests to store and privately view valuables. Design the room so that guest maintains visual contact (visual custody) of their box as it is removed from the bank of boxes to when it is passed to the guest. Coordinate with <16>.

1. Space Planning: Guest enters the Viewing Room immediately adjacent to Check-in.
    a. Location: Arrange the Viewing Room to provide the guest with privacy.
    b. Size / Area: Provide guest access doors with 82 cm (32 inch) clear opening and a maximum threshold height of 12.7 mm (1/2 inch).
2. Quantity: Provide the quantity required by the Loss Prevention Review (typically 1 box for every 10 guestrooms). See <16>.
3. Loss Prevention (see <16>): Position camera to view safe deposit boxes and guest counter.
4. Features: Coordinate Safe Deposit Boxes and Viewing Room designs with <8A> and check-in area requirements in this Chapter above.
    a. Guest Access: Provide an entry door to Viewing Room with an electronic lock controlled from the guest side.
    b. Pass-Through: Connect the Viewing Room to the Safe Deposit Box Room with a glass window and pass-through with stone counter.
    c. Furniture: In Viewing Room, provide a table and chair with mirror and a telephone.
    d. ATM: In designated properties, an ATM is placed inside the Viewing Room, and not in the public space. Locate the machine so that it is serviced from the Safe Deposit Box Room side.
5. Option: The safe deposit boxes and viewing may occur in one room, when space is limited and if determined by market. Consult with MI Loss Prevention for proper protocols.
6. BP Finishes: Provide finishes in Viewing Room similar to the Lobby. See and <8A> for the Safe Deposit Room.

H. Retail: Provide guests with opportunistic, quick and desire based retail offerings in The Lobby Shop, an integral component of the MH Greatroom, fulfilling needs based on retail expectations and delivery.

1. See reference to additional Marriott Retail Design Guide documents above and <5>.

I. ATM: If determined by market, position out of sight from the Lobby, but not in Retail.
• Built-in and encased in millwork; not free-standing.
• In designated properties, an ATM is placed inside the Safe Deposit Viewing Room, and not in the public space.

2A.4 Social Area

A. Program: As the social core of the public space experience, the MH Greatroom is activated by Food & Beverage Service and offers guests the ability to move freely between business and social areas. Provide a stimulating environment that inspires productivity by supporting individual and group activity, and guest interaction and networking.

B. Environment: This welcoming multi-functional environment enables guests to meet, dine, socialize and entertain, as they combine business, pleasure and personal activities. Provide opportunities for small group interaction with food and beverage service.

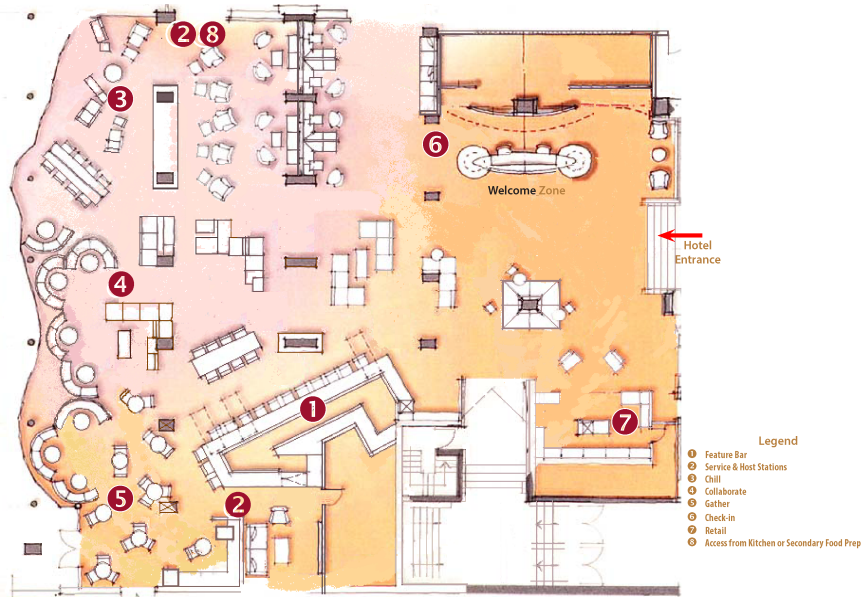
C. Space Planning: Design and size to suit the uniqueness of each property. Design must address the 4 key Greatroom experiences: welcome, gather, chill and collaboration and incorporate local relevance.

1. Circulation: Create guest circulation patterns that facilitate easy connection to key nodes such as open stairs, passenger elevator foyer, check-in, and related services.

2. The Feature Bar is a central focus for the Social area and high visibility from Check-in is preferred.

3. Provide easy access to the commercial kitchen or secondary food prep area.

D. BP Example: MH Greatroom Diagram



E. Design Elements:

1. Feature Bar: Provide ability to transition from a coffee bar in the morning to a cocktail bar in the afternoon and evening. This versatile element provides a lively venue, with specialty foods and drink, in an environment equally conducive to business and social interaction.

   a. BP Planning: Visibility from the Bar to the Restaurant entry is a symbiotic relationship that is strongly encouraged.

   b. The size of the Bar and equipment specification is site specific, and there is always a side bar for material storage for ease of transition between day and night.

   c. R Resources: See <3> and MGS: MH Greatroom.

   d. Pantry: Provide food service at the Bar and Social Area. If the Restaurant kitchen is not positioned to support food service, provide a pantry. See <3> and <10>.

F. Furniture / Seating:

1. Communal Tables:

   • Social: Provide these circular or rectangular standing height tables with power.

   • Private: Provide these centrally located with power and USB connections. Provide unobtrusive service and a memorable F&B experience.

2. Equipment: Provide ample flat panel televisions positioned throughout. They may be grouped together in one location for showing a single combined image where appropriate for the space. Coordinate with <13A>.

3. Provide circular or rectangular furniture configurations with dining / work

tables and banquette seating. provide for semi-private or small team gatherings.

4. Seating: Provide seating that is grouped in odd numbers and includes the following:
   • Chairs: High-backed chairs with throw pillows and optional movable ottoman.
   • Lighting: Provide for reading or work.
   • Provide more intimate options through movable component pieces offering dining height table & seating for couples or small groups.
   • Where space allows, provide a comfortable mix of furnishings for guests to take a break, surf the web or catch up.
5. Lounge Sofas: Where space allows, these variable seating units have backrests, deep cushions, moveable ottomans, task tables and table units to encourage social interaction.
6. Individual Box Seats: Provide these “business class seats” for guests to have a comfortable space to read, work or relax among other guests, while removed from the activity with a degree of privacy.

2A.5 Public Restrooms / Janitor Closet

A. Program: Provide public restroom facilities with janitor closet to serve guests and visitors in the public spaces.

B. Space Planning: Base quantity and proximity of facilities on the following criteria:

   1. Location: Locate to serve primarily the Food & Beverage facilities and secondarily the Lobby Areas. See <3>.
      a. Generally, a separate restroom facility is required to serve Meeting Spaces. Use the following criteria.
      b. Provide separate facilities for male and female.
      c. Include at least one public toilet for each male and female at each public area level.
      d. Some floor plans may require two separate restrooms if distance between areas is too great or if areas are located on separate levels.
      e. Do not exceed 40 m (130 ft.) travel distance to a public restroom.
   2. Size / Area: Calculate and accommodate the toilet fixture quantities required.
      a. Entrance: Provide distinct and separate male and female entries. Include baffled / screened entries, with 0.91 m (3 ft.) minimum width doors.

b. Increase the restroom capacities as required when there is an increase in programmed occupancy quantities.

3. Views: Arrange fixtures not visible from public areas when door to restroom is open. Screen fixtures from direct sight lines from the corridor.

4. For ladies restrooms in the Meeting Space areas, allow for a grooming area immediately inside the entrance.
   • Grooming: Provide a space for personal grooming with a stone vanity counter and mirror.
   • FF&E: Lounge seating, full length mirror, wallcovering, artwork
   • Lighting: Decorative fixtures with dimmer control and lighting at mirrors

C. Plumbing Fixtures:

1. R Fixture Types: See <15B> for “Plumbing Fixture Schedule”.

2. Quantities: Provide fixture quantities as required by code. Additional fixtures may be required to support property programs in the following areas.

   a. Food & Beverage: See <3> for locations.

   b. Exterior venues and recreation areas

   c. Meeting Spaces: See <6> for locations.

   d. Adjust quantities as necessary to meet region requirements and governing regulations.

3. Wash Basins / Lavatories: China, cast iron enameled or glass bowls, based on interior design. See <15B>.

4. Drain: Provide area floor drain and slope floor to drain.

D. Design Features:

1. Vanity: Continuous polished stone or quartz vanity counter with wash basin / bowls; see above.

2. Mirrors: Decorative wall mirrors for each lavatory with unique lighting solutions. Include a full length decorative mirror if room allows.

3. Accessories: Provide commercial / quality grade and residential style (not “institutional”) fixtures, accessories and finishes. See <GR3> for criteria.

4. Toilet Enclosures:

   a. Front: Framed wall with same finish as room with wood louvered or paneled door.

   b. Partitions: HPL, color to match design scheme; 178 cm (70 inch) height minimum and floor clearance of 18 cm (7 inch) maximum. Metal paritions not allowed.

c. Privacy: Provide “no sight line” or “gapless” design details at door and side partition.

5. Privacy Screens: Provide stone modesty panels at men's urinals.

6. Light Switch: Provide remote switch at circuit panel. See <15C>.

E. Finishes:

1. Floor / Base: Through, color body porcelain tile

2. Walls: At a minimum, tile at vanity, toilets & urinals and surrounding wall with other walls in commercial grade vinyl wallcovering or water resistant accent finish.

3. Ceiling: Smooth painted gypsum board

F. All Gender Facilities: Provide as an alternate layout to the separate male and female facilities. Verify local jurisdiction code compliance for facilities.

1. Space Planning: Design facilities with common lavatory area and privacy toilet enclosures based on the following:

a. Stalls: Each stall is individually designated. Comply with local code for quantity and size.

b. Multi Urinal Stalls: In large restroom facilities a multi urinal room can be part of the overall facility. Urinals separate with partitions. Provide entry door for privacy.

2. Enclosures: Provide full height partitions between stalls. Partitions to have a maximum opening at the top and bottom of 4”. Provide wood blocking within walls to securely attach accessory fasteners.

a. Doors:
• Stall Door: Maximum 10 cm (4 inch) clear at bottom. Door or fixed panel to extend to ceiling.
• Hardware: Provide occupancy latch, lock and self-closing hinges.

b. Built walls can be floor to ceiling with finishes to match adjacent surfaces.

3. Finishes and Accessories: See above.

4. Signage: Provide signage to each designated area. See Signage Specifications.
• Entry to facility
• Each stall / room
• Urinal room

G. Janitor Closet: Provide a central janitor service space with shelf, accessory supports (hooks), floor service sink, hot and cold water supply with hose connection, and area drain.

1. Entry Door: Arrange door in a foyer, not visible from public spaces so housekeeping does not need to cross public spaces.
2. Finishes: Janitor Closet
    a. Floor / Base: Porcelain tile
    b. Walls: Painted, except at service sink area provide ceramic tile (porcelain preferred) up to 1.2 m (48 inch) AFF
    c. Ceiling: Acoustical tile in suspended system

2A.6 Furniture, Fixtures & Equipment (FF&E)

A. Resource: See the MH Design Strategy.
    1. Furnishings: Overall style is influenced by modern design with commercial grade construction for hospitality use. See <GR4> .
        a. Comfortable and intimate groupings of lounge seating.
        b. Provide ample quantity of end tables with table lamps to create warm, intimate and inviting seating groups that are light weight for flexible arrangement and for guests to rearrange if allowed.
        c. Fabric: Pass Wyzenbeck Test (30,000 double rubs).
        d. Furnishing Tops: Stone or commercial wood tops for food and beverage service.

B. General: See the Design Foundation.
    1. Stairs: Use wood or stone material. If carpeted, incorporate hard edge stair nosing or double pad for use with carpet runners.
    2. Hard Surface Flooring: See <GR4> .
    3. Carpet & Area Rugs: See <GR4> .
        a. BP Appearance: Modern and “the best quality” construction (to provide texture).
        b. Installation: Do not use recessed floor area for area rugs. Place area rug with non-padded tapered edge on top of finish floor.
        c. No fringe or tassels allowed.
        d. Location: At entry seating areas and feature element.
    4. Window Treatment: Upscale treatments; allow natural light through and architecturally detailed windows.

5. Planters and Plants: Decorative planters with live plants that introduce green and flowering plants or ground covering for warmth and color.

6. Art & Artifact Displays: Provide a collection of high quality artwork, accent architectural lighting and accessories that emphasize the region and property. Locate the Marriott portrait in close proximity to Front Desk with accent lighting.

7. Light Fixtures: See <15C> for lighting levels.

    a. Coordinate use of decorative and appropriate scaled decorative ceiling fixtures, architectural down lights and wall sconces throughout; select styles influenced by the project's design narrative.

    b. Ample use of table and floor lamps to provide generous low level ambiance lighting.

2A.7 Coordination

A. MEP Devices: Conceal or carefully incorporate into wall and ceiling designs, HVAC grilles, sprinkler heads, smoke detectors, alarms, access panels and similar exposed devices. Do not randomly place.

    1. Power Outlets: Provide for Guest use in close proximity to seating groups. Coordinate locations or integrate with fixtures, lamps and furnishings. Provide for IT system equipment and housekeeping convenience no more than 15 m (50 ft.) apart.

    2. Furniture Outlets: Provide power outlets distributed within 50% of seating. Coordinated with interior design concept and integrate within furniture.

B. Telecommunications: Provide house phones and cell phone coverage in public spaces. See <13A>.

    1. House Phones: Provide wall and table top phones where applicable to location.

    2. Public Telephones: Verify public phone requirements with MI.

        a. Location: Discreetly locate phone rooms for privacy if required in heavy traffic areas.

        b. Signage: Identify phones rooms with signage and graphics.

        c. Accessibility: Comply with governing regulations and include requirements for the hearing impaired in the property design.

3. Cell Phone Reception: Verify that property location and building construction provides cell phone reception and availability throughout the property.

C. R Reference: Coordinate with requirements of other Chapters.

- Food & Beverage, Front of House
- Elevators & Escalators
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

business center

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

EI Expanded Information

BP Best Practices

R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

2B.1 Overview

A. EI Concept: The Business Center provides the guest with an array of service amenities to support business activities of meeting & conference, reading, computing and telecommunicating.

1. EI Business Services: At small hotels with limited demand for services, business services are provided from the Front Desk, Concierge Desk or within the MH Greatroom, see <2A>.
2. EI Business Center: At large hotels with higher demands from guests and frequent international travelers (FITs), a full range of business services are provided in a staffed Business Center.
   • Large full service Business Centers are called the “Executive Business Center” (EBC).
3. EI Reference: MGS: MH Greatroom - Business Services

B. Facilities Program: At a minimum, provide the business facilities required by the project Facilities Program.

C. EI Planning - Business Services: The guest service program depends on sharing services provided from the property’s administration, front desk, and function activities in order to leverage and share staff, support equipment and space. This service concept works from either the Front Desk, Concierge Desk or a connected Business Center adjoining the front desk area utilizing the design concept in this Chapter.

D. BP Planning - Business Center: The opportunities (in order of priority) to integrate activities are as follows:

1. BP Administration Reception: Locate the Business Center so the reception area and reception attendant serves as the reception to the hotel’s administrative offices.
2. BP Administrative Conference: Locate the Business Center to permit the administrative staff to share the Business Center’s meeting space for staff meetings and sales presentations.
3. BP Office Equipment: Position the office equipment support area so the Front Desk, Concierge, Administration, and Business Center share printers, copiers, faxes, and office equipment.
4. BP Personnel: Adjacent location of Administration, Front Desk, Concierge, and Business Center permits shared staffing and back-up support.
5. BP Meeting Areas: Locating the Business Center adjacent to Pre-function

and Meeting areas promotes the efficient utilization of meeting room capacities. <6>

6. BP Sales and Catering: Positioning the Business Center near the Meeting spaces offers the opportunity to locate the Sales and Catering office within the Business Center to share administrative support, to offer services to meeting attendees, and to serve as a headquarter center for large conferences.

7. BP Optional Spaces: For larger properties, the requirement for optional spaces, as described in this Chapter, will be determined in the development of the Facilities Program.

E. Location: Based on the property size, location may be near the Lobby, guest and group service lobbies, commercial arcades and galleries, meeting spaces and general guest circulation corridors.

1. Position on a primary public or function level of the hotel, other than a guestroom level.

2. Where appropriate, provide direct street or semi-outside access or frontage; especially within mixed-use office or commercial projects.

F. R Steps, Stairs, Ramps & Slip Resistance: See <16>.

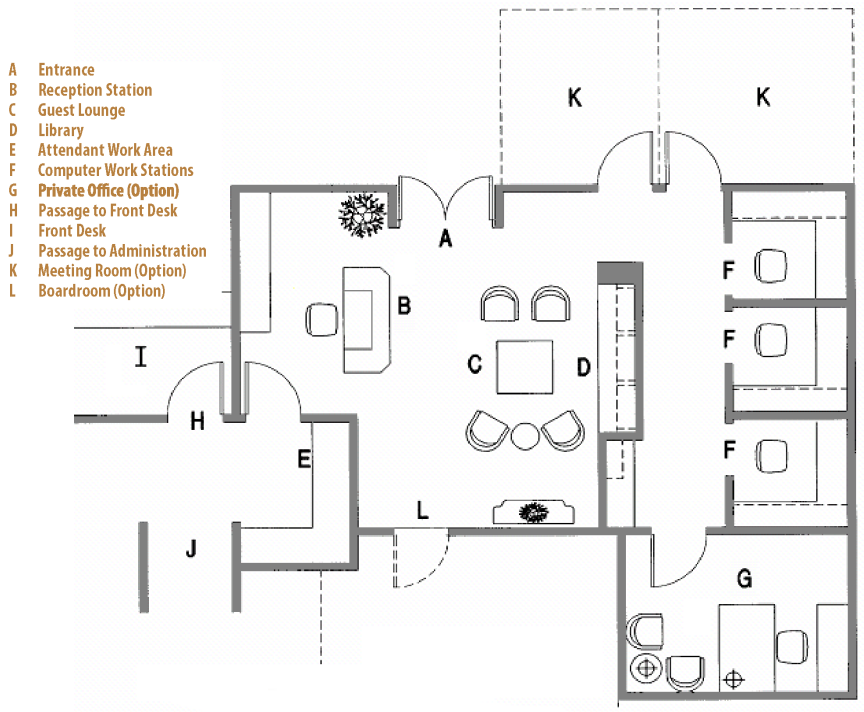
G. R Windows & Safety Glass: See <16> for window, glass / glazing criteria and for safety glass requirements.

H. Property Technology: Provide WiFi, wired internet and cell phone coverage throughout the facility. See <13A>.

I. Size / Area: Varies; see the project Facilities Program. The minimum size of a full service Business Center is 70 m² (750 sq. ft.) gross total, excluding optional areas.

J. Spaces:
- Entrance and Foyer
- Reception Station
- Attendant Work Area
- Library / Reference Wall
- Guest Lounge Area & Circulation
- Private Guest Office
- Computer Work Stations
- Circulation
- Meeting Room(s) (option)
- Conference Room (option)
- Restroom Facilities (option)

1. BP Business Center - Example Plan



2B.2 Entrance & Foyer

A. Program: Identify and visually announce location with business like entrance.

1. Generally, provide elegant glass doors or millwork doors and glass / millwork storefront to introduce the BC from public circulation.
2. Include direct views from MH Greatroom by use of large framed glass areas.
3. Design a securable and business like entrance with a formal sophisticated appearance and simple, graphic identification, consistent with the Hotel narrative and Brand's Design Strategy.
4. Provide an entrance that allows privacy and acoustically separates the Business Center from adjoining activities that may disrupt patrons.

2B.3 Reception Station

A. Program: Provide a professional reception area with a purpose built and distinctive reception station.

B. Location: Position and locate to assure passive surveillance of the Business Center and provide easy and convenient guest reception and greeting area.

C. Reception Station: In large Business Centers, provide single-station general reception counter. Depending on the size of the Business Center, provide receptionist desks or a multi-station counter.

1. An additional single executive reception desk may be needed to accommodate private and sensitive guest requests. Semi-private desk may also function as the Business Center Manager's desk.
2. Desk Construction: Millwork or stone or a combination of materials; stone top.
3. Back Wall: Behind desk, keep clear and simple. Utilize wall space for property logo or identification, focal art or artifacts. Provide finish wall materials to complement Lobby.
4. Lighting: Provide recessed ceiling fixtures for accent on wall art and to highlight back wall. Provide sufficient light for desk attendants to work.
5. Equipment: Conceal or position out of view from guests.

D. Features: Include the following features and devices at Reception Station.

1. Duress Alarm. See <16>.
2. PMS (computer). Work stations; may share single common printer at other stations, see <13A>.
3. Printers: Dedicated or conveniently shared, wireless preferred
4. Digital phone(s); fax machines (2); Call Accounting printer for billing.
5. Remote control for Lounge TV

2B.4 Guest Lounge

A. Program: Adjacent to reception station; provide lounge seating and waiting area.

B. Size / Area: Accommodate a minimum of 4 people. At larger Business Centers and when used as Administration Reception, accommodate up to 8 people.

C. Seating Area:

1. May be shared with hotel Administrative Office; include multiple seating groupings; relate seating directly to different guest categories.
2. Complement furniture design and furnishing styles with Lobby and public spaces.

D. Equipment & Devices: Provide the following:

1. Television: Minimum 37 inch, flat screen. See MI brand standards for specifications.
2. TV Control: Controlled from reception station.

2B.5 Attendant Work Area

A. Program: Provide BOH work area with direct access by attendant (typically shared by front desk) with fax machine, copy machine and other necessary business equipment.

B. Location: Place out of direct view from entrance and lounge and reception area.

C. Features: Include the following features and devices:

1. Fax Machines: Full feature; based on market.
2. Copier: Commercial, mid-size with collating, assembly and binding; color and black & white.
3. Printer: Dedicated or conveniently shared laser printer; color and black & white.
4. Postal and courier scales and equipment.
5. Document and parcel packaging.
6. Storage cabinets for securing office equipment and supplies.
7. Access to employee toilets if remote from public toilet, and access to a small

beverage pantry if possible; typically, associated with the Lobby.

2B.6 Guest Workstations

A. Program: Provide three semi-private work stations for use by guests.

B. Design Features: Provide the following.

1. Computer Work Stations: Digital phone; fax (see <13A>); PC work station (at least one station with dedicated printer; one with desktop publishing options).
2. Wired Internet connection to allow for Property Internet (PI) even though WIFI is included.
3. Printers: Dedicated or conveniently shared; may share single common printer at attendant workstation.

2B.7 Private Guest Office

A. Program: Provide as required by the project Facilities Program. Offices may also serve as private meeting rooms.

B. Features: If required, provide the following.

1. Accommodate executive desk, desk chair, desk lamp, credenza, two guest chairs, electrical outlets, and PC and fax data port (located at desk height); allow for PI connection.
2. Digital telephone; speakerphone; wired internet jack(s), see <13A>

2B.8 Private Meeting Rooms (option)

A. Program: Based on the requirements of the project Facility Program, the Business Center may incorporate meeting rooms to supplement the property's meeting area program or to make Business Center services convenient to guests.

B. Size/Area: Accommodate 6 to 8 persons to include flexible and adjustable conference table and chairs.

C. Features:

1. Include direct public area access (where feasible).
2. Design surrounding walls to receive or mount presentation material.
3. Built-in presentation equipment such as non-permanent grease pen type marker boards.
4. Digital phone; speaker phone; televideo; electrical outlets; PC / fax data port (located at desk height); allow for internet connection. See <13A>.

2B.9 Conference Room (option)

A. Program: Incorporate, as a minimum, one conference room. Business Center may be supplemented by property's meeting area program or as dictated by the project Facility Program.

B. Size / Area: Accommodate 10 persons minimum to include flexible and adjustable conference table and seating.

C. Features:

1. Include direct public area access (where feasible).
2. Design surrounding walls to receive or mount presentation material.
3. Provide conference table, conference chairs, built-in cabinet with TV, sufficient data ports and electrical outlets for computer use.
4. May include an area for coffee and tea set up and light food service.

2B.10 Phone Alcove or Room (option)

A. Program: Verify requirements with MI. At a minimum, provide phone access for conference calls.

B. Size / Area: Accommodate phone booth with chair and work area.

C. Features: In phone booth, include digital phone; speaker phone (see <13A>); electric power outlet and wired Internet connection.

2B.11 Toilet Facilities

A. Program: Provide access to toilet facilities in public spaces; requirement for a designated Business Center toilet facility is dependent on the Business Center size, location, and region.

B. Options:

1. If public area toilet rooms are not conveniently located to the Business Center, provide a minimum of one unisex restroom facility.
2. In large Business Centers, provide segregated men's and women's restroom facilities that may also serve the Administrative offices.

2B.12 Interior Design - Finishes

A. General: Coordinate interior design concepts, styles, and materials with other hotel Public Spaces and the MH Greatroom. See <2A>.

B. Floors: At a minimum, provide 80/20 Axminster carpet. See .

C. Walls:

1. Entrance & Lounge - Waiting & Reception: Combination of wood paneling and quality wallcoverings or wood panels.
2. Work Areas & Meeting Rooms: High quality wallcoverings; with base and chair rail molding.

D. Work Stations: Polished stone countertops, millwork and wood finishes. Plastic laminate not allowed.

E. Ceilings: Gypsum board throughout; may be multi-level in reception and lobby

area. Incorporate grilles, vents, registers and similar devices into ceiling design.

F. Lighting: Provide a combination of recessed and high quality decorative light fixtures.

2B.13 Coordination

A. R Reference: Coordinate with requirements of other Chapters.
- Lobby Areas
- Meeting Spaces
- Technology Infrastructure
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

food & beverage (f&b), front-of-house

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

Exception: Fire Protection & Life Safety Design Standard references are to external codes only

3.1 Overview

A. Brand Essentials: Provide guests with access to a variety of food and beverage experiences. At a minimum, provide beverage service and lounge seating and a full service restaurant offering three meals a day.
   • Bar: The recommended beverage service solution is the Feature Bar Concept as defined for the MH Greatroom. See <2A> and the outline that follows in this Chapter.
   • Restaurant: The recommended food and beverage service solution requires a 3 meal per day restaurant associated with the MH Greatroom. Where appropriate, the restaurant is integrated with the MH Greatroom. See <2A>.

3.2 General

A. Food and Beverage (F&B) Criteria: The development of a food and beverage program for each hotel requires a market analysis that evaluates a variety of factors. Design Food & Beverage outlets and destination Bars with a definitive concept to offer unique and imaginative experiences, that are competitive with external Food & Beverage outlets in the market. Including a restaurant designer on the design team is required.

B. F&B Planning:

   1. The following factors influence the F&B program:
      • Lobby integration
      • Facilities Program requirements
      • Approved concept brief
      • Property size / key count
      • Availability of competitive facilities
      • Property location / region
      • Quantity of function space
      • Availability of program area within the project
      • Regional / cultural influences
      • Potential for use by general public

C. EI F&B Concepts: Based on a MI accepted F&B program, F&B concepts and menus are selected that guide the design of food and beverage facilities. See the approved F&B Concept Brief.

D. F&B Program: Provide the following F&B program facilities as required by the project Facilities Program:

1. Bar / Lounge: 40 seats minimum
2. Restaurant: 40% of key count minimum for seating
3. Specialty Restaurant: As required by the project Facilities Program.
4. Private Dining Area: Included as part of or associated with a restaurant.

E. R Slip Resistance: See <16> for slip resistance criteria on walking surfaces.

F. Stairs, Steps & Ramps: Make stairs and steps apparent through use of essential design elements, see <16> (including ramps where required), and comply with governing regulations.

G. R Windows & Safety Glass: For window, glass / glazing criteria and for safety glass requirements, see <GR3> and <16>.

H. Property Technology: Provide Wi-Fi and cell phone coverage in the F&B service areas for guest access. See <13A>.

I. Entertainment Lounges: These Facilities are only included in the program under limited conditions when reviewed and approved by MI. Refer to the Entertainment Lounge section below in this Chapter for approval and management restrictions.

3.3 Destination Bar

A. Program: The Destination Bar acts as the beacon for the public space. Integrated within the Lobby, the Bar is the hot spot in the evening with hand crafted cocktails, premium wines and focused dinner service to guests.

1. Location: Integral part of the MH Greatroom
2. Size / Area: See the project Facilities Program as the size and area are specific to the project and site locations.
3. R Resource: Refer to MH Greatroom only for the selected elements that support the requirements of this Chapter.

B. Day Bar Service: Design Day Bar components to support menu programming and business volume:

1. Back Bar Coffee Station: Meet current MI standards.
2. Pastry Display: Complement the interior design.
3. Fruit, Bottled Water & Bottled Beverage Displays: Select fixtures to support design direction.

4. AM Menu Boards: Provide the ability to remove or disappear after morning business is concluded.
5. Tea Selection Display
6. Dedicated Pick-up Area: Integrate into the bar counter a place to pick up completed beverages.
7. Remote Condiment Station: Provide a station for condiments and trash, located away from the pick-up area.
8. Countertop with base cabinet storage for “to go” packaging

C. Night Bar Service: Design the Bar components to support menu programming, business volume and evening beverage service.

1. R See <10> for bar diagram and plan, equipment standards, criteria, functionality, location, P.O.S. and back bar design.

D. Bar Features:

1. Back Bar: Provide rotating or vanishing niches for flexibility of transition from day to night activities.
2. Extensions: Include retractable bar extension tables that allow for additional seating to better serve the needs of guests. Design to be easily moved and fold under the main bar counter.
3. Blending Stations: Provide a blender station and dump sink that are acoustically controlled for each station.
4. Storage: Provide dedicated space between front and back bar for minimum of 120 usable bottles per station. Lockable storage of alcohol is required during morning activities.
5. Outlets & Hooks: Provide power at Bar for guest convenience based on market. See <2A> for outlets located in Lounge seating. Include footrest at bar stools.
6. Footrest: Provide a footrest or ledge to complement bar design.

E. R Audio / Visual: See <13B>.

3.4 Greatroom Pantry

A. Program: Provide support to Feature Bar and MH Greatroom food and beverage service when service cannot be provided from the restaurant kitchen. See <10>.

B. Planning: Provide a dedicated Pantry if the Kitchen to Bar distance is more than 61 m (200 ft.) or on a different floor.

C. R Equipment: For equipment requirements, see <10>.

D. Facilities: If provided, at a minimum provide the following service functions:
- Breakdown facilities for soiled service wares
- Food preparation station with turbo chef oven or equal
- Storage cabinets
- Ware washing
- Wet beverage station

3.5 All Day Dining Restaurant

A. Program: Provide a restaurant design with destination qualities that can efficiently produce, and provide quality food and beverage services. Provide facilities offering a varied menu that generally includes breakfast, lunch and dinner (3 meals per day).
- Three Meal Greatroom: See MH Greatroom - 3 Meal Greatroom Design Direction for integration with the MH Greatroom.

B. Design Concept & Development: Follow the design development criteria for the following.

1. Analysis Phase: Conduct market research to produce a concept design and market position.
2. Concept Phase: Develop a concept brief and obtain acceptance from stake holders to include the Design Phase.
3. Design Phase: Interior design and kitchen designs are accepted by MI.
4. Execution Phase: Operational Execution Plan begins when Continent Lodging Services (CLS) and F&B team receives the final design details and concepts.
5. Building Floor Level: Design restaurants so that entrance, kitchen and seating is on a single building floor level to accommodate food service equipment and guests with disabilities.

C. Spaces: Accommodate the following.
- Entrance
- Host Station
- Waiting Area
- Coat Area (based on climate)
- Service Stations
- Seating Area
- Private Dining Area (if not provided at Specialty Restaurant)
- Buffet / Exhibition Cooking
- Storage Space
- Cashier Station (if required)

D. Location: Locate based on the following criteria.

1. Visibility: The success of the restaurant is dependent on location. Provide an easily visible location from MH Greatroom with frontage on public circulation paths.
2. Kitchen: Direct access
3. BP Daylight: Provide as much natural day light as possible.

E. Size / Area: Space includes seating, circulation and buffet. Coordinate with the project Facilities Program.

1. Fine Dining: 2.6 to 2.8 m² (28 to 30 sq. ft.) per seat, gross area.
2. Casual Dining:
   - Casual Upgrade: 2.2 to 2.4 m² (24 to 26 sq. ft.) per seat, gross area.
   - Casual: 2.0 to 2.2 m² (22 to 24 sq. ft.) per seat, gross area.
   - Seating area may be 1.2 to 1.4 m² (14 to 16 sq. ft.) to emphasize a high energy experience.
3. Ceiling Height: 3 m (10 ft.) minimum.

F. Exterior Entry:

1. Design to distinguish entry to restaurant from hotel / MH Greatroom area.
2. Direct exterior entrance preferred. Design entrance to make a statement consistent with restaurant and brand narrative.
3. Provide menu board to give guests an understanding of the restaurant concept and value level, if appropriate.
4. If provided by the hotel, provide separate Valet Parking.
5. Street Entrance: When a street entrance is provided, design entrance to channel patrons directly to the Host Station to avoid two separate entry points

and host stations.

G. Entrance Foyer: Provide the following.

1. Easy access from public areas with prominent graphics to identify entrance. See <GR2> .
2. The Foyer set the mood for the restaurant. Direct guests and public to the Host Station.
3. An area for a Host Station and coat check with reasonable access control (based on climate and custom).
4. Securable Entrance: If the restaurant is enclosed with a perimeter wall, design entrance to be securable when not in use. Coordinate the closure design with Interior Design.

H. Host Station: (may be Maitre d')

1. Accommodate two host positions.
   • Provide area for Table Management System integrated with the desk but out of direct guest view.
   • Telephone
   • Menu Storage
2. Locate one host point to greet guests, control access to room sections, handle guest checks, and supervise coat check area. Coordinate with the exterior / street entrance when provided.
3. Welcoming Design: Provide welcoming podium positioned to permit good eye contact with arriving guests and minimize desks and walls that separate the host from the guest.
4. Provide guests an opportunity to observe menu and restaurant interior, if possible.
5. Include waiting areas independent of dining area for small groups if not available at an adjacent Lounge or Bar area.

I. Service Stations: Design to integrate with restaurant interior design, while keeping out of direct line of sight to entering guests.

1. Dry Service Station: Provide for every 75 seats; including water pitchers, coffee pitchers, house wine display, bread, linen, and tableware.
   a. EI Some food concepts are accommodated with one large focal dry service station or several small dry stations.
   b. BP Consider using casegoods or custom millwork to make the station a focal point of the space or minimize its appearance.

2. Wet Service Station: Provide for every 120 seats; including sink, coffee brewer, beverage equipment and ice. Locate main station in back-of-house along path to soiled dish drop.
3. Size: Base size on concept and selected equipment.
4. P.O.S.: Integrate and recess P.O.S. into stations.
5. Walls & Views: Configure walls enclosing wet service stations to conceal food service equipment while permitting servers to maintain visual contact with seating areas.
6. Cabinets: Provide storage cabinetry based on needs of restaurant.
7. Location: Locate to minimize noise at adjacent dining areas, unless dictated by concept.
8. Lighting: Dimmer controlled to minimize impact on dining area.

J. Seating Area: Divide seating into two or more sections that are closed during slow periods and can accommodate private dining or group communal dining.
   1. Quantity: Provide seating for 40% of room count or as based on market study.
   2. Seating Types: Provide a large variety of flexible seating choices such as paired 2 tops (minimum 50% of tables), 4 tops and banquettes.
      a. Seating varieties may vary by region, demand and concept.
      b. Feature communal tables are acceptable.
      c. Avoid “institutional” seating arrangements. Use single seat, banquette seating and soft seating based on food concept.
   3. Plan & Layout: Provide the following.
      a. Views of the Buffet, when provided.
      b. Easy access from seating to the Buffet and back. Avoid placing tables too close to the Buffet so traffic is not disrupted to and from the Buffet.
      c. View of the exhibition kitchen, if provided.
   4. Wine Storage: Provide glass front refrigerated storage for wines at 5.5º C (42º F) for white wines and 15.5º C (60º F) for red wines.

K. Private Dining: Provide a seating area to accommodate small groups that may be acoustically and visually separated from the main dining area by moveable doors and walls.
   1. Seat Quantity: Provide seat count as required by the Facilities Program;

usually 12 to 30 seats.

2. Flexibility: Integrate seating with restaurant seating so that private dining area can be opened when not in use to accommodate restaurant guests during peak use or serve as meeting space.

3. BP Entry: Dependent on layout, locate entry adjacent to the restaurant entry foyer so guests do not have to traverse the main seating area.

4. BP Exterior View / Location: The private dining room can be located to take advantage of a prime exterior view or terrace location.

5. Table: Provide one large table for small rooms or multiple four tops in lieu of one large table at larger rooms as determined by MI.

6. BP Wine Display: Typically, incorporate wine display wall, room or racks as an amenity for the area.

L. EI Food Production (BOH Kitchen): Restaurant food is produced by a variety of methods, based on the F&B program variables. Coordinate criteria with <10>. As appropriate for the restaurant concept, service is provided in the following manner:

1. EI Buffet / A' La Carte: An enclosed a' la carte kitchen supports the buffet service and the a' la carte service. The breakfast buffet is provided as defined in the "Buffet Service" section.

2. EI A' La Carte: An enclosed a' la carte kitchen supports the a' la carte service.

3. EI Exhibition Kitchen: An exhibition kitchen may be integrated with a buffet line to support a self-serve buffet or a' la carte service.

M. Food Service: In general, food is served utilizing more than one service type.

1. Buffet Service (Breakfast, and Grand): Buffet services are optional as required by the F&B concept.

2. BP Display Cooking: In conjunction with and in support of the buffet, food is custom prepared to the guest's request or freshly cooked to replenish the buffet. At a minimum, this service can include a single chef's station for preparing eggs at a breakfast buffet to a limited cooking line supporting a grand buffet. See <10> for equipment.

3. Exhibition Kitchen: Certain restaurant concepts expose the food preparation and cooking areas to the guests to showcase the facility's menu and culinary talents. Exhibition kitchens may be integrated with a buffet, support a buffet or exist as a stand alone feature. Coordinate seating at buffet with accessibility criteria, buffet height and views of Exhibition Kitchen. Coordinate

with <10>.

4. A' La Carte Service: Provide guest selected menu items prepared and served by a waiter.

N. Buffet Service: When buffet services are provided, locate where visible and accessible to most dining spaces and restaurant entry. Utilize high quality millwork and furniture pieces as the base buffet design.

1. BP Provide buffet as multiple counters, not a single one. It is preferred to break up buffet counters to provide better customer access and avoid queuing.

2. For preparing food items in the dining area, a chef's station is typically incorporated, built-in or portable.

3. Provide rear access to buffet to allow food replenishment without interrupting the flow. Provide an area for a staffed station with kitchen access at the buffet

4. Prepared food is served to guests in a self-service or semi-assisted service mode by one or combination of the components described below.

5. Buffet solution is a minimum of 9 m (30 ft.). Provide either a vanishing or convertible buffet counter with below counter storage or adjacent storage.

O. Breakfast Buffet (option): Based on the F&B concept, only breakfast is typically served from this buffet in coordination with a' la carte service. Service for lunch and dinner meals is served "a' la carte" from the kitchen. During evening dinner service, the breakfast buffet is concealed, screened off or transformed into a feature display.

1. Components: When a Breakfast Buffet is required, the four functional buffet components are:

a. Hot Buffet: Design to support breakfast program.
   • Counter: Provide space for induction units with hot breakfast offerings.
   • Length: 3.0 to 3.7 m (10 to 12 ft.)

b. Cook Station: Signature Buffet feature, design to meet breakfast volume.
   • Length: Typically, 1.5 to 1.8 m (5 to 6 ft.)
   • Type: Fixed or modular

c. Cold Food Area: Design to support refrigerated and chilled items.
   • Provide space for juice, fresh fruit, yogurt, and milk display.
   • Length: Typically, 2.4 m (8 ft.)

d. Bread, Pastries & Cereals Area: Design to support the buffet bakery components.
   • Location: Separate from other areas for increased circulation.

- Menu: Consult MI F&B for program requirements.
- Counter: Provide space for toaster and condiments.
- Length: Typically, 1.8 m (6 ft.)

2. If the breakfast buffet is not in use for evening meals, locate the buffet in an alcove or provide architectural partition system. Food service equipment <10> typically is built into a granite counter.

3. Food service equipment for this buffet typically is not left exposed to guest view on the granite counter. Provide an undercounter refrigerated top to chill food display without use of ice pans.

   a. Provide and integrate design of sneeze guards into the buffet design to protect exposed food on the buffet.

   b. Provide illuminated plate niches.

4. For preparing food items such as omelets and waffles, a chef's station typically is included.

P. Grand Buffet: When required and if accepted by MI, provide as follows.

1. Design specific to the approved F&B concept brief. Follow design criteria for Breakfast Buffet above.

2. Typically, position as the focal point of the restaurant.

3. Arrange buffet in zones and separate counters for hot entrees, cold items, and desert table.

Q. Kitchen Entrance:

1. Avoid views into kitchen from dining areas (unless concept is an exhibition kitchen).

2. Provide one entry and one exit door that cohesively work with the flow of kitchen to dining areas.

3. Include doors to kitchen with 0.9 m (3 ft.) wide clear opening and door vision panel; door swing not to exceed 90 degrees.

4. Provide entrance baffle to prevent kitchen noise and light from entering dining area.

5. Extend dining area finishes into any area exposed to guest view.

R. Egress: At F&B facilities provide emergency egress as required in <14>.

1. Exiting through kitchen is not permitted.

S. BP Toilet Rooms: Preferred location is adjacent to the restaurant to avoid circulation conflicts with the public areas. Interior design of facility is in line with concept of restaurant.

T. Janitor Closet: Provide a dedicated Janitor's Closet to store cleaning supplies and equipment to service all food service venues on a floor. Locate in close proximity to primary food service venue.

U. Storage Space: Provide space in each restaurant as follows:

1. Size: Large enough to accommodate child seats, trays, extra chairs, and similar furniture.

2. Location: Locate to avoid obstruction to exits and general circulation. Possible locations are reception, service stations or near kitchen entry.

3.6 Finishes - Restaurants

A. Floor / Base: Combination of durable hard surface flooring and carpet, depending on food concept and coordinated with Interior Design concept.

1. Hard surface, wood, natural stone or other high commercial quality and durable material at major traffic circulation areas, main entry, surround at bar and buffet areas.

2. Base: Match floor and décor.

B. Walls: High quality wall millwork, influenced by current design trends. Ensure finishes are suitable quality and durability.

C. Ceiling: Design ceilings to include such design elements as millwork details and multi-level ceilings. Acoustic ceiling tiles not accepted.

D. Decorative Ceiling & Pendant Light Fixtures: Locate in a field or area of smooth ceiling (gypsum board, plaster, etc.) to avoid having a pattern visually distract from the light fixtures.

3.7 FF&E

A. Furniture: Modern interpretations of contemporary styles. See <GR4> for general requirements.

1. Dining Seats: Finish selected by Interior Designer and accepted by MI. Easily cleanable leather or treated fabric.

2. Tables Sizes (Standard): Sizes vary based on menu, place setting, food concept, restaurant type, size and regional culture. Consult with MI to define table sizes. Typically size the table 60 to 76 cm (24 to 30 inch) wide per setting on a side by 86 to 107 cm (34 to 42 inch) across.
   • 60 x 86 cm (24 x 34 inch) 2 places
   • 86 x 86 cm (34 x 34 inch) 4 places
   • Larger table sizes require a proportionally larger restaurant area.

   a. Asian themes typically require round shape and larger table sizes to accommodate larger place settings.

3. Table Top: Stone or protected durable finished wood. Flip up table tops can be used to provide more flexibility of seating.

4. Table Bases: Durable finish; resistant to scratching and marring.

5. Hardware: Conceal in millwork.

B. Seating: Arrange using 50% of tables as deuces and mixture of larger grouping combinations. Percentage may vary by design and concept.
• Provide a variety of seating styles such as cocktail, dining & bar height as determined by the F&B concept.

C. Buffet Equipment: See <10>.

1. Buffet is required to be concealed during evening dinner, provide detailed, high quality sliding screens or doors on concealed tracks that are consistent with the concept of the restaurant or provide another acceptable solution to MI.

2. Provide Energy Star certified appliances.

3. Beverage Machine: Conceal in full-height, ventilated millwork cabinet with retractable doors and a roll-out shelf.

4. Granite top (avoid marble because of staining); extensive millwork / casework base and details.

5. Cashier Station: Provide P.O.S. equipped with computer connection, CPU, keyboard, telephone and pin pad.

6. BP At “grand buffet”, consider high intensity LED pin spots to highlight the display.

D. Lighting: Fluorescent lighting is not accepted.

1. Types: Include decorative, ceiling fixtures, wall sconces, recessed lighting, and wall washers. Include directional fixtures to highlight tables.

2. Lighting Controls: Provide three scene, pre-set dimmers. Locate light controls out of guest view with easy accessibility to employees. See <15C>.

3.8 Specialty / Leased Restaurant

A. Specialty Concepts: A Specialty Restaurant is not required, unless included in the Facilities Program. Provide guest with a unique place for experiencing lunch and dinner.

1. EI Specialty restaurants encompass a wide variety of themed menus, seating styles, food service displays, and décor for special food concepts. The Specialty Restaurant is designed to feel like a destination within the property.

2. Developing concepts for specialty restaurants requires coordination with the Facilities Program, market studies and MI.

3. EI Food and Beverage concept documents for a select group of facilities are available from MI after concepts for the project have been determined.

4. Standards for the Specialty Restaurant are the same as for the All Day Dining / Three-Meal per Day Restaurant.

B. Leased Concepts: Leased Restaurants must be reviewed and accepted by MI. The Restaurant may take the place of a hotel managed restaurant and is owned and operated by an outside restaurateur.

1. Exterior Entry: The success of the restaurant is dependent on location. Provide an easily visible location from lobby with frontage on public circulation paths. See criteria in Restaurant above.

2. Access: Provide clear, direct access route for hotel guests and public.

3. Visibility: Where available, the restaurant may benefit from exterior frontage and a direct exterior entrance.

4. Kitchen: Direct access; plan multiple hotel operated restaurants to share kitchens facilities where possible. Leased restaurants require self contained

kitchens.

C. Size / Area: Area includes seating, circulation, and features. Coordinate with Facilities Program.

1. Fine Dining: 2.6 to 2.8 m² (28 to 30 sq. ft.) per seat, gross area.
2. Specialty Upgrade: 2.2 to 2.4 m² (24 to 26 sq. ft.) per seat, gross area.
3. Specialty: 2.0 to 2.2 m² (22 to 24 sq. ft.) per seat, gross area. Seating area to be 1.1 to 1.3 m² (12 to 14 sq. ft.) to emphasize a high energy experience.
4. General; Size can range from 2.0 to 2.8 m² (22 to 30 sq. ft.) per seat, gross dining area.
5. Ceiling Height: 3 m (10'-0") minimum.

D. EI Bar / Waiting Area: Some specialty restaurant concepts may benefit by including a small bar / waiting area separate from the main hotel Lounge.

E. Spaces: Accommodate the following spaces in the design:
- Entrance
- Host Station
- Bar / Waiting Area
- Coat Area (climate option)
- Seating Area
- Private Dining (if not in 3-meal per day restaurant)
- Exhibition Cooking (if part of concept)
- Service Station / Wait Side Stations
- Storage Space
- Cashier Station (only where required)
- Wine Display (when concept requires)

F. Leased Criteria: A fully functional space integrated with but separate from the hotel.
- Direct secure access to Receiving Area
- Employee facilities separate from hotel employees
- Full kitchen separate from hotel kitchen, including storage and refrigeration
- Separate metering of utilities (HVAC, gas, electrical and water)
- Direct exterior access
- Dedicated restrooms & changing area
- Restaurant P.O.S. capable of reporting to hotel PMS.

3.9 Entertainment Lounge

A. Program: Entertainment Lounges are only included in the project program under limited conditions when reviewed and approved by MI. Entertainment Lounge facilities may be “open to the public” and offer social activities (singing, dancing, meeting, etc.) in addition to F&B menus.

B. Management Approval: Facilities and services of any such Entertainment Lounge not approved or directly managed by MI shall be separate and independent of the property and therefore shall not be located within, proximate to, or associated with the property. There shall be no contractual relationship between the property or property manager and the unapproved Entertainment Lounge, including for example, any ownership interest or profit sharing. The property will not provide, promote, support, assist, reimburse, barter, or share any hotel operational services or facilities or any others of a similar nature to Entertainment Lounges. If such property support facilities or services are requested by an Entertainment Lounge, the property facilities or services will be offered at non-preferential, market rates at MI’s sole discretion. For Entertainment Lounges approved by MI, base the facility on the following program criteria and factors.

C. Size / Area: Allow 2.6 m² (28 sq. ft.) per seat gross area. Coordinate with Facilities Program and review implementation with MI.

D. Location for Entertainment Lounge: Base the facility location on the following factors:

1. Acoustically isolate from guestroom, function space, and other public spaces where entertainment activity and noise would adversely disturb occupants.
   • Provide an envelope of a minimu STC 60 IIC of 60. Isolate or separate space from occupied rooms below using box-in-box construction or equal.
   • Provide design by acoustic consultant for review by MI.
   • Limit noise intrusion levels to 40dBA.
   • Utilize sound absorption products to prevent the transmission of noise / vibration through walls, ceilings and floors.

2. Exterior:
   • Exterior entrance: Based on analysis of users such as guests and public.
   • Locate adjacent to outside space if possible. See Terrace Dining and Poolside Bar.

3. Indirect access to Lobby area without visually or acoustically disrupting the Lobby. Where appropriate, provide a dedicated elevator near hotel entrance and include signage.

4. BP Adjacency to Kitchen is beneficial, but not critical; food and beverage

services are limited and usually self contained.

5. Include theatrical lighting and audio/visual systems for live entertainment at stage area. <13B> <15C>

E. Space Planning / Interior Design: Develop a concept and coordinate design implementation with MI.

F. Spaces: Verify lounge space program requirements with MI. Typically design to accommodate the following:
   • Reception
   • Socializing area and seating
   • Dance area with wood floor; minimum 3.6 x 3.6 m (12 x 12 ft.)
   • Bar of freestanding design; beverage service and limited food menu
   • Entertainment stage; production facilities
   • Audio / Video facilities
   • Dedicated DJ booth

   1. Support Spaces:
      • VIP Room / Area: Provide based on market demands.
      • Kitchen / Pantry: When a Lounge and Bar are not directly served from the hotel Kitchen, provide a satellite Kitchen or Pantry. See criteria in Lobby Pantry.
      • Storage Room: Provide a room for storing seasonal and event items.
      • Toilet Rooms: Provide in proximity to the Lounge. See <2A> for criteria.

3.10 Retail Coffee Service

A. Program: Provide a location to purchase coffee and light food items as required by the project Facilities Program. Recommended service method is integration with the MH Greatroom Feature Bar. See <2A>.

   1. Location: In a public area along main circulation path.

   2. Resource: See F&B Retail Coffee Pantry Design Guide for design criteria.

3.11 Coordination

A. R Reference: Coordinate with the requirements of other Chapters.

- Lobby Areas
- Food & Beverage, Back of House
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

recreation & amenities

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

4A.1 Overview

A. Program: Provide a range of guest amenities and recreational activities to offer guests a variety of fitness and relaxation experiences. Provide facilities with state of the art equipment.

B. BP Design Criteria: Typically, recreation facilities and amenities are dictated by the project Facilities Program and require special consultants for Recreation, Fitness and Spa.

1. EI Influences: The following factors influence the recreation program development and amenity offerings:
   - Property size and facilities
   - Availability of building area
   - Climate
   - Availability of competitive facilities
   - Relationship to swimming pool and outdoor activities
   - Opportunity to attract local community memberships
   - Compliance with Marriott's Spa Design Standards
   - Relationship to full service Marriott Spa facility
   - Relationship to Residences

C. Brand Essentials:

1. Fitness Center (see <4B>)
   a. Arrival Area for Fitness Center
   b. Exercise Areas
   c. Manager's Office / Storage
2. Swimming Pool (indoor or outdoor), see <4C>
   a. Whirl Pool: As determined by property market.

D. Ancillary Facilities: Additional recreation facilities may consist of the following when determined by the market and required by the project Facilities Program:

1. Locker / Dressing, Grooming, Shower & Toilet Areas
2. Sauna and Steam Rooms
3. Food & Beverage Service
4. Spa Amenities
5. Indoor & Outdoor Recreational Facilities

6. Full Service Spa (see <4D>)

E. Spa Requirements: If the Fitness Center is related to a hotel spa or is being designed to include a full range of spa activities, design the facilities in compliance with the Spa Design Standards and Spa Operations Manual. See <4D>.

When a full service spa is not programmed, provide Treatment Rooms within the Fitness Center configured for both genders.

F. Locker & Shower Facilities: The requirement to provide (or minimize) Locker & Shower facilities is based on a variety of issues.

1. EI Governing Law: The facilities may be required by governing law for the Swimming Pool or Fitness Center.
2. Disrobing: The facilities are required when the activity requires disrobing (sauna, steam, massage, dip pools, etc.)
3. EI Memberships: Lockers and showers typically are required when the hotel is intended to support local membership use.
4. BP Early Check-in: Hotels may benefit by having lockers and showers available for guests (early check-in or delayed departure) that do not have immediate access to a guestroom.
5. BP Hotel Size: Larger properties with more diverse guest needs and longer distances between the guestroom and Fitness Center may require a locker and shower area.
6. EI Hotel Amenities: Lockers and showers are most beneficial when they serve multiple adjacent recreational functions (Pool, Fitness Center, Relaxation).

G. Location: Use the following criteria to generally position the recreation facilities.

1. Convenient and directly accessible by passenger elevator from guestroom areas.
2. In close proximity to or contiguous with recreation facilities such as swimming pools and other indoor and outdoor recreational areas.
3. Do not allow access to recreation facilities from or through formal public spaces, such as Lobbies, Pre-function or Function assembly spaces and Food & Beverage areas.
4. Avoid placing exercise areas adjacent to guestrooms, function areas or other areas that would be disrupted by exercise activity.
5. As an independent / destination facility.

6. BP A direct exterior entrance if outside memberships are planned with a staffed access control desk.

7. A principal consideration of site planning is the location of recreation facilities. Coordinate exterior recreation facilities with site planning criteria, see <1>.

H. Size / Area: At a minimum, size facilities to comply with the project Facilities Program. The exact size and type of facilities and services are based on the following:

1. Market analysis
2. Membership opportunities
3. Climate
4. Property location

I. Accessibility for Guests with Disabilities: Locate recreation facilities and guest amenities along accessible routes and design facilities for access by guests with disabilities.

J. R Steps, Stairs, Ramps & Slip Resistance: See <16>.

K. R Windows & Safety Glass: For window, glass / glazing criteria and for safety glass requirements, see <GR3> and <16>.

L. Management Control: Facilities and services of Recreation Facilities not approved or directly managed by MI shall be separate and independent of the hotel and therefore shall not be located within, proximate to, or associated with the hotel.

M. Acoustics: Acoustically separate quite areas from exercise and public circulation areas (high activity). Design and construct separation enclosures with STC 55 rating minimum.

N. Sanitation: Plan facilities, detail materials and select finishes with a high priority for durability, ease of maintenance and sanitation.

4A.2 Circulation, Corridors & Service Areas

A. Program: Provide inviting, clear, efficient circulation paths between recreation functions and areas to create the mood or concept as intended.

1. Corridor Width: 1.5 m (5 ft.) minimum.
2. BP Circulation: Avoid institutional looking, monotonous corridor configurations and unnecessary walls and doors.
3. Ceiling Height: 2.75 m (9 ft.) minimum; higher preferrred.

B. Design: Consistent with the design concept, incorporate elements of visual and acoustical interest such as architectural elements, artwork and artifacts, interesting finishes, lighting features and natural light.

1. Ceiling: Provide visual interest by integrating special trim and paint finishes.
2. Lighting: Surface mounted fluorescent lighting is not permitted in public spaces and front of house areas.
3. Details: Design corridors with alcoves, archways, enlarged intersections and knuckles to provide visual relief and interest.Utilize architectural millwork (wood moldings), focal casework or mirrors.

C. Finishes: In circulation areas and corridors, provide the following:

1. Floors: Wood, porcelain tile, nylon tuft cut pile carpet or stone
2. Ceilings: Smooth painted gypsum board

D. Service Areas:

1. Service Closet: Provide a janitor closet, adjacent to the common circulation path, containing floor sink and shelves for cleaning products and equipment to maintain the common areas and adjoining corridors.
2. BP Storage Room: Provide a secure room for storage of equipment, supplies, and retail product.
    a. BP Clean / Soil Areas: Provide a separate area for storage of clean towels and for storage of soiled towels.
    b. BP Service Entry: Where possible, provide service entry direct to storage and laundry storage to avoid traffic through public areas.

4A.3 Project Market Requirements

A. Program: Market variables for each project dictate requirements and opportunities for related recreation facilities. Provide ancillary recreation facilities as follows:

1. Facilities Program: At a minimum, provide recreation facilities required by the project Facilities Program.
2. BP Competition: Provide facilities that permit the property to effectively compete in the market.
3. Resort: When a resort property does not provide a full service spa, provide the appropriate selection of spa amenities integrated with the Fitness Center area.
4. EI Market Opportunities: Consider providing facilities that capitalize on market opportunities (membership, local customers, etc.).
5. EI Influences: The following factors influence the recreation program development and amenity offerings:
   - Property size and facilities
   - Availability of site area
   - Climate
   - Availability of competitive facilities
   - Relationship to swimming pool and outdoor activities
   - Opportunity to attract local community memberships
   - Compliance with Marriott's Spa Design Standards
   - Relationship to full service Marriott Spa facility
   - Relationship to Residences

4A.4 Locker / Dressing, Drying / Grooming, Shower & Toilet Areas

A. Program: Provide separate and complete men's and women's locker, drying / grooming, shower and toilet facilities. Facility size / area requirement is based on the criteria noted in this Chapter.

B. Locker / Dressing Areas:

1. Location: Adjacent to grooming areas. Sensitively design locker, lounge, toilet and shower areas to minimize views.

    a. If provided, separate sauna and steam rooms for male and females.

    b. Accommodate governing laws, customs and cultural norms regarding privacy.

2. Features: Provide the following:

    a. Lockers: Double tier with wood doors and end panels with latch, electronic locks and number. Provide 15% of the key count plus lockers required for membership, if provided.

    b. Seating: Individual seating cubes or fixed hardwood top benches.

    c. Weight Scale: Provide a minimum of one commercial scale.

    d. Towels: Locate towel dispensing and return hamper near entry in an alcove custom designed to integrate with interiors. Do not use free standing bins (rattan, plastic, etc.) for soiled towels and trash.

    e. Private Changing: Where feasible, minimum of one private changing room complete with bench, mirror, robe hook and lighting.

    f. Casegoods: Locate focal case piece to avoid institutional image.

    g. Clock: Large wall clock with second hand

    h. Audio: Central sound system, see <13B>

    i. Mirrors: Provide a minimum of one, framed, full length mirror mounted on wal

3. Finishes: Provided in the Locker / Dressing areas.

    a. Floor: Porcelain tile; and/or carpet, nylon, looped, antimicrobial

    b. Walls: Vinyl wallcovering 15 oz. minimum or paint

    c. Ceiling: Smooth painted gypsum board or plaster

C. Drying / Grooming:

1. Location: Position as a transition area between shower and locker areas.
2. Features:
    a. Countertop: Stone or quartz top, back and side splash. Arrange as individual basin or as a continuous counter with well defined grooming stations.
    b. Grooming Stations: At each station include a decorative framed mirror, wall light sconce or back-lit mirror, recessed ceiling light, lavatory bowl, electric outlet (GFI) and hand held hair dryer.
    c. Towels: Provide open shelves, alcove or cabinet for dispensing and displaying clean towels.
3. Lighting: Provide recessed, indirect and direct lighting to meet lighting levels. See <15C>.
4. Finishes:
    a. Floors: Porcelain tile, stone, with a slip resistance (see <16>) or carpet (nylon, looped, anti-microbial)
    b. Walls: Vinyl wall covering with porcelain, glass or stone tile
    c. Ceiling: Smooth painted gypsum board.

D. Shower Areas:

1. Enclosures: Individual, two-chamber (wet and dry) enclosures approximately 1 x 2 m (3'-4" x 6'-6"), minimum.
    a. Include divider door at shower and privacy door at entry.
    b. At drying chamber, provide bench seat and robe hook.
    c. Provide a purpose built millwork unit for towels and amenities.
2. Quantity: Provide a minimum of one shower for each 100 keys for men and equal quantity for women plus showers required for membership use.
3. Lighting: Provide recessed, indirect and direct lighting to meet lighting levels. See <15C>.
4. Finishes:
    a. Floors: Stone or porcelain tile with slip resistance
    b. Walls: Stone or large format porcelain tile
    c. Ceiling: Smooth painted gypsum board or plaster

E. Toilet Facilities:

1. Location: Strictly separate from, but contiguous to locker / dressing and wet areas.
    a. Directly accessible from Foyer to Locker Rooms to allow guest access without traversing the locker and wet areas.
    b. BP Where feasible, position spaces to permit joint usage by swimming pool users and other outdoor activity areas.
    c. Include vestibule in toilet entry area.
    d. Provide toilet facilities for Fitness Center based on size and location. If Fitness Center is located near the Public Restrooms, see <2A>.
2. Features:
    a. Views: Control Views (garden courts or architectural glass walls and screens).
    b. Toilet Enclosures: Wall and louvered doors front with high pressure laminate compartment dividers.
    c. Urinal Screens: Enameled steel or stone; floor and wall supported.
    d. Countertop: Stone or solid surface tops with undercounter bowls.
    e. Mirror: Decorative or full width of countertop and to ceiling, back-lit or with decorative lighting.
3. BP Lighting: Provide indirect and direct lighting to meet lighting levels. See <15C>.
4. Finishes:
    a. Floor: Porcelain tile or stone with slip resistance
    b. Walls: Porcelain or glazed ceramic tile or stone wainscot and vinyl wallcovering
    c. Ceiling: Smooth painted gypsum board or plaster.

F. Service Closet: Provide a janitor closet containing floor sink and shelves for cleaning products and equipment to maintain Locker areas, toilet areas and guest amenity areas.

4A.5 Sauna

A. Program: If required by the project Facilities Program, provide separate Saunas in men's and women's shower area for guest relaxation prior to treatments or as a dry relaxation amenity to be enjoyed in combination with adjacent Steam Room and / or Pool facilities.

B. Space Planning:

1. Location: Locate Sauna in a common "wet area" adjacent to steam room, whirl pool or pools if programmed.
2. Shower: Position Sauna near locker room showers within a common wet zone to avoid traversing dry areas.
3. Accessibility: Comply with governing regulations for persons with disabilities; <GR1>.

C. Size / Area:

1. 7.5 m² (80 sq. ft.) minimum, to 15 m² (160 sq. ft.)
2. Ceiling: 2.2 to 2.4 m (7 to 8 ft.) maximum

D. Features:

1. Construction: Commercial; prefabricated redwood or cedar walls, ceiling, two tiered benches, heater guard and removable ductboard floor.
2. Insulation: Minimum of R11 with continuous foil faced vapor barrier.
3. Floor: Waterproof, when above occupied area.
4. Door and Frame: Prefabricated wood with insulated, tempered glass vision panel for passive surveillance of interior. Wood door pull on interior.
5. Controls: Time and temperature; programmable with high temperature alert control to limit system.
6. Heater: Commercial grade, wall mounted, electric, stainless construction with rocks; sized per sauna volume. Typically, size to maintain 65º to 82º C (150º to 180º F).
7. Signage: See <GR2> for applicable safety signage. Provide equipment operation signage and safety signage adjacent to timer and temperature control at exterior of sauna.
8. Lock: Provide a keyed, deadbolt lock (no interior function) to permit management to secure room.

9. Robe Hook: Provide to accommodate capacity of the room, immediately outside the door.

E. Duress Alarm: Security alarm; (red mushroom design) locate at interior of room near entrance door. See <16>.

F. Utilities:

1. Floor Drain: For cleaning floor
2. Lights: Waterproof
3. Ventilation: Passive fresh air intake below heater and exhaust near ceiling.

G. Finishes - Sauna:

1. Floor: Porcelain or stone tile with slip resistance and removable ductboard floor over tile.
2. Walls / Ceiling: Wood.

4A.6 Steam Room

A. Program: If required by the project Facilities Program, provide separate Steam Rooms in the men's and women's shower area for guest relaxation prior to treatments or as a wet relaxation amenity to be enjoyed in combination with adjacent facilities.

B. Space Planning:

1. Location: Locate Steam Room in a common "wet area" adjacent to sauna, whirl pool or pool, if programmed.
2. Shower: Position Steam Room near locker room showers within a common wet zone to avoid traversing dry areas.
3. Accessibility: Comply with governing regulations for persons with disabilities.

C. Size / Area: 7.5 m² (80 sq. ft.) minimum, to 15 m² (160 sq. ft.)

D. Construction:

1. Floor: Waterproof membrane if above occupied area; positive slope 4 cm / m (1/2 inch per ft.) to floor drains.
2. Walls: Typically field constructed of masonry; vapor proof construction to prevent migration of moisture.
3. Ceiling: Sloped: 6 cm / m (3/4 inch per ft.), domed or vaulted (not flat) to

prevent condensation from dripping on occupants. Cement plaster; vapor proof construction to prevent migration of moisture into ceiling structure.

4. Bench (Built-in): Typically field constructed similar to wall construction. Two tiered (to permit seating at different temperatures); 45 cm (18 inch) high; Slope seat 3 cm / m (3/8 inch per ft.) to avoid ponding condensation.

E. Features:

1. Nozzles: Position steam outlet nozzles to avoid contact burns with occupants, away from seating areas.
2. R Signage: See <GR2> and <16> for applicable safety signage.
3. Controls: Remote at steam generator to maintain room at 43º to 49º C (110º to 120º F) with high temperature limit.
4. Emergency Shut Off: Provide in each room. See <16>.
5. Shower: Option at larger steam rooms.
6. Robe Hook: Provide to accommodate the capacity of the room, immediately outside the door.

F. Door & Frame:

1. Frame: Aluminum
2. Tempered glass
   a. Glaze to provide passive surveillance of interior; insulated.
   b. Manufactured for steam room applications - not “storefront” doors that do not control condensation.
3. Lock: Provide a keyed, deadbolt lock (no interior function) to permit management to secure room.
4. Seal: Vapor proof, to avoid steam in adjacent areas.
5. Hardware: Push / pulls; wood (or other nonconductive material) for hand grasping comfort.
6. Threshold: Porcelain tile or marble; set slightly above floor finish to contain water.

G. Duress Alarm: Locate red design mushroom button at interior of each room near entrance door. See <16>.

H. Utilities: See <15B> and <15C>.

1. Ventilation: Provide exhaust from above ceiling area (not from steam room).

Locate near door. See <15A>.

2. Steam Generator: Locate in adjacent room.

3. Drains: Place at low points of sloped floor. Provide trench drain at exterior side of door to manage water from foot traffic and door condensate.

4. Lighting: Waterproof type; under bench and wall sconces. See <15C>.

I. Finishes:

1. Floor: Porcelain or stone tile; slip resistant finish with minimum .42 DCOF.

2. Walls: Glazed ceramic or porcelain wall tile. Consider incorporating a graphic design element with the tiles, consistent with the spa narrative, to provide visual interest.

3. Ceiling: Glazed ceramic or porcelain tile.

4A.7 Steam Generator Room

A. Program: Provide a utility room for the remote steam generator equipment that produces steam for the Steam Rooms.

1. BP Location: Locate Steam Generating Rooms as close as possible to Steam Rooms being served and within manufacturer's recommendations.

2. BP Size / Area: As required to locate equipment and provide maintenance clearance.

B. Features:

1. BP Access: Provide access from a common corridor or from locker / attendant area for maintenance and to adjust controls.

2. Steam Generators: Commercial grade for continuous use.

3. Controls: Independent thermostat to control each room, automatic flush, high temperature limit, sight glass, low water cut-off, pressure gauge with alerts reporting to the <16> office.

4. Door and Frame: Wood; provide louver if required for ventilation.

C. Utilities: Provide water and electric service, and access to drain.

D. BP Finishes:

1. BP Floor: Sealed concrete or VCT or epoxy paint

2. BP Walls: Painted; epoxy is preferred
3. BP Ceiling: Exposed (not painted)

4A.8 Food and Beverage (F&B)

A. Program: See project Facility Program. If required by market, include within or adjacent to the Fitness Center Arrival Area. Typically, the solution is a juice bar offering a variety of refreshing drinks and snacks. For Pool F&B, see <3>.

1. Small Facilities: Where Fitness Center does not rely on outside memberships provide a furniture grade purpose built shelving unit or custom built-in cabinetry offering refreshments on an honor or complimentary basis.
2. Large Facilities: Where outside memberships are accommodated, the Juice Bar consists of an adjacent self-contained food and beverage outlet.
3. Outdoors: When the Fitness Center is located adjacent to the outdoor recreation terrace and swimming pool, the Juice Bar is integrated with the pool's food and beverage program. The program for the facility follows the design process outlined for food and beverage. Coordinate with <3>.

B. Features: Provide the following:

1. Self-Service: If the Juice Bar is a buffet style, fabricate with granite or solid surface counter and millwork cabinet.
2. Seating: Provide casual, wood or metal framed, upholstered with fabrics that are easy to maintain in an athletic environment. Use only teak wood or synthetic woven rattan for outdoor seating.

C. BP Finishes: In general, the Juice Bar finishes are similar in quality to the Arrival Area.

1. BP Juice Bar - Food & Beverage Facilities: Generally, include wood, porcelain tile or stone floors and millwork walls with decorative lights and artwork. Incorporate concealed trash receptacle and recycling bin.
2. BP Ceilings: Multi-level, smooth painted gypsum board surface with recessed lights.

4A.9 Treatment Rooms

A. Program: Provide quiet, soothing functional room(s) for performing massage and related treatments. The environmental comfort of the patron is essential and requires adjustable control of temperature, lighting and audio.

1. Provide quantity and type of rooms required by the project Facilities Program.
2. Comply with the Spa Design Standards.

B. Space Planning:

1. BP Type: Locate massage rooms together for efficient operation by attendants.
2. Acoustics: Provide acoustic wall construction (STC 55 min) since massage rooms require absolute quiet. Avoid locations near noise sources.

C. Size / Area: 11 m² (120 sq. ft.) minimum (per room).

D. Features:

1. Table: Adjustable, massage table
2. Counters: 91 cm (3'-0") high; 61 cm (2'-0") deep; length, 1.8 to 2.4 m (6 to 8 ft.); granite or solid surface.
3. Cabinets: Wall and base cabinets.
    a. Positioned not as a focal point as one enters the room.
    b. High quality laminate or stained or painted wood.
    c. Adjustable shelves with locks at drawers and doors.
    d. Door and drawer silencers (felt or rubber).
    e. One section of the wall cabinet with glass doors and light for product display.
    f. Section for laundry hamper; covered.
    g. Section for trash; covered.
    h. Sink: Porcelain with hot and cold water and gooseneck spout.
4. Ceiling: Integrate the design features to reinforce an atmosphere of relaxation.
    a. Lights: Avoid harsh, direct lights above massage area.
    b. BP Speakers; sprinklers: Coordinate placement with ceiling design.

c. Diffusers and Grilles: Avoid direct drafts on patrons. Integrate or conceal diffusers and grilles with ceiling design.

d. BP Design: Include interesting features utilizing coffers, vaults, chromatherapy lights, etc. Acoustic ceiling tiles are not permitted.

5. BP Window: The natural light provided by a window is beneficial. Provide operable or fixed operation based on location and climate. Provide an appropriate privacy treatment.

6. Door: Solid core wood with the following:

   a. Acoustical seal.

   b. Latch set only (no lock) with quiet operation.

   c. Solid door frame of wood (preferred) or filled hollow metal to minimize noise.

7. BP Mirror: One wall of room may include a decorative mirror.

8. BP Provide robe hooks as required.

E. Audio: Equip each room with an individual sound system with channel and volume controls.See <13B>.

F. Thermostat: Provide each room with individual controls. Coordinate with <15A>.

G. Lighting:

   1. Decorative and indirect lighting or wall sconces on dimmer controls.

   2. Undercounter lights for counter work.

H. Electrical: See <15C>.

   1. Floor outlet for massage table.

   2. Counter outlets; 4 for related appliances.

   3. Wall outlet; 2 near head for steamer and product trolley (so that room can also accommodate facials).

   4. Controls: Organize audio, temperature and lighting controls in one location with a unified appearance.

I. Finishes:

   1. Floors and Base: Resilient flooring surface

   2. Walls: Paint or wallcovering

   3. Ceiling: Gypsum board, painted. Ceiling tile are not allowed.

4A.10 Relaxation Area

A. Program: If required, provide a quiet room for relaxing before or after treatments as required by the project Facilities Program.

B. Space Planning:

1. BP Separate facility for male and female, typically.
2. Locate adjacent to locker area with convenient access to treatment areas.
3. Position to avoid direct views into locker or treatment areas.

C. Features: Provide the following features and amenities:

1. BP Visual features such as artifacts, water features and exterior views are encouraged.
2. Adjustable lounge seating with drink table and reading light for 4 to 8 occupants.
3. R Television and audio entertainment
4. Locate a small beverage hospitality station at the entry.
5. Lighting: Provide indirect and direct lighting to meet lighting levels. See <15C>.

D. Finishes:

1. Floor: Carpet or wood with area rug
2. Wall: Millwork and vinyl wallcovering
3. Ceiling: Smooth painted gypsum board

4A.11 Storage - Attendant

A. Program: Provide a storage area to accommodate bulk storage of supplies (towels, robes, slippers, etc.) required by the attendant and general equipment, supplies and accessories for grooming and locker area.

B. BP Space Planning: Adjacent to Locker Area to conveniently resupply lockers and to passively supervise access to the room.

C. Size: At small facility provide large closet or accommodate in treatment room. At larger facility base on MI operations.

D. BP Features:

1. BP Shelving for towels, robes, slippers and equipment
2. BP Door: Lockable
3. BP Access: Provide solid ceiling or walls to underside of structure above to deter theft.

E. Finishes:

1. Floor and Base: Vinyl or porcelain tile
2. Walls: Painted
3. Ceiling: Painted gypsum board or acoustical tile

4A.12 Kids Club & Teen Facilities

A. EI Overview: Although not a Brand requirement, provide a Kids Club or Teen Facility when required by the project Facilities Program, particularly for resorts, leisure destinations and large properties.

B. Program: When required by market, design and provide facilities for guests' children and teenagers that comply with a recreation program on a case by case project basis.

1. BP Typically, the following spaces are included in the facility:
   - Entrance / Reception
   - Kid's Activities Room
   - Storage Room
   - Pantry
   - Toilet
   - Playground
   - Teen Facility

C. Size: See the project Facilities Program.

D. Design Parameters: Design the facility to accommodate children.

1. Select durable materials and finishes that are easy to clean.
2. Accessibility for Guests with Disabilities: Locate facilities and amenities along accessible routes and design facilities for access by guests with disabilities.
3. Avoid fixtures with sharp edges and corners. Tables and chairs with rounded corners are preferred.
4. Doors intended to be operated by children must not be too heavy or closers too strong to prevent opening.

E. Finishes: Design interior spaces with appropriate durable finishes. Design to be thematically aligned with location and age group. Coordinate with <GR4>.

1. Floors: Carpet, wood, tile; VCT at service areas
2. Walls: Murals, paint, vinyl wall covering, ceramic tile at food areas and toilet rooms
3. Ceiling: Acoustic ceiling tile and smooth gypsum board

F. Loss Prevention: See <16>.

1. Security: If required by Loss Prevention Risk Assessment, provide video surveillance equipment.
2. R Steps, Stairs & Ramps: See <16>.
3. Vision Panels: In order to avoid opportunities for inappropriate contact with children, provide windows, door sidelights or glazed windows in doors at enclosed rooms (offices, storage, preparation, etc.) to permit passive surveillance of activities. Not required at toilet or dressing rooms.
4. Glazing: Provide safety glazing and decals at all large glazed areas that are subject to human impact.
5. Windows & Safety Glass: See and <16> for window, glass / glazing criteria, restricting window opening to 10 cm (4 inch) and safety glass requirements.

G. Kids Club:

1. Entrance / Reception: Provide an attractive entrance portal and reception area to greet guests and their children.
    a. Entrance: Provide a well lighted and attractive entrance portal.
    b. Doors: Glazed (safety glass) doors to permit passive monitoring of arriving and departing guests.

c. Chime: Provide an electronic door chime for perimeter doors to alert employees when exterior doors are opened.

d. Reception Desk: Provide a reception desk and chairs for employees and guests to discuss and exchange information about the program. Provide computer (PMS), POS, telephone, printer and file cabinet. Coordinate with <13A>.

2. Activities Area: Provide a large open space to accommodate a variety of play activities.

   a. Open Area: Provide groupings of tables and chairs to accommodate small groups of children. Select chair and table heights to accommodate children of different ages.

   b. Floor: Divide floor surface into carpeted areas for floor play activities and wood or tile floor surfaces for high maintenance activities.

   c. Library Wall: Provide a counter, cabinets and wall shelves to store books, games and toys. Provide a state-of-the-art TV with the latest gaming technology.

   d. BP Computer Area: Provide a counter or alcoves for computer stations. Verify internet access to avoid unintentional access to unauthorized websites. Coordinate with <13A>.

   e. BP Sink: To support art and other projects, provide a clean up area with an appropriate height sink and counter for child use.

3. BP Storage Room: Provide a lockable room (10% of activities area) with shelving to accommodate play equipment and games.

4. BP Pantry: Provide a pantry to prepare light snacks and beverages. Provide a counter, sink, microwave, refrigerator and base and wall cabinets.

5. Toilet: Provide a toilet and vanity with sink.

   a. Design fixtures for use by small children.

   b. Design facility for use by children with disabilities.

   c. BP Avoid automatic flush toilets that may frighten small children.

6. BP Service Closet: Provide a service area to store cleaning equipment and supplies, and to access a utility sink for wet crafts and cleaning.

7. Playground: If provided, typically include the following features:

   a. Safety: Follow industry standards for play equipment design and play surface impact criteria.

b. Playground Equipment: Pre-manufactured, commercial / quality grade equipment

c. Avoid hot surfaces that could burn skin in hot climates.

d. Furniture:
   • Provide seating for parents.
   • Picnic bench for outdoor snacks and activities.

e. Ground Material: Provide wood chips or other natural or recycled cushioning materials below play equipment to cushion falls.

f. Perimeter Enclosure: Provide 1200 mm (4 ft.) high enclosure in landscaping around playground area to contain children and provide perimeter access control. Avoid enclosures and details that could entrap children. Integrate the enclosure with landscaping material to maintain the natural resort ambiance.

H. Teen Facility: Provide when required by market and the project Facilities Program. The teen facility is separate from the children's area and designed for guests between the ages of 13 and 17. A physical space for both structured and relatively unstructured leisure is preferred. The ideal space is divided into three zones: gaming, snacking and hanging out.

1. BP The Activity / Gaming Zone, depending on property location and requirements, could include the following:
   • TV and casual seating
   • Table tennis
   • Pool table
   • Computer stations
   • Craft / project area
   • Game tables
   • Video games
   • Beauty salon area
   • Tour / activity sign up / announcement board or desk
   • Kitchen area for cooking classes
   • A small storage room or office (required)

2. BP The Snacking Zone, depending on property location and requirements, could include the following:
   • Pizza oven
   • Ice cream parlor counter
   • Telephone station for room service with special menu
   • Soda fountain
   • Kitchenette area
   • Dining area with table and chairs, communal tables or counter

• A small pantry with sink (required)

3. BP The “Hanging Zone” could include the following:
• Large, comfortable, durable lounge seating
• Coffee tables, lamps and side tables
• Large screen television with a system to play movies
• Book shelves to store teen oriented reading materials including books, magazine display and video games

4. BP Some type of musical enhancements are included in the teen facility. Depending on property location and program, the following could be considered: Karaoke with stage area, jukebox, portable media player docking stations, dance floor and DJ room.

5. BP Toilets: Provide teens with convenient access to Public Restrooms or provide a dedicated facility.

6. BP Support Areas: Provide storage, pantry and service closet as noted above for the Kids Club.

4A.13 Additional Facilities

A. Program: Include additional recreation facilities for indoor and outdoor recreation activities when required by the project Facilities Program.

B. Rest Kiosk: When required, provide a small kiosk for outdoor activity areas, trails, courts, etc.. Strategically locate as an amenity for guests.

1. Seating Areas: Protected (combination of trellis and roof) seating area
2. Towels: Area for disbursement of towels (non-attendant / self-serve)
3. Refreshments: Drinking fountain, water dispenser or refrigerated beverage dispenser as required.

C. R Resorts: Verify with MI. The following may be included:
• Volley and Basketball Court(s)
• Outdoor Hand and Squash Ball Court(s)
• Golf Putting Greens and Practice Driving Cage
• Running / Jogging Path (where feasible)
• General Lawn Area

4A.14 Tennis Courts

A. Program: When determined to be required by MI, provide Tennis Court complex, including tennis pro shop, number of tennis courts and type of construction and surface finish.

1. Courts: Provide a minimum of 2 courts. See the project Facilities Program.
2. Unless structurally impractical, courts are accessible to guests with disabilities.

B. Planning:

1. Avoid East / West orientation to reduce chance of sunlight in players' eyes during mornings and evenings.
2. Avoid conflicts (view, lights and noise) with guestroom wing.
3. Size: 36.6 x 18.3 m (120 x 60 ft.) for one court, unless otherwise specified by the Owner and MI. Multiple courts; provide a minimum of 3.6 m (12 ft.) to adjacent court playing surface.
4. Shade Structure: Provide in hot, humid climates between courts.

C. Court Finish:

1. The Landscape Architect reviews types of courts used at tennis facilities for the project locale and recommends court surfaces for review and approval by the Owner and MI.
2. Acceptable surfaces include clay, simulated clay, concrete with emulsion coat or asphalt with special layered flexible coating. Alternate surfaces are considered on an individual basis.

D. Fence:

1. Size:
   • Ends and sides: 3 m (10 ft.) high.
   • Center section of the nets: 1.2 m (4 ft.) high.
   • Provide 3 m (10 ft.) fences at sides that require protection from prevailing winds
2. Material:
   • Black, PVC coated wire
   • Include mesh for additional protection from the wind
   • Posts and Rails: Black
3. Gates: Minimum opening width of 82 cm (32 inch).

E. Features:

1. Utilities:
   • Power and water for drinking fountains.
   • Water to courtside for maintenance.
   • Power for ball machines and video equipment at side viewing pads.
   • Empty conduit for future power and communications requirements

2. Net Posts: Removable, black finish

F. Lighting:

1. Lighted Courts: Consult with MI for quantity.

2. Tennis court light fixture type and lighting levels, whether Club or Championship level, are accepted by MI.

3. Provide 8 light fixtures per lighted court as follows:
   • Type: Metal halide or LED
   • Shielded: 100% below the horizontal plane of the fixture housing.
   • Poles: 6 m (20 ft.) high.
   • Finish: Black
   • Install light poles in line with the fence posts; not on court or surrounding surface.
   • Surface mount pole lights at base to anchor bolts set in a concrete footing.

4. Provide lighting on path to access courts.

5. Provide timer switch controls to permit automatic light shutoff and to permit limits on nighttime play.

4A.15 Beach

A. Site Improvement: At resort locations where a beach exists, improve the beach by cleaning, shaping and grading to refine the beach area to a condition conducive for guest utilization.

   1. In areas where a natural beach does not exist, it is necessary (if allowed by governing law) to design and construct a man-made beach in the form of an excavated lagoon. To design this element, the Landscape Architect shall engage the services of a specialist with expertise in ocean and tide water current behavior.

   2. Provide beach sand of aggregate size and texture satisfactory for beach use. Obtain material acceptance from MI.

   3. In the event the ocean shoreline is rough and rugged, grade or smooth a portion of shoreline to provide guest access to the water.

   4. Where a boardwalk or similar beach access is provided, provide access for guests with disabilities. See <GR1> for Code and Accessibility compliance..

B. Beach Facilities: Provide as follows.

   1. Provide beach shower to remove sand prior to entering other facilities.

   2. For properties where the hotel controls the beach, provide the ratio of 2 chaise lounges per guestroom.

   3. Beach House: Provide adequate and accessible support facilities for equipment, toilet rooms, beach attendant station, towel issue, storage of beach chaise lounges, retail sales of essential items, umbrellas, boats and other recreation equipment. Include electric service and outlets.

   4. Provide a secure storage area for miscellaneous exterior recreation equipment, such as rental bicycles for guests. Typically, locate the storage with the tennis facility to accommodate rental maintenance and cleaning.

C. Shade Structures: Provide cost effective structures and areas such as trellises, awnings, palapas and cabanas that provide true shade for guests to avoid full sun.

D. Security: If permitted, define the beach security perimeter to accommodate the privacy of guests.

4A.16 Golf

A. Program: Provide as required by the Facilities Program. Design facilities in compliance with the “Golf Design Standards Supplement”.

B. Support Facilities: Refer to Facilities Program. When a golf course is part of the project, provide support facilities for a guest to play golf; store, clean, maintain clubs; deliver clubs / equipment by golf car to course to be played, either separate or with the guest.

C. Valet Service: Typically, required if golf course is remote from the hotel. Service includes the following:
   • Valet service to receive and hold “active” golf equipment from time of guests’ arrival to time of use.
   • Unload, clean and store golf equipment until needed next time by guest.

4A.17 R Coordination

A. R References: Coordinate with requirements of other Chapters.
   • Technology Infrastructure
   • Audio / Visual
   • Fire Protection & Life Safety
   • Mechanical
   • Plumbing
   • Electrical
   • Loss Prevention

key

E I Expanded Information

BP Best Practices

R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

EUROPE

Marriott Hotels

fitness center

globaldesignstrategies

designstandards

December 2020 | franchised

4B.1 Overview

A. Program: Provide a Fitness Center for the property as defined by the project Facilities Program and these design standards.

1. EI The Fitness Center allows guests to engage in the latest trends in fitness available today. The center caters to the conditioned athlete and the fitness novice. Current trends in the fitness industry are moving towards more personalized fitness centers, where guests can perform various fitness activities in spaces without feeling on stage.
2. If programmed, limited executive memberships may be offered.
3. Equipment Layouts: Representative layouts are provided by MI or See the Fitness Foundation. Coordinate layout with finishes selected by the Interior Designer.
4. The facility is designed with finishes consistent and complementary to the Hotel design narrative, the Brand's Design Foundation and Fitness Design Foundation.

B. Co-Location with Spa: If the hotel is integrated with a full service spa, provide one shared Fitness Center adjacent to the spa. Provide the Fitness Center with a dedicated Locker, Shower / Toilet Facility for men and women to avoid operational conflicts with the spa.

C. Location:
• Locate the Fitness Center off public circulation so guests do not have to cross public areas, such as the Lobby, Bar, Lounge or meeting Spaces, to arrive at the Fitness Center or exterior recreation facilities.
• Preferred location does not direct main guest traffic to pass by Guestrooms.

D. Manager's Office: Provide a private Fitness Manager's Office as required by market conditions and the project Facility Program.

E. Storage: Provide a room to store small training equipment and other exercise items.

1. BP Location: Locate near exercise areas.
2. BP Size: 5 m² (54 sq. ft.)
3. BP Features:
   a. BP Shelving: Wall mounted, adjustable, wood
   b. BP Lockable door

c. BP Resilient flooring

F. Amenities: Design places for guest amenities on built-in millwork or casegood items. Examples include but are not limited to the following. See the Brand Fitness Foundation for a complete list by brand.

1. Television: Provide 2, wall mounted, sized at 107 to 152 cm (42 to 60 inch) flat panel; locate near strength training area. Verify with Brand Fitness Foundation.
2. Towels: Provide millwork for work out, hand towels and soiled towel disposal.
3. Fruit (optional): Complimentary fresh, whole seasonal fruit (available during peak hours).
4. Clock: Provide with second counter and mount on wall in each room of the facility.
5. Cleaning Wipes Dispenser: For anti bacterial wipes.
6. Trash receptacle and recycle bins concealed in millwork.
7. Emergency Telephones: Provide house phones with direct dial to the “Call Center” from the exercise room areas. See <2A>.
8. Headsets: Complimentary headsets for cardio equipment
9. Publications: Provide an area to display complimentary, current and recent issues of fitness, health, or wellness publications

G. Planning:

1. Circulation: To the extent possible, the Fitness Center plan provides visual observation of Fitness Center circulation, a clear division of male and female changing facilities (if provided) and clear paths of travel to emergency exits.
2. Ventilation: Provide ventilation and maintain 65 degrees and 40 to 60% humidity. See <15A>.
3. Privacy: If provided, design locker, lounge, toilet and shower areas to minimize direct lines of sight from exercise areas. Accommodate governing laws, customs and cultural norms regarding privacy.
4. Signs: Provide guest usage, regulation, safety and graphic signs as required by the governing jurisdiction. See Brand Signage Specifications.
5. Exercise Equipment Area: Do not locate exercise equipment next to a wet environment such as an indoor pool because moisture, condensation, chlorine and wet bathing suits corrode equipment.
6. Branded Visual Identity: See the Fitness Brand Standard for direction. The

minimum requirement is:

- A spark sculptural signage piece
- A large scale wall mural
- One additional visual identity application

H. Audio: provide a professional quality sound system. See <13B>.

1. Music: Provide low volume (50 to 60 decibels) background music, typically between 120 to 140 beats per minute for exercise areas. See <13B>.
2. Location: Locate equipment on shelving in a room adjacent to Amenities Station or in Manager's Office.
3. Speakers: Architecturally integrate speakers.

I. Lighting: A lighting designer is strongly recommended to coordinate requirements for the lighting design and installation. Demarcate the various zones through multilayered lighting for ambient and task lighting with unique ceiling features using recessed and accent fixtures.

1. Locker, Exercise, & Service Areas: Utilize general illumination of warm (triphospher, 2700 to 3000 K color) LED lights for good skin tones and lower heat output.
2. Arrival Areas: Use indirect wall and ceiling lights on dimmers.
3. Dimmers: Provide individual dimmer controls for studio and exercise areas.
4. Lighting Levels: See <15C>.
   - Entrance Foyer: 10 to 15 foot-candle minimum.
   - Cardio/Aerobics: 15-30 FC [150-300 lux] at floor
   - Strength Training: 20-40 FC [200-400 lux] at floor
   - Stretching: 10-30 FC [100-300 lux] at floor

J. Natural Light: Provide natural daylight through the use of full-height windows, skylights and outdoor areas (while safeguarding the privacy areas).

K. Views: Maximizing great exterior views are preferred, ideally over lush landscaping.

4B.2 Arrival Area for Fitness Center

A. Program: Reflect the general characteristics and overall design aesthiestic consistent with the Hotel design narrative and Brand's Design Foundation. Provide the same level of finish and furnishings as required for public spaces.

B. Entrance & Foyer: Identify the entry with a combination of signage, lighting and a pair of glass doors. As a minimum, identify and announce the Fitness Center location with an entrance portal. Provide with a direct access to the Amenities Station.

   1. Entrance Door: Control guest entry with an electronic access key compatible with guestroom lock. See <16>.

   2. Circulation: Plan circulation to avoid service traffic through the Arrival Area.

   3. Interior Design: Provide quality finishes in the entrance and Arrival Area. Include artwork and decorative lighting.

   4. Waiting Area: When required by the project Facilities Program, provide a waiting area with seating for approximately four guests.

C. Amenities Station: Provide to accommodate the Brand amenities program and as the focal point of the Arrival Area. Additional amenities units may be required throughout the fitness center based on the design concept and size of facility.

   1. Location: Position to allow direct access of arriving and departing guests and for passive surveillance from the exercise areas.

   2. Size: A generous counter that may be unstaffed or accommodate employees.

   3. Design: Furniture grade, purpose built shelving unit or custom built-in cabinetry for towels, trash, water dispenser, etc. Finishes include a combination of stained millwork, stone or hard surface counter.

D. Hydration Station: Provide an elevated water dispensing station, plumbed, that provides filtered water. See Brand fitness program requirements.

E. Equipment:At the Amenities Station provide the following:

   1. Beverages: Providing an upscale, filtered water dispensing station and consider offering bottled water or other beverages as determined by Brand programming..

   2. BP Provide glass front, counter height refrigerator for bottled beverage display or chilled towels, when offered. Select equipment that is specific to use.

3. BP See the Brand Fitness Foundation for program specific equipment.

F. Retail: Provide when required by the project Facilities Program. Amenities Station or adjacent cabinet may include an opportunity to merchandise logo and sports related items.

1. BP Location: May serve as the entry or circulation path of the Fitness Center Arrival Area to related health and beauty retail such as hair styling, facial, barber or nail care.
2. R Design Criteria: For Retail areas, comply with the MI acceptance process and see the retail design resource in <5>.

4B.3 Exercise Areas

A. Program: Assigned areas generally accommodates the following core functions:

1. Cardiovascular Area
2. Strength Training Area
3. Flex Area
4. Movement Studio (when programmed, a separate room)

B. Size / Area: At a minimum, size the facility to meet the following area criteria:

1. Size / Area Table:

Guestrooms	Minimum m² (sq. ft.)
200 or less	95 m² (1,000 sq. ft.)
201 to 450	140 m² (1,500 sq. ft.)
451 to 650	160 m² (1,700 sq. ft.)
651 to 850	190 m² (2,000 sq. ft.)
851+	230 m² (2,500 sq. ft.)
Hotels with over 851 rooms add 7 m² (75 sq. ft.) for every 100 rooms.	

2. Ceiling Height: 2.9 m (9'-6") minimum; proportionally higher in larger spaces.
3. Equipment Clearances: Maintain space beside and behind equipment based on the manufacturer's recommendation.

C. Cardiovascular Area: First area accessible from the Arrival Area and Locker facilities. Area typically includes exercise equipment such as professional grade treadmills, ellipticals, bikes, etc.

1. Position and orient area to maximize natural light and to benefit from exterior views. Where possible, include views to the swimming or other recreational decks. Allow visibility to / from the Arrival Area.

2. Provide integrated or attached personal TVs on each piece of equipment with licensed public content.

3. Equipment Clearances:

    a. Treadmills: Maintain space behind equipment based on the manufacturer's recommendation; approximately 1.8 m (6 ft.) clearance minimum.

    b. Provide 1.2 m² (13 sq. ft.) minimum clear floor space for each equipment; 1.8 m² (20 sq. ft.) preferred.

D. Strength Training Area: Provide exercise areas to support many work out opportunities with professional grade free weights, etc.

1. Lighting:

    a. Provide higher lighting levels.

    b. Downlights: Do not locate directly above stations where guests are reclining and lights shine in their eyes.

2. Mirrors: Provide full height wall mirrors starting above wall power outlets.

3. Sound: Include background music. See <13B>.

4. Natural Lighting: Maximize natural lighting into the space through full-height windows and skylights.

E. Equipment: Provide a state of the art Fitness Center offering guests with the latest in training facilities and state of the art equipment. Provide exercise equipment and features consistent with the property size and market based on current MI operating standards.

1. Cardiovascular (Cardio) & Strength Equipment: Provide the acceptable pieces listed in the Fitness Foundation.
    • Contact Marriott International (MI) for equipment models.
    • Provide power and data for a personal LED TV screen attached to each equipment.

2. Accepted Equipment Manufacturers: Matrix Fitness, Life Fitness and Technogym. A service agreement is required for equipment maintenance.

F. Flex (Core Training & Stretching) Area:

1. Equipment: Examples include but are not limited to the following:

    a. Floor Mats

    b. Stability Balls and rack

c. Miscellaneous core and stretching accessories

2. On Demand: Provide space for 2 guests to utilize the On Demand programming via a wall mounted TV.

G. Movement Studio: Provide when required by the project Facilities Program. If provided, isolate the area with an enclosed acoustical separation, and a sense of privacy from other areas.

1. Activities: Accessible to guests taking classes or for personal activities.
2. BP Views: Maximize introduction of controlled exterior views and natural light.
3. BP Mirrored Walls: Typically, mirrored wall with wall mounted ballet barres (horizontal handrail). Include blocking in wall for attachment.
4. Audio / Visual:
   a. Provide separate sound system, controlled in room. Integrate into wall or cabinet with surround sound speakers.
   b. BP Consider a drop down projection screen or large monitor for scheduled or On Demand group classes. Include a wall mounted touch screen control.
5. Lighting: Provide adjustable light levels for different mood requirements.

H. Finishes:

1. Floor:
   a. High quality LVT, wood or rubber floor at exercise areas with rubberized material at free weights.
   b. Resilient mounted wood floor or LVT in non-exercise areas and movement studio.
2. Walls: Combination of accent vinyl wall covering, paint, one mirrored wall and millwork.
3. Ceilings: Combination of acoustic tile system or smooth painted gypsum board.

4B.4 Coordination

A. R References: Coordinate with requirements of other Chapters.

- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

swimming pools

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

4C.1 Overview

A. Program: At a minimum, provide the following.

1. Swimming Pool (indoor)

B. Locker & Shower Facilities: For the requirements to provide Toilet & Shower facilities, see <4A>.

C. Size / Area:At a minimum, size facilities to comply with the project Facilities Program. The exact size and type of facilities are based on the following:
- Market analysis
- Membership opportunities
- Climate
- Property location
- Local code restrictions

D. Standards & Codes: Comply with the current edition of applicable governing building, structural, mechanical and electrical codes and health regulations.

1. Comply with the current edition of the European Standards criteria (EN) or equivalent for aquatics.

4C.2 Swimming Pools - General

A. General: Enlist a certified pool consultant to assist with pool designs.

1. BP Consider contiguous indoor / outdoor swimming pools in seasonal locations.
2. BP Larger facilities may require separate pools, especially where the outdoor pool is the center of a resort environment.
3. BP At urban sites with limited recreation area, provide a "motion" pool to accommodate 2 or more swimmers.
4. Large, Complex or Elevated Pools: When determining the pool structure, consider the following:
   - Speed of installation
   - Structural loading and weight of pool
   - Vertical and horizontal movement as a result of soil or building movement
   - Earthquake zones
   - Drainage system redundancy if pool is located over an occupied area.

B. Planning: Locate exterior pools with exposure to direct sun light and protected by wind.

1. BP Provide indoor pools with exterior views, if possible.
2. BP Where feasible, position recreation areas and swimming pools close to the Fitness Center, which are jointly accessed from guestroom elevator core and Fitness Center.
3. At ocean properties, place between the hotel public spaces and the beach. Create pathways to connect the pool and the beach.
4. In resort properties, place exterior pool at the focal and most prominent location. Locate the primary pool to provide access from the guestroom wings.
5. BP Rooftop: At urban sites with limited area, consider a rooftop or terrace pool for an outdoor pool. Coordinate with <16>.

C. Access Control: Develop a program to secure the perimeter of swimming pool and whirl pool areas during after hours and unauthorized use based on the following.
   1. R Marriott Loss Prevention review. See and <16>
   2. Operational logistics and location of pools and recreation areas.
   3. No path of building emergency egress through the swimming pool and whirl pool area.
   4. Primary access point for guest arrival is toward the shallow end of the pool.

D. Control Features: Based on the Loss Prevention program, provide controlled access to pool perimeters and recreation areas using one or more of the following features:
   1. Barrier: Provide 1.2 m (4 ft.) minimum high barrier (fence or landscape hedge) when the pool is within the confines of the hotel or 1.5 m (5 ft.) minimum high barrier when bordering adjacent properties.
   2. Doors: To limit access by unauthorized persons or control access at unauthorized times, provide electronic lock mechanism to pool enclosure and whirl pool areas. See <16>.
   3. Gates: To limit entry by small children, provide child resistant gate hardware in compliance with the following:
      a. Provide self-closing and latching gate with release hardware.
      b. Locate the hardware on the pool side of gate and install 137 cm (54 inch) minimum from bottom of gate.
      c. When the hardware is located less than 137 cm (54 inches) from the bottom of the gate, install the device at least 8 cm (3 inches) below top of gate.

d. Design gate and barrier without an opening greater than 13 mm (1/2 inch) within 46 cm (18 inches) of the self-latching hardware.

E. Signage: Provide regulatory, safety and “No Diving” signage. See and <16>.

F. Pool Designs: Mechanical and structural engineers or a qualified swimming pool design / build provider and project team consultant develops the mechanical operation system and pool structural design.

1. Structure: Provide poured-in-place, shotcrete or pre-fabricated stainless steel shell based on the most suitable solution for the site considerations.
   • Finish: Applied cementicious plaster on concrete, tile or factory PVC bonded solution.
   • Select for long term durability and ease of maintenance
   • "Bag" liner solutions are not acceptable
   • Warranty: 5-year for waterproofing elements covering leaks and delamination
   • Accepted Manufacturer: Myrtha Pools (for panel system)

2. Configure swimming pool to facilitate simultaneous usage by recreational bathing and lap swimmers.

   a. Maximum Pool Depth: 1.5 m (5 ft.)

   b. Minimum Pool Depth: 1.0 m (3'-4")

   c. Maximum Slope of Pool Bottom: 1 to 12

3. Minimum Pool Depth Area: Approximately 15 to 20 percent of the total pool area.

4. Pool Perimeters: Fully accessible for general maintenance, life saving and rescue purposes.

5. Diving is prohibited.

6. Pool Entry: Provide a walk-in / stepped entry with accessible compliant handrails at primary access point for guest arrival at pool, at the shallow end of pool, with additional stairs or ladders every 23 m (75 ft.) around pool perimeter. Include railings on both sides of stairs or a central handrail at small stairs.

7. Steps: Provide 5 cm (2 inch) slip resistant edge, contrasting in color on vertical and horizontal nose of each pool step and bench.

8. Accessibility: See governing accessibility requirements, <GR1>.

9. Accessories: Slides, swimming tunnels and bridges are prohibited unless reviewed and accepted by Marriott Risk Management. See <16>.

10. Coping: Provide a continuous coping band with integral hand and finger grip at the pool edge consistent with the project paving and hardscape materials. Use pool coping compatible with the finish texture and material used for the slip resistant, pool deck paving.

11. Skimmers: NSF approved, in-wall skimmers, if provided.

    a. Quantity: 2 minimum; 1 for every 38 to 45 m² (400 to 500 sq. ft.) of water surface, typical.

    b. Covers: Provide cover to match pool deck to conceal skimmer cover.

    c. Equalizer Lines: Design in compliance with the Virginia Graeme Baker Pool and Spa Safety Act.

    d. Gutter:
    • Larger pools may require a continuous perimeter gutter by governing regulations.
    • Rim Flow or Vanishing Edge: Options depending on the size of the pool and design objectives,

12. Return Inlets: Quantity, size and spacing is dependent on occupancy load, pool volume, turnover rates and governing codes.
    • Typically, locate at 4.5 m (15 ft.) intervals along the pool perimeter wall.
    • Sidewall inlets or floor inlets may be used.
    • Place to maximize water recirculation and allow for ease of future maintenance.

13. Lighting: Provide underwater lighting with energy efficient LED lights. See <15C>.

    a. Protection: GFCI

    b. Circuit: Emergency

G. Pool Deck Design:

1. Deck Width: Provide a minimum of 1.2 m (4 ft.) at pool perimeters for rescue assistance circulation. Provide 1.5 m (5 ft.) at accessible required access paths. Not less than 3 m (10 ft.) at any point with seating.

2. Deck Slope: Slope away from pool to perimeter drains or deck drains at a minimum of 2% (2:100) (1/4 inch per foot) and a maximum as allowed by governing code. Standing water on pool deck is not permitted.

3. Deck Drains: Install flush to deck finish surface.

4. Deck: Provide slip resistant deck finish. See <16>.

5. Concrete & Carpet Finish: Smooth troweled concrete finishes and carpet are

not permitted at patios, walkways, pool decks or areas where people are circulating with wet feet.

6. Deck Joints: Seal deck joints with color matching elastomeric adhesive sealant with superior chemical and mold resistance, rated for pool use. Do not use wood divider strips.

7. Decorative Fittings & Nozzles:
   • Above water line provide a Corrosion PRN value equal to, or greater than, ANSI 316 stainless steel.
   • Below water line provide suitable plastic composites with chemical resistance equal to, or greater than, SCH 40 PVC pipe.

8. Shower / Foot Wash: Provide shower head and drain as required by governing authority or when pool is adjacent to a beach or play area to avoid sand and soil on pool deck and in pool. Design a decorative solution consistent with design narrative and strategy.

9. Lighting: Locate lighting at pool perimeter to avoid maintenance / replacement activities over the water surface.

H. Depth Markings: Indicate water depth in meters and feet, using permanent materials, at swimming and whirl pools.

   1. Letters / Characters: Minimum 10 cm (4 inch) high; in contrasting color to tile.

      a. Incorporate NO DIVING international logo tile signs adjacent to each depth marker.

      b. Paint-on characters are not acceptable.

   2. Marking Placement: Space markers no more than 7.6m (25ft.) intervals and arranged to be uniformly located at irregularly shaped pools.

      a. Depths / Shapes: Place pool markings at maximum and minimum depths, all points of slope change, and at every 30 cm (1 ft.) of depth increment; also place at major deviations in shape.

      b. Vertical Pool Walls: Place in upper most position; easily readable from water side.

      c. Horizontal Surface: Place within 46 cm (18 inch) of water's edge and positioned readable while standing on deck facing the water.

      d. Slip Resistance: Provide for horizontal depth markers.

      e. Depth Markings

4C.3 Indoor Pools

A. Design: Comply with the “Pool Designs” and “Pool Deck Design” criteria above.

B. Size: See the project Facilities Program.

1. A minimum of 6 x 12 m (20 x 40 ft.). An adjacent whirl pool is determined by the project Facilities Program.

C. Enclosure:

1. Floor: Meet slip resistant criteria. See <16>.
2. Walls: Porcelain tile wainscot with high performance epoxy paint above.
3. Ceiling: Exposed structure (skylights, concrete deck, etc.) with high performance epoxy paint with areas of gypsum board or plaster soffits. Avoid suspended ceilings and opportunities for corrosion.
4. Windows & Skylights:
   • Aluminum frame, thermally broken with insulated glass.
   • Full height framed glass / glazing at exterior wall to overlook the outdoor amenities.

D. R Heating, Ventilation and Cooling: See <15A>.

E. Acoustics: Pool enclosure Reverberation Time (RT) 60 Max = 4 seconds.

4C.4 Whirl Pool

A. Program: Not a Brand essential. See project Facilities Program for requirements. If provided, meet the following criteria.

1. Size: 3 m (10 ft.) diameter minimum by 0.91 m (3 ft.) deep.

B. BP Location: Typically, locate in close proximity to deep end of Swimming Pool. Consider a design that places the whirl pool above the pool deck to permit seating around the edge or more closely at eye level of surrounding seating.

C. Slip Resistance Factor: For decks, copings, benches, and pool floors, see <16>.

D. Heating: Include heating equipment to maintain 40º C (104º F) water temperature with an in-line thermometer graded in 1º C (2º F) intervals installed in the filter room between the filter and heater.

E. Equipment: Locate whirl pool mechanical equipment in a designated, programmed room unless otherwise approved by the Owner and accepted by MI.

1. Pumps: Provide separate pumps for circulation and jet supply. Equip pumps with programmable, variable frequency drives (VFD) for energy savings.

2. Suction Outlets: To avoid entrapment install suction outlets in compliance with the U.S. Pool Safety Act (Virginia Graeme Baker Pool and Spa Safety Act).

3. Decorative Fittings & Nozzles: Provide plastic composite or stainless steel, corrosion resistant metal or bronze plumbing fittings and nozzles.

4. Air Injector: Install for jet action during whirl pool use.

5. Jet Timer: Provide a 15 minute time switch to permit users to activate whirl pool jets. If air blower is provided, interlock timer with air blower and jet pump. Locate timer so that the whirl pool user is required to exit the pool to reactivate.

6. Stop Button: Provide emergency stop button adjacent to jet timer, interlocked to the whirl pool pump and jet pump.

F. Signs: Include regulatory and safety signage. See and <16>.

4C.5 Water Playground / Play Area

A. Program: See the project Facilities Program for Water Playground / Play Area (splash pad) or Children's Pool (alternate) requirement.

B. Resorts: Leisure markets may require one of the following water play areas for children:

1. Playground / Area: An MI preferred accessible water play amenity for children.

   a. Pad & Base: Reinforced concrete with a durable, slip resistant finish (see <16>). Provide a resilient material flooring approved for use in pool environments.

   b. Features: Provide a variety of water experiences (water jets, waterfalls / showers, fountains / bubble beds, wade-in pool, etc.) proportioned to the facility.

   c. Sanitation & Filtration: Provide a dedicated system. See "Pool Mechanical Operation - General".
   • Turnover Rate: Less than 2 hours
   • Sanitation: Traditional system with an ultra violet (UV) bacteria mitigation system on the water supply at the pump.

   d. Diverter Valve: Provide on the drain line to divert rain water, wash-down water and run-off to the storm water system.

   e. BP Controls: Consider an activation bollard and computer system that allows guests to turn the features on and off.

   f. Disability Access: Required. Typically provided if the pad is a single level design.

2. Children's Pool: Provide as an alternate to the Play Area, if approved by MI.

   a. Filtration: Provide a system dedicated to the children's pool.

   b. Depth: Typically 46 cm (1- 6) maximum

   c. Disability Access: See <GR1> for Code and Accessibility compliance.

   d. Deck Space: Design adequate deck space for observation of children and for appropriate furniture.

4C.6 Pool Mechanical Operation - General

A. Safety Features: Design and construct pool details and equipment to prohibit hazards from tripping and slipping. Design to avoid entrapment of clothes, hair and people in compliance with the U.S. Pool Safety Act (Virginia Graeme Baker Pool and Spa Safety Act).

B. Pumps: Provide recirculation, filtration, water treatment and pumping system to maintain water in a clear, sanitary condition with a minimum amount of maintenance.

1. BP Provide energy efficient pumps.
2. BP Provide pumps in standard sizes to simplify pump procurement and replacement.

C. Filtration: Provide a separate system for each pool and whirl pool. Include NSF approved sand filters or Regenerative Media filters. Provide a minimum system filter flow rate of one water turnover in 5 hours for pools and in 20 minutes for whirl pools.

D. Treatment: Provide sanitation and water treatment in compliance with the Model Aquatic Health Code (MAHC) and treatment type as required by M.I.; saline is preferred. Do not use chlorine gas. Provide automatic, adjustable injection system with test kit.

E. Heater: Provide heating for whirl pool and indoor swimming pools. Provide heating for outdoor swimming pools unless outdoor climate maintains water above design temperature.

1. Provide high efficiency heaters (with sealed combustion chamber and ducted, exterior combustion air to avoid pool chemical corrosion) integrated with heat recovery system using the pool dehumidification system. See <15A>.
2. Provide water temperature controls for the area's typical or extreme climate conditions. Provide constant design temperatures:
   - Pools: 29º C (84º F)
   - Whirl Pool: 40º C (104º F)
   - Temperature Rise: 0.25º C (0.5º F) per hour

F. R Signage: Coordinate with <16> for applicable signage.

G. Plumbing – General:

1. Pipes and Fittings: Provide Schedule 40 PVC for pools and whirl pools.
2. Fresh Water Supply: Copper or CPVC Schedule 80

3. Heater Supply and Return: Copper or CPVC Schedule 80
4. Pipe Size: Do not exceed flow velocities required by codes and the following:
    a. Velocity through open area of return: not to exceed 3 m / sec. (10 ft. / sec.)
    b. Velocity through suction lines: not to exceed 1.8 m / sec. (6 ft. / sec.)
5. Underground Pipe: Solvent welded connection only. Threaded or flanged connection are not permitted.
6. BP Testing: Prior to back filling, pressure test at a minimum of 1.7 bars (25 psi) for a minimum of 24 hours. Maintain pressure on pipes during back filling to verify pipes are not damaged.

4C.7 Equipment & Chemical Rooms

A. Location: Locate the Pool Equipment rooms close as feasible to pool and whirl pool, and away from guestrooms, residences, meeting rooms and other public spaces to avoid the transfer of noise and vibration.

B. BP Drainage: Provide a sump or other positive drainage.

C. Storage / Maintenance: Provide storage space for maintenance supplies and equipment. Avoid moving pool equipment and water treatment materials through public spaces.

D. Chemical Storage: Store and separate liquid chlorine from acid in ventilated, corrosion resistant rooms or cabinets away from pool equipment.

E. Eye Wash Station: Connect to tepid, piped water system. Locate near chemical handling with unobstructed access. See <15B> and <16>.

F. BP Construction:
    1. BP Floor: Concrete, hardened and sealed
    2. BP Secure and mount pumps and heaters on raised housekeeping pads.
    3. BP Walls & Ceiling: Provide water resistant materials and epoxy painted finish.

G. BP Plumbing:
    1. BP Support and secure with corrosion resistant fasteners and accessories.
    2. BP Clearly label and color code with flow direction arrows.

3. BP Install to avoid tripping hazards, head height obstructions and obstructions to equipment service.

H. R Ventilation: See <15B>.

4C.8 Pool Accessories

A. Deck Equipment: Additional equipment may be required by local code. At a minimum, provide the following.

1. Grab Rails
2. Stair Hand Rails
3. BP Life Guard Chair (only if required by governing authority)
4. Deck Mounted Stair Rails
5. Permanent Accessibility Lift (each pool area)
6. BP Deck Anchors
7. Escutcheon Plates
8. Pool Cover & Deck Anchors: Provide in cold climates where outdoor pools are typically closed for the season.
9. Thermal Cover: Provide thermal covers and racks for pools if the pool is intended to continue in service during cold weather.

B. BP Maintenance Equipment:
• Pool Cleaning System - vacuum with hose and robotic cleaner (dedicated vacuum ports - not recommended)
• Nylon Brush
• Telescopic Pole
• Stainless Steel Brush
• Zinc Anodes (cathodic protection)

C. Safety Equipment: Additional equipment may be required by local code.
• Life Buoy with throw line equal to the pool width
• Life Hook (Shepard's hook) and pole
• First Aid Kit

D. Telephone: Provide a house phone. See <13A>.

4C.9 Pool Deck & Terrace Amenities

A. Program: Provide design that is compatible with the Hotel design narrative and Design Foundation.

B. Landscape: Provide sophisticated landscaping at outdoor pool and sunbathing deck areas that is appropriate to the climate, space available, and project concept.

1. BP Utilize landscaping to provide quiet and public areas and shady and sunny zones.
2. BP At indoor pools limit landscaping to areas of natural light to support live plants.

C. Walkway Access: Paths to pool; 1.5 m (5 ft.) wide to allow two persons to pass or walk side-by-side.

D. Attendant Kiosk: Provide pool attendant's, towel and sundry issuance kiosk at primary point of access to pool compound; position to permit passive observation of the swimming pool, children's pool, and whirl pool.

E. BP F&B Facilities: Consider opportunities for pool terrace food and beverage outlets and function / catering facilities.

F. Deck / Terrace / Beach Furniture: Include stackable deck furniture in seasonal climates.

1. Chaise Lounge Quantity: 1 per 10 keys. (MI designates specific count); warm climates and resorts may require higher quantity based on demand.
2. Additional Chairs, Tables, Cabanas and Umbrellas: Base quantity on facility size, market demand, food and beverage type, and location.
3. Furniture & Amenities:
   - Towel rack
   - Hamper

G. Telephone: Mount house phone on fence in weather-proof box located at entry gate. See <13A>.

4C.10 Coordination

A. R References: Coordinate with requirements of other Chapters.

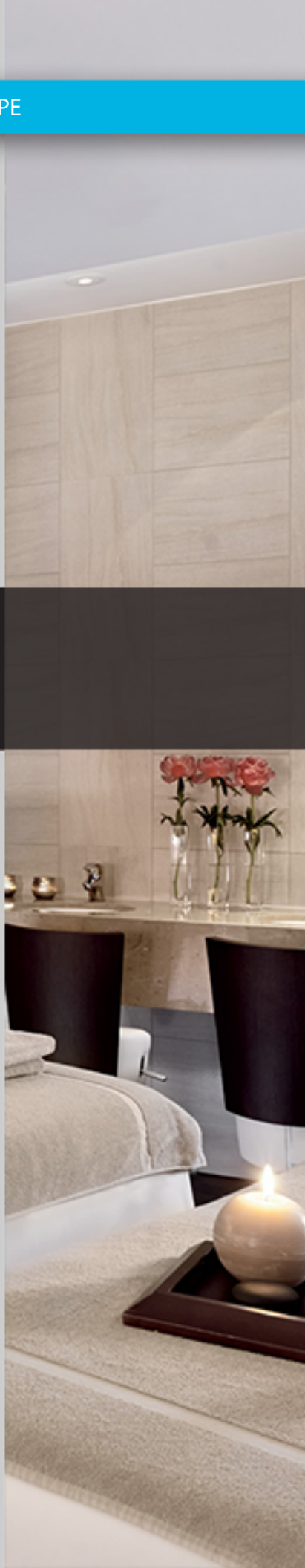
- Technology Infrastructure
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

spa



globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

4D.1 Application

A. EI Overview: The Spa Design Standards have been prepared by Marriott International, Inc. to communicate spa facility standards for the design of Brand Spa Facilities.

B. EI Spa Operations Manual: The Spa Design Standards, by themselves, do not define a spa facility program for a specific spa project. Refer to the Spa Operations Manual for the minimum Brand and Operations Standard requirements for each classification of spa product. The Spa Operations Manual and Spa Design Standards are complementary and their requirements are intended to be integrated to produce a cohesive spa facility.

C. EI Spa Area Programs: These Spa Design Standards address spa design parameters and minimum criteria standards for the design of spa facilities. The Spa Design Standards require integration of the Spa Area Program. The Spa Area Program forms the foundation of the spa design and governs the application of the Spa Design Standards. Consult the MI Spa team for the Brand's Spa Area Program.

D. Design Team: The Spa Design Standards are intended to be used and applied by a knowledgeable and qualified spa consultant and design team.

1. EI Consultant Selection: Selecting an appropriate spa consultant to assist with planning, programming and designing the spa project is an important, initial decision that directly affects the success of the spa design process.

   a. EI Select the spa consultant as early as possible to benefit from the spa consultant’s experience.

   b. EI MI maintains a list of recommended spa consultants who are familiar with Brand Standards Philosophy and Design Standards for contract by the project Owner.

   c. EI Contact Spa Operations for a current list of spa consultants. Access to information for consultants, equipment, supplies, treatment room details and utility requirements are available on the Marriott intranet site (MGS).

   d. EI Spa Consultants do not typically provide interior designer services. A spa specific interior design firm is required to design the spa facility, separate from the interior design firm hired for the hotel.

E. Market Study: A market study by ownership is required to program and appropriately integrate the Design Standards.

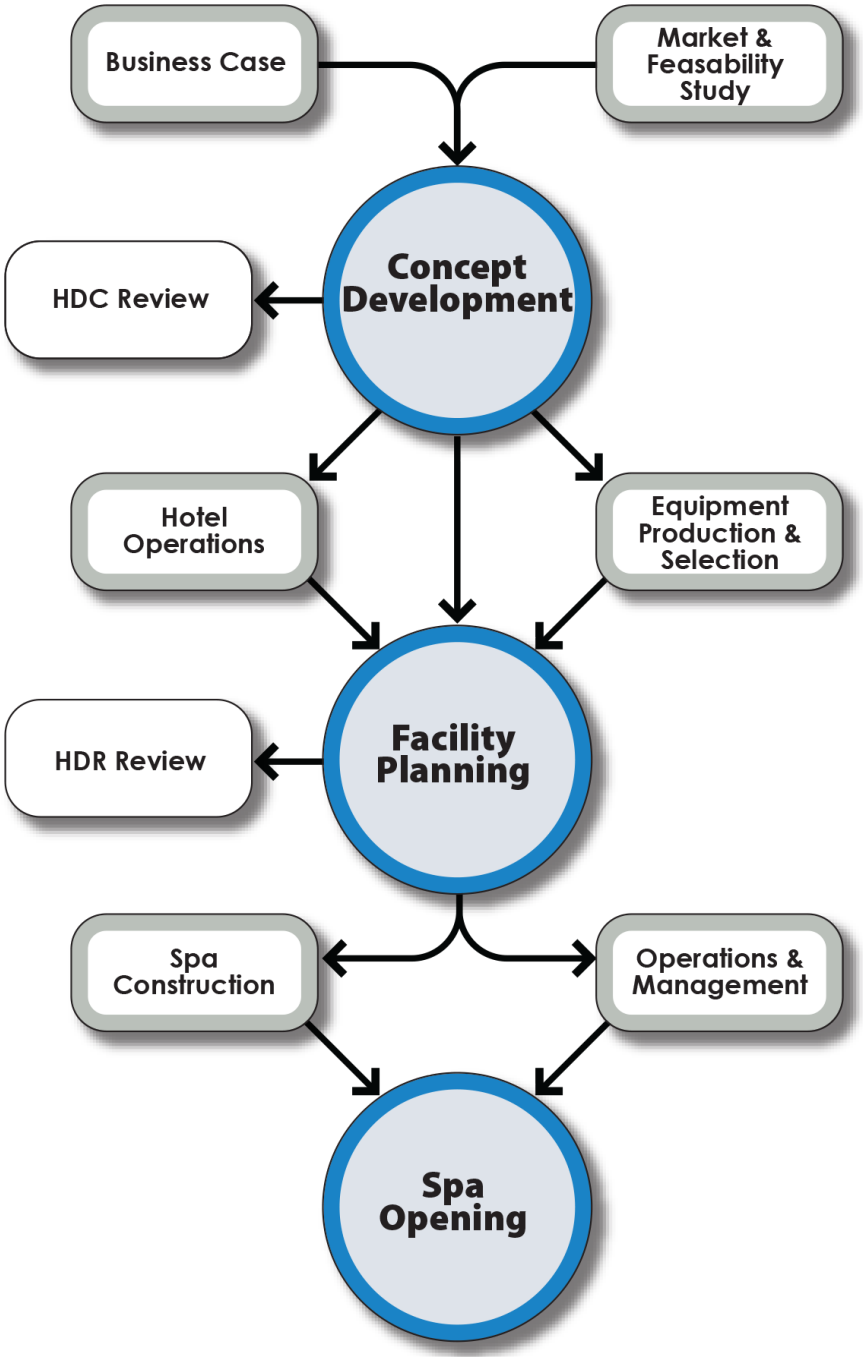
4D.2 Planning Parameters

A. Overview: The planning, design, construction and operation of a spa are a complex process that requires a disciplined approach by a variety of participants and consultants. Minimizing or eliminating elements of a disciplined process typically will result in a spa facility that is too large, too small or equipped with facilities that are unnecessary or inappropriate.

• See Figure 1 for the spa planning elements and phases that are required to efficiently plan and develop a spa facility.

• Planning: Evaluate the following planning parameters when developing the spa site plan.

1. Planning Phases Diagram



B. Design Concept and Theme:

1. Program: A design concept and theme is developed as a result of the market analysis, Facilities Program and project location. Plan and locate the spa in an environment consistent with the concept. Design the spa to convey an atmosphere of personalized attention, rejuvenation, escape and comfort to provide a relaxing environment for spa guests.

2. Sense of Arrival: The spa is an oasis separated from the distractions of hotel activities. Choreograph the spa guest's approach to the spa entrance, pedestrian and car, to provide a sensitive transition from the hotel to the spa environment. Where applicable, consider such design principles as feng shui to organize spaces.

3. Public Space: Avoid circulation paths that require spa guests to pass through function spaces, restaurants and back-of-house areas to access the spa.

C. Acoustics:

1. Program: Managing noise is essential for creating the appropriate environment for delivering spa services to guests and for avoiding conflicts with spa activities.

2. Site Plan: Position the spa to avoid sources of environmental noise such as roadways, mechanical equipment, back docks and recreation courts. If unavoidable, acoustically screen outdoor spa areas with garden walls and landscaping.

3. Acoustical Consultant: If the spa is proposed to be located near sources of noise or vibration (roadways, mechanical equipment, airport, etc.), employ an acoustical consultant to evaluate the noise or vibration and to develop a noise and vibration management strategy.

D. Smell: Evaluate sources of odors (kitchen exhaust, laundry exhaust, adjacent land uses, etc.) and develop a site plan to avoid or mitigate odors that might detract from the spa experience.

E. BP Site Views: Whenever possible, exploit views to exterior courtyards, landscape areas and scenic vistas. It is important to integrate interior spaces with exterior elements to relate the spa experience with natural light and nature.

F. EI Natural Light: Natural light, essential for good health, is beneficial for the more active areas of the spa. The spa site orientation should use natural light opportunities, except in Treatment Corridors and Lounges that require indirect lighting to set the stage.

G. Site Aquatics: Position exterior swimming pools and decks to permit exposure to the sun for a majority of the day. Provide areas shaded from the sun by incorporating landscaping, umbrellas and shade structures in the design.

H. BP Fitness / Movement Studio: Consider the location and condition of existing Fitness Center. Evaluate if the hotel and spa can benefit from sharing Fitness Center facilities, supervision and locker areas when appropriate to the overall concept.

I. Climate & Weather: Evaluate the effect that the local climate and weather will have on the selection of facilities, equipment and building materials.

J. Parking:

1. Program: Accommodate parking for hotel guests, outside memberships, employees and guests with disabilities. Parking demand requirements are

developed from the market study and spa program.

2. Integrated: If the spa is integrated within the hotel, accommodate parking within the hotel program.

3. Adjacent: If the spa is planned as a stand-alone facility, adjacent to the hotel, evaluate the parking demands and site requirements and provide parking facilities accordingly.

4. Memberships: If the market study and spa program anticipates a significant percentage of spa membership guests, evaluate providing an exterior entrance, drop-off and employee parking.

5. Entrance: When an exterior entrance includes parking facilities, plan the entrance to minimize the impact of the parking area on the spa entry experience. Utilize landscaping, berms and a sensitive orientation of the parking area to the entrance to provide a pleasant transition. Design facilities for inclement weather.

K. Service Access:

1. Program: Plan service access to avoid conflicts with spa guests and to avoid spa entrance locations and guest elevators.

2. Integrated: If the spa is integrated with the hotel, plan service access from the back-of-house circulation to avoid conflicts with spa and hotel guests.

3. Adjacent: If the spa is a stand-alone facility, adjacent to the hotel, evaluate service access circulation to avoid cross circulation with spa and hotel guests.

L. Food & Beverage: Evaluate the proposed and existing food and beverage programs to determine if the spa and hotel can benefit from sharing facilities, employees and guests.

M. EI Retail: Spa retail is an integral department of the spa. Retail adjacency to Spa Reception and guest access is key to this goal.

N. Access for Persons with Disabilities: Provide Spa access to persons with disabilities as intended by the Americans with Disabilities Act (ADA) or equivalent standard of the governing authority.

4D.3 Design Parameters - General

A. The 5 Senses: To be successful, a spa facility must involve and manage the five senses of the spa guest: sight, hearing, smell, touch and taste. The five senses are addressed as integral elements of the spa site plan, space plan, interior design and operation. Incorporate the natural beauty of each location utilizing indigenous elements whenever possible to create an individual sense of place and to support the spa concept. Design Parameters: Incorporate the following Design Parameters into every phase of the spa design.

B. Sanitation:

1. Program: Spa guests assume a credible spa is impeccably clean and sanitary. Any indication or perception (sight, smell, touch) to the contrary will undermine the spa guests' ability to relax and enjoy their spa experience. Design the spa to promote a high level of sanitation.

2. Housekeeping: Provide adequate and easily accessible janitor and housekeeping facilities to support frequent spa cleaning. Provide a seamless, behind the scenes route for dirty / clean spa linens. Utilize recycling receptacles where appropriate.

3. Finishes: Select finishes that are durable and easy to maintain in a clean and sanitary condition.

4. Wet Areas: Select tile, stone or other materials that are impervious to water and frequent cleaning.

5. Floors: Use light colored tile grouts; avoid white.

6. Green & Sustainable Materials: Where possible, use 'green' and sustainable materials.

7. Ventilation: Ventilation capacities will typically exceed code requirements and require careful zone planning to manage temperature, moisture and odors.

8. Humidity: The heating and air-conditioning system must support humidity reduction in wet areas and maintain a reasonable level of humidity in dry areas.

9. Floor Drainage: Provide sloped floors and drains in "wet" areas (wet lounge, shower areas, toilets, pool decks, hydro rooms, janitor closets, steam room, kitchen, sauna, etc.) to assist with frequent cleaning.

10. Fabrics: Select furniture, window and wall treatment fabrics (consistent with spa interior design) that are durable, capable of repeated commercial cleaning and easy to replace.

11. Lighting: Provide proper lighting in the entire building for night cleaning of the spa.

C. Acoustics:

1. Program: Managing sound transfer in the spa is essential for creating the appropriate environment for delivering spa services to guests and for avoiding conflicts between spa activities.

2. Site Plan: Position the spa to avoid sources of environmental noise such as roadways, mechanical equipment and recreation courts. If unavoidable, acoustically screen outdoor spa areas with garden walls and landscaping.

3. Spa Plan: Space plan the spa to avoid acoustical conflicts between active and passive activities.

4. Treatment Rooms: Treatment room areas require the highest level of acoustical isolation of the spa areas.

5. Avoid placing the following facilities adjacent to treatment rooms.

   a. Reception / Consultation Rooms

   b. Plumbing Fixtures: showers, lavatories, toilets (not associated with a Treatment Room).

   c. Wet Room Shower

   d. Administration

   e. Employee Areas

   f. Receiving / Service Areas

   g. Fitness / Wellness Areas

   h. Pedicure / Manicure

   i. Pantries / Kitchens

   j. Elevators

   k. Mechanical or Plumbing Equipment rooms and chases

   l. Place treatment room sinks on the wall farthest from shared treatment room walls.

6. Acoustical Separations: Evaluate each spa area, the activities being performed in each area and the adjacent use. Provide the appropriate acoustical wall, floor or roof / ceiling system and opening or penetration treatment required to prevent acoustical conflicts between activities. At a minimum, provide the acoustical ratings indicated in this standard.

7. Shades:

8. Noise: Select equipment and materials to minimize noise that could disturb spa guests such as:

    a. Doors: Provide acoustical seals and silencers.

    b. Hardware: Provide hinges and latches with quiet operation.

    c. Cabinets: Provide silencers on drawers and doors. Use hinges and drawer slides, designed for quiet operation.

    d. Equipment: Select motorized and operable equipment that minimizes noise.

    e. Carts: Select wheel types to minimize noise.

    f. Flooring: Use flooring that absorbs sound on areas where guests will walk while wearing heels.

    g. Public Corridors: Line floors with sound absorbent treatment, i.e., carpet, cork.

9. HVAC: Design heating, ventilating and air-conditioning systems to minimize, sound transfer, noise and drafts. <14>.

D. Material Selection

1. Program: Select materials and systems that are inherently durable, easily maintained and support the spa theme.

    a. Wet Areas: Use masonry wall construction at shower, janitor, toilet, sauna, steam, laundry, wet treatment, wet lounge and aquatic areas. Walls in wet areas are subject to daily wash-down and high humidity.

    b. Door and Frames: Typically, avoid use of hollow metal in wet areas.

E. Privacy

1. Program: Design the spa to provide a clear privacy division between the sexes in areas where spa guests are disrobed (undressing or bathing).

2. Lounge / Waiting Area: Design separate Lounge / Waiting Area rooms for men and women. Spa attendants of both sexes greet spa guests in this area. Therefore, plan the area to avoid views into Locker, Grooming and Wet Lounge areas.

3. Treatment Rooms: For operational efficiency, Treatment Room areas are used by both sexes. Each Treatment Room is designed for the privacy of the spa guest who may be disrobed. Small windows are beneficial if the location, view and light are carefully designed and controlled.

4. Wet Lounge and Lockers: Avoid windows and skylights in areas where spa

guests are disrobed (undressing or bathing) unless the view is controlled by window treatments or orientation. Avoid skylight views from adjacent buildings.

5. Sightlines: Evaluate sightlines and avoid views from public areas into private areas, assuming doors are fully opened. Baffled and angled door entrances are recommended.

6. Mirrors: Evaluate the location of mirrors and reflective surfaces to avoid indirect views that could compromise private areas.

7. Windows and Skylights: Evaluate views and sight lines from windows and skylights to verify that private areas of the spa are not compromised.

F. Loss Prevention

1. EI Program: Spa guests must enjoy a sense of privacy security to relax and enjoy their spa experience.

2. Circulation: Isolate the Spa from direct access by non-spa users through uncontrolled entries and exits.

3. Perimeter Access: Evaluate the spa perimeter access and provide the appropriate access control.

4. Slip Resistance: Evaluate floor and stair finishes and provide the appropriate level of slip resistance.

G. Environmental Control: In order to address a variety of spa guest preferences and spa activities, design spa facilities (particularly treatment rooms) to permit flexible settings for temperature, ventilation, lighting and audio systems.

H. BP Exterior Views: Whenever possible, exploit views to exterior courtyards, landscape areas and scenic vistas. Consider integrating interior spaces with exterior elements to relate the spa experience with natural light and nature. Areas that may benefit from exterior views (subject to the privacy criteria noted above) include:

- Spa Reception
- Corridors
- Wet Lounge (skylights)
- Waiting Areas
- Treatment Rooms (limited)
- Fitness / Wellness Areas
- Salon & Retail
- Food & Beverage Areas
- Employee Areas
- Administration

I. Lighting Design

1. Program: Artificial lighting design is a critical element of the spa atmosphere that deserves the attention of a qualified lighting consultant. The lighting design must be functional, energy efficient, flattering to spa guests and supportive of the design concept and theme. Indirect lighting is desirable.

   a. The light concept for spa areas supports light and color therapy.

   b. Use of dimming systems allows flexibility for different lighting scenarios. Provide dimmers for guest areas of the spa so they can be adjusted for guest comfort.

   c. Provide warm, frosted, colored bulbs to create a peaceful and serene environment.

2. BP Lighting Specialist: It is important to use a lighting specialist when choosing the lighting for the spa. Consider using LED lighting in guest areas that deliver color choices and changes by area to deliver a unique spa environment.

J. Interior Design Concept and Theme

1. Program: The spa interior design firm develops a Design Concept and Theme as a result of the Market Analysis, Facilities Program and project location. Design and detail the spa, and select materials and furnishings consistent with the Design Concept and Theme. When possible, spa design is incorporated into employee uniforms, treatments, branding, products and signage.

2. Ambiance: Design the spa to convey an atmosphere of purposeful luxury and elegant comfort to provide a stimulating “wow factor” and a relaxing environment for spa guests. Simple is better than busy. Avoid clinical or austere images and designs. Where possible, integrate natural beauty and indigenous elements.

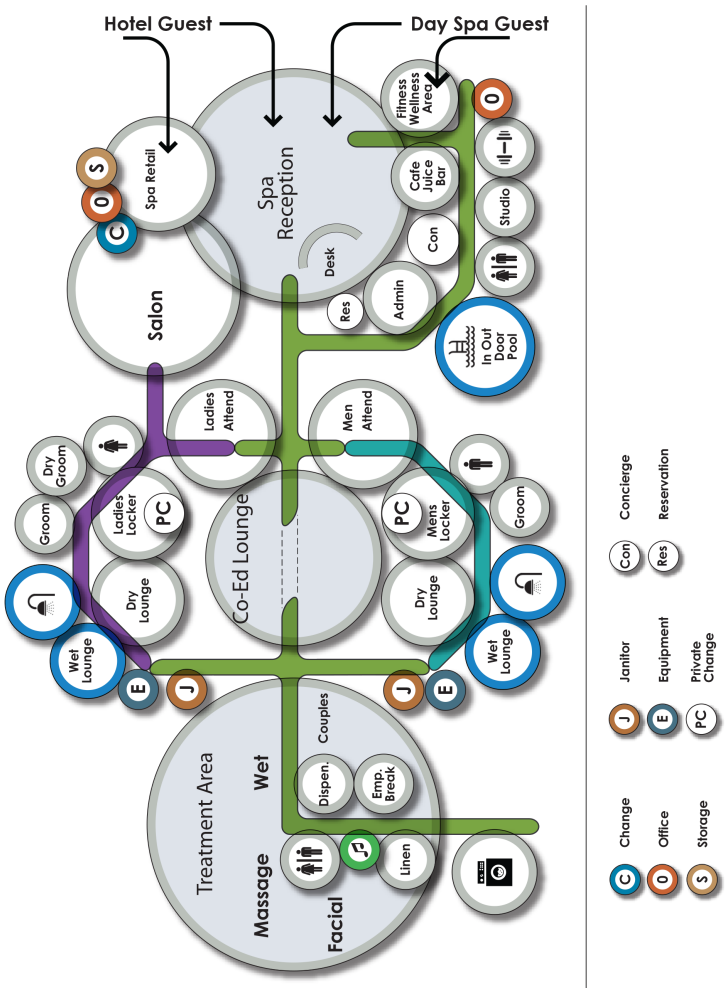
3. Spa Planning and Design Team: Coordinate the efforts of the entire team to verify that the design concept and theme is faithfully integrated into every aspect of the spa facility.

4. Finishes: The finish selections indicated in this Standard are intended to define the minimum required, functional quality level for finishes. Coordinate the finish selections with the spa design theme and select finishes of equal or better quality. When finishes that are dependent on the substrate for success are selected make certain that the substrate are appropriate for the application.

4D.4 Space Planning

A. EI Purpose: This section defines the spa space planning criteria (location, relationships, adjacencies) for the spa's functional areas. The design criteria for each functional area is included in subsequent sections of the Standard.

1. EI Program: The spa space planning criteria included in this section assumes a full-service spa. This criteria must be customized to address the spa's project Facilities Program.
2. EI Hotel Coordination: Back-of-House, service and related spa functions may be shared with an adjacent hotel. Adjust spa planning and program accordingly.
3. EI Principles: Spa space planning goals include:
   a. EI Creating excellence in service and operational efficiency. Optimize space planning for revenues.
   b. EI Providing the guest with a remarkable experience that is as important to the overall guest experience as the treatments themselves.
   c. EI Where appropriate, the design principles of feng shui to organize space are utilized.
   d. EI Spa "haven" elements engage customers from arrival to departure.
4. EI Ancillary Spaces: The space planning criteria in this section addresses the major functional areas of the spa. Each functional area may include ancillary spaces that do not influence space planning and are not included in this section. Refer to the related facilities section for design criteria within the functional area.
5. EI Spa Users: Spa planning addresses a variety of spa users as follows:
   a. EI Hotel guests (all facilities)
   b. EI Day spa guests
   c. EI Fitness / Wellness Center (only) guests
   d. EI Salon (only) guests (hotel & day use)
   e. EI Spa Retail (only) (hotel & day use)
   f. EI Membership guests
6. EI Space Planning Diagram



B. Spa Area Program: Consult the approved project Facilities Program, Spa Area program and this Spa Design Standard to develop a project design program that outlines the size and type of required spa facilities. As required by the approved project Facilities Program, plan for the following facilities:

- Entrance Access
- Spa Reception
- Spa Retail
- Consultation / Concierge Office (if applicable)
- Administration Offices
- Reservations
- Salon
- Café
- Attendant Stations
- Lounge /Waiting Area
- Co-ed Lounge (Conservatory)
- Locker Rooms
- Toilets (Locker)
- Grooming
- Showers

- Wet Lounge
- Treatment Rooms
- Dispensary
- Toilet (Treatment Area)
- Pantry • Circulation
- Equipment Room
- Audio Room
- Janitor Closet
- Toilets
- Employee Break Room
- Linen Staging
- Linen Closet
- Soiled Linens
- Storage Areas

4D.5 Entrance Access

A. Spa Access: Accommodate two routes (guest and day spa users) for access to the spa.

   1. Guest: Provide hotel guests with a clear relationship from the hotel Lobby and elevators.

   2. Day Use: Provide day guests with a clear route from the spa parking to spa entrance.

   3. Guests: Guests entering the haven of the spa facility enter into an area where all guests are in robes and immersed in tranquility. Keeping these areas separate from Fitness Center activities provides spa guests with exclusivity and privacy.

   4. Entry: Plan the spa with one main entry / exit to permit spa reception to monitor and control access to spa facilities. If a secondary entry is required (from parking, hotel, public, etc.), locate the entry to permit visual observation and control by reception.

   5. Weather Protection: Provide weather protection for spa guests when parking facilities are located away from the hotel building.

B. Fitness Center: Spa Reception and Fitness Center Reception do not share a common lobby entrance based on the following:

   1. Fitness Centers: Require access by hotel guests 24 hours a day.

   2. Spa and Spa Retail: Operate during daytime hours and must be secured at night.

3. EI Atmosphere: Spa activities (passive) and Fitness Center activities (active) are not compatible. Music, noise and guest activities are difficult to integrate.
4. EI Fees: Fee structures for Spas and Fitness Center use are different and require segregation of guests to control access.

4D.6 Spa Reception

A. Program: Provide a Reception lobby to welcome guests, to arrange appointments and to serve as a control point for spa activities.

1. Image: As the heart of the spa, position the Reception to create a sense of arrival; the first experiential element to the overall spa experience.
2. Orientation: The Spa Reception area serves as a lobby for related Retail, Salon and Fitness facilities. Plan the lobby to provide clear and sequential orientation to the related facilities while avoiding circulation conflicts.
3. BP Child Care: Consider providing access to a child activity center within the adjacent hotel or a child care service using licensed / bonded agency.
4. Retail: Spa guests, arriving and especially leaving, must be visually exposed to the retail opportunity. Include the retail Spa Shop with the reception experience.
5. Service Circulation: Plan circulation to avoid service circulation through the Reception area.

B. Size: See the Spa Area Program.

1. Proportional to the spa size and architecture.
2. Ceiling Height: 3.6 m (12 ft.) minimum.

C. Design:

1. Reception Desk: The Reception Desk is the focal point of the entrance design unless it is deemed secondary to an architectural feature or prominent view. Position the desk to permit spa reception to visually monitor and control access to and from spa facilities. Provide easy access to move from behind desk to assist guests.
2. Waiting: Provide a pleasant seating area for 2 to 4 guests, out of the main circulation flow, for guests to wait for companions.
3. Doors: Consistent with the spa theme, design the entrance door to announce

the spa theme and image through the use of lighting, graphics and appropriate door material and trim. Provide glass panels to welcome and promote exposure to spa guests.

D. Interior Design Requirements: Provide an immediate sense of arrival as guest enters a unique and engaging environment. Provide a haven of relaxation with soothing sounds of water and specialty wall and ceiling finishes. Design does not follow the hotel interiors or atmosphere, it is a unique experience unto itself. Guests must be aware they have entered into a haven, not an extension of the hotel.

E. Reception Desk:

1. Configuration: Stand-up
2. Height: 1.2 m (3'-11") at guest side; 0.9 m (3 ft.) at attendant side work counter
3. Stations: 2 to 4 positions as programmed; varies with spa size, see the Spa Area Program. Rule-of-Thumb; 1 station per 8 Treatment Rooms.
4. Equipment: Conceal equipment from guest view.
5. Computers: Recessed in counter. Height and visual level designed for ease of use by employee.
6. Equipment: Computer, invoice printer, laser printer, Point of Sales, duress alarm and indicators, telephones, sound system controls.
7. Counter and Front: Stone; wood; consistent with spa design theme.
8. Work Counter: Lockable cash drawers; drawers; adjustable shelves; lockable storage cabinets; trash alcove; high-pressure laminate finish in color to match millwork.
9. Floor Finish: Anti-fatigue; carpet with dense pad or built-in resilient flooring.
10. Safe Deposit Boxes: Provide as required by law and for guests that do not wish to use private locker security.

F. Finishes: Provide consistent with spa theme:

1. Floor and Base: Wood or bamboo; stone; porcelain tile; carpet
2. Walls: Consistent with spa theme
3. Ceiling: Create an experiential design element in the ceiling.

G. Lighting:

1. General: Ample, warm light

2. BP Daylight: Use when possible
3. Features: Highlight special features
4. Reception Desk: Task lighting
5. BP Ceiling: Integrate with coffers, skylights and features.

H. Utilities:

1. Data port, telephone, P.O.S. Multiple under counter duplexes, grommet from top to hide cords.
2. Duress alarm indicator
3. Audio: Central music system and controls
4. Lighting controls

4D.7 Spa Retail

A. EI The Spa Retail Opportunity: Spa Retail component is a key revenue generating department of the spa facility. Retain the services of a retail consultant to design for optimum display and sales. Retail provides an opportunity to augment spa sales but, more importantly from the spa guest's point of view, the retail component is a critical feature of the spa experience and permits the following:

1. EI Spa guests can extend the spa experience beyond their departure through the purchase and use of spa products.
2. EI Spa guests can share the spa experience with others through the purchase of spa products and logo items.
3. EI Spa retail can generate interest in spa services, increase profits and extend the Spa Brand.

B. Retail Strategy and Design Criteria: The development of retail strategy and design criteria for each spa requires a market analysis that evaluates a variety of factors.

1. Retail Strategy: Evaluate the following:
   a. Customer demographics
   b. Spa size, location and theme
   c. Competition

d. Hotel size and type

e. Adjacent retail outlets

f. Commissioned sales by attendants

g. Product selection and ability to test product

h. Mail order potential

2. Design Criteria: Determined by:

a. Retail Strategy defined above

b. Optimum space utilization

c. Retail location – contiguous / adjacent to Reception Desk

d. Points of sales (shop, reception, treatment area)

e. Finish Level

C. Retail Review and Approvals: In order to avoid operational and visual conflicts with the hotel, submit the following retail program features and obtain MI approval.

1. Retail market study

2. Retail concept and merchandising

3. Retail location

4. Retail design

a. Entrance and storefront design

b. Graphics and signage

c. Interior and lighting design

d. Cash Wrap Desk (cash / wrap / support)

D. Retail Outlets: Consist of one or a combination of the following retail facilities:

1. Reception Lobby Display

2. Spa Shop (dedicated)

3. Treatment Room Display

E. Reception Lobby Display

1. Program: The minimum retail program offers spa products and a line of logo products and lotions in cabinet or wall displays in an accessible Lobby location.

2. Space Planning:

a. Locate the retail display in a visually prominent location in the traffic path between the entrance and locker.

b. If integrating retail displays with the Reception Desk provide a separate retail P.O.S. Station.

c. Storage: Locate retail product inventory stock in a lockable storage area near the display and managed by the Reception Desk attendant.

d. Sales: Sales transactions are typically managed at a sales counter near the retail display. At small retail displays, sales transactions may be managed at the Reception Desk by the attendant.

3. Size: Display: as required by retail strategy & design criteria.

4. Features:

a. Wall and floor display cabinets, counter and shelves.

b. Freestanding retail displays with hanging and folded displays.

c. Lockable Storage: Integrate with retail display; generally in lower cabinets below 46 cm (18 inch) above floor.

5. Finishes: Consistent with lobby interior design.

6. Lighting:

a. Display - within (recessed) millwork and shelving.

b. Accent lighting to light areas and fixtures.

c. Low-voltage lighting delivers best impact for retail display.

d. P.O.S. Station: Provide feature / accent lighting – recessed without cords, cables or wires exposed to guest's view.

7. Point of Sales: At Display or Reception Desk. <13A>

F. Spa Shop

1. Program: At larger spas, provide a dedicated retail shop as a spa amenity that offers spa products, logo products, gifts and apparel as an extension of the spa experience.

2. Space Planning:

a. Locate the Spa Shop contiguous with or adjacent to the Spa Reception to expose arriving and, particularly, departing guests to the retail opportunity.

b. Integrate the Salon and related retail to leverage retail exposure and to

provide a more varied retail experience.

c. When the Spa Shop is contiguous with the Reception Lobby, to fully integrate spa and retail activities, provide a lockable storefront to secure merchandise when the Spa Shop closes prior to the spa.

d. Locate the Point of Sales Station in a location that provides visual observation and control of the shop.

e. Service: Ideally, provide direct access (out of guest view) to service corridor for product delivery, such as UPS, etc.

3. Size: As required by the retail strategy and design criteria. See the Spa Area Program.

4. Retail Program: A typical retail program includes the following retail products:
   • Treatment and skin care products supporting the spa menu
   • Apparel
   • Gifts
   • Accessories

5. Design Features:
   • Folded and hanging apparel; hanging displays
   • Point of Sales Station
   • Storage (cabinets) integrated into retail display
   • Storefront (lockable) with ample windows or display areas to provide exposure to spa guests

6. Dressing Room: Resort market segment

   a. Location: Near Cash Wrap area to permit convenient sales assistance and to permit passive observation of Dressing Room use.

   b. Size: Meet Americans with Disabilities requirements.

   c. Mirror: Full length

   d. Seating: Bench or chair

   e. Clothes Hooks: Required

   f. Door: With privacy latch

   g. Lighting: Warm, 2700K

   h. HVAC: Provide proper temperature control and ventilation at dressing room.

7. Cash Wrap Desk: Provide to support retail transactions and manage customer activity. Provide the following:

a. Design: Similar to Spa Reception.

b. Location: Position to provide visual observation and control of the shop and to provide guest service impact. Allow employee to face the guest upon entry.

c. Computer (conceal from direct guest view).

d. P.O.S. Station with printer, card swipe, cash drawer, barcode scanner (recessed, conceal from direct guest view)

e. Telephone

f. Counter for wrapping and bagging products at 90 cm (36 inch) height.

g. Audio controls (unless in office)

h. Lighting controls (unless in office)

i. Keep cash wrap supplies such as trash, bags, boxes, tissue and office supplies hidden from the guest.

8. Retail Supervisor Office and Storage: Provide a desk work station at the retail shop for activities associated with managing the spa retail programs and storing inventory.

   a. Size: 15% of retail area with a minimum of 5.6 m² (60 sq. ft.). Additional locked storage is typically required for bulk deliveries and mail order operations (if provided).

   b. Features: Provide the following:
      • Desk; chair; file cabinet
      • Computer with printer
      • Telephone and fax

9. Spa Shop - Finishes: Consistent with the retail strategy, design criteria, spa theme and adjacent public circulation area.

10. Lighting: Essential for merchandising. Coordinate retail display, feature / decorative and general lighting with interior design.

    a. Dimmers: Provide lighting on dimmers to provide flexibility for retail displays and time of day.

    b. Retail Lighting: Avoid bright back lighting that places retail products in shadow.

    c. Controls: Locate lighting controls behind the desk or in the office. Do not locate in public areas or within display walls.

    d. Task & Feature Lighting: Provide feature lighting and task lighting over

the register area.

11. Utilities:

    a. Point of Sales: At sales counter 13>

    b. Telephone: <13A>

    c. Computer: <13A>

    d. Audio / Visual: Provide background music. <13B>

G. Treatment Room

1. Program: If included in the Retail Strategy, a limited selection of spa products may be displayed in the Treatment Room wall cabinets (glass front) or on the counter for direct sales potential by the spa attendant.

4D.8 Consultation / Concierge Office

A. Program: When applicable, provide a private office or alcove for spa concierge to discuss spa services and programs. Relate the size and extent of the facility to the potential revenue increase the area can generate.

1. Location: Position near Reception Desk to permit use as remote check-in or information contact during peak use and to accommodate both male and female guests.

2. Reception Desk: Locate with visual access to Reception Desk to permit shared use of personnel when necessary and to allow spa attendants immediate access to a private office to discuss personal and private issues with spa guests.

B. Consultation Office (option): When applicable, provide a private office or private alcove for spa consultation to evaluate spa guests and to discuss spa services and programs.

1. Size: See the Spa Area Program.

2. Design:

    a. FF&E: Desk and two or three chairs.

    b. Computer and printer: For reviewing spa schedules and programs with spa guests.

    c. Storage: Provide a cabinet or shelving unit to store and exhibit spa marketing and program information.

3. Finishes:

a. Floor: Wood or bamboo, carpet, stone

b. Base: Wood, stone; coordinate to match flooring.

c. Walls: Paint, wallcovering

d. Ceiling: Painted gypsum board

4. Lighting: Combination of desk lamp, decorative wall sconces, picture lights and ceiling down lights.

5. Utilities:

a. R Computer: See <13A>.

b. R Telephone: See Chapter <13A>.

C. Concierge Office (option): When applicable, provide an enclosed office for the spa concierge station and related information and brochures. Typical front of house office setup.

1. Size: See the Spa Area Program.

2. Design:

a. Concierge Desk: Counter or desk with drawers; chair

b. Storage: Base cabinets, counter space, wall cabinets and storage units. All with adjustable shelves and lockable doors to secure equipment and supplies.

3. Finishes:

a. Floor: Wood or bamboo, carpet

b. Base: Wood, stone; coordinate to match flooring

c. Walls: Paint, wallcovering

d. Ceiling: Painted gypsum board

4. Lighting: Downlights; task lights, decorative lamp at desk.

5. Utilities:

a. R Data: Computer and printer; see 13A >.

b. R Telephone: Desk; see Chapter <13A>.

4D.9 Administration Offices

A. Program: Staffing levels and responsibilities vary based on spa type, size, location and services offered. Staffing and administration functions (security housekeeping, accounting, engineering and maintenance) may be shared with the hotel or outsourced. Adjust the administrative program accordingly.

B. Location:

1. BP Spa Reception: If space is available, locate the Administrative Offices near Spa Reception to permit passive observation of spa activities, to assist with customer relation issues and to assist with reception activities during peak check-in periods. Administration Offices are Front-of-House.

2. BP Suite: When possible, plan the Administrative Offices as a consolidated suite of offices to facilitate communications and to share equipment, facilities and staff.

3. BP Entrance: The entrance to Administrative Offices does not require direct exposure to spa guests and should not be featured as an element of the Spa Reception.

4. Divided Suite: If it is not possible to locate Administrative Offices in one suite, group functions as follows:

   a. Spa Director; Assistant / Reception

   b. Spa Managers; Retail Manager

   c. Reservations Director; Reservation Staff

   d. Remote Locations: Locate administrative functions as close as possible to spa functions. If Administrative Offices are located on a different level, provide stairs and elevator service to provide management with convenient access to spa facilities.

C. Size:

1. Initial Planning: Allow 5% of the spa area for administration, subject to the administrative program variables listed above. Verify with the Spa Area Program.

2. Ceiling Height: 2.4 m (8 ft.)

D. Finishes: Spa guests may visit the Administrative Offices. At a minimum, the Administrative Reception and Spa Director's Office finishes should reflect the front-of-house décor.

1. Floors: Carpet
2. Walls: Painted
3. Ceiling: Acoustical tile

E. BP Lighting – General: Combination of ceiling fluorescent and accent lights, supplemented with task lights.

F. Technology - General:

1. Computer Workstation: At each desk
2. Telephone: At each desk

G. Director: Provide an enclosed office to accommodate confidential conversations, small meetings and management activities. Front of House setup.

1. Space Planning: Near entrance of suite.
2. Size: See the Spa Area Program.
3. FF&E:
   a. Desk; chair; file cabinet
   b. Conference table (small); 4 chairs

H. Assistant / Reception: Provide a desk and reception area to perform administrative duties and receive guests and employees.

1. Space Planning: Adjacent to Spa Director's office
2. Size: See the Spa Area Program.
3. FF&E:
   a. Desk; chair; file cabinets; bookcase
   b. Reception chairs (2 minimum) small table

I. Marketing Coordinator: Provide an enclosed office as required by the management plan. Generally, the office is required at spas of 1000 m² (10,000 sq. ft.) and larger.

1. Space Planning: Locate near Spa Director and Reservations.
2. Size: See the Spa Area Program.
3. FF&E:
   a. Desk; chair; file cabinet
   b. Guest chair; bookcase

c. Layout table

J. Managers: Provide open office workstations for activities associated with managing spa programs and purchasing. Quantity of stations is dictated by the management plan. Typically requires 2 to 4 positions but larger spas may require more.

1. Size: See the Spa Area Program.

2. FF&E:

a. Desk; chair; file cabinet

b. Computer; printers

c. Acoustical furniture partitions

K. Reservations: Provide office with 3 to 6 workstations to accommodate reservation agents activities of booking advanced reservations by telephone, fax and Internet. Reservations are the “heartbeat” of spa driving revenues.

1. BP Space Planning: Stations: For initial planning, assume one reservation station + one reservation station for every 8 Treatment Rooms (ex. 16 Treatment Rooms = 3 stations).

2. Location:

a. Locate near the Spa Reception desk to permit sharing information and sharing staff with Reception during peak check-in periods.

b. BP Locate near the Spa Manager or Marketing Coordinator.

c. Position so that entrance to Administrative Offices does not require guests to walk through the Reservation area.

d. Locate in an enclosed office or in an acoustically isolated area to permit reservation agents to talk to spa guests without distractions from adjacent office activities.

e. Locate adjacent to administrative work center to permit immediate access to computer printer and fax. If not possible, provide a dedicated computer printer and fax at the Reservation area.

f. BP If possible (or required by law) provide exterior views and natural light for the benefit of agents.

3. Size: See the Spa Area Program.

4. Features: Provide the following at each station:

a. BP Chair: Ergonomic office chair for the long term comfort of the agent. Equip chair with caster wheels, high back, height adjustable, adjustable arm rests, upholster seat and back.

b. BP Work Station: Counter height; 71 cm (28 inch). Keyboard height: 62 cm (24 inch). Provide acoustical baffles between station positions at a minimum.

c. Computer system

d. File Cabinet and Drawers: Lockable for reference materials.

e. Telephone: Automatic Call Distribution (ACD) similar to hotel reservations - see <13A>. Provide additional phones for confirmation and operational calls.

f. BP Bulletin Board: Wall mounted for notices at common area.

g. BP Clock: Wall mounted in common area with power outlet. Consider atomic clocks throughout spa.

L. Support Areas:

1. BP Work Center: Provide a counter for centrally locating office equipment and facilities for use by the administrative group.

   a. BP Space Planning:
   • Centrally located for access by administrative group.
   • If administrative areas are divided, facilities may need to be duplicated in each area.

   b. Size: See the Spa Area Program.

   c. BP FF&E:
   • Counter: 0.9 m (3 ft.) height; high-pressure laminate
   • Cabinets: Base and wall for storage; wood
   • Copier, FAX, Printer
   • Coffee station

2. Storage Closet: Provide a lockable enclosed storage closet to store and secure office supplies, equipment and printed materials.

   a. Size: See the Spa Area Program.

   b. BP Provide shelving.

3. Server Room: Provide an enclosed, secure room for the computer and audio server. See <13B>.

   a. Size: Verify based on equipment size and clearances.

4. Finishes:

   a. Floor: Vinyl composition tile (static resistant)

b. Base: Resilient base

c. Walls: Painted

d. Ceiling: Accessible acoustical tile

4D.10 Spa Salon

A. The Spa Salon: If required by the project Facilities Program, provide a chic, tranquil and hip salon experience, reflecting an upbeat atmosphere. Design salon as a lock out business within the spa to serve as a leased out salon if necessary.

B. EI The Spa Salon Opportunity: The salon component of the spa facility provides an opportunity to augment spa sales. More importantly, from the spa guest's point of view, the salon component provides spa guests with the opportunity to enhance their appearance and enjoy personal grooming services. A spa and spa salon can mutually benefit from cross traffic and should be designed and located accordingly. Refer to the "Spa Functional Flow Chart". Locate the Salon adjacent to or near the spa reception area.

C. Salon Strategy and Design Criteria: The development of a salon service strategy and design criteria for each spa requires a market analysis that evaluates a variety of factors. Utilize a Salon Designer that is experienced with salon operations and design.

1. Salon Service Strategy: Evaluate the following:

   a. Spa Size

   b. Spa location and theme

   c. Competition

   d. Hotel size and type

   e. Adjacent retail outlets

   f. Management (by hotel, spa or concession)

   g. Financials

2. Design Criteria: Determined by:

   a. Salon Strategy defined above

   b. Space available

   c. Salon location

d. Point of Sales (display window, reception, counter)

3. BP Concessions: If salon services are intended to be provided by a third party, integrate concession design criteria in the facility plan as early as possible.

D. Salon Review and Approvals: In order to avoid operational and visual conflicts with the spa and hotel, submit the following Salon program features and obtain approval.

1. Salon market study
2. Salon concept and merchandising
3. Salon location
4. Salon design
   a. Entrance & storefront design
   b. Graphics and signage
   c. Interior and lighting design

E. Spa Space Planning:

1. Circulation: The net areas listed for salon functions do not include general circulation areas required to circulate between functions.
2. Entrance: Locate adjacent to Spa Reception to promote the Salon as a spa amenity. The Spa, Spa Retail and Salon mutually benefit from cross traffic.
3. Locker Access: Provide direct access from the Women's Locker / Relaxation to the Salon so that women in their robes do not have to walk through the Spa Reception area to enter the Salon.
4. Exterior Entrance: The Salon may benefit from a "street" exposure, if available.
5. Locate separate from the Spa Treatment areas.
6. Men & Women Areas: Provide separate areas for men when required by market or culture.

F. Salon Spaces: Consist of a combination of the following salon facilities:
- Salon Entry
- Salon Reception & Retail Display
- Office (option)
- Styling / Cutting Stations
- Barber Stations (optional)
- Processing Stations

- Shampoo Stations
- Makeup Stations
- Salon Dispensary
- Linen Storage
- Dressing Room
- Toilet
- Manicure Stations
- Nail Drying Stations
- Pedicure Stations
- Hospitality Station

G. Salon Entry: Consistent with the spa design concept, provide an inviting salon entrance which promotes the salon as an amenity to the spa experience. Provide a chic, tranquil and hip salon experience reflecting an upbeat atmosphere.

1. Space Planning:

   a. BP Spa Reception: Typically, position the Salon Entry adjacent to or within the Spa Reception to promote the salon as a spa amenity and to increase retail exposure. For small spa facilities, the spa reception desk can manage the salon, eliminating the need for a second desk in the salon.

   b. BP Exterior Entry: Generally, the salon will benefit from “street” exposure, if available in urban areas. Typically, avoid locations where the entrance is difficult to locate.

   c. Women’s Locker Access: Since a majority of salon guests are women, provide convenient access to the Salon Entry from the women’s locker (a private entrance is ideal).

   d. BP Retail Exposure: Consider positioning the Salon Entry adjacent to hotel or public circulation if dictated by the Salon Service Strategy.

   e. Odors: Locate, design and equip the Salon to prevent hair care and grooming odors from migrating into the spa or other occupied areas. At a minimum, maintain the Salon ventilation system with negative pressure and exhaust to the exterior, remote from spa exterior facilities.

2. Size: Entrance and Retail Display; as required by retail strategy & design criteria.

3. Finishes: Chic yet elegant, include use of curved walls and upscale finishes.

4. Lighting: Provide accent lighting to feature entry and retail products. Salon lighting is critical to operations and service delivery.

H. Salon Reception: Provide a comfortable reception area for greeting salon guests,

for waiting guests and for sales transactions.

1. Space Planning:
    a. Position adjacent to the Salon Entry. Reception Desk is the focal point of the area.
    b. Salon Retail: A retail display, integrated with the Reception area design, offers salon guests an inviting opportunity to passively shop for salon products while waiting.
2. Size: As required by the salon service strategy and design criteria.
3. Design Features: Provide a smaller version of Spa Reception desk.
    a. Reception Desk: Typically sized for one receptionist station. Provide Point of Sales (P.O.S.) station; cash drawer; computer for appointments. Integrate equipment into desk to conceal equipment from direct view of guest.
    b. Chairs or Banquette: Provide for waiting guests.
    c. Hospitality Station: Provide complimentary coffee / tea / water at built-in alcove or counter; provide small refrigerator.
    d. Retail Display: Counter, shelves and lockable cabinets.
4. Finishes: Consistent with the salon strategy and spa design concept.
5. Lighting: Retail display, decorative and general lighting for waiting guests. Coordinate type with interior design concept.
6. Facility Systems:
    a. Computer: PMS to track appointments (typically a spa software application).
    b. Point of Sales: At Reception Desk integrate with SpaSoft Systems spa software.
    c. Telephone: <13A>
    d. Audio / Visual: Ceiling speakers with volume / channel control. If salon is a concession, audio system may serve the salon only.

I. Office: At larger salons, provide a dedicated salon manager's office. If the salon is a concession, provide a small office for salon management activities.

J. Styling / Cutting Stations: Provide dedicated, upscale and private (away from public circulation) work stations for stylists to cut and style guest's hair; utilize services of Salon Designers to develop the design.

1. Size: 4.6 m² (50 sq. ft.) net per station.
2. Millwork: Provide with the following design features:
    a. Cabinet: Provide Lockable cabinet and drawers to store stylist equipment. Design to house all equipment electrical cords out of guest view and with ease of reach for stylists. Stations designed by interior design firm.
    b. Coordination: Coordinate with styling station millwork to house stylists equipment, hidden from guest view, but easy for stylists use.
    c. Electrical Plugs: Provide 2 quad outlets for hair dryers, curling irons, etc. hidden from view with cord grommets through millwork. Design to avoid contact between hot equipment and electrical cords.
3. Features:
    a. Design: The Styling / Cutting Station design (and related stations) is an important element of the salon design and is consistent with the spa concept.
    b. Chair: Adjustable styling chair (floor outlets if electric).
    c. Counter: 91 cm (3 ft.) high for stylist equipment.
    d. Mirror: Position wall mirror at approximately 75 cm (30 inch) above floor to provide full view of guest from the chair.
    e. Lights: Plan designed specifically for hair color and cutting at each station. Decorative, incandescent lights.
    f. Vacuum System: Under station vacuum system specifically for hair stations.
4. Finishes: Consistent with the salon design concept.
    a. Floor: Hard surface for ease in cleaning cut hair; resilient (such as laminate wood with resilient cushion) for the long-term comfort of standing stylist.
5. Lighting: Decorative and general lighting to accent skin tones.
    a. The quality, quantity and position of lighting are important. Specific for salon applications, providing stylists with excellent lighting to perform services.
    b. Generally, use three light sources per station to avoid harsh shadows on guests.
6. Utilities:
    a. Electric Outlets: Three duplex outlets (6 plugs), dedicated to each station

and on separate heavy-duty circuit based on wattage calculations. Required at counter for stylist equipment. Consider height, access and equipment cord lengths.

b. Audio / Visual: Ceiling speakers with central volume control <13B>.

K. Gentlemen's Barber Stations (option): Similar to Styling / Cutting Stations above.

L. Processing Stations (option): Provide dedicated seating stations with hair dryers for drying guest's hair.

1. Space Planning:

a. Position away from Styling / Cutting Stations for privacy.

b. Typically located near Color / Chemical Stations.

2. Size: 4.6 m² (50 sq. ft.) net per station

3. Features:

a. Chairs: Provide for guests.

b. Millwork: Similar to Styling / Cutting Station.

c. Hair Dryer: Portable

d. Reading Material: Stand, rack or table.

4. Finishes: Consistent with the salon strategy and spa design concept.

5. Lighting: General lighting (for reading) for waiting guests.

M. Shampoo Stations: Provide dedicated seating stations for washing and treating guest's hair.

1. Space Planning:

a. Position: Position adjacent to Preparation Room where hair care treatments are prepared.

b. Typically positioned in a secondary location with Preparation Room and Drying Stations to manage noise and odors associated with hair care treatments.

c. BP Natural Light: Providing daylight in hair care and coloring areas is beneficial.

d. Clearances: Provide a minimum of 24 inches at the rear and sides of wash bowl to permit attendant to wash hair or perform massage treatments.

e. Do not exceed 0.9 m (36 inches) from rear counter to wash bowl since

greater distances require inefficient circulation between the bowl and counter.

2. Size: 5.5 m² (60 sq. ft.) net per station.
3. Features:
    a. Chairs: Provide a comfortable, adjustable chair that provides proper head and neck angle and leg support for guests.
    b. Wash Basins: Designed for hair washing with hot and cold water and drain.
    c. Counter: for managing hair care products and utensils that is not visible to guests but accessible to stylists.
    d. Millwork: Similar to Styling / Cutting; closed cabinets for towel storage; locks at cabinets.
    e. Towel Storage: Provide concealed hamper for soiled towels with easy access for disposal. Provide cabinets above hamper for clean towels. Stations are private and separate with draping or alcove.
4. Finishes: Consistent with the salon strategy and spa design concept.
    a. Floor and Base: Hard surface for ease in cleaning hair care product spills; resilient for the long-term comfort of stylist.
    b. Ceiling: Exercise care in design since guests view ceiling during the hair washing process.
5. Lighting:
    a. Avoid ceiling lighting directly above guests who view the ceiling during the hair washing process.
    b. Avoid spot or harsh lighting directed at guests' faces.
    c. Lighting focused on the hair washing activity is recommended to permit stylist to gauge the hair coloring process.
6. Utilities:
    a. Water: Hot and cold with mixing valve and flex hose.
    b. Drain: Piped to waste line
    c. Ventilation: Provide to control hair treatment chemicals.
    d. Electric: Provide one duplex outlet (GFIC) for appliances and equipment.

N. Makeup Stations: If required in the project Spa Area Program, provide an upscale and private (away from public circulation) makeup station for application of makeup to salon guests by stylists.

1. Millwork: Similar to Styling / Cutting Station. Designed by interior design firm. Include proper drawers, slides for hair dryers, curling irons, etc. Use cord management system to hide and organize cords.
2. Counter: 96 to 102 cm (38 to 40 inch) high
3. Chair: High chair / stool for guest (stylist standing)
4. Mirror: Wall mounted
5. Lighting: Lighting quantity, quality and position is important. Provide lighting on dimmers. Side lighting reduces shadows; warm color for good skin tone.
6. BP Daylight is beneficial.

O. Salon Dispensary: Provide an enclosed work area to store hair care products and equipment and to prepare hair care solutions. Small kitchen setup.

1. Space Planning: Locate adjacent to Shampoo Station where hair care products are utilized.
2. Size: 1.8 m² (20 sq. ft.) net per station
3. Features:
   a. Counter: High pressure laminate
   b. Shelving and Cabinets: For storing equipment and supplies, provide open wall shelving, and base and wall cabinets with lockable doors and drawers.
   c. Sink: Stainless steel, two compartment with hot and cold water and mixing valve.
   d. Electric Outlets: For countertop equipment; Provide a minimum of 4 duplex outlets; provide at least one duplex outlet for every 2 feet of counter; locate on wall or below counter with grommets for cords.
   e. Computer Workstation: To monitor treatment schedules.
   f. Telephone: Required
   g. Lighting: Under cabinet task lighting
   h. Refrigerator and microwave
4. Finishes: Consistent with the salon strategy and spa design concept.
   a. Floor and Base: Vinyl composition tile
   b. Walls: Semi-gloss paint
   c. Ceiling: Painted or acoustical tile
5. Lighting: Fluorescent ceiling light and under cabinet task lighting

P. Linen Storage: Provide a closet or room to manage clean and soiled towels and linens.

Q. Dressing Room: Provide private area where salon guests can remove clothing, that could be damaged by hair care treatments, and change to a robe or drape.

1. Space Planning:
    a. Position near Styling / Cutting and Shampoo Stations.
    b. At larger salons, two rooms may be required.
    c. BP If the Salon is immediately adjacent to locker rooms, the locker room may serve as the dressing room for women.
2. Size: Plan for accessibility for the disabled.
3. Features:
    a. Chair or Bench: For guests to sit when removing clothes.
    b. Robe hooks; Closet bar; Hangers
    c. Mirror: full length
    d. Door: With privacy lock.
4. Finishes: Consistent with the salon strategy and spa design concept.
5. Lighting: General ceiling fixtures to produce subtle lighting.

R. Toilet: Provide dedicated salon toilet room if toilet facilities are not immediately available at an adjacent area.

1. BP At small salons, Dressing and Toilet area may be combined.

S. Manicure Stations: Provide dedicated stations for attendants performing hand and fingernail grooming activities on guests. Manicure stations are designed by the project interior design firm.

1. BP Space Planning: Typically, centrally located in the salon or positioned as a feature activity to attract guests. If artificial nail service is considered (not recommended) a separate room with dedicated exhaust is required.
2. Size: 4.7 m² (50 sq. ft.) net per station.
3. Features:
    a. Chair: For guests
    b. Chair: For attendant
    c. Manicure Table: Mobile with task light

d. Manicurist Service Stations: Provide a work area for manicurist to store supplies, wash their hands and clean equipment. The service station may also be organized as a continuous counter adjacent to the manicurist's work stations.
   • Counter: High pressure laminate
   • Base and Wall Cabinets: For storing equipment and supplies.
   • Sink: Select finish and materials compatible with Interior Design; one compartment sink with hot and cold water and mixing valve.
   • Lighting: Under cabinet task lighting
   • Electric Outlets: For countertop equipment; one quad outlet above counter and two quads outlets below counter with grommets for cords.

4. Finishes: Consistent with the salon strategy and spa design concept.
   a. Floor: Hard surface for ease in clean up of nail care products; resilient for the long-term comfort of attendants.

5. Lighting:
   a. Enhance skin tones. No direct lighting over guest's heads at nail stations.
   b. Task lighting to provide quality service.

6. Utilities:
   a. Audio / Visual: Sidewall mounted (no ceiling type) speakers with volume control <13B>.
   b. Electrical Outlets: For mobile manicure cart and at counter. Provide floor quad outlets at each manicure station and locate based on equipment configuration and design program. At Manicure Service Station, see above.
   c. Ventilation: Provide to control nail polish materials.

T. Pedicure Stations: Provide semiprivate dedicated stations for attendants performing foot grooming activities. Utilize the latest in sanitation technology / equipment and cleaning practices.
   1. Space Planning: Typically, located in a secondary area of the salon for privacy and acoustical control.
   2. Size: 6 m² (64 sq. ft.) net per station, minimum.
   3. Features:
      a. Pedicure Throne: Raised guest chair designed for the comfort of the guest and positioned for the comfort of the attendant. Provided with foot basin, hot and cold water, drain and electric power.

b. EI Pedicure thrones can be either purchased as a unit or custom designed as a raised seating area with custom foot bath incorporated into the design.

c. Chair: For service provider.

d. Privacy Partitions: Provide moveable partitions or ceiling mounted curtains between each station to allow a degree of privacy or permit friends to enjoy the activity together.

e. Task Light: At foot bath area.

f. Pedicurist Service Station: Provide a small, centrally located work area for pedicurist to store supplies, wash their hands and clean equipment. Space is shared with nail technician work station.
   • Size: 1.5 m (5 ft.) length minimum
   • At small salons, Service Station can be shared by manicure and pedicure.
   • Counter: High-pressure laminate finish if out of view of guests. Provide granite counter if part of the guest experience.
   • Base and Wall Cabinets: For storing equipment and supplies.
   • Sink: Stainless steel if out of view of guest, otherwise granite if part of the guest experience. Provide one compartment sink with hot and cold water, and mixing valve.
   • Lighting: Under cabinet task lighting. Do not place ceiling light fixtures directly over guest in pedicure chair.
   • Electric Outlets: For countertop equipment.

4. Finishes: Consistent with the salon strategy and spa design concept.

   a. Floor: Hard surface for ease in clean up; resilient for the long-term comfort of the attendant.

5. Lighting:

   a. Provide on dimmers to enhance skin tones. Locate to permit reading at throne without shining directly into guest's eyes when reclined.

   b. Properly placed task lighting is imperative to provide quality service.

6. Utilities:

   a. Water: Hot and cold at pedicure throne and sink.

   b. Drain: For pedicure throne foot basin and sink.

   c. Electric: Dedicated electrical outlets at each pedicure station / pedicure throne.

d. Audio / Visual: Ceiling speakers with channel / volume control <13B>.

U. Hospitality Station: Provide a counter to offer salon guests a choice of beverages.

1. Centrally locate, typically at Salon Reception.

2. Provide cabinet with 2 drawers and shelves and small refrigerator below. Include trash drop.

4D.11 Café (option)

A. Program: The Spa Food & Beverage Program outlines the types, sizes and locations of the food and beverage facilities. Typically, the spa food and beverage offers spa guests a customized menu of food and beverage items that focus on health and wellness themes.

1. Menu: Freshly prepared food and beverage items focused on health and wellness.

2. Kitchen: If required, design support kitchen for self-sufficient operation during service hours. See <10>.

3. Cooking Classes: Consider providing as a guest activity. A counter or bar between the dining and kitchen area can support interactive food preparation activities.

4. Seating: durable; to accommodate spa guests and possibly wet bathing suit contact.

5. Space Planning:

a. Spa Reception: Provide direct access from Spa Reception but with the ability to secure the area during off hours. Position and design entrance to avoid congestion and provide acoustic separation from the Spa Reception.

b. Seating Area: Position to benefit from exterior views, natural light and adjacent exterior areas.

c. Exterior: Where climate and location permits, provide seating at exterior terraces or decks.

d. Hotel: Evaluate positioning spa food and beverage facilities with hotel access to benefit from hotel, spa and spa membership patronage.

e. Service: Provide back-of-house access for food service from the hotel

kitchen.

6. Finishes: Consistent with spa interior design.
7. Lighting: General and accent lighting <15C>. Dimmer controlled.
8. Utilities: Point of Sales at service counters.

4D.12 Attendant Station - Men & Women

A. Program: Provide a separate Attendant Counter for men and women positioned as dedicated vestibules to the related locker area after spa guests check-in at Spa Reception. At small spas, one common facility may be appropriate.

B. Location:

1. Attendant Counter: Provide a counter and related storage area to greet spa guests, program their activities, assign lockers and outfit them with accessories not already provided in the locker prior to entering the locker area.
2. EI Lounge / Waiting Area: The Attendant counter may be positioned adjacent to the Relaxation area to permit the attendant to passively supervise the Relaxation area.
3. EI Private Circulation: The Attendant area serves as the entrance or vestibule to the Locker area. Plan space to insure visual privacy of the Locker area.
4. Privacy: Position Attendant area to avoid views into locker areas where guests are undressed and Relaxation areas where guests are sitting.
5. Service Circulation: Locate Attendant area adjacent to common service circulation to permit access by staff for service and supplies. Verify corridor widths.
6. Private Service Circulation: Consider providing a private passage for male and female attendants to permit common support and stocking of supplies and linens.

C. Size: Determined by the anticipated guest traffic and treatments.

D. Attendant Counter:

1. Height: Stand up height; 1.2 m (3'-11"); work surface at 0.9 m (3’-0”).
2. Counter: Provide length for one or two attendants to distribute materials and fold towels and linens. Design to permit attendant to “walk-thru” counter or adjacent door to assist guests.

3. Cabinet Storage: Provide ample below counter lockable drawers and cabinet storage with adjustable shelves for securing spa supplies and computer equipment.
4. Computer Station: Desktop and one network printer; to track appointments.
5. Locker Management System: Provide electronic locks for lockers.
6. Safety Deposit Box: Provide within lockers, otherwise provide separate deposit boxes at Reception.
7. Lighting: Task lighting and decorative wall or ceiling lights.

E. Design:

1. Storage: Provide shelving, cubicles or closed cabinets to store or display towels, robes, slippers and other accessories distributed by the spa attendant to spa guests.
2. Locate storage immediately adjacent to attendant counter for control by attendant.
3. Integrate artwork, spa logo or other features with the space design.

F. Finishes:

1. Floor: Carpet or resilient floor material for the long-term comfort of spa attendant.
2. Walls: Ceramic tile; paint; vinyl wallcovering
3. Ceiling: Paint or acoustical tile

G. Utilities:

1. R Computer, see Chapter <13A>.
2. P.O.S.: If required; see <13A>.
3. R Telephone: see <13B>.
4. Audio: Central, remote control of sound system in lounge and locker areas; see <13B>.
5. R Duress Alarm Indicator: See <16>.

4D.13 Storage

A. Program: Provide a storage area to accommodate bulk storage of spa supplies (towels, robes, slippers, etc.) required by the spa attendant station and general spa equipment, supplies and accessories for grooming and locker area.

B. Planning: Adjacent to Attendant Station to conveniently resupply station and to passively supervise access to the room.

C. Size: At small spa – large closet. At larger spa – based on spa operations.

D. Design Features:

1. Shelving: For towels, robes, slippers and equipment
2. Door: Lockable
3. Security: Provide solid ceiling or walls to underside of structure above to deter theft.

E. Finishes:

1. Floor & Base: Vinyl tile
2. Walls: Painted
3. Ceiling: Painted or acoustical tile

4D.14 Lounge / Waiting Area – Men & Women

A. Program: Provide one quiet area for men and one for women where guests can relax before and after spa treatments and activities. Spa treatment attendants greet guests in the Lounge / Waiting Area and escort the guests to the appropriate Treatment Room. The Lounge must provide privacy and sound control from all other areas.

B. Space Planning: Provide separate Lounge / Waiting areas for men and women contiguous with the respective Locker area and conveniently accessible (by common corridor) to the spa Treatment Rooms.

1. Privacy: Since spa attendants and therapists of both sexes greet guests in the Lounge / Waiting Area, plan the circulation to prohibit views from the Waiting Area into Locker, Toilet and Wet Lounge areas.
2. If space for the Lounge / Waiting Area is not available adjacent to the Locker areas, locate the Lounge / Waiting Area in a clear path to the Treatment

Room area.

3. Guest Serenity: To promote guest serenity, plan the Lounge / Waiting Area as an enclosed room or recessed alcove; not in a busy circulation path. When necessary, use a focal design element such as a fireplace or built-in shelves for books.

4. Salon: Provide direct access from the Women's Locker or Lounge / Waiting Area to the Salon so that women in their robes do not have to walk through the Spa Reception area to enter the Salon.

5. If doors have not been incorporated for the Lounge, use appropriate draping to create an atmosphere and unique environment.

6. Zones: Where space permits, zone the relaxation area to accommodate different relaxation activities such as a quiet area (for napping) and an active area for reading, socializing and television, if appropriate.

C. Size: Provide the following individual lounge seats, minimum:

1. Women: Number of treatment rooms x 70% = seats.

2. Men: Number of treatment rooms x 30 % = seats.

D. Design Features:

1. Theme: Consistent with the spa design, incorporate architectural elements, water features, art and artifacts, plants and exterior views into the Dry Lounge design as appropriate to promote a signature image and relaxing environment.

2. Hospitality Station: Provide hospitality service for spa guests waiting for, or returning from, spa treatments.

   a. Provide a buffet or built-in millwork counter for offering complimentary food and beverages.

   b. Provide granite top counter space, locked storage cabinets, open shelving for glassware display, and under counter refrigerator, sink and ice maker. Coordinate requirements with adjacent pantry.

3. Furniture: Use resilient fabrics. Provide a mixture of seating, including chaise and comfortable chair / ottoman areas for relaxation and group get-togethers. Place lamps and tables within the furniture mix allowing a peaceful and active experience. If design allows, create individual spaces with use of draping or FF&E. Provide water feature or fireplace.

4. Library: Accommodate and display reading materials.

5. BP Ceiling: Coffered; specialty finishes; skylights where possible.

6. Verandas: Provide if required by the Facilities Program. Include ceiling fans.

E. Finishes:

1. Floor and Base: Anti-microbial carpet. Base supports the spa interior design.
2. Walls: Paint; vinyl wallcovering
3. Ceiling: Paint and acoustical tile

F. Lighting: Indirect, decorative, residential; controlled by dimmers to promote a relaxing environment. Conversation areas to have medium lighting, chaises to have dim lighting using combination of table, floor or wall lamping.

G. Utilities:

1. EI Television: Typically not recommended (men's – optional); see <13B>. Televisions in lounges for large spas are determined on a case by case basis. Spas catering to group business may require a TV in the active relaxation area of the Dry Lounge.
2. Audio: Central sound system with control; see <13B>.
3. Thermostat: adjustable by spa attendant only; out of direct view of spa guest; see <15A>.

4D.15 Co-ed Lounge (Conservatory)

A. EI Program: Many spa guests are couples that prefer an area for men and women to relax together. Therapists may also pick their guests up for treatments from this lounge.

B. Size: See the project Facilities Program. Typically provided at larger spas where a variety of relaxation areas can be provided.

C. Space Planning:

1. Position near or contiguous with the Treatment Room area to permit use before, between and after treatments.
2. Circulation: Locate adjacent to common, service circulation path to provide access by guests and attendants of both genders.

D. Features & Finishes: Same as Dry Lounge above.

4D.16 Locker Rooms

A. Program: Provide a semiprivate area for guests to change to spa attire and to secure their personal clothes in lockers.

B. Market Study: The locker room size and number of lockers is a critical limiting factor in determining the operational capacity of the spa. The locker area and related shower and toilet area are typically difficult to expand and require study to determine their optimum size and number. A market study of locker utilization is required that addresses the following:

1. Hotel guest utilization
2. Membership utilization
3. Male / female ratio
4. Peak use evaluation
5. Spa guest use patterns
6. Future expansion

C. Location:

1. Entry: The Attendant area forms the passage to the Locker area.
2. Privacy: Plan Locker areas in alcoves or rooms that provide a sense of privacy. Do not locate lockers in corridors or circulation paths where people must pass next to guests who are changing. Provide more privacy if necessary due to culture or market demands.
3. Zones: Where possible, consider developing locker area zones to segregate users based on their activity (spa, fitness, membership, etc.).
4. Circulation: Plan circulation to avoid traversing changing areas to access ancillary areas.
5. Private Change: Provide a Private Change room or closet to accommodate guests that prefer visual privacy. Typically, size the area to accommodate guests with disabilities.
6. Salon: Provide direct access from the Women's Locker / Dry Lounge to the Salon so that women in their robes do not have to walk through the Spa Reception area to enter the Salon.
7. Views: Avoid views from Relaxation and Attendant areas, particularly if they are staffed by both sexes. Consider mirror and reflective surface locations to avoid indirect views.

D. Size: See the “Market Study” requirements above to define the number of lockers and configuration (full, half, cubby).

1. BP Rule-of-Thumb: 4 lockers per Treatment Room. Membership requirements would increase the total.
2. BP Rule-of-Thumb: 20,000 sq. ft. with 20 Treatment Rooms equals: Ladies – minimum of 80 lockers; 12 full size with remaining one half size. Men – minimum of 70 lockers; 10 full size with remaining one half size.
3. BP Locker Room Area: Locker bays (not locker quantity) x 0.65 m² (7 sq. ft.) = minimum area (not including dressing rooms or makeup counters).
4. Changing Room Area: See the Spa Area Program.

E. Changing Rooms: Provide one or more changing rooms or booths for use by guests desiring a higher level of privacy. The changing room can be of particular benefit to the disabled. Include the following:

1. Door (louvered) or curtain
2. Bench, residential type or ottoman
3. Robe hooks
4. Mirror

F. Lockers: Typical locker type unless defined otherwise by the market study.

1. Quantity: Determine by spa area, quantity of treatment rooms, mix of hotel guests, membership, local or day guests.
2. Size: Full, half and cubby sizes based on spa criteria. In urban and Muslim markets, provide full size for suites and robes.
3. Configuration: Two-tier; 46 cm (18 inch) wide x 56 cm (22 inch) deep is ideal. 38 cm (15 inch) wide x 50 cm (20 inch) deep minimum.
4. Design / Quality: Recommended manufacturers are Country Club, Ideal Lockers or Executive Locker or equivalent. Interior of lockers includes a shoe shelf, jewelry lock box, side hook and cross bar.
5. Door Front and End Panels: Wood; stained or painted or specialty material based on design intent.
6. Cabinet Interiors: Wood with washable laminate or appropriate surface.
7. Number Plaque: Sequential; even numbers on top lockers, odd numbers on bottom.
8. Lock and Handle: Electronic keyless system for operational efficiency. Verify

type with Spa Operations.

9. Lockbox: Not required with electronic keyless system.
10. Clothes rod and hooks
11. Shoe holder or shelf
12. 3-sided message holder mounted on locker door
13. Mirror mounted on inside of locker door of top locker

G. Design Features:

1. Benches or Ottoman: Wood; match locker style and material; movable; one per 3 to 5 lockers. Use durable fabrics when upholstered. Select comfortable benches, small love seats or stools for seating.
2. Mirrors: Full-length wall mounted
3. BP Recesses: To avoid institutional image, consider detailing lockers into alcoves or recesses that look “built-in”.
4. Dry Grooming Stations: If space permits, provide granite countertop or series of alcoves for dry grooming and make-up. Grommet on countertop for plug into under counter electrical outlets.

H. Finishes:

1. Floor: Carpet, anti-microbial
2. Base: Wood
3. Walls: Painted; vinyl wallcovering; millwork trim
4. Ceiling: Painted gypsum board or plaster and acoustical tile. Consider providing coffers, special tiles and lighting details to avoid an institutional image.

I. Lighting:

1. Consider indirect fluorescent at ceiling coffers or above locker tops.
2. BP Use halogen for accent.

J. Audio: Central sound system, zoned. <13B>

4D.17 Toilets (Locker)

A. Program: Provide toilet facilities for spa guests in the Locker area.

B. Space Planning:

1. Lockers: Locate adjacent to Locker area as a “dry” activity.
2. Organization: Organize as an alcove or room. Avoid direct views from Locker area to Toilet room.
3. Circulation: Plan circulation to avoid requiring circulation through the Toilet area to access other areas.

4D.18 Grooming Areas

A. Program: Provide the following areas for grooming:

1. Wet Grooming: Provide counter areas and lavatories for personal grooming, hygiene, make-up application, shaving and hair care activities performed by guests.
   a. Entry: Position near entry from Attendant area.
   b. Lockers: Locate between the Locker dry area and the Shower wet area.
   c. Toilets: Do not locate within toilet area.
   d. Gentlemen’s Shaving Area: Provide shaving area within the wet grooming area.
   e. If a continuous counter is planned, position lavatory stations to allow for a sense of privacy.
2. Dry Grooming: Provide a counter area for the application of makeup and grooming activities that do not require water.
   a. Location: Adjacent to Wet Grooming. Design as a private experience.
   b. Station: A grooming station may be placed as a central island to centrally locate grooming amenities.

B. BP Design: The preferred configuration provides a series of individual stations or alcoves to allow semi-private grooming.

C. Size: Base on market study; see Locker description above. Rule-of-Thumb: 1 station per 8 Treatment Rooms per gender.

D. Design Features:

1. Vanity: Granite top with minimum of 32 mm (1.25 inch) thick shaped edge. Avoid porous marble. Provide ample counter or shelf space for variety of grooming amenities. Grommet countertop for plug in under counter.
2. Height: Typically, stand up, 0.9 m (3 ft.). If space permits, provide an optional sit down counter 0.7 m (28 inch).
3. Storage: Preferred location for storage of amenities and supplies is at an adjacent closet. If space is limited, provide storage at locked, under counter cabinets.
4. Lavatory: As determined by Interior Designer for different and new bowl designs and specialty hardware to enhance the spa experience.
5. Towels: Millwork display 30 cm (12 inch) minimum depth for clean, folded towels; provide soiled linen drops below.
6. Trash Receptacles: Built-in
7. Mirrors: Full length and over counter
8. Cord Grommets: Provide for countertop appliances, such as hair dryers, where electrical connections are hidden below countertop.
9. Hair Dryers: Hand held in holster that stores / conceals wires through countertop grommets.
10. Electrical: Outlets: Provide outlets at counter height (and below counter, see above) for accessories at each station. Provide one outlet between every two stations plus the below countertop outlets required for appliances.

E. Finishes:

1. Floor: Carpet, anti-microbial at dry areas; porcelain tile at wet areas with slip resistant finish.
2. Walls and Base: A combination of porcelain tile, mirrors, durable paint, millwork and stone to define the grooming stations.
3. Ceiling: Painted and acoustical tile

F. Lighting: Suitable for makeup application. Use warm light and minimize shadows with side lighting.

4D.19 Showers

A. Program: Provide two compartment shower enclosures with a private dry vestibule for guest use before and after spa use and in conjunction with wet amenities such as sauna, steam room and pools.

B. Space Planning:

1. Lockers: Adjacent to Locker area by way of the Private Circulation area. Avoid direct views from the Locker and Wet Lounge area into the Shower area.

2. Wet Lounge: Immediately adjacent to Wet Lounge to allow sauna, steam room and pool users to shower as part of their wet area experience. If Wet Lounge is remote from Locker area, provide dedicated showers in the Wet Lounge area with access for guests with disabilities.

3. Planning: Showers are grouped around a common corridor or alcove. Avoid direct views into shower area from all areas.

C. Size:

1. Rule-of-Thumb: 1 shower per 6 Treatment Rooms per gender. Based on market study; see locker description above.

2. Compartment: 1.1 x 2.1 m (3'-6" x 7'-0") minimum

D. Design Features:

1. Compartment Door: Decorative, tempered glass or wood louvered consistent with interior design theme. Door design provides visual privacy but also permits visual observation of occupancy.

2. Shower Compartment: Soap shelf, corner shaving foot shelf at 0.46 cm (18 inch) at ladies showers; at men’s shower, provide wall mounted, chrome basket and shelf shaving station designed to hold wet razor and shaving cream and includes fog-less mirror.

3. Shower Curtain: Not used

4. Showerhead: Adjustable type; mounted at 2.0 m (6’-8”) above floor. Include handheld option for added flexibility.

5. Shower Amenities: Typically, provide 4 part dispenser system for shower gel, shampoo, conditioner and shaving cream.

6. Drying Compartment: Bench seat, two robe / towel hooks

7. Accessibility: Provide accommodations for persons with disabilities.

8. Towel and Amenity Shelf: Consider incorporating a shelf, counter or alcove in the Common area for displaying extra towels and post shower amenities such as powder, deodorant, lotion and combs.

9. Swimsuit Spinner: Provide one unit in shower area.

E. Finishes:

1. Floors: Porcelain tile; slip resistant

2. Base: Porcelain tile; stone

3. Walls: Porcelain tile; stone; design with visual interest consistent with spa theme.

4. Ceiling: Gypsum board; gloss paint; moisture resistant construction

F. Lighting:

1. Shower: Waterproof, downlight

2. Drying: Waterproof, downlight

3. Common Area: Waterproof, downlight

4. Indirect: Cove: Sconce

G. Utilities:

1. Floor Drains at Common area: Required to permit daily cleaning.

2. Shower Drain: At each compartment, slope drying area and shower area to drain for proper drainage.

4D.20 Wet Lounge

A. Program: Provide a central relaxation and circulation area for the wet area amenities. Centralization permits users to access a combination of wet area amenities, isolates wet activities to one controllable area and provides a relaxing environment for guests to lounge between activities or wait for treatments. Provide a therapeutic space to enhance the benefits of treatments and relaxation. Requires unique design, a key experiential element.

B. Space Planning:

1. Lockers: Accessible from Locker area by way of the Private circulation spine.

2. Showers: Immediately adjacent to locker Showers to allow sauna and steam room users to shower as part of their wet area experience. If Wet Lounge is remote from Locker / Shower area, provide dedicated showers in the Wet Lounge area.

    a. Privacy: Avoid direct views from Shower and Dry Lounge areas.

    b. Wet Area: Wet Lounges serve as the central circulation and relaxation area for wet area facilities such as sauna, steam room and whirl pool facilities.

    c. Moisture: Isolate area from dry zones. Design ventilation system to control temperature and moisture migration into dry areas.

    d. Exterior Views: Where possible, provide exterior views and daylight by skylight, windows and controlled views to exterior courtyards.

C. Size: As required to provide access to associated wet amenities and to accommodate the lounge chairs programmed for the facility.

D. Design Features:

1. Robe Hooks: Provide a generous number at entrances to sauna, steam room, whirl pools and Wet Lounge area to permit guests to hang robes and towels when using wet facilities.

2. Lounge Area: Provide zones for small groupings of comfortable reclining lounge chairs, small drink tables and lounge chairs.

3. Specialty Shower: Provide oversized experiential shower.

4. Towels: Provide built-in clean towel storage and soiled towel collection.

5. Wall Clock (atomic): to allow guests to monitor treatment appointments. Ideal location would permit views from sauna, steam room and whirl pool to

facilitate exertion self monitoring.

6. Hospitality Station: Provide a hospitality station in the Wet Lounge area to provide spa guests with complimentary beverage refreshments (tea, water, coffee, etc.) when using saunas, steam rooms and pools.

    a. Self service buffet or kiosk offering complimentary water or other beverage and / or cold towels.

    b. BP Consider incorporating a small refrigerator into the station to assist with restocking refreshments.

7. Landscaping: Provide fountains, water features and locations for plants, etc. to promote a natural, residential image.

E. Finishes:

1. Floors: Ceramic tile; stone; slip resistant, 0.6 wet / dry
2. Base: Ceramic tile; stone
3. Walls: Ceramic tile; stone; design with visual interest consistent with theme of spa.
4. Ceiling: Gypsum board; moisture resistant construction

F. Graphics: Coordinate safety signage with spa design theme <16>.

G. Lighting: Includes the Wet Lounge and pool facilities.

1. Dimmer controlled
2. Waterproof
3. Ambient: Indirect, cove
4. Accent: Sconce
5. Colored Lighting: Use to convey special environment when possible.

H. Utilities:

1. Audio: Central sound system
2. Telephone: Provide house phone.
3. Floor Drains: Required to permit daily cleaning and capture run-off from wet facilities.
4. Hose Bib: Recessed in a valve box; required to facilitate floor and pool cleaning.
5. HVAC: Separate zone and high air exchange rate to prevent chemical odor buildup and mildew. Provide a wet room dehumidification system equal to the hotel indoor pool system. See <15A>.

4D.21 Steam Room

A. Program: Provide separate Steam Rooms in the men's and women's Wet Lounge area for guest relaxation prior to treatments or as a wet relaxation amenity to be enjoyed in combination with adjacent sauna and plunge pool facilities.

B. Space Planning:

1. Wet Lounge: Locate Steam Room in a common "wet area" adjacent to sauna, whirl pool, plunge pools and aromatherapy steam room, if programmed.
2. Shower: Position Steam Room near Locker area showers within a common wet zone to avoid traversing dry areas.
3. Accessibility: Accessible to persons with disabilities per ADA requirements, see <GR1>.
4. Steam Room Entrance: Include the following:
    a. Hooks for robes
    b. Water / cold towels
    c. DIY treatments
    d. Garbage can
    e. Basket for used cold towels

C. Size: See the Spa Area Program.

D. Design Features:

1. Bench: Typically field constructed similar to wall construction. Two tiered (to permit seating at different temperatures); 45 cm (18 inch) high; bull nose or provide polished edge at front of seat and slope seat top at 3 cm / m (3/8 inch per ft.) to avoid ponding condensation.
2. Floor: Positive slope 4 cm / m (1/2 inch per ft.) to floor drains; waterproof membrane if above occupied area.
3. Walls: Typically field constructed of masonry or glass walls; vapor-proof construction to prevent migration of moisture. If constructed of light gauge framing, follow Tile Council of America (TCA) criteria.
4. Ceiling: Sloped: 6 cm / m (3/4 inch per foot), domed or vaulted (not flat) to prevent condensation from dripping on occupants. Cement plaster; vapor-proof construction to prevent migration of moisture into ceiling structure.

5. Nozzles: Position steam outlet nozzles opposite seating and away from door to avoid contact burns to occupants. Provide shield to prevent contact with nozzle.
6. Signage: For applicable safety signage, see <16>.
7. Controls: Remote at steam generator to maintain room at 43 to 49° C. (110 to 120° F).
8. Shower: Handheld type; optional at larger steam rooms.

E. Door and Frame:

1. Frame: Aluminum
2. Door: Frameless tempered glass with gasket; glazed to provide passive surveillance of interior. Use door made for steam room use - not “storefront” doors that do not control condensation; Kallista, Imperial Series or equal.
3. Lock: Provide a keyed, dead bolt lock (no interior function) to permit management to secure room when supervision is not possible.
4. Hardware: Push / pulls; wood for thermal comfort.
5. Seal: Vapor-proof, to avoid steam in adjacent areas.
6. Threshold: Ceramic tile or marble; to contain water.

F. Finishes:

1. Floor: Ceramic tile or stone; slip-resistant (wet / dry 0.6).
2. Walls: Ceramic wall tile, glazed or stone. Consider incorporating a graphic design with the tiles, consistent with the spa theme, to provide visual interest.
3. Bench: Ceramic tile with shaped edges or stone slab with bull nose front edge.
4. Ceiling: Ceramic wall tile, sloped.

G. Utilities:

1. Steam Generator: Locate in an adjacent room.
2. Lighting: Waterproof type; under bench and wall sconces.
3. Drains: Place at low points of sloped floor.
4. Trench Drain: Provide trench drain at exterior side of door to manage water from foot traffic and door condensate.
5. Duress Alarm: <16> Red, mushroom design; locate at interior of room near entrance door.
6. Emergency Shut-off: Provide at each room.

7. Ventilation: <15A> Provide exhaust from above ceiling area (not from steam room).
8. Audio: Central music system; weatherproof speakers. <13B>

4D.22 Steam Generator Room

A. Program: Provide a utility room to remotely locate the steam generator equipment that produces steam for the Steam Rooms.

B. BP Space Planning:

1. BP Adjacency: Locate as close as possible to Steam Rooms being served and within manufacturer's recommendation, but not visible to guests.
2. BP Access: Provide access from a common corridor or from locker / attendant area for maintenance and to adjust controls.

C. Size: As required to locate equipment and provide maintenance clearance.

D. Features:

1. Steam Generators: Commercial grade for continuous use.
2. Controls: Independent thermostat to control each room, automatic flush, high temperature limit, sight glass, low water cut-off, pressure gauge; locate out of guest view. Alerts report to the front desk.
3. BP Aromatherapy: Consider providing an automatic dispensing system.
4. Door and Frame: Provide louver if required for ventilation.

E. Finishes:

1. Floor: Sealed concrete or VCT
2. Walls: Painted
3. Ceiling: Exposed

F. Utilities:

1. Water service
2. Electric service
3. Access to drain

4D.23 Sauna

A. Program: Provide separate Saunas in the men's and women's Wet Lounge area for guest relaxation prior to treatments or as a dry relaxation amenity to be enjoyed in combination with adjacent steam room and plunge pool facilities.

B. Space Planning:

1. Wet Lounge: Locate Sauna in a common "wet area" adjacent to steam room, whirl pool, plunge pools and aromatherapy steam room, if programmed.
2. Accessibility: Accessible to persons with disabilities per ADA requirements, see <GR1>.
3. Shower: Position Sauna near locker room showers within a common wet zone to avoid traversing dry areas.
4. Design: Design may include two spaces; a sauna foyer as an inhalation room for aromatherapy having less heat than sauna space. In inhalation room, provide 4 to 6 guest seating spaces.
5. Sauna Room: Include the following:
    a. Hooks for robes
    b. Water / cold towels
    c. DIY treatments
    d. Garbage can
    e. Basket for used towels

C. Size / Area: 11 to 15 m² (120 to 160 sq. ft.) minimum

D. Ceiling Height: 2.2 to 2.4 m (7 to 8 ft.) maximum

E. Features:

1. Construction: Commercial; prefabricated redwood or cedar walls, ceiling, two tiered benches, heater guard and removable duct board floor.
2. Insulation: Minimum of R11; continuous foil faced vapor barrier.
3. Floor: Waterproof, when above occupied area.
4. Door and Frame: Prefabricated wood with insulated, tempered glass vision panel for passive surveillance of interior.
5. Lock: Provide a keyed, dead bolt lock (no interior function) to permit management to secure room when supervision is not possible.

6. Controls: Time and temperature; programmable. High temperature alert control to limit system reporting to front desk.

7. Heater: Commercial grade, wall mounted, electric, stainless construction with rocks; sized per sauna volume. Typically sized to maintain 65 to 82° C. (150 to 180° F.)

8. Signage: See Signage and Graphics for applicable safety signage. Provide equipment operation signage and safety signage adjacent to timer and temperature control at exterior of sauna. See and <16>.

F. Finishes:

1. Floor: Ceramic tile floor with removable wood duct board walking surface in front of bench area.

2. Walls: Wood

3. Ceiling: Wood

G. Utilities:

1. Floor Drain: Provide for cleaning floor.

2. Lights: Waterproof

3. Ventilation: Passive fresh air intake below heater and exhaust near ceiling.

4. Duress Alarm: Red, mushroom design; locate at interior of room near entrance door. See <16>.

4D.24 Warm Plunge Pool

A. Program: As determined by the market, provide separate Warm Plunge Pool in the men's and women's Wet Lounge area for guest relaxation prior to treatments or as a wet relaxation amenity to be enjoyed in combination with adjacent sauna, steam room and whirl pool facilities.

B. Space Planning:

1. Wet Lounge: Locate Warm Plunge Pool in a common "wet area" adjacent to sauna, cool plunge, whirl pool and steam room, if programmed.
2. Accessibility: Accessible to persons with disabilities per ADA requirements see <GR1>.

C. Size: Accommodate 1 to 2 people.

D. Features:

1. Steps and hand rail; walk through design preferred (not ladder) with continuous handrail.
2. Seating: Provide built-in lounge seating when possible.
3. Depth Marking
4. Pool Depth: 1.0 m to 1.2 m (42 to 48 inches)
5. Water Temperature: 27 to 32 deg. C (80 to 90 deg. F)
6. Pool Structure: Waterproof
7. R Signage: See applicable Signage and Graphics & <16> for required safety signage.

E. Finishes:

1. Pool: Plaster and ceramic tile or stone
2. Steps: Ceramic tile or stone with slip resistant finish and solid edge.

F. Utilities:

1. Underwater Lights: Waterproof; grounded
2. Filtration: At equipment room; ozone or bromide preferred to minimize odors.
3. Heating System: At equipment room.

4D.25 Cool Plunge Pool (Option)

A. Program: Provide separate Cool Plunge Pool in the men's and women's Wet Lounge area for guest relaxation prior to treatments or as a wet relaxation amenity to be enjoyed in combination with adjacent sauna, steam room and whirl pool facilities.

B. EI General: Cool Plunge Pool same as Warm Plunge Pool except water temperature. Cool Plunge pools are generally smaller than Warm Plunge Pools. Warm and cool plunge pools are typically in resorts.

C. Water Temperature: 13 to 18° C (55 to 65° F).

4D.26 Swimming Pools

A. Program: Consult the Spa Area Program for the location, size and number of swimming pools required for the spa. Provide a pool equipment room for each pool.

B. Pool Standards: Provide the pool in accord with the technical and operational standards. See <4C> for requirements.

1. Minimum Pool Depth: 1.0 m (3'-4")
2. Maximum Pool Depth: 1.5 m (5 ft.)
3. No diving boards

4D.27 Whirl Pool

A. Program: As determined by the market, provide separate whirl pool in the men's and women's Wet Lounge area for guest relaxation prior to treatments or as a wet relaxation amenity to be enjoyed in combination with adjacent sauna, steam room and plunge pool facilities. The Whirl Pool is a key element of the spa experience and is designed as the focal point of the Wet Lounge environment. A whirlpool is necessary in urban locations.

B. Space Planning:

1. Wet Lounge: Locate whirl pool in a common "wet area" adjacent to sauna, cool and warm plunge pool and steam room, if programmed.
2. Deck: At same elevation as Wet Lounge floor, preferred. If whirl pool deck is above Wet Lounge floor, provide steps and handrail to access whirl pool deck.
3. Accessibility: Accessible to persons with disabilities per ADA requirements, see <GR1>.

C. Size:

1. Capacity: 4 person min.; 26 to 32 m² (250 to 300 sq. ft.)
2. Depth: 1.1 to 1.2 m (3'-6' to 4'-0")

D. Features:

1. Water Jets: 1 jet per 46 cm (18 inch) of pool wall.
2. Drains: Minimum of 2; locate 1.2 m (4 ft.) apart with securable grate or other method to avoid suction trapping.
3. Incorporate shoulder water massage into design.
4. Bench: 46 cm (18 inch) high
5. Pool Structure: Concrete and plaster; waterproof
6. Steps and Handrail: Dual stainless steel handrails with slip-resistant stairs into whirl pool to provide ease of entry.
7. Controls: Timer (15 minute) and emergency stop; locate near pool but out of reach of pool users.
8. Heated: 40° C (104° F).
9. Signage: See applicable safety signage in the Signage and Graphics. Discreetly integrate. See and <16>.
10. Ceiling: Design as a visual feature for individuals using whirl pool.

E. Finishes:

1. Pool: Ceramic tile or stone with plaster
2. Deck: Slip-resistant; 0.6 wet / dry

F. Utilities:

1. Light: Waterproof; GFI grounded
2. Filtration, pumping and heating: Locate at equipment room.
3. Drains: At deck or coping

4D.28 Massage - Treatment Room

A. Program: Provide a quiet, soothing, functional room for performing massage and related treatments.

1. EI The environmental comfort of the spa guest is essential and requires adjustable control of temperature, lighting and audio.
2. EI Massage type treatments are typically performed in the room; however, treatments may also be performed outdoors on balconies terrace decks, pool cabanas and courtyards.

B. Space Planning:

1. BP Type: Group massage rooms together for efficient operation by spa attendants.
2. EI Showers: Ideally, the addition of a shower at one or more Treatment Rooms greatly increases the flexibility and range of treatments that can be offered in the room. Showers have glass or frosted doors.
3. Entry: Locate the door and arrange the work counter and sink so that upon entry the guest's first view is of the room and not the work counter and sink.
4. Bathtubs: Where appropriate.
5. Acoustics: Massage rooms require an absolutely quiet environment. Avoid locations near noise sources. Construct enclosure to meet minimum STC 55 rating requirements.

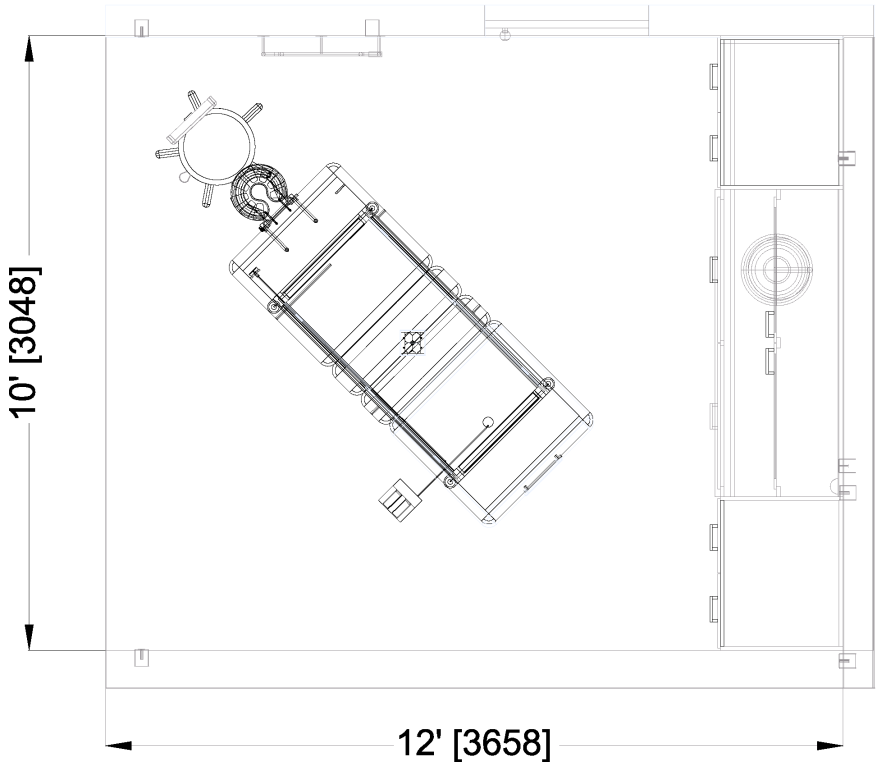
C. Size: See the Spa Area Program. Avoid making rooms too large to avoid institutional feel. Provide 3 ft. around the table for circulation.

D. OSE Equipment: Access to information for equipment, supplies, treatment room details and utility requirements are available on the Marriott Spa intranet site:

h t t p s : / / extranet.marriott.com/mgs/Global+Source/Common/Lodging+Operations/Spa/Vendors+and+Programs/ Operations/Supplies/default.htm

Provide the following:

1. Massage table with face cradle
2. Hot towel cabby
3. Oil warmer
4. Stone warmer
5. Heating pad
6. Utility cart with power strip
7. Therapist stool with wheels
8. Chair for guest
9. BP Massage Treatment Room - Example



E. Features:

1. Counters: 0.91 m (3 ft.) high; 0.61 m (2 ft.) deep; length, 1.8 to 2.4 m (6 to 8 ft.) work area; granite.
2. Cabinets: Wall and base cabinets with:

a. Stained or painted wood.

b. Adjustable shelves with locks at drawers and doors.

c. Door and drawer silencers (felt or rubber).

d. One section of the wall cabinet with glass doors and light for product display.

e. Section for laundry hamper; covered.

f. Section for trash; covered.

g. Section for double doors to accommodate a roll in treatment trolley.

h. Shelf for a towel cabby

3. Coordination: When towel cabbies, stone warmers and other equipment are “built-in”, verify equipment sizes and power locations with cabinet design. Verify that cabinet design and ventilation can manage heat and humidity.

4. Sink: Porcelain with hot and cold water with mixing valve and gooseneck spout.

5. Ceiling: Spa guests view the ceiling for most of their treatment. Every aspect of the ceiling requires review and integration into a design that reinforces the spa theme and spa guest’s relaxation.

   a. Lights: Avoid ceiling mounted fixtures and harsh, direct lights above massage area.

   b. Speakers: Avoid ceiling mounted types.

   c. Sprinklers: Provide side wall mount, not ceiling mounted types.

   d. Diffusers & Grilles: Avoid ceiling mounted types and direct drafts on spa guests. Integrate or conceal diffusers and grilles with ceiling design.

   e. Design: Include interesting ceiling features (architectural considerations, special finishes).

6. BP Window (option): The natural light provided by a window can be beneficial if the view and light is controlled. Provide operable or fixed windows based on location and climate. Provide an appropriate privacy treatment that is capable of darkening the room.

7. Door: Solid core wood with the following:

   a. Acoustical seal

   b. Latch set only (no lock) with lever handle and quiet operation. Consider latchless (ball latch) with spring hinges to minimize noise.

c. Solid door frame of wood, double stepped with sound absorptive gasket to minimize noise.

8. Robe hooks

F. Finishes:

1. Floor and Base: Wood or resilient surface for the long-term comfort of the attendant floor, or anti-microbial carpet. Base should support spa interior design concept.

2. Walls: Paint or wallcovering

3. Ceiling: Paint

G. Lighting:

1. Sconces, decorative wall lights and indirect lighting on dimmer controls.

2. Under cabinet lights for counter work.

H. Utilities:

1. Audio: Equip each room with a sound system with individual music control panel with a minimum of three channels and volume controls in each room <13B>.

2. Thermostat: Provide each room with individual controls <15A>.

3. Electrical: <15C>

a. Floor Outlet: For massage table and heating pad; one duplex outlet at center of room, under treatment table. Provide flush design, not tombstone.

b. Counter: One duplex outlet for every 2 feet of counter with a minimum of 3 duplex outlets.

c. Side Walls: One duplex outlet at each wall.

d. Wall Outlet: One duplex near head for steamer and product trolley (so that room can also accommodate facials).

e. EI Additional outlets may be required depending on room size, configuration and equipment selected.

f. Coordination: Coordinate outlet locations with millwork design for built-in equipment and access.

4. Controls: Organize audio, temperature and lighting controls in one location with a unified appearance.

4D.29 Facial Treatment Room

A. Program: Provide a quiet, soothing, functional room for performing facials and related treatments. The environmental comfort of the spa guest is essential and requires individual control of temperature, lighting and audio. Treatments typically performed in this room include the following types.

1. Facials
2. Waxings

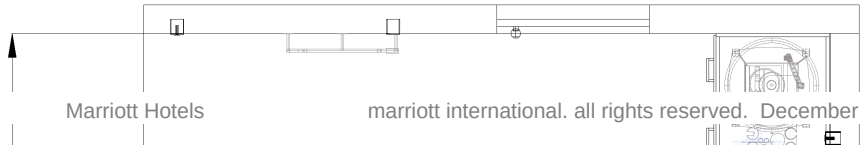
B. Space Planning:

1. Type: Group facial rooms together for efficient operation by spa attendants.
2. Entry: Locate the door and arrange the work counter and sink so that upon entry the guest's first view is of the room and not the work counter and sink.
3. Acoustics: Facial rooms require an absolutely quiet environment. Construct enclosure to meet minimum STC 55 rating requirements. Avoid locations near noise sources.

C. Size: See the Spa Area Program. Avoid making rooms too large to avoid institutional feel. Provide 3 ft. space minimum on all four sides of treatment table.

D. OSE Equipment: Access to information for equipment, supplies, treatment room details and utility requirements are available on the Marriott Spa intranet site: https:// extranet.marriott.com/mgs/Global+Source/Common/ Lodging+Operations/Spa/ Vendors+and+Programs/ Operations/Supplies/default.htm Provide the following:

1. Massage facial table with armrest and bolster
2. Steamer, accessory unit
3. Magnifying lamp
4. Hot towel cabby
5. Heating pad
6. Utility cart with power strip
7. Therapist stool with wheels
8. Chair for guest
9. Hooks for robe
10. BP Facial Treatment Room - Example



E. Features:

1. Counters: 0.91 m (3 ft. high); 0.61 m (2 ft.) deep; length 1.8 to 2.4 m (6 ft.) work area; granite.
2. Cabinets: Wall and base cabinets with the following:
    a. Stained or painted wood
    b. Adjustable shelves with locks at drawers and doors
    c. Door and drawer silencers (felt or rubber)
    d. One section of the wall cabinet with glass doors and light for product display.
    e. Section for laundry hamper; covered. Provide storage in room for clean linen.
    f. Section for trash; covered
    g. Section for double doors to accommodate a roll-in treatment trolley.
    h. A shelf for the hot towel cabby.
    i. Under cabinet warming drawer
    j. Under cabinet soiled linen
3. Coordination: When towel cabbies, stone warmers and other equipment are “built-in”, verify equipment sizes and power locations with cabinet design. Verify that cabinet design and ventilation can manage heat and humidity.
4. Sink: Material based on design intent, with hot and cold water with mixing valve and gooseneck spout, design coordinated with Interior Designer.
5. Ceiling: Spa guests view the ceiling for most of their treatment. Every aspect of the ceiling requires review and integration into a design that reinforces the spa theme and spa guest’s relaxation.
    a. Lights: Avoid ceiling mounted fixtures.
    b. Speakers: Avoid ceiling mounted fixtures; use sidewall mounted.
    c. Sprinkler Heads: Provide side wall mount.
    d. Diffusers & Grilles: Avoid ceiling mounted. Avoid direct drafts on spa guests. Integrate or conceal diffusers and grilles with ceiling design.
    e. Design: Include interesting features (coffers, wallcoverings and applied moldings).
6. BP Window (option): The natural light provided by a window can be

beneficial if the view and light is controlled. Provide operable or fixed windows based on location and climate. Provide an appropriate privacy treatment that is capable of darkening the room.

7. Door: Solid core wood with the following:
    a. Acoustical seals
    b. Latch set only (no lock); lever type with quiet operation. Consider latchless (ball latch) with spring hinge to minimize noise.
    c. Solid door frame of wood, double stepped with sound absorptive gasket to minimize noise.
    d. Robe hooks

F. Finishes:
1. Floors and Base: Wood or tile surface preferred; may be dictated by law.
2. Walls: Paint or wallcovering
3. Ceiling: Paint or special finish

G. Lighting:
1. Decorative sconces, wall mounted fixtures and indirect lighting on dimmer controls.
2. Provide task lighting for waxing services.
3. Under cabinet lights for counter work. Verify that heat from lights will not ruin products stored on the bottom shelf of the cabinets.

H. Utilities:
1. Audio: Equip each room with a sound system with minimum of three channels and volume controls in each room. See <13B>.
2. Thermostat: Provide each room with individual controls. See <15A>.
3. R Electrical: See <15C>.
    a. Floor Outlet: One duplex outlet in center of room for facial chair and heating pad. Provide flush outlet, not tombstone.
    b. Countertop: One duplex outlet for every 2 feet of counter with a minimum of 3 duplex outlets. Do not place near sink for safety reasons.
    c. Side Walls: One duplex outlet at each wall.
    d. Facial: One duplex outlet on wall near sink and head for steamer and product trolley.

e. EI Additional outlets may be required depending on room size, configuration and equipment selected.

f. Coordination: Coordinate outlet locations with millwork design for built-in equipment and outlet access.

4D.30 Couples Massage Room

A. Program: Same as Massage Room with two tables. See “Massage – Treatment Room” above for criteria.

B. Size:

1. Equal to two single Massage Treatment rooms.
2. See the Spa Area Program.

C. Features:

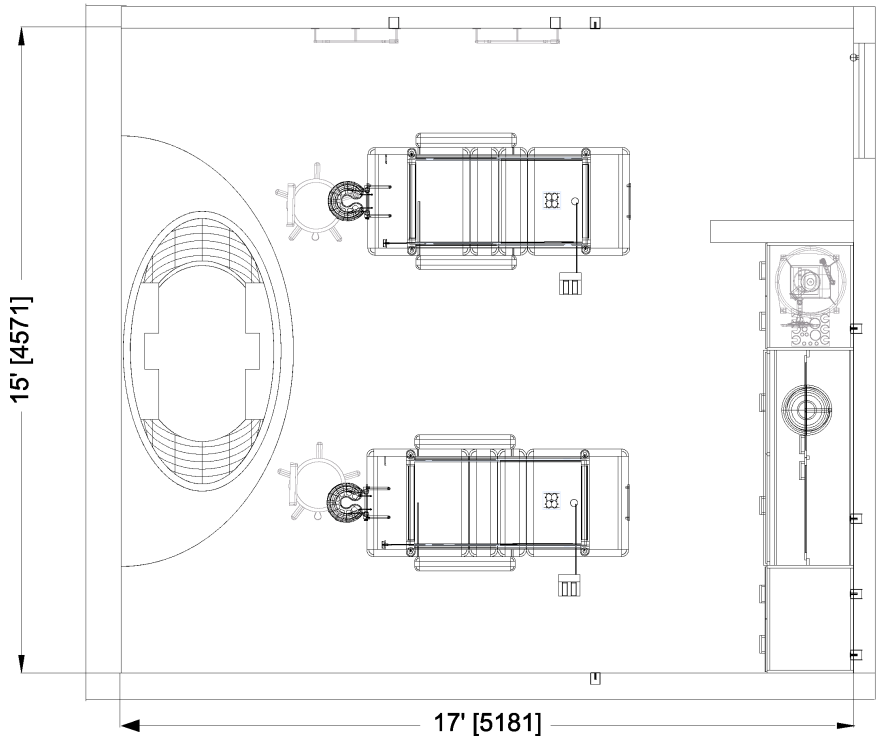
1. Operable Wall: Providing an operable, acoustical wall to divide the room into two separate rooms (when not used for couples) provides scheduling flexibility.

4D.31 Couples Massage Suite

A. Program: Same as Couples Massage Room above but with the addition of a shower or tub. See “Massage – Treatment Room” above for criteria. If space is available, add a lounge area for guests to relax.

B. Size:

1. Equal to two single Massage Treatment rooms.
2. See the Spa Area Program.
3. BP Couples Massage Suite - Example



C. OSE Equipment: Access to information for equipment, supplies, treatment room details and utility requirements are available on the Marriott Spa intranet site: https://extranet.marriott.com/mgs/Global+Source/Common/Lodging+Operations/Spa/Vendors+and+Programs/Operations/Supplies/default.htm
Provide the following:

1. Two massage facial tables with armrest and bolster
2. Hydro tub for two
3. Stand up shower for two
4. Hot towel cabby
5. Oil warmer
6. Stone warmer
7. Heating pad
8. Utility cart with power strip
9. Therapist stool with wheels
10. Chair for guest

D. Finishes: Appropriate flooring for this suite must accommodate both wet treatment (tub, shower) and dry treatments.

E. Utilities:

1. Electrical: <15C>
    a. Floor Outlet: One for each massage table and heating pad; one duplex outlet under each treatment table. Provide flush design, not tombstone.
    b. Counter: One duplex outlet for every 2 feet of counter with a minimum of 3 duplex outlets; one at each end of counter to accommodate two treatments.
    c. Side walls: One duplex outlet at each wall.
    d. Sink: Porcelain with hot and cold water with mixing valve and gooseneck spout. Unique design coordinated with interior designer.
    e. EI Additional outlets may be required depending on room size, configuration and equipment selected.
    f. Coordination: Coordinate outlet locations with millwork design for built-in equipment and access.
2. Controls: Organize audio, temperature and lighting controls in one location with a unified appearance.

4D.32 Wet Treatment Room

A. Program: If required, provide a quiet, soothing, functional room for performing wet treatments. The environmental comfort of the spa guest is essential and requires individual control of temperature, lighting and audio. Treatments typically performed in this room include the following types:
    1. Bath or shower
    2. Steam shower
    3. Vichy Shower
    4. Wraps
    5. Scrubs
    6. Massage
B. Space Planning:
    1. Type: Group wet rooms together for efficient operation by spa attendants, for sound control and to manage waterproof construction.
    2. Entry: Locate the door and arrange the work counter and sink so that upon

entry the guest's first view is of the room and not the work counter and sink.

3. Floor Slope: In order to manage the large quantity of water used in wet treatments, it is imperative to provide floors sloped to large drains (and away from doors and walls). Design the floor system to accommodate sloped floors and internal drains.

4. Acoustics: Wet rooms require a quiet environment. Avoid locations near noise sources.

5. Evaluate the location of the equipment in relationship to the view from the door opening since this equipment is usually centered in the room. If the entrance door is not offset, the guest's privacy and sense of security may be compromised.

C. Size: See the Spa Area Program.

D. OSE Equipment: Access to information for equipment, supplies, treatment room details and utility requirements are available on the Marriott Spa intranet site: https://extranet.marriott. com/mgs/Global+Source/Common/Lodging+Operations/Spa/Vendors+and+Programs/Operations/Supplies/default.htm Provide the following:

1. Soft top wet dry table

2. Hydro Rain Vichy Shower, hand held showers are included with dual temperature controls.

3. Hotel towel cabby

4. Stone warmer

5. Utility cart with power strip

E. Features:

1. Shower: In room shower and enclosure to permit spa guest to shower before and after treatment without leaving the room; 0.9 x 0.9 m (3 x 3 ft.) minimum. Steam shower is an option.

2. Hand Shower: Provide in addition to typical shower heads.

3. Counters: 0.91 m (3 ft.) high; 0.61 m (2 ft.) deep; length, 1.8 to 2.4 m (6 to 8 ft.); granite.

4. Cabinets: Wall and base cabinets with:

   a. High quality laminate

   b. Adjustable shelves with locks at drawers and doors.

c. Door and drawer silencers (felt or rubber)

d. One section of the wall cabinet with glass doors and light for product display.

e. Section for laundry hamper; covered

f. Section for trash; covered

g. Section for double doors to accommodate a roll in treatment trolley.

5. Sink: Porcelain with hot and cold water, mixing valve and gooseneck spout. Unique design coordinated with Interior Designer.

6. Floor: Sloped floor to central drain is required to manage the high volume of water used in treatments.

7. Ceiling: Spa guests view the ceiling for most of their treatment. Every aspect of the ceiling requires review and integration into a design that reinforces the spa theme and spa guest's relaxation.

   a. Lights: Avoid ceiling mounted. Provide sconces, wall lights and indirect lighting fixtures that are waterproof. Provide heat lamp panel in ceiling for wet rooms. Avoid harsh, direct lights above treatment area.

   b. Speakers and Sprinklers: Use side wall mounted.

   c. Diffusers & Grilles: Avoid ceiling mounted types and direct drafts on spa guests. Integrate or conceal diffusers and grilles with ceiling design.

   d. Design: Include interesting features (coffers, vaults, tile and applied moldings).

8. Door: Solid core wood, waterproof on interior face with the following:

   a. Acoustical seal

   b. Latch set only (no lock) with lever handle and quiet operation.

   c. Solid door frame of wood, double stepped with sound absorptive gasket to minimize noise.

9. Robe hooks.

F. Finishes: Select finishes to create a warm and cozy room image as opposed to a cold and clinical feel.

1. Floors and Base: Ceramic tile; slip resistant, 0.6 wet / dry

2. Walls: Ceramic tile wainscot ½ to height of wall; full-height wall tile in Vichy shower rooms, otherwise, above wainscot finish walls with semigloss paint or vinyl wallcovering.

3. Ceiling: Paint; ceramic tile for Vichy rooms.

G. Audio: Equip each room with a sound system (waterproof) with individual control panel, minimum of three channels and volume controls in each room. <13B>

H. Lighting:

1. Decorative wall mounted, waterproof fixtures and indirect lighting on dimmer controls.

2. Under cabinet lights for counter work. Verify that heat from lights will not ruin products stored on the bottom of cabinet.

I. Utilities:

1. Thermostat: Provide each room with individual controls.

2. Floor Drain: 4 inch pipe with silt trap below treatment bed <15B>.

3. Electrical: <15C>

a. Type: Waterproof, GFIC for outlets in room.

b. Floor: One duplex outlet, center of treatment bed. Flush design; not tombstone.

c. Counter: One duplex outlet for every 2 feet of counter.

d. Side Walls: As required for equipment.

e. Additional outlets may be required depending on room size, configuration and equipment selected.

f. Coordination: Coordinate outlet locations with millwork design for built-in equipment and access.

4. Controls: Organize audio, temperature and lighting controls in one location with a unified appearance.

4D.33 Deluxe Wet Treatment Room

A. Program: Same as or similar to Wet Treatment Room but includes a hydrotherapy tub located in a corner of the room.

4D.34 Hydrotherapy Room

A. Program: Same as or similar to Wet Treatment Room but includes full function hydrotherapy tub and space for massage table.

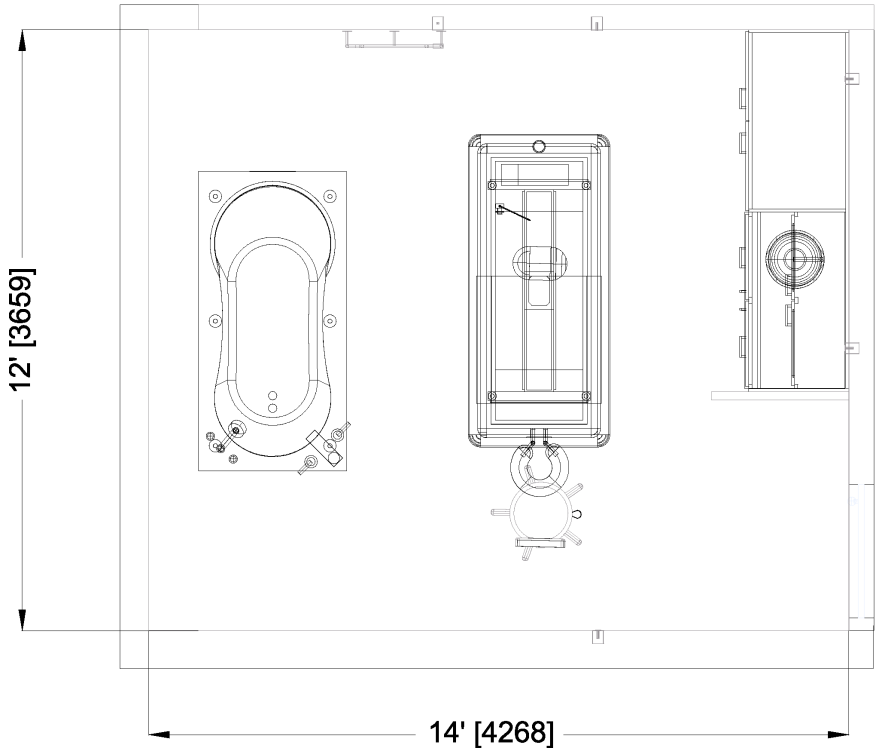
B. Room Size: See the Spa Area Program.

C. Space Planning: Provide for the following:

1. Entry: Locate the door and arrange the work counter and sink so that upon entry the guest's first view is of the room and not the work counter and sink.
2. Specialty Hydrotherapy Tub: See manufacturer's specifications for specific installation and plumbing requirements.
3. Massage / wet treatment table (optional based on programmed space).

D. Utilities:

1. Verify size of drain (4 inch) based on tub manufacturer's specifications for quick drain of tub.
2. Specialty electrical outlets and drains may be required.
3. Type: Waterproof, GFIC for outlets in room.
4. Counter: One duplex outlet for every 2 feet of counter.
5. Wall: one duplex outlet at each wall.
6. BP Hydrotherapty Room - Example



4D.35 Dispensary

A. Program: Provide a "kitchen" style facility for the storage, mixing and conditioning of spa treatment preparations by spa employees (aestheticians, therapists). The area is also used to store, prepare and clean spa treatment equipment and utensils.

1. Space Planning:

a. Location: Centrally locate near Treatment Room area to provide spa employees with convenient access to Dispensary before and after each spa treatment.

b. Wet Treatment: Give location priority to wet treatment areas that require higher use of Dispensary.

c. Service Circulation: Provide direct access to service circulation corridor for Back-of-House access.

d. Large Spa: Provide more than one Dispensary when feasible to meet program requirements.

e. Product Storage: Store product in cabinets hidden from view. Products mixed in suite.

2. Size: 1.0 m² (10 sq. ft.) of area per treatment room with a minimum size of 11 m² (120 sq. ft.).

3. Features:
    a. Work Counter
    b. Telephone
    c. Computer Workstation: Provide with computer monitor and printer for employees to access treatment schedules and appointments.
    d. Base and Wall Cabinets: Adjustable shelves; drawers with locks; cabinet doors with locks. Wall cabinet doors with glass windows permit visual observation of contents without signage.
    e. Refrigerator: Residential style with freezer.
    f. Ice Machine: Provide ice machine with floor drain.
    g. Microwave / Large Capacity Hot Towel / Hydrocullator.
    h. Dishwasher: Commercial grade may be required. Provide sound attenuation.
    i. Sink: Large, two compartment, stainless steel with hot and cold faucet set with swivel, gooseneck spout.
4. Finishes
    a. Floor and Base: Vinyl composition tile or ceramic tile
    b. Walls: Painted
    c. Ceiling: Acoustical, lay-in tile

B. Lighting: Ceiling and under cabinet fluorescent. Verify that the under cabinet lighting does not produce heat that can ruin spa products in the cabinet on the bottom shelf.

C. Electrical Outlets: For counter top equipment. Provide a minimum of one duplex outlet for every two feet of counter.

4D.36 Toilet (Treatment Area)

A. Program: Provide a toilet room for the use of guests in the Treatment Area to avoid requiring guests to return to the Locker area, particularly between treatments.

   1. Provide at larger spas and particularly where the distance between the Treatment area and Locker area Toilet is significant.

   2. Location: Adjacent to the Common Service Circulation corridor.

4D.37 Pantry

A. Program: Provide an enclosed pantry to support the beverage service being offered in the Dry Lounge and Wet Lounge areas.

B. Space Planning:

   1. Locate in an enclosed room.

   2. Position near Dry and Wet Lounge areas being served.

C. Size: 6.5 m² (70 sq. ft.) or as required to accommodate equipment.

D. Features: Coordinate equipment requirements with equipment provided in Dispensary.

   1. Refrigerator / Freezer: Residential size

   2. Dishwasher: Commercial type may be required.

   3. Sink: Stainless steel with water filter and gooseneck

   4. Ice Machine: Commercial

   5. Hot water machine

   6. Base Cabinets: With adjustable shelves and door locks

   7. Wall Cabinets: With adjustable shelves and door locks

   8. Computer: For monitoring activities

E. Finishes:

   1. Floor and Base: Ceramic tile; vinyl tile

   2. Walls: Painted

3. Ceiling: Painted or acoustical tile

F. Utilities:

1. R Drain: At ice machine; see <15B>.
2. R Computer: See <13A>.

4D.38 Professional Product Storage

A. Program: Provide a room to receive, sort and securely store spa professional products. Provide ample shelving to organize and store spa products.

B. Space Planning:

1. Dispensary: Locate with lockable door opening into Dispensary to permit spa employees to access supplies directly from the Dispensary. This location also permits temporary staging of deliveries within the Dispensary instead of in corridors.
2. Service Access: Locate near service access to avoid service circulation through spa guest areas.

C. Size: 0.4 m² (4 sq. ft.) per treatment room

D. Features:

1. Shelving: Wall to wall, adjustable, wood or solid surface to permit stacking small and large items.
2. Cabinets: All cabinets are lockable to control access.
3. Door: Solid core, wood with keyed, deadbolt lock

E. Finishes:

1. Floor: Vinyl composition tile
2. Base: Vinyl
3. Walls: Semi-gloss paint
4. Ceiling: Exposed

F. Lighting: Fluorescent ceiling fixtures

4D.39 Toilets

A. Spa Guest Toilets: Provide private toilet facilities for spa guests.

1. Space Planning:

   a. Circulation: Position in the “dry” zone and locate so that access to other functions does not require traversing through the toilet area.

   b. Grooming: Locate adjacent to Grooming area so guests exiting toilet area have access to lavatories.

   c. Wet Areas: Access to toilets shall not require traversing wet areas.

2. Features:

   a. Enclosures: Enclosed private, compartment with full, panel or louvered, wood door preferred. Provide privacy latch with emergency unlock.

   b. Accessibility: Provide access for guests with disabilities.

   c. Urinal Screens: Required

   d. Toilet: Wall hung

3. Finishes

   a. Floor and Base: Porcelain tile or stone

   b. Walls: Ceramic tile or stone, full height or wainscot

   c. Ceiling: Painted; semigloss

B. Employee Toilets:

1. Program: Provide toilet facilities dedicated for use by spa employees.

   a. Employees are prohibited from using spa guest toilets.

   b. Employee toilets in the hotel may be utilized if they are conveniently accessible.

2. Space Planning:

   a. Location: Locate toilets near the employee Break Room.

   b. Exposure: Avoid views from spa guest areas.

   c. Lounge: Avoid locating toilet entrances directly into the employee Break Room to prevent toilet activities from disrupting the Lounge environment.

   d. Minimum of one toilet fixture and lavatory for male and one for female at spas of 925 m² (10,000 sq. ft.) or less. At small spas, unisex toilet may be adequate.

3. Finishes
    a. Floor and Base: Porcelain tile
    b. Walls: Paint
    c. Ceiling: Painted or acoustical tiles

C. Accessories: Commercial grade, residential image
    1. Toilet Paper Holder (Double roll), sanitary napkin disposal, coat hook, appropriate paper towel & soap dispenser, trash receptacle
    2. Accessible Compartment: Grab bars

D. Lighting: Downlights above in center of space, not above toilet at each compartment and common area.

E. Utilities: Floor drains as required.

4D.40 Janitor

A. Program: Provide a small, enclosed room to accommodate cleaning equipment and supplies to maintain the spa facilities.
    1. Typically, locate near the wet areas, the areas requiring the most maintenance.
    2. Locate adjacent to common service circulation corridor to permit servicing of common areas by either gender.
    3. Quantity: Locate one facility in the men's and one in the women's area. At smaller spas, one centrally located room may serve both men's and women's area.

B. Size: 2.3 m² (25 sq. ft.) per room

C. Features:
    1. Floor sink with backsplash
    2. Storage shelving

D. Finishes:
    1. Floor and Base: Vinyl tile or ceramic tile
    2. Walls and Ceiling: Painted; high gloss

E. Utilities: Floor drain

4D.41 Circulation

A. Corridors - Public: Provide corridors for guests circulating between reception, locker areas, lounge, treatment rooms and other public spa facilities.

1. Space Planning:

a. Corridor Configurations: Avoid institutional looking, monotonous corridor configurations.

b. Design: Design corridors with alcoves and niches to provide visual relief and interest.

c. BP Natural Light and Views: Introduce natural light and views (windows and skylights) while maintaining privacy.

d. BP Ceilings: Provide visual interest by integrating coffered ceilings with skylights, special paint finishes, murals and / or special lighting details.

e. BP Linen Storage: Consider linen storage at corridor utilizing pocket panels at alcoves and furniture storage.

2. Corridor Width: 1.5 m (5 ft.) minimum

3. Ceiling Height: 2.7 m (9 ft.) minimum; higher preferred

B. BP Features: Consistent with the spa theme, incorporate elements of visual and acoustical interest:
• water features
• artwork and artifacts
• interesting finishes
• lighting features and natural light

C. Finishes:

1. Floors: Carpet, wood, stone or porcelain tile with area rugs. Treatment Room corridors may be carpeted to minimize noise.

2. Walls: Durable; consistent with spa theme.

3. Ceiling: Painted gypsum board and acoustical tile.

D. Lighting: Wall sconces and indirect warm lighting preferred, consistent with the spa theme and controlled by dimmers.

E. Utilities:

1. Receptacles: Electrical outlets for maintenance.

2. R Audio: Central sound system; see <13B>.

F. Corridors - Private:

1. Program: Provide a gender segregated circulation path or zone to connect Locker, Toilet, Grooming, Shower, Lounge and Wet Lounge areas.
2. Avoid a straight line, sequence of spaces from the Locker entry to the Wet Lounge exit. Provide access to and organize functions along a common, interconnecting circulation spine.
3. Segregate areas by “wet” (Shower and Wet Lounge) and “dry” (Locker, Toilet, Dry Lounge and Grooming) zones.
4. Plan circulation to avoid traversing wet zones to access a dry zone.
5. The private spaces are key to the overall experience. Design elements, color palette, and lighting are critical.

G. Treatment Area Circulation: Provide quiet, interesting circulation corridors between the Dry Lounge and Co-ed Lounge area and Treatment Rooms as noted above for Public Circulation.

1. Space Planning:
   a. Circulation: Plan the circulation to provide service access for clean and soiled linen and supplies.
   b. Access: Provide convenient access for staff from employee support areas.
   c. Guest Access: Provide spa guest access from the Dry Lounge to Treatment Rooms.
   d. Arrangement: Arrange treatment room door locations in a staggered plan for privacy (so doors are not opposite each other).
2. Size:
   a. Width: 1.5 m (5 ft.) minimum
   b. Ceiling: 2.4 m (8 ft.) minimum
3. Features:
   a. Floors: Design for comfort of spa guests with slippers. Design to avoid noise that could disrupt treatments.
   b. BP Ceilings: Provide interest with coffers, vaults and crown moldings.
   c. BP Artwork & Water Features: Integrate into design of corridor.
   d. BP Plants: Integrate into the design where appropriate.
   e. Design: Avoid monotonous layouts that appear clinical. Design corridors for warm and welcoming feeling. Add interest with alcoves (for concept

relevant artifacts), knuckles and integrated features.

f. Occupied Sign: In order to indicate if a treatment is occupied, provide an element (symbol, light or object) at each treatment room door that serves this purpose and is consistent with the spa theme.

4. Finishes

a. Floor: Carpet preferred for acoustics. Design may include a combination of carpet, tile or wood. Select carpet color and pattern with good "coverage". Avoid light colored, solid carpets that show wear.

b. Walls: Paint or wall covering or specialty finishes

c. Ceiling: Paint and acoustical tile

5. Lighting:

a. Colored Lighting: Use to convey special environment when possible.

b. Sconce: Decorative lighting

c. Ceiling: Indirect alcove, wall washer or decorative.

H. Fitness Center Circulation: Provide a common circulation path or zone to connect the Fitness Center facilities, Café and Pool. Plan spaces to avoid having to traverse one area to access another.

1. Corridor Width: 1.5 m (5 ft.) minimum

2. Ceiling Height: 2.7 m (9 ft.) minimum; higher preferred

3. BP Features:

a. BP Consistent with the spa theme, incorporate elements of visual and acoustical interest such as water features, artwork and artifacts, interesting finishes, lighting features and natural light.

b. BP Linen Storage: Consider linen storage at corridor utilizing pocket panels at alcoves and furniture storage.

4. Finishes

a. Floors: Carpet; or wood; stone; ceramic tile with area rugs. Treatment Room corridors may be carpeted to minimize noise.

b. Walls: Durable; consistent with spa theme

c. Ceiling: Painted gypsum board and acoustical tile

5. Lighting: Wall sconces and indirect warm lighting preferred, consistent with the spa theme and controlled by dimmers.

6. Utilities:

    a. Electrical: Power outlets for maintenance

    b. Audio: Central sound system; see <13B>.

4D.42 Linen Staging

A. Program: Provide areas to store clean and soiled sheets, towels and robes used in spa treatments and wet areas. Provide a commercial duty washer and dryer for use by spa attendants for cleaning spa slippers and small accessories.

1. Space Planning:

    a. Access: The spa employee's ability to manage the large quantity of clean and soiled sheets and towels generated in the treatment room and wet areas, on an hourly basis, is critical to the efficient operation of the spa.

    b. To facilitate this demand, plan the flow of clean laundry from the hotel or off-site laundry facility to the treatment room and wet areas, and back, in an efficient operation.

    c. Separate Paths: Typically, health regulations require segregation of clean and soiled laundry into separate rooms or zones to avoid cross contamination. Conform to applicable regulations.

    d. Wet Areas: Spa wet areas require facilities to distribute and collect towels and robes. Wet areas can typically be serviced as satellites of Laundry Staging.

    e. Service Access: Bulk management of clean and soiled linen is provided by carts circulating between the hotel or off-site laundry and Laundry Staging room.

    f. Laundry Chute: In order to minimize labor and service circulation through the Spa, consider managing soiled linen vertically with a laundry chute.

    g. Quantity: Each treatment requires approximately 6 to 12 pieces of linen and 1 guest robe and slippers. Size Linen Staging and Linen Closet facilities based on the number of treatment rooms, treatments, use of wet areas and frequency of deliveries.

    h. Central Location: If the Laundry Staging area is conveniently accessible to the treatment rooms, clean and soiled towels and sheets may be distributed and collected from a central Laundry Staging location.

    i. Remote Location: If the Laundry Staging area is not conveniently located

near the treatment rooms, provide one or more satellite Linen Closets in the treatment room area. Provide satellite closets for mobile clean linen shelving units at Clean Linen and cart space at Soiled Linen rooms.

2. EI Distribution: The Laundry Staging room is the distribution point for linen service to the following areas. Refer to requirements for the storage and display of linen in each area.
    a. EI Treatment Rooms
    b. EI Locker Room and Shower
    c. EI Wet Lounge
    d. EI Fitness Center
    e. EI Pools

B. Size: Determined by the following uses:

1. Size of spa
2. Number of treatment rooms
3. Type and number of treatments
4. Frequency of deliveries from hotel or off-site laundry.

C. Features:

1. Washer and Dryer: Large capacity; commercial duty; counter space for sorting; folding tables; verify mounting requirements. Do not locate adjacent to Treatment Rooms or Lounge areas.
2. Clean linen is required to be stored in closed cabinets, not on open storage shelving. Linen is delivered and distributed by mobile carts.
3. EI Soiled linen is typically temporarily stored and transported in hamper carts.
4. A hand washing station and janitors closet must be readily available.

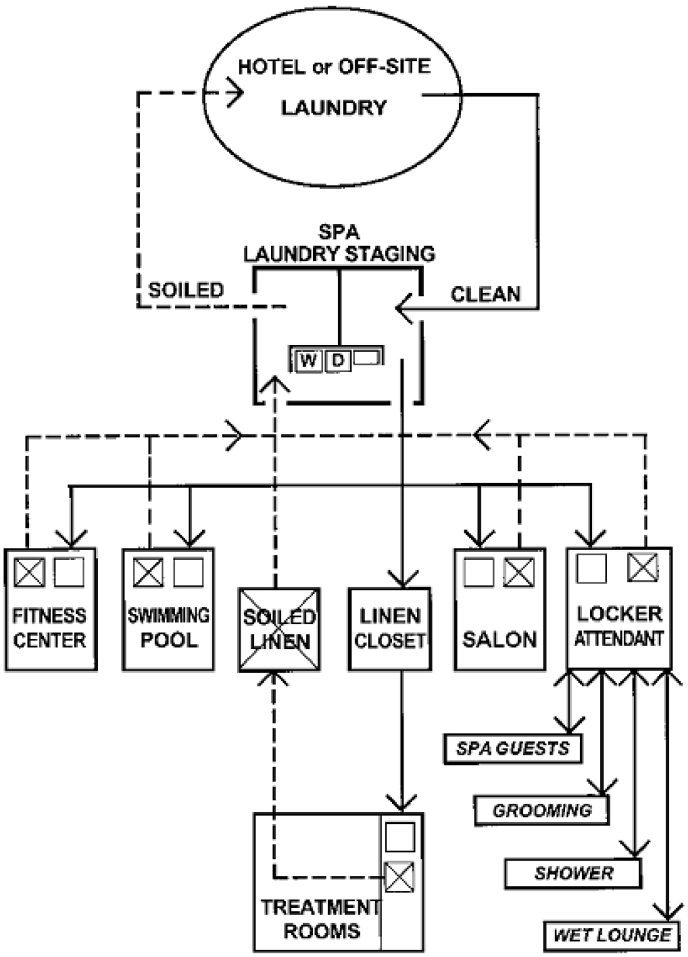
D. Finishes:

1. Floor: Vinyl composition tile
2. Base: Vinyl
3. Walls: Painted; Fiberglass Reinforced Panel (FRP)
4. Ceiling: Exposed

E. Lighting: Fluorescent ceiling fixtures.

F. Utilities: Hot and cold water / drain / lint trap for washer / dryer.

G. BP Linen Staging Diagram



4D.43 Linen Closet

A. Program: Provide a closet in the treatment room area to stock linen and towels for distribution to treatment rooms by employees.

B. Space Planning:

1. Location: Centrally locate in the treatment room area.
2. Closets: Provide one or more closets with door at larger spas.
3. At smaller spas, linen may be distributed directly from the central Linen Staging room.
4. As an alternate, linen may be secured in cabinets or armoires located in the treatment room area.
5. Soiled linen can not be mixed in the same room.

C. Finishes:

1. Floor and Base: Vinyl composition tile
2. Wall: Gloss paint
3. Ceiling: Paint

4D.44 Soiled Linen

A. Program: Provide a closet in the treatment room area to temporarily store soiled linen and towels used in treatment rooms or provide a process to quickly remove soiled linen to a central linen collection area or laundry chute.

B. Space Planning: Plan for ease of use from all spa areas.

1. Location: Centrally locate in the treatment room area.
2. Closets: Provide one or more closets (or chutes) at larger spas.
3. At smaller spas, soiled linen may be returned directly to the central Laundry Staging room.
4. Clean linen can not be mixed with soiled linen in the same room.

C. Finishes:

1. Floor and Base: Vinyl composition tile

2. Wall: Gloss paint
3. Ceiling: Paint or acoustical tile

4D.45 Equipment Room

A. Program: Provide room for Wet Lounge equipment such as steam generator and pool pumps and filters.

B. Location: Locate as close as possible to the facilities being served. Locate adjacent to common service circulation corridor to permit adjustment and servicing by either gender without compromising Wet Lounge privacy.

4D.46 Audio Room

A. Program: Provide an equipment room for the audio system serving the entire spa area. Locate room adjacent to common service circulation corridor or in the Administration office area.

4D.47 Employee Break Room

A. Program: Provide an enclosed “break” room for Spa employees to wait and relax between appointments, to monitor appointments and to prepare food and beverage refreshments.

1. At smaller spas, spa employees utilize hotel Employee Facilities.
2. Spa employees follow the same protocol as hotel employees when entering and leaving the spa and are prohibited from using spa guest areas as lounges between appointments.

B. Space Planning:

1. BP Treatment Rooms: Employee Break Room may be located near the treatment room area to permit convenient access to the treatment room area.
2. Acoustics: Avoid locating the Employee Break Room directly adjacent to treatment rooms.
3. Exposure: Avoid locating the Employee Break Room in areas where it is

exposed to view from spa guest areas.

4. Toilets: Do not locate employee Toilet within employee Break Room to prevent toilet activities from disrupting the Lounge environment.
5. EI Access: The Employee Break Room may be located on a different level than the treatment rooms if stair and elevator access provides convenient access to the treatment room area.

C. Size: Proportional to staffing program. Typically, 12 m² (120 sq. ft.) minimum to 18 m² (200 sq. ft.).

D. Features:

1. Lockers: One small unit, 0.04 m³ (1.5 cu. ft.), with lock per employee for securing personal belongings but not clothing. Typically, employees arrive in uniform.
2. Wall and Base Cabinets: For employee food and beverage storage and preparation. Provide with counter, adjustable shelves, lockable drawers and doors.
3. Microwave: Residential type
4. Sink: With hot and cold water
5. Refrigerator: Residential type refrigerator / freezer
6. Table, Chairs and sofa
7. Computer Workstation: For monitoring spa appointments and processing paperwork. Provide counter, chair and computer workstation with printer.
8. Mailbox: Provide secure, lockable mailbox modules (one per employee) to distribute and secure “tip” gratuities and internal employee communications.
9. Wall Clock
10. Bulletin Board
11. Time Clock: Locate at employee Break Room or hotel employee entrance as required by Operations.
12. Training facilities and materials

4D.48 R Coordination

A. R Reference: Coordinate with the requirements of other Chapters.

- Recreation & Amenities
- Food & Beverage - BOH
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical, Plumbing & Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

retail

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

5.1 Overview

A. Brand Essential: The Lobby Shop (off the Front Desk) is the retail component and the minimum required retail amenity for guests.

B. Planning: Coordinate with <2A>.

1. Design an overall vibrant, current and exciting shopping environment that coordinates with the design narrative.

2. Integrate into the Lobby with clear sight lines from the Front Desk and Guest Elevators

3. Retail for resorts is typically more extensive and may include a broader retail program.

4. Compliance: Comply with the governing accessibility regulations.

C. Retail Review & Acceptance: To avoid operational conflicts, coordinate with the public area interior design, adjoining areas and the overall character of the property. Submit the following associated retail program information to MI for acceptance of retail outlets and approval of third party operator agreements.

• Retail market concepts
• Location of assigned retail areas
• Retail mix and placement of concession spaces
• Owner's retail design consultant
• Merchandise assortment
• Operating hours / time
• Lease agreements - additional conditions and retail requirements and any exclusive agreements
• Retail graphics / merchandising signage visible in public areas.
• Illuminated signage / lighting designs, permanent and temporary, when appropriate and if allowed.
• Graphics to support retail concept. The use of vendor provided equipment and fixtures, including microwaves, is not allowed unless prior MI permission is obtained.
• Proposed finish millwork and cabinetry design features for built-in and free standing displays.

D. Additional Retail: Market analysis may dictate requirements for other retail outlets as outlined in the project Facilities Program.

• Food offerings retail outlets (option)
• Specialty retail (option)

When a dedicated retail outlet is not integrated with The Lobby concept, or the retail program includes multiple retail outlets or is a resort location, then comply

with the following criteria for retail planning:

1. Resorts: Based on the project Facilities Program, provide multiple retail outlets that support the destination experience. Additional retail outlets require different designs and products.

2. Retail programs and core product selections require careful development to avoid conflicts with local laws, religious customs and cultural sensitivities of the property's region.

E. Alcoholic Beverages: When allowed for sale, locate beverages in direct line of sight of employees and secure beverages in lockable display cabinets, coolers / refrigerators and storage.

F. ATMs: Not permitted in retail spaces. For acceptable lobby locations, see <2A>.

5.2 Lobby Shop - Off the Front Desk

A. Program: Provide guest access to a variety of self-select retail essentials and desired retail products as required by a market review and the project Facilities Program. The Lobby Shop is the retail concept and solution defined for the Lobby. Coordinate with <2A>.

B. R Resources: See <2A> for MH Greatroom for criteria that integrates the Lobby Shop with the Guest Services Zone.

C. Retail Products: Provide a combination of core products, pantry snacks and regional gift items (optional) reflecting the local area. The proportion of each in the retail mix is determined by market demands.

D. Location: The following criteria guides the positioning of the Shop:

1. Locate directly adjacent to the Front Desk / Reception with a transaction counter or window connection to the retail space.

2. Integrate into the entrance experience, visually apparent, but not the focal point that would distract from the public areas and <2A> design.

E. Space Design:

1. Storefront: Arrange and design customized storefront that blends completely with the overall character of the property to provide visual exposure of merchandise from the public circulation area. Design the entire storefront to fully open to the MH Greatroom.

2. Merchandising Areas: Design space to maximize areas to display retail products. Provide unobstructed wall areas, shelving, counter tops and cabinets to locate and display merchandise.

3. Storage: Provide merchandise storage in undercounter, solid millwork cabinets, not to exceed 46 cm high (18 inch), without compromising merchandising area.

4. Product Mix: Accommodate basic guest needs by providing MI current standard products from the following categories:

   a. Core: The required minimum retail items are:
      • Sundry / toiletry products
      • Mailing / shipping material
      • Basic / Stylish travel items
      • Reading materials
      • Services
      • Men's Essentials
      • Women's Essentials

   b. Pantry Products:
      • Food / candy and snack items
      • Beverages (chilled)
      • Ice cream
      • Wine / beer (if allowed)

   c. BP Regional Products (option): Incorporate regional items and apparel to provide broader selection of consumable and commercial items.
      • Regional gifts and food items
      • Apparel
      • Jewelry, art and artifacts

   d. BP Optional Products:
      • Stationery / paper goods
      • Tobacco and related products
      • Greeting Cards
      • Wellness & relaxation products

F. Features:

1. Fixturing / Millwork: Design systems to feature products, and accommodate maximum flexibility. Utilize commercial millwork for merchandising display consistent with the Lobby design and finishes.

2. P.O.S.: Provide point of sale (cash register) at the Front Desk. Shield wiring and back of register from customer view. Integrate installation into the PMS. See <13A>.

3. F&B Equipment:
   • Refrigerators: Provide refrigerated (air curtain refrigeration units are acceptable) self-serve, glass front, non-branded (no vendor brand signs)

beverage coolers integrated with the interiors.
• Microwave: Not allowed

G. Construction: Consistent with the Front Desk area, design with wide entrance and no visual obstructions from Front Desk. Coordinate with Interior Design and MI Retail requirements.

H. Finishes: Coordinate with the Interior Design and MI Retail.

I. Storage Area:Provide secure storage for retail inventory. Provide additional locked storage for bulk deliveries, if required.

J. Loss Prevention: Provide per <16> Review.

1. BP Surveillance Cameras (VSS): When required, locate per Loss Prevention Review.

2. Theft Deterrent System: When required, conceal under floor magnetic product tagging theft deterrent system (no exposed pedestals).

K. Telephone / Fax: Provide device connections. See <13A>.

L. Lighting:See Coordination at the end of this document and <15C>.

5.3 Free-standing Shop (option)

A. Overview: When required by the project Facilities Program, provide a free-standing Shop which is a retail amenity option.

B. Program: The Shop is a combination of core products, pantry snacks and regional gift items reflecting the local area. The proportion of each in the retail mix is determined by market demands.

C. Location:

1. Locate in the path of travel between the main property entrance, Reception and passenger elevators.

2. Do not locate directly adjacent to the Reception area. Transactions do not occur at the Front Desk.

3. Integrate into the entrance experience, visually apparent, but not the focal point that would distract from the public and <2A> design.

D. Size / Area: 14 to 46 m² (150 to 500 sq.ft.)

1. Approximately 15% of the retail floor space is allocated to back of store functions, such as office and retail storage.

2. When coffee is included, provide more floor space.

E. Space Design:

1. Entry: Arrange and design customized storefront that blends completely with the overall property character to provide visual exposure of merchandise. Design the entire storefront to fully open to the Lobby.

2. Point of Transaction: Provide in a central location to maximize customer recognition allowing for site lines to all areas of the store facing the store entrance.

3. Merchandising Areas: Design space to maximize areas to display retail products. Provide unobstructed wall areas, shelving, counter tops and fixtures to locate and display merchandise.

4. Storage: Provide lockable merchandise storage in undercounter, solid millwork storage cabinets (not to exceed 46 cm high (18 inch) without compromising merchandising area. Blend design with overall store design.

5. Product Mix: Design space to accommodate basic guest needs by providing MI current standard products from the following categories:

   a. Core: The required minimum retail items are:
      • Sundry / toiletry products
      • Mailing / shipping material
      • Basic / Stylish travel items
      • Reading materials
      • Services
      • Men's Essentials
      • Women's Essentials

   b. Pantry Products:
      • Food / candy and snack items
      • Beverages (chilled)
      • Ice cream
      • Wine / beer (if allowed)

   c. BP Regional Products: Incorporate regional items and apparel to provide broader selection of consumable and commercial items.
      • Regional gifts and food items
      • Apparel
      • Jewelry, art and artifacts

   d. BP Gift Products:
      • Stationery / paper goods
      • Souvenirs
      • Greeting Cards
      • Wellness & relaxation products

F. Retail Display & Design:

1. Fixturing / Millwork: Design systems to feature products, and accommodate maximum flexibility with multi-functional displays. Utilize commercial millwork and retail fixtures for merchandising display consistent with the Lobby design and finishes.

2. P.O.S.: Provide a point of sale (cash register) that is recessed in the countertop. Wiring and back of register are shielded from customer view.

3. F&B Equipment:
   • Refrigerators: Provide refrigerated (air curtain refrigeration units are acceptable) self-serve, glass front, non-branded (no vendor brand signs) beverage coolers integrated with the interiors.
   • Microwave: Not allowed

4. Shelving: Provide adjustable shelves on recessed standards - not slat wall, which is permitted only for sundries display. Locate shelving a minimum of 51 cm (20 inch) above floor where storage drawers may be utilized.

G. Construction: Consistent with the Lobby Areas, design with wide entrance and no visual obstructions. Coordinate with Interior Design and MI Retail requirements.

1. BP Walls: Three solid perimeter walls that extend to structure above, for controlled access. Include blocking for wall mounted fixtures and shelving.

2. BP Doors: Wide openings with acceptable secure closure system that is lockable during non-operating hours. Secure narrow openings with hinged full light, safety glass door.

3. Shop Front: Limit glazed walls to Entry and front of the Shop and coordinate with mechanical, electrical, security and life safety elements.

H. Finishes:

1. Floor: Extend hard surface floor finish through from Lobby Areas or coordinate with interior designer.

2. Ceiling Height: 3 to 3.7 m (10 to 12 ft.), with smooth finish

I. Storage Area:Provide storage for retail inventory. Provide additional locked storage for bulk deliveries, if required.

J. Loss Prevention: Provide as required by the Loss Prevention Review in <16>.

1. Surveillance Cameras (VSS): When required, locate per Loss Prevention Review.

2. Theft Deterrent System: When required, conceal under floor magnetic product tagging theft deterrent system (no exposed pedestals).

K. Dressing Room: Provide if apparel is offered for sale.

1. Location: Near point of transaction to permit convenient sales assistance and to permit passive observation of Dressing Room use.

2. Size: Provide for persons with disabilities in compliance with the Americans with Disabilities Act (ADA) and governing regulations.

3. Features: Include the following:
   • Mirror: Full length
   • Seating: Bench or chair
   • Clothes Hooks: Double
   • Door: With privacy latch
   • Lighting: LED (equivalent to incandescent)

L. Transaction Desk: Provide to support retail transactions and manage customer activity. Include the following:

1. Location: Position for visual observation and control of the shop and to provide guest service impact. Orient Cash Wrap to face entrance.

2. Features: Include the following:
   • Computer (conceal from direct guest view)
   • P.O.S. Station with printer, card swipe, cash drawer, barcode scanner (recessed, conceal from direct guest view)
   • Telephone
   • Counter for wrapping and bagging products at 90 cm (36 inch) height.
   • Audio controls (unless in office)
   • Lighting controls (unless in office)

3. Size: Minimum 600 mm (24 inch) and maximum 1200 mm (48 inch).

M. Retail Manager's Office & Storage: As required by the project facilities Program, provide a desk work station at the retail shop for activities associated with managing the retail programs and storing inventory.

1. BP Size: 15% of retail area or 5 m² (50 sq. ft.), minimum
2. BP Furniture: Desk, chair, file cabinets and storage shelves
3. BP Storage Area: Provide for retail inventory and locked storage for bulk deliveries, if required.
   a. BP Additional storage rooms may be required.
4. Computer / PMS: Provide data connection. See <13A>.
5. Telephone / Fax: Provide device connections. <13A>.

5.4 Food Offering Retail Outlets

A. Program: Purpose is to provide guests with options for specialty food and beverage items.

1. R See the Project Facilities Program and <3> for food and beverage concepts for project specific requirements.
2. Size / Area: Approximately 10 to 93 m² (100 to 1000 sq. ft.) excluding any adjacent cafe seating. See the project Facilities Program.
3. Facilities are managed by the property and are limited to complementary extensions of the property's adjacent food and beverage outlets.
4. Merchandising Program:
   - Bakery
   - Beverages
   - Cheeses
   - Fruits
   - Gourmet coffee
   - Liquor, wine and beer (if allowed)
   - Salads
   - Sandwiches

B. Relationship: In order of priority, the following criteria will typically guide positioning of the spaces.

1. Tangent to and in conjunction with the reception area of the Three Meal a Day program. This position permits shared utilization of personnel and in particular, cashiering functions. See <3>.
2. At a position close to, however, not directly associated with the Lobby. This location may also permit direct exterior exposure that could be advantageous to direct outside marketing and sales programs.
3. In conjunction with any retail area.
4. Consider the importance / convenience of locating retail spaces with direct access to Back-of-House servicing and circulation.

C. Design:

1. Architectural Configuration: Outlet may be a prototypical shop concept or an open front cafe / brasserie design.
2. Product Displays: Refrigerated and non-refrigerated display cases, self serve and attendant assisted bins, canisters and shelving kiosks that complement

shop interior.

5.5 Specialty Retail

A. Program: Occasionally, and in response to a market analysis of location and commercial opportunities and demands, the property may support additional managed or leased retail shops, services, and / or independent retail arcade of concession shops. Additional retail shops may include the following:
   • Jewelry and accessories
   • Barber/beauty salon
   • Florist
   • Art Gallery
   • Business Center
   • Shoe shine
   • Rental counters (resorts)
   • Travel agency (resorts)

B. Review and Approvals: Location, type, program and size is subject to MI acceptance as indicated in Overview of this document.

C. Retail Management:

   1. MI Leased Space: If MI leases retail concessions, at a minimum, provide unfinished “shell” space with access to mechanical, plumbing and electrical.

      a. Access to and dependence on the property’s facilities, services, and employees is restricted.

      b. Leased Retail must compliment the overall property retail program and not compete with other outlets restricted.

   2. Non-MI Management: Specialty Retail spaces are included in the property program under limited conditions when reviewed and approved by MI.

      a. Facilities and services of any such general Retail space not approved or directly managed by MI are separate and independent of the property and therefore not located within, proximate to, or associated with the property.

D. Relationship: Generally, use the following criteria to guide the design of leased retail area facilities.

   1. Shopping Area: Position and design as independent and self-contained facilities. Restrict access to and dependence on the property’s Back-of-House, service and dock areas.

2. Guest Access: Access from connecting gallery from main Reception and Lobby; securable and controlled by property management.
3. General Public Access: From an independent arcade entrance, separate from the property.
4. Facades: Design layouts and facades to maintain consistent and uniform merchandising. Provide equal or better quality than that of the hotel or resort.

E. Leased Conditions:

1. Storefronts: Provide complete storefronts and shell space.
2. P.O.S.: Leased spaces are not connected to property P.O.S. system. See <13A>.
3. Telephones: Provide a minimum of two outside phone lines per tenant. See <13A>.
4. Loss Prevention: Provide conduit and wire for duress alarm to each tenant. See <16>.
5. HVAC: Provide dedicated HVAC unit. See <15A>.
6. Electric Service: Provide 40 amp minimum electrical panel for each tenant space. Design Team provides a recommendation for separate metering of each tenant space. See <15C>.
7. Retail Displays: Provide lighted retail displays, as acceptable to MI, either built-in or as freestanding fixtures as designed by the Interior / Retail Designer.

5.6 Coordination

A. Property Infrastructure:

1. Audio / Visual: Provide A/V to support the Brand voice with background music. Include a sound system as an independent retail system with ceiling speakers or a dedicated channel of a central property sound system with individual content zone and volume controls. Conceal speakers in ceiling and locate control discreetly in non-merchandise area. See <13B>.
2. HVAC: Locate required thermostats, vent ducts, receptacles and alarms discreetly in non-merchandise spaces. See <15A>.
3. Utilities: Conceal utilities in the wall or floor. Vertical utility poles are not permitted. Coordinate with <13A>, <13B>, <15A>, <15B> and <15C>.
4. Discreetly locate data and power lines and alarm system controls in non-merchandise, retail spaces. Coordinate with <2A>, <13A> and <15C>.
5. Coordinate outlet boxes with the interior design and millwork layout.

B. Lighting: Coordinate retail display, feature / decorative and general lighting with interior design. Coordinate high-end retail lighting ambiance with surrounding light levels. See <15C>.

1. General Lighting: Provide pleasing light levels while spot lighting products.
   a. Ambient Lighting: Include recessed LED lighting with 480 to 540 lux (45 to 50 FC) at 76 cm (30 inch) AFF.
   b. Accent Lighting: Provide accent lighting at 1500 to 2000 vertical lux (150 to 200 vertical FC) to highlight wall displays.
2. Perimeter Lighting: Provide recessed track with halogen or LED adjustable downlights.
3. Decorative Lighting: Provide a variety of lighting, located in display windows and at key points in the space.
4. Dimmers: Provide lighting on dimmers to enable light levels to transition throughout the day in sync with adjacent public space.
5. Controls: Locate lighting controls behind the desk or in the office. Do not locate in Lobby or public areas or within display walls.
6. Task: Provide task lighting above the P.O.S. area.

C. R References: Coordinate with requirements of other Chapters.
• Lobby Areas

- Food & Beverage
- Food & Beverage - BOH
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

meeting spaces

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information

BP Best Practices

R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

6.1 Overview

A. Program: Provide property meeting and event spaces as required by the project Facilities Program to meet market demands and to include a series of rooms that accommodate a variety of guest meetings, conferences and social gatherings.

1. Spaces:Accommodate the following function and support spaces:
   - Pre-function Spaces
   - Ballrooms
   - Breakout / Meeting Rooms
   - Boardrooms
   - Event Hub
   - VIP / Green Room
   - Catering Showroom
   - Public Support Spaces
   - BOH Function Service Spaces
   - Banquet Storage
   - Sound Equipment
   - A / V Equipment Storage

2. In larger properties and where required by the project Facilities Program, the function spaces may include an Exhibit Hall, Flex Hall, Breakout Areas and additional Ballrooms to support a larger scale conference center program for trade shows and exhibits. Contact MI for design criteria for these spaces.

B. EI Meeting Spaces - Defined:

1. EI The terms “Function Spaces”, "Event Spaces" and “Meeting Spaces” are used interchangeably, having the same meaning.

2. Pre-function Spaces: Each Meeting, Function and Event Space requires a Pre-function area with requirements based upon the specific space needs. The Ballroom Pre-function requires dedicated spaces.

3. Ballrooms: Multi-functional, column free meeting and event spaces with high quality finishes.
   - Finishes are at the highest quality level.
   - Salons: Ballrooms are divided into smaller meeting spaces called salons.

4. Breakout / Meeting Rooms: Divided or built spaces grouped together and associated with specific ballrooms; serving as independent meeting areas.

5. Boardroom: This room has a dedicated reception area, fixed furniture and a high level of finishes.

6. Event Hub: The Event Hub is the link between the Meeting Spaces and the

rest of the hotel. Event hubs, especially those that offer F&B, help to create effective collaborative environments.

C. R Exterior Function Spaces: See criteria at the end of this Chapter and coordinate with requirements in <1>.

6.2 Design Fundamentals - General

A. General: Provide Meeting Space facilities with applicable subdivisions, operable or built partitions, pocket doors, pre-function area, service entrances. Design and furnish spaces to relate to the design narrative. See below for general and specific meeting space criteria and design requirements.

B. Finishes: Provide high quality finishes consistent with the project's programmed spaces and overall design narrative. Acoustically absorptive and diffusive treatments are highly recommended. See <GR4>.

1. Floors: Carpet or combination of carpeting with hard surface accents for smaller rooms and Pre-function areas.
   • If floor boxes are included in carpeted floors, the carpet and padding must be double glued down to prevent rolling loads from crawling and tearing at floor boxes.

2. Walls: Materials that reflect the design concept. Detailed stained or painted millwork consisting of large scaled base and trim utilizing complementary architectural finishes and details such as crown moldings integrated with wallcovering, upholstered panels, stone accents, and / or wood panels with decorative wall lighting. Integrate moldings with decorative elements such as mirrors and wall sconces.
   • Wallcovering: Vinyl
   • Fabric Panels Manufacturer: Whisperwall or equal

   a. Provide integral metal corner guards (not exposed plastic guards) at locations subject to impact from moving and portable equipment.

   b. A significant portion of the wall surfaces between the chair rails and the ceiling will require acoustically absorptive and/or acoustically diffusive treatment to control noise and reverberation.

3. Ceilings:

   a. Provide a combination of drop-in or interlocking smooth surface acoustic ceiling tile, that conveys an upscale appearance, and multi-level, architecturally detailed ceilings.

b. The ratio of drop-in to hard, smooth surface finish ceiling area is based on the acoustic consultant's analysis for the function spaces (Pre-function, Ballrooms, Breakout Rooms and Boardroom).

c. Coordinate and minimize grilles, diffusers, access panels, sprinkler heads, hang points and cove lighting with design and finishes.

d. In open concept ceilings provide the HVAC systems with proper noise and vibration control treatment to minimize radiated mechanical noise into the space below.

C. Doors: Incorporate millwork details, door casing, wood panels, with similar materials to complement the wall design and public areas. Scale appropriately for ceiling height.

1. Door Swing: 180 degrees lay flat against wall in open position.

2. Door Hardware: See <GR3> for typical hardware requirements and recommended installation locations.

3. Egress: Provide panic hardware and closers, regardless of the doors' fire or smoke rating. See <14>.

4. Locks: Electronic lock system (same as guestroom) preferred. Key operated locks are acceptable if provided with removable cylinders for convenient security cylinder replacements.

5. Viewport (peep-hole): Looking into function space from Pre-function and Service Corridor side.

6. Kick Plate: Allow 25 cm (10 inch) minimum below trim molding for kick plate at Ballroom side.

7. Edge Angle: Provide protective meeting stile brass edge angle at Ballroom side of service and Ballroom doors.

8. Door Hardware Finish: Match hardware with the interior design theme.

9. Door Holders: Provide electromagnetic door holder devices with built-in 24 Volt controller.

a. Fire Alarm System: Coordinate with <14>. Connect to FACP and to power (see <15C>) to automatically release doors by a signal from the FACP.

b. Release Switch: Provide a wall mounted, momentary release switch, adjacent to each door.

c. Mounting & Blocking: Mount the door holder to substantial and permanently secured, built-in wood blocking or steel reinforcement in

stud wall framing (not just attached to gypsum board) or anchor into masonry walls.

10. Door & Frame Material:Provide hollow steel (for durability and hardware coordination) or solid wood (do not provide gypsum core doors). Hollow steel frame, 1.52 mm (U.S. 16 gauge) minimum with fully welded joints.

11. A / V Cabling: Provide for cable routing through an architrave built around and over doorways on the Meeting Room side. Design into the millwork and detail to permit audio and visual cabling for power, sound, communication, etc. to avoid taping cables to floors that may cross door entrances. Allow approximately 76 mm (3 inch) for cable size.

D. Furniture, Fixtures & Equipment (FF&E) - General:

1. Design Concept: Design and select FF&E products and materials appropriate for commercial application.
2. R FF&E Criteria:See <GR4> for Public Space FF&E products criteria.
3. Seating: Provided under FF&E package.
    a. Upholstery Materials: Leather and fabrics suitable for heavy commercial use.
    b. Banquet Chairs: Provide chair ganging (interlocking) device. See <14> .
4. Softgoods: Treat material with required and appropriate fire retardant treatment and soil protection treatments.
5. Casegoods: Select furniture pieces that are scaled and of a high quality adequate for public space use.
    a. Cabinets: Provide millwork cabinets and counters with engineered stone or polished and sealed stone tops.
    b. Top Protection: Include natural stone, quartz or tempered glass top protection with polished edge for credenzas, console and cocktail tables, and end and side tables.
6. Window Treatment:
    a. Breakout / Meeting Space: Provide drapery treatment and blackout capabilities or motorized blackout shades. Provide easy to operate remote drapery control.
    b. Event Spaces: Drapery treatment and motorized solar shade where windows are located.
7. Art & Artifacts: Place artwork in featured locations with appropriate lighting.

Coordinate with fire safety devices. Submit to MI for review and acceptance.

E. R Windows & Safety Glass: For window, glass / glazing and safety glass criteria, see and <16>.

F. R Steps, Stairs, Ramps & Slip Resistance:See <16>.

G. Natural Light: Provide natural daylight in Meeting Spaces (Ballroom, Breakout (Meeting) Room, Boardroom & Pre-function) through the use of windows. Coordinate the following:

1. HVAC: Verify that heating and cooling capacities account for window loads.
2. Skylights: Daylight from skylights is difficult to control and exclude (blackout), and typically not recommended.

H. Interior Landscaping:Live flowering plants only.

I. Wall Mounted Systems Devices: Carefully select locations for wall-mounted outlets (power, data, A/V, etc.) and controls. Minimize guest views of the following system devices and coordinate locations with interior design.

1. Group and integrate devices into finishes and area architectural details in a functional, efficient manner that reduces visual clutter.
   a. Utilize a recessed wall mounted access panel that combines the AV inputs / outputs, data, power, etc. into one location.
2. Locate devices and fixtures to protect them from damage during event setup and tear-down operations. For device and fixture types, see <13B> and <15C>.
3. Locate lighting and environmental controls and A/V controls in a niche behind metal wall boxes or in high finish spaces behind hinged, millwork access doors on function space walls. Locate at typical control height above finished floor.
   • Design with a pass-thru so door can be closed when cables are in use.
   • Integrate utility service panels into wall designs without compromising required wall sound transmission class and fire rating.

J. R Fire Protection & Life Safety Devices & Equipment: Coordinate with <14>.

1. Exit Signs:Recess in walls, if permitted by governing code.
2. Fire Extinguisher Cabinets:If required, solid front, paint to match background color, if permitted by governing regulations.

K. R Occupancy Load Factor: For exit capacity, see <14>.

L. R Mechanical & Electrical: See: <15A> and <15C>.

1. Environment: In order to maintain guest comfort, verify that heating and cooling variations caused by natural light, artificial light, heat and humidity from occupants are considered in the environmental control design.

2. Accessories:
   • For mechanical and electrical grilles, plates, doors, accessories, etc., where applicable, match or conceal devices within surrounding wall and ceiling finish. See <15C> and <13A>.
   • Align devises in an orderly configuration using ganged cover plates to the maximum extent.

6.3 Configuration and Arrangement - General

A. Space Planning: Design Meeting Spaces to provide comfortable and high quality guest experiences while allowing employees to efficiently perform services.

   1. Study: Conduct a staging study to identify meeting types and typical object wall locations the spaces are intended to accommodate. The staging study and object wall locations provide the primary design criteria required by related disciplines to ensure their designs provide appropriate system infrastructure and services. Related disciplines include lighting, sound, visual display, rigging and structural support, electrical power and communications, etc.

   2. Separate Meeting Spaces from Guestrooms, Guestroom Corridors, Public Spaces, primary guest Entry and Lobby space to minimize the impact on guest check-in.

   3. Provide dedicated shuttle elevators when elevators are required to access Meeting Spaces from public areas. Avoid using the guestroom tower elevators for function floor access because of delays, guest floor controlled access and circulation conflicts between guest and public. See <12>.

   4. Provide Meeting Spaces with access to Back-of-House (BOH) service, see <8B> and <9>. The overall circulation concept requires separate function Service Corridor access to avoid the other BOH corridors.

      a. Service Entry: Ideally, provide two service entries at large Ballroom and Meeting divisions so one is utilized as an entry and one as an exit for banquet staff serving the space. This arrangement allows centering a projection screen on the object wall without blocking the service entry. Service entries provide emergency egress and cannot be blocked with staging, projection screens, etc.

b. Provide convenient service access to beverage station, pantry, ice station, plating room, storage, A/V room, etc.

5. In addition to providing a series of meeting spaces, integrate a distinctive design organization that focuses on elements such as a prominent view, major architectural or aquatic feature such as a garden, grand stair, fountain or market responsive theme.

6. BP Production Entry: Large function areas benefit from utilizing a large door opening direct to the service corridor to expedite the movement of event production equipment, tables, chairs, maintenance vehicles, etc. The door is closed when events are in progress

   a. BP Location: Between function space direct to service corridor at rear wall or service vestibule.

   b. BP Door Widths: 1.8 m (6 ft.) and 2.4 (8 ft.)

7. Exhibit Entrance:When required by the project Facilities Program, provide an exhibit entrance door based on function space size and market.

   a. Location: Coordinate opening location with Interior Design and finishes.
   • Design doors and access inconspicuous as possible and to withstand repeated use.
   • Typically, place door in back wall connected to service corridor.

   b. Door Size: 3 (w) x 3 m (h) (10 x 10 ft.) minimum

   c. Fire Rating: Maintain fire rating of function space wall.

   d. R Acoustics: See “Acoustic Environment” for exterior building doors and windows.

   e. Pathway: Provide 3m (10ft.) wide clear path from exterior to function space.

   f. Vehicle Routing: In applicable function spaces, provide vehicle / equipment routing to clear chandeliers, into and around planned exhibits.

B. EI Resource: See Meeting Space Guidelines document for supplemental information and design guidelines.

6.4 Acoustics - General

A. Acoustic Environment: Coordinate with <13B>.

1. Building Envelope: Select products to provide appropriate sound isolation characteristics. For building envelope requirements, see <1> for “Acoustic Control”. Provide exterior construction, including doors and windows, so that environmental noise (including aircraft, road traffic, etc.) does not adversely affect the interior functions and events.

2. Room Acoustics - Surface Treatment Materials:

    a. Coordinate material selections with Interior Design as applicable.

    b. Provide acoustically absorptive treatment on walls, ceiling and deck as required to achieve the required reverberation time (RT60) for excellent speech intelligibility.

    c. On walls, provide acoustical treatment to reduce the impact of sound reflections from portable speakers used for multimedia events in large function spaces.

3. Airborne Sound Insulation: To obtain field airborne sound insulation performances (ASTC) equivalent to the required acoustic design ratings (STC), construct wall assemblies to form a continuous airtight sound barrier around operable partitions, at the floor, at the wall above partition and at partition storage pocket details.

4. Flanking & Permanent Walls:

    a. STC 55 minimum; sound isolate the function spaces from surrounding and adjoining spaces so events are not adversely affected by adjacent functions. For exterior walls, see Building Exterior in <1>.

    b. Construct walls continuous from floor to deck structure above and fully seal voids and allowable penetrations.

    c. IIC 57 minimum required to minimize noise from adjoining space above

5. Service Corridors: Minimize noise from service corridors by providing proper wall design and construction and coordinated with <15A>, HVAC design.

    a. Provide service entry vestibules with good quality doors designed to serve as sound locks.

    b. Avoid locating noisy equipment such as ice machines immediately adjacent to a common wall or directly across from the service entry vestibule.

c. Provide joint-free floor surfaces in service corridors to minimize noise from rolling carts and equipment.

6. HVAC & Building Mechanical Systems: Design systems (see <15A>) to minimize acoustical interference:

   a. Layout HVAC system ductwork 1.2m (4ft.) minimum from operable partitions.

   b. Extend ductwork from above and behind function space Service Corridor, above and into subdivision ceiling spaces.

   c. Route ductwork and other building services to avoid penetrating partitions above operable partitions.

   d. See Chapter <15A> for maximum allowed noise level from mechanical equipment.

7. Doors: Sound-attenuation seals are required at doors.

6.5 Infrastructure - General

A. Structural: Design and coordinate loading requirements with the project's structural engineer based on use of space.

   1. Floor Live Loads:

      a. Ballroom & Prefunction: In Ballrooms provide structural system responsive to dance floor vibration loading.

   2. Elevated Work Platforms: If horizontal features can be accessed by personnel, provide reinforced, flat platform surfaces to support persons, equipment, tools, installation items to facilitate workers mounting and installing decorations, signage, etc.

B. Overhead Support, Rigging and Hang Utilities: Event participants and their production companies typically customize the meeting space to suit their needs by temporarily installing lights, speakers, projectors, banners and a variety of other props supported from the ceiling. Provide permanent rigging points, attached to the structure above the event space to raise and support entertainment production equipment. Rigging points are used in unison to support aligned loads. Loads are temporary, lasting the duration of an event. Provide the following:

- Powered lighting / rigging points
- Passive fixed rigging points
- Banner tracks
- Light pipes

1. EI By providing permanent rigging points and tracks at the ceiling, the following advantages are created.
   • Damage to ceilings and walls is reduced.
   • Production costs can be reduced.
   • Event turn times can be reduced.
   • Event space flexibility produces higher quality events.
   • Floor mounted equipment and wires are minimized, resulting in fewer tripping opportunities and better site lines.
   • A wider variety of events can be accommodated.
   • Permanent rigging points are safer and more dependable than temporary rigging.
2. Provide rigging points, attached to the structure above the event space to raise entertainment production equipment. Rigging points are used in unison to support aligned loads. Loads are temporary, lasting the duration of an event.

C. Design and Requirements:

1. Planning:
   a. BP Rigging points are typically accessed through a small hatch in the ceiling with an approximately 8” circular cover that remains in the ceiling during use.
   b. The “motorized" or "static loading” requirement is driven by the height and square footage of the event space. The number of points used and load types vary
   c. BP Location: Do not locate points based strictly on a ceiling esthetic, which will reduce their operational value. Do not provide points to support operable partition track or sound baffle components. Use dimensioned ceiling plan to locate points.
   d. Coordinate points so they are not obstructed or impinged by MEP elements or architectural details.
2. Construction Standards: Provide and install rigging points in accordance with the following rigging industry governing standards and the most recent ANSI standard release of E1.56.
   a. International Code of Practice for Entertainment Rigging (ICoPER)
   b. American National Standards Institute (ANSI)
   c. Entertainment Services & Technology Association (ESTA)
   d. American Society of Mechanical Engineers (ASME)

3. Design - General: Layout rigging points in a grid array configuration to support the hanging of production trussing and equipment.

    a. Inspection: Locate hardware, components and structural attachments visible for annual inspection purposes.

    b. Each rigging point shall be orthogonally aligned in a grid pattern relative to the other points and be less than or equal to 5 cm (2 inches) of absolute alignment along the length of each grid line. This minimizes potential lateral loading. Simultaneous usage of multiple points is typical and is factored into the rigging plan design

    c. For optimal load ratings, design the spans between points to be between 457 to 670 cm (15 to 22 ft.) in every direction with perimeter points located a maximum of 152 cm (5 ft.), and a minimum of 30.5 cm (1 ft.) from a wall.

    d. Coordinate the layout, quantity and locations, of the hang points with lighting, infrastructure and ceiling design to accommodate the anticipated staging layouts, considering both business and social functions. When possible, locate rigging points in the highest interior ceiling space for the best possible production and operational value (show truss, lights, projectors, speakers, etc.) Locate out of view of guests.

4. Design - Rooms greater than 325 m^2 (3,500 sq. ft.) with finished ceiling heights greater than 4.6 m (15 ft.).

    a. Rigging points are designed and constructed to receive motorized loads (used with chain hoists) to meet end user's operational expectations.

    b. Rigging points to be rated for a minimum of 454 Kg (1,000 lbs.) while 907 Kg (2,000 lbs). is sometimes desired for larger event spaces. The working load limit must account for the total potential load applied to both the building structure and rigging point assemblies, with a safety factor of 1.5 to accommodate the use of electric hoists and potential impact loading overhead.

    c. Design and build rigging points to withstand rotational forces due to chain or wire rope twist.

    d. Materials and hardware not specifically calculated and engineered for the attachment design must provide a working load rating with a 5:1 safety factor per industry standards (e.g., shackles, wire rope, chain, beam clamps, custom steel attachments, etc.)

    e. Provide rigging points engineered and built for a 20 degree lateral pull in every directions under their designed working load limits (chain hoists

can produce lateral towing).

f. Use mechanical or adhesive thread locking for hardware connections to prevent loosening of hardware due to vibration during use. (Marking or torque striping of hardware for inspection and tracking rotation is recommended.)

5. Design - Rooms less than 325 m² (3,500 sq. ft.) with finished ceiling heights greater than 4.6 m (15 ft.).

   a. Rigging points are designed and constructed to receive static or “vertical” loads to meet end user ‘s operational expectations.

   b. Rigging points to be rated at a minimum of 227 Kg (500 lbs), while 1,000 lbs is typically desired. The working load limit must account for the total potential load applied to both the building structure and rigging point assemblies

   c. Provide Banner Track around the periphery of the space and along both sides of any operable partition tracks.

6. Design - Rooms less than 325 m² (3,500 sq. ft.) with finished ceiling heights less than 4.6 m (15 ft.).

   a. Provide an array of smaller powered lighting / rigging points for these spaces.
      • Locate to provide both lighting and projector support to serve the anticipated object of attention locations determined in the A/V consultant’s staging study.
      • Load ratings for these powered lighting / rigging points are reduced to 250 pounds since they are not intended to be used with chain hoists or heavily loaded trusses.

   b. Smaller versions of both the SkyBox and Busports are available for these purposes.

7. Design Process Requirements:

   a. Provide a structural engineering design package.
      • Detail of construction method
      • Per point load rating, accounting for the total potential load applied to the building and the rig point, busport, light bar assemblies
      • "Intended Use" language for motorized or static loading as outlined
      • Final plot locations
      • Inspection criteria

   b. Load Testing:
      • Perform on each passive and powered rigging point

• Provide load test report

• Provide photos of each point under load at 150% of WLL (working load limit) with a dynamometer attached to prove weight loading. Provide drawing detailing points tested in coordination with photos and failure analysis, if any.

D. BP Powered Lighting / Rigging Points: Required to accommodate production of shows, exhibits and other events in ballroom and meeting room spaces. In addition to being used to support production trussing, these devices allow for direct attachment and powering of individual lighting instruments, projectors, and powered speakers with or without the use of trussing.

1. BP Devices are concealed above access hatches when not in use and revealed when needed. The access hatches are most suited to gypsum or wood finished ceilings. Lay-in ceiling tiles may be moved aside for access to the rigging points. The devices are also able to accept standard lighting fixtures with lighting clamps, as well as projector mounts.
2. BP The points may be equipped with short light pipes and convenience technical power, a dimmable lighting circuit, and AVnet tie line signal circuits within the device for easy connection to AV production and lighting equipment.
3. BP Provide devices that are equipped with swivel hoist rings to accept chain motors, slings, and hoists to properly support trussing.
4. BP When used to support lighting instruments, it is important that the lighting outlets be remotely dimmable. This requirement is best supported by wiring the twist-lock receptacles in the powered lighting / rigging points to a quantity of dedicated dimming modules architectural dimming rack area. The quantity of dimming modules may be limited (minimum 12 channels) by providing a dimming patch board (by the Electrical Contractor). This also accommodates the use of portable dimmers to increase the dimmed circuit capacity,
5. BP Manufacturers: Manufacturers shall conform to the performance criteria listed in this document. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • SkyBox manufactured by FSR
   • Busport manufactured by LiteLab

E. BP Passive Fixed Rigging Points:

• In the biggest ballrooms with a large quantity of rigging points (typically larger than 20,000 sq. ft.), and in “open web” style ceilings, provide passive versions of the rigging points for 50% of the locations interspersed between the powered rigging points; this offers a more economical way to meet the requirements.

• The passive fixed rigging points may be the same SkyBox devices without electrical or signal circuit connection. Alternately, passive rigging points may be simply equipped with a load-rated swivel hoist ring properly supported by the structure above.
• Load rating must be the same as for Powered Lighting/Rigging points described above.

F. BP Light Pipes: Light pipes are used for hanging and powering individual smaller A/V items, projectors, lights, etc. Providing permanent passive and powered rigging points and tracks at the ceiling, create the following advantages.

• Damage to ceilings and walls is reduced.
• Event production setup, strike, and turn times, costs are reduced.
• Event space flexibility produces higher quality events.
• Floor mounted equipment and less loose cabling provides cleaner and safer meeting environments.
• A wider variety of events can be accommodated.
• Permanent rigging points are safer and more dependable than temporary rigging.

1. BP Light pipes load rating is typically limited to 34 kg (75 pounds) per 30 cm (1 foot) of length with a 2:1 safety factor. This rating is not sufficient to support heavy production equipment such as trusses.
2. BP Light Pipes may be implemented as fixed loaded rigging points (no motorized loads). Light pipes are combined with power outlets installed nearby at intervals of every to 122 to 244 cm (4 to 8 ft). Load rating for these heavy-duty light pipes is the same as for powered lighting / rigging points described above.
3. BP Light pipes are combined with plugging strips or power outlets spaced every four to eight feet located near the light pipes. These outlets are a combination of convenience technical power and dimmed circuits as described for powered lighting / rigging points.

G. Floor Boxes: Design floor boxes and raceways that provide flexibility for staging, arranging and placing event features while maintaining a high quality aesthetic and safe environment.

1. Provide load-rated floor boxes to withstand heavy loads without distorting and must be “scrub-water” tight to prevent damage when carpets are steam cleaned or liquids are spilled.
2. Floor Box Carpet: Since floor boxes are fixed to the structure, provide “double glue down” carpet (the carpet pad is glued to the floor slab and then the carpet is glued to the pad).

3. Location: Design floor box locations, quantity and arrangement by a careful staging study to precisely locate floor boxes to provide the most effective service.

4. Conduit & Cable Trays: See <13B>.

H. Banner Tracks: Banner Tracks provide support for banners, flags and drapes. They also serve as “pick points” for production cabling and to support feature lighting.

1. Install at perimeter of walls 15 cm (6 inch) from the wall surface, coordinated with the ceiling design and operable wall tracks.

2. Fabricate banner tracks from “Kindorf” or “Unistrut” , structural steel channels, semi-recessed in ceiling. The design point-load rating for banner tracks is 75 pounds per linear foot of track, with a 2:1 safety factor.

6.6 Lighting - General

A. General:Provide lighting systems with a minimum of four scene (settings) plus full on and off, preset / control station, and remote control (wired or wireless). If video conferencing, projections, streaming or video recording is anticipated frequently, provide black-out curtains on all windows. Coordinate with <15C>.

1. Locations: Light fixture locations have priority over location of speakers, grilles, fire protection devices, and similar exposed items. Coordinate fixture placement to create aesthetically pleasing patterns and coordinate with Interior Design.

2. Ceiling Fixture Requirements:Generally, ceiling fixtures weigh 400kg (900lbs) and are 2.5m (8ft.) diameter. Review load and structural support details with structural engineer and MI.

   a. Determine details required for seismic loads and acoustic control such as spring mounting details.

   b. Secure fixtures to structure above with stainless steel safety cable.

   c. BP Provide electric winch control equipment to lower / raise fixtures for service, maintenance and raising them when the production requirements call for greater clear height. Winching mechanisms allows ceiling fixtures to be lighted in both the raised and lowered positions.

   d. Dimming: Provide a multi-channel, programmable dimming system to allow manual and preset control with a wired or wireless remote control

interface.

B. Fixtures:

1. Wall Sconces:Mount to walls with maximum 10 cm (4inch) projection when less than 2.03m (6’-8”) above finish floor.

2. Ceiling Fixtures: Provide dimmable ceiling fixtures with decorative and lighting elements while avoiding interference with production requirements.

3. Decorative Fixtures: Provide dimmable wall sconces, wall washers, and down lights. Locate on smooth ceilings (gypsum board, plaster, etc.) Do not install fixture directly on ceiling tile system.

4. Indirect: Provide indirect lighting, typically cove lighting, with dimmable or two-level switching.

5. Feature Lighting: Provide independently controlled feature lighting (light pipes or retractable powered lighting supports) for stages, lecterns, platforms, head tables, etc.

6. Light Level: Provide a minimum of 323 lux (30 foot-candles) at tabletop surfaces. Provide consistent light levels throughout the area without “hot-spots” or dark areas.

6.7 Communications - General

A. Property Technology: Design Meeting Space communications systems that accommodate guests' requirements and expectations for connectivity. See <13A>.

1. Wired Internet: Provide wired Internet access connections throughout on AV I/O plates. Provide a minimum of two wired Internet access points in each room, section and breakout.

   a. EI Note: Some government agencies, government contractors, and some private sector clients do not accept wireless Internet connections for meetings.

2. Wireless Internet Access Points (WAPS): Provide wireless Internet access points throughout. See <13A> for requirements.

3. Cellular Voice & Data: Provide cellular voice and data service throughout with dead-spots reduced or eliminated. See <13A> for requirements.

6.8 Audio - General

A. Equipment: Provide state-of-the-art technology in keeping with current Brand Standards. See <13B> for detailed criteria.

6.9 Visual Display - General

A. Equipment: Provide visual display systems that accommodate, support, and optimize the visual communication for attendees and presenters using built-in and portable visual display and projection technologies. See <13A> and <13B> for criteria.

6.10 Signage - General

A. Graphics & Signage: See <GR2> and <16>.

1. Occupancy Loads:Posted according to governing code.
2. Locations: Coordinate signs, electronic reader boards and graphic locations with lighting, wall millwork and detailing; allow for door swing and door clearance.
3. Entrance Signs: Coordinate function space and room identification signage and graphic locations to avoid obstruction when function space entrance doors are held in open position.
4. Exit Signs: Attractively integrate egress signage into the wall design, and locate for visibility when the room is setup for a function.

B. R Digital Signage: See <13B> for detailed criteria.

6.11 Pre-function Spaces

A. Program: Provide dedicated pre-function spaces for Meeting Spaces such as Ballrooms and Breakout (Meeting) Rooms.

1. Design a Pre-function space that adapts to different uses, depending on the events being hosted. Provide flexible furniture and technology that allows the Pre-function space to be utilized for casual work, but also take on other roles such as a branding showpiece, a check-in area, a service station etc.
2. Accommodate space for assembly, reception, registration / coat rooms, intermission activities, public toilets, etc.
3. When Meeting Rooms are not connected to a Ballroom Pre-function area, provide a dedicated Meeting Room Pre-function area.

B. Design Fundamentals:

1. R Finishes: See Design Fundamentals - General.
2. Doors:
   a. Interior Doors: See “Meeting Spaces - General”. At Breakout (Meeting) Rooms, Salon entrances and public spaces, provide wood doors and frames with appropriately scaled articulated wood or stone casings.
   b. Exterior Doors: Verify requirements with the project design team.
3. Windows: Provide views to outdoors through large scale windows wherever possible.
   a. EI Windows provide a connection to the project’s location and assist in way-finding.
   b. Provide sun shading at pre-function area windows and blackout capability with 200% fullness, full length draperies if provided. Verify configuration with project design team.
4. Artwork: Provide illuminated wall mounted artwork.
5. Natural Light: Provide natural light through windows.

C. Configuration & Arrangement:

1. Size / Area: See the project Facilities Program.
   a. Area is 35% to 40% of net Ballroom and Meeting Room areas.
   b. Corridor Width:4.6 m (15 ft.) minimum clear to accommodate emergency exiting, partition pockets, food service set-up and socializing area.

c. Ceiling:3 m (10 ft.) minimum above floor. Higher ceilings are required for large facilities.

2. Location:

a. Ballroom Pre-function: Extend Pre-function along front and sides of Ballroom to serve Salons.

b. Provide convenient access to public support spaces and Public Toilets <2A>.

c. Provide access to Banquet Service Corridors, Coat Rooms, Elevators, Lobby, public support spaces, Property Internet (PI) and Wi-Fi <13A>.

3. Space Planning: Avoid use as main circulation path to other facilities, such as Breakout (Meeting) Rooms or Boardroom.

a. Easily accessible from the Hotel entrance and Lobby

b. Provide service access from BOH Service Area to Pre-function and to exterior function terraces. Direct access to exterior is desirable.

c. At large Ballrooms and event spaces, provide an exterior Pre-function Porte Cochere, Entrance and Foyer similar, but secondary to main hotel building entrance (to avoid confusing guests) if it is anticipated that since function traffic (cars and guests) will congest the main building entrance <2A>.

d. Food & Beverage: Provide for food & beverage setup and include adjacent niches for coffee setup and service stands.

4. Seating Areas:Provide casual seating to accommodate relaxation and conversation activities.

a. Provide furnishings that accommodate easy re-configuration and removal by hotel staff.

b. Avoid obstruction of emergency egress.

D. Acoustics: See Acoustic - General criteria above. Select acoustic treatments to minimize noise in pre-function spaces, so noise does not negatively impact adjoining function spaces.

1. Walls: Provide sound rated walls to isolate function spaces from the Pre-function and BOH spaces.

2. Vestibules: Provide vestibules for sound isolation at BOH spaces that adjoin function spaces and Breakout (Meeting) Rooms.

E. Infrastructure: See Infrastructure - General above.

1. Banner Track Points:
    a. Provide a series of 4 or more banner points at 61 to 91 cm (2 to 3 ft.) apart in the area that would benefit from banners and signage. Banner points to support 23 kg (50 lb.) load each.
    b. Provide structural banner points at designated locations to support event banners, signs and seasonal decorations, etc.
    c. Install at perimeter of walls 15 cm (6 inch) from the wall surface.
    d. Review and verify design loads, locations and unique hang point locations and requirements with the project design team.
    e. Locate banner points adjacent to meeting space entrances, above registration areas and along the length of the Pre-function area.
2. Floor Boxes:
    a. Pre-function designs may include islands of seating and potential food service stations. Locate the floor boxes to prevent requiring the running of cables to these locations. Design dedicated outlets to support cooking and other equipment.
    b. In large Pre-function spaces provide covered trenches or empty PVC conduits from the periphery to one or more locations within the center area of the space.
    c. At glazed walls, provide floor boxes flush with floor.
3. Power: Provide standard dedicated duplex electrical outlets in sufficient quantity and at convenient locations to avoid placing cords across guest entry or service doorways. See <15C>
    a. Locate one outlet adjacent to all Ballroom and Meeting Room doors.
    b. Provide adjacent to sound system input / output plates and AVnet connector panels.
    c. Some Pre-function designs may include islands of seating arrangements. Provide convenience outlets in these areas for guest charging as well as outlets and USB ports in other easily accessible areas.

F. R Lighting: See Lighting - General above.

G. Communications:
1. Wired Internet: Provide wired Internet access connections throughout Pre-function spaces on AV I/O plates.

H. Audio System: Provide built-in sound reinforcement systems with distributed

ceiling speakers for spoken word and reproduction of recorded audio program and background music for each Pre-function space.

1. Speakers:

    a. Calculate the quantity of evenly spaced ceiling speakers for each Pre-function space by dividing the overall area by (floor-to-ceiling dimension) squared.

    b. Provide speaker zone control to provide the capability to interconnect these areas with adjacent function spaces for overflow functions. Provide this function through the control system DSP and multiple amplifier channels. Zone speakers for separate control in zones for mulitple events that may occur next to each other.

2. Input / Output Plates: Strategically locate for connection to A/V and other systems and coordinate with power outlet placement. Provide a minimum of one plate at each major ballroom entrance. See <13B>.

3. Access Panels:Provide concealed power, microphone, A/V system and controls, display power and telephone voice / data connections in wall access panels (interior and exterior) of the Pre-function area. See <13B> and <15C>.

4. Equipment: The equipment serving the Pre-Function area is centrally co-located with the associated meeting space A/V equipment.

5. Control: Systems are controlled by the control systems for the adjacent event spaces.

I. Visual Display Systems: Provide a means to temporarily locate video / data projectors at the ceiling and to temporarily attach projection screens at the ceilings relative to the object walls and staging locations. See <13B>.
• Flat panel TV Screen: If a TV monitor is utilized, incorporate into room design. Consult MI to determine equipment type.

J. Graphics & Signage: See <GR2>.

1. Identify each Meeting Space name, in support of the property's visual identity, such as Ballroom and Salons, in the Pre-function area via graphic signage and electronic function boards at each primary room entrance.

2. Identify Meeting Space names at each space entrance and subdivision entrance with easy to read graphics by most persons from approximately 18 m (60 ft).

3. Provide attractively detailed way-finding signs easily visible and designed to fit the project's narrative and location.

4. See <GR2> for electronic way-finding signs.

a. Meeting Information Display Systems (MIDS): Provide MIDS to supply guests with information about where and when meetings are scheduled in the hotel.

b. Primary Displays: Provide portrait-oriented, direct-view flat screen display at decision point locations.

6.12 Ballrooms

A. Program:Provide large, column free Ballroom or multiple Ballrooms, dividable with operable partitions.

1. Design Ballrooms to accommodate the following:
   • Meetings such as Executive & Management Meetings
   • Banquet and social functions
   • Weddings and receptions

2. Bridal Suite & Dressing Rooms: See the project Facilities Program for requirement. Adjacent to the Ballroom, provide dedicated and private spaces with support areas for weddings and wedding functions including dressing areas, men and women restrooms, and lounge area.

3. Typically, the Ballroom is the tallest public space accommodating floor to ceiling height and mechanical / HVAC space and access above ceiling.

B. Design Fundamentals:

1. Finishes:

   a. Floor & Base: Provide broadloom carpet, consistent with hotel design narrative and design foundation documents, with scale and pattern appropriate to Ballroom size. Provide large scale wood base.

   b. Walls: Provide elegant and beautifully detailed walls. Integrate wall coverings with wood chair rail, trim, door casings and molding to complement base.
      • Utilize decorative elements as room design features.
      • Where appropriate, consider a wood display rail on at least one wall at chair rail height with a tackable surface above.
      • Integrate utility service panels into wall design.

2. Ceilings: Provide multi-leveled coffered ceilings integrated with recessed lighting and decorative ceiling fixtures where appropriate.

   a. Provide acoustical tile ceiling areas based on an acoustical engineer's

analysis and coordinate with interior design for the intended space.

b. Option: An open ceiling system is an acceptable option for Ballrooms.
   • Provide with decorative ceiling panels suspended beneath an open (black field) ceiling for grilles, diffusers, sprinkler heads, hang points (decorative or architectural lighting) and appropriate acoustic treatment to create a unique design statement.
   • Other architectural solutions may be proposed for MI review and acceptance.

3. Doors: Comply with the above design fundamentals for “Doors” and provide the following:

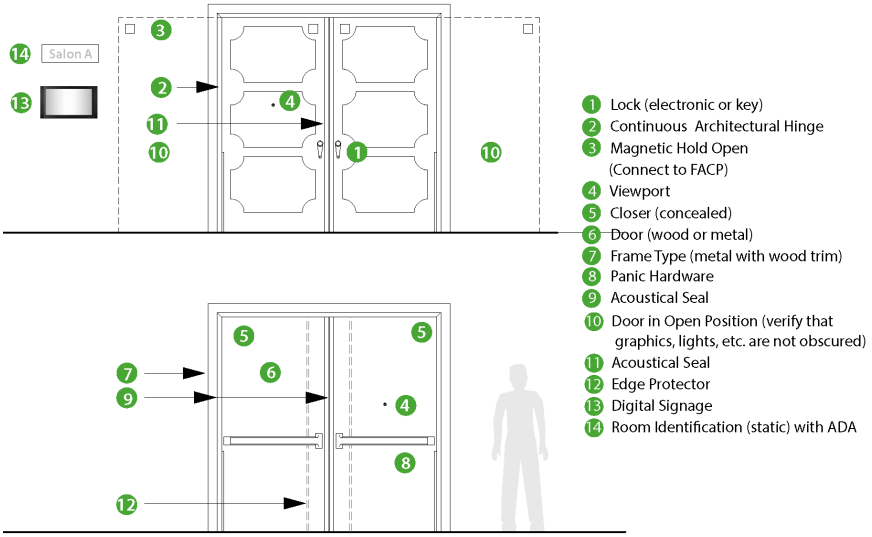
   a. Entry Door:Minimum of 1 pair of 0.9 m (3 ft.) wide doors to each salon (Ballroom subdivision).

   b. Entry Door / Frame Moldings:Provide applied moldings on both sides of frame, appropriately scaled and as selected by Interior Designer to match décor.

   c. Exhibit / Production Entry Door: Provide a large service area entry door when the event market anticipates access for large props, equipment, cars, buses and trucks. Minimum size is 3 x 3 m (10 x 10 ft.). Design the door to maintain the acoustical isolation performance of the adjacent wall.

   d. The front of the Ballroom has the service entry with direct access to the service corridor with a continuous path to the exterior. If Ballroom arrangement does not allow, locate Exhibit / Production Entry in an alternative location that provides a more direct access to exterior. Coordinate exhibit / production entry opening location and design with interior design. Conceal the entry from guest view with a wall panel or operable wall.

   e. Ballroom Doors - Example



4. Natural Light: Provide natural light through windows.

C. Configuration & Arrangement:

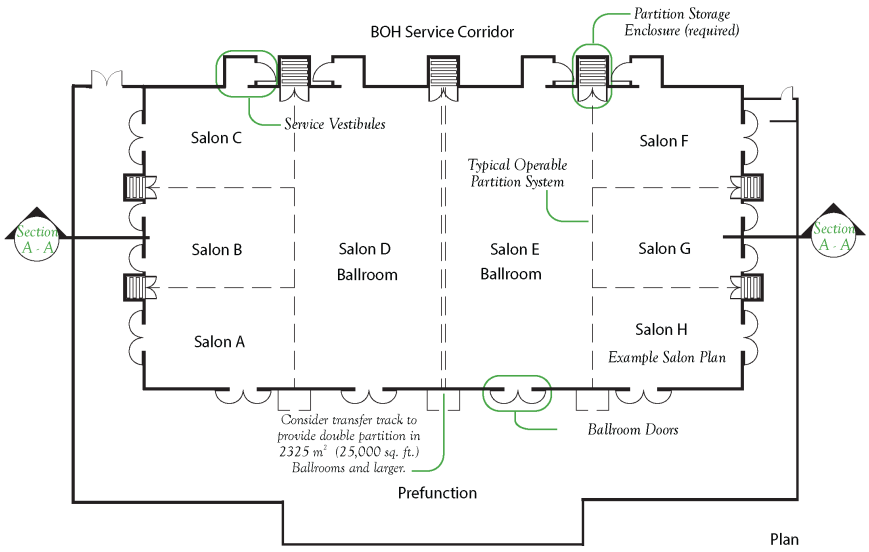
1. Size / Area:465 m² net (5,000 sq. ft.) minimum, high ceiling, rectangular space. Floor area is determined by the project Facilities Program to meet market demands.

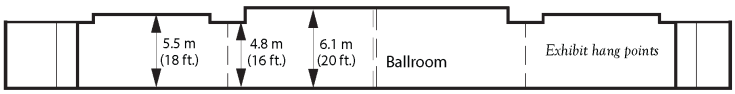
   a. Generally, Ballrooms are planned to be divided and accommodate 85 to 100 m² (900 to 1,100 sq. ft.) salons. Consult MI and the project Facilities Program for Ballroom types.

   b. MI reviews and studies Ballroom proportion as divided and undivided rectangular spaces and confirms quantity of operable partitions.

   c. Ceiling Height: See Example Ballroom Plan

   d. BP Example Ballroom Plan & Section





Section A - A

General Planning Criteria

Proportions (width to length) 1:1.8 to 1:2.2

Pre-function 40% of meeting net area.

Ballroom area: m²(sq. ft.)

Ceiling heights

*up to 465 m² (5,000)	5.48 m (18 ft.)
465 to 930 m² (5 to 10 k)	6.10 m (20 ft.)
over 930 m² (10,000)	6.70 m (22 ft.)

*** Minimum ceiling height at movable partition soffits:** 4.3 m (16 ft.)

Preferred Ballroom Area Proportions

Metric (SI)		English (U.S.)	
Area	**Size (W x L)**	**Area**	**Size (W x L)**
1,500 m²	30.6 x 49.0 m	16,000 sq. ft.	100 x 160 ft
1,400 m²	29 x 48.3 m	15,000 sq. ft.	94 x 160 ft
1,300 m²	27 x 48.0 m	14,000 sq. ft.	88 x 160 ft
1,100 m²	25 x 44.0 m	12,000 sq. ft.	80 x 150 ft
750 m²	21 x 35 m	8,000 sq. ft.	70 x 114 ft

2. Location: Typically, locate away from or outside guestroom tower footprint to allow for a column free space. Position the Ballroom with the following spatial connections:
   - Access to major public circulation routes and lobby
   - Pre-function
   - Registration Desk (if provided)
   - Bridal Suite and dressing room (options)
   - Banquet service corridor, catering, BOH services
   - Receiving Area, see <9>
   - Storage, see <9>

3. Space Planning: Provide convenient service access to beverage station, pantry, ice station, plating room, storage room, A/V room.

   a. Ballroom Breakouts (Salons) - Subdivisions:Plan Ballroom breakout or subdivision rooms based on the following:
      - Configuration:Rectangular room plan; see example for proportions 1:1.8 to 1:2.2.
      - Capacity:At a minimum, plan rooms to accommodate six, ten person round tables and seating with service circulation (see example meeting

room plan).

• Exits:Provide two exits for rooms 32 m² (350 sq.ft.) and larger. Partition pass-doors are not recommended.

b. R Control Booth: See <13B> and NextGen Meeting Spaces for criteria.

4. Service Corridor:Connected by Service Vestibules behind function space. See “Service Corridor - BOH” section in this Chapter.

5. Service Vestibule:Create service vestibules to control sound and light from migrating from Service Corridor into function space and to manage employees moving in and out of service area to and from guest side of function space.

   a. Configuration: In large function spaces, provide at minimum a vestibule with a door opening into the service corridor as shown in Example Figure.

   b. Door:Provide minimum of one service door for every 465 m² (5,000 sq. ft.) of function space and divisible room.

      • Size: 1.8m (6 ft.) wide door minimum.

      • Lock: To secure room, provide same lock type required for Pre-function doors.

      • Hold Open: Not required.

   c. Views: Minimize Guest view into BOH from function spaces.

   d. Finishes: Continue Ballroom wall and ceiling finishes into vestibule space (beyond opening from function space side).

   e. Service Light: Provide “In Service” warning light and switch. Locate light in Service Corridor adjacent to service door.

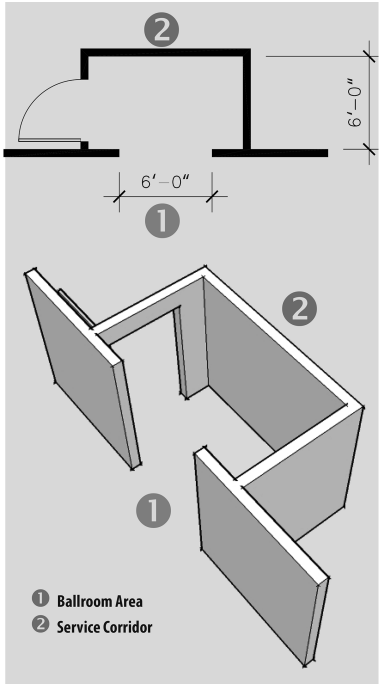
   f. Lighting: Ensure lighting in vestibule is not directly visible to guests on the function space side.

   g. Minimize guest views of the system devices and coordinate locations with interior design.

      • Cable Access: Include supplementary "show power" service pass-through openings with acoustical protection in banquet Service Corridor walls at each dividable salon. Provide required electrical service for function space exhibitors. See <15C>

      • Lighting Controls: Coordinate with <15C>. Locate controls for function space lighting at service vestibule with a secondary control at function space entry in concealed hinged panel with touch release hardware.

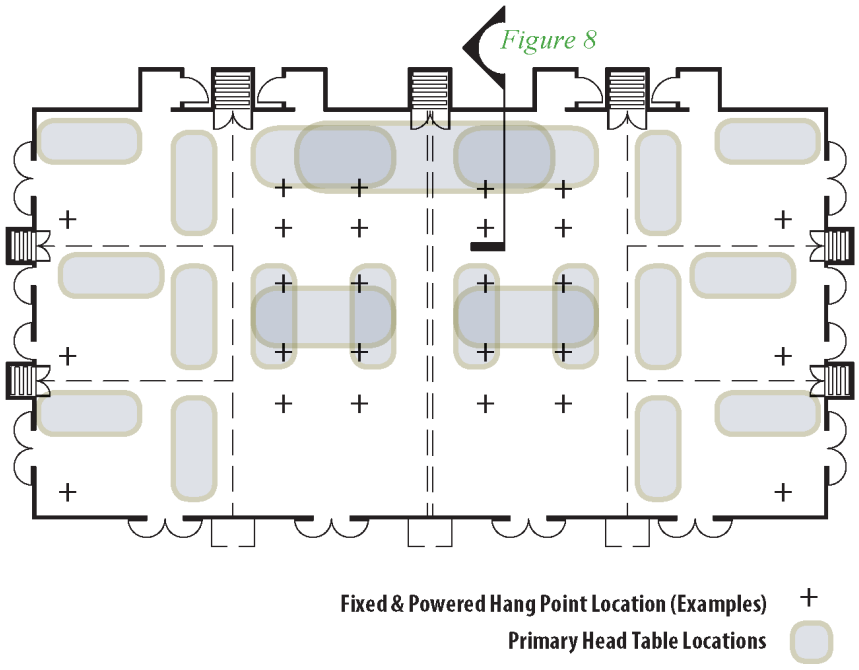
   h. BP Example Service Vestibule



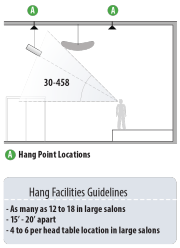
D. R Acoustics: See Acoustics - General above.

E. Infrastructure: See Infrastructure - General above.

1. BP Primary Head Table Locations



2. BP Example Ballroom Hang Points



F. R Lighting: See Lighting - General above.

G. R Audio Systems: See <13B>.

1. R Speakers: Provide concealed ceiling speakers in rooms 185 m2 (2,000 sq. ft.) and larger. Verify requirements with the project design team.

H. Visual Display Systems: Built-in visual display systems are not required in Ballrooms, however provide video signal transport in each section and salon using the AVnet system integrated with A/V input / output plates. See <13B>

6.13 Breakout (Meeting) Rooms

A. Program:Provide productive Meeting spaces as required by the project Facilities Program.

1. Open Breakouts: Support collaborative work and the ability to network, Open Breakouts are designed for impromptu meetings, and provide spaces for individual work in open areas.

B. Design Fundamentals:

1. Finishes:See Design Fundamentals - General above.
2. Natural Light: Introduce natural light at windows; views preferred.
3. FF&E: See criteria and requirements in <GR4>.
    a. Provide recess for built-in credenza style casepiece with stone top and wood cabinetry for food and beverage service and to support mobile bar.
4. Entry Doors:
    a. Door Finish: Match door materials with the interior design concept. Include applied finish or decorative laminate, or painted finish and details at public and service entrance doors selected by Interior Designer.

C. Configuration & Arrangement:

1. Size / Area:60 m² (650 sq. ft.) minimum net; quantity of Meeting Rooms is dictated by the project Facilities Program.
    a. Ceiling Height:3.6 m (12 ft.) above floor

b. Room Layouts:Various; no room narrower than 5.5 m (18 ft.).

2. Space Planning:Design Breakout (Meeting) Rooms to open to Pre-function space separate from Ballrooms.

   a. Pre-function Space: Similar to Ballroom criteria.

   b. Provide foyers for Meeting Rooms when not adjacent to usable Pre-function space.

3. Open Breakout: See Next Gen Meeting Spaces.

D. Acoustics: See "Acoustics - General" above and comply with criteria for acoustics and Operable Partitions.

E. Infrastructure:

1. EI Some Breakout Rooms may be large enough, over 185 m² (2,000 sq. ft.), to support small production events and would benefit from strategically placed fixed rigging hang points. Locate at front edge of stage and head table locations and in front of stage and head tables.

2. Provide projector support (may include retractable) in event spaces that are greater than 93 m² (1,000 sq. ft.). These devices may be the same construction as the retractable lighting supports, but are much shorter to fit in tight ceilings, and are intended to only be used to support video projectors.

3. Banner Tracks: Provide structural steel banner tracks to allow for flexible placement of lightweight production and décor elements, banners and temporary signage.

4. Open Breakouts: Similar to Pre-function space.

F. Lighting: See Lighting - General above.

1. Provide independently controlled feature lighting (recessed, light pipes or retractable powered lighting supports) to highlight presenters or features, especially when room is used for video conferencing or webcasting.

2. Controls:Conceal programmable dimmers for lighting in panel at public / guest door.

3. Open Breakouts: Provide dimmable wall sconces, wall washers, and down lights and include task lighting as appropriate to the flexible arrangement.

G. Communications: Provide telephone port to support conference calls. Include a minimum of two computer data ports and power outlets to support telephone use. See <13A> and <15C>.

H. Audio Systems: Provide built-in sound/voice reinforcement systems with distributed ceiling speakers for each Breakout (Meeting) Room larger than 93 m²

(1,000 sq. ft.), or in smaller Breakout Rooms that can be combined with adjacent rooms to total more than 93 m² (1,000 sq. ft.). See <13B>.

1. Speakers: Typically, smaller rooms, less than 93 m² (1,000 sq. ft.) and those that do not combine with adjacent spaces, are equipped with ambient / background music speakers only, with a wall mounted volume control. Consult with MI to determine If voice reinforcement is required based on market.

I. Visual Display Systems: In order to provide flexibility in placement, the type and size of projection screen, the marker and tack board are typically not “built-in”.

1. According to the design, some seating group clusters and work tables may be equipped with visual displays / flat panel TV screens.

6.14 Boardroom

A. Program:Provide an executive style meeting room, defined as a Boardroom, for individual or associated business meetings with fixed furniture, high quality features and dining service area.

1. If required, provide a Boardroom Foyer Area to serve a grouping of Boardrooms for the following activities:
   • Arrival and reception
   • Waiting
   • Circulation

2. BP Telephone Room: Consider a small room for personal calls. Include a lounge chair, table and adjustable lighting.

B. Design Fundamentals:

1. Finishes:Generally, provide higher quality finish materials in Boardrooms than Meeting Rooms

   a. Floor & Base: Wall-to-wall carpet with scale pattern appropriate to the room size or hard surface flooring with area rug. Provide large scale wood base.

   b. Walls:Materials reflect the property's design concept. Provide wood or stone millwork features into wall to complement door casings and wall trim, architectural features, niches for accented pieces; accessories and lighted artwork, lighted from ceiling. For larger rooms, place a wood display rail on at least one wall at chair rail height with a tackable surface above. Integrate utility outlets into wall designs.

   c. Windows: Provide decorative window treatment with blackout capabilities.

d. Ceilings: Provide gypsum board with coffers, appropriate trim, details and complementary finishes.
   • Multi-level coffer or architectural detailing with recessed lights and light coves.
   • Integrate grills, HVAC diffusers, sprinkler heads into ceiling design.
   • Limit acoustical tile ceilings (ACT) to approximately 30% of ceiling area and use only at highest ceiling level.

2. Natural Light: Introduce natural light at windows; view preferred.

3. Doors: Provide interior wood doors with decorative, articulated wood frames. See general criteria above.

4. FF&E: Provide furnishings and décor to create an appropriate Boardroom ambiance. Provide the following:

   a. Foyer: Seating: Provide seating groups with end tables for arriving guests. Table surfaces and edges are wood, wood veneer, marble or granite.

   b. Conference Table: Permanent executive quality conference table with centrally located concealed power and display connection access.

   c. Executive Chairs: Ergonomic. Leather finished executive chairs on casters with adjustable seating height.

   d. Millwork: Built-in credenza style casepiece with stone top and wood cabinetry; 60 cm (24 inch) deep by 120 cm (48 inch) wide minimum surface to serve food and beverages. Verify if a bar sink is required.

   e. Artwork: Distinctive prints and original artwork, matted and framed. Artifacts lit in feature locations.

C. Configuration & Arrangement:

1. Location: In proximity to Meeting Rooms, public circulation routes, Pre-function space and Banquet Service corridor. Boardroom may open to an exterior terrace for additional food-service and as Pre-function space.

2. Entrance: Locate primary guest entrances in the rear corner of the room, and ideally through an entry vestibule so that the entry door is not visible to the main viewing in the front of the room, which face the rear of the room.

3. Size / Area: 56 m² (600 sq. ft.) minimum is a typical size.

   a. Area is dictated by the project Facilities Program based on local market needs for size and quantity.

   b. Seating: Fixed conference table seating for 10 to 20 persons.

c. Ceiling Height: Clear ceiling height is 3 to 3.50 m (10 to 12 ft.) above finished floor, preferably coffered ceiling.

D. Acoustics:See Acoustics - General above.

E. Infrastructure:

1. Power: Do not share computer outlets with panels serving Kitchen equipment. Do not locate power, A/V or other outlets in the floor. See <15C>.

a. Power Outlets: Provide to serve the following:
- Counter space
- Throughout the room for maintenance and guest use
- Coordinate with placement of television or projector.

b. In addition to accessible power around the walls of the room, provide power at the Boardroom table in combination with USB ports for personal devices.

F. Lighting: Provide a minimum of 323 lux (30 foot-candles) at tabletop surfaces, and a minimum of 538 lux vertical (50 foot-candles) at face level for video conferencing. Provide consistent light levels throughout the area without “hot-spots” or dark areas and matched color temperature from all fixtures. See <15C>. Provide a combination of the following:

1. Cove:LED area lighting integrated into ceiling design

2. Recessed:Focus recessed lights on table and countertop.

3. Feature:Decorative ceiling fixture centered on table. Coordinate ceiling height, fixture size and ceiling detail to avoid having fixture interfere with visual presentations.

4. Controls:Lighting controlled by concealed, programmable dimmers readily accessible to guests. Provide a separate zone for lights above wall mounted visual displays

G. Communications: Voice & Data Ports: Provide voice and data ports for guest computer use in the room and at the table.

1. Telephone: High speed digital telephone

2. PI Access: Provide wired Internet access connections throughout Boardrooms.

3. Provide wireless internet access.

H. Audio Systems: Provide built-in sound reinforcement systems with distributed ceiling speakers.

1. BP Consider a sound bar on the flat panel display inclusive of speaker,

microphone and video camera capable of supporting multiple video conference solutions.

I. Visual Display System: <13B> <15C> Boardroom technology is “HD video teleconference ready”.

1. Flat Panel TV Screen: Consult with MI to determine equipment type. Wall mount with inputs at the front of the room and table.

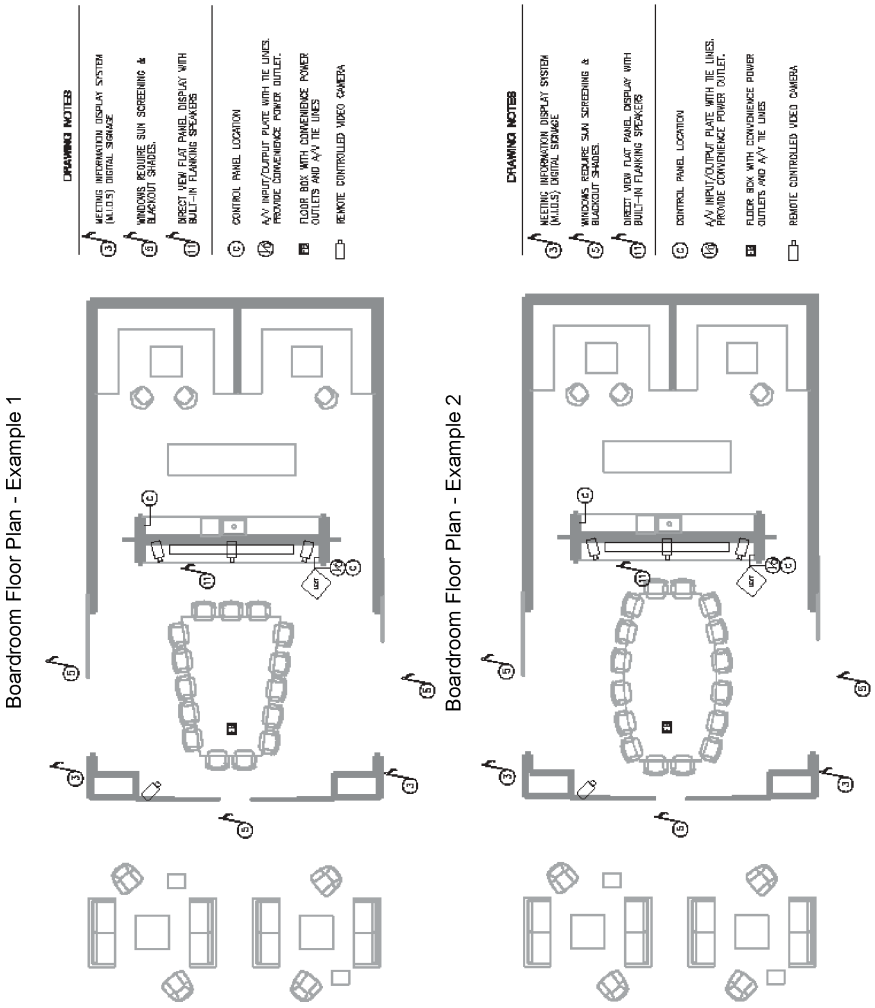
a. Connections to displays are in the conference table at multiple locations. HDMI connections require audio interfaces.

2. BP Projector & Projection Screen: Provide built-in, projector and screen concealed at ceiling. Hard wire remote control is wall mounted and labeled near room light controls.

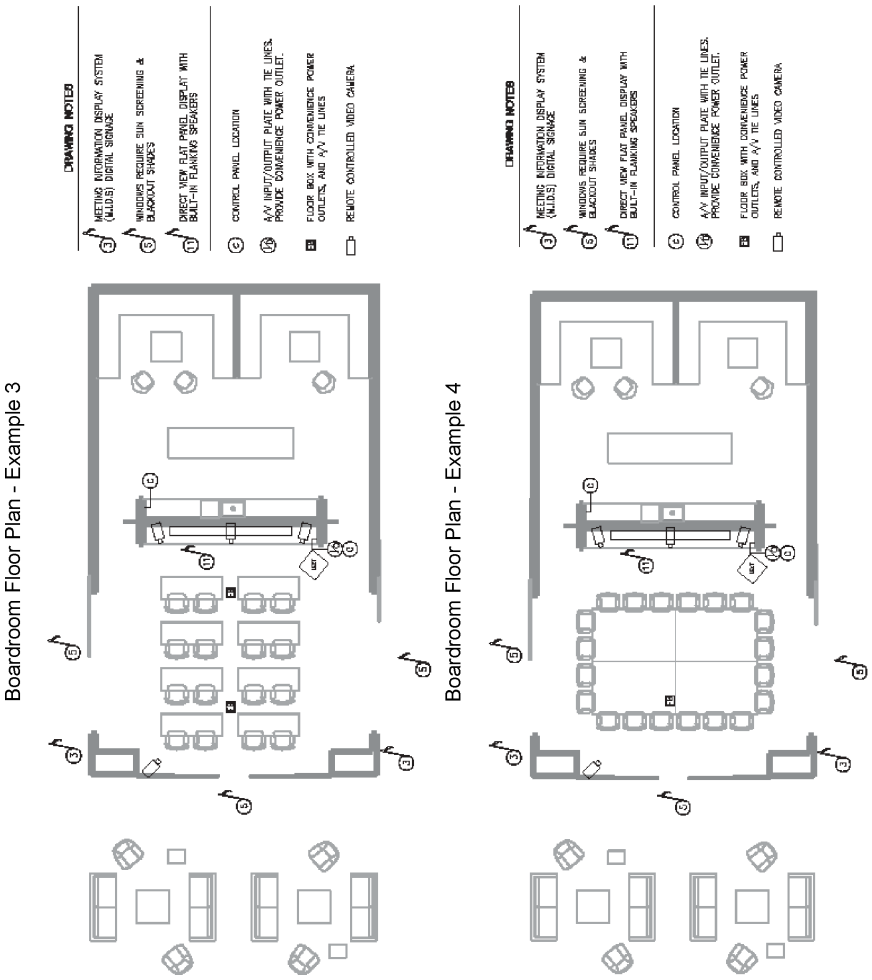
J. Graphics & Signage: Prominently display Boardroom names from the corridor side at each room. Verify if electronic boards are not required at rooms.

1. Digital Signage: Provide at entrance.

K. BP Boardroom Floor Plan - Examples 1 & 2



L. BP Boardroom Floor Plan - Examples 3 & 4



6.15 Event Hub

A. Program: Design Event Hubs to accommodate multiple functions, with distinct areas to allow for a multitude of activities. These areas include multi-function service bars, a culinary demonstration station, an event and sales worktable and meeting / event planner offices.

B. Room Configuration & Arrangement: The layout includes several uniquely designed activity areas.

1. Event / Sales Worktable: Design area to provide viewing of the visual display for all participants seated at the worktable.

2. Multi-Function Service Bar: Design with flexibility to provide a multitude of functions.

C. Acoustics: The Event Hub area is open to and acoustically communicates with the Pre-Function area. See Pre-function above.

D. Infrastructure:

1. Banner Track: Provide structural steel banner tracks to allow for flexible placement of lightweight production and décor elements, banners and temporary signage. Install at perimeter of walls 15 cm (6 inch) from the wall surface, coordinated with the ceiling design and operable wall tracks.

2. Power: Coordinate power to the work table, and connectivity between the work table and the associated video display.

E. Lighting:

1. Lighting Control: Provide programmable lighting systems with a minimum of four scene (settings) plus full on and off, preset / control station, remote control (wired or wireless). Black-out capability is not required in this area.

2. Connect the lighting system to the A/V control system to permit synchronized presentations with the video display.

F. Communication:

1. Telephones: Provide each distinct area of the Event Hub with a dedicated house telephone line. This includes connections in each of the meeting / event planner offices, the worktable and at the multi-function service bar.

2. Provide wired Internet access connections in each area of the Event Hub. Provide a minimum of two wired Internet access points in each distinct area, including the service bar and worktable.

G. Audio: See <13B>.

1. Speakers: Provide speaker control in the Event Hub that allows the overhead speakers to be turned on or off using the control system. The speakers serving the Event Hub space will have a separate zone for control but not for selecting a different music source.

H. Visual Display Systems: Provide a built-in, wall mounted direct view visual display on the wall adjacent to the worktable behind the display cooking area. Provide wired and / or wireless method for participants to connect to the visual display.

6.16 VIP / Speaker Ready Room

A. Program: Provide a private room adjacent to the Ballroom if required by the project Facilities Program.

1. EI In certain markets, high-production quality events may require a private room adjacent to the Ballroom. The VIP/Speaker Ready Room is a private reception and meeting space, equipped with the latest conveniences and technologies.
2. EI The criteria in the Boardroom section applies equally to the VIP Room.

B. Configuration & Arrangement:

1. BP Location: Ideally, it is appropriate for the VIP guest to arrive and journey to the VIP Room without travelling through the main public spaces of the hotel. It is also ideal to arrange access to a path from the VIP into the Ballroom near the main stage area without traversing through the audience area.
2. The A/V equipment may be located within the room itself (often in a closet or credenza) or may be centrally located if the central A/V equipment room is not too far away.

C. Acoustics: The specific acoustical treatments and parameters described in the Acoustics - General apply equally as well.

D. Infrastructure:

1. Floor Boxes: Provide a floor box under the main pedestal of the meeting table and design the pedestal to conceal yet permit access to the connections. Provide umbilical cables from the infrastructure built into the table to the matching connections in the floor box to permit disconnecting the table when necessary.
2. Power: Provide power locations throughout the room tables and various sitting areas.
    a. In addition to accessible power around the walls of the room, provide pop-ups or other accommodations in the main table. Provide the combination outlets that provide both power and USB ports for personal devices.
3. The A/V equipment rack requires power from the main A/V Technical Power panel.

E. Lighting:

1. Quality: Provide a minimum of 323 lux (30 foot-candles) at tabletop surfaces, and a minimum of 538 lux vertical (50 foot-candles) at face level for video conferencing. Provide consistent light levels throughout the area without “hot-spots” or dark areas. Provide matched color temperature from all fixtures at meeting / VTC area.

2. Dimming: Provide programmable lighting systems with a minimum of four scene (settings) plus full on and off, preset / control station, remote control (wired or wireless), and black-out capability.

3. Fixtures:

    a. Ceiling Fixtures: Provide dimmable ceiling fixtures with decorative and lighting elements while avoiding interference with video displays and cameras.

    b. Decorative Fixtures: Where included in the design, provide dimmable wall sconces, wall washers, and down lights.

    c. Indirect: For the meeting / video teleconference area, provide indirect lighting, typically cove lighting, with dimmable or two-level switching.

    d. Feature Lighting: For the meeting / video teleconference area, provide independently controlled feature lighting (track lights, eyeball lights) to support the needs for video conferencing and webcasting.

F. Communications:

1. Telephones: Provide multiple, conveniently located jacks for dedicated house telephone lines.

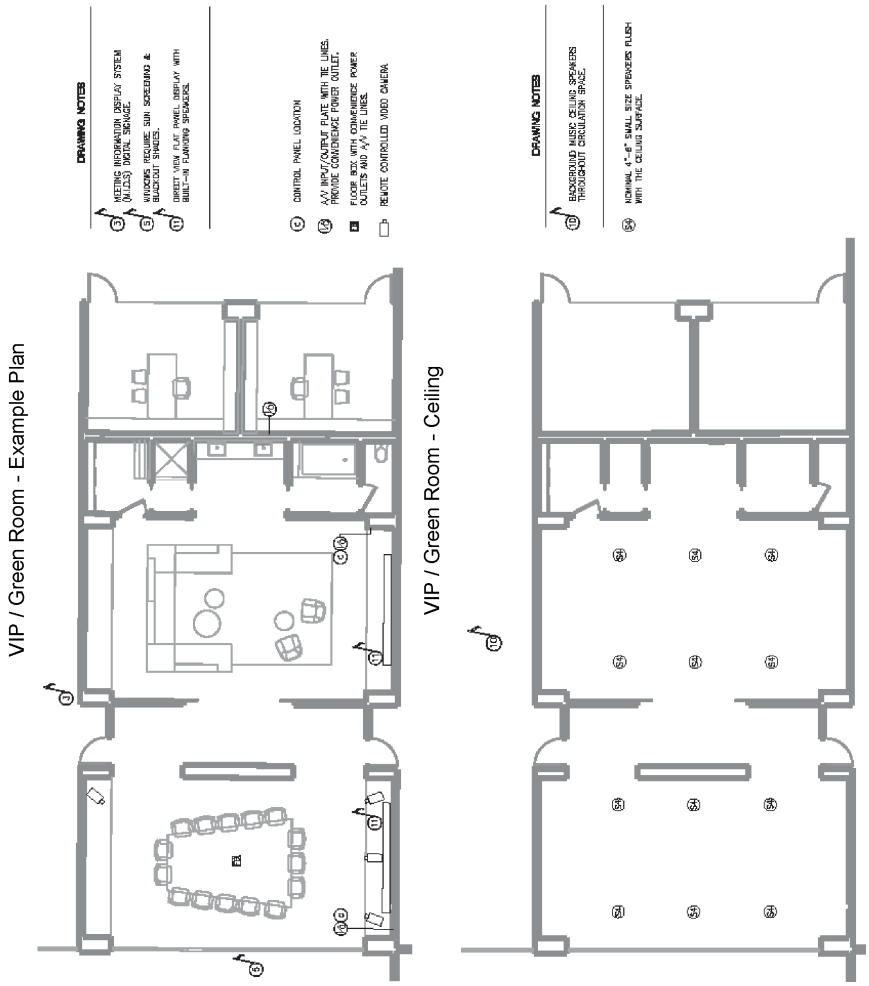
2. Wired Internet: Provide access connections throughout. Provide a minimum of two wired Internet access points on wall plates and at least one connection in the meeting room table.

3. Provide wireless Internet access.

G. R Audio: See <13B> .

H. Visual Display Systems: Provide a built-in, wall mounted direct view visual display (LED) on the wall. Provide wired and / or wireless method for participants to connect to the visual display. See <13B>.

I. BP VIP / Speaker Ready Room



6.17 Exterior Function Spaces

A. Program: Consider planned areas for exterior events. Landscape and hardscape areas to support the sense of place. Include power to support F&B and A/V needs.

1. **EI** Generally, spaces such as terraces, lawns, pools or other exterior areas are utilized for uncovered outdoor functions or multipurpose pavilions may be incorporated. Coordinate criteria with <1>.

B. Space Planning:

1. Provide level areas for tables and chairs, service equipment, entertainment platform or portable stage.
2. Comply with governing accessibility requirements.
3. Direct area drainage away from the Meeting / Function areas. In areas with high rain fall, Incorporate a drainage system to avoid saturated grass areas.

4. Provide service areas, utilities and electrical power to support Function / Meeting Space services. See <15C>.
   • If the Kitchen is not easily accessible, provide prep area with warming station or pantry necessary to support the function space.
   • Provide beverage station with water and ice necessary to support function space.
   • Provide cart storage area out of guest view.

5. Food & Beverage: Provide areas and access to food and beverage facilities to support outdoor functions. See <10>.

6. Provide storage nearby for FF&E, stage breakdown, equipment, etc. that is frequently needed. Size according to property programming, size of event space and need.

C. Outdoor Multipurpose Terraces: Provide as required by the project Facilities Program to accommodate outdoor areas for terraces and pavilions (such as portable enclosures with side awnings or tents) areas in proximity to function areas, Restaurants and atriums if applicable to the project.

   1. BP Functions may occur at secondary swimming pools, terraces and level areas. Comply with criteria above.

D. A/V: Provide support for AV and F&B needs. Include power for lights, displays and speakers as determined by the event functional requirements. Include wired data points and Wifi.

6.18 Meeting Services Overview - Support Facilities

A. Program: Design and provide for the following Back-of-House (BOH) facilities that service and support Meeting and Event Spaces:
   • Management Offices
   • Banquet Service Offices
   • Catering Showroom
   • Function Room Coffee & Water Service Stations
   • Service Corridors - BOH
   • Coffee Break & Beverage Storage
   • Banquet Storage
   • Public Support Spaces
   • Florist & Floral Preparation
   • Sound Equipment
   • Audio/Visual Equipment Storage Rooms
   • Operable Partitions

1. EI In larger properties and where required by the project Facilities Program, the service & support spaces typically include Conference Management Offices, and Convention Set Up (CSU) & Exhibit Managers Offices to support a larger scale conference and exhibit center program. Contact MI for design criteria for these spaces.

B. Coordination with Other Criteria: Coordinate meeting space planning and design requirements with the following:
   • Sound Equipment
   • Audio/Visual Equipment Storage Room

6.19 Public Toilets

A. Program: Provide accessible restrooms and family facilities within the Pre-function Spaces in sufficient quantity to support each hall and function space division, and not clustered in one location. See <2A> for criteria.

B. Location: Position restrooms convenient to function area division entrances accessible from Pre-function Spaces.

C. Fixture Quantity: Coordinate design and quantities with market demands and governing codes.

D. Drinking Fountains: Provide adjacent to restrooms.

6.20 Management Offices

A. Program: Provide office space for catering and meeting space management <8A> on the same floor as the meeting spaces.

B. Location: Locate offices so escorted guests do not travel through BOH areas.

C. BP Furnishings: Provide offices with desk, task chair and filing cabinet.

D. BP Graphics & Signage: For general BOH signage criteria, see <GR2>.

E. Finishes: Provide finished floors, walls, and ceilings.

1. BP Floor: Vinyl composition tile (VCT) or carpet tile
2. BP Base: 10 cm (4 inch) high vinyl base
3. BP Walls: Paint

4. BP Ceiling: Washable ACT in suspended aluminum grid

6.21 Business Center

A. Program: Coordinate criteria with <2B>, the project's size and the project Facilities Program. Provide guests using the Meeting Spaces, with an array of service amenities to support business activities.

6.22 Banquet Service Offices

A. Program: Provide Banquet Service Offices. See <8A>.

B. Location: Locate the offices off a foyer, near the Ballrooms.

6.23 Catering Showroom

A. Program: When the local market can support a Catering Showroom Design to display various table settings and banqueting options for key social functions such as weddings and other events.

1. Design is by the project's Interior Designer.
2. See the project Facilities Program for size requirements.

B. Location: When required, locate off the circulation between the Pre-function and the Lobby.

C. Features: See <10> for equipment.
• Lockable and illuminated millwork cabinets for display and storage of place settings, linens and catalogs.
• Round table for table top display.
• Desk with seats for 2 guests to review catalogs with sales associate.
• Display: Provide a flat screen monitor with connection to a computer device for slide show or sales system access. Include a data connection.

D. Finishes: Equal to that of the Ballroom / Pre-function

6.24 Coffee & Water Service Stations

A. Program: Provide a minimum of two service stations for 8,000 to 10,000 sq. ft. of meeting spaces and one additional station for each additional 10,000 sq.ft. See <10>.

B. Location: Provide in alcoves along or directly adjacent to meeting space service corridors with good accessibility to service door. Position Service Stations away from defined egress paths and as required by governing regulations.

C. Size / Area: Approximately 16 to 20 ft. long for each station to include coffee making and holding equipment, ice maker and bin, refrigerator, water filling station, beverage table and hand sink.

D. Finishes: Provided finished floors, walls, and ceilings.

1. BP Floor: Vinyl composition tile (VCT)
2. BP Base: 10 cm (4 inch) high vinyl base
3. BP Walls: Reinforced fiberglass wall panels
4. BP Ceiling: Washable ACT in suspended aluminum grid.

6.25 Service Corridors - BOH

A. Program: Provide continuous Service Corridors in BOH areas, between Meeting Spaces that connect Food and Beverage Production, Receiving Area, various storage spaces, other employee areas and uninterrupted by public circulation.

1. Connect BOH Service Corridors with Service Vestibules behind large Meeting Spaces such as Ballrooms.
2. Extend BOH Service Corridor for the length of the meeting space. Provide on two room sides if possible. Connect corridor to kitchen or remote warming kitchens and pantries.
3. BP Generally, do not utilize the BOH Service Corridor for other BOH loading dock circulation, where avoidable, because there is a potential for conflicting traffic and congestion.
4. Provide dedicated spaces for Pod Storage, Coolers, Plating, Banquet Support and Beverage Service, connected to BOH Service Corridors.

B. Location: Directly connected to and behind Meeting Spaces and not requiring

crossing Public Spaces.

C. Size / Area:

1. Clear Width: 3 m (10 ft.) minimum between operable partition storage enclosure, food service equipment space and service vestibules walls. Design widths to accommodate exiting, service vestibules, warming stations and IDF rooms.

2. Large Meeting Spaces: Provide service corridors with a clear width equal to 15% of the depth of the serviced space.

3. Breakout (Meeting) Rooms less than 780 m² (3,000 sq. ft.): Provide Service Corridors clear width at 2 m (6-6) minimum.

4. Clear Heights: 3 m (10 ft.) minimum clear ceiling height. Coordinate overhead heights with equipment movement, access and service. Verify ice machine height.

5. Forklift Movement: Accommodate forklift mast height of 3 m (10 ft.) without accounting for goods carried through BOH Service Corridors. Design for clear height in corridors and at doorways to allow equipment passage.

6. Corners & Turning: Accommodate turning radius of tugs pulling laundry bins, that extend up to 9 m (30 ft.) long.

D. Acoustics: See “Acoustic Environment” above. Provide STC 55 airtight perimeter walls, floor to structure above separating BOH Service Corridors from Meeting Spaces.

E. Audio / Visual: Provide a system of “J” hooks behind each function space to accommodate power and A / V cables from the show power disconnects.

F. BP Graphics & Signs: From corridor side, provide and prominently display meeting space names.

G. BP Finishes: For wall protection, corner guards and finish materials, coordinate with <8B>.

1. BP Floor: Polished concrete, sealed. In areas not subject to vehicle and service traffic, provide vinyl composite tile.

2. BP Walls & Base: Provide 120 cm (48 inch) high, 3 mm (1/8 inch) thick aluminum checker plate wall protection with 10 cm (4 inch) high checker plate base. Paint walls above checker plate. Reinforce and protect wall corners with checker plate.

3. BP Ceiling: Acoustical tile in suspended aluminum grid at employee areas.

6.26 Beverage Storage

A. Program: Provide a secure space to store beverage service equipment and beverages to service various meeting spaces. See <10>.

1. Include large refrigerated units for holding bottled wine and dairy products.
2. Liquor Storage: If liquor storage is accommodated in Beverage Storage, provide internal and lockable room.

B. Location: Locate in a central area of meeting spaces, typically near main Exhibit Hall, Ballroom or central kitchen.

• Typically, on same floor as serviced meeting spaces and close to service pantries. See <3> and <10>.

• If not located on same floor, provide near service elevator / lift for ease of transport to the meeting rooms.

C. Size / Area: Determine required space areas based on project program. Verify with project design team.

D. R Graphics & Signage: For general BOH signage criteria, see <GR2>.

E. BP Finishes:

1. BP Floor: Vinyl composition tile (VCT)
2. BP Base: 10 cm (4 inch) high vinyl base
3. BP Walls: Reinforced fiberglass wall panels
4. BP Ceiling: Washable ACT in suspended aluminum grid

6.27 Banquet Storage

A. Program: Provide alcoves and rooms open to BOH Service Corridor and “Zoned” to store chairs, tables, podiums, decorations, and equipment associated with function activities. Verify exterior pod storage requirements, if utilized, with the project design team. For other storage and utility areas, see <9> and <13A>.

B. Location: Locate in BOH Service Corridor directly adjacent to meeting spaces serviced.

C. Size / Area

1. 15% minimum, net area of Ballrooms and Breakout (Meeting) Rooms (not Exhibit Hall) required or sufficient space to store 40% of FF&E inventory for the associated function. Exclude the Service Corridor storage in this area total.
2. Include multiple storage areas in close proximity to respective rooms being served.
3. Ceiling: 6 m (20 ft.) minimum height

D. Steward’s Room: Within the Banquet Storage Area, provide a separate, secure room to store banquet food service equipment and silver.

1. Size: 1% minimum net area of Ballrooms and Meeting Rooms.
2. BP Provide minimum of 1.07 m (3’-6”) wide door with lockable hardware.

E. R Doors: For additional general requirements for BOH doors, frames and hardware, see <GR3> .

F. BP Shelving: Provide metal shelving system.

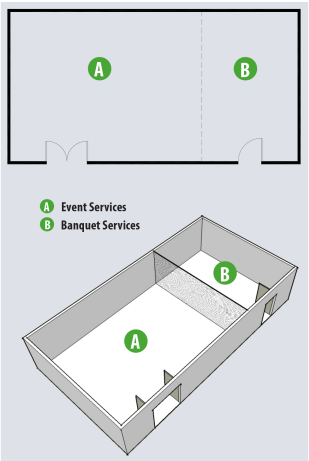
G. R Graphics & Signage: For general BOH signage criteria, see <GR2> .

H. BP Telephone: Provide one house wall phone. See <13A>.

I. BP Finishes:

1. BP Floor: Stain, polish and seal concrete with heavy duty sealer.
2. BP Base: 10 cm (4 inch) high vinyl base
3. BP Walls: Painted
4. BP Ceiling: Exposed structure (not painted)

J. BP Example: Banquet Storage



6.28 Public Support Spaces

A. Program: Comply with the project Facilities Program for requirements of Public Toilets, offices, Registration Room and Coat Rooms.

B. Location: Locate Support Facilities off a foyer leading to the Pre-function areas.

C. Registration Rooms & Meeting Planners Office: Provide an enclosed meeting planner's office and separate registration room with counter.

1. Location: Provide facilities at large Meeting Spaces such as Ballrooms, situated for access immediately upon arrival to the Pre-function area.
2. Doors: Solid wood entry doors secured with the property's electronic key access system.
3. Counter: Provide power / data / telephone at each end of the counter. Provide millwork doors to close area above counter when space is not utilized.
4. Desk & Shelves: Provide counters and shelving to accommodate registration activities.
5. Lighting Control: Provide occupancy sensors for lighting override. Connect sensors to electronic key lock system with interface to master control software.

D. Coat Rooms: Position rooms within a securable area, adjacent to Pre-function, entry circulation, but within sight of guest circulation. Coat Rooms may not be required in warm climate locations.

1. Size / Area: Size the area based on regional requirements, but normally not less than 0.027 m² (0.3 sq. ft.) per anticipated occupancy or not more than

50% of combined Meeting and Event Space occupants.

2. Garment Equipment: Provide sufficient coat / garment hanging racks with equipment based on market analysis and the Facilities Program.
   • Conceal coat racks and shelves from guest view in a room with door behind attendant's space.
   • Provide coat hanging racks either permanent or moveable and coat hangers.

3. Counter: Provide minimum of 1.5 m (5 ft.) long by 0.6 m (2 ft.) deep counter space for an attendant adjacent to Coat Room entry door. Provide power / data / telephone at one end of the counter.

4. Doors: Provide solid wood doors and secure entry door with the property's electronic key access system. Overhead metal coiling door is not acceptable.

5. Lighting Control: Provide occupancy sensors for lighting override. Connect sensors to electronic key lock system with interface to master control software.

E. R Public Toilets: See criteria above in this Chapter.

F. Communications:

1. Telephones: Verify with MI if a house phone, accessible to guests, is required for each Function Space.

2. Cell Phones: Verify that property location and building construction permits cell phone reception and use throughout the building. See <13A>.

3. Computer Connectivity: Provide wireless PI connection throughout the areas. See <13A>.

G. Finishes: Provide materials similar to the building area location or the adjacent Meeting Space.

1. Floor: Generally, provide wall-to-wall carpet. Scale pattern appropriate to the space and provide continuous pattern or coordinated with adjacent public areas.

2. Wall & Base: Generally, provide wood wall paneling or 20 oz., Type III vinyl with a Class "A" flame spread rating or equal and integrate wall coverings with trim.

   a. Provide architectural details consistent with the brand narrative and the interior design.

   b. Natural stone or other materials may be provided as a decorative feature.

   c. Provide acoustical wall panels as required by acoustic criteria.

   d. Provide wood or stone base.

3. Doors: Provide interior wood doors with articulated wood frames.

6.29 Florist & Floral Preparation

A. Program: Provide a Floral Preparation Room as required in the project Facility Program. Verify requirements to provide a property retail and display outlet or to support guests' request for floral and specialty gift items.

B. Location: Locate in the Maintenance Shops / Receiving area. See <9>.

6.30 Sound Equipment

A. Program: Provide an enclosed, secure room for audio/visual, electronic equipment racks and distribution associated with meeting and event space activities. See <13B>.

B. Location: Centrally locate rooms adjacent to applicable meeting space. If meeting spaces are remotely divided, provide multiple sound rooms.

1. Locate entrance door at Service Corridor of function space to permit direct access for convenient adjustment of audio/visual equipment.
2. Avoid locations subject to water damage.
3. Avoid sources of electronic interference.

C. Size / Area: See the project Facilities Program and coordinate with <13A>.

1. Ceiling Height: High ceilings are preferred. Minimum ceiling height is 2.7 m (9 ft.)

D. Equipment Racks:

1. Provide gangable equipment enclosures to properly house the A/V components with 20% spare capacity for future growth.
2. Locate enclosures on a minimum of 5 cm (2 inch) high housekeeping pad.
3. Arrange room to permit ease of access to equipment operational portions and maintain a minimum of 1.2 m (4 ft.) around enclosures.
4. Maintain a minimum of 3 m (10 ft.) separation between electrical devices such as transformers, dimmer cabinets, switch gear and the A/V enclosures.

E. Door: For additional general requirements for back-of-house doors, frames and

hardware, see .

1. Seal: Perimeter seal to limit dust.
2. Size: 1.2 x 2 m (4'-0" by 6'-8") minimum opening

F. Air Conditioning / HVAC: Provide continuous air conditioning and verify project heat loads. See <15A>.

G. BP Finishes: Provide the following:

1. BP Floor: Vinyl composition tile (VCT)
2. BP Base: 10 cm (4 inch) resilient base
3. BP Walls: Paint
4. BP Ceiling: Accessible acoustical tile

6.31 Audio/Visual Equipment Storage Rooms

A. Program: Provide enclosed, secure rooms for storage and control of audio / visual equipment associated with meeting spaces. See <13B>.
• Provide storage for equipment such as TVs, projectors, microphones, flip charts and computer equipment.
• Provide open plan office space for the A/V Services staff. Verify staff quantities for design team.

B. Location: Centrally locate in meeting spaces with door access from Service Corridor.

C. Size / Area: See the project Facilities Program and coordinate with <13B>. Typically, provide 2% of net area of Ballrooms and Meeting Rooms for A/V equipment storage rooms.

1. Ceiling Height: High ceilings for rack storage is preferred. Minimum ceiling height is 2.7 m (9 ft.).

D. A/V Services Office: Locate in central locations within Meeting Space areas and near the A/V Storage areas.

1. In larger properties, locate near the Sales Office. Plan 1 to 2 A/V production personnel work spaces per $1M in estimates A/V revenue.

E. BP Door: For additional general requirements for BOH doors, frames and hardware, see <GR3>.

1. BP Size: 1.2 x 2 m (3 4'-0" x 6'-8") minimum opening
2. BP Lock: Electronic operated lock, see <16>.

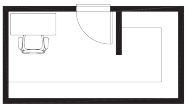
F. BP Furnishings:

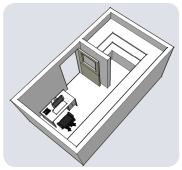
1. BP Desk and task chair
2. BP Telephone / computer: See <13A>.
3. BP Storage racks

G. BP Finishes: Provide the following:

1. BP Floor: Vinyl tile or carpet tile
2. BP Base: 10 cm (4 inch) resilient base
3. BP Walls: Paint
4. BP Ceiling: Washable accessible acoustical tile (ACT) in suspended aluminum grid

H. BP Example: A/V Equipment Storage





6.32 Operable Partitions

A. Program: Provide operable partitions to divide large function spaces into smaller areas, and to acoustically and visually isolate spaces.

B. Design Requirements:
- Operable Partition: STC 54
- Field Test: NIC 46
- Floor: Dead Level
- Track: Programmable
- Adjacent Walls: STC 55
- Wall Above Operable Partition: STC not less than operable partition
- Storage Enclosures: STC 55

C. Acceptable Operable Partition System Manufacturers:
- Advanced Equipment Co.
- Hufcor Inc.
- Modernfold by Dorma

• Hüppe by Dorma

• Consult with MI for other styles, including ceiling retractable folding panels, by such manufacturers as Skyfold.

D. Acoustics: Design adjoining wall construction for required acoustical sealing of operable partitions to walls.

1. Wall above Operable Partition: Acoustically rated, no less than operable partition system. Seal joints, around penetrations and wall perimeter.

2. Enclosures for Operable Partitions: Acoustically rated walls and ceiling, no less than operable partition system.

3. Spaces Above & Below: Provide acoustic control of ceiling and floor system if occupied spaces are planned above or below event spaces.

4. Mechanical Systems: For meeting and event space supply and return air systems and ductwork arrangements to avoid penetrating acoustic rated wall above operable partition, see “HVAC / Building Services” section in this Chapter and <15A>.

E. Operable Partition System: Provide and detail operable partitions to complement and complete the fixed wall design and finish.

1. Panels:

   a. Acoustics: STC 54 (lab test) minimum

   b. Fabrication: Fully welded steel frame with lock formed welded steel faces (no mechanical fasteners and rivets) and sound backing. Prepare faces for finish selected by Interior Designer.

2. Type: Provide manually operated partitions with top hung, full height, single panel system.

   • Where ceiling mounted system is used, use motorized operation.

   • Where operable partitions intersect windows, consider ceiling retractable folding panels.

3. Motor Operated: Verify with MI if motorized operation is acceptable when Ballrooms are over 1000 m² (10,800 sq. ft.) or partitions are taller than 5 m (16 ft.). (Motorized partitions involve a higher initial cost, higher maintenance, and operational controls. Verify that dependable, immediate service is available to repair motorized partitions to avoid disruptions to function schedules).

4. Deflection Loads: Review partition loading with structural engineer to verify that allowable deflection of supporting structure will not restrict partition operation nor effect partition acoustics.

a. Allow for overhead deflection loads.

b. At floor, provide dead level surface along path of partition operation.

c. Maximum Deflection: L / 360 for any component

5. Trolley & Track: Heavy duty steel or aluminum track system with two sets of hardened ball bearing steel tire wheeled trolleys at each panel for smooth and easy operation.

   a. Provide metal track with programmable (curve and diverter) design to accommodate ease of partition movement. Right angle track is not permitted.

   b. Extend overhead structure and track into partition storage enclosure for designated ballroom and salon dividing partitions.

   c. Acceptable Manufacturer's track system:
      • Advanced Equipment: #8
      • Hufcor: #11 or Skyfold track system
      • Modernfold by Dorma: #14

6. Panel Seals: Provide mechanically operated top and bottom panel seals.

   a. Automatic top and bottom seals may be considered by MI during project review process.

   b. Provide 534 N (120 lbf) bottom seals for continuous contact to finish floor surface.

   c. Provide continuous side panel seals and at partition storage enclosures.

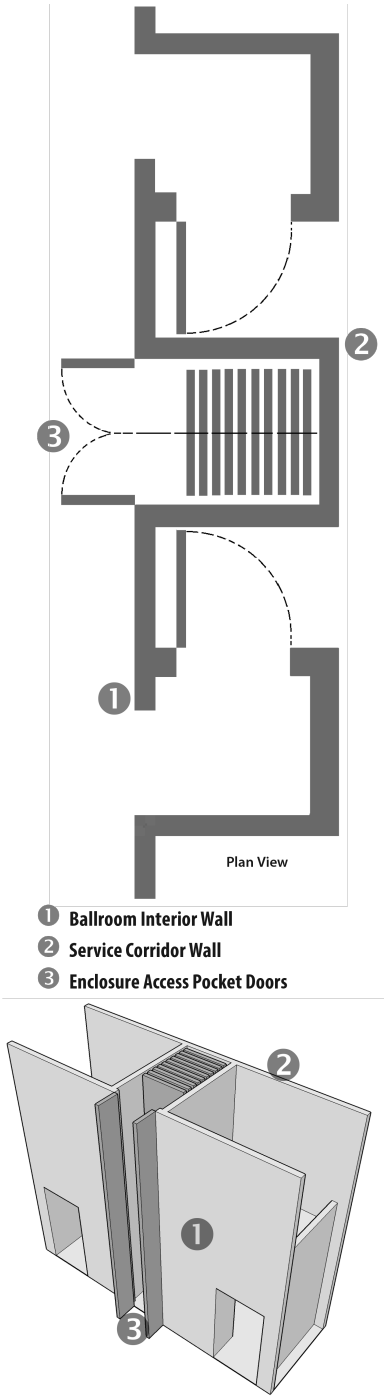
   d. Coordinate floor seal contact with floor finishing requirements.

7. Pass Doors: Partition pass doors are not permitted because they are an acoustic weak point and do not qualify as exits; see <14>.

8. Windows: For a 50% opening (non-operable window) in an STC 55+ wall, utilize the following glass construction to achieve acoustical performance.
   • 12.7 mm (1/2 inch) laminated glass equals 6 mm (1/4 inch) + Saflex AC41 + 6 mm (1/4 inch) glass
   • 150 mm (6 inch) airspace
   • 9.5 mm (3/8 inch) glass

F. Enclosures for Operable Partition Storage: Acoustically seal enclosure walls and ceilings.

   1. BP Operable Partition in Storage Enclosure



2. Enclosure Configuration: Provide recessed (typically, outside of Ballroom and Meeting spaces), operable partition storage enclosures with access doors at perimeter wall. Ceiling mounted system does not require an enclosure.

3. Operable Partitions Inside Enclosures:

    a. Seal partition panel edge to rear of enclosure at continuous solid blocking to avoid sound transmission through wall cavity. When partition is extended to full position to divide spaces, partition fits tight to rear wall of storage enclosure.

b. Provide dedicated stacking for partitions that further subdivide function area segments. Panel mixing is avoided by utilizing continuous overhead track provided only for the designated partition and its storage enclosure.

c. Position operable partition tracks flush in ceiling or visually minimize by millwork trim consistent with interior design.

4. Walls: Provide acoustic rated wall assemblies. Reinforce stud framed wall cavities with continuous wood blocking where operable partition seals press against stationary walls to provide a tight seal.

   a. Avoid wall chair rails, base, moldings or other interior trim that will not allow a tight seal.

   b. Review flanking construction for proper seal around partitions and especially the wall assembly above ceiling.

5. Doors: Provide type 4 (single panel) or type 3 (paired panel) pocket door systems of sufficient width, in no less than 91 cm (3 ft.) wide opening, to allow ease of panel movement into enclosure and to reduce the chance of damaging jambs and partitions. Conceal access door hardware from view in public areas.

   a. Reinforce access door to form a tight fit with partition gasket when door is in closed position.

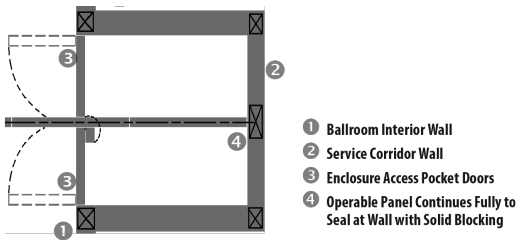
   b. Do not rely on storage enclosure access doors for acoustic separation.

   c. Provide door drop and perimeter door seals for tight top, side, jamb and bottom seal.

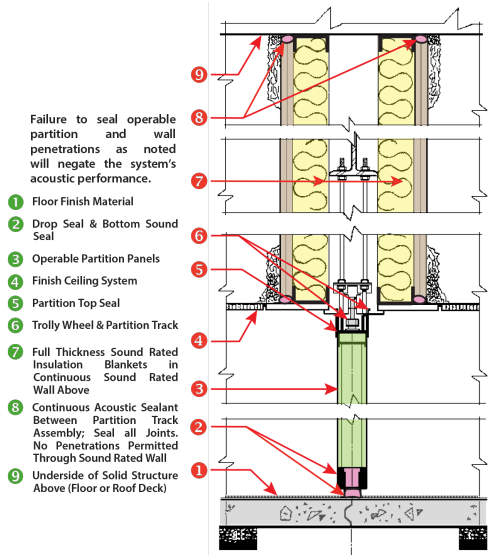
   d. Extend carpet under access door.

   e. If recommended by operable partition manufacturer, provide a staff service, personnel door to enter operable partition storage enclosure and to guide partitions on track at Service Corridor side, opposite, partition access door.

6. BP Example: Operable Partition Detail



7. BP Example: Section at Typical Operable Partition System, Floor to Wall Above



G. Finishes: Coordinate panel finishes with finish details and interior architectural design requirements of permanent walls.

H. Operable Partition Installation: See ASTM E557 Standard Guide for the Installation of Operable Partitions and references for recommended installation practices.

I. Testing of Operable Partition System (Required by MI): Following complete installation, field test the operable partition system for acoustic compliance in closed, sealed position including adjoining walls (sides and above).

1. Color code each panel and number by location for test documentation.
2. Visually review for proper panel fit, to abutting construction, and complete required adjustments.
3. Check for light leaks between each panel contact segment. Inspect partitions for gaps between seals and adjoining surfaces. One square inch of gap (6.5 cm^2) equals a sound loss of 20 db.
4. Test each partition assembly for Noise Isolation Class (NIC) with noise reduction of NIC 46 or greater. Calculate NIC rating in compliance with ASTM E413-10.
5. Test assembly for Noise Reduction in compliance with ASTM E336-11 applicable to measurement of isolation between rooms.
6. Modify, adjust and retest assemblies that do not meet field tests until accepted without additional cost to Owner or MI.
7. Submit completed test results to MI for review in compliance with the Design Standards.

6.33 R Coordination

A. R References: Coordinate with requirements of other Chapters.

- Overview & Project Administration
- Lobby Areas
- Engineering & Maintenance
- Food & Beverage, Back-of-House
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

guestrooms

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

7A.1 Overview

A. Program: Provide room types in compliance with the project Facilities Program; provide area and dimensions required for each project and market.

1. It is desirable to vertically stack guestroom types.

2. Design project guestroom plans to accommodate the furniture and functions described in this Chapter and the Design Narrative.

B. Planning: Create a contiguous assembly of Guestrooms based on a repetitive structural bay or plan area with a cluster of 4 guestrooms minimum.

1. Location: Separate from public spaces and minimize walking distances to elevators.

2. Size / Area: Use the following minimum areas for guestroom designs.

a. Typical Bay Configuration: Consult the project Facilities Program. Provide the minimum areas as follows.

b. Guestroom Size / Area

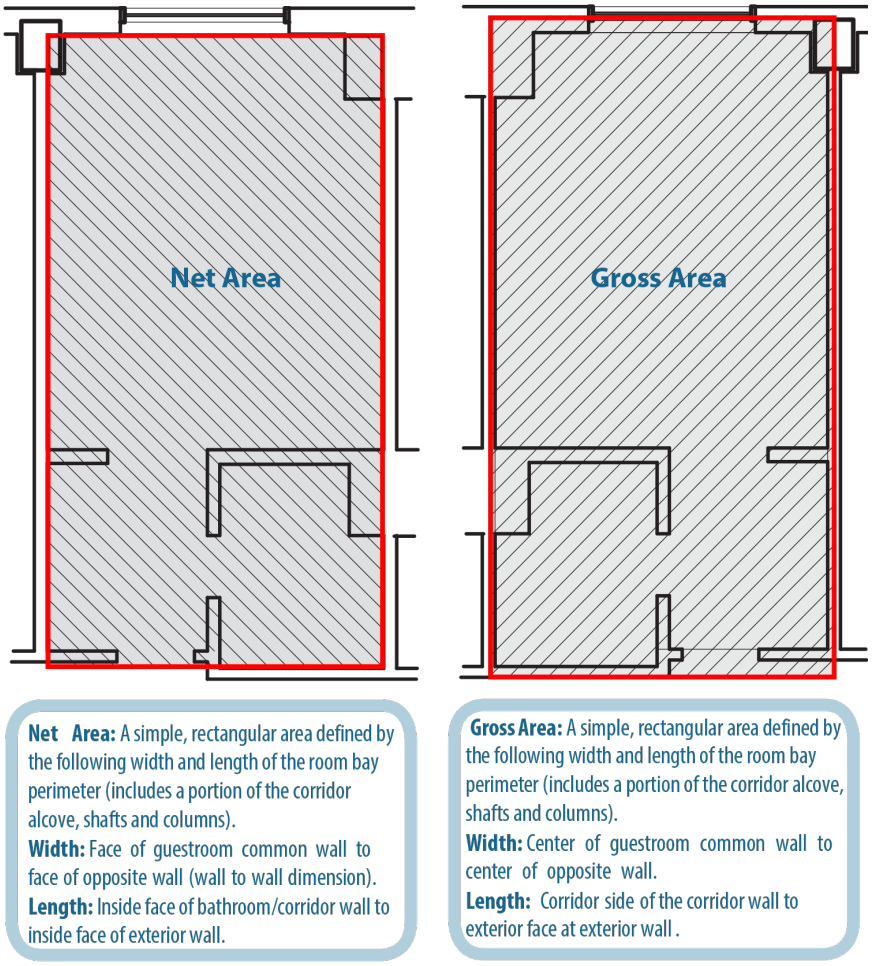
Region	Room Type	net m²	net sq. ft.
Europe	Double / Double*	33	356
	King	30	325
*Bed size based on market and location			

c. Guestroom Width: Standard minimum width is 3.8 m (12'-6") clear.

d. Ceiling Heights: Typically higher ceiling heights are required to accommodate structural elements, mechanical equipment and regional market customs and competition.
Typical minimum finished ceiling heights above finish floor are:
• Sleeping Area: 3 m (10 ft.)
• Guestroom Entry, Guest Bathroom: 2.4 m (8 ft.)

C. EI Convention for Calculating Guestroom Area: The net and gross area criteria are useful factors to evaluate guestroom performance. MI guestroom standards are based on critical guestroom dimensions that define the functional adequacy of the room design.

D. Guestroom Example Diagram - Area Calculation



7A.2 Guestrooms - Design

A. General: Provide Guestrooms and Suites that reflect the Marriott Modern aesthetic. The designs are intended to provide distinct areas for entry, relaxing, sleeping, washing / grooming and refreshment.

1. BP See www.marriotthotelsdesign.com for the Marriott Guestroom Design Strategy.
2. Provide excellent sound attenuation to ensure guest privacy.
3. Provide 1.1 to 1.4 m² (12 to 15 sq.ft.) flexible work surface (desk area with power).

B. Standard Guestrooms: Provide Queen / Queen and King room configurations. Double Double guestrooms may substitute an alternate bed size based on market and culture requirements.

C. Double Bed Guestrooms:

1. Facilities Program: Alternate bed sizes are based on the market and the hotel's location. Verify size with MI..

D. Accessible Guestrooms: Design room layout for use by guests with disabilities. Comply with the most stringent accessibility requirements. See <GR1> for Code and Accessibility compliance.

1. Incorporate requirements for Standard Rooms unless superseded by governing accessibility requirements.

E. Guest Lounge Level - Guestrooms: Similar to standard guestrooms, but with access to the Guest Floor Lounge (Executive / Concierge Lounge), and its service amenities. Percentage of Guest Lounge Level Guestrooms is 20% of guestroom keys or as dictated by the project Facilities Program and market.

F. Connected Rooms: Provide selected guestroom types with connector doors through fire / sound rated partition.

1. Quantities: MI may adjust the percentage of connected guestrooms, room mix and location based on market conditions.

a. Connect a minimum of 30% of guestrooms or as determined by market demand .

b. Connect King rooms to two bed guestrooms.

c. Connect accessible guestrooms (ADA rooms) to a standard guestroom.

d. Connect V.P. and Presidential Suites to King and two bed guestrooms, per market requirements.

2. Connector Door / Frame: Two door arrangement (pair of doors back to back) in single frame.

a. Type: Solid core, flush faced wood construction and fully bonded

b. Size: 91 cm (3'-0) with 81 cm (2'-8) minimum clear opening

c. Rating: Not less than rating requirements for doors / frames in rated partition.

d. Face: Panel design; selected by Interior Designer.

e. Frame: Hollow steel, reinforced; fill frame with semi-rigid insulation; applied casing if required based on design concept, paint finish.

f. Hardware: Standard duty, commercial grade. Provide acoustical door seal and bottom seal for privacy. Include full depth threshold. Consult MI for variations to the following:
• Deadbolt (thumbturn only)
• Exit latchset (lever handle on guestroom side only)

- Floor stop
- Spring Hinges if required per governing code; door closers not required.

G. Suites: Provide high quality upgrades and service amenities. See the project Facilities Program for quantity and size.

1. Suite descriptions for suite types are determined based on location and market requirements. Coordinate requirements for suite types with MI.

2. Locate suites on upper floors with prominent locations given to V.P. and Presidential Suites.

H. BP General Manager's Apartment (option): When required by the project Facilities Program, provide 4 to 5 bays total with sleeping areas and bays for seating, living and dining. Apartments may include connector doors.

I. Resort Properties: Resorts require, additional features and amenities. Suites may require larger bathrooms and upgraded finishes and furniture. See the project Facilities Program for additional guestroom requirements.

7A.3 Common Features

A. Acoustic Control:

1. Design Coordination: Coordinate acoustic criteria with the following:

   a. Exterior Environmental Noise Intrusion: See <1> for Exterior Design and Acoustic requirements.

   b. Mechanical Equipment: See <15A> for HVAC Noise Criteria.

   c. HVAC Return Air: Provide sheet metal, ducted return air.

2. BP Acoustic Consultant: Acoustic performance of walls, floors and equipment is subject to many variables. Therefore, retaining a qualified acoustic consultant, a member of the National Council of Acoustical Consultants, is highly recommended.

3. Construction Criteria: Provide interior wall, floor and ceiling construction to achieve the following minimum Sound Transmission Classification (STC) and Impact Insulation Class (IIC):

   a. STC Table

Space / Area - Assembly		STC	AIIC *	IIC **
1	Floor / Ceiling Assembly	55	53+	57+
2	Guestroom Party Wall (Including shaft / chase walls between guest baths)	55		
3	Guestroom wall adjacent to public and meeting spaces, service areas, elevator, equipment rooms, laundry and similar spaces	55+		
4	Corridor Walls	50		
*	When LVT is used, this requirement is measured when LVT is tested in the property under the same conditions in which it will be installed (utilizing the process defined in ASTM E492). This number takes into account the 1 point variance of non-discernible sound difference. When LVT is not used, this number is the minimum requirement.			
**	This requirement/number is applicable only when LVT is tested in a lab with an 8" slab with no topping and no ceiling (utilizing the process defined in ASTM E492). This number takes into account the 1 point variance of non-discernible sound difference.			

4. Elevators: Avoid locating guestroom walls adjacent to elevators and elevator machine rooms. If guestrooms are adjacent to elevator shafts and machine rooms, provide minimum of STC 55+ rated wall construction to minimize and isolate vibration noise.

5. Construction Details: Provide acoustic rated installations and comply with acoustic construction details in this Chapter.

   a. Follow the manufacturer's recommended products for acoustic wall assemblies.

   b. Design to mitigate plumbing and mechanical generated noise above ceilings and in chases.

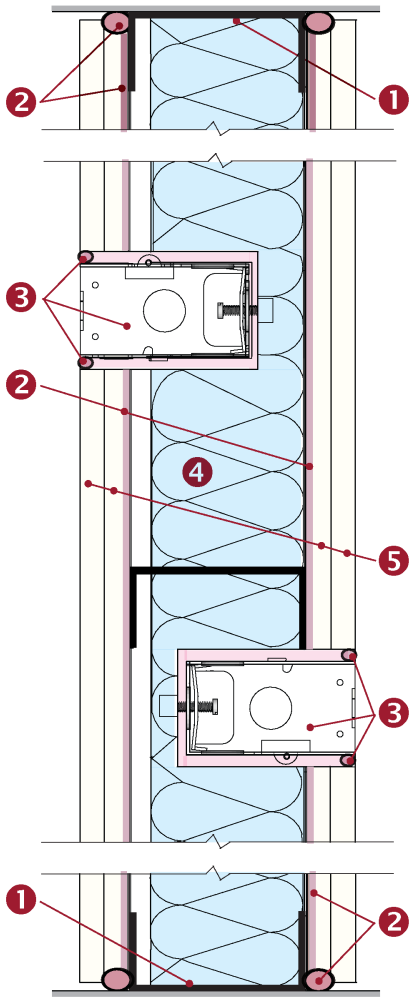
   c. Locate HVAC supply, transfer, return grills and exhaust, and provide sound and acoustic baffles in ductwork to prevent noise migration between guestrooms. See <15A>.

   d. BP Reference: http://www.acoustics.com

   e. BP Example: Acoustic Wall Plan / Section

Failure to seal wall penetrations as noted below will negate the wall's acoustic performance.

1. **Studs:** Perimeter and wall framing members
2. **Sealant:** Apply continuous acoustic sealant on both sides of base, head and wall framing members that adjoin floor, structure above and adjoining walls.
   At masonry walls, seal wall perimeter at floor, structure above and adjoining walls.
3. **Outlet Boxes:** <15C> Offset and stagger outlet boxes between studs (not back-to-back). Fully seal boxes in putty packs (or pads), close off wiring conduits and cable openings with putty, and seal around boxes.
4. **Acoustic Insulation:** Batt insulation; fit tightly between framing members.
5. **Wall Type:** Materials vary (gypsum board panels, acoustic panels, plaster, etc.)



6. Acoustic Sealants: Provide non-hardening, flexible sealants designed for acoustic applications to close perimeter joints and openings in acoustic rated walls such as outlet box penetrations.

7. Equipment Wall Supports: For wall supports, such as types to install wall mounted TVs, provide supports, fasteners and installation that does not interfere with the sound transmission quality and STC rating of the wall.

8. Door / Frame Details: Provide door and frame construction in compliance with the following:

   a. Entry Door: STC 32 minimum for wood or composite solid door fabrication.

   b. Connector Doors: STC 32 minimum (each door) for pair of back-to-back solid doors in double rabbeted metal frames.

   c. Metal Frames: Provide welded corners.

   d. Seals: Provide door perimeter seals and integrated automatic door bottom.

e. Thresholds: Provide thresholds with positive door drop contact at entry and connector doors to comply with door STC rating above.

B. Entrance Door, Frame & Hardware: 20 minute fire rating minimum in rated fire walls of 1 hour and door closer is required. Coordinate the following criteria with <GR3> .

1. Door Type: Solid core, stile and rail, wood construction

   a. Width: 91 cm (3 ft.) with minimum 81 cm (2-8) clear opening to meet accessibility requirements for “standard” and “accessible” Guestrooms and Suites unless other sizes are required.

   b. Height: 2.1 m (7 ft.) with 2.0 m (6-8) minimum is acceptable at interior doors.

   c. Thickness: 45 mm (1¾ inch) minimum

   d. BP Details: Wood panel type with paint or stain grade veneer, selected by Interior Designer.

2. Frame: Hollow steel, 1.52 mm (U.S. 16 gauge), fully welded joints with painted finish.

   a. Fastening: Provide anchors and fasteners to secure frame to perimeter construction.

   b. Reinforcement: Provide steel reinforcement within frame at latch strike to deter forced entry with a pry bar type hand tool.

   c. Design / Details: As selected by the Interior Designer.

3. Hardware Materials & Finishes: Commercial / Quality Grade 2 hardware with security latch with striker plate; viewer; floor / wall stop; acoustical / smoke door seal at perimeter and door bottom; hinges.

   a. Entrance Lock: Electronic key operated lock with automatic dead bolt. See <16> and MGS for specifications and Lock Standard requirements.
   • Provide RFID, proximity activated, on-line (network) ready lock system
   • Provide certified models with BLE (Bluetooth Low Energy) as listed in the Mobile Key Certified Lock Standard.

   b. Door Viewer: 160 degree minimum, and provide with interior swing privacy cover at 150 cm (5 ft.) above finish floor. Furnish two viewers at accessible rooms. Coordinate viewer locations with door design and accessibility requirements.

   c. Privacy Door Guard: Bar type or concealed. Install with screws. Coordinate with hardware finish. Provide strike plate to protect finish.

d. Accessible Guestrooms: Provide same door hardware as required for standard guestrooms.
See <GR1> for Code and Accessibility compliance.

e. Provide non-corrosive metal and metal finishes, non-painted door hinges, locksets and related exposed hardware.

f. Closer: Provide automatic closing. Door must close and latch & lock on the first attempt. Coordinate style with MI Interior Design.

g. Door Bottom: Provide integrated automatic dropping door bottom.

4. Threshold: Granite or engineered stone, color by Interior Designer.

C. R Steps, Stairs, Ramps & Slip Resistance: See <16> for requirements and for the minimum dynamic coefficient of friction for slip resistance.

D. Windows: Provide exterior windows and glazing, comply with governing regulations and the following.

1. R General Requirements: See for glass types, safety glazing and requirements for construction.

2. Window Area:

a. Large windows are desirable. Review other design requirements such as, wind loads, earthquake, energy efficiency, building design, etc.

b. Approximately 45% minimum, of guestroom exterior wall. Maximize window area at resorts.

3. BP Window Operation: Operable windows are permitted. See <16>.

4. Glass / Glazing: Provide insulated (double glazed), clear glass.

a. If energy or solar control is required, provide tinted or reflective glass that maintains natural looking exterior views and colors, and provides natural ambient light and color to the interior.

b. Coordinate tinting or colored glass with interior design color scheme.

5. R Acoustic Glass / Glazing: See “Acoustic Control” above for sound mitigation.

6. Interior / Finish Details: Provide window frame trim materials and finishes coordinated with interior room doors and frames.

E. Safety Glass & Glazing: Provide at locations subject to human impact and where required by code. Provide tempered, laminated or safety backing as appropriate. See <16>. Example locations include the following:
• Shower enclosure and glass doors

- Bathtub screens
- Mirrors (with safety backing)
- Skylights
- Full height windows
- Room dividers and doors
- Balcony and patio doors and windows

F. Guestroom Numbering / Signage: Select guestroom and suite room numbering system early in the project's development. See Signage Specifications.

1. Numbering System: Provide numbering consistent with the property's keyed guestroom numbering system.

2. Characters: Utilize numeric characters only. Do not use combination of characters such as alphanumeric or numbering schemes that may conflict with the building systems such as the following.

   a. R Telecommunications (telephones and Internet access), see <13A>.

   b. R PMS (Property Management System), see <13A>.

   c. Electronic operated entry door locks, see <16>.

   d. BP Avoid use of superstitious floor numbering series or other numbers / characters in conflict with regional customs or practice.

3. Numbering Sequence: On each floor level, start guestroom (or unit) numbers (left or right) from the passenger elevator lobby / foyer and increase the number value away from the elevator. Depending on the elevator lobby floor position, number the rooms in the opposite direction.

   a. Start with 101, 201 etc. (not 100, 200, etc.). First two numbers (right to left) designate rooms "01" to "99". The next number set indicates the floor level "1" to "99".

   b. Utilize odd numbers on one side of the corridor and even numbers on the other.

   c. BP Because doors are not always aligned along the corridor or from side to side (when larger and smaller rooms are combined), sequential numbers may be skipped to maintain the number sequence from one side of the corridor to the other.

   d. Number only guestroom and suite doors. Label other doors with names, such as "Storage", "Stair 1", etc., not numbers.

4. Acceptance: Obtain MI acceptance for room and floor numbering system.

5. Guestroom Signage / Graphics: Provide the following signage criteria and

confirm sign locations with MI.

a. Code: Comply with governing regulations. See <GR1> for Code and Accessibility compliance.

b. Evacuation Plan: Provide in frame and plastic glass or acrylic plaque. Mount to comply with governing authority.

c. Guestroom Rate / Checkout: Provide only as required by governing regulations and as directed by MI.

6. R Coordination: See <GR2> for other criteria.

7A.4 Interior Design, Finishes & Materials

A. General Design Concepts: Design guestrooms and suites in coordination with the current Brand Design Foundation and <GR4> criteria.

B. Finishes - Entry Foyer & Primary Living / Sleeping Areas:

1. Floor:

a. Provide Luxury hard surface flooring with a wood-like finish and appearance.

b. Suites: Luxury hard surface floor finishes with area rugs or Axminster.

c. For hard surface floor finishes, provide horizontal acoustic control below hard surface construction. See “Acoustic Control” above.

2. Base / Skirting: Hardwood or resilient profiled vinyl; match hard surface flooring as appropriate. Carpet base is not permitted. Provide wood base in suites.

3. Walls: Vinyl wallcovering. Provide perforated (micro-vented) wallcovering or painted smooth on the exterior wall in humid areas.

4. BP Corner Protection: Concealed metal angles installed in gypsum wall. If millwork / trim corner protection is provided coordinate with Interior Design. Exposed corner guards not allowed.

5. Ceiling: Smooth painted, flat (gypsum board substrate or skim coat plaster over ground substrate). Lay-in or concealed grid acoustical tiles or suspended grid and tile systems are not acceptable.

C. FF&E: For Guestroom equipment, see end of this Chapter and coordinate with <GR4>.

D. Lighting: Provide a recessed architectural light in the entry.

7A.5 Guestroom Closet Solution

A. Program: Provide one of the following closet solutions:
• Premium Closed Closet: A built-in closet for guests clothing and accessories. Materials, details, and finish quality are continuous from the guestroom design.
• Expanded Closet: Design closet space that is an architectural feature in the room. See the Marriott Hotels Design Approach at www.marriotthotelsdesign.com.

1. Location: Adjacent to guestroom entry and bathroom; location may vary according to room type.
2. Length: 1.8 m (6 ft.) minimum
3. Depth: 66 cm (26 inch) clear inside
4. Equipment: Provide concealed storage for steamer or iron / ironing board with wall support storage bracket. Verify equipment with MI.
   • An in-room safe and beverage service are located in the closet
   • Provide hook to hang garment and a power outlet nearby, when steamer is provided.

B. Premium Closed Closet Features:

1. Shelving / Drawers: Provide solid wood shelves. Drawer storage is optional to supplement guestroom storage as market demands such as at resorts.
2. Clothes Rod: 32 mm (1-1/4 inch) diameter, seamless chrome plated steel, below shelf. For accessible rooms, provide another lower rod to meet accessibility regulations.
3. Garment Wall Hooks: Single prong at shelf on end wall or as required in walk-in closets.
4. Shelf: Above clothes rod, provide continuous, solid wood shelf, stain finish to match casegoods.
5. Luggage Bench: Incorporate into millwork, built-in or free-standing unit stored in closet.
6. Door Types: Pair of millwork panel doors, swing (hinged) operation with roller latch and pull hardware. Coordinate finish and design with Interior Design.

C. Expanded Closet Features:

1. Provide Built-in millwork (not FF&E piece).
2. Clothes Rod: 32 mm (1-1/4 inch) diameter, seamless chrome plated steel, below shelf. For accessible rooms, provide another lower rod to meet accessibility regulations.
3. Provide mix of open shelving and closed drawer space.
4. Drawer Storage: Provide minimum of two. Storage requirement is market driven and is determined by the property.
5. Luggage Bench: Incorporate into millwork, built-in or free-standing unit stored in closet.
6. Concealed Hanging Space: Provide at least 91 cm (3 ft.) minimum clear hanging rod for long clothes.

D. Lighting: Provide an automatic closet light in each concealed door hinge stile.

E. Finishes:
- Expanded Closet: Provide upgraded architectural finishes.
- Closed Closet: Vinyl wall covering or paint; resilient base

7A.6 Refreshment Area

A. Program: Provide a coffee service area.

1. BP Location: Closet

B. Equipment: Provide coffee maker and refrigerator.

1. Confirm under counter equipment type and requirements with MI for cooling unit, refrigerator or mini bar unit.
2. Conceal behind a hinged millwork cabinet door (no lock). Swing both doors on the same side. Coordinate with OS&E (Operating Supplies & Equipment) and MI regional operations.
    a. Cooling Unit / Refrigerator: Compressor type; maintain 3.3° C (38° F); 50 liter capacity.
    b. Mini Bar: 60 liter (2.1 cu. ft.) capacity, absorption type unit with customer controls, self-service, half size cooler for liquor, beer, wine, soda and snacks. In markets with high labor rates, provide mini bar units with automated service accounting for connection to computer system / PMS <13A>.
3. Ventilation: Provide required space per equipment manufacturer for ventilation of unit.

C. Electrical: Provide power outlets on millwork wall above backsplash for coffee maker, plus a power outlet below counter for cooling unit / refrigerator. Coordinate microwave location (if required) with power outlet. See <15C>.

D. Suites:

• Countertop: Provide polished granite or quartz material stone top with back and side splash. Plastic laminate (HPL) is not permitted.

• Space Below Counter: Provide a millwork cabinet with solid wood door, stained or painted for refrigerator or Mini Bar.

7A.7 Guest Bathroom

A. Program: Provide three fixtures; toilet, shower or bathtub / shower, and lavatory bowl. Four fixture baths (where required by the Region) require review by MI.

1. Shower Enclosure: Provide guest bathrooms with a shower enclosure only (no bathtub / shower) in compliance with the following:

   a. Shower Only: 75% of guestrooms; 100% of King rooms and remaining double rooms. Where four fixtures are required, provide both a tub and a shower enclosure.

   b. Exceptions: See the project Facilities Program.

2. Presidential & V.P. Suites: Provide four fixtures with tub and separate shower enclosure. Five fixture baths (where required by the Region) requires review by MI.

3. Resort Properties: 4 fixture bath (with tub and separate shower) is preferred and per market demands, a secondary lavatory may be required, in standard guest bathrooms.

B. Bathroom Entry Door: Sliding barn door. Submit materials to MI for review.

1. Size: 81 cm (2'-8”) with minimum of 72 cm (2’-4”) full clear opening

2. Finish: Coordinate with guestroom Interior Design package.

3. Undercut: 9.5 mm (3/8 inch) and no door threshold if continuous floor finish from entry foyer into bath area.

4. Hardware (sliding): Overhead wall mounted track (no bottom track or rail at floor), concealed wall mounted door guide where bottom edge of door aligns with door opening in closed position, fixed pull handles, soft closer and door stop. When provided, a lock must include an emergency override. Verify hardware requirements such as privacy lock and pulls with MI.

C. Bathroom Fixtures, Fittings & Trim: Select commercial quality products. Coordinate with criteria described in this Chapter (see below) and the “Plumbing Fixture Schedule” in <15B>.

1. General: Provide white color fixtures (toilet, tub and sink).

2. Finishes: Provide fitting finishes consistent with bathroom accessories (see below).

D. Bathtub (with shower): Provide with single, wall mounted, water control mixing / pressure valve and shower control trim, showerhead and hand shower, tub filler, overflow and drain assembly.

1. Type: Porcelain enameled cast iron or enameled steel with undercoating for rigidness and is sound insulated (Americast), full size tub, flat bottom with slip resistant (see <16>) surface. Acrylic not permitted. Provide waste trap designed for below slab installation so the tub well and floor are at approximately the same level.

2. Tub Size: 1.5 m (5 ft.) long x 0.81 m (2'-8") wide x 0.3 m (1'-4") high minimum; larger tubs are preferred.

3. Shower Fittings: Provide a wall mounted showerhead and bar mounted hand shower at both tub / shower or shower only. Not required at tub when separate shower enclosure is provided in bathroom. Obtain MI acceptance for shower device.

4. R Grab Bars: See criteria under “Bath Accessories” below.

5. Amenity Storage: Include a preferred wall niche for placement and display of bath amenities or a stainless wire corner basket (no exposed hardware) as reviewed with MI.

E. Shower Enclosure:

1. Provide the following:
   • Area: 1.11 m² (12 sq. ft.) minimum with 86 cm (34 inch) minimum width
   • Walls: Natural stone or porcelain tile with color body. Submit alternate material to MI and obtain MI acceptance.
   • Floor: Porcelain tile, color body, slip resistant (see <16>). Glazed tile not permitted. Submit alternate material to MI and obtain MI acceptance.
   • Tile Grout Joint Size / Color: 3 mm (1/8 inch) butt joint; blend grout color with tile.
   • Towel Bar: 46 to 61 cm (18 to 24 inch) long, metal towel bar / door pull (dual purpose) on glass entry door exterior or within enclosure installed on opposite wall from shower head.
   • Footrest: See "Bath Accessories".
   • Soap / Amenity Display: Provide area to display amenities. See "Bath

Accessories".

• Bench (option): Material and design is reviewed by MI for acceptance.

• Shower Head: Comply with MI Standards (see <15B>) and obtain MI acceptance for shower product; rough-in wall plumbing connection at 208 cm (82 inch) above shower floor finish with shower head face minimum of 198 cm (78 inch) above floor. Locate to avoid shower spray at entry and on bathroom floor. Include a hand shower on a slide bar.

2. General Criteria:

• Enclosure: Frameless, 9.5 mm (3/8 inch) thick tempered, clear glass; minimize visible mounting hardware.

• Enclosure Entry: 69 cm (27 inch) wide minimum sliding or swing door, back to back mounted door pulls. If space is limited for swing door, provide 9.5 mm (3/8 inch) thick tempered, clear glass, sliding frameless door, trackless bottom (no track on curb or wall) with overhead track or outswing pivot door designed with 12.7 mm (1/2 inch) minimum clearance between closed door edge and wall, not to entrap guest and having overall appearance same as glass swing door system.

• Shower Controls: Locate near entry, easily accessible without getting into the shower. Rough-in wall plumbing connection at 122 cm (48 inch) above shower floor finish.

• Shower Tray / Receptor & Curb: Sheet membrane waterproofing per industry standard; tile ready pan with integral slope and curb. Coordinate curb height with integral tray / receptor; slope curb top 10% to direct water to shower floor drain. Obtain MI acceptance for other shower tray / receptor.

• Floor Drain: Provide drain slot at plumbing wall to minimize tile cutting; shallow linear trench drain with internal slope and cover.

• Ceiling: 2.13 m (7 ft.) minimum or higher; gypsum board, water resistant paint.

• Lighting: Provide energy efficient, 2700° Kelvin minimum, moisture resistant, center recessed fixture in ceiling. See <15C>.

• Ventilation: Provide 10 cm (4 inch) minimum opening above glass shower door to vent to bathroom.

• Accessory Finishes: Premium white metal finish (polished, satin, nickel, brushed) on brass or stainless steel substrate. Coordinate metal bright work finishes.

• Courtesy Grab Bar: See "Bath Accessories".

F. Water Closet / Toilet: Water saving, non-pressurized flush with fully glazed trap, wall mounted.

1. Bowl / Seat: Vitreous china elongated bowl with full contoured, closed front seat and lid.

2. Enclosure: In Presidential and V.P. Suites, locate water closet in separate compartment.

G. Bidet: Provide where required by law or project Facilities Program or where it is the cultural norm. Locate immediately adjacent to toilet in the same compartment.

H. Vanity / Wash Basin: Provide single, vanity sink (suites may require two sinks) with adequate vanity counter space for amenities and personal toiletries. Carefully consider placement for guest belongings, towel storage and amenity display. Provide vanities with ample sized mirrors and well balanced lighting.

1. Counter Size: Minimum 1.5 m (5 ft.) wide x 56 to 60 cm (22 to 24 inch) deep. See Marriott Design Strategy.

2. Vanity Front: Conceal sink and piping from view with vanity apron. Incorporate towel storage into vanity per Design Strategy. Provide high level of finish for sink and plumbing where exposed below vanity.

3. Vanity Apron: Provide to match top, integrated or millwork to match vanity casegood. At accessible baths, size apron to accommodate wheelchair access under the vanity.

4. Vanity Mirror (FF&E): Provide back-lit decorative mirror to coordinate with interior design.

I. Bath Accessories: Provide accessory and bright work package with matching metal finish. Plastic components and ceramics are not permitted. Do not include built-in “institutional style” accessories, such as tissue dispensers, soap dispensers, bottle openers and razor blade deposit slot.

1. Courtesy Grab Bars: Provide courtesy grab bars for guest safety and convenience. Coordinate with <16> criteria, provide and install as follows.

a. Size: 46 to 60 cm (18 to 24 inch)

b. Strength: Install to withstand minimum of 113 kg (250 lb.) force in any direction.

c. Finish: Coordinate with the brightwork package.

d. Locations: Install and position as follows:
• Bathtub (with shower): Vertically, 107 cm (42 inch) AFF to center of grab bar at bathtub “point of entry” to assist with entering, exiting and maneuvering within the bathtub.
• Shower Enclosure: Only when a footrest is provided, mount 30 cm (12 inch) long grab bar vertically on shower wall, above the footrest, and 10 cm (4 inch) from inside corner.

2. Hair Dryer: Not wall mounted. See OS&E.

3. Robe Hooks: 2 preferred. Mount near bathtub and / or shower enclosure

where possible. Place intuitively for easy access and robe display (if provided).

4. Shower Screen: At bathtub (with shower), based on region requirements, provide preferred laminated glass panel screen (no curtain and rod).

5. Soap Holder: Provide amenity stainless wire basket or shelf (preferred) in tub surround wall and in shower enclosure.

6. Toilet Paper Holder: Decorative, single roll type with second roll storage where required and easily accessible.

7. Towel Bars: Coordinate selection and location with MI Interior Design.

8. Towel Storage: Provide in millwork or free standing casegood unit.

9. Clothes Line: Provide at resorts and when required to receive the “star” rating for which the hotel is designed. If required, provide a retractable wall mounted clothes line above bathtub or shower.

10. Dressing / Full Length Mirror: Mount on wall or provide outside of bathroom as directed by MI.

11. Footrest: Optional. If provided, position at 25 to 30 cm (10 to 12 inch) above floor.

J. Accessible Accessories: In accessible guestrooms, provide fixtures, grab bars, shower seats, etc. and comply with governing accessibility regulations and the ADA. See <GR1> .

K. Lighting: Provide energy efficient lamps with a color temperature of 2700K and color rendition index of 85 minimum for bathroom lighting. See <15C>. When lamps are exposed to guest view, provide appearance similar to incandescent and no spiral type lamps.

1. Vanity / Sink: Back-lit or side lit mirror is preferred and recessed single downlight fixture over each sink.

2. Tub (with shower) & Shower Enclosure: Provide a recessed, enclosed, gasketed and moisture resistant downlight above tub / shower and shower enclosure.

3. Ceiling: Provide recessed architectural lighting. In larger baths decorative ceiling fixtures are acceptable.
   - General lighting
   - Shower enclosure
   - Vanity location
   - Enclosed toilet

4. Lighting Controls: Dimmable lighting preferred.

5. Night Light: Include night lighting. Locate integrated under-vanity illumination with rocker switch or provide dimming.

L. Finishes:

1. Floor: Water proof hard surface flooring or through color body porcelain tile (preferred) or stone tiles with slip resistant finish. Provide 3 mm (1/8 inch) butt joint and stone threshold at bathroom entry door for tile.

2. Base: 10 cm (4 inch) high profiled vinyl or porcelain or stone tile coordinated with flooring.

3. Wall Finish: Type 2, 137 cm (54 inch) wide, full height, woven scrim backing, 15 oz. minimum weight wallcovering with stone or tile at wet areas.

4. Tub Surround & Shower Enclosure: Large format, color body porcelain tile or stone with 3 mm (1/8 inch) maximum butt joint. Obtain MI acceptance for alternate finish.

5. Ceiling: Smooth, water resistant paint on gypsum board. No lay-in or grid ceiling tiles.

6. Registers, Grilles & Access Panels: Satin anodized aluminum (no ferrous metals) including fasteners. Paint to match adjacent surface or plastic in color to match adjacent surface. Detail access panels flush with ceiling, recessed / rimless / frameless.

7A.8 Suite Pantry

A. Program: Provide an enclosed, limited food service pantry with catering equipment storage space in Suites, as required by the project Facilities Program.

1. Size / Area: As required by the project Facilities Program.

2. Location: Adjacent to guestroom corridor with controlled door access from corridor utilizing electronic key system. See <16>.

B. Equipment: Provide hospitality quality appliances with commercial level features. Coordinate the following with MI Regional Operations. See <10>.

1. Sink: In countertop with single lever faucet set, built-in spray wand.

2. Refrigerator: Upright, 425 liter (15 cu. ft.) refrigerator / freezer

3. Ice Machine: Low volume, undercounter model

4. Microwave Oven: For light reheating, 51 liter (1.8 cu. ft.) capacity, not 28 liter (1.0 cu. ft.) size.
5. Coffee Brewer (5SU): Residential style, single service; verify requirement with MI standards.
6. Toaster (5SU): Verify requirement with MI.
7. Dishwasher: Built-in undercounter, multi-cycle dishwasher, roll out racks, features short wash, rinse/hold heated dry, rinse aid and silverware basket. Low noise.
    a. Provide energy saving option.
    b. Simple control options are preferred.

C. Kitchen Cabinets / Counter: Provide high quality cabinets. Obtain MI acceptance for lower quality finishes where pantries are concealed.
1. Finishes: Provide custom wood cabinetry with granite, quartz or engineered stone top and splashes.
    a. Cabinet Interiors: Melamine finish is acceptable.
    b. Shelving: Adjustable with Melamine finish is acceptable.
    c. Sink: Stainless steel
    d. Backsplash: 10 cm (4 inch) high; same material as countertop
2. Hardware: Provide concealed hinges and decorative pulls as selected by Interior Designer.

D. Electrical & Lighting: See <15C>.
1. Power: Include power outlets for equipment, housekeeping and countertop food preparation.
2. Lighting: Recessed, architectural down lights, with under cabinet lighting when required.

E. Finishes: Provide the following:
1. Floor / Base: LVT, stone or porcelain tile, slip resistant. See <16>.
2. Walls: 20 oz. wallcovering or painted surfaces
3. Ceiling: Smooth surface, painted

7A.9 Balconies, Patios & Terraces

A. Program: Where guestrooms or suites provide an exterior balcony, patio or terrace, provide the criteria below.

B. Balcony Deck Design: Set balcony slab below interior floor slab and slope deck surface away from building to drain or scuppers connected to storm water system (see <15B>).

C. Doors / Frame: Design glass and glazing, exterior doors and frames to comply with HVAC (see <15A>), air and water infiltration requirements for project environment.

1. Frame / Finishes: Exterior metal, such as anodized aluminum or equal exterior color finish or solid wood fabrication with metal cladding and anodized finish in MI accepted color.

2. Interior Wood Finishes: Stain or paint (factory finish) interior face of wood doors to match door trim and millwork.

3. Marine Environments: Provide aluminum exterior with finish such as Kynar (polyvinylidene fluoride, PVDF) coating or equal to match color selected for interior jamb and trim finish.

4. Glass & Glazing: Same as required for exterior windows. Include safety glass, tempered or laminated.

D. Door Hardware: Provide the following applicable to door operation.

1. Lock: Provide balcony / terrace door with decorative door hardware with lock and a secondary lock such as a bar or latch (to restrict break-ins and operation by small children).

2. Secondary Lock: Provide type that is easy to operate, visually obvious and secure. Provide hinge door with night-guard bar and sliding doors with a hinged “Charley Bar” or “Engert” device (“U” shaped hasp lock).

3. Threshold: Aluminum

4. Hardware Finishes: Coordinate inside and exterior finishes as selected by the project Interior Designer. Coordinate with other room hardware.

E. Balcony Guard Rail: Provide rail design that allows maximum views. Protect the open sides of balconies with a continuous guard rail or low, solid wall with cap and the following features.

1. Rail or Cap Height: 1.1 m (3'-6") minimum

2. Openings: Capable of restricting a 10 cm (4 inch) ball with configurations that limit climbing, such as vertical pickets. Horizontal rails are not permitted.

3. Floor Clearance: 5 cm (2 inch) maximum to minimize objects from falling off edge

4. Graphics: Include signage to announce safe balcony measures (see <16>) to guests. Locate signage as directed by MI.

F. Furnishings: Provide two chairs and one table, minimum, of good commercial outdoor quality, high quality resin or aluminum construction designed for outdoor use. Utilize weather resistant fabric and foam cushions as required. Larger outdoor spaces require alternate layout. Coordinate with <GR4> and review furnishing concepts with MI.

G. Electrical: For lighting and power, see <15C> for lighting attributes in Lighting Table.

1. Light Fixtures: Select fixtures that conceal the light source. Verify with MI if light fixtures may be omitted.

a. Avoid exterior light fixtures where insects are attracted and fixture lights create erratic, conflicting and poor exterior lighting.

b. At beach resorts, comply with environmental laws.

c. BP Consider ceiling fans in regions of hot / humid environments.

2. Power: Provide GFI power outlet and mount near table location.

H. Snow Melting: At ski resort or sites with heavy snow accumulation, provide snow melting system for on grade patios and terraces.

I. Finishes: Provide balcony wall finishes same as required for exterior building walls.

1. Water Protection: Provide membrane waterproofing below selected finish material (such as ceramic tile or stone) on structural slabs above occupied areas. Slope away from building to a collection system.

2. Finish Deck Surface: May be large unglazed tile pavers, stone, or wood slat system on raised PVC resilient substrate. For guest comfort, select light color flooring to avoid over heating, where appropriate.

a. Grouted Joints: Seal with penetrating sealer finish.

b. Slip Resistance: Comply with current minimum slip resistant standards, see <16>.

7A.10 Furniture, Fixtures & Equipment (FF&E)

A. General: For technical direction, see <GR4>, 5SU and OSE lists. Obtain product requirements from MI.

B. Equipment: Provide the following guestroom equipment.

1. Telephones: Coordinate the following system characteristics with <13A>.

a. Guestrooms: Provide minimum of one telephone extension line phone at bedside nightstand.

b. Suites: Typically, provide more than one telephone.

c. Phone Types: One phone is required to function during power failure.
• Corded Handset: Wired to powered phone connection
• Cordless (or wireless) Handset: Highly recommended. Provide with a powered base station and battery back-up handset or other method so phone functions during power failure.
• House Phone: Typically, corded handset wall phone in Suite Pantry

d. Accessibility: For guests with hearing disabilities, See <GR1> for Code and Accessibility compliance.

e. Cellular Phone Coverage: Provide in guestrooms and throughout guestroom areas.

2. Property Internet (PI): Provide guests with access to the Internet (see <13A>) as follows:

a. Wireless LAN (Wi-Fi): Provide in guestrooms and throughout guestroom areas.

b. Wired LAN: Provide access connection at desk. See <13A> for criteria.

c. Coordination: Consult the CTR for continental / market requirements.

3. Televisions: Provide hospitality quality grade TV units to comply with the following:

a. Locations: Wall mounted. Include sound proofing and vibration isolation provisions.
• TV sizes to be verified and coordinated with casegoods, wall space and current brand minimum.
• In suites with separate rooms, a TV is required in each sleeping room and living area. A single TV is allowed in open suite configurations where the TV can be easily viewed from both bedroom and living areas.
• Consult with MI for locations of TV's in large suites.

b. Type: Flat Panel, LED LCD High Definition (HD) color receiver.

c. Screen Sizes: 140 cm (55 inch) minimum (measured diagonally) in Guestrooms or larger screens per market demand.
   • Suites: 140 cm (55 inch) or larger screens depending on market demand.
   • Resorts: Consider larger screens per room width based on market demand.

d. Tuning: Digital

e. Remote control unit

f. Casing / Finish: Plastic casing design for hospitality use, in a black finish.

g. Electric Cord: 1.8 m (6 ft.)

h. Entertainment Platform: Deliver the Guestroom entertainment source programing through a set top box. Consult MI and see Entertainment Systems on MGS for criteria.

i. Mounting Bracket: Size the mounting bracket based on the set top box size and TV installation.
   • Connect the set top box positioned behind the TV, so the box is not visible to guests.
   • Provide articulating arm to angle television for viewing, if required.
   • Provide finished mounting hardware or detail to conceal cables and cords.

j. Guest Connectivity: Provide with minimum of component video, composite video, audio-in (both RCA and stereo mini-jack), monitor-in (15 pin), and connections for guest device connectivity. Provide capability to dynamically detect and configure the TV to map proprietary play content from the guest's source device.

4. Cooling Units, Refrigerators & Mini Bars: See the OSE list provided by MI.

5. Safe for Guestrooms & Suites: See the OSE list provided by MI.

   a. Provide drawer or door safe style capable of holding a laptop computer. Internal power outlet not allowed.

   b. Installation:
      • Securely anchor safe in a location easily accessible to guest.
      • Safe may be secured to a closet shelf attached to wall.

   c. Manufacturer: MiniBar, Elsafe or Safemark.

6. Bedside Control Panel: Provide if required to obtain hotel “star” rating for which the hotel is designed. Locate controls at bedside to operate lights, drapery and TV.

7A.11 Coordination

A. Mechanical / HVAC: See <15A>.

1. Design and provide system capable of providing guest simultaneous guestroom heating and cooling.
2. Accommodate mechanical grilles, devices and controls into the interior design.

B. Electrical: See <15C>.

1. R Lighting: See <GR4> and <15C> and comply with governing regulations.
2. Power Outlets:
   a. Unless required by governing regulations or otherwise noted, position on centerline of power outlets at 46 cm (18 inch) above floor.
   b. Do not install back-to-back outlets in walls between guestrooms.
   c. Provide power outlets for guest convenience at bathroom vanity, bed night stand, desk area and pantry counter, and coordinate with <15C> and Interior Design.
      • Locate power outlets with fixture placement, switches, furniture and casegoods to minimize exposed cords.
      • Provide and coordinate off / on wall switches and wall outlet locations, particularly when remote wall switching is required to control wall power outlets for light fixtures.
      • Provide a minimum of one duplex outlet on each side of the bed for guest charging. Include USB plugs where allowed. See <15C>.
   d. Desk / Flexible Work Space: Provide power outlets near the work surface for guest use. Provide power outlets below the desk for lights and other required fixtures.
   e. Provide 2 power outlets (1 duplex) dedicated for wall mounted TV.
   f. Motorized window treatment, See <15C>.
3. Light / Power Switches: Provide “rocker type”. Color per Interior Design and blend in with adjacent finish.

C. Fire Protection & Life Safety: Accommodate fire sprinklers, smoke detectors, alarms and controls into the interior design. Coordinate with <14>.
   • Strobe Light: In sleeping areas, position the strobe light and fire detector in direct line of sight of guest in bed.

• Fire Stops: In bathrooms, provide at floors and walls to continue under and around tub.

D. R Reference: Coordinate with requirements of other Chapters.

• Overview & Project Administration
• Technology Infrastructure
• Audio / Visual
• Fire Protection & Life Safety
• Mechanical
• Plumbing
• Electrical
• Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

guestroom corridors / support

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

7B.1 Overview

A. Program: Provide guest circulation and service support spaces that complement the guestroom experience and reflects the interior design and finishes of the public spaces.

B. EI Relationships: The Guestroom Corridor and Support areas serve three primary functions.

1. EI Guest Circulation: The corridor provides a transition between the hotel public areas and the guestrooms.
2. EI Service Circulation: The corridor enables employees to access guest areas to provide services.
3. EI Emergency Egress: The corridor provides emergency exiting from the guestroom areas to the exterior.

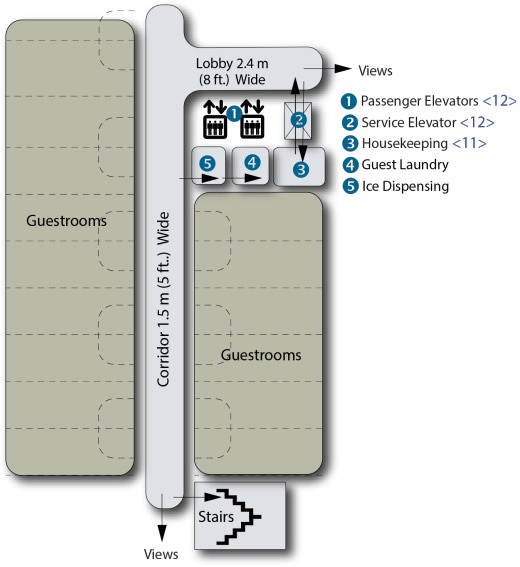
C. R Steps, Stairs, Ramps & Slip Resistance: See <16>.

D. R Windows & Safety Glass: For window, glass / glazing criteria and for safety glass requirements, see and <16>.

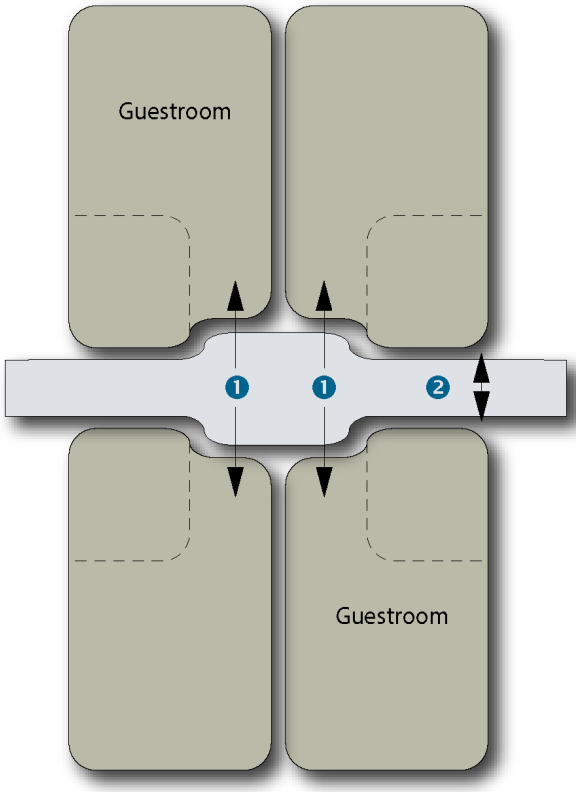
E. Spaces: Accommodate the following spaces:

- Guestroom Corridors
- Guest Elevator Foyers
- Service Elevator Foyers
- Ice Dispensing
- Housekeeping / Linen Storage
- Guest Laundry
- Exit Stairs
- Distribution Rooms

F. Relationship Diagram



G. Guestroom Entry Diagram



1. 0.90 m (1 ft.) deep at Entry Door Alcoves
2. 1.50 m (5 ft.) wide Corridor

7B.2 Guestroom Corridors

A. Program: Provide corridors at every guestroom level connecting guestrooms to means of egress, stairs, service circulation and access to guest support spaces.

1. Size / Area: Vary widths and orientations and incorporate guestroom entry alcoves to establish a residential character and to “de-institutionalize” the guest experience.
   • Corridor Width: 1.5 m (5 ft.) minimum
   • Ceiling Height: 2.4 m (8 ft.) minimum

B. Design Features:

1. Alcoves: At guestroom entries, enlarge corridor to form recessed wall alcoves, a maximum of 30 cm (1 ft.) deep at each side of corridor.

2. Natural Light / Views: Provide natural light into Guest Corridors and Passenger Elevator Foyers, and include exterior views where possible.

C. Signage & Graphics: Comply with requirements for persons with disabilities. See .

1. Graphics: Coordinate with surrounding materials and minimize wherever possible to maintain, upscale atmosphere.

2. Locations: Typically, provide guestroom numbers, directional signs, emergency evacuations, ice dispensing / vending area and exit signs.

3. Door Signs & Graphics: Do not mount guestroom graphics on doors, but install on wall at latch side of door, 1.5 m (5 ft.) above finish floor.

4. BP Exit Signs: Green color lighted, if approved by governing regulations.

D. Finishes: Includes entrance alcoves.

1. Floors: Carpet 80/20 Axminster, see <GR4>. Carpet tiles not allowed.

2. Base: 10 cm (4 inch) high minimum, painted or stained wood.

3. Walls: Wallcovering through out with architectural detailing. Disguise access panels, electrical closets and similar devices.

4. Corner Protection: Provide full height, wood millwork (preferred) or resilient corner guards that complement and blends seemlessly with adjacent wall finishes at exposed corners.

5. Ceilings: Smooth painted, no textured finish; do not use ceiling tiles and exposed suspended systems.

6. MEP / Fire Devices: Coordinate locations of exposed fire sprinkler heads,

standpipes, smoke detectors, alarms, annunciators and other Fire & Life Safety devices. Exercise care and coordination in selection and placement of devices.

E. FF&E - General: See for public space criteria. Provide furniture and fixtures for Guestroom Corridors, Guest Elevator Foyers and applicable service spaces.

1. Furnishings, Artifacts, Artwork etc: At enlarged corridor nodes and elevator foyer, provide accent furnishings, artifacts, framed artwork, mirrors and potted live landscape material; no silks.
   • Artwork is illuminated from above (no picture lights).
   • Provide furniture unit for house phone and accent chairs.

2. Window Treatments: Provide at corridor and elevator foyer windows, without obstructing natural light.

7B.3 Passenger Elevator Foyers

A. Program: Provide a transition space to and from elevators and adjoining guest corridors.

1. Location: Between corridor and elevators at each guest floor.

2. Size / Area: Minimum width of 2.4 m (8 ft.) for single-loaded elevator banks and 3.6 m (12 ft.) at double-loaded elevator banks.

B. Features: Accommodate and include furnishings, decorative mirror or artwork and artifacts. Include house telephone, see <13A>.

1. House Telephones: Provide a telephone at elevator foyer casepiece and position house phones at logical nodes where guest corridors are excessively long or convoluted.

C. Lighting: Decorative light fixtures combined with recessed lights.

D. Finishes: Generally, same as guest corridors, but space may be upgraded with finishes and millwork details.

1. Floors:

   a. Combination of 80/20 Axminster carpeting and luxury hard surface flooring (for example, stone or color body porcelain tile)

   b. Luxury hard surface throughout (if foyer and luggage movement noise is not immediately adjacent to guestroom doors)

2. Walls: Extend wallcovering and millwork (see) detail from corridors.

a. Design feature wall with a contrasting wallcovering or millwork detailing.

b. Use millwork corner details and bases same as in guest corridor or base may be wood, stone or porcelain tile, if flooring is hard surface.

3. Ceilings: Smooth painted, non-textured coating; no ceiling tiles

7B.4 Service Elevator Foyers

A. Program: Provide foyers to screen from public / guest view; a fully separate service space from the guestroom corridors and public areas.

1. Do not permit service elevators to open directly into guest corridor.

2. Provide service foyer size similar to guest elevator foyer.

B. Finishes: Provide the minimum standard finishes.

1. Floor: Steel troweled concrete with hardener; extend corridor flooring and base into these areas if space is visible from Guestroom Corridor.

2. Base: Resilient or rubber base. If walls are concrete or concrete block, paint to intersection of floor line.

3. Walls: Painted; architecturally finish where visible from guestroom corridor.

a. BP Option: Diamond plating for protection where necessary.

4. Ceilings: Paint exposed structure or ACT, however, if visible from guest corridor, provide smooth painted gypsum board or smooth finish on concrete substrate.

7B.5 Ice Dispensing

A. Program: Ice dispensing is a required guest amenity. Beverage vending is optional.

   1. Location: Convenient to guests, on each guestroom floor, locate in a dedicated alcove or room off the guestroom corridor.

      a. Plan and locate to minimize exposure (noise and views) from Guestroom corridors.

      b. Provide space for waste and recycling containers as required by Interior Design.

   2. Size / Area: Accommodate the machines with adequate clearances and accessibility for guest use and maintenance.

      a. Area: 2.3 m² (25 sq. ft.) minimum for each machine

B. Design Features:

   1. Door: If required, provide with large clear, safety glass panel for viewing into room, 90 cm (3 ft.) wide entry minimum.

C. Equipment: Comply with the following.

   1. Ice Machine: Self serve dispenser type (not bin type, see <10>). Provide one ice dispensing unit for each 36 guestrooms on each floor. Coordinate with <15A> for HVAC and drain.

   2. Beverage Vending if provided: Locate adjacent to ice machine.

D. Lighting: Decorative ceiling fixture or recessed down light fixture; no fluorescent tube lighting.

E. Finishes:

   1. Floors: Slip resistant (see <16>), through body color porcelain tile

   2. Base: Porcelain tile base, 10 cm (4 inch) high minimum

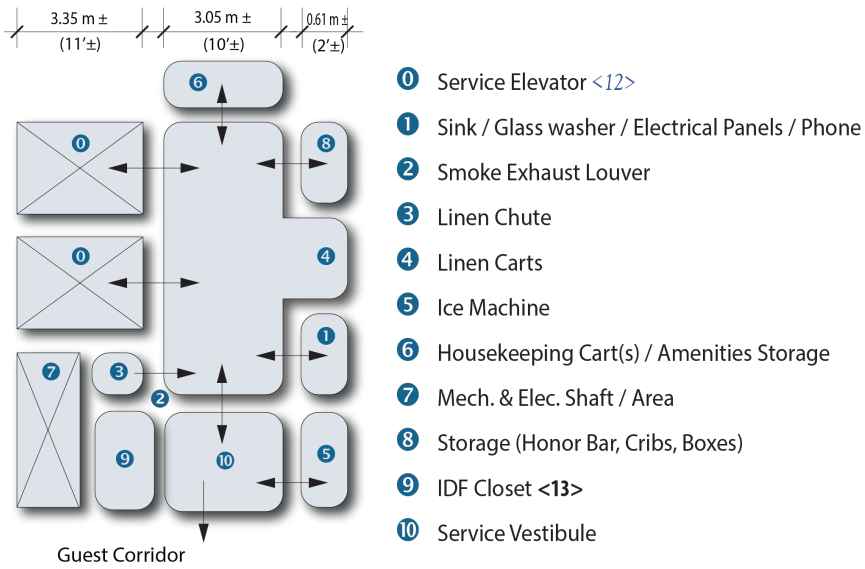
   3. Walls: Wallcovering or painted

   4. Ceilings: Smooth painted surface

7B.6 Housekeeping & Linen Storage

A. Program: Provide a Housekeeping Room (coordinate with <11B>) on each guestroom floor. Bulk housekeeping storage is centralized in one housekeeping area and shuttled in bulk units by service elevator to the floors.

1. Location: Provide a housekeeping / linen storage room near Service Elevator Foyer and Guestroom Corridor.



2. Size / Area: Accommodate the following.
   - Floor sink
   - Storage for housekeeping cart (see "Linen Storage" below)
   - Folding beds
   - Linen storage shelves
   - Cleaning supplies and materials
   - Fold-up work counter
   - Access to linen chute

3. EI Housekeeping staff typically service rooms from housekeeping carts used to transport linens, cleaning supplies, and soiled linen / laundry.

B. Features: Provide the following:

1. BP Floor Sink (see <15B>): 76 x 76 cm (30 x 30 inch) size with back and side-splash protected with ceramic wall tile

2. BP Work Counter: 64 cm (25 inch) deep x 122 cm (48 inch) wide at 91 cm (36 inch) above floor

3. BP Linen Storage: 2.4 m (8 ft.) of 3 tier shelving for every 36 guestrooms and storage space for one housekeeper cart for every 15 guestrooms. One

cart measures 152 cm (60 inch) long x 56 cm (22 inch) wide x 107 to 163 cm (42 to 64 inch) high

4. Doors: Provide the following:
   a. Single Doors: 1.1 m (3-6) wide.
   b. BP Double Doors: 0.91 m (3 ft.) wide for each leaf.
   c. Controlled Access: Electronic key, see <16>.
5. BP Phone: Provide one house phone.

C. Linen Chute: Provide metal, prefabricated chute assembly in a fire rated shaft, accessible only to employees at housekeeping space on each floor.

1. Standards: For chute fire protection system requirements, sprinklers and smoke venting through roof, see <14>.
2. Vestibule: Provide a 1.2 x 1.2 m (4 x 4 ft.) minimum, accessible vestibule through a fire rated door from Housekeeping and large enough to permit the cart in the room to empty.
3. Chute: 0.76 m (30 inch) diameter, metal with smooth interior to avoid damage to linens
4. Chute Discharge & Hopper: Stainless steel door with a fusible link at laundry facility (see <11A>) on lower BOH floor area.

D. BP Finishes:

1. BP Floors: Resilient composition tile or porcelain tile
2. BP Base: Resilient or rubber base, 10 cm (4 inch) high minimum; tile base at wet areas
3. BP Walls: Painted; ceramic tile at wet areas
4. BP Ceilings: Painted exposed structure, but if visible from guest corridor, provide smooth painted gypsum board or smooth finish on concrete substrate.

7B.7 Guest Laundry (option)

A. Program: If required by market, provide room for self service, currency operated washers and dryers with table for folding laundry and clothes.

1. Location: Adjacent to housekeeping area and public circulation corridor with visual access from corridor for passive surveillance.

2. Features:

a. Door: With large vision lite.

b. Drain: Provide area floor drain.

c. Telephone: Mount house phone (see <13A>) on wall at 137 cm (54 inch) AFF near the entry door, inside of the Guest Laundry room. Outside phone line access is optional through Front Desk.

B. Equipment: One each, washer and dryer (top loading), up to 300 guestrooms; resorts may require more.

C. Finishes:

1. Floors: Through body color porcelain tile, 406 x 406 mm (16 x 16 inch) minimum or larger

2. Base: Tile base, 10 cm (4 inch) high minimum

3. Walls: Wallcovering or painted

4. Ceilings: Smooth painted surface

7B.8 Exit Stairs

A. Program: Minimum of 2 remote stairs serving guestroom floors above and below grade.

1. Operational Control: In multi-use facilities, in order to maintain operational and security control as determined by the Loss Prevention Review process (see and <16>), hotel exit stairs may be restricted and may not be shared or connected to office, retail, residential, or other non hotel uses. Confirm roof access through locked enclosure above top guest floor.

2. Size / Area: For size, location, and stair pressurization (if required), comply with <14>.

B. Signage & Graphics: See .

1. Provide floor numbering and emergency information in 20 cm (8 inch) high characters at each landing.

2. Comply with governing code and bilingual designations.

C. Features:

1. HVAC: Provide conditioned air. See <15A>.

2. Safety Criteria: Make stairs apparent through use of one or more of the following design elements:
   • Contrast: Change floor color or materials to identify stair location.
   • Nosings: Identify tread edge with hard, slip resistant surface for full width of stair tread.
   • Handrails: Provide at both sides of stairs to visually announce stairs and assist users.
   • Lighting: See <15C> for lighting levels.

3. Doors & Frames: Provide fire rated, hollow steel construction. See <14>.
   • Vision Panel: Fire rated, glazed vision-lite in door from Guestroom corridor.
   • Hold-Open Device: On lower floor stairs, where upgraded finishes have been employed, provide low voltage electromagnetic hold-open devices connect to fire alarm system to allow for visual continuity from corridor to stairs. If governing regulations allow, omit devices on upper levels.

D. Finishes:

1. Floor: Steel troweled concrete with hardener or painted landings and treads. Extend corridor flooring and base into these areas if visible from Guest Corridor.

2. Base: Resilient base. If walls are concrete or concrete block, paint to intersection of floor line.

3. Walls: Painted. Architecturally finished where visible from guest corridor.
4. Stair Handrails & Stringers: Painted
5. Other Surfaces: Paint fire hose cabinets and similar surfaces.
6. Ceiling: Paint exposed overhead structure.

7B.9 Butler's Pantry (option)

A. Program: In certain regions, guest service functions (such as ice service) are combined in a Butler's Pantry or co-located with housekeeping / linen.

B. Size / Area: 6 m² (64 sq. ft.), and provide minimum of one pantry at each guest level.

C. Features: Where a pantry is required, provide with the following features:

1. Work Space: Sink, counter, chair and adjustable shelves above and below counter.
2. Communications: Electronic butler pager and telephone, see <13A>

D. BP Equipment:

• Ice Machine: In lieu of providing in a service alcove (see "Ice Dispensing" above), locate ice machine dispenser in the Butler's Pantry.
• Dishwasher

E. Finishes:

1. Floors: Slip resistant (see <16>) hard surface, easy to clean material such as porcelain ceramic or stone tiles
2. Base: Ceramic tile or painted wood
3. Walls: Wallcovering
4. Ceilings: Same as Corridor

7B.10 Distribution Rooms

A. Program: Accommodate the distribution of the following systems in secure, enclosed closets on guestroom floors:

1. Telecommunications (see <13A>): Provide wall space for managing IDF (Intermediate Distribution Frame) telephone cable distribution, if required.
2. TV & Video (see <13A>): Provide space for TV, video cable and panels, where required.
3. Electrical (see <15C>): Provide room for electrical panels, conduits and branch circuit distribution.

B. BP Finishes:

1. BP Floor: Steel troweled concrete and sealed
2. BP Walls: Painted
3. BP Ceiling: Paint exposed overhead structure.

7B.11 Coordination

A. Fire Protection & Life Safety: For device requirements, see <14>.

1. Fire Sprinklers:
   a. Corridor: Wall mount, semi-recessed
   b. Elevator Foyers: Semi-recessed
2. Other Equipment: If fire extinguishers, hose cabinets and standpipe cabinets are required, enclose in fully recessed cabinets. Maintain wall acoustic and fire rating at recessed cabinet locations.

B. Mechanical, Plumbing & Electrical Systems: See <15A>, <15B> and <15C>.

1. Mechanical: Include ventilation, cooling, heating, and smoke control (if required).
2. Ventilation Registers: Coordinate design, placement and selection of wall and ceiling ventilation registers.
3. Access Panel / Door: If required, provide at each vertical shaft on each floor containing piping and / or mechanical risers. Conduct design meeting during Model Room review to coordinate location and design with MI Interior Design

before installation.

4. Lighting: Include architectural and decorative fixtures in corridors and foyers. Linear fluorescent or Back-of-House type fixtures not allowed. See <15C>.
   a. BP Vary general corridor lighting levels and sources. Coordinate combinations of ceiling mounted fixtures, wall sconces.
   b. Highlight and standardize light levels at typical guestroom entry alcoves and artwork locations. Provide special or feature lighting at suite alcove entries.
   c. BP Provide general ambient lighting in service areas.
5. Power Outlets: Provide housekeeping convenience outlets (see <15C>) at 15 m (50 ft.) maximum on center for corridors and one convenience outlet at each elevator foyer, service and housekeeping space.

C. R Reference: Coordinate with requirements of other Chapters.
- Overview & Project Administration
- Elevators & Escalators
- Technology Infrastructure
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

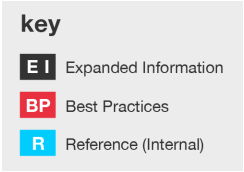
executive (concierge) lounge

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents



chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

7C.1 Overview

A. Program: As determined in the project Facilities Program, provide a guest Lounge, typically referred to as the Executive Lounge. The guest Lounge offers buffet food and beverage service in an exclusive, residential environment for elite guests and those paying for access. The Lounge supports 4 key experiences:
   • Welcome
   • Gather
   • Chill
   • Collaborate

   Provide the following amenities and services:

   1. EI Relaxation: A place for guests to relax and unwind, away from their guestroom and public circulation.
   2. EI Business / Work: A place to conduct informal and personal business activities away from public circulation.
   3. EI Concierge / Host: Guests have access to personalized services.
   4. EI Food & Beverage: Convenient access to excellent select light food and beverage buffet throughout the day.
   5. EI Privacy: A place to meet, away from the main Lobby <2A>.
   6. EI Socializing: The opportunity to interact with other guests in an exclusive environment.
   7. EI Television / News: View news and sports through TV and printed materials.

B. Outside Areas: If feasible, include exterior balconies and dining terraces tangent or contiguous to dining areas.

   1. BP Design furniture layouts to permit attendant service circulation to and from balconies and terraces.
   2. BP Accommodate overflow seating and possibly smoking patrons. The opportunity to offer additional seating at exterior balconies or terraces is beneficial based on the climate and location.
   3. R For balcony design details, see <7A>.

C. Stairs, Steps & Ramps: Make stairs and steps apparent through use of essential design elements per Chapter <16> (including ramps where required) and in compliance with governing codes, see <GR1>.

D. Windows & Safety Glass: See Chapters <GR3> and <16> for window, glass /

glazing criteria, restricting window opening to 10 cm (4 inch) and for safety glass requirements.

E. Technology:

1. Provide strong Wi-Fi and cell phone coverage throughout the Lounge spaces for guest access. Consult the CTR for wired PI criteria. See <13A>.
2. Background Music: Provide hard wired speakers and subscription music system with controls at Host Area. See <13B>.
3. Televisions: Provide TV cable connection for flat panel large screen TV. See <13A>.
4. Provide a variety of convenience charging stations. Provide at a minimum at 50% of seating.

F. Spaces: Accommodate the following spaces:

- Entrance / Foyer
- Grab & Go
- Reception Area / Host Area
- Business Support Area
- Main Lounge with Buffet
- Service Pantry
- Meeting Room (option)
- Boardroom (option)
- Toilet Room (option)

7C.2 Program Areas and Spaces

A. Planning: Locate the Lounge in a centralized area with easy access for guests.

1. Location:
   a. Adjacent to and with direct visibility and access to Passenger Elevator Vestibule.
   b. BP Service Elevator: Ideally, locate the lounge pantry adjacent to or near the Service Elevator to minimize service circulation in the guest corridor.
2. Size / Area: Meet the following area minimums and as dictated by the project Facilities Program:
   a. Europe:
      - For properties with up to 300 guestrooms provide 3 guestroom bays

minimum.

• Add one guestroom bay for each additional 100 guestrooms.

b. EI Urban / city center business hotels may require larger Lounges.

3. View: Premier view is required. Locate at the highest hotel level without compromising the location or importance of special suites.

4. Multi Level: For multiple Guest Lounge Level floors, locate the Lounge on first and / or middle level of guestrooms. If feasible, provide an architectural interconnecting staircase.

B. Entrance / Foyer: Readily identify entrance to Lounge from the point of the guest arrival, such as passenger elevator vestibule. Provide strong visual impact with millwork.

1. Entry Doors: Provide decorative glass doors at entrance.

a. Guest Access: Use electronic key at entry door and inside elevator cab to access floor. Provide compatible key with guestroom lock system for controlled access.

2. Focal Point: Place a premier view, architectural feature or fireplace, as appropriate for the locale, in a focal position to the arriving guest.

3. Luggage storage is an option.

4. Pantry Signal: Provide a discreet, electronic signal device at the Entry to signal a Lounge attendant in the Pantry when a guest enters the Lounge.

C. Host Area: Provide a defined Host space at the entry and near the Business Support Area for an attendant to greet guests and provide concierge services.

1. Host Station: Provide a Host station to support the functions of the host.

2. Equipment: Telephone: Cordless phone. <13>

3. Provide duress alarm at area. See <16>.

4. Cashiering and currency exchanges are not accommodated by the Host.

D. Grab & Go Option: Where programmed, provide a small facility located near, but not at entry, for all day dining opportunities.

1. Program: Provide a built-in area for display of snacks and beverage items and integrate equipment allowing guests to easily take items to go.

2. Location: Position at Entry and out of the circulation of guests entering and leaving the Lounge.

3. Features:

a. Feature wall

b. Countertop with lockable cabinet storage below.

c. High-end display area for glassware

d. Accent, dimmable lighting

e. Integrated trash station

4. Equipment:
   • Undercounter glass front refrigerator
   • Automated coffee machine

E. Business Support / Library: Provide a defined work space to accommodate guest needs and business requirements. Design work area with communications and feature millwork.

1. Location: Do not directly position at or within foyer, but visible to Entry

2. Features:

   a. Provide a work surface with cabinet storage for supplies.

   b. Furniture:
      • Library Table if space allows.
      • Ergonomic seating

3. Equipment:

   a. EI Attendant can provide guest services, essentially duplicating those of main reception, concierge desks (in lobby), and business center. See <13A>.

   b. Computer: Provide computer equipment (laptop or tablet preferred) to view guest registrations and facilitate boarding pass printing and check-outs.

   c. Computer connections, Wi-Fi and wired Property Internet (PI).

   d. Commercial desktop photocopier / printer / scanner

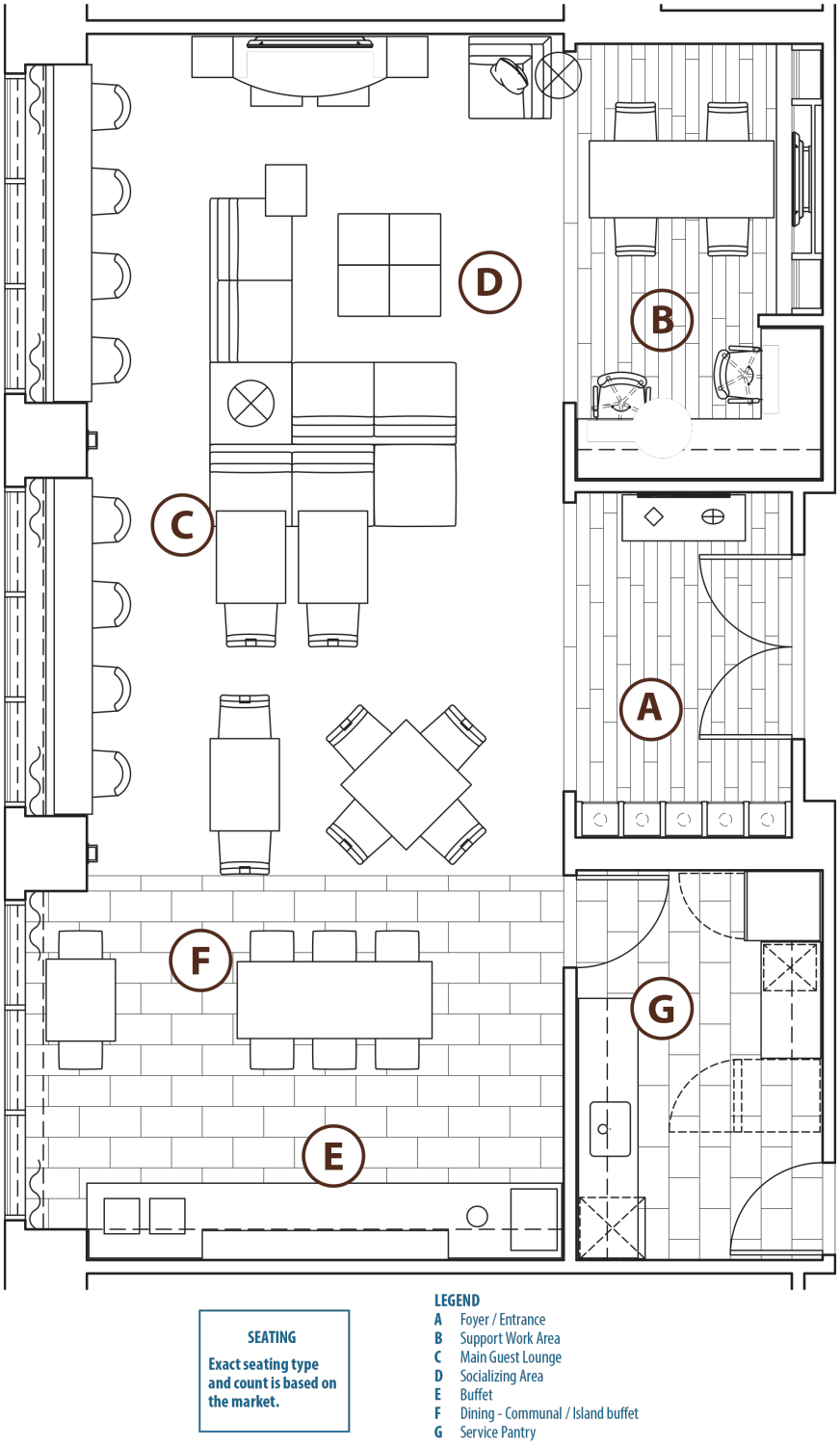
   e. Accessible power outlets above the work surface for guest use.

4. Quiet Area: In larger Concierge Lounges, provide in conjunction with Business Support area, and possibly separated by it. Include a semi-isolated “quiet” seating area which may facilitate an impromptu meeting. Include a library table to seat 4 to 6 with adjoining lounge seating group.

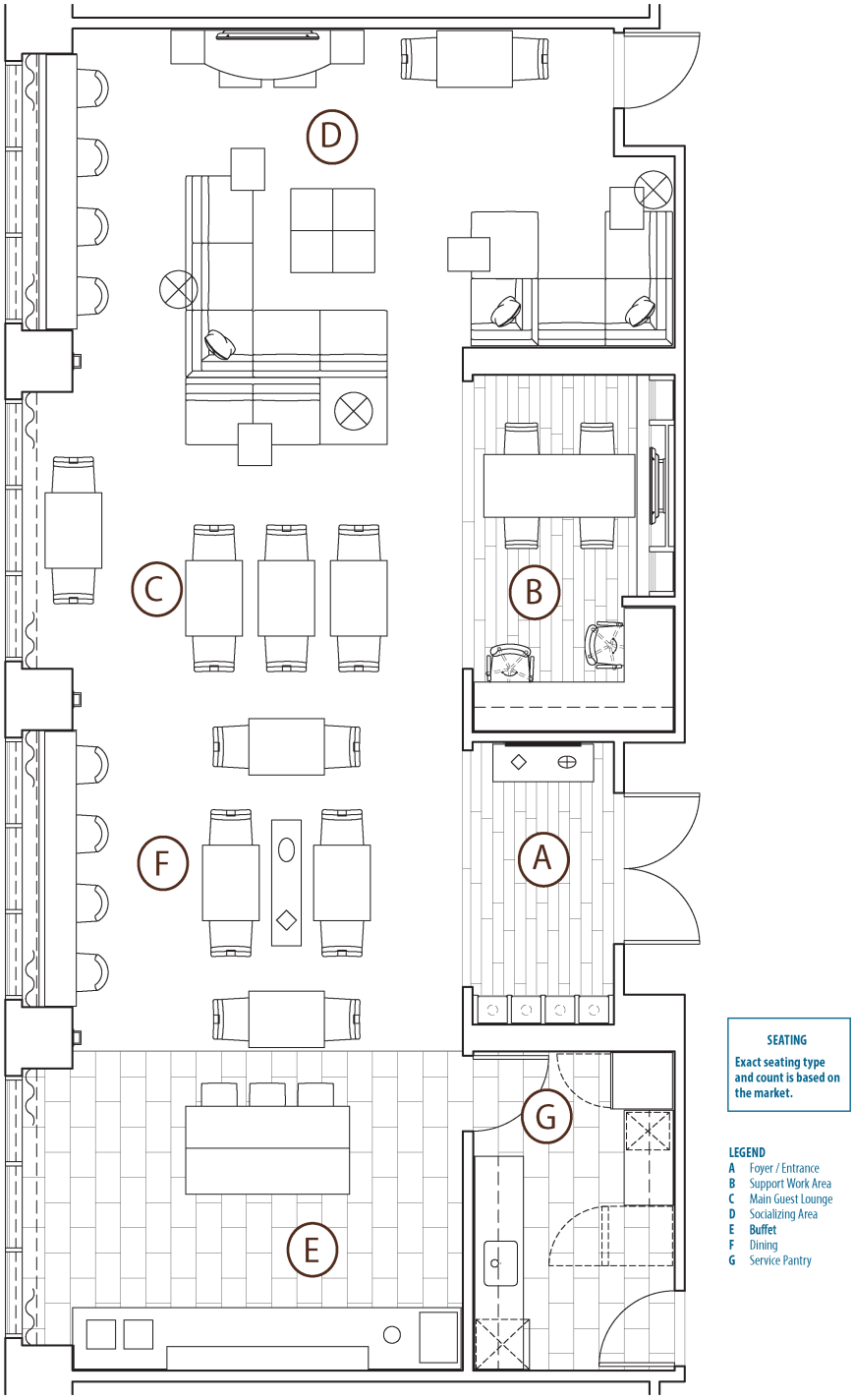
F. Main Lounge with Buffet: Plan the Lounge to accommodate a variety of guest relaxing, dining and socializing activities. Design the areas to convey a quality

image in an upscale residential living and dining area, but not a restaurant.

1. Seating Areas: Organize seating in zones to accommodate the different activities of guests. Generally, provide seating for the following 3 core guest activities.
    a. Socializing & Relaxation Area: 40%; general relaxation and quiet socializing.
    b. Dining & Buffet Area: 60%; complimentary food and beverage service.
2. Socializing & Relaxation Area: Accommodate impromptu small meeting / discussions, light business activities and lounging. Position seating groups close to point of main arrival and provide a buffer at the main dining area and business conversation area.
    a. Seating: Casual sofas, modular seating and lounge chairs.
    b. End and Coffee Tables: Continental table height.
    c. TV feature wall with a minimum 60” TV
    d. C-tables: Flexible and easy to move for dining or work.
3. Dining & Buffet Area: Typically, this area supports two primary activities; complimentary buffet and general socializing.
    a. BP Dining Area: Capitalize on best view or best architectural space.
    b. Dining seating proportions:
        • Table Seating: 70% (including accessible table seating).
        • Lounge type seating: 30%
    c. Seating: Provide a variety of seating with tables suitable for working, eating and relaxing. Principal seating to facilitate groups of 2 to 4.
    d. TV visible from a majority of the seating
4. Bar: Provide millwork area as part of buffet or provide a credenza. Provide an 'honor bar' as part of the evening alcoholic beverage requirement.
5. EI Three Bay Guest Floor Lounge - Example Plan



6. EI Four Bay Guest Floor Lounge - Example Plan



G. Buffet: Main feature and focal point for complimentary buffet and self-service beverage bar. Customize each installation.

1. Provide permanent main counter segments with built-in features. However, auxiliary credenza and communal tables may be utilized to complement and support the function.

2. BP Accommodate periods of full and light service. Appropriately decorate unused portions of buffet.

3. Lighting: Provide ceiling lighting above buffet counter and island tables to highlight food displays.

H. Lounge Service Pantry: Provide for light food and beverage service to guests, including storage, light food prep, cleaning and trash holding, and related equipment; see the project Facilities Program for requirements. See <10>.

1. Location: Adjacent to host station and situated behind or tangent to Main Buffet. Directly accessible from service circulation corridor or Service Elevator vestibule.

2. Features: Provide the following:

   a. Entrance to / from Buffet Area: Provide a lockable door.

   b. Telephone: Provide house phone.

   c. Electrical: Provide ample power above the counter for equipment.

   d. BP Plumbing: Provide floor drain and kitchen sink.

3. R Pantry Equipment: See Chapter <10> for Guest Floor Lounge Pantry commercial equipment requirements.

I. Meeting Room (option): Provide when required by the project Facilities Program, anticipate for light food and beverage service from Lounge pantry.

1. Location: Adjacent to Lounge and Service Pantry.

   a. Accessible from Lounge level corridor through dedicated foyer.

   b. Include foyer with vestibule area (may include coat / storage closet); accessible to guest toilets.

2. Seating: 8 to 10 guests at conference table; facilitate complete meeting requirements.

3. Interior Design & Technology: Featuring high quality with “state-of-the-art” meeting accessories.

J. Boardroom (regional option): Provide if dictated by the project Facilities Program.

1. Location: Adjacent to Lounge and close to receptionist and service pantry.

   a. Accessible from Main Corridor through dedicated foyer.

   b. Include foyer with vestibule area, coat / storage closet, private telephone booth, and guest toilets.

2. Service: Light food and beverage from Lounge Service Pantry.

3. Seating: Minimum 10 guests; facilitate complete executive meeting requirements.

4. Secondary Entrance: Directly from Lounge.

5. Interior Decor and Fittings: Highest quality with “state of-the-art” meeting accessories.

K. Toilet Room (option): Provide a “powder room” for use by guests. Include if programmed in project Facilities Program.

1. Size: Accommodate guests with disabilities.
2. Location: Near Reception Area and accessible from lounge.
3. Features: Toilet, sink, decorative framed mirror and accessories similar to a typical guestroom toilet room.

7C.3 Interior Design - Finishes

A. EI Character of Space: Warm and inviting; coordinate with Guest Elevator Lobby, connected Guest Lounge Level Corridor, and design theme of public spaces. For M Club, see M Club Design Guide.

B. Floors:

1. Porcelain tile, stone or wood: Only use porcelain tile directly adjacent buffet. Do not use marble or wood floor at buffet because of food staining, servicing and area maintenance traffic.
2. Area Rugs / Carpet: At dining and seating areas; 80/20 Axminster carpet with pattern / color coverage. Wood or stone floor is acceptable with loop or cut pile wool area rugs. See <GR4>.
3. Closed Pantry, Storage and Buffet Area: Porcelain Tile

C. Walls: Wall covering

1. Decorative millwork, stone, stained or painted wood panels, or applied wood moldings
2. Wall Sconces: Connect to dimmer control
3. Base: Wood or as appropriate to flooring

D. Ceilings: Painted smooth, non-textured finish

1. Acoustical Tile: Limit to closed areas such as Pantry and Storage. However, painted smooth, non textured finish is required in guest areas.
2. HVAC Grilles: Integrated with layout of ceiling features, but not randomly placed.
3. Light Fixtures: Down lights, pin spots, decorative ceiling fixtures; connect to dimmer control with 4 scene preset dimming.

E. Furnishings (Furniture, Fixtures and Equipment): See <GR4> for specifications.

1. Windows: Provide window treatment in coordination with the interior design concept. Examples include, wood valance, motorized solar shades, decorative sheer or stationary side panels.
2. Lounge Chairs: Light weight, wood frame; fully padded seat and back; leather or equivalent covering; stain resistant and cleanable.
3. Sofa, Loveseat, Modular Seating, Chairs: Fully upholstered with cleanable, stain resistant fabric.
4. Small Tables: Continental height tables and 'C' tables that are flexible and easily moved for dining or work.
5. Dining Chairs: Scale / size to fit under table. Padded leather seat.
6. Tables: Finished tops
   - Dining Table: Deuces (50% to 60%) and 4 tops (20% to 25%)
   - Communal table (bar height & dining height)
   - Communal dining height for work table is an option

7C.4 R Coordination

A. R Reference: Coordinate with requirements of other Chapters.
- Overview & Project Administration
- FF&E
- Property Technology
- Fire Protection & Life Safety
- Mechanical - Plumbing - Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

administration facilities

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

8A.1 Overview

A. Administrative Areas: The criteria included in this Chapter models a generic administrative area.

1. EI Staff: Employee levels and responsibilities vary based on property type, size, and location and the specific staff assignments and organization for a proposed office. Administrative programs are verified by MI.
2. Accessibility: Administrative spaces are accessed by the public and are required to be accessible to guests, clients and service providers with disabilities. See <GR1> for Code and Accessibility compliance.
3. EI The "example" plan included in this document models a generic administration area.

B. Space Planning:

1. BP Location: Adjacent to the front desk. Locating the Administrative Area (Front Office, "Call Center," Executive Offices and Accounting) in one office suite is administratively desirable when contiguous space is achievable.
2. Size / Area (Overall):See the project Facilities Program for the Administrative Areas, including Guest Services "Call Center."
   a. BP Typical administrative suite, including Call Center, requires approximately 435 m² (4,685 sq. ft.) total gross area (includes 20% for circulation and build-out). For larger properties, additional space is required. Verify program requirements with MI.

C. BP Separate Spaces: Space priorities at public areas may require divided administrative spaces. When administrative spaces must be separate, comply with the following guidelines:

1. BP Front Office:The location of front office functions adjacent to the front desk is essential and the highest priority. Provide separate access from public circulation space to avoid circulation through the front desk area.
2. BP "Call Center":Locate in or near Front Office to beneficially share information and resources.
3. BP Sales, Catering & Events: If separate, these offices are usually positioned near the Ballroom / Meeting Area, the focus of sales, catering and events activities. For larger properties (more than 300 guestrooms), additional space is required.
4. BP Accounting: Accounting offices generally have the fewest functional

relationships, however locate as close as possible to the front office.

5. BP Separate Levels: Include communicating stairs when programmed administrative spaces are on separate levels.
6. BP Convention Office: Add convention services office for projects with more than 930 m² (10,000 sq. ft.) net of meeting area.

D. R Steps, Stairs, Ramps & Slip Resistance:See <16>.

E. R Windows & Safety Glass: Restrict window opening to 10 cm (4 inch). See and <16> for window, glass / glazing criteria and safety glass requirements.

F. BP Natural Light / Views:

1. BP Verify code requirements for daylight / natural light in offices.
2. BP Exterior Views: Whenever possible, provide exterior views for the well being of Employees.

G. Acoustics:STC 50 minimum for office partitions

H. Office Doors:0.91 x 2 m (3''-0'' x 6''-8'') minimum size

1. BP Solid core wood door with painted frame
2. BP Sidelite frames with 30 cm (12 inch) wide glass lite is an option.

I. BP Enclosure / Security Walls: Enclose Cashier''s Area, Counting, Safe Deposit Boxes and Guest Safe Deposit. Provide concrete or clay masonry walls extending to underside of building structure above (or provide security expanded metal lath ceiling and wall construction of equal protection).

J. Access Control:At employee entry to administrative area, provide electronic operated lock access. See <16>.

K. Toilet Rooms: Provide toilet facilities adjacent to administrative offices and at remote locations when travel to a central employee toilet room is excessive.

1. R Plumbing Fixtures and Accessories: For BOH plumbing fixtures,see <15B>.

L. BP Finishes:Provide durable interior finishes to enhance a stable work environment. See .

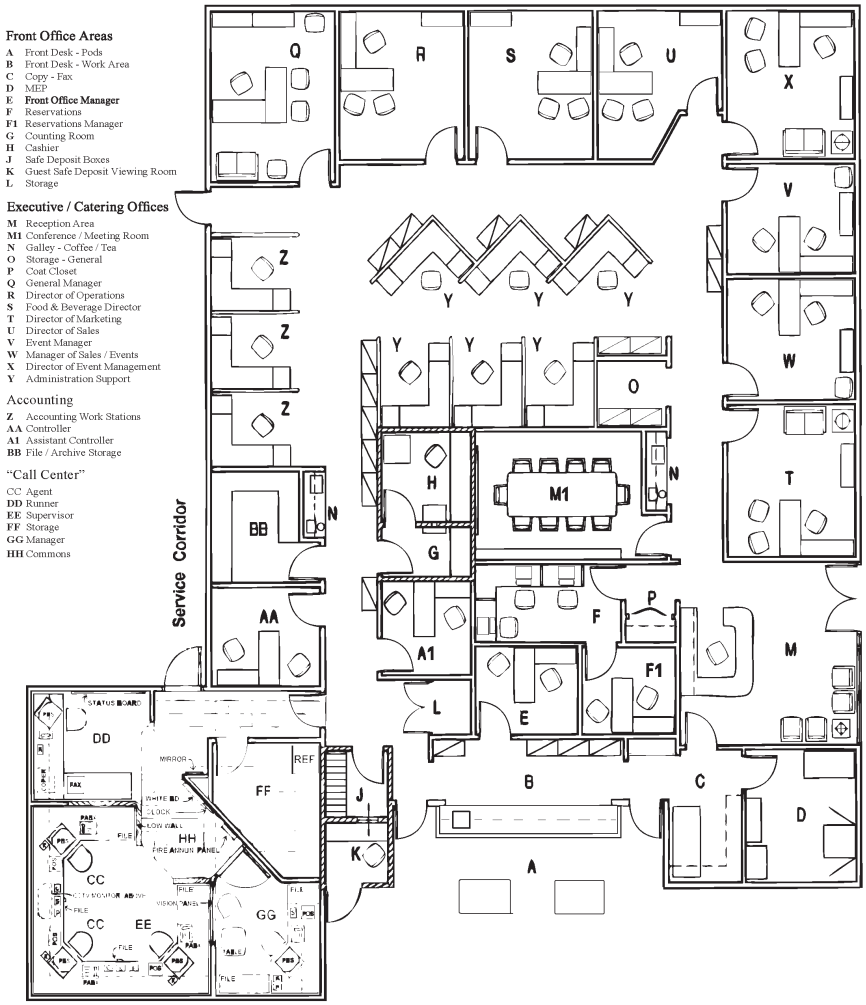
M. R Lighting Levels:See <15C> for minimum requirements.

N. BP Administrative Spaces: Area shown for spaces is minimum net. Add 20% to net administrative area totals to allow for corridors and internal circulation space. Accommodate the following:

1. BP Admin Program Spaces

Program Areas	Net Area:	
	m^2	sq. ft.
Front Offices / Support	124.5	1,341
"Call Center"	46.5	500
Executive Offices	85.4	919
Sales & Catering Offices	96.8	1,043
Accounting	44	474
Totals	397.2	4,277

O. BP Admin Spaces - Example Plan



8A.2 Front Office & Support Areas

A. Program: Provide offices and areas of support for front desk / reception functions.

B. Size / Area: Include the following offices and spaces to support front office functions:

1. Front Office Program Spaces

Front Offices / Support (see example plan)		Size		Private	Open
		m^2	sq. ft.		
Front Desk - Pods	**A**	See Chapter **<2>**		--	--
Front Desk Work Area	**B**	32.5	350	X	
Copy / fax	**C**	11.6	125	X	
PMS Equipment	**D**	11.1	120	X	
Front Office Manager	**E**	14	150	X	
Reservations (3)	**F**	16.7	180	X	
Reservations Manager	**F1**	6.7	72	X	
Counting Room	**G**	9.3	100	X	
Cashier	**H**	6.7	72	X	
Deposit Boxes	**J**	3.3	36	X	
Guest Deposit	**K**	3.3	36	X	
Storage	**L**	9.3	100	X	
Totals		124.5	1,341		

C. R Front Desk: Coordinate with <2A> requirements.

D. Work Room: Include an employee work space to support front desk activities.

1. BP Time Clock: Provide in the front office area.

2. Features: Provide work counter, wall shelving, below counter file cabinets, and horizontal file space not visible from front desk.

3. BP Copy - Fax: Provide space for large size copy machine and facsimile (fax) equipment accessible to Front Desk, adjoining Work Area and Offices.

E. Main Computer (PMS) Equipment: Enclosed room with dedicated air conditioning system. See <13A> for criteria.

F. BP Front Office Manager: Position office in close proximity to Front Desk.

1. EI Usually, the front office manager works at the front desk and requires a private office.

G. BP Reservations:The facility for reservations is typically located in a separate

Reservations Center that serves several properties by region or country. Room reservations are typically not conducted at the property. At international locations, verify criteria with MI Operations.

1. BP Space Planning: The "example" plan and following description is based on locating the Reservation personnel separate from the "Call Center" Department.
2. EI Reservation operators prefer a quiet environment and deal solely with guest reservations.
3. BP Work Space: Design a continuous counter top space for work surfaces (custom millwork or system furniture); minimum 60 cm (2 ft.) in depth; divide work spaces with acoustic partitions.
4. BP Separate enclosed work area with door to access administrative area. Provide file cabinets and overhead shelves.
5. R For PC station quantities, see <13A>.
6. R Telephone: See <13A>.
7. BP Reservations Manager: Adjacent to Reservations Operator space. Provide 2-way window in half-height glazed door to monitor work activity.

H. BP Counting Room:Receipts and cash for property services are brought to the Counting Room. Provide the following:

1. BP Provide employee route to this area through Back of House and avoid routes through Public Areas.
2. BP Location:At entry to accounting offices, adjacent to the General Cashiers. Entry is through door with half-glazed safety glass view panel; with card reader with audit trail.
3. BP Deposit Safe: Provide between Counting Room and Cashier's Office with through-wall employee rotary deposit connected to a 2 compartment, Class "C" construction rated safe accessible to cashier.
4. BP Counting Area:Include small counter top space at approximately 90 to 180cm (3to 6ft.) long x 56 to 61cm (22 to 24inch) deep to perform counting before depositing food and beverage receipts and money into deposit safe drop. Resort and large properties may require a wider station counter and more cash boxes.
5. BP Cash Banks: Locate cash safety deposit boxes below counting countertop; MI to verify quantity.
6. BP Video Surveillance System (VSS) Cameras: Space is monitored by fixed camera with view of counting counter, safe and cashier's room through half-height glazed door. See <16>.

I. BP Cashier: Provide deposit safe accessible from cashier's side adjacent to Counting Room.

1. BP House Safe: UL Class "B", 2 hour rated. Locate separate large floor safe in corner of cashier's room.
2. BP Entry Door: Design with teller type window and small cash / envelope pass-thru below safety glass view window in door. Provide asylum type lock (keyed both sides; not master keyed).
3. BP Access Control Devices: Provide duress alarm, motion detector. See <16>.

J. Safe Deposit Boxes: Locate accessible to Front Desk employees to issue or receive deposit boxes from the adjoining Guest Safe Deposit Room at the employee-to-guest pass-thru. Guest must be able to continually view safe deposit box from stored position to their possession.

1. BP Safe Deposit Box Type:Recess in wall construction. See <16>.
2. Deposit Box Quantity: Provide one 10 box unit for every increment of 200 guestrooms. Based on the Loss Prevention Review, locations may require a higher quantity. Additional boxes are required for employee Counting Room adjacent to Cashier's Office.
3. Door: Include 12.7 x 50.8 cm (5 x 20 inch) safety glazed sidelite view panel in entry door. Entry by electronic lock with audit trail.
4. Loss Prevention: Provide camera to view safe deposit box safe and pass-thru to guest area. See <16>.

K. Guest Safe Deposit Viewing Room: Locate room adjacent to front desk and accessible to guest from Reception area (Guest may not walk through or enter BOH area to gain access to safe deposit boxes.

1. Door: Accessible to guest when employee depresses electric door lock button at front desk. Guest may exit without waiting for electric door lock to be activated.
2. Pass-thru Window: Include safety glazed pass-thru window to Safe Deposit Boxes for transfer of safe deposit box to guest. Position window to permit guest to continually view safe deposit box from stored position to pass-thru window.
3. Counter: Provide counter with chair for guest use.
4. Option: The safe deposit boxes may be located in the viewing room, or same room as the boxes, when space is limited and if determined by market.

L. ATM:An automated teller machine (ATM) is required. See <2A> for location.

M. BP Closets:

1. BP Include space for employee coats and storage, first aid items and guest packages / letters.

N. BP Finishes:

1. BP Floors: Nylon tufted cut pile carpet (vinyl composition in closed storage spaces)
2. BP Base: Resilient base
3. BP Walls: Vinyl wallcovering or paint (painted smooth walls in closed storage spaces)
4. BP Ceiling: Accessible acoustical tile

8A.3 "Call Center"

A. Program: The Call Center is the hub of communications providing a single contact for guest services and PBX (telephone) operations.

B. BP Area / Spaces:46 m² (500 sq. ft.) total net area is typical. Consult MI to define the following quantity of program positions. See <13A>.

1. BP Call Center Program Spaces

"Call Center" (see example plan)		Size		Private	Open
		m^2	sq. ft.		
Agents (2)	**CC**	13	140		X
Runner	**DD**	6.5	70		X
Supervisor	**EE**	6.5	70		X
Storage	**FF**	9.3	100	X	
Manager	**GG**	7	75	X	
Commons/Circulation	**HH**	4.2	45		X
Totals		46.5	500		

C. BP Location:

1. BP Front Desk: Adjacent to the Front Desk support area.
2. EI Resources: It's a critical area for guest contact and permits opportunities to share resources such as fax, copiers and office equipment,

including employees and information.

3. BP Elevator: Provide convenient back-of-house access to service elevator to reduce "runner" travel and increase guest service response times.

D. BP Equipment & Systems: Connect systems and equipment to emergency back-up power and lighting and UPS system. See <15C>. Provide the following:

1. BP Fire Panel: Fire annunciator panel with acoustical alarm notice. See <14>.
2. BP Clocks: Wall clock or series of time zone clocks.
3. BP White Board: 1.2 to 2 m² (12 to 20 sq. ft.) wall mounted, marker board to post daily status of property and guest events.
4. BP VSS Monitor: Provide with keyboard controller at stations (may be shared). See <16>.
5. BP Chair, ergonomic
6. BP File cabinets, undercounter
7. BP Intercom (if used): Base station at each station (may be shared). See <16>.
8. BP Overhead, enclosed shelves
9. BP PBX telephone console, see <13A>.
10. BP Pager base station (may be shared). See <16>.
11. BP PMS / PC Computer (monitor, processor, keyboard), see <13A>.
12. BP Micros (retail system)
13. BP Radio Base Station, see <16>.
14. BP Alarm System: Alpha numeric keypad (may be shared), see <16>.
15. BP Task lighting
16. BP Work desk
17. BP Refrigerator: small unit to keep mini bar items cold
18. BP Storage Cabinets: Provide shelves and lockable doors.
19. BP Clipboard Rack: for 7 daily status clipboards
20. BP Counter: for fax and printer with paper and supply storage below
21. BP Copier: Small capacity (desktop) or access to copier

22. BP Fax Machines: 2 minimum
23. BP Printer: Color laser
24. BP Status Board: Mount on wall

E. BP Finishes:

1. BP Floors: Carpet (vinyl composition flooring in commons and closed storage space)
2. BP Base: Resilient base
3. BP Walls: Vinyl wallcovering
4. BP Ceiling: Accessible acoustical tile

F. Mechanical / Electrical: Provide the "Call Center" with heat and cooling for 24 hours a day, 7 days a week from a dedicated heating and cooling system supported by the emergency back-up electrical systems. See <15C>.

8A.4 Executive Offices

A. Program:Provide offices for the General Manager / Director of Operations, other executive office positions, and space for Administrative Assistants as required by the project Facilities Program.

1. BP Locate Executive Offices accessible to the public. Also, these offices may be at a remote location rather than near Front Desk.
2. BP Provide direct access where Executive and General Offices occur at levels away from other administrative spaces or the Front Desk.

B. BP Size / Areas:

1. BP Exec Office Program Spaces

Executive Offices / Support Spaces (see example plan)		Size:		Private	Open
		m^2	sq. ft.		
Reception Area	**M**	23.8	256		X
Conference / Meeting	**M1**	16.4	176	X	
Galley – Coffee / Tea (2)	**N**	1.9	20		X
Storage - File	**O**	3.3	36	X	
Coat Closet	**P**	1.1	12	X	
General Manager	**Q**	16.7	180	X	
Director of Operations	**R**	13.3	143		
Administrative Support (2)	**Y**	8.9	96		X
Totals		85.4	919		

C. BP Waiting / Reception Area:

1. BP Provide reception desk / chair and guest waiting space for guests visiting executive staff.
2. BP Include coat closets and a coffee alcove adjacent to Reception Area for visitors and staff.

D. BP Conference / Meeting (M1): Provide access to meeting facilities within the Administrative Area (preferred), in conjunction with an adjacent Business Center, or in association with Function Areas. See <6>.

E. BP Finishes:

1. BP Floors: Carpet
2. BP Base: Resilient base
3. BP Walls: Vinyl wallcovering
4. BP Ceiling: Accessible acoustical tile

8A.5 Sales & Catering

A. Program:Provide offices for Catering and Conference Services, Sales, Marketing, Public Relations, assistant managers and workstations for administrative assistance and support staff.

1. BP General Offices are secondary to Executive Offices.
2. BP Provide Reception, Waiting area and other administrative support spaces.

B. BP Planning Criteria - General:

1. BP Position Sales, Catering and Event management offices near Reception Area to facilitate easy access from public areas.
2. BP Layout offices along perimeter of space with administrative / accounting support areas placed in "open" office spaces.
3. BP Locate storage space adjacent to Sales, Catering and Reception Area.

C. BP Size / Areas:

1. BP Sales & Catering Program

Sales & Catering / Support Spaces (see example plan)		Size:		Private	Open
		m^2	sq. ft.		
Food & Beverage Director	S	13.3	143		
Director of Marketing	T	14.5	156	X	
Director of Sales	U	14.5	156	X	
Event Manager	V	11.1	120	X	
Manager of Sales / Events	W	11.1	120	X	
Director of Event Management	X	14.5	156	X	
Administrative Support (4)	Y	17.8	192		X
Totals		96.8	1,043		

8A.6 Accounting

A. Program: Offices and spaces for accounting are required. They may be in a separate area from other administrative offices dependent on allowable space.

1. R Property Technology: See <13A> for cabling distances.
2. BP Acoustics: Provide high level of acoustic control for work areas.
3. BP Location: Position away from significant employee and visitor traffic areas.
4. BP Employee Access: Typically, the primary access for accounting employees is through the Back of House.
5. BP Separate Areas: Accounting offices can be in a separate area from Executive and General Offices, dependent on allowable space and distance to main computer room.

B. BP Area / Spaces:See the project Facilities Program.

1. BP Accounting Program Spaces

Accounting (see example plan)		Size		Private	Open
		m^2	sq. ft.		
Controller	**AA**	11.1	120	X	
Asst. Controller	**A1**	8.4	90	X	
Archives Storage - Files	**BB**	11.1	120	X	
Accounts Receivable (2)	**Z**	8.9	96		X
Accounts Payable (1)	**Z**	4.5	48		X
Totals		44	474		

C. BP File Area: Design for 12 legal, lateral active file cabinets; minimum of 4 drawer height. Typically, circulation areas accommodate cabinets.

D. BP Archives Storage Area: Design to accommodate 175 inactive files that can be boxed and stacked seven boxes high. Typically, 12 m² (120 sq. ft.) is required.

E. BP Finishes:

1. BP Floors: Carpet (vinyl composition flooring in closed storage space).
2. BP Base: Resilient base
3. BP Walls: Painted, smooth or vinyl wallcovering
4. BP Ceiling: Accessible acoustical tile

8A.7 R Coordination

A. R Reference: Coordinate with requirements of other Chapters.

- Overview & Project Administration
- Lobby Areas
- Meeting Space
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

employee facilities

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

EI Expanded Information

BP Best Practices

R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

8B.1 Overview

A. Program: Design spaces for Employee use to promote excellent employee relations and guest services.

1. Incorporate management, administrative, training and other ancillary spaces required for employees.

2. Comply with regional customs, labor laws, social factors and religious customs that may impact employee facilities.

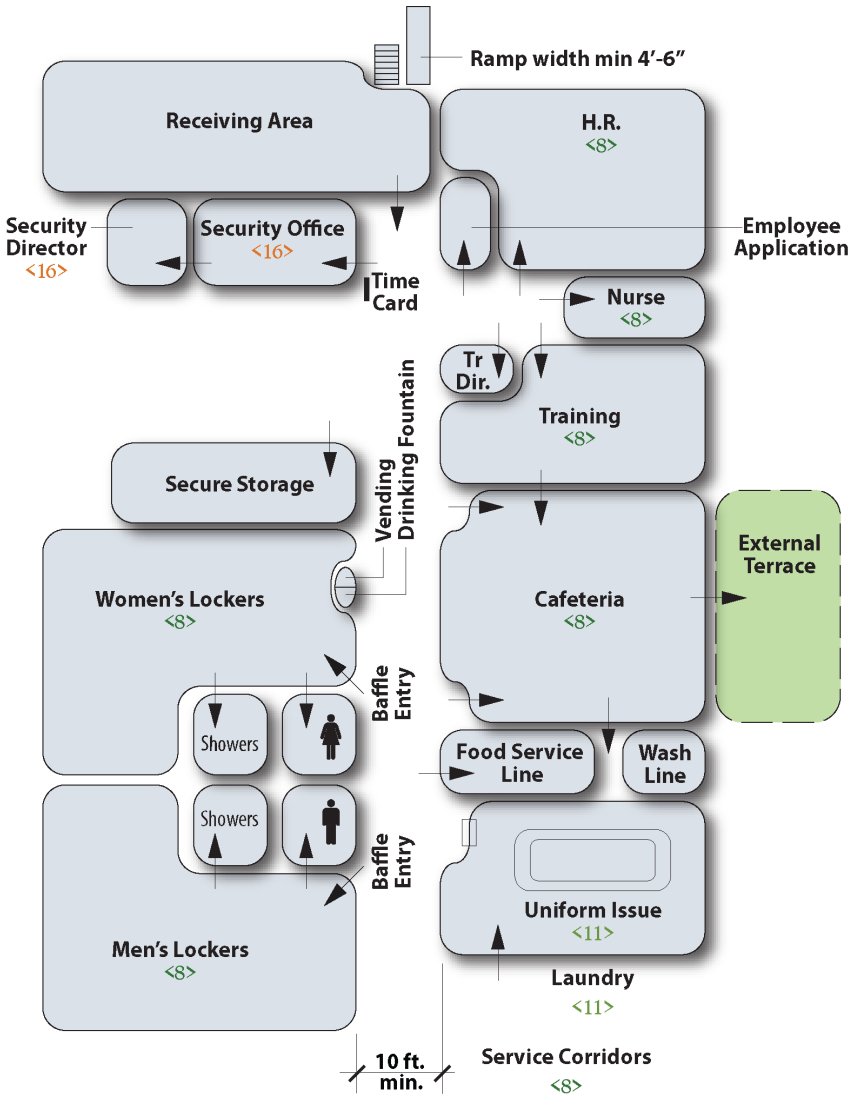
B. R Steps, Stairs, Ramps & Slip Resistance: See <16>.

C. R Windows & Safety Glass: Restrict window opening to 10 cm (4 inch). See <GR3> and <16> for window, glass / glazing criteria for safety glass requirements.

D. BP Spaces: As required by the project Facilities Program, accommodate the following employee spaces:
• Employee Entrance
• Human Resource (HR) Offices
• Training Room - multi-media
• Nurse / First Aid Station (regional)
• Locker, Change Rooms and Shower & Toilet Areas
• Employee Cafeteria
• Service Corridors
• Employee Area Service Corridors
• Payroll Office (regional)
• Religious Facilities (regional)

E. BP Natural Light / Views: Provide exterior views for the well being of employees.

F. BP Employee Facilities - Relation Diagram



8B.2 Employee Entrance

A. Program: Provide point of control to verify entry and welcome employees. Circulation is monitored by Security.

1. BP Location: Close to Security Dispatcher Office that provides controlled access to Service Areas. See <16>.
    a. BP Avoid integrating with loading dock and requiring employees to cross the loading dock.
    b. BP Where possible design separate building entrance for employees and applicants.
2. R Signage: See <GR2>.

B. BP Space Planning:

1. BP Entrance: Arrange so that employees do not cross or otherwise interfere with the receiving and loading activities.
    a. BP Immediately adjacent to and in visual contact with the Security Dispatcher Desk.
    b. BP If possible, visually separate employee entrance from receiving and loading area to provide employees with a positive welcome and applicants with a better first impression.
2. BP Exterior Area: If applicable, provide the following:
    a. BP Dependent on climate and region requirements, provide a weather protected area for smokers at a minimum of 7.6 m (25 ft.) from entrances and windows to keep smoke from entering the property. Provide trash and ash receptacles, tables and benches.
    b. BP Consider bike storage and ski racks for employees dependent on project location and the project Facilities Program.
3. BP Time Clock Station: Locate in Service Corridor alcove near the Employee Entrance (other locations may be requested by MI).

8B.3 BP Human Resource (HR) Offices

A. BP Program: Provide HR offices for employee services, employment testing, interviews, employee relations, related management offices and administrative support spaces. Provisions may include a Payroll Office when required by governing regulations. Verify with MI.

1. BP Location: Near Employee Entrance on accessible route and within visual control of Security Dispatcher.
2. BP Employee Access: Direct from Service Corridor

B. BP Size / Area: See the project Facilities Program.

1. BP HR Office Program Spaces

Spaces	Size:		Private	Open
	m^2	sq. ft.		
Reception	8	86		X
Secretary/ Receptionist	8	86		X
Admin. Assistant (Payroll)	8	86		X
Interview Room	6	65	X	
Testing	7	75		X
HR Director's Office	12.5	135	X	
Storage Space	9	97	X	
Totals	58.5	630		

C. BP Space Planning:

1. BP Reception: Include a reception desk or counter with area for supporting clerical facilities and space to welcome employees and applicants, and process applications. Arrange office furnishings and computer workstation / desk chair area so that HR managers face and greet applicants on arrival.
2. BP Testing: Locate 3 semiprivate work stations near reception space for applicants' use in completing applications and computer testing.
3. BP Storage Space: Accommodate personnel records, benefit materials and related files and securable storage.
4. BP HR Forms Access: For after hours (when HR office is closed), provide a recessed forms holder with 15 to 20 slots for 8 1/2 x 11 inch size documents, near office entrance, facing corridor.
   a. BP Mount the form holder, flush to wall and design not to interfere with moving carts in corridor.
   b. BP Ensure design does not violate fire wall rating, if any.

5. BP Offices: Provide private spaces with minimum of STC 50 acoustical rating at Director's Office, Interview rooms and other spaces for confidential meetings. Extend walls to underside of structure above and seal joints.
6. BP Administrative Assistant / Receptionist / Secretary: Part of Reception Area to support Director and Admin. Assistant; include facilities for copy machine, fax and clerical equipment.

D. BP Applicant Waiting Area: In a vestibule off corridor, provide minimum of one writing surface space to process employee applications.
1. BP Consider a separate room with TV / monitor to present corporate presentation videos such as company philosophy, grooming standard, etc.
2. BP Include additional seating and table with chairs to complete employment applications.

E. BP Features:
1. BP Entrance Door: Provide interior door to HR suite with view window, size and configure to comply with fire rating.
2. BP View: Provide fixed glass windows to view corridor and administrative assistance area.
3. BP Bulletin / Notice Boards: Provide sufficient space in area for employee viewing bulletins as required by governing authority.

F. BP Equipment: Provide the following office and administration equipment:
1. BP Telephones, see <13A>.
2. BP Copier with sorting features
3. BP Fax machine

G. BP Finishes for HR Offices:
1. BP Floor: Nylon tufted cut pile carpet
2. BP Base: Resilient base
3. BP Walls: Vinyl wallcovering or paint
4. BP Ceiling: Accessible acoustical tile

H. R FF&E: See for typical office furnishings.

8B.4 BP Training Room - Multi-Media

A. BP Program: Provide conference / meeting space for employee training and learning experience in a conference room setting and with easy access to separate A/V storage and setup space for multi-media equipment.

1. BP Location:
    a. BP Near Human Resource (HR) Office to permit flexible use for a variety of employee training and related personnel activities.
    b. BP Avoid positioning adjacent to Employee Dining or as an extended partitioned space off dining area.
2. BP Size / Area: 37 m² (400 sq. ft.)

B. BP Space Planning: Accommodate the following.

1. BP Small conference and classroom type arrangements to support 25 to 30 personnel.
2. BP Rectangular plan
3. BP Secure, lockable storage area for A/V equipment

C. BP Acoustics: Protect space acoustically; STC 50; construct partitions for full height between floor slab to underside of structure above.

D. BP Equipment:

1. BP TV with DVD and connected to MATV system. See <13A>.
2. BP Computer Work Stations: Provide 3 computer work stations for self learning program.
3. BP Provide A/V facilities for training activities to include items such as projector, retractable screen, power and network connections built into or under tables, laptop PC setups for presentations, flip charts, white boards, scene lighting, sound system, etc.

E. BP Finishes:

1. BP Floor: Nylon tufted cut pile carpet
2. BP Base: Resilient base
3. BP Walls: Vinyl wallcovering or paint
4. BP Ceiling: Accessible acoustical tile

F. BP FF&E:

1. BP Millwork credenza

2. BP Classroom style table and chairs

8B.5 Nurse / First Aid Station

A. Program: Verify with MI if these spaces are required for emergency medical care of employees and guests.

1. BP Location: Near HR Office to allow shared clerical and staffing support.

B. Size / Area: See the project Facilities Program.

1. BP Nurse / First Aid Spaces:

Spaces	Size:		Private	Open
	m^2	sq. ft.		
Nurse's Office	5.7	64	X	
First Aid / Exam	10.9	117	X	
Toilet (accessible unisex)	4	43	X	
Totals	20.6	224		

C. Space Planning: Barrier free to accommodate people with disabilities.

1. First Aid / Exam Room: Access control is by a nurse. Accommodate a single bed, chair and secure storage of medical supplies and limited medications.
2. Nurse's Office: Single desk arrangement to allow for 2 seated interviewees.
3. Toilet Room: Locate immediately adjacent to First Aid / Exam to include accessible, single unisex toilet, lavatory and accessories.

D. BP Finishes - Nurse / First Aid Station:

1. BP Floor: Tile or nylon tufted cut pile carpet with antimicrobial protection
2. BP Base: Resilient base
3. BP Walls: Vinyl wallcovering or paint
4. BP Ceiling: Accessible acoustical tile

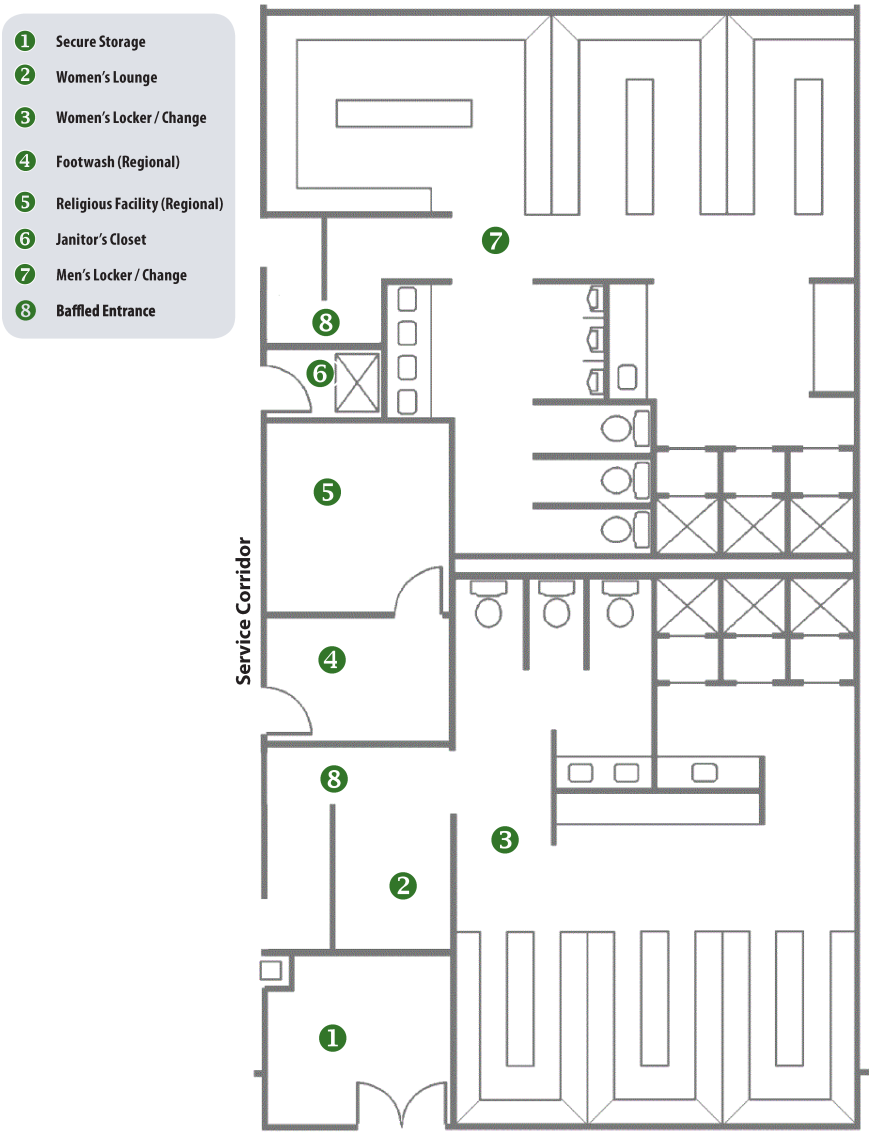
8B.6 Locker / Change Area, Shower & Toilet Rooms

A. Program: Provide separate men and women spaces where employees may secure clothing, change into uniforms and street clothes with a place to shower and groom with adjoining toilets and lavatory areas.

1. BP Adjacencies: Connect with Locker / Change Areas and primary Service Corridor. Near Uniform Distribution, if provided.
2. BP Location: Connected to the Locker / Change Areas and the primary Service Corridor through an open baffled entrance (no doors).

B. Space Planning: To accommodate separate male and female spaces, verify with MI the maximum employee work shifts and male / female divisions. Other program amenities may increase the employee count if more space is required for employees of spas, salons, residences, club facilities, golf, etc. Typically, employees assigned to the amenity facilities do not share hotel employee spaces because of their distance from the hotel. Review the project criteria with MI.

1. BP Locker & Change Facilities - Example Plan



C. Shower Areas: 1 shower to 50 staff. Divide equally (50 / 50 percent) between male and female unless indicated otherwise.

1. BP Location: Arrange entrance through Locker and Change spaces, not through Toilet Area.
2. BP Shower Enclosures: Provide with two compartments (wet and dry), and doors with frosted or opaque glass for privacy.
3. R Fixtures: See <15B>.

D. Toilet Areas: Include toilets, lavatory fixtures, accessories and comply with governing regulations.

1. BP Additional Facilities: Provide more toilet facilities when travel distance to central toilets is excessive and if compliance with governing regulations and customs is required.

2. R Fixtures: For BOH fixtures and plumbing accessories, see <15B>.
   a. R Drain: Provide area floor drain and slope floor to drain.
3. R Toilet Room & Bath Accessories: For typical BOH products, see <GR3>.
   a. R Mirrors: Include a vanity mirror, full length of wash basin counter and a full length mirror in the locker area.
4. BP Toilet Partitions: Provide with a high priority for durability, sanitation and privacy.
   a. BP Partition Height: 178 cm (70 inch) minimum
   b. BP Floor Clearance: 18 cm (7 inch) maximum
   c. BP Privacy: Provide "no sight line" or "gap less" design at doors, pilasters and side partition.
   d. BP Urinals: Provide privacy dividers.
5. BP Manufacturer: Hadrian, Bobrick and Bradley or equivalent products acceptable to MI

E. Lockers & Benches: See general locker requirements in <GR3> .

1. BP Lockers: Provide type, size and quantities to support employees of the applicable property type.
   a. BP Type: Double tiered on raised base
   b. BP Size: 300 mm (wide) x 500 mm (deep) (12 x 20 inch) minimum
   c. BP Quantities: Review and confirm quantities with MI.
      • Business Hotels: 1.0 lockers per guestroom
      • Resorts: 1.3 lockers per guestrooms.
      • Male & Female: Plan locker areas in back to back layout that allows unequal distribution between men and women where the design assumes equal distribution of lockers. Divide locker quantities between male (50%) and female (50%) unless indicated otherwise.
2. Benches: Wood top change benches
3. BP Aisles: 1.53 m (5 ft.) wide minimum
4. Accessibility: Provide aisles and reach designs for persons with disabilities and comply with governing accessibility regulations. See <GR1>.

F. BP Lounge: Consider private male and female spaces, each with single cot and chair for employees not feeling well or for mothers that need to pump breast milk.

Location may be adjacent to Nurse's Station.

G. Finishes: Provide durable, sanitary and easy to clean products.

1. BP Shower & Toilet Rooms: For countertops and lavatory counters, provide HPL and solid surface materials.
   a. BP Floor: Porcelain tile
   b. BP Base: Porcelain tile
   c. BP Walls: Porcelain tile
   d. BP Ceiling: Paint on gypsum board
2. BP Locker / Change Areas:
   a. BP Floor: Vinyl composition tile
   b. BP Base: Rubber base
   c. BP Walls: Paint, semi-gloss or gloss
   d. BP Ceiling: Accessible acoustical tile

8B.7 Employee Cafeteria

A. Program: Provide employee dining space and food service area. Employee meal requirements vary from region to region, review scope of required food service and FF&E with MI on a project by project basis. See <10> for equipment.

1. BP Location: Central to employee spaces and adjacent to primary Service Corridor.
2. BP Size / Area: (Quantity of Guestrooms) ÷ 3 = m² required for gross dining space; for 300 guestroom property: 300 ÷ 3 = 100 m² (1,076 sq. ft.). Verify with staffing levels.
3. BP Consider retaining a commercial food service / kitchen consultant for the project.

B. BP Space Planning:

1. BP Food Preparation: Typically, food is prepared in the property's main kitchen.
2. BP Food Line: 4 m (13 ft.) long with one attendant for self serve, hot meal and grille cooking service, and dish drop and wash area.
3. BP Food Service: Accommodate equipment and food service standards provided in <10> for BOH.

4. BP Service Options: These include grille cooking, salad bar, friendly soup station, toaster, microwave, ice dispenser and a refrigerator for food brought in by employees.
5. BP Seating: Individual style seating (no booths) with tables to seat minimum of 6 employees.
6. BP Exits: A second means of egress may be required from the dining area.
7. BP Bussing: Self dish drop and counter to wash area. Provide sufficient stewarding area to manage waste, wash service items and provide sanitary eating environment.
8. BP Electric Water Cooler: Provide accessible to employees. See <15B>.

C. BP Features:

1. BP Audio: Provide speakers for music output, see <13B>.
2. BP TV: Provide cable and power connections, see <13A>.
3. BP Natural Light: Provide window wall to exterior, where possible. If applicable, provide aluminum mini-blinds on exterior windows.

D. BP Finishes:

1. BP Floor: Vinyl composition tile or full body porcelain tile
2. BP Base: Resilient, coved vinyl or porcelain tile
3. BP Walls: Vinyl wallcovering or paint
4. BP Ceiling: Accessible acoustical tile or paint on gypsum board

8B.8 Service Corridors

A. Program: Provide Back of House (BOH) circulation corridors to service various guest function areas, connecting to other service spaces, receiving area and dock.

B. Size / Area: Width dimensions noted in other chapters are net, clear of equipment, columns or obstructions.

1. R Banquet / Service Corridor: See <6>
2. R Receiving Area Service Corridor: See <9>
3. R Commercial Kitchen Corridors: See <10>
4. BP Employee Service Corridors (BOH): See "Employee Area Service Corridors" in this Chapter.
5. BP Ceiling Height: 2.7 m (9 ft.) minimum
6. BP Doors: See <16> for locations of door with vision panels.

C. BP Service Alcove: Select an area to place public coin operated / pre-paid telephone, vending and bulletin board for employee use and announcements. Locate central to employee facilities layout.

D. BP Wall Protection: Provide durable, low maintenance high and low wall bumpers with infill of heavy duty plastic or metal sheets. Avoid natural wood that splinter and painted surfaces that require frequent maintenance.

1. BP Wall Bumpers: 5 x 15 cm (2 x 6 inch) synthetic wood or stainless steel clad wood.
2. BP Infill: Heavy-duty plastic or non-corroding metal sheets.

E. BP Corner Guards: 10 x 10 cm x 2 m (4 x 4 inch x 6 ft) high, 16 gauge stainless steel guards at outside wall corners.

F. BP Finishes:

1. BP Floor: Colored concrete, hardened and sealed (minimum) in Service Corridor rated for vehicle traffic.
   a. BP Provide smooth surface floors adjacent to meeting and function areas to avoid noise from wheeled carts on floor joints.
2. BP Base: Epoxy paint on masonry or vinyl base
3. BP Walls: Protect with continuous double (high and low) railing and infill. Provide durable walls and protection to resist cart and material handling

traffic. Examples include: epoxy painted masonry; continuous double (high and low) railing, diamond plate wainscot, thermo plastic sheeting.

4. BP Ceiling: Accessible acoustical tile.

8B.9 Employee Area Service Corridors

A. Program: Provide BOH employee circulation corridors between employee spaces and to easily access other building areas.

1. BP Employee Service corridors primarily serve personnel and light cart traffic (Housekeeping, Laundry, F&B Service, etc.).
2. BP Provide corridor finishes that create a bright, clean, durable environment to support employee moral and minimize maintenance and damage to floors and walls.

B. BP Corridor Width: 2 m (6'-6") minimum

C. BP Finishes:

1. BP Floor: Vinyl composition tile (VCT) or integrally colored and hardened concrete finish
2. BP Base: Vinyl
3. BP Walls: Paint
4. BP Wall Protection: Provide continuous 5 x 15 cm (2 x 6 inch) synthetic wood for high and low bumpers. Example products are recycled PVC / wood composites that cannot splinter and no painting is required such as Trex.
   a. BP Low Bumper: Locate above base
   b. BP High Bumper: Locate at 0.9 m (3 ft.) above floor
5. BP Ceiling: Accessible acoustical lay-in tile (ACT)

8B.10 R Coordination

A. R Reference: Coordinate with requirements of other Chapters including.

- Overview & Project Administration
- Food & Beverage
- Laundry / Housekeeping
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

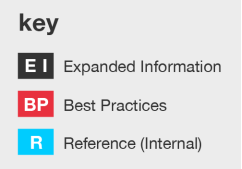
engineering & maintenance facilities

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents



chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

9.1 Overview

A. Program: Provide engineering and maintenance areas as necessary for essential property and back-of-house (BOH) support services for systems and service functions. Provide work and storage spaces to support the engineering and maintenance functions.

1. EI Employee positions and responsibilities vary based on property type, size, location, the specific employee assignments and organization for the proposed spaces.
2. EI Regional customs, social factors, labor laws etc. may impact the program. Verify the applicable program requirements with MI.
3. EI The criteria and "examples" included in this document model generic plans for Engineering and Maintenance spaces.

B. EI Related Areas & Spaces: Coordinate requirements of the engineering and maintenance areas with applicable Chapters. Generally, these are project applicable spaces that relate to engineering and maintenance management of the property such as the following.

- Soiled and Clean Laundry Holding, see <11A>
- On-site Laundry Facilities, see <11A>
- IT Server & Telecommunications Room(s), see <13A>
- T.V. / Video Equipment and Room, see <13A>
- Lighting Controls / Dimming, see <15C>

C. Spaces: As required by the project Facilities Program, accommodate the following:

- Engineering / Maintenance Shops and Offices
- Receiving Dock
- Receiving & Service Corridors
- Ancillary Facilities
- Purchasing and Receiving Offices
- Mechanical, Electrical and Plumbing (MEP) Equipment
- Exterior Maintenance Facilities

D. Windows & Safety Glass: Restrict window opening to 10 cm (4 inch). For window, glass / glazing criteria, and safety glass requirements, see and <16>.

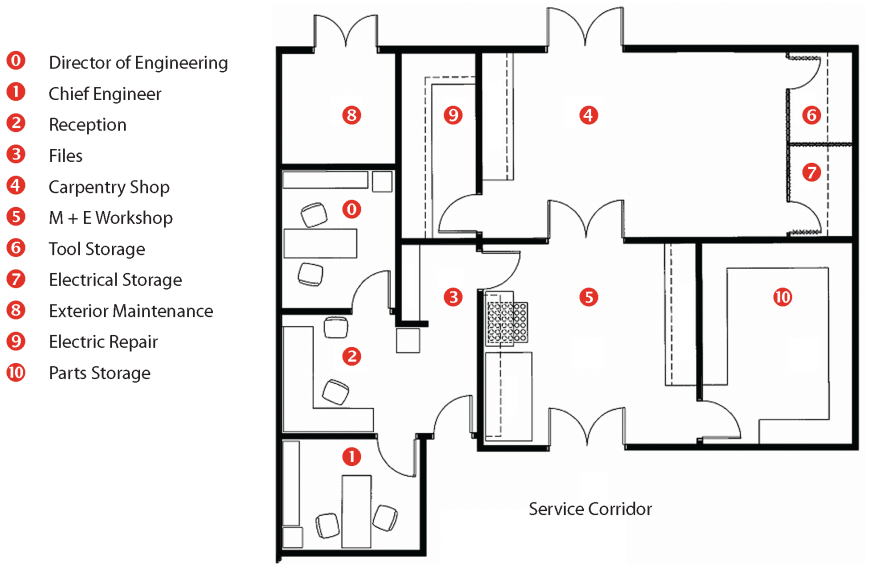
9.2 Engineering & Maintenance Shops & Offices

A. Program: Include office, shop and storage spaces to support engineering / maintenance functions of the property.

1. Shops & Office Program Spaces: When guestroom quantity, food and beverage, and meeting areas increase, the Engineering and Maintenance requirements are typically customized to provide the required support for an expanded property program. See the Facilities Program.

Spaces	Size:		Private	Open
(see example plan)	m^2	sq. ft.		
Director of Engineering	10	108	X	
Reception	13.4	144		X
Plan / File / Storage	3.3	36		alcove
Carpentry Shop	23.7	256	X	
Workshop - M & E	23.7	256	X	
Tool Storage	9.3	100	X	
Electrical Storage	8.9	96	X	
Electronics Repair	8.6	93	X	
Locked Storage	15.6	168	X	
Landscape Equipment	7.4	80	X	

2. Engineering & Maintenance Example Plan



B. BP Location: Access to exterior receiving areas and dock for moving materials, supplies and equipment to and from the property.

1. BP Provide access to guestroom service elevators to allow service employees a convenient route to guestrooms.
2. BP Adjacent to BOH MEP areas to allow convenient passage to monitor building systems.

C. Maintenance Shops:

1. Access: Entry through pair of 90 cm (3 ft.) wide doors for carpentry, M&E workshops and landscape equipment area. Easily accessible spaces with clear path of entry.
2. BP Doors: Hollow steel, except tool storage. For BOH doors, frames and hardware general requirements, see .
3. Electronic Lock: Provide electronic lock at office area. See <16>.
4. Work Counters: Provide counter and storage shelving space along interior perimeter with electrical service and cable testing outlets for televisions and equipment.
5. BP Charging Stations: Provide power for radios and pagers at designated work bench stations.
6. Storage: Wire mesh or chain link enclosure to store tools and electrical service parts.
7. Eye Wash Station: Centrally locate one emergency eye wash station in shop area. See <15B> and <16>.
8. BP BAS: Provide location for Building Automation System.
9. BP Landscape Equipment: Space accessible to exterior or in separate building if site area is large. Project area is determined on a case by case basis; see "Exterior Maintenance Facilities".

D. BP Office Finishes:

1. BP Floor: At offices with interior access, provide epoxy resin. Offices with exterior access, provide steel-troweled concrete, hardened, sealed with epoxy coating.
2. BP Base: Vinyl cove base
3. BP Walls: Paint
4. BP Ceiling: Accessible acoustical tile

E. BP Shop Finishes:

• Floor: Sealed concrete
• Base: Resilient base

• Walls: Painted
• Ceiling: Exposed structure, painted

9.3 Receiving Area - Dock

A. Program: Provide for receipt of supplies, equipment, furnishings and other deliveries. Where possible and site allows, design area to accommodate largest truck turning radius such as typical over the road tractor trailer truck equipment.

B. BP Location: Position convenient to food storage and preparation, Security Office, and BOH service circulation areas.

C. BP Size / Area: Sufficient space for storing carts, and for loading and unloading activities.

1. BP Bays: Minimum of 3 bays at 3.66 m (12 ft.) wide for the following:
   • 16.76 m (55 ft.) long tractor trailer
   • 10.67 m (35 ft.) long delivery truck
   • Trash compactor and recycling
2. BP Dock Height: Typically 1.07 m (3'-6") from driveway surface to dock surface or design for proposed delivery vehicles serving the property.
3. BP Finish Dock Elevation: Same elevation to meet BOH service corridor entry doors with slope toward dock front edge.
4. BP Dock Depth: 3 m (10 ft.) minimum, measured from dock front edge to building wall.
5. BP Overhead Clearance: 4.27 m (14 ft.) to underside of roof structure, except 5.5 to 6.1 m (18 to 20 ft.) at trash compactor bay if required (verify roof height).
6. BP Verify dimensions and clearances with vehicle sizes servicing property.

D. BP Dock Finish: Hard steel troweled concrete, slip resistant (see <16>), and seal with material rated for wheeled traffic. Provide positive drainage and slope away from building to dock edge.

E. BP Dock Leveler: Provide manually operated dock leveler at edge of one bay. Scissor type lift is not permitted.

F. BP Compactor: Locate at grade with direct access from the dock level. Design for largest, transportable refuge container that can be supplied to the property. Include steel rails at compactor to slide container into position without damage to pavement during hauling and delivery operation.

G. Access Ramp: Provide for persons with disabilities with ramp slope at 8% maximum, and comply with governing authority. Provide ramp of sufficient width to transport a pallet. See <GR1> for Code and Accessibility compliance.

H. BP Service Paving: Heavy duty paving with slope to area trench drain away from dock.

I. BP Roof: Provide roof to protect entire dock area with required clearance.

J. BP Air Curtains: Provide at high traffic Receiving and Trash Handling entrance doors. See <15A>.

K. BP Heating: In extreme cold climates, provide radiant heating units (see <15A>) at exterior doors to moderate temperatures for receiving dock employees.

L. BP Water: Provide hose bib for washing down dock area. In cold weather regions, locate hose bib in area that protects it from freezing.

M. BP Electric: Provide power for compactor, when required.

N. BP Finishes:

1. BP Floor: Concrete, sealed (see "Dock Finish")
2. BP Base / Skirting: Paint
3. BP Walls: Paint, appropriate for materials
4. BP Ceiling: Paint exposed structure

9.4 Receiving & Service Corridors

A. Program: Provide circulation for moving deliveries from the Receiving Area to the storage areas.

1. EI The corridor from the Receiving Area to central storage areas and large Function / Meeting Spaces (see <6>) is subject to heavy use and traffic by pallet jacks, fork lifts and heavy wheeled vehicles.

B. BP Wall Protection: Provide continuous 5 x 15 cm (2 x 6) inch synthetic wood (recycled PVC / wood composite, that does not splinter, pre-finished, not painted such as Trex) high and low bumpers and wall protection infill.

1. BP Low Bumper: Install above base.
2. BP High Bumper: Install at 0.9 m (3 ft.) above floor.
3. BP Infill: At a minimum, protect the lower portion of walls (between bumpers) with:
   • Epoxy (or industrial enamel) paint on masonry
   • Heavy duty thermo plastic sheet on gypsum walls or
   • Diamond plate sheet on gypsum walls

C. BP Corner Guards: 10 x 10 cm x (4 x 4 inch) x 2 m (6 ft.) high, 16 gauge stainless steel guards at outside wall corners.

D. Finishes: Provide durable corridor finishes to minimize damage and maintenance.

1. BP Floors: Concrete hardened, sealed and is rated for heavy wheeled traffic.
2. BP Base: Epoxy painted masonry or vinyl base at gypsum board walls.
3. BP Walls: Masonry is preferred with wall and corner protection.
4. BP Ceiling: Exposed structure or accessible, suspended lay-in system and consider corrosive resistant supports and panels.

9.5 Ancillary Receiving Area Facilities

A. Program: Provide storage and back-of-house support spaces for property service and receiving areas.

B. Storage Areas: Provide secure storage facilities, areas that are located between receiving and access to main kitchen. When property materials and products, including foods (coordinate with <10>) are delivered, they require immediate removal from the receiving area to storage, which include the following:

1. General Property Storage: General store (non-food items)
2. Refrigerated Storage: Provide for food items as required by <10>.
3. Guest Package Storage: Provide a secure, lockable room or enclosure to temporarily store guest items forwarded to the property for functions and presentations.
4. BP Contract Service Storage: If programmed, see requirements in this Chapter.
5. BP Design Coordination:
   a. BP Construct storage area walls full height (from floor to underside of structure) with masonry or equivalent materials.
   b. BP Avoid locating transformers, electrical panels or mechanical equipment in storage spaces.

C. BP Related Storage: Coordinate the location of storage spaces related to the Receiving Area such as the following:

1. BP Main dry food storage, see <10>.
2. BP Freezers and coolers, see <10>.
3. BP Beverage coolers, liquor storage and refrigerated wine storage, see <10>.

D. BP Flower Preparation: When required, provide a Floral Preparation Room to support and supplement the property's marketing programs for catering, reception and banqueting activities. Optional locations is in the Horticulture Shop of the Exterior Maintenance Facilities.

1. BP Features:
   • Walk-in or upright refrigerator
   • Sink
   • Work Counter
   • Shelving / open storage
   • Trash bin

E. BP Recycling Facility: Design this facility adjacent to the receiving area and comply with requirements developed by a principal recycling company to service the property and review proposed design with MI.

1. BP Determine recycling needs for material types, holding bins / containers for cardboard, cardboard bales, paper, cans, plastics, various glass colors, etc.
2. BP See "Compactor" at dock area in this Chapter. Determine requirements, if any, applicable to recycling program.

F. BP Laundry Holding: At properties without an on-site laundry (see <11A>), include space for soiled and clean linen storage.

G. BP Can Wash: Locate within contained area to avoid waste water flowing across receiving area. See <10>.

H. BP Contract Service Storage: Consult with MI to determine if cleaning or maintenance services are provided by external service contractors. If on-site service storage is required, provide the following:

1. BP Enclosed, secure, lockable room for storing contractor's equipment and activity staging items.
2. BP Size: 38 m² (400 sq. ft.) minimum
3. BP Utilities: Floor sink with hot and cold water
4. BP Finishes: Paint walls and provide vinyl composition tile on floor

I. R Standby Generator: See "MEP" Equipment in this Chapter and <15C>.

9.6 Purchasing & Receiving Offices

A. Program: At large properties, provide private spaces for Purchasing Manager (see <8B>), shared office for Purchasing and Receiving employees, and shared work spaces for Storeroom Manager and Storeroom employees; see the project Facilities Program.

1. Purchase & Receiving Offices Program Spaces

Spaces	Size:		Private	Open
	m^2	sq. ft.		
Purchasing Manager	6.5	70	X	
Purchasing & Receiving Staff (3)	9.3	100	X	
Storeroom Manager & Staff (2)	4.6	50		X
Total Area	20.4	220		

B. BP Location: Adjacent to Receiving Area and within proximity to Security Offices. See <16>.

C. BP Equipment: Provide typical office furniture, desk and chair, visitor chair, workstation counters and chairs, file cabinets, telephone and desktop PC with printer, in designated manager's office.

D. BP Finishes:

1. BP Floor: Vinyl composition tile
2. BP Base: Resilient base
3. BP Walls: Paint
4. BP Ceiling: Accessible acoustical tile

9.7 HVAC - Mechanical, Electrical & Plumbing (MEP) Spaces

A. Program: Provide space for the building MEP equipment, system components and convenient access for equipment service and maintenance. See <15A>, <15B> and <15C>.

B. Size / Area: Provide space based on the project design requirements for MEP systems and equipment.

1. BP Configuration: Most efficient space for equipment is square or rectangular (1 to 2 proportion) and column free areas. Other geometries may require larger building areas.
2. BP Clearances: Provide sufficient area to enclose and efficiently maintain, service, and repair equipment.
3. BP Ceiling Height: 5 m (16 ft.) minimum and verify for required equipment and service clearances.
4. Views: Locate facilities to avoid or minimize guest views of equipment. If equipment is visible, screen the equipment.

C. Lighting Controls / Dimming: Provide closets for placement and concealment of lighting controls and dimming equipment associated with <2A>, <3> and <6>.

1. BP Location: Generally, multiple locations are required to permit equipment placement near controlled lighting.
   a. R For electrical systems, see <15C>.
   b. BP Review concealment requirements with interior design and supplier of equipment to determine applicable design that allows easy access and is concealed from guest view.
2. BP Size / Area: 15 to 25 m² (162 to 269 sq. ft.)

D. Standby Generator: Provide generator area and generator access.

1. Review proposed design and location with MI.
2. Design generator location to comply with the acoustical, safety and environmental standards (noise, fuel storage / fueling, engine exhaust away from fresh air intakes, vibration, etc.)
3. R See electrical design requirements in <15C>.

E. Design Features:

1. BP Access: Provide facilities with doors, panel, corridors, etc, to permit convenient installation, service, and replacement of equipment.

2. Sound / Vibration: Locate vibrating equipment away from adjacent occupied areas to avoid disruption. If adjacency is required, provide vibration isolation or barriers to control sound and vibration.
3. Ventilation: Provide adequate ventilation. See <15A>.
4. Locking: Provide controlled access to equipment.

F. BP Finishes:

1. BP Floor: Steel troweled concrete, hardened, seal with epoxy coating and include vinyl base.
2. BP Walls: Paint
3. BP Ceiling: Paint exposed structure

9.8 BP Exterior Maintenance Facilities

A. BP Program: When required, exterior, site and landscape maintenance may be performed under contracted services with the property. However, for properties that may not have satisfactory contract services available, provide adequate on-site ground maintenance, operational and storage space that may include the following:

1. BP Landscape maintenance carts, mowers, tools and material storage
2. BP Gasoline / fuel storage tanks, fuel pump from storage tank, electric cart charging stations, etc.
3. BP At resorts, other equipment may include backhoe and beach grading equipment. Additionally, beach recreation equipment, boats and other equipment may be stored at this facility.

B. BP Location: In proximity to Receiving Dock and Engineering / Maintenance facilities with vehicle routes away from guest and public areas.

9.9 Coordination

A. R Reference: Coordinate with requirements of other Chapters.

- Overview & Project Administration
- Administration Facilities
- Food & Beverage Production Facilities
- Laundry and Housekeeping
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

food & beverage (f&b), back-of-house

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information

BP Best Practices

R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

10.1 Overview

A. EI Objectives: This Chapter guides the MI project design team with the coordination, development, design and installation of foodservice preparation facilities.

1. EI Outlines parameters established for minimum standards and components of foodservice operations.
2. EI Defines design standards and ensure quality and consistency among foodservice operations worldwide.
3. EI Identifies the coordination required with other Chapters.

B. Foodservice Objectives:

1. Design and construct foodservice facilities with a high priority for sanitation, food safe materials and equipment.
2. BP Provide foodservice facilities with heavy duty equipment considering factors such as:
   • Labor efficient design with appropriate work flows
   • Life cycle value
   • Low maintenance
   • Ease of use
   • Cleanability and sanitation
   • Safety
3. BP Comply with MI designs and standards regardless of less stringent governing interpretations or practices at site locations.

C. Design Assumptions:

1. Typical Facility:
   a. 300 Guestrooms
   b. One Lobby Bar with beverage service
   c. Three Meal per Day Restaurant
   d. Possible Leased Restaurant
   e. Specialty Restaurant
   f. 929 m² (10,000 sq. ft) of Meeting Space, see <6>
2. Convention Hotels
   a. 1,500 to 3,000 Guestrooms
   b. A variety of Food & Beverage outlets, see <3>

c. 27,870 m² (300,000 sq. ft.) of Meeting Space, see <6>

3. Adjust facility sizes and quantities proportionally as appropriate for larger or smaller properties. See the project Facilities Program.

D. BP Equipment Specification Packages: Obtain current Kitchen Equipment (4KE) and Operating Supplies (5SU) package and equipment list requirements. Coordinate with the following.

1. BP 4KE Package: Permanent equipment, hard wired and hard plumbed is part of the “4KE Kitchen Equipment Package”.

2. BP Point of Sales (P.O.S.): See <13A> for systems equipment. For electric service (see <15C>), indicate location of terminals and printers on drawings and provide power outlets to accommodate equipment.

3. BP 5SU Package: Attachments and accessories (smallwares) ordered with the supplies package. Mobile or temporary equipment is considered part of the 5SU package.

4. BP Energy Star Appliances: Provide Energy Star certified appliances for Kitchen in compliance with the Food Service and Guest Laundry Equipment Manual.

10.2 BP Foodservice Planning - General

A. BP Market Study: Analyze market conditions, demand, competition and other influences to determine appropriate F&B venues, restaurant and menu concepts.

1. BP Prior to design, perform analysis of market specific conditions to determine relevant operations and space allocation requirements.

2. BP From the market study, identify the following site characteristics:
• Import laws
• Availability of products
• Labor cost / wage rate

B. BP Impact on Planning & Space Allocation: Geographic locations (effecting products) and markets (effecting wages), drive the kitchen size and support facilities.

1. BP Wages: Wage rates determine the flow of service and design of kitchen spaces and adjacencies.

2. BP Efficiencies:

a. BP Automate processes

b. BP Minimize number of trips with increased capacity of hot / cold holding equipment for service items

c. BP Close adjacencies of related functions

3. BP Other Factors:

a. BP Where wages are low, design larger facilities as required to support more personnel.

b. BP Where wages are low, consider impact on Employee housing and dining requirements.

4. BP Products / Imports: Availability of products and import laws determines the need to make or buy certain products, including prepared breads and packaged meats.

5. BP High availability of products require:

a. BP Preference to buy products

b. BP Eliminate relevant pre-prep functions

c. BP Storage facility sizes which are dependent on delivery frequency

6. BP Low availability of prepared and packaged products require the following.

a. BP Preparing products on site from raw state

b. BP Modular units required for additional processes such as Butchery, Fish Processing, Bakery, etc.

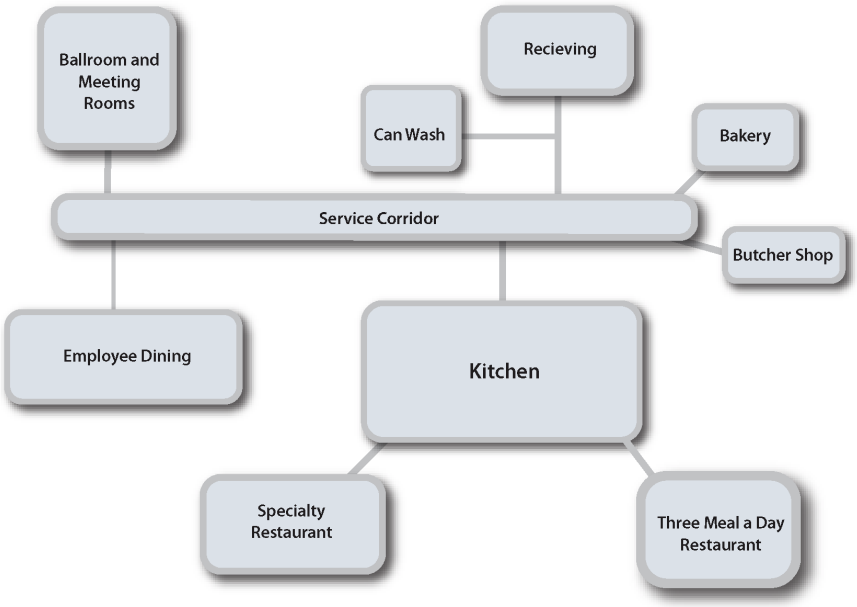
c. BP Storage facility capacities typically increase accordingly. Evaluate increased need for freezer storage.

7. BP Energy Conservation: Provide energy saving and proven innovations wherever possible. Coordinate with <15A>,15B> and <15C>. Areas to provide energy saving equipment include:
• Variable speed exhaust fans
• Low volume exhaust hoods
• Efficient refrigeration and monitoring systems
• Low water consuming ware washers
• Energy Star listed equipment

10.3 Space Planning

A. Kitchen: Provide one centralized, main kitchen used for common processes.

1. BP Functions & Adjacencies: Arrange kitchen functions and adjacencies to follow flow of products from receiving through to kitchen finished product areas.
2. BP Process Flow: See the example, "Main Kitchen Relationship Diagram".
3. BP Main Kitchen Relationship Diagram



B. BP Spatial Parameters - General: Use the following "Table: Kitchen Planning", to estimate the initial space programming requirements (in meters and / or square feet) for foodservice, preparation and storage.

1. BP Kitchen Planning

Kitchen Planning (square feet)						
Note: Use the Facilities Summary values to fill-in the formulas below.						
A - Food Outlets						
(enter number)	seats	x	5 sf/seat	(if connected to main kitchen)	=	Total sf
(enter number)	seats	x	10 sf/seat	(if not connected to main kitchen)	=	Total sf
B - Beverage Outlets						
(enter number)	seats	x	1 sf/seat	(if no separate kitchen required)	=	Total sf
(enter number)	seats	x	3 sf/seat	(if small kitchen/pantry is required)	=	Total sf
C - Function Areas						
(enter area)	sf	x	0.20		=	Total sf
D - Employee Dining (includes seating area)						
(enter total staff count for property)	staff count	x	3 sf/staff member		=	Total sf
E - Room Service						
(enter number)	keys	x	1 sf/key		=	Total sf
				Total of all items above: A-E	=	**Total sf**
F - Main Kitchen Factor						
(enter subtotal sf from A-E above)	sf	x	1.2		=	total sf
G - Bakery (if included)						
(enter dining seat count from A)	seats	x	2 sf/seat		=	total sf
(enter total function area from C)	sf	x	0.03 sf		=	total sf
				Bakery total area (add above two sums)	=	Total sf
H - Butcher (if included)						
(enter total dining seat count from A)	seats	x	0.5 sf/seat		=	total sf
(enter total function area from C)	sf	x	0.01 sf		=	total sf
				Butcher total (add above two sums)	=	Total sf
I - Kitchen Project Totoal						
				(add four items above: E, F, G, H)	=	**Project Total sf**
NOTES						
1. In low skill labor regions overall Kitchen Project Total may increase by 10 to15%						
2. Food and Beverage Storage: Typically, 25% of the Kitchen project total (from above) is F&B storage with 75% dedicated to production space (in areas of limited product availability storage needs may increase by up to 25%).						
3. Program Area Exclusions - The program areas calculated above are "net" usable areas that exclude the following: • Columns, shafts and utility spaces • Cart and can washing • Service corridors • Trash, garbage and recycling facilities						
4. Imperial to Metric Conversion: 1 sf = 0.0929 m^2						

2. BP Rooms / Areas: Provide the following:
   a. BP Rectangular shaped rooms
   b. BP Spaces without "dead" corners
   c. BP Straight and even wall lines
   d. BP Open spaces without unnecessary partitions and walls
   e. BP Maximize usable wall space for kitchen equipment.
   f. BP Ceiling Heights: 3 m (10 ft.) minimum
3. BP Columns / Shafts: Minimize quantity and size of column and shaft protrusions in kitchen space where possible.
4. BP Corridor / Door / Elevator Widths:
   a. BP Provide circulation paths capable of accommodating pallet size deliveries.
   b. BP Usually requires double doors.
5. BP Aisle Widths:

a. BP Maintain 0.91 m (3 ft) minimum aisle widths and comply with governing regulations. Delineate aisles on floor for kitchen area exit pathways and corridors without obstructions from carts, warmers, chairs, storage items, etc.

b. BP Maintain minimum of 1.5 m (5 ft) aisles for 2 way traffic, cart traffic and back-to-back processes.

C. Entrance to Main Kitchen / Dining: Design entrance with baffled vestibule to prohibit light, noise and views from the kitchen to dining areas.

1. BP Traffic Flow: Circular flow into dish washing then to Service Line and out past Service Station. Avoid traffic cross flow.

2. BP Doors: Where possible, minimize doors within the kitchen circulation areas. Provide doors for the following:

a. BP Fire / Smoke / Exit Doors: Provide rated doors for fire and life safety. If a fire rated wall separation is required by code between the main kitchen and dining area, then plan the vestibule to include an additional set of fire rated doors held open during normal operating conditions by an automatic hold open / release device. Fire rated doors include the following:
• Self closing device
• Latching mechanism
• Automatic electric hold open / release device tied to fire alarm system

b. BP Non Rated Doors: Provide push / pull function and vision window. If automatic, provide electric eye door activation or foot operated sliding pocket doors.

c. BP Temperature: Provide doors between rooms with different design temperatures.

d. BP Storage & Security: Provide doors with locks at rooms and areas requiring security.

e. BP Light Weight Traffic Door: Provide double acting pass doors with vision window when doors do not require a functional rating.

f. BP Size: To accommodate bulk material and pallet movement, provide door and opening widths of 1.07 m (3'-6") or larger.

D. BP Office Spaces: Adjacent to or in kitchen area, provide dedicated offices for the following:
• Chef
• Restaurant Manager (if programmed)
• Storeroom supervisor (desk only within storeroom)

• Banquet Manager / Maitre d' Catering (accessible to public area)

E. BP Banquet Kitchen: Banquet areas are preferred on the same level as the Main Kitchen. Provide separate A' La Carte food production facilities to service Ballroom with banquet prep, banquet plating and food preparation line, dry and refrigerated storage, warewashing and pot and flatware washing area when one or more of the following occur:

1. BP Ballroom is located on a different floor than main kitchen (not preferred).
2. BP Main Kitchen size, capacity, design, location, or operation is not capable of efficiently servicing the Ballroom.
3. BP Banquet seating capacity exceeds 1,500 seats.

F. BP Employee Lavatory: Locate facilities accessible from the kitchen space when other Employee Facilities are not within 60 m (200 ft).

1. BP Provide 1 unisex restroom with sink and toilet per floor minimum when foodservice facilities are located on multiple floors.
2. BP Provide stainless steel sink with touchless, hot and cold water mixing valve control (knee or sensor operation) with drain connected direct to waste system.
3. BP Provide soap and towel dispensers at each sink.
4. BP Entrance: As space allows, design a doorless, labrynth type entrance.

10.4 Code Compliance & Standards

A. Architectural & Design Standards - General: Provide design, equipment and construction of facilities, at a minimum, in compliance with, or comparable to, foodservice sanitation and safety codes practiced in the United States by MI and as required by the governing codes. Submit conflicts concerning codes and standards compliance provisions to MI for resolution.

1. EI Material Standards: Recognized building material, testing and fabrication standards:
   • American National Standards Institute (ANSI)
   • American Society for Testing and Materials (ASTM)
   • Underwriters Laboratories (UL)
2. EI Foodservice Code Standards: National Sanitation Foundation (NSF) is a recognized foodservice material, equipment and fabrication standard
3. EI Construction / Design Code Standards: Recognized construction and

design code standards or regional equal:
• International Building Code (IBC)
• National Fire Protection Association (NFPA)
• American Gas Association (AGA)
• American Society of Mechanical Engineers (ASME)
• Americans with Disabilities Act (ADA)

4. Health Department: Design facilities in compliance with governing Department of Health provisions.

B. Foodservice Health Provisions:

1. Hand Sinks: Stainless steel and locate sinks within a 6 m (20 ft.) radius of food preparation, production and warewashing areas.

   a. Connect hand sinks direct to waste system.

   b. BP Provide touchless hot and cold water controls (knee or electronic sensor operation).

   c. Isolate from work surfaces to avoid contamination.

2. Soap / Towels: Provide soap and towel dispensers at hand sinks. Coordinate with Operations to identify type and supplier.

3. Grease Disposal: Connect pot sinks and other grease wastes (not grinders / disposal waste machines) to grease traps.

4. Back Splashes: 15 cm (6 inch) high for worktables and counters against walls. Seal to wall with food safe, 100% silicone sealant.

5. Cleaning Clearance: 10 cm (4 inch) minimum clearance for cleaning at stationary equipment not sealed to walls. Maintain 15 cm (6 inch) minimum clearance for equipment above floor (including undershelves) for cleaning.

6. Storage: Lockable and separate chemical storage from food storage.

7. Finishes: Provide safe, easy to clean finishes for floors, ceilings and walls of food prep and production areas. Behind cooking appliances and adjacent to exhaust ventilators, provide stainless steel wall finish extending from tile base to ceiling.

8. Paint & Coatings: Provide durable, non-toxic, non-dusting, non-flaking, mildew resistant, NSF approved coatings; suitable for foodservice areas.

10.5 Mechanical / HVAC

A. BP Utilities: <15A> Choose utility based on the following:

1. BP Use natural gas when available.
2. BP If municipal gas service is not available, provide central liquid petroleum tank size for one week capacity of gas with pressure as required for the equipment served.
3. BP Provide combination of utilities to reduce impact of utility system failure.
4. BP Electric: Induction cooking provides energy efficiency and is preferred in buffet areas.
5. BP Conceal utility lines in walls and stub-out of walls as required for connections. Do not stub out from floor or expose runs on face of walls and ceiling.

B. Gas: Comply with NFPA 54, National Fuel Gas Code. Do not use or store gas bottles or containers larger than 1.1 kg (2½ pounds), normally used for portable warmer / cookers, within building.

C. R Exhaust Ducts: See <15A>.

D. R Operating Temperatures: See <15A> for the design temperatures for each area of the kitchen.

10.6 Plumbing

A. BP Requirements - General: See <15B>.

1. BP Conceal plumbing utilities within walls. If concealed installation is not possible, use stainless steel or chrome plated covers if in prep and production spaces.
2. BP Horizontal piping runs extended and connected to equipment shall be at the highest practical elevation but not less than 150 mm (6 inches) above the floor to provide clearance for cleaning.
3. BP Conceal exhaust ventilator drain lines in walls and extend to building drains.

B. Hot Water:

1. Provide 60º C (140º F) degree water for preparation, pot sinks, warewashing

machines and general kitchen use.

2. Provide 49º C (120º F) water for hand sinks.

C. Waste Requirements:

1. Direct Waste: Use only when required by code or recommended by equipment manufacturer.

   a. BP Connect hand sinks to direct waste to contain bacteria.

   b. BP Provide knee operated or electric sensor faucets with mixing valve.

2. BP Indirect Waste: Provide indirect waste from kitchen equipment that is not required to be directly connected.

   a. BP Avoid placement of drains in traffic areas.

   b. BP Provide funnel floor drain vs. recessed floor sink based on capacity, cost and utilization.

   c. BP As a general rule, provide air gap (Josam 88900 or equivalent) for indirect wastes equal to 2 times the diameter size of drainpipe to prevent back siphonage and contamination.

   d. BP Provide funnel floor drains for low volume indirect waste sites. Place in easily accessible locations for service.

   e. BP Provide recessed floor sinks for high volume indirect waste sites.

D. BP Waste Disposers (Grinders): Provide at scrap sinks in dishwashing areas. Provide in major pot wash and prep sink drain boards (not in sinks) with the following motor sizes:

1. BP 2 hp minimum

2. BP 5 hp at dish washing

3. BP Provide waste collectors or pulpers if disposers are not permitted.

E. Area Floor Drains:

1. Location - General: Locate area floor drains throughout facility to assist with floor washing and specifically in wet areas such as pot washing, warewashing and trash room.

2. BP Trench Drains: Provide floor trench drains in regions where customary.

3. BP Slope: Pitch floor to area drains at a minimum of 10 mm/m (1/8 inch/ft) and maximum of 20 mm / m (1/4 inch/ft).

4. BP Grate Cover: Flush with finished floor with minimum of 15 mm (1/2 inch) grate opening to prevent clogging. Ensure drain volume allows for appropriate discarding as in front of bulk cooking equipment.

F. BP Floor Troughs and Grates: Locate in areas of high volume water pouring such as in front of tilt kettles, ice machines, walk-in coolers, chillers and freezers.

1. BP Size floor trough to accommodate full pour path of equipment.
2. BP Provide 10 cm (4 inch) deep depression from rough slab to finished floor to receive stainless steel floor trough lining and grating.
3. BP Size floor grate openings to prevent equipment caster (wheels) entrapment in grates with grates flush to floor.
4. BP Provide grates with non skid surface.

G. Grease Traps: Connect equipment disposing grease laden waste (such as the three-compartment sink) to a grease trap, as required by code. Place grease traps outside of kitchen, at lowest level of facility (typically, urban sites). Provide outside of kitchen space in easily accessible service location. See <15B>.

H. BP Water Lines: Connect water lines to foodservice equipment through individual water filters when required. Use flexible lines and quick disconnect connections; see <15B>.

1. BP Ozonated Water System: If included, provide with kitchen equipment package. Include spray faucet as part of system. Unit location and utility coordination by kitchen consultant.

I. BP Water Filters: Provide water filters at point of use for descaling of minerals in equipment such as coffee and tea brewers, ice machines and boiler base steamers.

J. BP Gas Regulator Valves: Verify need for regulator valves to ensure sufficient gas pressure for operation of cooking and heating equipment.

K. R Gas Solenoid for Emergency Shut Off: Coordinate with requirements of <15B> and <14>.

L. R Hand Sinks: See Code Compliance and Standards, "Foodservice Health Provisions".

M. Eyewash Station: Provide an OSHA compliant eyewash station near warewashing station, where chemical dispensing is planned to occur.

- Provide direct connection to tepid water supply line.
- Portable units are not permitted.
- See <15B> and <16>.

10.7 Electrical

A. Requirements - General: See <15C>.

1. BP Provide dedicated electrical outlets for P.O.S., computer equipment and for kitchen equipment every 1.2 m (4 ft.).
2. BP Provide drop cord power outlets from ceiling for island workstations, banquet plating and holding areas.
3. BP Conceal utilities in walls. Do not stub out of the floor or run exposed on the face of walls and ceilings.
4. BP Power Outlets: Prefer plug-in single receptacles to direct hard wired electrical connections where possible.

B. R Lighting Levels / Control: See <15C>.

C. Lighting Exposure: When lights are exposed to the guest's view (such as in Exhibition Kitchens), select fixtures that are coordinated with the interior design and support the restaurant concept. See <3>.

D. Light Fixtures: Provide the following
- Recessed mounted fixture and lens flush with ceiling
- LED fixtures
- Removable, washable plastic lens.

E. Pop-up Trucks: Provide a power source to support food trucks operation. Locate out of guest view when truck is not available. See <3> for locations.

10.8 Property Technology (Data & Telephone)

A. R Data Systems: See <13A>.

B. BP Telephone Systems: Provide a telephone in each independent kitchen area, see <13A>

10.9 Construction Requirements - General

A. Floors: Provide minimum slip resistance (see <16>) for level floors and sloped walking surfaces.

1. BP Floor Loading: Comply with governing code. Minimum live loading is 490 kg / m² (100 lbs / sq. ft).
2. BP Paver Tile: Comply with Tile Council of North America (TCNA) standards.
    a. BP Provide cleanable, 6 x 6 inch (15 x 15 cm) minimum, vitreous (0.5% to 3% water absorption), square edge tile of red / gray / brown through body color.
    b. BP Provide mud set installation on concrete subslab and grout meeting ANSI A118.5 requirements.
3. BP Seamless Floor: Duraflex or accepted equal.
4. BP Concrete: Hard steel troweled and sealed with a heavy duty sealer designed for vehicle traffic (storage and non-food production areas only that do not receive tile).

B. R Steps, Stairs, Ramps & Slip Resistance: See <16>.

C. R Windows & Safety Glass: For window, glass / glazing criteria and safety glass requirements, see <16>.

D. BP Natural Light: Verify code requirements for daylight / natural light in kitchen. Incorporate natural daylight and views into the plan wherever possible.

E. BP Walls:

1. BP Kitchen Walls: Construction may be masonry or gypsum board on metal stud system. If gypsum board, construct framing (including bar dies) on 20 cm (8 inch) high concrete or concrete masonry unit curbs to control water seepage into adjacent public areas from kitchen areas.

2. BP Wall Height: Construct kitchen perimeter walls full height to underside of structure and seal to contain kitchen noise and odors.
    a. BP Extend perimeter walls to slab / structure above and seal to prevent odor and sound transmission to Public spaces.
    b. BP Construct walls common with dining rooms from concrete masonry units.
3. BP Ceramic Tile (preferred): Follow TCNA standards for product selection and installation.
    a. BP Provide off-white 100 x 100 mm (4 x 4 inches) ceramic tile walls to ceiling or 1.8 m (6 ft) minimum height from floor with white grout. Include an accent of colored tile at eye level in a decorative pattern. See MI for examples. Coordinate height with equipment and kitchen consultant.
    b. BP Where finish walls are exposed to guest view, provide ceramic tile and design to support restaurant concept and interior design.
4. BP Fire Rated - Fiber Reinforced Finish Paneling (FR- FRFP): Provide Fire Rated Paneling (FRP) type as approved by MI and Zurich Services Corporation in areas of food processing and production, and on kitchen corridor walls, that require fire rated, sanitary, cleanable walls.
5. BP Security: Construct walls for lockable and secure areas (storage, offices, etc.) to structure above (or provide equal security barrier of expanded metal lath or welded wire fabric) to deter unauthorized entry or theft.
6. BP Reinforcement: Reinforce walls and ceiling to support wall and ceiling mounted equipment.
7. BP Wall Thickness: Provide materials of sufficient thickness to receive recessed wall equipment when required.
8. BP Walls Above Walk-In Freezer / Refrigerator Units: Provide closure panels of same finish as walk-in unit exterior to close off space above perimeter of units to ceiling to prevent storage use, prevent excessive loads on units and to enhance sanitation.
9. BP Wall Protection: Provide in service corridors, cart parking, etc. and other similar areas of traffic, see <8B>. Provide high and low continuous stainless steel channel (not wood) rails or armor metal plates fastened to wall from floor to 1.2 m (4 ft) high mounted to provide wall protection.
10. BP Corner Guards: Provide 10 x 10 cm x 1.8 m high (4 x 4 inch x 6 ft), 16 gauge stainless steel at exposed outside wall corners of interior spaces subject to cart traffic.

11. BP Wall Finishes at Cooking Lines: Behind BOH cooking lines, provide 20 gauge stainless steel wall flashing with lock seams from top of cove base to bottom of exhaust hood (by Kitchen Contractor). For wall finishes behind cooking lines of public areas, when specified by the Interior Designer, obtain governing health department approval.

F. BP Ceilings: Provide materials that meet the following criteria.

1. BP Washable surfaces, but non corrosive
2. BP Accessible, non corrosive support systems
3. BP Recessed light fixtures (not surface mounted to ceiling)
4. BP Fire rated ceiling panels (FRP)

G. BP Raceways: Provide 15 cm (6 inch) diameter raceway (PVC, EMT, or other material required by code) to run soda, beer, wine and cocktail lines from bag in box rack (chiller) to dispenser with easy sweep bends of 60 cm (24 inch) radius minimum. Run conduit on underside of slab or above finished ceiling as appropriate and provide support.

H. BP Cabling: Use shielded and unshielded cable for PBS / PMS and P.O.S. systems as required by <13A> and <13B>.

I. BP Foodservice Openings: Provide stainless steel trim around both sides of wall openings to receive pass-through or recessed foodservice equipment.

J. BP Pass Doors: Provide easy opening, in / out door with vision panel in high traffic areas between restaurant and kitchen.

10.10 Kitchen Equipment

A. Product Quality: Provide equipment manufacturers' highest grade of kitchen equipment designed for heavy duty, commercial, hospitality use. Provide marine grade for outdoor equipment that is exposed to weather.

1. BP Provide features like casters on cooking equipment, tables and other items where reasonable for the operational application.
2. BP Where utility connections can be accommodated reasonably, provide "flexible quick disconnect" connections.

B. BP Equipment Specification Packages:

1. BP 4KE Package: Permanent equipment, hard wired and hard plumbed is part of the "4KE Kitchen Equipment Package"; examples include espresso machine, storage shelf, oven, etc. (see MI property list for examples).
2. BP 5SU Package:Attachments and accessories ordered with the supplies package (i.e. 5SU).
    a. BP Mobile or temporary equipment considered as part of the 5SU smallwares; examples include banquet carts, glass racks, blenders, etc.
    b. BP Design and plan for 5SU equipment supplies.

C. BP Warranty:Provide one year (warranty begins when MI occupies facility) on parts and labor for foodservice equipment. Provide a five year warranty on refrigeration components (compressor, condenser, evaporators, etc.)

D. BP Manufacturers: The following table includes a comprehensive list of kitchen equipment. Exact equipment is based on project requirements. MI accepts equipment from the following manufacturers:

1. BP Equipment Manufacturers

Item	Europe	Remarks
Receiving		
Insect Killer	Starkey / Sammic	
Platform Scale	Mettler Toledo / Soehnle	Mobile
Pressure Cleaner	Karcher / SMT	
Trench Drain	Edelstahl / Ado Roste	
Hose Reel	T & S / Fisher	15.2 m (50 ft) hose
Air Curtain	Curtron / Berner	
Walk-in Refrigeration	Desmond / Williams UK	Approximately 9.3 m^2 (100 sq. ft.)
Temperature Monitoring System	Compliance Mate	
Hand Sink	Custom	With soap and towel dispenser
Waste Compactor	Orwak / Harmony	
Can Washer	Aervoid	Mount on 100 mm (4 inch) high curb
Platform Truck	Kelmax	1,100 kg (2,500 lb) capactiy
Cardboard Bailer		
Food Waste Digester	Orca	
Manual Pallet Jack	Dayton	2,500 kg (5,500 lb) capacity
Common Equipment (Use in Each Food Handling Area Below)		
Tables, Counters, Sinks, Shelves	Custom / Metro	Comply with Section 10.13
Hand Sink	Custom	Conply with Section 10.4
Water Filter	Everpure	Provide for all ice machines, steam equipment, coffee and beverage dispensing items
Exhaust Ventilator	Halton / Gaylord	Halton Capture Jet or Gaylord ELX
Fire Suppression System	See Fire & Life Safety	Provide pre-plumbed in all cooking exhaust hoods, Include as part of kitchen equipment package
Faucets, Sink Wastes, and Dishwashing Pre-rinse Spray Hoses	T & S / Fisher	All stainless or brass components, no aluminum. Pre-rinse sprays comply with EPAct 2005 6.0 lpm (1.6 gpm) or lower
Pre-Processing		
Pan Rack Cart	Cres-Cor / Metro	
Ice Flaker	Manitowoc / Hoshizaki	90 kg (200 lbs) minimum
Fish File Refrigerator	Foster/Williams UK	
Meat Saw	Hobart	All stainless steel finish
Butcher Blocks	J. Boos	Hard maple on stainless stand
Refrigerator	Foster / Williams UK	Reach-in
Air Degerminator	Bioclimatic	
Meat Grinder	Hobart / Samic	
Food Cutter	Hobart /Robot Coupe	

2. BP Equipment Manufacturers

Item	Europe	Remarks
Bench Scale	Mettler Toledo / Soehnle / Taylor	Waterproof scale
Vacuum Packing Machine	Multivac / Komet	
Butcher Bins	Cambro / Metro	
Hose Reel	T & S / Fisher	
Shelving	Metro	Secure storage, walk-in
Trench Drain	Custom	
Orange Juicer	Citrocasa / Zumex	Fully automatic
Storage		
Dunnage Rack	Metro / Cambro	
Storage Shelving	Metro / Cambro	5-tiers of stainless steel or plated chrome
Walk-in Refrigeration	Desmond /Williams UK	
Refrigeration System	Copeland / Bock	
Garde Manger (Cold Prep)		
Plate Stacker	Plate Mate	
Vegetable Cutter	Robot Coupe / Halde / Anliker	With set of 12 cutters
Labeler	Avery Dennison	Freshmarx
Scale	Mettler Toledo / Soehnle	For portioning
Bench Scale	Mettler Toledo / Soehnle	
Slicer	Hobart / Univex	Automatic with 305 mm (12 inch) diameter blade
Pacotize Machine	Pacojet	
Blender	Vitamix / Blendtec	
Mixer	Hobart	28 liter (30 quart) and 19 liter (20 quart)
Induction Cooker	Cooktek / Induc s	2.5 kW
Smoke Oven	Alto-Shaam	Undercounter, portable, hot & cold capability
Vacuum Packing Machine	Multivac / Komet	Counter top model
Food Processor	Robot Coupe / Halde	
Combi Oven	Rational	10 pan unit, counter top model
Ice Cuber	Manitowoc / Hoshizaki	90 kg (200 lb) capacity minimum
Disposer	IMC	In-sink at prep tables
Refrigerator	Foster / Williams UK	Above counter as necessary
Walk-in Refrigeration	Desmond / Williams UK	Cooler, freezer, separate finished product cooler
Trolley	Cambro / Metro	For vegetables
Vegetable Washer	Nilma / Meiko	
Vegetable Dryer	Nilma / Dito Electrolux	

3. BP Equipment Manufacturers

Item	Europe	Remarks
Juice Extractor	Rotor Lips / Santos	
Citrus Juicer	Rotor Lips / Santos	
Vacuum Packing Machine	Multivac / Komet	
Knife Sterilizer	Sofinor / Edlund	
Cutting Board	Okulen / Euroceppi	Synthetic, anti-microbial, color coded
Bakery (If required)		
Bakery Cart	Blanco	
Bakers Table	J. Boos	Wooden top with open base
Ingredient Bin	Rubbermaid	
Combi Oven	Rational / Convotherm	SCC 62 over 102 size, double stack
Retarder Proofer	Sweba Dahlen / Miwe	Wheel-in model
Rack Oven	Sweba Dahlen / Miwe	Gas fired, full size wheel in, single rack capacity, all stainless steel, eyebrow exhaust, retarder proofer, integral steam, view port
Range	MKN / Therma	2 to 4 open burners
Fryer	MKN / Therma	With self filtering system
Proofer / Retarder	Miwe / Revent	
Mixer	Hobart / Dito Electrolux	One 5 liter (5 quart) and one 57 liter (60 quart) with 57 and 28 liter bowls. Provide with timer, beater, wire whip, dough arm, dough knife, and bowl truck
Bread Slicing Machine	Berkel / Ade	Only applicable if hotel produces large quantities of sliced bread for events or shops
Dough Sheeter	Rondo / Fritsch	Semi-automatic, table top, fold-up type, reversible, adjustable belts, with cutter capability
Mixer	Rotor Lips / Kolb	Planetary type
Mixer	Hobart	Spiral type
Dough Divider	Erika / Fritsch / Roll Fix	
Water Chiller	Tecnomac / Alaska	
Water Meter	Tecnomac / Alaska	
Induction Cooker	Cooktek / IE	Two 2-burner, 2.5 kW each
Blast Chiller/Freezer	Koma / Irinox / Bongard	Bongard CPU52
Humidity Controlled Holding Freezer	Koma/Irinox / Bongard	Bongard CPU52, Irinox N'ICE, compatible with Rational carts
Batch Freezer	Carpigiani / Autofrigor	With pastuerizing capabilities, floor model, 5 liter (5 quart) capacity, wash down faucet
Pasteurizer	Carpigiani / Autofrigor	

4. BP Equipment Manufacturers

Item	Europe	Remarks
Scale	Pelouze / Taylor	Counter top; one 6 kg x 0.002 and 20 kg, Taylor waterproof type
Waffle Iron	Neumarker / Roller Grill	
Whipped Cream Machine	Kolb / Schalagra	
Refrigerator / Freezer	Foster / Williams UK	Reach-in
Wall Cabinet	Custom	With sliding doors
Refrigerated Base	Foster / Williams UK	With room temperature marble top
Hardening Cabinet	Koma / Irinox	Single door, selfcontained with temp range -40C to 21C (-40F to 70F)
Praline Cabinet	Sofinor	
Chocolate Warmer	Chocovision / Jufeba	
Chocolate Tempering Machine	Chocovision / Jufeba	Quantity: 2
Beverage Storage		
Storage Shelving	Metro	Non-corrosive chrome, wire type
Security Shelving	Metro	Cage type with locks, stainless steel, flat shelf to accommodate wine bottles vertically
Dunnage Rack	Metro	
Wine Bottle Storage	Metro	Security shelving to accommodate wine bottles horizontally
Keg Storage Racks	Metro	
Beer Dispensing System	By Vendor	
Walk-in Refrigeration	Desmond / Williams UK	
Pot Washing		
Disposer	IMC	Or pupler, cone mounted in soiled side drainboard of 3 compartment sink
Storage Shelving	Metro	Overhead stainless shevng above 3-compartment sink; pot shelf and hooks
Mechanical Sink Agitator		
Trench Drain	Custom	300 mm (12 inch) wide by length of 3 compartment sink
Pot Wash Machine	Hobart	Automatic single tank with clean and soiled drainboards, high chamber
3-Compartment Sink	IMC	Provide only if no Pot Wash Machine. With thermo heater on sanitation side.

5. BP Equipment Manufacturers

Item	Europe	Remarks
Warewashing		
Soiled and Clean Dish Tables	Custom	Soiled: "L" shaped, sink with rack guide, glass rack shelf, connect to dish machine. Clean: Minimum 1.5 m (5 feet), connect to dish machine
Disposer	IMC	Or pulper, 5 horsepower, mounted in sink on soiled dish table
Vent Ducts	Custom	Stainless steel
Dish Machine	Hobart / Meiko / Winterhalter	Base size on 70% of rated capacity, conveyor or flight type, with booster heater
Silver Burnishing Room *If used)		
Burnishing Machine	IMC	Open top, vibrating type, 250-300 piece capcity, 204 kg (450 lbs) of steel burnishing balls
Work Table	Custom	With sink
Shelving	Metro	
Ice Production		
Ice Cuber	Manitowoc / Hoshizaki / Kold-Draft	Sized for 0.5 kg (1 lb) per dining seat
Ice Flaker	Manitowoc / Hoshizaki / Kold-Draft	Approximately 270 kg (600 lb)
Ice Bin	Manitowoc / Hoshizaki / Kold-Draft	Sized for 150% of daily production capacity of ice machine
Refrigerated Trash Holding		
Walk-in Refrigeration	Desmond / Williams UK / Koldtech	Sized to maintain 13C (55F)
Hose Reel	T & S	
In Room Dining (IRD) Service		
Refrigerator	Foster / Williams UK	2 door reach-in, 2 door glass door roll-in, separate flower refrigerator
Ice Cuber	Manitowoc / Hoshizaki	180 kgs (400 lbs)
Coffee Brewer	WMF	
Espresso Machine	Franke / Bunn / Schaerer	Fully Automatic
Juice Dispenser	Crathco / Cofrimell	
Microwave Oven	Panasonic / Amana	
Shelving	Metro	May also use architect designed millwork storage
Conveyor Toaster	Hatco / Savory	
Trolley	IHS Global Alliance	For in-room dining
Hot Box	IHS Global Alliance	For in-room dining
Guestroom IRD Table		With hot drawers & GPS, linenless

6. BP Equipment Manufacturers

Item	Europe	Remarks
Closing Room		
Wine Cooler	Iglu / Eurocave	
Espresso Machine	Nespresso / WMF / Franke	Nespresso Gemini model, milk dispenser
Refrigerator	Foster / Williams UK	With glass doors
Pool Kitchen		
Fryer	MKN / Ambach	Two vat with self filtering system
Salamander	Franke	Top down electric only
Range	MKN / Ambach / Therma	Charbroiler, griddle, burner with oven base
Combi Oven	Rational	Counter top
Hot Holding	Holdomat	Undercounter
High Speed Oven	Turbochef/Merrychef	Programmable, counter top unit
Undercounter Freezer	Carpigiani / True	
Dipper Well	Wells	
Conveyor Toaster	Hatco / Savory	
Waffle Iron	Neumarker / Roller Grill	
Refrigerator	Foster / Williams UK	Reach-in freezer, roll-in double door
Walk-in Refrigeration	Desmond / Williams UK	Cooler, freezer, beverage cooler
Dish Machine	Hobart / Meiko / Winterhslter	Single rack
Storage Shelving	Metro	
Bars		
Back Bar Refrigerator	IMC / True	Remote refrigerated in public areas, minimum 2 doors per bartender, color by ID
Ice Cuber	Manitowoc / Kold-Draft / Hoshizaki	Additional specialty ice production based on concept
Coffee Brewer	Franke / Schaerer	Fully automatic
Espresso Machine	Elektra / La Marzocco / Faema	Semi-automatic
Bar Blender	Blendtec / Vitamix	1.3 liter (44 oz) capacity
Blender Station	IMC / Perlick / Eagle	460 mm (18 inch) wide, with 250 mm (10 inch) blender shelf
Beer Tap	Celli / Servend	Minimum 3 flavor, drainer below
Cocktail Station	Perlick / Eagle	With speed rail, juice wells, and condiment tray, lockable
Glass Washer	Winterhalter / Meiko	Extra high compartment
Mug Froster	IMC	Optional
Wine Bottle Display	Wine Trend / Iglu	
Wine Dispenser	Enomatic	
Hand Sink	IMC	With integral soap and towel dispenser and splash guards on both sides

7. BP Equipment Manufacturers

Item	Europe	Remarks
3-Compartment Sink	IMC	4 Compartment preferred, with drainboards
Drainboard	IMC	
POS Terminal / Printer	By Owner	With cash drawer located on front bar integral with bar design
Trash Receptacle	Rubbermaid	At each station
Bar Top Closer	Counter Balance	
Refrigerator	IMC	
Bar Top (BOH)	Custom	Stainless steel at back-of-house service bars
Security Gate	By Architect	For service bar area; roll-down type, full length of bar, by architect
Restaurant		
Mixer	Hobart	19 liters (20 quarts)
Salamander	Franke / Rollergrill	Top down electric only
Range	MKN / Ambach / Therma	Open burner with lowboy cooler under. French top with convection base
Broiler	Montague	For steak restaurants
Fryer	MKN / Ambach / Therma	With self filtering system
Food Warmer	Hatco / AP Wyott	
Wok Range	Yu Po	
Combi Oven	Rational	Counter top
Hot Holding	Holdomat	
Sous Vide	Julaba Fusion Chef / PolyScience	Built-in, recessed
Toaster	Hatco / Dualit	
Pasta Cooker	MKN / Ambach	If required
Induction Cooker	Cooktek / IE	If required, 2.5 kW
Mixer	Hobart	Drawer type
Sandwich Unit Refrigeration	Delfield / Randell	
Steam Kettle	MKN / Ambach	Steam preferred
Range	Profit / Flamemate	Stock Pot
Rice Cooker	Fujimak / Rinnai	
High Speed Oven	Turbochef / Merrychef	Programmable, counter top unit
Tilting Skillet	Frima (two sided) / MKN / Therma	150 liters (40 gallons)
Dish Machine	Winterhalter / Meiko	
Microwave Oven	Panasonic / Amana	
Pizza Oven (hearth)	Beech / Woodstone	
Pizza Oven, counter top	Turbo Chef	If required, counter top unit
Electric Pizza Oven	Moretti Forni	
Walk-in Refrigeration	Kolpak / Koldtech	Cooler and freezer

8. BP Equipment Manufacturers

Item	Europe	Remarks
Refrigeration System	Copeland / Bitzer	
Refrigerator	Foster / Williams UK	Reach-in, undercounter, upright
Food Pickup Lines		
Plate Warmer Cabinet	Hatco	Built-in, for 300 mm (12 inch) plates, sliding doors
Cold Food Pan	Foster / Williams UK	Recessed, with space bars for hotel pans; 50 cm x 30 cm (20 x 12 inch) well for expeditor
Refrigerator	Foster / Williams UK	Drawers under work tops or equipment
Waffle Iron	Neumarker / Roller Grill	
Toaster	Hatco	6 slot
Dipper Well	Wells	
Mixer	Hobart	5 liter (5 quart), counter-type
Trash Receptacle	Rubbermaid	On each station
Heat Lamp	Hatco	With remote individual switches
Buffet		
Refrigerator	Foster / Williams UK	
Coffee Brewer	WMF	
Induction Warmer	Cooktek / Induc s	Built-in, undermount, not visible
Conveyor Toaster	Hatco / Dualit	Preferred enameled black or red
Waffle Iron	Neumarker / Roller Grill	Heavy duty, dual type
Heat Lamp	Hatco	
Induction Cooker	Cooktek / Induc s	2.5 kW
Heated Counter Top	Berkeley / Hatco	
Refrigerated Display Case	Iglu cold system / Tanaka	
Heated Display Case	Eurolnox / Josef Holler	
Chilled Top	Randell / Josef Holler / RPI / Hatco	Built-in, undermount, not visible
Cold Food Pan	RPI / Vollrath	Insulated ice cooled
Wine Display Chiller	Iglu cold system / Tanaka	
Carving Station	Hanson Brass / Scholl	
Noodle Boiler	Yu Po	
Induction Cooking Pan	Sambonet / WMF	
Server's Station		
Counter		3.6 m (12 feet) in length with sink
Beverage Station Equipment	Franke / Bunn / Vivereau / Natura	Coffee brewer, cappacino machine, iced tea brewer, filtered water dispenser, soda dispenser
Ice Well / Storage	Cambro	
Refrigerator	Foster / Williams UK	Undercounter reach-in, 2 door upright reach-in

9. BP Equipment Manufacturers

Item	Europe	Remarks
Conveyor Toaster	Hatco / Savory	One per 5 servers
Work Table	Custom	With sink, mise en place drawers
POS Terminal / Printer	By Vendor	
Storage Shelving	Metro	
Glass Rack Dolly	CresCor / Metro	
Millwork Storage	Custom	For cutlery, clean linen, clean glasses
Specialty Restaurant Kitchen		
Chinese Kitchen		
Deck Steamer	Yue Po	
Wok Range	Yue Po	
Ring Steamer	Yue Po	
Moon Cake Oven	Yue Po	
Duck Roaster	Yue Po	
Pig Roaster	Yue Po	
Noodle Maker	Heng lian	
Noodle Boiler	Yue Po / Profit	
Towel Warmer	Taiji	
Fish Tanks	Austmarine	
Indian Kitchen		
Handy Range	Continental Indian / Indian Metal Works	
Tawa Griddle	Continental Indian / Indian Metal Works	
Romali Griddle	Continental Indian / Indian Metal Works	
Tandor Oven	Jumbo / Raj Tandoor	
Idli Steamer	Continental Indian / Indian Metal Works	
Masala Grinder	Trident / Lincoln	
Pulveriser	Trident / Lincoln	
Wet Grinder	Trident / Lincoln	
Japanese Kitchen		
Fryer	Fujimak / Rinnai	For tempura
Temppayaki Griddle	Fujimak / Rinnai	
Rice Cooker	Fujimak / Rinnai	
Display Case	Tanaka / Iglu	Custom for sushi
Yakitori Grill	Beech / Fujimak	Gas
Japanese Range	Beech / Fujimak	Gas
Robatayaki Grill	Beech / Fujimak	Gas
Fish Grill	Beech / Fujimak	Gas
Towel Warmer	Taiji	
Italian Kitchen		
Pasta Cooker	MKN / Ambach	
Hearth Oven	Beech / Woodstone	Wood fired preferred, Option: gas with wood flavor

10. BP Equipment Manufacturers

Item	Europe	Remarks
Bain Marie	MKN / Ambach	
Range	MKN / Therma	Open burner
Fryer	MKN / Therma	2 vat with self filtering system
Food Warmer	Hatco / APW Wyott	
Combi Oven	Rational	
Pasta Maker	Imperia / La Monferrina	
Dough Sheeter	Doughpro / Friul	
Deli / Gourmet Counters		
High Speed Oven	Turbochef/Merrychef	Programmable, counter top unit
Microwave Oven	Panasonic / Amana	
Refrigerator	Foster / Williams UK	Upright glass door
Refrigerator	True	Open front type
Baking Oven	Miwe / Watchel / Winkel	Display
Blender	Blendtec / Vitamix	
Slicer	Hobart	
Chocolate Tempering Machine	Chocovision / Jufeba	
Panini Grill	Electrolux	
Refrigerated Display Units	Oscartek / Williams UK	
Other Specialty Equipment		
Churrasco Grill	Beech	
Portable Grill / Broiler	Bakers Pride	Outdoor type
Wood Fired Grill	Grillworks / Norcal	
Charcoal Box Oven	Josper	
Dry Aging Cabinet	Dryager	
Function Space Kitchen		
Combi Oven	Rational	Roll-in model 202, 1 for every 250 seats
Combi Oven	Rational	Double stack 62 over 102
Plate Trolley	Rational	Wheel in for combi oven 202 model, 84 plates per trolley, include thermo blanket
Range	MKN / Ambach	4 burner, 2 required; griddle; charbroiler; salamander broiler
Heated Banquet Cart	Rieber / Alto-Shaam / Carter Hoffman	
Refrigerated Cabinet	AltoShaam / Carter Hoffman	Mobile, single & double door, with freezer option
Steam Kettle	Cleveland / MKN / Therma	150 or 225 liters (40 or 60 gallons); with manual tilt mechanism, hose, tangent draw off, and lid; Direct steam or gas fired

11. BP Equipment Manufacturers

Item	Europe	Remarks
Steam Kettle	Cleveland / MKN / Therma	Counter top, 10 to 40 liters (2.5 to 10 gallons), selfcontained, electric or steam heated, table sized to capture full pour path
Tilting Skillet	Frima / Cleaveland / MKN / Therma	150 liters (40 gallons); manual tilt mechanism
Trench Drain	Custom	Sized for full pour path of steam kettle, flush mounted
Cook and Hold	Alto-Sham	
Fryer	Frymaster / MKN / Ambach	2 vat with self filtering system
Bain Marie Table	Custom	With reinforced steel cover for bain marie
Scale	Pelouze	Table top, 6 kg x 0.0002 digital
Mobile Plate Conveyor	Traycon	With cover
Blast Chiller	Irinox/ Williams/ Bongard	
Water Boiler	Zip / Birko	
Storage Shelving	Metro	Stainless steel
Pot Rack	Custom	Ceiling mounted
Vacuum Packing Machine	Multivac / Komet	
Low Stock Pot Range	Yue Po / Profit	Stock pot
Coffee Brewer	WMF	
Refrigerator	Foster / Williams UK	Roll-in double door; Reach-in single section
Disposer	IMC	Minimum 3 horsepower
Dish Machine	Winterhalter / Meiko	Flight type
Conveyor System	Aerowerks / Nordien	
Glass Washer	Winterhalter / Meiko	
Silver Burnisher	Adamation /Morelion	
Glass Rack Dolly	Blanco	
Dish Dolly	Blanco	
Function Space Beverage Area		
Refrigerator	Foster / Williams UK	
Walk-in Refrigeration	Desmond / Williams UK	Approximately 2.4 x 3 m (8 x 10 feet)
Coffee Brewer	Bravillor / WMF	
Ice Cuber	Manitowoc / Hoshizaki	With bin
Shelving	Metro	
Water Fill Station	T & S	
Beverage Counter	Custom	

12. BP Equipment Manufacturers

Item	Europe	Remarks
Function Space Pantries		
Walk-in Refrigeration	Desmond / Williams UK	Cooler and freezer
Ice Cuber	Manitowoc / Hoshizaki	With bin
Water Fill Station	T & S	
Coffee Machine	Franke / Bunn	Based on Ballroom size, consider wall mounted system with carts
Heated Banquet Cart	Crescor / Carter Hoffman	Sized for 300 mm (12 inch) plates, mobile, electric heat
Combi Oven	Rational	
Heat Lamp	Scholl / Hatco	
Refrigerated Cabinet	Alto-Shaam /Rieber / Carter Hoffman	Mobile
Queen Mary	CresCor / Metro	
Storage Shelving	Metro	Some lockable
Dish Machine	Hobart	Required if not on same level as main kitchen
Heated Cabinet	Carter Hoffman	Roll-in, single door
Refrigerator	Foster / Williams UK	Roll-in, singledoor; reach-in undercounter
Club Lounge & Pantry		
Refrigerator	IMC	2 stacked glass front beverage type; 2 stacked
Heat Lamp	Hatco	Retractable; 3 units, decorative
Water Boiler	Zip / Birko	
Cold Plate	Williams UK / RPI / Atlas	Undermount not visible. air circulating preferred
Coffee machine	Franke / Bunn	Fully automatice 3 hopper with milk refrigeration & cup warmer
Espresso Machine	Franke / WMF	Fully automatic
Induction Cooker	Cooktek / IE	2.5 kW
Wine Dispenser	Enomatic / Eurocave	8 bottle capacity
Heated Cabinet	Alto-Shaam / Carter Hoffman	Quantity: 2 units

13. BP Equipment Manufacturers

Item	Europe	Remarks
Pantry (see Common Equipment)		
Dish Machine	Hobart	Undercounter commercial type
Disposer	IMC	1 horsepower minimum
Wall Shelf	Custom	Or cabinets
Induction Warmer	Cooktek / IE	3 minimum; hidden or undermount
Ice Cuber	Manitowoc / Hoshizaki	Undercounter, low volume
Refrigerator	Foster / Williams UK	Single door reach-in; single door roll-in
High Speed Oven	Amana	Programmable, counter top unit
Microwave Oven	Panasonic	
Coffee Brewer	Franke / Bunn	4 to 6 liters (1 to 1.5 gallons) airpot brewer with cord and plug
Guest Ice Service		
Ice Cuber	Manitowoc / Hoshizaki	Water cooled, selfcontained, push button dispenser
Refrigerator, undercounter	Miele / Gaggenau / Bosch /Viking	Glass front, 61 cm (24 in) unit, high end residential
Housekeeping Dishwashing		
Dish Machine	Hobart	Undercounter, high temperature
Dish Table & Rack Shelf	Custom	With sink and pre-rinse spray. Glass racks overhead
Employee Dining		
Cooking Equipment	Ambach / Therma	Influenced by regional preferences
High Speed Oven	Turbochef/Merrychef	Programmable, counter top unit
Microwave Oven	Menumaster / Amana / Sharp	
Equipment Stand	Custom	With refrigerated drawers
Coffee Machine	WMF / Bunn	
Cold Food Pan	Randel / Delfield	Built-in
Heated Food Cart	Carter Hoffman	
Refrigerator	Foster / Williams UK	Double door upright; 2 roll-in
Serving Counter	Custom	With tray slides
Beverage Counter	Custom	

14. BP Equipment Manufacturers

Item	Europe	Remarks
Salad Bar	Custom	Island type with refrigerated cold pan
Vending Machine	By Vendor	For cold beverages and snack items
Storage Shelving	Metro	
Recycling Station	Custom	
Disposer	IMC	Minimum 2 horsepower
Dish Machine	Hobart	Single tank with booster heater
Staff Kitchen - Asian		
Rice Cooker	----	
Wok Range	----	
Range	----	Open burner
Boiling Kettle	----	May follow range
Range	----	Stock pot
Steamer	----	Chinese only
Hot Section	----	
Steamer	----	Display
Coffee Brewer	----	
Juice Dispenser	----	
Staff Kitchen -Indian		
Tandor Oven	----	
Dosa Grill	----	
Range	----	Open burner
Idli Steamer	----	
Handy Range	----	
Milk Warmer	----	
Show Kitchen		
Range	Moltini / Bonnet / Bohner / Marrone	European block systems

10.11 Walk-in Refrigerated / Frozen Storage Units

A. Program: Provide insulated and refrigerated compartmentalized storage (complex of units) to house food products. Provide pass-through units consisting of two compartments for each food category.

1. BP Separate general cooler, general freezer, freezer, beer / wine cooler and dairy cooler.
2. BP Compartments for holding raw products.
3. BP Compartments for holding prepared or finished products.
4. BP In locations where deliveries are less frequent, provide additional freezer space

B. BP Location: Locate between Pre-Processing Area (Rough Prep rooms and Cold Prep area) of Main Kitchen.

1. BP Consider holding freezer on loading dock to address supply chain delivery.

C. BP Freezer Facilities: Provide and size according to the following.

- Market study
- Geographic location
- Delivery schedules
- Availability of products

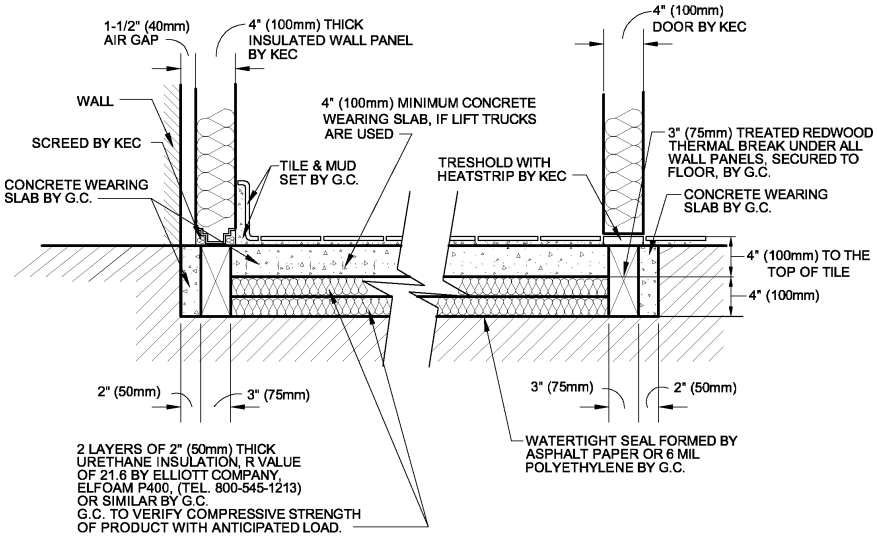
D. BP Entrance Access: Provide common entrance vestibule connected to other spaces such as dry storage, liquor, and non-food storage. Requires dedicated storeroom attendant.

1. BP Secure space with door and electronic lock with audit record and door contact alarm. See <16>.
2. BP Provide double door entrance to accommodate pallet width.
3. BP Provide adequate space to store pallets.
4. BP Desk and chair
5. BP Computer with PMS / PBS, see <13A>

E. R Walk-in Unit (Coldroom) Fabrication / Construction: Comply with the current Energy Independence Act, see <15A>.

1. BP Floor: Depress supporting slab to receive insulation, minimum R-30, and floor surface to match Kitchen floor. Provide walk-in floor surface flush with adjoining kitchen, without ramps or steps. See floor detail.

a. BP Walk-in Freezer Floor Detail



NOTE:
FOR FREEZER OF OVER 400 SQUARE FEET, G.C. TO PROVIDE HEATING ELEMENT AND/OR VENTING SYSTEM UNDER SLAB AS DIRECTED BY WALK-IN MANUFACTURER

2. BP Walls / Overhead: Foamed in place urethane insulated, minimum R-30, panels.
   a. BP Non painted, non corrosive, 20 gauge stainless steel or aluminum interior and minimum of 20 gauge stainless steel, exterior walls where exposed.
   b. BP Cover exterior walls exposed to kitchen and work areas with 1.22 m (4 ft) high diamond plate. Unexposed exterior walls may be aluminum or galvanized.
   c. BP Enclose space above top of units to structure above with same panel / finish material as walk-in unit. Provide trim strips as necessary.
3. BP Door: Provide heaters and pressure relief ports for freezer compartments.
   a. BP Hinged, 0.9 m (3 ft) wide entrance door with three self closing hinges, observation window with heater, 1.22 m (48 inch) high diamond kick plate on both sides and a door locking mechanism for padlock.
   b. BP Provide sliding doors for heavy use and for bulk storage walk-ins.
   c. BP Provide plastic curtain at doors for humidity control.
4. BP Thermometer: Computer based with remote audit trail, viewable, mount at exterior unit entry door.

F. BP Storage Equipment: Provide the following:

1. BP Shelving: Non corrosive material such as stainless steel wire or Metro-Max meeting NSF material and fabrication requirements.
2. BP Shelf Units: Heavy duty required.
   Four tiers of shelving with 1.6 m (5'-3") posts, four leg / post casters and brakes on the two front casters.
   Dunnage racks: 20% of shelving
3. BP First Shelf: Install 25 cm (10 inch) above floor with equally spaced shelves above.

G. Refrigeration System: Provide indoor water cooled remote units (see mechanical condenser / compressor requirements in this Chapter).

H. Walk-in Unit Operating Temperatures: Provide for the following storage functions (may be dependent on local practice for food separation):

1. Walk-in Unit Operating Temperatures

Food Type	Operating Temperature
Produce	+2º C (+35º F)
Meat (with cage security shelving)	+2º C (+35º F)
Dairy	+2º C (+35º F)
Holding / finishing	+2º C (+35º F)
Freezer	-23º C (-10º F)
Beverage (with secure cage shelving)	+2º C (+35º F)
Chef box, located in kitchen space	+2º C (+35º F)

I. BP Walk-in Refrigeration Systems:

1. BP Controls / Alarms: Provide each walk-in compartment with computer based temperature and A/V alarm system that provides an audit trail of temperatures. Interconnect with the Building Automation System (BAS), see <15A>. Consider remote monitoring options.
2. BP Emergency (Backup Operational) Power: Connect walk-in refrigerators to emergency power source. See <15C>.
3. BP Condenser / Compressor Units: Provide remote water cooled units for refrigeration compressors of 1 hp or larger.
   a. BP Locate units in a secure room near walk-in refrigeration compartments.
   b. BP Do not locate above walk-in refrigeration compartments.
   c. BP Provide each unit with a water supply of 0.1 l / s (1.5 gpm) / hp at 21º C (70º F).

d. BP Do not use domestic, potable water for cooling. Provide recirculating system.

e. BP Provide a minimum air exhaust of 340 m³ / hr (200 cfm) to maintain compressor room temperature below 32º C (90º F).

f. BP Verify that refrigerant line runs do not exceed manufacturer's requirements.

4. BP Condenser / Compressor Alternate: If water cooled units are not possible, review with MI Representative. Provide air cooled units (air cooled units use more energy and require more maintenance) as follows:

a. BP Provide each unit with a minimum exhaust of 1700 m³ / hr (1000 cfm) / hp to maintain the compressor room below 32º C (90º F). Coordinate requirements with <15A>.

b. BP Locate units in weather protected area within a secure room.

c. BP Do not locate units above walk-in refrigeration compartments.

d. BP Verify that refrigerant line runs do not exceed manufacturer's requirements.

5. BP Electrical:

• Lighting: Provide minimum 40 foot-candles, three way light switches on timers for units with multiple entrances. LED lighting with minimum of 40 lumens.

• Power: Provide 1 duples outlet per keg for tap system

10.12 Type 1 Grease Hoods & Ducts

A. Fire Code Compliance: Application is subject to Marriott Corporate Fire Protection review, provisions of NFPA 96, NFPA 13 or NFPA 17A, <14>, and governing regulations (U.S. and Canada).

B. Other Codes & Standards: Provide UL and NSF listed hoods at production and exhibition cooking in compliance with NFPA 96.

C. Type 1 Grease Hood: Provide the following:

1. Type: High velocity, low air volume, self washing and energy efficient hood.
2. Filters: High efficiency, UL listed, baffle filters.
3. Make-Up Air: Low velocity make-up air discharge; no internal make-up air or "compensating hoods".
4. Exhaust Air Quantity: 100%
5. Overhang: Extend hood overhang a minimum of 15 cm (6 inch) beyond equipment.
6. Emission Control: Provide UV-C system for grease reduction and to improve hood and duct cleanability. To avoid burns, provide safety interlock to turn off when filters are removed.

D. BP Exhibition Cooking Hood: In exhibition cooking scenarios, design for and provide the following:

1. BP Exhaust Air Quantity: 100%
2. BP Noise: Eliminate noise that would disrupt customers in the buffet and dining area. Make-up air through ventilator is not permitted because of fan and air movement noise.
3. BP Air Curtain: Provide an air conditioned air curtain to control air, heat and odor between cooking area (edge of cooking hood) and restaurant area and customers.
4. BP Design Coordination: Coordinate hood design with interior design and restaurant concept.

E. BP Hood Cleaning:

1. BP High Grease Applications: Provide self-cleaning hoods for high grease producing applications.
   a. BP Provide recessed mounted control panel to power hood, wash

cycle, UV controls and fan.

b. BP Locate fire protection system control and monitoring components in control panel cabinet when possible, and make accessible for servicing and maintenance.

2. BP Low Grease Applications: At a minimum, use dry cartridge, high velocity extracting hood for low grease producing applications. Mount control for lights and fan on wall.

F. Fire Suppression System: Provide hood and duct fire suppression at locations involving food production cooking that produce grease laden vapors and when wood or charcoal equipment is provided. See <14>.

1. Wet Chemical System: When water mist system cannot be used, provide Ansul Piranha dual agent (suppression system).

2. Coordinated Functions: Design the fire suppression system to perform the following actions when activated (coordinate with <14> and <15A>).

a. Alarm Signal: Send to fire alarm control panel (FACP).

b. Power: Automatically turn off power to cooking appliances, lighting and hood makeup air handler, except exhaust fan continues to operate.

c. Gas: Automatically activate solenoid to turn off gas to affected cooking lines.

G. Acceptable Hood Manufacturers: Halton "Capture Jet" or Gaylord ELX type.

10.13 Commercial F&B Area Fixture Materials & Fabrication

A. Materials - General: Comply with NSF Standard for selecting commercial food and beverage (F&B) preparation and cooking area materials and finishes outlined in this document. Facilitate ongoing and primary sanitation and cleaning concerns in and around equipment. Provide features like casters on cooking equipment, tables, and other items where reasonable for the operational application and where utility connections can be reasonably accommodated with "flexible quick disconnect" connections.

1. BP Stainless Steel: ASTM A240 Series 300, extra low carbon, non magnetic, austenitic, 18% chromium, 8% nickel, corrosion resistant.
   a. BP Thickness: Tops, tables, counters and sinks, 2.0 mm (U.S. 14 gauge); shelves, undershelves, tubing, legs and bracing 1.5 mm (U.S. 16 gauge); exhaust ventilators, 1.3 mm (U.S. 18 gauge).
   b. BP Finish: Exposed, #4 commercial finish; unexposed, #2B.
   c. BP Wall Shelves: Provide stainless steel double wall shelves above worktables wherever possible.
2. BP Joint Sealant: Seal joints with silicone; Dow Corning 780; General Electric SE 1200 or accepted equal. At heat producing equipment, seal joints with Hi-Temp silicone sealant.

B. BP Fabrication: Comply with NSF Standards No. 2 for fabrication.

1. BP General: Fabricate kitchen equipment of a single sheet of metal, if possible.
   a. BP Exposed Surfaces: Free of bolt, screw and rivet heads.
   b. BP Joints / Penetrations: Fabricate to avoid sharp edges and joints that could damage equipment or injure users.
2. BP Welding: Continuous welds, (field welding is acceptable) Heliarc method.
3. BP Trim: Not an acceptable substitute for accuracy and neatness.
4. BP Tops, Tables & Counters: Comply with above for metal thickness and the following:
   a. BP Provide stainless steel fabrication unless construction is concealed and not in contact with food, then galvanized steel is acceptable.
   b. BP Provide continuous top fabrication as one piece integrally welded without butt joints.

c. BP Framework: Provide continuous galvanized or stainless steel angle or channel framework, welded to stiffen fabrication. In high salt and high moisture environments, provide all stainless steel construction.

d. BP Do not use wood (except as required by bakery).

e. BP Provide drawers in worktables.

C. BP Plumbing: Avoid back siphoning of water into water system with the use of check valves, air gaps and vacuum breaks.

D. BP Electrical: Provide waterproof wiring, internally wired within equipment or conduit with appropriate controls and safety features.

1. BP Exposed Conduit: Covered
2. BP Concealed Conduit (in walls / ceiling): Zinc coated (galvanized)

10.14 Receiving

A. Program: Provide an area for the unloading of products from delivery trucks. See <9> for Dock criteria.

1. BP Deliveries are received, checked in and weighed by purchasing / receiving staff.
2. BP Large shipments of product are broken down for food production storage and returns are processed.
3. BP In warm climates, provide an air conditioned area for goods waiting to be moved to storage and provide a short term holding walk-in chiller.
4. BP Refrigerated Holding: Provide at larger hotels where receiving is not close to Commissary Storage due to distance or floor level difference.

B. BP Bays: 2 bays minimum for truck unloading plus 1 bay dedicated for compactor, container and trash loading in an easily accessible location.

C. BP Trash Recycling: Provide facilities to separate and store recyclable material if required by governing regulations.

1. BP Provide for pest control in recycling and waste areas.
2. BP If provided within the building, locate in a sealed, refrigerated room.
3. BP Provide area for compostable recycling based on governing jurisdiction.

D. BP Trash Holding: Provide a refrigerated room with refrigerated compactor; see

requirements in Trash Holding section below.

1. BP Based on property location and F&B production, provide space for an organic waste compactor / digester.

E. BP Purchasing Office: Provide an office at Receiving (with view of Receiving Area) to manage food purchasing and holding for kitchen. See "Purchasing and Receiving Offices" in <9>.

F. BP Scale: Heavy duty construction, mobile with capacity and increments dependent on delivery load requirements.

G. BP Cart Wash: Provide a dedicated area or alcove for cleaning foodservice carts and equipment.

1. BP Location: At Receiving area or Pot Washing area
2. BP Size / Area: 2.4 x 2.4 m (8 x 8 ft) is typical
3. BP Drainage: Provide positive slope to floor drains or trough drain.
4. BP Water / Hose & Rack: Provide 15.2 m (50 ft) hose with adjustable nozzle and hose rack with hot and cold water. See <15B>.

H. BP Can Wash: Provide dedicated room equipped with a machine used to clean and sanitize garbage cans. See <9>.

1. BP Location: Adjacent to Receiving (loading dock) area. Partition or isolate from Cart Wash to avoid contamination from garbage containers.
2. BP Size / Area: 2.4 x 2.4 m (8 x 8 ft.) enclosed room with 1 m (3'-6") wide door.
3. BP Can Wash Machine: Size machine to accommodate product (containers) used in foodservice operation. Mount on 10 cm (4 inch) high curb.
4. BP Water / Hose & Rack: Equip space with hose and hose rack with hot and cold water. See <15B>.

I. BP Entry Doors: Provide controls for prevention of pest contamination.

1. BP Include automatic air curtains, door seals, sweeps, guards and automatic door closers on doors leading to loading bays..
2. R See <15A> for air curtain requirements.

J. BP Finishes - Receiving Areas:

1. BP Floors: Concrete, sealed
2. BP Walls: Concrete masonry, epoxy painted
3. BP Ceilings: Exposed structure

10.15 BP Pre-Processing (Commissary)

A. BP Program: Locate the following pre-processing areas when market study determines that food and produce is not available or cost effective in a processed state adjacent to Receiving area and consistent with the project Facilities Program; see "Foodservice Process Flow Diagram" above:
• Rough Prep
• Fish, Meat & Poultry Prep Areas
• Vegetable Prep

B. BP Rough Prep: Provide when market study determines that food and produce arrives in a rough, unprocessed state that requires cleaning prior to entering the facility preparation areas.

1. BP Location: Adjacent to preparation areas.
2. BP Doors: Provide door widths of 1.2 m (4 ft) or larger to accommodate bulk material and pallet movement.
3. BP Features: Provide the following:
   a. BP Continuous 15 cm (6 inch) high concrete curb / base at perimeter walls
   b. BP Floor trench drain. Slope floor to drain
   c. BP Sinks & Support :
   • Prep sink and wash table
   • 3 compartment sink
   • Ozonated water supply
   • Trench Drain
4. BP Finishes: Provide the following.
   a. BP Floor / Base: Paver tile floor & concrete curb base or slip resistant seamless coating
   b. BP Walls: Ceramic tile
   c. BP Ceiling: Solid deck structure painted or food prep type suspended ceiling

C. BP Fish, Meat & Poultry Prep Areas: Separate products into categories of poultry, fish and meat and transfer into a dedicated room for processing.

1. BP Program: Provide dedicated enclosed room for preparing products for proper storage.
   a. BP Provide dedicated preparation facilities for the fabrication of meats and seafood and production of processed meat products.

b. BP Doors: Provide door widths of 1.2 m (4 ft) or larger to accommodate bulk material and pallet movement.

c. BP To prevent cross contamination, design facilities to accommodate separate worktable tops, sinks, cutting boards and refrigerated storage facilities for meat, poultry and fish.

d. BP Pork: Provide a separate pork prep room in regions where dietary restrictions on pork are prevalent.

e. BP Storage: Products are processed and placed in holding compartment of appropriate refrigerated storage room.

2. BP Location: Adjacent to Walk-in Coolers and Freezers.

3. BP Equipment: Provide specialized equipment for each food category to wash, uncrate and prepare product for storage. See Equipment Table.

a. BP Water hose / hose reel with hot and cold water

b. BP Floor drain

c. BP Sinks & Support: See Rough Prep above.

4. BP Refrigerator: Storage capacity is directly proportional to the size of the property, banquet facilities and F&B outlets and availability of products. Provide separate walk-in refrigerator for storage of bulk and prepared products.

5. BP Finishes - Preparation Area:

a. BP Floor: Paver tile (same as Main Kitchen) flooring or slip resistant seamless coating

b. BP Base: Paver tile base

c. BP Walls: Ceramic tile or FRP

d. BP Ceilings: Accessible, washable tile on corrosion resistant grid and supports.

10.16 Storage

A. Program: Provide dedicated area within kitchen for storage of all food items, paper / disposable goods, and food and beverage related supplies.
   - Dry Storage
   - Non Food Storage
   - Walk-in Refrigerated / Frozen Storage Units

B. BP Dry Food Storage:
   1. BP Program: Provide dedicated room to house non refrigerated food products. Size facilities according to the following:
      a. BP Market study
      b. BP Geographic location
      c. BP Delivery schedules
      d. BP Availability of products
   2. BP Location: Provide in secure area adjacent to refrigerated storage and storeroom office. Shares common entrance vestibule with other storage facilities.
   3. BP Equipment: See Equipment Table.
   4. BP Entrance Door: 1.07 m (3'-6") minimum width permitting cart and pallet access. Secure door with electronic lock with audit record and door contact alarm, see <16>.
   5. BP Finishes - Dry Food Storage:
      a. BP Floor: Tile pavers preferred or concrete, sealed
      b. BP Base: Same as walls
      c. BP Walls: Concrete masonry, epoxy painted
      d. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

C. BP Non Food Storage:
   1. BP Program: Provide separate, dedicated areas with storage shelving to house the following non food products:
      a. BP Paper products
      b. BP Disposable wares
      c. BP Banquet / catering equipment
      d. BP China and silver / crockery

e. BP Clean linen

f. BP Chemical and janitorial supplies

2. BP Equipment: See Equipment Table.

3. BP Finishes - Non Food Storage:

a. BP Floor: Concrete, sealed

b. BP Base: Same as walls

c. BP Walls: Epoxy paint

d. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

D. BP Cold Storage: Provide refrigerated storage units to house food products.

10.17 Cold Preparation

A. Program: Provide dedicated area in Kitchen for the preparation of cold products and ingredients. Market study determines space requirements.

1. BP Ample storage for smallwares and pans

2. BP Adequate space for pan rack carts and shelving

3. BP Conceal trash (not in aisle spaces)

4. BP Conceal recycling / compostables

5. BP Dry storage area

B. BP Equipment: See Equipment Table.

C. BP Features: Provide and accommodate the following:

1. BP Access to flake and cube ice

2. BP Area floor drains for cleaning

3. BP Convenience duplex electrical outlets in work areas

4. BP Open base prep tables

5. BP Dedicated space for production to include refrigerated storage with worktable space

6. BP Self-contained ergonomic work stations for efficient production movement and to control cross traffic

7. BP Provide easy accessible double wall power outlets every 1.5 m (5 feet).
8. BP Water source required in preparation areas. Provide sinks and ozonated water source as required by F&B program.

D. BP Finishes - Cold Preparation:
1. BP Floor: Paver tile (same as Main Kitchen) flooring or seamless flooring.
2. BP Base: Paver tile base or seamless base.
3. BP Walls: Ceramic or FR-FRFP (see "Construction Requirements: "General" & "Walls" above).
4. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

10.18 BP Bakery

A. BP Program: Provide bakery based on market conditions.
1. BP When required, provide dedicated area for the preparation and production of breads, desserts, pastry, chocolates and other baked goods.
2. BP Location: Adjacent to main kitchen Pre-Processing area.
3. BP Size / Area: Provide space for storage shelving and bakery carts.

B. BP Equipment: See Equipment Table.

C. BP Specialty Baking Equipment: Provide for the production of breads. Specialty bread equipment is optional depending on program. See Equipment Table.

D. BP Chocolate, Pastry & Ice Cream Equipment: Provide ice cream, chocolate and pastry dessert production equipment based on market study. See Equipment Table.

E. BP Finishes for Bakery:
1. BP Floor: Paver tile (same as Main Kitchen) flooring or seamless flooring
2. BP Base: Paver tile base or seamless base
3. BP Walls: Ceramic tile or FR-FRFP
4. BP Ceilings: Accessible tile on corrosion resistant grid and supports.

10.19 Beverage Storage

A. Program: Provide dedicated, secure area to store liquor, beer and wine with interior shelving and one entry door.

1. Beverage Prep Room: Provide an adjacent room for beverage preparation. Provide a custom stainless steel table with under table shelf.

B. Door: Secure with electronic operated lock with audit record and door, contact alarm <16>.

C. BP Wire / Cage Storage Shelving: Non corrosive material such as stainless steel wire or polypropylene protected wire meeting NSF material and fabrication requirements. Provide lockable security cages, bottle storage and shelving.

D. BP Dry / Ambient Storage: Provide storage shelving and storage units. See Equipment Table.
• Provide 20% dunage heavy duty low shelf storage.
• Provide solid flat shelving. for bottle liquor storage.

E. BP Refrigerated Storage (wine / beer): See walk-in refrigeration in this document and Equipment Table.

F. Design Temperatures: Maintain the following design beverage temperatures:

1. Beverage Storage Design Temperatures

Beverage Type	Temperature
Beer (bottle)	5.5º C (42º F)
Beer (draft)	3.3º C (38º F)
White Wine	5.5º C (42º F)
Red Wine	13.0º C (55º F)
General Liquor	21.0º C (70º F) (ambient temperature)

G. BP Finishes - Liquor Storage: Dry / ambient areas (for refrigerated storage, see walk-in refrigeration requirements).

1. BP Floor: Concrete, sealed
2. BP Walls / Base: Painted
3. BP Ceiling: Exposed structure

10.20 Pot Washing

A. Program: Provide equipment for washing and sanitizing pots and pans in dedicated space and/or with Warewashing.

B. BP Location: In Main Kitchen close to hot food production line. May combine area with Warewashing if space and ease of function permits.

1. BP Also, may share common clean dish table with Warewashing in a "U" shaped configuration.
2. BP Provide pot washing sink (3 compartment required) or potwashing machine, on each food handling / production floor at a minimum.

C. BP Equipment: See Equipment Table.

D. BP Features: Provide the following:

1. BP Drains: Ample floor drainage
2. BP Cart Space: Cart parking space for soiled pots from remote foodservice areas
3. BP Rack and hook system above potwashing sink

E. BP Finishes for Pot Washing:

1. BP Floor: Paver tile
2. BP Base: Paver tile
3. BP Walls: Ceramic tile
4. BP Ceiling: Accessible, washable tile on corrosion resistant grid and supports.

10.21 Warewashing

A. Program: Provide area for cleaning and sanitizing of plates and utensils for service. See "Pot Washing" above. Warewashing may be combined with Pot Washing.

B. BP Location: In Main Kitchen within accessible area to waitstaff near kitchen entrance from dining room and food pickup line.

C. BP Equipment: See Equipment Table.

D. BP Warewasher: Size machine according to seating capacity of restaurant banquet areas, and other foodservice areas. Provide heavy duty stainless steel construction with the following features.

1. BP Size: Provide machine based on 70% of rated capacity.
2. BP Type: Conveyor rack model or flight type depending on capacity requirement.
3. BP Efficiency: Use only water saving / energy saving models using conservation technology. No reduced speed "water savers."
4. BP Booster Heater: Size for 82º to 90º C (180º to 195º F) hot water rinse for sanitizing.
    a. BP Select most efficient utility to operate booster heater.
    b. BP Do not provide "low temperature" or chemical sanitizing machines.
    c. BP Temperature and pressure gauges
    d. BP Automatic tank fill options
5. BP Exhaust: Provide with exhaust hoods or directly connect to warewasher vent ducts for removing steam and condensate.
6. BP Drying Area: Provide adequate space for drying (minimum three rack lengths).

E. BP Features: Provide the following.

1. BP Drains: Ample floor drainage
2. BP Carts: Provide parking space for soiled dish dollies and rack dollies for holding a minimum of 10 dishware items and 4 glasses per seat served.
3. BP Ample clean service ware storage on mobile racks (5-SU).
4. BP Space for two 114 liter (30 gal) garbage containers

F. BP Finishes - Warewashing:

1. BP Floor: Paver tile
2. BP Base: Paver tile
3. BP Walls: Ceramic tile or FR-FRFP
4. BP Ceiling: Accessible, washable tile on corrosion resistant grid and supports.

10.22 Ice Production - Main Kitchen

A. Program: Provide dedicated space and equipment, away from high traffic corridor, for the production and storage of ice for kitchen use.

B. BP Equipment: Water cooled, self-contained compressor system.

1. BP When selecting, consider low noise, heat gain, ventilation, unit size, height and capacity / efficiency of unit.
2. BP Verify ceiling height at ice bin location prior to installation.

C. BP Ice Machines: Select size and ice bin capacity according to market study and demand for ice production. Typically, base on the following per day production capacity at 32º C ambient, 21º C water (90º F ambient, 70º F water) temperature:

1. BP Cube: Approximately 0.5 kg (1 pound) per seat
2. BP Flake: Approximately 270 kg (600 pounds)

D. BP Water Filter: Size to accommodate cube and flaked ice machine capacities. Locate filter in easily accessible location for servicing.

E. BP Ice Bin: Select style based on ice quantity demand (low or high) and size bin for 150% of daily production capacity. If in remote location, provide mobile, insulated carts for ice transfer. See Equipment Table.

F. BP Unit Fabrication: Fully insulated with stainless steel or polypropylene interior and stainless steel exterior.

G. BP Drainage:

1. BP Provide 30 cm (12 inch) wide floor grate with non skid surface and trough in front of and for the length of the ice bin to capture excess water runoff.
2. BP Provide funnel drain for cube maker and bin located outside of traffic circulation path.

H. BP Finishes for Ice Production:

1. BP Floor: Paver tile (same as Main Kitchen) or seamless flooring
2. BP Base: Paver tile base or seamless base
3. BP Walls: Ceramic tile wainscot on concrete masonry; epoxy painted above
4. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

10.23 Trash Holding - Refrigerated

A. Program: Provide dedicated room with refrigeration system to hold wet waste between pick ups in areas where climate or waste pick-up schedules dictate. See "Receiving" in this document and <9>.

1. BP Location: Adjacent to Loading Dock at Receiving
2. BP Size: Base on trash holding and pick up frequency
3. BP Organic Waster Compactor: When planned, provide an organic waste compactor / digester to minimize the need for refrigeration and wet garbage storage.
   • Include a 1.8 m x 2.4 m (6 ft x 8 ft) space for machine
   • Provide with drainage into main waste system
   • Accepted Manufacturer: Orca

B. BP Features: Provide and accommodate the following:

1. BP Equipment: See Equipment Table.
2. BP Door: Size entrance door to accommodate carts and trash trucks.
3. BP Washing: Equip room with water hose and hose reel.
4. BP Drainage: Slope floor to floor drain.

C. BP Finishes:

1. BP Floor: Concrete, sealed
2. BP Base: Same as walls
3. BP Walls: Concrete masonry, epoxy painted or ceramic tile on masonry
4. BP Ceiling: Exposed structure

10.24 Room Service

A. Program: Provide for delivery of foodservice items to guestrooms.

1. BP Coordinate requirements with MI's Call Center criteria.
2. BP For properties with 300 rooms or more, MI recommends separate 3 meal cooking line.
3. BP Provide space for room service carts and warmers.

B. Workstation: See <13A>.

• Accommodate P.O.S. terminal, telephone and other computer requirements based on size of workstation.

• Provide order taker office, with opening to service area for communication and 1 or 2 terminals based on hotel size.

C. Staging Area: Provide in Main Kitchen adjacent to Food Pickup Line (or exhibition kitchen where applicable) that shares common cooking line.

1. BP Size / Area: Provide room service area with adequate space for a minimum of 5 set up tables or carts per 100 guestrooms.
2. BP Location: Provide adjacent and accessible to Service Elevator.
3. BP Holding Boxes: Provide electric for hot holding boxes for mobile carts.
   • Base quantity on approximately 10 to 15% of guestroom count.
   • Provide in FF&E package.

D. BP Equipment: See Equipment Table.

E. Storage: Provide for amenities such as VIP platters and gift baskets. Include general storage for dedicated Room Service items such as silverware, trays, coffeepots and other smallwares.

F. BP Mini / Honor / Wet Bar Storage: If required, provide self service, half sized refrigerator for liquor, beer, wine, soda and snacks in Guestroom.

1. BP Supply Storage: Provide air-conditioned dedicated, secure storage room for food, beverage stock and to resupply service carts. Include shelving.
   a. BP Size / Area: Provide 7 to 9.3 m² (80 to 100 sq. ft) per 300 guestrooms.
   b. BP Location: Adjacent to Room Service and accessible from service corridor and elevator.
2. BP Service Carts: Stored in Room Service area.

G. BP Finishes:

1. BP Floor: Paver tile (same as Main Kitchen) or seamless flooring.
2. BP Base: Paver tile or seamless base
3. BP Walls: Ceramic tile or FR-FRFP
4. BP Ceiling: Accessible, washable tile on corrosion resistant grid and supports.

10.25 Pool & Beach Kitchen / Pantry

A. Program: Provide food service from adjacent pool / beach bar with a kitchen / pantry. Provide service routing to main kitchen. Size to reflect the entire pool / beach operation and accommodate demand based on hotel programming.

1. BP HVAC: Fully air condition the Pool Kitchen and work areas to accommodate frequently opened doors.
2. BP Washing Facilities: Provide for reusable, non breakable service ware.
3. BP Refrigeration: Size for ambient conditions. Separate food walk-in refrigeration from bar walk-in refrigeration.
4. BP Ice Production: Provide in beverage area.
5. BP Tables: Provide for each temperature zone.

B. BP Equipment: See Equipment Table.

10.26 BP Commercial Kitchen Offices

A. BP Program: Provide (where applicable) dedicated, secure office space for the Executive Chef and kitchen managers to administer management tasks and hold private meetings.

1. BP Size / Area: See the project Facilities Program for the following office spaces:

   a. BP Kitchen Offices - Program Spaces

Office	Area Required	Remarks
Executive Chef	10 m^2 (100 sq. ft)	Minimum area
Administrator	10 m^2 (100 sq. ft)	If programmed
Storeroom Supervisor	7.4 m^2 (80 sq. ft)	Desk only within storeroom
Closing Room	See project Facilities Program	

2. BP Location: In Main Kitchen space within view of employee workstations.

B. BP Chef's Office: Include the office space as follows.

1. BP Size / Area: 10 m² (100 sq. ft) minimum or larger area of 13 m² (140 sq. ft.) total with a small conference table if office is not included in the Closing Facility.
2. BP Location: Where possible, position adjacent to the Kitchen preparation area and Administrator's Office (if required).
3. BP Communications Opening (no glass): Between Chef's and Administrator's Offices, provide an opening for communications and operations efficiency.
4. BP Glass Opening: Provide a window to view preparation / production areas.
5. BP Door: Full flush, solid wood and lockable.

C. BP Administrator's Office: If required by the project Facilities Program, include the office space as follows:

1. BP Size / Area: 10 m² (100 sq. ft).
2. BP Location: Where possible, locate adjacent to the Chef's Office.

D. BP Other Offices: Comply with the project Facilities Program and include equipment for office spaces.

1. BP Pastry chef and outlet chefs

2. BP Hygiene manager
3. BP Steward

E. BP Closing Facility: At large banquet and catering properties, the Chef's and Administrator's Offices are integrated into the Closing Room design to create a Closing Facility as shown in the example.

1. BP Access: The Chef's and Administrator's Offices are accessed through the Closing Room when provided as a Closing Facility.
2. BP Location: Where possible, locate the Chef's and Administrator's Offices adjacent to each other.

F. BP Equipment: Provide the following for office spaces:

• Desk and chairs
• Computer with Internet access, see <13A>
• Book shelf
• Filing cabinet
• Telephone, see <13A>

G. BP Finishes:

1. BP Floors: Same as Kitchen (or may include Luxury Vinyl Tile)
2. BP Base: Same as Kitchen
3. BP Walls: Painted
4. BP Ceilings: Accessible acoustical tile

10.27 Closing Room

A. Program: If a Closing Room is required by the project Facilities Program, design the space to showcase the property's culinary expertise while providing the prospective guest groups with a transparent view of the property's back-of-house standards and practices. Also, it provides the sales and event management team at resort, convention and group business properties with a strong, competitive advantage for selling and "closing" group business plans.

1. BP Size / Area: 10 to 20 m² (100 to 200 sq. ft); varies by region.
   a. BP Provide adequate space to accommodate facility features and equipment.
   b. BP Space may be used for employee "line up."
2. BP Location: Position in banquet or production Main Kitchen, adjacent to the main function space.
   a. BP Provide a clear view of the food production area.
   b. BP Choreograph location and path to demonstrate the facility's high standards and quality.

B. BP Features - Closing Room: Provide the following:

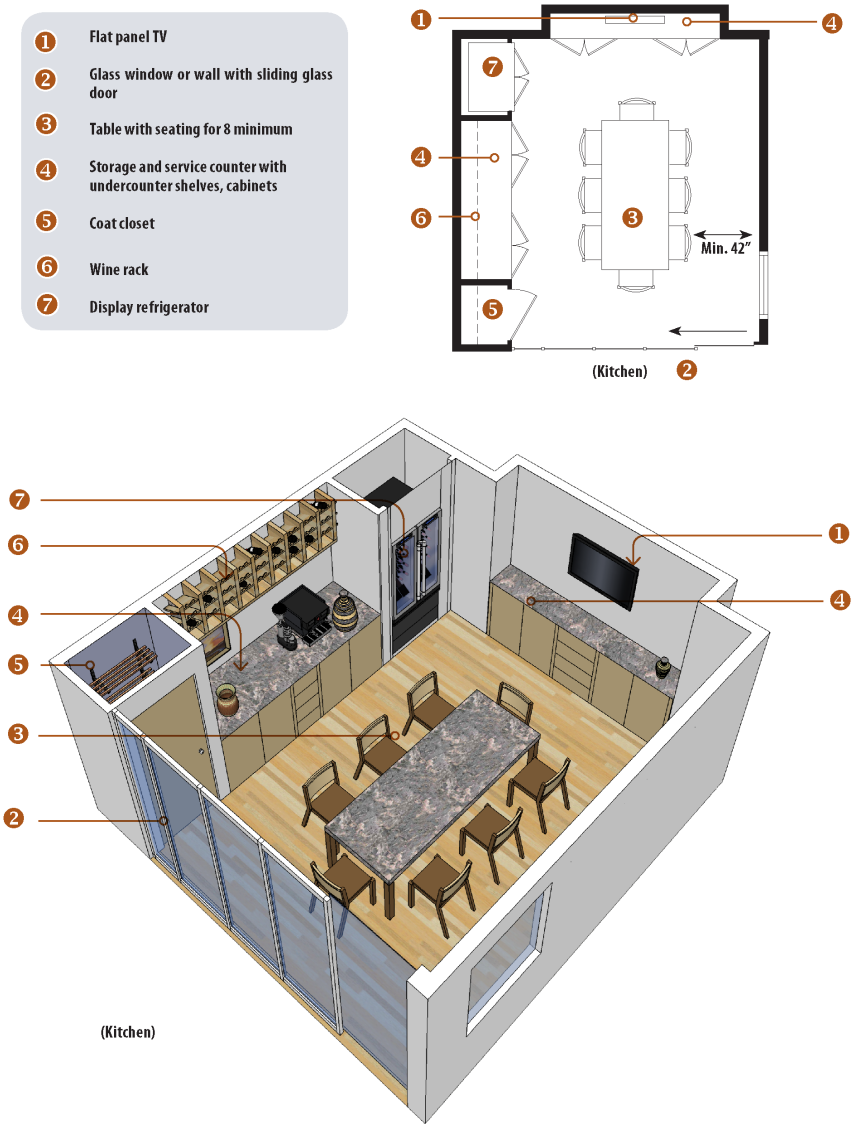
1. BP Views: Glass window or glass wall with sliding door to view preparation and production areas (if located in kitchen area).
2. BP Countertops: Include granite countertops for displays and service along two walls.
3. BP Base Cabinets: Below countertops with cabinets and shelves for storage.
4. BP Wine Rack: Position on wall above countertop.
5. BP Coat Closet: For garment storage with clothes rod, hangers and shelf above.
6. BP Table: For 8 persons minimum; position table and chairs to provide 1.1 m (42 inch) minimum, clear circulation space to maximize the guest's view of preparation, production and TV monitor.
7. BP Seating: 8 chairs minimum at table
8. BP TV: Flat screen, smart TV with ample USB and HDMI hookups.
9. BP Cappuccino Machine: On countertop

10. BP Refrigerator: With glass display doors

C. BP Access Control: Provide controlled access, see <16>.

D. BP Lighting: Architectural feature down lighting above conference table.

E. BP Closing Room - Example



10.28 Bars

A. Program: Provide bars for preparation and serving of beverages in the Lobby / Restaurant, F&B Outlets, Room Service and Guest Concierge Lounge.

1. BP Contact MI for specific project bar layouts, details and equipment requirements.
2. Service bar locations depend on F&B concepts, restaurant service volume and access to recreation areas requiring F&B service.
3. BP Design and Configuration: Based on the concept, the Bar design and configuration impacts functional requirements. Coordinate the equipment with the Bar concept. Provide flexible water connections when bar is a curved configuration.

B. BP Beverages: Do not provide liquor dispensing systems. Beverage examples include, but are not limited to, the following:

1. BP Variety of liquor (include 2 varieties of premium call brands) of each category.
   • Assume 25 to 30 bottles on the front bar.
   • Assume an additional 85 to 100 on back bar.
2. BP Draft beer (based on concept, minimum 3 varieties). Coordinate beer tower type and style with Bar concept. Store and refrigerate draft beer kegs remotely with a maximum of 30 m (100 ft.) beer line run.
3. BP Assume approximately 200 wines with four bottles each in storage.
4. BP Bottled beer
5. BP Soda and juices
6. BP Wine rack refrigeration for red / white wine bottles

C. BP Staffing: General rules for staffing requirements:

1. BP One bartender per 150 seats for service bars. Bartender does not serve as cashier for waitstaff.
2. BP One bartender per 8 bar seats, serves approximately 30 people.

D. Glass Storage:

1. BP Generally, provide 4 glasses per seat.
2. Hanging stem glassware above front bar is not acceptable. Coordinate glass storage with bar concept.

E. Beverage Storage:

1. Bottles: Provide space behind bar for the following:
   - 80 active bottles at a service bar
   - 150 at a display bar
   - 50 at a pool bar
   - Provide an equal storage area for backup bottles.

2. Provide secure liquor storage behind the bar with the following:
   - Roll down gate to secure entrance to back bar area.
   - Locks on cabinet storage for liquor bottles.

F. Cocktail / Mixology Station: Provide the following or as Bar concept dictates.
- Refrigeration, condiment tray
- Insulted bottle well with beverage line "chimney" access,
- Insulated ice bin, cold plate with stainless dividers, sliding cover
- Full width speed rail
- Dump sink with foot pedal, tool caddy
- Glass rinser

G. BP Equipment - General:

1. BP Equipment for Public Bars: See Example Plan and Equipment Table. Same minimum requirements for underbar equipment as noted for service bar with the addition of drop down drain board for P.O.S.

2. Ice Machines:

   a. Ice Cuber: Based on the bar concept, provide an ice machine that produces one of the following. For Specialty Bars, both may be required.
      - 28 x 28 x 23 mm
      - 28 x 28 x 32 mm

3. Drip Rail: Provide a 4" - 6" stainless steel drip rail the entire length of the bar, sloped to a piped drain.

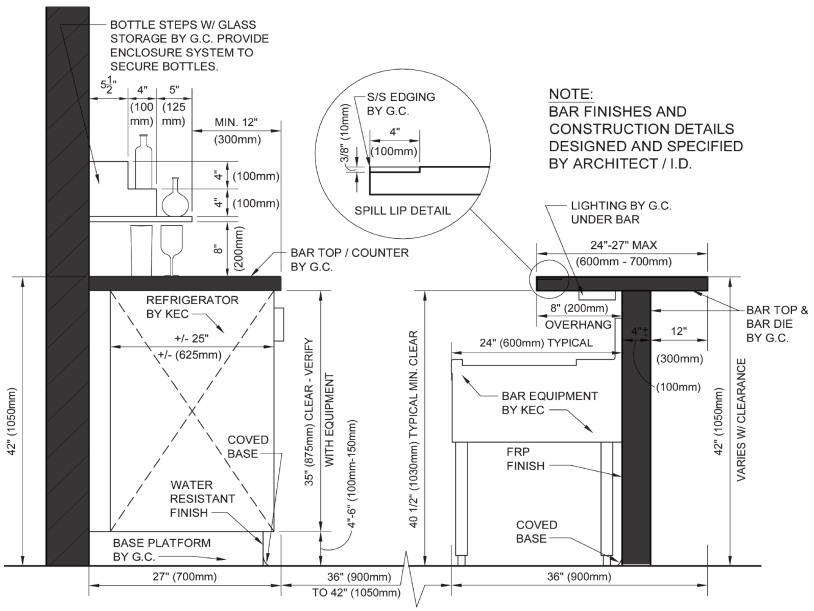
4. Glass Rinser: Provide a glass rinser. Based on concept, locations may include the following.
   - Tap station
   - Integrated in the drip rail

H. Public & Specialty Bar Support: Generally, to support beverage service to public and guests, provide the following.

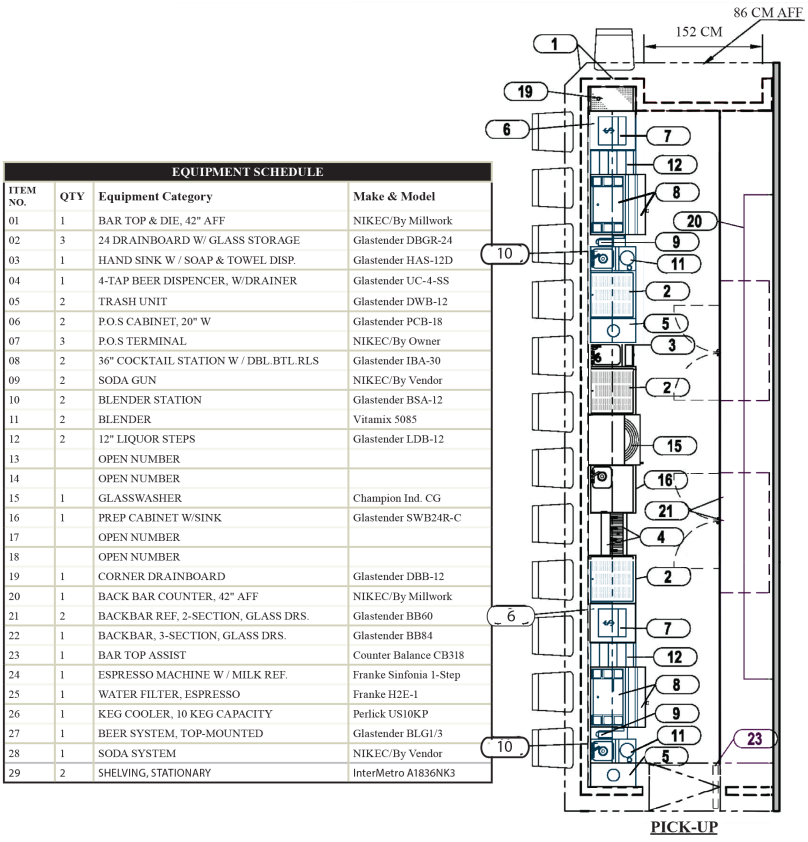
1. BP Bar Pantry: Based on the Bar size, provide a support Pantry including, but not limited to, the following.
   - Storage shelving units
   - Beverage counter

- Ice machine
- Glass rack space
- Reach-in refrigerator
- Work counter, trash & hand sink

2. BP Server's Station: If service station is not provided within 30 m (100 ft) of bar, provide to accommodate remote functions.
3. BP Food Pickup Line: If food pickup line is not provided within 46 m (150 ft) of bar, provide Pantry to accommodate remote functions:
   a. BP Hot food holding cabinet
   b. BP Refrigeration
   c. BP Plating area
   d. BP Limited cooking equipment as required for menu
4. R AM Coffee: If part of the concept, see "Retail Coffee Service" in this document.
5. BP Bar Section - Example



6. BP Bar - Example Plan



EQUIPMENT SCHEDULE

ITEM NO.	QTY	Equipment Category	Make & Model
01	1	BAR TOP & DIE, 42" AFF	NIKEC/By Millwork
02	3	24 DRAINBOARD W/ GLASS STORAGE	Glastender DBGR-24
03	1	HAND SINK W / SOAP & TOWEL DISP.	Glastender HAS-12D
04	1	4-TAP BEER DISPENCER, W/DRAINER	Glastender UC-4-SS
05	2	TRASH UNIT	Glastender DWB-12
06	2	P.O.S CABINET, 20" W	Glastender PCB-18
07	3	P.O.S TERMINAL	NIKEC/By Owner
08	2	36" COCKTAIL STATION W / DBL.BTL.RLS	Glastender IBA-30
09	2	SODA GUN	NIKEC/By Vendor
10	2	BLENDER STATION	Glastender BSA-12
11	2	BLENDER	Vitamix 5085
12	2	12" LIQUOR STEPS	Glastender LDB-12
13		OPEN NUMBER	
14		OPEN NUMBER	
15	1	GLASSWASHER	Champion Ind. CG
16	1	PREP CABINET W/SINK	Glastender SWB24R-C
17		OPEN NUMBER	
18		OPEN NUMBER	
19	1	CORNER DRAINBOARD	Glastender DBB-12
20	1	BACK BAR COUNTER, 42" AFF	NIKEC/By Millwork
21	2	BACKBAR REF, 2-SECTION, GLASS DRS.	Glastender BB60
22	1	BACKBAR, 3-SECTION, GLASS DRS.	Glastender BB84
23	1	BAR TOP ASSIST	Counter Balance CB318
24	1	ESPRESSO MACHINE W / MILK REF.	Franke Sinfonia 1-Step
25	1	WATER FILTER, ESPRESSO	Franke H2E-1
26	1	KEG COOLER, 10 KEG CAPACITY	Perlick US10KP
27	1	BEER SYSTEM, TOP-MOUNTED	Glastender BLG1/3
28	1	SODA SYSTEM	NIKEC/By Vendor
29	2	SHELVING, STATIONARY	InterMetro A1836NK3

I. BP Service, Main Service & Dispensing Bars: Typically, provide where Lobby and/or Specialty Bar is remote from Restaurant. Provide the following.

1. BP Equipment: See Bar Example Plan.
2. BP Food Segment: Consider, if appropriate or required, the integration of a food segment.
3. BP Wine Storage: Shelving and glass door refrigerator for wine.
4. Security: Service bar, walk-in cooler, liquor storage and temperature controlled wine storage is lockable and secured as a unit.
5. BP Features:
   a. BP Stainless steel bar top
   b. BP Hanging glass storage above bar top
   c. BP Roll down security gate open full length of bar
   d. BP Stainless steel backbar top with backbar refrigerator and lockable cabinet above for liquor storage.
   e. BP Underbar and hand sink
   f. BP Glass storage

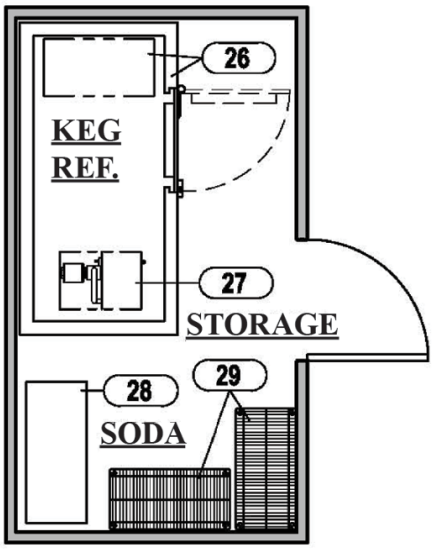
g. BP Cocktail station

h. BP Blender station with soda gun

i. BP Under counter dish machine

j. BP Espresso machine

6. BP Service Bar Support - Example Plan



J. Guest Concierge Lounge Bar: Size to accommodate demand. Provide a Pantry adjacent and accessible to the Lounge. See Equipment Table and <7C>.

K. BP Finishes - Bar / Service Stations: See applicable Chapters for finish materials and coordinate with millwork details and interior design:

1. R Lobby Bar: <2A>.

2. R Restaurant Bar: <3>

3. R Pool Bar: <3>

4. R Guest Concierge Lounge Bar: <7C>

10.29 All Day Dining Restaurant Production Line

A. Program: Provide dedicated area in Main Kitchen for cooking hot food products for service. For conditions of designing a separate food production kitchen, see previous "Space Planning" requirements for "Main Kitchen" in this document.

B. Equipment: Provide heavy duty equipment. Consider size of foodservice, F&B concepts and catering, to select equipment. See Equipment Table.

C. BP Specialty Equipment: Provide as necessary to accommodate concept and local practices.

D. BP Features: Provide and accommodate the following:

1. BP Based on the space concept, consider use of American style linear line configuration. Include quick release, casters, under counter refrigeration, recessed plate storage and an identifiable pantry section.
2. BP Low Walls: Separate equipment with a 1.4 m (4'-6") high low wall with stainless steel wall flashing on top.
    a. BP Group equipment used for batch cooking on one side of low wall.
    b. BP Group a' la carte equipment on one side of low wall opposite Chef's Counter (food pickup line).
3. BP Provide mobile equipment with flexible gas hoses and quick disconnects (where applicable).
4. BP Place floor troughs in front of braising pans and wet applications.
5. BP Provide tubular wall shelves behind cook lines where possible.

E. BP Finishes for Three Meal Restaurant Production:

1. BP Floor: Paver tile or seamless cementitious urethane flooring
2. BP Base: Paver tile or seamless base
3. BP Walls: White ceramic tile walls with pattern at eye level.
4. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

10.30 Food Pickup Line (Chef's Counter)

A. Program: Provide counter to assemble and garnish finished plates for a' la carte service and assembly of orders for delivery to dining tables.

B. Equipment: Provide heavy duty, custom fabricated stainless steel construction. See Equipment Table.

C. BP Location: Provide adjacent to a' la carte Cooking Battery.

D. BP Features: Include the following:

1. BP Shelving: Maximize amount of open storage with ceiling suspended shelving in Chef's Counter.
    a. BP Provide 15 cm (6 inch) minimum clearance from floor for cleaning.
    b. BP Provide 28 cm (11 inch) clearance between shelving.
2. BP Stations: Required for dedicated hot food, cold food and dessert stations for garnishing and staging of plates for service.
    a. BP Provide electric outlets for small equipment at each station every 1.2 m (4 ft).
    b. BP Provide electric outlets at work counters every 1.2 m (4 ft).
3. BP Point of Sale (P.O.S.): Provide locations for remote printers and a channel for cabling.
4. BP Floor Drains: Provide on chef's side of counter.
5. BP Aisle Width: 1.1 m (3'-6") between Chef's Counter and cooking line and no more than 1.2 m (4 ft).

E. BP Finishes for Food Pick up Line:

1. BP Floors / Base: Paver tile (same as Main Kitchen) or seamless cementitious urethane flooring
2. BP Walls: Same as Main Kitchen
3. BP Ceilings: Accessible tile on corrosion resistant grid and supports.

10.31 Breakfast Buffet

A. R Planning Requirements: For the Buffet style of meal service, see <3>.

B. Equipment: Provide appropriate equipment for the four buffet components as follows:

1. Hot Buffet: Provide to support the MI breakfast program.
    a. Counter Length: Approximately 25 mm (1 inch) per seat
    b. Induction Units: Minimum of 4 built-in heating / holding induction units (no solid fuel heated chaffers).
    • Mount induction unit controls for staff access but out of view of guests integrated with millwork, respecting manufacturer's mounting instructions.
    • Undermount, non-visible induction units are preferred. Coordinate with interior designer's counter top selection for an "invisible" appearance.
2. Cook Station: Provide fixed or modular station.
    a. Station Length: Approximately 13 mm (1/2 inch) per seat
    b. Induction Cooking Units: Minimum of 2 flush mounted
    c. Refrigeration: Cold storage
    d. Refrigeration: Back up storage
    e. Trash receptacle
    f. Ventilation: Cooking areas outside of the kitchen require hooded ventilation, see <15A>.
3. Cold Food Area: Provide for refrigerated and chilled items.
    a. Refrigeration: Cold slab (preferred if visible after buffet closes) or air pan
    b. Length: Approximately 25 mm (1 inch) per seat
4. Bread, Pastries & Cereal Area: Provide for bakery components:
    a. Area for commercial toaster and condiments
    b. Counter Length: Approximately 13 mm (1/2 inch) per seat

C. Buffet Design: Coordinate equipment requirements with foodservice consultant and interior designer to provide a functional and aesthetically pleasing facility based on the property size and anticipated use.

1. Provide a method to close buffet area and equipment (no mobile equipment) from guest view when not in use.

2. At fixed buffet counters, provide covers or millwork details to conceal built-in equipment from guest view when not in use.

3. BP Lighting: In addition to ambient lighting, provide dedicated general and accent lighting to highlight buffet displays and tables.

10.32 Server Stations

A. Program: Provide counters located in the dining areas of Restaurants to store service items and beverages during meal periods.

B. Dining Room Station: Provide for beverage service with P.O.S. equipment, partition baffles and doors (coordinate design with Interior Designer) to Dining Rooms.

1. Provide one remote service station (within Dining area) for every 50 dining seats; see <3>.

2. Provide doors with a window with double acting hardware that swings with traffic flow and without cross traffic at this transition point, and in kitchen area.

3. No guest views into service areas and BOH spaces from public spaces.

4. Lighting of service stations and other foodservice areas open to public spaces matches the public spaces.

5. Stone or impervious surface, millwork or laminate on counter tops. Stainless steel counter tops within BOH areas.

6. Design front-of-house stations similar to the concept of restaurant design. Provide as focal element in dining space with clean, simple design.

7. P.O.S. Terminals: Include counter space for a terminal, built into millwork at each station. Generally, provide 1 terminal for every 50 seats.

C. Wet Server Station: Minimum, locate 1 wet station.

1. For equipment see Equipment Table.

2. Wall mounted storage shelves or cabinets

3. Conveyer toaster (one per maximum of 5 servers)

4. Task lighting

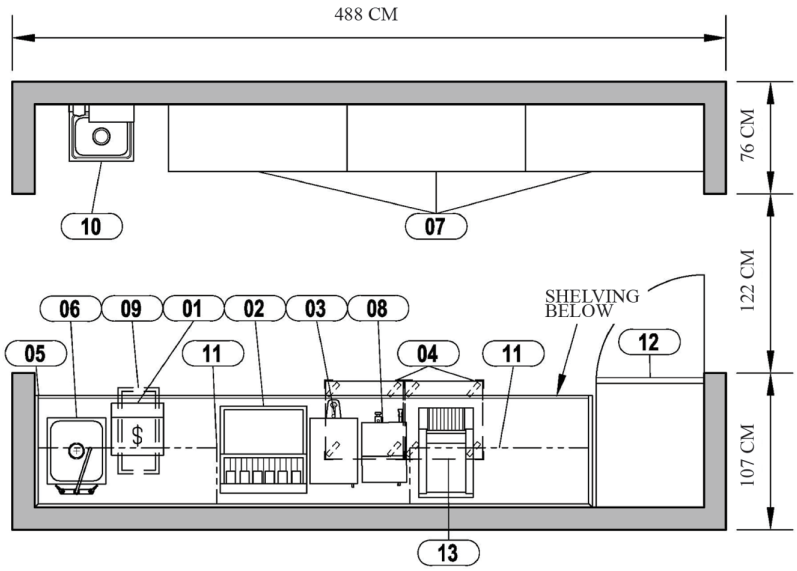
5. Double door upright, reach-in refrigerator in BOH

D. Dry Server Station: Generally, locate 1 dry station per 75 seats.

1. BP For equipment see Equipment Table.
2. Provide half height wall to partially conceal area from guest / customer view.

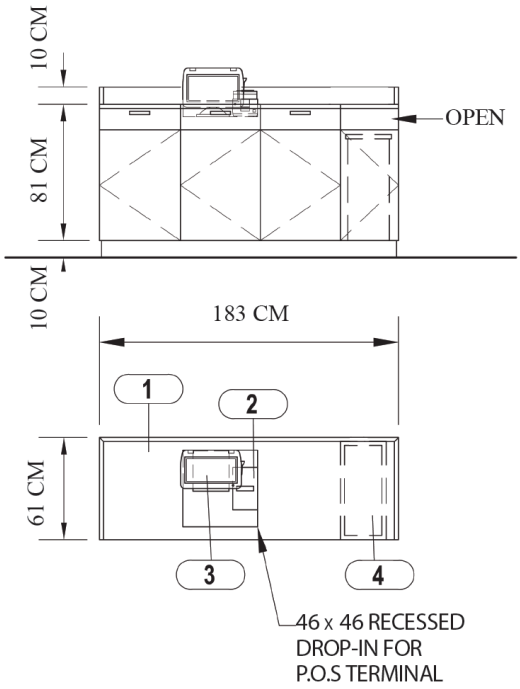
E. Finishes for Server's Station: Base style and finishes on food / restaurant concept. See <3>.

F. BP Wet Server Station - Example Plan



EQUIPMENT SCHEDULE			
ITEM NO.	QTY	Equipment Category	Make & Model
01	1	P.O.S TERMINAL	NIKEC/By OWNER
02	1	SODA DISPENSER	NIKEC/By Vendor
03	1	ICED TEA BREWER	NIKEC/By Vendor
04	2	GLASS/CUP RACK DOLLY	Cambro CD2020110
05	1	BEVERAGE COUNTER	Custom Stainless
06	1	DROP-IN SINK	Advance Tabco TA11-J
07	3	STORAGE SHELVING	Metro NK3 Series
08	1	COFFEE BREWER	Fetco CBS-51H15
09	1	WASTE CONTAINER	Rubbermaid 3540
10	1	HAND SINK W/ SOAP & TOWEL DISP.	Advance Tabco 7-PS-80
11	2	WALL CABINET	Advance Tabco WC-15-48
12	1	REACH-INN REFRIGERATOR, 1-SECTION	True Foodservice TA1R-1S
13	1	TOASTER	Toastmaster TC17D3674

G. BP Dry Server Station - Example



10.33 Main Lobby Pantry

A. Program: Provide for hot and cold food service to guests in the Lobby area.

1. BP Size / Area: Provide to accommodate guest demand and food concept for the Lobby area.
2. BP Location: Provide adjacent to the Lobby Bar when distance to a full service kitchen is greater than 46 m (150 ft.) or when kitchen operational characteristics or hours are not compatible with the Restaurant menu. See <2A>.

B. BP Design Features: Provide a minimum of 19 m² (200 sq. ft.); enclosed room easily accessible from the bar service area and seating. Shield entry and views from guest area.

C. BP Equipment: Includes, but is not limited to the following.

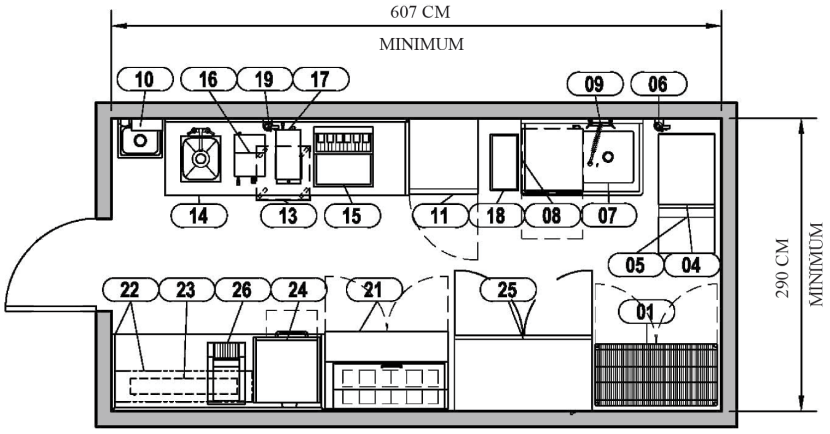
1. BP Upright, double reach in (1.5 door) refrigerators and (half door) freezer
2. BP Service counter / heat lamp
3. BP Dishwasher
4. BP Soiled and clean dish table

5. BP Hand sink
6. BP Plate storage
7. BP Microwave
8. BP Dry storage shelving
9. BP Three compartment sink
10. BP Panini grill
11. BP Sandwich make-up table
12. BP Turbo Chef / Merry Chef
13. BP P.O.S. printer
14. BP Garbage can
15. BP Mop sink (if required)

D. BP Finishes for Lobby Pantry:

1. BP Floor: Paver tile or seamless flooring
2. BP Base: Paver tile or seamless base
3. BP Walls: Ceramic tile or FR-FRFP
4. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

E. BP Pantry - Example Plan



EQUIPMENT SCHEDULE			
Item No	Oty	Equipment Category	Make & Model
01	1	SHELVING UNIT	InterMetro Industries 2448NC
02		OPEN NUMBER	
03	1	SODA SYSTEM - LOCATION TBD	NIKEC/By Vendor
04	1	ICE CUBER, 500LB.	Hoshizaki America KM-515MWH
05	1	ICE BIN, 300 LB.	Hoshizaki America B -300SF
06	1	WATER FILTER, ICE CUBER	Everpure EV9324-01
07	1	DISHTABLE	Advance Tabco DTU - U60-48R
08	1	UNDERCOUNTER DISHWASHER	Hobart US Foodservice LXIH
09	1	PRE RINSE	T & S Brass B -0133-01
10	1	HAND SINK W/ SOAP & TOWEL DISP.	Advance Tabco 7-PS-80
11	1	REACH - IN REFRIGERATOR, 1 - SECTION	True Food Service T - 23
12		OPEN NUMBER	
13	1	GLASS RACK DOLLY	InterMetro Industries CB2121C
14	1	WORKTABLE W/ SINK	Advance Tabco TKSS - 307
15	1	ICE AND SODA DISPENSER	NIKEC/By Vendor
16	1	COFFEE BREWER	Fetco CBS - 51H15
17	1	ICE TEA BREWER	Fetco TBS - 21A
18	1	WASTE CONTAINER, SLIM TALL	Rubbermaid 3540
19	1	WATER FILTER	Everpure EV9272 - 22
20		OPEN NUMBER	
21	1	REFRIGERATED PREP TABLE	True Food Service TSSU -48-12
22	1	WORKTABLE W/ OVERSHELF	Advance Tabco KSS-307
23	1	HEAT LAMP	Hatco GRAH - 41
24	1	RAPID COOK OVEN	TurboChef TORNADO 2
25	1	REACH - IN DUAL TEMP, 2- SECTION	True Food Service T -49DT
26	1	CONVEYOR TOASTER	Toastmaster TC17D3674
27		OPEN NUMBER	
28	1	PRINTER	NIKEC/By Owner

10.34 BP Specialty Restaurant Kitchen

A. BP Program: Provide dedicated kitchen for cooking and finishing plates for service in separate specialty themed restaurant. Kitchen design and equipment is based on concept and Market.

1. BP Specialty, remote and secondary restaurants require essentially the same functions as an a' la carte kitchen with bakery, garde manger and meat / fish functions which are brought from the central Pre-Processing.
2. BP For European, Oriental or Specialty kitchens, provide to comply with MI requirements. Similarly, pool bars, grills, tennis centers, luaus and other resort facility spaces are custom designed to meet MI requirements, following an established schematic design concept.

10.35 Retail Coffee Service / Outlet

A. Program: Provide a location to purchase coffee and light food items as required by the project Facilities Program and F&B program.

1. Fast Casual Outlets: Provide equipment necessary to prepare fast food items as determined by the F&B program. Prep support provided by the Main Kitchen and Commissary. See <3>.

B. AM Coffee - Bar: In addition to the Bar equipment, provide the following:

1. Super-automatic espresso machine with water filter
2. Filter coffee airpot system with water filter
3. Syrup dispenser
4. Undercounter refrigerator, 2 door
5. Blender with silencer for smoothies and frozen drinks
6. Pastry Display: Undercounter with 50% refrigeration.

C. BP Coffee Outlet: Located in public area along main circulation path. Verify equipment with the concept.

1. BP Work counter
2. BP Ice maker / bin
3. BP Utility sink and hand sink; dump station

4. BP Full size refrigerator
5. BP Cup dispenser
6. Decorative microwave and high speed oven (Turbochef)
7. BP Storage shelving / cabinets
8. BP Waste container in millwork / condiment station
9. Millwork display and retail counter:
   • Pastry: Jewelry style display case
   • Refrigerated Display: Guest facing self-service display case
10. BP 3-compartment sink

10.36 Main Kitchen

A. Program: Provide dedicated area to perform bulk food preparation for restaurants, banquet and catering functions. When determining Banquet Kitchen requirements, see planning section above.

B. BP Location: Typically, combine area with Cold Prep. In larger hotels or facilities with remote Banquet Areas, provide a dedicated Banquet Prep area.

C. BP Equipment: See Equipment Table.

1. BP Banquet / Function Equipment:
   • 1 queen mary per 100 seats in Main & Junior Ballroom
   • 1 plate dolly per 100 seats

D. R Equipment for Ballroom Banquet Pantries: See Pantry criteria.

E. BP Features: Provide and accommodate the following.

1. BP Cooking equipment on casters with flexible gas lines and quick disconnects (where applicable)
2. BP Maintain a minimum of 15 cm (6 inch) clearance above floor for equipment and undershelves for cleaning, except at plinth (curb) installations.
3. BP Floor drainage throughout. Provide continuous trench drains and flush mount grate in front of equipment having wet applications such as kettles and tilt skillets.
4. BP Condensate hoods over bain-maries and other equipment producing high moisture levels
5. BP Convenient power outlets at workstations and box and cart parking as required.

F. BP Finishes - Main Kitchen Production:

1. BP Floor: Paver tile or seamless cementitious urethane flooring
2. BP Base: Paver tile or seamless base
3. BP Walls: White ceramic tile with pattern at eye level or FR-FRFP.
4. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

10.37 Function Space Beverage Area

A. Program: Provide staging area for production and distribution of beverages for catering functions.

B. BP Location: Provide staging area in service corridors, adjacent to function spaces. For station quantities, see <6>.

C. BP Equipment: Provide dedicated Bar / Beverage station for banquet functions and the following.

1. BP Mobile bar storage as required (1 bar space per 150 guests)
2. BP Bottled beverage storage; secured if alcohol
3. BP Clean cup / saucer & glassware storage
4. BP Coffee production space
5. BP Ice production and storage
6. BP Worktable
7. BP Soiled cup & glassware storage / breakdown
8. BP Refrigeration: Walk-in beverage refrigerator, approximately 2.4 x 3 m (8 x 10 ft); undercounter refrigerator
9. BP Hand Sink: Code Compliance and Standards, "Foodservice Health Provisions"

D. BP Finishes - Banquet Beverage Station:

1. BP Floor: Concrete, sealed
2. BP Base: Same as walls
3. BP Walls: Ceramic tile or FR-FRFP
4. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

10.38 Function Space Pantries

A. Program: Provide dedicated area adjacent to Function space as required for staging of finished plates and carts being sent to a catering function.
   • For pantries for remote Meeting Rooms, size pantries at 14 m² (150 sq. ft) minimum.
   • Local market conditions and rethermalization methods typically drive requirements. If traditional plate and serve method is used, reevaluate banquet cart types and quantity. Consider adding one Retherm oven if applicable.

B. Equipment: See Equipment Table.

C. BP Dry Storage: Provide the following:
   1. BP Lockable storage for silver (when applicable)
   2. BP Flat shelf storage for chaffing dishes and equipment

D. BP Warewasher: Share with main kitchen when on the same level only.

E. BP Finishes for Banquet Pantry:
   1. BP Floor: Paver tile or seamless flooring
   2. BP Base: Paver tile or seamless base
   3. BP Walls: Epoxy paint
   4. BP Ceiling: Accessible tile on corrosion resistant grid and supports.

10.39 Club Lounge & Pantry

A. Program: Provide limited foodservice pantry to support the beverage bar, sitting areas and Buffet in the Club / Concierge Lounge. For pantries for remote Meeting Rooms, size pantries at 14 m² (150 sq. ft) minimum.

1. BP Size / Area: Varies by region. See <7C>.
2. BP Location: Direct access or adjacent to service elevator is desired.

B. BP Equipment: Do not use residential or domestic grade equipment. See Equipment Table. If additional cooking is required, consult MI for equipment.

C. BP Features:

1. BP Counter / Cabinet: Provide built-in heavy duty stainless steel counter and wall cabinets. Coordinate wall cabinet location with coffee brewer.
2. BP Bar: Provide lockable, cabinet storage for backup liquor bottles and beer.
3. BP Provide hot / cold food holding space.
4. BP Storage: Provide storage area for goods / service items, dishes, paper goods, silverware, glassware, etc.
5. Breakdown Space: Conceal area from guest view, to hold soiled plates and glassware.

D. BP Buffet in Lounge: See Equipment Table. Provide a counter as designed by interior design.

E. R Finishes: See <7C>.

10.40 Ice

A. Program: Provide ice cuber / dispenser for guest use, see <7B> for criteria.

1. BP Location: One unit per guestroom floor to serve 50 guestrooms maximum. Locate in centralized vending space (if applicable) and / or ice dispensing machine room.

B. Equipment Features: Provide water cooled, self-contained condensers for ice cubers. See Equipment Table.

C. R Finishes: See <7B>.

10.41 Employee Dining

A. Program: Provide dedicated dining (cafeteria) facility for employees. Services offered or independent kitchen are determined by market conditions with input from MI. See <8B>.

1. BP Size / Area: Coordinate program and design criteria with <8B>.
2. BP Location: Near Employee services (change / shower / toilet rooms). Satisfy local daylight requirements.
3. BP Larger Properties: Provide separate kitchen to support Employee dining.

B. BP Features: See the project Facilities Program and provide with the following applicable design features:

1. BP Cashier: If required
2. BP No dishwashing or back-of-house kitchen facilities if in proximity to other kitchen and dishwashing facilities.
3. BP Cafeteria style, self-service with a back counter and attendant space. Do not position against a wall. Minimum of approximately 30 linear feet of service line required.
4. BP Hot food station served by attendant
5. BP Self-serve salad, dessert and beverage stations
6. BP Locate beverage station separate from food service, ideally in another part of the room.
7. BP Emergency Power: Provide several power receptacles to permit limited employee food prep (coffee, sandwiches, etc.) in an emergency. See <15C>.

C. Equipment: May be influenced by regional preferences. See Equipment Table.

D. R Finishes - Employee Dining: See <8B>.

10.42 R Coordination

A. R Reference: Coordinate with requirements of other Chapters.

- Lobby Areas
- Food & Beverage
- Meeting Spaces
- Guestrooms
- Employee Facilities
- Elevators
- Technology Infrastructure
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

laundry facility

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

11A.1 Overview

A. Objective:When off-site, qualified, dependable, high quality laundry services are locally avaiable, an on-site Laundry Facility is not required. However, if quality laundry services are not available off-site, provide an on-site washing and finishing facility to launder and finish high quality hospitality textile products in compliance with Marriott International (MI) Design Standards. See the project Facilities Program.

B. Management Strategy:Develop a management strategy and design criteria for each property considering the following factors that impact the on-site facility design:

   1. Potential to cooperatively share laundry facilities with local MI properties.
   2. Potential for a regional MI program to consolidate laundry capacity and services.
   3. Scope and quality of required laundry services.
   4. Potential to outsource laundry, valet and uniform programs if high quality services are available.
   5. Business objectives that require on-site laundry facilities.
   6. Availability of the following:
      a. Acceptable area or region commercial services
      b. Adequate project space
      c. Personnel
      d. Potential for competitive on-site operating costs

C. Design Review: Prepare a design analysis and management strategy to form the basis for an on-site laundry facility design, subsequent submissions and reviews by MI.

D. Design Criteria: When the laundry management strategy requires an on-site Laundry Facility, the following factors determine the facility's workload (weight and piece quantities of textile and clothing items for finishing), space allocations, equipment sizes, capacities and types.

   1. Quantity: Determine the quantity by guest bedrooms, average annual occupancy and degree of double occupancy, such as the average guest-nights per bedroom night.
   2. Food & Beverage: Quantity of guests served utilizing reusable textiles (table

clothes, napkins).

3. Meeting / Function Space: Table and guest quantities utilizing reusable textiles.
4. Service Level: High thread count and over sized bed linens; all cotton versus poly-cotton for F&B napery, duvets and duvet covers, pillow shams, etc.
5. Spa: Expected spa activity (quantity of treatments).
6. Recreation:Pool and beach towel quantities, utilization, and towel size.
7. Uniforms:Quantity and type, dry cleaned versus wet washed

E. Off-Site Service: If an on-site laundry is not required, see the "Clean & Soiled Linen Holding (option)" in this document.

F. Utilities Coordination:Coordinate the utility service requirements, including MEP (see <15A>, <15B> and <15C>) rough-ins, trenches, hook-ups, etc., and coordinate with design disciplines, procurement, installer, contractor, owner and MI.

11A.2 Clean & Soiled Linen Holding

A. Program:If the property does not require an on-site Laundry Facility, provide a secure room for the following:

1. Soiled Linen Storage: For products awaiting delivery to an off-site service.
2. Clean Linen Return Storage: For products received from an off-site laundry.
3. Cart Area: For loading and staging the property's linen for delivery.

B. BP Location: Position holding room close to the Receiving Area and adjacent to the BOH Service Corridor with access to support spaces, such as Housekeeping, Garment Shop and Uniform Issue Room, etc. to provide efficient service, operations and supervision.

C. BP Holding Room: Provide the same general design criteria, features, clearances (except floor slab thickness and reinforcement), etc. as required for laundry facilities where appropriate. See "Laundry Facility - Design" in this document.

1. BP Provide continuous access with a 2 bay loading dock for removal and delivery of laundry.

D. Carts: Provide for linen delivery. See "Clean Linen Storage & Linen Carts".

11A.3 Laundry Facility - Design

A. Program:The following are based on provisions for a dedicated, full service, on-site Laundry Facility to provide dependable, continuous, consistent service for guests and employees at the property.

B. BP Location:Position the Laundry Facility near the BOH Employee Facilities, adjacent to the Uniform Issue Room and Valet (Garment Shop) and with suitable connections for work flow.

1. BP Position adjacent to Service Corridor, near Service Elevators, Housekeeping and Laundry Chute.
2. BP Locate with clear access to Receiving Area to accommodate installation and replacement of equipment. Knock-out panels are an acceptable solution.
3. BP Provide shaft-ways and interstitial ceiling spaces for equipment supply air and exhaust ductwork systems. See <15A>.

C. BP Space Configuration:

1. BP Avoid triangular or other unusual, inefficient plan configurations.
2. BP Provide rectangular spaces to enclose facility components with maximum 2:1 ratio of length to width.
3. BP If columns fall within the space, provide area for an efficient layout to comply with equipment size, clearance and workflow.
4. BP Design laundry and equipment locations to accommodate service access and repair.

D. Size / Area:Estimate facility areas based on the following design criteria and calculated laundry workload.

1. Workload Factors:
   a. Business, Urban: 8.2 kg (18 lb.) per occupied room night
   b. Resort (without beach facilities): 10 kg (22 lb.) per occupied room night
   c. Beach Resort / Large Spa Facilities: 12.7 kg (28 lb.) per occupied room night
2. Confirm actual materials and pieces to determine workload per room, function area and F&B.
3. Workload Calculation: Determine the product in "pounds per day" (PPD) assuming guestroom quantity at 80% occupancy utilizing one of the workload

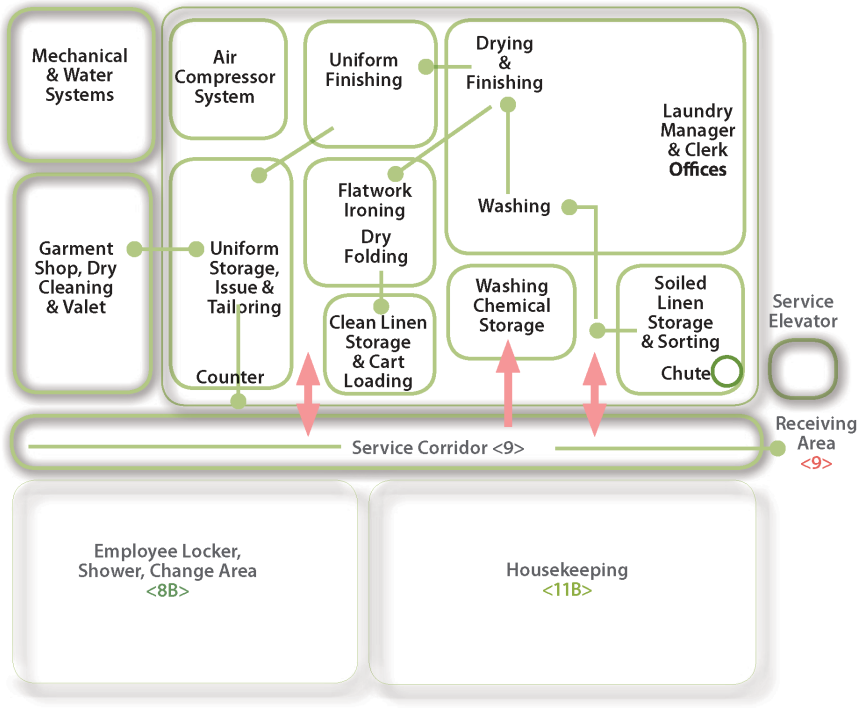
factors above.

E. BP Laundry Spaces:Utilize the following table for programming Laundry Facility spaces:

1. BP Laundry Spaces

Space Components	m^2	(sq. ft.)
Laundry Manager and Clerk Offices	16.7	180
Soiled Linen Storage and Sorting	0.008 x PPD	(0.085 x PPD)
Washing and Finishing	0.04 x PPD	(0.425 x PPD)
Clean Linen Storage and Cart Loading	0.012 x PPD	(0.13 x PPD)
Garment Shop, Dry Cleaning and Valet	Based on Equipment	
Uniform Storage, Issue and Tailoring	0.005 x PPD	(0.05 x PPD)
Mechanical and dedicated laundry water systems	Based on Equipment	
Washing Chemical Storage and Injection Systems	Based on Equipment	
Air Compressors and Refrigerated Dryer	Based on Equipment	
Clean and Soiled Linen Holding (if laundry is off-site)	0.018 x PPD	(0.02 x PPD)

2. BP Laundry Facility Adjacency



F. BP Laundry Circulation Corridor: 2.4 m (8 ft.) wide minimum without structural clearance interference that would prevent equipment movement, installation, maintenance and service.

G. BP Doors: Provide sufficient door opening, including vertical transportation and passageway clearance to move retired equipment from the building and install

replacement equipment. Verify minimum clearance requirements with laundry equipment manufacturer and installer.

1. BP Doors: Provide two, separate access doorways, each a minimum of 2.4 m (8 ft.) wide, from the Laundry area to the Service Corridor. Ensure laundry equipment will fit through doors, corridors and vertical transportation.

H. R Steps, Stairs, Ramps & Slip Resistance:See <16>.

I. Acoustic Control:Spring isolate ducts, pipes and equipment suspended from structure to prevent sound transmission to adjacent spaces. Do not locate Laundry under, over or adjacent to guestrooms and public spaces.

J. Floors:Due to equipment weights and vibration, design reinforced concrete floor slabs for equipment mounting and coordinate anchorage requirements with laundry equipment vendor and structural engineer.

1. BP Slab Thickness: Typically, provide the following:
   a. BP 15 cm (6 inch) and thicker slabs for water tanks and steam boilers
   b. BP 30 cm (12 inch) or greater for solid-mounted washer-extractors
2. BP Raised & Recessed Floor Slabs: Not permitted.
3. BP Equipment Floor Supports: Provide sufficient mass to minimize and dampen harmonic vibration between laundry equipment and building structure.
4. BP Provide dynamic loading data for washers to structural engineer.
5. BP Floor Slope: Provide level floors, except slope areas to drains.

K. BP Slab Waterproofing:When laundry floor slab is above grade, provide waterproof membrane at troughs and floor drains.

L. BP Walls:Masonry construction, painted finish. Provide corner guards and wall protection to prevent damage to corners and walls.

1. BP Corner Guards & Wall Protection: <9> Protect outside corners subject to cart traffic with high impact resistant corner guards, (such as stainless steel) 10 x 10 x 150 cm (4 x 4 x 60 inch) high

M. Floor Drains: Space drains at 3 m (10 ft.) on center in troughs at washers and extractors, but not directly under equipment. See <15A>. Locate floor drains for the following:
- Laundry Chute termination area
- Provide galvanized steel trench grating with access to strainer
- Lint Strainers - provide at each drain
- Laundry Holding - soiled and clean

• Equipment Room

N. BP Ceiling Height:4.6 m (15 ft.) minimum. Verify height based on equipment size, structural clearance, mechanical space requirements, maintenance and operations.

O. BP Natural Light:Provide natural light source and comply with governing regulations.

P. BP Finishes: Provide durable, easy to maintain and cleanable finishes such as the following.

1. BP Floor:Sealed concrete
2. BP Base:Painted or vinyl base
3. BP Walls:Epoxy paint
4. BP Ceiling:Consistent with the facility (painted or acoustical tile)

11A.4 BP Laundry Manager Office

A. BP Program:For an on-site Laundry Facility, provide offices as follows.

1. BP Large Properties: Provide enclosed offices for the Laundry Manager and clerk.
2. BP Small Properties (200 guestrooms maximum): The Laundry Manager may be located in an open work area adjacent to laundry processing.
3. BP Private Offices: In enclosed offices, provide interior view windows to observe laundry work areas.
4. BP Assistant Managers: If the program requires one or more Assistant Managers, provide open work area with office equipment and furniture adjacent to laundry processing area.
5. BP Off-site Facility: If the laundry facility is off-site, locate the Manager, Supervisor office in the Housekeeping <11B> area. A separate clerk's office is not required.

B. BP Location:Where possible, position adjacent to Laundry and Housekeeping areas for management efficiency.

C. BP Equipment & Fixtures:Desk, chair, filing cabinets, computer (PMS, PBS), and telephone

D. BP Finishes:

1. BP Floor:VCT

2. BP Base:Resilient base
3. BP Walls:Painted
4. BP Ceiling:Accessible acoustical tile

11A.5 Soiled Linen Transport, Sorting & Storage

A. Program:Provide dedicated area for transporting, sorting and storing linen in carts prior to the washing process.

B. BP Location: Position the linen delivery, sorting and storage area inside the door from the Service Corridor, adjacent to the wash area, on the side of the doorway away from the finishing area.

C. BP Transport: Soiled linen is delivered to the Laundry by the linen / laundry chute or through the Service Corridor by carts.

D. BP Sorting & Storage: Provide area to sort linen into classifications suitable to the washing process and and area to store linen carts prior to washing.

1. BP Typical Laundry:
    a. BP Direct: If the majority of linen is delivered by linen / laundry chute, direct to the laundry area, linen is immediately sorted into linen carts and stored for washing. Locate the linen chute, sorting and storage in an enclosed room constructed of masonry.
    b. BP Linen Chute - Remote: Unsorted linens are deposited in carts and transported to the Laundry for sorting and wash storage.
    c. BP Service Elevator: Bulk, unsorted linens are transported to the Laundry for sorting and storage.
2. BP Large Capacity Laundry: Provide a soiled-sort conveyor for labor efficiency.

E. BP Scale: Provide to efficiently weigh carts with unsorted goods entering the Laundry and sorted goods prepared for full washer loads.

1. BP Type: 1,200 x 1,500 mm (4 x 5 ft.), electronic floor scale

F. BP Carts: Provide bulk and hamper carts.

1. BP Bulk Carts: 1,200 x 760 mm (48 x 30 inch) or 1,500 x 760 mm (60 x 30 inch) or 1,830 x 1,067 mm (72 x 42 inch) are typical sizes for unsorted goods.

2. BP Hamper Carts: 560 to 700 liter (16 to 20 bushel) with spring-lift platforms and four swiveling castors.

11A.6 Linen Chute

A. Program:Provide a prefabricated, metal chute assembly from guestroom floors above with an outlet to a linen collection area.

B. Standards: Comply with NFPA regulations. See <14> for chute fire protection system.

C. Linen Loading: For linen chute size in designated Housekeeping space, see <7B>.

D. Discharge: Provide chute discharge in an enclosed room or at an area suitable for efficient work flow in sorting area and to washroom without interfering with housekeeping and laundry traffic.

1. At discharge chute opening, provide a top hinged stainless steel door with a fusible link.
2. Mount bottom edge of chute opening 137 cm (54 inch) above the main laundry room floor with a side discharge; not from ceiling or overhead.
3. Provide an area that maintains soiled laundry away from foot and cart traffic paths. Include landing space to position a laundry cart with wheel brakes.
4. When chute enters an enclosed room, provide 2.4 m (8 ft.) minimum clearance from chute discharge to opposite wall or wall with door to allow space for housekeeping employee and one linen cart to avoid employee entrapment.

11A.7 Washing

A. Program:Provide washing equipment, fixtures and accessories.

B. BP Location: Position for direct access from Service Corridor without passing through adjacent Soiled Linen Storage and Sorting area. Include an area near the washers and/or extractors to weigh and stage hamper carts containing loads for washing.

C. BP Soak Sink: Provide two compartment soak sink (see <15B>), with hand soap and towel dispensers.

D. BP Eye Wash Station: Locate near washers. See <15B> and <16>.

E. BP Drain Trench: Provide under or behind washers and size to accommodate the combined washers' total rinse cycle capacity.

F. Washers:

1. Typical Laundry:

   a. Program: Provide 4 to 6 open-pocket units in a single bank arrangement, in front of or over the waste water trench with 115% minimum combined capacity of hourly washing task (see Laundry Facility, "Workload" above. Divide the calculated "PPD" by 8 washing hours per day to calculate hourly task).

   b. BP Consultant: If the daily task (PPD) is expected to exceed 680 kg (1,500 lbs), contact a professional laundry consultant for a continuous batch tunnel washing system and requirements.

   c. BP Capacity: Provide washers with clean-dry weight capacities equal to 113 kg, 57 kg, 23 kg, and 16 kg (250 lbs, 125 lbs, 50 lbs and 35 lbs). If hourly task exceeds 454 kg (1,000 lbs) per hour, provide 180 kg (400 lbs) capacity split-pocket washers.
   • Provide one small washer with a capacity equal to 5 to 10% of the hourly task.
   • If 5 or 6 washers are required, provide a second "mid-size" machine equal to about 10 to 20% of the hourly task capacity.
   • The remaining 3 to 4 washers are identical and individually equal in capacity to about 25 to 35% of the hourly task.

2. Large Capacity Laundry:

   a. Provide a continuous batch tunnel washing system sized based on 110% of programmed hourly washing workload. Tunnel washer to include the following:

- 7 to 10 pockets
- Programmable controls to adjust chemistry by pocket
- Top transfer between pockets
- Integration with extraction module

b. BP Provide a minimum of 2 washers with a capacity equal to 10 to 15% of the hourly task.

11A.8 Drying

A. Program:Provide dryers in proximity to washing machines.

B. BP Location: Directly adjacent to washing equipment in an enclosure, and if possible, on an outside wall for make-up air through louvered openings.

1. BP Allow adequate space at dryer sides to facilitate loading and unloading activities and staging work.
2. BP Position in a single bank forming one of two lines of flow away from washers (flow in second line is flatwork ironing unit).

C. BP Enclosure: For traditional dryers, provide a tightly enclosed, fire rated dryer space with at least 914 mm (36 inch) clear service access behind machines.

1. BP Access Door: 813 mm (32 inch) wide x 2 m (6'-8") high, outward opening door for dryer service.
2. BP Connections: Coordinate and verify dryer utility connections with equipment vendor and coordinate enclosure clearance, access details.

D. BP Dryers: Provide gas fired dryers with internal lint filtering screens (no separate lint filter) and fire suppression features. If high pressure steam is preferred and available, provide steam heated dryers.

1. BP Size: Provide sizes to match capacities for each washer. Typically, a nominal rating of about 150% of the washer name plate rated capacity, maximum of 57 kg (125 lbs). For 113 kg (250 lb) open pocket washers and 180 kg (400 lb) split pocket washers, provide 77 to 86 kg (170 to 190 lb) dryers.
2. BP Quantity: Provide about two-thirds of the washers quantity (3 to 4 units total). Generally, provide 2 to 3 units at 77 to 86 kg (170 to 190 lbs) and select 1 or 2 smaller units to match small washer sizes, 23 and/or 34 kg (50 and/or 75 lbs).

E. Dryer - Supply Air & Exhaust: Provide enclosure for dryers of 86 kg (190 lbs.) or

less to isolate make-up air and heat radiation; see <15A>.

1. BP Lint Filter: Provide a separate lint collector or filter.
2. BP Large Capacity Dryers: For 90 kg (200 lbs) capacity or greater dryers, provide supply air duct connection ports and integral lint filtering devices.

11A.9 Flatwork Ironing

A. Program:Provide flatwork ironing system (feeding device, ironer and folder).

B. BP Location: Position and orient the ironing equipment in an area near washing and drying to facilitate the flow from washers to clean linen staging and cart packing.

C. BP Size, Area: Provide equipment perimeter maintenance access and sufficient space for the ironing unit at:

1. BP Front: For staging several loaded carts.
2. BP Rear: For hand folding, stacking and loading finished goods into clean linen carts.

D. BP Flatwork Spreader, Feeder: Provide an automatic flatwork spreader, feeder when the daily task (PPD) exceeds 2,500 kg (5,500 lbs). Include 3 to 4 feeding stations, a retractable bridge to facilitate feeding small pieces, individual lane counters and an automatic grading system.

E. BP Ironer: Provide a three roll, steam heated, chest type ironer with 800 to 1,000 mm (32 to 40 inch) diameter rolls.

1. BP Capacity: Provide equipment to iron 3,300 mm (130 inch) wide linen pieces.
    a. BP When daily task ("PPD") exceeds 2,948 kg (6,500 lbs), provide a four roll unit with same ironer features.
    b. BP If the space allocation rules in the "Laundry Program" above cannot be satisfied, provide a smaller "foot-print" ironer and consider a two roll, gas heated, roll type ironer.
2. BP Air & Electricity: Provide with connections for air and electricity at front and rear ends, for the associated feeder and folder.
3. BP Canopy & Exhaust: Include a canopy or hood, a vacuum exhaust system for 3,300 mm (130 inch) minimum rolls.

F. BP Folder: Provide four primary folding lanes with two static bars, one multi-

lane small piece accumulator, individual lane counters, and a lane selector control to enable 1, 2 or 4 primary lanes of folding and 2 or 3 final cross folds.

G. BP Stackers: If an automatic spreader, feeder is provided, include one large piece stacker, minimum. When the daily task (PPD) exceeds 2,948 kg (6,500 lbs), provide a second stacker to automatically separate king sheets from queen or double-size sheets when folded.

11A.10 Dry Folding

A. Program:Provide tables for linen folding or one or more automated small piece folders based on capacity and labor requirements. Include space for moving materials from drying to storage areas.

B. BP Location:Adjacent to dryers and ironing equipment with sufficient area and work space for tables and nearby access to linen storage, cart packing and the Service Corridor.

C. BP Work Flow:

1. BP Fully dried work moves freely to folding area for finishing, stacking and placement on carts.
2. BP Finished folded work is joined with finished flatwork for storage and handling.
3. BP Provide a second doorway in the vicinity of the dry folding area with access to the adjacent Service Corridor.
4. BP Finished goods exit the facility directly or pass beyond to clean linen staging and cart preparation area.

D. BP Folder:

1. BP Large Capacity Laundry: Provide automatic small piece folders for folding bath and beach towels, hand towels and bath mats. Base quantity of folders on production rates per folder for 7.5 hours daily.
   a. BP Stack Conveyor: Include a stack conveyor to process towels and position to return finished stacks to the operator or away to a cart packing station.

E. BP Table: Provide a heavy duty folding table with plastic laminate or stainless steel top, one fixed lower shelf and drawers for supplies.

11A.11 Uniform Finishing

A. Program:If required by the project's Uniform Program and the project Facilities Program, provide equipment to finish wet-washed polyester-cotton employee uniforms.

1. BP Uniforms are first, pre-conditioned in dryers, moved freely and immediately to a garment finishing unit, and exit the facility to the Uniform Issue room.

B. BP Location:Adjacent to dryers with doorway, access to the Uniform Issue room and Service Corridor.

C. BP Garment Finisher: Gas or steam heated for items required with automatic feeder and return rail, and counting mechanism.

D. BP Garment Racks: Provide nestable garment racks with swivel castors for staging uniforms on hangers prior to finishing, after finishing and for temporary storage before loading into the storage carousel of the Uniform Issue room.

11A.12 Clean Linen Storage & Linen Carts

A. Program:Provide an area to temporarily store finished circulating linen carts, pack and stage carts containing guestroom linen for daily delivery to floor linen closets.

B. Location: Adjacent to the facility's three finishing areas (dry folding, flatwork ironing and uniforms) so finished goods flow freely, directly and immediately to delivery carts, storage and Service Corridor.

C. R Banquet Linen Storage: See Chapter <6> for criteria.

D. Linen Delivery Carts: Provide large capacity linen carts for distribution of clean guestroom linens to property floor linen closets.

1. BP Cart Features: Provide the following:

a. BP Wire mesh or fully enclosed back and sides

b. BP 3 to 4 fixed shelves (including bottom tray)

c. BP 4 large diameter swivel castors at corners, two castors with swivel locks

d. BP 1,200 to 1,830 mm (48 to 72 inch) long by 600 to 1,067 mm (24 to

42 inch) wide

e. BP Fabricate from plastic, chrome-plated or stainless steel or fiberglass.

2. BP Quantity: Provide enough carts for an entire day's guestroom linen supplies to store in the laundry for night time delivery.

a. BP If linen distribution occurs during the day, provide one clean linen delivery cart for every 10 guestrooms.

b. BP If distribution occurs at night time when the laundry is not operating, provide one clean linen delivery cart for every 6 guestrooms.

c. BP Retrieve, refill and return carts to floor closets when linen goods are finished in laundry during the day.

E. BP Scale: Provide to weigh finished goods exiting the laundry for property distribution.

1. BP Type: 1,200 x 1,500 mm (4 x 5 ft.) electronic floor scale

F. Bulk Linen Storage Carts: Provide large capacity carts for storing finished goods at the flatwork ironer and dry folding stations.

1. Cart Features: Provide the following:
   • With wire mesh or fully enclosed back and sides
   • 3 to 4 fixed shelves (including bottom tray)
   • 4 large diameter corners castors and two swivel
   • 1,200 to 1,500 mm (48 to 60 inch) x 600 to 760 mm long (24 to 30 inch) wide
   • Fabricate from plastic, chrome-plated or stainless steel or fiberglass.

2. Quantity: Provide one bulk linen storage cart for each 500 lbs. of “PPD”, or portion to enable one-half of a day’s (24 hour) supply of clean linen storage.

11A.13 Valet (Garment Shop)

A. Program:If required by the Facilities Program, provide a separate, well ventilated room for valet services to include on-site laundering, dry cleaning and press only services for dry clean only employee uniforms, staff clothing and guest clothing.

1. Services: Provide same-day laundry valet & dry cleaning service; 5 days per week minimum.

B. BP Size (approximate): Base size on a market study for the uniform program and valet services required at each property. On larger properties, international locations and higher service demands, typically require an on-site facility. Otherwise, an alternate solution is to manage the majority of valet services off-site by a qualified vendor.

C. BP Location: Immediately adjacent to the Uniform Issue Room with connectivity to the Service Corridor. Direct connectivity is not required to the Laundry area (unless as a convenience) but is typically near the Laundry Facility.

D. BP Features: See "Laundry Facility - Design" above, for applicable design features, criteria and include the following:

1. BP Entry Door: Provide a single entry with pair of doors each leaf 1.2 m (4 ft.) wide for adequate clearance to allow installation, movement and equipment replacement. Provide single door leaf with locking hardware to secure doors.
2. BP Steam: Provide steam service to equipment from a boiler or steam generator located in the property's power plant or mechanical room.
    a. BP Typical Laundry: Provide medium pressure steam, 30 to 50 bhp at 85 psi.
    b. BP Large Capacity Laundry: Provide 6.8 to 8.5 bar (100 to 125 psi)
    c. BP If a central steam system is not available, provide a separate mechanical room with fire rated walls to contain the equipment and water softener.
    d. BP Ventilate the mechanical room and provide a shaftway flue for the boiler gas exhaust.

E. BP Check-In, Marking & Sorting: Provide table for sorting folded clothing articles.

1. BP Electric: Mount a quadruplex electric outlet on the wall.

F. BP Marking Machine: Provide dry ink or heat seal marking machine.

G. BP Spotting Board: Provide spotting board with steam and water services, a water spray wand and associated hand tools and brushes.

H. BP Dry Cleaning Machine: Provide fully automatic, self contained dry cleaning machines.

1. BP Typical Laundry: Provide each with 11 to 12 kg (25 lbs) or a single machine with 16 to 18 kg (35 to 40 lbs) capacity.
2. BP Large Capacity Laundry: Base size on production requirements to process the work in 7.5 hours daily.
3. BP Provide completely sealed to prevent escape of cleaning fluid vapors, and equip to produce nitrogen supplies to generate inert operating environs.
4. BP Features include:
   a. BP Button trap
   b. BP Containment tray
   c. BP Minimum of two solvent bath storage tanks
5. BP Equip each machine with a refrigerated type cooler to provide chilled water for solvent recovery and condensation purposes, or a single cooler to serve both dry cleaning machines.
6. BP Solvent type is hydrocarbon unless otherwise directed by owner, MI or governing authority.

I. BP Washers & Dryers: Provide conventional washers and dryers for wet washable staff and guest clothing (wet washable employee uniforms are processed in the primary laundry equipment).

J. BP Shirt Finishing Unit: Provide based on production requirements.

K. BP Combination Pants, Coat & Dress Bay: Provide based on production requirements.

L. BP Finishing Board: Provide based on production requirements.

M. BP FF&E and Miscellaneous Equipment:

1. BP Desk and chair; filing cabinet; computer (PMS, PBS), see <13A>.
2. BP Shirt folder
3. BP Garment bagging station
4. BP Basket scale to measure loads for dry cleaning machines
5. BP Central vacuum unit

6. BP Damp boxes or saddle carts
7. BP Slick rails for temporary staging of in-process garments
8. BP Metal storage cabinet, fire rated to store spotting and cleaning chemicals

N. House Telephone: <13B> Wall mounted, at one side of the check-in table.

O. Name Tag Engravor Machine: Gravograph IS200

11A.14 Uniform Storage & Issue

A. Program:Provide an enclosed area to support the property's Uniform Management Program for storage, tailoring, repair and issue of employee uniforms.

B. BP Location: Locate the room along the Service Corridor, immediately adjacent to the Garment Shop and close to, or across the Service Corridor from the Laundry area and position near the Employee Locker Rooms and Housekeeping department to maximize operational and supervisory efficiency.

C. BP Alcove: Provide a 915 mm (3 ft.) deep alcove off the Service Corridor, the full width of the Uniform Storage room so employees may queue at the issue counter without blocking the corridor.

D. BP Issue System - Large Capacity Laundry: Provide an automated uniform issue system.

E. BP Issue System - Typical Laundry: Provide a counter in the wall separating the Uniform Room from the Alcove.

1. BP Provide a counter in the wall separating the Uniform Room from the Alcove.
    a. BP Size: 914 to 1,524 mm (36 to 60 inch) long on the corridor side and as long inside the room as other features may allow.
    b. BP Counter Height: 1,000 mm (40 inch) above the floor
    c. BP Configuration: Project the counter into the alcove at 305 mm (12 inch) and extend into the Uniform Issue room 765 mm (30 inch).
    d. BP Opening: Size above counter:
    • Length: Same as counter length on alcove side
    • Height: 1,220 to 1,525 mm (48 to 60 inch)
    • Security: Provide a metal roll-up door or sliding glass panels to secure

the room when not occupied.

e. BP Cart Space: Below the counter, inside the Uniform Room, provide space for hamper carts for collection of soiled clothing articles.

f. BP Finish: HPL or seamless aluminum sheet counter surface

g. BP Lighting: See <15C>.

h. BP Computer Stations: Provide for uniform tracking with scan station.

2. BP Uniform Storage Carousel: Provide one, double-tier carousel with remote positioning selector. Size carousel large enough to provide hanging slots equal to or exceeding twice the guestroom count.

3. BP Door: 915 mm (36 inch) wide, immediately adjacent to the Issue Counter, with outward swing into corridor and hinge side away from the counter.

F. BP Tailoring Station: Inside the door and on the room side opposite the issue counter, and provide a 1.5 m (5 ft.) wide by 3 m (10 ft.) deep space to place two sewing stations (tables with sewing and button machines, and chairs).

1. BP Design the Uniform Issue room and Alcove at 3.5 to 4.1 m (11'-6" to 13'-6") wide minimum.

2. BP For the double-tier uniform storage carousel space, design a portion of Uniform Issue room narrower than the 3 m (10 ft.) depth required for the tailor station.

3. BP Equipment:

a. BP Sewing Machine: One with work table and chair

b. BP Button Machine: One with work table and chair

c. BP Seal Marking Machine: One dry ink or heat seal machine to apply identification mark or label on employee uniforms.

G. Telephone: Provide a wall house phone at end of the Issue Counter.

H. BP Electrical: Provide duplex wall outlets for the following, see <15C>.

1. BP Sewing stations, two

2. BP Marking machine at end of Issue Counter

11A.15 Laundry Mechanical Equipment Room

A. Program:If a Laundry is required, provide a dedicated, enclosed (2 hour fire rated) Laundry Mechanical Equipment Room to accommodate the water systems equipment components and, if required, the Laundry and Garment Shop steam generating systems. Configure to efficiently serve laundry process equipment (washers, dryers, ironer, etc.).

1. BP Size: Provide based on the extent of the equipment program.
2. BP Location:Adjacent to laundry wash area and with an exterior wall for equipment installation or replacement, and boiler supply air requirements.

B. BP Equipment Access: Provide access ways and wide doorways, 2.4 m (8 ft.) minimum or removable wall panel systems that lead directly from grade access into the Mechanical Room.

C. Features: See the project Facilities Program and "Laundry Facility - Design" above for applicable Mechanical Room design features and criteria.

D. BP Water Storage Pits: If required, provide one or two sub-floor concrete water storage pits based on the programmed laundry usage considering the following:

1. BP Waste water heat recovery and reclamation system
2. BP Rinse water reuse system

11A.16 Wash Chemical Storage & Injection System

A. Program:Provide a secure, enclosed and well ventilated space for storage of washing chemicals and provisions for liquid chemical injection equipment as typically provided by a chemical vendor.

B. BP Location: Position close to the laundry washers with close access to the Service Corridor entrance at the soiled end of the laundry facility to allow unimpeded movement of chemical barrels (utilizing a barrel cart) from the corridor into the store room.

C. BP Features: See the "Laundry Facility - Design" above for applicable Chemical Storage Room design features, criteria and provide the following features:

1. BP Ceiling Height: 2.75 m (9 ft.)
2. BP Entry Door: 915 mm (3 ft.) wide x 2 m (6'-8") high and equip with locking

hardware.

3. BP Tubing Access: Provide a 150 mm (6 inch) diameter opening through the storeroom wall for plastic tubing between the injectors and the laundry washers. Line the opening with a collar (such as a length of 150 mm (6 inch) diameter PVC pipe).
4. BP Floor Drains: Not required. (prevents chemical spills into the sanitary waste system).
5. EI Containment Curbs: Not required.

D. Equipment & Fixtures:

1. Eye Wash Station: See <15B> and <16>.
2. BP Water Mixing Valve: Thermostatic
3. BP Shelving: Provide fixed metal wall shelves above the barrel storage area.

11A.17 Air Compressor Room

A. Program:Provide air compressor equipment in a secure, enclosed and well ventilated space for compressed air service for the Laundry and Garment Shop equipment.

B. BP Location: Provide in a location appropriate for laundry equipment connections and operations such as flatwork folder, small piece folders and, if required, the dryer enclosure. Do not position air compressors in the Laundry Mechanical Room where the space contains steam generating equipment.

C. BP Features: See the "Laundry Facility - Design" above for applicable Air Compressor Room design features, criteria and provide the following features:

1. BP Enclosure: Provide compressor room with high acoustic control, minimum of STC 60.
2. BP Ceiling: 2.75 m (9 ft.) high AFF with acoustical tile
3. BP Entry Door: 0.91 m (3 ft.) wide with a lock
4. BP Floor Drain: Provide 13 mm (1/2 inch) diameter copper drain lines from equipment (each compressor, air dryer and receiver tank) condensate connections to floor drains.

D. BP Air Compressors: Provide one to two, rotary style, air cooled air

compressors.

1. BP Size: Based on the equipment served.

E. BP Air Dryer: Provide refrigerated compressed air dryer sized to serve air compressors.

F. BP Air Receiver Tank: Provide compressed air receiver tank with pressure gauge. Air flows from the compressor, through the dryer before entering the receiver tank.

G. BP Filters: Provide in-line particulate and moisture filters with automatic condensate drains.

11A.18 Laundry Equipment Standard of Quality

A. Equipment Standard of Quality:The following list establishes an example for the level of quality, construction, features, etc., required for Laundry equipment:

B. Laundry Equipment

Equipment	Manufacturer
Air Compressor	Ingersol Rand; Kaeser; Quincy
Air Vacuum (garment shop)	Rema; Cissell Dryset
Boilers and Steam Generators	Cleaver-Brooks; Fulton; Miura
Carousel, Uniform Storage	White Conveyors; Railex
Cart / Hampers	Meese; CR Daniels; ChemTainer; Tingue-Brown; Metropolitan Wire
Computer System, Production Data	Chicago Dryer CHILinc
Conveyor, Flat-Bed	Hy-trol or equal
Dry-Cleaning Machines	Multimatic; Columbia; Forenta; Firbimatic; Electrolux
Dryers, less than 200 lbs	Milnor; Cissell; Huebsch; American Dryer Corp; Unimac; Electrolux
Dryers, 200 lbs or larger	Challenge, Lavatec, ADC; Braun / Norman; Electrolux
Folder, Sheet	Chicago Dryer Skyline; Lavatec; Jensen; Braun Omega
Folder, Shirt	Forenta; Uni-Press
Folder, Towels	Chicago Dryer Air Chicago; Braun Sigma; Jensen; Kannegiesser
Form Finisher	Cissell; Forenta
Garment Bagger	Bishop-Freeman
Garment Finisher	Colmac; Leonard Automatics
Garment Rack, nestable	Astechnologies; Atlanta Rail & Conveyor
Heat Seal & Marking Machines	Texmark; Natmar; Thermopatch
Ironer, flatwork, gas-heated roll-type	Chicago Dryer Imperial 232; Electrolux
Ironer, flatwork, steam-heated chest-type	Chicago Dryer; Braun; Jensen; Lavatec; Electrolux
Ironer, flatwork, thermal-oil heated chest-type	Chicago Dryer Century PH; Electrolux
Pants Top Finisher	Cissell; Ajax; Forenta
Press, Collar-Cuff-Yoke	Forenta, Uni-Press; Ajax
Press, Pants Legger	Cissell; Ajax, Forenta
Press, Shirt Body Cabinet	Forenta; Uni-Press; Ajax
Press, Shirt Sleeve Cabinet	Forenta; Uni-Press; Ajax
Press, Utility Dry Clean Finishing	Forenta; Hoffman; Uni-Press; Ajax
Press, Utility Laundry Finishing	Forenta, Ajax
Puff Finisher	Forenta; Cissell
Scale, Basket	Newhouse Specialty, Bishop Freeman
Scale, Electronic Platform	Toledo; Richardson; Cardinal
Sewing & Button Machines	Chandler
Sheet Spreader / Feeder	Chicago Dryer King Edge; Braun; Jensen
Sink, Soak	E.L. Mustee; Durastone
Slick Rail	White Conveyor; Speed Check
Spotting Board	Cissell; Forenta
Up-Air Finishing Board	Uni-Press; Hi-Steam
Washers, 135 lbs or less	Milnor; Unimac; Washex; Electrolux
Washers, greater than 135 lbs	Milnor, Washex, Braun, Lavatec; Electrolux
Washers, home-style, and dryers	Speed Queen, Maytag
Water Systems, vented	Kemco Systems; Ludell; Thermal Engineering of Arizona

11A.19 R Coordination

A. R Reference: Coordinate with requirements of other Chapters.

- Guestroom Corridors / Support
- Technology Infrastructure
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

housekeeping

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

11B.1 Overview

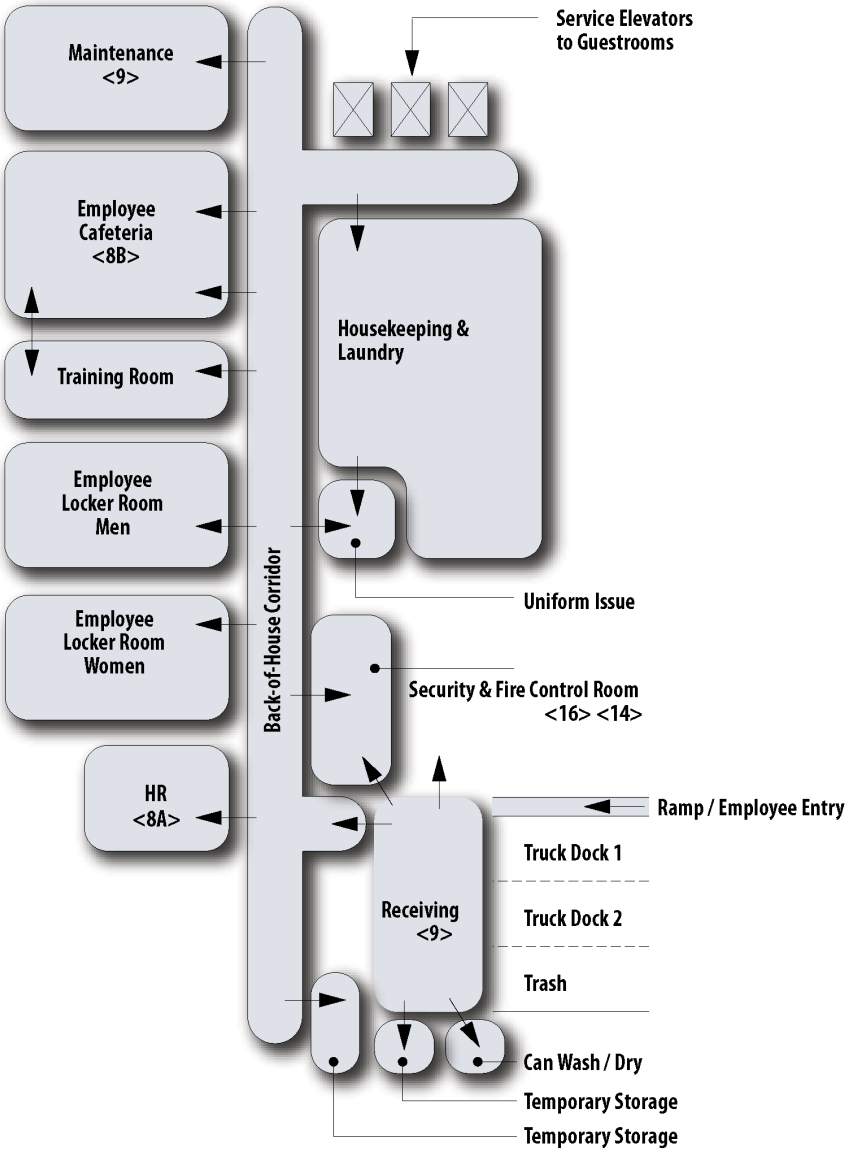
A. Program:Provide Housekeeping Facilities to support employees that maintain Guestrooms, Lobby Areas and public spaces. For Housekeeping rooms on guestroom floors, see <7B>.

B. BP Location: Locate in BOH area adjacent to Laundry for management efficiency and, as near as possible, to Service Corridor and Service Elevator to minimize travel by housekeepers.

C. Size / Area:Comply with the following or as required by the project Facilities Program.

1. Size / Area:120 m² (1,200 sq. ft.)
2. Doors:Access space through pair of 0.9 x 2 m (3 ft. x 6'-8") doors adjacent to Issue Counter.
3. Ceiling Height: 2.4 m (8 ft.) minimum

D. Housekeeping Facilities Adjacency



E. R Steps, Stairs, Ramps & Slip Resistance:See <16>.

F. R Windows & Safety Glass: For window, glass / glazing criteria, see <GR3> and <16>.

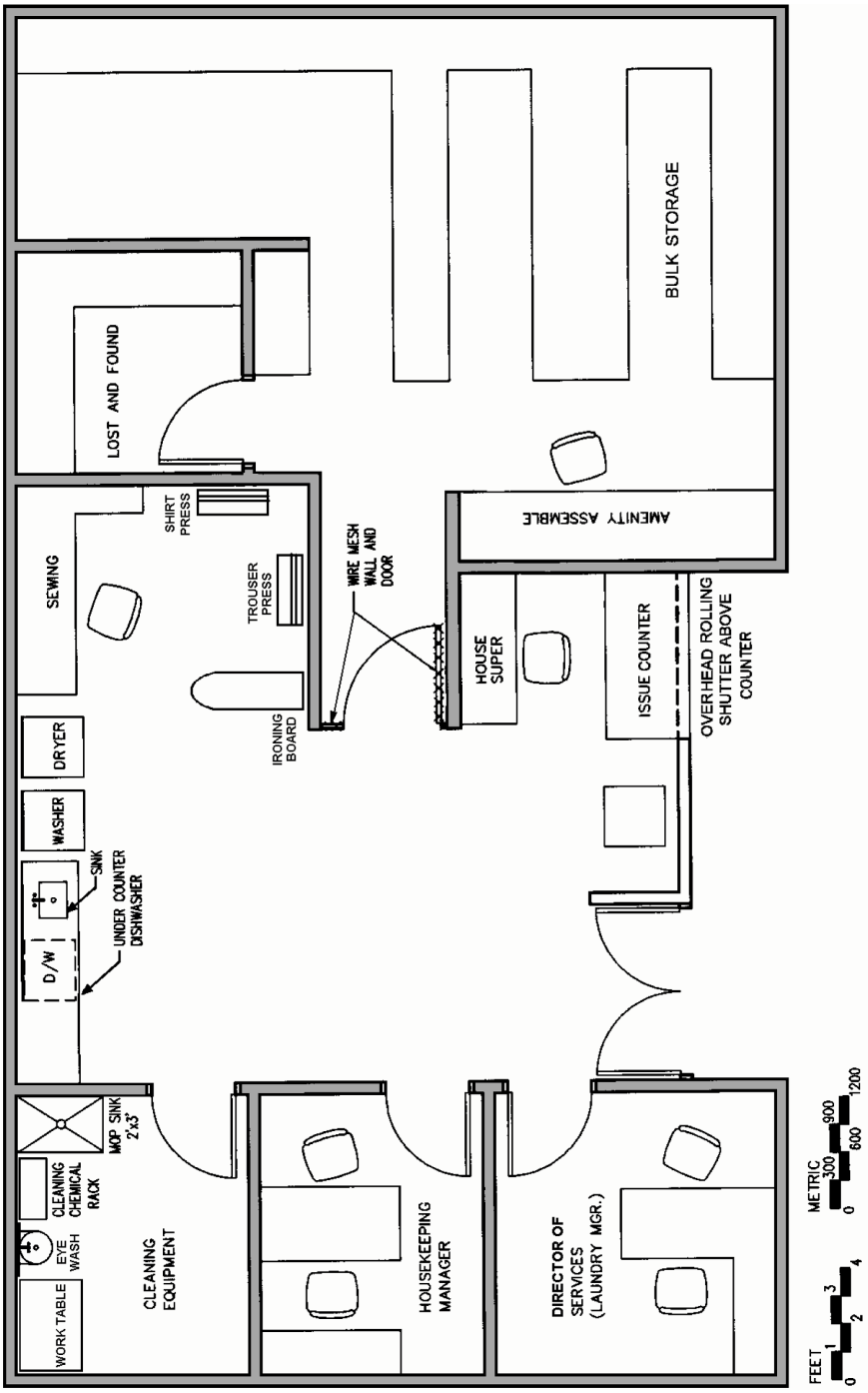
11B.2 Programmed Spaces & Areas

A. Program: Accommodate the functions as outlined in the project Facilities Program and as illustrated for the following spaces:

1. Housekeeping Program Spaces

Space	Size		Private	Open
(see example plan)	m^2	sq. ft.		
Director of Services	9.3	100	X	
Housekeeping Manager	7.4	80	X	
Housekeeping Supervisor	4.5	48		X
Issue Counter (length)	1.8	6		X
Bulk Storage	42	450	X	
Lost and Found	6	64	X	
Glass washing	see example plan			
Cleaning Equipment	7.4	80	X	
Cleaning Chemical Station	see example plan			
Housekeeping Laundry	9	96		X
Uniform Distribution <11A>	see Laundry			

2. BP Housekeeping Example Plan



B. BP Management Offices:

1. BP Director of Services:If Laundry is off-site, the Director of Services is located in Housekeeping.

2. BP Housekeeping Manager:Enclosed office area for the management of housekeeping activities, generally located convenient to housekeeping entrance. Housekeeping Manager generally reports to the Director of Services, if applicable.

   a. BP Vision Panel: Provide glass vision panel to permit visual supervision

of housekeeping activities while providing acoustical privacy.

b. BP Office: May be combined with the Office of Director of Service (Laundry Manager), especially when there is no on-site central laundry.

c. BP Equipment: Desk, chair, filing cabinets, computer / PMS <13A>, telephone.

3. BP Housekeeping Supervisor(s):Position reports to Housekeeping Manager and is responsible for managing the logistics of housekeeping assignments and activities.

a. BP Locate adjacent to Issue Counter.

b. BP Open area with desk, chair, PMS and telephone, see <13A>.

4. BP Finishes:

a. BP Typical:

• Floor: Vinyl composition tile
• Base: Resilient base
• Walls: Painted
• Ceiling: Accessible acoustical tile

C. Open Space (Staging):Provide a common area where housekeepers meet for line up and receive housekeeping assignments and supplies.

1. BP Issue Counter: Pass through work counter at service corridor to facilitate distribution of housekeeping assignments and supplies.

a. BP Size: 1.8 m (6 ft.) long; 1.1 m (3'- 6") high and 1 m (3 ft.) deep open to Service Corridor.

b. BP Counter: High pressure laminate top finish, chemical resistant, with open adjustable shelving below.

c. BP Queuing Area: 1 m (3'-3") deep alcove for full length of Issue Counter on Service Corridor side.

2. BP Alcove: On housekeeping side, 1.7 m (5'-6") wide alcove adjacent to Issue Counter for housekeeping basket carts.

3. BP Overhead Rolling Steel Door:Clear head height of 2 m (6'-8"); lockable rolling metal shutter, mounted on Housekeeping side of opening.

4. BP Clip Boards: Provide wall area convenient to or at entrance for mounting housekeeping clip board schedules (one clip board for every 15 guestrooms).

5. Equipment:

a. Telephone:Wall mount house phone (see <13A>) and locate in the open space.

b. BP Computer (PMS / PBS):See <13A>.

c. BP PMS (systems applications): See <13A>.

d. Key lock box

e. BP Radio PDA charging station

D. Secured Bulk Storage:Provide an enclosed, secured area for storing and controlling reserve housekeeping materials, bulk supplies, and guestroom related equipment.

1. BP Enclosure: Enclose area with solid partition or wire mesh partition. Extend partition to underside of structure.

2. BP Door: Lockable and under the control of the Housekeeping Manager / Supervisor.

3. BP Amenity Assembly: Provide counter work area and bulk storage for assembling guestroom amenity (soap, shampoo, etc.) caddy storage rack and baskets for distribution to housekeeping.

4. BP Open Shelving: Provide full height metal shelving 0.6 m (2 ft.) deep with 0.9 m (3 ft.) aisles for storing reserve linens, pillows, cots, guestroom equipment and bulk housekeeping supplies and equipment.

5. BP Verify if refrigeration is needed for Guestroom amenities.

E. Lost & Found:Provide an enclosed room or closet in a secure area of Housekeeping to store Guest items turned in as Lost and Found.

1. BP At larger properties, Lost and Found is located in the Security Office, otherwise it is typically managed in Housekeeping. Verify location with MI.

2. BP Partition: Wire mesh or solid partition enclosure with framed door to secure space. Extend partitions to structure above.

3. BP Door: Framed door; secure with electronic operated key lock with audit trail. See <16>.

F. Housekeepers Cleaning Equipment Storage: Provide an enclosed, secure room for storing and securing cleaning equipment and supplies (vacuums, floor care, carpet cleaning machines, mops, buckets, etc.).

1. Mop Sink: Provide for convenient servicing of cleaning equipment.

2. BP Shelving: Provide shelving for storage of equipment and supplies.

G. Linen Storage:Provide a secure room with shelving to store linen and terry materials. May be included in Bulk Storage.

H. Glass Washing:If required, provide a work area to wash guestroom glassware. Facility is independent of kitchen dish washing to avoid disruption to food services. Within the open work area, provide the following:

1. BP Glass Washer: Under counter, rack type in center of plastic laminate counter top with open shelving below.
2. BP Work Surface:0.6 x 2.4 m (2 x 8 ft.)
3. BP Utility Sink: 30 x 40 cm (12 x 16 inch) and build into counter top

I. Cleaning Chemical Station:Provide an area for bulk storage and distribution of cleaning chemicals to include the following.

1. Cleaning Chemical Station:A proprietary combination and distribution system for bulk storage, mixing and refilling cleaning chemical dispensers used by housekeepers. Include a drain and water supply.
2. Eye Wash Station: Centrally locate for shared availability for housekeeping activities. See <15B> and <16>.

J. Housekeeping Laundry:Provide a small capacity laundry to provide limited guest laundry service and to service housekeeping uses if an on-site laundry is not provided.

1. Provide utility clothes washer and dryer with adjacent 0.6 m deep x 1.2 m long (2 x 4 ft.) plastic laminate faced work counter.
2. Provide ironing and sewing areas for limited guest service.
3. BP If an on-site laundry and dry cleaning facility is available, the location of the housekeeping laundry may be adjusted to share facilities.

K. Sewing / Valet:Typically, in the Uniform Issue area. Coordinate with <11A>. Locate in housekeeping if Uniform Issue area is limited or off-site.

1. BP Uniform Distribution: At properties without on-site laundry and dry cleaning, uniform distribution may be managed by housekeeping. See <11A>.

L. BP Finishes:
• Floor: Paint smooth or acoustic tiles
• Walls: Epoxy Painted
• Ceiling: Exposed (not painted)

M. BP FF&E: Provide free standing furniture.

N. Housekeeping Rooms:
• For Housekeeping rooms located on Guestroom floors adjacent to Guest Corridors, see <7B>.

• For campus plans with distributed guest accommodation locations, integrate Housekeeping with the Butler's Pantry.See <7B>.

11B.3 Coordination

A. BP Mechanical: Locate adjustable type diffusers for spot cooling within 2.7 m (9 ft.) of work stations.

B. BP Electrical Connections: Provide with twist-lock plug and flexible for minimum movement of 0.91 m (3 ft.) in any direction for equipment service.

C. R Reference: Coordinate with requirements of other Chapters.
- Guestroom Corridors / Support
- Laundry Facilities
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

elevators

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

12.1 Overview

A. Program: Provide efficient passenger and service elevators to support guest services and property operations.

B. Code Compliance: Design, construct and install elevators and escalators in compliance with standards, criteria and references in this Chapter including the following:

1. EN 81 European Lift Standards, current edition and supplements enforced by governing jurisdictions. EN 81 includes the following:
   - EN 81-1 Safety Rules for construction and installation of Electric Lifts
   - EN 81-2 Safety Rules for construction and installation of Hydraulic Lifts
   - EN 81-3 Safety Rules for construction and installation of electric and hydraulic service lifts
   - EN 81-70 Accessibility for Disabled Persons
   - EN 81-72 Fireïfighters Lifts
2. Other governing codes, ordinances, laws, etc. applicable to elevators and escalators.
3. EI This Design Standard is not intended to negate governing codes or laws. When standards conflict, resolve with MI.

C. Access for Persons with Disabilities: Provide elevators accessible to persons with disabilities as intended by EN 81-70 or equivalent standard of the governing authority.

D. BP Circulation Planning:Coordinate elevator performance analysis with the following circulation requirements.

1. BP Lobby: When Lobby, Public and Meeting Spaces are located on more than one floor, vertical circulation is provided by a combination of grand stairs, public circulation stairs, escalators and shuttle elevators.
2. BP Street Entry: When the property street entry is not on the same floor as the Lobby or Meeting Spaces, shuttle elevators and escalators are typically provided to transport property and meeting / event guests from street level to the Lobby or meeting area.
3. BP Shuttle Elevators: Plan shuttle elevators serving public access areas (parking structure, street entry, rooftop, etc.) to deliver passengers directly to the lobby / reception area or public circulation area without access to guest floors and to allow passive, visual access control for guests.
4. BP Beach / Pool: Provide a dedicated beach / pool elevator at a long guestroom wing to avoid requiring guests to return to the central elevator bank.

5. BP Multiple Building Wings: Consider providing elevator service at remote wings.
6. BP Remote Amenities: Provide an elevator at building wings that provide access to remote amenities and to avoid requiring guests to return to a central lobby elevator.
7. BP Meeting Spaces: Plan circulation so those guests arriving and leaving the meeting / event areas do not overload the passenger elevators.
8. BP Multi-Use Projects: In order to maintain property operational and control access, do not share property elevators with other occupancies as determined by the Loss Prevention Review Process - review with the MI representative. See <16>.

E. Acceptable Manufacturers: Provide conveyance equipment from one of the following. Review other providers with MI representative.
   - Kone Inc.
   - Mitsubishi
   - Otis Elevator Company
   - Schindler Elevator Corporation
   - ThyssenKrupp

   1. Acceptable Manufacturer shall provide service office or service route within 80 k (50 miles) of the project location or provide a service organization with a 60 minute response to service request.

12.2 Common Elevator Features

A. Control Type: Provide traction control, group operation, microprocessor controlled with AC Variable Voltage, Variable Frequency (VVVF) drive.

B. R Loss Prevention (LP): See <16>.

   1. Controlled Access: If required by Loss Prevention, provide passenger and service elevators with property operations programmable electronic key reader to match guestroom system that registers calls for selected floors when activated.

C. BP Exterior Application: Avoid using exterior elevators exposed to weather. Provide stainless steel with required nickel content for salt air conditions.

D. Elevator Signage: Identify access requirements for persons with disabilities, emergency exiting instructions, floor numbering (see <7B>), way-finding graphics and comply with governing regulations.

   1. Confirm signage design and location with MI.

2. Identify signage location on Interior Design documents.

E. Cab Ventilation: Provide cab ventilation for the comfort of occupants and to exhaust heat from lighting.

1. Natural Ventilation: Provide natural cab ventilation at top and floor of cab.

2. Exhaust Blower: Provide a quiet, exhaust blower at the cab ceiling.

F. BP Elevator Pit: Coordinate the following with <15B> and <15C>.
- Light
- GFIC power outlet
- Sump pump, cover and drain where flooding is possible
- Ladder access

G. Elevator Entries: Coordinate the finishes with the interior design on each floor.

H. R Elevator Shaft Pressurization: See <15A>.

12.3 Fire & Emergency Control

A. General: Fire Protection and Life Safety standards, see <14>

B. System Controls: Coordinate with governing regulations for the following elevator system fire and emergency control features.

1. Emergency Keys: Provide key operated terminal access switches at top and bottom floors for access to top of car and elevator pit. Locate key switch in elevator jamb immediately below floor identification plate.

2. Firefighter's Lock Boxes: Identify regulatory requirements. When required, provide lock box and coordinate its location with MI Design Management and the Interior Designer.

3. Emergency Entry: Where allowed by governing authority, provide access keyways in hoistway doors at each floor served. Do not include emergency side exit in cab enclosures unless required by governing code.

4. Emergency Exit: In elevator cab ceiling, provide a personnel exit hatch that does not interfere with lighting. Coordinate lighting with the ceiling design.

C. Fire Command & Function Panel: See <14>.

1. Locate panel in Fire Command Room or Security Office in compliance with governing authority. Provide remote monitor panel at Call Center

2. Elevator Recall & Firefighters' Operation: See <14>.

D. Emergency Intercom / Telephone: Provide 2-way, emergency intercom / telephone (see <13A>). Mount integral with operating panel (not in a telephone cabinet).

1. Connection: Connect intercom telephone to Call Center or Security Office (see <16>) for 24 hour, 7 days per week monitoring.
2. Speaker: Conceal intercom / telephone speaker from passenger view.
3. Operation: Provide instructions to activate intercom by pressing alarm button or dedicated "telephone" button in cab station.

E. Emergency Electrical Systems: For standby power and emergency electrical requirements, see <14> and <15C>. Connect elevators, lighting, machine rooms and machine room cooling to standby power.

12.4 Passenger Elevators

A. Planning Guide: Provide a minimum of 2 passenger elevators.

1. Typically, provide one elevator for each increment of 100 guestrooms for low and mid-rise guestroom towers.
2. BP Additional elevators may be required when serving:
   a. BP Guestroom Towers: More than 20 floors
   b. BP Large Meeting / Function Spaces: Above or below the property entrance floor
   c. BP Guest Amenity Areas: Remote from the guestroom tower.
3. R Also, see "Shuttle Elevators" hereafter.

B. Performance Criteria: Design passenger elevators to handle the highest demand. The following criteria are intended for a highrise building with a central elevator lobby.

1. Passenger Elevator Criteria

Floors Served	Speed		Machine Type
	m/sec.	(fpm)	
2 to 3	065 to 0.75/1.00	(100 to 200)	MRL
3 to 10	1.00 to 1.75	(200 to 350)	Traction / OHMR / MRL
7 to 13	1.75	(350)	Traction / OHMR
13 to 15	1.75 to 2.50	(350 to 500)	Traction / OHMR
15+	2.50+	(500+)	Gearless / OHMR
MRL = Machine Roomless OHMR = Overhead Machine Room			

2. Design passenger elevator performance with a calculated average interval of 40 to 45 seconds during periods of heavy 2-way traffic. Minimum handling capacity of 12% of guest population, with 1.75 occupants per guestroom in five minutes at 100% occupancy.
3. Adjust occupant quantities per guestroom based on property use and verify with MI.
4. At property over 700 guestrooms use 2.0 occupants per guestroom.
5. Assume ballroom / meeting spaces are fully occupied by guests not staying in property guestrooms.

C. Location: Central to guestrooms served.

1. Visible from front desk at Lobby.
2. Do not open elevators directly on guest corridors.
3. Provide a vestibule or foyer to define a waiting area.
4. Serve parking, if present, with separate shuttle elevators per Loss Prevention Review process. See <16>.

D. Sizes (Passenger):

1. Capacity: 1000 kg (2,205 lbs.) minimum; in addition to special interior finish material loads, such as wood paneling, millwork, tile and stone.
   a. Hoistway Entrance: 900 mm (3 ft.) wide x 2140 mm (7 ft.) high with center opening doors
   b. Cab: 1600 mm (5'-3") wide x 1400 mm (4'-8") deep minimum, inside dimensions with 2900 mm (9'-6") cab height to accommodate a 2400 mm (8 ft.) light trough.
2. Convention & Large Hotels: 1800 kg (4,000 lbs.) capacity are preferred to manage large group schedules.

E. Cab Fabrication & Finishes: Coordinate passenger elevator cab fabrication and finishes with Interior Design. See the example diagram and finish notes in this

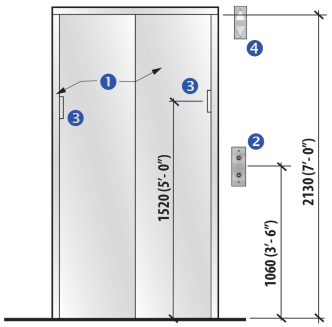
Chapter that represent the quality level of interior design.

1. Enclosure: Steel shell with interior finish materials
2. Floor: 20 mm (3/4 inch) tongue and groove plywood to receive thinset 10 mm (3/8 inch) tile, or stone.
3. Interior Walls: For millwork panels, comply with requirements for flame spread and smoke development. Fabricate cab wall panels so wall panels can be easily removed for maintenance and replacement without disassembling the cab.
4. Passenger Grab Rail: 3.8 cm (1-1/2 inch) diameter, stainless steel rail with supports
5. Identification Labels: Manufacturer's identification labels are not permitted in cab.
6. Ceiling: Fabricate ceiling and lighting fixtures so lighting and fixture components are easily accessed for maintenance and replacement without disassembly of ceiling components.
   • Include ceiling speaker when Back Ground Music is required. See <13B>.
7. BP Electrical: Coordinate for LED T.V.

F. BP Destination Dispatch (DD) Control: When desirable for improving elevator calls at lobby by reducing passenger wait time, consider Destination Dispatch (DD) control systems (available from major elevator companies). The DD controls, rather than the typical up and down buttons in the elevator lobby, have passenger call registration terminals to provide higher elevator service quality when the following building and passenger elevator design conditions exist:

1. BP Multiple Function Space Floors: When conference and meeting rooms are on multiple floors.
2. BP Elevators not Serving Same Floors: When groups of elevators do not serve the same floors. Example, only two elevators of a four car group service the lower level parking structure.
3. BP Group of Four Elevators or More: When there is a group of four elevators or more.
4. BP Comparison Study & Recommendations: Provide a full comparison study by the project elevator consultant to show performance of DD compared to standard passenger elevator call system and recommendations for DD control system.

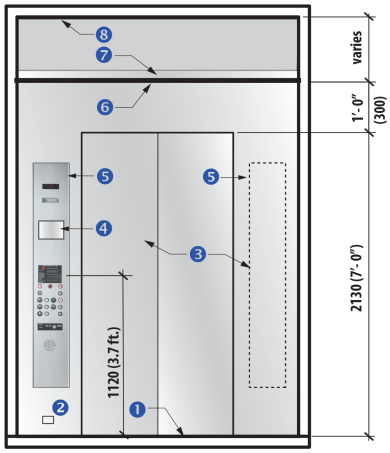
G. Passenger Elevator Example



Exterior Elevation at Major Public Areas, Guest & Minor Public Areas

1. **Entry Door and sill**
   Major Public Areas: 14 gauge brushed stainless steel or bronze frame; applied 16 gauge stainless steel or bronze finish doors and sill.

   Guest & Minor Public Areas: 14 gauge steel frame and baked enamel door finish with solid aluminum or stainless steel sill.
2. **Hall Call Buttons:**
3. **Floor Indicator:** Raised number and in Braille
4. **Hall Lantern:** Up and Down indicators with audible signals, 1 for up, 2 for down at each floor. Provide integral digital car position indicator at public floors.



Front Elevation Interior

1. **Cab Floor Finish:**
   Hard surface such as selected stone for Lobby.
2. **Electrical Service:** Convenience outlet with matching metal cover plate.
3. **Interior Doors & Side Panels:** Stainless steel, No. 4 brushed finish or bronze consistant with brand concept. Other finishes with MI acceptance.
4. **Firefighter's Lock Box:** Comply with governing code and coordinate its location with MI Design Management and Interior Design.
   Certificate Frame: Provide if required by code. Typically, provide signage indicating that certificate is on file in the Engineer's Office of the property.
5. **Operating Panel:** Lighted buttons, typically 3 to 4 rows wide; controlled access with electronic card reader, same as required for guestroom system <16>. Two panels at properties with 400 guestrooms.
6. **Ceiling:** Decorative, suspended ceiling design; coordinate material selection with Lobby interior design.
7. **Lighting:** Decorative lighting on dimmer control - coordinate with entry Lobby interior design
8. **Overhead Ceiling Space:** Paint flat black above

12.5 High Speed Elevators

A. Program: In tall buildings, high speed elevators are typically considered for higher performance. High speed elevators travel between 5.0 to 8.0 m/s (1000 to 1600 f/m) and require special design considerations to minimize noise, vibration and good ride quality.

   1. Configuration: Same as passenger elevators for size, capacity, cab interiors, lighting, ventilation, etc.

   2. Quantity: Provide quantity necessary to meet performance criteria, but no less than two elevators in each location.

B. Application: Provide high speed elevators when elevators pass through an express zone of 20 or more floors without stops. To provide acceptable ride quality, comply with elevator manufacturer's recommendations and the following design criteria:

   1. Roller Guides: Heavy duty roller guides not to exceed 350 rpm

   2. Car Slings: Extended car slings with side stiles not less than 5 m (16 ft.).

   3. Cab Walls: Double insulate cab walls to minimize ride noise.

4. Rails: 8.4 kg (18.5 lb.) minimum main guide rails and 6.8 kg (15 lb.) minimum counterweight guide rails.
5. Rail Brackets: Guide rail brackets with heavy duty connecting finish plates.
6. Wire Rope Compensation: With tie down sheaves in pit
7. Wind Shrouding: Locate on top and bottom of car.
8. Hoistway Size: Consider oversized hoistways to reduce air noise and vibration.

C. Performance Criteria: For high speed elevators, comply with the project elevator consultant recommendations and passenger elevator criteria.

12.6 Shuttle Elevators

A. Program: Provide passenger elevators designed to shuttle people between the street entry, Lobby, Meeting / Function floors, rooftop F&B (but not connecting to guestroom floors) and parking.

1. Configuration: Same as Passenger Elevators for size, capacity, cab interiors, etc. unless MI dictates other project requirements.
2. Quantity: Provide quantity necessary to meet performance criteria, but no fewer than two in each location unless provided for disabled person access only.

B. BP Application: Typically, shuttle elevators serve floors that are accessible to guests and the public (but not guestroom floors) such as the following:

1. BP Street Lobby to property Lobby
2. BP Parking structure, if present, to Lobby.
3. BP Lobby to Function areas, Ballrooms and Meeting Spaces (typically a grand or public staircase also connects these floors).

C. Performance Criteria: Provide shuttle elevators in compliance with the following:

1. Street Entry to Lobby: Base quantity on same criteria used to determine number of passenger elevators plus 20% additional for visitors (minimum of 2 elevators).
2. Parking Structure to Lobby: Base quantity on handling 10% of parking population estimated at 1.3 persons per parking space on elevators during 5 minutes of heavy 2-way traffic with average interval not exceeding 60

seconds (minimum of 2 elevators if stairs not accessible).

3. Function Area to Lobby: Transport a Ballroom / Meeting Spaces full of guests to the entry Porte Cochere within 30 minutes.

    a. Estimate elevator occupancy at 15 sq. ft. per occupant in Ballroom and 35 sq. ft. in Meeting Rooms (minimum of 2 elevators). This criteria is not used for fire exit capacity; see <14>.

    b. If an open public or grand stair connects the Ballroom directly to the Lobby, 50% of the capacity can be assigned to the stair.

D. Vestibules: Provide separate vestibules or foyers at shuttle elevator stops that open to Lobby. Where possible, provide passive observation by locating the passenger circulation and shuttle elevator in view of the Lobby Front Desk / Reception.

12.7 Service Elevators

A. Program: Provide service elevators for Guestroom service, housekeeping, F&B service and facility maintenance.

1. Provide a dedicated service elevator to Guestrooms to avoid conflicts with guests.

2. Food Service: Verify that food service equipment such as banquet equipment, portable service bars, etc. (see <10>) are required to be transported on service elevators are sized to fit through the elevator door and within the elevator cab.

3. Larger Hotels (more than 500 Guestrooms): Provide dedicated service elevators for large Event Spaces, Meeting Room clusters and Exhibit Halls (see <6>) when shared use with service elevators for guests would cause service conflicts.

B. Planning Guide: Provide a minimum of one dedicated service elevator for low and mid-rise guestroom towers.

1. Additional service elevators are required when serving:

    a. Guestroom Towers with more than 20 floors

    b. Large Meeting Spaces, above or below support areas

    c. Service Areas, remote from the guestroom tower

    d. Guestroom Towers with more than 250 guestrooms

2. Minimum of 2 elevators at each bank in areas of the world where service and parts are not immediately available and passenger elevators cannot serve as backup.

C. Performance Criteria: The highest demand on the guestroom service elevators is in the morning with staff start up and room service. Verify adequacy of "quantity" established by given rules based on calculations using the following criteria.

1. Service Elevator Criteria

Floors Served	Speed		Machine Type
	meter / second	(fpm)	
2 to 10	1.00 to 1.75	(200 to 350)	Traction / MRL /OHMR
7 to 13	1.75	(350)	Traction / OHMR
13 to 15	1.75 to 2.50	(350 to 500)	Traction / OHMR
15+	2.50+	(500+)	Gearless / OHMR
MRL = Machine Roomless OHMR = Overhead Machine Room			

2. Calculation: Provide service elevator performance with an average interval of 60 seconds or less during a five minute period of high demand utilizing 150% of the average per Service Elevator Calculation Data below.

3. Service Elevator Calculations

Function	One-Way Trips	
Room Service, up / down (assume 25% rooms served)	75 x 2	150 (up w/ food, down w/ staff only)
Room Service cart pickup (assume 20% of service trips)	20% x 150	30
15 housekeepers, up only		15
4 housekeeping, up / down	4 x 2	8
4 repair persons, up / down	4 x 2	8
8 bellmen, up / down	8 x 2	16
4 supervisors, up / down	4 x 2	8
2 miscellaneous, up / down	2 x 2	4
Total for heavy 60 minutes		239 trips
Heavy 5 minute period		(125% x 239) / 12 = 25 trips
Assume that loading and unloading of staff person or staff person plus their load (cart) averages 6 seconds per trip.		

4. Staff / Cart Movement: Trips shown for staff and cart movement are for heavy hourly service for a 300 room property (for different property sizes, extrapolate the values shown).

D. Location: Centrally located to guestrooms served.

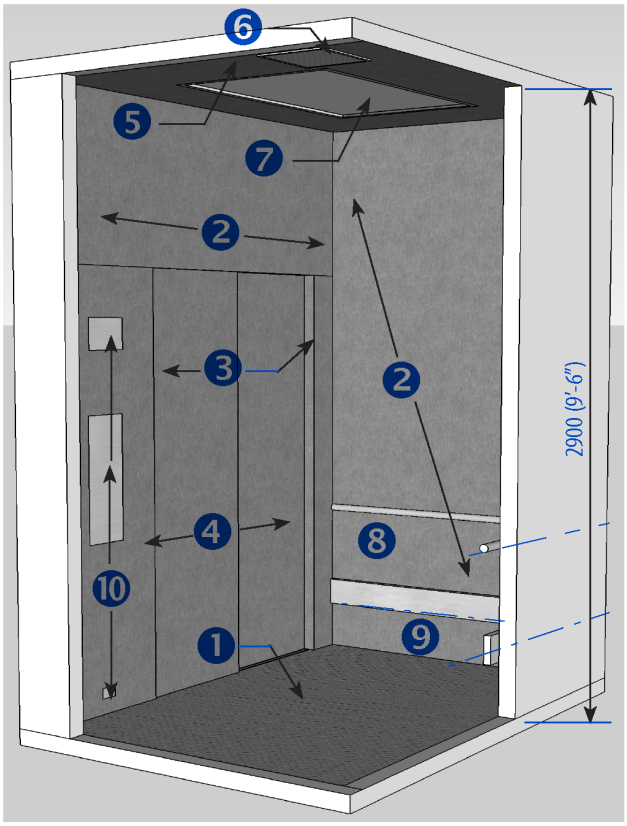
1. Adjacent to main BOH service corridor near room service, Housekeeping and Engineering.

2. Provide vestibule or foyer prior to opening on guestroom corridor.
3. BP Consider utilizing passenger elevator (capacity and cab size) with interior cab features for service at secondary locations primarily utilized by service personnel.

E. Sizes: The following is the preferred service elevator sizes.

1. Capacity: 2000 kg (4,500 pounds) minimum and verify with MI for the ASME A17.1 Code Class 'C' loading design if required for designated service elevators.
    a. Cab Inside Clear: Approximately 1700 width x 2400 mm depth (5'-8" x 8'-0")
    b. Cab Height Inside: 2900 mm (9'-6") minimum
    c. Doors: 1220 mm wide x 2400 mm high (4'-0" x 8'-0") with side opening
2. Convention & Large Hotels: 2260 kg (5,000 lbs.) capacity are preferred to manage large group schedules.

F. Service Elevator Example



Notes: Service Elevator Cab

1. Floor Finish: Aluminum diamond plate, slip resistant.
2. Side Walls & Panels: Rigidized stainless steel, No. 4 brushed finish.
3. Doors: Hoistway and cab side panels; stainless steel, No. 4 brushed finish with stainless steel sill.
4. Door Opening: 122 cm (4 ft.) wide
5. Overhead: Stainless steel (no suspended ceiling).
6. Exhaust Grille: Stainless steel grille with exhaust fan by elevator manufacturer.
7. Lighting: 61 x 122 cm (24 x 48 inch) fluorescent fixture, recessed flush with overhead and protective cover on cab top.
8. Handrail: 3.8 cm (1 ½ inch) diameter stainless steel; mount 82 cm (32.4 inch) above cab floor.
9. Bumper Rail: Stainless steel flat bar; mount 33 cm (13 inch) to center of rail from cab floor.
10. Operating Side Panel: Provide certificate frame, floor indicator, operating panel and power outlet.

12.8 Freight Elevators

A. Program: Provide when required to transport exhibit materials from grade or receiving area to a large ballroom or exhibit space at a different floor.

B. Size: Capacity and platform size determined by project requirements.

1. Load Class: Verify application of ASME Class loading requirements with MI.
2. Platform Size: Approximately 2.4 x 3.6 m (8 x 12 ft.) or as dictated by project requirements.
3. Vehicle Access: When required by project design, provide platform of 2.4 x 6 m (8 x 20 ft.).

C. Doors: Provide the following:

1. Power operated, vertical biparting
2. Overhead cab and door clearance of 3 m (10 ft.) minimum

D. Hydraulic:

1. Unit Protection: Protect buried hydraulic jack units with sealed PVC outer casing.
2. Oil & Electric Line Protection: Avoid locating oil and electric lines underground. If required, enclose in PVC pipe.
3. Fluid: Provide non-petroleum or bio-degradable fluids designed for hydraulic lifts.

12.9 BP Escalators

A. BP Program: Consider escalators in combination with stairs and elevators when entrances, lobbies and large ballroom / meeting areas are in high traffic locations, at different floors or located above or below the main property arrival floor, and where stairs alone are not a practical and convenient means for vertical circulation.

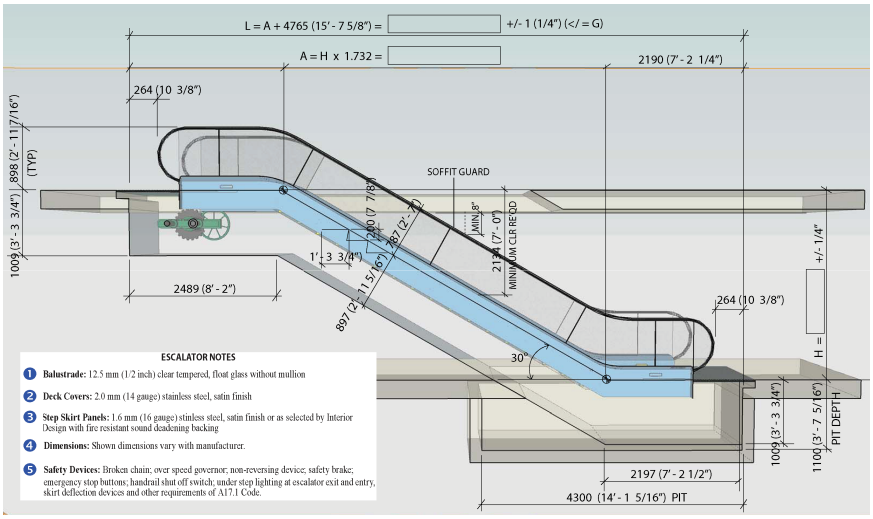
1. BP Size: 102 cm (40 inch) step (tread) width
2. BP Speed: 90 to 100 fpm maximum

B. BP Location: Position escalators in a logical path of travel for guest and public, not as the area focal point, and to avoid a commercial appearance.

C. BP Features:

1. BP Balustrades: Transparent for freestanding units
2. BP Trim / Side Panels: As selected by Interior Design.
3. BP Finish Material: Stainless steel and bronze
4. BP Safety: See "Escalator Example" diagram in this document.

D. BP Escalator Section - Example



12.10 R Coordination

A. R Reference: Coordinate with requirements of other Chapters.

- Overview & Project Administration
- Technology Infrastructure
- Audio / Visual
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrica
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

technology infrastructure

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- EI Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

13A.1 Overview

A. Brand Essentials: This document defines the essential requirements and recommendations for computer based integrated technology required to operate a MI property. Brand Operational Standards provide governance for Brand specific technologies.

B. EI IT Continental Supplement: In order to concisely address continental conditions, project variables and the fast pace of technology change, an IT Continental Supplement and detailed network requirements document may be provided to define MI requirements for physical infrastructure, cabling, system specifications and related criteria. MI provides the current edition of the IT Continental Supplement and assists with customizing the continental requirements to the project.

C. IT Updates: The technology requirements are current as of the publication date. However, due to the length of project design and construction schedules and the fast pace of technology change, updates are required. Verify that the project conforms to the current brand and technology standards to avoid procurement of obsolete or inappropriate equipment and systems that are unable to support the property opening.

D. Multi-Use Projects: This document defines systems for a single use, stand alone project.

E. Design Review: In order to verify compliance with Standards and design intent, review the most current published standards. Review the proposed cabling, network equipment, power and space planning design documents during the design phases prior to construction contract award in order to minimize changes.

MI - Marriott International (includes all Brands)
IR - Information Resources
IT - Information Technology

F. Industry Standards:

1. General: Materials and equipment utilized in the property's cable plant are manufactured, installed and tested as specified in the latest editions of applicable publications, standards, rulings and determinations of the following industry standards.

2. Testing / Labeling: Standards for post-installation inspection and testing of cabling plant, cable labeling standards and documentation are in the IT Continental Supplement and the Global Property Network Standards (GPNS).

3. Standard Priority: If there are conflicts between data in the Tables of this

document and the industry standards, the industry standards govern.

4. Reference Standards:

   a. American National Standards Institute (ANSI)

   b. Telecommunications Industry Association / Electronics Industry Alliance (TIA / EIA):
   • TIA / EIA-568-A-B, Commercial Building Telecommunications Cabling Standard
   • TIA / EIA-568-B.3-1, Optical Fiber Cabling Components Standard: Addendum 1 - Additional Transmission Performance Specifications for 50 / 125 micron Optical Fiber Cables
   • TIA-492AAAC, Detail Specification for 850-nm Laser Optimized, 50-micron Cladding Diameter Class Ia Graded-Index Multimode Optical Fibers
   • TIA / EIA-569-A, Commercial Building Standard for Telecommunications Pathways and Spaces
   • TIA / EIA-606, The Administration Standards for the Telecommunications Infrastructure of Commercial Building
   • TIA / EIA-607, Commercial Building Grounding and Bonding Requirements for Telecommunications

   c. American Society for Testing and Materials (ASTM)

   d. Building Industry Consulting Services International (BICSI)

   e. Federal Communications Commission (FCC):
   • FCC Part 15 (addresses electromagnetic radiation)
   • FCC Part 68 (connection of premise equipment and wiring to the network)

   f. Insulated Cable Engineers Association (ICEA)

   g. Institute of Electrical and Electronic Engineers (IEEE) 802.3ae, Media Access Control (MAC) Parameters, Physical Layer and Management Parameters for 10Gb / s Operation

   h. National Electric Code (NEC)

   i. National Electrical Manufacturers Association (NEMA)

   j. National Fire Protection Association (NFPA 70), Underwriters Lab (UL) and Governing Building Codes

G. Payment Card Industry (PCI): The PCI Data Security Standard is a mandatory global set of requirements for any organization that stores, processes or transmits credit card data. For more information about PCI DSS, see the following website: https://www.pcisecuritystandards.org

• Failure to comply may lead to financial penalties for the property. Many of the 200+ requirements dictate the functionality required of infrastructure and how it is installed, configured and maintained and the details pertaining to physical security and access to external networks.
• MI's IT Security group ensures the current requirements are implemented for new projects. When evolving PCI standards impact the Design Standards, updates are published and communicated to the project developer and the MI Project Manager about implementing required amendments to maintain PCI compliance.

H. BP Physical:

1. BP Future Planning: MI strongly recommends reviewing network installation plan with the CTR to reduce potential future retrofit cost.
2. As-Built Assessment: CTR reviews “as-built” conditions versus documented design plans and identifies corrective measures necessary if technology requirements are not resolved.

13A.2 Wired LAN

A. Overview:

1. Two general network Lan designs utilized for data and voice networking.
    a. Switch Based Ethernet Network: The traditional design using Fiber optics for vertical cable runs for the network’s backbone and copper cabling, such as Cat 5e or higher for horizontal runs from the network’s backbone to the user access points.
    b. Gigabit Passive Optical Network: An improved network design using a point-to-multipoint access mechanism and passive splitters in the fiber distribution network, enabling one single fiber feed from Fiber Backbone to the Optical Network Terminal (ONT) located in or near the user access points. Consult with the cabling design consultant to determine whether to implement GPON.
2. Vertical cabling: Fiber Backbone can support both Traditional switch infrastructure and GPON designs, but the traditional switch infrastructure requires dedicated fiber strands from the core switch to each edge switch; while the GPON only require a strand fiber to a splitter. Fiber optic cabling and Gigabit Passive Optical Network (GPON) provide the following benefits:
    • Higher bandwidth at lower cost with future proof Optical LAN design and flexibility

• Physical space and cabling savings
• Life expectancy to exceed copper cabling deployments
• Lower energy usage
• Supporting 300% longer distances than traditional active Ethernet with no switches or active electronics required in the IDF and Telecom closets Includes 128-bit encryption security with 99.999 (Carrier grade) reliability
• Services and network convergence, including wireless, voice, data, video (guestroom entertainment, A/V and security systems)

3. Horizontal Cabling: Provide connectivity from the fiber backbone to public spaces and guestroom devices where required. This can be done with a traditional switch Infrastructure or GPON.

    a. Traditional Switch Infrastructure:
    • Cable type: Provide copper from edge switch to public spaces and guestroom devices where required.
    • Equipment: traditional edge switches from MI certified vendors.
    • Bandwidth: IP connected guestroom devices require at least some bandwidth. The largest bandwidth demand is IP video, both live TV and Video on Demand (VoD). Wired and wireless guest IP is the next big bandwidth demand. Devices and technologies like Voice over IP (VoIP), mini- bar, door locks, and environmental controls require bandwidth but these are very low when compared to video and Property Internet.
    • In Room Device Connectivity: Edge switch provides connectivity directly to a guestroom devices or other networking components.
    • PoE Requirements: Some IP enabled in-room devices are powered over the Ethernet cable. The most common are VoIP Phones, Wireless Access Devices, and cameras. Provide sufficient power from the edge switch to power connected devices.
    • Edge Switch Placement: These are only placed in IDF.
    • Edge Switch Power: Powered by a local AC source in the IDF room. Provide backup emergency power to the edge Switch via connectivity to central generator or IDF UPS battery.
    • Certification - Select an RCDD professional that has experience in designing Ethernet networks and is certified by the switch equipment manufacturer.

    b. Gigabit Passive Optical Network (GPON): See the following criteria.

B. GPON Cable Types:

1. Fiber: Provide single mode fiber (SMF) to interconnect GPON electronics (from the Optical Line Terminal (OLT) in the MDF to the Passive Optical Splitter on guestroom floors and then to the ONTs located in or near the guestrooms.

2. Copper: Provide copper in public spaces and short runs from the GPON ONT located in or near the guestroom to the "in-room" technology devices where required.

C. GPON Cable Selection & Sizes: The commonly utilized cable types for MI Brands and associated distance limitations are outlined in the following Table.

1. Computers, access points, P.O.S. and other networked equipment are typically supported by Ethernet cabling.

2. Questions regarding the appropriate use of cable types for horizontal or vertical backbone cabling, etc. are addressed during the design review process.

3. Cable Types & Sizes

Characteristics of Copper & Fiber

Cable Type	Specification	Distance Limitations	Comments
Copper	Category 5e or higher	90 m (295 feet) from patch panel to outlet	Category 5e is the minimum standard for 10 / 100 Mbps Ethernet unshielded twisted pair (UTP) [8 conductor / 4 pair, 24 gauge] LAN drops and patch cables. Owner may elect to implement UTP cabling of a higher grade such as Category 6 at their discretion or based on product availability in market. Shielded or plenum rated cabling is utilized as dictated by governing code or applicable standards as outlined previously in this Module.
Fiber	Single mode	Distance limitations vary depending upon the light source wavelength (1310 nm or 1550 nm) utilized in the equipment. Light sources that operate at 1310 nm are typically used for short to moderate distance applications, while light sources that operate at 1550 nm wavelength are typically used for long distance applications. Consult equipment manufacturers specifications for devices that are connected to the fiber.	Typically used when distance limitations for multimode fiber is exceeded. However, single mode fiber is also used in Passive Optical Networks (PON) & DAS Networks without regard to distance. The fiber connector type is determined by the connector types supported by the equipment vendor on the connected equipment.
Cable Length Calculations: When estimating cable lengths and limitations, make certain that the vertical (floor-to-floor) component of the distance is included.			

D. GPON Equipment:

1. Equipment:

a. OLT - Optical Line Terminal - An electronic media converter and Ethernet switch that converts electrical signals to optic light signals. This is a head end device and is typically located in the MDF.

b. ONT - Optical Network Terminal: An electronic media converter that converts fiber optic light signals to electric signals, which can be transmitted over copper cabling. This is an endpoint device and is typically placed in or near the guestroomor in the case of public space, in an appropriate IDF. The ONT supports a number of output connections (Ethernet, RF, TDM) and the selection of a given model ONT depends on the property communication requirements.

c. Passive Optical Splitter: Passive device (i.e. requires no electricity). In the downstream direction (towards the ONT) it splits the incoming light and sends it to multiple outputs. In the upstream direction it combines the light from multiple input sources onto a single fiber. The available split ratios

range from 1:2 to 1;64 (as well as 2:64). Since the download and upload speeds are not symmetrical (and in the Gbps range), the split ratio must be based on the required bandwidth at each ONT that is connected to the splitter. Based on the size of the property, multiple splitters may be required.

d. Optical Fiber- The fiber for a GPON network is Single Mode Fiber (SMF). Connections on the GPON electronics are (terminal types) SC with most, if not all, being Angle Polished (SC/APC).

e. Bandwidth: IP connected guestroom devices require at least some bandwidth. The largest bandwidth demand is IP video, both live TV and Video on Demand (VoD). Wired and wireless guest IP is the next big bandwidth demand. Devices and technologies like Voice over IP (VoIP), mini-bar, door locks, and environmental controls require bandwidth but these are very low when compared to video and PI. Therefore, the number of splits used, (16 versus 32 versus 64) along with the quantity of ONT end points installed per Passive Optical Splitter will play a role in the design of your GPON network and the potential bandwidth availability to each ONT attached.

f. In Room Device Connectivity: ONT can be used to provide connectivity directly to a guestroom devices or other networking components.

g. PoE Requirements: Some IP enabled in-room devices are powered over the Ethernet cable. The most common are VoIP Phones, Wireless Access Devices, and cameras. Provide sufficient power to the ONT to power connected devices.

h. ONT Placement: There are several ONT placement options for in-room and outside-of-room deployments. Typically, the ONT is either a wall plate type ONT or a stand-alone ONT. The stand-alone ONTs are typically hidden inside of a structured cabling box, not accessible to guests, and mounted in a closet or behind furniture. A multi-port ONT is placed in the corridor and cabled so it supports multiple guestrooms from one location.

i. ONT Power: The ONT is powered by a local AC source in the room, by a power source located in an IDF/ TR, or from a power source located in the MDF. Provide backup emergency power to the ONT via connectivity to central generator or integrated ONT battery.

j. Certification: Select an RCDD professional that has experience in designing GPON networks and is certified by the GPON equipment manufacture.

k. Installation: Fiber, Splitters, ONT and OLT and related GPON hardware are only installed by a certified GPON solution integrator.

E. Cable Design & Management

1. Cable Plant: Design the low voltage cable plant utilizinging Ethernet network systems for guests, employees, telephones, wireless access points, cellular enhancement equipment and building systems.
2. Certification: Use certified professionals, either Registered Communications Distribution Designer (RCDD) in the US or the appropriate cable plant design specifications using Building Industry Consulting Service International (BICSI) design principles and standards.
3. Contractor: Submit Ethernet cabling test results and certification.
4. Cable Length: When calculating cable length, the total distance measurement must include patch cable lengths and service loop.
5. Installation: Active network equipment (routers, switches, gateways, access points) are only installed by a Marriott certified systems integrator.
6. Patch Panels:
    a. Floor mounted racks are not to exceed 96 ports per rack (2x48 port patch panels) and provide 42RU equipment space at 203 cm (80 inch) height.
    b. Provide twisted pair patch panel cables that conform with Ethernet cabling specifications.
    c. Terminate cables at patch panels in an orderly and logical fashion.
7. Physical Security: Cabling must not be visible or accessible to the public. In public spaces to deter tampering and prevent inadvertent damage. Installed above ceiling tiles or protect by secure conduit.
8. Cable Management:
    a. Provide Velcro type tie wraps on or around MDF and IDF locations. Use ziplock tie wraps for ceiling hangpoints.
    b. Install cable management soffits between two or more floor or wall mounted cable distribution racks.
9. Cable Length Calculations: When calculating cable lengths, the total distance measurement includes patch cable lengths and service loops and must not exceed maximum certifiable cable distances.

13A.3 Wireless LAN

A. General: Provide wireless LANs for guest Internet access in guestrooms, public areas such as Meeting Spaces, Food & Beverage, Lobby, Pools, Fitness, etc., and employees with access to business applications in public and back-of-house areas required to support business applications. Wireless LAN must be installed by Global Property Network Standards (GPNS) Certified Provider according to latest Global Property Network Standards. Contact your CTR for a list of GPNS Certified Providers in your area. LAN engineering is required for VoIP access to business applications. The approved WLAN and Signal Strength requirements are defined in the current version of the GPNS.

   1. BOH offices, service elevators and other administrative areas are to comply with current GPNS signal strength coverage standard for WiFi signal.

   2. Lobby and public space WiFi access points are evenly distributed with each access point located to meet minimum signal coverage requirements as outlined in the GPNS.

   3. WiFi access points are evenly distributed in large Meeting Spaces to provide adequate coverage throughout the public access space.

   4. Provide a wireless access point in every guestroom to enable personal guest area networking and screencasting.

B. Site Surveys: Conduct two mandatory wireless site surveys by MI's certified GPNS systems provider upon completion of the Wi-Fi network installation. Comply with the current GPNS signal strength coverage standard. (Depending upon the property type, the initial site survey can be performed using analytical tools to determine Access Point placement. The second site survey must be an active survey using approved site survey tools (as defined in the GPNS Wireless Requirements)

C. Power Over Ethernet (POE): Power is provided to the wireless access points through the use of POE [IEEE standard 802.3af].

   1. Ethernet switches that service access points support the POE.

D. Wireless Standards: Wireless access points at MI properties support 802.11 g / n / ac. Detailed wireless standards are defined in the current version of GPNS 802.11 Wireless Requirements.

E. Wireless Access Points Installation / Configuration:

   1. When providing an access point incorporated into a wall plate network switch (such as Zebra 7502, Ruckus 7055 or the equivalent approved device), provide minimum of one device for each guestroom for new build properties; a strong preference for other deployment considerations.

2. Where dense construction materials are provided, adjustment for each access point location may be required. Consult the current GPNS standards for site specifics.

3. Provide sufficient access points in elevators to satisfy GPNS wireless requirements.

4. Provide wireless access point coverage throughout BOH. Each access point must be located to meet minimum signal coverage requirements as outlined in the GPNS.

5. Access points must not be visible or accessible to the public in public spaces to prevent tampering or inadvertent damage.

F. BP Wireless Connectivity to Outlying Buildings: Explore wireless alternatives to wired connections to outlying buildings (golf shops, beach bars, pool side, food outlets, maintenance buildings, etc.) on a case by case basis.

G. Acceptable Wireless Vendors: Approved wireless vendors vary by continent, consult the CTR for current listing.

H. Wireless LAN Standards

Wireless Standard	Maximum Speed	Frequency	Range	# Channels / Non-overlapping	Compatibility	Comments
IEEE 802.11a	54 Mbps	5 GHz	• Shorter range than 802.11b and 802.11g • Signal more likely to be obstructed by walls, floors, etc. than 802.11b and 802.11g	12 / 8	• Incompatible with 802.11b or 802.11g	• Use of regulated frequency band prevents signal interference from other devices • 100 Mbps Ethernet connection between switch and access point adequate
IEEE 802.11b	11 Mbps	2.4 GHz	• Better range than 802.11a	11 / 3	• Incompatible with 802.11a • 802.11b clients compatible with 802.11g access points (at 11 Mbps)	• Use of unregulated frequency band means that appliances (e.g., microwave ovens, cordless phones, etc.) can cause interference • 100 Mbps Ethernet connection between switch and access point adequate
IEEE 802.11g	54 Mbps	2.4 GHz	• Better range than 802.11a	11 / 3	• Incompatible with 802.11a • 802.11b clients compatible with 802.11g access points (at 11 Mbps)	• Use of unregulated frequency band means that appliances (e.g., microwave ovens, cordless phones, etc.) can cause interference • 100 Mbps Ethernet connection between switch and access point adequate
IEEE 802.11n	Over 100 Mbps per frequency band	2.4 GHz & 5 GHz	• Best signal range • Utilizes Multiple Input Multiple Output (MIMO) technology to improve performance and capacity	11 / 3	• Incompatible with 802.11a • 802.11n clients are compatible with 802.11 b/g access points at the relative speed of those standards • 802.11 b/g clients are compatible with most 802.11n access points and any CTR acceptable 802.11n access point	• More resistant to signal interference from outside sources; May interfere with nearby 802.11 b/g based networks • Power injectors for 802.11n access points adhere to 802.3at that requires more power than the 802.3af standard that applies to power injectors for 802.11 a, b, and g access points. This may affect Ethernet switch model / module selection and power

13A.4 Cellular Phone Coverage

A. General: In countries where available, provide multi-carrier cellular service with 3G / 4G network coverage in public areas, administrative areas, guestrooms and meeting spaces.

1. Cellular Signal: Ensure coverage for major cellular telephone service providers in guest and administrative office areas.
2. Distributed Antenna System (DAS): Provide DAS in properties where there is poor cellular coverage from the outside cellular networks.
3. First Responderd Distributed Antenna System (DAS): Comply with the codes and regulations requiring a first responders DAS system.

13A.5 EI Convergence

A. EI General: MI's converged network services, GPNS, offers owners an opportunity to implement a more streamlined low voltage cable plant with improved network security and greater flexibility. GPON network solution can easily and securely support all forms of Voice, Data, HSIA, Video (guestroom entertainment, AV, security) running on a single GPON network.

13A.6 Cable Termination Points

A. General: Installation for internal cabling access points shall meet Marriott IT infrastructure requirements and requires a Marriott approved network provider.

1. Termination Points Table provides information on the minimum number of cabling access point or "drops" needed per area to meet current IT infrastructure requirements.
2. Provide ladder trays for cable management of service loop to equipment racks and patch panels. Ladder trays must not be visible or accessible to the public in public spaces to prevent tampering or inadvertent damage.
3. Provide a design growth factor of 20% for the cabling backbone (MDF to IDF connections).

B. Network Cabling and Power Outlet Termination Points Calculation: Consult the CTR and operation team for any specific system requirements (such as Coaxial vs Cat 6 cabling).

Network Cabling and Power Outlet Termination Points Calculation			
Location	**Calculation for Minimum Qty. of Termination Points**		**Examples of Equipment Used**
	Network Connections	**Power Outlets**	
Back-of-House			
Administrative Offices	4 per workplace	4 per workplace	Computer, Phone, Printer, Fax
Call Center communication center	4 per desk	6 per desk	Computer, P.O.S., Phone, Printer, Fax, Key Encoder
Commercial Kitchen*	2 additional per counter* (extra to office space)	2 per counter	P.O.S. Printer, Phone
Receiving Area	3 per workplace	4 per workplace	Computer, Phone, Printer, Fax
Engineering*	4 additional in area for networked equipment* (extra to office space)	4 in area	Monitoring Equipment
Housekeeping / Laundry*	4 additional in area for networked equipment* (extra to office space)	4 in area	Uniform Management System
Housekeeping Stores on floor	1 per area	1 per area	Wall Phone
Employee Dining	4 in area for networked equipment	4 in area	Phone, Computer, Time Clock, P.O.S.
Employee Dining Kitchen	2 in area for networked equipment	2 in area	Phone
Training Room	n+4 for the seating capacity of the room	1 each for the seating capacity of the room	Computers, Phone, Printer
Security Office*	4 additional for networked equipment* (extra to office space)	4 additional	IP VSS, Networked Equipment, Encoder
Employee Entrance	1 data per clock	1 per location	Time Clock locations
Front of the House			
Front Desk workspace	8 per station	8 per station	Computer, Phone, Printer, Key Encoder, Credit Card Terminal & Printer
Concierge workspace	4 per station	4 per station	Computer, Phone, Printer, Encoder
Bell Man workspace	2 per station	2 per station	Computer, Phone, Printer
Restaurant Hostess	4 per station	4 per station	P.O.S. Terminal Computer, Phone, Printer, Credit Card Terminal
Restaurant P.O.S. Station	2 per station	5 per station	P.O.S. Terminal Computer, Printer, Credit Card Terminal
Coffee Outlet	1 for P.O.S. Station	5 per checkout	
Bar	4 per work area	4 per work area	P.O.S. Terminal Computer, Phone, Credit Card Terminal, Printer
Service Bars	4 per work area	4 per work area	P.O.S. Terminal Computer, Phone, Printer
Retail Shop	4 per work area (extra to office space) (additional for Bank Card Terminals)	6 per work area (additional for Bank Card Terminals)	P.O.S., Phone, Printer, Gift Card Terminal
Spa*	2 additional per work area* (extra to office space)	2 additional per work area	
Spa Front Desk	2 per station (additional for Bank Card Terminals)	6 per station	
Business Center & Guest Business areas*	Boarding Pass Printing: 1 per PC, 1 per printer Guest Use: 1 per PC, 1 per printer Communal table: 1 per table	2 additional per work area	Computer, Phone, Printer
Guest Floor Lounge Reception*	4 per work area* (extra to office space)	6 per work area	Computer, Phone, Printer, Encoder

C. Termination Points Table - continued

Location	Calculation for Minimum # of Termination Points		Examples of Equipment Used
	Network Connections	Power Outlets	
Specialty Locations			
Ballroom, Meeting & Boardrooms	Refer to "Meeting Spaces" and CTR		Phone, Computer, Networked Equipment
Guestroom	Refer to this document and CTR.	Individual quad (4) outlets behind TV stand, desk and bedside table	Wardrobe, Refrigerator, TV, PI. May require additional cables for suite phones, Energy Management, in Room Control, etc.
Computer Room	4 per work station + as determined by specification	4 per work station	
Wireless Access	Connection as determined during the wireless survey		
Digital Signage	Most digital signage requirements conform with standard Ethernet cabling requirements. However, for some specialty locations there are vendors that still require a low skew cable to carry video. Consult with your digital signage vendor prior to finalizing plans for digital signage cable pulls. Consider requirements for elevator / lift signage data points.		Some digital signage locations require coaxial television feeds in addition to twisted pair. Review digital signage design with your audio visual consultant for cabling requirements.
Closed Circuit Television (CCTV)	Connection as determined by closed-circuit television requirements		See **<16>** for Video Surveillance System (VSS); coordinate requirements with this document.
Audio Visual (A/V)	Determined during the A/V requirements. (many systems use IP for distribution)		See **<13B>**; coordinate A/V requirements with this document.
Phone Only Locations			
Passenger Elev. Lobby - all floors	Conference Rooms General Area		Storage
Service Elev. Lobby - all floors	Aerobics Room		Purchasing / Receiving
House Telephones	Exercise Room		Fire / Engineering Command Rooms
Lobby Lounge House Telephone	Receiving Area		Elevator Machine Room
Lobby Lounge	Pantries		Men's Lounge Spa (House Telephone)
Guest Floor Lounge House Tel.	Banquet Storage		Women's Lounge Spa (House Tel.)
Pool Telephone	Employee Lounge		Store Rooms
Spa Reception Area	Employee Locker Room		Loading Dock
* Termination points required in addition to the quantity of ports for specified "Administrative Offices" termination points. Identify additional areas based on the building diagrams.			

13A.7 Computer / Telecom Room

A. General:

1. Provide a safe and secure location for servers, PBX and networking devices.
2. Stable and uninterrupted power required to maintain equipment. Computer room equipment, including HVAC must be connected to the emergency power system.
3. Provide a DAS room for housing the headend equipment for the Distributed Antenna System. Room dimensions will depend on the number of carriers required.
4. Security / Access Control: See <16>.
    a. Provide access doors to the Computer / Telecom Rooms with an interrogative lock system with audit trail such as RFID electronic lock. PCI standards require audit logs for 90 days. If locks with a 90 day log can not be procured, then purchase locks with audit logs that are downloadable to a PC.

b. Provide Video Surveillance System (VSS) camera so it has a clear view of individuals accessing and working in the facility space. Purchase VSS camera system with 90 days video storage. Position camera so video can clearly identify a person entering and exiting the computer room and install the camera so it is tamper proof.

B. Location:

1. Avoid locating Computer / Telecom Room against outside wall and exterior windows to avoid unauthorized access.
2. Account for flooding and locate above the flood plain or storm surge level; always above the building ground floor.
3. Avoid locations under housekeeping, kitchens, guestroom water pipes and areas that are prone to water flooding.
4. Do not use Computer Room as office space. Provide separate System Manager's office and locate nearby or adjacent to computer room.
5. Avoid locations within 10 m (33 ft.) of water pipes, except for fire sprinklers. Locate away from sources of electromagnetic interference (EMI and radio frequency interference (RFI) such as transformers, copiers, radio transmitters, source of microwave transmissions, electrical motors, electrical ballasts, etc.

C. Room Design:

1. Size the computer room to accommodate back office computing, PI / GPNS network, television, and telephone system head end equipment.
2. Fire stop conduit and cable penetrations.
3. Doors:
   a. Width: Use 1.1 m (3'-6") door to allow for equipment. Do not use pair of doors.
   b. Provide with swing action, self closing mechanism, and hinged on the interior.
   c. Provide with perimeter dust seals to maintain a dust free environment.
4. Floors, Walls & Roof: Do not permit floor and roof openings that could provide computer room access or circumvent security systems and access controls.
   a. Flooring: Resilient tile, anti-static material or sealed concrete.
   b. Walls:
      • PCI Standard: Provide solid walls, concrete or masonry on all four

perimeter walls extending continuously from floor slab to structure above and sealed to avoid unauthorized access.

• Design and provide exterior, above and below grade, wall construction that prevents moisture penetration.

• Paint interior walls white.

5. Window & Wall Openings: No external windows and other openings are permitted within Computer / Telecom Room unless governing codes require natural daylight or ventilation.

6. System Manager's Office: Locate separate from the Computer / Telecom Room.

   a. Work Stations: Provide space for four standard work stations with continuous counter and accessible overhead storage cabinets.

   b. If adjacent to Computer / Telecom Room, separate from equipment area by soundproof window and door that limits office noise exposure to 90 dBA.

D. Size / Area:

1. Ceiling Height: Minimum 2.4 m (8 ft.)

2. Provide minimum clearance of 1.2 m (4 ft.) on all sides for equipment and personnel. Provide space for separate racking of telecom equipment from other computer equipment. Including fire retardant plywood for hanging of telecom punch board (Telco, Ptt, MPOE, PBX, MDF).

3. See the example layout of the Computer / Telecom Room.

E. Rack Systems: Racks securing property systems are always locked. Computing equipment is installed in secured, lockable racks.

F. Cabling:

• Fire stop conduit and cable penetrations.

• If a raised floor is not possible, install ladder racks for cable management within the room.

G. HVAC System Requirements: For HVAC design criteria, see <15A>.

1. Provide air conditioning to maintain room at constant temperature of 20° C (70° F) ± and a humidity of 50% or less.

2. Air conditioning system is dedicated to the Computer / Telecom Room and is separate from other building systems.

3. Backup Power: Connect air conditioning system to backup power (see <15C>), separate from Computer / Telecom Room power.

H. Electrical:

1. Power for server equipment is a dedicated feed from the emergency distribution switchboard through one or more UPS units for seamless failover to emergency power.

2. Provide a separate power circuit for utility appliances. Provide three to four convenience outlets for appliances (i.e. vacuum cleaners, fans, etc.) and label accordingly.

3. Place power outlets every 1.5 m (5 ft.) and comply with governing code. Consult CRT for local specifications.
   • If the electrical voltage is 110V, provide Two (2) 30AMP Twist Lock electrical receptacles in the computer room for the MI rack (NEMA L5-30P Cord, 30AMP)
   • If the electrical voltage is 220V: Two (2) v220 – (2) IEC 309 Cord, 32AMP, 2P+E Socket (Blue Housing)

4. Locate circuit breaker panel for Computer / Telecom Room inside the room.

I. Grounding:

1. Provide proper grounding in accordance with TIA / EIA-607 Telecommunications Bonding and Grounding Standard, the current National Electrical Code and applicable governing regulations.

2. Appropriate grounding is required for racks, cabinets, raceways, cable trays and associated hardware that have the potential to act as a current carrying conductor.

J. Lighting: Provide rooms with emergency lighting systems. See <15C>.

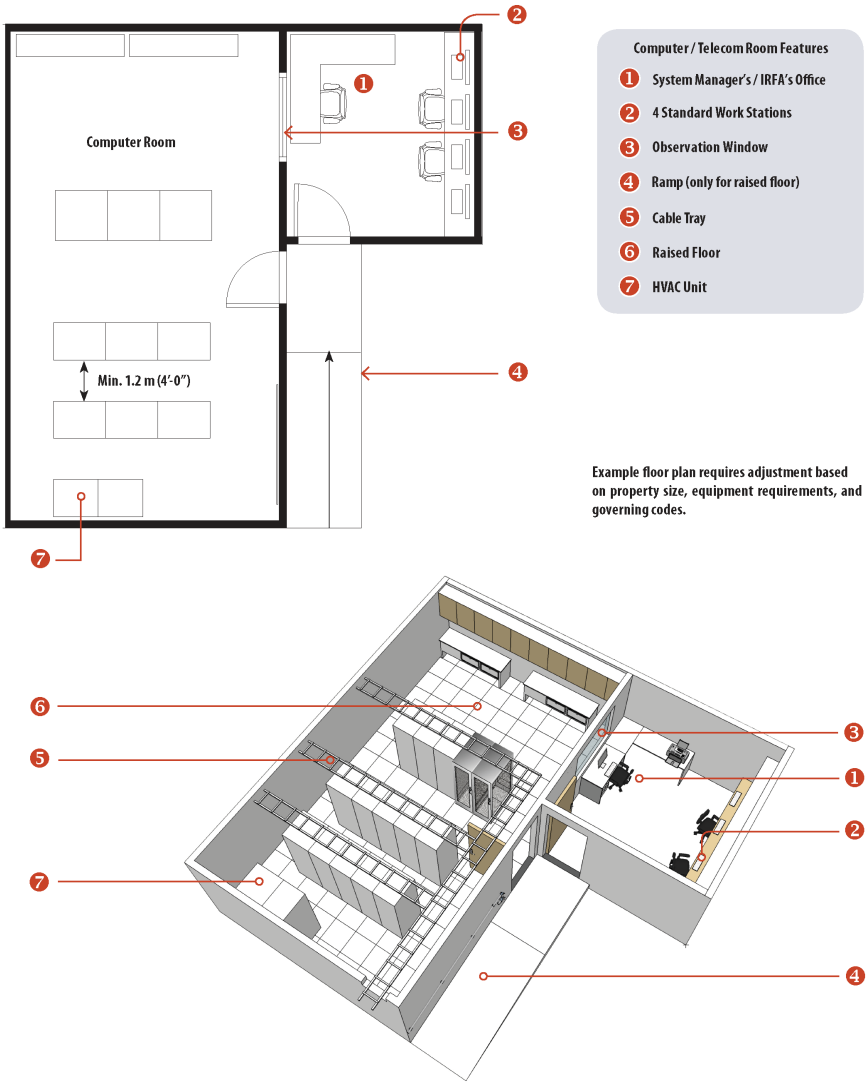
K. Fire Protection & Life Safety:

1. For Fire Protection & Life Safety measures, see <14>.

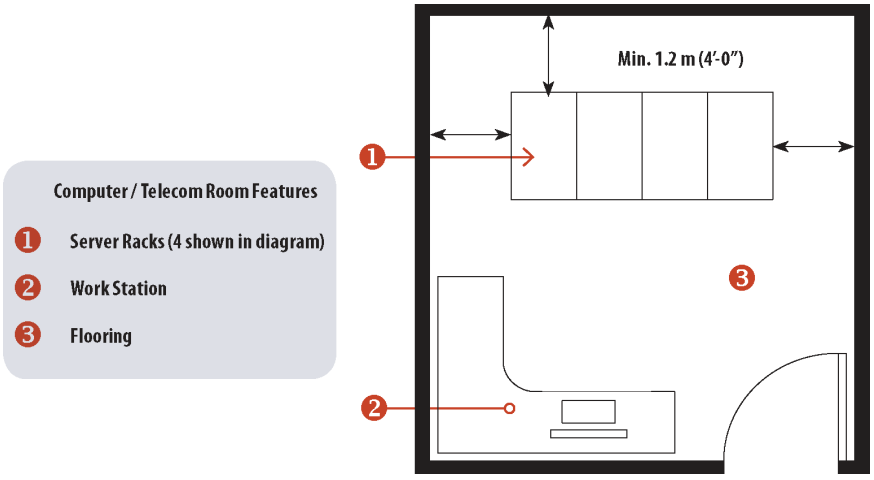
2. Provide wire basket guards over fire sprinklers to avoid accidental contact and discharge.

3. BP For larger Computer / Telecom rooms, consider providing a dedicated water mist sprinkler system to minimize water damage to equipment.

L. Computer / Telecom Room for 300 to 500 Room Property - Example Plan



M. Computer / Telecom Room for approximately 200 Room Property - Example Plan



13A.8 Intermediate Distribution Frame (IDF)

A. General: Locate closets throughout the property as needed to distribute cabling within distance guideline limitations.

1. Locate IDF closets with direct access from public or back of house areas and not in or through guestrooms or other areas where access might disturb guests.
2. Locate closets away from dust producing areas such as laundry, linen closets and other potential areas of towel lint and fibers.
3. IDF closets must be lockable and robust key management process needs to be in place. PCI standards require audit logs for 90 days. Best Practice is to secure room with a mortise interrogative lock system with audit trail (RFID type lock) compatible with the guestroom system or to provide locks with audit logs that are downloadable to a PC.
4. BP GPON: IDF closets are not required unless remote powering of the ONTs from the IDF is required as part of the overall GPON design. Lock system without audit trail is acceptable.

B. Size: Provide IDF closets based on the quantity of cable terminations dropped to each closet.
• Sizing recommendation for closet to support a 100 outlet locations (1.8 x 2.4 M).
• Ceiling, door, and flooring requirements (2.7 M tall, no drop ceilings, .9 X 2 M door with electronic lock and concrete floor)

C. Interior Finishes: Provide interior finishes to minimize dust.

D. Lighting: 550 Lux (50 fc) minimum, measured 0.9 m (3 ft.) above the floor

E. Electric Power:

1. Power Outlets: Provide sufficient outlets for equipment quantities in each rack.
2. Grounding: Provide access to the main building grounding electrode.
3. Backup Power: Supplied by building standby power system. See <15C>.

F. Environment:

1. Temperature and Humidity: Maintain temperature between 10° C and 27° C (50° F and 80° F) with 30% to 75% relative humidity, non condensing.
2. Continuous Operation: The ventilation system for the IDF Closet operates continuously and when provided, is monitored by the Building Automation System (BAS).

G. Closet Penetrations:
   • Floor: For vertically stacked closets, provide a minimum of two 100 mm (4 inch) penetrations per closet.
   • Bushed Sleeve: Provide at each penetration. Bushed sleeve extends 25 mm (1 inch) above floor.
   • Location: Penetrations are clustered in the specified closet stack.
   • Conduit: Penetrations for horizontal conduit or cable tray runs that use ceiling pathways are near ceiling level.
   • Additional Penetrations: May be needed depending on the density of network devices required.

H. Closet Linkage:
   • Multiple IDF Closets: Closets are interconnected by horizontal cable pathways when multiple IDF Closets are on a single floor.
   • Drop Ceiling: If used, the IDF Closets are linked using cable ladder that is 300 mm (12 inches) wide and 100 mm (4 inches) deep.
   • Conduit Radius: Conduits entering the closet through a 90 degree bend from either floor or ceiling have a bend radius of 0.46 m (18 inch) for 50 mm (2 inch) inside diameter (ID) or less.
   • Conduits with greater than a 50 mm (2 inches) ID have a radius ten times the conduit ID.
   • Pull Cords: Provide in all conduits.

I. Fire Protection & Life Safety: Provide wire basket guards over fire sprinklers (see <14>) to avoid accidental contact and discharge.

13A.9 Property Facilities

A. Main Lobby: The central meeting area of the property. Based on the design of the space, when the lobby or adjacent lounges have guest seating areas.
   • Provide ample power outlets at each seating space for guests to ‘plug in’ their equipment.
   • Provide wireless Property Internet (PI) throughout the entire space according to GPNS specifications. Coordinate with <15C>.
   • Identify one or more locations for the RFID Key Printer physical telephone set

B. Guestroom:

   1. Cabling:

      a. One Category 5e or higher cabling to each guestroom and connect to a wired and wireless wall switch that supports Wi-Fi and Ethernet ports in a single device. Power the wired and wireless wall switch from 802.1af or

802.1at via a POE switch in the IDF that supports this standard. The wall switch supports the following systems:

- Digital IP Television
- Wireless Internet Access Point
- IP Telephone
- Environmental Controls (optional)

b. Flat Panel TV: 1 Cat 5e or higher or Fiber run installed behind television. Cable terminated at IDF on Patch Panel. Provide RG6 COAX cable behind TV if IPTV system is not installed. See <7A> for TV placement.

c. Guestroom cable specifications follows the generic building cabling outlined in the Wired LAN section.

2. Emergency Power:

a. Connect POE ports to a UPS source with enough source capacity to keep connected equipment running for at least 2 hours in case of a power outage or be connected to Emergency Power (if available).

b. Provide guestroom telephones and the supporting service operating systems on emergency power for a minimum of 2 hours.

3. TV Services: Provide guestroom Internet television entertainment services and guest personal device screen casting. Obtain an approved service provider list through your CTR.

4. Door Lock (Digital Entry): Coordinate the following with <16>.

a. Guestroom Access: Equip Guestrooms with an electronic RFID entry lock system, Marriott Mobile Key Certified Model, BLE (Bluetooth Low Energy), designed to support mobile phones for the Guestroom electronic entry key. Software is supplied by MI's mobile application.

5. Door Locks - Other Spaces: Provide the same Guestroom electronic lock system (RFID, Marriott Mobile Key Certified Model, BLE) for select Public Space and guest access locations such as passenger elevator, Fitness Center and secondary building space access.

C. Front Desk: Because of the different computer equipment design and constantly changing form factor of computers, printers and peripherals, contact the MI or liason for the current millwork documentation.

1. Provide locations for the following technology related components. Discuss with the CTR the require qualities needed. See <2A>.

- Computer
- Keyboard & mouse
- LCD screen monitor

- Printer
- Key encoder
- Credit card terminal
- Credit card printer
- Telephone
- Other (such as parking equipment, passport scanners and fiscal devices)

2. Locate equipment out of sight from guest, but easily accessible and in a good workable location for employees.

3. Monitor: Consult interior design and CTR for required dimensions for the LCD screen.

4. Ventilation: Provide ample airflow around the following components:
   - LCD screen
   - Printer
   - Computer (most computer designs utilize front to back or side to side equipment cooling).

5. Desk Design: Provide ample, dedicated space and appropriate locations for the following:
   - Keyboard: Locate with ample adjacent space for left as well as right handed mouse operations.
   - Monitor: Standard LCD (accommodate a 19 inch minimum, standard LCD screen).
   - Station: One computer per station. Accommodate MI certified PC equipment.
   - Cables: Accommodate ample space at the back of the connected equipment. Locate for easy access and connection point that is integrated into millwork.
   - Standby Power: Local UPS connected to the computer, monitor and other critical equipment. Review with CTR for requirement based on country situation.
   - Printer: Large laser printer per station utilizing printers with 2 paper trays added with access to front and back to change paper and toner and clear paper jams.

6. Cable Tube: Provide a cable tube from the top of the desk (monitor, keyboard, mouse) to the computer equipment, UPS location in the lower desk to properly arrange cables.

7. Power: Integrate power outlets into the design of the Front Desk. Provide a minimum of 7 power outlets (see <15C>) at the desk for various devices such as monitor, key encoder, credit card terminal, etc. and at the computer location (computer, UPS).

8. Network Termination Points: Provide RJ45 cable terminations for each network connected device.

   • Locate termination points at the upper half of the desk, out of guest sight, and located where the cables are connected to key card encoder, credit card terminals, phones and other devices. Where Guest facing EMV Payment Terminals will be used, ensure one termination point is on the guest side of the desk within their reach.

   • Termination points are also located at the lower half of the desk for computer and printer access.

D. P.O.S. Food & Beverage Areas:

1. Provide location for the following technology related components.
   • P.O.S. Terminal
   • LCD Touch Screen
   • P.O.S. Slip Printer
   • P.O.S. Fiscal Printer
   • Credit Card Terminal (option)
   • Cash Drawer (option)
   • Phone

2. Locate the equipment out of guest sight, but easily accessible and in a good workable location for the employees. Locate away from heat and moisture sources.

3. Ensure ample airflow or cooling around the computer. Most computer designs utilize front to back or side to side equipment cooling.

4. Provide ample space for cables at the back of connected equipment.

5. Provide a cable tube from the top of the desk (monitor, keyboard, mouse) to the computer equipment, UPS location in the lower desk to properly arrange cables.

6. Provide a minimum of 6 power outlets above the work counter of the desk for various devices (monitor, key encoder, credit card terminal, etc.) and at the computer location (computer, UPS).

7. Provide space for a local UPS and connect it to computer, monitor and other system equipment.

8. Provide RJ45 cable termination points per station as outlined in Section on Cable Termination Points.

9. Locate termination points out of guest sight and at a location where the cables are connected to P.O.S. terminal, credit card terminals, phones and other devices without being visible to guests.

10. Provide lockable storage for credit card payment terminals, when F&B outlet is not operational and not manned by Marriott employees.

E. R Audio / Visual Facilities: See <13B>.

F. R Loss Prevention: See <16>.

13A.10 Master Antenna Television System

A. IP TV Solution: Consult you CTR for specifications if you are implementing a IP TV solution. Provide an RF television distribution system throughout the property public spaces and guestrooms for delivery of television programming.

1. Programming: Coordinate with <13B> for cable and broadcast television programming delivery systems for guestroom entertainment.

2. Infrastructure for MATV: Provide analog and digital RF and digital IP network infrastructure for guestroom and public area entertainment.

   a. Does not include data service or Property Internet access for guests.

   b. Design for digital television (DTV) and high definition television (HDTV) programming.

3. Distribution System: Design MATV to receive and deliver local, satellite, premium and locally originated television programming.

B. Features & Functions:

1. Television Channel Sources: Provide programming from multiple signal sources, over the air antenna, satellite and cable. Current channel lineup standards and approved entertainment system providers list can be obtained through MI Global Operations.

   a. Provide for reception of local broadcast programming from major networks and other significant regional channels.

   b. Provide reception of premium channels provided by the regional and local cable, from satellite or from a MI approved pay-per-view programming vendor.

   c. Provide for internet connection to television or set top box for provision of Internet streaming content and personal device screencasting.

   d. Provide equipment and modulation for a minimum of 3 in-house property channels and distribute channel content in full HD resolution.

2. Headend Processing: Design a relatively fail safe headend. Consult with the CTR for property specific criteria and performance requirements.

3. Public Area Distribution: Home-run to MATV distribution equipment located in central Sound Equipment room.

4. Guestroom MATV Distribution: Provide broadband (not split-band) distribution system with 1 GHz bandwidth, capacity for 100 active channels and provisions for future channel capacity.

    a. Signal Level: + 5dBmv (+/-3 dBmv) minimum, at any tap, on any channel.

    b. Amplifiers: Provide system with no more than one amplifier between MATV headend's passive channel combiner and any guestroom tap. Design amplifiers for digital signal distribution and equip with sub-return amplifiers.

    c. Distribution: Daisy-chain the system up to 16 rooms (maximum) on any single riser, or configure the system with homeruns to each guestroom tap.

    d. Consult with the CTR for property specific criteria.

5. MATV System Rooms: Provide headend equipment in an enclosed, air conditioned, secure room.

    a. Room Locations:
    • When the property utilizes antennas to receive the off-air programming, locate the headend equipment room within a 61 m (200 ft.) run of cable from the equipment to antennas.
    • If the property utilizes local cable for the off-air local programming, locate the headend equipment room near the A/V equipment room or near / in the property's computer equipment room.
    • Co-locating the MATV headend with the property computer and / or telephone equipment is acceptable.
    • If the headend is not located in the Telecom Room, provide ethernet links from the MATV to the Telecom Room.

    b. HVAC: Design to maintain a temperature between 10Ëš to 27Ëš C (50Ëš to 80Ëš F) with 30% to 75% relative humidity, non-condensing. See <15A>.

C. Distribution:

1. Distribute MATV signals to the following:

    a. Public Areas: Observe local licensing regulations for available channels and business terms.

    b. Business Center

    c. Food and Beverage areas (including lounges)

    d. Recreation spaces (and spa when applicable)

e. Retail areas

f. Event / Meeting Space equipment rooms (coordinate with A/V systems)

g. Guestrooms (salons and bedrooms in suites)

h. Executive and Sales offices

i. Employee dining

j. Engineering (for television service)

D. Protection: Provide system with trunks, drops and risers so failure of any single active device does not affect more than 20% of guestrooms.

E. Cable: Provide double shielded cable with 100% bonded foil shield, 60% aluminum or tinned copper braid over foil and rated for digital signal distribution.

1. Connectors: Full-cycle hex-crimp type

2. Splitters & Taps: Fully shielded, directional and designed to pass sub-channel return signals. Tap value is 7 dB minimum. Self-terminating or resistive taps are not permitted.

F. Entertainment System Headend Requirements:

1. Headend Requirements Table

1.	Television Equipment Room HVAC: Provide air-conditioning with sufficient capacity to maintain ambient temperature not to exceed 27 degrees C. (81 degrees F).
2.	Racks: Provide one or more racks to house required television head end equipment
3.	Power: 15 amp, 120 Volt AC power where fiber optic transmission and/or reciver is located if necessary.
4.	Internet: Provide property internet (PI) access in Television Headend for Digital FTG Headend systems. Digital FTG Headend Server requires a dedicated, routable IP address for system management.
5.	Protocol: Ethernet 10Base-T or Fast-Ethernet 100Base-T protocol, static address, not dynamic DHCP, not fire-walled, filtered, trnslated, or shared with another system.
6.	Transmitters & Receivers: Provide fiber optic cable, transmitters and receivers, for distribution of signal to or from Television Headend or Auxiliary Distribution Launch Points.
7.	Conduit: Provide conduits (and as required by governing regulations) to contain and enclose the Television Distribution Network cables from the Television Equipment Room to each television outlet.
8.	Power Outlets: 15 amp, 120 Volt AC power (NEMA 5 15R) in vicinity of each television outlet.
9.	TV Power Boxes: Provide power boxes (single-gang or larger) for each television outlet.
10.	Coaxial Cable: Provide a coaxial cable network capable of forward frequency response of 85 to 1000 MHz, with return frequency response of 5 MHz to 65 MHz. Design distribution network cable and devices to pass frequencies up to 1000 MHz.
11.	TV Dish Antenna: Provide space for roof mounted television satellite dishes to include:
a.	1 m (39 inch) diameter dish antenna, roof mounted with standard manufacturer's hardware. Provide dish antenna with unobstructed view to satellites in geo-synchro - nous orbit, located between 61° and 129° W. Longitude.
b.	One 120 V, 15 amp duplex power outlet within 75 ft. of DBS dish antenna to supply low-voltage power for anti-ice feature (as applicable for cold climates).
c.	One dedicated, 2.5 cm (1 inch) conduit from satellite dish to specified power outlet location, separate from and in addition to conduit for satellite antennae, when the total cable distance excedes 23 m (75 ft.) from headed to dish antennae.
12.	Other Master Antenna. Provide another space for standard, roof mounted Master Antenna with standard manufacturer's hardware. Locate antenna with an unobstructed view to broadcast towers in various locations.
13.	Grounding: Provide main grounding electrode conductor in compliance with NEC Article 250 and governing regulation.
14.	TV Room Grounding: Provide dedicated point of connection to main grounding electrode conductor and main grounding electrode conductor in the Television Equipment Room (or secondary grounding electrode conductor) and as required by governing authority for the system antennae.
15.	Television Distribution Network Cables: Ground in compliance with NEC Article 820-100.

2. Headend Requirements Table (continued)

16. Main Ground Electrode Conductor: Comply with NEC Article 250 and governing regulation.
17. Trunk Cable Runs: Riser rated RG-11 cable and swept from 5 MHz to 1 GHz.
18. Riser Cable Runs: Riser rated RG-6 or RG-11 cable and swept from 5 MHz to 1 GHz.
19. Hard Line Cable: 0.500 is acceptable.
20. Cable Runs: Recommendations are:
    a. Greater than 274 m (900 ft.) - single mode fiber
    b. 152 to 274 m (500 to 900 ft.) - 0.500 hard-line or larger
    c. Up to 152 m (500 ft.) – RG-11 or hard line
    d. Less than 91 m (300 ft.) – RG-6 (or RG-11 for trunk lines)
21. Fitting types are:
    a. Compression fittings for RG-6 and RG-11 cable. Hex crimp fittings are not permitted
    b. Contact Systems Integrator for acceptable use of hardline connectors
22. Splice cable runs and RG-59 cable are not acceptable
23. Plenum-Rated Cable: Provide for cable in air return spaces and not placed in conduit and comply with governing electrical regulations.
24. Underground Cable Runs: Provide flood type cable and incase in conduit.
25. Coax Cable: Provide cable installations to comply with NEC fire regulations and governing electrical regulations.
26. Cable Run Markings: Clearly mark on cable ends.
27. Service Loop: Maintain 0.91 m (3 ft.) at termination locations.
28. MATV Amplifier: Provide the following:
    a. If amplifiers are required in distribution closete (IDF) to maintain signal strength, provide non-switched, 20 amp, 120 V ac power circuit. Provide distribution closest with a 1.9 x 122 x 122 cm (¾ x 48 x 48 inch) plywood backboard for mounting active and/or passive MATV devices.
    b. Amplifiers forward path, pass 5MHz to 860MHz
    c. Max output level at 860 MHz, not to exceed +44 dBmV.
    d. Amplifier input levels
        - Amplifier Gain 30 to 35 dB: 8 - 14 dBmV
        - Amplifier Gain 40 to 45 dB: 0 - 5 dBmV
    e. For in-house MATV cable plant, provide distribution frequency response of 5 MHz to 860 MHz and maintain a room signal level of 0 dBmV +/- 4 dB for digital signals, and +5 dBmV +/- 4 dB for analog signals.
    f. MATV distribution system maintains a room to room isolation greater than 22 dB.

3. Headend Requirements for Entertainment System

29. Television Equipment Installation: System integrator provides the following:
    a. One or more dish antenna, to include hardware, coaxial cables, and related electronics following site work completion, and prior to project completion.
    b. One or more master antennae (as necessary for reception of various locally-broadcast digital channels); including hardware, coaxial cables, and related electronics following site work is completion, and prior to project completion.
    c. Ground system antennae and devices in compliance with NEC Article 810-15, 810-21, 820-100, and governing regulation.
    d. Set top box equipment in guestroom and public spaces.
    e. If applicable, provide a signal distribution for fitness equipment.

13A.11 Property Systems

A. Systems Matrix: The following Property Systems Matrix, indicates systems required or recommended for MI properties. Equipment size, location, power requirements and BTUs are current as of the publication of this document. Check with the CTR to ensure information is current and appropriate to meet property IT specifications.

B. Property Systems Matrix

As Applicable to the Propety X = Required O = Optional	Where Applicable		Location					Equipment		Power Va (Rating)	
			On Property			Above Property					
Function	Hotel Property	Residences (non-membership)	Computer Room	Telecom Room	Other	ASP	Marriott Hosted	High Server	Low End Server	Va	BTU
VMware Host Server (DC, F&P, GPOS, Key Card, Guest ware, other applications)	x	x	x					x		1046.51	3595.95
File & Print Server (DC)	x	x	x					x		268.78	975.32
Authentication Server	x	o	x						x	61.11	204.80
Property Management System (PMS)	x	o	x				x	x		268.78	975.32
PMS Interface Servers	x	o	x						x	113.92	381.99
Sales & Catering System	x		x				x	x		113.92	381.99
Reservation Systems	x	o					x			113.92	381.99
Revenue Management System	x	o					x			113.92	381.99
Accounting System	x	x	x			x		x		113.92	381.99
Time Keeping System	x	x	x			x		x		113.92	381.99
Human Resources System	x	x	x			x		x		113.92	381.99
Payroll System	x	x	x			x	x				
Key Card System	x	o	x						x	113.92	381.99
Credit Card Interface System	x	x	x				x		x		
Spa Management System	x		x					x		113.92	381.99
Point of Sale System	x	o	x					x		113.92	381.99
Retail Inventory System	x		x			x			x	113.92	381.99
Food & Beverage Inventory System	o		x			x			x	113.92	381.99
Club Membership System			x					x		113.92	381.99
Engineering Management	x	o	x			x		x		113.92	381.99
Building Management	o	o	x		o	x		Depends on System			
Golf Management System	o		x		o	x		Depends on System			
Guest Recognition / Response System	x	x					x				
Digital Signage	o	o	x						x	113.92	381.99
Music Management System	o	o			x				x	113.92	381.99
On Demand Video System	x			x				Depends on System			
Property Internet (PI)	x	o	x					Depends on System			
Concierge Systems	x		x			x			x	113.92	381.99
Phone System (PBX / Voice Mail)	x	x		x				Depends on System			
Call Accounting System	x	x	x			x			x	113.92	381.99
Document Archiving	x	o	x						x	113.92	381.99

13A.12 Telecommunication Systems

A. General: MI criteria requirements for telecommunications focus on three functional areas, telephone, voice mail, and call accounting systems. Comply with the following.

   1. Only MI approved externally hosted telephone, voicemail and call accounting systems and related equipment are to be installed in Marriott properties. For managed properties, systems installation is performed by a MI approved service provider.

   2. Include guest initiated auto wakeup call services.

   3. Program is in compliance with MI's Emergency 911 Standards

   4. Property ownership purchases the telecommunications equipment and services.

   5. Major components of the telephone system are on a maintenance agreement and monitored by the maintenance provider.

B. Equipment:

   1. Telephone system equipment is supported by a 2 hour minimum UPS end to end including IDF switches and POE to the analog / VOIP / SIP telephones in the guestrooms.

   2. If telephone equipment is not installed in property computer room, the location shall meet the environmental standards specified by equipment manufacturer.

C. Quality:

   1. Configuration: Provide "state of the art" processor based systems that are configured and designed for the hospitality industry.

   2. Telephones: Provide MI approved analog telephones or SIP based IP telephones.

   3. Compliance: Meet governing regulatory requirements such as those provided by the Federal Communications Commission (FCC) related to hearing aids worn by hearing impaired guests.

D. Interface: Interface telephone systems to the Property Management System (PMS) with a MI certified hospitality PMS interface.

E. Approvals:

   1. The PMS and the Telecommunications Systems require MI acceptance for

use in the country of installation.

2. Externally hosted PBX is compatible with the Public Switched Network in the country of installation.

3. Coordinate new telephone, voice mail and call accounting system purchases with the CTR to ensure compliance with the latest telecommunication standards.

F. Extensions: The system installer prepares a listing of the property telephone extensions.

1. Installer walks the property with property pre-opening team and designates room names, staff position for each phone, pager, fax machine and modem connection.

2. Contact the CTR for detailed extension plan.

G. Administrative Telephone Guidelines: The telephone system guidelines listed in this document identify specific telephone station requirements in each functional space within the property.

1. Criteria is for a "typical" system and quantities are based on size, design and specific property program.

2. DID service is required for administrative staff extensions to be based on the Staffing Guide and General Manager's discretion.

3. EI Variations may be required due to operational "customs" in a particular country and the project's competitive marketplace.

4. Customizing the guidelines for a property is performed in consultation with MI Operations and the CTR.

H. Guestrooms: Provide the telephone extension socket in the brand specific guestroom locations. See <7A>. Contact MI for the Brand specific telephone line requirements.

1. Provide telephones with volume control handsets and text telephones as required by governing accessibility regulations. See <GR1>

2. Mount accessible phones at required mounting height and clearance.

3. Suites: Provide phone types at the following locations (contact CTR for the specific Brand locations):
   • Desk: cordless phone
   • Bedside: corded phone
   • Pantry: corded wall phone (option)

I. Meeting Spaces: In meeting spaces and pre-function areas, provide telephone

jack outlets as required.

1. Provide jacks with direct in-line access (to bypass operators), when requested by guests.

J. Telephone Equipment Room: See the Computer / Telecom Room section. If a small PBX is planned for the project, provide space in the Computer Room and connect to the UPS, and backboard.

K. Other Equipment: Consult the CRT for details of the following equipment:
- Radios
- Pagers
- VOIP Wireless telephones
- Cellular Telephones: Commercially available with push to talk capability.

13A.13 Systems Criteria & Administration Telephone Guidelines

A. Telephone Systems Criteria

A.	**PABX - Features / Capabilities**
1.	Alphanumeric display administrative telephones and console for guest name display
2.	Variable auto wake up with audit trail printer
3.	ACD with statistical report package and printer
4.	Acceptable interface to Marriott's Property Based System (or Property Management System) and integration with check-in / check-out, room status, guest name, etc.)
5.	CD interface for music on hold. Provide interface to support various music sources such as CD, tape, A/V equipment, etc
6.	Automatic Route Selection
7.	Integrated Message Waiting via PABX software
8.	Call Detail Recording output to Call Accounting System and to PMS hospitality interface
9.	Redundant CPU above 300 lines
10.	1 hour Battery Backup (when supported by emergency power)
11.	Single Digit Access to designated guest services
12.	Call Waiting
13.	DTMF Dialing (Touchtone)
14.	Hotel / Motel Software
15.	Flexible Dialing Plan room number extension number correlation
16.	Compatible with digital trunking T1, E1, ISDN Basic and Primary rate
17.	System Announcement Capability - ACD, Attendant Queue, etc.
18.	Paging System Interface
19.	6 Party Conference
20.	Traffic Measurement Capabiltiy - trunks and consoles
21.	System Alarms for fault management
22.	Power Conditioner
23.	Compatible with all network supervisory trunk signaling
24.	Power failure transfer capability
25.	DID or DDI for selective administrative telephones.
	Acceptable Systems: Consult your CTR for current accepted systems

B. Telephone Systems Criteria

B.	**Call Accounting - Features / Capabilities**
1.	Flexible Surcharging - multiple pricing levels (guest / administrative)
2.	Accepted interface to Marriott's Property Management System (PMS) / Call Accounting interface (CDR)
3.	Administrative reports
4.	1 hour UPS (when supported by emergency power) **<15C>**
5.	Duration and distance pricing
6.	Rate table updates
7.	Itemized mini-bar posting to PMS or PBS
8.	Powerful call charge calculation
9.	Multiple and flexible charging schemes
10.	Able to handle complex rate structures through "code mapping"
11.	Multiple and separate rate table per telephone Carrier
12.	On-line checking of phone calls made (guest & administrative extensions)
13.	Number of PABX lines supported is software definable to match all PABX extensions
14.	Customized reports
15.	Supports "home language" characters
16.	End of day reports with user selectable call types with re-printing options
17.	Summary month end reports
18.	Call record storage - one year
19.	Auto-scheduling of end of day reports
	Acceptable Systems: Consult your CTR for current accepted Call Accounting Systems
C.	**Voice Mail - Features / Capabilities**
1.	Accepted interface to Marriott's Property Management System (PMS)
2.	Multiple language capability
3.	Lodging software with a simplified guest interface
4.	Full featured administrative mailboxes
5.	Remote access password protected
6.	Text message notification
7.	Personalized greetings for guest and administrative mail boxes
8.	Number of mailboxes in system shall support designated PABX extensions in the system
9.	Size of mailbox is administered in system software
10.	Customized voice prompts to instruct guests in voice & text message retrieval
11.	Software definable limit to length of message
12.	Software definable "revert to live person" to escape from voice mail
13.	Auto Attendant with voice menus
	Acceptable Systems: Consult your CTR for current accepted Voice Mail Systems

C. Telephone Systems Criteria

D.	**Voice and Data Wiring -** See additional requirements in Chapter **<7A>** and the related supplement.
1.	Voice Wiring - four twisted pair Cat 5e station wiring to each telephone or device (jack)
2.	Voice Riser and house cable sized to support 2 active pair per guestroom or administrative telephone + 25% growth.
3.	Voice House cable servicing ballroom sized to support 6 active pairs per jack + 50% growth.
4.	Patch panels for voice connections in ballroom and meeting rooms.
5.	Wiring for Property Internet (PI) - four twisted pair Cat 5e cable (EIA/TIA) installed per the Ethernet Standard to each guestroom and designated meeting spaces. On the device end, terminate the cable in a RJ45 jack per the TIA / EIA-568-B termination spec at the desk location and behind TV locations in each guestroom or in the designated location in meeting spaces and on a patch panel in the IDF closet. Backbone wiring from the IDF to the server location follows the applicable Ethernet standard.
6.	Structured cabling for administrative LAN system to maximize resources and provide flexibility. See this Chapter and Supplements for administrative data wiring for the PMS / PBS, P.O.S., & LAN requirements.
E.	**Guestroom Lines & Telephones -** Consult your CTR for continental specific list of accepted guestroom telephone models.
1.	One PABX extension line to each Guestroom with single line telephones per room, one at the nightstand and one at the desk. Telephones pick up the same single PBX extension line. If appropriate, provide a cordless "master and slave" unit where a version is available for the telephone handset model. Consult the CTR for Brand specific requirements. At JW Marriott, the desk phone is cordless.
2.	Guest Lounge Level and Suite rooms only, provide one cordless telephone at desk, a telephone with cord at the other location and a corded wall phone at suite pantry. Suites typically have 3 or more telephones depending on the suite size.
3.	Integrated message waiting lamp & speed dial buttons for guest services.
4.	Guestroom dialing instructions and disclosure information on telephone faceplate as required by governing authority such as the FCC or PUC (Public Utility Commission).

D. Administrative Telephone Guidelines

Consult the CTR for property specific locations					
Locations	Equipment or Telephone Type	Typical Scope (Quantity)	Telephone Wiring Cat 6 four pair as a minimum	Required PABX Extension	Private Outside Central Office Line
Front Office Areas					
Lobby House Tels.	Analog desk telephone	4	4 pair per device	Yes	
Front Desk	IP / digital telephone with display	1 per station		Yes	
Front Desk	Analog lines for credit card verification Machine. See CTR for local credit card terminal.	1 per station		Yes	
Concierge / Hospitality Desk	IP / digital telephone with display	1		Yes (DID)	
	Analog lines for credit card verification Machine	1		Yes	
Front Office	IP / Digital Telephone with Display	1		Yes (DID)	
Rooms Control	IP / Digital Telephone with Display	2		Yes	
Rooms Control	Analog lines for credit card verification Machine	2		Yes	
Cashier Office	IP / Digital Telephone with Display	1		Yes	
Counting Room	Analog Single Line Wall Telephone	1		Yes	
Group Coordinator	IP / Digital Telephone with Display	1		Yes	
Group Check in Desk	IP / Digital Telephone with Display	1		Yes	
Front Office Fax	Analog Line for Fax Machine	1		Yes	Yes
Bell Stand	IP / Digital Telephone with Display	2		Yes	
PABX Operator or Guest Services Call Center	IP / Digital PABX Console or ACD terminals as defined per project	Minimum of 2 + 1 per 200 rms	PABX type dependent		
Guest Services Director	IP / Digital Telephone with Display	1	4 pair per device	Yes	
Call Center Office	IP / Digital Telephone with Display	2		Yes	
Hotel Pilot Fax	Analog Line for Fax Machines	2		Yes	Yes
Shift Manager	IP / Digital Telephone with Display	1 per Shift Mgr		Yes	

E. Administrative Telephone Guidelines

Consult the CTR for property specific locations					
Locations	Equipment or Telephone Type	Typical Scope (Quantity)	Telephone Wiring Cat 6 four pair as a minimum	Required PABX Extension	Private Outside Central Office Line
Back of House Areas					
Security	IP / Digital Telephone with Display	2	4 pair per device	Yes (DID)	
Service Elevator Lobby	Analog House Telephone	1 per floor		Yes	
Housekeeping	IP / Digital Telephone with Display	3		Yes	
Engineering	Analog Single Line Wall Telephone (Carpenter Shop)	1		Yes	
Engineering	IP / Digital Telephone with Display	3		Yes (DID)	
Human Resources	IP / Digital Telephone with Display	1 per staff member		Yes (DID)	
Parking Office	IP / Digital Telephone with Display	1		Yes	
Ballroom Service Corridors	Analog Wall Telephone	2		Yes	
Banquet Storage	Analog Wall Telephone	1		Yes	
Audio / Visual Storage	Analog Wall Telephone	1		Yes	
Sound Equipment Room	Music On Hold Interface	NA	4 pair	NA	
Fire Command Room	Two Single Line Wall Telephones and outside private lines for digital dialer	2	4 pair per device	Yes	Yes (2)
Purchasing	IP / Digital Telephone with Display	1 per staff member		Yes	
F &B Areas					
Specialty Restaurants	IP / Digital Telephone with Display per Restaurant Maitre "D" stand	1 per Stand	4 pair per device	Yes	
Specialty Restaurants	Analog Line at each P.O.S.Terminal for credit card verification. Consult your CTR for local requirements.	1 per terminal		Yes	
Hostess Stand in all restaurant outlets	In-door Cordless Phone	1 per stand		Yes	
Chef's Office	IP / Digital Telephone with Display	1 per office		Yes (DID)	
Room Service	IP / Digital Telephone with Display	2		Yes	
Kitchen Point of Sale Terminal	Analog Line at each Point of Sale Terminal for credit card verification. Typically required for International sites	1 per terminal		Yes	
Dry Food Storage	Analog House Telephone	1		Yes	
Main Food Production Line	Analog House Telephone	1		Yes	
Service Bar	Analog House Telephone	1		Yes	
Cold Prep	Analog House Telephone	1		Yes	
Kitchen Offices	IP / Digital Telephone with Display	1 per office		Yes	
Bakery	Analog Wall Telephone	1			
Garde Manger	IP / Digital Telephone with Display	1			
Liquor Storage	Analog House Telephone	1		Yes	

F. Administrative Telephone Guidelines

Consult the CTR for property specific locations					
Locations	Equipment or Telephone Type	Typical Scope (Quantity)	Telephone Wiring Cat 6 four pair as a minimum	Required PABX Extension	Private Outside Central Office Line
F &B Areas (continued)					
Loading Dock	Analog House Telephone (or pay phone), wall mounted	1	4 pair per device	Yes	
Lobby Bar	IP / Digital Telephone with display.	1		Yes	
Lobby Bar Point of Sale	Analog Line at each Point of Sale Terminal for credit card verification. Consult your CTR for local requirements.	1 per terminal		Yes	
Restaurant s	IP / Digital Telephone with display at Hostess / Cashier per Restaurant. Typically required for international sites.	1		Yes	
Restaurant s	Analog Line at each Point of Sale Terminal for credit card verification. Consult your CTR for local requirements.	1 per terminal		Yes	
Service Bars	Analog line for credit card verification and analog wall telephone. Consult your CTR for local requirements.	1 per location		Yes	
Public Telephones / House Telephone	Wall Telephones	1 per Restaurant		NA	Yes (Pay Tel Lines)
Administrative Offices					
Accounting	IP / Digital Telephone with display	1 per staff member	4 pair per device	Yes (DID)	
Dir of Revenue Mgmt	IP / Digital Telephone with display	1		Yes (DID)	
Controller / Assistant Controller	IP / Digital Telephone with display	1 per Office		Yes (DID)	
Controller	Analog Line for modem	1		Yes (DID)	
Reservations	IP / Digital ACD Telephones with display	1 per staff member		Yes (DID)	
Reservations Mgr.	IP / Digital Telephone with display, ACD Terminal and Report Printer	1		Yes (DID)	
General Manager	IP / Digital Telephone with display	1		Yes (DID)	
General Manager	Single line Desk House telephone	1		Yes (DID)	
Resident Manager. / Director of Operations	IP / Digital Telephone with display	1		Yes (DID)	
F&B Mgr.	IP / Digital Telephone with display	1		Yes (DID)	
Catering Mgr.'s, Sales Mgr.'s	IP / Digital Telephone with display	1 per Mgr.		Yes (DID)	
Dir. of Marketing	IP / Digital Telephone with display	1		Yes (DID)	
Receptionist	IP / Digital Telephone with display	1		Yes	

G. Administrative Telephone Guidelines

Consult the CTR for property specific locations					
Locations	Equipment or Telephone Type	Typical Scope (Quantity)	Telephone Wiring Cat 6 four pair as a minimum	Required PABX Extension	Private Outside Central Office Line
Secretaries / Assistants	IP / Digital Telephone with display	1 per staff member	4 pair per device	Yes (DID)	
Fax Machine	Analog Line for fax machine	1		Yes (DID)	Yes
Convention Sales / Services, Event Management	IP / Digital Telephone with display	1 per Mgr.		Yes (DID)	
Dir of Public Relations	IP / Digital Telephone with display	1 per Mgr.		Yes (DID)	
Guest Recognition Manager	IP / Digital Telephone with display	1 per Mgr.		Yes (DID)	
Dir of Business Travel	IP / Digital Telephone with display	1 per Mgr.		Yes (DID)	
Public Space					
Meeting Rooms	Analog Single Line Wall Telephone and duplex jack per room	1 per room	4 pair per jack	Yes	
Ballroom	Analog Single Line Wall Telephone per divisible area	1 per division	4 pair per device	Yes	
Ballroom	Six multifunction RJ45 jacks per divisible area or Salon to support voice or data connections. Telephone jacks per divisible area	1 per division	25 pair per 6 jacks or (6) 4 pair cables per jack	Yes	
Guest Elevator Foyer	Analog Single Line Wall or Desk House Telephone per floor	1 per floor	4 pair per device	Yes	
Ballroom & Meeting Rooms	Patch panel each telephone cable to terminate in IDF on panel	Patch panel size = 2 x quantity of telephone jacks in ballroom & meeting rooms			
Business Center	IP / Digital Telephone receptionist, office, conference room, boardroom	1 per location	4 pair per device	Yes	
Business Center	Analog Line for fax and PC modems	1 per location		Yes	
Public Telephones	Wall Pay Telephones or House Telephones when public telephones are not available	variable per property size		NA	Yes (Pay Tel. lines)
Assembly & Pre-Function Areas	Analog Desk Telephones	variable per property size		Yes	
Coat Room	Analog Wall Telephone	1		Yes	
Conference Registration	IP / Digital Telephone with display	1		Yes	
Retail Space (Concession)	Requirements vary per contract	variable	conduit only	NA	Yes
Guest Floor Lounge	IP / Digital Telephone with display	1	4 pair per device	Yes	
Guest Floor Lounge, Guest Lounge Level	Indoor Cordless Phone	1		Yes	
Guest Floor Lounge, Guest Lounge Level	House Telephones	2			

H. Administrative Telephone Guidelines

Consult the CTR for property specific locations					
Locations	Equipment or Telephone Type	Typical Scope (Quantity)	Telephone Wiring Cat 6 four pair as a minimum	Required PABX Extension	Private Outside Central Office Line
Computer Room					
PBS or PMS Interface	RS232C Interface between Telephone and PBS or PMS	1	4 pair per device	NA	
Call Accounting Interface	RS232C CDR / SMDR Output to Call Accounting System	1		NA	
Voice Mail Interface	Voice Mail system	1		NA	
MI Router	Analog Line (Loop Start Telephone Co Lines)				1
House Telephone	Analog Wall Telephone	1		Yes	
Miscellaneous Areas					
Housekeeping Room	Analog Wall Telephone	1 per floor	4 pair per outlet	Yes	
Valet	Analog Wall Telephone	1 per location		Yes	
Guest Wing Remote Entry	Analog House Telephone	1 per location	4 pair per device	Yes	
Fitness Center	IP / Digital Telephone with Display Receptionist and Offices	1 per location		Yes	
Telephone Equipment Room	PABX RMATS Line	2			Yes (2)
Elevators	Elevator Telephone	1 per elevator		Yes	
Exercise Room	Analog Single Line Wall Telephone	1		Yes	
Gift Shop & Office	IP / Digital Telephone with display at Point of Sale Terminal and analog line for credit card terminal, if required.	2 per location		Yes	
Pool (Indoor)	Analog Single Line Desk Telephone for Pool Attendant	1		Yes	
Pool (Indoor)	Analog Single Line Wall Telephones	1		Yes	
Pool (Outdoor)	Indoor Cordless Phone	1		Yes	
Pocket Paging System (Beepers)	Analog Line	1		Yes	
In-Room Movie Video System	Analog Line for Modems (Loop Start Telephone Co. Lines)	2			Yes (2)
Golf Pro Shop	IP / Digital Telephone with display at Point of Sale Terminal and analog line for credit card.	1 per location		Yes	
Golf Pro Shop Office	IP / Digital Telephone with display	1 per location		Yes (DID)	
Pool Bar (Outdoor)	Analog Desk Telephone	1		Yes	
Pool Bar (Outdoor)	Analog Line at each Point of Sale Terminal for credit card verification	1 per location		Yes	
Pool Deck (Outdoor)	Weatherproof Phone Jacks	2	4 pair per outlet	Yes	
Spa Reception	IP / Digital Telephone with display and analog line for credit card terminal, if required.			Yes (DID)	

I. Administrative Telephone Guidelines

Consult the CTR for property specific locations					
Locations	Equipment or Telephone Type	Typical Scope (Quantity)	Telephone Wiring Cat 6 four pair as a minimum	Required PABX Extension	Private Outside Central Office Line
Spa Reservations	IP / Digital Telephone with display	1 per work station	4 pair per outlet	Yes (DID)	
Spa Offices	IP / Digital Telephone with display	1 per office		Yes (DID)	
Spa Admin Area	IP / Digital Telephone with display	1 per work station		Yes (DID)	
Spa Retail Shop	IP / Digital Telephone with display and analog line for credit card terminal, if required.	2 per location		Yes (DID)	
Spa Juice Bar	IP / Digital Telephone with display	1		Yes	
Spa Prep Kitchen	Analog Wall Telephone	1		Yes	
Spa Dispensary	IP / Digital Telephone with display	1		Yes	
Men's Lounge	Analog Desk House Telephone	1		Yes	
Women's Lounge	Analog Desk House Telephone	1		Yes	
Cardio Room	Analog Wall Telephone	1		Yes	
Exercise Room	Analog Wall Telephone	1		Yes	

13A.14 EI Acronyms

A. EI The following are typical acronyms used in this Chapter and others of this Design Standard.

B. EI IT Acronyms

ACD	Automatic Call Distribution
ADA	Americans Disability Act
CAS	Call Accounting System
CDR	Call Detail Record
CTR	Continental Technology Representatives
DAS	Distributed Antenna System
DDI	Direct Dial Inward
DID	Direct Inward Dial
FCC	Federal Communications Commission
GPON	Gigabit Passive Optical Network
GPOS	Global Point of Sale
IDF	Intermediate Distribution Frame
IP	Internet Protocol
MDF	Main Distribution Frame
MI	Marriott International, Inc.
MMF	Multi mode Fiber
OLT	Optical Line Terminal
ONT	Optical Network Terminal
OS&E	Operating Supplies & Equipment
PBX	Private Branch Exchange
PCI	Payment Card Industry
PI	Property Internet
PMS	Property Management System
SIP	Session Initiated Protocol
SMF	Single Mode Fiber
UHF	Ultra High Frequency
UPS	Uninterruptable Power Source
VHF	Very High Frequency
VoIP	Voice over Internet Protocol

MARRIOTT

EUROPE

Marriott Hotels

audio / visual

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

EI Expanded Information

BP Best Practices

R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

13B.1 Overview

A. Program: Provide audio and visual systems to enhance the sound and information system environs for guests, customers and employees in public, recreation, event and function spaces, guest accommodations and specific BOH areas.

B. Standards:

1. Design sound systems in compliance with accepted best practices published by:

   a. InfoComm International (InfoComm)

   b. National Systems Contractors Association (NSCA).

2. Cabling: Install infrastructure cabling in compliance with manufacturers' recommendations, NEC, BICSI, NFPA and accepted best practices as published by the International Communications Industries Association (ICIA / InfoComm) and NSCA)

C. EI Abbreviations & Definitions:

- BICSI: Building Industries Communications Systems Institute
- DRM: Digital Rights Management
- DSP: Digital Signal Processing / Processor
- HD: High Definition (video or television)
- HDMI: High Definition Multimedia Interface
- MATV: Master Antenna Television System
- NAB: National Association of Broadcasters
- NEC: National Electric Code
- NFPA: National Fire Protection Association
- PPV: Pay-per-view System
- SD: Standard Definition (video or television)
- UL: Underwriters Laboratories

D. Fire & Life Safety Alarms: See <14>.

1. Coordination: The sound system is a completely independent system not associated with nor connected to the fire alarm and life safety systems, and does not transmit fire and life safety alarms and messages.

2. System Shut Off: In the event of a fire or life safety alarm, design the sound system to deactivate, utilizing shunt-trip breakers or latching power contactors in the equipment rack.

13B.2 Acoustics - General

A. Acoustical Planning:

1. EI Acoustic characteristics and interior design of event spaces are essential to creating successful function spaces and providing guest satisfaction.
2. EI Noise Criteria (NC): Measure and calculate the background noise levels expressed as NC. This mechanical noise level indicator only includes the energy or sound pressure levels of frequencies between 125 Hertz and 4,000 Hertz.
3. EI Excessive background noise, reverberation, echoes and unwanted sound from adjacent spaces interferes with the guests' ability to decipher the spoken word, comprehend sound delivery and minimize audience stress.
4. Include an acoustical consultant on the design team to properly interpret and guide implementation of these requirements and assist in professional quality sound production.

B. Background Noise:

1. Maximum Levels of Background Noise:
   - Ballrooms: NC 35
   - Meeting Rooms / Breakout Rooms: NC 35
   - Boardrooms: NC 25
   - Pre-Function: NC 40
   - Open Breakout Areas: NC 40
   - Event Hub: NC 35
   - VIP / Green Room: NC 35
2. HVAC Systems: Design HVAC systems (see <15A>) to minimize unwanted background noise into meeting spaces.
   a. BP Do not locate noisy HVAC devices in ceiling spaces and on event space roofs.
   b. BP Select quiet supply diffusers in compliance with ASHRAE guidelines for noise control.

C. EI Echoes: Large, acoustically reflective (hard) surfaces, particularly in event spaces, create echoes.

1. EI Properties: When the distance between the sound source and the reflective surface increases, the echo becomes more distinct.

a. EI Large rooms are susceptible to echo problems.

b. EI Live bands and productions with staging and high-level portable sound systems exacerbate echo problems because speakers direct much of the sound energy toward side and rear walls.

2. Specular Reflections (echoes): Avoid in event spaces.

3. Absorptive Surfaces: Provide wall surfaces that are properly designed with diffusive and absorptive elements to reduce or eliminate echoes.

D. Reverberation Times:

1. EI Sound Energy: Measure in seconds (RT60) for sound energy to decay 60 dB from its original energy level.

2. Average Reverberation Time - Maximums:

a. Ballrooms / Function Spaces: RT 60 = 1.2 seconds, with combined salons and average between 500 Hz and 4,000 Hz.

b. Meeting Rooms / Breakout Rooms / Boardroom / VIP Room: RT 60 = 0.8 seconds.

c. Pre-Function / Open Breakouts: 1.5 seconds.

3. EI Cause: Interior space volume effects reverberation. Large rooms with high reverberation create potential problems.

4. BP Acoustical Treatment: Control reverberation with the proper balance of absorptive, diffusive and reflective surface treatments. See <6>.

E. Acoustic Isolation: Isolate the event, function and guest activity areas (see <6>) from adjacent spaces such as public and service corridors, and other adjacent noise producing spaces.

1. BP Sound Transmission Class (STC): Determine sound isolation quality of architectural elements (walls, doors, operable partitions, etc.) by STC rating.

a. BP Design conditions, such as large architectural elements require high STC to compensate for vibroacoustic element behavior.

b. BP Large operable partitions require higher STC than smaller partitions for the same installed performance.

2. BP Noise Isolation Class (NIC): Provide NIC field tests to evaluate and document completed project spaces and the effectiveness of architectural elements, demising fixed walls and partitions, and operable partitions.

13B.3 A/V Systems - General

A. Audio: Provide the following.

1. Background Music: Audible instrumental music (no words or lyrics), played at low-level, to provide auditory cues and subtle accompaniment to guests throughout public spaces such as lobby, circulation, assembly, activity areas, hallways and corridors, but not in guestroom corridors.
2. BP Foreground Music: More dynamic in character and entertainment quality than background music and may include music with lyrics. Typically played at higher audible levels in food and beverage venues, event spaces and activity areas.
3. BP Customized music services or “music styling”, offers the following:
   a. BP Customized programming or music channel playlists
   b. BP A means of changing tempo and / or genre of music according to different times in the day - also known as “day-parting
4. Sound Reinforcement: Provides amplification system for voice and music sources and from A/V programs such as computers, video, audio tapes, etc. Provide in event spaces and entertainment areas and designated activity areas.

B. BP Digital Signage & Way-Finding: An “electronic reader board” or “visual information system”. See .

1. BP Digital Signage: Provide to manage and display information relating to events, food and beverage, and property activities through various visual displays in public circulation, assembly and event spaces.
2. BP Way-finding: Provide to assist guests with event space locations, schedules and information.

C. Guestroom Entertainment Systems: Provide television programming (local, satellite and premium cable channels), music, property information (events, F&B, information and local “barker” channel) and interactive games programming. If required by the property, provide programming from related facilities (convention centers, airports, universities), etc. Coordinate with <7A> and <13A>.

13B.4 Systems Infrastructure

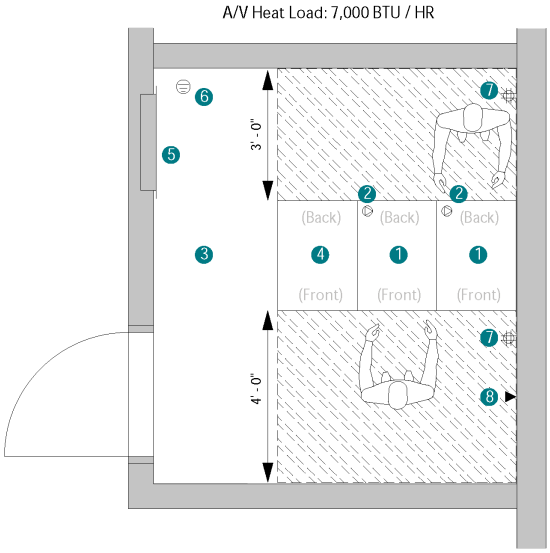
A. BP Audio / Visual Equipment Rooms: Provide dedicated, secure rooms to accommodate sound system equipment.

1. BP Sound System: Locate A/V Equipment Room in a dedicated space on same event space floor with primary door opening to the service corridor. See example for room plan.

a. BP Sound System Equipment Room - Example Plan

Notes : A/V Telecom

1. Floor standing equipment racks for main A/V systems.
2. Electrical contractor to provide (3) 20A isolated ground circuits for each rack. Flex into top of each rack using liquid-tight non-metallic conduit without compromising integrity of isolated ground.
3. Exact location of A/V equipment racks shall be coordinated with field conditions.
4. Data / Telecom rack furnished by A/V contractor. Data / Telecom wiring, patch panels and other equipment by Data / Telecom contractor.
5. A / C power panel.
6. Chemically charged ground rod.
7. Convenience quadraplex power outlet.
8. House phone.



b. BP Except for property LAN and telecommunications service IDFs, do not locate other system equipment in the sound system equipment rooms.

c. BP Contain sound and telecommunications equipment in totally enclosed and lockable steel equipment cabinets.

d. BP If equipment room serves A/V and telecommunications equipment, separate the equipment with a fence and lockable door to protect the telecommunications equipment while maintaining access to A/V equipment.

e. BP Do not allow equipment in ceiling space that requires maintenance, adjustment and service, which may leak or produce condensation.

f. BP When event spaces are remote from the equipment room, provide a large touch screen control panel in a secure enclosure in the service corridor associated with the equipment rooms.

g. BP A/V Equipment rooms are not intended for portable A/V equipment storage, but may serve as department offices.

h. BP Finishes:
- Sealed floor
- Painted walls
- Lay-in ceiling

i. BP HVAC: Provide an enclosed air conditioned, secure room. Design to maintain a temperature between 10 to 27 C (50 to 80 F) with 30% to 75% relative humidity, non-condensing. See <15A>.

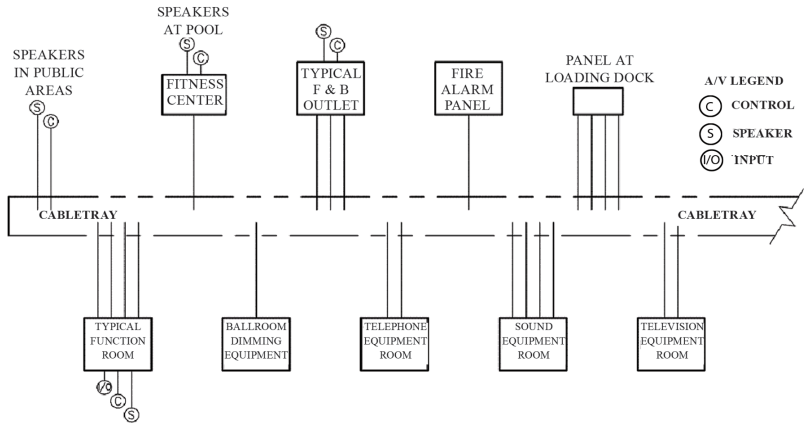
B. Systems Distribution:

1. BP Raceways: Provide pathways, including conduit, pull boxes and cable trays to contain and manage the A/V and telecommunications cabling. See example A/V Infrastructure Diagram.

a. BP Accessible Raceway: Provide to permit maintenance and cabling infrastructure upgrades to accommodate future requirements.

b. BP Protection: Provide raceway elements to physically protect cables, accommodate servicing and replacement, and provide electromagnetic shielding to minimize system interference.

c. BP A/V Infrastructure - Example Diagram



2. BP Conduit:

a. BP Location: Provide conduit from sound system input and control devices. Extend conduit from the device backbox above the cable tray so the cable is continuously protected.

b. BP Flexible Conduit: Not permitted. Provide ferrous and thin wall or rigid conduit.

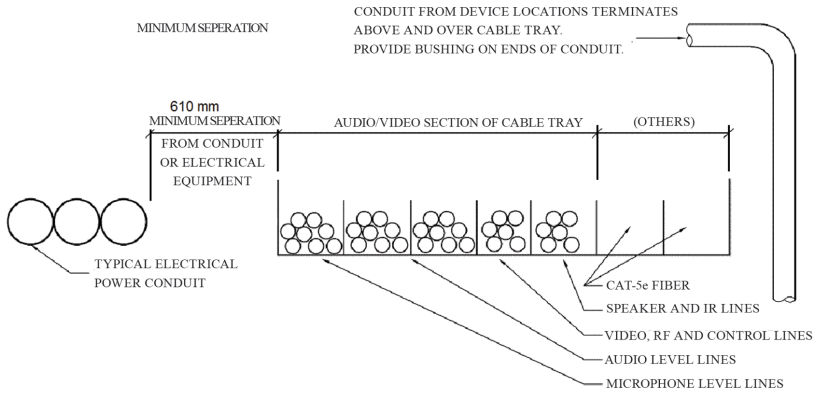
c. BP Sweep Bends: Provide conduit serving network cabling with “sweep bends” to permit ready maintenance and installation of future fiber optic cabling.

3. BP Cable Trays: Provide cable trays to collect cables from input, control devices and from speakers. Route cable trays to equipment room.

   a. BP Location: Attach cable trays to wall or center support to permit easy system cable maintenance, additions and upgrading.

   b. BP Dividers: Provide cable trays with ferrous dividers to separate circuit levels.

   c. BP Cable Tray Wiring Distribution - Example



4. BP Open Wiring:Utilize accessible ceiling space for speaker and control circuits only. Support open wiring with “J” hooks at 1.5 m (5 ft.) on center maximum.

5. BP Floor Boxes:

   • Technical and Show Power: Provide connections in floor boxes intended to service primary staging and A/V technician operating locations.

   • Conduit: Provide conduit from floor and wall mounted sound system input, control and AVnet panels and devises. Conduits extend from the device back box to above the cable tray so cables are continuously protected.

C. BP Power & Grounding Service:Provide power for the sound system A/V equipment racks and electric outlets in the Sound Equipment Room from a dedicated single phase, same phase isolated ground panel (the “Technical Systems Power Panel”).

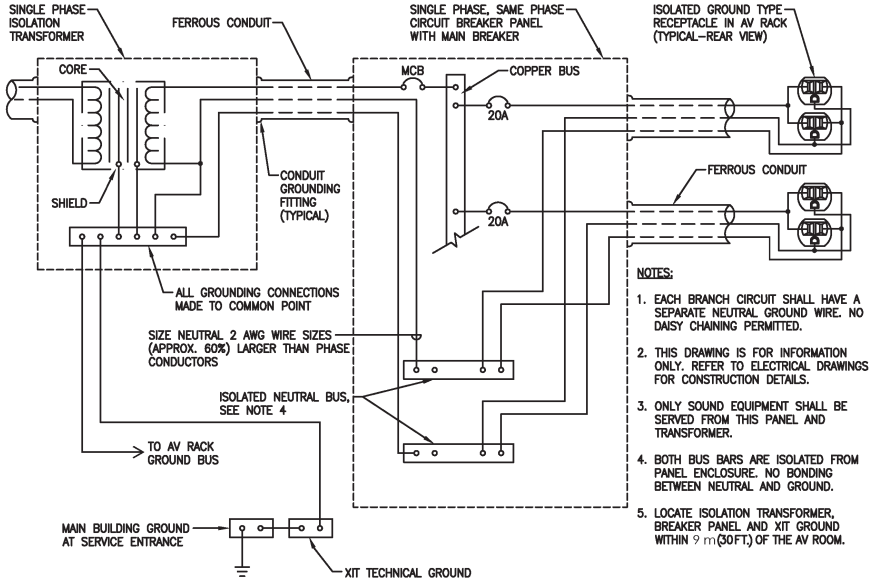
1. BP Power Panel: Equip with an isolation transformer and a Faraday shield, derived neutral and isolated ground tied back to the main building ground grid with a dedicated, large gauge cable. See Technical Systems Power and Grounding Diagram - Example

2. BP Main Sound System Audio Ground: Provide a dedicated high quality, chemically charged, non-sacrificial technical ground to provide an impedance to earth of less than 5 ohms (such as Lyncole Industries XIT ground rod). Equivalent grounding schemes may be considered if performance is a proven equivalent for the required system.

3. BP UPS (Uninterruptible Power Supply): Equip the sound system with a UPS to protect the programming and control and the DSP systems settings. Amplifiers are not connected to UPS.

4. BP Electric Power Outlets: Provide adjacent to sound system input plates and A/V network connector panels in event spaces.

   a. BP Technical Systems Power & Grounding - Example Diagram



D. Telecommunications: See <13A>.

1. System Interconnections: Provide connections to telephone services, tie lines and A/V network patchbays.

2. Property Internet (PI): Provide PI connections and a variety of telecommunications services (house phone, DID, POTS, T-1, ISDN etc.). Patch the services into the A/V network to serve guests' requirements.

3. Internet (PI) Connection: Provide to control system for remote monitoring, operation and maintenance. See <13A>.

13B.5 Background Music (BGM)

A. System - General: Provide background music to public spaces such as lobby, circulation, event / assembly and activity areas.

1. BP Location: Co-locate BGM equipment with the main event space equipment, where possible. Where impractical to completely centralize the systems, interconnect the remote equipment with the central equipment to accommodate centralizing the BGM sources to centralize the systems master control.

2. Quality: Provide commercial quality equipment, materials and components designed for continuous use. Consumer quality components are not acceptable.

B. Features & Functions:

1. Music Sources: Provide BGM from a subscription music service that offers programming or playlists of music channels, and a means of changing the tempo and / or genre of the music according to different times of the day.

   a. Deliver subscription music services through telephone, PI, cable, or satellite. On-site BGM sources utilizing media such as cassettes, tapes and CDs are not permitted.

   b. BP Provide “day-parting” BGM programming so property management can pre-arrange music changes according to time of day. Programming changes occur automatically and do not require operator intervention or action.

2. Controls: Provide independent music volume controls for each distinct property area.

   a. BP Location: Provide controls at the primary equipment rack or locally. Where local control is appropriate, conceal controls from public view.

   b. EI Example: Front Desk / Reception area local control to permit employees to adjust the volume at night. Controls are automatically reset to a pre-defined volume level and music source before morning activities begin.

3. Speakers:

   a. EI Types: Speaker types vary according to the architecture and interior space design. Interior spaces may utilize an array of ceiling speakers, self-contained speakers, planter speakers, etc.

   b. Location: Conceal speakers wherever possible while providing consistent, low-level BGM coverage.

C. Areas Served by BGM: Provide a continuum of low-level BGM throughout the public assembly and circulation spaces.

1. Acoustic Zones: As a design principle, ensure that guests are not able to hear more than one music source at any time, in public spaces.

2. "Buffer" Zones: Provide quiet areas or use noise such as water feature sounds to acoustically isolate an area to accomplish the buffer effect. Example areas are food and beverage venue entrances and courtyard / outdoor activity areas.

3. Locations: Provide low-level BGM to the following areas:

   a. Public assembly and circulation areas - not guestroom corridors.

   b. Lobby and front desk areas with independent volume control behind front desk or in immediately adjacent BOH area.

   c. Porte Cochere: Same programming as lobby area.
   • In Porte Cochere less than 6.1 m (20 ft.) high, provide speakers or conceal in planters or adjacent landscaping.
   • At busy urban sites, where traffic noise is significant, no BGM is required.

   d. Public Restrooms:Same programming as adjacent areas. Typically, speakers are tapped to provide a lower volume than speakers in adjacent circulation area.

   e. Elevator Lobbies & Foyers:
   • Main Floors: Same programming as adjacent lobby and circulation areas.
   • Guestroom Floors: Provide only in high-rise projects. Do not locate speakers within 12.2 m (40 ft.) of guestroom entrance doors.

   f. BP Retail Areas: Same programming as adjacent lobby and circulation areas.
   • Provide each retail space with an independent volume control.
   • In themed retail areas (example golf shops, spa shops), provide program selections from a dedicated subscription music source in addition to volume control.

   g. F&B: Provide BGM to F&B areas with at least one independent, dedicated channel of music from the subscription music service. Each F&B area can select from this source, or the main property BGM sources. See F&B section below.

   h. Event Spaces: Provide BGM to Event Spaces with a minimum of three independently selectable channels of music from the subscription

services so each separate area may select from these sources. Also, provide a line-level input on the patch panel to permit the use of auxiliary music sources

i. Pre-function Areas: Same programming as the adjacent lobby and circulation areas. See Event Spaces, below for other requirements.

j. Courtyards – Indoor: Conceal speakers in planters or landscape areas.
   • When a functional part of an adjacent food and beverage or activity venue is provided, design and connect system speakers to the venue's BGM / foreground music sound system with independent volume controls.
   • Guests are not to hear more than one music source at any time in public areas. Provide through interconnecting program switches or through control system programming. Utilize buffer zones to accomplish this effect.

k. Courtyards - Outdoor: Conceal speakers in landscape areas.
   • When a functional part of an adjacent food and beverage or activity venue is provided, design and connect system speakers to the venue's BGM / foreground music sound system.
   • Provide a local input to feed the courtyard sound system with tie lines to the central sound system room.

l. Outdoor Circulation Areas: Conceal speakers in landscape areas.

m. Bridges or Walkways to Adjacent Facilities: Conceal speakers in landscape areas, under bridges and in overhead covered structures.

13B.6 Food & Beverage (F&B) Systems

A. Sound (Audio) - General:Provide background and foreground (as applicable) music entertainment in F&B areas (see <3>) to complement the atmosphere developed by interior design and operator.

1. Local Controls: Provide in each area and in each venue, out of guest view. Verify with MI if locking required to avoid unauthorized access.
2. BP Location: Where practical, co-locate equipment for background music with the main event space sound systems.
3. Controls: In each area with BGM, provide local controls for staff access only and conceal controls from public view.
   • Locate controls in the controlled space so staff can hear sound adjustments.
   • Provide program control selection and volume control.
   • Verify with MI if locking required to avoid unauthorized access.
4. Background Music (BGM): Provide dedicated BGM channel from the subscription music service for themed entertainment and F&B areas. Do not provide local music inputs, such as CD or iPod/MP3 players.
5. BP Other: Consider more advanced A/V entertainment requirements. See the applicable Brand Food & Beverage Concept Report for specifics.

B. Features & Functions: Coordinate with <3>.

1. Three Meal a Day & Fine Dining Restaurants: Provide BGM throughout seating areas.
2. Private Dining: If a seating section is designated for Private Dining, provide a local speaker level volume control for that area.
3. Lobby Lounge / Bars: Provide BGM and foreground music throughout the seating areas.
   a. Provide zoned local volume controls and a music source selection control behind the bar.
   b. BP If television entertainment is required, provide sufficient televisions to permit most of the seated patrons to view a screen without having to turn away from their table guests.
   c. Provide current technology, professional quality displays with non-glare or anti-glare viewing surfaces and third-party RS232 and Ethernet (cable) control.

d. BP Provide a digital media server and control system with satellite / television tuners behind the bar and connect to sound system.

e. BP Locate a touch screen control panel behind bar and at host stand.

4. BP Piano Bars: When a piano is included in a lounge or bar area concept, provide a contact microphone in the piano to provide live sound to the system.

   a. BP Control Panel: Provide a small control panel located at, on, or near the piano that includes a switch to turn on / off the local background or foreground music and a volume control to adjust the level of piano music.
   • Control activation causes the music to ramp up or down over a 10 second period, not simply to switch on and off.
   • Provide an identical panel as described above behind the bar to permit bartender to control volumes from piano and BGM and foreground music sources.

   b. BP Piano, Vocalist & Combo: When piano entertainment is anticipated to include a vocalist or small combo, provide one or two more microphone jacks for the piano microphone.
   • Provide a small, portable sub-mixer located at the piano to permit the combo musicians to sub-mix their instruments.
   • Provide bartender panel with three volume controls; one for the piano, one for the vocalist and one for other instruments.
   • When a piano is located near a F&B venue, provide the piano as a music selection for each venue.
   • Provide the piano with a digitally controlled player piano.

5. Snack Bars: Provide BGM and / or foreground music from the central control room. Provide same programming as adjacent activity or circulation spaces with local volume controls.

6. Pool Bars: Provide BGM and / or foreground music with the main programming source located at the central control room. Provide zoned local volume controls and source selection controls behind the bar.

   a. BP When the pool complex is significant, provide a dedicated feed and channel from the central music server with a local control panel to permit adjusting the music server for this area. When this feature is included, interconnect adjacent activity area sound systems so the same music programming is played throughout the pool area.

   b. BP Locate and contain A/V equipment serving pool areas in an enclosed, air conditioned, clean, dry and secure space or provide a self contained, environmentally sealed and conditioned equipment rack for

the system equipment.

13B.7 Specialty Entertainment & Performance Spaces

A. Program: Certain F&B areas can be designated as possible specialty entertainment and/or performance spaces. Audio/Video Systems in these areas have elevated performance requirements.

B. General System Requirements:

• Specify premium, professional grade loudspeakers and electronics components. Consumer lines are not acceptable, except in very limited special cases and need to be approved in advance.

• For high performance audio systems, place the processing and amplification racks as close as possible to the loudspeakers.

• Avoid speaker level runs longer than 100ft (30m). Use heavy gauge speaker wires 10AWG (5mm2) and 8AWG (8mm2) for longer runs and for low frequency reproducing loudspeakers and subwoofers.

• Use amplification rated at 1 to 1.5 times the transducer rating.

• Set limiting to not exceed rated transducer power.

• Use separate DSP outputs for speaker locations that might require time alignment, even if they exist in the same volume zone.

• If using amplifiers with signal processing built in, use discrete DSP outputs for volume and source zones.

• Provide one CAT6 data tie per venue to DSP processors system network for use during system tuning and as a utility line later.

• Provide a control computer running the latest version of the DSP control software.

1. Acceptable Brands of Loudspeakers:
   - EAW
   - Tannoy Professional,
   - JBL/Harman Pro
   - Renkus Heinz
   - L-Acoustics
   - D&B
   - Martin Audio
   - Brand-approved other

2. Acceptable Brands of Amplifiers:
   - Crown
   - QSC
   - Lab Gruppen

• Yamaha Pro Audio
• Brand-approved other

3. Acceptable DSP platforms:
   • BSS Soundweb London
   • QSC Q-Sys
   • Symetrix Symnet Edge

4. Control panel:
   • Provide an easy to understand control panel for overall system overview and control.
   • Provide three levels of control: admin, technical user, F&B staff user.
   • Admin has design and deployment privileges.
   • Tech user has control of the whole system including storing presets, changing user EQ, selecting sources
   • F&B Staff user can recall presets, change music sources, mute individual zones.
   • Provide wireless access to control pages over a secure network. The wireless controllers can include tablets, smart phones and laptops with appropriate software.

C. Typical DJ Location: Coordinate DJ locations with the design team and verify with MI.

1. Provide or request one 20A at 120V (or equivalent in locations outside of the USA) AC power duplex outlet per DJ location. The power to come from the same isolation transformer as the power for the AV racks.

2. For a typical DJ location, wall panel or floor box mounted panel to include:
   • Left and Right line level system inputs on transformer isolated XLR connectors,
   • 2x Audio Tie on XLR connector,
   • 1x CAT6 Data tie,
   • 1x RG-6 Video Analog or Digital (HD-SDI) Tie,

3. Tie lines to be brought to main AV location where tie lines from meeting rooms, ball rooms and other production areas are landed. For DJ locations where the maximum allowed length of copper-based wires is exceeded, substitute with single mode fiber on ST connectors.

D. Typical Audio Production Connections:

1. Locations:
   • In areas designated as live combo performance area (cabaret, entertainment lounge) provide three 20A at 120V (or equivalent in locations outside of the USA) AC Power circuits at the stage area and one 20A at 120V (or equivalent in locations outside of the USA) AC Power circuit at the Front

of the House location.

• Coordinate connectors on Front of House and Stage I/O panels with Theatrical Lighting Systems.

2. For a typical live combo performance location, wall or floor box mounted panel to include the following: At mix position:
   • Left, Right, Low Frequency line level system inputs on XLR connectors
   • 6x audio tie lines to stage
   • 6x monitor mix inputs
   • 1x Digital Audio connection to stage box system
   • 1x Digital Audio connection for outside production company
   • 1x CAT6 Data tie At the Stage:
   • Left, Right, Sub Low line level system inputs on XLR connectors
   • Microphone inputs quantity: 24 or more
   • 6x audio tie lines to mix position
   • 6x monitor mix inputs
   • 6x speaker level monitor wedge output
   • 2x Digital Audio connection to stage box system
   • 1x Digital Audio connection for outside production company
   • 2x CAT6 Data tie

E. Typical Video Production Conections:

1. If any of the Performance Venues includes video projection and live camera locations, provide one 20A at 120V (or equivalent in locations outside of the USA) AC Power circuit or power circuits as required by specified projector or camera per location.

2. For a typical camera location, wall or floor box mounted panels include:
   • 2x RG6 analog or digital video tie lines on BNC connectors
   • 2x data tie lines on CAT6 connectors
   • 3x single mode fiber pair (6 strand) tie lines on ST connectors

3. For a typical projector location, wall or ceiling mounted panels include at a minimum:
   • 2x RG6 analog or digital (HD-SDI) video tie lines on BNC connectors
   • 2x data tie lines on CAT6 connectors

4. For projector locations, wall or ceiling mounted panels may require additional connectivity based on system configuration, distance and/or control requirements: 3x single mode fiber pair (6 strand) tie lines on ST connectors
   • HDMI connector
   • DVI connector
   • RS-232 DB-9 connector

F. Broadcast Support System:

1. Coordination:
   • Where broadcast production is to be accommodated, provide professional grade communications infrastructure. Broadcast Infrastructure to allow for direct connection of various production locations.
   • Determine and coordinate possible production truck location, usually in the loading dock area.
   • Determine and coordinate possible production show director locations, usually near the function and performance venues.
   • Determine and coordinate possible camera locations.

2. Provide locally prevalent broadcast grade infrastructure. Typical USA broadcast truck connections are as follows:
   • 1x 12 channel balanced audio tie lines on XLR and Whirlwind DT-12 Male and Female connectors
   • 6x single mode fiber pair (12 strand) tie lines on ST connectors
   • 4x data tie lines on CAT6 connectors
   • 12x RG6 analog or digital (HD-SDI) video tie lines on BNC connectors

G. Specialty Performance Entertainment Venues:
   • Provide a sound system capable of normal operation at SPL of 110 dBA (115 dBC) with at least 10dB of head room.
   • Provide a system capable of reproduction of frequency range 30Hz-20 kHz +/- 3dB over at least 75% of the floor area
   • Provide production I/O at the stage and at possible FOH locations (see 13C.9 C for spec)
   • If dedicated DJ Booth exists, provide DJ I/O in the booth (see 13C.9B for spec).
   • Provide digital audio snake system and digital audio mixing console for in house production.
   • Tie the house digital audio mixing system into the house DSP system.
   • Provide digital audio snake infrastructure for guest act system. Possible formats are Dante, AVB, MADI, Optocore, AES50. Select one most likely to be used by local rental companies.
   • Provide an SPL-sensing microphone connected to the system's SPL limiter. SPL limiter can be configured in the main DSP or through a separate dedicated unit incorporated into the signal flow.
   • If requested, provide live broadcast camera locations in the performance venue (See Broadcast Support Systems spec 13C.9 D).
   • If requested, provide drop down screen over the stage area and an HD projector. Size the screen and projector according to best video design practices per InfoComm & NSCA Standards.
   • Provide combined audio and video system control on touch screens. Additional control may be required for other systems such as lighting and curtains as requested by the Design Team.
   • Locate controllers in the Back of House areas. Coordinate locations with the ID Team.

H. Penthouse and Premium Suites: Penthouse AV system to be usable as a private party system.
• Provide high quality, multi-zone AV system with central control.
• Provide hand held remote controllers for TV's and touch screen controllers or tablets for overall system control, including TV's.
• Coordinate AV control with in-room MATV systems. One remote for everything in each room.
• Control system to control the AV system at a minimum and other systems such as lighting, HVAC or curtains as requested by the Design Team.
• Provide at least one DJ location; Coordinate locations with the ID team.
• The sound system to be capable of normal operation at SPL of 95 dBA (100 dBC) with at least 10dB of head room.
• Use combination of ceiling speakers and subwoofers in the Living Room and Dining Room.
• Use combination of sound bar or in-wall and ceiling speakers in the bedrooms.
• Use ceiling speakers in the bathroom and corridors.
• Use surface-mounted speakers on the balcony/terrace, is applicable.
• Allow for free routing of audio and video sources (including DJ) to all zones.
• Approved AV routing and control systems: Crestron, AMX, Extron

I. Sound Booth / Recording Studio: In projects where a sound booth or recording studio is incorporated into a penthouse or Premium suite, additional A/V requirements maybe needed. Consult with MI project team.

13B.8 Fitness Center / Recreation

A. Program:Provide BGM (background music) and foreground music to complement the guest activities in various Fitness and Recreation areas.

1. Volume Controls: Provide for each activity area.
2. BP Location: When practical, co-locate the BGM equipment with the main event space sound systems. Alternately, locate BGM equipment in a staff lounge, telecom equipment closet or administrative office associated with the Fitness Center areas.
3. Controls:
    a. Locate controls within the controlled space so staff can hear sound adjustments. Verify with MI if locking required to avoid unauthorized access.
    b. Provide controls for music program selections and volume control.

B. Features & Functions: Coordinate with <4B>.

1. BGM Locations: Provide low-level BGM in the following Fitness Center areas:

   a. Entry Areas & Circulation Corridors: If a Welcome Area is included, volume controls for pool, area and locker rooms are located in an equipment closet.

   b. Locker Rooms: Provide on the same channel as the entry area and locate controls in the Audio Room.

   c. BP Indoor Pool Areas: Locate controls in the Audio Room.

   d. Outdoor Pool Areas: Conceal speakers in surrounding plants. If a pool snack bar is provided, connect speakers system to pool snack bar sound system and locate controls behind the bar.

2. BP Aerobics & Weight Rooms: Provide BGM and foreground music and televisions. Provide foreground music as an independent, selectable music channel from the subscription service.

   a. BP Provide wall mounted volume and source controls to permit music selections by guests.

   b. Provide three to six, easily viewable by guests, current technology, flat screen television monitors for guests utilizing aerobic machines and exercise area. Equip televisions with a non-glare or anti-glare viewing surface and an FM radio transmitter for sound.

   c. BP Connect exercise equipment monitors and area flat panel televisions to the MATV system.

13B.9 Spa Systems

A. Sound & Video - General:See Chapter <4D> and the Spa Design Standard for specific spa information and design criteria.

1. Background Music (BGM) & Foreground Music: Provide to complement guest activities in various spa areas.
2. BP Location: When practical, co-locate the BGM equipment with the main event space sound systems. Alternatively, locate BGM equipment in a staff lounge, telecom equipment closet or administrative office associated with the Spa areas.
3. Controls: Provide each activity area with music with local controls accessed only by staff and concealed from public view.
    a. Locate controls within the controlled space so staff can hear sound adjustments.
    b. Provide controls for music program selection and volume control.
4. Dedicated Television Information Channel: If the property is equipped with a Spa, provide a dedicated television information channel distributed to guestrooms via the guestroom entertainment system. Provide channel programming that originates from the Spa Manager's office.
5. BP Other Requirements: If the Spa Programming Report requires expanded A/V technologies for the A/V system provide amenities such as digital art distributed throughout the Spa areas, personal listening pods, etc.

B. Features & Functions: Coordinate with <4A>.

1. BGM Locations: Provide programming source from a commercial music subscription service for the low-level BGM in the following Spa areas.
2. Entry Area & Circulation Corridors: Provide to welcome guests to the Spa and reinforce the environmental quality.
    a. Locate volume controls for the entry, circulation corridors, pool and locker rooms behind the Spa reception desk.
    b. Locate throughout guest circulation corridors to mask sounds from treatment rooms.
    c. BP Alternately, provide low-level "nature or organic" sounds from a digital music source.
3. Meditation Areas: Provide with a dedicated music source. Alternately, provide

low-level “nature or organic” sounds from a digital music source

4. Outdoor Areas: Conceal speakers in surrounding planting. Locate controls behind the reception desk or in a nearby service area.
5. Locker Rooms: Provide from the entry area music channel and locate volume controls at the reception desk.
6. Wet Areas: Locate throughout the wet activity areas including whirlpool, plunge, indoor pool and wet treatment rooms. Provide self contained, water and weather resistant speakers.
7. Retail Areas: Locate volume controls at the cashier area. Provide from the adjacent entry or corridor music channel.
8. Juice Bar Area: Locate music volume controls behind the bar service area. Provide from the adjacent activity or corridor music channel.
9. Treatment Rooms: Provide BGM from a commercial music subscription service with stereo ceiling speakers and wall mounted music controls in each treatment room.
    a. Provide music volume control and music selection from at least six channels of stereo BGM. Include auxiliary music input to permit music input from personal devices.
    b. Provide each treatment room with a radio or WiFi receiver having presets adjusted to the Spa music channels.
    c. BP Alternately, provide a six channel, low-power FM transmission or WiFi system designed to provide wireless music service throughout the Spa.

13B.10 Event & Meeting Space Systems

A. Sound & Video - General: Provide sound reinforcement system for each event and meeting space (see <6>) that accept signals from microphones and A/V program sources to evenly distribute high fidelity, high-level, full frequency response sound throughout an audience and listening area.

1. EI Voice Reinforcement: The primary purpose of reinforcement system is to amplify the spoken word.
2. EI Music System: The secondary purpose is to provide foreground music and playback of recorded A/V programs and for background music.
3. EI Live Music: The system is not intended as the primary sound reinforcement for live musical entertainment.

B. Sound Systems: Provide input / output plates to allow for connection to the built-in systems.

C. BP Passive A/V Network Tie Line Connections: Provide from each event spaces to a central control location to permit signal transport of audio, video, computer, control, Internet, webcast, etc. from any space to any other space or combination of spaces, and to interconnect to the outside world via Internet and telephone connections.

D. Control Systems:

1. Digitally programmable with an exclusive user interface for sound system functions located at the main equipment rack.
2. BP Provide a system interface with the property's management system that allows staff to monitor and control A/V systems through computers and mobile devices on the management network.
3. BP Processing (for sound systems): DSP based (digital signal processing) that provides mixing, routing, equalization, leveling, combining and other sound processing functions.

E. Features & Functions: Provide a robust built-in system to deliver high-level sound reinforcement, program signals distribution and to integrate with and complement portable equipment and systems to fully support effective meeting activities to fully support effective meeting activities.

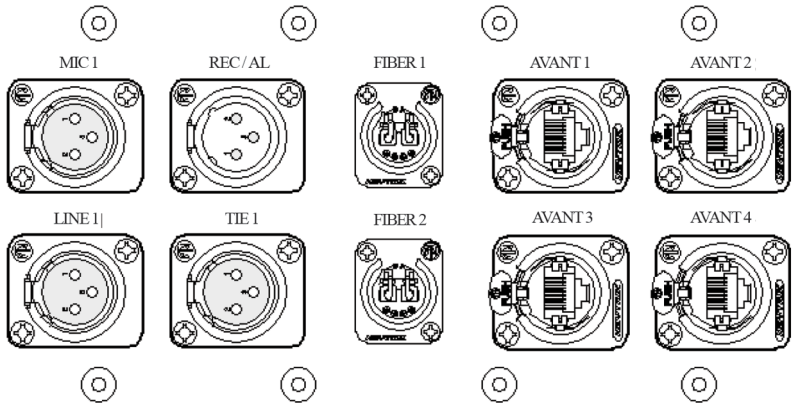
1. Inputs - General: See A/V Input Plate example diagram.
    a. Equip with two active microphone level inputs (XLR-3FD connectors), one passive audio tie line (XLR-3FD connector), and two AVnet inputs

(RJ-45 connections)

b. BP Terminate active microphone inputs with a 1.6 K ohm resistor on the back of the input plate jack to minimize input noise.

c. BP Provide input plates designed to conceal and protect connectors when not in use. Typically, utilize a millwork panel or wall-box enclosure.

d. BP A/V Input Plate - Example Diagram



2. BP Input / Output Plates & Tie Line Plates: See example diagram.

   a. BP Location:Locate at the “object walls” and at various locations on the peripheral of fixed walls. Position to serve cables to the most commonly used head table, podium, stage, platform and lectern locations without placing cables past, or over public or service entrance doors.

   b. BP See “A/V Network & Tie Lines” and diagram.

3. Accessibility:Ensure that the input / output plates and controls are located on the wall to meet ADA compliance and are accessible when portable platforms are utilized. See <GR1>

4. Speakers: Provide an array of flush, high quality ceiling speakers, evenly spaced to provide high intelligibility, low distortion, wide frequency response, wide dynamic range and even direct sound coverage (+/- 2dB @ 4kHz) throughout the event spaces seating and audience areas. Consult with acoustic consultant.

   a. BP Sizes: Ceiling speakers sizes vary according to ceiling height. Typically, provide smaller speakers in low ceilings and larger speakers in high ceilings.
   • Ceilings up to 3 m (10 ft) high, provide 10 to 15 cm (4 to 6 inch) full range speaker assemblies.
   • Ceilings between 3 and 5 m (10 and 16 ft.) provide 20 cm (8 inch) coaxial two-way speaker assemblies.

• Ceilings between 5 and 7 m (16 and 20 ft.) provide 30 cm (12 inch) coaxial two-way ceiling speakers and equipment with 60 to 75 degree constant directivity high frequency transducers.
• Ceilings above 6 m (20 ft.) high, provide special electro acoustical modeling and high power speakers having a high degree of dispersion pattern control.

b. BP Power: Provide constant voltage SY-Stem (70.7 or 100 Volts) signal distribution to speakers. Provide high quality transformers with 6 dB headroom allowance in component sizing.

c. BP Protection: Equip speaker assemblies with non-resonant backboxes and / or enclosures to protect each speaker.

d. Grills: Provide speaker grills with minimum of 66% of open area and 24 mm (3/32 inch) minimum perforation holes.

e. Support: Attach speaker to building structure and not from suspended ceiling system.

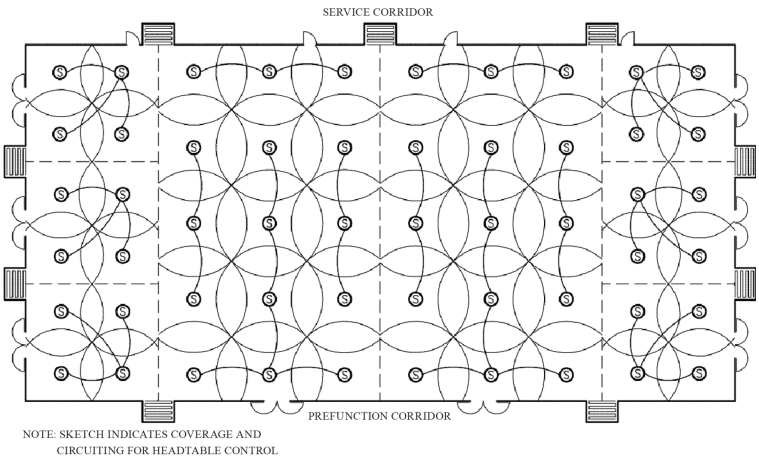
f. Quantity: Determine speaker quantities by the spacing requirements above. Evenly space ceiling speakers for each event space, meeting room, or ballroom and salon based on the overall area, divided by (floor-to-ceiling dimension), squared.

g. Spacing: Space speakers to average 0.8 times the floor to ceiling height dimension with the ratio of the closest and furthest spacing between any two adjacent speakers not exceeding 1:1.5.

h. Zoning for Control: Provide individual zones of speaker control to permit turning off speakers above head tables and platforms, when necessary. This controls feedback and improves system gain. See Ballroom Speaker Layout and Zone Circuiting - Example Ceiling Plan.

i. BP Alternately, when the controlled zone quantities exceeds three, provide relays to turn off speaker zones and minimize the patch cord quantities to restore performance in the event of DSP or control system failure as indicated above.

j. BP Ballroom Speaker Layout & Zone Circuiting - Example Ceiling Plan



5. BP In-room Local Controls: Equip each event room, ballroom area or salon with a dedicated sound system and provide with an in-room control panel near the primary guest entrance door.

   a. BP Location: Locate controls near the primary guest entrance in salons and also at the service entrance in larger salons.

   b. BP Control Features:

   • Design controls to give access to specific system functions to staff and to meeting planners (as desired by the staff), but with a means to secure controls to prevent access or operation by unauthorized persons.

   • Provide security control by electronic, electro mechanical or only mechanical means.

   • Provide micro-processor based user interface to the digital signal processing system. Also, provide extended functions including selection of lighting presets.

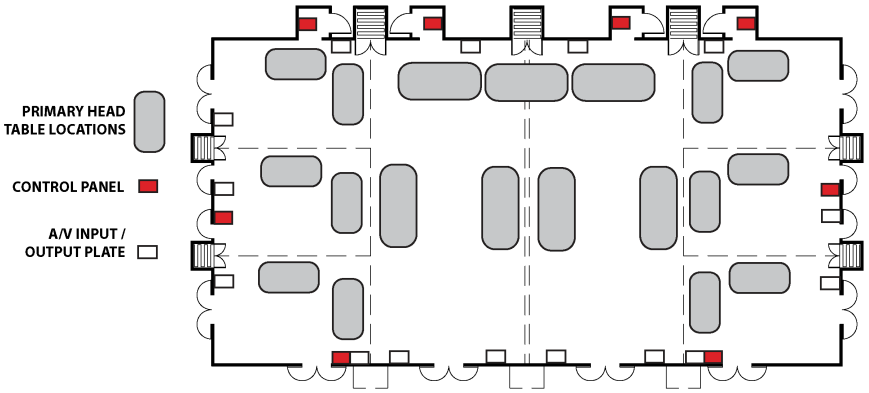
   • Provide intrinsically rugged units with installation that is relatively impervious to damage from physical contact from carts, chairs, etc., typically utilized in event spaces.

   • Provide an illuminated, programmable LCD display, push button and / or rotary controls to provide user interface and system status information.

   • Accommodate mobile technology to provide staff with system control.

   c. R Programming: See “Document Submittal” requirements below. See the project A/V Supplement for specific, parametric control system functional and programming requirements.

   d. BP Ballroom A/V Devise Layout

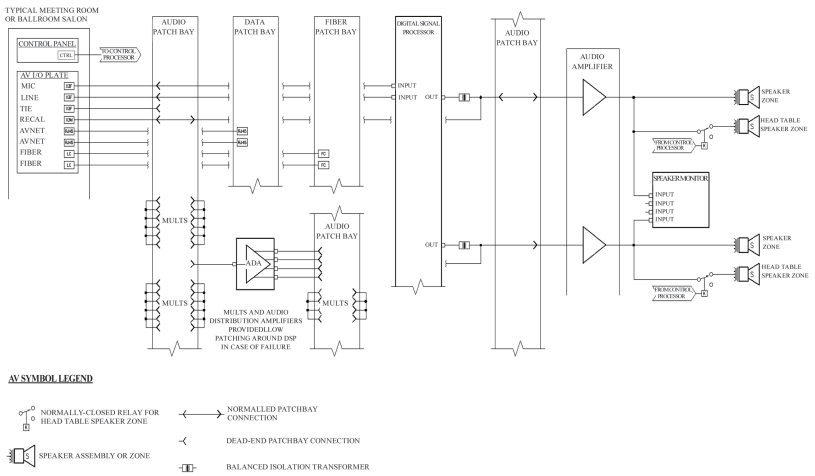


6. BP Portable A/V Equipment: Provide a complement of portable equipment that supports the built-in systems.

   a. BP Include microphones, cables, projectors, flip charts, theatrical lighting systems, portable high-level sound systems, projection screens, production mixers for audio and video, cameras, adapters, video graphics displays, computers, etc.

   b. BP Develop a project specific list for portable A/V and lighting equipment requirements. Include interfaces, receivers and transmitters required for analog and digital video and audio sources to work with the AVnet system.

7. BP A/V Signal Flow - Example Diagram



F. System Components:

1. BP Digital Signal Processing (DSP): Provide commercial duty, programmable DSP components with single central device or distributed processing device functions.

   a. BP DSP provides for mixing, routing, equalization, leveling, and other

sound system processing functions.

b. BP Provides level control for system inputs and outputs.

c. BP Combines channels of associated Ballroom salons, meeting rooms and / or Pre-function areas.

d. BP Electronically disable or secure front DSP panel controls behind mechanical covers. Does not require and does not permit user interface or direct DSP unit manipulation.

2. BP Patchbays: Provide for event space sound systems. Active input circuits are “normalled” through the patchbays to the DSP inputs. Normalled jacks are intermediate between the DSP outputs and following amplifier inputs. Tie lines “dead-end” on patchbays.

a. BP Provide commercial duty, Mil spec, 6 mm (1/4 inch) TRS type or “Bantam TT” type patchbays with mechanical or solder connections. Insulation displacement or “punch-down” connections are not acceptable.

b. BP Equip active DSP system inputs that appear on the patchbay (normalled through input circuits and inputs from auxiliary sources) with protective isolation transformers between the patchbay and the DSP inputs. Phantom power is not provided by the DSP systems and assume phantom power is external to the built-in systems.

c. BP Provide normalled amplifier inputs through the patchbay. Associated DSP outputs do not appear on the patchbay.

d. BP Equip patchbays with internal accessories including phase reversers, line-to-mic pads, isolation transformers, ground lifts and sufficient mults to allow by-passing processing components from the input circuits to the amplifier inputs.

e. BP Provide a means to bypass failed DSP or control systems, a patchbay design requirement.

• Provide sufficient patchpoints, mult jacks, and patchcords to permit bypassing the DSP and restore full sound system performance by patching from an in-room input, through the mults, and into the amplifier inputs.

• Design the system to minimize the number of patchcords required to perform this control function.

f. BP Provide patchbays with bussed shields that serve as the Uni-Point ground for the sound system processing. See Power and Grounding - Example Diagram.

g. BP See example A/V Signal Flow - Example Diagram.

3. BP Amplification: Provide sound reinforcement for each channel.

a. BP Provide commercial duty, convection cooled and design to drive 70 Volt constant voltage speaker circuits.

b. BP Provide single or multi channel devices.

4. BP Monitoring: Provide auditory monitoring at the equipment rack for each amplifier channel speaker level output.

a. BP Provide one line level monitoring channel with its input on the patchbay.

b. BP Design for a headphone to monitor signals.

5. Control System:Equip event space sound systems with an overall control that provides local and central control of the sound systems basic functions.

a. BP Design for exclusive staff and guest interface with the processing equipment. Direct access to the processing is not required, accommodated or permitted.

b. BP Provide browser based IP access via the internal property network and via Property Internet (PI) access. Include monitoring and sound systems control functions.

c. BP Develop and design user interface screens, system functionality and logic through an iterative process involving the project's design consultant. Anticipate a DSP control system programming revision three months following the property opening.

6. BP Central Control Panel:

a. BP Provide a large 30 cm (12 inch) diagonal measure, minimum, color LCD touch screen control panel for overall system functions.

b. BP Provide system functions on a touch screen. Interface does not require the user to provide a pointing device or keyboard for system operational functions.

c. BP When event spaces are remote from the equipment room, provide a large touch screen control panel in a rugged protective enclosure in the service corridor associated with these rooms.

G. BP A/V Networks (A/V Net) & Tie Lines:Provide interconnecting cabling between and among the event spaces, associated Pre-function, activity areas and appropriate communication "points of presence" in the facility such as television headend rooms, telephone equipment rooms, computer rooms, the loading dock, business center, A/V department operations office, etc.

1. BP Provide single and multi-mode fiber and shielded Cat 6 network cabling.

a. BP Provide minimum of four A/V optimized Ethernet circuits, terminated on RJ45 connectors and two multi-mode fiber interconnecting cables terminated on specialized A/V connectors (Neutrik FiberCon).

b. BP Certify tie line performance to meet BICSI standards for design and performance for the required cabling type.

2. BP Land Avnet tie lines on plates in each event space. See A/V Input Plate - Example Diagram.

3. BP Run tie lines back to primary A/V equipment room serving the associated event spaces. Land on patchbays located in equipment racks.

4. BP Verify with the MI Representative to determine if Ballroom, Salons and Meeting Rooms require floor pockets for power, data and telecommunications connections.

5. BP Design the network to serve event spaces including breakout rooms and areas that are not equipped with built-in A/V or sound systems.

6. BP Design connectors on plates and protect from damage from physical contact from carts, chairs, feet, etc.

7. BP Provide a stainless steel, lockable, and weather tight media connection panel at the property receiving area for interconnectivity to local and national television production vehicles for special events. Provide the following features.

a. BP Six RJ45 Ethernet jacks for A/V tie lines

b. BP Six fiber optic jacks for multi-mode fiber

c. BP Two fiber jacks for single mode fiber

d. BP Two SMPTE Fiber tie lines for large Ballrooms more than 930 m² (10,000 sq. ft.)

e. BP Ten balanced audio jacks

H. Pre-function Areas: Provide the following.

1. Interconnection to adjacent areas for event spaces with overflow functions.

2. BP Speaker control in zones relating to associated meeting spaces. Individual speaker zones are capable of being turned on or off using the control system.

3. BP A minimum of one AVnet tie line connection per seating cluster in each Pre-function space. Integrate AVnet connections with A/V input / output plates.

4. BP A means to temporarily locate video / data projectors at the ceiling. Provide a means to temporarily attach projection screens at the ceilings relative to the object walls and staging locations.
5. BP Provide additional Avnet tie line plates adjacent to ceiling hang points or integrated with retractable supports, when present.
6. BP Each distinctive registration and staging area is provided with an AVnet tie line panel having dedicated input / output connectors for the Pre-function area sound system.

l. Ballrooms: Provide the following:

1. Control Panels: Equip each individual ballroom salon with an in-room control panel located near the primary guest entrance door. In larger Salons, provide a second in-room control panel near the entrance from the service corridor.
2. BP Projector Mounts: Provide in each center salon a ceiling mounted, manually retractable, projector mount, to accommodate portable projectors, and position to serve the primary object wall. Built-in projectors and projection screens are not required.
    a. BP Provide minimum of two AVnet (Audio Visual Network) tie line connections in each smaller room, section and salon, and three in larger sections. Integrate AVnet connections with AV input / output plates.
    b. BP Provide additional AVnet tie line plates adjacent to ceiling hang points or integrated with retractable supports when present. Provide at least one ceiling tie line plate in each small salon and at least two in large salons.
    c. BP Include connections for power and video signals to the retractable projector mount and extend the connections to the input plate located on the salon object wall.
    d. BP Provide input connections for AVnet tie lines utilized with portable transmitter / receiver pairs to route analog or digital signals to the projector. The transmitter provides audio program signal break-out to feed the built-in room sound system.
    e. BP Provide multiple retractable projector mounts in salons that have multiple object walls. Projector mounts may serve as hang points and retractable feature lighting supports, when properly specified and labeled for live equipment loads.
    f. BP Where cable distances from wall plates to projector mounts or displays are less than 10.7 m (35 ft.), input connections include digital video and audio program signal break-out to feed the built-in room sound

systems.

g. BP For longer distances, provide AVnet tie lines with portable transmitter / receiver pairs as required above for projector mounts.

3. BP Recording Facilities: Provide at equipment racks on a recording panel equipped with XLR-3M jacks (one per Ballroom, Salon or Meeting Room) and on the patchbay. Provide recording outputs that are transformer isolated from the DSP output and not equalized.

4. BP Control Room: Provide an A/V control room above the pre-function guest entry (mezzanine floor) to accommodate technicians operating the systems for events as follows:

   a. BP In high end projects that anticipate a high volume of social activities.

   b. BP Where a ballroom / event space is small for the anticipated programmed events.

   c. BP Provide operable windows to the event space / ballroom so technicians may hear the event.

J. Meeting Rooms: Provide the following.

1. Sound reinforcement systems for Meeting Rooms larger than 93 m² (1,000 sq. ft.), or rooms that can be combined with adjacent spaces to be larger than 93 m² (1,000 sq. ft.), that accept signals from microphones and AV program sources to evenly distribute high fidelity, high level, full frequency response sound throughout an audience and listening area.

2. Equip with an in-room control panel located near the primary guest entrance door. In larger Meeting Rooms, provide a second in-room control panel near the entrance from the service corridor.

3. Minimum of one AVnet (Audio Visual Network) tie line connections in each smaller room, and two in larger sections. Integrate AVnet connections with AV input / output plates.

4. Equip with built-in sound systems and tie line plates as required for Ballrooms. except for rooms smaller than 93 m² (1,000 sq. ft.) with fixed walls (no operable partitions).

5. BP A ceiling recessed, electrically operated projection screen 16:9 format, matte white or light grey.

   a. BP At the screen black-drop, allow the image area to be positioned at 107 cm (42 inch) AFF at its lowest viewing position

   b. BP Calculate the proper screen size for each room by ensuring the closest viewer is a minimum distance of 1x the vertical dimension (height)

of the viewing surface and the furthest viewer is a maximum distance of 6x the vertical distance of the viewing surface.

6. BP A ceiling mounted, manually retractable projector mount position to serve the projector screen.
   a. BP Input Connections: Provide for AVnet tie lines utilized with portable transmitter / receiver pairs to route analog or digital signals to the projector. The transmitter provides audio program signal break-out to feed the built-in room sound system.
   b. BP Connectors: Extend connectors from the projector mount to front of the room's A/V input plate.
      • Where cable distances from wall plates to projector mounts or displays are less than 10.7 m (35 ft.), input connections include digital video and audio program signal break-out to feed the built-in room sound systems.
      • For longer distances, provide AVnet tie lines with portable transmitter / receiver pairs as required above for ballroom / event space projector mounts.
7. BP Built-in Projectors: Not required.
8. BP Power, Data & Phone: If room design requires, provide floor pockets for electric power, data and telecommunications connections. Contact the MI Representative for project requirements.
9. BP Provide Recording Panels at equipment racks with XLR-3M jacks (one per Meeting Room) and on the patchbay. Provide recording outputs that are transformer isolated from the DSP output and not equalized.

K. Breakout Rooms: Typically, Breakout Rooms are smaller than 93 m² (1,000 sq. ft.) with fixed walls (no operable partitions). Provide each room with a tie line plate as required for Ballrooms, Event Spaces and Salons.

L. Boardrooms: Typically, Boardrooms have fixed walls (no operable partitions) and a fixed table. One end wall is designated as the "object wall" or front of the room.

1. Equip Boardrooms with an in-room control panel located near the primary guest entrance door, and provide a wireless control panel.
2. BP Provide a minimum of two AVnet tie line connections in each Boardroom, with at least one connection in the Boardroom table. Integrate AVnet connections with A/V input / output plates.
3. BP Technology: Equip Boardrooms with high definition (HD) H.323 IP based built-in video teleconferencing systems while accommodating older H.320 ISDN systems. These systems are intended for ready connection to business video teleconferencing systems, and to support consumer grade

conferencing such as Skype.

4. BP Projection Screen: Provide a ceiling recessed, electrically operated screen with aspect ratio of 16:9 format, matte white or light grey.
   a. BP Provide the screen black-drop to allow the image area to be positioned at 107 cm (42 inch) AFF at its lowest viewing position
   b. BP Proper Screen Size: See Meeting Rooms above.
5. BP Provide a ceiling mounted, manually retractable projector mount positioned to serve the projection screen. Extend the connectors from the projector mount to the front of the room's A/V input plate.
6. BP Connectors: Extend connectors from the projector mount to front of the room's A/V input plate.
   a. BP Where cable distances from wall plates to projector mounts or displays are less than 10.7 m (35 ft.), input connections include digital video and audio program signal break-out to feed the built-in room sound systems.
   b. BP For longer distances, provide AVnet tie lines with portable transmitter / receiver pairs as required above for Ballroom / Event Space projector mounts.
7. BP Built-in Projectors: Not required.
8. BP Sound: Provide a built-in sound system with features and functions required for Ballroom / Event Spaces and Salons.
9. BP Inputs: Provide inputs for digital video, audio, network, telecommunications and convenience outlets built into the table. Provide sound system inputs for flat panel display at the front of the room and built into the table.
10. Visual Display: Provide a concealed large flat panel display and locate at the front wall of the room.
    a. BP Equip with upgraded front-firing built-in speakers and multiple inputs. Extend inputs to the Boardroom table and to the front wall of the room.
    b. Provide with non-glare or anti-glare viewing surface.
    c. Conceal the display utilizing one of the following methods; retractable millwork doors, "art-screen" frames, or lifts that retract display into credenza or millwork.
    d. BP Equip the display with windowing processing that permits multiple

windows of viewing, of any size, from any source, and completely re-sizeable by the presenter to suit the need.

11. BP Built-in cameras are remote controllable and positioned at 1.5 to 1.8 m (5 to 6 ft.) AFF for presentations, or at seated eye level for videoconferencing.

13B.11 BP Document Submittals

A. BP Requirements: Upon project completion and acceptance, submit the following to the property management.

B. BP Technical Manuals: Provide documentation as follows:

1. BP Block Diagrams: Detailed functional block diagrams that illustrate as-built conditions.
    a. BP Identify each equipment item by manufacturer and model number, label alpha numerically contractor furnished controls, relays, patch panel jacks, and similar devices.
    b. BP Reference the designations on fabrication drawings, patch panel details and related instruments.
2. BP Fabrications: Detailed as-built drawings of contractor fabrications. Illustrate the mechanical and electrical construction, with manufacturer's part numbers and values for components.
3. BP Rack Elevations: Final rack elevation drawings.
4. BP Manufacturer's Literature: Descriptive literature and performance specifications, operating manuals, and servicing information.
5. BP Control Settings: Schedule of nominal control settings for proper system operation.
6. BP Test & Measurements: Documented data gathered during systems tests and commissioning.
7. BP Systems Operating Instructions: Describe the functions, operation and maintenance for each installed system. Write the instructions in full detail in language sufficiently clear for comprehension by non technical persons.
8. BP Troubleshooting Guide: System operator's procedures to follow in the event of an apparent equipment failure, written in logical outline format.
9. BP Terms & Conditions: Restatement of the systems warranty terms and

conditions and schedule of manufacturer's warranties covering parts and labor for the provided equipment. Describe the terms of manufacturers' warranties, which extend beyond the one year provisions of the system warranty.

10. BP Programming:Submit to the property management, a legal copy of the authoring software and unrestricted license and an archival electronic copy of the uncompiled operating code when submitting the record (as-built) documents for system programs.

C. BP User's Manuals: Provide document revisions:

1. BP Submit four complete sets of corrected and revised pages and drawings to update the operating and maintenance manuals described above to reflect adjustments and changes to the system during the final testing and acceptance.

13B.12 BP Warranties:

A. BP General: Provide complete systems, products and materials warranties to include the following.

B. BP Product Replacement: Guarantee to repair and replace defects in products, materials, workmanship and performance of provided systems and the defective and comprising elements at no additional cost.

C. BP Temporary Replacement: Provide temporary replacement equipment when repairs to defective equipment and products cannot be completed within 24 hours.

1. BP Provide temporary labels matching original labeling nomenclature.

2. BP Replace equipment and products that exhibit failures three times within the warranty period with new equipment and product at no cost.

D. BP Remedy Response: Respond with remedy to requests for service within 24 hours of the request.

1. BP Provide the property management with a telephone number and an e-mail address to request services at any time.

2. BP Response requirement applies from the date of the A/V consultant's recommendation of the system acceptance and continues for the following 365 consecutive days.

3. BP Warranty remains in effect for a period of one year from the date of

system acceptance, except for equipment and products under manufacturer's warranties that exceed the one year warranty period to remain in effect beyond the one year system warranty period.

13B.13 R Coordination

A. R Reference: Coordinate with requirements of other Chapters.

- Overview & Project Administration
- Site / Building Exterior
- Lobby Areas
- Food & Beverage
- Recreation & Amenities
- Retail
- Meeting Spaces
- Guestrooms
- Administration Facilities
- Employee Facilities
- Elevators
- Technology Infrastructure
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical
- Loss Prevention

MARRIOTT

EUROPE

Marriott Hotels

fire protection & life safety

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

14.1 Guiding Principles

Marriott International (MI) owned, managed and franchised Brand properties must comply with MI Fire Protection & Life Safety (FLS) Guiding Principles, as set forth below, or have a Marriott approved plan in place to be brought into compliance with the principles.

A. Principle 1: Obey the Law. Comply with governing laws, codes and regulations even if not regularly enforced.

   Rationale: It's the law.

B. Principle 2: Provide Effective Fire Containment and Suppression in the Hotel or Residences. Automatic sprinkler and standpipe systems provide effective fire containment and suppression. Alternative fire containment and suppression systems and approaches may also be effective and will be considered. Specialized systems may be necessary for areas susceptible to fuel or grease fires (such as kitchen areas). Consider fire resistance ratings of walls, doors, shafts, stair enclosures and floor / ceiling assemblies. Adequately address fire risks associated with linen and trash chutes.

   Rationale: Quickly containing and suppressing a fire can largely eliminate loss of life and significantly reduce property damage and resulting business interruption. Grease fires in kitchens are some of the most common and dangerous sources of fires in a hotel. Elements of "firewalls" must resist fire and contain smoke for a minimum period of time to be effective.

C. Principle 3: Provide Effective Fire Detection and Carbon Monoxide (CO) Detection and Notification. Equip the entire building with a central alarm system to alert occupants.

   Rationale: If occupants are not promptly notified of a danger, their evacuation may be delayed and they may be harmed as a result.

D. Principle 4: Provide adequate egress for fire and emergency situations. Consider the following critical items impacting egress; the number of exits, travel distance, dead-end corridors, common path of travel, occupant load, egress capacity, direction of door swing and door hardware.

   Rationale: Even if occupants are alerted of a danger, they must be able to quickly

exit from the building to avoid the danger.

E. Principle 5: Adequately address the need for effective smoke control to allow occupants to exit the building. In a fire, exit signs in public areas need to be visible and egress stairs need to be usable.

Rationale: More people die in fires from inhalation of smoke and toxic vapors than from being burned by flames.

F. Principle 6: Provide immediate standby power for emergency power and lighting. Provide emergency lighting throughout normally occupied areas and means of egress.

Rationale: Even with adequate detection, notification and means of egress, occupants need adequate lighting to see their way out of the building (and firefighters need it to see their way inside the building). If power and lights are not restored right away, panic may ensue and evacuation may be hindered.

G. Principle 7: Provide effective integration of elevator recall functions with fire alarm systems. When smoke is detected in the elevator lobby, elevator machine room or elevator shaft, elevators must automatically return to:
• pre-designated levels (those with areas of egress) or
• alternative levels (if the pre-designated levels are affected by the fire) This prevents elevators from stopping at floors affected by the fire. Thereafter, control of elevators must be turned over to firefighters for emergency operations. Lastly, the main power to elevators must automatically shut off when there is risk of activation of sprinklers in the elevator hoistway or machine room (which can cause elevators to act erratically).

Rationale: In a fire, control of elevators is critical. This gives firefighters additional means to access parts of the building if elevator operation is safe. And it prevents occupants from using elevators if operation is not safe.

H. Principle 8: Limit fire risks of building contents. Consider fire resistance ratings of building materials / components and the flammability ratings of furnishings, carpeting, curtains and wall finishes.

Rationale: Building contents can serve as fuel for fires and emit toxic fumes and must be carefully selected.

I. Principle 9: Conduct performance-based testing. Before occupancy, FLS systems must be fully operational and tested to the satisfaction of Marriott FLS representatives.

Rationale: Even the best designed FLS systems do not work if they are installed

incorrectly.

14.2 General Requirements

A. Application: Universal Europe

1. The FLS Design Standards include design standards, performance criteria, reference standards and life safety process verification that define a comprehensive fire protection program in accordance with FLS Guiding Principles. Any MI owned, managed and franchised Brand property that complies with the FLS Design Standards will meet the MI FLS Guiding Principles (and thus will comply with this Standard). Coordinate requirements with other Chapters and in particular <10>, <12> and <15A>.

2. Application of these Standards to a specific project requires a design analysis.

3. When a MI property is integrated with or interconnected with another building, the building shall provide protection equal to the fire protection and life safety standards required for the MI property, as defined by FLS on a case-by-case evaluation.

B. Definitions:

1. Back-of-House (BOH): Includes areas such as employee spaces, employee restrooms, laundry, offices, work areas, commercial kitchens storage areas, workshops, etc.

2. Guestroom: The term “guestroom” includes suites, residences, serviced apartments, interval ownership, hotel villas, etc.

C. Submittals: Prior to system installation or modification, submit one set of drawings, plus accompanying materials and documentation of the following for review and acceptance to:

1. Marriott Fire Protection & Life Safety:

   a. Drawings Scale: Provide drawings at an accurate and easily readable scale.

   b. Submittal Requirements:
   • Floor Plans: Show floor areas (m² or sq. ft.)and rooms exiting, exit capacity, occupant load diagrams, door hardware and fire resistance ratings.
   • Fire Alarm: System diagrams, shop drawings, equipment product sheets, voltage drop and battery calculations and sequence of operation

matrix.

• Automatic Sprinkler & Standpipe: System shop drawings, hydraulic calculations, and equipment product sheets, fire pump test curve, and controller and transfer switch equipment sheet.

• Type 1 Grease Hood & Duct Fire Suppression: Equipment product sheets and drawings (plan and side views) indicating cooking equipment, hood and suppression system. See <10>.

• Emergency Power: Plans for emergency lighting and exit signs, and information on the emergency power provided.

• Smoke Control: System shop drawings, sequence of operations, riser diagrams and calculations (space volumes, air changes, make-up and exhaust, fan and equipment flow capacities, and locations).

2. Contact Information:

   a. Global Design Europe, Marriott Hotel Holding GmbH - A subsidiary of Marriott International Inc., Frankfurter Str. 10-14, 65760 Eschborn, Germany

   b. Zurich Services Corporation, Mr. Jimmy Durkin, 225 Brennen Dr., Newark, DE 19713, USA. James.durkin@zurichna.com

14.3 Principle 1 - Obey the Law

A. Laws & Governing Regulations: Comply with governing laws, codes and regulations even if not regularly enforced. If governing requirements conflict with MI's Design Standards, contact FLS for resolution.

B. Application: Current edition of all cited references are the basis for FLS Design Standards and are applicable to all MI managed, owned and franchised properties.

C. R References & Resources: If the property is not located in one of the following countries, apply codes of one of the countries listed.

France:

• National Building Code (CCH), Work Code for Personnel & the Urban Code : Compliance with CCH is required in addition to the codes required by the governing authority.

• General Provisions for Buildings Open to Public (ERP)

• General Provisions for Highrise Buildings (IGH)

• European Norms (NF EN)

• Local Norms (NF S)

• Instruction Techniques (IT): Dated December 30, 1994

Germany:
• Local Federal State: “Oberste Baubehörde” for each state and locally “unterste Baubehörde”
• Within Each State: Bauordnung (Building Ordinance) and Beherbergungsstätenverordnung (Lodging Facility Code) apply to hotels. Additional regulations apply to large assembly spaces, high-rise buildings, and parking garages.
• Land Laws: Model regulations published by Bauministerkonferenz (Committee of German Land Ministers for Construction) serve as guide.
Spain:
• Code: Codigo Técnico de la Edifi ación (CTE)
• Fire Section: Documento Basico de Seguridad ante Incendios (DB-SI)
Turkey:
• Turkish Standards (TS), Turkish Regulations for Building Fire Protection, 2009
England:
• Approved Document B (ADB) 2006 with 2010 Amendments
Russia:
• SP 5.13130.2009 Code of Practice Fire Safety
• SP 1.13130.2009 Code of Practice The Systems of Fire Protection, Evacuation Ways and Exits
• SP 2.13130.2009 Set of Rules Systems of Fire Protection Fire Resistance Security of Protecting Units
• SP 3.13130.2009 Code of Rules Systems of Fire Protection, System of Annunciation and Management of Human Evacuation at Fire Requirements of Fire Safety
• SP 7.13130.2009 Code of Regulations Heating, Ventilation and Air-Conditioning Fire Requirements
Stroitelnye Normy i Pravila (SNIP):
• 2.01.02-85 (1998) Fire Prevention Code
• 2.08.02-89 (2000) Public Buildings and Structures
• 21.01.97 (1998) Fire Safety of Buildings and Structures
• 2.09.04-87 (2000) Administrative and Accessory Buildings
• 2.08.01-89 (1997) Residential Buildings
• 2.03.01-84 (1997) Concrete and Reinforced Structures
• 2.11.01-85 (1998) Storage Buildings
• 2.09.02-89 (1997) Industrial Buildings

D. Testing Program: Provide Underwriters Laboratories (UL), FM Approvals Inc.(FM), Loss Prevention Certification Board (LPCB), Vds or APSAD listed materials, appliances and equipment. GOST-R Certificate of compliance accepted in Russia.

14.4 Principle 2 - Fire Containment & Suppression

A. Automatic Sprinkler, Water Mist & Standpipe System: Comply only with the referenced codes (Principle 1) as written.

1. BP Provide a complete hydraulically designed combination automatic sprinkler and standpipe system zoned by floor.
2. BP Assembly Spaces:
   • Not recommended below grade.
   • Protect dance halls, entertainment lounges or nightclubs with an approved sprinkler system.
   • One or more rooms / areas where the aggregate calculated occupant load exceeds 300 persons should have the assembly floor and all levels below protected with an approved sprinkler system.

B. BP Sprinkler & Water Mist Systems: If a sprinkler system is provided, apply the following.

1. BP System Options: Traditional sprinkler system or HI-FOG water mist system
2. BP Building Footprint: Sprinkler building areas within building “footprint”, including canopies.
3. BP Parking Structures: Provide sprinkler protection, unless greater than 50% of perimeter is open to exterior air and not under any portion of the building.
4. BP Ballrooms & Exhibit Halls: Design the sprinkler system in compliance with Ordinary Hazard Group 1
5. BP Utility Spaces: Provide complete sprinkler protection in electrical, mechanical, telephone and computer rooms.
6. BP Loading Docks and Truck Bays: Provide sprinkler protection. If subject to freezing, provide dry pipe system.
7. BP Freezer & Cooler Boxes: Protect with dry type sprinklers supplied from area wet pipe sprinkler system.
8. BP Guestroom Closets & Pantries: Sprinklers are not required in clothes closets, linen closets and pantries within hotel guestrooms where the area does not exceed 2.2 m² and where the least dimension does not exceed 0.9 m or within Residences where the area does not exceed 1.1 m².
   • Closets and pantries with washer, dryer, water heater, mechanical or electrical equipment require sprinklers.

9. BP Guestroom & Residence Bathrooms: Sprinklers are not required if bathroom is less than 5.10 m² (55 sq. ft.) and have walls and ceilings of noncombustible or limited-combustible materials with a 15-minute thermal rating, including behind shower enclosures or tubs.

10. BP Coastal Areas: If within 16 km (10 miles) of the coastline, provide exterior galvanized pipe and fittings with corrosion resistant sprinklers for wet pipe and dry pipe sprinkler systems in exterior unconditioned spaces.

C. BP Design Requirements:

1. BP Safety Factor: Provide a 10% hydraulic safety factor up to a maximum of 0.7 bar (10 psi) for automatic sprinkler system and water mist system.

2. BP Pressure Reducing Valves:

• Design system within maximum pressure of 12 bar (175 psi) without use of pressure reducing valves. If pressure reducing valves are necessary, obtain acceptance and specific design requirements from FLS.

• Provide system flow, pressure and location information / signage at each PRV.

• Size drain to accommodate sprinkler and standpipe flow.

3. BP Control Valves: Provide the following:

   a. BP Supervisory Signal Initiating Device (tamper switch): Provide for each control valve.

   b. BP Access: Visible and readily accessible in the back-of-house area or stairwell.

4. BP Water Flow Switches: Provide retardant type. Initiate alarm signal between 30 and 60 seconds.

5. BP Zoning:

   a. BP Zone each floor / story separately at a minimum.

   b. BP In buildings where the floor of an occupiable level is greater than 23 m from the lowest level of fire department access, connect guestroom and residential zone sprinkler piping to 2 risers at each floor interconnected with a control valve, check valve, flow switch and tamper switch at each riser.

   c. BP Attic Spaces: Provide dedicated zone for attic spaces, separate from floor below.

6. BP Fire Pumps: Locate fire pump drivers, fire pumps, fire pump controllers and fire pump power supplies (normal and standby) above the 100 year flood elevation and above the maximum anticipated hurricane storm surge

elevations.

D. BP Wet Pipe Sprinkler Systems: Provide for habitable spaces such as guestrooms, guestroom corridors, public and back-of-house areas.

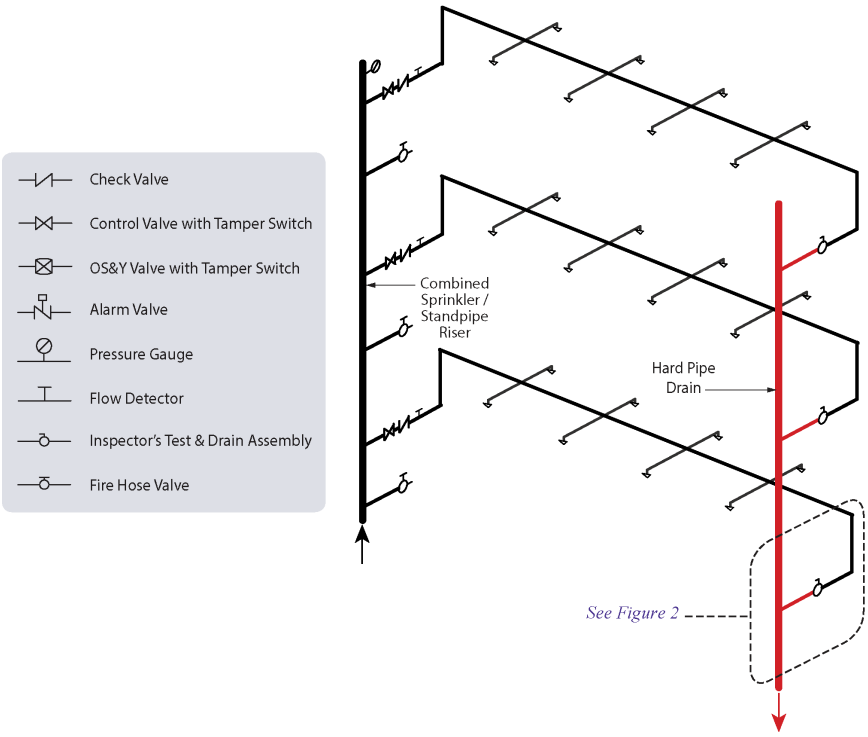
1. BP Antifreeze (liquid) systems are not recommended.
2. BP Insulation is not considered “freeze protected”.

E. BP Dry Pipe Sprinkler Systems:

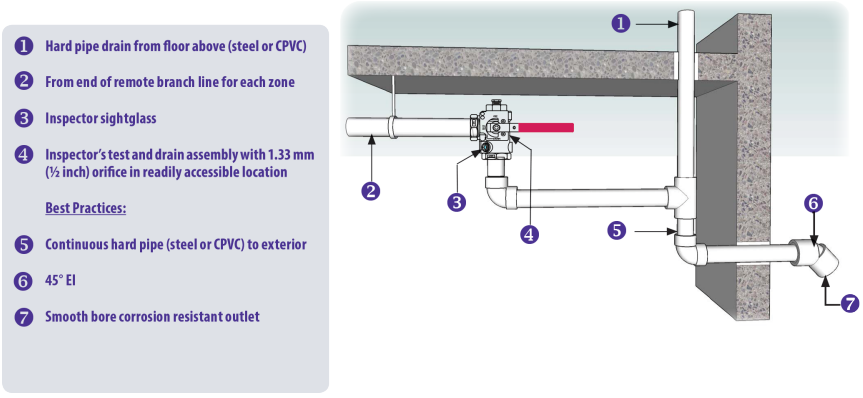
1. BP Design to provide water to the remote inspector test and drain assembly within 60 seconds.
2. BP Provide system tank mounted compressor with a secured switch.
3. BP Use steel schedule 40 pipe. Include grooved fittings with cut grooves with sealing type gaskets. Install piping with a pitch, including heated areas.
4. BP Dry type sprinklers supplied from the wet pipe sprinkler system may be provided in small unheated areas.

F. Remote Inspector’s Test & Drain Assembly: If provided, see example diagrams.

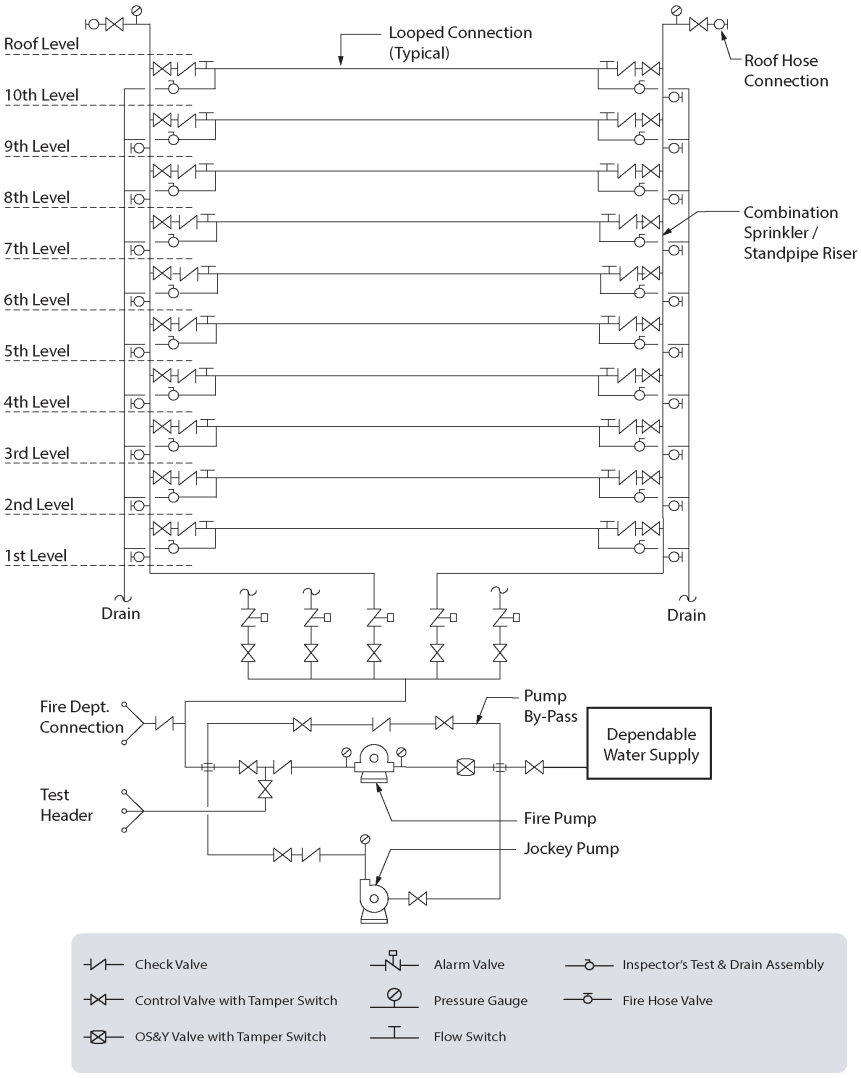
1. Locate at farthest (remote) end of each zone in readily accessible areas.
2. BP Drain Pipe: Provide continuous hard pipe (steel or CPVC) to exterior at ground level.
3. BP Sprinkler zones with dead end mains or more than one remote end, provide inspector’s tests and drains at each dead end main and remote end.
4. Typical Zoned Sprinkler System



5. Test / Drain Assembly (Figure 2)



6. BP High-rise Sprinkler Riser Diagram



G. Sprinklers: If provided.

1. BP Provide 4.07 lpm / m² minimum discharge density for light hazard areas.

2. Provide fast response / quick response type in the following:

   a. Sprinkler Table

Room / Space	Sprinkler Type	Temp. Rating
Guest & Public Areas	Quick Response	57° to 107° C (135° to 225° F)
Balcony (combustible)	Quick Response - corrosion resistant, dry, side wall	100° C (212° F)
Porches	Quick Response - corrosion resistant, dry, side wall	100° C (212° F)
Swimming Pools (indoor)	Quick Response - corrosion resistant	68° to 79° C (155° to 175° F)

3. BP Sprinkler type for a particular application are as follows:

   a. BP Sprinkler Table

Room / Space	Sprinkler Type	Temp. Rating
Attic Systems	Quick Response - ventilated Quick Response - unventilated	100° C (212° F) 141° C (286° F)
Dry Pipe Systems	Quick Response - ventilated (unoccupied spaces) Quick Response - unventilated	100° C (212° F) 141° C (286° F)
Mechanical / Electrical	Quick Response	68° to 79° C (155° to 175° F)
Parking Structures	Quick Response	68° to 79° C (155° to 175° F)
Elevator Machinery	Quick Response	100° C (212° F)
Sauna / Steam Rooms Laundry Dryer Plenum	Quick Response - corrosion resistant	141° C (286° F)
Walk-in Coolers / Freezers	Quick Response - dry pendant	68° to 79° C (155° to 175° F)
Commercial Kitchens	Quick Response	79° to 107° C (175° to 225° F)
Storage	Quick Response	68° to 79° C (155° to 175° F)

4. BP Concealed (cover plate) sprinklers are not preferred.
5. BP Sprinkler Coordination:
   a. BP Install sprinklers with the manufacturer's minimum allowable projection from the wall or ceiling.
   b. BP Coordinate locations of sprinklers at guestrooms and public areas to avoid location conflicts (such as crown moldings, HVAC grilles, ceiling fans).
   c. BP In corridor ceilings, generally, position sprinklers along centerline of corridor width.
   d. BP In ceilings with acoustical tiles, position sprinklers in center of tiles.

H. Type 1 Grease Hood & Duct Fire Suppression System:

1. A UL 300 system or equivalent.
2. Preferred: Ansul "Piranha" or "CaptiveAire Core" dual agent suppression system.
3. Sequence of Operation: The hood and duct fire suppression system control units initiate the following:
   a. Alarm Signal: Send fire alarm signal to FACP.
   b. Gas: Automatically activate solenoid to turn off gas to affected cooking lines.

c. Power: Automatically turn off power to cooking appliances. Exhaust fan continues operation (unless required by manufacturer to shut down for proper operation of the system)

I. Linen & Trash Chutes:

1. Chute Vent: Extend (full size) a minimum of 90 cm above the roof line.
2. Construction: Provide metal, prefabricated, manufactured chute within a fire rated shaft.
3. Loading Door: Protect chute openings with a fire rated loading door, located within a service opening room (vestibule).
4. Room Enclosure: Construct the service opening room (vestibule) with fire rated enclosure and door.
5. BP Sprinklers: If building is equipped with a sprinkler system install a sprinkler above the top service opening of the chute, above the lowest service opening, and above service openings at alternate levels in buildings over two stories in height.

J. Non-Sprinklered Buildings - Protection:

1. Mixed and Separated Occupancies: Provide a one hour fire rated separation with 30 minute fire rated doors, between assembly occupancies and hotel occupancies, including between a garage and hotel.
2. Stair Enclosures: Provide at least a 1-hour fire rated stair enclosure with 30-minute fire rated or RS rated door assemblies, as defined locally, equipped with closers.
3. Convenience Openings: Grand stair, open stairs, escalators, etc. are not permitted unless limited to two stories and enclosed (fire separated) on at least one level.
4. Corridors: Interior corridors and lobbies shall be constructed and separated from the remainder of the building by atleast 1-hour fire rated stair enclosure with 30 minute fire rated or RS rated door assemblies, as defined locally, equipped with closers.
5. Hazardous Area Protection:

Boiler Room	2 hour fire rating or 1 hour fire rating with sprinklers
Employee Locker Rooms, retail Shops, Guest Laundry (less than 9.3 m^2)	1 hour fire rating or sprinklers
Bulk Laundry, Guest Laundry (greater than 9.3 m^2) Maintenance shops, trash rooms	1 hour fire rating or sprinklers
Storage Rooms	1 hour fire rating or sprinklers

K. Non-Sprinklered Buildings - Smoke Compartments: Divide corridors into two or more smoke compartments, approximately the same size. Provide smoke partitions so that the travel distance from a guestroom doors to a smoke partition does not exceed 46 m (150 ft). Provide smoke partitions doors with electromagnetic door hold open mechanisms connected to the fire alarm system (or local smoke detectors) and electrical service to hold doors open and automatically release doors when an alarm is activated.

14.5 Principle 3 - Fire Alarm System

A. Fire Alarm System:Comply only with the referenced codes (Principle 1) as written.

1. Provide entire building with a point addressable intelligent central fire alarm system from MI's accepted equipment vendors. See the Fire Alarm System Sequence Matrix. Coordinate with <15A>.

    a. General Alarm: Provide to evacuate entire building. Delayed alarms are not permitted in buildings without full automatic sprinkler protection.

2. BP Supervising Station Service:Provide an off-site supervising station service for Marriott properties that receives and records operation signals of the circuits and devices, and notifies the local fire department when a general alarm is activated.

3. BP Campus Style Sites: Provide point addressable intelligent networking that reports to the continuously attended property location.

4. Testing: Provide the following at the Fire Alarm Control Panel (FACP) for MI Managed Properties only:

    a. Individual disconnect buttons for testing purposes:

    • Audible notification appliances and visual strobes (sounder base and guestroom hearing impaired strobe shall function upon guestroom smoke sensor activation)

- Door hold open mechanisms
- Elevator recall
- Air handlers and smoke control systems
- Audio/Visual (hotel music / sound and lighting dimming system)
- Carbon Monoxide (CO) accelerated test mode

5. BP Exterior & Unconditioned Areas: Provide National Electrical Manufacturer Association (NEMA) weatherproof box, rated devices and appliances (weatherproof, corrosion resistant) listed for exterior exposure.

B. System Smoke Sensors (Detectors):

1. Full Automatic System Smoke Detection: Required throughout except above ceilings and inaccessible areas, if the building is not fully sprinklered.

2. Guestrooms, Suite Rooms and other Sleeping Units: Provide low voltage photoelectric system smoke sensors.

   a. In units with separate sleeping spaces, such as suites and apartments, provide a system smoke sensors in each separate sleeping room and living room.

   b. Guestroom smoke detectors shall send a supervisory signal to the FACP.

   c. Guestroom smoke detectors shall be self-restoring signals.

   d. Activation of room system smoke sensor to immediately and automatically sound an alarm within the room of incident and annunciate as a supervisory signal.

   e. BP To minimize unwanted alarms, avoid locating smoke sensors near the kitchen or bathrooms.

   f. Locate smoke sensors at the highest ceiling area in the room.

3. High-rise Buildings: Provide full area smoke detection in public common areas to include Guestroom Corridors.

4. BP HVAC / Duct System Smoke Sensors:

   a. BP Provide remote test switch and indicator light accessible from floor level.

   b. BP Location: Provide downstream of air handling units (AHU) over 945 l/s (2,000 cfm).

   c. BP Operation: Smoke sensor shuts down AHU upon sensing smoke and annunciates at fire alarm panel, but does not activate smoke exhaust system (if provided).

C. Carbon Monoxide (CO) Detectors: Install system type CO detectors that are

listed for life safety use and provide automatic alert tone (four pulse temporal pattern) in affected area. Connect to the FACP and annunciate as a supervisory signal.

1. General: Provide in rooms and areas containing fuel burning appliances and equipment. Including but not limited fireplaces (including wood), kitchens, main laundry room, boiler/water heater room, pool equipment room, generator room and fire pump room.

2. BP Combination Devices: Implementing exclusively CO or smoke detector devices is preferred. Avoid combination devices.

D. Alarm Notification Appliances: Provide audible notification appliances (speakers, mini-horns, horns, or sounder bases of system smoke sensors listed for general and local evacuation) and visual notification strobe lights in locations according to the following:

1. Guestroom, Suite Rooms & other Sleeping Units:

   a. Provide audible appliances in each sleeping room. In properties with separate multiple sleeping spaces, such as suites and apartments, provide in each sleeping room and living room.

   b. If audible appliance is not listed for both local and general alarm, provide audible devices listed for each purpose in each sleeping room and living room.

   c. Simultaneously activate the audible notification devices located within the same suite or unit.

   d. Audible Appliance: Provide minimum audible alarm of 85 dBA at 3 m (10 ft.); minimum of 75 dBA “at the pillow”.

2. Hearing-impaired Designated Guestrooms, Suites, or Residential Units: Provide audible alarm appliances and visual alarm strobes.

   a. Arrange strobes to flash in each room or area, within 4.9 m (16 ft) direct line of sight from bed pillows, and bathroom when the following occurs:
   • System smoke sensors or (CO) detectors in rooms or units activate.
   • Building fire alarm notification alarms activate.

   b. Strobe Light Rating: 177 candela - within 61 cm (24 inch) from the ceiling; 110 candela - more than 61 cm (24 inch) from the ceiling.

   c. Hearing-impaired Guestroom Bathroom: 15 candela visual alarm strobe required.

3. Public Areas, Corridors & BOH: Provide audible and visual notification appliances (including in public toilet rooms and guest laundry rooms).

E. Emergency Occupant Notification:

1. Continuous cycle alert tone and automatic prerecorded voice message with manual voice communication override in buildings where the floor of the highest occupiable story is more than 23 m (75 ft.) from the lowest level of fire department access.

F. Sound and Lighting: Building sound system shall shunt and light dimming systems in public areas and assembly spaces shall turn on to full brightness on affected floors upon activation of the fire alarm system.

G. BP Annunciator: Provide point address to indicate floor, specific location, device and type of alarm. Provide annunciators in areas monitored 24 hours by property employees (Security, AYS, PABX room, Reception Desk).

H. Fire Alarm Matrix

General Notes: • Reference numbers are shown in parenthesis (1) for "Notes / Notations" indicated below and in headings to the right. • Fire alarm system devices are point addressable. • On campus style properties, provide point address-able intelligent networking reporting to continuously attended property location. • Sprinkler system water **flow** and tamper switch alarms are annunciated on the FACP.	**System Smoke Sensors** (1)	**System Heat Detectors** (7)	**Elevator Lobby smoke detectors** (2)	**Guestroom System Smoke Sensors** (3)	**Manual Pull Stations**	**Waterflow Switches**	**Dry Sprinkler Pressure Switches**	**Type 1 - Grease Hood & Duct Fire Suppression**	**Low / High Air Supply Switches**	**Duct Smoke Sensors**	**Sprinkler Valve Tamper Switches**	**Fire Pump Signals** (8)	**Emergency Generator Signals** (9)	**Carbon Monoxide Signals**
FACP: Display an audible / visual alarm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Remote Annunciator: Display an audible / visual alarm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Audible / Visual Alarms: Activate audible / visual strobe appliances on affected **floor.** (5)	X	X			X	X	X	X						
Assembly Doors and Fire Doors: Release magnetic door holders on affected **floor.**	X	X				X	X							
Stairwell Pressurization: Automatically activate pressurization.	X	X			X	X	X							
Smoke Exhaust: Automatically activate exhaust system in affected zones.	X	X				X (4)	X (4)							
Guestroom Audible Alarms: Activate alarms in rooms on affected **floor.** (5)	X	X			X	X	X	X						
Guestrooms Audible / Visual Signals: Activate both signals in hearing impaired guestrooms on affected **floor.** (5)	X	X			X	X	X	X						
Local Audible Alarms: Activate audible alarms only in rooms containing alarm.				X										X (6)
Guestroom Local Audible / Visual Signals: Activate both signals only in hearing impaired guestroom containing alarm.				X										X (6)
Air Handlers: Automatically shut off associated air handlers.										X				
Cooking Area Gas / Electric: Automatically shut off associated cooking line gas & electric and makeup air handler.								X						
Elevator Phase 1 Designated Level and Alternate Level Recall, Phase 2 **Firefighters'** In-Car Operation.			X											

Notes / Notations:

(1) System smoke sensors not located in guestrooms.
(2) Provide Elevator Phase 1 Designated Level and Alternate Level Recall, Shunt Trip Function and Phase 2 **Firefighters'** In-Car Operation in compliance with ASME A17.1, Elevator Code.
(3) Guestroom Smoke Sensors: Provide photoelectric type, with sounder base (minimum ratings of 85 dBA, with 75 dBA "at the pillow"). In suites, multiple sensors shall activate simultaneously.
(4) Except on guestroom **floors,** water **flow** alarms shall not activate smoke control exhaust fans where smoke control zones and **fire** sprinkler zones do not correspond.
(5) Fire alarms shall activate only on **floor** of alarm. Governing authority may require additional zoning.
(6) Carbon monoxide detectors in guestrooms, public and BOH areas shall activate an alarm in the guestroom and rooms of incident and at the **fire** alarm control panel.
(7) Heat detectors are not recommended since **fire** sprinklers serve the same function.
(8) Provide "**fire** pump run" and "**fire** pump fault" supervisory signals from controller to the FACP, as a minimum.
(9) Provide "generator run" and "generator fault" supervisory signals to the FACP.

14.6 Principle 4 - Means of Egress

A. Application: Comply only with referenced codes (Principle 1) as written. In addition, comply with the following.

B. Guestroom Areas Corridors: Comply with the following.

1. Exits: 2 or more remote exits
2. Dead-End Corridor Limit: 15.24 m (50 ft.)
3. Common Path Limit: 15.24 m (50 ft.)

C. Assembly Spaces:Comply with the referenced codes as written. In addition, comply with the following.

1. Occupant Load Factors:
   a. Ballrooms, Meeting Rooms & Assembly Gathering Areas:
      • Greater than 70 m² (750 sq.ft.): 0.65 m² (7 sq.ft.) per occupant
      • 70 m² (750 sq.ft.) or less: 1.4 m² (15 sq.ft.) per occupant
   b. Exhibit Halls, Restaurant, Lounges & Boardrooms: 1.4 m² (15 sq. ft.) per occupant
2. Design Requirements:
   a. Dead-End Corridor Limit: 6.10 m (20 ft.)
   b. Common Path Limit: 6.10 m (20 ft.)
   c. Panic & Fire Exit Hardware: Provide hardware on assembly occupancy doors where occupant loads are 100 persons or more and on doors in the paths of travel to the exterior exit discharge.
   d. Remote Exits: Two or more remote exits are required from a space with an occupant load of 50 or more. The distance between the nearest edges of remote exits is a minimum of one third the greatest diagonal dimension of the space.
      • Two remote exits required for 50 or more occupants
      • Three remote exits required for 500 or more occupants
      • Four remote exits required for 1,000 or more occupants
      • For meeting and assembly rooms up to 65 m², one exit will be accepted provided occupant load is posted and enforced by Operations to a maximum of 49 people.
   e. BP Operable Partitions: Doors in operable partitions do not qualify as exits, unless a door opens directly into an exit access corridor.

f. Commercial Kitchen Areas: Exiting through Kitchens or other hazardous areas is not permitted.

g. BP Banquet Chairs: Provide a fastening device on banquet chairs to connect chairs to each other in rows to prevent individual chair displacement from blocking rows and aisles during emergency egress from assembly occupancies with more than 200 persons.

D. Egress Capacity:

1. Stairways: 7.6 mm (0.3 inch) width per person; a minimum width of 1.12 m.
2. Doors, Level Components & Ramps: 5 mm (0.2 inch) width per person.
3. BP For stairways wider than 1120 mm (44 inch), the capacity may be increased using the following equation (imperial units only):

a. BP Egress Equation: C = 146.7 + (Wn - 44 / 0.218)

C = capacity, in persons
Wn = nominal width of the stair

E. BP Multi-Use Exits: Avoid sharing stairs and exit corridors with other properties (office, retail, residence, etc.). If unavoidable, submit and obtain acceptance from FLS of alternate facilities that safeguard the property operational and security integrity. See <1>.

F. BP Exterior Exit Path: Provide the required width for the exit capacity but not less than 90 cm (3 ft.), hard surfaced walkway leading to a public way.

G. Exit Discharge: Discharge at least one half of all exits directly to the building exterior.

H. Doors:

1. Exit stairwell doors are not permitted to be lockable from either side. Access control is not permitted.
2. Marked or designated exit doors or exit access doors are not permitted to be lockable in the direction of egress travel and hardware shall be capable of being operated with a single motion. Access control is not permitted.
3. In multi-use buildings (office, retail, residences, etc) that share exit stairwells and exit access corridors where safety is a concern, contact MI FLS.
4. BP Revolving Doors: Door panels must be collapsable. Provide a side hinged door within 3050 mm of revolving door.
5. Self-closing Doors: Guestroom doors, smoke doors and other fire rated doors must be self-closing.

6. Door Swing: Doors within the exit enclosure and doors serving rooms with an an occupant load exceeding 49 people, shall swing in the direction of egress.

I. Stair Handrails: At a minimum, provide handrails on both sides of stairways. See <16>.

J. Signage:

1. Stair Signage: In stairs at each landing, include stair designation, floor level, if roof access is available and direction to exit discharge.

2. Means of Egress Signage: Provide egress and exit sign quantities and locations as follows:

a. Provide a minimum of two remote exit signs or directional exit signs, visible from locations in a corridor and in spaces with more than 49 occupants.

b. Position exit signs to indicate available exits and exit directions, regardless of the exit distance from the sign to the exit.

c. Place exit signs perpendicular to the occupant's line of sight.

K. Maximum Travel Distance: Non-sprinklered buildings.

1. Public & Back of House Areas: Maximum travel distance from any point to an approved exit is 50 m.

2. Guestrooms: Maximum travel distance within a guestroom / suite is 23 m; maximum travel distance from the guestroom to the exit (stair enclosure) is 30 m.

14.7 Principle 5 - Smoke Control

A. R Standards: IBC, NFPA 92, NFPA 101.

B. Application - Automatic Mechanical Smoke Control: Provide automatic mechanical smoke control in the following locations in accordance with the IBC.

1. Atriums or communicating spaces that connect three or more stories
2. Provide each stair with pressurization, a vestibule 50% open to the outside on one side or a stair 50% open to the outside on one side of the stair in buildings where the floor of an occupiable story is greater than 23m (75ft.) above the lowest level of fire department access.
3. Underground assembly buildings having an occupiable floor more than 9.14 m (30 ft.) below the finished floor of the lowest level of exit discharge.

C. BP Smoke Exhaust System Configurations - Underground Assembly Buildings:

1. BP Zones: Each space is treated as an individual fire / smoke zone.
2. BP Capacity: In spaces requiring smoke exhaust, provide a minimum of 10 to 12 air changes per hour.
   a. BP In larger spaces such as atriums and exhibit halls, increase the air change rates.
   b. BP Consult with FLS on project specific criteria.
   c. BP Calculate zone volumes using slab to slab heights.
3. BP Makeup Air: Provide makeup air for each smoke exhaust zone. Provide mechanical supply air no less than 70% of exhaust rate.
4. BP Ducted System: Provide hard ducted smoke exhaust from each smoke zone. Return air plenums and slot diffusers are not permitted for smoke exhaust systems.
5. BP Dampers: Provide motor operated, low leakage, automatic reset, dampers for smoke exhaust systems. Manual reset dampers are not allowed.
6. BP Configuration: Separate supply grill from exhaust grill to promote sweeping of the smoke. Locate supply adjacent to exits so smoke is moving against the direction of egress. Provide adequate make-up air and exhaust points to eliminate dead spots and prevent excessive air velocities.
7. BP Sequence of Operation:
   a. BP Signal: The smoke exhaust system is initiated automatically by a

signal from the fire alarm panel when an area smoke sensor is activated.

b. BP Smoke Exhaust Fan: Discharge damper fully opens. The fan starts and provides 100% exhaust to exterior.

c. BP HVAC System - Confined Areas: In zones where makeup air is not readily available (ballroom, meeting room, etc.), the return damper of the HVAC system serving the smoke zone closes and the supply fan reduces to 50% outside air.

d. BP Other Zones: Supply, return and exhaust fans for HVAC systems in other zones remain in normal operating mode.

D. BP Smoke-Free Egress Stairwells: In high-rise buildings maintain smoke-free egress stairwells through one of the following. Coordinate with <15A> and refer to the Fire Alarm Matrix.

1. BP Natural Ventilation:

   a. BP Open stairwells

   b. BP Open balcony or vestibule

2. BP Mechanical Vestibule Ventilation: Ventilate vestibule with not less than one air change per minute and provide exhaust at 150% of the supply.

3. BP Mechanical Pressurization: Provide fans with variable frequency drive. Determine a single set point during commissioning with stair doors closed.

   a. BP System Configurations: The following are approximate stair enclosure heights and typical design arrangements for fans and ducts:
   • 10 Stories: Single induction point
   • 10 to 20 Stories: One fan at top and one at bottom
   • 20 or More Stories: One or more supply fans ducted through stair with supply registers located every third floor.

   b. BP Fan:
   • Type: Provide fan with variable frequency drive. Determine a single set point during commissioning with all doors closed.
   • Capacity: Size fans to provide a balanced 470 l/s (1,000 cfm) per door.
   • Supply Damper: Motor operated, low leakage

   c. BP Design Pressure: Provide pressure differential sensors to measure the difference across doors of not less than 12.5 N m² (0.05 inch w.c.).

4. BP Other Criteria:

   a. BP Doors: 13.50 kg (30 lbs.) maximum opening force across doors into egress stairs.

b. BP Sequence of Operation - Stair Pressurization:
• Initiation: System is initiated by a signal from the fire alarm panel due to activation of either a public space (excluding guestrooms) smoke sensor or sprinkler flow switch.
• Supply Damper: Upon activation, supply damper fully opens and stairwell pressurization fans start.

E. BP Smoke Control Panel: Provide a smoke control panel for manual control of equipment that is part of the smoke control system with Hand-Off-Automatic (HOA) and pilot lights to indicate status and fault monitoring (one switch and lights for each zone).

1. BP Location: Position the smoke control panel at the location of the main fire alarm panel.
2. BP Power: Provide internal power source for manual operation of all equipment. Provide voltage same as fire alarm system.
3. BP 'Hand' Position: Manually activates all equipment into smoke control mode.
4. BP 'Off' Position: Shuts down the equipment and returns all dampers to their normal mode.
5. BP 'Automatic' Position: Allows system to operate in normal building mode, or in smoke control mode upon receipt of a signal from the fire alarm panel.

14.8 Principle 6 - Standby power

A. Application: Comply only with referenced codes (Principle 1) as written.

B. System Requirements: Provide standby power for emergency power and lighting in the event of loss of normal incoming electrical service.
• Automatic transfer from one power source to another must take no longer than 10 seconds.
• See <15C> for backup operational power loads to maintain property operations.

C. Emergency Lighting: See <15C>. Provide emergency lighting for code required egress, property operations and safety as follows:
• Administrative common area
• Egress paths and stairs
• Employee Cafeteria / Breakroom
• Employees lockers and toilets
• Engineering / Maintenance Office
• Exit signs

- Exterior exit door discharge
- Fire Command Room (high-rise buildings)
- Fire Pump / Sprinkler Riser Room
- Fitness Center
- Indoor Pool Room
- Kitchens (commercial F&B preparation areas)
- Laundry
- Mechanical, electrical and elevator rooms
- Meeting Rooms, Ballrooms, Exhibit Halls
- PABX & AYS Room
- Parking Structure
- Public stairs and steps
- Reception Desk
- Restaurants, Lounges
- Spa Treatment Rooms
- Security Office
- Telephone Equipment Room

14.9 Principle 7 - Elevator Recall

A. Application: Comply only with referenced codes (Principle 1) as written.

B. System: Provide Elevator Designated Level and Alternate Level Recall and Shunt Trip. See <12>.

14.10 Principle 8 - Building Contents

A. Application: Comply only with referenced codes (Principle 1) as written.

14.11 Principle 9 - Systems Testing

A. Application: Before a property is occupied, the fire protection and life safety systems shall be fully operational, contractor tested and certified to the satisfaction of a Marriott FLS Representative.

B. BP Automatic Sprinkler, Water Mist & Standpipe System:

1. BP Flush and pressure test system.
2. BP Fire pump shall be tested and certified by the manufacturer.
3. BP Underground mains flushed and tested.
4. BP Perform PRV test.

C. BP Grease Hood & Duct Fire Suppression: Pretest all coordinated components by activation of hood and duct suppression system control unit.

D. BP Fire Alarm: Pretest and operate system without trouble lights exhibited.

E. BP Mechanical Smoke Control:

1. BP Balance Report: Prior to testing smoke control systems, HVAC systems shall be contractor tested and balanced. Test and balance report shall be available.
2. BP Smoke Exhaust: Public area, atrium and guestroom corridor smoke exhaust systems shall be operational and tested to clear “cold smoke” so that exit signs are visible within 10 minutes of activation without smoke migration to other areas.
3. BP Stair Pressurization: Test and operate the system, concurrently with the smoke exhaust system, to confirm design pressures and door opening force.

F. BP Emergency Electrical Systems:

1. BP Generator shall be operational and tested to automatically activate upon loss of normal incoming power and to provide standby and emergency service to operate emergency lighting and specified systems.
2. BP Battery standby power and UPS systems providing emergency power

and lighting shall be fully operational.

G. BP Elevator Recall & Firefighters' Operation: Elevator Designated Level and Alternate Level Recall shall be fully tested.

H. BP Central Control Station (Fire Command Room): Panels, indicators, controls and systems shall be operational, tested and accepted.

I. BP Means of Egress: Facilities for means of egress shall be operational and unobstructed.

MARRIOTT

EUROPE

Marriott Hotels

mechanical systems

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

15A.1 General

A. Design Criteria:

1. Minimum Requirements: This document establishes minimum Marriott International (MI) requirements and is not intended to provide complete design solutions to project specific situations. For alternate HVAC Systems consult MI Engineering for applicable performance criteria.

2. Deviations: Submit in writing proposed deviations for systems, equipment or manufacturers to MI Engineering for approval. For deviations that alter operating costs, submit a complete computer simulated life cycle cost analysis so that negative impacts can be reflected in the operating Pro-Forma.

3. Documentation: Clearly identify on the design drawings systems and equipment required by this document and provided by the contractor.

B. Codes & Standards:

1. Governing Regulations: If governing regulations conflict with MI's Design Standards contact MI Engineering for resolution.

2. Approvals: Fired pressure vessels, boilers, boiler tanks and their safety trains (controls that include combustion safeguards, safety shutoff valves, over temperature protection and pressure relief valves) require one of the following approvals, Zurich Global, UL (Underwriters Laboratories), CSA (Canadian Standards Association), ETL or ASME.

C. Building Pressures: Design air systems to maintain positive building pressure, maintain environmental requirements (temperature and humidity) and ensure guest comfort.

1. Outside Air: Minimum outside air intake quantities shall exceed building exhaust quantities by 10% for public and back-of-house spaces. Provide complete airflow matrix showing supply, return, exhaust, and outside air quantities on a floor-by-floor basis.

2. High-rise Buildings: Provide entry vestibules with a revolving door in buildings greater than 10 stories to significantly reduce "chimney" or "stack effect", see <2A>.

D. Equipment Selections: Select equipment rated for applicable service, environment, temperatures and pressures.

1. Equipment: Design and select outdoor equipment for project specific conditions complete with factory applied corrosion resistant coatings. Do not

select equipment designed for indoor use at outdoor locations.

E. R Fire Protection & Life Safety: See <14>.

F. Environmental Requirements: Design and select equipment to maintain indoor temperature and humidity levels in compliance with Table 1 – Environmental / Ventilation Requirements at the end of this document.

G. Dimensions, Sizes & Measurements: In this Standard, conversions from English (Imperial) to metric (SI) units are approximate. Verify, coordinate and confirm product and material dimensions for required design applications.

15A.2 Building Cooling/Heating Load Calculations

A. Reference: Current edition of CIBSE and / or local code.

B. Method: Utilize the Cooling Load Temperature Difference (CLTD) as defined by CIBSE.

C. Outdoor Design Conditions: Utilize the CIBSE 1% Cooling Dry Bulb (DB) and Mean Coincident Wet Bulb (MCWB) temperatures and the 99.6% Heating Dry Bulb (DB) temperature.

D. Review: Obtain MI Engineering acceptance of load calculations, psychometric analysis and equipment selections at the beginning of the design process.

E. Procedures: Prepare calculations for purposes of selecting central cooling and heating plant equipment.

1. Capacity of central cooling plant is based on building block loads including the following conditions:

   a. Exhibit Hall, Ballroom, Meeting Room & Pre-function Occupancy: Assume one person per 0.93 m² (10 sq. ft.) for block cooling load purposes.

   b. Cooling System: System provides sufficient capacity to meet peak cooling loads but must be capable of operating efficiently at part load conditions.

2. Central Heating Plant: Assume no credit for solar heat gain or internal heat gain (such as people, lights or appliances).

15A.3 HVAC System Requirements

A. General Design Requirements:

1. Design the Heating, Ventilation and Air Conditioning (HVAC) system to be energy efficient and fully automated.
2. Provide clearances and access to equipment in compliance with manufacturers' minimum requirements, to allow routine maintenance, and removal and replacement of system components.
3. Locate louvers and exterior mechanical equipment away from public and guest view.
4. Avoid placement of access panels in public spaces. Where required, coordinate location and design with MI Interior Design.
5. Utilize linear slot diffusers with 180-degree flow pattern control for supply and return in public spaces. Coordinate with MI Interior Design. Return air slot diffusers are not permitted when smoke control systems are provided.

B. Indoor Air Quality (IAQ):

1. High IAQ is a critical component of guest comfort and is achieved through the proper design of building air systems.
2. Provide air quality, including filtering and humidity control in compliance with CIBSE.
3. Design spaces such as commercial cooking areas, fitness centers, pools, spas, etc. to ensure environmental conditions are met and under negative pressure with respect to surrounding areas to avoid odor migration.
4. Design rooms containing refrigeration equipment in compliance with CIBSE. Provide visual alarm outside the space and connect to Building Automation System (BAS).

C. Energy Efficiency: MI has adopted a significantly aggressive environmental policy. At a minimum, design the HVAC systems in compliance with CIBSE Energy Efficiency in Buildings.

1. Central Cooling Plant: Submit energy calculations to MI Engineering for approval. Design central cooling plant, including chillers and primary chilled water pumps to consume maximum 0.65 kW/ton at peak cooling load.
2. Renewable Energy Options: Investigate renewable energy options including thermal storage, solar power, solar hot water and swimming pool heat, wind power, geothermal cooling and heating and deep water cooling. Review with

MI Engineering with respect to application, practicality and cost effectiveness.

3. Cost Analysis: Provide a complete computer simulated life cycle cost analysis for renewable energy options and alternate HVAC systems and equipment considered for implementation.

D. Noise Criteria:

1. Design systems to minimize the transmission of sound and vibration and provide acoustical and vibration attenuation for mechanical equipment, especially roof-mounted.

2. Isolate ductwork, piping and equipment suspended from structures.

3. Maximum NC 37 for Public Spaces and Guestrooms and NC 40 for Back-of-House areas.

15A.4 Central Cooling Plant

A. Program: Provide a central cooling plant. For central plant systems other than chilled water, consult MI Engineering for acceptance.

1. Design Considerations: High efficiency air-cooled chillers with a primary / secondary flow chilled water system with chilled water pumps.

a. Accessories include air and dirt separator (chilled water system), motor operated isolation valves, pressure gauges, thermometers, thermo-wells (Pete's Plugs), temperature and pressure sensors, and drains.

2. Service: Plant supplies chilled water to central station air handling units (AHUs) in public and Back-of-House spaces and to fan coil units (FCUs) in the guestrooms.

3. Flanges & Valves: Provide blind flanges and valves in chilled water system for connection of temporary equipment in the event of a failure.

4. Bypass: Provide bypass with control valve for minimum chiller flow in the event of either a chiller or variable frequency drive (VFD) failure.

B. Chillers:

1. Type: High efficiency air-cooled packaged chillers with multiple refrigerant circuits, copper condenser tubes, and fins and factory applied corrosion resistant coating.

2. Quantity: Minimum of two, piped in parallel.

3. Capacity Selection: When two chillers are provided, select each at 65% of

peak load. When peak load is greater than 1,600 tons, select three chillers at 40%.

4. Efficiency: Air cooled chillers shall not exceed 1.18 kW/ton at ARI conditions with multiple refrigerant circuits, copper condenser tubes, and fins and factory applied corrosion resistant coating.
5. Water Temperatures: Chilled water supply 5.5° C (42° F) and return 12.2° C (54° F). Consult MI Engineering for higher temperature difference applications.
6. Chiller System Heat Recovery: In projects that require hot water for reheat for dehumidification or pool heat provide chiller with heat recovery bundle.
7. BP Mounting: Install chillers on 15 cm (6 inch) reinforced concrete pads with spring isolators. Provide flexible pipe connectors at inlets and outlets of each chiller to isolate the piping system.
8. Region Requirements:
    a. Redundancy: Based on geographic location, availability of factory trained local service personnel and spare parts, redundant chillers and pumps may be required.
9. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
    • Trane
    • Carrier
    • York
    • Daikin

C. Water Cooled Refrigeration Equipment:

1. Connect coolers, freezers and ice machines to chilled water system. Coordinate with food service consultant, see <10>.
2. BP Locate remote compressors in a fully conditioned mechanical room.
3. BP Provide each unit with water supply of 0.1 l/s (1.5 gpm) per h.p. with strainers piped in parallel so circulation is maintained at all times.
4. BP Backup Operational Power: Connect coolers, freezers and pumps to backup operational power, see <15C>.

D. Multi-Use Facilities: Individually meter chilled water to each tenant occupancy. Consult MI Engineering for project specific requirements.

15A.5 Central Heating Plant

A. Provide a central heating plant.

1. BP Design Considerations: Provide a central heating plant that consists of high efficiency gas fired hot water boilers for space heating.
2. BP Components: Accessories include expansion tanks, air and dirt separator, isolation valves, pressure gauges, thermometers, thermo wells (Pete's Plugs), temperature and pressure sensors and drains.
3. BP Location: Locate boiler plant preferably at grade to facilitate maintenance and above water table to protect from flooding.
4. BP Service: The Central Plant supplies heating hot water to central station AHUs in public and Back-of-House spaces and FCUs in guestrooms.

B. Boilers:

1. BP Type: Modular gas fired condensing fire tube boilers with stainless steel heat exchangers. Water tube boilers are not permitted. Each boiler shall be individually vented to the exterior with positive pressure.
2. BP Sizing: Maximum 1,770 kW (6,000,000 Btuh) input each, required to meet simultaneous peak load for building heating and outside makeup air unit reheat.
    a. BP Physical Dimensions: For ease of future replacement, each boiler must be small enough to fit through a standard door:
    • Up to 885 kW (3,000,000 btuh): Single 91 x 203 cm (36 x 80 inch) door
    • Above 885 kW (3,000,000 btuh): Double 182 x 203 cm (72 x 80 inch) door
3. BP Quantity: Minimum of two, piped in parallel.
4. Efficiency: Minimum 93.5%, certified by AHRI
5. BP Water Temperatures: Primary hot water supply loop maximum 71° C (160° F). return loop maximum 49° C (120° F).
6. BP Mounting: Install boilers on 10 cm (4 inch) reinforced concrete pads.
7. Region Requirements:
    a. In areas where winter temperatures are below 4° C (40° F), connect boiler plant, controls and pumps to backup operational power, see <15C>.
    b. BP Redundancy: Redundant boilers and pumps may be required based

on geographic location, availability of factory trained service personnel and spare parts.

8. Combustion controls: Must employ air trim utilizing an automotive O2 sensor installed in the combustion chamber to optimize air/fuel ratio and maximize combustion efficiency and stability. Modulating air / fuel valve and burner system shall be capable of a minimum 15:1 turndown ratio of the firing rate without loss of combustion efficiency or staging of gas valves.
9. BP Venting: Must be certified for use with polypropylene vent material.
10. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
    • Aerco
    • Lochinvar

C. Stairwells: Provide heat in stairwells to maintain a minimum temperature of 10° C (50° F).

D. Front Entrance Vestibule: Provide heat in vestibules to maintain a minimum temperature of 10° C (50° F), see <2A>.

E. BP Front Entrance: Provide radiant or floor slab heat at outdoor Bell Stand where winter temperatures consistently drop below 0° C (32° F), see <2A>.

F. BP Receiving Area: Provide cabinet heaters where winter temperatures drop below 0º C (32° F). Provide circulating fans in hot climates.

G. BP Multi-Use Facilities: Individually meter heating hot water to each occupancy. Consult MI Engineering for project specific requirements.

15A.6 Pumps

A. BP Design: Perform accurate system head calculations with prudent but not excessive consideration of safety factors to eliminate operation in an overload condition and eliminate excessive differential pressures across valves. Provide minimum 2 pumps for each system for parallel operation sized for 100% of flow for required chiller, chilled water or condenser water flow. Pumps must have ability to set maximum flowrate through integral factory mounted variable frequency drives with controls for parallel, sensorless control mode with integral flow and head pressure setpoint capability. Pumps that rely on external pressure sensors shall not be acceptable. Pumps shall only accept an input for a start/stop command and shall be able to operate under Quadratic Pressure Controls with embedded software for automatic flow balancing and maximum and minimum flow limiting. Pumps shall be provided with embedded software and hardware for wireless remote performance management. Each pumping application (chilled water, hot water, and required boosters for any application) shall have an initial one year subscription for remote performance management services and the pump manufacturer provide the modem and factory start-up with connection services.

B. BP Sizing: Select for maximum efficiency, a minimum of 10% larger than calculated brake horsepower with flows to match equipment or as necessary for non-overloading condition throughout it's range .

C. Type: Centrifugal, vertical in-line, 1,750 rpm at 60 hz with premium efficiency motors.

1. Chilled Water Pumps: Provide one vertical in-line, variable speed chilled water pump sized at 100% of rated chiller flow with integral VFD and sensorless controls for each chiller and one additional pump with integral VFD and sensorless controls for standby with piping and valves for cross connection to other pumps with automatic line size shutoff valve and suction diffuser.

2. Primary Hot Water Pumps: Provide one vertical in-line, variable speed pump with integral VFD and sensorless controls for balancing for each boiler and another pump with integral VFD and sensorless controls for standby with piping and valves for cross connection to other pumps.

3. Secondary Hot Water Pumps: Multiple zoning consisting of a minimum of two pumps (one standby) sized at 100% of system flow with integral VFD's and sensorless controls for AHUS, and minimum two pumps (one standby) sized at 100% of system flow with integral VFD's and sensorless controls for FCUs.

4. Boiler Circulating Pumps: To prevent thermal shock, provide one Armstrong

in-line constant speed pump for each boiler to provide minimum continuous flow to comply with manufacturer's recommendations. Pipe so automatic valves do not bypass water around boiler.

5. BP AHU Circulating Pumps: Armstrong Compass R or Grundfos Magna3 with integral VFD and controls.

D. BP Location: Locate pumps in mechanical rooms. Outdoor installation is not allowed.

E. BP Control: Provide pumps to operate in the following modes: constant pressure, proportional pressure (calculated), proportional pressure (measured), temperature control, input of external set point or control signals.

F. BP Piping: Provide automatic line size shutoff valve and suction diffuser on pump suction.

G. BP Mounting: A Victaulic valve assembly consisting of a MasterSeal butterfly valve with a Series 779 Venturi check valve may be provided in grooved piping systems.

1. BP Provide vibration isolation on suction and discharge of each pump to isolate the piping systems.

2. BP Install horizontal pumps on 10 cm (4 inch) high concrete housekeeping pads with concrete inertia bases and spring isolators. Vertical in-line pumps do not require pads, bases, or spring isolators.

3. BP Concrete inertia bases are not required when pumps are mounted on slab on grade.

H. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:

• Armstrong Fluid Technology, National Account Contact: Rick Lambeth, (704) 372-4344 or rick.lambeth@msssolutions.com
• Grundfos
• Bell & Gossett

15A.7 Piping Systems

A. Water Treatment: Provide complete automated water treatment system to prevent premature pipe failure, loss of efficiency and heat transfer in chilled water and heating hot water systems. See the Water Treatment Supplement.

1. Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • NALCO

B. BP Pipe Material:

1. BP Chilled Water and Heating Hot Water Systems:
   a. BP Schedule 40 black steel with welded, screwed, grooved or ProPress fittings.
   b. BP Type “L” copper.
   c. BP Uponor Pex.
   d. BP Aquatherm polypropylene piping systems.
2. BP Galvanized Pipe: Not permitted for HVAC systems.
3. BP Di-electric Unions: Provide for connections of different materials. Victaulic Style 47 dielectric waterway fittings are acceptable.
4. BP Solder for Copper: 95 / 5, tin / antimony solder.

C. BP Pipe Sizing: Size piping based on the following:

1. BP 50 mm (2 inch) and Smaller: 1.2 m/sec (4 fps) maximum velocity in chilled, hot and condenser water piping.
2. BP 50 mm (2 inch) and Larger: 2.4 m/sec (8 fps) maximum velocity in chilled, hot and condenser water piping.
3. BP Pressure Drop: Maximum pressure drop 12 kPa (4 ft w.c.) per 30 m (100 ft.).

D. Insulation: Provide continuous insulation for piping systems as follows:

1. Chilled Water Supply, Return and Condensate Drains: Closed cell elastomeric thermal insulation of thickness based on pipe diameter as follows:
   a. BP 18 mm (¾ inch) Pipe: 18 mm (¾ inch) minimum
   b. BP 25 mm (1 inch) to 50 mm (2 inch) Pipe: 25 mm (1 inch) minimum

c. BP 50 mm (2 inch) and Larger Pipe: 38 mm (1 1/2 inch) minimum

2. Fiberglass Insulation: Not permitted on chilled water or condensate drain piping.

3. BP Heating Hot Water Supply and Return: Insulate piping with 38 mm (1 1/2 inch) thick fiberglass insulation with vapor barrier and either PVC or aluminum jacket. Insulate piping 50 mm (2 inch) and larger with 50 mm (2 inch) insulation.

4. BP Seams & Joints: Continuously glued with insulation contact adhesive.

5. BP Exterior Chilled Water Piping: Not recommended but where required, insulate with Armacell ArmaTuff UV resistant exterior insulation and cover with continuous aluminum jacket.

6. BP Valves & Fittings: Insulate as required above and cover with one piece, PVC, molded jacket covers.

7. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
• 3M Venture Clad Zero Perm Vapor Barrier Jacket
• Owens Corning Vapor Wick
• Johns Manville

E. BP Valves: Design piping distribution systems with shutoff valves located to permit repairs without shutting down other pieces of equipment or risers.

1. BP Location: Locate balancing, isolation and shutoff valves over back-of-house areas to allow access not visible to guests.

2. BP Types: Provide full port ball or butterfly valves for the following applications:

a. BP In supply and return piping to each piece of equipment and on both sides of AHU circulating pumps.

b. BP In chilled water supply, chilled water return, hot water supply and hot water return lines with drain valves at the base of risers (including fan coil risers).

c. BP At major branch takeoffs for isolation of systems.

3. BP Gate Valves: Not allowed for shut off duty.

4. BP Hose End Drain Valves: Provide at the bottom of risers.

F. BP Strainers: Provide strainers with drain valve at each AHU and at the base of

each return riser.

G. BP Thermo Wells (Pete's Plugs): Provide at both sides of equipment and at temperature control devices.

H. BP Equipment Connections: Provide connections at the following locations:

1. BP Flanged or Screwed Unions: On both sides of AHUs. Unions are not required on installations provided with grooved mechanical joint couplings.
2. BP Di-Electric Unions: At connections of dissimilar metals

I. BP Identification: Provide the following:

1. BP Plastic Nameplates: Identify air handling units, pumps, heat exchangers, tanks, chillers, water treatment devices and control panels.
2. BP Brass Tags: Identify small devices, including in-line pumps and valves.
3. BP Plastic Pipe Markers: Snap-on type with directional flow arrows for chilled water supply and return, condensate drain, and heating hot water supply and return. Provide on all risers on all floors and adjacent to ceiling access panels.
4. BP Spacing: 6 m (20 ft.) minimum, both sides of each wall penetration and at each change in direction.

J. Provide makeup water meters for chilled water and heating hot water systems and connected to cloud based real time monitoring solutions such as Beacon or Metreon and connected to BAS.

15A.8 Air Side Systems

A. Design Considerations: Provide cooling and heating in habitable public and Back-of-House spaces. Prior to opening provide one new set of filters for each piece of equipment including AHU and FCUs.

1. AHU Design: Provide complete information for AHUs on the design documents including maximum design outside air quantities, supply air dry bulb and wet bulb temperatures.

2. Load Calculation Criteria: Select AHUs with greater than 50% outside air quantity using the CIBSE 0.4% Evaporation Wet Bulb (WB) and Mean Coincident Dry Bulb MCDB). Select AHUs with 50% outside quantities or less using the CIBSE 1% Annual Cooling Dry Bulb (DB) and Mean Coincident Wet Bulb (MCWB) temperatures.

3. BP Zoning: Zone air handling systems by type of occupancy, solar orientation and time of operation to allow shutdown of equipment or reset of temperature when cooling or heating is not required.

4. BP Commercial Cooking Areas & Laundries: Provide individual constant volume AHUs.

5. Rooftop Units: If required, locate above non-public areas. Provide sound attenuation below entire unit as recommended by manufacturer. Provide two 90-degree elbows on supply and return duct mains, and acoustical lining for minimum of 5 m (15 feet) of duct mains.

6. Variable Air Volume (VAV) Systems: Use VAV systems to serve areas with similar occupancies and hours of operation but different load conditions (ballrooms, multiple retail shops, gift shops and administrative offices).

7. AHU Locations: For ease of access and maintenance, do not install AHUs above ceilings. Locate AHUs in mechanical rooms or mechanical mezzanines.

8. Mechanical Rooms: Do not utilize as return or mixed air air plenums. Hard duct outside air and return air to AHUs.

9. Outside Air Intakes: Locate above grade, away from public and accessible areas. See <1> and <16>.

10. Region Requirements:

    a. Tropical Climates: Provide separate AHUs for pre-conditioning outside air.

    b. Preheat Coils: Provide on air handling units in cold climates to prevent freezing chilled water coils.

c. Coastal Areas: Provide factory applied corrosion protection for HVAC equipment and ductwork. In hurricane or cyclone areas provide equipment hold downs.

d. Contact: Consult with MI Engineering for project specific requirements.

B. Public & Back-of-House AHUs:

1. AHU Type: Factory packaged modular vertical or horizontal type draw-thru, double wall construction with 50 mm (2 inch) for indoor and 76 mm (3 inch) for outdoor locations, closed cell insulation, positive drain type stainless steel drain pan and the following:

   a. Premium efficiency motors with VFDs

   b. Double width, double inlet air foil supply fan.

   c. Hot water preheat coil with in-line circulating pump.

   d. Chilled water cooling coil with in-line circulating pump.

   e. Hot water heating coil with in-line circulating pump.

   f. Waste heat for humidity control. Electric coils may not be used.

   g. Intake hood for OA, combination filter and mixing boxes with low velocity 50 mm (2 inch) MERV 8 filters, motorized dampers and automatic temperature controls.

   h. Provide secondary drain pans under AHUs and FCUs above finished ceilings.

2. Return Fan: Provide with motor operated dampers on return, outside air and relief air ducts, when required for air side economizer.

   a. Select fan with capacity to match supply air.

3. Freeze Stats: Provide freeze stats to protect coils from freezing by shutting down fans and closing outside air dampers when temperature at coils drops to 5° C (40° F).

4. Sensors: Provide direct digital sensors (local occupant control not permitted) connected to BAS with temperature and humidity control for the following:

   a. Lobby

   b. Prefunction Corridors

   c. Restaurants

   d. Public Corridors

e. Fitness Center

f. Kitchens and related areas in Kitchens

5. Thermostats: Provide direct digital thermostats connected to the BAS with set point display and local occupant control from 18° to 25° C (64° to 77°F) for the following:

   a. Ballrooms

   b. Meeting Rooms / Salons

   c. Boardrooms

   d. Executive Offices

6. BP Back-of-House sensors are similar to public space sensors but without display and are only set through the BAS.

7. BP VAV Systems:

   a. BP Sensors: Locate static pressure sensor at last VAV box and high pressure limit switch at AHU.

   b. BP Duct: For accurate sensing of velocity pressures on box controller, provide straight duct at inlet of VAV box with length equal to 4 times the inlet diameter.

   c. BP VAV Box Location: Locate in mechanical plant rooms or above accessible ceilings with catwalks, preferably in Back-of-House areas for service and maintenance. Where heat is required, outfit VAV boxes with hot water heating coils with modulating 2 way control valves.

   d. BP Equip VAV AHUs with VFDs and premium efficiency motors.

8. BP Selection Criteria:

   a. BP Design Supply Rate: Minimum of 6 air changes per hour.

   b. BP Cooling Coil: Maximum air velocity of 3 m/sec (500 fpm). In lieu of 8-row cooling coils, if required, use two 4-row coils in series.

   c. BP Heating Coil: Maximum air velocity of 3 m/sec (500 fpm).

   d. BP Fans: Air foil type fans with premium efficiency motors.

9. BP Consult MI Engineering regarding corrosion and hurricane resistant equipment for projects located in coastal regions.

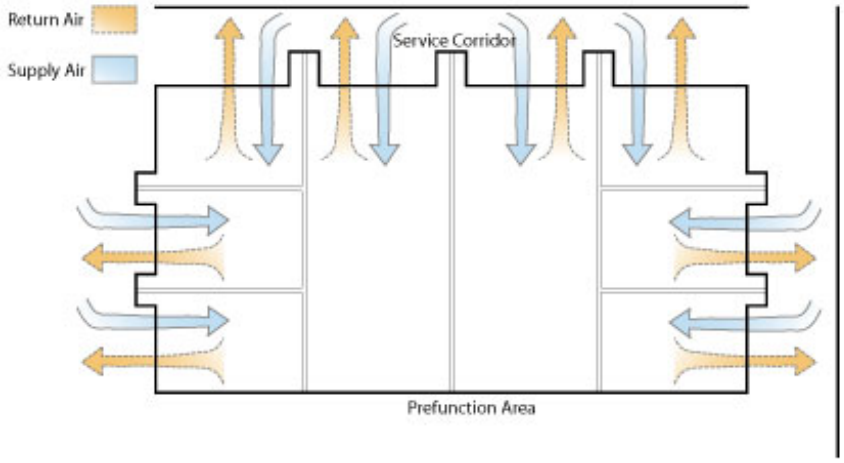
10. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not

limited to, the following:

- Trane
- Carrier
- York
- Daikin
- Lennox

C. Public Spaces: Provide the following for public spaces such as Lobbies, Restaurants, Lobby Bars, Ballrooms, Meeting Rooms, Boardrooms and Pre-function Corridors:

1. Carbon Dioxide (CO2) Sensors: CO2 sensors to control outside air quantities.
2. Fan Powered Variable Air Volume (FPVAV): Provide systems with hot water reheat coil and VFDs.
3. Acoustics: Minimize return air through walls above operable partitions. If penetrations are required, fabricate sound traps with two 90 degree acoustically lined elbows, see <6>.
4. Plenums: Do not use supply air plenums. Return air plenums are acceptable, except in spaces with smoke control, see <14>.
5. Ballroom (Public Space) HVAC Schematic



D. Indoor Pool (Natatorium):

1. Type: Provide a unit built for pool applications with dehumidification system with reheat for proper temperature and humidity control.
2. Condensation: Design air distribution system to fully wash all parts of exterior windows and skylights with supply air to prevent condensation.
3. Maximum allowable line run for Dx split system is 15 m (50 feet). Systems

with line runs greater than 15 m (50 feet) are not acceptable.

4. BP Monitoring: Provide manufacturer's factory mounted control switch internet connectivity for monitoring the unit. Information to include real time refrigerant high and low operating pressures. Systems requiring manifold gauges connected to access refrigerant pressure readings are not acceptable.
5. BP Corrosion Protection: Fully dip air coils to ensure 100% corrosion protection. Compressor, receiver, pool water heater, electronics, as much refrigerant piping and control valves as possible is in a service vestibule, out of the process air stream.
6. BP Filters: 50 mm (2 inch) MERV 8 filters.
7. BP Supply Fan: ECM type direct drive motor with fan speed adjusted from the unit controller. Belt drive systems are not acceptable.
8. BP Provide a control interlock between the dehumidifier and the auxiliary pool water heater.
9. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • Calorex
   • E-Tech
   • Poolpak

E. Guestroom & Guestroom Corridor Dedicated Outside Air System (DOAS): Provide DOAS unit with heat recovery and hot gas reheat to supply 100% outside air to guestrooms and guest corridors. Locate temperature and humidity sensors in one typical guest corridor.

1. Type: Double wall rooftop units with minimum 2 compressors, heat recovery, 50mm (2 inch) foam insulation (R-13 minimum) specifically manufactured for economical cooling, dehumidifying and reheating 100% outside air with 50 mm (2 inch) MERV 8 filters. Equip supply, return / exhaust and condenser fans with a factory mounted VFD.

   a. Provide unit capable of maintaining space conditions of 24°C (75°F) 50% RH with less than 8.9 g/kg (65 grains of moisture per pound of dry air) at all load conditions and comply with CIBSE. Select unit at CIBSE 0.4% Evaporation Wet Bulb (WB) and Mean Coincident Dry Bulb (MCDB).

   b. Reheat: Provide full modulating hot gas reheat to maintain constant discharge temperature at room neutral conditions +/- 20°C (68°F) / 50% RH during cooling and dehumidification season. Do not use electric coils for reheat. Utilize recovered energy for reheat.

c. Heat: Provide full modulating gas heat for winter heating with a minimum 10:1 turndown.

d. Energy Recovery Wheel: Provide Semco (or equivalent) aluminum total energy recovery wheel (sensible only wheel can be used depending on climate).
   • Provide bypass dampers, 1% purge to minimize exhaust cross contamination and defrost control.
   • Provide a removable slide out rack for easy servicing.

e. Condenser: Units larger than 10-Tons shall have a minimum of 2 condenser fans. Utilize ECM or VFD's for precise condenser head pressure control which is critical when using modulating hot gas re-heat for dehumidification.

f. Sound Attenuation: For DOAS units with digital scroll compressors provide 3-inch, high density sound batts and outdoor grade drywall sheets (2 each, installed alternately) for the entire footprint of units, within the roof curbs.

2. Guestroom Supply:

   a. Type: Provide American Aldes Zone Register Terminal (ZRT-1-4-120) to supply 17 l/s (35 cfm) makeup air from DOAS unit hard ducted into the guestroom sleeping area with side wall register or connected to the supply grille if a horizontal fan coil unit is used. Integrate operation with guestroom management system (GRMS) to shut-off make-up air when guestroom is unoccupied.

3. Corridor Outside Air Supply: On each floor provide a ventilation rate the greater of 2 air changes per hour or exhaust air requirements from adjacent spaces plus 10% from vertical ducts and horizontal distribution system. Use ceiling hung units only when required for excessive heating or cooling loads.

4. Remote Monitoring: Provide manufacturer's factory mounted controls with remote monitoring by BAS.

5. Locate DOAS vital controls and components out of the process air stream. For coastal salt water applications the condenser, evaporator and hot gas re-heat coils shall be coated with a Polymer coating that exceeds 6,000 hours of salt spray per ASTM B117-90. In addition, the interior ceiling, floor, service doors, fan inlet cone, damper rack, and filter rack are spray coated with a two-part polyurethane, heat baked coating. Locate DOAS minimum 3 m (10 ft.) from any exhaust fan.

6. Blower and Motor: Direct drive with VFD for supply air balancing. Belt driven motors are not acceptable.

7. Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • Trane
   • Carrier
   • York
   • System Aire

F. Guestroom FCUs: Provide for simultaneous on demand cooling and heating.

1. Sizing: Provide the larger of either 46 m² (500 sf)/ton or 140 l/s (300 cfm) fan coil.

2. Location: Position FCU supply air to avoid blowing directly on the bed.

3. Type:
   • Vertical stack or concealed horizontal with chilled water cooling coil with 2-way control valve
   • Hot water heating coil with 2-way control valve (based on climate data, electric heat may be appropriate. Consult MI Engineering for acceptance)
   • Hayes Fluid Controls Measurflo automatic flow control valves on chilled and hot water
   • In master / slave configuration riser shut-off valves must be inside the cabinet of the FCU served
   • Epoxy coated insulated drain pan
   • Filter return with 18 mm (3/4 inch) MERV 8 filters and foil faced insulation
   • Provide 3-way control valves at the top of each riser or at the last FCU on a horizontal run
   • Ditto units are not allowed
   • UL listed for fire

   a. BP Suites: Multiple four pipe fan coil units. Provide minimum one unit for each room or space.

   b. BP Guest Concierge Lounge: AHUs or multiple FCUs discharging toward exterior wall with hard ducted return air.

   c. BP Bathrooms: In large 4 and 5 fixture bathrooms and bathrooms with solar gain from windows, provide supply air to the bathroom from the FCU.

   d. BP Location: For horizontal FCUs locate above the entry vestibule ceiling with hard ducted return air. Provide full size access panel to allow for complete maintenance access.

   e. BP Shut off Valves: Provide full port ball valves for shut off on chilled

water and hot water coil connections.

f. BP Condensate: Do not connect FCU condensate drains to plumbing fixtures. Hard pipe to condensate system.

g. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
• International Environmental
• Trane
• Tempspec
• Envirotech

G. Ventilation: Provide mechanical ventilation to non-habitable spaces to maintain a minimum winter temperature of 13° C (55° F) and maximum summer temperature of 32° C (90° F).

H. Guestroom Management System (GRMS): The Room Controller (digital thermostat) is the core of the solution and determines occupancy and other room parameters from different sensors to define the room management sequence. The room controller allows for occupancy based guestroom management and controls HVAC system, humidity, has occupancy based master lighting relay control and integrates with make-up air and exhaust dampers and guestroom entry door lock. Key card slots are not allowed. The system is fully networked and integrates with BMS and/or PMS, has hotel operators console, and can be either wired or wireless integration.

1. Location: Locate thermostat on guestroom side of bathroom wall so occupancy sensor faces into sleeping area.

2. GRMS Integrators: To ensure proper coordination between electrical and mechanical sections and proper execution of design a GRMS System Integrator is required. Include the following:
• Demonstrate ability in integrating all aspects of guestroom functionality including guestroom HVAC, make-up air and exhaust control, RFID lock, lighting control, and any other guest amenities as required.
• Responsibilities: Design, installation, project management, procurement and commissioning of the GRMS.
• Ensure that all server to server interfaces are established and operational for complete inter-operability between guestroom functions and PMS, BMS and GRMS.
• Offer full maintenance and service agreement for projects.
• Preferred Integrator: Smartcon Solutions LLC, Tom Mirante (844) 633-2412 or Thomas@smartconsolutions.com

3. Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   - Telkonet
   - Inncom by Honeywell
   - Lutron
   - Schneider-Electric
   - Interel

I. BP Supplemental A/C:

1. BP Provide chilled water fan coil unit for primary cooling with backup direct expansion (DX) split system air conditioning units connected to backup operational power to provide 24 hour air conditioning for PMS computer room, telephone equipment room and elevator machine rooms, see <12>, <13A>, <13B> and <15C>.
2. BP Provide high efficiency DX split systems (with a minimum EER of 12.0) for Pastry / Chocolate Room, Meat / Fish Room, Garde Manger, Beverage Storage, and Refrigerated Trash Room to maintain 15° C (59° F) <10>.

J. BP Elevator Shafts:

1. BP Pressurization: Pressurize elevator shafts in high-rise buildings to offset stack effect in cold climates.
2. BP Heat: Provide heating to maintain a minimum supply temperature of 7.2° C (45° F).
3. BP Dampers: See “Ductwork” in this document.
4. BP Standby Power: Connect fan to backup operational power, see <15C>.

K. Exhaust Systems:

1. Type & Location: Provide exhaust fans with premium efficiency motors in the following:
   a. Fitness Center
   b. Toilet Rooms: In public and back of house restrooms with greater than 95 l/s (200 cfm) exhaust provide minimum 50% supply air from adjacent system.
   c. Vending Rooms
   d. Maintenance shops
   e. Locker rooms
   f. Electric rooms

g. Commercial cooking areas

h. Bars

i. Employee cafeteria

j. Pool equipment rooms

k. Laundry

l. Central Plants

m. Other areas producing odors, fumes and excessive heat

2. Guestroom Tower: Total exhaust is typically 236 to 378 l/s (500 to 800 cfm) per floor. Provide exhaust at the following: Service Elevator Lobby, Laundry Chute Room, Housekeeping, Vending, and Electrical Rooms to maintain 27° C (80° F).

3. Parking Structure Exhaust: Provide exhaust of 0.35 l/s/m² (0.75 cfm/sf) minimum, controlled by carbon monoxide sensors. Provide a minimum of one sensor per 700 m² (7,500 sq. ft.).

L. Guestroom Bathroom Exhaust: Provide exhaust in the Guestroom Bathroom.

1. Provide ceiling mounted American Aldes Zone Register Terminal (ZRT-1-4-120) in shower compartment subducted into vertical sheet metal exhaust risers. ZRT automatically regulates exhaust airflow to provide 14 l/s (30 cfm). In guestrooms with individual compartments, provide 7 l/s (15 cfm) in the shower compartment and 7 l/s (15 cfm) in the toilet compartment. Integrate operation with GRMS to shut-off exhaust air when guestroom is unoccupied.

2. Collect exhaust risers in the ceiling of the top floor and connect to heat recovery of the roof mounted DOAS unit.

M. Combustion Air: Provide for gas fired appliances including pool heaters and laundry dryers.

1. Cold Climates: Provide unit heaters for general space conditioning.

2. Fan Operation: If provided by a fan, interlock fan and intake damper with boiler controls to ensure proper supply of combustion air prior to boiler and equipment firing.

N. Fans:

1. BP Type: Centrifugal, except parking structure fans may be propeller fan with premium efficiency motors.

2. Commercial Cooking Area Hood Exhaust Fans: High velocity discharge at 13 m/sec (2,500 fpm) with weather resistant finish, motor guard, drain plug, and

removable stainless steel drain pan, see <10>.

a. Mount on roof and direct exhaust away from outside air intakes to prevent reentry of contaminated air into building.

3. Dampers: Provide with motor operated dampers that automatically close when the fan is off.

O. Air Curtains: Provide for the entire length of doors that open to the Receiving Area. Provide heat in colder climates.

15A.9 Ductwork

A. Requirements:

1. Type: Low and medium velocity galvanized sheet metal constructed and installed in compliance with Sheet Metal and Air conditioning Contractors National Association (SMACNA) Standards or equal.

2. BP Flex Duct to Diffusers: Medium pressure rated, externally insulated, spiral wound, with a maximum length of 2.4 m (8 ft.). Flexible duct is not allowed on return and exhaust systems.

3. BP Sizing: To minimize airborne noise and ensure space noise criteria, size ductwork for maximum velocity as follows:

a. BP 10 m/sec (2,000 fpm): Main supply ducts

b. BP 7.5 m/sec (1,500 fpm): Branch ducts, and return and exhaust systems

c. BP 4 m/sec (800 fpm): Ducts serving room terminal air devices

d. BP Duct Friction Loss: Not to exceed 0.7 kPa (0.10 inch w.c.) per 30.5 m (100 ft.) of duct

4. BP Turning Vanes: Provide in rectangular elbows greater than 45º.

5. BP Duct Option: Ductwork downstream of terminal devices may be Kingspan KoolDuct or Mansville Superduct RC.

B. BP Vertical Risers: Flamebar BW11 UL listed 2-hour fire rated duct system complete with gaskets, caulk, fire dampers, etc. in lieu of 2-hour shaft wall construction.

C. Outdoor Ductwork: Not recommended, but when necessary provide as follows:

1. Roof: Locate bottom of duct a minimum of 450 mm (18 inch) above roof to

permit servicing roof area.

2. Access: Provide steps over ductwork for access to roof areas and roof mounted systems and equipment.

3. Insulation: Encapsulate with 3M Venture Clad Zero Perm vapor barrier jacket or Armacell ArmaTuff, UV resistant weatherproof outdoor insulation.

D. BP Pool Equipment Rooms: 304 stainless steel for pool equipment rooms.

E. Sewage Ejector & Grease Trap Rooms: Exhaust system to be under negative pressure with fans located at remote end of the system and discharge to building exterior.

F. Exhaust Outlets: Position exhaust outlets minimum 3 m (10 ft.) away from outside air intakes and operable windows except for the following:

1. Fireplaces: Locate wood burning fireplace outlets 15 m (50 ft.) minimum from outside air intakes and operable windows.

G. BP Acoustic Lining: Provide closed cell elastomeric insulation that is non-fibrous and resists bacterial growth, with impervious face to permit cleaning. First 30' from AHU's provide 2" 1 ½# density duct liner.

H. BP Outside Air Duct: Galvanized with 2 inch 3# density external duct board.

I. Dampers:

1. BP Provide low leakage motor operated dampers on supply and exhaust systems to automatically close when the systems or spaces served are not in use.

2. Provide fire dampers and fire / smoke dampers where required, to meet fire ratings of floors, walls and ceiling systems, complete with 200 x 200 mm (8 x 8 inch), framed, hinged, lockable access doors. Coordinate locations with MI Interior Design. See <14>.

3. Provide balancing dampers for each supply and return riser, registers and diffusers. Where possible, locate balancing dampers in ceiling space over back-of-house areas for servicing out of guest view.

4. BP Volume Dampers: Provide in branch ducts at connection to main duct.

J. BP Flues: Provide factory built, double wall gas flue / vent for each boiler and fireplace vented to outdoors.

15A.10 Smoke Control System

A. General: When smoke control systems are provided, coordinate zones and location requirements of HVAC and ductwork in this Chapter with Fire Protection & Life Safety. See <14>.

15A.11 Fuel Oil System

A. Type: In high-rise buildings, provide complete automatic fuel oil system with street level fill for standby power generator, see <15C>.

B. Location: Double wall fiberglass fuel oil tank above ground with spill containment. In ground tanks are not acceptable. Generator skid mounted tanks are preferred.

C. Controls: Provide each tank with remote electronic level gauges, leak detection and monitoring equipment, interstitial monitoring and overfill protection.

D. Pumps: If a skid tank is not installed, provide duplex fuel oil pump sets to transfer fuel to day tank.

E. Fuel Storage: Size fuel oil tank based on 8 hours of storage for standby power at full load.

1. High Risk Areas: For properties in high risk areas (hurricane regions) provide a minimum of 72 hours storage capacity.
2. Remote Properties: On island and remote properties provide a minimum of 7 days storage capacity.
3. Acceptance: Obtain acceptance of sizing from MI Engineering.

15A.12 Commercial Food & Beverage (F&B) Production

A. Air Conditioning: Provide air conditioning with a separate HVAC unit that remains negative with respect to surrounding areas.

   1. Supply Air: Locate devices so cool air is directed away from “hot food” serving areas.

   2. Return Air: Provide hard ducted return system. Plenum ceilings are not permitted in food production areas.

B. Type 1 Grease Hood: See <14> for cooking hood and duct fire suppression system at food production cooking equipment that produces grease laden vapors, and coordinate requirements with <10>, <15B>, <15C> and this document. Provide the following:

   1. Standard: Comply with NFPA 96 - Ventilation Control and Fire Protection of Commercial Cooking Operations.

   2. Hood Control System: Provide Halton Marvel, Gaylord AirVantage or Melink system for kitchen exhaust hoods to automatically reduce the speed of the exhaust fan and control outside and return air dampers during idle and non-cooking periods to save fan energy and conditioned air. The system does the following:

      a. Includes the I/O (input and output) processor, key-pad, temperature sensors, optic sensors, variable frequency drives (VFDs) and cables.

      b. Automatically turns the hoods on / off based on temperature or a time of day schedule.

      c. Varies the hood fan speeds based on both the heat and smoke load to ensure optimal hood performance and energy savings.

      d. Automatically adjusts the temperature span to ensure optimal energy efficiency.

      e. Automatically recalibrates the optics at start-up to ensure optimal energy efficiency.

      f. BP Provides additional inputs and outputs to allow compatibility with other equipment and devices such as HVAC systems and cooking appliances.

      g. Provides remote access capability via modem for monitoring and diagnostics.

   3. Hood Exhaust Duct: Provide dedicated exhaust duct and fan. Do not combine

hood exhaust ducts with other exhaust systems (warewashing, laundry, fireplace, building, etc.).

a. Solid Fuel Burning: At cooking appliances utilizing solid fuel (wood, charcoal, etc.), provide ductwork with spark arrester, separately ducted to building exterior.

b. Type: Black steel, 1.46 mm (0.057 inch) minimum thickness or stainless steel, 1.14 mm (0.045 inch) minimum thickness ductwork with welded joints. Slope duct back to the hood, with welded drip proof seams. Galvanized steel duct is not acceptable. Flamebar BW11 Grease Duct & Unifax Fyrewrap is an acceptable alternate.

c. Cleanouts & Access Doors: Provide at maximum spacing of 3.5 m (12 ft.) in horizontal and at every floor of vertical riser. Locate at base of vertical riser, at every change in direction and at sprinklers.

d. Fire Rated Enclosure: Provide a minimum 2 hour fire rated duct enclosure from the point where the duct exits the cooking area (wall or ceiling) and to the point where the duct exits the building (exterior wall or roof). Not required if Flamebar is used.

e. Insulation: Provide 50 mm (2 inch) minimum, calcium silicate or high temperature fiberglass insulation, tested and approved for the application, with all-service jacket on entire length of grease exhaust duct.

f. Sizing: Based on velocity of 7 m / sec (1,500 fpm) to 10 m / sec (2,000 fpm) to prevent grease from accumulating in ducts and to ensure grease not trapped in hood filters is exhausted away from the building.

C. BP Exhibition Cooking Hood: When provided, include the following.

1. BP Exhaust Air Quantity: 100%

2. BP Hood Exhaust Fans: High velocity discharge at 13 m / sec (2,500 fpm) with drain plug and removable stainless steel drain pan.

a. BP Mount on roof minimum 5 m (15 ft.) from outside air intakes to prevent reentry of contaminated air into the building.

b. BP Position fans so entire cooking exhaust system is under negative pressure.

D. Dishwasher Exhaust Duct: Provide separate, dedicated, welded 304 stainless steel exhaust duct, sloped back to equipment for drainage of condensation. Run duct directly to building exterior.

15A.13 BP Laundry Facility

A. BP Coordination: See Laundry for criteria and applicable design requirements, see <11A>.

B. BP Facility Features: Provide the following:

1. BP Diffusers: Locate adjustable type ceiling mounted diffusers for cooling within 2.7 m (9 ft.) of work stations.
2. BP Dryers: If dryer enclosure is located adjacent to an exterior wall, provide louvers for combustion air and size to prevent significant negative pressure in the enclosure when dryers operate. If dryer enclosure is not on an exterior wall, provide an outside air supply fan equal to the total exhaust volume.
3. BP Flatwork Ironer Vacuum Exhaust Air Duct:
   a. BP Provide dedicated, welded 304 stainless steel exhaust duct and slope back to equipment for condensation drainage. Run duct directly outdoors.
   b. BP Equip ducts exceeding 7.6 m (25 ft.) in overall length with in-line booster fans having a capacity equal to the equipment exhaust capacity.
   c. BP Do not combine vacuum exhaust duct with other ductwork systems.

C. BP Valet: Provide individual FCU with thermostat over each work station.

15A.14 Building Automation System (BAS)

A. System Requirements: Provide a BAS with the following:

1. HVAC Scheduling, Operation & Optimization: The BAS provides automatic scheduling, operation and optimization of major HVAC and plumbing systems while maintaining guest comfort and property sustainability and providing alarms for critical conditions.
2. Control System Description:
   a. General: The control system shall consist of a high-speed, peer-to-peer network of DDC controllers, a control system server, and a web-based operator interface.
   b. Control panels containing outstations shall have the facility of external connection interface for lap top computer to enable set point adjustment

to be carried out locally.

c. Analogue inputs shall have at least one high and one low alarm settings to provide alarm monitoring. All commands shall have at least one status point. Provide full color interactive graphics to allow points to be displayed, together with control set points and real time values.

d. The system shall have the ability for on/off site networking, and for interface with hotel management system and guest room controllers.

e. Provide an uninterrupted power supply system to give 4 hours back up in the event of mains supply failure.

3. Hardware: Each webstation or web server shall consist of the following:

a. BMS shall include a supervisor, comprising central processor unit (CPU), color monitor, keyboard and color printer. The supervisor shall be configured with the latest windows-based operating system and the BMS operational software, including a full graphical user interface. 10% spare outstation capacity shall be provided backed up by the equivalent spare memory within the CPU.

b. Computer: Industry-standard hardware shall meet or exceed DDC system manufacturer's recommended specifications. The hardware shall have a hard disk with sufficient memory to store all required operator workstation software, a DDC database at least twice the size of the delivered system database, and one year of trend data based on the points specified to be trended at their specified trend intervals.
• Additional: Provide additional laptops as required, with full software package installed complete with password entry (with hierarchical order).

c. Configuration: Minimum hardware configuration shall include Dual or Quad Core Processor, 6 GB RAM, 500 GB hard disk providing data at 3.0 Gb/sec, 16x DVD-RW drive, and Serial, parallel, and network communication ports and cables as required for proper DDC system operation.

4. System Software: Software is based on a server/thin client architecture, designed around the open standards of web technology. The control system server shall be accessed using a Web browser over the control system network, the hotel local area network, and the Internet. The thin-client architecture provides operators complete access to the control system to access graphics, point displays, and trends, configure trends, configure points and controllers, or to download programming into the controllers.

a. Operating System. Web server or workstation shall have an industry-standard professional-grade operating system that meets or exceeds the

DDC System manufacturers minimum requirements for their software. Typically acceptable systems include Microsoft Windows, Windows 10, Windows Server 2008 R2 or newer, or Redhat Enterprise Limax.

b. System Graphics: The operator interface software shall be graphically based that can be modified or edited by the end user with minimal training. Solutions that require vendor support to edit are unacceptable. Interface shall include at least one graphic per piece of equipment or occupied zone, graphics for each chilled water and hot water system, and graphics that summarize conditions on each floor. Indicate thermal comfort on floor plan summary graphics using colors to represent zone temperature relative to zone setpoint.

c. System Protocol: System uses the BACnet open non-proprietary protocol for communication to the operator workstation or web server and for communication between control modules. I/O points, schedules, setpoints, trends and alarms specified in “Sequence of Operations for HVAC Controls” shall be BACnet objects.

5. Communication: Web server or workstation and controllers shall communicate using BACnet protocol and backbone shall communicate using ISO 8802-3 (Ethernet) Data Link/Physical layer protocol and BACnet/IP addressing as specified in ANSI/ASHRAE 135-2016, BACnet Annex J.

B. Monitoring & Controls: The BAS monitors and controls the following systems except guestrooms:

1. Chiller Plant Optimization Package: Includes complete monitoring and diagnostics and control of chillers, chilled water pumps and automatic chilled water valves with contact point for external connection to Building Automation System (BAS).

2. Central Heating Plant: Includes boilers and pumps, lead / lag control, burner staging and outside air reset controls.

3. Air Handling Systems: Public Space AHUs, VAV boxes, Back-of-House AHU's, exhaust fans, and Guestroom and Guest Corridor DOAS unit.

4. Commercial Cooking Hood: Exhaust fans and makeup air units

5. Domestic hot water system temperatures

6. Critical non-HVAC Systems: Where applicable to the project, include the following:

a. outdoor air temperature

b. outdoor relative humidity

c. indoor relative humidity

d. walk-in coolers and freezers, including required chilled water or condenser water pumps

e. building static pressure control for regulating outside air

f. sewage ejectors

g. water feature pumps

h. swimming pool filters and pumps

i. emergency generator

j. exterior lighting

k. balcony lighting

l. interior lighting controls (dimming systems)

m. electric meters and sub-meters

n. cistern water level

o. water meters and sub-meters

p. gas meters and sub-meters

q. water treatment systems

r. water treatment plant

s. sewage treatment plant

t. sump pumps

C. Manufacturers: Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:

- Automated Logic
- Trane
- Siemens
- Schneider Electric
- Johnson
- Honeywell

15A.15 Acceptance Testing

A. Requirements:

1. Acceptance: Prior to occupancy implement an acceptance testing process that tests, verifies, and documents the functional performance, adjustments, settings, calibration, and programming of all systems, equipment, and devices, furnished and installed under this document to ensure their proper and efficient operation per manufacturers' and engineers' specifications, ratings, and capacities.

2. Acceptance Representative: The acceptance or commissioning agent shall be a third party firm not connected with the prime, mechanical, or electrical contractor.

3. Acceptance Testing process is completed when the required documents are submitted and approved.

B. Acceptance Testing Level: Perform Acceptance Testing on all building systems as defined by CIBSE Standard for the Design of High Performance Green Buildings and include required prestart, start-up and verification checklists. Additional documentation water test and balance reports, operating & maintenance manuals, highlighted manufacturer cut sheets, Record "As-Built" documents in pdf format, and warranties on all equipment.

C. Environmental / Ventilation Requirements - 1

Environmental / Ventilation Requirements								
Module	Space	Design Temperatures & Relative Humidity		Occupancy m²/Person (ft²/Person)	Outside Air	Maximum Lighting Load Watts/m² (watts/ft²)	Remarks	
		Cooling °C (°F) %RH	Heating °C (°F)					
1	Parking Structures	-	-	-	-	-	Provide supply and exhaust of 3.8 l/s/m2 (0.75 cfm/sf) minimum controlled by carbon monoxide sensors	
2A	Main Entrance & Lobby	24°C (75°F) 50% RH	21°C (70°F)	3 (30)	3.8 l/s person + 0.3 l/s/m² (7.5 cfm/person + 0.06 cfm/sf)	43 (4)	-	
	Public Toilets	24°C (75°F) 50% RH	21°C (70°F)	-	-	-	Provide conditioned supply air into each restroom. Keep toilets under negative pressure with respect to surrounding public areas. Exhaust quantity 10 l/s/m2 (2 cfm/sf) minimum.	
2B	Business Center	24°C (75°F) 50% RH	21°C (70°F)	4.6 (50)	3.8 l/s person + 0.3 l/s/m² (7.5 cfm/person + 0.06 cfm/sf)	75 (7)	-	
3	Lounges & Restaurants	24°C (75°F) 50% RH	21°C (70°F)	1.0 (10) or number of seats	3.8 l/s person + 0.9 l/s/m² (7.5 cfm/person + 0.18 cfm/sf)	54 (5)	Individual temperature control in each Private Dining Room.	
4	Exercise Area / Spa	24°C (75°F) 50% RH	21°C (70°F)	4 (45)	10 l/s person + 0.3 l/s/m2 (20 cfm/person + 0.06 cfm/sf)	32 (3)	Keep under negative pressure with respect to surrounding public areas. Provide dedicated HVAC unit or combine with locker room unit only.	
	Locker / Dressing Areas	24°C (75°F) 50% RH	21°C (70°F)	-	Exhaust required	-	Keep under negative pressure with respect to surrounding public areas. Provide dedicated HVAC unit or combine with exercise area or spa unit	
	Sauna & Steam Rooms	-	-	-	-	-	Provide 47 l/s (100 cfm) exhaust in ceiling plenum above each sauna and steam room	
	Treatment Rooms	24°C (75°F) 50% RH	21°C (70°F)	-	100 % exhaust	31 (3)	Provide individual temperature control and 100% exhaust in each treatment room.	
	Indoor Pool	27°C (80°F) 65% RH	27°C (80°F)	-	2.4 l/s/m2 (0.48 cfm/sf) net floor area (not including pool)	32 (3)	Keep under negative pressure with respect to surrounding public areas. Provide separate HVAC unit	
5	Retail	24°C (75°F) 50% RH	21°C (70°F)	4 (45)	3.8 l/s person + 0.6 l/s/m2 (7.5 cfm/person + 0.12 cfm/sf)	75 (7)	Provide individual temperature control in each shop.	

D. Environmental / Ventilation Requirements - 2

		Environmental / Ventilation Requirements						
	Pre-Function	24°C (75°F) 50% RH	21°C (70°F)	1 (10)	3.8 l/s person + 0.6 l/s/m2 (7.5 cfm/person + 0.12 cfm/sf)	54 (5)	Provide individual temperature sensor connected to BAS.
	Ballrooms	**24°C (75°F) 50% RH**	**21°C (70°F)**	**1 (10)**	**2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)**	**54 (5)**	**Provide individual temperature sensor connected to BAS with local occupant control in each Salon.**
6	Meeting Rooms	24°C (75°F) 50% RH	21°C (70°F)	2 (15)	2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)	54 (5)	Provide individual temperature sensor connected to BAS with local occupant control in each Meeting Room.
	Boardrooms	**24°C (75°F) 50% RH**	**21°C (70°F)**	**2 (15) or number of seats.**	**2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)**	**54 (5)**	**Provide individual temperature sensor connected to BAS with local occupant control in Board Room.**
	Service Corridors	24°C (75°F) 50% RH	21°C (70°F)	10 (100)	0.3 l/s/m2 (0.06 cfm/sf)	32 (3)	Keep under negative pressure with Meeting Spaces but positive with respect to Banquet Kitchen.
7A	**Guestrooms & Suites**	**24°C (75°F) 50% RH**	**23°C (74°F)**	**2 persons**	**2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)**	-	**Hard duct 100% outside air to discharge into the sleeping area in each guestroom. Provide supply air into large 4 & 5 fixture guest bathroom and bathrooms with exterior exposure.**
	Guestroom Corridors & Elevator Foyers	24°C (75°F) 50% RH	21°C (70°F)	-	2 air changes per hour 100% outside air	11(1)	Supply 2 air changes per hour minimum. 100% outside air
	Ice Machine Rooms	**-**	**21°C (70°F)**	**-**	**50 l/s (100 cfm) exhaust**	**-**	**Water cooled ice machines**
7B	Linen Room	24°C (75°F) 50% RH	18°C (65°F)	-	Exhaust required	-	Exhaust as required to maintain conditions.
	Service Elevator Foyer	**24°C (75°F) 50% RH**	**21°C (70°F)**	**-**	**Exhaust required**	**32 (3)**	**Provide 47 l/s (100 cfm) exhaust in foyer to keep negative to guest corridor.**
	Exit Stairs	-	10°C (50°F)	-	-	-	Provide heat on ground floor and upper floor as required to maintain 10°C (50°F)
7C	**Guest Floor Lounge**	**24°C (75°F) 50% RH**	**21°C (70°F)**	**2 (15) or number of seats**	**3.8 l/s person + 0.9 l/s/m2 (7.5 cfm/person + 0.18 cfm/sf)**	**32 (3)**	**Provide individual temperature controls in Lounge, Meeting Room and Pantry. Provide hood exhaust in Pantry if required.**

E. Environmental / Ventilation Requirements - 3

		Environmental / Ventilation Requirements					
8A	Administrative Facilities	24°C (75°F) 50% RH	21°C (70°F)	10 (100)	2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)	43 (4)	Provide individual temperature controls with perimeter heat in offices. Provide exhaust as required.
8B	Employee Facilities	24°C (75°F) 50% RH	21°C (70°F)	10 (100)	2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)	32 (3)	Provide exhaust where required.
	Employee Cafeteria	24°C (75°F) 50% RH	21°C (70°F)	1 (10) or number of seats	3.8 l/s person + 0.9 l/s/m2 (7.5 cfm/person + 0.18 cfm/sf)	32 (3)	Keep under negative pressure with respect to surrounding areas. Provide exhaust for grease hood and dishwasher if applicable.
9	Engineering & Maintenance	24°C (75°F) 50% RH	21°C (70°F)	10 (100)	2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)	43 (4)	Provide individual temperature controls in offices. Provide exhaust for workshops as required.
	Refrigerated Trash Room	13°C (55°F) 50% RH	13°C (55°F) 50% RH	-	Exhaust required	-	Keep under negative pressure with respect to surrounding areas. Provide individual temperature control
	Receiving Area	-	-	-	-	-	Provide air curtains at each entrance from receiving dock into building. Provide radiant heating panels in Receiving Area at locations where winter temperatures drop below 0° C (32° F). Provide circulating fans in hot climates.

F. Environmental / Ventilation Requirements - 4

		Environmental / Ventilation Requirements					
10	Commercial Kitchens (F&B production)	27°C (80°F) 50% RH	21°C (70°F)	5 (50)	3.8 l/s person + 0.9 l/s/m2 (7.5 cfm/person + 0.18 cfm/sf)	32 (3)	Keep under negative pressure with respect to surrounding areas. Operate dishwasher exhaust 24/7
	Cold Prep & Vegetable Prep	15°C (59°F) 50% RH	-	5 (50)	3.8 l/s person + 0.9 l/s/m2 (7.5 cfm/person + 0.18 cfm/sf)	32 (3)	See applicable program requirements in Module <10>. Provide individual split system connected to BAS.
	Dry Storage	21 to 24°C (70° to 75°F) 50% RH	-	-	-	32 (3)	Provide individual temperature control connected to BAS
	Meat / Fish / Poultry / Pork Prep Area	15°C (59°F) 50% RH	-	5 (50)	3.8 l/s person + 0.9 l/s/m2 (7.5 cfm/person + 0.18 cfm/sf)	32 (3)	Keep under negative pressure with respect to surrounding areas. Provide individual split system connected to BAS.
	Pastry / Chocolate Room	15°C (59°F) 50% RH	-	5 (50)	3.8 l/s person + 0.9 l/s/m2 (7.5 cfm/person + 0.18 cfm/sf)	32 (3)	Keep under negative pressure with respect to surrounding areas. Provide individual temperature control connected to BAS
	Reel Wine Storage	13°C (55°F) 50% RH	-	-	-	32 (3)	Provide individual split system connected to BAS.
	Beverage Storage	21°C (70°F) 50% RH	-	-	-	32 (3)	Provide individual temperature control connected to BAS
11A	Laundry /Valet	27°C (80°F) 50% RH	21°C (70°F)	3 (30)	2.5 l/s person + 0.6 l/s/m2 (5 cfm/person + 0.12 cfm/sf)	32 (3)	Keep under negative pressure with respect to surrounding areas. Provide spot cooling over each valet station.
11B	Housekeeping	24°C (75°F) 50% RH	21°C (70°F)	5 (50)	2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)	32 (3)	Keep under negative pressure with respect to surrounding areas.

G. Environmental / Ventilation Requirements - 5

Environmental / Ventilation Requirements							
12	Elevator Equip. Rooms	24°C (75°F)	21°C (70°F)	-	-	-	Provide split systems with individual temperature controls. Ventilation not required.
13	Computer Room	21°C (70°F) 50% RH	-	10 (100)	2.5 l/s person + 0.3 l/s/m2 (5 cfm/person + 0.06 cfm/sf)	43 (4)	Provide a/c unit on main cooling system and one additional split system on emergency backup power.
	IDF	Design system to maintain temperature between 10° to 27° C (50° to 80° F) non-condensing.		-	-	-	Provide 24 hour conditioning. Provide IDF supply and exhaust based on specific project requirements but typically 1.5 kW (5,000 Btuh/hr) per guestroom floor. Connect a/c units to emergency backup power.
	Sound Equip. Room			-	0.3 l/s/m2 (0.06 cfm/sf)	-	
	Dimmer Equip. Room			-	-	-	
15	Mechanical, Electrical, Telephone Rooms & Closets	24°C (75°F) 50% RH	21°C (70°F)	-	0.3 l/s/m2 (0.06 cfm/sf)	-	Split system a/c unit for main telephone room, on emergency backup power.
16	Security	24°C (75°F) 50% RH	21°C (70°F)	-	-	43(4)	Provide individual temperature control connected to BAS.

key

E I Expanded Information

BP Best Practices

R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

Table of Contents

key

- E I Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

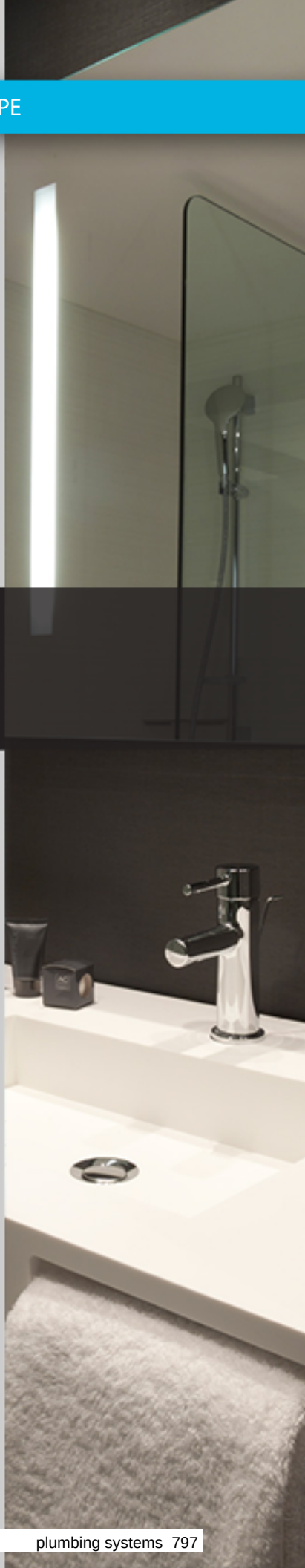
- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

Exception: Fire Protection & Life Safety Design Standard references are to external codes only

EUROPE

Marriott Hotels

plumbing systems



globaldesignstrategies

designstandards

December 2020 | franchised

15B.1 General

A. Design Criteria:

1. Minimum Requirements: This document establishes minimum Marriott International (MI) requirements and is not intended to provide complete design solutions to project specific situations.
2. BP Deviations: Submit proposed deviations for systems, equipment or manufacturers in writing to MI Engineering for approval. Deviations that alter operating costs, submit a complete computer simulated life cycle cost analysis so that negative impacts can be reflected in the operating Pro-Forma.
3. BP Documentation: Clearly identify on the design drawings systems and equipment required by this document and provided by the contractor.

B. Codes & Standards:

1. Governing Regulations: If local governing regulations conflict with MI's Design Standards contact MI Engineering for resolution.
2. Sanitation: Comply with sanitation standards to safeguard the water supply, drainage and food service equipment. See <10>.
3. Approvals: Fired pressure vessels, boilers, and their safety trains (controls that include combustion safeguards, safety shutoff valves, over temperature protection and pressure relief valves) require one of the following approvals, Zurich Global, UL (Underwriters Laboratories), CSA (Canadian Standards Association), ETL or ASME.

C. System Design: Design systems in compliance with CIBSE and / or local code.

D. Dimensions, Sizes & Measurements: In this Standard, conversions from English (Imperial Units) to metric (SI) units are approximate. Verify, coordinate and confirm product and material dimensions for required design applications.

E. BP Energy Efficiency: MI has adopted an aggressive environmental policy. At a minimum, design plumbing systems in compliance with CIBSE Energy Efficiency in Buildings.

1. BP Cost Analysis: Provide a complete computer simulated life cycle cost analysis for alternate plumbing systems and equipment considered for implementation.
2. BP Alternate: Investigate the use of alternate or renewable energy options, including solar for hot water and swimming pool heat.

15B.2 Sanitary System

A. System Requirements: Provide entire facility with complete sanitary waste / vent system connected to a public sanitary system with each fixture vented to the atmosphere.

1. Private Sewage Disposal System: Provide when public sanitary sewers are not available.
2. Guestroom Bathroom Floor Drains: Provide floor drains in guestroom bathrooms.
    a. Where floor drains are required, provide Trap Guard by ProSet Systems to eliminate methane gas from entering bathroom and guestroom.
    b. Provide necessary slope in floor to ensure water properly drains.
3. BP Floor Drains: Provide floor drains in the mechanical rooms and electric rooms.
4. BP Vertical Sanitary Risers: Provide clean-out with access every 3 floors minimum 2 per riser.
5. Waste Water: Indirect connect the following to the sanitary sewer:
    a. Cooling tower drain
    b. Water softener backwash
    c. Pool filter backwash
    d. Whirlpool filter backwash
6. BP Sewage Ejectors: When required, provide duplex submersible sump pump system with each pump sized at 65% of peak load. System includes control panel for alternating pumps, pump failure alarm and high water level. Connect sewer pumps to backup operational power. See <15C>.
7. Food & Beverage Production Facilities, see <10>:
    a. Indirect Waste: Provide kitchen equipment drains with air gaps equal to 2 times the drain pipe diameter to prevent back siphonage and contamination.
    b. Direct Waste: Provide as appropriate for the fixture.
    c. Hand Sinks: Connect to direct waste.
    d. Funnel Floor Drains: Provide for low volume indirect waste. Place in easily accessible locations for service.
    e. Recessed Floor Sinks: Provide for high volume indirect waste.

f. BP Type 1 Grease Hood: Conceal water wash drain lines in walls and extend to building drains.

B. BP Region Requirement: In areas of high water costs, collect guestroom showers, bath and lavatories and circulate to a "gray" (non-potable) water reclamation plant for use in landscape irrigation, cooling tower make-up and possibly water closet flushing. The minimum standards for gray water are 10 mg/1 BOD, 15 mg/1 COD and 10 mg/1 suspended solids.

15B.3 BP Storm Water Drainage System

A. BP System Requirements: Provide a complete storm water drainage system connected to a public storm sewer for the entire facility including the following:

1. BP Roof drains
2. BP Balcony drains
3. BP Planter drains
4. BP Fountains
5. BP Subsurface water

B. BP Drainage Requirements:

1. BP Overflow: Design roof system with hard piped overflow system.
   • Do not use roof scuppers for overflow.
   • Hard pipe overflow drains to building exterior in a visible location but out of pedestrian walking areas.
2. BP Disposal: When public storm sewers are not available, discharge storm water at points of safe disposal.
3. BP Region Requirement: May consider storage of storm water for irrigation systems.

C. BP Subsurface Water: During the design process address the presence of subsurface water.

1. BP Foundation Drain System: Provide to prevent uplifting of building slabs by hydrostatic pressure or wet slab and wall conditions.
2. BP Pumping and discharge subsurface water into municipal storm sewers.
3. BP Sump Pumps: Provide duplex submersible sump pump system with the following:

a. BP Each pump sized at 65% of peak load,

b. BP Premium efficiency motors,

c. BP Control panel for alternating pumps, pump failure alarm, and high level water alarm.

d. BP Connect to backup operational power. See <15C>.

15B.4 Domestic Water:

A. General Requirements:

1. Potable Water: Provide potable water to every fixture throughout the facility in compliance with the maximum contaminant levels as allowed by the World Health Organization (WHO) or the US Safe Drinking Water Act (SDWA). Obtain a current water analysis.

   a. BP Water Filtration: Provide factory packaged 3-stage Point-of-Entry (POE) water purification system capable of removing particulate matter down to 3um equivalent and containments down to .001, achieving a 4 log reduction of virus, cysts with no use of chemicals and maximum peak clean pressure drop of 3 psi.

   • The system must include Force Field filters capable of removing microbiological contaminants including the cellular remains of dead contaminants (endotoxins and cellular debris), viruses, bacteria, cysts, trace pharmaceuticals, and other contaminants, and shall permanently bond the debris to filter so that the contaminants (Virus and Bacteria) cannot be released. The filter shall also be capable of 99.999% removal of Legionella. The filters shall be capable of operating under max water temperatures of 160° F and max flow rates of 40 gpm per 35” filter element. Filters shall be NSF61 and NSF42 approved and USP Class VI testing and endotoxin testing.

   b. BP Point of Use Filters: Where required for ice machines, food production ice machines and hydration stations, provide inline filter capable of removing microbiological contaminants including the cellular remains of dead contaminants (endotoxins and cellular debris), viruses, bacteria, cysts, trace pharmaceuticals, and other contaminants. Filter shall permanently bond the debris to filter so that the contaminants (Virus and Bacteria) cannot be released.

   c. BP Water Filtration - Domestic Hot Water Return System: The system includes Force Field filters (TC-FF1-xx), capable of removing

microbiological contaminants including the cellular remains of dead contaminants (endotoxins and cellular debris), viruses, bacteria, cysts, trace pharmaceuticals, and other contaminants, and shall permanently bond the debris to filter so that the contaminants (Virus and Bacteria) cannot be released.

• As part of this process, the filter shall also be capable of 99.999% removal of Legionella.

• The filters shall be capable of operating under max water temperatures of 160° F and max flow rates of 40 gpm per 35" filter element.

• Filters shall be NSF61 and NSF42 approved and USP Class VI testing and endotoxin testing.

d. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:

• Triple Clear Water Solutions, National Account Contact: Patrick Verwys, (484) 888-9218 or e-mail patrick@tripleclear.com

2. Vacuum Breakers: Provide on fixtures where cross connection to or siphon from non-potable systems is possible.

3. Double Check Valve Backflow Preventer: Provide on connections to non-potable water systems such as chillers, cooling towers, boilers, pools and irrigation systems.

4. BP Metering: Provide separate water meters connected to Building Automation System (BAS) for the following:

   a. BP Main domestic water

   b. BP Cooling tower make-up

   c. BP Kitchens (hot and cold for each Kitchen)

   d. BP Guestroom floors (hot and cold)

   e. BP Spa (hot and cold)

   f. BP Laundry (hot and cold)

   g. BP Irrigation system

   h. BP Swimming pools

   i. BP Leased Restaurants and Retail (completely separate from hotel)

5. Food & Beverage Production Facilities: To avoid back siphoning of contaminates into domestic water system, provide check valves, air gaps and

vacuum breaks.

B. Cisterns / Open-air Water Storage Tanks: In areas where water supply is not reliable provide cisterns that meet the following:

1. Cells: Minimum 2 independent cells each with a lockable cover. Locate make-up water inlets and draw connection at opposite ends of the tanks. Provide thermometer and water level sensor for monitoring of water storage temperature and connect to BAS.
2. BP Lining: Non-porous material such as ceramic tile or PVC.
3. BP Capacity:
   a. BP General: Minimum of 380 liters (100 gal.) storage per guestroom for properties without Laundry Facility.
   b. BP Laundry: Minimum of 570 liters (150 gal.) per guestroom for properties with a Laundry Facility
   c. BP Resorts: Minimum of 760 liters (200 gal.) per guestroom for resorts
4. Access: Provide access point for water tanker filling and lockable stainless steel cover for access points.

C. BP Water Conditioning:

1. BP Hardness: Submit lab test results of the domestic water analysis.
2. BP Kitchen & Laundry: Condition hot water if water analysis indicates more than 85 ppm (5 grains per gallon) hardness.
3. BP Hot Water: Condition hot water when hardness exceeds 117 ppm (7 grains per gallon).
4. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • Watts Oneflow

D. Hot Water:

1. General Requirements:
   a. Central Domestic Hot Water System: Provide complete hot water return throughout the entire system with automatic balancing (flow control) valves at the end of every branch or riser. At a minimum, circulate 6 l/min (1.0 gpm) through each hot water riser so that hot water reaches every fixture within 10 seconds of flow initiation.

b. Heat Trace: Not permitted for hot water return systems.

c. Dead-legs: Not permitted in hot water systems.

2. Guestroom & Kitchen Hot Water:

a. Domestic Hot Water Plant: Provide a minimum of two tankless water heaters to include minimum of 96% thermal efficient, onboard water heater management system, motorized sequencing valves, minimum of 50,000 Btuh burner input and corresponding high burner turndown ratio up to 30:1.

• Sizing Method: Tankless water heaters are sized to comply with Manufacturer's Guaranteed Sizing Method.

• Physical Dimensions: Size heaters to fit through a standard 76.2 x 203.2 cm (30 x 80 inch) door for future replacement.

• Manufacturers shall conform to the performance criteria listed in this document with performance verified by the project engineer. Manufacturers who currently provide acceptable products include but are not limited to Aerco and Intellihot.

3. Digital Recirculating Valve (DRV): Provide for systems with tankless heaters other than Intellihot or Aerco and for systems with storage tanks and gas fired water heaters or heat exchangers.

a. Applications: Provide DRVs for the following hot water systems:

• Systems with a maximum simultaneous demand (MSD) less than or equal to 3.8 l/ sec (60 gpm), provide one Armstrong DRV40R-BS-DS or two DVR25R-BS-CS or one Powers LFIS150VL.

• Systems up to 7.2 l/sec (115 gpm), provide two Armstrong DRV40R-BS-DS in parallel or one DRV80R-BS-DS or two Powers LFIS150VL in parallel or one LFIS200VL.

• Systems up to 14.5 l/sec (230 gpm), provide two Armstrong DRV80R-BS-DS in parallel or two Powers LFIS200VL in parallel.

b. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:

• Armstrong "Brain".

• Powers "Intellistation"

4. Domestic Hot Water Return Pumps:

a. Type: Duplex wet rotor circulator pumps with integral VFD, premium efficiency motors and pre-programmed system controls that allow for alternation on alarm and time, and automatically adjusts to maintain

desired hot water return temperature.

b. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
• Armstrong Fluid Technology. National Account Contact: Rick Lambeth, (704) 372-4344 or rick.lambeth@msssolutions.com.
• Grundfos

5. Water Temperatures: Provide hot water temperatures as follows:

   a. Guestrooms & Other Areas: 52° C (125° F) at point of connection to any fixture.

   b. Kitchens: Provide 60° C (140° F) for preparation, pot sinks, warewashing machines and general kitchen use.

   c. Laundry Washers: 74° C (165° F).

15B.5 Facility Requirements

A. Accessible Fixtures: Provide ambulatory and accessible fixtures and hardware as required by the following:

   1. ADA, Americans with Disabilities Act

   2. Governing regulations and codes

B. BP Kitchen (Commercial F&B) Plumbing:

   1. BP Plumbing Piping: Conceal in kitchen walls. If concealed piping is not possible, use surface mounted stainless steel or chrome plated pipe covers in prep and production areas. Do not stub out from floor or expose piping on face of walls and ceiling.

   2. BP Piping Connections:

      a. BP Design piping connections to equipment at the highest elevation possible but not less than 150 mm (6 inch) above the floor to provide clearance for cleaning.

      b. BP Provide flexible gas lines and quick disconnects (where applicable) for cooking equipment on casters.

   3. BP Domestic Water Lines: Connect to kitchen equipment through individual water filters when required by equipment manufacturer. Use flexible stainless

steel lines with quick disconnect connections.

4. BP Choose utility based on the following:
   a. BP Provide natural gas when available.
   b. BP If municipal gas service is not available, provide central LPG system with exterior tank farm or bottles.
5. BP Gas: Comply with NFPA 54, National Fuel Gas Code.

C. BP Type 1 Grease Hoods: Provide the fire suppression system to perform the following actions when activated. See <14>, <15A> and <15C>.
   1. BP Gas: Automatically activate solenoid to turn off gas to affected cooking lines.
      a. BP Position the solenoid in an accessible area as close to the appliances as practical to minimize gas supply when activated.

D. BP Grease Traps:
   1. BP Design: Drain main kitchen areas with both a grease waste and a non-grease waste system. Connect floor drains, pot sinks, and dishwashers to grease waste system. Connect all other fixtures, including grinders and disposal waste machines, to non-grease waste system.
   2. BP Location: Locate grease traps outside building in a serviceable location, preferably near the Receiving Area, but as close to the grease source as possible.
   3. BP Remote Kitchen Areas: Equip with small cast iron interceptors located in Back-of-House areas for easy cleaning and maintenance.
   4. BP Standard: Design grease traps in accordance with ASPE with cleanouts at the entry and exit. Vent grease trap individually through the roof.

E. BP Trash & Can Wash:
   1. BP Hot and Cold Water: Provide for wash down at Receiving Area.
   2. BP Drains: Provide floor and trench drains in the loading dock and trash compactor area. Route drains through the grease trap.

F. BP Swimming Pools & Water Features (see <4C>): Verify that pools (indoor and outdoor), and site and building water features are provided with appropriate water supply, filtration, circulation, treatment, aeration and drainage.

G. Mechanical Rooms with Kitchen Exhaust Hood Grease Extraction Units: Provide wall mounted faucet with hot and cold water and hose connection and 30 cm (12") floor sink for washdown.

15B.6 Piping Systems

A. Design Pressures:

1. Design: Zone system to maintain between 275 kPa and 550 kPa (40 and 80 psi) at fixtures.
2. Zone: Provide a maximum of 8 floors in any pressure zone. Utilizing pressure reducing valves in domestic water systems at each floor is prohibited. When required, install two in parallel with shut off valves for maintenance.
3. System Pressure: Maintain through a factory manufactured and tested automatic triplex booster pump system with premium efficiency motors sized at 50% - 50% - 20% split with variable frequency drives. Pump controller sequences pumps based on flow readings from a flow sensor with back-up pressure switch.
4. Booster Pump System: Connect to standby power. See <15C>.
5. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • Armstrong Fluid Technology. National Account Contact: Rick Lambeth, (704) 372-4344 or rick.lambeth@msssolutions.com
   • Grundfos

B. BP Piping:

1. BP Exterior Domestic Water Mains: Cement lined ductile iron, minimum diameter 75 mm (3 inch)
2. BP Inground / Below Grade: Type "K" copper or PVC grades SDR 21 or 26, depending on pressure requirements.
3. BP Galvanized Pipe: Not permitted for domestic water systems (mains, below grade or interior).
4. BP Interior Domestic Water Distribution:
   a. BP Type "L" copper with no -lead solder or Viega ProPress copper fittings.
   b. BP Flowguard Gold CPVC piping systems
   c. BP Corzan CPVC piping systems
   d. BP Stainless steel piping and fittings with pressure ratings equivalent to

Type "L" copper.

e. BP Uponor AquaPEX pipe and Uponor ProPEX fittings (ASTM F1960, NSF 61) designed and installed per manufacturers recommendations and per local code for underground, in-unit, mains and risers. Comply with 5006 per ASTM F876/F877. No access required for ProPEX fittings.

5. BP Storm & Sanitary Sewer:

a. BP Cast iron pipe and fittings or schedule 40 PVC with acoustic insulation at the bottom of risers and on laterals that occur over public spaces. Galvanized pipe or foam core PVC are not permitted.

6. BP Natural or LP Gas: Schedule 40 black steel with screwed malleable or Viega Pro Press fitting or Type "L" copper. Install gas piping only in accessible locations and surface mount at kitchen hoods. Limit gas pressure inside building to 0.14 bar (2 psi) maximum.

C. BP Pipe Sizing: Maximum velocity 2.4 m/s (8 fps) in the domestic water system and 1.2 m/s (4 fps) in the hot water return system.

D. BP Pipe Supports: Provide clevis or Uni-Strut trapeze hangers with maximum spacing for copper or cast iron piping based on pipe diameter and on both sides of changes in direction and at both sides of valves and fittings.

1. BP 50 mm (2 inch) & smaller: 1.8 m (6 ft.) maximum

2. BP 65 mm (2.5 inch) to less than 150 mm (6 inch): 3m (10 ft.) maximum

3. BP 150 mm (6 inch) & larger: 4.5 m (15 ft.) maximum

4. BP PVC Piping: Provide clevis or Uni-Strut trapeze hangers with maximum spacing of 1.2 m (4 ft.).

5. BP Hanger Shields: Provide at each hanger for insulated piping.

6. BP Floor Penetrations: Provide steel riser clamps (copper coated for copper pipe) at each floor. Provide cork and rubber isolation pad between clamp rings and floor structure.

E. BP Pipe Insulation: Provide continuous insulation systems for piping as follows:

1. BP Cold Water & Horizontal Storm Drainage Piping: Inside building, provide flexible elastomeric thermal insulation of thickness based on pipe diameter as follows:

a. BP 18 mm (3/4 inch) Pipe: 18 mm (3/4 inch) minimum

b. BP 25 mm (1 inch) to 50 mm (2 inch) Pipe: 25 mm (1 inch) minimum

c. BP 65 mm (2.5 inch) & Larger Pipe: 50 mm (2 inch) minimum

2. BP Hot Water Supply, Return & Recirculating Piping: Provide fiberglass insulation with vapor barrier of thickness same as cold water piping.
3. BP Seams & Joints: Continuously glue insulation with contact adhesive.
4. BP Pipe Jacketing: Provide protective preformed jacket covers for insulated piping at the following locations:
    a. BP PVC Jacketing: Exposed in mechanical rooms and where piping is less than 1.8 m (72 inch) above finish floor.
    b. BP One Piece PVC Jackets: Provide for indoor valves and fittings.
    c. BP Aluminum Jacketing: Provide at outdoor piping with double seal, water tight joints utilizing foil faced adhesive tape. Aluminum jacketing is an acceptable alternative in mechanical rooms.

F. Disinfection of Potable Water System: Required for entire potable water system. First, flush the entire water system with clean, potable water until dirty water does not appear at all outlets. Continue with the following flushing requirements:

1. Disinfection Solution: Once flushed, fill the entire domestic water system with a water / chlorine solution containing a minimum of 50 parts per million (50 mg/1) and retain solution in system for 24 hours minimum.
2. Chlorine Purging: After retaining the solution for 24 hours, flush the system with clean potable water until the system is purged of chlorine. Repeat the flushing procedure until contamination is eliminated and the disinfection is verified by a bacteriological test.

G. BP Valves: Locate valves to permit repairs without shutting down more than one riser. Where possible, locate balancing, isolation and shut-off valves over Back-of-House areas to allow service that is not visible to public and guests.

1. BP Shut-off Valves: Provide full-port ball valves or butterfly valves for all pipe sizes and for the following:
    a. BP At the base of hot water and cold water risers.
    b. BP In supply and return piping to equipment to permit service and replacement.
    c. BP In domestic hot water return line on both sides of the flow control valve at top of each riser.
    d. BP At major branch takeoffs for isolation of systems.
    e. BP Provide gas shutoff valve at each piece of kitchen equipment.
    f. BP Gate valves are not allowed.

2. BP Balancing (Flow Control) Valves: Provide with memory stops and measuring ports to calibrate pressure drop and water flow at each piece of equipment and at each hot water return riser. Do not use ball valves for balancing.
3. BP Pressure Regulators & Shock Absorbers: Provide on branches serving flush valves, ice machines, dishwashers and laundry equipment. Provide shock absorbers in locations accessible for service and maintenance.
4. BP Gas Pressure Regulating Valves: Install to regulate gas pressure at the point of entry to the building and at kitchen and laundry (see <10> and <11A>) equipment based on requirements of actual equipment selected. In earthquake areas, provide automatic shut-off gas solenoid valve.
    a. BP Install regulators and valves in an accessible location, not above ceilings.
    b. BP Outfit regulators with full size vent piped to exterior of building

H. BP Piping Connections: Provide di-electric unions at connections of dissimilar metals.

I. BP Identification: Provide the following:

1. BP Plastic Nameplates: Identify pumps, heat exchangers, tanks, water treatment devices and control panels.
2. BP Brass Tags: Identify small devices, including in-line pumps and valves.
3. BP Plastic Pipe Markers: Snap-on type with flow arrows for gas, domestic cold water, domestic hot water and hot water return piping.

15B.7 BP Laundry Facility

A. BP Features: Provide the following.

1. BP Lint Screens: Install 12 mm x 12 mm (1/2 inch x 1/2 inch) expanded metal lint screens in trench drains. Locate screens and design to fully protect the trench, for easy removal and daily cleaning.
2. BP Floor Drains: Provide floor drains in laundry mechanical room, boiler room and air compressor room. Provide area and laundry washer trenches with drains leading to storage pits. Slope trench bottoms to drain at center or one end.

B. BP Water Reclamation & Reuse Systems:

1. BP Waste & Rinse Water: Provide Kemco water reclamation and rinse water reuse system.
2. BP Waste Water Heat Recovery: Provide a waste water heat recovery system when a waste water reclamation system is not provided.

C. BP Chemical Storage & Injection System: Provide 20 mm (3/4 inch) hot and cold water lines connected through a thermostatic mixing valve to a single 20 mm (3/4 inch) wall mounted valved outlet.

D. BP Water Quality Requirements: Comply with the following.

1. BP Laundry Water Quality

Parameters	Upper Limit
NTU	1
pH	6.5 to 7.7
Total Hardness (CaCO3) (mg/L)	Less than 150
Iron Content (ppm)	Less than 0.1
Copper Content (ppm)	Less than 0.2
Total Dissolved Solid (mg/L)	Less than 300
Total Coliform (CFU/100ml)	0

15B.8 Plumbing Fixtures, Accessories & Trim

A. General: Provide commercial quality grade fixtures, faucets and trim.

B. Eye Wash Stations: (see <16>) Provide eye wash stations where chemicals are mixed, dispensed or handled and used in concentrated form including Swimming & Whirlpool Equipment Room (see <4C>), Engineering Shop (see <9>), Kitchen Warewashing (see <10>), Laundry Chemical Room (see <11A>), and Housekeeping (see <11B>).

1. Fixture Type: Provide permanent (not reservoir type that requires maintenance, testing and regulation burdens), foot operated, non-shower type fixtures in compliance with OSHA standards.
2. Plumbing: Connect fixtures to piped plumbing system with tepid water supply and drain.

C. Fixture Trim:

1. Toilet & Lavatory Supply: 12 mm (1/2 inch) angle supply, wall flange, chrome plated and braided stainless steel supply line.
2. Lavatory and Sink P-Traps: 17 gauge, chrome plated brass with wall flange and no clean-out
3. Accessible Lavatory Trap Insulation Kit: Handi Lav-Guard Model 102 & 105 white, self fastening, flexible, vinyl insulation covers for drain trap, supply piping, and angle stop valves.
4. Shower Drain: 50 mm (2 inch) diameter pipe with the grid / top per the Brand specifications. At a minimum provide a 100 mm (4 inch) square perforated grid strainer, chrome finish. See <7A> for Brand requirement and linear drain criteria.

D. Plumbing Fixtures Schedule: Coordinate the following Fixture Schedule items with the Architectural criteria and Interior Design requirements from Chapters <2A> through <11B> for public areas, Guestrooms and Back-of-house (BOH) areas.

1. Bathtub: Provide below floor rough-in so the bottom of the bathtub is at the same elevation as the finished floor.
2. Toilets: Provide flush toilets that exceed 800 MaP test.
3. BP Low Flow Fixtures: Consult with MI Engineering for projects that require water saving or low flow fixtures.
4. BP Plumbing Fixtures: Identify fixtures on documents and submit for review

by MI Engineering.

5. BP Showerhead: Wall mounted
   • Provide 0.13 liter/second (2.0 gal./minute) maximum flow or less as required by code.
   • In addition, provide a handheld showerhead.

6. Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record and designer. Manufacturers who currently provide acceptable products include the following:
   • American Standard, Delta, Gerber Danze, Grohe, Hansgrohe, Kohler, Laufen, Moen, Symmons, Toto, Sloan, Kaldewei

E. Plumbing Fixture Schedule

Table 1 **- Plumbing Fixture Schedule & Requirements**

Fixture Item	Item / Description
Toilet (Water Closet)	
Toilet - Public & BOH	Fixture: 5 liter (1.28 gal.) per flush, wall hung, 55 mm (2⅛ inch) diameter fully glazed trap, vitreous china, siphon jet elongated bowl, white with carrier.
	Seat: Heavy duty solid plastic, elongated, open front, stainless steel posts and check hinge, white
	Flush Valve: Automatic, chrome plated
Toilet - Public & BOH Accessible	Fixture: 5 liter (1.28 gal.) per flush, wall hung, 55 mm (2⅛ inch) diameter fully glazed trap, vitreous china, siphon jet elongated bowl, white with carrier; minimum seat height of 440 mm (17 inch)
	Seat: Heavy duty solid plastic, elongated, open front, stainless steel posts and check hinge, white
	Flush Valve: Automatic, chrome plated
Toilet - Guestrooms, Suites & Accessible Guestrooms	Fixture: 5 liter (1.28 gal.) per flush, floor outlet, 55 mm (2⅛ inch) diameter fully glazed trap, comfort height with close coupled tank, vitreous china, siphon jet elongated bowl, white, polished chrome trip lever
	Seat: Ergonomic, heavy duty solid plastic, elongated, closed front with cover, stainless steel posts and check hinge, white
Bidet	Fixture: Vitreous china for deck mount fitting, integral filler and overflow, flushing rim and spray, white
	Fitting: Deck mounted, lever handle trim, pop-up drain, polished chrome finish
Lavatory	
Lavatory - Public Lavatory - Public Accessible	Fixture: 53 x 36 cm (21 x 14 inch) overall minimum, undercounter, vitreous china, front overflow, white
	Faucet: Proximity operation, battery powered (DC), single spout, cast brass body and spout, with 1.89 liter/min (0.5 gal./minute) vandal resistant aerator
	Drain: 30 mm (1¼ inch), 17 gauge open grid strainer and tailpiece, chrome plated
Lavatory - Guestroom & Suite & Accessible	Fixture: 53 x 36 cm (21 x 14 inch) overall minimum, undercounter, vitreous china, front overflow, white
	Faucet: 13 cm (5¼ inch) spout; 20 to 40 cm (8 to 16 inch) centers, cast brass body and spout, with 4.54 liter/min (1.2 gal/min) aerator, pop-up drain, polished chrome

F. Plumbing Fixture Schedule

Table 1 - Plumbing Fixture Schedule & Requirements

Fixture Item	Item / Description
Lavatory - Back of House Lavatory - BOH Accessible	Fixture: 51 x 46 cm (20 x 18 inch), wall hung with 10 cm (4 inch) centers, concealed arms, front overflow and backsplash, white. Provide with adjustable, floor supported concealed arm carrier.
	Faucet: Proximity operation, battery powered (DC), single spout, cast brass body and spout, with 1.89 liter/min (0.5 gpm) vandal resistant aerator
	Drain: 30 mm (1¼ inch), 17 gauge open grid strainer and tailpiece, chrome plated
Urinal	
Urinal - Public, BOH & Accessible	Wall hung, white vitreous china with 0.5 liter (0.125 gallon) per flush automatic flush valve
Sink	
Sink, Mop (Floor Mounted)	Fixture: 61 x 61 x 25 cm (24 x 24 x 10 inch) molded stone, 75 mm (3 inch) stainless steel combination dome strainer and lint basket
	Fitting: Wall mounted service faucet, vacuum breaker, integral stops, adjustable wall brace, pail hook, chrome plated
Sink, Bar (Guestrooms)	Fixture: 38 x 38 x 23 cm (15 x 15 x 9 inch) deep undercounter, 18 gauge 302 stainless steel, fully under coated
	Fitting: 38 cm (15 inch) gooseneck spout, 5.70 liter/min (1.5 gpm) flow restrictor, aerator, lever handles, polished chrome finish
	Strainer: Perforated grid chrome strainer with 302 stainless steel chrome plated tailpiece
Sink, Kitchen (Pantry)	Fixture: 58 x 44 x 24 cm (23 x 17.5 x 9.5 inch) 18 gauge stainless steel, undermount
	Fitting: Single lever, high arch spout, 5.70 liter/min (1.5 gpm), aerator, polished chrome finish

G. Plumbing Fixture Schedule

Plumbing Fixture Schedule & Requirements	
Fixture Item	**Item / Description**
Shower Enclosure	
Shower - Guestrooms, Suites and Fitness Center	Shower Valve: Pressure balance valve with screwdriver stops
	Shower Trim: Lever handle, vandal-proof, faceplate, with one piece arm and flange, polished chrome finish
	Shower Head: Wall mounted, polished chrome finish. Hand Shower Assembly: With chrome plated flexible hose and wall hook; provide one outlet with multi-functions
Shower - Accessible Guestrooms & Suites	Shower Valve: Pressure balance valve with screwdriver stops
	Shower Trim: Lever handle, vandal-proof, faceplate, polished chrome finish
	Shower Head: Wall mounted, polished chrome finish
	Hand Shower Assembly: 152 cm (60 inch) chrome plated flexible hose, shower head, swivel connector, 61 cm (24 inch) long slide bar, supply ell, in-line vacuum breaker, chrome finish
	Seat: By Architect, as accepted by MI
Shower - Employee	Shower Valve: Pressure balance valve with screwdriver stops
	Shower Trim: Lever handle, vandal-proof, faceplate, adjustable spray shower head, 0.15 liter/second (2.0 gal./minute) flow restrictor, with one piece arm and flange, polished chrome finish
Shower - Employee, Accessible	Shower Valve: Pressure balance valve with screwdriver stops
	Shower Trim: Lever handle, vandal-proof, faceplate, polished chrome finish
	Hand Shower Assembly: 152 cm (60 inch) chrome plated flexible hose, shower head, swivel connector, 61 cm (24 inch) long slide bar, supply ell, in-line vacuum breaker, chrome finish
	Seat: As accepted by MI

H. Plumbing Fixture Schedule

Plumbing Fixture Schedule & Requirements	
Fixture Item	**Item / Description**
Bathtubs	
Bathtub / Shower - Guestroom	Fixture: 152 x 81 x 42 cm (60 x 32 x 16 inch) deep, recess installation, enameled cast iron, or *Americast*, slip resistant surface, white
	Valve: Pressure balance valve with screwdriver stops, lever handle, vandal-proof faceplate, tub filler spout, chrome finish
	Shower Head: Wall mounted. polished chrome finish. Hand Shower Assembly: with chrome plated flexible hose and wall hook; provide one outlet with multi-functions
	Tub Waste and Overflow: Solid brass 40 mm (1½ inch), 17 gauge drain with tailpiece, lift and turn stopper, chrome finish
Bathtub - Accessible Guestroom	Fixture: 152 x 81 x 42 cm (60 x 32 x 16 inch) deep, enameled cast iron, or *Americast*, slip resistant surface, white
	Valve: Pressure balance valve with screwdriver stops, lever handle, vandal-proof faceplate, diverter valve, tub filler spout, chrome finish
	Shower Head: Wall mounted. polished chrome finish
	Hand Shower Assembly: 152 cm (60 inch) chrome plated flexible hose, shower head, swivel connector, 61 cm (24 inch) long slide bar, supply ell, in-line vacuum breaker, chrome finish
	Bathtub Seat: By Architect, as accepted by MI
	Tub Waste and Overflow: Solid brass 40 mm (1½ inch), 17 gauge trip lever drain with tailpiece, chrome finish.
Whirl Pool Bath	Fixture: Selection by Architect (review with MI)
	Faucet: Deck mounted valve, 20 cm (8 inch) centers, 25 cm (10 inch) spout, lever handles, polished chrome finish
	Tub Waste and Overflow: 17 gauge drain with tailpiece, lift and turn stopper, polished chrome finish
Bathtub - Suites	Fixture: 152 x 81 x 42 cm (66 x 32 x 16 inch) deep, recess installation, enameled cast iron, slip resistant surface, white
	Faucet: Deck mounted valve, 20 cm (8 inch) centers, 25 cm (10 inch) spout, lever handles, polished chrome finish
	Tub Waste and Overflow: Solid brass 40 mm (1½ inch), 17 gauge drain with tailpiece, lift and turn stopper, chrome finish

I. Plumbing Requirements

Module	Space	CW	HW	Gas	Remarks Provide the following fixtures, systems, devices and equipment:
1	Site / Building Exterior	X			Irrigation system and drainage for live plant areas. Hose bibs at Porte Cochere area, entry and sidewalk for wash down. Box hydrants 30 mm (1¼ inch) at 61 m (200 ft.) intervals for parking lot, and 30 mm (1¼ inch) box hydrant for feature water pool and fountain wash down.
2	Entrance / Lobby	X			Irrigation system and drainage for live plant areas
	Public Toilets	X	X		Floor drains under toilet partitions Water hammer arrestors at flush valves
	Janitors Closet	X	X		Service sink
	Business Center	X			
	Lounges	X	X	X	Irrigation system and drainage for live plant areas
4	Exercise Room	X			
	Steam Generator Room	X			Water connection and floor drain
	Indoor Pool	X		X	Hose Bibs: 20 mm (¾ inch) at 23 m (75 ft.) intervals for deck wash down Floor drains around pool deck and under toilet partitions in restrooms
	Pool Equipment Room	X		X	Sump pit, hose bib, floor drain, make-up water connection, and gas connection for heaters.
	Outdoor Recreation	X			Hose Bibs: 20 mm (¾ inch) at 61 m (200 ft.) intervals for deck wash down
7B	Ice Machine	X			Water connection and floor drain with air gap
	Housekeeping / Linen	X	X	X	Washing machines service sink, floor drain and wall box Glass washer make-up water and floor drain
7C	Guest Floor Lounge Pantry	X	X		Coffee Station; sink; floor drain
8	Admin. Offices	X	X		Coffee Station; sink
	Service Corridors	X			Ice Machine: Water connection and floor drain with air gap
	First Aid / Nurse	X	X		Sink: Small for hand washing
	Employee Lockers	X	X		Janitor's Closet: Service sink
	Employee Toilets	X	X		Floor Drains: Locate under toilet partitions Hose Bibb: 20 mm (¾ inch) under lavatories Water Hammer Arrestors: At flush valves
	Employee Dining	X	X	X	
9	Receiving Area	X			Wall Hydrant: 20 mm (¾ inch) for wash down Drains: Domed type in dock trench drain
	Can Wash	X	X		Wall Hydrant: 20 mm (¾ inch) hot and cold water Drains: Domed type in floor
10	Food Production Kitchens	X	X	X	Heat Tracing: Insulate and heat trace condensate lines in freezers and coolers. Ice Machines: Water connection and floor drain with air gap Gas Valve: Gas pressure regulating valve on incoming line Gas Shut-Off: Automatic gas solenoid valve with manual reset under exhaust hood to shut-off gas to appliances in fire condition
11A	Laundry	X	X	X	Water Hammer Arrestors: At quick closing water valves Floor Drains: Domed type in depressed areas at 3 m (10 ft.) on center Washing Machines: 20 mm (¾ inch) hose bibb Dryers: Gas connection to dryers Folders: Compressed air

15B.9 BP Acceptance Testing

A. BP Requirements:

1. BP Acceptance: Prior to occupancy implement an acceptance testing process that tests, verifies, and documents the functional performance, adjustments, settings, calibration, and programming of all systems, equipment, and devices, furnished and installed under this document to ensure their proper and efficient operation per manufacturers' and engineers' specifications, ratings, and capacities.
2. BP Acceptance Representative: The acceptance or commissioning agent shall be a third party firm not connected with the prime, mechanical, or electrical contractor.
3. BP Acceptance testing process is completed when the required documents are submitted and approved.

B. BP Acceptance Testing Level: Perform Acceptance Testing on all building systems as defined by CIBSE Standard for the Design of High Performance Green Buildings and include required prestart, start-up and verification checklists. Additional documentation water test and balance reports, operating & maintenance manuals, highlighted manufacturer cut sheets, Record "As-Built" documents in pdf format, and warranties on all equipment.

MARRIOTT

EUROPE

Marriott Hotels

electrical systems

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

- EI Expanded Information
- BP Best Practices
- R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

15C.1 General

A. Design Criteria:

1. Minimum Requirements: This document establishes minimum Marriott International (MI) requirements and is not intended to provide complete design solutions to project specific situations.
2. BP Deviations: Submit in writing proposed deviations for systems, equipment or manufacturers to MI Engineering for approval. For deviations that alter operating costs, submit a complete computer simulated life cycle cost analysis so that negative impacts can be reflected in the operating Pro-Forma.
3. BP Documentation: Clearly identify on the design drawings systems and equipment required by this document and provided by the contractor.

B. Codes & Standards:

1. Governing Regulations: If local governing regulations conflict with MI's Design Standards contact MI Engineering for resolution.

C. Design Considerations:

1. General: Electrical systems shall be designed for high efficiency, low maintenance, ease of maintenance, and high level of safety.
2. Equipment: Locate to provide a minimum impact to architecture and interior finishes.
3. Equipment shall be suitable for the location in which installed.

D. Dimensions, Sizes & Measurements: In this Standard, conversions from English (Imperial) to metric (SI) units are approximate. Verify, coordinate and confirm product and material dimensions for required design applications.

E. R Fire Protection & Life Safety: See <14>.

15C.2 Power - Incoming Service

A. Type:

1. Electric service from the utility company shall be installed underground to the building main switchboard. Locate main switchboard in a dedicated main electrical room accessible to authorized personnel only.

B. Transformers:

1. Transformers: NEMA TP-1. Oil-filled transformers, if used, must be located in an outdoor secure area or within a suitable concrete vault.

C. BP Service:

1. BP Coordinate service voltage, capacity, and arrangements with local utility company. Calculate service in accordance with applicable codes. Provide 25% spare capacity.

15C.3 Distribution

A. General:

1. Throughout Building: A short circuit and coordination study shall be performed as part of the electrical service and distribution design including arc fault analysis and equipment labeling on all service switchboards and distribution boards.

2. Wiring Distribution: Three phase, four wire, grounded wye, color-coded with separate insulated equipment ground conductor.

3. Tower Distribution Riser: Provide bus duct or conduit / cable risers to a sub-distribution panel on each floor.

B. Switchboards & Panels:

1. Main Switchboard: Main service disconnect(s) may be circuit breaker or fusible bolted pressure switch to suit required rating. Distribution devices shall be circuit breaker type. All devices in the main switchboard shall be 100% rated. Switchboard bus bars shall be copper. In general, service switchboards shall be configured with a single main service switch. Up to six main service switches shall be permitted where multiple services are required to meet the electrical load of the property or as required to provide a fully coordinated electrical system. Provide capacitor banks if required to maintain

minimum power correction factor 0.95.

2. Spares: Provide spare circuit breakers in switchboards and panels, minimum one per each active breaker size. The main service switchboard sizing calculations shall include a 15% allowance for future load growth.

3. Surge / Lightning Arrestors: On each service, provide surge suppressors and lightning arrestors.

4. Sub-distribution Panelboards: Panelboards with main circuit breaker and minimum 4 spare breakers. Circuit breaker type with thermal magnetic breakers or electronic trip breakers (magnetic only breakers are not allowed). Provide separate panels for lighting and power. Do not locate panels in main kitchen areas.

5. Receptacle and Lighting Branch-Circuit Panelboards: Where possible locate within 30 m (100 ft.) of its loads, but not in pool equipment rooms. Do not locate panelboards, disconnect switches, cabinets, etc. in public spaces.

6. Region Requirement: If required, locate guestroom load centers as directed by MI.

C. BP Sub-meters: Provide electric sub-meters in the following locations and connect to Building Automation System (BAS):

1. BP Laundry Facility
2. BP Kitchens: One for each including Employee Cafeteria and Bakery (third party only).
3. BP Main Chiller Plant
4. BP Fitness Areas including swimming pool.
5. BP Spa
6. BP Water pump room.
7. BP One for each main service switchboard.
8. BP Leased Restaurants and Retail

D. Shunt-Trip:

1. Shunt-Trip: Provide circuit breaker shunt trip devices where required for automatic power shutdown of equipment. See “Type 1 Grease Hoods” in this document.

E. Feeders:

1. Conductors: Conductors shall be copper. Acceptable raceways are rigid steel, EMT, and IMC. Install in galvanized steel conduit where exposed,

except cable trays may be used in utility areas and bus ducts for risers. Conduit embedded in concrete slabs and masonry walls may be PVC.

2. Feeder Size: Comply with governing electric codes. Provide with separate insulated equipment ground conductor.

F. Branch Circuits:

1. Conductors: Copper in conduit. MC and AC cable may be used where permitted by local authority.

2. Loads: Panelboard feeders shall be sized 25% greater than the panelboard connected or tabulated load, whichever is greater.

3. Circuits: Provide dedicated circuits to each guestroom and suite. Do not share circuits with other guestrooms and suites. Serve typical guestrooms with two 20 A circuits and one 20 A circuit for guestroom bathroom.

   a. Each guestroom floor shall contain panels with horizontal wiring that serve the guestrooms on that floor. Vertical floor to floor wiring of guestrooms is prohibited.

   b. Provide dedicated circuits for service appliances and mechanical equipment.

G. Electric Vehicle Charging Stations: Provide a minimum four, 10 cm (4 inch) empty conduit or one per 100 guestrooms from main electric room to termination points. Parking space termination points are determined on an individual project basis and applicable to surface parking, garages and valet lots.

15C.4 Telecommunications and Data

A. Rated Cable:

1. Provide specified rated cable for Property Based System (PBS) (see <13A>), Point of Sale System (P.O.S.) (see <13A>) and Audio/Video (A/V) System (see <13B>). Cable type requirements (shielding, rating, and conduit enclosure) are defined in (see <13A>).

B. Computer Conduit Raceways:

1. Provide suitably sized raceways for exposed runs of low voltage cabling (PBS, POS, A/V, data, telephone, etc.). Provide dedicated raceways for each system type. Raceway bends shall be minimum 46 cm (18 inch) radius .

15C.5 Devices

A. Power Outlets: Commercial grade 20 amp duplex type in all areas. Provide weatherproof device covers in exterior locations.

1. BP Public Spaces: Located at lamp locations and for cleaning at 8 m (25 ft.) radius.

2. Guestrooms: Provide the following:

   a. One fully accessible outlet in entry for housekeeping services.

   b. One outlet for each appliance (coffee maker, refrigerator, etc.); provide an additional dedicated circuit if required for certain appliances. Coordinate with <7A>.

   c. One outlet for each portable guestroom lamp. Coordinate with <7A> and Interior Design.

   d. Provide sufficient outlets for FF&E, OS&E and guest use including outlets at desk / work area and bedside for guest charging. Provide a minimum of one duplex outlet on each side of the bed for guest charging, and include at least one 3.0A USB plug where allowed.

   e. Provide one GFI outlet adjacent to the bathroom sink.

   f. Type: Tamper resistant outlets required

   g. Provide and coordinate electrical where motorized window treatment is provided.

3. BP Guest Corridors: Maximum of 6 outlets per circuit, located every 15 m (50 ft.) along corridor walls. See <7B>.
4. BP Administration Areas: Maximum of five outlets per circuit, located at desks and work areas for electronic equipment, convenience and lamps, see <8A>.
5. BP Food & Beverage Production Facilities: See <10>.
    a. BP Banquet Service: At large meeting and event areas serviced by mobile banquet cabinets, provide single 120V, 20 amp outlet on dedicated circuit on both sides of the BOH corridor, every 1.8 m (6 ft.), 1.2 m (4 ft.) above finished floor, within 15 m (50 ft.) of service entrances, see <6> and <10>.
    b. BP Mobile Banquet Cabinets: At kitchen staging and holding areas, provide outlets at 1.8 m (6 ft.) intervals 1.2 m (4 ft.) above floor or at ceilings.
    c. BP Ceiling Outlets: Provide at island workstations, banquet plating and holding areas.
    d. BP Preparation Areas: Provide dedicated quadraplex power outlets on separate circuits.
    e. BP Non-service Line Areas: Provide single outlet on dedicated circuit every 3 m (10 ft.).
    f. BP Disconnects: Provide suitably rated disconnects for hard-wired kitchen equipment. Locations must be readily accessible. Do not locate behind equipment, below exhaust hoods, or where interfering with kitchen operations.
6. Laundry Facility: Provide the following.
    a. BP Power Outlets: With polarized ground fault interrupters (GFI), spaced every 2 m (6 ft.) throughout spaces and where appropriate.
    b. BP Provide power outlets on wall at each sewing stations and on wall at end of the Issue Counter for a marking machine.
    c. BP Mount outlets on the flatwork ironer and at small piece folder. Provide a junction box on ceiling above the folder for lighting.
    d. BP Flexible Connections: Connect high voltage to flatwork spreader / feeder, flatwork folder and small piece (towel) folder utilizing generous lengths of flexible cord fitted with twist lock plugs so equipment can be moved without disconnecting machines.
7. BP Mechanical Areas: Locate within 8 m (25 ft.) of mechanical equipment in mechanical rooms and on roofs.

8. BP Exterior of Building: GFI outlets located around building in landscaped areas, in the vicinity of exit doors and at the Porte Cochere.
9. BP Live Entertainment Areas: Provide NEMA 3R, 208 V, 60 amp, 3 phase receptacle and other necessary 20 A convenience outlets for live entertainment or public event areas.
10. BP Exterior Events: Provide NEMA 3R, 208 V, 60 amp, 3 phase receptacle and other necessary 20 amp, convenience outlets, see <6>.
11. Ballroom / Meeting Rooms: Maximum of two outlets per 20 amp circuit, located for convenience every 8 m (25 ft.) along wall with one on each side of a door, see <6>.
    a. Provide 200 amp, 3 phase, disconnect with pin and sleeve cable receptacle (company switch) for each large ballroom section and one 60 amp, 3 phase outlet for Ballroom salons. Locate in adjacent electric or storage rooms or BOH corridor.
    b. Provide method of routing electrical distribution wiring, from service corridor into ballroom sections, through concealed audio / video and electrical connection panels, see <13B>.
    c. Meeting Space Power Matrix

Event Power Matrix	
Space m^2 (sq. ft.)	Description Voltages vary by country
> 37 m^2 & < 74 m^2 (> 400 & < 800 sq. ft.)	Dedicated duplex receptacles - 20A each on 4.5 m (15 ft.) intervals on perimeter walls
	60A (1) phase twist lock outlet located on the service corridor wall
> 74 m^2 (> 800 sq. ft.)	Dedicated duplex receptacles - 20A each on 4.5 m (15 ft.) intervals on perimeter walls
	60A (3) phase power lock outlet located on the service corridor wall
> 139 m^2 (> 1500 sq. ft.)	Dedicated duplex receptacles - 20A each on 4.5 m (15 ft.) intervals on perimeter walls
	2 - 60A (3) phase power lock outlets located on the service corridor wall
> 465 m^2 (> 5000 sq. ft.)	Dedicated duplex receptacles - 20A each on 4.5 m (15 ft.) intervals on perimeter walls
	1 - 60A (3) phase power lock outlet located in each Salon on the back wall with decorative cover
	1 - 200A (3) phase service disconnect with company switch located in the service corridor with pass through for cables
> 929 m^2 (> 10,000 sq. ft.)	Dedicated duplex receptacles - 20A each on 4.5 m (15 ft.) intervals on perimeter walls
	20A receptacles located to match hang point grid above ceiling with access
	1 - 60A (3) phase power lock outlet located in each Salon on the back wall with decorative cover
	2 - 400A (3) phase service disconnect located in the service aisle with pass through for cables
	1 - 30A (1) phase and 2 - 20A each power outlets located in floor boxes per 186 m^2 (2000 sq. ft.). Boxes include phone and Cat 5 cable.
	2- 60 x 60 x 60 cm (2 x 2 x 2 ft.) floor boxes centrally located with four 7.5 cm (3 inch) conduits routed to the service corridor or adjacent electrical room for additional power, and data / telecom cable.
> 1858 m^2 (> 20,000 sq. ft.)	Dedicated duplex receptacles - 20A each on 4.5 m (15 ft.) intervals on perimeter walls
	20A receptacles located to match hang point grid above ceiling with access
	1 - 60A (3) phase power lock outlet located in each Salon on the back wall with decorative cover
	2 - 400A (3) phase service disconnect located in the service aisle with pass through for cables
	1 - 30A (1) phase and 2 - 20A each power outlets located in floor boxes per 186 m^2 (2000 sq. ft.). Boxes include phone and Cat 5 cable.
	2- 60 x 60 x 60 cm (2 x 2 x 2 ft.) floor boxes centrally located with four 7.5 cm (3 inch) conduits routed to the service corridor or adjacent electrical room for additional power, and data / telecom cable.
Exhibit Halls	Dedicated duplex receptacles - 20A each on 4.5 m (15 ft.) intervals on perimeter walls
	20A receptacles located to match hang point grid above ceiling with access
	1 - 60A (3) phase power lock outlet located in each Salon on the back wall with decorative cover
	2 - 400A (3) phase service disconnect located in the service aisle with pass through for cables
	1 - 30A (1) phase and 2 - 20A each power outlets located in floor boxes per 186 m^2 (2000 sq. ft.). Boxes include phone and Cat 5 cable.
	2- 60 x 60 x 60 cm (2 x 2 x 2 ft.) floor boxes centrally located with four 7.5 cm (3 inch) conduits routed to the service corridor or adjacent electrical room for additional power, and data / telecom cable.
Prefunction Space	Dedicated duplex receptacles - 20A each on 4.5 m (15 ft.) intervals on perimeter walls
	1 - 60A (3) phase power lock outlet in central locations for each 232 m^2 (2500 sq. ft.)
Outdoor Space > 74 m^2 (> 800 sq. ft.)	1 - 60A (3) phase power lock outlet and 2 - 20A dedicated receptacles concealed weatherproof enclosure

B. GFI Outlets: Provide GFI protection as required by code and at locations near water including, but not limited to:

1. Within 1.5 m (5 ft.) of sinks and lavatories or as required by local code.
2. Guest bathrooms
3. Pool areas
4. Employee shower areas
5. Outlets for portable appliances in kitchen areas
6. Exterior locations
7. Laundry rooms

C. Switches: Commercial grade rocker type switches in guestrooms and where visible to guests. Toggle type switches in BOH areas.

D. Finishes & Colors:

1. Outlets & Switches: Provide in color to match device plates.
2. Device Plates: Provide metal plates with color as specified by Interior Designer, except provide stainless steel plates (with ground) for kitchen outlets, see <10>.

15C.6 Emergency Electrical Systems

A. Standards: NEC 70 / NFPA 70 and NFPA 110 and local codes, see <14>.

B. General Requirements: Design an emergency generator power system that provides stand-by power for the hotel's "emergency / life safety loads" in accordance with <14> and back-up operational power per this document.

1. Program: Provide in high-rise buildings.
2. Comply with applicable standards for design of electrical circuits and equipment to automatically supply, distribute and control electricity for lighting and power when normal incoming power is interrupted.
3. Provide back-up operational power for selected critical hotel loads that are necessary for property operation in the event of loss of normal incoming power.

C. Region Requirements: Obtain and review with MI, a 2 year grid history showing frequency and duration of power outages. In geographical areas with electrical service reliability issues, provide generators with the capacity to supply 100% of facility power requirements.

D. Power Source / Generators: Provide one or more units as follows:

1. Type: Type 10 diesel engine driven generator(s) designed to restore power to emergency loads within 10 seconds of loss of normal source and rated to carry all connected loads continuously for the duration of the outage. Provide with automatic controls and switches to start generator(s) upon loss of normal source and connect to emergency and other loads requiring backup operational power.
2. Mounting: Comply with manufacturer’s mounting requirements to eliminate vibration.
3. Access: Locate to limit access to authorized personnel only.
4. Cooling: Provide engine cooling system with unit or remote mounted radiator.
5. Fuel Oil Storage: See Chapter <15A> for generator fuel oil system

requirements.

E. Emergency Electrical System Distribution: Provide standby power for the following:

1. Standby Power Load: Emergency systems and loads as defined and required by codes and governing authorities including but not limited to egress and stairwell lighting, fire protection equipment, elevators, and public address systems, see <14>.

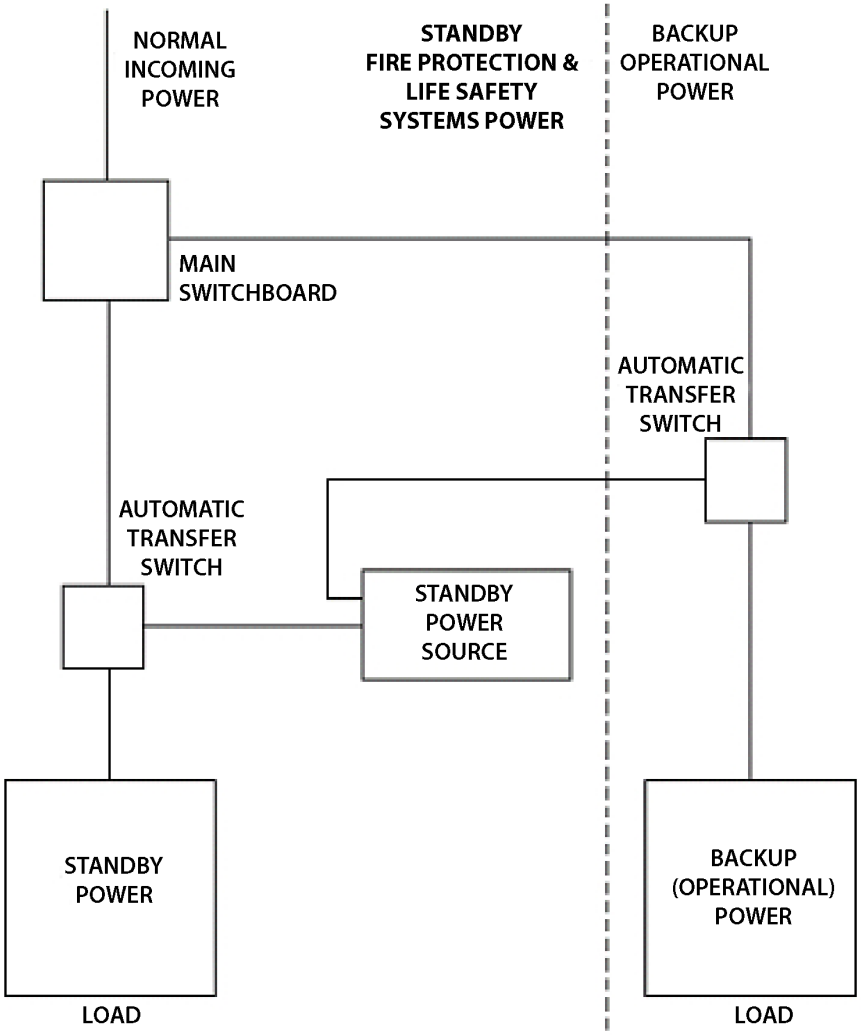
2. Backup Operational Power Load: Systems and loads not classified as emergency or life safety but required to maintain the safety and security of the property. Such loads may include heating systems in cold climates, food preparation, food refrigeration, sump pumps, etc.See <16>.

3. Transfer Switches: Provide separate transfer switches and wiring systems for emergency and back-up operational loads per NEC.

F. Uninterruptible Power Source (UPS): A central UPS is not required. Portable units are supplied with operations systems including computer, communications, security, etc., see <13A> and <16>.

G. Emergency Lighting: See <14>. Design and provide with a control system having the capability to turn on selected lighting to predetermined levels (without central or distributed intelligence) for emergency egress within public spaces, guestroom corridors, occupied areas, back-of-house, etc., and in exit access corridors, stairs and at exterior of exit discharge.

H. Emergency Electric System Diagram



I. Emergency Electric System Distribution

Standby Power to: <14>	Backup Operational Power to:
Fire Pumps: Electric fire pump and jockey pump	Food Production & Kitchen: Walk-in freezers and refrigerators <10> • Kitchen power outlets • Cooking equipment
Smoke Control System: (including panels), exhaust fans, stairwell and elevator shaft pressurization fans and Type 1 grease hoods <10>	Building Automation System (BAS).
Elevators: Minimum one service and one guest elevator serving all floors with power transferable to selected elevators	Sewage plant, ejectors and sump pumps
Elevator emergency return and firemen's service and elevator machine room air conditioning	Central fuel fired heating plant
Fire Alarm System <14>	Domestic water plant
Lighting (emergency egress): • Exit signs (including from assembly spaces and direction to exits) • Egress paths and stairwells (including ballrooms, meeting rooms, restaurants, public spaces, guestroom corridors, occupied spaces, back-of-house areas, etc.) • Exterior exit door discharge • Public stairs and steps • Central Control Station <14> (Fire Command Room) in high-rise building • Guestrooms: Power entry light from the corridor emergency circuit.	Systems & Work Stations: • Telephone, IDF power, PBX, security, VSS, computer (PMS / PBS, P.O.S., Call Accounting, MARSHA Systems), PI, charging stations, etc. • HVAC at Computer / Telecom Rooms
	Lighting (operational emergency): • Porte Cochere • Front Desk • Public Toilets • Telephone Equipment Room • Mechanical, Electrical Rooms • Elevator Equipment Rooms • Near the fire alarm monitoring panels • Fire pump / sprinkler riser room • Employees lockers and toilets • Spa / Exercise Room • Engineering / Maintenance Office • Administrative Offices • PABX / PBX Room • Security Office • Parking Structure • Pool lighting
	Critical Power: To permit basic property operations during loss of power. Provide several power outlets at the following: • Porte Cochere • Front Desk & outlets for equipment • Employee Dining • Engineering • Housekeeping • Security

15C.7 Fire Alarm System

A. Coordination: See <14> for applicable electrical criteria. Coordinate fire suppression system design and function with <10>, <15A> and <15B> and this document. See <14>.

B. Type: Provide a fully addressable micro-processor based intelligent system with audible and visual alarm notification appliances. Locate in Fire Command Room, see <14>.

C. Type 1 Grease Hoods: Provide the fire suppression system to perform the following actions when activated, see <10>:

1. Alarm Signal: Send to fire alarm control panel (FACP).
2. Power: Automatically turn off power to cooking appliances under the hood, hood lighting and hood makeup AHU, except exhaust fan continues to operate.
3. Gas: Automatically deactivate solenoid to turn off gas to affected cooking lines.

15C.8 Fire Command Room (Central Control Station)

A. High-Rise Buildings: Provide at a location approved by the fire department containing the following:

1. Fire Alarm System: Fire alarm system control and annunciation panels with graphic display.
2. Communications Service Panels and Controls: Fire department 2-way telephone communications service panels and controls.
3. Voice Fire Alarm System: Panels and controls.
4. Smoke Control: Smoke control system and stairwell pressurization control panels and annunciators.
5. Elevator Annunciators: Elevator floor location and operation annunciators.
6. Standby Generator Annunciator Panel: Indicators for standby generator status.
7. Stairway Door System: Controls for automatic stairway door unlocking system.

8. Fire Pump Indicators: Fire pump status indicators.
9. Fire Department Phone: Telephone for fire department use with controlled access to public telephone system.

15C.9 Lightning Protection

A. Standard: Provide each structure on the property with a lightning protection system.

15C.10 Lighting

A. Design Considerations:
   1. Service and Access:
      a. Locate interior and exterior light fixtures to enable suitable access for service and re-lamping.
      b. Locate dimming controls in climate-controlled, secure, non-public areas.
   2. Circuiting: Provide separate circuits or switching for wallwashers, downlights, and decorative fixtures located within the same area.
   3. Lighting Levels: Design lighting systems to provide foot-candle (lux) levels in compliance with the Lighting Requirements table at the end of this document.
   4. Governing Codes: Lighting and controls shall comply with applicable requirements of ASHRAE 90.1-2013 or other local energy code.
B. Types:
   1. Public Spaces: Lighting in restaurant areas, guest corridors, stairwells and public toilets shall utilize downlights, sconces, and decorative fixtures with LED lamps.
   2. Guestroom Lighting: 2700 degree Kelvin LED with color rendering index (CRI) of 85.
   3. Guestroom Suite Lighting: Obtain MI review and acceptance.
   4. Guestroom Bathroom Lighting: Damp location rated downlight over shower and/or tub is required. Provide a variety of lighting fixtures based on Brand and design concept. Examples include downlights over vanity sink, wall sconces at vanity, illuminated mirror, downlight centrally located. If room size

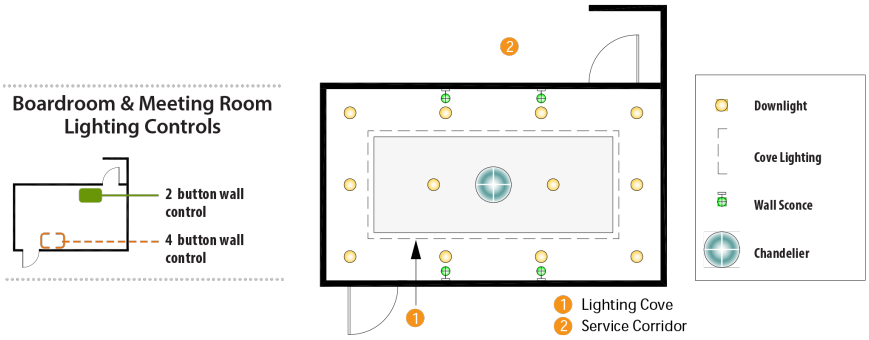
dictates, provide a decorative downlight fixture at center of room. Provide two level lighting control in the bathroom. Coordinate with Light Level Table.

5. BP Back-of-House Lighting: Commercial type linear or recessed LED fixtures suitable for the application.
6. BP Food & Beverage Production: Provide the following:
   a. BP Recessed fixture with removable washable plastic lens, flush with ceiling.
   b. BP Linear lamps with shatterproof sheaths.

C. Lighting Design for Specialty Areas: Including function rooms, prefunction areas, lobbies, and meeting rooms shall be designed by a lighting consultant and shall conform to the following:

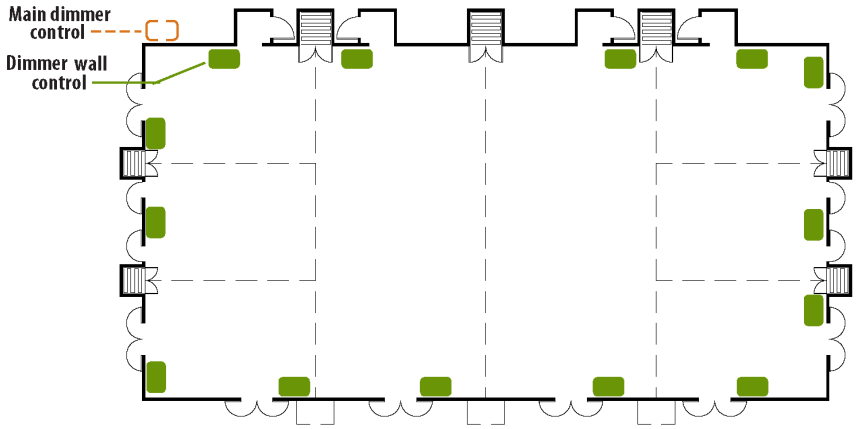
1. Multipurpose design.
2. BP Energy efficient, low voltage, LED.
3. Task and ornamental lighting, ceiling fixtures, track lighting, wall lighting and cove lighting.
4. Dimming and zone control, integrated with AV and shade controls.

D. Boardroom Lighting Typical Plan



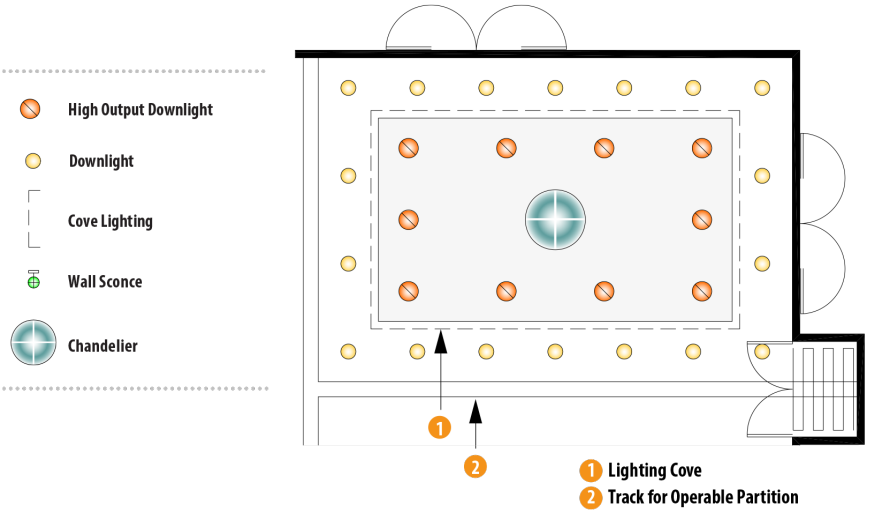
E. Ballroom Lighting Control Locations

Ballroom Lighting Control Locations - Example Diagram



- Equipeach subdivided space with fully dimmable system.
- Locate recessed dimmer control station at public entrance and service corridors.
- Zone the lighting so that head table locations are individually controlled.
- Decorative chandeliers and sconces, cove lighting and track lighting are individually controlled.

F. Salon Lighting Typical Plan



G. Lighting Control Design for Meeting Spaces

Lighting Control Design for Meeting Spaces		
Functional Area	Lighting Control Type	Rationale
Grand Ballroom salon & Jr. Ballroom salon	Preset wall station controls • Backlit and engraved • 4 scene (min.) recall with raise, lower and off	In the Ballroom area, simple recall of preset scenes is appropriate, when controls are properly labeled.
	Infrared handheld control • 4 scene (min.) recall with raise, lower and off • Communicate to infrared ceiling sensors	Handheld control empowers the clients to have full control of their environment.
	Partitioning capability using wall station or ceiling mounted sensors.	Partition controls allow the individual and combined rooms to function appropriately.
	Override zone control from back of the house In room programming jacks and handheld programmer when processor based systems are used.	When A/V person is available, they may want to have the ability to alter scene or zone settings, or to look at the facility remotely.
	DMX control capability by theatrical stage board for all architectural lighting when required.	When additional stage lighting is used in Ballroom for specific events, the audio / visual technician requires the ability to patch architectural lighting to the stage board for large events. When the stage board is disconnected, architectural lighting returns to its last selected scene.
	Circuit and zone lighting in Ballroom areas to accommodate maximum flexibility of space.	The locations of the head table and food displays and other table presentations move from one event to the next. Property requires the ability to turn individual light zones on and off in the appropriate parts of the Ballroom without affecting the entire Ballroom.
Prefunction	Wall box-mounted manual dimmers or include as a defined area within the Ballroom dimming system. Provide astronomic time clock control for after hours light level settings.	This area requires flexibility of lighting for multiple events and functions.
	Photo sensors	Where daylight is present, integration with photo sensors adjusts electronic light levels to save energy.
Meeting Rooms	Multi-zone preset control requirements are similar to Ballroom requirements. Meeting Rooms integration is not required with the Ballroom, but is considered if it supports project cost savings.	In the Ballroom area, simple recall of preset scenes is appropriate, when controls are properly labeled.
	Preset wall station controls • Backlit and engraved • 4 scene (minimum) recall with raise, lower and off	Simple recall of preset scenes is appropriate, when controls are properly labeled.
	Infrared handheld control • 4 scene (minimum) recall with raise, lower and off • Communicate to infrared ceiling sensors.	Handheld control empowers clients with full control of their environment.
	Partitioning capability using wall station or ceiling mounted sensors.	Partition controls allow the individual and combined rooms to function appropriately.
	Circuit and zone lighting in Meeting Room areas to accommodate maximum flexibility of space.	The locations of the head table can move from one event to the next.
Amphitheater/ High Tech Meeting Area	Preset wall station controls with ability to communicate, as required, to shades, screens, projectors, and other equipment.	System is simple to use for multiple, relatively untrained users.

H. Lighting Controls & Switching:

1. BP Back-of-House:
   a. BP Offices and Storage Rooms: Local occupancy sensor. Provide offices with override switch.
   b. BP Corridors: Local switch (non-emergency lights only).
   c. BP Mechanical Rooms: Local switch (no occupancy sensor).
   d. BP Stairwells: Occupancy sensor to go from 100% to 50% when unoccupied.
2. Public Toilets and Fitness Center: Switching with occupancy senor (30 minute timer) to turn off lights except one, plus local keyed switch.
3. Public Areas:
   a. Lobby and Public Spaces: 4 scene programmable dimming system with

available time clock events.

b. Ballroom: 4 scene programmable dimming control with individual zone control.

c. Meeting Rooms: 4 scene programmable dimming control with individual zone control and vacancy sensor. If motorized shades are included they must integrate with lighting controls in the space.

4. Guestrooms: Lighting control system must be integrated into Guestroom Management Systems (GRMS). See <15A>.

5. BP Exterior, Site and Parking Lot: Photocell connected to BAS.

6. BP Electric Rooms: Locate dimmer modules in electric rooms with cooling.

7. BP Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • Lutron
   • Leviton
   • Cooper Industries
   • Lightolier

15C.11 Aircraft Warning Lights

A. Standard: Comply with governing airport authority.

15C.12 Lighting Criteria Table

A. Lighting Criteria Legend: The legend and general notes are applicable to the Lighting Criteria Table.

Legend		Notations
S	=	Locally Switched
T	=	Timer (time clock, photocell, BAS)
OS	=	People sensor (do not control nightlights)
D	=	Dimmer controls
PS	=	Panelboard switched
Measure lighting levels 76 cm (30 inch) above finish floor.		

B. Lighting Level Criteria Table

Chapter	Space	Foot Candles (Minimum Lux) Maintained	Switch	Remarks: Minimum lighting type is LED. Provide the following equipment and fixtures:
1	Site areas - general	1FC (11 lux)	T	Provide average lighting level of 2 fc; generally, applies to walks, driveways, parking lots, service areas, steps and ramps. On photocell and timeclock
	Pathways	0.2 - 5 FC (2 - 50 lux) at grade	T	
	Sidewalks	2 FC (22 lux)	T	
	Parking Lot	(exterior): 0.1 - 1 FC (1 - 10 lux) at grade	T	
	Parking Structure	5 FC (54 lux)	T	Vehicle traffic routes
	Parking Structure	(interior): 3 - 10 FC (30 - 100 lux) at grade	T	Generally, 11 Lux (1 fc) minimum everywhere except 54 Lux (5 fc) in driveways, corners and entrances for day and night use
	Landscaping	2 FC (22 lux)	T	Protected by GFI. On photocell and timeclock
	Flag Poles	5 FC (54 lux)	T	Photocell and timeclock
	Building Exterior	20 FC (215 lux)	T	Photocell and timeclock. Highlight building architectural features
	Porte Cochere	Day: 10 - 20 FC (100 - 200 lux), measured at grade Night: 1 - 4 FC (10 - 40 lux), measured at grade	T	AKA "Entry Canopy"; photocell and timeclock Wall washing, sparkle or accent lighting.
2	Entry	15 FC (161 lux)	D	Same at Entry Canopy
	Entrance / Lobby	Ambient lighting: 5 - 25 FC (50 - 250 lux) at floor Architectural accent or wallwash lighting: 5 - 25 FC (50 - 250 lux) on highlighted walls Feature or art lighting: 50 - 100 FC (500 - 1000 lux) on object Decorative lighting: 5 - 10 FC (50 - 100 lux) Internet Station/Task lighting: 30 - 50FC (300 - 500 lux) at task height.	D	4 scene preset remote dimmer with panel at Front Desk
	Open Stair	30 FC (310 lux)	D	Grand stairway and other heavy use stairs
	Front Desk	Task lighting at associate side of registration stations: 30 - 50 FC (300 - 500 lux) at task height.	D	
	Luggage Room	10 - 20 FC (100 - 200 lux) at floor)	OS	
	Telephone Operations Room	Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface Ambient: 20 - 30 FC (200 - 300 lux) at 36" (900 mm) AFF	S	
	Call Center	Ambient: 20 - 60 FC (200 - 600 lux) at 36" (900 mm) AFF Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface	S	
	Safe Deposit Room	General: 5 - 10 FC (50 - 100 lux) at floor Deposit boxes: 20 - 40 FC (200 - 400 lux) at 36" (900 mm) AFF at the face of the deposit box Inspection Table: 50 - 100 FC (500 - 1000 lux) at table surface. Minimum: 5 FC (50 lux) at floor when unoccupied	S	
	Public Toilets	General: 5 - 15 FC (50 - 150 lux) at floor Stalls: 10 - 20 FC (100 - 200 lux) at top of plumbing fixture Minimum: 5 FC (50 lux) at floor when unoccupied Vanity/Mirror: 20 - 40 FC (200 - 400 lux)	OS	Rooms cannot go full dark
	Business Center	Ambient: 10 - 30 FC (100 - 300 lux) at desk height. At work areas, 20 - 40 FC (200 - 400 lux) at desk height using task lights. Minimum: 5 FC (50 lux) at floor when unoccupied.	S	Provide varied lighting levels appropriate to task - work areas vs. lounge area.

C. Lighting Level Criteria Table

Chapter	Space	Foot Candles (Minimum Lux) Maintained	Switch	Remarks: Minimum lighting type is LED. Provide the following equipment and fixtures:
3	Restaurants	Casual Dining: 10 - 20 FC (100 - 200 lux) at table Fine Dining: 3 - 6 FC (30 - 60 lux) at table Food Service/Buffet: 3x the ambient light level, minimum 20 FC (200 lux) at display	D	Low voltage and adjustable accent lighting may be used. Four scene preset dimmer and include control panel at Main Cashier.
	Lobby Lounge	Work Surfaces: 10 - 20 FC (100 - 200 lux) at surface Bar Dining: 7 - 15 FC (70 - 150 lux) at bar top Back Bar: 15 - 30 FC (150 - 300 lux) vertical illuminance at 60" (1500 mm) AFF Ambient: 5 - 10 FC (50 - 200 lux) at 24" (600 mm) AFF	D	Four scene preset dimmer. Include control panel at Beverage Bar.
	Specialty Restaurants	Casual Dining: 10 - 20 FC (100 - 200 lux) at table Fine Dining: 3 - 6 FC (30 - 60 lux) at table Food Service/Buffet: 3x the ambient light level, minimum 20 FC (200 lux) at display	D	Low voltage and adjustable accent lighting may be provided. Four scene preset dimmer. Include control panel at Maitre'd Stand.
	Entertainment Lounge / Specialty Bar	Work Surfaces: 10 - 20 FC (100 - 200 lux) at surface Bar Dining: 7 - 15 FC (70 - 150 lux) at bar top Back Bar: 15 - 30 FC (150 - 300 lux) vertical illuminance at 60" (1500 mm) AFF Ambiant: 5 - 10 FC (50 - 200 lux) at 24" (600 mm) AFF	D	Four scene preset dimmer with panel at Bar.

D. Lighting Level Criteria Table

Chapter	Space	Foot Candles (Minimum Lux) Maintained	Switch	Remarks: Minimum lighting type is LED. Provide the following equipment and fixtures:
4	Fitness Center	Cardio/Aerobics: 15 - 30 FC (150 - 300 lux) at floor Strength Training: 20 - 40 FC (200 - 400 lux) at floor Stretching: 10 - 30 FC (100 - 300 lux) at floor Minimum: 5 FC (50 lux) at floor when unoccupied.	OS	Rooms cannot go full dark
	Indoor Pool & Deck	Indoor Pool and Whirlpool Deck: Provide 5 - 20 FC (50 - 200 lux) at floor Provide 30 - 50 FC (300 - 500 lux) at water level	PS	Pool - minimum of 430 Lux (40 fc) at water level supplied by underwater lights and able to view pool bottom clearly. Pool lamps on GFI and emergency backup power. Pool Deck - minimum of 215 Lux (20 fc) measured at 76 cm (30 inch) above deck
	Outdoor Pool & Deck	Outdoor Pool and Whirlpool Deck: Provide 0.2 - 2 FC (2 - 20 lux) at floor Provide 30 - 50 FC (300 - 500 lux) at water level	T	Pool - same fc as for indoor pool and connect to photocell. Pool lamps on GFI and emergency backup power. Pool Deck - minimum of 161 Lux (15 fc)
	Outdoor Recreation	2 FC (22 lux)	T	Typically, HID light sources
	Childrens Program	Ambient: 20 - 30 FC (200 - 300 lux) at counter height. Food Service: 30 - 50FC (300 - 500 lux) at counter Minimum: 5 FC (50 lux) at floor when unoccupied	S	
	Spa	Changing/Locker Room: 5 - 10 FC (50 - 100 lux) at floor Cleaning: 30 - 60 FC (300 - 600 lux) at floor Make - up Stations: 30 - 60 FC (300 - 600 lux) vertical on face of guest Manicure/Pedicure: 50 - 100 FC (500 - 1000 lux) at hand or foot of guest, 20 - 40 FC (200 - 400 lux) ambient at floor. Reception/Retail: 15 - 30 FC (150 - 300 lux) at reception desk Salon Hair Styling Chair: 50 - 100 FC (500 - 1000 lux) horizontal and 30 - 60 FC (300 - 600 lux) vertical, both measured 4' - 0" (1200 mm) AFF Treatment room: 0.5 - 1 FC (5 - 10 lux) during treatment, 5 - 10 FC (50 - 100 lux) pre/posttreatment, both measured at table height Steam/sauna: 2 - 5 FC (20 - 50 lux) at floor Ambient: 20 - 40 FC (200 - 400 lux) at floor Minimum: 5 FC (50 lux) at floor when unoccupied in locker room and bathroom areas	D	Provide individual dimmer controls in each Treatment Room.
5	Retail	Provide average ambient light level of 10 - 30 FC (100 - 300 lux) at counter height. Highlight merchandise with accent lighting to 40 - 60 FC (400 - 600 lux) at display.	D	LED task lighting at cashier and wall display areas, Track lights accent lighting on dimmers, Cashier lighting on emergency backup power

E. Lighting Level Criteria Table

Chapter	Space	Foot Candles (Minimum Lux) Maintained	Switch	Remarks: Minimum lighting type is LED. Provide the following equipment and fixtures:
6	Pre - function	Circulation: 5 - 10 FC (50 - 100 lux) at floor Social Function: 10 - 20 FC (100 - 200 lux) at 30"(760 mm) AFF Registration: 20 - 40 FC (200 - 400 lux) at 30" (760 mm) AFF Food Service/Buffet: 3x the ambient light level, minimum 20 FC (200 lux) at display	D	
	Coat Room	15 FC (161 lux)	OS	
	Banquet Storage	10 - 20 FC (100 - 200 lux) at floor.	OS	Recessed fixtures
	Ballrooms	Working/Meeting: 30 - 50 FC (300 - 500 lux) at table surface Presentation (with AV): 2 - 5 FC (20 - 50 lux) at table surface Formal Dining - Evening: 7.5 - 15 FC (75 - 150 lux) at table surface Formal Dining - Business: 15 - 30 FC (150 - 300 lux) at table surface Casual Dining: 20 - 40 FC (200 - 400 lux) at table surface Food Service/Buffet: 3 times the ambient light level, minimum 20 FC (200 lux) at display Ambient/Cleaning: 15 - 30 FC (150 - 300 lux) at 30 (760 mm) above the floor	D/S	Low brightness fixtures with 45 degree angle shielding LED. Each subdivided space, equip with fully dimmable system. Locate recessed dimmer control station at public entrance and service doors. Provide individually controlled head table light. Decorative chandeliers and sconces, incandescent, track lighting are individually controlled.
	Meeting Rooms	Working/Meeting: 30 - 50 FC (300 - 500 lux) at table surface Presentation (with AV): 2 - 5 FC (20 - 50 lux) at table surface	D/S	
	Boardrooms	Working/Meeting: 30 - 50 FC (300 - 500 lux) at table surface Presentation (with AV): 2 - 5 FC (20 - 50 lux) at table surface	D/S	
7A	Guestrooms	Entry: 5 - 15 FC (50 - 150 lux) at floor Bed: 20 - 40 FC (200 - 400 lux) at pillow Desk: 20 - 50 FC (200 - 500 lux) across entire desk surface Living: 5 - 25 FC (50 - 250 lux) at desk height with all luminaires on Soft Seating: 25 - 40FC (250 - 400 lux) at desk height	S	Lighting provided by table, floor and wall fixture lamps.
	Suites	Pantry: 30 - 50FC (300 - 500 lux) at counter Living: 5 - 25 FC (50 - 250 lux)	S	
	Guest Bathroom	General: 30 FC (300 lux) at floor	D/S	Based on room size, provide decorative fixture at center of room or cove lighting.
	Bath Vanity	Vanity/Mirror: 40 - 60 FC (400 - 600 lux) vertical illuminance	S	

F. Lighting Level Criteria Table

Chapter	Space	Foot Candles (Minimum Lux) Maintained	Switch	Remarks: Minimum lighting type is LED. Provide the following equipment and fixtures:
7B	Guest Corridors	Entry Door: 10 - 15 FC (100 - 150 lux) at floor Corridor average: 5 - 10 FC (50 - 100 lux) Corridor minimum: 2 FC (20 lux)	PS	
	Passenger Elevator Lobbies	10 - 20 FC (100 - 200 lux) at floor	S	
	Service Elevator Lobbies	Ambient: of 10 - 20 FC (100 - 200 lux) at floor. Minimum: 2 FC (20 lux) at floor when unoccupied.	PS	Single 32 Watt, 1.2 m (4 ft.); vandal proof fixture
	Ice Dispenser	15 - 25 FC (150 - 250 lux)	PS	Provide lighting control through occupancy sensor to shut off lights when room is not occupied; 10 min. shut - off delay.
	Housekeeping / Linen	20 - 30 FC (200 - 300 lux) at floor.	OS	Recessed fixtures
	Valet Closet	30 FC (323 lux)	S	
	Exit Stairs	Stairwell average: 10 - 20 FC (100 - 200 lux) when occupied Stairwell minimum: 2 FC (20 lux) when unoccupied and during emergency operation	PS	Single 32 Watt, 1.2 m (4 ft.) vandal proof tube
7C	Guest Floor Lounge	Ambient: 20 - 30 FC (200 - 300 lux) at counter height Food Service: 20 - 50 FC(200 - 500 lux) at counter Minimum: 5 FC (50 lux)at floor when unoccupied	S	Room cannot go full dark
8	Admin Offices & Work Spaces	Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface Ambient: 20 - 30 FC (200 - 300 lux) at 30" (760 mm) AFF	OS	Primarily, fixture are by design team engineer and coordinated with project architect.
	Circulation - Corridors	Corridor average: 10 - 15 FC (50 - 100 lux)	PS	Fixtures by design team engineer and coordinate with project architect.
	Employee Facilities	Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface Ambient: 20 - 30 FC (200 - 300 lux) at 30" (760 mm) above the floor Food line: 30 - 50 FC (300 - 500 lux) at table surface Minimum: 2 FC (20 lux) at floor when unoccupied.	OS	Includes employee lockers and toilet rooms. Primarily fixtures are designed by design team engineer and coordinated with project architect.
	Human Resources	Ambient: 20 - 30 FC (200 - 300 lux) at 30" (760 mm) AFF Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface	OS	
	Associate Cafeteria	Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface Ambient: 20 - 30 FC (200 - 300 lux) at 30" (760 mm) above the floor Food line: 30 - 50 FC (300 - 500 lux) at table surface Minimum: 2 FC (20 lux) at floor when unoccupied	S	
	Demarcation Rooms	Provide average light level of 10 - 20 FC (100 - 200 lux) at floor	S	

G. Lighting Level Criteria Table

Chapter	Space	Foot Candles (Minimum Lux) Maintained	Switch	Remarks: Minimum lighting type is LED. Provide the following equipment and fixtures:
9	Engineering - Maintenance	30 - 50 FC (300 - 500 lux) at 36" (900 mm) AFF	OS	
	Over Benches	Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface	OS	
	Service Areas	Ambient: 20 - 60 FC (200 - 600 lux) at 36" (900 mm) AFF Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface	T	
	Receiving	Dock: 10 - 20 FC (100 - 200 lux) at floor Receiving/Staging: 30 - 60 FC (300 - 600 lux) at floor	T	
10	Food Production	Food Prep: Minimum required level 50 FC (500 lux) at all food preparation and handling surfaces. Food storage: Minimum required level 10 FC (100 lux) at 30" (760 mm) AFF Dishwashing: Minimum required level 20 FC (200 lux) at 30" (760 mm) AFF Ambient: 20 - 30 FC (200 - 300 lux) at floor Office Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface	S	See Chapter <10> for local, dual level switching, lighting levels and motion sensors.
	Dry Storage	20 - 40 FC (215 - 430 lux)	OS	
	Refrigerated Storage	20 FC (215 lux)	OS	
	General Storage	10 - 20 FC (100 - 200 lux) at floor.	OS	
11	Laundry	Working area and sorting: 30 - 60 FC (300 - 600 lux) at 42" (1000 mm) AFF Storage : minimum required level 10 FC (100 lux) at 30" (760 mm) AFF Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface Office ambient: 20 - 30 FC (200 - 300 lux) at 30" (760 mm) AFF	OS	Primarily fixtures are designed by design team engineer and coordinated with project architect.
	Washing	50 FC (538 lux)	OS	
	Housekeeping	Closet: 5 - 10 FC (50 - 100 lux) at floor Ambient: 15 - 30 FC (150 - 300 lux) at floor Sewing, pressing, inspection: 50 - 100 FC (500 - 1000 lux) at work area Storage : minimum required level 10 FC (100 lux) at 30" (760 mm) AFF Working/Task: 30 - 50 FC (300 - 500 lux) at desk surface	OS	Same for general lighting of Housekeeping and Laundry areas.
12	Elevators	10 FC (108 lux)	PS	
15	MEP – Utility Areas	30 - 50 FC (300 - 500 lux) at 36" (900 mm) AFF	OS/S	
For spaces not identified above, provide 35 FC (377 lux) minimum.				

15C.13 BP Acceptance Testing

A. BP Requirements:

1. BP Acceptance: Prior to occupancy implement an acceptance testing process that tests, verifies, and documents the functional performance, adjustments, settings, calibration, and programming of all systems, equipment, and devices, furnished and installed under this document to ensure their proper and efficient operation per manufacturers' and engineers' specifications, ratings, and capacities.
2. BP Acceptance Representative: The acceptance of a commissioning agent shall be a third party firm not connected with the prime, mechanical, or electrical contractor.
3. BP Acceptance Testing process is completed when the required documents are submitted.

B. BP Acceptance Testing Level: Perform Acceptance Testing on all building systems as defined by CIBSE Standard for the Design of High Performance Green Buildings and include required prestart, start-up and verification checklists. Additional documentation water test and balance reports, operating & maintenance manuals, highlighted manufacturer cut sheets, Record "As-Built" documents in pdf format, and warranties on all equipment.

MARRIOTT

EUROPE

Marriott Hotels

loss prevention

globaldesignstrategies

designstandards

December 2020 | franchised

Table of Contents

key

E I Expanded Information
BP Best Practices
R Reference (Internal)

chapter organization

- This chapter is a part of an integrated series of Chapters.
- This chapter is a part of an integrated series of Chapters.

definitions

- Design Standard: a minimum requirement to be fulfilled without exception
- Best Practice: a recommended design guideline, practice or way to execute a design standard
- Expanded Information: an explanation of a design standard or best practice
- Reference (internal): a reference to another document / section within the design standards or to a design strategy / guide within the brand standards

  Exception: Fire Protection & Life Safety Design Standard references are to external codes only

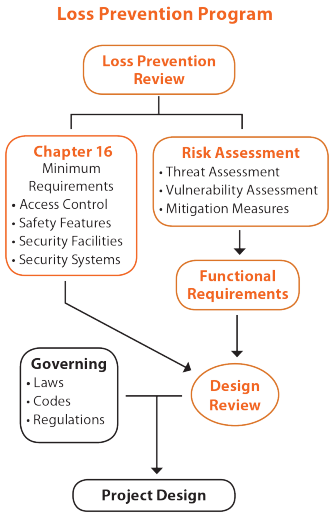
16.1 Overview

A. Objective: Develop a Loss Prevention (safety and security) Program that meets the needs of individual and diverse properties. The reduction of losses by mitigation or elimination of associated risk factors both enhances guest and employee safety and enjoyment of the facility and maximizes owner revenue retention.

B. Loss Prevention Review: A Loss Prevention Program is developed by conducting a comprehensive Loss Prevention (LP) Review that is initiated with a project specific Risk Assessment that guides the implementation of access control, safety, facilities and security measures. This document is organized by the following sections

- Risk Assessment process
- Access Control
- Safety - Features & Design Elements
- Security Facilities
- Security Systems, Equipment & Design

1. Loss Prevention Program



C. EI Standards Application: This document outlines processes and elements to develop comprehensive safety and security measures.

1. MI Managed Properties: This document defines the process for Marriott International (MI). Deviations from MI's LP Review process and minimum requirements of Chapter 16 require MI Global Safety and Security Technical Services acceptance.

2. EI Franchise Properties: Since MI does not manage a franchisee's operations, the franchisee shall determine the most effective method to

develop proper measures and select systems that coincide with the operations. This document is only intended as a guide for franchisee's management to assist in developing proper measures based on a franchisee's unique methods of operations such as, personnel, staffing levels, technology, operational policies and experience.

D. Regulation Coordination: Comply with and integrate governing laws, codes and regulations with the Loss Prevention Program. See <GR1> for the "Code & Regulation Compliance" section. If conflicts arise, notify MI's Global Safety and Security Technical Services for resolution.

16.2 Risk Assessment

A. EI Objective: The Risk Assessment forms the basis for identifying the potential risk through analyzing the potential threats and hazards and the vulnerabilities associated with the property's assets (buildings, guests, employees, assets) and selecting the appropriate measures to mitigate or eliminate the risk.

B. EI Risk Assessment: Includes issues such as the following.

• Access control to the grounds, parking facility, recreation facilities, buildings, public spaces, guestrooms, back-of-house space, etc.
• Access control of utilities, data center, roof and exit stairs
• Location of air intakes
• Site parking and facilities lighting
• Potential clientele for example; political figures, controversial groups
• Proximity and association to high risk enterprises, for example; embassy, government buildings
• Risks associated with crime and terrorism
• Changes in elevations resulting in fall hazards

C. EI Functional Requirements: A report summarizes the findings of the Risk Assessment. The Functional Requirements report states the safety and security objectives required to reasonably mitigate or eliminate the risk associated with the property.

D. Design Integration: Design and implement safety and security measures that incorporate requirements of this Chapter and fulfills the safety and security objectives of the Functional Requirements.

1. EI Design Review: Review the required submittals, specific design modifications, equipment and systems proposed to comply with the minimum requirements of this Chapter and the Functional Requirements.

a. MI Managed Properties: MI Global Safety and Security Technical Services conducts this review and acceptance, or change, as required.

b. EI Franchise Properties: (See section "Franchise Properties" above). The franchisee is responsible for conducting an LP Design Review.

c. EI The terms VSS (Video Surveillance System) and CCTV (Closed Circuit Television) are used interchangeably in this document.

E. Moderate Level Threat Conditions: Threat assessments may indicate a property is within an area that has a moderate to high level of risk of terrorist activity. Ensure the requirements for the lower threat conditions are also incorporated as the threat level goes up.

1. Measures: Within these areas, measures may be implemented to mitigate potential acts against the property. Types of measures vary with the type of potential threat.

2. Threat Conditions Green & Blue:

   a. Meeting rooms have locking hardware that meets the Marriott Fire & Life Safety egress requirements.

   b. Roof access has locking hardware to prevent persons from accessing the roof.

   c. HVAC, electrical, boiler and pump rooms have locking hardware.

   d. Domestic water system, including fire protection system, is in secured location.

   e. Fuel supply tanks are in secured locations.

   f. Exterior fresh air supply intakes are located in areas that will not allow unauthorized persons to access them and throw or spray contaminants into them.

   g. Exterior doors must have the capability to be secured from the outside and designated egress doors must have the appropriate panic hardware to allow persons to egress in accordance with Marriott Fire & Life Safety.

   h. Security office designed to allow CCTV monitoring 24/7 by security personnel.

3. Threat Condition Yellow:

   a. Setback: Provide 20 m setback from Hotel structure to public roads and adjacent non-hotel parking areas.

   b. Parking Structures: Provide vehicle inspection point with access control gates at entry when parking structure is located under or within the hotel building. Include space to que and inspect vehicles before they pass the access gates. Operable barriers have emergency lockdown switch in

Security Center.

c. License Plate Camera: Provide to automatically record vehicle license plates at property entrances and entrances to parking structures.

4. Threat Condition Orange:

a. Building Standoff: Provide separation, 30 m (100 ft.) or more preferred, between the building and vehicle inspection point.

b. Stationary Barriers: Incorporate natural or man made barriers (e.g. berms, planters, trees, bollards, trenches) designed to prevent unauthorized vehicles from entering the building setback area.

c. Vehicle Checkpoint: Provide vehicle checkpoints at entrances to the building standoff area with the ability to incorporate movable barriers at vehicle entry and exit points.

d. Pedestrian Checkpoints: Provide designated pedestrian checkpoint locations with ample space to allow pedestrians and bags to be screened by handheld metal detectors (wands) before entering the building.
   • Include 4 power outlets for future equipment
   • Protect Checkpoint from the weather.

e. Utility Safeguards: Provide utility safeguards compliant with seismic standards that safeguard primary utilities (i.e. natural gas, water, electric, etc.) in the event of large explosions.

f. Blast Fragment Mitigation: Public assembly areas (e.g. Lobby, Meeting Rooms, Pre-function space, Restaurants) within the hotel that have exterior windows must have blast resistant treated windows. Exterior glass doors within these areas must have blast resistant treatment in reinforced frames.

g. CCTV / VSS: Provide additional coverage at the following areas:
   • Pedestrian checkpoints
   • Vehicle checkpoints
   • Within elevators / lifts or elevator landings
   • Exterior perimeter of the building
   • HVAC, electrical, boiler & pump rooms
   • Domestic water systems
   • Fuel supply tanks

h. Elevators (Lifts): Provide guest key card access control in lifts to only allow access to specific guestroom floor.

i. Security Center: The CCTV monitoring (surveillance) room is located in a remote location within the building and design with a reinforced door, no

windows and masonry walls.

F. High Level Threat Condition "Red": When the Risk Assessment indicates the property is in an area of high threat level (known as threat condition "Red") in addition to incorporating applicable measures listed above for moderate level threat conditions, the following are required for properties located in threat condition "Red" areas.

1. Inspection Checkpoints: Provide appropriate space, equipment and stand-off distance for inspection of persons, vehicles and materials entering the property as follows.

   a. Pedestrian Checkpoints: Inspection areas are located outside the interior of the hotel:

      • Prior to entering the building, provide walk through metal detectors to screen guests, patrons, vendors (their employees and business associates) and property employees.

      • Provide accepted x-ray machines to screen materials entering the premises, including guest luggage, personal belongings and property supplies.

      • Provide parcel screening area at Loading Dock / Receiving areas.

   b. Vehicle Checkpoints:

      • Provide explosive sniffing dogs and kennel space. Include covered protection for dogs at inspection areas.

      • Provide electronic / hydraulic vehicle barriers at all vehicle points entering and exiting the building standoff area; K4 rated (capable of stopping a 6,818 kg vehicle traveling 80 km/hr). Include a master switch located in the Security Center.

      • Gatehouse: Provide covered space with a work station, storage and toilet facilities.

      • Provide space for vehicles queuing and a turnaround area for vehicles directed to exit the property.

      • Include blast mitigation solution based on the distance from the building (i.e. blast wall).

2. Infrastructure: Plan the infrastructure to accommodate additional metal detectors and x-ray machines to expedite the inspection process as needed.

   a. Windows / glass / doors with glass within the area must be laminated glass with reinforced frames.

   b. Provide additional power for equipment.

   c. Locate a panic button, linked to the Security Center, at checkpoints for inspectors.

d. Provide Emergency Lockdown Switch to lock doors after pedestrian x-ray machine and to close and lock door between x-ray room and Lobby.

e. Security Center: Provide ability to lock doors remotely.

f. Revolving doors are prohibited.

3. Dog Kennel: If sniffing dogs are employed, either by property management or a service contractor, provide facilities to humanely accommodate dogs on property, away from guest view.

a. BP Planning Criteria: Provide each vehicle entrance with dogs and handlers depending on traffic conditions.
• Plan for approximately 2 dogs per shift at each vehicle entrance.
• Shift duration is determined by frequency of traffic. During high peak traffic a shift may be 2 to 3 hours. In areas with high heat and humidity, shifts are shorter.

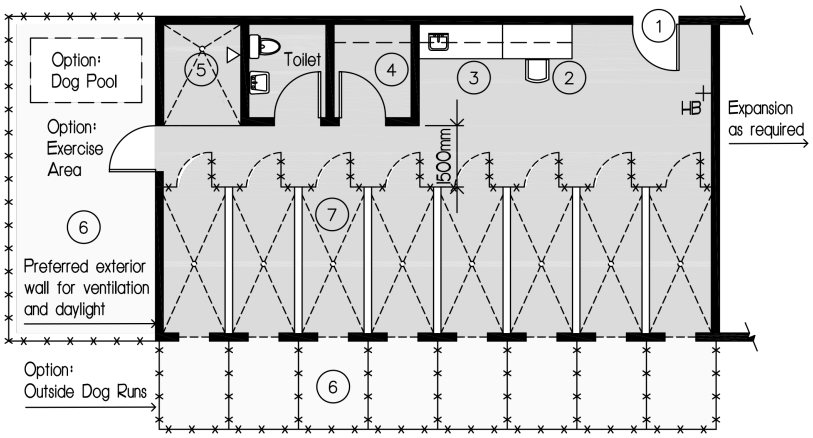
b. BP Working Area: Provide the following for dogs on duty:
• Shade and protection from weather conditions
• Potable water

c. BP Kennel Location: Near Security Office or BOH area.
• Do not locate near guest areas.
• Provide shade and protection from extreme temperatures and weather conditions.
• Provide acoustical separation from adjacent rooms.

d. BP Kennel:
• Enclosures: Provide one cage per dog.
• Cage size: 120 W x 300 D x 15 cm (4 W x 10 D x 5 ft) high.
• Provide an area for exercise when dogs are not working.
• Provide facilities for preparing food and water.
• Provide handlers with access to lounge and bathroom facilities.

e. BP Kennel Features:
• VSS: Provide to mitigate tampering with dogs.
• Ventilation: Avoid exhaust or other fumes in the kennel areas.
• Floor: Hard surface or wood floor with drains and hose bib for sanitation. Avoid glazed floor tiles.
• Potable Water: Provide access to water 24 hours a day.
• Storage: Provide for food, bedding, cleaning and training supplies.
• Lighting: Well lit kennel and working areas.
• First Aid Kit
• Air Conditioning: Consider in high heat and humid regions.
• Dog Pool: Consider in high heat and humid regions.

f. BP Kennel Example Plan



1. Entry Door, Lockable
2. Workstation
3. Pantry Area
4. Storage Room (lockable) with shelving
   - Food
   - Bedding
   - Supplies
5. Wash/Grooming Area for dogs with hot/cold water supply
6. Outdoor Exercise Area or Outdoor extension of rooms
7. Dog Run: 1200mm x 3000mm x 1500mm
   - Drain
   - Walls with durable finish

4. Collapse Mitigation: Design building / structure to incorporate collapse mitigation strategies to mitigate progressive structural collapse due to explosions. Specialized structural engineering input is required.

16.3 Access Control

A. Application: Access Control provides selective limits and constraints on the property, facilities and individual rooms.

1. Methods: Access is typically controlled or monitored with the aid of a physical constraint or equipment such as a storage cabinet lock, an electronic door lock, VSS or a door vision panel.

   a. Receiving areas and lobbies are examples of areas with monitored access.

   b. Guestrooms and equipment storage rooms are examples of access controlled by equipment.

2. Location: The Security Office is the primary location for managing access control and security systems. The telephone operators or Call Center may serve as a secondary monitoring location.

3. Site & Building Access: Provide site access controls on the property and within the property buildings.

B. BP Gatehouse: If required by the Project Facilities Program or Risk Assessment Functional Requirements (may include, residential and community facilities), provide a property entrance gatehouse (see <1>) to control ingress and egress.

1. BP Access Control Points: Integrate with video surveillance camera, where applicable, and provide the access control software.

2. BP Access Control Alarm: Activate video surveillance camera for ease of monitoring.

C. BP Parking Structures: (See <1>.) Provide facilities, measures and access controls based on the Risk Assessment Functional Requirements.

D. BP Pools & Recreational Areas: (See <4C>.) To mitigate access by unauthorized persons, provide controlled access at the perimeter of swimming pool, whirl pool, deck areas and recreation facilities. Provide controlled access to avoid entrance conflicts, and allow means of egress paths from the building to exterior through the pool area.

E. BP Heating, Ventilation & Air Conditioning (HVAC): See <15A> for criteria for locating outside air intakes to mitigate the possibility of allowing undesirable contaminants.

F. BP Utilities: Secure and control access for site utilities including but not limited to the following.

• Water
• Gas
• Electric
• Telephone
• Generators

G. BP Vehicles: Based on the Risk Assessment, evaluate the need for vehicle standoff or checkpoints.

H. Electronic Lock System: Refer to Mobile Key Certified Lock Standard implementations in MGS. Provide the following.

1. Accepted Manufacturers: Kaba (Saflok Models), Assa Abloy (VingCard) and Onity.

   a. Guestroom Entries: Provide certified models for the RFID lock systems with BLE (Bluetooth Low Energy) as listed in the Mobile Key Certified Lock Standard.

   b. Network locks are highly recommended, but not required.

2. RFID (radio-frequency identification), proximity activated, on-line (network) ready Guestroom and guest facility access locks are required.

3. Guest Facility Keyed Areas: Provide Marriott Mobile Key Certified RFID with BLE key reader. See below for locations.

4. BP System Components, Devices & Locations:

   a. BP Entry Locks: At Guestroom entries, guest facilities and Back-of-House doors as scheduled below for Electronic Lock System.

   b. BP Mini-terminal, Room Controller: One for each of the following.
   • Front Desk, Check-in Station
   • Concierge Desk
   • Guest Floor Lounge
   • Front Office at Rooms Control
   • Security Office

   c. BP Card Encoders: At each mini-terminal plus system PC.

   d. BP System PC Control: Integrated lock server with property management system. Include a handheld lock programmer and interrogator unit.

   e. BP Card Readers: At P.O.S. stations.

   f. BP Cabling: Provide cable from the system PC to the wall mounted electronic key reader outside the employee entrance door.

5. Guestroom Entry Lock Components: Review locking schemes with MI and the interface with the PMS (see <13A>). Locks consist of the following.
   • Stand-alone battery operated ANSI 4 switch mortise (to allow events like inside door opening & door ajar also recorded in audit trail)
   • Automatic Dead Bolt (ADB)
   • 2.5 cm (1 inch) dead bolt length
   • 1.9 cm (3/4 inch) latch length
   • Accessible type lever handles
   • Faceplate and trim
   • No exposed fasteners
   • Electronic, multi-technology, operated lock with audit trail and minimum of 500 recalls
   • No master hard key cylinder
6. BP Utility Entry Locks: Provide for public spaces and BOH doors having similar features as the guestroom entry locks excluding the automatic dead bolt.
7. Remote Access Readers (RAR): Provide RARs at locations where locks cannot mount on door or where fail-safe passage (emergency ingress) is required.
   a. Access Devices:
      • Access Reader: Mounted on adjacent wall
      • Power Supply (Overhead): Design for specified door latch
      • Electric Strike: Design for specified door
      • Electronic Locks: Design for specified door
      • Magnetic Lock: Design for specified door
      • Motion Detector: Design for specified doors with magnetic locks
      • Panic Exit Device, Electrified Mechanical: Design for specified door
      • Fire Alarm Signal: Route to specified door
      • Supplemental Equipment: As required by system design or regional conditions
   b. Locations: For RAR doors and as dictated by individual property requirements
      • Fitness Center (where utility locks are not provided)
      • Swimming Pool Area
      • Remote guest entrances
      • Guest Floor Lounge
      • Business Center (where utility locks are not provided)
      • Employee entrance (where utility locks are not provided)
      • Ballrooms & Meeting Spaces (where utility locks are not provided)
8. Elevator Control Unit (ECU): When designated by the Risk Assessment,

provide at passenger and service elevators (see <12>).

9. BP Electronic Lock System - Locations: Provide at the following locations:(not all properties require spaces as listed).

   a. BP Electronic Lock Locations

Parking Structure Vestibule - type per LP Review	**<1>**
Luggage Room	**<2>**
Fitness Center Reception Area	**<4B>**
Banquet Beverage Storage	**<6>**
Ballroom and Meeting Rooms - per LP Review	**<6>**
A/V Storage	**<6>**
Banquet Storage	**<6>**
Guestrooms and Suites	**<7A>**
Suite Pantry	**<7A>**
Guestroom corridor door entering service elevator area	**<7B>**
Guest floor linen storage room	**<7B>**
Guest floor linen chute room	**<7B>**
Roof Access enclosure	**<7B>**
Guest Safe Deposit Room	**<8A>**
Counting Room	**<8A>**
Executive Offices staff entry	**<8A>**
Front Office Support accessed from the front desk area - electronic door lock	**<8A>**
Nurse - First Aid / Exam Room	**<8B>**
Contract Service Storage (out sourced contractor)	**<9>**
Ancillary Receiving Storage	**<9>**
Guest Package Storage	**<9>**
Maintenance Shop	**<9>**
Liquor Storage	**<10>**
Dry Storage	**<10>**
Bulk Refrigerated Storage if applicable	**<10>**
Silver Storage	**<10>**
Housekeeping / Linen Bulk Storage	**<11B>**
Guest Floor Lounge	**<12>**
Computer Room	**<13A>**
Telecom Equipment	**<13A>**
MATV System Room	**<13A>**
Sound System Equipment Room	**<13B>**

10. BP No Master Keys: For the following locations (not all properties have spaces as listed), exclude master keys or electronic master key access.

    a. BP Locations without master keys

Gift Shop	<5>
General Manger (GM) Office	<8A>
DOF / Controller Office	<8A>
General Cashier Office - provide asylum lock, see ref. Chapter	<8A>
Director of Human Resources Office	<8B>
Food Storeroom	<10>
Beverage Storeroom	<10>
Lost and Found	<11>
Computer Room	<13A>

I. BP Other Lockable & Secure Spaces: Provide controlled access to the following (not all properties require spaces as listed).

1. BP Secured Spaces

Meeting and Event Spaces - per LP review	<6>
Guestroom Balcony / Patio & Terrace Doors - primary and secondary lock	<7A>
Guest Safe Deposit Viewing Room door with remote door release	<8A>
Receiving Area - provide doors / gates to secure from pedestrian and vehicular access	<9>
Food Production Facilities / Kitchens	<10>
Service Bars	<10>
Storage Cages	<10>
Exterior doors - securable, latching hardware, NFPA approved for that application.	<14>

J. BP Door Vision Panels & Viewports: Provide enclosed areas with visual access at doors for the following locations (not all properties require spaces as listed),

1. BP Back of House: Provide visual access at high volume, 2-way traffic doors.

2. BP Door Vision Panels

Restaurant Service Entrance	<3>
Food Production Storage (Cold Room) Walk-In-Unit	<3>
Ballroom / Meeting Spaces	<6>
Guestroom; viewports with privacy cover	<7A>
Guestroom floor Ice Dispensing and Vending	<7B>
Guest Laundry	<7B>
Cashier's Area	<8A>
Counting Room	<8A>
Guest Safe Deposit Room	<8A>
Employee Cafeteria / Employee Breakroom	<8B>

K. Elevators: (See <7B> and <12>.) Comply with the following.

1. Emergency Medical Evacuation: Size elevator cab and door openings to accommodate stretcher movement from each floor. See governing code for stretcher requirements.

2. Mixed-Use Projects: Do not share guestroom floor elevators with other building uses.

3. Parking: Passenger shuttle elevators serving parking structures do not access Guestroom floors but terminate as close as possible at the main Lobby entry within view of the Front Desk.

16.4 Safety - Features & Design Elements

A. Loss Prevention & Safety Information: Provide safety information signage at the following locations and at areas identified by the Risk Assessment Functional Requirements.

1. Signage

a. See signage and graphics in <GR2>:
- Fitness Center
- Swimming Pool Areas
- Sauna
- Steam Room
- Whirl Pools
- Guestrooms
- Guestroom Balconies
- Outdoor Recreation Facilities
- Fire Pits
- Fireplaces

b. Distraction Graphic: Apply a brand approved logo or pattern, at 5'-0" (1.5 m) height AFF, to full height clear glass doors and glass panels. Pattern may be an applied film or embedded into the glass.

2. Parking Structures: See <1>.

a. Pedestrian: Coordinate vehicle signage with pedestrian and overall project signage planning requirements and specifications.

b. Low Clearance: Provide signs to warn drivers of low clearance areas.

3. Evacuation Plan: Provide guestroom evacuation plan with American Hotel Lodging Safety Tips signage on room side of entry door. See <7A> and <14>.

4. Innkeeper's Statute: Provide governing authority's innkeeper's statute on room side of entry door.

B. Slip Resistance: Provide slip resistant walking surfaces (wet and dry conditions)

in compliance with the minimum dynamic coefficient of friction standard as required by ANSI 137.1 testing, ASTM E303-93, EN 1306-4:2011 / DIN 51130 / DIN 51097 and governing regulations. The minimum standard is R-11 and applicable to surfaces that are:

- Generally, flat and horizontal
- Sloped and for ramps
- Steps and stair treads
- Ramps in parking structures

C. Change in Elevation: Comply with accessibility design requirements (<GR1>), governing regulations and the following for stairs, steps, ramps, guard rails, handrails, etc.

1. Exit Stairs: Comply with <14>.
2. Exterior Stairs: If stairs are required at walkways, provide a minimum of three risers. See <1>.
3. Steps & Stairs: Make steps and stairs apparent and easy to use with the appropriate application of the following elements.
    a. Steps: Avoid one and two riser stairs, use ramps or flight of stairs with three risers minimum.
    b. Tread Depth: 28 cm (11 inch) minimum
    c. BP Step Lights: Provide step or tread edge lights (if appropriate).
    d. Nosings: Identify tread edge for full width of stair tread.
    e. Riser Height: 10 cm (4 inch) minimum and 17.8 cm (7 inch) maximum
    f. Contrast: Change floor color or materials to identify stair location.
    g. Headroom: 2.03 m (6-8) minimum
    h. Handrails: At a minimum, provide graspable shaped handrails at both sides of stairs. Design and fasten to resist a minimum force of 0.73 kN/m (50 lbs./lf) and a single concentrated force of 0.89 kN (200 lbs.) applied in any direction.
    i. Guard & Rail Assembly: Protect open areas at stairs and stair runs with guard and rail assembly and see design criteria below.
    j. Lighting: Provide general illumination to identify stairs.
4. Guard & Rail Assembly: Provide guard and rail assembly protection at the following areas.
    a. Balconies: Provide at open sides of balconies. See <7A>.

b. Stairs: See "Steps & Stairs" above.

c. Open Floors & Walkways: At open area level changes to prevent a person from accidentally stepping or walking off the upper floor.

d. Site, Parking & Retaining Walls: In areas accessible to the public, provide guard and rail assemblies on open sides where the level exceeds 76 cm (30 inch); integrate with landscaping.

e. Design Criteria: Provide for the following.
• Height: 107 cm (42 inch)
• Openings: Design to restrict the passage of a 10 cm (4 inch) diameter ball
• Bottom Rail: 5 cm (2 inch) maximum above floor
• Design to restrict climbing
• Design and fasten to resist a minimum force of 0.73 kN/m (50 lbs./lf) and a single concentrated force of 0.89 kN (200 lbs.) applied in any direction
• Design intermediate rails and panels to resist a horizontal load of 0.22 kN (50 lbs.) per 0.093 m² (1 sq. ft.)

5. Ramps: Provide where steps are not permitted, and where required by governing code and accessibility regulations.

a. Handrails: If slopes are steeper than 1:20, provide graspable shaped handrails. Use design criteria as required for stairs above.

b. Rise: Do not exceed 77 cm (30 inch).

c. Exterior Ramps: When changes in elevation are required at walkways, accommodate whenever possible by ramps with slopes sufficiently shallow so that handrails are not necessary. See <1>.

d. Interior Ramps: Maximum slope is 1:12 or 8%.

D. Walkway, Doorway & Circulation Widths: Design the features to allow easy access for people and services.

1. Corridors & Aisles: Generally guest area aisles and corridors require a minimum width of 1.5 m (5 ft.). See <7B>.

a. BOH Areas: Back-of-house personnel service corridors are typically larger requiring 2 m (6.5 ft.) minimum for circulation with paths capable of accommodating pallet size deliveries. See <8B>, <9>, <10> and <11B>.

b. Banquet Service Corridors: Provide minimum of 3 m (10 ft.) clear width. See <6> and <8B>.

2. Door Widths: Provide door sizes with minimum widths as follows.

a. Personnel Circulation: 0.91 m (3 ft.)

b. BOH Service Circulation: 1.07 m (3.5 ft.) for moving materials, equipment, housekeeping carts and laundry carts.

c. Equipment Movement: 0.91 m (3 ft.) each door of door pairs at locations requiring equipment movement for Queen Marys, hot boxes, boiler equipment, etc.

d. F&B Refrigerated & Frozen Unit Storage: Door pairs to accommodate pallet width. See <10>.

3. Pool Decks & Terraces: See <4C>.

a. Paths to Pool: 1.5 m (5 ft.) wide

b. Rescue Access: Deck width not less than 1.22 m (4 ft.) at entire perimeter.

c. Whirl Pools: Separate from swimming pool minimum width of 1.22 m (4 ft.).

4. Parking Sidewalks: (See <1>.) Provide 1.5 m (5 ft.) minimum width sidewalks for primary circulation routes, and 1.22 m (4 ft.) minimum width for secondary routes.

5. Traffic Circulation Features: Provide proposed property traffic and parking analysis for MI's acceptance. See <1>.

a. Sizes/Widths: Provide 2-way circulation with 90 degree parking in the following minimum widths:

b. Vehicle Traffic Circulation

Single Lane Driveways	3.6 m	(12 ft.)
Two-Way Drives	7.0 m	(24 ft.)
Curb-to-Curb	19.5 m	(64 ft.)
Wall-to-Wall	19.5 m	(64 ft.)

c. Service / Delivery Entrance: Provide controlled service access designed to minimize vehicular conflict with pedestrians.

E. Bathrooms: Provide slip resistant bathroom floors in bathing facilities.

1. Bathroom Floors: Comply with the minimum dynamic coefficient of friction standard as required by ANSI 137.1 testing and governing regulations.

2. Bathing Facilities: Comply with ASTM F462 slip resistance, dynamic coefficient of friction standard for bathtubs, shower floors and receptors.

F. Grab Bars: In guest bathrooms, to mitigate slip and falls, mount and securely

fasten grab bars to withstand minimum of 113 kg (250 lbs.) force in any direction. Provide grab bars at the following locations. Comply with <7A>.

1. Bathtub: Mount to assist with entering, exiting and maneuvering within the bathtub.
   • Built-in Tubs: On “plumbing wet wall”, mount grab bar vertically, above and inside outer edge of tub.
   • Free-Standing Tub: Mount grab bar horizontally on tub surround, tub ledge or a position convenient to person entering and exiting tub.

2. Shower Enclosure: (See <7A>.) When a footrest is provided, mount grab bar on shower wall convenient to person using sidewall or corner mounted footrest.

G. Safety Glass & Glazing: Provide Safety Glass & Glazing in compliance with the U.S. Consumer Product Safety Commission (CPSC) and governing codes at the following locations.

1. Human Impact: Provide tempered or laminated safety glass at locations subject to human impact. Examples include the following:
   • Doors and sidelights
   • Full height windows (without guard rails or curbs)
   • Balcony and patio doors and windows
   • Shower enclosures and glass doors
   • Bathtub surround and screens
   • Room dividers and doors
   • Mirrors (safety backing)

2. Skylights: In skylight and overhead assemblies above occupied spaces, provide laminated glass. If tempered glass, provide screening below skylight to prevent glass from falling on occupied areas.

3. Reference: U.S. Consumer Product Safety Commission, Title 16 - Commercial Practices, Chapter II - Consumer Product Safety Commission, Part 1201 - Safety Standard for Architectural Glazing Materials.

H. Operable Windows: Limit window operation to 10 cm (4 inch) maximum opening with manufacturer's restrictive safety stop integrated with the window fabrication (unless prohibited by code). Provide with manufacturer's "key" for maintenance operation.

I. Emergency Response: Provide the following system devices and equipment to alert occupants and employees to an emergency condition and allows them to mitigate the situation.

1. Shut Off: Provide shut off devices in the following locations.

   a. Steam & Sauna Rooms: Provide high temperature shut off device in steam rooms and saunas. See <4A>.

b. Whirl Pool: Provide emergency stop button to shut off whirl pool jets and pump. Locate control adjacent to 15 minute timer outside of reach from persons in the pool. See <4C>.

2. Eye Wash Stations: Connect units (see <15B>) to tepid water pipe and drain systems. Reservoir types are not allowed. Install permanent units where chemicals are mixed, dispensed and used in concentrated form at the following locations:
   • Swimming / Whirl Pool Equipment Room, see <4C>
   • Maintenance Shop, see <9>
   • Laundry Facilities, see <11A>
   • Housekeeping Chemical Station, see <11B>
   • Commercial Kitchen Warewashing, see <15B>

3. House Telephones: Provide telephones for guests and employees per Administrative Telephone Guidelines (see <13A>) including the following locations:
   • Lobby Area
   • Fitness Center
   • Swimming Pool
   • Guest Laundry
   • Receiving Area
   • Remote outdoor recreation facilities

4. Emergency Electrical Systems: Provide emergency power for standby and backup electric power loads. See <15C>.

   a. Standby Power: Maintains standby power for required Fire Protection and Life Safety systems. See <14>.

   b. Backup Power: Maintains backup power for property Operations and Security per project and Marriott's LP requirements.

J. Water Safeguards: Design water features and facilities to ensure water quality, and avoid splashing and spillage issues. Employ a consultant familiar with the proposed water features and facility designs.

1. Decorative Fountains & Ponds: Design with sufficient horizontal dimension to prevent water splashing on adjacent walkways.

2. Swimming Pool / Whirl Pool: Design and construct pool details, drains, pumps and equipment to prohibit hazards that cause tripping, slipping, or suction entrapment of hair and people. See <4C>.

   a. Filtration: Provide separate systems for the pool, whirl pool and water features.

   b. Pool Suction Drains: To avoid entrapping people in pool suction drains,

comply with the provisions of the governing authority and the U.S. "Virginia Graeme Baker Pool and Spa Safety Act" that include features such as the following:

• Drain Covers (grates): Provide with anti-entrapment devices or systems

• Suction Drains: Two drains located at least 92 cm (3 ft.) apart or an unblockable drain

• Safety Vacuum Release System (SVRS): SVRS or other automatic pump shut off system

c. Rescue Assistance: Provide a minimum of 1.22 m (4 ft.) deck area at the perimeter of swimming and whirl pools.

3. Steam Room: Position steam nozzle to avoid contact burns to occupants. See <4A>.

K. Open Flame Features (Outdoor): To mitigate potential risks associated with open flame features (fire pits, bowls, features, etc.), incorporate the following safeguards.

1. Pipe the feature's gas fuel from the property's central gas fuel system. See Fireplaces, below, for Ethanol requirements.

2. Products rated for outdoor use only with UL approved components. Maximum flame of 50,000 to 100,000 BTU.

3. Manufacturer: Follow manufacturer's installation, operations and maintenance guidelines and the requirments in this chapter, which ever is mosty stringent. Consult with MI Risk Management for specific conditions.

4. Gas valve and ignition switch behind lockable panel adjacent to and within line of sight of the open flame

5. Emergency shut off, readily visible and accessible

6. Automatic gas shut off, when flame is extinguished

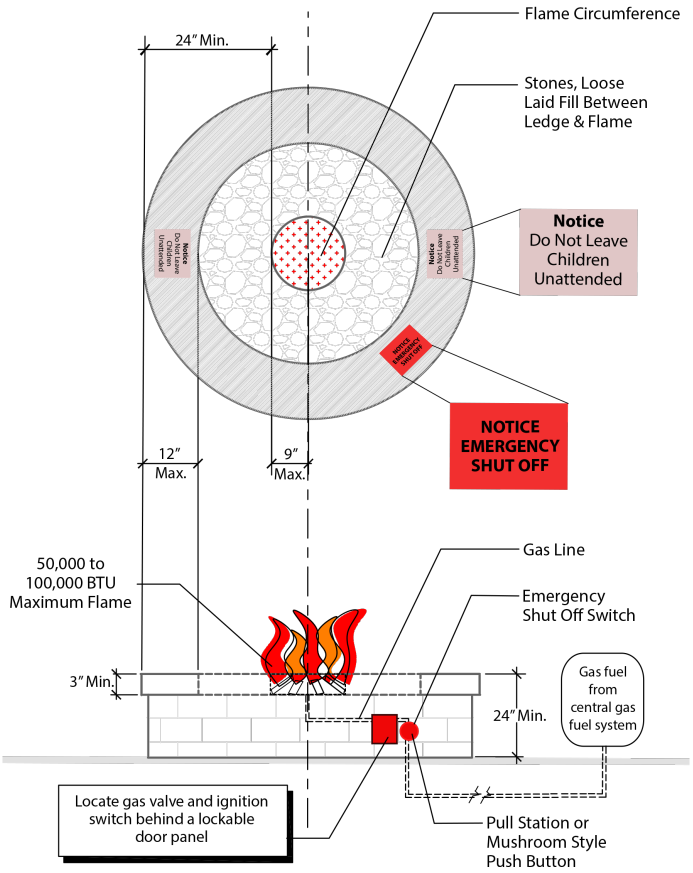
7. Design with stormwater drain

8. No structure, coverings or decorative elements above the area defined by a 3 m (10 ft.) radius from the center of the open flame

9. Safety signage and graphics

10. Approval of fire and building agency having jurisdiction

a. Example: Fire Pit (Outdoor) Diagram



L. Fireplaces: Provide the following safeguards at fireplace locations.

1. Carbon Monoxide (CO) Detector: Locate detector in room with fireplace including a sounder, connect to the fire alarm control panel (see <14>). Exceptions are electric fireplaces.

2. BP Raised Hearth: To protect small children from accessing the fireplace opening and hot fuel and flame, a raised or elevated fireplace platform or hearth may be considered for public area fireplaces only (not in Guestrooms). Verify hearth configuration with MI Loss Prevention.

3. Thermal Protection Screens: Equip fireplace opening with a barrier or screen (such as iron or steel mesh) to prevent children from access to hot surfaces.

4. Wood Burning Fireplaces: Properly store wood in a dry and protected space, and away from heat and flame. Remove and dispose of ash in non-combustible containers.

5. Timer: Provide a timer to automatically turn off fireplace after a reasonable time (usually 30 minutes). Exceptions are wood burning and public area fireplaces.

6. Venting: Vent fuel burning fireplaces to the exterior. Ventless, fuel burning fireplaces are not accepted for sleeping rooms and other similar confined

areas. Exceptions are electric fireplaces.

7. Signage & Graphics: Provide the following safety signage and graphics for guest operated fireplaces:
   a. Safe operation of the fireplace
   b. Caution regarding presence of children
   c. Timer operation
8. Approvals: Provide fireplace units and construction that are certified by an independent agency and code authority. Products must maintain UL approved components or equivalent.
9. Manufacturer: Follow manufacturer's installation, operations and maintenance guidelines and the requirements in this chapter, which ever is most stringent. Consult with MI Risk Management for specific conditions.
10. Ethanol Burning Fireplaces and Products: Follow the requirements above and include the following.
    a. Products: Required to have a spill-sensor feature which prevents operation of the unit for a set time until the fuel has been wiped clean.
    b. Fuel Refilling: Performed by a properly trained individual in one of the following ways. Do not refill fuel or move unit when hot.
       • Replace the entire fuel tank
       • Refill from a spill-proof container supplied by the manufacturer. Refilling through a funnel is not allowed.
    c. Indoor Units: Provide at least one carbon monoxide (CO) detector in the room with a sounder alarm, connect to the fire alarm control panel. Include a readily available fire extinguisher in the area.
    d. Fuel Storage - Indoor:
       • Store in an approved fuel container with a volume not-to-exceed 20L (5.3gal) per container.
       • Store fuel containers within a secured approved flammable liquid cabinet with a total volume of fuel not-to-exceed 94.6L (25gal)
       • Clearly mark storage cabinets "Flammable"
       • Fuel is not permitted in basement areas.
       • Gasoline and propane are not permitted in the building with ethanol.
    e. Fuel Storage - Outdoor: Preferred
       • Store fuel in a secured and locked area.
       • Fuel storage above the 94.6L (25gal) allowed within the building: Store outside at a minimum of 6m (20 feet) away from the building, street, alley or public way.

• In lieu of the 6m (20 feet) distance: A fire barrier wall without openings and no less than .76m (30 inch) above and to the sides of the storage area is permitted.

M. Electrical: Provide emergency electrical service duplex outlets connected to the backup power source. See <15C>.

N. Lighting: Provide lighting, an important aspect of access control and safety management. Comply with the Design Standard lighting levels and criteria. See <15C>.

1. Light Levels: The following locations require "average maintained" light levels. High risk areas may require higher levels per LP review.
   • Site Areas
   • Walkways
   • Parking Structures, see <1>
   • Building Entry Areas, see <1>
   • Back-of-House Areas (BOH), see <8B>, <9>, <10> and <11B>
   • Outdoor Recreation Facilities

2. Public Restrooms: Provide lighting controls at remote electric panel board. See <15C>.

3. Parking Lots & Driveways: Locate light poles to minimize the need for impact protection. Do not block or obstruct illumination source with trees.

O. Rooftop: Comply with O.S.H.A. fall protection requirements.

16.5 BP Security Facilities

A. BP Security Office: Provide a Security Office for monitoring the property, Back-of-House (BOH) areas, entering employees, deliveries, inspecting packages, controlling products and materials entering BOH corridors, storing facility products and materials, issuing employee identification badges, key cards and hard keys.

1. BP Back Door Program: At smaller properties, consult MI Global Safety and Security Technical Services to determine if the Security Office can be minimized by augmenting security technology.

2. BP Location: Adjacent to Receiving Area and employee entrance where security monitors BOH entry of employees, visitors, vendors, maintenance and service providers, etc. and Receiving Area.

   a. BP If possible, within view of employee time clock, alcove area,

adjacent to service corridor.

b. BP Near Receiving storage area with accessibility to pallet jacks.

3. BP Deliveries: Provide Security Dispatcher with ability to monitor delivery personnel making deliveries through Receiving Area.

4. BP Facility Features: Securable and climate controlled spaces.

a. BP Entry: Via a "Dutch" door. Provide a waterproof perimeter door seal if in or near a wash-down area, such as receiving / loading areas.

b. BP Window: Include fixed and one sliding glass window from office to exterior dock area and sliding window to employee entrance area.

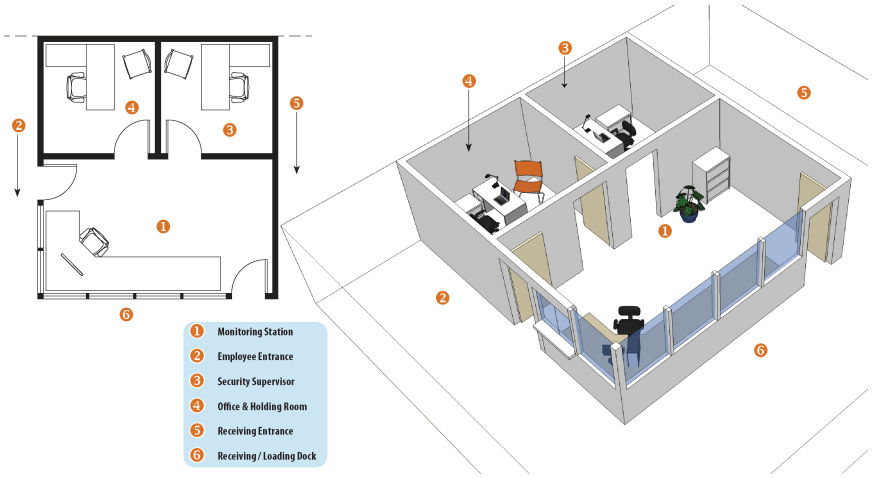
c. BP VSS Monitoring: Design central monitoring console to allow security personnel to monitor cameras, employee entrance and Receiving Area simultaneously.

d. BP Alarm Monitoring: Accommodate alarm systems noted below.

e. BP Office / Holding Room: 4.6 m² (50 sq. ft.) minimum area with direct access from Security Office that doubles as an office and serves as a holding / storage area for parcels.

f. BP Lost & Found: Typically in Housekeeping (see <11B>), otherwise locate in or near Security Office.

g. EI Security Office Example



5. BP Security System Components: In the Security Office, provide the following components and associated devices.

a. BP Video Surveillance System (VSS)

b. BP Alarm Systems:

• Intrusion Detection/Alarm

• Elevator Monitoring Panel, see <12>
• Remote Fire Alarm Annunciator, see <14>
• Generator Low Fuel Warning, see <15C>

c. BP 2-Way Radio System

d. BP Intercom

e. BP Emergency Notification System

f. BP Inspection Tour Recording System

g. BP Electronic Lock System PC and Encoder

B. BP Call Center: (See <2A> and <8A>.) Provides the Security Office with a secondary monitoring station having the following:
• VSS Cameras
• Intrusion Detection Alarm
• 2-Way Radio Dispatch
• Intercom
• Fire Alarm Annunciator, see <14>
• Building Automation System (BAS) Alarms, see <15A>
• Elevator Monitoring Panel, see <12>

16.6 BP Security Systems, Equipment & Design

A. BP Video Surveillance System (VSS): The general purpose of the VSS is asset protection. The Loss Prevention Review may also employ the VSS to mitigate risks associated with crimes against persons.

1. BP Monitoring: The Security Office is the primary location for monitoring the VSS. The property Call Center operators serve as a secondary monitoring location unless determined otherwise by the Risk Assessment Functional Requirements.

2. BP System Requirements: Comply with the following.

a. BP Custom Console: Organize equipment with finish to match Office or Dispatcher area.

b. BP Supplemental Equipment: Provide as required by system design and regional conditions, such as additional cameras.

c. BP Motion Sensor: Provide with integrated detection and alarm alert feature. Provide capability to coordinate with the intrusion detection system.

d. BP VSS Integration: Only allowed on the MI LAN when authorized by MI Information Resources per Information Resources Standard GFS-SE005.

e. BP Covert Cameras: Not permitted without written authorization by MI Risk Management and MI Internal Investigations.

f. BP Imitation (dummy) Cameras: Not permitted.

g. BP Backup Operational Power: Required for continuous operation. See <15C>.

3. BP VSS Components & Devices: May employ the following.

a. BP Color Digital Cameras

b. BP Color Megapixel Cameras:
• Fixed
• 180 degree
• 360 degree

c. BP IP Digital Color Cameras

d. BP Auto Dome Systems: Pan Tilt Zoom (PTZ) / auto focus / self-contained units

e. BP Fixed Cameras: Auto iris/manual zoom

f. BP Thermal Outdoor Cameras

g. BP Camera Dome Enclosures: Required for cameras in pubic locations and some BOH locations.

h. BP Monitors: Flat panel, color
• Desktop: minimum 81 cm (32 inch)
• Video wall: minimum 107 cm (42 inch)

4. BP Digital Video Recorder:

a. BP Resolution: 1080p minimum or higher (dependent on the camera functional requirements)

b. BP Frames per Second: Provide for the following camera recording activity conditions in view of the camera.
• No Activity: 1 frame per second
• Detected Activity: 15 frames per second or higher (dependent on the camera functional requirements)

c. BP Storage: 30 days minimum or higher (dependent on the DVR / NVR functional requirements)

d. BP Transfer Ability: Transfer streaming video to a media device such as DVD, CD, etc.

e. BP Video Management System (VMS): Provide for systems with more than 32 cameras. If live monitoring is required, provide intelligent software to alert dispatcher to predetermined activities.

B. BP VSS Devices & Locations: Maximize camera views as indicated for location and evaluate possible view obstruction such as soffits, decorative fixtures and lighting levels.

1. BP Lobby: View lobby activity, full view of front desk, reception, identify persons entering and exiting the guestroom and public space elevators. See <2A>.
2. BP Front Desk: Fixed camera at rear of front desk wall (back wall of assisted or unassisted check-in kiosks) to identify guests and observe activity at the desk. See <2A>.
3. BP Retail Shop: View P.O.S. activity. See <2A> and <5>.
4. BP Public Entry Foyer: Identify persons exiting. See <2A>.
5. BP Public / Meeting Space Elevator Foyers: To identify persons entering and exiting the elevators.
6. BP Luggage Storage: Identify persons and luggage exiting room. See <2A>.
7. BP Guest Safe Deposit Boxes: Identify employees accessing guest safe deposit boxes from the safe. See <2A> and <8A>.
8. BP Drop Safe: Identify employee cashier drop safe activity. See <8A>.
9. BP Receiving Area: View activity in Receiving Area. Provide second camera located to identify persons exiting the BOH corridor onto the Receiving Area. See <9> and <10>.
10. BP Employee Entrance: Identify persons entering and exiting. See <8B>.
11. BP Exit Stairs: Cameras with ability to identify persons exiting the perimeter exit doorways (interior cameras). See <7B>.
12. BP Computer Equipment Room: Identify persons accessing PMS system. See <13A>.
13. BP Back-of-House: Provide at perimeter egress doors to identify persons exiting (interior cameras). See <8A> and <9>.
14. BP Critical Assets: Provide at other locations with valuable assets such as

at ATMs, valuable artwork and cash handling locations.

15. BP Security Office, Dispatcher: Provide the following:
    a. BP Monitor: 66 to 81 cm (26 to 32 inch)
    b. BP Digital DVR recorder located in a lock box at Computer Room
    c. BP Keyboard controller
16. BP Call Center: Provide the following.
    a. BP Monitor: 66 to 81 cm (26 to 32 inch)
    b. BP Keyboard controller
17. BP Supplemental Equipment: Provide as required for property design and regional conditions.
18. BP Acceptable Manufacturers:
    a. BP Axis
    b. BP Pelco by Schneider Electric
    c. BP General Electric (GE)
    d. BP Bosch
    e. BP Honeywell
    f. BP Tyco
    g. BP Avigilon
    h. BP Arecont Vision

C. BP Intrusion Detection & Alarm System:

1. BP Application:
    a. BP Intrusion Alarm Panel: Integrate with access control and video surveillance system for ease of investigation.
    b. BP Live & Recorded Video: Display automatically on the access control workstation when intrusion alarms are detected.
    c. BP Recorded Video: Bookmark with the intrusion alarm information for ease of future investigation.
2. BP System Alarms: Not audible locally. Locate in Security Office and Call Center with monitoring 24 hours by trained personnel. See <2A>.
3. BP Devices & Locations:

a. BP Contact Alarm (Module): Perimeter exterior doors; Human Resources; critical Back-of-House doors, Shipping / Receiving and Storage, Liquor Storage and roof.

b. BP Duress / Panic Alarm: Provide at the following locations:
- Front Desk
- Front Office Workroom
- Executive Office Reception
- GM Office
- Cashiers Office
- Human Resources Reception and Director Office
- Nurse Office
- Payroll
- Guest Floor Lounge
- Spa Reception Desk
- Public P.O.S. (cash handling) areas
- Saunas and Steam Room (mushroom style)

c. BP Motion Detector: Ceiling in Cashier's Office.

d. BP Alarm Zone Module: Each contact, duress panic and motion alarm point; required for each door alarm, duress / panic alarm and motion detector location.

e. BP System Printer: Near Security Dispatcher and in Call Center.

f. BP System Control Communication Panel: Security Office.

g. BP Alpha Numeric Keypad: Security Office (dispatcher) and remote Call Center. Computer based graphic central integration system required if more than 50 door contacts.

h. BP Supplemental Equipment: As required by system design or regional conditions.

4. BP Acceptable Manufacturers:

a. BP Radionics

b. BP Tyco Integrated Security

D. BP Radio System (2-way): Multi-frequency, UHF or VHF, 2-way radio system utilized by property's security employees for routine and emergency communication.

1. BP Reception: Design system without dead areas within the building, the building exterior and property site.

2. BP Devices & Location: Provide the following devices in the Security Office.

a. BP Repeater: Design to eliminate dead areas.

b. BP Antenna: System designed specifically for project by an equipment manufacturer.

c. BP Portable Radios: Issued to employees.

d. BP Desktop / Wall Controller:
- Security Office
- Engineering Office
- Call Center
- Fire Command Room

e. BP Supplemental Equipment: Provide as required by system design or regional conditions.

3. BP Backup Operational Power: Required for continuous system and repeater operation. See <15C>.

4. BP Acceptable Manufacturer: Motorola

E. BP Intercom: Provide remote, flush mounted units; hard wired to base stations.

1. BP Intercom System: Integrate with the access control system that provides graphical user interface, intercom station location identification and remote door unlocked functionality. The intercom master station provides accessible door or gate control from designated buttons on master station.

2. BP Remote Intercom Device Locations: Verify with MI's LP requirements for intercom locations. Typically include the following:
- Employee Entrance
- Receiving Area
- Parking Structure Elevator Foyer

3. BP Master Intercom: Control base station (multiple unit capacity).

a. BP Master Station: Security Dispatcher.

b. BP Sub-Master Station: Call Center; Front Desk if required by the Loss Prevention Review.

4. BP Acceptable Manufacturer: Aiphone Corporation

F. BP Wireless Emergency Notification System: Wireless handheld system.

1. BP Carried by designated employees assigned to emergency response duties.

2. BP Design system without dead spots.

3. BP Manufacturers: Provide from one of the following:
- Motorola
- Nextel
- Spectra Link

G. BP Inspection Tour Recording System

1. BP Documentation: Electronic date and time stamped employee patrol documentation system.
2. BP Tour Recording System Devices (Security Office):
   a. BP Patrol Management System Software
   b. BP Wand Home Base
   c. BP Control Unit
   d. BP Wands: Portable
   e. BP Batteries: Nicad
   f. BP Wand Holster: Portable
3. BP Location Identifiers: Approximately 50 to 100 at strategic checkpoints throughout the property as established by Regional Director of Loss Prevention.
4. BP Supplemental Equipment: As required by system design or regional conditions.
5. BP Manufacturer: Time Keeping Systems - Guard-1.

H. Property Safes: In order to safeguard cash and property, provide the following:

1. R Guestroom Safes: See <7A>.
2. Safe Deposit Boxes: See <8A>.
3. R Cashier House Safe: See <8A>.
4. R Deposit Safe: See <8A>.
5. Manufacturer: Amphion

I. BP Electronic Key Management: Automates key distribution functions utilizing an electronic key cabinet.
• Allows employees to access keys without security personnel involvement.
• Allows preset keys only to be removed.
• Removes ability to remove individual keys due to tamper-proof key rings.
• Generates predefined reports on key usage.
• Vendor: Morse Watchman or equal

J. BP Visitor Management: Provide an automated visitor management solution that handles the following:
• Registration
• Scanning of identification

- Photo taking as necessary
- Printed authorized visitor passes with pertinent information
- Customized check-in process
- Vendor: Lobby Guard or equal

16.7 R Coordination

A. R Reference: Coordinate with requirements of other Chapters

- Overview & Project Administration
- Site / Building Exteriors
- Lobby Areas
- Food & Beverage
- Recreation & Amenities
- Retail
- Meeting Spaces
- Guestrooms
- Administration & Employee Facilities
- Engineering & Maintenance
- Food & Beverage- BOH
- Laundry & Housekeeping
- Elevators
- Property Technology
- Fire Protection & Life Safety
- Mechanical
- Plumbing
- Electrical