COMPLIANCE CHECKLIST

IP25: Laboratory Services

The following checklist is intended to be used in the plan review applications for health care facilities submitted to the Massachusetts Department of Public Health. This checklist summarizes and references the applicable requirements from the Licensure Regulations and the 2014 Edition of the FGI Guidelines for Design and Construction of Hospitals and Outpatient Facilities. Applicants must verify compliance of the plans submitted to the Department with all referenced requirements from the Licensure Regulations and FGI Guidelines when completing this Checklist. A separate Checklist must be completed for each nursing unit, hospital or clinic department, or clinical suite.

Other jurisdictions, regulations and codes may have additional requirements which are not included in this checklist, such as:
- State Building Code (780 CMR)
- Joint Commission on the Accreditation of Health Care Organizations
- CDC Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health Care Facilities
- USP 797
- Accessibility Guidelines of the Americans with Disabilities Act (ADA)
- Architectural Access Board Regulations (521 CMR)
- Local Authorities having jurisdiction.

Instructions:
1. All requirement lines must be completed according to the following instructions and included in the plan submissions for Self-Certification Process or Part II of the Abbreviated Review Process.
2. This checklist must be completed by the project architect or engineer based on the design actually reflected in the plans at the time of completion of the checklist.
3. Each requirement line (___) of this Checklist must be completed exclusively with one of the following symbols, unless otherwise directed in the checklist. If a functional space is not affected by a renovation project, the symbol “E” may be indicated on the requirement line (___) before the name of the functional space (associated requirements on indented lines below that name, or associated MEP requirements do not have to be completed in this case). If more than one functional space serves a given required function (e.g. patient room or exam room), that clarification should be provided in the Project Narrative, and the requirement lines are understood to only address the functional spaces that are involved in the project.

X = Requirement is met, for new space, for renovated space, or for existing direct support space for an expanded service.

E = Requirement relative to an existing suite or area that has been licensed for its designated function, is not affected by the construction project and does not pertain to a required direct support space for the specific service affected by the project.

W = Waiver requested for specific section of the Regulations or FGI Guidelines, where hardship in meeting requirement can be demonstrated (a Physical Plant Waiver Form must be completed for each waiver request).

4. All room functions marked with “X” must be shown on the plans with the same name labels as in this checklist.
5. Mechanical, electrical & plumbing requirements are only partially mentioned in this checklist. The relevant section of the FGI Guidelines must be used for project compliance with all MEP requirements and for waiver references.
6. Oxygen, vacuum, medical air, and waste anesthesia gas disposal outlets (if required) are identified respectively by the abbreviations “OX”, “VAC”, “MA”, & “WAGD”.
7. Requirements referenced with “FI” result from formal interpretations from the FGI Interpretations Task Group.
8. The location requirements including asterisks (*) refer to the definitions of the Glossary in the beginning section of the FGI Guidelines.

Facility Name: ________________________________

Facility Address: ________________________________

Satellite Name: (if applicable) ________________________________

Satellite Address: (if applicable) ________________________________

Project Description: ____________________________________________

DoN Project Number: (if applicable) ________________________________

Nursing Unit Bed Complements:
Current = ________________________________ Proposed = ________________________________

Building/Floor Location: ________________________________

Submission Dates:
Initial Date: ________________________________
Revision Date: ________________________________

MDPH/DHCFLC 05/15  IP25
Architectural Requirements

LABORATORY SERVICES

2.1-4.1.1.2 EQUIPMENT

- Type & location of all special laboratory equipment identified in equipment plan
  - includes required connections to power, water, ventilation systems & other building systems

2.1-4.1.2 LABORATORY WORK AREAS

2.1-4.1.2.1 (1) Laboratory workstations

- space to accommodate equipment used
  - laboratory work counter
  - sink

2.1-4.1.2.2 Handwashing Station:

(1) one workstation

(2) handwashing station at workstation

or

(2) more than one workstation

- handwashing station within 25'-0" of all testing & specimen-handling areas

(3) enclosed room where bio-hazardous specimens and/or hazardous chemicals are handled

☐ check if not included in project

- handwashing station

Ventilation: Table 7.1

☐ check if not included in project

- General laboratory
  - Min. 6 air changes per hour
  - Negative pressure
  - Exhaust hood(s)

☐ check if not included in project

- Bacteriology laboratory
  - Min. 6 air changes per hour
  - Negative pressure
  - Exhaust ventilation
  - Exhaust hood(s)

☐ check if not included in project

- Biochemistry laboratory
  - Min. 6 air changes per hour
  - Negative pressure
  - Exhaust ventilation
  - Exhaust hood(s)

☐ check if not included in project

- Cytology laboratory
  - Min. 6 air changes per hour
  - Negative pressure
  - Exhaust ventilation
  - Exhaust hood(s)

☐ check if not included in project
## Architectural Requirements

- **Glasswashing laboratory area**
  - [ ] check if not included in project

- **Histology laboratory**
  - [ ] check if not included in project

- **Microbiology laboratory**
  - [ ] check if not included in project

- **Nuclear medicine laboratory**
  - [ ] check if not included in project

- **Pathology laboratory**
  - [ ] check if not included in project

- **Serology laboratory**
  - [ ] check if not included in project

- **Sterilizing laboratory area**
  - [ ] check if not included in project

- **Media transfer laboratory**
  - [ ] check if not included in project

### Building Systems Requirements

- **Min. 10 air changes per hour**
- **Negative pressure**
- **Exhaust ventilation**

- **Min. 6 air changes per hour**
- **Negative pressure**
- **Exhaust ventilation**
- **Exhaust hood(s)**
  - [ ] check if not included in project

- **Min. 6 air changes per hour**
- **Negative pressure**
- **Exhaust ventilation**
- **Exhaust hood(s)**
  - [ ] check if not included in project

- **Min. 6 air changes per hour**
- **Negative pressure**
- **Exhaust ventilation**
- **Exhaust hood(s)**
  - [ ] check if not included in project

- **Min. 6 air changes per hour**
- **Negative pressure**
- **Exhaust ventilation**
- **Exhaust hood(s)**
  - [ ] check if not included in project

- **Min. 6 air changes per hour**
- **Negative pressure**
- **Exhaust ventilation**
- **Exhaust hood(s)**
  - [ ] check if not included in project

- **Min. 4 air changes per hour**
- **Positive pressure**
- **Exhaust hood(s)**
  - [ ] check if not included in project

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**2.1-4.1.2.3** Refrigerated Blood Storage:
- [ ] check if not included in project

(1) equipped with temperature-monitoring & alarm signals
### Architectural Requirements

2.1-4.1.2.4 **Storage Facilities:**

(1) storage for reagents, specimens, flammable materials, acids, bases & other supplies as necessary

(2) separate facilities for such incompatible materials as acids & bases

(3) vented storage for volatile solvents.

2.1-4.1.2.5 **SPECIAL DESIGN ELEMENTS**

(1) All work counters in areas used for specimen handling, preparation of specimens or reagents & laboratory testing constructed of non-porous materials

2.1-4.1.2.6 **SAFETY PROVISIONS**

(1) Terminal sterilization provisions

   □ facilities & equipment for terminal sterilization of bio-hazardous waste before transport (autoclave or electric oven)

2.1-4.1.3 **SPECIMEN COLLECTION FACILITIES**

2.1-4.1.3.1 (may be located outside laboratory work area)

2.1-4.1.3.2

(1) Blood collection area

   □ work counter

   □ space for patient seating

   □ handwashing station

   □ supply storage

(2) Urine & feces collection facility

   □ equipped with toilet & handwashing station

(3) Storage spaces for specimen collection supplies

(4) Work counters for labeling & computerized data entry

(5) Storage for specimens awaiting pickup

2.1-4.1.6 **SUPPORT AREAS FOR LABORATORY**

2.1-4.1.6.1 Administrative areas

   □ office & space for clerical work, filing & record maintenance & storage

2.1-4.1.7 **SUPPORT AREAS FOR STAFF**

2.1-4.1.7.2 (may be located outside laboratory area & shared with other departments)

2.1-4.1.7.1 Lounge, locker & toilet facilities readily accessible for laboratory staff

### Building Systems Requirements

<table>
<thead>
<tr>
<th>Ventilation:</th>
<th>Min. 10 air changes per hour</th>
<th>Table 7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust</td>
<td></td>
<td></td>
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</tbody>
</table>

**Table 7.1**
**2.1-7.2.2 ARCHITECTURAL DETAILS**

2.1-7.2.2.1 CORRIDOR WIDTH:
- Aisles, corridors & ramps in adjunct areas not intended for the housing, treatment, or use of inpatients not less than 44” in clear width.

2.1-7.2.2.2 CEILING HEIGHT:
- Min. ceiling height 7’-10”

2.1-7.2.2.3 DOORS & DOOR HARDWARE:

1. (a) Doors between corridors, rooms, or spaces subject to occupancy swing type or sliding doors.
   (b) Sliding doors:
       - **check if not included in project**
       - Manual or automatic sliding doors comply with NFPA 101 code review sheet attached
       - **no floor tracks**

2. (a) Min. clear width 34.5”
    (b) Doors do not swing into corridors (except doors to non-occupiable spaces & doors with emergency breakaway hardware)

3. (a) Lever hardware

4. (a) Doors for patient toilet facilities
    (b) 2 doors separated by horizontal distance equal to one-half length of max. diagonal room dimension
    (c) door that swings outward
    (d) door equipped with emergency rescue hardware
    (e) sliding door

5. toilet room door opening in public area or corridor maintains visual privacy

2.1-7.2.2.7 GLAZING MATERIALS:

1. Glazing within 18” of floor:
   - **check if not included in project**
   - Safety glass, wire glass or plastic break-resistant material

2.1-7.2.2.8 HANDWASHING STATIONS:

1. Handw. stations in patient care areas located to be visible & unobstructed
2. anchoring suitable for vertical or horizontal force of 250 lbs
3. Handwashing Station Countertops:
   - **check if not included in project**
   - **porcelain, stainless steel or solid surface materials**
4. Plastic laminate countertops
5. Substrate marine-grade plywood (or equivalent) with impervious seal
6. Designed to prevent storage beneath sink
7. Provisions for drying hands:
   - Hand-drying device does not require hands to contact dispenser
   - Directly accessible* to sinks
   - Liquid or foam soap dispensers

2.1-7.2.3 SURFACES

2.1-7.2.3.1 FLOORING & WALL BASES:

1. Selected flooring surfaces cleanable & wear-resistant for location
2. Smooth transitions between different flooring materials
3. Flooring surfaces, including those on stairways, stable, firm & slip-resistant
4. Floors & wall bases of toilet rooms & other wet cleaned areas are not physically affected by cleaning solutions

2.1-7.2.3.2 WALLS & WALL PROTECTION:

1. Washable wall finishes
2. Wall finishes near plumbing fixtures:
   - Smooth, scrubbable & water-resistant
2. Monolithic wall surfaces in areas routinely subjected to wet spray or splatter

2.1-7.2.3.3 CEILINGS:

1. Ceilings in Laboratories:
   - Cleanable with routine housekeeping equipment
   - Acoustic & lay-in ceilings
   - **check if not included in project**
   - Do not create ledges or crevices
2.1-8.2 HEATING, VENTILATION, & AIR-CONDITIONING (HVAC) SYSTEMS

4/6.3.1 Outdoor Air Intakes:
4/6.3.1.1 Located min. 25 feet from cooling towers & all exhaust & vent discharges

Bottom of air intake is at least 6'-0" above grade

Roof Mounted Air Intakes:

☐ check if not included in project

Bottom min. 3'-0" above roof level

4/6.3.2 Exhaust Discharges:

Ductwork under negative pressure for exhaust air from laboratory chemical fume hoods (except in mechanical room)

Discharge in vertical direction at least 10'-0" above roof level

Located not less than 10'-0" horizontally from air intakes & operable windows/doors

4/6.4 Filtration:

Filter banks conform to Table 6.4

4/6.4.1 Filter Bank #1 placed upstream of heating & cooling coils

4/6.4.2 Filter Bank #2 installed downstream of cooling coils & supply fan

4/6.7 Air Distribution Systems:

4/6.7.1 Ducted return or exhaust systems in spaces listed in Table 7.1 with required pressure relationships

4/6.7.3 Smoke & Fire barriers:

HVAC zones coordinated with compartmentation to minimize ductwork penetrations of fire & smoke barriers

4/6.8 Energy Recovery Systems:

4/6.8.2 Exhaust systems serving potentially contaminated rooms are not used for energy recovery

4/6.9 Duct Lining:

No duct lining in ductwork located downstream of Filter Bank #2

4/7 Space Ventilation:

4/7.1 Spaces ventilated per Table 7.1

Air movement from clean areas to less clean areas

Min. number of total air changes indicated either supplied for positive pressure rooms or exhausted for negative pressure rooms

Recirculating room HVAC units

☐ check if not included in project

each unit serves only single space

☐ min. MERV 6 filter for airflow downstream of cooling coils

(5)

Acoustic Considerations:

Equipment location or acoustic provisions limit noise associated with outdoor mechanical equipment to 65 dBA at building façade

2.1-8.2.1.2 Ventilation & Space-Conditioning:

☐ check if not included in project

(2) Mechanical ventilation provided for all rooms & areas in facility in accordance with Table 7.1 of Part 4

2.1-8.2.3.2 Ventilation Hoods:

Exhaust Hoods & Safety Cabinets:

☐ makeup air provided around exhaust hoods to maintain required airflow direction & exhaust velocity

☐ makeup systems for hoods arranged to minimize "short circuiting" of air & to avoid reduction in air velocity at point of contaminant capture

(2) Laboratory Fume Hoods:

☐ average face velocity min. 75 ft/minute

connection to exhaust system to outside is separate from building exhaust system

exhaust fan located at discharge end of system

exhaust duct system of noncombustible corrosion-resistant material

(2) a) use with strong oxidants

☐ check if not included in project

stainless steel fume hoods & associated equip in air stream

water wash & drain system for periodic flushing

electrical equip resists penetration by water

seals do not contain organic materials

(2) b) use with infectious or radioactive materials

☐ check if not included in project

hood min. face velocity of 90-110 ft/minute

pressure-independent air-modulating devices

(2) c) use with infectious or radioactive materials
### ELECTRICAL SYSTEMS

#### 2.1-8.3

**2.1-8.3.1 EMERGENCY ELECTRICAL SERVICE**

- Emergency power per NFPA 99, NFPA 101 & NFPA 110

#### 2.1-8.3.5

**2.1-8.3.5.2 ELECTRICAL EQUIPMENT**

- Required handwashing station tied to building electrical service

#### 2.1-8.4

**2.1-8.4.2 PLUMBING & OTHER PIPING SYSTEMS**

### PLUMBING FIXTURES

- Materials material used for plumbing fixtures non-absorptive & acid resistant

- Handwashing Station Sinks:
  - Basins reduce risk of splashing to areas where direct patient care is provided, sterile procedures are performed & medications are prepared
  - Basin min. 144 square inches
  - Min. dimension 9 inches
  - Made of porcelain, stainless steel, or solid-surface materials
  - Water discharge point of faucets at least 10 inches above bottom of basin
  - Anchoring for sinks withstands min. vertical or horizontal force of 250 lbs
  - Fittings operated without using hands for sinks used by medical & nursing staff, patients, public & food handlers

- Blade handles or single lever min. 4 inches long
- Provide clearance required for operation
- Or
- Sensor-regulated water fixtures meet user need for temperature & length of time water flows
- Designed to function at all times & during loss of normal power