

MIT

Design Standards

Historic Preservation and Iconic Architecture

T09 Thematic Folder

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Department
of Facilities

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1. INTRODUCTION

1.1 General

With over 160 buildings on the Cambridge campus, MIT has a number of buildings that are historically significant and are considered iconic works of architecture. These buildings require an additional level of attention and care when contemplating renovation and renewal projects.

Since 1916, when MIT moved to the original Main Group buildings designed by architect William Welles Bosworth and engineer John Freeman in Cambridge, until today, MIT has had a tradition of hiring innovative architects and engineers to design the campus buildings. Many of these buildings are visited by architects, design professionals and tourists from all over the world as they were iconic works of architecture and engineering at the time of construction and remain so today.

1.2 Historic Preservation Review

Buildings 1 to 8, 10, 11, 14, 50, E1 and E2 are part of a historic district nominated to the National Register of Historic Places by the National Park Service in 1986. Other buildings that were nominated separately are the MIT Chapel (W15) and Kresge Auditorium (W16), W31 (the former Cambridge Armory), Metropolitan Storage Warehouse (W41), Baker House (W7) and the Arthur D. Little Building (E60). In 2012, MIT had Building E52 determined eligible for the National Register.

MIT declined to have any of the nominated buildings listed on the National Register. By Commonwealth of Massachusetts statute, these buildings have a Determination of Eligibility for the National Register and are listed on the State Register of Historic Buildings. When work on these buildings requires a State permit or the renovation project is funded by the Commonwealth of Massachusetts bond funding, the Massachusetts Historic Commission reviews exterior alterations.

In 2015, MIT signed a protocol agreement with the Cambridge Historical Commission (CHC) that ensured that MIT would review all exterior alteration to buildings considered significant with the staff of the CHC. In 2016, MIT completed a historic survey and evaluation of campus buildings 45 years or older and three campus landscapes. The evaluation utilized the Secretary for Interior Standards for Historic Preservation evaluation criteria and a team consisting of MIT staff, the Cambridge Historical Commission staff and the project consultant, Public Archaeology Lab from Pawtucket Rhode Island evaluated the historic resources. The map, *MIT Historic Inventory & Evaluation Summary (2002 & 2016 Assessments)*, indicates the buildings and

landscapes of high and moderate levels of historic significance that require consultation with the Office of Campus Planning before a design team engages in alterations and additions.

1.3 Iconic Architecture Review

There are a number of iconic and architecturally significant buildings on campus which do not require any regulatory review but are significant enough to require internal design review for compatibility with the original building design. The map, *MIT Buildings with Architectural Significance*, illustrates those buildings. The Office of Campus Planning works with the Comprehensive Stewardship Group, Repair and Maintenance and Campus Construction to review proposed interior or exterior modifications to those buildings to ensure that the design intent remains intact.

1.4 Review Criteria

Buildings:

1. Carry out all renovations and alterations with particular care to ensure high quality workmanship and historic appropriateness.
2. When working on all these buildings, any exterior alterations should be reviewed with the staff of Office of Campus Planning.
3. If the proposal warrants, there will be an informal review with the staff of the Cambridge Historical Commission, coordinated by the Office of Campus Planning staff.
4. If there are any issues that cannot be resolved between MIT and the Cambridge Historical Commission staff, the proposal will be brought to the Cambridge Historical Commission for review.

Locations:

1. First Floor entry lobbies, rest rooms and other public areas of historic or iconic buildings should be constructed with high quality durable finishes and materials. For example:
 - a. In lobbies and first floor corridors, terrazzo is an excellent flooring choice as it can last one hundred years or more and still holds up with the heavy traffic and use of carts and other equipment that can ruin other floor finishes.
 - b. Using materials like ceramic tile in high traffic areas at MIT have not fared well, as the tiles crack and spall.
2. Exterior features and the exterior envelope should be respectfully restored using materials and assemblies expected to have a long life span. For example:
 - a. The new replicated steel windows in the Main Group have an anticipated life span of 75 to 100 years. Their design uses new technology and maintains the

- historic and iconic character of the Main Group buildings.
- b. The successful long-term restoration of building envelopes is dependent upon understanding the technology used during the original construction and finding a solution to restoration that will enhance the performance yet be compatible with the underlying building materials and methods of construction. MIT has learned through experience that if the original construction method is not thoroughly understood, any restoration approach with modern construction methods fails quickly and/ or is clearly recognizable as an incompatible intervention.
3. Exterior plazas and courtyards should be respectfully restored or modified using assemblies expected to have a long life span. For example:
 - a. The landscape areas of campus in iconic locations should be maintained and constructed with attention to detail and long-term ease of maintenance.
 - b. MIT currently has no designated landscapes that require review with state agencies but does have 3 landscapes – Killian Court, the Kresge Oval and Eastman/ McDermott Courts – that are considered significant and need review by the Office of Campus Planning during a restoration/ renovation.
 4. Materials:
 - a. The specifications for historic materials can be found in the individual specification section.
 - b. The use of modern materials in conjunction with the historic materials should be done carefully and judiciously since modern construction techniques may not be compatible with the construction approach undertaken in the historic structure. Please review with the Office of Campus Planning.

2. MAIN GROUP BUILDINGS

2.1 Building Products

MIT has standardized products for renovations in the Main Building Group. Refer to the list below and the referenced specification divisions in the MIT Design Standards. For repairs or renovation to exterior building-wall concrete on Buildings, 33, 36, 38, contact OCP for concrete mix standard. For interior renovations at W20 Stratton Student Center, contact OCP for approved Interior Design Palette.

Architectural Woodwork - Refer also to Division 6, Par. 4.4.

Grade: AWI Custom Grade.

Veneer and Solids: Select White Maple, Quarter Sawn, Grade AA.

Veneer and Solids: American Black Cherry (*Prunus serotina*), Quarter sawn, Grade AA.

Steel Doors and Frames - Refer also to Division 8, Par. 1.3.

Interior Doors: 1-3/4 inch thick, flush, heavy duty, 18-gage, minimum 0.042 inch steel faces, with a minimum STC rating of 32.

Interior Frames: 16-gage, 0.053 inch thick.

Exterior Doors: 1-3/4 inches thick, seamless, extra heavy duty, 16-gage, 0.058 inch thick A60 galvanized steel faces, with a minimum core R-value of 6.25.

Exterior Frames: 14-gage, 0.067 inch thick, with an A60 zinc coating.

Exterior Monumental Doors - Refer also to Division 8, Par. 3.4.

Door Thickness: 2-3/4 inches.

Veneer: African Mahogany (*Khaya ivorensis*), Plain Sliced, WDMA Industry Standard, "A" Grade veneer minimum 1/50 inch (0.6 mm) thick, mechanically splice species wood, cut with book matched grain, end matched transoms.

Historically-Appropriate Aluminum Windows - Refer also to Division 8, Par 11.4.

Type: Custom-fabricated double-hung counterbalanced aluminum windows by Custom Window Division of Wausau and Graham Aluminum Windows.

Color: Custom formula to match MIT Color No. Devflex 4216 0200 01 (gallon formula: BLK 1P25, YOX 2P10, OXR 0P33, GRN 0P4).

Interior Steel Framed Partitions - Refer also to Division 8, Par. 2.3.

Steel Framing: Hope's 5000 Series and Landmark Series, black powder-coated finish.

Glazing: 5/16 inch laminated glass, frosted or clear interlayer.

Glazing Film: 3M Dusted Crystal.

Door Hardware - Refer also to Division 8, Par. 14.3.

Finish: Antique bronze matching existing.

Butts/Hinges - Stanley, McKinney, Hager.

Keying and Locksets - Schlage.

Exit Devices - Von Duprin.

Door Closers - LCN.

Pulls, Wall Stops, Floor Stops - Rockwood, Hager, Ives.

Gasketing - NGP, Pemko, Hager.

Handicap Power Operators - Tormax.

Terrazzo Flooring - Refer also to Division 9, Par. 7.4.

Terroxy Resin Systems as distributed by Terrazzo & Marble Supply Co.

Toilet Compartments - Refer to Thematic Folder T16 - Restrooms and Custodial Closets, Par. 3.

Type: Stainless steel, floor-mounted overhead braced, 0.032 inch thick stainless steel, AISI Number 4 satin finish, edge profile to block direct view into compartment.

Toilet Accessories - Refer to Thematic Folder T16 - Restrooms and Custodial Closets, Par. 3.15.

Toilet Tissue Dispensers.
Automatic Paper Towel Dispensers.
Soap Dispensers.
Soap Dishes.
Grab Bars.
Mirrors.
Towel Bars.
Robe Hooks.
Sanitary Napkin Disposal.
Shower Curtain Rods.
Shower Curtain and Hooks.
Lavatory Shelf.
Accessory Locks.

Horizontal Louver Blinds - Refer also to Division 12.

Louver Blinds: Skyco Shading Systems “Retro Lux.”, as available from Bright Window Coverings, Inc., Wakefield MA.

Slats: Nominally 2 inch wide, extruded magnesium aluminum alloy, not to include reprocessed metals, .0075 inches thick before coating.

Roller Shades - Refer also to Division 12, Par. 5.3.

Manual and Electrically Operated Shades: Mecho/5 Standard Brackets, wall mounted with fascia, room darkening side channels where blackout fabrics are used. Single and double rollers as applicable.

Solar Shadecloth: ThermoVeil Dense Basket Weave Shadecloth 1500 Series

Blackout Shadecloth: ThermoVeil Blackout Shadecloth 0700 Series

Section 122110 - Horizontal Louver Blinds

Skyco Shading Systems, Inc., Santa Ana, CA. Product: “Retro Lux.”, as available from Bright Window Coverings, Inc., Wakefield MA. Slats: Nominally 2 inch wide, extruded magnesium aluminum alloy, not to include reprocessed metals, .0075 inches thick before coating.

Section 122400 - Roller Shades

Mecho/5 Standard Brackets, wall mounted with fascia, room darkening side channels where blackout fabrics are used. Single and double rollers as applicable

Solar Shadecloth: ThermoVeil Dense Basket Weave Shadecloth 1500 Series

Blackout Shadecloth: ThermoVeil Blackout Shadecloth 0700 Series

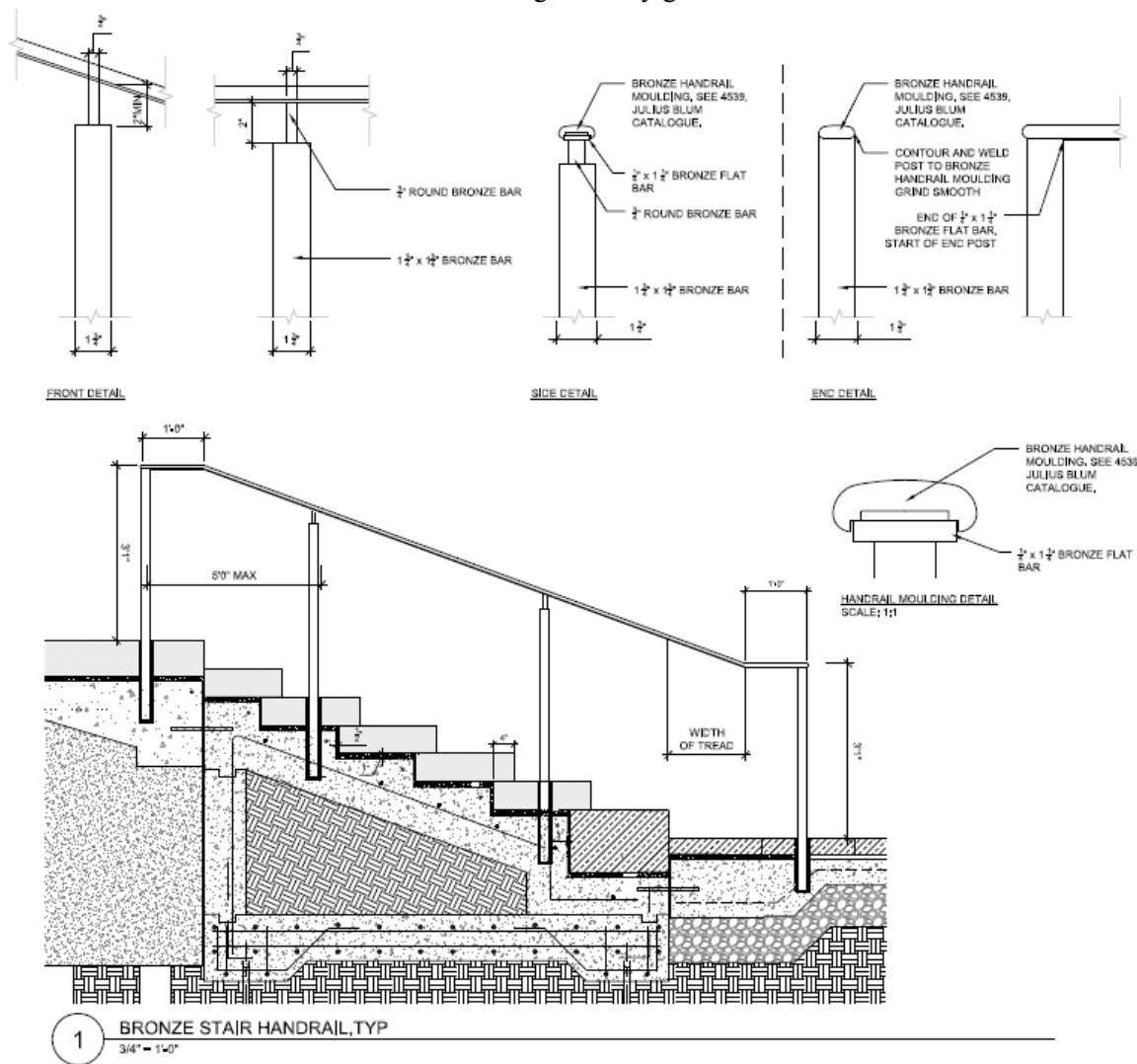
Division 26 - Electrical - Lighting Fixtures

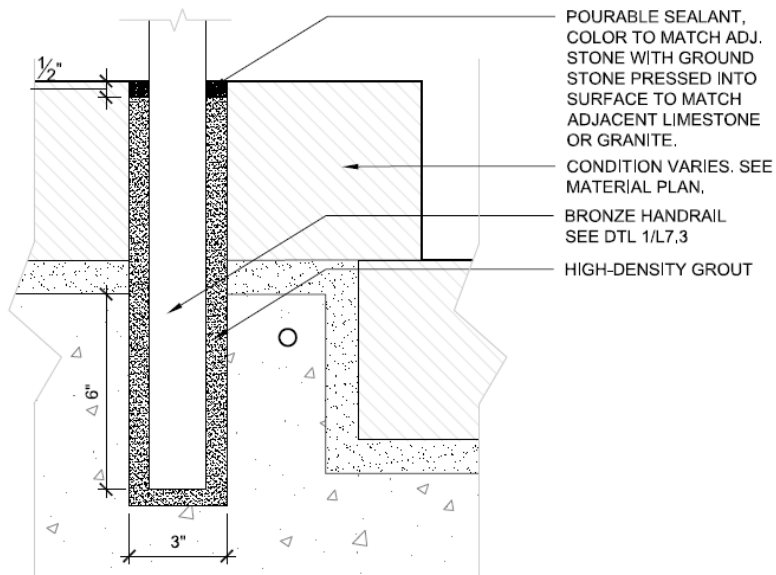
The MIT Main Group Building corridor lighting fixtures shall be pendant mounted Ecosense Lighting Oxygen 3.3 series mounted parallel to the length of the corridor and located approximately 12'-0" on center. In corridors with low ceiling heights, or where a pendant cannot be used, the lighting fixture shall be surface mounted Ecosense Lighting Oxygen 3 mounted parallel to the length of the corridor and located approximately 12'-0" on center.

2.2 Railing Details

Exterior Handrails - Refer also Division 5, Par. 4.1 and the railing details in this Section.

Exterior Handrails: Bronze handrails with oil-rubbed bronze finish, top rail Julius Blum Profile 4539. Sleeve mounted with high-density grout.





3 HANDRAIL POST MOUNTING, TYP.
3" = 1'-0"

3. BUILDINGS OF HISTORIC SIGNIFICANCE

3.1 Campus Map

Attached at the end of this section.

4. BUILDINGS OF ARCHITECTURAL SIGNIFICANCE

4.1 Campus Map

Attached at the end of this section.

END OF DOCUMENT

MIT Buildings with Architectural Significance

