

NEW HISTORY

ARCHITECTURAL BUILDING ASSESSMENT - AMERICAN LEGION MEMORIAL LIBRARY

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For: The City of South Saint Paul

The existing structure consists of an original building, built in 1926, and an addition that was added in 1964. The First building was a 2-story rectangular footprint with a gable roof and later a second, 2-story, l-shaped building was added to expand the area. Both consist of concrete walls, non-combustible steel joist with concrete pan floors and a combustible wood-framed roof. The building is equipped with fire alarms but no sprinklers.

APPLICABLE CODES AND REGULATIONS:

- 2020 Minnesota Conservation Code For Existing Buildings
- 2020 Minnesota Building Code
- 2020 Minnesota State Fire Code
- 2024 Minnesota Commercial Energy Code
- 2020 Minnesota Mechanical Code
- 2020 Minnesota Plumbing Code
- 2023 Minnesota Electrical Code

2020 MINNESOTA CONSERVATION CODE FOR EXISTING BUILDINGS

The 2020 Minnesota Conservation Code for Existing Buildings (MCCEB) regulates the repair, alteration, addition, and change of occupancy of existing buildings. The MCCEB classifies work on existing buildings into several categories to help regulate the different types of modifications. The classifications of work are described below. Levels 1 & 2 are described below for clarity, but the project will fall under the Level 3 alteration and/or Change of Occupancy classification.

LEVEL 1 ALTERATION

Level 1 alterations involve minor modifications that do not significantly change the building's layout or use. These include replacing finishes, fixtures, or components without structural changes. The alterations must adhere to basic safety and energy efficiency standards, ensuring that upgraded elements like lighting and HVAC systems comply with current codes. This level provides a maintenance and minor updates process, allowing for improvements without extensive compliance burdens.

LEVEL 2 ALTERATION

Level 2 alterations are more extensive and involve reconfiguring spaces or upgrading systems that impact the building's functionality. This may include moving walls, adding new electrical circuits, or updating HVAC systems to meet modern efficiency standards. These alterations require compliance with more stringent codes, particularly regarding life safety, accessibility, and energy performance in the modified areas.

LEVEL 3 ALTERATION

Level 3 alteration provisions apply when renovations affect more than 50% of a building's area. This category includes extensive modifications, such as renovating large sections of the building or making substantial overhauls of mechanical, electrical, and plumbing systems. All changes must comply with modern codes, including safety, structural, and energy efficiency standards. For fire protection, systems must meet the requirements of the new occupancy. Mechanical systems must align with updated efficiency standards, and plumbing systems may need upgrades to accommodate increased fixture demands or specific needs.

CHANGE OF OCCUPANCY

Change of occupancy provisions apply when the use of a building or part of it changes in a way that affects the occupancy classification or alters code requirements. This includes changes in occupancy groups or specific uses within a group. For fire protection, systems must comply with the new occupancy's requirements. Mechanical systems must meet updated ventilation or kitchen exhaust standards, per the 2020 Minnesota Mechanical Code. Plumbing systems may require upgrades for increased fixture demands or specific needs like protecting sanitary lines in food-handling areas, installing grease interceptors, or ensuring chemical waste compatibility, in line with Minnesota Rules, Chapter 4714, and the International Plumbing Code.

HISTORIC BUILDINGS

The Minnesota Conservation Code for Existing Buildings provides flexibility for buildings designated as historic while still ensuring safety and functionality. Modifications to historical structures must comply with basic safety, structural, and accessibility requirements, but allowances are made to preserve their architectural integrity. Mechanical, electrical, and plumbing systems can be upgraded in ways that do not compromise the building's historic character. These systems must still meet minimum safety standards, such as maintaining proper ventilation, ensuring electrical safety, and protecting against plumbing hazards, but with some exceptions to preserve historical features.

ACCESSIBILITY (SECTION 305)

Existing buildings or portions of existing buildings undergoing maintenance, change of occupancy, additions, alterations, or reconstruction due to substantial damage or substantial improvements shall be made accessible to persons with disabilities as required by Minnesota Rules, Chapter 1341. Refer to Minnesota Rules, Chapter 1341, the Minnesota Accessibility Code, for the complete application of Section 305.

- IBC 1104.1: At least one accessible route shall be provided from public transportation stops, accessible parking spaces, accessible passenger loading zone, public streets or sidewalks, etc. to an accessible building entrance.
- MN Accessibility Code Chapter 1341 –
 - 1104.4.1 - At least one accessible route shall connect each accessible story, mezzanine, and occupied roof in multilevel buildings and facilities.
 - 1105.1 - Public entrances - In addition to accessible entrances required by Sections 1105.1.1 to 1105.1.5, at least 60 percent of all public entrances to each building, facility, and tenant space shall be accessible.

- The **20% rule applies** (305.7)
Where an alteration affects the accessibility to, or contains an area of primary function, **the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains serving the area of primary function.**

Exceptions:

1. **The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.**
2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. **This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.**
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

PRESCRIPTIVE COMPLIANCE METHOD (CHAPTER 5)

Except as provided by Section 302.4, 302.5 or this section, alterations to any building or structure shall comply with the requirements of the IBC for new construction. Alterations shall be such that the existing building or structure is not less complying with the provisions of the IBC than the existing building or structure was prior to the alteration.

Exceptions:

1. An existing stairway shall not be required to comply with the requirements of the IBC provided the existing or replacement stairway complies with the following: existing stairs in buildings shall be permitted to remain if the rise does not exceed 8.25 inches and the run is not less than 9 inches. Existing stairs are permitted to have a minimum width of 36 inches, but not less than the width required for the number of occupants served, as determined by the IBC.
3. Handrails otherwise required to comply with IBC Chapter 10 shall not be required to comply with handrail extension requirements if the handrail extensions hinder the required means of egress.

2020 MINNESOTA BUILDING CODE

EXISTING BUILDING CLASSIFICATION

- **Primary Occupancy Type as a Library: Assembly Group A-3**
- **Construction Type: IIB, Unprotected Non-Combustible**

Primary Structural Frame	0 hr
Exterior Bearing Walls	0 hr
Interior Bearing Walls	0 hr
Exterior Non-bearing Walls	0, except 1 hr <30 feet from property line (Table 602)
Interior Non-bearing Walls	0, except not less than req'd by other Code sections
Floor Construction	0 hr
Roof Construction	0 hr

Allowable Height (A, B, E, F, M, S, U): 55' UNSPRINKLERED
Allowable Stories Above Grade: 2 Stories, UNSPRINKLERED
Allowable Area for A-3 occupancy: 9,500 SF*, **
ACTUAL AREA: 11,840 GSF

* As a B Occupancy without sprinklers, the allowable area is to 23,000 SF. Adding sprinklers would increase the allowable area for an A-3 occupancy to 28,500 SF

**503.1.4 Occupied roofs - A roof level or portion thereof shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof. The area of the occupied roofs shall not be included in the building area as regulated by Section 506.

713.4 Shaft enclosures shall have a fire-resistance rating not less than 1 hour where connecting less than four stories

- Interior Finishes (Chapter 8)

Table 803.1.2

Class A	=	Flame spread index 0-25; smoke-developed index 0-450.
Class B	=	Flame spread index 26-75; smoke-developed index 0-450.
Class C	=	Flame spread index 76-200; smoke-developed index 0-450.

Ref: (Table 803.13) for a sprinklered building			
	Interior exit stairways and ramps and exit passageways ^{a, b}	Corridors and enclosure for exit access stairways and ramps	Rooms and enclosed spaces ^c
ALL A OCCUPANCIES (represents most stringent outside of institutional uses)	Class B	Class B	Class C

- Class C interior finish materials shall be permitted for wainscoting or paneling of not more than 1,000 square feet of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fireblocked as required by Section 803.15.1.
- In other than Group I-3 occupancies in buildings less than three stories above grade plane, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted in interior exit stairways and ramps.
- Requirements for rooms and enclosed spaces shall be based on spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered to be enclosing spaces and the rooms or spaces on both sides shall be considered to be one room or space. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.

2024 MINNESOTA COMMERCIAL ENERGY CODE (MCEC)

The 2024 Minnesota Energy Code establishes guidelines for enhancing energy efficiency in new and existing buildings. It regulates construction and renovation practices to ensure buildings meet specific energy performance standards. The code categorizes work into different levels, helping to manage the requirements based on the scope of alterations or changes in use.

ALTERATIONS OF EXISTING BUILDINGS

The MCEC specifies that alterations to a building or its systems must comply with the standards applicable to new construction without imposing compliance on the unaltered portions of the building. Importantly, any alterations must not create unsafe conditions or overload existing systems. The new building systems must comply with their respective code sections' prescriptive or performance paths.

CHANGE OF OCCUPANCY OR USE

The MCEC specifies that any space that changes its occupancy needs to follow the same lighting standards as new buildings. If this change increases the demand for electricity or fossil fuels, space must comply with the energy standards.

International Code Council. (2024). Minnesota Energy Code: Section 4 - Administration and Enforcement. Retrieved from <https://codes.iccsafe.org/content/MNEC2024P1/4-administration-and-enforcement#:~:the%20energy%20that,historic%20and%20exempt>.

HISTORICAL BUILDING EXCEPTION

The MCEC has an exception for both of the above classifications of work that allows for flexibility to the energy code in the case of historical buildings. The exception states: “A historical building shall comply with this standard (MCEC) to the greatest extent possible without requiring alteration of elements or features determined to be historic by the historic authority having jurisdiction. Exempted components, elements, or systems shall be specifically identified by the designer as historic and exempt.”

CONDITION ASSESSMENT

The historic library building was constructed largely in two phases the original gabled portion in 1926, and the additive flat-roof box in 1964. While both have been modified over the years as documented in the history of the building, we will assess the condition of the building per phase where it is useful.

While what follows is a comprehensive building assessment, **the primary concerns for remediation are:**

1. Damage to the brick façade and steel lintels due to water infiltration.
2. Suspected improper installation of the aluminum windows.
3. Finishes at the interior of the exterior walls where water infiltration has occurred.
4. The restrooms are in poor condition.
5. At the 1964 addition, there is evidence of leakage at the flat roof.
6. The railing at the mezzanine does not meet code requirements.

EXTERIOR SITE ELEMENTS

1927 - At the main entrance, the concrete stairs are relatively plumb and in tact. There is minor cracking and chipping at the corners and anchoring of handrail posts. This entrance is not ADA accessible.



Concrete wall and stairs at egress from lower level, on the east side of the building, are in poor condition. No handrail present. Fall protection is mitigated with a chain-link fence. Slab at the base of the pit is cracked and stained. According to the “Dakota County South St. Paul Library” report, the drain is insufficient and water often infiltrates the lower level. Walking surfaces are not flush and present a potential tripping hazard. This is not an accessible entrance.



1964 – Exterior steel stair to level 2 in acceptable condition. The finish could use a refresh. Railing/Guardrail does not meet code. No handrail present at brick wall.



ADA actuator at main entrance is bent on the top rail, and rusted at the bolted base condition. According to the Dakota County South St. Paul Library Study, it has reached the end of its useful life.



The primary issue evident at these walls is the failure of the brick face, where water has infiltrated the façade, creating rust-jacking at the steel lintels and causing the finish brick to fall away from the structure. Typically this is isolated to the 1927 portion of the building below level 1.



The worst case of rust jacking and damage to the brick at the west facade

Brick and mortar at the upper portion of the building, particularly at the chimneys, and the brick in the splash zone, requires repointing.



Brick is stained and/or discolored below mechanical penetrations and should be non-abrasively cleaned. At this location, on the east side, there is no downspout nozzle.



Aluminum cladding that was added over the original wood elements is showing signs of water staining and rust. There are gaps and deterioration at joints and corners.



Roof

According to the 2016 LSE Report - The ballasted flat roof of the 1964 addition was replaced in 1992, a new roof installed over front entryway in 2002 and the asphalt shingles of the gable roof were replaced in 2003.

1927 - The asphalt shingles atop the gabled roof are fair to good condition. Replaced 20 years ago - this roof is still within its useful life. Prefinished metal flashing is also in fair to good condition. Original wood trim is showing signs of wear, occasionally beyond the surface scaling, and should be filled and repainted.



Wood trim on the east side of the cupola is showing further signs of decay and may warrant replacement.



1964 - According to the facility maintenance team, the flat, ballasted roof leaks and a comprehensive replacement is needed. The railing is in poor condition, missing many of the original finials and does not meet any of the required code requirements for occupancy at the roof. The metal flashing at the wall caps is sufficiently in tact.



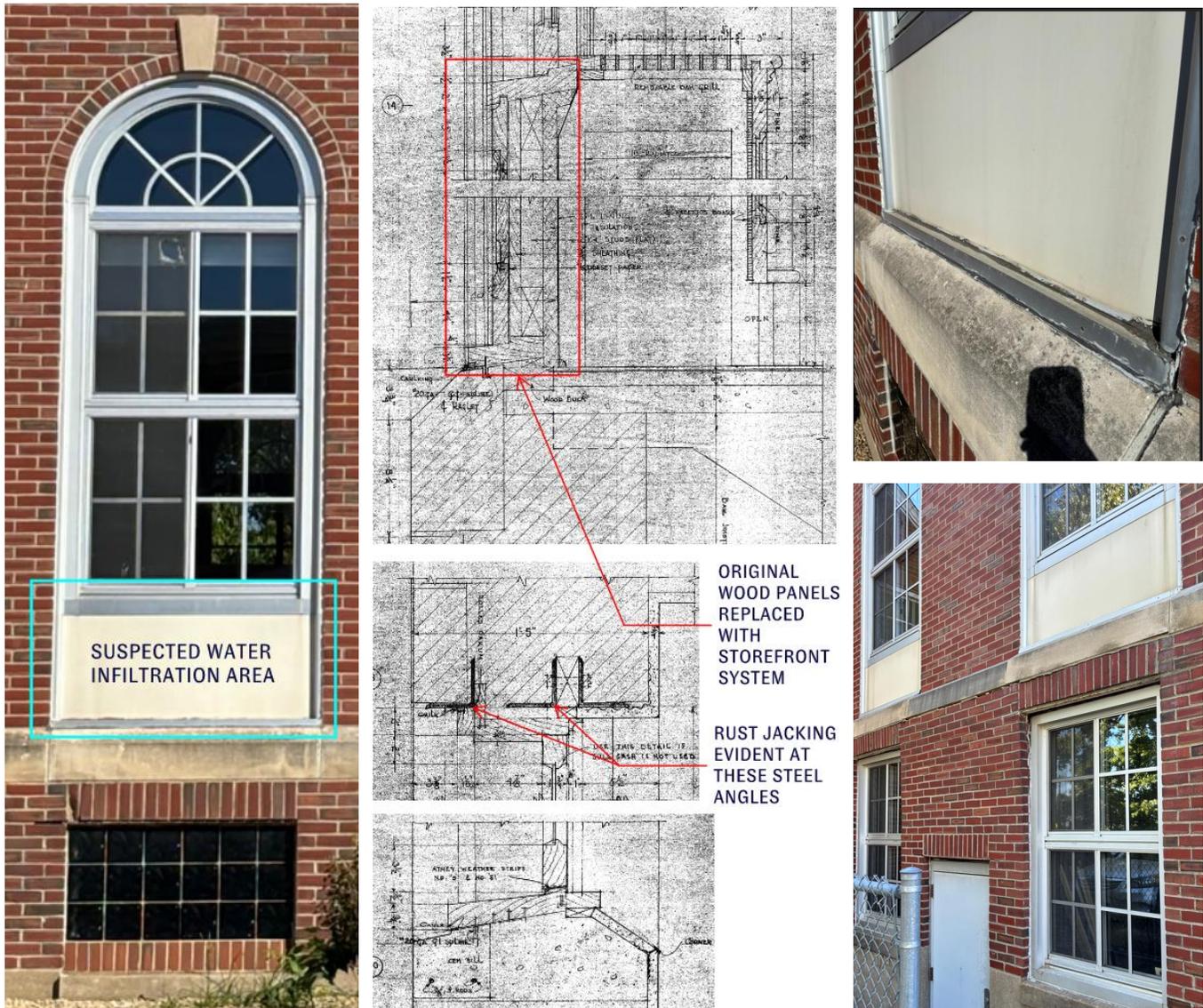
Roof hatch is functional. Mechanical Equipment is past its useful life as detailed in the mechanical portion of this condition assessment.



Drainage at the roof of each building could be improved as detailed in the plumbing section of this condition assessment. “Electric trace has been added to prevent freezing”

Windows

The windows are not original at either building, most having been replaced in 1980 with anodized aluminum-framed dual-layer, single pane storefront system. Water infiltration is evident in the walls below each of the modified windows within the 1927 portion of the building. The suspected site of vulnerability is within the spandrel panel beneath the 1980's glazed systems.



It may also be worth noting that the original basement cellar windows were replaced with glass block on top of a new brick soldier course as part of the 1964 addition/remodel.. When the garage was remodeled in 1998 into office-space, additional windows were added, identified on the drawings as US Aluminum, FT451, flush-front storefront system. This is the only specification we have been able to confirm.

While improper installation is suspected at the windows within the 1927 portion of the building, the aluminum frames and glass throughout are generally in good condition, and repair is limited to needing new sealant and screens where damaged.

INTERIOR FINISHES

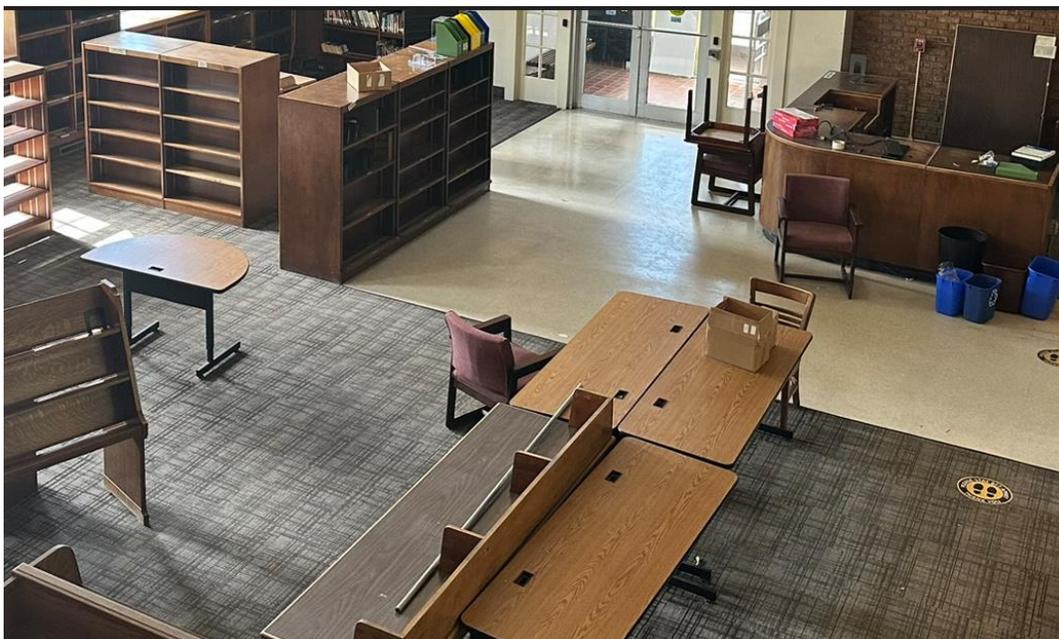
Flooring

1927 – Older carpet in poor condition and original slate base in good condition.



1964 – New carpet within the main reading room, older carpet at the mezzanine, exposed concrete at the reception area, and tile at the entrance vestibule and tile at the restrooms.

All floor finishes except that of the main reading room in the 1964 addition are in poor condition. The flooring layout is highly correlated with the former program of the spaces.



Ceilings

1927 - Ceilings within the older portion of the building are plaster with wood cornice. Some surface cracking present. Generally the plaster and cornice is in good condition with the exception of the area around the elevator where a smoke guard was added.



1964 - Suspended Acoustic Tile (ACM) with wood cornice at the reading room, and plaster ceilings at mezzanine. Some staining present within ACM.



Walls

1927 – Per the original construction drawings, the interior partitions at the lower level of the building, are clay tile. At level 1, they are wood. The wall finishes at the exterior of the lower level show significant signs of water infiltration and effervescence



1964 – Per the original drawings, the interior partitions are a combination of masonry units and tile. The plaster finish and paint throughout both buildings is largely in tact but shows visible signs of wear, particularly at corners and areas where wall hangings were. In some locations, the masonry is left exposed.



Doors

According to the Dakota County South Saint Paul Library Study – “The majority of doors and frames are fitted with non-accessible hardware”, “The majority of doors and frames are showing wear and tear from use and have reached the end of their useful life”. This is evident in the peeling veneers and rusting frames. The main entrance doors at both the 1927 and 1964

Millwork

Many of the built-in wood elements pass muster as character-defining features of the space. While in acceptable condition, much of the shelving is a veneer that shows signs of delamination and requires repair. Solid wood trim as seen at the cornice and railing balusters in the lower level is in much better condition. Some minor damage present from intentional vandalism at radiator covers.



Restrooms

The restrooms are generally in poor condition, with cracked and missing tiles, ADA issues (grab bars, reach ranges, projections, pipe insulation, etc), yellowing and damaged toilet accessories, and exposed wiring In

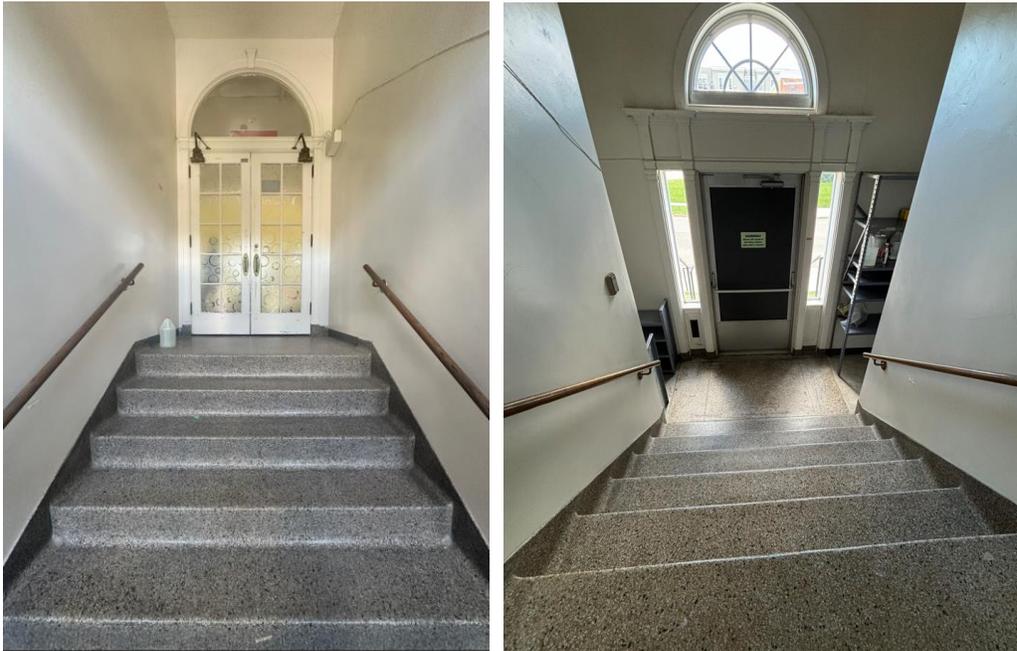


addition to their current condition, the restrooms do not meet the counts required by code, they are not efficiently laid out.

Stairs/Railings

From the 2016 LSE Report “The existing building has one primary stair that connects the 2 levels of the 1927 building with the 2 levels of the 1964 addition. There are 3 secondary stairs which provide access to the Mechanical and Storage spaces which are 2’-5” above the lower level of the 1927 building.”

The main interior stair at the 1927 original structure is alarmed and no longer in use. The inaccessibility at this entrance appears to be the main driver. Original terrazzo treads are in acceptable condition but show signs of wear.



Gaps in the railing balusters at the stair and mezzanine perimeter are too wide per MNBC Section 1015.4



Stair access to the mechanical room at the lower level of the 1927 building is non-compliant. It does not provide an adequate landing, door approach of handrail extensions.



Elevator

The elevator, which altogether has 4 stops, was added in 1996. Service records should be verified with facilities management and/or a licensed elevator inspector to assess the condition, maintenance costs, and compliance of the equipment and shaft.

