MANCHESTER
SCHOOL DISTRICT

# McDonough Elementary School

## Educational and Facilities Master Plan

smma

# Table of Contents



## Summary

Included in this report are assets that were collected during the long term facility planning process. Each school's report package contains an At-A-Glance summary report, Facility Evaluation Criteria sheets, and site plan(s). Site plans are included to illustrate the context of the building in relationship to the city, neighborhood, and other adjacent amenities and parcels. The At-A-Glance summary sheets include general information about each school building including school data, such as population and grade structure, etc., site and building data, tax assessor's information, community uses, State of NH Code of Administrative Rules, Operational Data, and Cost model information for repairs and renovations. The Facility Evaluation Criteria sheets are the facility assessment team's findings at each Tier 1 school building including building physical assets, sites, and educational facility effectiveness.  On April 24, 2023, the assessment team visited all the Tier 1 school buildings.

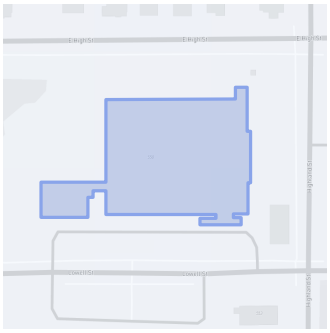
SCHOOL NAME

McDonough Elementary School

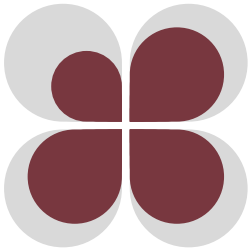
SITE VISIT

August 2023

# At-a-Glance

FA: Building FA: Site



EFE: Learning EFE: Spaces



Excellent Deficient

**Address**
550 Lowell Street, Manchester, NH 03104

**Gross Square Footage (GSF)**
64,476 sf

**Grades**
Kindergarten–5th Grade

**Site Acreage**
3.44

**Hours of Operation**
8:25am–2:50pm

**Date of Construction**
1964

**2022–2023 Enrollment**
469

**Date of Addition Construction**
2002

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

# Site Plans

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

SCHOOL NAME
McDonough Elementary School

SITE VISIT
August 2023

# Facility Evaluation Criteria

| Physical Analysis | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Roof Membrane (Architectural)** | | | ● | | |
| | *"Roofing at the original 1964 building was replaced in 2001 with a white PVC membrane, the membrane is very discolored and there are many areas where dirt and sediment have collected due to roof ponding. There were several areas of roof ponding observed at the time of assessment. The 2002 Kindergarten addition roof is also a white PVC membrane roof. Flashings and roof edge metal appear to be in good condition. All roofs are beyond their useful lifespan and typical warranty period, so replacement is recommended."* | | | | |
| **Existing Photovoltaics** | | | | | ○ |
| | *"N/A"* | | | | |
| **Space for Solar on Roof** | | | | | ○ |
| | *"Space on roof is available, exact locations and SF size can be evaluated."* | | | | |
| **Façade** | | ● | | | |
| | *"Some of the brick veneer was replaced in 2006 when the exterior windows and curtainwalls were replaced. Overall, the brick veneer appears to be in good shape. The brick at the upper Gym roof was not replaced and there are several areas of spalling that will require repointing."* | | | | |
| **Windows** | ● | | | | |
| | *"Most all exterior windows and doors were replaced in 2006 with double-paned aluminum window and curtainwall systems. Although there is some useful life remaining, the thermal performance is not as efficient as current window systems."* | | | | |
| **Boilers (Mechanical)** | | | | ● | |
| | *"Of the 2 boilers it appears that one is working. These are older non-condensing type boilers that are reaching the end of useful life and replacement should be considered, but boilers seem to be well maintained."* | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Facility Evaluation

## Physical Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Boilers (Plumbing)** | | | ● | | |

*"Refer to mechanical report for HVAC boilers. The main building has an oil fired water heater (Bock 72E). The unit was installed in 2018 and is in good working condition. The kindergarten addition (2002/2003) has an electric water heater (manufactured 2003). The unit is a Ruud Professional 40 model number RUEPR040-2. This water heater (20 years old) is past the expected life expectancy of 10-15 years. Replacement is recommended."*

| | | | | | |
|---|---|---|---|---|---|
| **Heating Distribution Systems** | | | ● | | |

*"Zone heating pumps are older (1 has been replaced) but appear to be in working condition. Most rooms have fin tube radiation along the perimeter. A few kindergarten classrooms in the addition have underfloor heating."*

| | | | | | |
|---|---|---|---|---|---|
| **Building Envelope Thermal Performance** | | ● | | | |

*"About half of the brick veneer on the original 1964 building was replaced in 2006 when the exterior windows and curtainwalls were replaced. 2" of insulation and an air vapor barrier was installed at that time behind the brick cavity. There is no insulation in wall assemblies in the existing, original brick walls that remain. It appears about 4" of insulation was installed at the roof when the roof membranes were replaced in 2001. The kindergarten has 2" of insulation in the brick cavity and 4" of insulation at the roof. This does not meet current energy codes. The entrance/exits at the 2002 kindergarten addition do not have vestibules."*

| | | | | | |
|---|---|---|---|---|---|
| **Interior Finishes** | | ● | | | |

*"Corridors have original porcelain tile flooring and cove base. There are areas where the flooring has been removed and/or patched over the years. There are several locations where the cove tile base has been chipped off and pulling away from the walls, particularly at corners. Tile walls and floors in toilet rooms at the original building are dated and in poor condition. Corridor ceilings (ACT), and VCT flooring was replaced in 2006 and appears to be in good condition. Lockers are original and in disrepair."*

| | | | | | |
|---|---|---|---|---|---|
| **Rooftop HVAC Equipment** | | | | ● | |

*"Offices and spaces with IEPs have window air conditioning units. RTU for office is older but appears to still be in working condition. HRUs are older but appear to be working, but without any cooling capacity. Units have had actuators added for some OA control. A few units air intakes are close to plumbing vents, some have had stack extensions to get pipe above intake air."*

| | | | | | |
|---|---|---|---|---|---|
| **HVAC Controls** | | | ● | | |

*"School uses JCI Metasys (district standard) for controls. Thermostats are various ages and in various states, some should be replaced."*

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Facility Evaluation

## Physical Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Technology Infrastructure** | | | | ● | |
| *"Bandwidth of fiber optic and copper network cabling is inadequate for School Communications. Telecom Rooms are not adequately secured allowing staff to use them for storage."* | | | | | |
| **Technology Systems** | | | | ● | |
| *"Telephone and WiFi systems are at the end of useful life. Network switches have been recently replaced. Not all Telecom Rooms are air conditioned, leaving equipment vulnerable to overheating."* | | | | | |
| **Security Systems** | | ● | | | |
| *"The City is working with a Security Systems Vendor to deploy 500 CCTV cameras throughout the District's Schools. Adequate bandwidth is a concernfor transmitting video. Notification and Lock Down systems are not present. Indoor cellular signal booster system is desired."* | | | | | |
| **Kitchen Equipment and Systems (Electrical)** | ● | | | | |
| *"A few kitchen receptacles were observed non-GFCI type and shall be replaced."* | | | | | |
| **Kitchen Equipment and Systems (Plumbing)** | | ● | | | |
| *"The kitchen plumbing fixtures and equipment appeared maintained and in fair working order. The piping below the sinks is PVC with exposed copper water piping. Although PVC is an acceptable material for waste piping per the NH plumbing code, it is not typically installed in commercial kitchens as there are durability and cleanliness concerns. Chrome coating of exposed water piping is recommended. There is no natural gas fired equipment. There are two grease traps. One is set in the floor with an access plate, while the other is exposed below the triple pot sink. The handwashing sink and adjacent toilet room are not ADA assessable."* | | | | | |
| **Natural Gas Distribution System** | ● | | | | |
| *"Visual inspection of the gas lines was limited to areas with exposed piping. Above ceiling piping was not observed. The gas system appears to be in good working order."* | | | | | |
| **Current Fuel Source** | ● | | | | |
| *"The building has a natural gas service. A 4-inch underground pipe rises up, reduces to a 3-inch for the valve and meter, and increases back to a 4-inch prior to entering the building. Although there are a few rusted flanges and hangers, overall the service appears to be in good working order."* | | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Facility Evaluation

## Physical Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Generator** | | | | | ○ |
| | *"N/A"* | | | | |
| **Elevator** | | ● | | | |
| | *"Due to age of elevator, controls replacement may be required and cab finishes need to be updated."* | | | | |
| **Ventilation Distribution Systems** | | ● | | | |
| | *"Kitchen has unit heater with ducted connection. Cafeteria has ceiling supply with high wall return. Gym has high supply and low return. Residential dryer has a ducted exhaust. Some spaces have window AC units for cooling. Some spaces have movable in space air filtration units. Classrooms have ceiling supply of ventilation and wall return (high and low)."* | | | | |
| **Electrical Services** | ● | | | | |
| | *"Electrical service is provided by PSNH via pad-mounted utility transformer located adjacent to the school building. A utility meter is installed at transformer's enclosure. Transformer appears in good condition. Transformer's secondary feeder at 120/208v 3ph is extended underground towards the school building and terminates in the Main Distribution panel MDP located in the Main Electric room in basement. The MDP is manufactured by Square D, rated 800Amp 120/208v 3ph 4w. The MDP appears in good operation condition. Power from MDP is distributed to electrical panelboards installed throughout the building. Panels were observed in good operational condition."* | | | | |
| **Life Safety: Means of Egress (Architectural)** | | ● | | | |
| | *"Quantity, size and locations of egress components appear to be adequate. Stair railings and guard rails in the original building are not code compliant."* | | | | |
| **Life Safety: Means of Egress (Electrical)** | ● | | | | |
| | *"Emergency lighting is provided along the egress pathways. It consists of self-contained internally lighted LED exit signs and battery units. Emergency lighting throughout is observed in adequate operational condition."* | | | | |
| **Life Safety: Fire Protection (sprinklers)** | | | | | ○ |
| | *"The building does not currently have an automatic sprinkler system. Major renovations should include retrofitting the building with sprinklers."* | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Facility Evaluation

## Physical Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Life Safety: Fire Alarms** | | | ● | | |

*"The Fire Alarm system (FA) consists of the FACP, radio master box, smoke and heat detectors, double action pull stations, horn/strobes and strobe only unit. The Fire Alarm Control Panel (FACP) manufactured by Notifier and the radio master box are located in the main entrance lobby. Exterior FA alarm beacon was not observed. The school building doesn't have a fire protection system (sprinklers) and therefore there shall be a "full coverage smoke detection" which is not currently present. The following smoke detection status was observed: Corridors have smoke detectors, in adequate amount. Basement areas don't have smoke detectors. All classrooms, bathrooms, administration area spaces (except for one storage room), gym, kitchen, etc. - no smoke or heat detectors were observed in these spaces. Smoke detection devices shall be added for "full coverage" concept and shall be connected to FACP. The FA signaling devices were not observed in classrooms and bathrooms. Administration area spaces and gym - only one signaling devices in each space were observed, which is not sufficient. Signaling devices shall be added in compliance with Code and shall be connected to FACP. The FACP may require upgrading due to added initiating and signaling devices."*

| | | | | | |
|---|---|---|---|---|---|
| **Security: Entry Sequence** | | ● | | | |

*"The main entrance has controlled card access and an intercom system. There is limited direct visual access to the exterior from the main office. The entrance to the main office is beyond the main entry vestibule."*

| | | | | | |
|---|---|---|---|---|---|
| **Lighting Quantity / Control** | | ● | | | |

*"Interior lights were observed mostly in dated fair-to-poor condition. The majority of interior spaces have non-dimmable 2'x4' lensed troffers and linear surface-mounted wraparound fixtures. The newer lighting was observed only in the Gym - 4-lamp T8 lamps with integral occupancy sensors. In general, illumination levels throughout the building were observed to be adequate, although some bathrooms require additional lights to improve lighting levels. Occupancy and daylight sensors were not observed throughout the building."*

| | | | | | |
|---|---|---|---|---|---|
| **Toilets and Fixtures** | | | ● | | |

*"The plumbing fixtures appear to be original with the exception of the water fountains (bottle filler type installed). The fixtures within the main building are outdated. Major renovations should include fixture replacement. Flow rates were not able to be confirmed, but based on the age of the fixtures, it is assumed that they are not low flow fixtures. (Would not meet current sustainability requirements.) The kindergarten addition has newer fixtures, however they are now approaching 22 years old. Fixtures in these areas appear to meet ADA requirements but should be confirmed."*

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Facility Evaluation

## Physical Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Plumbing Distribution Systems** | | ● | | | |

*"The building has a 6-inch domestic water service that reduces to a 2-inch meter, 2-inch bypass, and 2-inch reduced pressure backflow preventer. the system has a duplex booster pump arrangement. The pumps are not the traditional style booster pump package seen in the industry. However, a booster pump package would not fit within the same space restraints. Piping greater than 40 years old should be evaluated (sample destructive testing, water quality testing) to determine the condition and help estimate the longevity left in the piping. Original valves and pipe solder pre-date current lead free regulations and requirements. The mixing valve shows signs of oxidation. However, it appears to be in fair working order. Replacement is recommended during any major renovations. Storm and sanitary - visual inspection was limited to exposed piping only. Cast iron has a life expectancy of approximately 50 years. There were no signs that the piping needs to be replaced. However, original piping should be scoped/tested to confirm the conditions. Vents through roof and roof drains appear to be in good working order. Where vents are within 25 feet from air intakes, the vent has been extended above the mechanical units. There is a pressure vacuum breaker on the exterior wall which serves an irrigation system."*

| | | | | | |
|---|---|---|---|---|---|
| **Accessibility (Architectural)** | | ● | | | |

*"The buildings main entrances and exits are accessible. An elevator was installed in the building in 1999 along with some renovations to make several of the toilet rooms accessible. All other toilet rooms in the original building are remain inaccessible. The Stage at the Gymnasium is not accessible. The 2002 kindergarten addition appears to be in conformance with accessibility codes."*

| | | | | | |
|---|---|---|---|---|---|
| **Accessibility (Plumbing)** | | | ● | | |

*"Some fixtures do not meet ADA requirements. The second floor girls room does not have a handicap toilet, nor insulation on the lavatory trap."*

## Structural Systems: Signs of Deterioration Observed?

| | YES | NO |
|---|---|---|
| **Roof** | | ✕ |

*"Gym roof has long span bar joists with the Tectum roof panels. Joists bear on CMU walls. Roof over classrooms comprised of bar joists with metal deck."*

| | | |
|---|---|---|
| **Floor** | | ✕ |

*"Floors appear in good condition few, if any, cracks in floor tile."*

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Facility Evaluation

## Structural Systems: Signs of Deterioration Observed?

| | YES | NO |
|---|---|---|
| **Walls / Columns** | | ✕ |
| *"Framed floor with bar joist on masonry bearing walls and steel girders. Column observed in cafeteria appear to be firetrol columns (tube steel columns wrapped in concrete fireproofing shell)."* | | |
| **Foundations** | | ✕ |
| *"Foundation in very good condition."* | | |
| **Façade** | ✓ | |
| *"Corner column at entrance canopy has some major spalling and cracking. Looks like it was hit by a car. This needs to be repaired ASAP. There may be steel column wrapped inside concrete here. If so, the condition is not as critical. However, it should be reviewed and addressed as needed."* | | |
| **Is Lateral System Identifiable?** | ✓ | |
| *"Primarily masonry shear walls that are most likely unreinforced."* | | |

## Community

| | YES | NO |
|---|---|---|
| **Emergency Shelter** | ✓ | |
| *"Short Term Shelter only."* | | |
| **Are there Separate Community / Non-School Spaces on Site?** | ✓ | |
| *The site abuts a small park that is used by the community. The park area may share parking facilities during non-school hours.* | | |

SCHOOL NAME
McDonough Elementary School

SITE VISIT
August 2023

# Site Evaluation Criteria

| Physical Analysis | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Parking Capacity** | | ● | | | |
| | *"68 parking spaces, designated as staff parking only. 62 staff, per school district website. Minimal parking for visitors."* | | | | |
| **Parking Quality** | ● | | | | |
| | *"Staff parking lot recently repaved."* | | | | |
| **Ground Cover** | ● | | | | |
| | *"Trees and landscaping around building. Vegetative screening between field and adjacent houses."* | | | | |
| **Fields** | ● | | | | |
| | *"Multi-purpose grass field across Lowell St from school. One crosswalk provides access from school to field (and parking lot). Grass recently mowed/well maintained. School also walking distance from Derryfield park, which has multiple athletic facilities."* | | | | |
| **Neighborhood Streets** | ● | | | | |
| | *"Site surrounded by residential streets. Walking distance to Derryfield park. Crosswalks at some, but not all four corners of the site."* | | | | |
| **Drop-off / Pick-up Routes** | ● | | | | |
| | *"Designated bus drop off loop. On street loading/ unloading along Lowell St for cars."* | | | | |
| **Walkways / Curbs / Sidewalks** | ● | | | | |
| | *"Mix of bituminous and concrete walks in varying condition. Granite curbs along adjacent roadways."* | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation

## Physical Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **ADA Accessibility** | | ● | | | |
| *"3 ADA spaces and accessible curb cut at main entrance. Side and rear entrance not accessible. Sloped walkway provides access from side entrance to play area, but bituminous pavement is damaged where walkway ramps down to play lot."* | | | | | |
| **Site Lighting (Civil)** | ● | | | | |
| *"Building-mounted light fixtures of varying types. Concentrated around play area and building main entrance."* | | | | | |
| **Site Lighting (Electrical)** | ● | | | | |
| *"Exterior building-mounted lighting consists of a mix of "older" and new LED type wall packs, in operational condition. The "older" lights are suggested to be replaced with energy-efficient LED lights."* | | | | | |
| **Fencing** | ● | | | | |
| *"Security fencing around outside of play area separating it from the street. Fence does not go all the way around/does not have gates to prevent access. Wooden guardrail separating parking from field. Safety handrail/fence where drop off loop slopes away from sidewalk."* | | | | | |
| **Drainage** | | ● | | | |
| *"Catch basins in bus drop off/ visitor parking area, and play lot. Staff parking sheet flows into adjacent field. Evidence of erosion and sediment buildup along the edge of parking lot. Low spot in drop off loop at main entrance, with no drainage inlet (some sediment buildup and concrete curb damage). Catch basin low point in play lot shows signs of sediment buildup/erosion. Pavement around CB is warped and uneven."* | | | | | |
| **Play Areas** | ● | | | | |
| *"Bituminous play lot with basketball hoops. Two play structures. Multi-purpose grass field by staff lot across Lowell St. Pavement in play lot somewhat damaged, Play areas otherwise in decent condition."* | | | | | |
| **Monuments and Memorials** | ● | | | | |
| *"None observed at this site."* | | | | | |
| **Walls / Slopes** | ● | | | | |
| *"Grassed slopes up to building and play area from the street. Not very steep."* | | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation

## Physical Analysis

| | YES | NO |
|---|---|---|
| **Are there any Wetlands on Site?** | | ✕ |
| *"No wetlands per GIS, no evidence of potential wetlands per site assessment."* | | |
| **Are there any Easements on Site?** | | ✕ |
| *"Staff parking across street on parkland, may share access easements."* | | |
| **Are Play Structures Age-Appropriate?** | ✓ | |
| *"Two play structures at the site, each suitable for a different age range."* | | |
| **Is there an Outdoor-Learning Area?** | ✓ | |
| *"Picnic tables around site, available for gathering and outdoor learning. Tables not well shaded."* | | |
| **Should there be a Question on Environmental Justice Populations / Vulnerable Populations?** | ✓ | |
| *"NH GIS designates site as "High" Social Vulnerability Index, based on census analysis."* | | |
| **Is the Building Expandable on the Current Site?** | ✓ | |
| *"Opportunities to expand into bituminous play lot, sloped grass lawn at the rear of site, or across the street into the field and parking."* | | |
| **Is the Site Expandable?** | ✓ | |
| *"Opportunities to expand into bituminous play lot, sloped grass lawn at the rear of site, or across the street into the field and parking."* | | |

## Community Analysis

| | YES | NO |
|---|---|---|
| **Historical Commission Status: Inventory of Archaeological Assets (Site Review)** | | ✕ |
| *"The site is not listed on the National Register of Historic Places (per the National Park Service website)ÿor the New Hampshire State Register of Historic Places (per the New Hampshire Division of Historical Resources website). The site is also not within the Manchester Historic District or listed as a locally-designated historic site, per Manchester GIS."* | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation

## Community Analysis

| | YES | NO |
|---|---|---|
| **Are there School Buses?** | ✓ | |
| *"1 MTA and 12 SPED buses, per bus counts provided by the district."* | | |
| **Bikeable?** | | ✕ |
| *"No bike racks or designated bike lanes on adjacent streets."* | | |
| **Walkable?** | ✓ | |
| *"Sidewalks along most of the adjacent streets. Walkable to residential areas and Derryfield Park."* | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation

## Traffic Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Parking**<br>**North parking lot** | ● | | | | |
| *"No detectable warning panel for accessible parking curb ramp. Inconsistent width of access aisles. Barrier in between preschool entrance and parking lot, likely due to chance of kids running from exit into lot."* | | | | | |
| **Pedestrian Connections**<br>**Between Lowell St and Main entrance** | ● | | | | |
| *"No crosswalk or curb ramps across driveway in front of main entrance to connect to pedestrian path."* | | | | | |
| **Pedestrian Connections**<br>**East side of North parking Lot** | ● | | | | |
| *"No connection from Lowell St on east side of east driveway to main entrance, forcing pedestrians to walk on grass, walk on driveway, or use pedestrian path on west side of driveway that does not have curb ramps or crosswalk across parking lot."* | | | | | |
| **Sidewalks**<br>**Beacon St** | ● | | | | |
| *"Sidewalk in poor condition on west side. West side taken over by vegetation from 600 Beacon St to Concord St and in front of 674 Beacon St. Large tree near 612 Beacon St causing major cracks in sidewalk."* | | | | | |
| **Sidewalks**<br>**Concord St** | ● | | | | |
| *"No consistent sidewalk. Portions that do have sidewalk only on north side in poor condition."* | | | | | |
| **Sidewalks**<br>**E High St** | ● | | | | |
| *"Sidewalk in poor to fair condition. Segment between 482 and 488 E High St missing sidewalk on north side, which is opposite the school."* | | | | | |
| **Sidewalks**<br>**Highland St** | ● | | | | |
| *"Sidewalk on east side in block next to school between E High St and Lowell St is in poor to fair condition. Large tree causing cracks in sidewalk and uncleared fallen branches near 413 Highland St on east side."* | | | | | |
| **Sidewalks**<br>**Lowell St** | ● | | | | |
| *"Parts of sidewalk in poor condition."* | | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation

## Traffic Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Sidewalks**<br>**Weston St** | ● | | | | |
| *"Sidewalk only on west side south of Lowell St. Poor to fair condition. Segment of missing sidewalk on east side where there is no house in middle of block between Bridge St and E High St. Small segment of missing sidewalk on west side between 68 Weston St and 478 Lowell St."* | | | | | |
| **Standalone Crosswalks**<br>**Lowell St between parking lots** | ● | | | | |
| *"Curb ramp on north side has no detectable warning panel and the crossing should be evaluated for ADA compliancy. No crosswalk signage. Crosswalk aligns with south parking lot path but not with north parking lot paths."* | | | | | |
| **Unsignalized Intersections**<br>**Beacon St at Concord St** | ● | | | | |
| *"No crosswalks or detectable warning panels across all approaches. Concord St offsets at intersection, not straight. Pavement in poor condition. Curb ramp on SE corner in poor condition. Sidewalk in very poor condition at NW corner with no curb ramp. Pedestrian crossings should be evaluated for ADA compliancy. STOP signs on Beacon St but no STOP lines."* | | | | | |
| **Unsignalized Intersections**<br>**Beacon St at E High St** | ● | | | | |
| *"No crosswalks or detectable warning panels across all approaches. Pedestrian crossings should be evaluated for ADA compliancy. STOP signs on all 4 approaches but no STOP lines."* | | | | | |
| **Unsignalized Intersections**<br>**Beacon St at Lowell St** | ● | | | | |
| *"No crosswalks or detectable warning panels across all approaches. Curb ramps in poor condition, some not flush with pavement. Pedestrian crossings should be evaluated for ADA compliancy. STOP signs on all 4 approaches but no STOP lines."* | | | | | |
| **Unsignalized Intersections**<br>**Concord St at Florence St** | ● | | | | |
| *"No STOP sign or STOP line on Florence St approach."* | | | | | |
| **Unsignalized Intersections**<br>**Concord St at Hubbard St** | ● | | | | |
| *"No STOP sign or STOP line on Hubbard St approach."* | | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation

## Traffic Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Unsignalized Intersections**<br>**E High St at Parking driveway** | ● | | | | |
| *"No crosswalk or detectable warning panels across driveway. Pedestrian crossing should be evaluated for ADA compliancy. Pavement in poor condition."* | | | | | |
| **Unsignalized Intersections**<br>**Highland St at Concord St** | | ● | | | |
| *"No crosswalk or detectable warning panels across Concord St. Curb ramp on NW corner in poor condition and not flush with pavement. Pedestrian crossing should be evaluated for ADA compliancy. No street name signage."* | | | | | |
| **Unsignalized Intersections**<br>**Highland St at E High St** | ● | | | | |
| *"No crosswalks or detectable warning panels across west or south legs. Pedestrian crossings should be evaluated for ADA compliancy. There should be a crosswalk on west side to connect school with Bridge St."* | | | | | |
| **Unsignalized Intersections**<br>**Highland St at Lowell St** | ● | | | | |
| *"No crosswalks or detectable warning panels across west or north legs. Pedestrian crossings should be evaluated for ADA compliancy. There should be a crosswalk on west side to connect school with residences to the south."* | | | | | |
| **Unsignalized Intersections**<br>**Lowell St at North and South parking lots west driveways** | ● | | | | |
| *"No crosswalks or detectable warning panels across driveways. Pedestrian crossings should be evaluated for ADA compliancy. Both driveways exit only, but only one-way sign and faded arrow pavement marking from north parking lot driveway while south parking lot driveway has "do not enter" signs. STOP signs on south parking lot approach but not on north parking lot approach."* | | | | | |
| **Unsignalized Intersections**<br>**Lowell St at North parking lot east driveway** | | ● | | | |
| *"No crosswalk or detectable warning panels across driveway. Pedestrian crossing should be evaluated for ADA compliancy."* | | | | | |
| **Unsignalized Intersections**<br>**Lowell St at South parking lot east driveway** | ● | | | | |
| *"No crosswalk or detectable warning panels across driveway. Pedestrian crossings should be evaluated for ADA compliancy. Sidewalk on south side of Lowell St ends at driveway. Unclear if driveway is one-way or two-way due to lack of signage or pavement markings."* | | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation

## Traffic Analysis

| | NONE / MINOR | MODERATE | MAJOR | REPLACE | N/A |
|---|---|---|---|---|---|
| **Unsignalized Intersections**<br>**Weston St at Concord St** | ● | | | | |
| *"No crosswalks or sidewalks to connect to from NW curb ramp, which marks end of sidewalks along Weston St and Concord St. No detectable warning panel on the NW curb ramp. Pedestrian crossing should be evaluated for ADA compliancy. STOP sign on Weston St but no STOP line."* | | | | | |
| **Unsignalized Intersections**<br>**Weston St at E High St** | ● | | | | |
| *"No crosswalks or detectable warning panels across all approaches. No curb ramps on NE and NW corners. Pedestrian crossings should be evaluated for ADA compliancy. Utility poles in the way of crossing pedestrians. Crosswalk should be on east side to connect school with Bridge St. STOP signs on all 4 approaches but no STOP lines."* | | | | | |
| **Unsignalized Intersections**<br>**Weston St at Lowell St** | ● | | | | |
| *"Crosswalks on all 4 sides but no detectable warning panels. Pedestrian crossings should be evaluated for ADA compliancy. Crosswalks lead directly to grass in SE corner, as there is no sidewalk to connect to. Pavement in poor condition."* | | | | | |

SCHOOL NAME
McDonough Elementary School School

SITE VISIT
August 2023

# Educational Facility Effectiveness: Learning Environments (EFE: LE)

## Grade Levels

| | |
|---|---|
| **Building Originally Designed as:** | 9th Grade–12th Grade |
| **Which Educational Program are you Assessing?** | Kindergarten–5th Grade |
| **The Grade Configuration this School is Best Suited to:** | 9th Grade–12th Grade |

## Educational Building Analysis

| | GOOD | FAIR | POOR | DEFICIENT | FAILING |
|---|---|---|---|---|---|
| **Acoustical** | ● | | | | |
| **Adjacencies of Learning Environments** | | ● | | | |
| **Environment** (Inviting / Stimulating / Comfortable) | | | | ● | |
| | *"Finishes are outdated, and old lockers lining hallways are unattractive and do not allow for much student personalization of corridors. Little natural light in corridors. Artificial lighting is harsh."* | | | | |
| **Finishes** | | | ● | | |
| | *"Finishes are tired and drab. Painted CMU and gypsum board walls. Fissured ACT. Flooring is mix of small tiles, large tiles, one small area of terrazzo and VCT in classrooms. Tile is cracking. Poor choice of VCT in small toilet rooms and gymnasium."* | | | | |
| **Furniture** | | | ● | | |
| | *"Outdated furniture and non-ergonomic chairs that don t support flexible learning."* | | | | |

SCHOOL NAME

McDonough Elementary School School

SITE VISIT

August 2023

REPORT TYPE

EFE: LE Evaluation

## Educational Building Analysis

| | GOOD | FAIR | POOR | DEFICIENT | FAILING |
|---|---|---|---|---|---|
| **Lighting Quality** | | | ● | | |
| | *"Fluorescent fixtures that give off glare."* | | | | |
| **Natural Daylighting** | ● | | | | |
| | *"Most occupied spaces served by daylight. Some small group rooms have no daylight."* | | | | |
| **Outdoor Classrooms** | | | | | ● |
| | *"None observed."* | | | | |
| **Technology: Power** | | ● | | | |
| **Technology: Wireless** | | ● | | | |
| **Ventilation** | | ● | | | |
| | *"Upstairs classrooms get very hot. New Ks have radiant heat. Heat: inconsistent throughout building."* | | | | |

## This Site Includes:

| | YES | NO |
|---|---|---|
| **Accessible** | | ✕ |
| **Play Fields** | ✓ | |
| **Playgrounds / Areas** | ✓ | |

SCHOOL NAME

McDonough Elementary School School

SITE VISIT

August 2023

REPORT TYPE

EFE: LE Evaluation

## Building Assessment

| | YES | NO | |
|---|---|---|---|
| **Can the Building Change Typology Easily?** | ✓ | | |
| | *"Used to be a high school."* | | |
| **Can the Building be Transformed Educationally to Serve 21st Century Needs?** | ✓ | | |
| | *"Yes, with significant renovations."* | | |
| **Can the Building Serve as Swing Space?** | ✓ | | |
| **Is the Building between 85%—115% Utilization Rate?** | | ✕ | |

# Educational Facility Effectiveness: Spaces (EFE)

| Space Assessment | QUANTITY | ACTUAL AREA (SF) | MORE INFO |
|---|---|---|---|
| **Administration and Guidance** (Quantity Varies) | Varies | 2350 | |
| **Art Classroom** (Min Area 900 sf or 36 sf / Student) | 1 | 822 | |
| **Cafeteria** (Min Area 12-15 sf / Student for Max Number of Diners per Lunch Period) | 1 | 3950 | LUNCH PERIODS: 3 |
| **Classroom: General Education** (Min Area 900 sf or 36 sf / Student) | 17 | 820, 840, 960, 1100 | |
| **Faculty Lounge** | 1 | 575 | |
| **Gymnasium** (Min Area 6000 sf) | 1 | 7680 | STAGE: Yes |
| **Kindergarten** (Min Area 1000 sf or 50 sf / Student) | 3 | 830, 905, 975, 1260 | TOILET ROOM: Yes |
| **Media Center** (Min Area 1800 sf or 4 sf / Student x Design Capacity) | 1 | 1870 | |
| **Music Classroom** (Area 1200 sf) | 1 | 640 | |
| **Pre-K0/K1** (Min Area 1000 sf or 50 sf / Student) | 1 | 865 | |
| | *"Integrated. 8 Title 1, 8 coded SPED (all kids in PK are Title I x through Child Find). 3 yo in am 4 yo in pm. 2.5 hrs per day, 4 days a week."* | | |
| **Special Education: Resource of Small Group** (Area 500 sf) | 2 | 225, 830 | |
| **Special Education: Self Contained** (Area 950 sf) | 3 | 560, 830, 965 | TOILET ROOM: No |
| **Stage** (Area 1000 sf) | 1 | 1050 | |
| | *"Stage used for OT/PT."* | | |

SCHOOL NAME
McDonough Elementary School

SITE VISIT
August 2023

REPORT TYPE
EFE: Space Evaluation

## Space Assessment

| | QUANTITY | ACTUAL AREA (SF) | MORE INFO |
|---|---|---|---|
| Teacher Planning | 1 | 230 | |

## Adequacy of Rooms

| | GOOD | FAIR | POOR | DEFICIENT | FAILING |
|---|---|---|---|---|---|
| Administration and Guidance | | ● | | | |
| | *"Cramped but good visuals of main entrance and vestibule."* | | | | |
| Art Classroom | | ● | | | |
| | *"Newer classrooms in good condition, with sinks within classroom and integrated toilet rooms and built in cubbies. K s in older building are smaller."* | | | | |
| Cafeteria | | ● | | | |
| Classroom: General Education | | ● | | | |
| Faculty Lounge | | ● | | | |
| Gymnasium | | ● | | | |
| | *"Large but VCT floor can be slippery. Backstops are not adjustable."* | | | | |
| Kindergarten (K2) | | ● | | | |
| Media Center | | ● | | | |
| Medical | | | ● | | |
| | *"No private rest/exam area."* | | | | |
| Music Classroom | | | ● | | |
| | *"Accessed through entrance vestibule. Poor acoustical properties."* | | | | |
| Pre-K0/K1 | | ● | | | |
| Special Education: Resource of Small Group | | ● | | | |
| Special Education: Self Contained | | | ● | | |
| Stage | | | ● | | |
| | *"Not being used for performances. OT/PT uses stage."* | | | | |
| Teacher Planning | | | ● | | |
| | *"Small"* | | | | |

SCHOOL NAME

McDonough Elementary School

SITE VISIT

August 2023

REPORT TYPE

EFE: Space Evaluation

| Special Education Assessment | YES | NO | |
|---|---|---|---|
| 18+ | | ✕ | |
| Autism Spectrum | | ✕ | |
| Cognitively Impaired | | ✕ | |
| Deaf and Hard of Hearing | | ✕ | |
| Emotional Disturbance | | ✕ | |
| English Learners | ✓ | | |
| | *"Mostly push-in"* | | |
| Intellectual Disability | ✓ | | |
| | *"Two classrooms. 3-5 y/o and K-5. Self-Contained"* | | |
| Life Skills | | ✕ | |
| Medically Fragile | ✓ | | |
| | *"Self-Contained"* | | |
| PT/OT/Speech | ✓ | | |
| Reset Program | | ✕ | |
| Social Emotional | | ✕ | |
| Title 1 | ✓ | | |

# Assessment Team Scoring Rubric

## Educational and Facilities Assessment Approach

### Assessment Criteria

Educational and Facilities Assessment (E+FA) Approach - Led by architects, engineers, and educational planners from SMMA and its consultants, and in partnership with each school principal, the team conducted both a facility assessment (to take inventory of the building layout and condition) and an educational assessment (to determine the adequacy of spaces for the educational programs offered) in each building. The following report outlines the team organization, methodology and approach taken to assess the Manchester Public School portfolio over the Spring and Summer of 2023.

### Overall Assessment

Categories and criteria were strategically selected for assessment based on stated objectives, past experience, and nature of the Manchester School District portfolio of buildings. Ultimately, the E+FA team created a customized "Manchester School District methodology" which encompassed approximately 75 areas of criteria, organized either facility or site categories that examined physical components, as well as community components.

# Facility Assessment Criteria

## Facility Assessment: Building Evaluation

Facilities varying in terms of age, design, construction methods, and materials were reviewed to determine the condition of the district's portfolio. Building assessments were performed to determine existing components and/or systems' conditions at a specific point in time. The resulting information was then used to guide recommendations regarding maintenance, renovation, and/or replacement. The assessment team conducted visual inspections to observe signs of deterioration. No exploratory demolition, removing finishes, or viewing above ceilings was conducted. Areas that were hard to reach, off limits, or obscured by other systems that prohibited view of the some building components were not assessed. Systems and categories that were assessed included:

- Building Envelope
  - Roof Membrane
  - Facade
  - Windows
  - Thermal Performance
- Boilers
- Heating Distribution
- Interior Finishes
- Rooftop HVAC Equipment
- HVAC Controls
- Kitchen Equipment and Systems
- Natural Gas Distribution
- Generator
- Elevator
- Ventilation Distribution Systems
- Electrical Service
- Life Safety:
  - Means of Egress
  - Fire Alarm
  - Fire Protection: Sprinklers
- Security: Entry Sequence
- Lighting Quantity/ Control
- Toilets and Fixtures
- Plumbing Distribution Systems
- ADA/Accessibility
- Structural Systems (consisting of the following components):
  - Roof framing: This is the horizontal framing consisting of decking, slabs, joists, beams, trusses, etc.
  - Floor framing: This is the horizontal framing consisting of decking, slabs, joists, beams, trusses, etc.
  - Walls and columns: These are the vertical elements that hold up the floors and roof structures.
  - Foundations: Foundations occur at the base of the building and transfer the weight of the building onto the underlying soils.
  - Facades: These are the outside walls of the building including many non-structural elements (doors, windows, insulation, vapor barriers, etc.) that are part of the weather enclosure for the building.
- Lateral System: The lateral system in a building is the structural system that keeps the building from falling over when it is subjected to horizontal loads such as wind and earthquake forces.

## Building Evaluation: Criteria Rating Hierarchy

The facility assessment building evaluations used a quintile classification hierarchy as defined below:

- None / Minor: System or element functioning reliably; routine maintenance and repair is needed.
- Moderate: System or element functioning minimally. Repair or replacement of some components is needed.
- Major: System or element is barely functioning. Repair or replacement of most components is needed.
- Replace: System or element is non-functioning, not functioning as designed, or is unreliable. Total replacement all components is needed.
- Not Present: System or element is non-existent, non-functioning, not functioning as designed, or is unreliable. Replacement is needed.

## Building Evaluation: Physical Analysis Definitions

***Roof***
Roof Membrane: Apparent condition status noted for the roofing material and flashings. Note any obvious deterioration.

***Existing Photovoltaics***
Yes / No: Criteria noted. However, presence or absence of photovoltaic did not impact overall building condition.

***Space for Solar***
Yes / No: Comments, if applicable. Evaluation of whether roof space exists for solar (if there are relatively flat areas for possible future solar panels). Note that the roof structure was not evaluated for structural capacity of future PV panels. Criteria noted; however, presence or absence of photovoltaic panels did not impact overall building condition.

***Façade***
Description of apparent condition and materials of the exterior walls. Observations of any spalling or disintegration of brick or concrete masonry unit (CMU) walls and the condition of the mortar. Notes if there is any obvious movement or structural cracking, and if there is failure, the percentage of failure. With prefabricated panel system facades, notes the types and apparent conditions of attachment systems, panel material, and whether there is deterioration of the surface or caulking or movement in the panels.

***Windows***
Description of types and apparent conditions of exterior windows. Considers whether most windows appear to be in good working condition, if windows are transparent or translucent, and if they are single or double-paned.

***Boilers (Mechanical)***
Review of fuel sources and apparent conditions of boilers.

***Boilers (Plumbing)***
Observation of heating media (e.g. water or steam) of boilers.

***Heating Distribution Systems***
Evaluation of type and apparent conditions of piping, type, and apparent corrosion.

***Building Envelope Thermal Performance***
Review of the existing drawings of envelope elements (exterior walls, roof, foundations and slabs). Notes presence of vestibules at building entrances for temperature control.

***Interior Finishes***
Evaluation of types and conditions of interior wall, flooring, and ceiling finishes.

***Rooftop HVAC Equipment***
Review of type and apparent condition of roof top units (RTUs), exhaust fans, and air conditioning equipment, if present.

***HVAC Controls***
Review of types of thermostats and type and apparent condition of Building Management System (BMS) if present.

***Kitchen Equipment and Systems (Architectural)***
Evaluation of adequacy and apparent condition of kitchen equipment.

***Kitchen Equipment and Systems (Electrical)***
Observation of electrical kitchen appliances.

***Kitchen Equipment and Systems (Plumbing)***
Observation of gas kitchen appliances. Observation of apparent condition of kitchen plumbing fixtures, and whether there are separate sinks for handwashing and dishwashing, per health and plumbing codes. Notes if proper fire suppression system exists where required.

***Natural Gas Distribution System***
Review of apparent condition of the natural gas system, how it enters the building and is distributed, and of shut-off valves.

***Generator***
Review of type of generator, type of fuel source, and apparent condition if one is present.

***Elevator***
Evaluation of apparent condition of elevator if present.

***Ventilation Distribution Systems***
Review of locations and apparent condition of fans, ductwork, duct grilles, and other ventilation components.

***Electrical Services***
Apparent condition status noted. Review of available capacity, location and appearance of electrical service and meter age.

***Life Safety***

- Means of Egress:
  - (Architectural): Evaluation of apparent existence of proper smoke and/or fire doors, and if mechanical hold-open devices appear in good working condition. Notes if egress paths are direct and unencumbered, and whether there are enough exits relative to the facility population.
  - (Electrical): Review of illuminated exit signs and whether they are in the proper locations and appear to be in good condition.
- Fire Protection (Sprinklers): Observation of type and age of system and components. Review of maintenance records and certifications, if available.
- Fire Alarms: Observation of type, age, and appearance of systems. Review of available testing records.

***Security***

Entry Sequence: Observes if schools have only a camera/buzzer system at their main entrance or whether the main building entrance is adjacent or near the main office. (Adjacency/proximity of main office to main entrance allows for direct observation of the entire person, as well as control of their movements)

***Lighting Quality/Control***

Observed (not measured) light levels at the working surface, type of light fixtures and whether they provide an even dispersion and control of light for general academic tasks as well as for use of technology. Apparent condition, locations, and lighting uniformity are noted.

***Toilets and Fixtures***

Review of locations and apparent conditions of fixtures. Notes the maintenance and cleanliness of fixtures and flow of fixtures.

***Plumbing Distribution Systems***

Review of piping type, apparent corrosion, and equipment, including presence or absence of water heater & back-flow preventer.

***ADA / Accessibility***

- (Architecture): Observes whether the facility is compliant with the Americans with Disabilities Act (ADA) of 1990 standards. Evaluates adequacy and conditions of ramps, lifts, and elevators and whether every occupiable space in the facility can be accessed by anyone with a disability. Other considerations include compliancy of building elements such as clearances and door hardware.
- (Plumbing): Evaluation of whether toilet facilities and plumbing fixtures are ADA-compliant.

***Structural Systems***

The assessment team conducted visual inspections to observe signs of deterioration. No exploratory demolition, removing finishes, or viewing above ceilings was conducted. Areas that were hard to reach, off limits, or obscured by other systems that prohibited view of the structure were not assessed.  Each of the criteria listed below is considered as it relates to the structural elements of the building.

A “Yes” comment in the assessment indicates that we observed signs of deterioration. A “Not Observed” comment in the assessment indicates that we either did not observe any distress in the structural element or were not able to observe the element due to the aforementioned limitations, and this does preclude an unobserved area from distress.

- Roof structural framing: As the framing is covered by roofing, observations are usually made from below. Water leaks are a common cause of damage to roof framing and part of the visual assessment is to look for signs of water damage. In wood framed structures, visual signs include mold or rotting wood. In structures with metal deck, visual signs include rusting of the deck and in concrete structures it can be cracks with rust stains or spalled concrete, indicated where a section of concrete has broken off (typically caused by water penetrating concrete through small cracks causing the steel reinforcing to rust and expand putting outward pressure on the concrete and causing it to break off).
- Floor structural framing: Common signs of deterioration in floors can be cracks in floors finishes (such as terrazzo), cracks in the bottom of concrete slabs or beams, water damage like that in roofs and longitudinal cracks (or checks) in wood framing. Cracks in floor finishes while cosmetically objectionable is not necessarily an indication of a structural failure. There are several causes for cracks in wood framing members (joists or beams) which does not necessarily mean the member is structurally inadequate.
- Walls/columns: Walls are typically framed with masonry, concrete, or wood or light gage metal studs with varying finishes. Columns typically consist of steel, concrete, or wood posts and can also be masonry piers. Common signs of deterioration in concrete and masonry walls are cracks in the walls. Cracks typically run vertically (bottom to top), although in masonry walls the cracks often follow the mortar joints. Cracks in walls can be caused by many factors: shrinkage in the wall due to changes moisture or temperature, movement of the supporting structure, or stresses in the wall caused by other loads. Concrete columns can have spalled concrete, wood posts can have longitudinal cracks (similar to floor members), and masonry piers can have cracks similar to walls.
- Foundations: Notes the type of foundation. Some types include shallow spread footings (concrete pads) and deep foundations such as caissons and piles that extend deep into the ground. Foundations generally include concrete components and are located below ground – making the system difficult to observe without performing some excavation. Some common signs of deterioration are cracks in foundation walls and areas where there has been vertical movement, indicating some settlement of the structure over time, which can be common. The causes of the cracks are like those described for walls.
- Facades: The structural components of the façade are typically the wall structure (see “Walls” above) but can also include the structural framing for overhangs or other horizontal elements that are part of the walls. Like in roof framing, moisture is a common cause for distress in facades. Common signs of distress are spalled concrete, cracks in concrete or masonry walls, and rusting steel members such as angle lintels over window and door openings in masonry walls. Note that some of these signs of deterioration do not necessarily indicate a structural deficiency and may only require maintenance.
- Identifiable Lateral System: Notes the presence and type of lateral load-resisting system, such as steel braced frames or shear walls consisting of concrete or masonry walls. Often, steel braced frames are imbedded within walls, making them difficult to identify. With masonry walls, it can be difficult to determine if a wall is a shear wall or just a partition wall. It is not possible to determine the structural adequacy of shear walls or braced frames without an in-depth investigation and it should be noted that many masonry walls in older buildings have little or no reinforcing. Common signs of distress in concrete and masonry shear walls are like those described for walls above.

# Community Assessment: Building Evaluation

The Community – Building assessment included several categories including historical value, emergency shelter status, and use of community and school within/without the buildings. Historical value reviewed the historic inventory and register status of the building. Because schools are often the largest structure in a neighborhood, the City has designated certain facilities as emergency shelters. Additionally, several schools are directly connected to community centers or utilize adjacent neighborhood facilities for athletics and enrichment. Whether the community utilized the building after hours or on weekends was also considered.

***New Hampshire Division of Historical Resources (DHR) Status***
Yes/No; Comment, if applicable. Criteria will inform opportunities and constraints for modifying the existing building to meet changing physical demands for a 21st century learning environment.

***Inventory of Historic Assets***
Yes/No; Comment, if applicable. Notes whether the building is listed on any inventory of historic assets. Criteria will inform opportunities and constraints for modifying the existing building to meet changing physical demands for a 21st century learning environment.

***State Register of Historic Places***
Yes/No; Comment, if applicable. Notes whether the building is listed on a state Register of Historic Places. Criteria will inform opportunities and constraints for modifying the existing building to meet changing physical demands for a 21st century learning environment.

***Locally Designated Historic District***
Yes/No; Comment, if applicable. Notes whether the building is within a local historic district. Criteria will inform opportunities and constraints for modifying the existing building to meet changing physical demands for a 21st century learning environment.

***Emergency Shelter***
Yes/No; Comment, if applicable. Criteria noted and considered as part of the overall community building score. A designation by the city does not certify compliance for all state and federal requirements for the designation.

***Community-Use Spaces***
Yes/No; Comment, if applicable. These were determined after speaking with school administration during site visits. Community spaces attached to schools were also considered. Criteria noted and considered as part of the overall community building score.

***Building Suitability for School Use***
Yes/No; Comment, if applicable. Considered any major life-safety concerns for suitability. Criteria will inform opportunities and constraints for modifying the existing building.

***Overall Community Building Rating***
This is a judgment on the part of the reviewer(s) that considers all aforementioned factors, as well as amenities located in proximity to school sites and access to public transportation.

# Facility Assessment: Site Evaluation

The site assessment team performed evaluations at each school facility in the district's portfolio. These evaluations considered the quality, condition, and capacity of the various exterior spaces of the facility. These spaces included: landscaped, educational, recreational, vehicular and pedestrian areas. This field effort was complimented by a study and research of the sites from web-based resources. The resulting information was then used to guide recommendations regarding maintenance, renovation, and/or replacement.

The diverse scope of site elements for schools varies in their relative impact to education and school operations. Priorities include elements that have large impacts to education and/or incur substantial impact to improve or repair.

- ADA Accessibility
- Walkways/Curbs/Sidewalks
- Play Areas
- Drainage
- Parking Quality
- Drop-Off/Pick-Up Routes
- Walls & Slopes
- Site Lighting
- Fencing
- Neighborhood Streets
- Evaluation Criteria

## Site Evaluation: Criteria Rating Hierarchy

The site evaluations were judged on a scale as defined below:

- None / Minor: Element is functioning reliably and requires a little repair and routine maintenance.
- Moderate: Element is functioning minimally and requires some repair by a specialist.
- Major: Element is barely functioning and requires substantial repair by a specialist.
- Replace: Element is not functioning correctly and requires total replacement.
- Not Present: Element does not exist or completely failed. This element should be replaced and/or provided. In some instances (parking, walls/slopes and fencing) this element is not required.

## Site Evalutation: Physical Analysis Definitions

***Parking & Vehicular Circulation***
Quality of vehicular area paving and quantity of parking spaces considered. This element may not be required if "Not Present".

***Ground Cover***
Presence and condition of landscaping, lawn areas, and any other non-hardscape areas. Ground cover evaluated for aesthetic value, shading, and functionality for outdoor gathering

***Fields***
Presence and apparent condition of athletic or play fields on the property.

***Neighborhood Streets***
Connectivity to residential areas surrounding the site. Condition of adjacent/ off-site roadways, sidewalks, and accessible elements considered.

***Drop-Off/Pick-Up Routes***
Segregation of buses, private vehicles, parking, and neighborhood traffic considered. Both on-site and off-site routes considered. This element may not be required if “Not Present”.

***On-Site Walkways/Curbs/Sidewalks***
Quality of all pedestrian spaces considered.

***ADA Accessibility***
Availability, location, and condition of accessible routes considered. The accessible routes connect building entrances, handicap parking, public streets, and site facilities. Accessibility is considered “Not Present” if there is no accessible building entrance.

***Site Lighting***
Condition, location, and quantity of lighting considered.

***Fencing***
Condition of fencing and gates of various types considered. This element may not be required if “Not Present”.

***Drainage***
Surface ponding, water quality structures, and condition of visible infrastructure considered.

***Play Structures***
Evaluation of apparent condition of play structures and if they are appropriate for range of ages of students at a school, if present.

***Walls and slopes***
Condition of retaining walls and stabilized slopes considered. This element may not be required if “Not Present”.

***Wetlands on site***
Yes/no; proximity of wetlands or natural resources to the site, which – if present – may add restrictions or regulatory challenges to site renovations or expansion.

***Play Areas***
Presence, suitability, and physical condition of casual recreation and play for students. Play structures, surfacing, and courts considered. This element may not be required if “Not Present”.

***Outdoor Classrooms***
Evaluation of apparent condition of outdoor classrooms or learning areas if present.

***Environmental Justice Populations***
Review of designation of site and adjacent neighborhoods on the Social Vulnerability Index, per state GIS.

***Feasibility of Building Expansion on the Current Site***
Evaluation of whether building is capable of appropriately expanding on its current site. Expansion can be horizontal, vertical, or infill, depending on the building's configuration. Feasibility of expansion based on size of property, existing coverage, regulatory restrictions, and physical constraints such as topography and proximity to natural resources.

***Feasibility of Site Expansion***
Evaluation of whether site expansion is possible, based on adjacent properties, and physical constraints, such as roads, proximity to protected lands, and easements.

# Community Assessment: Site Evaluation

The Community – Site assessment included the broad categories of transportation access and neighborhood elements. Transportation access considered the condition of the adjacent streets, the ability of students and adults to bicycle and walk to the school, and the accessibility of public transportation. Neighborhood elements considered the school's proximity to community, civic, educational, commercial, and athletic facilities.

***New Hampshire Division of Historical Resources (DHR) Status***
***Inventory of Archeological Assets (Site Review)***
Comment, if applicable. Criteria will inform opportunities and constraints for modifying the existing building. In some cases, data may not be available.

***School Buses***
Review of types and numbers of school buses and bus queuing.

***Accessible to Transit***
Building is located within 2 blocks (1000 feet) of at least 2 stops on bus lines of regular frequency (at least every 10 minutes, during rush hour and mid-afternoon). Criteria noted and considered as part of the overall community building score.

***Bikeable***
Facility is considered bikeable if within 2 miles of multiple residential neighborhoods, without riding on busy streets that lack dedicated bike areas. Criteria noted and considered as part of the overall community building score.

- Wide sidewalks and/or low-traffic streets
- Adjacent to or within a residential neighborhood, without crossing busy & wide (4+ lanes) streets
- Not located on a steep street
- Bike racks are present at the school and are safely accessed from site entry points

***Walkable***
Facility is considered walkable if within 1.4 miles of residential neighborhoods, with consistent sidewalks, and walking route does not require students to cross busy or dangerous streets (per district eligibility criteria).

- Consistent, accessible sidewalks with crosswalks
- Adjacent to or within a residential neighborhood, without crossing wide (4+ lanes) streets

***Site suitability for school use?***
Yes/No, Comment if applicable. Considers overall site conditions, overall community rating, and size of site.

***Overall Building – Community Condition:***
This is the professional judgment on the part of the reviewer(s), considering all aforementioned factors and with consideration of nearby neighborhood, community, educational, and athletic facilities. Criteria noted and considered as part of the overall community building score.

# Educational Assessment Criteria

## Educational Facility Effectiveness Evaluation

### Educational Facility Effectiveness of Learning Environments (EFE-LE)

The quality of physical environments has direct impacts on educational outcomes. The EFE analysis considers both inherent building characteristics of physical appearance and condition, and introduced equipment (e.g., furniture and technology). These qualitative factors have a large impact on overall student performance, as they influence students' comfort and ability to concentrate on tasks; teacher and student health and wellness; as well as absenteeism and retention.

Building environments also affect the overall educational effectiveness rating. Fixed elements, such as walls and windows, are components that are not easily remedied and may require extensive or invasive renovation. Other elements, such as furniture or finishes, can be more easily updated, replaced, or supplemented.

Fixed Building Elements include:

- Ventilation
- Natural Daylighting
- Lighting Quality
- Acoustical
- Environment (Inviting/Stimulating/Comfortable)
- Power and Technology Infrastructure
- Access to water for student projects
- Access to toilet facilities

Repairing these fixed elements may require buildings to be unencumbered of students (i.e., vacant) for the duration of the work, depending on the upgrades required.

- Adaptable elements
- Technology: ubiquitous wireless access for teachers and students and classroom technology
- Furniture: light weight, ergonomic and supportive of collaboration
- Finishes
- Adjacencies of Learning Environments
- Access to outdoor learning (classrooms or other)

These considerations often consist of singular systems and can be repaired or replaced independent of other systems. They may change frequently with the evolving landscape of educational pedagogy and should support a building that can adapt flexibly at relatively low costs. These upgrades can be executed internally, by facilities personnel or with arranged contracts.

## Educational Facility Effectiveness Evaluation: Criteria Rating Hierarchy

The EFE-LE uses the following classification system:

- Excellent: Elements meet needs for 21st century (Next Generation) teaching and learning
- Good: Elements contribute to teaching and learning
- Fair: Elements somewhat interfere with teaching and learning
- Poor: Elements detract from or interfere with teaching and learning
- Deficient: Non-existent or inoperable systems or elements

## Educational Facility Effectiveness Evaluation: Analysis Definitions

***Evaluation Criteria***

Building Originally Designed As: Over time, a school building may have modified the range of grades served. Knowing their original use quickly provides some insight into space types and building appointments.

***Best Grade Configuration for this School Building***

A school building may be best suited for a different range of grades or use depending on the types, quantities, and sizes of spaces, as well as the existing site attributes, including:

- Heights of casework, markerboards and other elements the students use
- Configuration and heights of toilet room fixtures

***Ventilation***

Fresh air is a critical component for health, wellness, and overall student performance. An even distribution of ventilated air is also important. Different ventilation systems (unit ventilators, central air ventilation, no mechanical ventilation) provide varying levels of outdoor air percentages and filtration. Observe whether mechanical ventilation is provided and what the apparent quality of the ventilation system is. Qualitative measurements are not taken, however visual, olfactory, and thermal observations are made.

***Natural Daylighting***

Considered to be a better quality of light than artificial lighting. Evaluates the general quantity/quality of the natural light and note if most spaces have access to daylight.

***Artificial Lighting Quality***

Observed (not measured) light level at the working surface. Type of light fixture and whether it provides an even dispersion of light for general academic tasks, and whether the fixture is dimmable, to accommodate use of technology.

***Acoustical***
The proper balance between voice reinforcement and sound absorption impacts “speech intelligibility.” This includes both sound performance within the space, as well as sound coming from outside the space. Observe whether the space appears to have appropriate acoustical properties for teaching and learning.

***Technology (Power):***
There are enough electrical outlets to support a future technology-rich classroom/school and they are properly distributed throughout the space.

***Technology (Wireless):***
There are sufficient access points throughout the school to support a 1:1 technology environment and fiber optic wiring exists within the building The main distribution room (server room) is air-conditioned, to ensure system reliability.

***Technology (Interactive):***
Classrooms and other teaching spaces have working interactive technology, such as interactive marker boards and document cameras.

***Furniture***
Different educational-delivery models can be reinforced by furniture type and flexibility. Ideal furniture is light and mobile enough to be easily re-arranged in multiple configurations. Furniture is ergonomic, comfortable, in good condition and promotes student collaboration.

***Finishes***
Materials and conditions of the walls, floors and ceilings. Both physical and aesthetic conditions are considered.

***Environment (Inviting/Stimulating/Comfortable)***
Evaluates whether building is aesthetically pleasing and if it is a place where students and teachers feel comfortable and want to spend time in each day.

***Adjacencies of Learning Environments***
Classrooms and other learning environments have a relationship to each other which promotes collaboration, communication, and other aspects of 21st century teaching and learning. Spaces promote interdisciplinary learning.

***Outdoor Classrooms***
Students have access to outdoor classrooms or other outdoor learning opportunities to learn in different ways, sometimes involving nature and hands-on activities.

## Site Components

***Playgrounds/Play Areas***
Description of play surface materials (hard or soft). Evaluates condition of on-site play structures and whether structures are age-appropriate to the school's student population.

***Accessibility***
Evaluates conditions of play areas, including the ground surface/material, and whether areas are accessible to children of various disabilities.

***Play Fields***
Describes conditions of play fields, if present, and whether fields natural grass or synthetic turf.

***Flexibility in Building Typology***
Evaluates whether the building can serve alternative grade levels or support a special needs-focused curriculum.

***Educational Transformation to Support 21st Century Needs***
Evaluates if the building's construction easily allows for renovations that may change room sizes, replace or upgrade mechanical and electrical systems, and accommodate alternative educational-delivery methods (e.g., project-based learning [PBL]). This can often be the largest difference between a modern steel-frame building and interior masonry-bearing wall construction.

***Building as Swing Space***
Assuming the building is otherwise unoccupied, the ability to use the building for educational purposes for the temporary relocation of a school population during a period of renovation or construction.

***Utilization Rate***
Description of the utilizations rate and if it is 85% or higher. For high schools, classroom utilization of 85% are considered at capacity. Rates higher than 85% show levels of overcapacity and overcrowding. Middle schools generally work to a utilization of 90% and elementary schools at near 100%.

# Educational Facility Spaces Effectiveness Evaluation

The Educational Facility Effectiveness – Spaces (EFE-S) metric compares the sizes of educational spaces to the New Hampshire Code of Administrative Rules, Section Ed. 321 guidelines for 21st century teaching and learning in new capital projects. This quantitative analysis is important for establishing the level of adequacy of the existing spaces for educational delivery. It also indicates whether a facility is deficient/missing dedicated educational spaces normally found in buildings of its grade level and typology.

Primary considerations often affect core curriculum and include:

- Classrooms (Depending on typology, these may include Pre-K and Kindergarten)
- Teacher Planning
- Small Group
- Science
- Art
- Music
- Vocations and Technology
- Media Center
- Cafeteria

Secondary considerations may allow for district flexibility in programming and community resources outside the traditional building environment, and include:

- Gymnasium (This program space is sometimes served by local community spaces)
- Gymnasium Options
- Auditorium
- Stage
- Medical
- Administration & Guidance
- Air Conditioned Technology Network Room
- Other considerations
- Special Education: Self-Contained
- Special Education: Resource or Small Group

Note: If a school has a special education program, its quantity of spaces will vary. Also, some substantially separate programs do not require full-size classrooms to be effective. For this reason, special education was considered differently than typical classroom spaces.

## Educational Facility Spaces Effectiveness Evaluation: Criteria Rating Hierarchy

The educational facility effectiveness assessment for spaces used a quintile classification hierarchy as defined below:

- Excellent: Exceeds New Hampshire Code of Administrative Rules, Section Ed. 321 guidelines (+10% or greater)
- Good: School facilities are appropriate to house current enrollment and educational program. NSF meets New Hampshire Code of Administrative Rules, Section Ed. 321 guidelines (-10% to +10%)
- Fair: School facilities appear to be adequately sized for current enrollment and educational program. NSF somewhat less than New Hampshire Code of Administrative Rules, Section Ed. 321 (-10% to -20%)
- Poor: School facilities may not be adequately sized for current enrollment and educational program. Net square footage (NSF) at least 20% less than New Hampshire Code of Administrative Rules, Section Ed. 321 guidelines
- Deficient: Dedicated space does not exist.

## Educational Facility Spaces Effectiveness Evaluation: Analysis Definitions

***Narratives***

The team considered the long-term goals relative to each building's capability of supporting Manchester School District's educational vision for 21st century (next generation) learning and teaching.

***Engaged Learning***

Engaging with the curriculum, applying it to an authentic context. Making connections between content areas and values/curiosity and interest. Finding connections to the community and making a difference. Public and tangible products. There is selective and intentional engagement, and agency in how one keeps focused and takes breaks.

- The following were criteria used for evaluating the levels of Engaged Learning at each school:
- The building (is/is not) comfortable to learn in.
- The building (has/lacks) appropriate temperature control and ventilation.
- The building (has/lacks) a space that can be used as a flexible learning commons for collaborative learning and presentations.
- The building (makes use/does not make use) of public space for teaching and learning.
- The building (provides/lacks) display space for student work to reinforce student accomplishments.
- The building (provides/lacks) space for teacher collaboration and planning.

***Differentiated Learning***

Acknowledging different learning styles. Encouraging how to understand one's self (self-knowledge). Flexibility that occurs within instruction, which also promotes flexibility in how students demonstrate learning. The following were criteria used for evaluating the levels of Differentiated Learning at each school:

- Classrooms (are/are not) large enough to support Universal Design for Learning (UDL), including the ability to create learning zones.
- The building (has/lacks) breakout spaces for differentiated/personalized learning and special education.
- The furniture in the building (can be/has difficulty being) flexibly arranged.

***Cognitively Demanding Tasks/Programs***

- The classroom environment (is/is not) sufficiently flexible to allow for different teaching and learning styles.
- Building (supports/lacks) learning environments that support music.
- Building (supports/lacks) learning environments that support art.
- Building (supports/lacks) learning environments that support physical activity/education.
- The building environment (supports/does not support) STEM adequately.
- The building (provides/lacks) space to experiment, create and collaborate.
- The building (has/lacks) performance/presentation space.
- Based on location and proximity to community resources and public transportation, teachers and students (can/have difficulty) access(ing) the City as a learning tool.

## Overall EFE Rating

NH Code of Administrative Rules, Section Ed. 321 areas are based on current enrollment within school. Actual areas were determined by measuring CADD plans provided by Manchester School District. SMMA did not field-measure the buildings but verified general conformity with existing conditions by measuring spot values to determine the rough accuracy of CADD drawings. The design team reviewed the 2018 CMK Long-Range Facilities Plan, which informed some of the educational effectiveness ratings.

The following outlines the rating system used for evaluating the Overall Educational Facility Effectiveness:

- Excellent: Elements meet needs for current AND future teaching and learning.
- Good: Elements contribute to teaching and learning.
- Fair: Elements somewhat interfere with teaching and learning.
- Poor: Elements detract from or interfere with teaching and learning.
- Deficient: Non-existent or inoperable systems or elements.