



MANCHESTER
SCHOOL DISTRICT

Manchester School of Technology

Educational and Facilities
Master Plan

smma



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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.

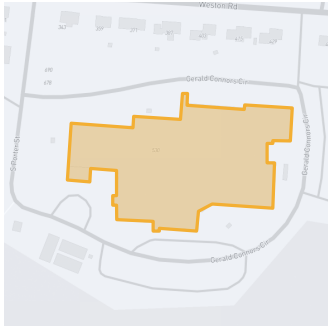
SCHOOL NAME

Manchester School of Technology

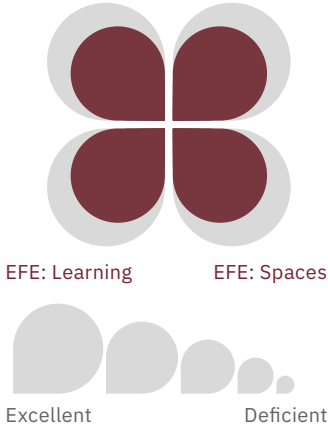
SITE VISIT

August 2023

At-a-Glance



FA: Building FA: Site



Address

100 Gerald Connors Circle, Manchester, NH 03103



Gross Square Footage (GSF)

110,000 sf



Grades

9th Grade–12th Grade



Site Acreage

11



Hours of Operation

7:50am–2:20pm



Date of Construction

1982



2022–2023 Enrollment

499



Date of Addition Construction

2008

SCHOOL NAME

Manchester School of Technology

SITE VISIT

August 2023

Site Plans



SCHOOL NAME

Manchester School of Technology

SITE VISIT

August 2023





Facility Evaluation Criteria

Physical Analysis	● NONE / MINOR	● MODERATE	● MAJOR	● REPLACE	○ N/A
Roof Membrane (Architectural)			●		
	<p>"The original 1980 roof was replaced in 2000 at the sloped sections only to white PVC membrane. New fiberglass sandwich panels were also installed at these clerestory locations. The remaining portions of flat roof were replaced in 2008 when the E2 and D2 additions were constructed. There were many locations where it did not appear that the PVC membrane was fully adhered. Roof edge scuppers and new metal ladders were also installed in 2008. The roof access hatch is located within 15' of the roof edge without any fall protection. All roofs are beyond their useful lifespan and typical warranty period, so replacement is recommended."</p>				
Existing Photovoltaics					○
	<p>"N/A"</p>				
Space for Solar on Roof					○
	<p>"Although some open spaces on the roof, the roof has scattered mechanical equipment and various heights. Exact locations and SF size can be evaluated."</p>				
Façade	●				
	<p>"Generally, the masonry veneer is in good condition. The ribbed block from the original 1980 building has some staining. Masonry and metal panel veneers at the 2008 additions are in good condition. Exposed steel lintels, railings and structure at canopies need to be repainted."</p>				
Windows			●		
	<p>"The original 1980s building has double paned, insulated windows. They are nearing the end of their useful life and should be replaced. Original hollow metal doors and frames were repainted in 2004, but are showing some signs of rusting. Overhead doors at the original shops were replaced in 2004. 2008 additions included double paned aluminum window systems that appear to be in good condition. The fiberglass sandwich panels that were installed in 2000 have some discoloration and UV degradation."</p>				

Physical Analysis

NONE / MINOR
 MODERATE
 MAJOR
 REPLACE
 N/A

Boilers (Mechanical)					
<i>"Gas Fired boilers are older, but seem to be well maintained."</i>					
Boilers (Plumbing)					
<i>"Refer to the mechanical report for HVAC boilers. Domestic water heating - the domestic water is provided through a pair of Laars Automatic circulating / instantaneous gas fired water heaters. (Model numbers TL80-199NSKC, 199,000 BTU/hr). These units were installed during the 2008-2009 renovation. Both appear to be in good working order. The domestic hot water boilers are approximately 15 years old which is at the end of its life expectancy (10-15 years). Replacement is recommended."</i>					
Heating Distribution Systems					
<i>"Piping and insulation appeared to be in good working condition."</i>					
Building Envelope Thermal Performance					
<i>"The original 1980's building was constructed with 1-1/2" rigid insulation in the wall cavity along with dampproofing. The 2008 additions have 2-1/2" rigid insulation and an air barrier in the wall cavity. When the roofs were replaced in 2008, 6" of rigid insulation was added. This does not meet current energy codes. All entrances have vestibules."</i>					
Interior Finishes					
<i>"Overall the interior finishes are in good condition. Most of the building was renovated in 2008."</i>					
Rooftop HVAC Equipment					
<i>"Units appear to be in working condition, various ages. A few exhaust fans appear to be past useful life."</i>					
HVAC Controls					
<i>"Building uses district standard JCI Metasys. Building thermostats generally are older models but appear to be working."</i>					
Technology Infrastructure					
<i>"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."</i>					

Physical Analysis

● NONE / MINOR
 ● MODERATE
 ● MAJOR
 ● REPLACE
 ○ N/A

Technology Systems				●	
<i>"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."</i>					
Security Systems		●			
<i>"The City is working with a Security Systems Vendor to deploy 500 CCTV cameras throughout the District's Schools. Adequate bandwidth is a concern for transmitting video. Notification and Lock Down systems are not present. Indoor cellular signal booster system is desired."</i>					
Kitchen Equipment and Systems (Electrical)	●				
<i>"Kitchen electrical equipment (panels and receptacles) is found to be aged, but still in fair-to-good condition. All observed receptacles are GFCI type in compliance with Code."</i>					
Kitchen Equipment and Systems (Plumbing)		●			
<i>"The kitchen plumbing fixtures and equipment appeared maintained and in good working order. The piping below the sinks is mostly chrome painted/coated which is in line with current requirements. Some exposed copper piping is present, and chrome coating is recommended. The equipment appears to be from the 2008/2009 renovation. Natural gas is piped to the steam cooker, range, and convection oven. No noticeable concerns with exposed plumbing piping. The kitchen is also provided with a booster water heater. The hood is protected by a wet chemical suppression system (with two agent tanks mounted within the kitchen)."</i>					
Natural Gas Distribution System	●				
<i>"Natural gas distribution observations were limited to exposed piping within mechanical rooms, and behind kitchen equipment. Although some of the pipe fittings are rusting in a few locations, overall the piping seems to be in good working order. One gas line feeds boilers only, while the other feeds the kitchen, labs, domestic water heater, and other mechanical equipment (AHU/MAU)."</i>					



Physical Analysis

● NONE / MINOR
 ● MODERATE
 ● MAJOR
 ● REPLACE
 ○ N/A

Current Fuel Source	●			
	<p><i>"The building has a natural gas service with a meter at the building exterior. After the meter, the service separates into two pressure regulated lines that both enter the building above grade. One of the gas lines feeds boilers only, while the second line feeds domestic water heaters, roof top units, make up air units, Lab C109 turrets/fume hood, and culinary/kitchen equipment. Based on the arrangement, it appears that both are intermediate/high pressure lines. One of the service pipes is showing exterior pipe rusting/corrosion and does not appear to be painted/coated. Coating/recoating of the exterior piping is recommended during any future renovations but is not a critical concern. Overall, the service(s) appears to be in good working order."</i></p>			
Generator		●		
	<p><i>"The existing 200kW 277/480v diesel-fired emergency generator is manufactured by Kohler. It's indoor type, installed in a dedicated generator room F124 located off the Main Electric room F117. The generator room is small and appears to lack a sufficient maintenance clearance required to be provided around all sides of the generator. A small tank is indoor type, located in Mechanical room adjacent to the generator room. Currently, the generator appears to be old, but still in fair operational condition. The generator supports the heating system boilers and pumps, four RTUs, sewer ejection pump, air dryer and compressors via a 400Amp 277/480v ATS (Automatic Transfer Switch) and Emergency Standby Distribution panel EMDP located in the Main Electric room. However, some critical loads, such as the data closet racks and intercom/phone system, are not connected to the generator power distribution system as of now. A new outdoor type generator of a larger kW size with a skid-based 24-hour backup diesel fuel tank is suggested for replacement of the existing one, to support additional critical loads and extend the time of operation."</i></p>			
Elevator				○
	<p><i>"N/A"</i></p>			
Ventilation Distribution Systems	●			
	<p><i>"Ductwork seemed to be in good condition. (Not much was visible)."</i></p>			

Physical Analysis


 NONE / MINOR
  MODERATE
  MAJOR
  REPLACE
  N/A

Electrical Services	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
					
<p>Life Safety: Means of Egress (Architectural)</p>					
	<p><i>"Quantity, size and locations of egress components appear to be adequate."</i></p>				
<p>Life Safety: Means of Egress (Electrical)</p>					
	<p><i>"Self-contained internally lighted LED exit signs and battery units are provided along egress pathways. Additionally, dedicated "emergency" lights are equipped with integral emergency ballasts, Bodine or equal. Emergency lighting throughout is observed in adequate operational condition."</i></p>				

Physical Analysis


 NONE / MINOR
  MODERATE
  MAJOR
  REPLACE
  N/A

Life Safety: Fire Protection (sprinklers)




"The building is currently protected by an automatic sprinkler system. An 8-inch service enters the building and reduces to a 4-inch header that supplies the system control valves. Alarm check control valves are provided for three of the sprinkler zones. These zones include parts A/B, C/D, and E1/E2. A shotgun riser (flow switch, main drain, gauge) was installed during the 2009 renovations that feeds part F. The city water supply can accommodate the sprinkler system demands (Pump not required). The system includes a post indicator valve on the service, a water motor gong and electric bell at the exterior wall. A double check valve assembly was not observed on the incoming service. Current regulations require a backflow preventer to protect the city water supply. Sprinklers are a mix between 1980 soldered sprinklers and newer glass bulb quick response sprinklers (2009 and 2015 renovations). The original sprinklers are approximately 43 years old. Representative testing is required at 50 years. The newer quick response sprinklers are 14 years old and require replacement or representative testing at 20 years."

Life Safety: Fire Alarms



"A new Fire Alarm (FA) system was designed and installed in 2008, and upgraded in 2015. The FA system is addressable, manufactured by Notifier, consisting of addressable smoke and heat detectors, double action pull stations, speaker/strobes and strobe only unit, and connections to fire protection equipment. The Fire Alarm Control Panel (FACP) and radio master box are in General Office 142. The backlit graphic annunciator is in the main entrance vestibule G112. All classrooms and similar educational spaces, corridors, teacher areas, etc. are equipped with signaling devices. Outdoor knock box and FA alarm beacon are provided at the main entrance door. All FA equipment was observed in good operational condition."

Security: Entry Sequence



"The main entrance has controlled card access and an intercom system. There is a transaction window located within the entrance vestibule which provides more security and control over building access."

Physical Analysis

NONE / MINOR
 MODERATE
 MAJOR
 REPLACE
 N/A

Lighting Quantity / Control	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
<p>Lighting Quantity / Control</p>					
<p>"Lighting throughout the building consists of various types including pendant cylinders, surface-mounted 2'x2' lensed fluorescent lights, recessed 2'x4' and 2'x2' "basket reflector" design fluorescent and LED lights, fluorescent downlights, etc. Building areas renovated in 2008 have 2'x4' lensed and 2'x4' direct/indirect "basket reflector" recessed lights with T8 lamps in suspended ceilings, and industrial strip lights in shops and labs. The lensed troffers and industrial strips deteriorated further than the "basket design" lights, and some of them need repairing or replacement. Occupancy sensors were installed in spaces with suspended ceilings and appear in good condition. Building areas renovated in 2015 are equipped with LED dimmable 2'x4' recessed lights, ceiling-mounted occupancy sensors and low voltage controls. Lights and controls in these areas are in good operational condition. ~ The kitchen and bathrooms have 2'x4' lensed troffers which show some signs of wear. General offices have lensed 2'x4' T8 troffers in good condition and occupancy sensors. In general, illumination levels throughout the building were observed to be adequate, except for corridors with pendant cylinders which appear "dimmed" with insufficient illumination at the floor level. Suggesting some upgrading by adding supplemental lights in these corridors."</p>					
<p>Toilets and Fixtures</p>					
<p>"Both the 2008/2009 and 2015 renovations included replacement of and relocation of many plumbing fixtures. These fixtures included ADA fixtures. Drinking fountains have been replaced with bottle filling stations in a many locations. Sustainability - the flow rates are consistent with the baseline water usage from current LEED certifications."</p>					
<p>Plumbing Distribution Systems</p>					
<p>"The domestic cold water is provided through a 6" service with a 6" OS&Y valve. The service splits above the floor into two 4" (approximate, could not confirm due to insulation) and reduces to two 2-inch lines that flow through parallel meters/ reduced pressure backflow preventers before tying together. The combined domestic water line is assumed to be 4-inch as well and feeds the domestic water demands for the building. The age of the domestic water piping throughout the building varies. Original piping is close to 41 years old and renovated piping is approximately 14 years old. Copper piping greater than 40 years old (lifespan 40-50 years) 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. Observation of sanitary and vent, storm water piping was limited to exposed areas. Above ceiling observations were not performed. The expected lifespan of cast iron piping is 50 years. Future renovations should consider scoping/testing to confirm the expectancy left in the piping. Vents through roof and roof drains appear adequate with no immediate concerns. The auto shop has floor drains that tie together and flow through a gas/sand oil separator. A compressor and approximate 400 gallon receiver is installed. The compressed air has a high pressure and a low pressure header. The low pressure system feeds outlets in the wood shop and outlets in the auto/mech shops. the high pressure air feeds the auto/mech shop lifts and related equipment. The piping seems to be in good working order."</p>					

Physical Analysis

● NONE / MINOR
 ● MODERATE
 ● MAJOR
 ● REPLACE
 ○ N/A

Accessibility (Architectural)	●				
<i>"Generally, the building meets accessibility requirements. Most all toilet rooms are accessible. Ramp railings are not code compliant. Some of the classroom doors are not provided with the required door clearances."</i>					
Accessibility (Plumbing)	●				
<i>"Many of the fixtures appear to meet ADA requirements."</i>					

**Structural Systems:
Signs of Deterioration Observed?**

YES NO

Roof		✗			
<i>"Roof framing is composed steel wide flange members and bar joists with metal decking."</i>					
Floor		✗			
<i>"All floor framing appears to be in very good condition."</i>					
Walls / Columns		✗			
<i>"There appears to be some missing expansion joints i some of the walls, Otherwise, all walls and columns are in very good condition structurally."</i>					
Foundations		✗			
<i>"The foundation walls appear to be in sound condition."</i>					
Façade		✗			
<i>"The exterior masonry is in relatively good condition. Few if any defects noted."</i>					
Is Lateral System Identifiable?	✓				
<i>"Masonry shear wall and some brace frames observed."</i>					

SCHOOL NAME

Manchester School of Technology

SITE VISIT

August 2023

REPORT TYPE

Facility Evaluation

Community

	YES	NO	
Emergency Shelter		X	
	"N/A"		
Are there Separate Community / Non-School Spaces on Site?		X	
	"N/A"		



Site Evaluation Criteria

Physical Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Parking Capacity					
	<i>"Large student parking lot at eastern end of site. Staff and visitor parking dispersed around various entrances."</i>				
Parking Quality					
	<i>"Pavement in good condition. sloped granite curbing. landscape islands with lawn and small trees. minimal shading in larger lot. All parking areas need striping (or restriping)."</i>				
Ground Cover					
	<i>"Landscaping at entrances, lawn areas throughout, established trees along perimeter provide decent shading for parking area."</i>				
Fields					
	<i>"No fields or athletic facilities on site. May share access to Clem Lemire Athletic Complex at Memorial High School, across Weston Rd. Accessible via sidewalks and crosswalks."</i>				
Neighborhood Streets					
	<i>"Connections to Weston Rd - medium traffic road with residential side streets. residential parcels abut site to the north, west, and east. gated access drive (fire lane) from adjacent apartment complex to the west allows pedestrian and bike access."</i>				
Drop-off / Pick-up Routes					
	<i>"One-way drop off loop with ADA parking spaces at main entrance, off of two-way access drive that circles the building. additional drop off loop at corner entrance (with no parking spaces). One-way drive into the site at northwest corner. one-way drive out at northeast corner. one-way drive along northern edge of building. two-way drive along west, south, and east sides of building. Could use improved way finding signage around site and to clarify entrances."</i>				
Walkways / Curbs / Sidewalks					
	<i>"Bituminous walkways with vertical granite curb, mostly in good condition."</i>				

Physical Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
ADA Accessibility	●				
	"6 ADA parking spaces at main entrance (along dropoff loop), concrete ramp with metal handrails to main door. Stairs only down to southern staff parking lot (across from main entrance). No crosswalk from building entrance across driveway to stairs to parking area. 4 ADA spaces in staff lot, possibly serving the modular classrooms, otherwise not connected to an accessible route. Curb cut and 2 ADA spaces at secondary northern entrance."				
Site Lighting (Civil)	●				
	"LED light fixtures, poles on concrete bases in good condition, evenly spaced along access driveway loop and in parking areas."				
Site Lighting (Electrical)	●				
	"Exterior building-mounted and pole-mounted lights are LED type, They appear to be in good operational condition. Exterior lights are time-controlled via a dedicated control system."				
Fencing	●				
	"Security fencing at utility yard, loading dock, around bus storage around early ed. playground."				
Drainage	●				
	"Catch basin network along access drive. No curb along outside of access drive at low point, to allow overflow to discharge directly to wooded area."				
Play Areas	●				
	"Site has 2 small play areas for early childhood development program. Site may share access to Clem Lemire Athletic Complex facilities at Memorial High School site."				
Monuments and Memorials	●				
	"None observed at this site."				
Walls / Slopes	●				
	"Gradual slopes from north to south across site. slightly steeper drop off into the woods at southern edge of site. No significant slopes or retaining walls. Wooden guardrail where slope to woods is closest to the parking area."				

Physical Analysis	YES	NO
Are there any Wetlands on Site?		✗
	"No wetlands per GIS or obvious signs of wetlands on site."	

Physical Analysis

	YES	NO
Are there any Easements on Site?		X
<i>"No easements per Manchester GIS."</i>		
Are Play Structures Age-Appropriate?	✓	
<i>"Two small fenced-in play areas, presumably used for early childhood development program."</i>		
Is there an Outdoor-Learning Area?	✓	
<i>"Outdoor spaces for specific programs, such as early childhood development play area. No typical outdoor classroom. Some picnic tables dispersed around site, could be used for outdoor learning."</i>		
Should there be a Question on Environmental Justice Populations / Vulnerable Populations?		X
<i>"NH GIS designates site as "Medium" social vulnerability index, based on census analysis."</i>		
Is the Building Expandable on the Current Site?	✓	
<i>"Some modular classrooms on site, in very good condition from exterior. Could be added to or redeveloped to increase space. Any building expansion would most likely result in reduction of parking."</i>		
Is the Site Expandable?		X
<i>"Site perimeter bound by dense wooded area to south, residential parcels on remaining sides. minimal area for site expansion beyond current limit of parking and roadways."</i>		

Community Analysis

	YES	NO
Historical Commission Status: Inventory of Archaeological Assets (Site Review)		X
<i>"The site is not listed on the National Register of Historic Places (per the National Park Service website) nor 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."</i>		

SCHOOL NAME

Manchester School of Technology

SITE VISIT

August 2023

REPORT TYPE












Site Evaluation

Community Analysis

	YES	NO
Are there School Buses?	✓	
<i>"2 MTA buses and 8 SPED buses, per bus counts provided by the district"</i>		
Bikeable?	✓	
<i>"no designated bike lanes or shoulder, but relatively slow traffic along access drive. bike racks near main entrance. no bike lanes along Weston Rd."</i>		
Walkable?	✓	
<i>"bituminous walkway around perimeter of site connects to sidewalk to Weston Rd at northwest site entrance. sidewalks along Weston Rd and S Porter St."</i>		

Traffic Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Parking Accessible parking lot near front entrance		●			
<i>"Curb ramp does not have a detectable warning panel. Ramp handrail somewhat loose where two parts connect. Accessible parking pavement markings difficult to see."</i>					
Parking East parking lot		●			
<i>"Faded striping. Opening in curb at SW corner that should not be used but does not physically prevent cars from using it."</i>					
Parking Gerald Connor Cir	●				
<i>"Cars parked on multiple driveways along roadway and on grass. Driveways create conflict points and may be excessive given the capacity of the parking lots."</i>					
Parking Gerald Connor Cir between east and south parking lots	●				
<i>"Street parking lane signed for accessible parking. No detectable warning panels at nearby curb ramps. Should be evaluated for ADA compliancy."</i>					
Parking Gerald Connor Cir north portion	●				
<i>"There is no detectable warning panel on the curb ramp in front of entrance and between accessible parking spaces. Parking striping completely faded in some areas, some cars were parked perpendicularly rather than at angle as striping should indicate."</i>					
Parking South parking lot	●				
<i>"Vegetation encroachment on one accessible parking space. Parking striping and accessible parking pavement markings very faded."</i>					
Pedestrian Connections Between main entrance and South parking lot		●			
<i>"No curb ramps for pedestrian paths between south school entrance and south parking lot. No crosswalk striping across Gerald Connor Cir. East path does not have striped out space at end in south parking lot."</i>					

Traffic Analysis	 NONE / MINOR	 MODERATE	 MAJOR	 REPLACE	 N/A
Roadway Characteristics S Porter St between Weston Rd and Gerald Connor Cir					
<p><i>“Two lanes, SBT and SBL, separated by dashed white line then solid white line near intersection with Gerald Connor Cir. Striping ends but should continue to island at intersection.”</i></p>					
Roadway Characteristics Weston Rd					
<p><i>“20 mph speed limit during PUDO hours but seems prone to speeding due to long stretch of straight wide road.”</i></p>					
Sidewalks Gerald Connor Cir north portion					
<p><i>“Sidewalk only on south side, closest to school. Ends about 150 ft short of Gerald Connor Cir east portion, forcing pedestrians to walk in driveways.”</i></p>					
Sidewalks School exit driveway south of Weston Rd					
<p><i>“No sidewalks. Pedestrians forced to walk on grass/roadway or go out of way to use S Porter St.”</i></p>					
Sidewalks Weston Rd					
<p><i>“Sidewalk only on north side (opposite side from School of Technology but on Memorial HS, Southside MS, and Jewett ES side). May want to evaluate if south sidewalk would be beneficial.”</i></p>					
Standalone Crosswalks Gerald Connor Cir south portion					
<p><i>“No crosswalk signage and no detectable warning panels on the curb ramps for the crosswalk between the school and portable building. Pedestrian crossing should be evaluated for ADA compliancy.”</i></p>					
Unsignalized Intersections Gerald Connor Cir at accessible parking west driveway					
<p><i>“No crosswalks or detectable warning panels. Pedestrian crossings should be evaluated for ADA compliancy. Unconventional STOP sign on driveway.”</i></p>					

Traffic Analysis	 NONE / MINOR	 MODERATE	 MAJOR	 REPLACE	 N/A
Unsignalized Intersections Gerald Connor Cir at Roysan St/ Parking lot driveway					
<i>"No crosswalks or detectable warning panels. Pedestrian crossings should be evaluated for ADA compliancy. No lane markings from west. No STOP line from east. Unconventional short STOP sign from south."</i>					
Unsignalized Intersections Gerald Connor Cir at School exit driveway/ parking lot driveway					
<i>"Sidewalk in SW corner ends with no curb ramp or connections. No lane use markings or signage for two lanes on Gerald Connor Cir eastbound approach."</i>					
Unsignalized Intersections S Porter St at Gerald Connor Cir/Connector St					
<i>"Curb ramps for crossing across Gerald Connor Cir, but no crosswalk or detectable warning panels. Pedestrian crossing should be evaluated for ADA compliancy. NB approach has right turn pavement marking but no "right turn only" sign. "Do not enter" and wrong way signs for north approach partially hidden by vegetation."</i>					
Unsignalized Intersections Weston Rd at Lois St					
<i>"Curb ramps for crossing across Lois St, but no crosswalks or detectable warning panels. NE curb ramp in poor condition. Pothole where pedestrians would cross Lois St. Pedestrian crossing should be evaluated for ADA compliancy."</i>					
Unsignalized Intersections Weston Rd at Roysan St					
<i>"No crosswalk or detectable warning panels across Roysan St. Pedestrian crossing should be evaluated for ADA compliancy."</i>					
Unsignalized Intersections Weston Rd at School exit driveway					
<i>"Consider building sidewalk along school exit driveway and adding crosswalk across Weston Rd."</i>					



Educational Facility Effectiveness: Learning Environments (EFE: LE)

Grade Levels

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

Educational Building Analysis

● GOOD
 ● FAIR
 ● POOR
 ● DEFICIENT
 ● FAILING

	GOOD	FAIR	POOR	DEFICIENT	FAILING
Acoustical	●				
Adjacencies of Learning Environments		●			
<i>"Classes located in portable classrooms."</i>					
Environment (Inviting / Stimulating / Comfortable)	●				
<i>"Facility is clean and well-maintained."</i>					
Finishes		●			
Furniture		●			
Lighting Quality		●			
Natural Daylighting		●			
Outdoor Classrooms					●

SCHOOL NAME

Manchester School of Technology

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Educational Building Analysis

● GOOD
 ● FAIR
 ● POOR
 ● DEFICIENT
 ● FAILING

Technology: Power	●				
Technology: Wireless	●				
Ventilation	●				

"However, windows are not operable."

This Site Includes:

YES NO

Accessible	✓		
Play Fields		✗	
Playgrounds / Areas		✗	

Building Assessment

YES NO

Can the Building Change Typology Easily?		✗	
Can the Building be Transformed Educationally to Serve 21st Century Needs?	✓		
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	3760	
Art Classroom (Min Area 900 sf or 36 sf / Student)	0	0	
Auditorium	0	0	
Auto Tech	2	4720, 4940	
Band (Area 1200 sf)	0	0	
Cafeteria (Min Area 12-15 sf / Student for Max Number of Diners per Lunch Period)	2	620, 1160	LUNCH PERIODS: 2
Classroom: General Education (Min Area 900 sf or 36 sf / Student)	25	530, 570, 580, 630, 755, 860, 865, 875, 930, 990, 1015, 1020, 1030, 1050, 1060	
Collision Repair	2	3155, 3370	
Cosmetology Salon	1	2330	
Culinary Arts	4	435, 1445, 2640	
	<i>"4 Instructional Spaces."</i>		
Design Communications	1	1115	
Engines	1	1915	
Faculty Lounge	1	193	
	<i>"Break Room"</i>		
Fire Fighting / EMT	2	1100, 2305	
Greenhouse	2	945	

Space Assessment

	QUANTITY	ACTUAL AREA (SF)	MORE INFO
Gymnasium (Min Area 6000 sf)	0	0	
Alternative Physical Education	2	665, 1650	
	<i>"Fitness Rooms"</i>		
Headhouse	1	845	
Health Science	2	755, 1410	
Horticulture Lab	1	1150	
Landscape and Horticulture	1	940	
Manufacturing Lab	1	2075	
Media Center (Min Area 1800 sf or 4 sf / Student x Design Capacity)	0	0	
Music Classroom (Area 1200 sf)	0	0	
Orchestra	0	0	
Residential Carpentry	1	3130	
Residential Electrical	1	1800	
Residential Plumbing	1	2355	
Science Classroom / Lab (Area 1200 sf or 60 sf / Student)	3	930, 935, 1160	
Special Education: Resource of Small Group (Area 500 sf)	0	0	
Special Education: Self Contained (Area 950 sf)	0	0	TOILET ROOM: No
Teacher Planning	0	0	
	<i>"None observed."</i>		
Technology Lab	0	0	
	<i>"None observed."</i>		

Adequacy of Rooms	GOOD	FAIR	POOR	DEFICIENT	FAILING
Administration and Guidance	●				
Alternative Physical Education			●		
Auto Tech	●				
Aviation		●			
Cafeteria		●			
<i>"Dining in Atrium-space."</i>					
Classroom: General Education		●			
<i>"Some in portables."</i>					
Collision Repair	●				
Cosmetology Salon	●				
Design Communications	●				
Engines		●			
Faculty Lounge		●			
<i>"No windows."</i>					
Fire Fighting / EMT		●			
Greenhouse		●			
Gymnasium				●	
<i>"No Gymnasium. PE takes place in small Fitness Room."</i>					
Headhouse		●			
Health Science	●				
Horticulture Lab		●			
<i>"Greenhouse is in poor condition."</i>					
Landscape / Horticulture		●			
Manufacturing		●			
Media Center					●
<i>"No Media Center"</i>					

SCHOOL NAME

Manchester School of Technology

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Adequacy of Rooms

● GOOD
 ● FAIR
 ● POOR
 ● DEFICIENT
 ● FAILING

	GOOD	FAIR	POOR	DEFICIENT	FAILING
Medical			●		
<i>"Single Room"</i>					
Music Classroom					●
<i>"No Music Classroom."</i>					
Orchestra					●
<i>"No Orchestra Room."</i>					
Residential Carpentry	●				
Residential Electrical		●			
Residential Plumbing		●			
Robotics / Computer Lab		●			
Science		●			
<i>"Science classrooms do not have mobile lab benches and 6th grade science rooms are undersized without benches."</i>					
Teacher Planning					●
<i>"None observed."</i>					
Video Production		●			

SCHOOL NAME

Manchester School of Technology

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Special Education Assessment	YES	NO	
18+		×	
Autism Spectrum		×	
Cognitively Impaired		×	
Deaf and Hard of Hearing		×	
Emotional Disturbance		×	
English Learners	✓		
Intellectual Disability		×	
Life Skills		×	
Medically Fragile		×	
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 Evaluation: 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 utilization 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.

