DMPS FACILITY ASSESSMENT | COWLES MONTESSORI

11.28.2023

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ENGINEERS

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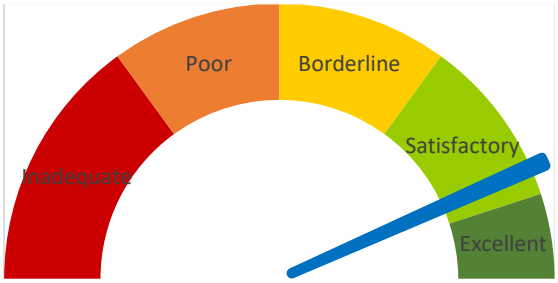


REPORT ORGANIZATION

COVER SHEET

REPORT ORGANIZATION

EXECUTIVE SUMMARY
- Building Summary
- Overall Project Priorities
- Building Health Score
- Graphical Representation of Building Health Score

BUILDING DATA RECORD

SCORING REPORTS
- 1.0 Educational Adequacy
- 2.0 Environment for Education
- 3.0 Exterior Envelope
- 4.0 School Site
- 5.0 Structural Conditions
- 6.0 Mechanical Systems
- 7.0 Electrical Systems
- 8.0 Elevator Conditions

COST METHODOLOGY

RECOMMENDED PROJECTS AND PRIORITIES
- Short Term Maintenance
- 1-2 Year Project Priorities
- 3-4 Year Project Priorities
- 5-10 Year Project Priorities
- Projects Requiring a Study

APPENDIX
- Civil Site Plan
- Roof Identification Image

EXECUTIVE BUILDING SUMMARY

Cowles Montessori's on-site facility conditions assessment was conducted on November 28, 2023 and included visual conditions assessment from professionals covering interior architecture, exterior building envelope, the property's grounds (site), structural condition, mechanical (HVAC/Plumbing) systems, electrical systems (power, exterior lighting, interior lighting, fire alarm, and general IT), and the elevator conditions.

A number items requiring prompt attention were noted during the assessment. These maintenance needs include pest management, exterior door adjustments, roof cleaning, exterior wall and soffit repairs, HVAC ventilation balancing.

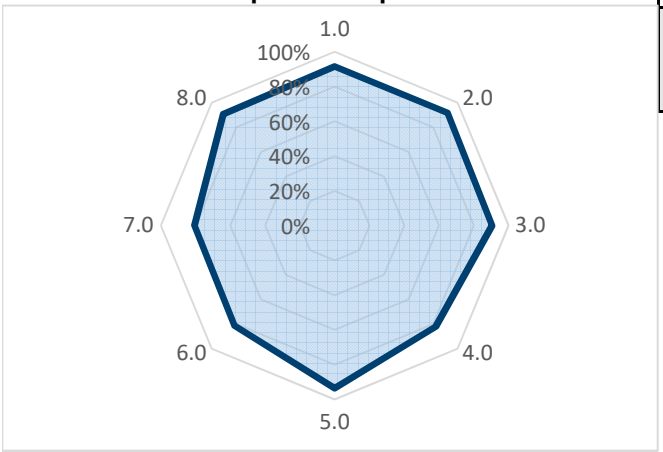
The recommended projects for Cowles Montessori to be completed in the next 1-2 years are as follows:

- Classroom casework replacement
- Roof repairs
- Exterior sealant replacement
- Asphalt pavement replacement
- Mechanical ERV unit replacement
- Hot water mixing valve replacement

This building is also likely to require major upgrades and/or replacement of mechanical HVAC system components in the near future. This has been included in the recommended projects both as a 3-4 year project as well as a study to evaluate and select appropriate systems. This project along with all other recommended projects are described further within this report.

Discipline Comparison				Building Health				
Assessment Category Summary		Max Pnts	Earned Pnts	Bldg Weight Factor	Max Pnts	Earned Pnts	%	Rating
1.0	Educational Adequacy	165	151	2.00	330	302	92%	Excellent
2.0	Environment for Education	375	344	0.60	225	206	92%	Excellent
3.0	Exterior Envelope	95	86	3.00	285	258	91%	Excellent
4.0	School Site	95	78	1.50	143	117	82%	Satisfactory
5.0	Structural Conditions	140	131	1.30	182	170	94%	Excellent
6.0	Mechanical Systems	570	464	0.80	456	371	81%	Satisfactory
7.0	Electrical Systems	455	367	0.75	341	275	81%	Satisfactory
8.0	Elevator Conditions	65	59	1.00	65	59	91%	Excellent
Total					**2,027**	**1,759**	**87%**	**Satisfactory**

Cowles Montessori
Discipline Comparison



Rating Table				
1-29%	30-49%	50-69%	70-89%	90-100%
Inadequate	Poor	Borderline	Satisfactory	Excellent

After totaling the scores from the various discipline assessment reports Cowles Montessori scored a building health rating for 87%, or "Satisfactory" per the scale described above. Per the graph shown on the cover page of this report, scores within the "green" range are considered positive scores. Projects targeted to improve mechanical systems, quality of interior spaces, and durability of finish materials can help improve the overall performance rating for Cowles Montessori.

Building Data Record

Building Name: Cowles Montessori School

Date: November 28, 2023

Address: 6401 College Ave
Windsor Heights, IA 50324

High School Feeder System: Roosevelt

Building SF: 53,060 square feet

Site Acreage: 9.33 acres

Date(s) of Construction: 1958, 1960, 2005, 2011, 2017

Date(s) of Roof Replacement: 2014, 2018

Current/Scheduled Projects: Gymnasium Acoustics - 2024
Library Upgrades - 2025

Existing Building Data:

- [x] Egress Plans
- [x] Original Docs
- [x] Major Renovations and Additions
- [x] Minor Projects
- [ ] Maint. Reports

Site Items:

- [x] Student Garden
- [x] Loading Dock
- [x] Stormwater Detention

Energy Source:

- [x] Electric
- [ ] Gas
- [ ] Geothermal
- [ ] Solar

Cooling:

- [ ] DX RTU or DOAS
- [ ] Chiller
- [x] VRF
- [ ] Water Source Heat Pump
- [ ] Fluid Cooler

Heating:

- [ ] Gas/Electric RTU or DOAS
- [ ] Boiler
- [ ] Water-to-Water Heat Pump
- [x] VRF
- [ ] Water Source Heat Pump

Structure Fireproofing:

- [x] No
- [ ] Yes

Construction:

- [x] Load Bearing Masonry
- [x] Steel Frame
- [x] Concrete
- [ ] Wood
- [ ] Other

Exterior Facade:

- [x] Brick
- [ ] Stucco
- [x] Metal
- [ ] Wood
- [ ] Other

Floor/Roof Structure:

- [ ] Wood Joists
- [x] Steel Joists/Beams
- [x] Slab on Grade
- [x] Struct. Slab
- [ ] Other

A | Architectural, Programming

ASSESSOR: Tim Bungert

1.0 Educational Adequacy

		Weight Factor	Rating	Points	Comments
General					
1.1	**Floor materials** are appropriate for space type.	2	5	10	
Elective/Secondary Classroom					
1.2	**Gymnasium** is adequate for providing physical education programming.	2	5	10	
1.3	**Cafeteria** has adequate space, furniture, and acoustics for efficient lunch use.	2	5	10	
1.4	**Music room** is adequate for providing introductory music instruction.	2	5	10	
1.5	**Art room** has sufficient accommodations for program.	2	5	10	
1.6	**Library/Resource/Media Center** provides appropriate and attractive space.	1	3	3	Furniture is engaging, but the space is otherwise bland. Lighting is very dim for reading. Upgrades to the library are currently planned for 2025.
Core Classroom					
1.7	Classroom space permits arrangements for **small group activity.**	3	5	15	
1.8	**Student storage space** is adequate.	2	2	4	Many backpacks, coats, and band instruments were left on the floor of the second level corridor instead of being stored in lockers or other proper storage areas. In some areas this presented a hazard to safe egress. It was unclear if storage space is actually inadequate or just poorly utilized.
1.9	**Teacher storage space** is adequate.	3	5	15	
1.10	Classroom **acoustical treatment** of ceiling, walls, and floors provide effective sound control.	3	3	9	Only three classrooms were noted with modern acoustic tile ceilings. All other classrooms had either older 1x3 adhered ceiling tiles or textured gypsum ceilings.

A | Architectural, Programming

ASSESSOR: Tim Bungert

		Weight Factor	Rating	Points	Comments
1.11	**Classroom power and data receptacles** are located to support current classroom instruction.	4	5	20	
1.12	Educational **technology** supports instruction.	4	5	20	
Administration					
1.13	**Conference/Private meeting rooms** are adequate for large and small meetings.	1	5	5	
1.14	**Main office** has a check-in and waiting area.	2	5	10	
	TOTAL			151	

A | Architectural, Interior

ASSESSOR: Tim Bungert

2.0 Environment for Education

Design

		Weight Factor	Rating	Points	Comments
2.1	**Traffic flow** is aided by appropriate foyers and corridors.	1	5	5	
2.2	Communication among students is enhanced by **common areas.**	1	5	5	
2.3	Areas for students to **interact are suitable to the age group.**	1	5	5	
2.4	Large group areas are designed for effective **management of students.**	2	5	10	
2.5	**Furniture Systems** are in good or like new condition.	1	5	5	
2.6	**Color schemes**, building materials, and decor are **engaging and unify** the school character.	2	3	6	Large ceiling-mounted mechanical units and exposed piping in many classrooms heavily detract from the overall appearance. Aside from the lounge just past the main office, corridor areas generally lack interior design elements that might enhance the character of the school.
2.7	Windows and skylights provide access to **adequately controlled daylight** for regularly occupied spaces.	3	5	15	
2.8	Windows provide access to **quality views** (to exterior, courtyards, artwork etc.) for regularly occupied spaces.	3	5	15	
2.9	**Lighting has proper controls** to provide the required light levels for various teaching and learning needs.	2	5	10	
2.10	**Staff dedicated spaces** include conference space, work space, and dedicated restrooms.	1	4	4	Staff work room 136 had a very strong and unpleasant odor. Staff noted that this room often smells bad, especially in warmer weather.

A | Architectural, Interior

ASSESSOR: Tim Bungert

		Weight Factor	Rating	Points	Comments
2.11	**Main office** is visually connected to the entry and is welcoming to students, staff, and guests.	2	5	10	
2.12	**Break room** is adequately sized and furnished for proper use.	1	5	5	
2.13	**Mother's room** is a separate designated space properly furnished.	1	2	2	Mother's room is provided, but the room has a very musty smell. Staff noted that water runs down the walls during rain and warmer weather. Unclear if the water is dripping from mechanical equipment or leaking from roof.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	5	5	
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	2	2	Older 1x3 ceiling tile in east wing classrooms are stained in many areas, especially along the exterior walls. Textured gypsum ceilings are not easily cleaned.
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	5	5	
2.17	**Built-in casework** is designed and constructed for ease of maintenance.	1	1	1	Casework in nearly all rooms has fairly significant damage to finishes, veneers/laminates, metal and plastic edge banding, and wood base trim.
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	2	6	Doors are solid wood, but nearly all have finish damage from floor mopping and use of tape or other adhesives.
2.19	**Facility doors** are keyed to standardized master keying system.	3	5	15	
2.20	**Restroom partitions** are securely mounted and of durable finish.	2	5	10	

A | Architectural, Interior

ASSESSOR: Tim Bungert

		Weight Factor	Rating	Points	Comments
2.21	**Adequate electrical outlets** are located to permit routine cleaning in corridors and large spaces.	1	5	5	
Occupant Safety					
2.22	Classroom doors are **recessed and open outward.**	4	5	20	
2.23	Door hardware (into classrooms or any occupied rooms off of corridors) include **intruder classroom locksets.**	3	5	15	
2.24	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	3	5	15	
2.25	**Vision lite** in doors is clear and uncovered.	2	4	8	A handful of classrooms have vision lites obstructed or partially obstructed.
2.26	**Glass** is properly located and protected to prevent accidental injury.	2	5	10	
2.27	**Flooring** is maintained in a **non-slip** condition	2	5	10	
2.28	**Traffic areas terminate at exit or** stairway leading to egress	5	5	25	
2.29	Multi-story buildings have at least **two stairways** from all upper levels for student egress.	5	5	25	
2.30	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	4	20	Railing on East stair do not meet current codes for guardrails height or spindle spacing.

A | Architectural, Interior

ASSESSOR: Tim Bungert

		Weight Factor	Rating	Points	Comments
2.31	At least **two independent exits** from any point in the building	5	5	25	
2.32	**Emergency lighting** is provided throughout the building.	5	5	25	
	TOTAL			344	

A | Architectural , Exterior

ASSESSOR: Matthew Gaul

3.0 Exterior Envelope

		Weight Factor	Rating	Points	Comments
Design					
3.1	Overall **design is aesthetically pleasing** and appropriate for the age of students.	2	5	10	
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	4	12	Minor adhesion problem at two location. Parapet cap at gymnasium is bowed and will need to be replaced to avoid water infiltration at seams.
3.3	**Roof access** is safe for all roofs.	3	5	15	
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	4	12	Sealant at the perimeter of a few windows needs to be replaced.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	5	5	Windows are tinted. Low-e coating cannot be determined.
3.6	**Operable windows** are functional and safe. Operable portion of window fully seals when closed without gapping or leaking.	2	5	10	
3.7	**Exterior doors** are of durable material requiring minimum maintenance.	2	5	10	
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	4	4	Sealant at masonry soft joints and around exterior grilles needs to be replaced in some locations. A few bricks at corners need to be replaced.
3.9	**Exterior Doors** open outward and are equipped with **panic hardware.**	1	5	5	
3.10	**Exterior Doors are monitored** or controlled by an access control system.	1	3	3	02 - Doors do not latch 07 - Doors with card readers 05 - Doors with locks or no exterior lock 12 - Doors with no signage.
	TOTAL			86	

C | Civil

ASSESSOR: Jack Gorman / Joel Jackson

4.0 The School Site

		Weight Factor	Rating	Points	Comments
4.1	**Site topography** and grading drains water away from the building and retaining walls.	1	5	5	Good drainage away from building, no issues observed
4.2	**Parking areas** are in good condition.	5	4	20	Most of pavement in good condition, however the asphalt on the lower level was cracking significantly
4.3	**Drive areas** are in good condition.	3	4	12	There were a few cracked panels and the drive area asphalt needs replacement
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	5	5	There appeared to be plenty of parking with most of the lower level parking available at the time of visit. DMPS states parking is adequate for day to day use of staff and visitors.
4.5	**Sidewalks** around the facility are in good **condition.**	1	4	4	There were a couple sections of damaged sidewalk panels but sidewalk conditions were mostly good across site
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	One door on the north side of the building was without sidewalk access, site was easy to navigate otherwise
4.7	**Hard surface** playground surfaces are in good condition.	3	4	12	The playground asphalt was cracking but not failing.
4.8	**Fencing** around the site is in good condition.	1	4	4	The east side fence has trees encroaching onto and moving the fence as a result. The trees are on the neighbors property so any fence replacement should be shifted away from the trees.
4.9	**Trash enclosure** is in good condition.	1	N/A	0	Dumpsters were out in parking lot
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	5	5	Intakes and flared end sections were all in good condition, flumes used to drain water out of the parking lot were in good shape

ASSESSOR: Jack Gorman / Joel Jackson

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	4	4	Soccer fields to the west of the school take up a lot of space and there isn't much room to the north, south, or east for expansion
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	3	3	Good stacking length for parent drop off. DMPS states parent traffic backs up onto street and creates issues, and that there are no buses transporting student on site
	TOTAL			78	

S | Structural

ASSESSOR: Niles Quick

5.0 Structural Conditions

		Weight Factor	Rating	Points	Comments
Foundations					
5.1	**Foundations** appear to be in good condition with no visible cracks.	1	5	5	
5.2	There does not appear to be any **foundation settlement.**	2	5	10	
5.3	**Basement walls** do not appear to have any cracks.	1	5	5	
5.4	**Stoops** appear to be in good condition.	1	4	4	Some spalling at stoop at entrance between rooms 109 and 110
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	4	4	Minor cracks periodically where slab is exposed throughout the building.
5.6	Slabs on grade do not appear to have any **settlement.**	1	5	5	
Exterior Walls					
5.7	**Brick masonry** appears to be in good condition.	2	5	10	
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	5	5	
5.9	**CMU** is in good condition.	1	5	5	
5.10	**Precast** is in good condition.	1	N/A	0	

S | Structural

ASSESSOR: Niles Quick

		Weight Factor	Rating	Points	Comments
Interior Walls					
5.11	**Interior walls** appear to be in good condition.	1	5	5	
Floor Framing (Elevated)					
5.12	**Floor framing** appears to be in good condition.	3	5	15	
5.13	Floor framing appears to meet the **code requirements.**	3	5	15	
Roof Framing					
5.14	**Roof framing** appears to be in good condition.	3	5	15	
Miscellaneous					
5.15	**Retaining walls** appear to be in good condition.	1	5	5	
5.16	**Canopies** appear to be in good condition.	1	5	5	
5.17	**Loading dock concrete** appears to be in good condition.	2	4	8	Concrete cracking and spalling in dock slab outside of room 126.
5.18	**Mechanical screening** appears to be in good condition.	2	N/A	0	
5.19	**Stairs** appear to be in good condition.	1	5	5	
5.20	**Stair railings** appear to be in good condition.	1	5	5	

S | Structural

ASSESSOR: Niles Quick

		Weight Factor	Rating	Points	Comments
5.21	**Tunnels** appear to be in good condition without cracks.	1	N/A	0	
5.22	There is a **designated hardened area** in the building.	1	0	0	Hardened area was not observed during visit.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL			131	

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

6.0 Mechanical Systems

HVAC Design

		Weight Factor	Rating	Points	Comments
6.1	**Zone Control.** Thermostats are provided in each space for individual zone control of space temperatures.	3	5	15	
6.2	**Thermostat location.** Thermostats are properly located in the space.	3	4	12	Some located near unit discharge or exterior wall
6.3	Appropriate **amount of ventilation** are provided to each space.	5	3	15	Ventilation is adequate and delivered directly into rooms. May have air balancing issues. Some rooms have significant noise from grille and appear to be supplying more, while other areas are not getting enough.
6.4	**Ventilation** is provided during occupied hours.	5	5	25	
6.5	**Outdoor air intake locations** are appropriate.	4	4	16	Rooftop intake and exhaust.
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	3	15	Several exhaust fans operational only with light switch8/9*89\ and are not continuous. Exhaust may need to be controlled by DDC to allow for scheduled operation. Recommend incorporating into a ERV unit. Other exhaust including tunnel radon system also adding to exhaust levels.
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	3	6	Exhaust at ERVs are equal to outdoor air and do not take into account other exhaust fans. Gas fired water heater requires draft inducer to operate properly as building it too negative.
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	3	15	VRF system was installed in 2011, but replaced in 2018. 2011 ERVs and RTU-1 serving Gym still remain. Gym and music room addition are also likely 2018 install. Served by residential furnaces and RTU. Small residential ERV included for furnaces.
6.9	**Cooling loads** are within equipment operational capacity.	5	5	25	
6.10	**Heating loads** are within equipment operations capacity.	5	3	15	VRF condensers are air-cooled and have reducing heating capacity when during colder time periods.

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.11	**Dehumidification** is provided and addressed humidity loads in incoming outside air.	3	4	12	ERVs have some dehumidification capability. VRF units have some dehumidification capability. Gym Addition using residential and light commercial equipment with limited dehumidification.
Plumbing Design					
6.12	**Water Supply Pressure** is adequate to allow for operation of plumbing fixtures.	5	5	25	
6.13	Appropriate **backflow preventer** is provided at connection to city water supply.	5	3	15	Single RPZ
6.14	**Domestic hot-water systems** are within equipment operational capacity.	5	5	25	
6.15	Domestic **hot-water recirculating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	5	15	
6.16	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	5	25	
6.17	Appropriately sized **grease interceptors** are provided for facilities with food service.	3	N/A	0	No food service at this building so no grease trap required.
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	5	25	
6.19	**Restroom fixtures** are in good condition and comply with current DMPS standards.	3	5	15	
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	3	9	Refrigeration piping and bypass boxes are located in tunnel and have limited access

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	N/A	0	
6.22	**Filter** sizes are standard and filter types are standard.	2	4	8	Varies with equipment type.
6.23	**Equipment mounting heights** are reasonable.	3	3	9	Ceiling mounted equipment in classrooms are detrimental to use of room and refrigerations piping is run exposed.
6.24	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	5	10	
6.25	**Isolation valves** are located in the plumbing and hydronic systems to allow for isolation of only portions of the system for servicing.	2	5	10	
6.26	Appropriate means are provided for **airflow and water balancing.**	3	3	9	Minimal balancing of OA and noted excessive flow at some grilles and potentially not enough at others.
6.27	**Hose Bibbs** located in proximity to **outdoor condensers and condensing units**. Is cottonwood an issue at this location?	2	3	6	No hydrant on roof to service mechanical equipment on roof. Have to rely on wall hydrants mounted below the equipment.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	3	6	Several areas on roof near mechanical equipment lack required fall protection.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	4	16	Combination of VRF controls and JCI controls in building.
Occupant Safety					
6.30	**Backflow prevention** is provided at all **cross-connections** to non-potable water.	5	N/A	0	

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.31	Building is fully **sprinklered.**	5	5	25	
6.32	**Domestic hot-water temperature** at lavatories used by students or staff is provided with a thermostatic mixing valve and adjusted properly.	5	5	25	
6.33	**Emergency eye-washes and tempering valves** are located where required.	5	N/A	0	No chemical feeders so minimal hazards in building
6.34	**Emergency boiler stop switches** are located at exits from boiler rooms.	5	N/A	0	
6.35	**Refrigeration evacuation systems** are provided in rooms with chillers.	5	N/A	0	
6.36	**Carbon Monoxide monitoring** and alarming is provided for areas with gas-fired equipment.	5	3	15	No CO detector provided for domestic hot water heater.
	TOTAL			464	

E | Electrical

ASSESSOR: Rob Hedgepeth

7.0 Electrical Systems

Electrical Design

		Weight Factor	Rating	Points	Comments
7.1	**Transformer location** is easily accessible by utility line truck to allow for rapid transformer replacement in the event of an issue.	5	5	25	750 kVA, 480/277V
7.2	**Transformer** has adequate clearance from non-combustible building components, paths of egress, etc. 10' clear working area in front of doors.	5	5	25	
7.3	**The MDP environment** is safe, has adequate clearances and exiting.	3	5	15	3P-1200A MAIN, 480/277V - WITH SURGE SUPPRESSION 2011 MFR DATE
7.4	The **MDP** appears serviceable.	4	5	20	
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	3	12	2-125A+ 1-100A SPARE, 1-400A.
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	5	20	225KVA 480-208V TRANSFORMER 1996 vintage 3P-800A - 120/208V Siemens
7.8	The Distribution Panel appears **serviceable.**	4	3	12	Distribution panel installed in 1996, over 25 years old.
7.9	The Distribution Panel is **maintainable.**	4	5	20	
7.10	The Distribution Panel will support **future expansion.**	4	2	8	Only 2 spare breaker spaces - 1-200A, 1-100A

E | Electrical

ASSESSOR: Rob Hedgepeth

		Weight Factor	Rating	Points	Comments
7.11	**Electrical panels and disconnect switches** observed during assessment are safe, serviceable, and maintainable.	2	5	10	
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	4	4	Two receptacles with in-use covers.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	3	15	North, inset, and east sides have inadequate exterior lighting. Lighting does not support cameras on north side.
Electronic System Design					
7.14	MDF is **neatly organized** and has appropriate clearances and working spaces. Cables are neatly laced or trained. Entry to the room is restricted.	4	3	12	Cluttered with equipment. MDF does not have card reader
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	5	20	Second rack is nearly empty.
7.16	MDF is equipped with UPS to back up main switch(es), providing **backup power** to necessary equipment in the event of a power outage.	5	3	15	Only one UPS provided, not two.
7.17	MDF Power is supplied by **20A circuits and receptacles.**	1	5	5	
7.18	MDF Power is supplied from a branch panel located in the room with **adequate spare circuit capacity.**	1	0	0	No branch panel in room. Power feed location for MDF is unknown.
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Cat 5e, 6A
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	5	5	

E | Electrical

ASSESSOR: Rob Hedgepeth

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	5	10	CATV grounded to nearby conduit, not room ground bus.
7.22	Building is equipped with an **addressable fire alarm system.**	5	5	25	Simples 4100es and Notifier. Transitioning to Simplex?
7.23	Building is equipped with an **access control system.**	5	3	15	7/14=50%
7.24	Building is equipped with a **CCTV system.**	5	3	15	Camera missing on NW. Data cable hanging down exterior wall.
7.25	Building is equipped with an **intercom system.**	4	5	20	
7.26	Building is equipped with a **master clock system.**	4	4	16	Simplex, not district standard Primex. Located in front office, not MDF room.
	TOTAL			367	

EV | Elevator

ASSESSOR: Mike Brown ATIS

8.0 Elevator Conditions

		Weight Factor	Rating	Points	Comments
Design					
8.1	**Size** meets minimum as directed by ADA.	2	5	10	
8.2	**Control protections and signals** meet ADA standards.	2	5	10	
8.3	**Signage** meets code requirements.	1	5	5	
Operation and Safety					
8.4	Elevators have **proper level accuracy and door times.**	1	5	5	
8.5	**Safety devices** are in place and operable.	1	5	5	
Condition and Maintainability					
8.6	**Equipment is easily accessible** for periodic maintenance.	1	5	5	
8.7	**Equipment** is at an acceptable point in the life cycle, and does not contain obsolete parts.	2	5	10	
8.8	**Finishes** are adequate and maintainable.	1	5	5	
8.9	**Maintenance** is adequate.	1	3	3	Equipment needs cleaned. Door thresholds have accumulated debris that will cause issues over time.
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	1	1	No maintenance records were found onsite .
	TOTAL			59	

RECOMMENDED PROJECTS AND COST ESTIMATING METHODOLOGIES

One of the major impetuses for our facility condition assessment work is the need to support strategic fiscal and maintenance planning for their facilities. As such, DMPS requires that recommended projects be assigned a total project cost in order to support the strategic planning needs of the District. A total project cost is a cost that includes the estimated construction cost as well as the various other 'hard' and 'soft' costs of a construction project such as professional design fees, contractor overhead, required contingencies, inflation, direct costs (e.g. permitting costs), etc. The full list of these hard and soft costs are defined later in this section.

Project Descriptions

Every building assessment report includes a section titled Recommended Projects and Priorities. This section is divided into the following subcategories: "Short Term Maintenance", "1-2 Year Project Priorities", "3-4 Year Project Priorities", "5 - 10 Year Project Priorities", and "Projects Requiring a Study". Each of these subcategories includes a list of project recommendations. The projects listed in each subcategory are grouped by discipline and listed in the following order: interior architecture, exterior architecture, civil (site), structural, mechanical, electrical, and elevator projects. The discipline order as described mirrors the order of the discipline Scoring Reports section found earlier in the building assessment report. The projects listed within Short Term Maintenance section do not include a cost. It is assumed that DMPS will perform this work. Additionally, projects which recommend furniture repair or replacement do not include a cost since furniture systems are selected and procured via a separate process. All other projects associated with the remaining subcategories, other than "Projects Requiring a Study" are provided an estimated total project cost.

Projects Requiring a Study

The projects listed within Projects Requiring a Study are provided estimated professional design fees to produce the recommended design study. In the future, once commissioned and completed, these recommended studies will not produce a completed design. Rather, the completed study will provide recommended project descriptions and estimated total project costs similar to the projects listed in this assessment report. For studies that most likely will result in a substantial project with a substantial cost associated, an "anticipated capital investment" cost number has been provided to help assist the District's strategic planning. This anticipated capital investment cost is based on a 5-10 Year Priority completion date and very high level general 'rules of thumb' estimations since it is unknown exactly what conclusions or recommendations will be determined by the study before the study is commissioned and completed.

Cost Estimating

To achieve the total project cost reflected in this building report, the recommended projects incorporate construction costs with added percentages to account for professional design services, design phase contingency, construction contingency, general contractor overhead and profit, other direct costs incurred by the project, and year-over-year inflation dependent on how many years out the recommended project is recommended to be completed. Not included in the total project cost are costs associated with hazardous materials abatement, testing, surveys, or site exploration (geotechnical testing, etc.). Additionally, for projects that are expected to produce a minimal amount of waste that is normally acceptable to City of Des Moines collection, costs for dumpsters have been excluded. To arrive at the final estimated total project cost as described above, the following methodology was used by the assessment team for each recommended project:

Step 1: Determine estimated direct cost of construction in 2024 dollars.

The recommended projects are conceptual in nature; therefore, all cost multipliers are overall systems level and/or unit costs. (These costs are not based on itemized breakdowns.) The cost information used is based on current available information which is in 2024 dollars and is a mixture of recent bids, firm experience, manufacturer provided information, and RS Means costing data.

Step 2: For recommended projects that are smaller in scale, scope, and estimated cost, a "small project fee" additive cost is applied to the estimated direct cost of construction determined in Step 1. This additive cost works to cover outsized mobilization, staffing, and equipment costs that are incurred on a small scale project the same as for a large project with a large economy of scale. These costs are as follows:

For projects with a Step 1 cost of $4,999.99 or less, an additive cost of $5,000.00 has been added.

For projects with a Step 1 cost of $5,000.00 to $14,999.99, a graduated additive cost from $5,000.00 to $0 has been added.

For all other projects (Step 1 cost of $15,000.00 and above) this step is skipped.

Step 3: Add 10% of the estimated direct construction cost for construction contingency.

RECOMMENDED PROJECTS AND COST ESTIMATING METHODOLOGIES

Step 4: Add a percentage of estimated direct construction cost plus construction contingency for inflation.
The projects are grouped based on how many years out it is recommended that the project is started. Projects closer to 2024 are more urgent projects. As project start times move further and further away from 2024, inflation must be added to best estimate how 2024 dollars will translate into the future. 5% year-over-year inflation was chosen as a reasonable assumption for this work.

- For projects assigned the 1-2 Year Priority add 10% of the estimated construction cost.
- For projects assigned the 3-4 Year Priority add 20% of the estimated construction cost.
- For projects assigned the 5-10 Year Priority add 50% of the estimated construction cost.

Step 5: Add 5% of the estimated direct construction cost, construction contingency, plus inflation for general conditions.
This cost covers the incidental costs incurred by the contractor to perform the work that are not directly tied to the specific materials and labor; examples include mobilizing to the site and final cleaning.

Step 6: Add 10% of the estimated direct construction cost, construction contingency, inflation, plus inflation for general contractor overhead and profit; combined, this is the total construction cost.

Step 7: Add 10% of the total construction cost for professional design services.
These services include, when appropriate: architectural design and project management, civil engineering, structural engineering, mechanical engineering, and electrical engineering. These services are for conceptual design through construction phase work.

Step 8: Add 5% of the total construction cost and professional design services for other direct costs.
These costs cover various other costs directly associated with the project such as printing, equipment, required permits, etc.

At the conclusion of Step 8, the total project cost for the recommended project is finalized.

PROJECT RECOMMENDATIONS

Below are recommended maintenance, projects, and studies based on the previous assessment scoring information. Short Term Maintenance items are items requiring DMPS attention in less than a year's time and is less than $5,000. Costs for these items are not estimated. 1-2 year priority projects are projects that require attention within the next 2 years. 3-4 year priority projects are projects that require attention within the next 4 years. 5-10 year priority projects are projects that require attention within the next 10 years. Project quantities are all estimated based on observations. These are not measured or verified quantities. Project costs are listed. Project requiring Study are items where project scope is not able to be defined at this time and further investigation is required. Costs for these items are design service fees, not project costs. See the Cost Methodology description for additional information.

Short Term Maintenance

Pest Control	Multiple staff members relayed issues with mice and cockroaches in various areas of the school. Identify and enact necessary measures to eliminate pest issues.
Exterior Door Adjustment	Adjust 2 exterior doors so that they latch from any closing position. One door at room 150 and one door at main entrance. Adjust door at room 127 so that it closes and latches tightly; and replace weather stripping
Roof Cleaning	Remove debris from roof low spots, drains, overflows, and other areas where it collects so that the roof membrane remains in good condition and sheds water as intended.
Masonry Replacement	Single bricks at the following locations are broken and should be replaced: SW corner of gymnasium, SW corner of room 127, and NW corner of room 109.
Soffit Refinish	Repaint soffit above loading dock outside room 134, 60 LF.
Regrading	Add soil to bring up grade outside of rooms 123 and 122 up to bottom of bricks and reseed grass, approximately 160 SF at 6 inches deep.
Grading Repair	Fill over exposed pipe and along edges of sidewalk. For location, refer to civil site plan exhibit found in the appendix of this report.
Dock Railing and Steel Angle Refinish	Clean and repaint ~12' of railing and ~15' of steel angle at dock outside of room 126.

Ventilation Dampers Rebalance	The airflow for ventilation is not uniform to each room and would benefit from a general inspection and balancing.	
Exterior Camera Replacement	Repair/replace missing exterior camera near northwest corner of building.	
Exterior Lighting Repair	Exterior light fixture near the southwest corner of the building remains on during daylight hours. Repair photoelectric cell.	
Provide Elevator Maintenance Logs	There was no maintenance control plan or safety test report onsite. Provide elevator maintenance logs and test reports.	

1 - 2 Year Priority

Casework Replacement	Replace all casework storage and counters in classrooms due to age, damage, and previous modifications. This includes tall storage casework (100 LF), base cabinets/low bookcases along windows (260 LF), and base cabinets with sinks (200 LF, and 20 sinks).	$740,000
Roof Repair	Readhere roofing at south east corner of courtyard above rooms 138A and 141 (4 SF), as well as at corner of parapet above room 170 (4 SF). Provide sealant at wall end of parapet above room 170, 2 LF. Replace parapet cap above gymnasium 18" wide, 256' long.	$13,000
Exterior Sealant Replacement	Replace sealant at masonry soft joints around the northeast wing and the east-west wing, typically below windows at inside corners and full height inside corners; 1/2 inch wide, 230 LF. Seal below window overlooking roof D, inside corner between rooms 170 and 175B, 1/2 inch wide 12 LF and 1 LF respectively. Seal around grills on north and south facades of east-west wing, 1/4 inch wide, 86 LF.	$9,000
Playground Pavement Replacement	Remove and replace 299 SY of asphalt. For location, refer to civil site plan exhibit found in the appendix of this report.	$40,000

ERV Units Replacement	Replace two total existing ERVs with two new DOAS/ERV unit. Incorporate more exhaust from areas of the building that are currently exhausted directly outside. Incorporate dehumidification at DOAS to reduce load at terminal units. Size ERVs to keep building pressures slightly positive.	$700,000
Mixing Valve Installation	Replace existing mechanical mixing valve for domestic hot water with a digital control mixing valve.	$13,000
Exterior Lighting Installation	Add exterior lighting to north and east sides of building and in courtyard area to allow cameras to function better during dark hours.	$12,000
	Total 1-2 Year Project Costs:	$1,527,000

3 - 4 Year Priority

Interior Door Refinish	Repair stain and clear protective finish on approximately 25 wood veneer interior doors. Install kick plates on one side of each door to protect from future damage.	$15,000
Ceiling Tile Replacement	Remove ceilings in all classrooms with adhered ceiling tile or textured gypsum board ceilings. Install new acoustic tile ceiling systems in all classrooms. Approximately 16,000 SF. Coordinate this project with classroom HVAC upgrade listed below.	$330,000
Parking Pavement Replacement	Remove and replace 328 SY of asphalt. For location, refer to civil site plan exhibit found in the appendix of this report.	$50,000
Loading Dock Pavement Repair	Repair damaged pavement of loading dock. Approximately 19 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$9,000
Fencing Replacement	Remove and replace 100 LF of fencing. For location, refer to civil site plan exhibit found in the appendix of this report.	$13,000

Stoop Replacement	Stoop at entrance between rooms 109 and 110 has minor spalling. Patch spalling ~20 sq. ft. x 3" maximum depth	$8,000
	Total 3-4 Year Project Costs:	**$425,000**

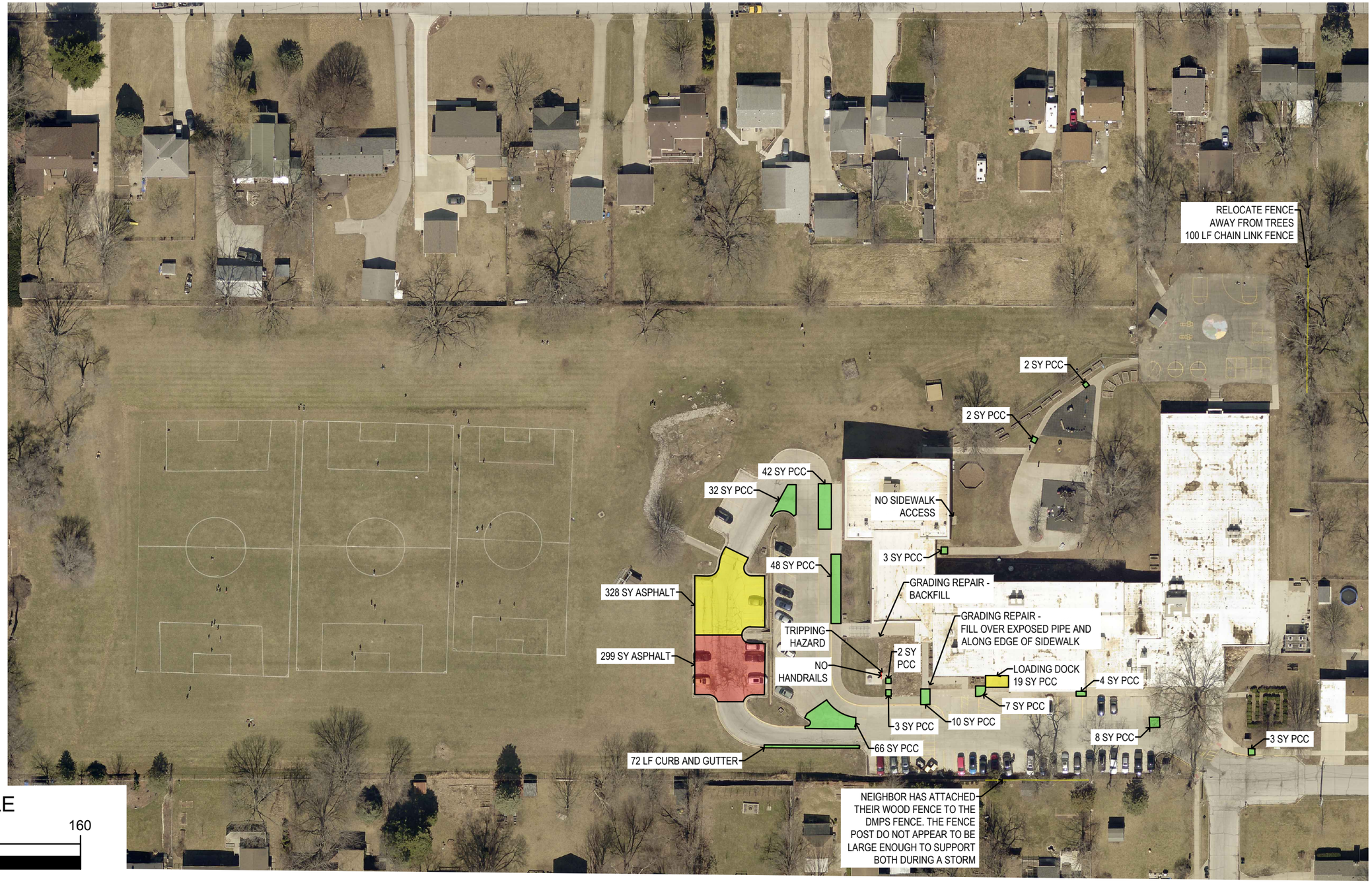
5 - 10 Year Priority

Repair Curb and Gutter	Return damaged curb and gutters to new condition. Approximately 72 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$12,000
Parking Pavement Replacement	Remove and replace 140 SY of PCC. For location, refer to civil site plan exhibit found in the appendix of this report.	$25,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 84 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$20,000
	Total 5-10 Year Project Costs:	**$57,000**

Projects Requiring Study

Mechanical HVAC System Replacement Study	Study to evaluate and select a new HVAC system type as a replacement for existing VRF system in classrooms. Possible consideration of a geothermal wellfield installation.	$15,000
Odor and Moisture Source Study	Further investigation is required to determine the causes of the strong unpleasant odor in work room 136 / mother's room 137 and the moisture that develops on the walls of room 137.	$5,000
Designated Hardened Area	No designated hardened area was observed. Study to determine the feasibility of adding a designated hardened area to the building including location within the existing building, schematic design concept if deemed feasible, and preliminary project costs.	$2,500
	Total Study Design Services Fees:	**$22,500**

APPENDIX



5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

80 0 40 80 160

bbs ARCHITECTS ENGINEERS

BISHOP ENGINEERING +

COWLES ELEMENTARY

EXHIBIT

PROJECT # 230286-05

DATE 11/1/2023

N

bbs ARCHITECTS ENGINEERS

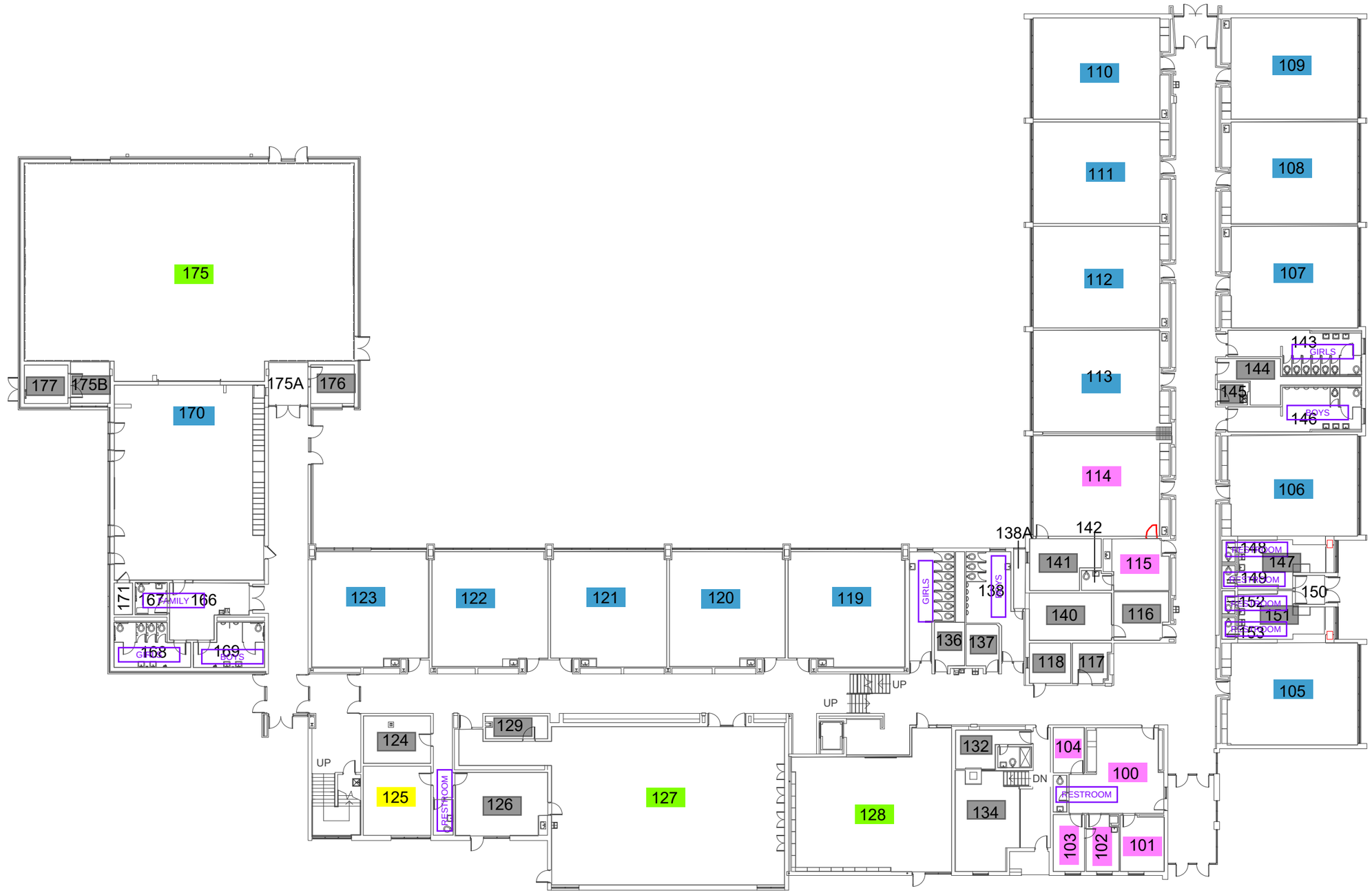
23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Cowles Montessori School
November 28, 2023

COWLES ELEMENTARY SCHOOL

6401 COLLEGE AVENUE
WINDSOR HEIGHTS, IOWA 50324

FIRST FLOOR

NORTH



bbs ARCHITECTS ENGINEERS

COWLES ELEMENTARY SCHOOL

6401 COLLEGE AVENUE
WINDSOR HEIGHTS, IOWA 50324

SECOND FLOOR

NORTH