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DMPS FACILITY ASSESSMENT | MONROE ELEMENTARY

11.1.2024

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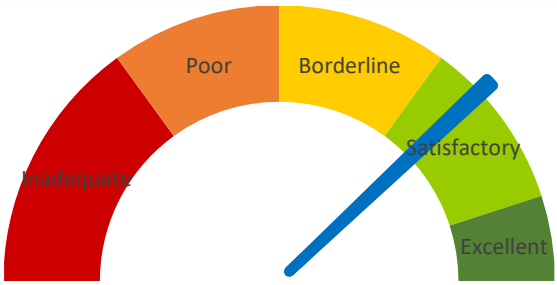


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Monroe Elementary's on-site facility conditions assessment was conducted on November 1, 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.

Immediate maintenance items identified for Monroe Elementary include, kitchen wall maintenance, door repairs, elevator maintenance, and mechanical filter fitting and replacement. All exterior wood windows and blinds are in critically poor condition, since this work is scheduled for 2024 it has not been noted in this report as a project, however scoring does reflect this is a priority need. There are many exterior and building system needs that are further identified within this report.

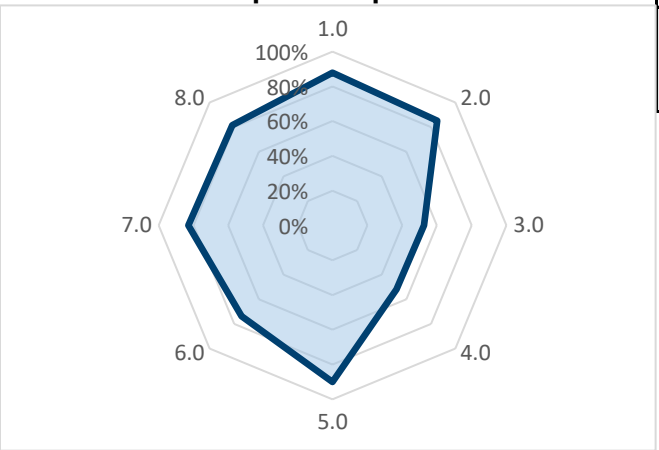
A summary of the recommended projects for Monroe Elementary to be completed in the next 1-2 years are as follows:

- Roof Access Improvements
- Exterior Door Replacement
- Tablet/Laptop Storage
- Floor Deck Repair
- Tunnel Entrance Header
- AHU Modifications and Improvements
- Site Replacement and Repairs

All 1-2 year projects along with all of the recommended potential projects at the 3-4 year and 5-10 year priority levels are further described 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	145	2.00	330	290	88%	Satisfactory
2.0	Environment for Education	370	315	0.60	222	189	85%	Satisfactory
3.0	Exterior Envelope	95	50	3.00	285	150	53%	Borderline
4.0	School Site	100	52	1.50	150	78	52%	Borderline
5.0	Structural Conditions	150	135	1.30	195	176	90%	Excellent
6.0	Mechanical Systems	655	484	0.80	524	387	74%	Satisfactory
7.0	Electrical Systems	375	311	0.75	281	233	83%	Satisfactory
8.0	Elevator Conditions	65	53	1.00	65	53	82%	Satisfactory
Total					**2,052**	**1,556**	**76%**	**Satisfactory**

Monroe Elementary
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 Monroe Elementary scored a building health rating of 76% 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. Monroe Elementary falls into the low satisfactory category. Improvements to the exterior envelope, site, and mechanical systems as described in this report will make the greatest impact in increasing the score to "Excellent".

Building Data Record

Building Name: Monroe Elementary

Date: 11.1.2023

Address: 3015 Francis Dr
Des Moines, IA 50310

High School Feeder System: Hoover High

Building SF: 73,997 SF

Site Acreage: 5.02 Acres

Date(s) of Construction: 1924, 1948, 1958, 2000 (major renovation and addition)

Date(s) of Roof Replacement: 2000, 2009 (partial)

Current/Scheduled Projects: Technology Fiber for school network- 2024
Partial Roofing Replacement - 2024
Partial Restroom Upgrade- 2024
Window Replacement - 2024

Existing Building Data:

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

Site Items:

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

Energy Source:

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

Cooling:

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

Heating:

- [ ] Gas/Electric RTU or DOAS
- [x] Boiler
- [ ] Water-to-Water Heat Pump
- [ ] 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: Kaela Shoemaker

1.0 Educational Adequacy

		Weight Factor	Rating	Points	Comments
General					
1.1	**Floor materials** are appropriate for space type.	2	4	8	Cafeteria is original wood floors. They appear in good condition and well maintained
Elective/Secondary Classroom					
1.2	**Gymnasium** is adequate for providing physical education programming.	2	4	8	Acoustics could be improved. Accommodations are otherwise well met with voice and audio systems built in and other tech accounted for.
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	4	8	Sparse room, acoustics may be a concern. There is no band or orchestra practice room.
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	Small rug/ class breakout space. Minimal furniture. No flexible or collaborative seating.
Core Classroom					
1.7	Classroom space permits arrangements for **small group activity.**	3	5	15	
1.8	**Student storage space** is adequate.	2	5	10	
1.9	**Teacher storage space** is adequate.	3	4	12	Original built in storage is showing age and in some cases difficult or inefficient to use.
1.10	Classroom **acoustical treatment** of ceiling, walls, and floors provide effective sound control.	3	5	15	

A | Architectural, Programming

ASSESSOR: Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
1.11	**Classroom power and data receptacles** are located to support current classroom instruction.	4	3	12	Most all upper grades use tablets. The power and storage for these is almost always on the counters by the sink. Cords are not well kept and proximity to water is a concern.
1.12	Educational **technology** supports instruction.	4	5	20	
Administration					
1.13	**Conference/Private meeting rooms** are adequate for large and small meetings.	1	4	4	Large conference room serves as teacher work and planning room as well. There is a community auditorium.
1.14	**Main office** has a check-in and waiting area.	2	5	10	
	TOTAL		145		

A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

2.0 Environment for Education

Design

		Weight Factor	Rating	Points	Comments
2.1	**Traffic flow** is aided by appropriate foyers and corridors.	1	4	4	Original corridors have fire doors within open corridors. Corridor space is limited to those door openings.
2.2	Communication among students is enhanced by **common areas.**	1	2	2	Level 2 has a space within the corridor with table and chair. Corridors have little to no breakout spaces, but are large enough to accommodate traffic flow (see above).
2.3	Areas for students to **interact are suitable to the age group.**	1	2	2	Classroom breakout spaces are adequate but lacking in flexible and varied seating options. Other collaborative areas such as media center,does not have collaborative or engaging furniture.
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	5	10	Consistent use of school colors throughout. Graphics and signage emphasize school mascot
2.7	Windows and skylights provide access to **adequately controlled daylight** for regularly occupied spaces.	3	1	3	Blinds are terrible throughout the building.
2.8	Windows provide access to **quality views** (to exterior, courtyards, artwork etc.) for regularly occupied spaces.	3	3	9	Views and daylight are good. Windows are all generally in poor condition leaving gaps and air leaking.
2.9	**Lighting has proper controls** to provide the required light levels for various teaching and learning needs.	2	4	8	Classroom lighting is zoned for 2 or 3 zones. This appears adequate. Smaller councler rooms may benefit from dimming.
2.10	**Staff dedicated spaces** include conference space, work space, and dedicated restrooms.	1	5	5	Staff restrooms are only in main office. Other restrooms are single occupancy.

A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
2.11	**Main office** is visually connected to the entry and is welcoming to students, staff, and guests.	2	4	8	Visual is limited.
2.12	**Break room** is adequately sized and furnished for proper use.	1	4	4	Most teachers have mini fridge and microwave in classrooms as well.
2.13	**Mother's room** is a separate designated space properly furnished.	1	0	0	No designated area. Could designate a portion within the break room.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	4	4	Minor surface wear in broadloom carpets. Restroom flooring minor stains at wash fountains.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	4	4	Minor sagging and water spots in several rooms throughout building.
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	3	3	Wall in kitchen looks to potentially have moisture issues with paint bubbling. Multi-user restroom walls have areas of missing tile and other damage.
2.17	**Built-in casework** is designed and constructed for ease of maintenance.	1	4	4	Minor chipping of laminate. Art room is showing significant damage.
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	4	12	Many doors are showing surface wear, but still solid and in good condition. Doors into gym at main corridor are slightly off square and don't close properly.
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	3	6	Partitions are HDPE, but showing signs of wear.

A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

		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	4	12	Classroom doors have key lock sets. Offices do not have intruder locks.
2.24	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	3	4	12	Doors either have panel vision lite or window adjacent to the door. Typically wire glass.
2.25	**Vision lite** in doors is clear and uncovered.	2	4	8	Several vision panels were covered, most all have fabric curtains.
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	5	25	

A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

		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			320	

A | Architectural , Exterior

ASSESSOR: David Unick

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	4	8	Entry well identified.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	3	9	Roofs generally appear to be sound and well drained, but most are nearing end of anticipated service life. Overflow drain should be provided for Roof C. See appendix for roof identification plan.
3.3	**Roof access** is safe for all roofs.	3	1	3	Roof access to all areas except gym require safety upgrades. Provide fixed ladders with pass-through railing extensions at all roof levels where currently missing or existing is non-OSHA compliant.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	3	9	Exterior sealant is starting to pull away at some window perimeters. Should replace all perimeter sealants as part of maintenance project.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	4	4	Insulated glazing appears to be in place throughout.
3.6	**Operable windows** are functional and safe. Operable portion of window fully seals when closed without gapping or leaking.	2	2	4	Aluminum Clad windows scheduled for replacement. Aluminum storefront appears to be acceptable.
3.7	**Exterior doors** are of durable material requiring minimum maintenance.	2	2	4	Multiple locations-especially on west side of building-where door frames and removable mullions are rusted.--
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	4	4	Exterior wall systems are brick, pre-cast concrete (with brick liners) and metal panel. Sealant at pre-cast panel joints and at opening heads/wall soft joints will need to be replaced.
3.9	**Exterior Doors** open outward and are equipped with **panic hardware.**	1	3	3	Doors have panic devices. Several sets of doors on west side were identified to be difficult to latch during summer heat.
3.10	**Exterior Doors are monitored** or controlled by an access control system.	1	2	2	(2) Doors require maintenance attention due to summer latching issues. (3) Entries have card readers. (13) Entries have keyed locksets. (5) Entries have exit-only locksets. Zero doors had exterior identification numbering at time of visit.
	TOTAL			50	

C | Civil

ASSESSOR: Jack Gorman

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	Site drains well and away from building, no issues were observed on it
4.2	**Parking areas** are in good condition.	5	1	5	The south lot has an area of new concrete parking that is in good condition otherwise it is deteriorating in the remainder. The northwest parking area has considerable cracking.
4.3	**Drive areas** are in good condition.	3	1	3	The northwest lot pavement has deteriorated significantly with large pot holes and cracks in the center drive aisles, and worn out pavement along the bus lane drop off. The south lot is heavily patched but the asphalt is degrading, some sections don't appear to have much more than a year or two left
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	4	4	Staff parking is manageable for day to day, events are accommodated with street parking.
4.5	**Sidewalks** around the facility are in good **condition.**	1	3	3	Most of the new pavement was performing well. However, the east side sidewalk and sidewalk through the north drive accesses had multiple trip hazards and need repairs. The landing at the top of ramp of the entrance by the trash enclosure is in poor condition.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	There was one building door without sidewalk access but it did not appear to be a heavily trafficked entrance. Walking across the site was easily done without any steep slopes.
4.7	**Hard surface** playground surfaces are in good condition.	3	4	12	The concrete walk track was in newly constructed condition without any cracks or chips. The area around the basketball hoops had some cracking but was still in good condition.
4.8	**Fencing** around the site is in good condition.	1	5	5	Sections of the fence were older but still in good condition. A few bent bars were observed but no major issues were found on site.
4.9	**Trash enclosure** is in good condition.	1	3	3	Asphalt inside the trash enclosure was cracking. The masonry brick was in good condition and the gate had slight damage to it.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	4	4	The intake in the NW section of the playground area had cracked pavement around it but the walls were intact. The retaining wall drains were old and corroded, however they still appeared to be functioning. Other structures were appropriately placed and in good condition.

C | Civil

ASSESSOR: Jack Gorman

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	2	2	There is some area in the SE corner of the site for parking expansion but it would be limited in size.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	2	2	Buses use the north drive on Hickman for pickup/drop off and parents use the north drive and northwest parking lot. Buses and parents cross traffic and create a conflict on site. There are also no ADA drop off spaces.
	TOTAL			52	

S | Structural

ASSESSOR: Tyler Scott, P.E.

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	Stoops around the gymnasium and cafeteria delivery door have some spalling, pitting, and cracking. The worst of these is the stoop in front of the cafeteria door where larger spalls and cracking was observed. The stoop located east of the gym and attached to the main corridor
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	5	5	
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	4	8	Some areas around the building have minor cracks and some early signs of mortar deterioration in isolated locations. On particular area of mortar deterioration was observed on the adjacent wall near a roof top exhaust above room 139, adjacent to the chiller. Brick damage was also observed in the SW corner of room 102
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	4	4	Some minor rust was observed on the lintel supporting the brick above the windows along the north elevation of the cafeteria room 139.
5.9	**CMU** is in good condition.	1	5	5	
5.10	**Precast** is in good condition.	1	N/A	0	

S | Structural

ASSESSOR: Tyler Scott, P.E.

	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	3	9	One isolated area of the floor deck on the main floor in the corridor of the south wing was observed to have cracks and noticeable deflection. The floor crack appears to be in the same area where the floor deck transitions and no supporting beam was provided. This condition requires further investigation.
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	4	4	All walls are in stable condition and are in no need of immediate attention. One spot of the concrete retaining wall had an area of spalled concrete and exposed rebar. This appears to have been the result of insufficient concrete cover. Patching of this area is recommended to prevent future deterioration.
5.16 **Canopies** appear to be in good condition.	1	5	5	
5.17 **Loading dock concrete** appears to be in good condition.	2	N/A	0	
5.18 **Mechanical screening** appears to be in good condition.	2	5	10	
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: Tyler Scott, P.E.

		Weight Factor	Rating	Points	Comments
5.21	**Tunnels** appear to be in good condition without cracks.	1	3	3	Entrance to an existing tunnel was cut through and existing load bearing multi-wythe brick wall, but no lintel was provided over the opening into the tunnel. The bottom of the wall opening is supporting floor deck with utilizing a bolted angle. Bolts do not have sufficient edge distance from the top of the opening.
5.22	There is a **designated hardened area** in the building.	1	5	5	The basement has been designated as storm shelter which is all cast in place concrete structure.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	3	3	The basement has been designated as storm shelter. This area of the building is part of the original structure, which was designed long before the ICC-500 code was created. Therefore, while the area is assumed to be structurally sufficient for this purpose, has not been designed to the standards of ICC-500.
	TOTAL		130		

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

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	Generally appears to be provided.
6.2	**Thermostat location.** Thermostats are properly located in the space.	3	5	15	Generally appears to be provided.
6.3	Appropriate **amount of ventilation** are provided to each space.	5	4	20	Appears acceptable based on code in place when design was completed. May be issues meeting current code requirements with VAV system and variable occupancy.
6.4	**Ventilation** is provided during occupied hours.	5	5	25	Appears to be provided. Outdoor air damper positions were not verified.
6.5	**Outdoor air intake locations** are appropriate.	4	2	8	Several outdoor air intakes and exhaust outlets are not provided with adequate separation (most notably on mezzanine adjacent to gym, but could also be issues with larger air handling unit at roof).
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	5	25	Appears to be true.
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	5	10	Generally appears to be true. Values were spot checked on existing plan set.
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	3	15	Air handling units appear to have remaining useful life and chiller and chilled water pumps are new. Boilers and associated pumps are likely nearing their expected useful lives.
6.9	**Cooling loads** are within equipment operational capacity.	5	5	25	Appears to be true.
6.10	**Heating loads** are within equipment operations capacity.	5	5	25	Appears to be true.

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.11	**Dehumidification** is provided and addressed humidity loads in incoming outside air.	3	5	15	Appears to be true.
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	5	25	Not directly observed due to access through air handling unit, but confirmed with DMPS staff.
6.14	**Domestic hot-water systems** are within equipment operational capacity.	5	3	15	Appear to be functional and have adequate capacity. Units may be nearing expected useful life.
6.15	Domestic **hot-water reicrulcating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	2	6	Systems exist, but may be undersized. Hot water was not present at tested wash fountain after approximately one minute of operation.
6.16	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	5	25	No issues observed.
6.17	Appropriately sized **grease interceptors** are provided for facilities with food service.	3	0	0	No grease interceptor was located.
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	3	15	Most roofs designed to overflow over edge of roof. Does not appear to be means for overflow on roof at NE corner of building.
6.19	**Restroom fixtures** comply with DMPS preferences.	3	3	9	Manual flush valves at restrooms.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	5	15	Service clearance generally appears to be good.

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	5	10	
6.22	**Filter** sizes are standard and filter types are standard.	2	3	6	Appears mostly 20x20 filters. Some locations where filters were not tightly fit into unit.
6.23	**Equipment mounting heights** are reasonable.	3	4	12	Generally true.
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	5	15	
6.27	**Hose Bibbs** located in proximity to **outdoor condensers and condensing units**. Is cottonwood an issue at this location?	2	4	8	There is a wall hydrant on the west wall, just below the chiller.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge.	2	0	0	It is for the chiller, but not for a few other roof-mounted fans.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	Appears controllers have been updated to FC vintage.
Occupant Safety					
6.30	**Backflow prevention** is provided at all **cross-connections** to non-potable water.	5	5	25	Yes.

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.31	Building is fully **sprinklered.**	5	0	0	Building is not sprinklered.
6.32	**Domestic hot-water temperature** at lavatories used by students or staff is provided with a thermostatic mixing valve and adjusted properly.	5	0	0	No mixing valves observed.
6.33	**Emergency eye-washes and tempering valves** are located where required.	5	0	0	None observed. Recommend evaluation by an occupational safety and health professional to determine if eye irrigation is needed.
6.34	**Emergency boiler stop switches** are located at exits from boiler rooms.	5	5	25	
6.35	**Refrigeration evacuation systems** are provided in rooms with chillers.	5	N/A	0	N/A.
6.36	**Carbon Monoxide monitoring** and alarming is provided for areas with gas-fired equipment.	5	5	25	
	TOTAL			499	

E | Electrical

ASSESSOR: David Carlson

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	Placement above the retaining wall on a hill could present a slight challenge but a replacement transformer is well within the weight limits of a typical electrical line truck boom.
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	3	9	Clearance is adequate. Exiting is grandfathered in under current code, as door into room does not swing outward and does not utilize panic hardware.
7.4	The **MDP** appears serviceable.	4	4	16	MDP is serviceable; it is in good condition and is less than 25 years old. MDP is of Cutler-Hammer (now Eaton) make.
7.5	The MDP is **maintainable.**	3	5	15	Replacement parts are readily available from Eaton.
7.6	The MDP will support **future expansion.**	4	3	12	Three spaces remain of seventeen total available.
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	N/A	0	No distribution panels present.
7.8	The Distribution Panel appears **serviceable.**	4	N/A	0	No distribution panels present.
7.9	The Distribution Panel is **maintainable.**	4	N/A	0	No distribution panels present.
7.10	The Distribution Panel will support **future expansion.**	4	N/A	0	No distribution panels present.

ASSESSOR: David Carlson

		Weight Factor	Rating	Points	Comments
7.11	**Electrical panels and disconnect switches** observed during assessment are safe, serviceable, and maintainable.	2	4	8	All panels observed had good clearance aside from light storage within the clear area.
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	3	3	Exterior receptacles are present outside of the auditorium, kitchen, and gymnasium and are GFCI protected with Weatherproof (WP) covers. However, these covers are not in-use lockable WP covers, and one cover is broken. A NEMA 14-50A receptacle is located outside of the gym as well.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	5	25	Generally well lit except for east side along 30th Street. Consider adding lighting, especially at entries and stairs. Additional lighting at SE corner would enhance CCTV views of playground.
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	5	20	
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	4	16	Rack has an additional ~25% mounting space available. A new UPS is sitting next to the rack, but is not in use. The removal of the existing rack-mounted UPS would increase this rating to 5 once the new UPS is put into service.
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	5	25	
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	3	3	MDF is fed from Panel 1B which also feeds surrounding classrooms. 14 spaces remain in 84 position panelboard.
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Majority of cabling is CAT5e. Transition to CAT6 and 6A is in process, as CAT6 made up approximately 40% of cabling.
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	4	4	Fiber optic cabling is mixed. Both single-mode and multi-mode jumpers are in use, noted use of aqua OM3, yellow SME, and orange SME cables.

E | Electrical

ASSESSOR: David Carlson

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	3	6	TMGB has adequate capacity, but not all equipment grounding connections have been made. Cable tray is not grounded, and rack is grounded with a #12AWG conductor rather than #6AWG.
7.22	Building is equipped with an **addressable fire alarm system.**	5	3	15	DMPS standard Simplex 4100ES panel. Custodial staff notes several Trouble code events as follows: Grounding trouble code during heavy rain, occasional trouble codes regarding phone line connections. Additionally, regular cleaning activities in the restrooms trigger smoke detectors to alarm.
7.23	Building is equipped with an **access control system.**	5	2	10	6/17=35%
7.24	Building is equipped with a **CCTV system.**	5	5	25	SE playground views are poor quality after dark.
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	Installed Simplex clock system does not conform with current DMPS standard programming (Primex).
	TOTAL			311	

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	3	3	Installed with safety edge instead of full length screen door protection
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	2	4	The control system is obsolete. Repair services or used boards will be needed to keep in operation.
8.8	**Finishes** are adequate and maintainable.	1	5	5	
8.9	**Maintenance** is adequate.	1	3	3	Increase maintenance to quarterly minimum. Replace the door gibs.
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	3	3	Records are incomplete.
	TOTAL			53	

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.

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

Kitchen Wall Repaint	Kitchen wall is showing paint peeling and bubbling from surrounding moisture. Remove paint, remedy any moisture within the wall, and re-finish with protective finish such as epoxy paint. Approximately 60 SF.
Interior Door Repair	Gymnasium doors into main corridor are not properly aligned and hung, this is causing the doors to not properly close.
Exterior Door Hardware Replacement	Replace closers on courtyard doors.
East Entrance Stair Repaint	Remove and clean rust from surface of guardrail base plates and posts. Paint with high performance coating.
Filter Replacement and Adjustment	Check AHU filters to ensure tight fit. Some locations observed where filters were not tight and air was bypassing filters.
Increase Elevator Maintenance	It is recommended to increase elevator maintenance to quarterly due to the age and needs of the elevators. Approximate costs are $2,000/year.

1 - 2 Year Priority

		Project Costs
Laptop Storage	Tablet storage and power is primarily located near or above the sinks in upper level classrooms. Provide a standalone storage unit or space for power and storage away from water. Approximately 20 classrooms.	DMPS

Roof Access Installation	Provide OSHA-compliant interior access ladders to Roof J (3 VLF with security panel) and F (16 VLF). Add guard around roof hatches at F and G. Replace exterior ladders from Roof J to B (10 VLF) and from B to F (12 VLF). Add exterior ladders from Roof D to F (5 VLF), and K to L (3 VLF).	$25,000
Exterior Door Replacement	Replace west double doors from Gym (6'x7') and Metro Kids west entry (6'x7' door with sidelights.)	$45,000
Roof Replacement	Replace adhered EPDM at Roofs B, C, and e with new TPO assembly, approximately 5,000 SF. Add secondary drainage for Roof C. See appendix for roof identification plan. Add roof drain overflow path for roof section at northeast corner of building. Other areas typically have overflow pathway.	$130,000
Parking Pavement Replacement	Remove and replace 225 SY of significantly deteriorated asphalt parking pavement. For location, refer to civil site plan exhibit found in the appendix of this report.	$30,000
Sidewalk Repair	Repair significantly damaged sidewalks across the site. Approximately 34 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$11,000
Curb Repair	Return damaged curbs to new condition. Approximately 10 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$6,000
Floor Deck Repair	Install W8x15x10' beam under floor deck transition and repair floor crack and slab depression with self leveling compound (Approximately 50 SF of 3/8" compound). Location is under the main corridor around rooms 122 and 125. Relocation of electrical conduit and lighting will be required.	$8,000
Tunnel Entrance Header Installation	Install (2) W8x15x6' lintels with 3/8"x20" wide b/plate to support unsupported brick masonry wall above existing entrance to basement utility tunnel (south wing). Relocation of electrical conduit and sanitary sewer line will be required.	$10,000
Stoop Slab Replacement	Replace in place designated concrete stoops slabs around gymnasium and cafeteria loading area. Approximately 350 SF at 5" thick stoop slab thickness. Use #4 epoxy coated rebar @ 9" o.c. each way. Stoop #1: 5'-6" x 10'-6", Stoop #2: 4'-4" x 14'-6", Stoop #3: 16-5" x 4'-4", Loading dock Stoop #4: 24'-6" x 6'-4"	$20,000

Water Heater Replacement	Replace water heaters and modify domestic hot water recirculation systems to improve operation.	$120,000
AHU Intake/Relief Reinstallation	Implement changes to separate outdoor air intakes from reliefs serving AHUs on gymnasium mezzanine. Current separation does not meet code requirements.	$130,000
Exterior Lighting Installation	Add building mounted exterior lighting at East side entries and stairs and at SE corner to enhance CCTV views of playground.	$12,000
Replace Door Gibs on Elevator Doors	The gibs are worn and will cause permanent damage if left unattended	$7,000
	Total 1-2 Year Project Costs:	$554,000.00

3 - 4 Year Priority

		Project Costs
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 31 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$11,000
Parking Pavement Replacement	Remove and replace 675 SY of deteriorated asphalt parking pavement. For location, refer to civil site plan exhibit found in the appendix of this report.	$100,000
Retaining Wall Repairs	Patch repair spalled concrete at east exterior site retaining wall. 8 ft2 at 3" depth of patch repair.	$8,000
Boiler Replacement	Boilers are likely nearing their expected useful life and planning for replacement is advised. Heating water pumps and boiler circulation pumps should also be replaced.	$540,000
Elevator Control Replacement	Replace obsolete controls and prepare for a comprehensive modernization project to keep the elevator maintainable.	$150,000

Grease Interceptor	Install new grease interceptor sized to meet WRA requirements	$530,000
	Total 3-4 Year Project Costs:	$1,339,000.00

5-10 Year Priority

		Project Costs
Casework Replacement	Replacement of classroom countertops and sinks throughout, approximately 350 linear feet and 30 sinks. Wood casework is original to the building and needs minor repair and refinishing.	$340,000
Furniture Replacement	Furniture replacement for common corridor breakout areas (2 areas observed), classroom breakout space for each classroom, and media center. Furniture should enhance the learning environment and provide various seating options for students.	DMPS
Roof Replacement	Replace modified bitumen roofing at Roofs H-O with new TPO assembly, approximately 25,000 SF. See Roof Identification Image for specific locations.	$830,000
Exterior Sealant Replacement and Masonry Repair	Reseal masonry soft joints/precast panel joints, storefront window perimeters (approximately 360 LF), and clean masonry and stone. Minor masonry tuckpointing (approximately 50 SF) is required in select areas around chiller and at the south east corner.	$11,000
Parking Pavement Replacement	Remove and replace 4,241 SY of less deteriorated asphalt parking pavement. For location, refer to civil site plan exhibit found in the appendix of this report.	$750,000
Sidewalk Replacement	Repair less damaged sidewalks across the site. Approximately 74 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$20,000
Fence Replacement	Remove and replace 25 LF of chain link fence. For location, refer to civil site plan exhibit found in the appendix of this report.	$9,000
	Total 5-10 Year Project Costs:	$1,960,000.00

Projects Requiring Study

		Design Services Fee
Mother's Room Space Study	Study to define a private dedicated space for a Mother's Room that includes at least a sink, side table, chair, and privacy door hardware.	$5,000
Addition of Fire Sprinkler System	Study feasibility of adding fire sprinkler system to serve building.	$10,000
	Total Study Design Service Fees:	**$15,000**

APPENDIX

5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

60 0 30 60 120

bbs ARCHITECTS ENGINEERS

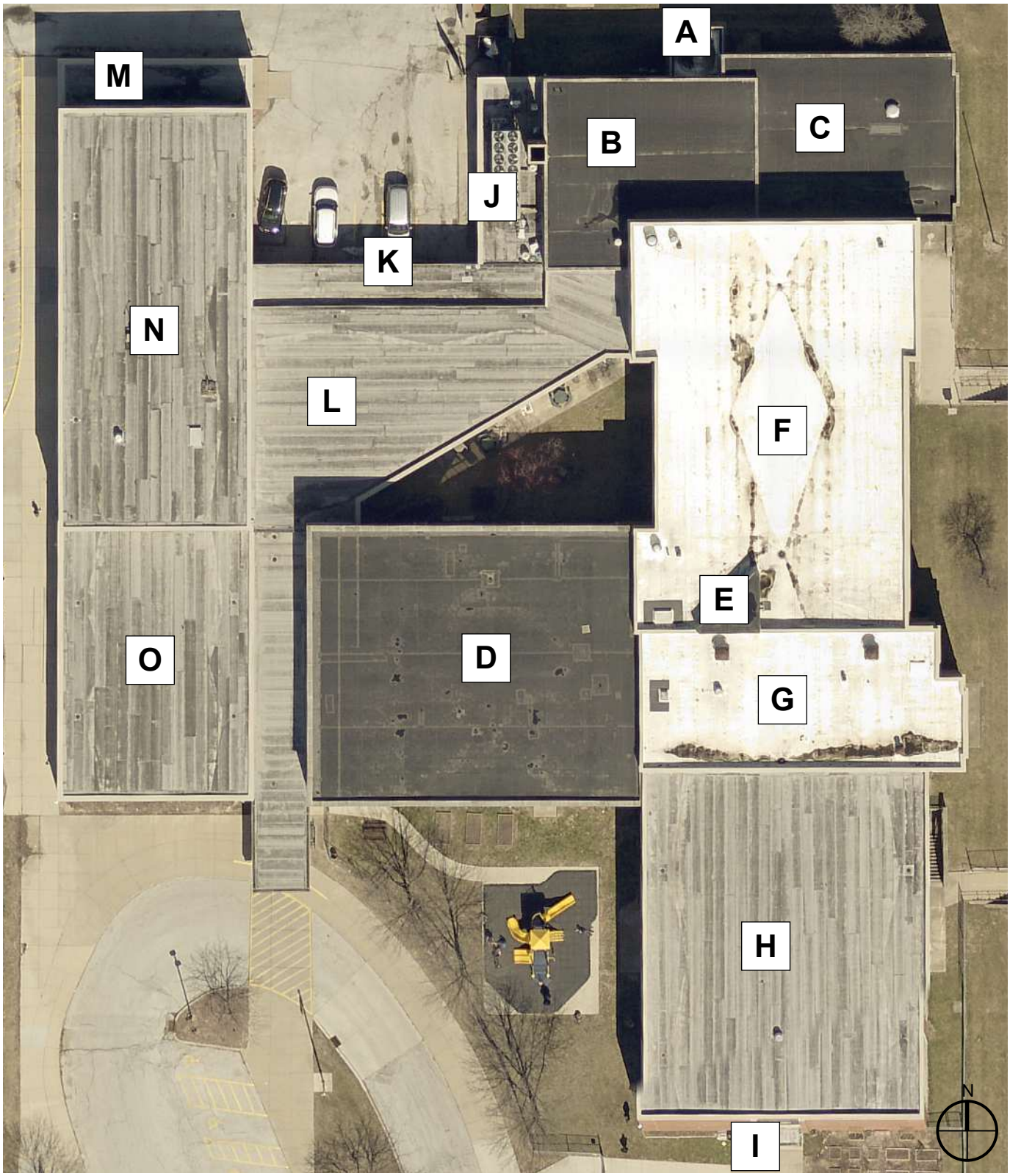
BISHOP ENGINEERING +

MONROE ELEMENTARY

EXHIBIT

PROJECT # 230286-21

DATE 10/11/2023



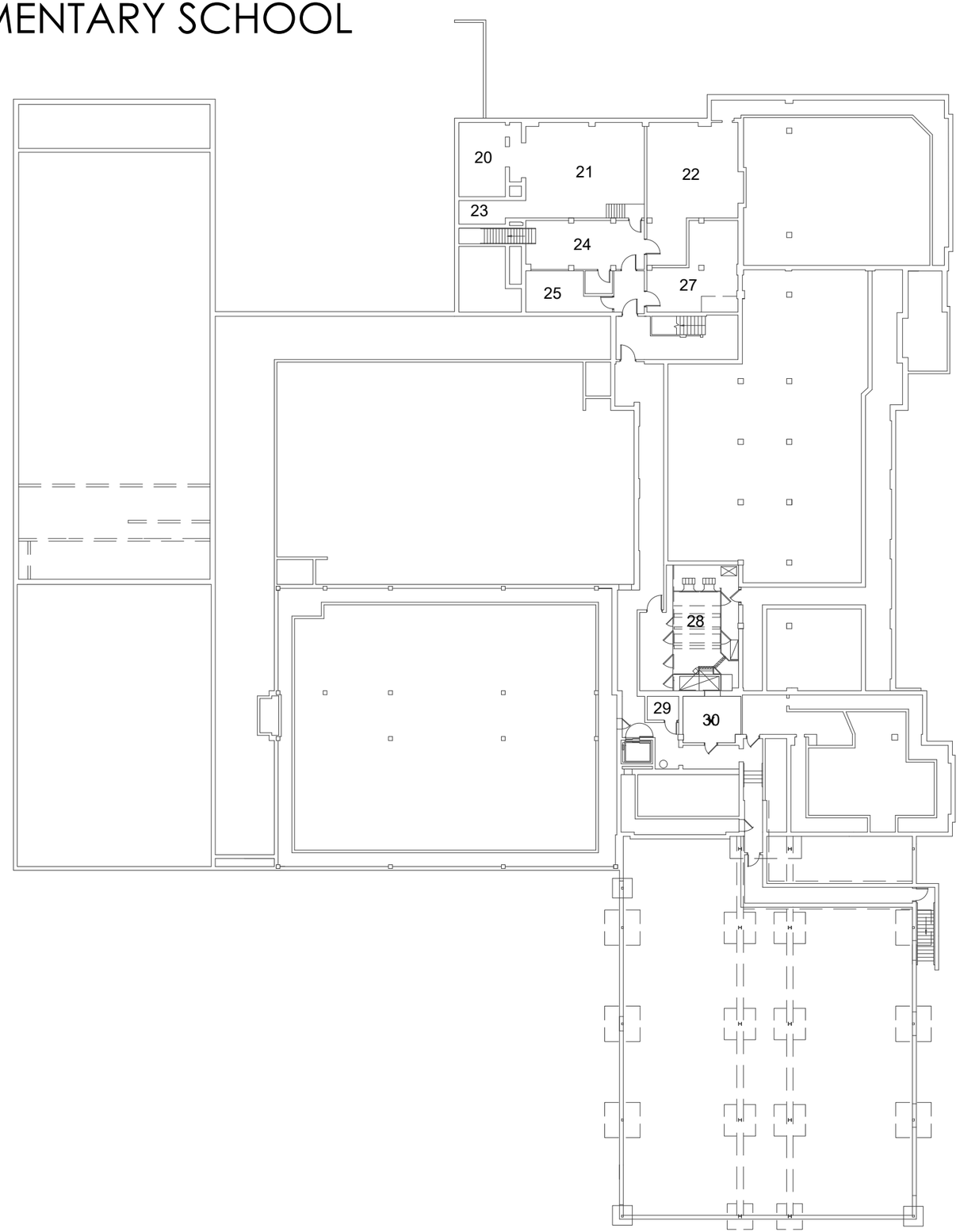
23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Monroe Elementary
11.1.2023

MONROE ELEMENTARY SCHOOL

3015 FRANCIS DRIVE
DES MOINES,IOWA 50310

FOUNDATION

NORTH



- Core Classroom
- Student Support
- Administration
- Large Shared Space
- Other

bbs
ARCHITECTS
ENGINEERS

23055 - DMPS Facility Conditions Assessment

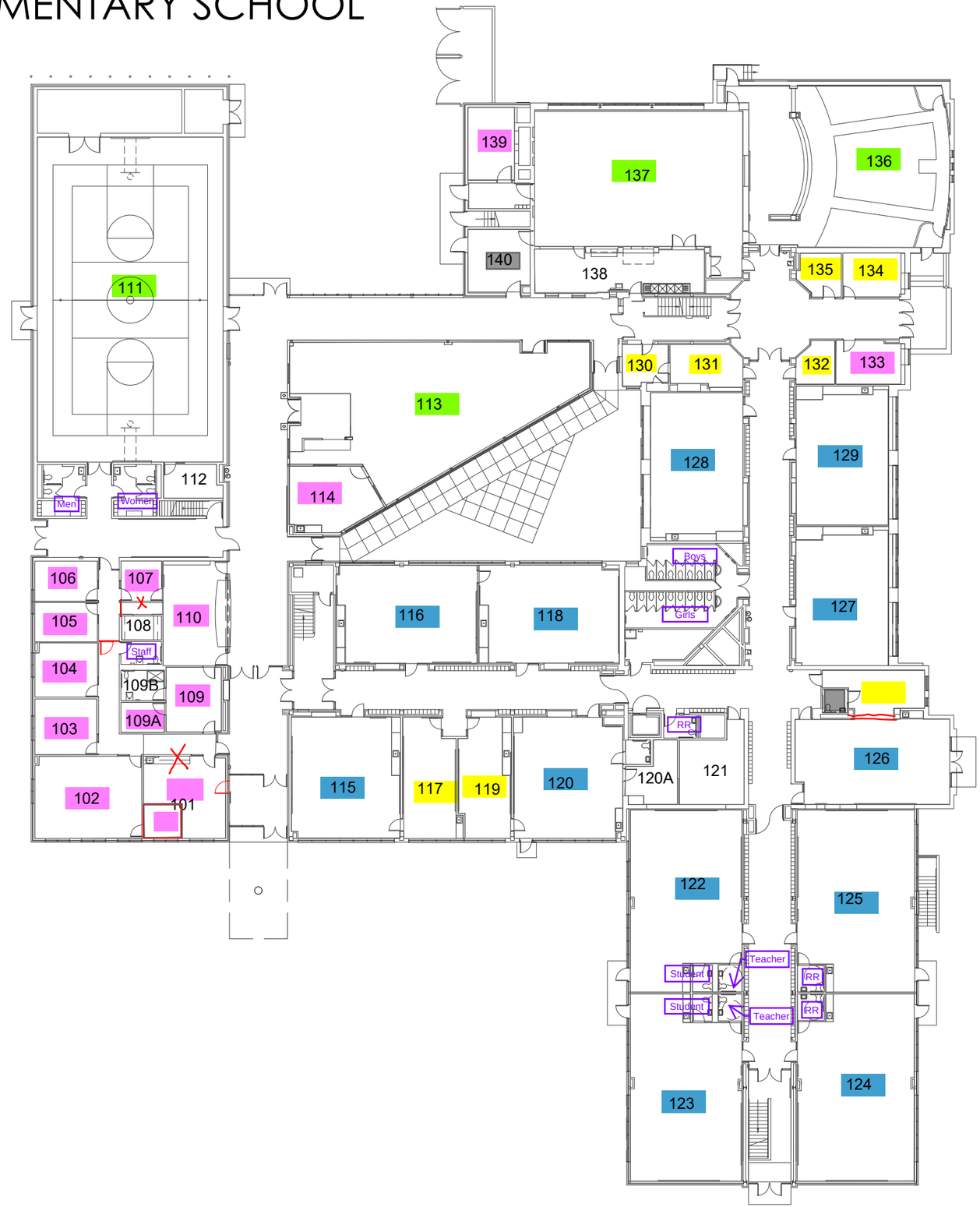
11.01.2023

MONROE ELEMENTARY SCHOOL

3015 FRANCIS DRIVE
DES MOINES,IOWA 50310

FIRST FLOOR

NORTH



- Core Classroom
- Student Support
- Administration
- Large Shared Space
- Other

bbs
ARCHITECTS
ENGINEERS

23055 - DMPS Facility Conditions Assessment

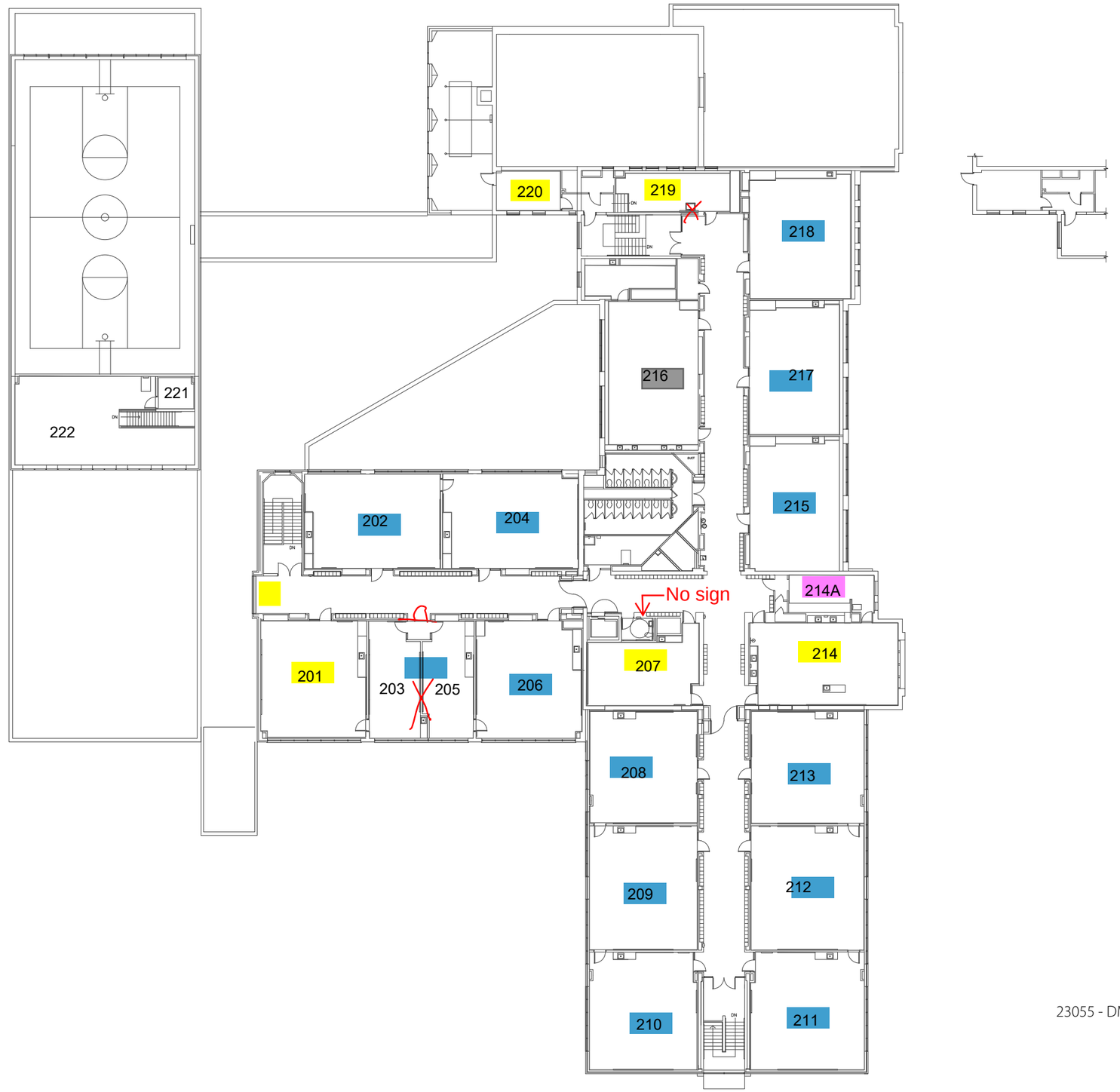
11.01.2023

MONROE ELEMENTARY SCHOOL

3015 FRANCIS DRIVE
DES MOINES,IOWA 50310

SECOND FLOOR

NORTH



- Core Classroom
- Student Support
- Administration
- Large Shared Space
- Other

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ARCHITECTS
ENGINEERS

23055 - DMPS Facility Conditions Assessment

11.01.2023