DMPS FACILITY ASSESSMENT | CATTELL ELEMENTARY

01.16.2024

ARCHITECTS
ENGINEERS

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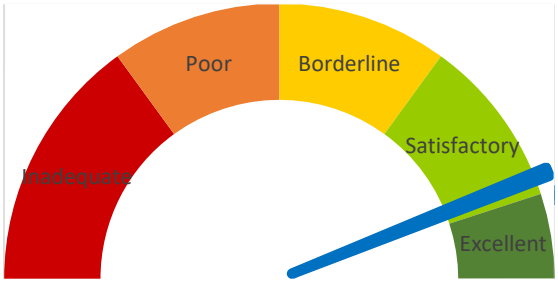


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Cattell Elementary's on-site facility conditions assessment was conducted on January 16, 2024 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.

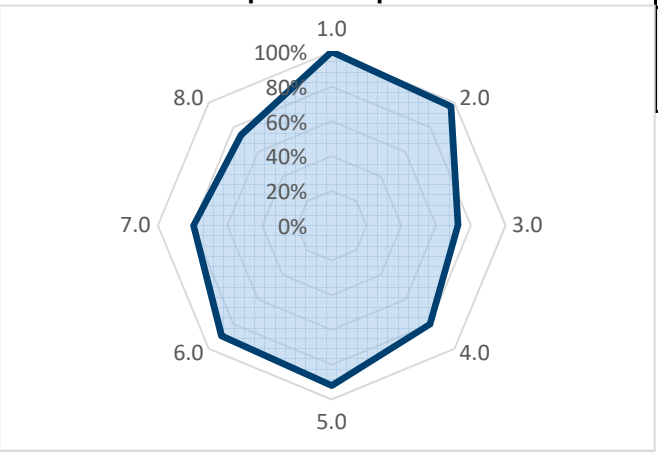
A few of the short term maintenance identified for Cattell Elementary are: ceiling tile replacement, light fixture repairs, roof cleaning, minor brick replacement, landscaping/erosion repair, restroom exhaust investigation, and emergency ventilation/monitoring for the building's chiller tube bundle. The recommended projects for Cattell Elementary to be completed in the next 1-2 years are as follows:

- Roof access installation and partial metal roof refinishing
- Railing Installation at the loading dock
- Repainting of exterior doors, lintels, and columns
- Exterior sealant replacement and building joint replacement
- Exterior masonry cleaning
- Sidewalk and curb repairs
- Stair 1021 landing repair
- Backup domestic hot water heater installation
- Exterior lighting installation
- Elevator controller replacement

These 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	165	2.00	330	330	100%	Excellent
2.0	Environment for Education	375	364	0.60	225	218	97%	Excellent
3.0	Exterior Envelope	95	69	3.00	285	207	73%	Satisfactory
4.0	School Site	100	80	1.50	150	120	80%	Satisfactory
5.0	Structural Conditions	150	138	1.30	195	179	92%	Excellent
6.0	Mechanical Systems	670	601	0.80	536	481	90%	Excellent
7.0	Electrical Systems	370	294	0.75	278	221	79%	Satisfactory
8.0	Elevator Conditions	65	48	1.00	65	48	74%	Satisfactory
Total					**1,999**	**1,756**	**88%**	**Satisfactory**

Cattell 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 Cattell Elementary scored a building health rating of 88% or "Excellent" 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. Cattell Elementary is within this positive range. Project targeting the building's elevator and electrical systems will have the largest impact toward further improving the building's overall condition score.

Building Data Record

Building Name: Cattell Elementary

Date: January 16, 2024

Address: 3101 East 12th Street
Des Moines, IA 50316

High School Feeder System: North High School

Building SF: 55,125 square feet

Site Acreage: 4.02 acres

Date(s) of Construction: 1992

Date(s) of Roof Replacement: 2011, 2017

Current/Scheduled Projects: Technology Fiber (Underground) for School Network - 2024
Restroom Upgrades - 2024

Existing Building Data:

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

Site Items:

- [x] Student Garden
- [x] 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
- [x] Other
  Fiber Cement Soffit Panels

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	5	5	
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	5	15	
1.10	Classroom **acoustical treatment** of ceiling, walls, and floors provide effective sound control.	3	5	15	

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			165	

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	4	8	Carpet tile in classrooms is not particularly attractive or engaging.
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	Multizone dimming controls in all rooms.
2.10	**Staff dedicated spaces** include conference space, work space, and dedicated restrooms.	1	5	5	

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	0	0	No mother's room observed.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	3	3	Carpet tile and VCT in most classrooms are in need of replacement.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	4	4	Acoustic ceiling in room 1096 is sagging just inside the door. Water damage noted on ceiling of girls restroom 0025. Minor water stains noted on ceiling tiles in 7 other classrooms - see project list for more information.
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	4	4	Water damage noted on plastic laminate counters and backplashes in 9 classrooms. Casework boxes are in generally good condition.
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	5	15	
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	5	10	
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	Refer to structural for notes on rust observed under the landing of stair 1021.

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			364	

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	4	8	Repainting required in areas near main entry.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	4	12	Metal roof finish / paint is wearing off - need to replace.
3.3	**Roof access** is safe for all roofs.	3	3	9	Roof hatches lack guardrails.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	2	6	Sealant at windows to be replaced, everywhere.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	4	4	Low-e glazing cannot be determined. Windows are tinted.
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	4	8	Some doors require repainting.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	2	2	Exterior sealant is reaching end of life at all windows at original portion of building. Building joints at north and east facade currently house birds and must be replaced. North facade has widespread mildew/ masonry staining (not efflorescence).
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	5	5	0 - Doors do not latch 5 - Doors with card readers 6 - Doors with locks 5 - Doors with no exterior lock 0 - Doors with no signage
	TOTAL			69	

ASSESSOR: Jack Gorman Joel Jackson

4.0 Cattell Elementary

		Weight Factor	Rating	Points	Comments
4.1	**Site topography** and grading drains water away from the building and retaining walls.	1	3	3	There was an erosion issue under the roof drain outlet on the east side of the building. The retaining wall on the NW side of the building is showing signs of cracking and some of the blocks are damaged but the wall does not require replacement as of now. The wall should be monitored in case issues worsen.
4.2	**Parking areas** are in good condition.	5	4	20	Most of the east lot appeared new and in mostly good condition, a few panels need replacement. A couple of panels in the parking area of the NW circle drive need replacement.
4.3	**Drive areas** are in good condition.	3	4	12	NW circle drive has sections needing replacement but nothing immediate. The SW drive was in good condition.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	4	4	DMPS states the parking for day to day is better with the east parking lot expansion but that there is no parking for events.
4.5	**Sidewalks** around the facility are in good **condition.**	1	3	3	Sections of sidewalk need replacement, the sidewalk up to the south door has tripping hazards and needs replacement.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	A couple of doors along the NW side of the building were without sidewalk access. Site was easy to navigate otherwise.
4.7	**Hard surface** playground surfaces are in good condition.	3	5	15	Playground surfaces appeared new and in good condition.
4.8	**Fencing** around the site is in good condition.	1	4	4	The SW corner of fencing needs replacement, good conditions elsewhere.
4.9	**Trash enclosure** is in good condition.	1	5	5	Pavement, brick and gate were in good condition.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	5	5	No issues observed.

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	3	3	There is room to the south for either building or parking expansion, would lose some of the play area
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 end of the building and parents use the west side. DMPS states pick up is very congested and stacks up onto the west road.
	TOTAL		80		

S | Structural

ASSESSOR: Erik Raker

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	4	8	Slab in lower level hallway just south of rooms 005, 015 and 030 has settled slightly. it appears that the load bearing masonry wall settled. it is unclear when the settlement occurred. Custodial staff is aware of the issue but not aware of any continued building movement.
5.3	**Basement walls** do not appear to have any cracks.	1	5	5	
5.4	**Stoops** appear to be in good condition.	1	5	5	
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	4	4	Slabs on grade show signs of cracking. Many cracks appear old and repaired. A small fraction of the cracks have not been repaired.
5.6	Slabs on grade do not appear to have any **settlement.**	1	4	4	See 5.2.
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	4	4	Lintels along north wall need to be sand blasted and painted to slow the existing rust.
5.9	**CMU** is in good condition.	1	5	5	
5.10	**Precast** is in good condition.	1	N/A	0	

S | Structural

ASSESSOR: Erik Raker

		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	4	4	Retaining wall west of room 0006 is leaning to the north. It is unclear by how much or how long this has been going on. There was a lot of snow on the ground making access to this area difficult when I toured the building. Future study is required.
5.16	**Canopies** appear to be in good condition.	1	5	5	
5.17	**Loading dock concrete** appears to be in good condition.	2	5	10	
5.18	**Mechanical screening** appears to be in good condition.	2	5	10	
5.19	**Stairs** appear to be in good condition.	1	4	4	Stair at NW corner of building is showing considerable rust underneath the upper level landing. This area should be sand blasted, re-evaluated, and then repaired as necessary to continue long term performance of the stair landing.
5.20	**Stair railings** appear to be in good condition.	1	5	5	

S | Structural

ASSESSOR: Erik Raker

		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	No designated hardened area observed.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL		138		

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	5	15	
6.3	Appropriate **amount of ventilation** are provided to each space.	5	4	20	Central AHU w VAV has airflow measuring stations at OA. May need control sequence confirmed for proper ventilation at partial load.
6.4	**Ventilation** is provided during occupied hours.	5	5	25	
6.5	**Outdoor air intake locations** are appropriate.	4	5	20	
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	4	20	Some odor issues in restrooms.
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	5	10	
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	3	15	New boiler, chiller, and pumps. VAV boxes and Air Handlers are original from 1991.
6.9	**Cooling loads** are within equipment operational capacity.	5	5	25	
6.10	**Heating loads** are within equipment operations capacity.	5	5	25	

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	5	15	Chilled water coils provided at air handlers.
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	
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	5	15	
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	N/A	0	Sloped roof throughout.
6.19	**Restroom fixtures** are in good condition and comply with current DMPS standards.	3	4	12	Some manual flush valves and faucets remain.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	4	12	Mezzanine space is limited for AHU or may need reoriented in space for coil pull.

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	3	6	AHUs on mezzanine lack coil pull space. Suggest rotating AHUs in future renovation to have common coil pull space between AHUs
6.22	**Filter** sizes are standard and filter types are standard.	2	4	8	Similar for AHUs with a few differing by equipment type.
6.23	**Equipment mounting heights** are reasonable.	3	4	12	Mezzanine and above ceiling equipment.
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	5	10	
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	5	10	No significant equipment on sloped roof.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	4	16	Prior to assessment, DMPS noted that there was still pneumatics in the building. Did not locate any during the assessment, though, but it's possible they are still present in some areas.
Occupant Safety					
6.30	**Backflow prevention** is provided at all **cross-connections** to non-potable water.	5	5	25	

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	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	4	20	Mechanical room contains remote chiller bundle with large refrigeration lines. Confirm is refrigerant evacuation system is required.
6.36	**Carbon Monoxide monitoring** and alarming is provided for areas with gas-fired equipment.	5	5	25	
	TOTAL			601	

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	
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	4	12	Good clearance. Electrical room door swings in, not out.
7.4	The **MDP** appears serviceable.	4	3	12	1991. 208Y/120V - 1400A Main
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	4	16	7 of 22 - 30%
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	N/A	0	
7.8	The Distribution Panel appears **serviceable.**	4	N/A	0	
7.9	The Distribution Panel is **maintainable.**	4	N/A	0	
7.10	The Distribution Panel will support **future expansion.**	4	N/A	0	

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	5	5	
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	3	15	Add egress lighting near NE door from stair tower by cooling tower. Add head to parking lot pole. South side of lot is dark. Light at Door 12 is inoperable. Lighting at West Cafeteria door interferes with CCTV.
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	MDF is not it's own room, but in area used to access the mechanical/electrical room. No card reader access. Attic stock floor and ceiling tiles stored near data rack.
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	3	12	Rack space for expansion is low. <25%.
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	Three UPS units.
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	Supplied by panel in adjacent room.
7.19	MDF employs up-to-date **network cabling.**	2	5	10	Cat 6, Cat 6A
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	N/A	0	

E | Electrical

ASSESSOR: Rob Hedgepeth

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	0	0	Needs ground bar.
7.22	Building is equipped with an **addressable fire alarm system.**	5	4	20	Notifier - not district basis Simplex
7.23	Building is equipped with an **access control system.**	5	2	10	6/13=46%
7.24	Building is equipped with a **CCTV system.**	5	5	25	West Cafeteria door views have interference from egress lighting at door. (See exterior lighting comment.)
7.25	Building is equipped with an **intercom system.**	4	5	20	
7.26	Building is equipped with a **master clock system.**	4	5	20	Primex
	TOTAL			294	

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	The elevator does not have fire service.
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	1	2	This version of controller is obsolete.
8.8	**Finishes** are adequate and maintainable.	1	3	3	The cab interior is worn.
8.9	**Maintenance** is adequate.	1	4	4	Maintenance records are not complete.
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	1	1	The safety test is overdue.
	TOTAL			48	

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

Ceiling Tile Replacement	Replace 10 total water damaged ceiling tiles in rooms 1017, 1026, 1030, 1046, 1122, and 1124.
Light Fixture Repair	Repair mounting of 1 suspended light fixture in gymnasium 1102.
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.
Brick Replacement	Single bricks at the following locations are broken and should be replaced: exterior corner of room 1070; and exterior corner of room 1090.
Tree Trimming	Trim tree back from parapet at west façade.
Erosion Repair	Add soil, TRM, and sod around roof drain splash pad to prevent further washing out beneath splash pad. For location, refer to civil site plan exhibit found in the appendix of this report.
Restroom Exhaust Investigation	Review and investigate restroom exhaust to be sure all restrooms have sufficient exhaust and all exhaust equipment is functioning correctly.

Confirm Requriement for Refrigerant Evacuation and Monitoring	Confirm if refrigerant evacuation and monitoring is requried per ASHRAE 15. The remote chilled evaporator tube tube bundle (heat exchanger) is inside the mechanical room.	
Exterior Lighting Repair	Repair inoperable light at Door 12.	

1 - 2 Year Priority

		Project Costs
Countertop Repairs	Remove and replace 20 LF total of damaged plastic laminate backsplashes and sidesplashes in rooms 0005, 0030, 0035, 0050, 1018, 1022, and 1058. Remove and replace 50 LF total of damaged plastic laminate edgebanding in rooms 0030, 1018, 1022, 1040, 1042, and 1058.	$6,000
Door and Frame Painting	Paint 1 hollow metal door and 1 frame with sidelight at room 1092.	$6,000
Roof Access Installation	Provide guardrail around both roof hatches.	$11,000
Roof Refinish	Refinish metal roof where paint finish has weathered away. Roof areas affected: B, C, D, and G 10,300 SF horizontal and pitched 6/12., approx. 12,000 SF	$80,000
Railing Installation	Add 26 LF guardrail to sidewalk / loading dock south of school leading to playground. Design as two gates to allow full access to loading dock by trucks.	$14,000
Exterior Door Repaint	Repaint single door and sidelite at room 1122.. Remove rust and repaint double door at room 1090. Replace door sweeps at double door at room 1021.	$8,000
Lintel and Column Repainting	Sandblast and repaint lintels and columns at the following locations: room 1018-1020, 1070-1072, and main entry. Approx. 190 SF	$7,000

Exterior Sealant Replacement	Replace sealant at most masonry soft joints around building, including at the following locations: NE and S sides of roof area E; North facade (8); NW corner (1); East facade (4); room 1098 (2); SW of 1104 (2); room 1090 (1); South (east) (4); and East facade (8). Also metal sealant joint at room 1130. Approx. total: 1,000 LF Replace sealant at perimeter of all windows in masonry walls. Approx. total: 1,400 LF Replace wide sealant joint at lintel at the following locations: room 1018-1020, 1070-1072, 1090, and main entry. Approx. total: 70 LF	$30,000
Exterior Masonry Cleaning	Clean masonry at north facade. Approx. 3,500 SF	$30,000
Building Joint Replacement	Replace (2) 4" wide, 30 LF building joint at north and east facades.	$14,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 73 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$14,000
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
North Wall Lintel Repairs	Sandblast, paint and replace as necessary the lintels on the north wall. Approximately 100 LF of lintels.	$10,000
Stair Landing Repair	Repair rusted steel framing and decking at first floor of stair 1021.	$10,000
Backup Domestic Hot Water Heater Installation	Install second hot water or backup and dual temp. Consider hybrid heat pump water heater.	$15,000

Flush Valve Upgrades	Install auto flush fixtures for remaining fixtures still on manual flush (~25%).	$15,000
Exterior Lighting Installation	Add egress light at East Door by Stair Tower and add light to parking lot pole light to cover south side of lot.	$14,000
Elevator Controller Replacement	The elevator should be considered for a modernization. The existing controller is no longer supported with many parts.	$180,000
	Total 1-2 Year Project Costs:	**$470,000**

3 - 4 Year Priority

		Project Costs
Flooring Replacement	In 17 classrooms (0005-0050; 1018-1078): Remove and replace 3,500 SF total of VCT flooring. Remove and replace 12,000 SF total of carpet tile. Remove and replace 500 LF total of rubber floor transitions.	$40,000
Regrading at Exterior Wall Base	Raise grade at wall by 6" to cover below grade exterior insulation at the following locations: 1/2 length of north façade and 1/2 length of brick wall north of main entry. Approx. 90 LF / SF at 1/2 CF per 1 LF; approx. 2 CY.	$6,000
Pavement Replacement	Remove and replace 76 SY of parking pavement. For locations, refer to civil site plan exhibit found in the appendix of this report.	$13,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 66 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$14,000
Air Handler Replacement	Existing AHUs were installed in1991 and are past the end of their useful life. Replace with similar AHUS.	$1,400,000
VAV Box Replacements	Replace existing VAV boxes with new. Include replacement of reheat coil.	$170,000

MDF Security Upgrade	Add locking racks for data equipment in Mech/Elec room	$12,000

Total 3-4 Year Project Costs: **$1,655,000**

5 - 10 Year Priority

		Project Costs
Roof Replacement	Remove approx25,500 SF of PVC roofing and insulation over roof areas A, F, and H. Install code compliant insulation and TPO roofing. Approx. year 2031	$810,000
Mechanical Equipment Cap Replacement	Replace exhaust hood caps, approx. 9 SF each; 1 at roof F and 2 at roof H.	$35,000
Pavement Replacement	Remove and replace 324 SY of parking pavement. For locations, refer to civil site plan exhibit found in the appendix of this report.	$60,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 163 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$40,000
Fence Replacement	Remove and replace 140 LF of 6' chain link fence. For location, refer to civil site plan exhibit found in the appendix of this report.	$20,000

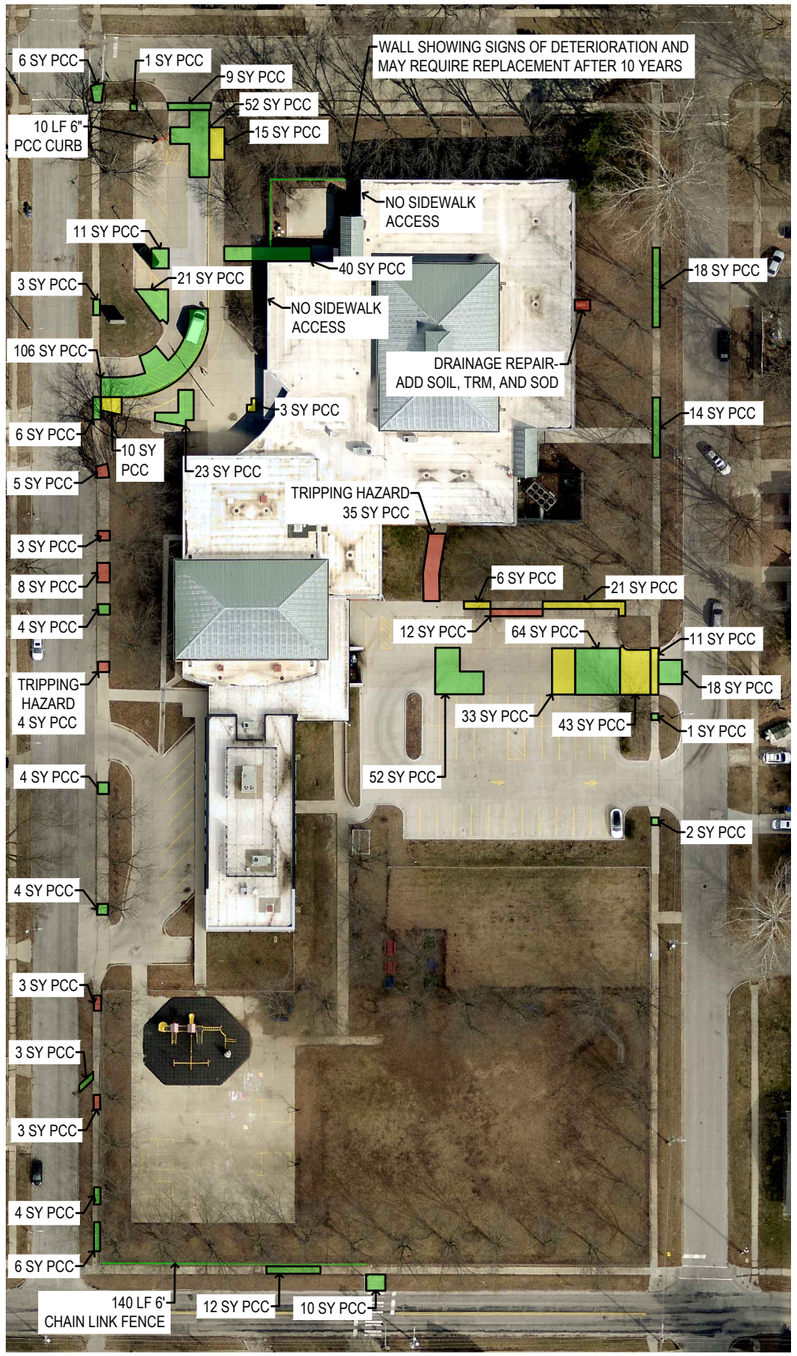
Total 5-10 Year Project Costs: **$965,000**

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 a sink, side table, chair, and privacy door hardware.	$5,000
Roof Access Prevention	Study how to prevent unpermitted access to roof from dumpster enclosure.	$5,000

Future Retaining Wall Study	The NW retaining wall is showing signs of deterioration with some cracked blocks and moisture issues. The wall may not need replacement for another 10+ years but the condition of it should be monitored.	$4,000
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 Service Fees:	**$16,500**

APPENDIX



5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

80 0 40 80 160

bbs ARCHITECTS ENGINEERS

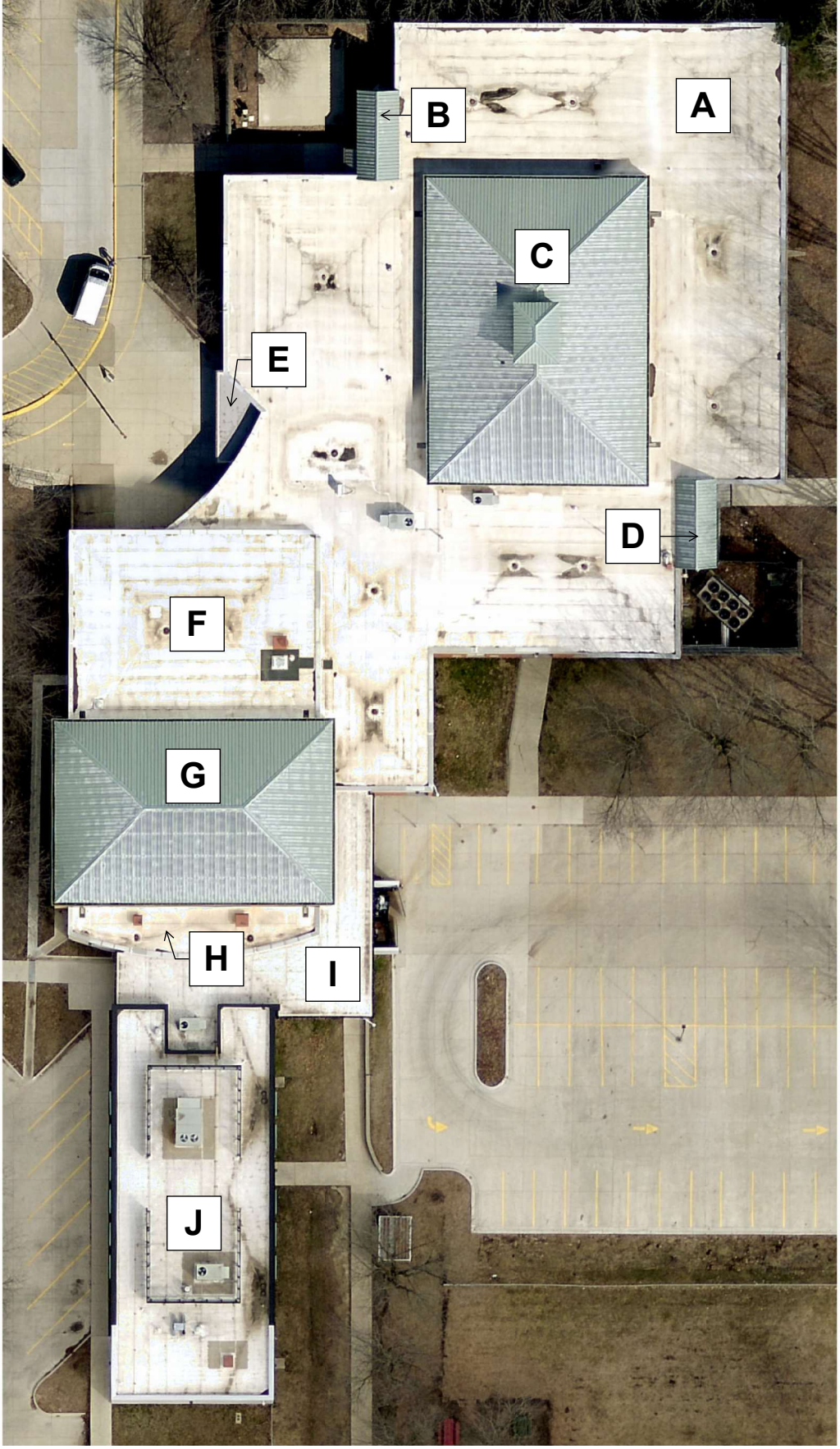
BISHOP ENGINEERING +

CATTELL ELEMENTARY

EXHIBIT

PROJECT # 230286-04

DATE 12/27/2023



N

bbs ARCHITECTS ENGINEERS

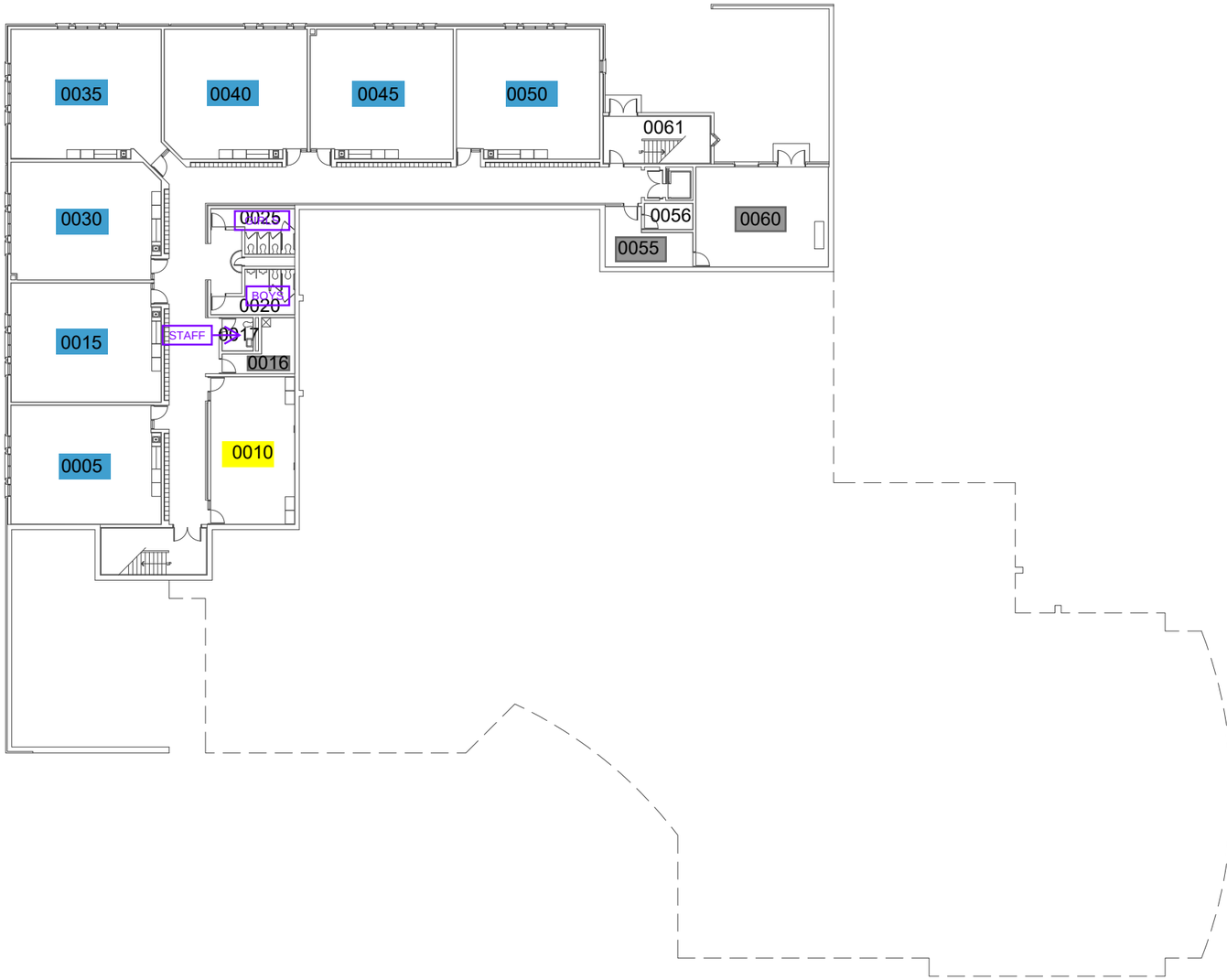
23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Cattell Elementary
January 16, 2024

CATTELL ELEMENTARY SCHOOL

3101 E 12TH STREET
DES MOINES, IOWA 50316

GROUND FLOOR

NORTH



DesMoines PUBLIC SCHOOLS

CATTELL ELEMENTARY SCHOOL

3101 E 12TH STREET
DES MOINES, IOWA 50316

FIRST FLOOR

NORTH