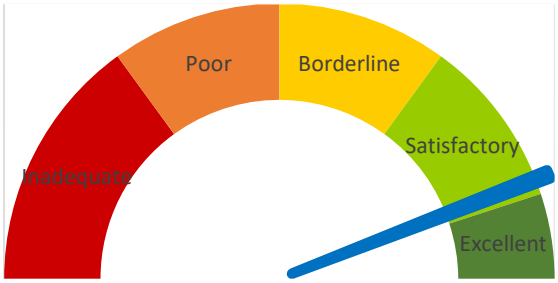
DMPS FACILITY ASSESSMENT | BRUBAKER ELEMENTARY

01.16.2024

bbs
ARCHITECTS
ENGINEERS

219 Eighth Street
Suite 100
Des Moines, IA 50309
515.244.7167

www.bbsae.com



REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Brubaker 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.

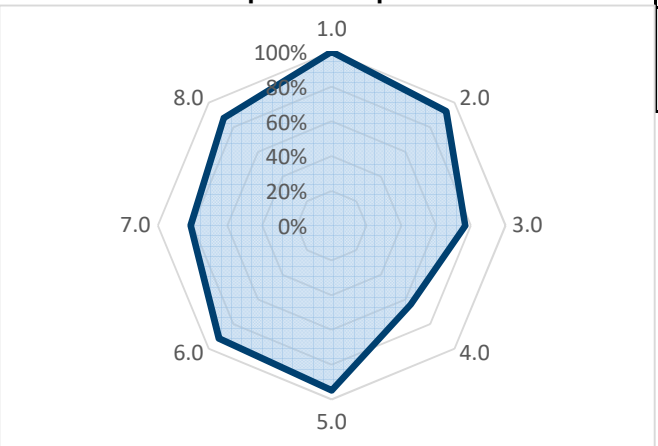
A few of the short term maintenance identified for Brubaker Elementary are: countertop repairs, door weatherstripping, roof drain adjustment, exterior wall cleaning, fence board replacement, HVAC repairs for rooms 141 and 150, and elevator maintenance. The recommended projects for Brubaker Elementary to be completed in the next 1-2 years are as follows:

- Restroom Renovations
- Interior Wall Painting
- Roof Access Guardrail Installation
- Exterior Sealant Replacement and Repainting
- Sidewalk Repairs and Pavement Replacement
- MDF Room Cooling
- Backflow Preventers Installation
- Grease Interceptor Installation
- Flush Valve Upgrades
- Exterior Lighting Improvements
- Lightning Protection System Repair

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	349	0.60	225	209	93%	Excellent
3.0	Exterior Envelope	95	73	3.00	285	219	77%	Satisfactory
4.0	School Site	95	61	1.50	143	92	64%	Borderline
5.0	Structural Conditions	115	109	1.30	150	142	95%	Excellent
6.0	Mechanical Systems	635	582	0.80	508	466	92%	Excellent
7.0	Electrical Systems	455	369	0.75	341	277	81%	Satisfactory
8.0	Elevator Conditions	65	57	1.00	65	57	88%	Satisfactory
Total					**1,981**	**1,734**	**88%**	**Satisfactory**

Brubaker 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 Brubaker Elementary scored a building health rating of 88% or "Satisfactory" per the scale described above. Per the graph shown on the cover page of this report, scores within the "green" range are considered positive scores. Brubaker Elementary is within this positive range. Projects targeting deficiencies in the School Site category, Exterior Envelope category, and restroom renovations are strongly recommended to improve the building's overall performance score.

Building Data Record

Building Name: **Brubaker Elementary**

Date: **January 16, 2024**

Address: **2900 East 42nd Street**
Des Moines, IA 50317

High School Feeder System: **East**

Building SF: **78,224 square feet**

Site Acreage: **18.7 acres (w/ Hoyt Middle School)**

Date(s) of Construction: **2003**

Date(s) of Roof Replacement: **Original roofing intact in all areas.**

Current/Scheduled Projects: **Flooring Renovation - 2024**

Existing Building Data:

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

Site Items:

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

Energy Source:

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

Cooling:

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

Heating:

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

Floor/Roof Structure:

- [ ] Wood Joists
- [x] Steel Joists/Beams
- [x] Slab on Grade
- [ ] 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	VCT flooring throughout the building is bland, unengaging, and has notable damage in many areas.
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	4	8	Fabric covers were observed over light fixtures in roughly 35% of classrooms. Consider providing zoned dimming controls for lighting in all classrooms.
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	2	2	VCT floors are damaged in many areas across the entire building. Epoxy resin floors in restrooms show significant staining and damage as well.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	5	5	
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	2	2	Corridor walls at plumbing chases are not adequately braced and are not durable construction. Most outside corners at gypsum board walls lack corner guard protection. Gypsum board walls in larger restrooms are heavily damaged.
2.17	**Built-in casework** is designed and constructed for ease of maintenance.	1	5	5	
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	3	6	Toilet partition wall brackets in upper level restrooms are not securely attached to walls in multiple locations.

A | Architectural, Interior

ASSESSOR: Tim Bungert

		Weight Factor	Rating	Points	Comments
2.21	**Adequate electrical outlets** are located to permit routine cleaning in corridors and large spaces.	1	5	5	
Occupant Safety					
2.22	Classroom doors are **recessed and open outward.**	4	5	20	
2.23	Door hardware (into classrooms or any occupied rooms off of corridors) include **intruder classroom locksets.**	3	5	15	
2.24	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	3	5	15	
2.25	**Vision lite** in doors is clear and uncovered.	2	4	8	Vision lites were observed as obstructed in six classrooms.
2.26	**Glass** is properly located and protected to prevent accidental injury.	2	5	10	
2.27	**Flooring** is maintained in a **non-slip** condition	2	5	10	
2.28	**Traffic areas terminate at exit or** stairway leading to egress	5	5	25	
2.29	Multi-story buildings have at least **two stairways** from all upper levels for student egress.	5	5	25	
2.30	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	4	20	VCT flooring at all stairs is in need of replacement.

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			349	

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	The aesthetic quality of the exterior is good by design, but suffers from significant surface mildew / staining at brick, especially accent brick, as well as a few condensating windows.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	4	12	Reroofing required in 5-10 years.
3.3	**Roof access** is safe for all roofs.	3	3	9	Four portions of the roof are inaccessible and hatch lacks guardrail.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	4	12	Several locations require replacement.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	3	3	Low-e coating cannot be determined, but windows are tinted. A few lites of exterior glazing are internally condensing, indicating their seals are broken.
3.6	**Operable windows** are functional and safe. Operable portion of window fully seals when closed without gapping or leaking.	2	5	10	
3.7	**Exterior doors** are of durable material requiring minimum maintenance.	2	5	10	
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	3	3	Significant surface mildew at brick and repainting at concrete over door near Hoyt. Exterior sealant replacement. An area of repainting. A curtain wall repair near entry.
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	1	1	12 doors do not latch 2 doors have card readers 5 doors have lock sets 15 doors do not have exterior locks 0 doors lack signage
	TOTAL			73	

C | Civil

ASSESSOR: Jack Gorman / Joel Jackson

4.0 The School Site

		Weight Factor	Rating	Points	Comments
4.1	**Site topography** and grading drains water away from the building and retaining walls.	1	5	5	Site was fairly flat, no issues observed
4.2	**Parking areas** are in good condition.	5	2	10	The east parking asphalt was cracking throughout and sagging in areas. The north parking asphalt was not cracking as profusely but still appeared to need replacement within 10 years. The western parking lot was in good condition
4.3	**Drive areas** are in good condition.	3	2	6	Both the east and north drives had cracking asphalt with the east drive being worse. The western drive was new and in good condition
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	4	4	DMPS states parking close to the building is short but that the entire site has enough parking.
4.5	**Sidewalks** around the facility are in good **condition.**	1	3	3	Almost the entire sidewalk to the east of the walk track needs replacement and other sections across site will need replacement.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	5	5	All doors have sidewalk access and site was easily walkable
4.7	**Hard surface** playground surfaces are in good condition.	3	4	12	The walk track was cracking and in need of replacement, the concrete areas by the basketball hoops were in good condition.
4.8	**Fencing** around the site is in good condition.	1	4	4	The wooden fence on the western side of the site has sections that need boards replaced, can be a maintenance item
4.9	**Trash enclosure** is in good condition.	1	N/A	0	Dumpsters were out behind the school, pavement in front of dumpsters cracking from trash truck traffic, recommend reinforced PCC for new pavement.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	4	4	An intake in the east drive area needs repair, the FES in the detention basin is cracked but doesn't appear to need replacement.

ASSESSOR: Jack Gorman / Joel Jackson

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	4	4	Lots of room to the north for expansion but some of the play area would be lost and the drive around the north of the school may have to be reworked.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	4	4	Buses use the street on the east side of the site and parents use the east side drive and stack up to the north along the street. DMPS states there is some conflict between bus and parent drop off but it is resolved quickly.
	TOTAL			61	

S | Structural

ASSESSOR: Niles Quick

5.0 Structural Conditions

		Weight Factor	Rating	Points	Comments
Foundations					
5.1	**Foundations** appear to be in good condition with no visible cracks.	1	5	5	
5.2	There does not appear to be any **foundation settlement.**	2	5	10	
5.3	**Basement walls** do not appear to have any cracks.	1	N/A	0	
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	5	5	
5.6	Slabs on grade do not appear to have any **settlement.**	1	4	4	Potentially some slab on grade settlement or curling in areas where flooring tile is cracking. Assumed to occur at the slab on grade construction joints.
Exterior Walls					
5.7	**Brick masonry** appears to be in good condition.	2	5	10	
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	5	5	
5.9	**CMU** is in good condition.	1	5	5	
5.10	**Precast** is in good condition.	1	N/A	0	

S | Structural

ASSESSOR: Niles Quick

		Weight Factor	Rating	Points	Comments
Interior Walls					
5.11	**Interior walls** appear to be in good condition.	1	5	5	
Floor Framing (Elevated)					
5.12	**Floor framing** appears to be in good condition.	3	5	15	
5.13	Floor framing appears to meet the **code requirements.**	3	5	15	
Roof Framing					
5.14	**Roof framing** appears to be in good condition.	3	5	15	
Miscellaneous					
5.15	**Retaining walls** appear to be in good condition.	1	N/A	0	
5.16	**Canopies** appear to be in good condition.	1	N/A	0	
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	N/A	0	
5.19	**Stairs** appear to be in good condition.	1	5	5	
5.20	**Stair railings** appear to be in good condition.	1	5	5	

S | Structural

ASSESSOR: Niles Quick

		Weight Factor	Rating	Points	Comments
5.21	**Tunnels** appear to be in good condition without cracks.	1	N/A	0	
5.22	There is a **designated hardened area** in the building.	1	0	0	No observed designated hardened area.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL		109		

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	3	9	Room 141 (storage) is on a combined room zone with adjacent mechanical room but significantly colder due to double doors to exterior and needs supplemental heat. Room 150 (RR) is significantly warmer and may need air rebalanced or thermostat relocation.
6.3	Appropriate **amount of ventilation** are provided to each space.	5	5	25	
6.4	**Ventilation** is provided during occupied hours.	5	5	25	
6.5	**Outdoor air intake locations** are appropriate.	4	4	16	Rooftop unit has minimal separation between intake and exhaust.
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	5	25	
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	2	10	The majority of heat pumps were installed in 2002 and have not been replaced. Newer DOAS/ERVs on roof in 2021. Geothermal loop pumps appear to have been replaced in 2021. MDF room mini-split also older and needs replaced. Vault in bad shape per others but a project is currently in design to replace the vault.
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	
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	4	20	Single backflow preventer provided. A dual backflow preventer set-up would provide redundancy.
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	1	3	Current grease interceptor is inside the building and only 50 gal. DSM WRA requires a larger grease intereceptor.
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	5	25	
6.19	**Restroom fixtures** are in good condition and comply with current DMPS standards.	3	4	12	Some fixtures remain with manual flush and faucets.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	5	15	

MP | Mechanical & Plumbing

ASSESSOR: Chuck Heldenbrand

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	N/A	0	
6.22	**Filter** sizes are standard and filter types are standard.	2	4	8	Typical sizes per equipment type.
6.23	**Equipment mounting heights** are reasonable.	3	5	15	Floor mounted in classroom.
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	2	4	Condensing Units are located on roof. Wall hydrants are located on ground level but some areas of building are 2- story.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	5	10	
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	
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	5	25	Includes ES/EEW in mechanical room.
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	
6.36	**Carbon Monoxide monitoring** and alarming is provided for areas with gas-fired equipment.	5	N/A	0	
	TOTAL			582	

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	3	9	Items stored in the electrical room impede access.
7.4	The **MDP** appears serviceable.	4	4	16	2002 SQ D 1200A 480Y/277VAC
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	3	12	115% expansion
7.7	The Distribution Panel **environment is safe**, has adequate clearances and exiting.	4	3	12	Electrical room with MDP and two DPs is full of storage - desks to be repaired, shelving, etc.
7.8	The Distribution Panel appears **serviceable.**	4	4	16	
7.9	The Distribution Panel is **maintainable.**	4	5	20	
7.10	The Distribution Panel will support **future expansion.**	4	1	4	Mechanical room DP is full. Others with space.

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	4	8	Some light obstructions
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	0	0	Exterior receptacles not observed.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	4	20	SE side of building and playground are dark
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	Entry to room was compromised by an inoperative electric strike. Notified Janitor who called district maintenance and this was rectified. Card reader appears to have been struck, possibly by nearby dumpster. May need a bollard to protect entry.
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	5	20	Two racks
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	4	20	One minuteman
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	5	5	
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Cat 5e/Cat 6A
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	3	3	Multi-mode fiber to IDF.

E | Electrical

ASSESSOR: Rob Hedgepeth

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	5	10	
7.22	Building is equipped with an **addressable fire alarm system.**	5	5	25	Simplex 4100es
7.23	Building is equipped with an **access control system.**	5	2	10	7/22=32%
7.24	Building is equipped with a **CCTV system.**	5	5	25	
7.25	Building is equipped with an **intercom system.**	4	5	20	Has intercom, but Bogen head-end is at the adjacent Hoyt Middle School.
7.26	Building is equipped with a **master clock system.**	4	4	16	Simplex, not district standard Primex.
	TOTAL			369	

EV | Elevator

ASSESSOR: Mike Brown - ATIS

8.0 Elevator Conditions

		Weight Factor	Rating	Points	Comments
Design					
8.1	**Size** meets minimum as directed by ADA.	2	5	10	
8.2	**Control protections and signals** meet ADA standards.	2	5	10	
8.3	**Signage** meets code requirements.	1	5	5	
Operation and Safety					
8.4	Elevators have **proper level accuracy and door times.**	1	5	5	
8.5	**Safety devices** are in place and operable.	1	5	5	
Condition and Maintainability					
8.6	**Equipment is easily accessible** for periodic maintenance.	1	5	5	
8.7	**Equipment** is at an acceptable point in the life cycle, and does not contain obsolete parts.	2	5	10	
8.8	**Finishes** are adequate and maintainable.	1	3	3	The interior is worn. The car door has damage on the leading edge.
8.9	**Maintenance** is adequate.	1	3	3	The pit equipment is rusting. Painting is needed to preserve.
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	1	1	Annual testing is past due.
	TOTAL			57	

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

Countertop Sidesplash Replacement	Replace 8 LF of plastic laminate sidesplashes on counters in rooms 149 and 150 due to water damage.
Vestibule Doors Weatherstripping	Replace center weatherstripping and bottom sweeps on 6 interior vestibule doors at the north and east entrances to the main building lobby.
Window Treatments	Replace missing horizontal window blinds at room 167.
Adjust Roof Drain	Remove collar from overflow drain at roof area H.
Exterior Door Adjustment	Adjust 12 exterior doors so that they latch from any closing position. These doors are located around the building, including all doors from classrooms.
Exterior Wall Cleaning	Clean approx 1,400 SF of brick from main entrance around the east, north, and west facades to the rear stair. Significant mildew and lichen present at brick accents and field of wall from parapet.
FDC Sign Relocation	Relocate FDC sign near NW corner of building so that it is not blocked by security camera.
Fence Board Replacement	Replace the damaged wooden boards along the fence. For location, refer to civil site plan exhibit found in the appendix of this report.

Room 141 Supplemental Heat	Separate storage room with own heat pump. Also confirm door seals (DOOR 42) are replaced as well. May consider electric heater if door seals reduce added heat load significantly.	
Room 150 Airflow Rebalancing	Rebalance or reduce air flow in RR 150 to reduce overheating and possible overcooling. May need to just eliminate supply air to RR all together if no external walls.	
Access Control	Repair damaged card reader at MDF door.	
Annual Testing	Notify contractor to perform the State required testing.	

1 - 2 Year Priority

		Project Costs
Restroom Renovations	Renovate floor, wall, and ceiling finishes in all 8 multi-occupant restrooms due to water damage and deterioration of finishes. The corridor-facing walls of the plumbing chases at the 6 restrooms in the north wing are a demountable wall system that is not stable or durable. Replace these walls with adequately braced metal stud and gypsum board walls (approximately 1,500 SF) as part of the restroom renovations.	$1,200,000
Roof Access Installation	Provide guardrail around roof hatch.	$8,000
Roof Sealant Replacement	Replace sealant at parapet cap intersections to prevent channeling water to exterior wall and staining brick. 2 LF each location, 6 locations along east, north, and west facades.	$6,000
Exterior Sealant Replacement	Replace sealant at masonry soft joints at the following locations: 1 LF at NW corner of roof J; 1 LF at window of roof G; 2 LF NW corner of roof H; 56 LF north of roof H; 40 LF at brick at south façade; 20 LF around window at south east corner of library, rm 168. Approx total: 120.	$7,000
Exterior Repainting	Repaint concrete portion of wall above double doors at south east extent of building where Brubaker meets Hoyt, approx 20 SF. Consider combining this with same project at Hoyt.	$6,000

Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 12 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$7,000
Pavement Replacement	Remove and replace 10 SY of PCC. For location, refer to civil site plan exhibit found in the appendix of this report.	$7,000
Heat Pump Replacement	Replace all GSHP throughout the building and consider 2 speed compressor to more closely match load.	$1,600,000
MDF Cooling Equipment Installation	Install new split unit in MDF room with low ambient cooling capability or consider added exhaust from room.	$12,000
Flush Valve Upgrades	Install new automatic flush valves in restrooms (~25%)	$25,000
Exterior Lighting	Add exterior lighting on east side of building (south) along east side facing playground.	$11,000
Repair Lightning Protection System (See Hoyt Middle School)	Repair broken air terminals and ensure system is in proper working order. System needs to be connected to a new system at Hoyt Middle School.	$12,000
Elevator Pit Equipment Painting	Clean and paint the elevator pit equipment to deter rust.	$9,000.00
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:	**$3,090,000**

3 - 4 Year Priority

		Project Costs
Corner Guards Installation	Repair approximately 200 SF of cosmetic damage and install 48" tall corner guards on outside corners of gypsum board walls in all classrooms (approximately 50 locations).	$20,000
Interior Wall Repairs and Painting	Repair minor cracking/damage on gypsum board walls and repaint approximately 150 SF total in rooms 112, 124A, 125, 125A, 126A, and 214,	$7,000
Exterior Glazing Replacement	Replace approx 10 insulated glazing units in exterior windows with evidence of broken glazing seals (fogging between glass panes). Approx 60 SF total. Repair storefront sill, approx 70 LF.	$20,000
Pavement Replacement	Remove and replace 1200 SY of asphalt and 12 SY of PCC. For location, refer to civil site plan exhibit found in the appendix of this report.	$180,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 70 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$14,000
Lighting Controls Upgrade	Upgrade lighting controls in 38 classrooms to provide zoned dimming control.	$350,000
Install Grease interceptor	Install new grease interceptor to meet DMWWA requirements.	$530,000
	Total 3-4 Year Project Costs:	$1,121,000

5 - 10 Year Priority

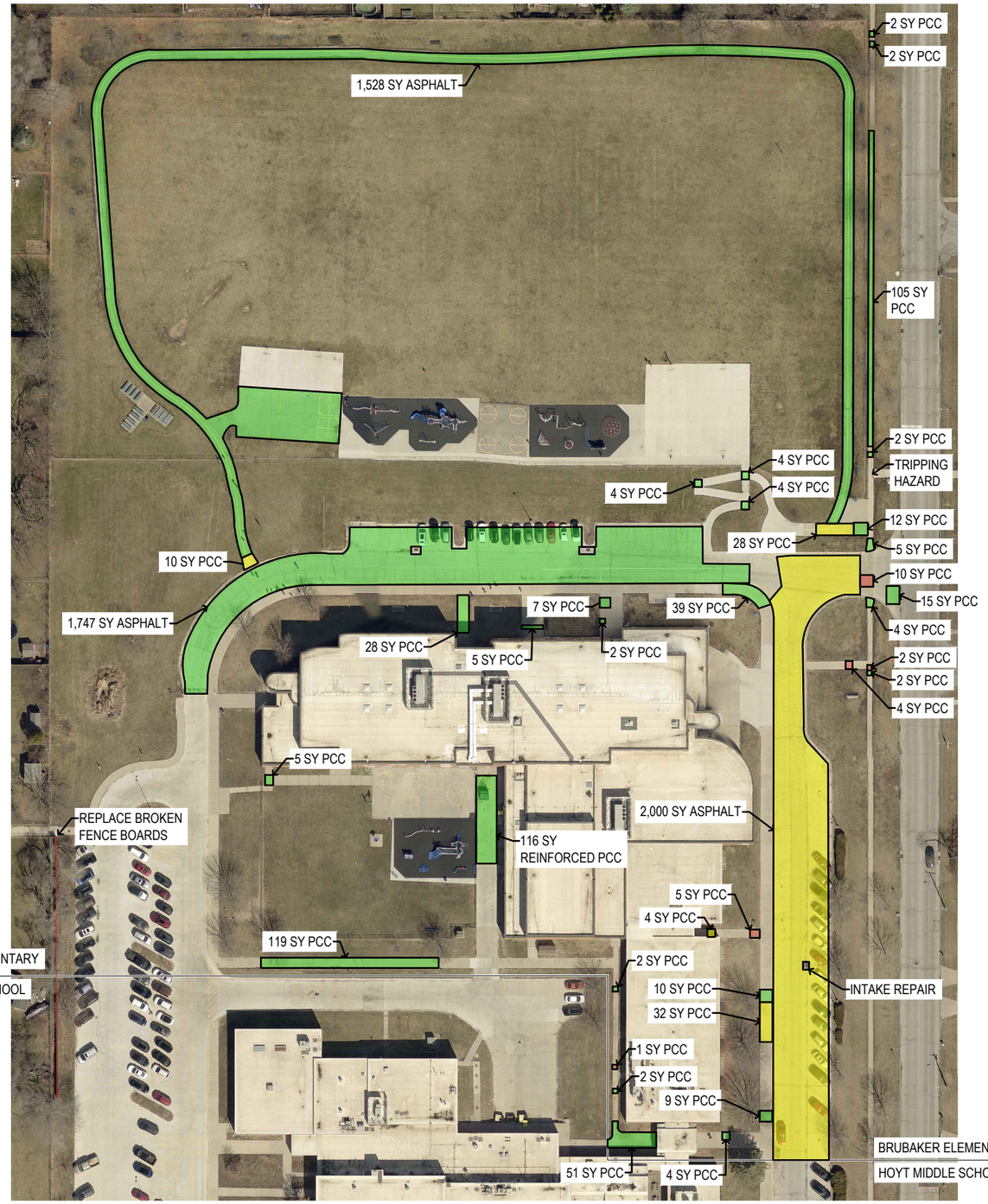
		Project Costs
Roof Replacement	Remove approx 5,000 SF of PVC roofing and insulation over roof areas K and L. Install code compliant insulation and TPO roofing. Approx 2030.	$160,000
Roof Replacement	Remove approx 50,500 SF of PVC roofing and insulation over roof areas A through J. Install code compliant insulation and TPO roofing. Approx 2033.	$1,700,000

Roof Access Installation	Provide 6 VLF ladder from roof area C to A. Provide 16 VLF ladder from roof area C to B. Provide 16 VLF ladder from roof area C to D. Provide 6 VLF ladder from roof area C to F. Provide 16 VLF ladder from roof area C to E. Provide 4 VLF ladder from roof area G to I.	$40,000
Playground Pavement Replacement	Take out and restore deteriorated playground and walking path asphalt. Approximately 1528 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$270,000
Sidewalk Repairs	Repair damaged sidewalks across the site. Approximately 428 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$95,000
Pavement Replacement	Remove and replace 1747 SY of asphalt, 213 SY of PCC, and reinforce the 116 SY of PCC in front of the dumpsters. For location, refer to civil site plan exhibit found in the appendix of this report.	$360,000
	Total 3-4 Year Project Costs:	**$2,625,000**

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
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
Gas Line Study	Design a way to prevent someone from climbing the two exterior gas lines: south of rm 130 and south of rm 144. Consider taking the gas line inside the building and up through the roof in lieu of an exterior fence or other screening. Consider combining with same study at Hoyt.	$5,000
	Total Study Design Servcies Fees:	**$12,500**

APPENDIX



5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

100 0 50 100 200

bbs ARCHITECTS ENGINEERS

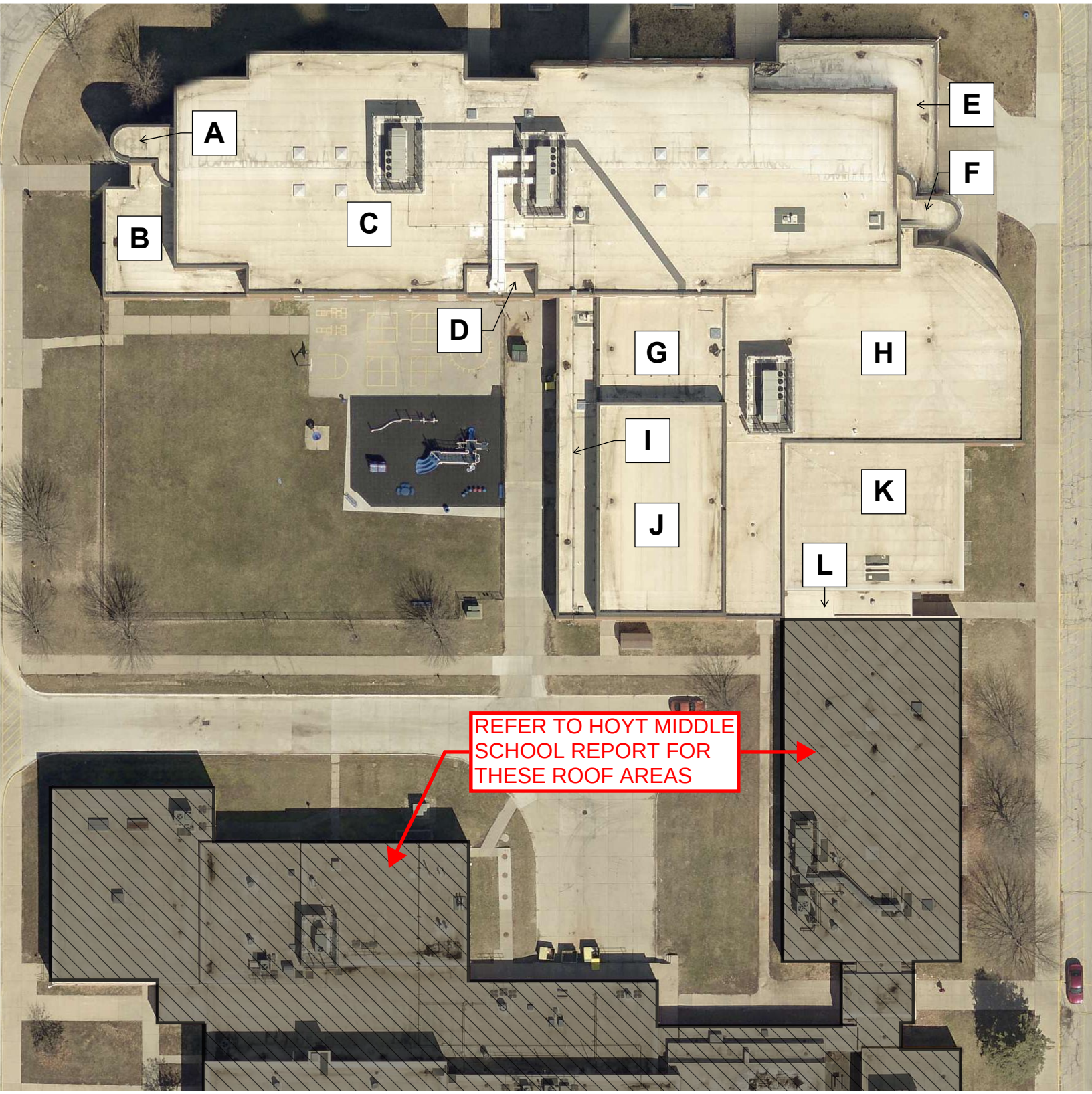
BISHOP ENGINEERING +

BRUBAKER ELEMENTARY

EXHIBIT

PROJECT # 230286-01

DATE 1/15/2024



N

bbs ARCHITECTS ENGINEERS

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

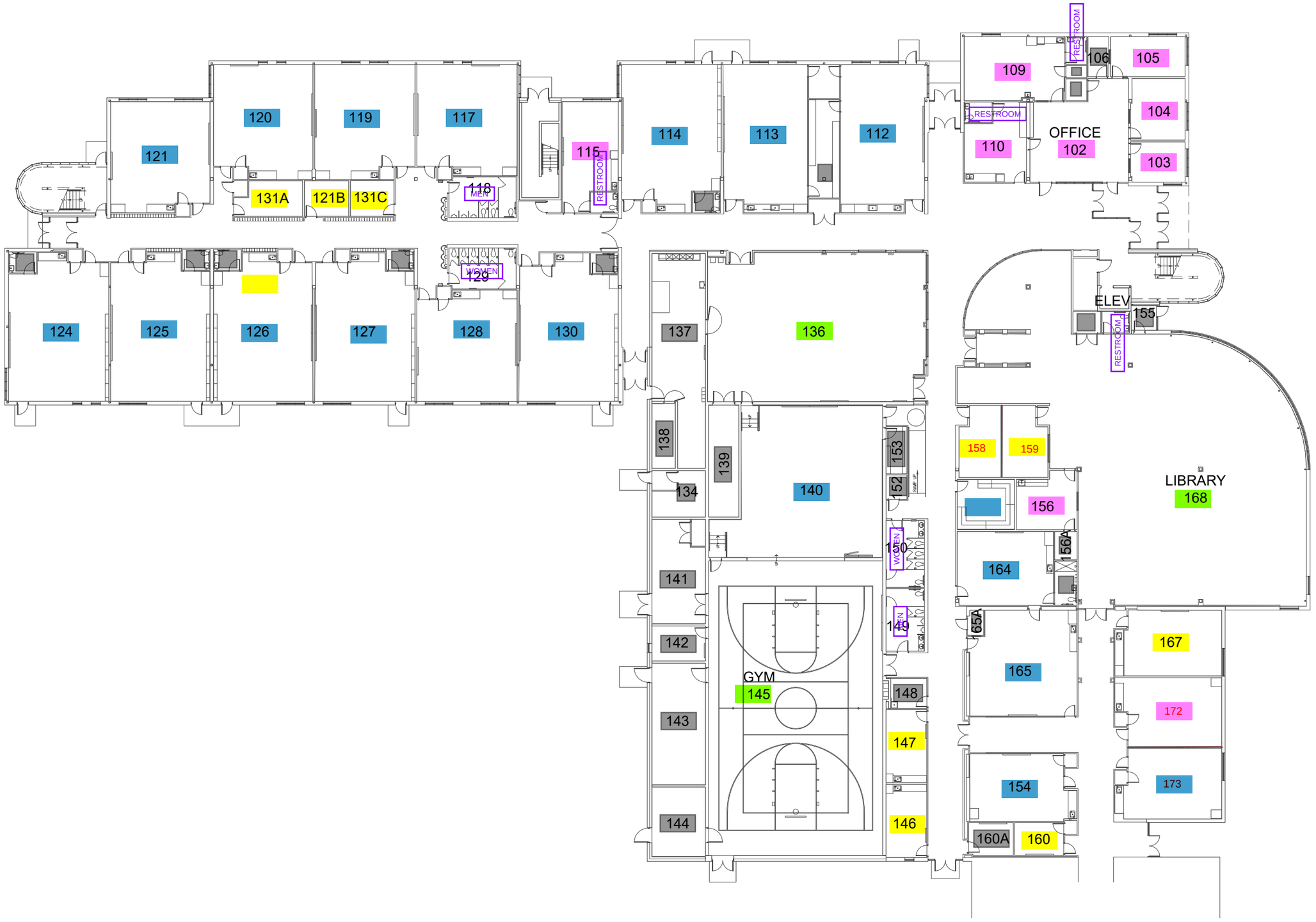
DesMoines PUBLIC SCHOOLS

BRUBAKER ELEMENTARY SCHOOL

2900 E 42ND STREET
DES MOINES, IA 50317

FIRST FLOOR

NORTH



BRUBAKER ELEMENTARY SCHOOL

2900 E 42ND STREET
DES MOINES, IA 50317

SECOND FLOOR

NORTH