DMPS FACILITY ASSESSMENT | LOVEJOY ELEMENTARY

11.8.2023

ARCHITECTS
ENGINEERS

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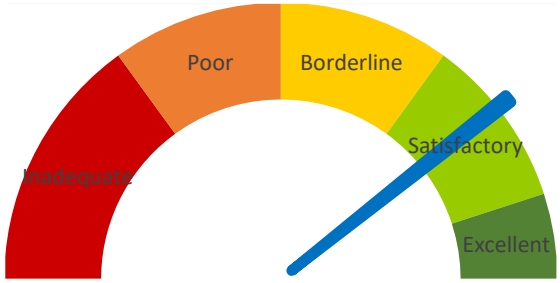


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Lovejoy Elementary's on-site facility conditions assessment was conducted on November 8, 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 Lovejoy Elementary are as follows, repair exterior door latches, investigate Primex clock error and repair as needed, repair and replace exterior electrical receptacles. The building interiors have generally been maintained in an acceptable manner, however ceiling tiles are showing dirt and wear from unchanged filters and wall and flooring finishes are beginning to show wear. Regular and proper maintenance across mechanical equipment, site work, and general cleaning are important to extend the life of the current building.

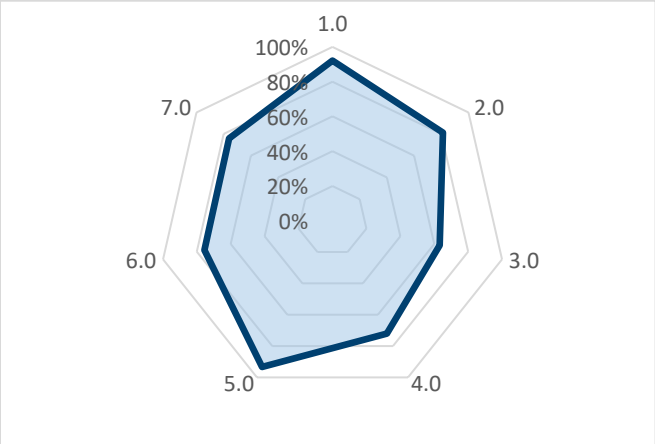
A summary of the recommended projects for Lovejoy Elementary to be completed in the next 1-2 years are as follows:

- Roof Replacement and Access Improvements
- Exterior Door Replacement and Repainting
- MDF Improvements
- Replace Sidewalk Pavement
- Restore Curbs
- Exhaust Modifications
- VRF System 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	152	2.00	330	304	92%	Excellent
2.0	Environment for Education	325	264	0.60	195	158	81%	Satisfactory
3.0	Exterior Envelope	95	60	3.00	285	180	63%	Borderline
4.0	School Site	100	72	1.50	150	108	72%	Satisfactory
5.0	Structural Conditions	135	126	1.30	176	164	93%	Excellent
6.0	Mechanical Systems	635	480	0.80	508	384	76%	Satisfactory
7.0	Electrical Systems	375	285	0.75	281	214	76%	Satisfactory
Total					**1,925**	**1,512**	**79%**	**Satisfactory**

Lovejoy 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 Lovejoy Elementary scored a building health rating of 79%, 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. Lovejoy is within this range. Improvements to the exterior envelope, school site, mechanical, and electrical systems as described in this report would make the largest impact in increasing the score to "Excellent".

Building Data Record

Building Name: Lovejoy Elementary

Date: 11.8.2023

Address: 801 East Kenyon Ave
Des Moines, IA

High School Feeder System: Lincoln High

Building SF: 50,535 SF

Site Acreage: 10.21 Acres

Date(s) of Construction: 1972, 1998 (major civil modifications), 2017 (addition and major renovation)

Date(s) of Roof Replacement: 2017

Current/Scheduled Projects: Minor Restroom Upgrades - 2024
Technology fiber (underground) for school network - 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
- [x] Stormwater Detention

Energy Source:

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

Cooling:

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

Heating:

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

Structure Fireproofing:

- [x] No
- [ ] Yes

Construction:

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

Exterior Facade:

- [x] Brick
- [ ] Stucco
- [x] Metal
- [ ] Wood
- [x] Other: Precast Concrete

Floor/Roof Structure:

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

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	All seemingly appropriate, however the various types require transition strips often and throughout. This makes maintenance and cleaning more difficult and wear is evident in high traffic areas.
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	Existing plumbing, while in adequate condition, seems to be leaving some residue under casework. Likely due to the age and materials of the plumbing and casework.
1.6	**Library/Resource/Media Center** provides appropriate and attractive space.	1	5	5	Great use of space; includes various seating styles, breakout stations, and book circulation.
Core Classroom					
1.7	Classroom space permits arrangements for **small group activity.**	3	5	15	Great uses of varied furniture in all classrooms.
1.8	**Student storage space** is adequate.	2	5	10	
1.9	**Teacher storage space** is adequate.	3	4	12	In classroom storage seems adequate. Teacher storage, prep, and meeting spaces are lacking.
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	4	16	Family restroom at gym has an extension cord wrapping around the room.
1.12	Educational **technology** supports instruction.	4	5	20	
Administration					
1.13	**Conference/Private meeting rooms** are adequate for large and small meetings.	1	1	1	One large conference room is a multi-use meeting, work, and prep space. Few other rooms are available for small or one on one meetings.
1.14	**Main office** has a check-in and waiting area.	2	5	10	
	TOTAL			152	

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	Corridors are wide enough. Security or fire doors are propped open but have an integral center mullion that splits the corridor in 2 locations.
2.2	Communication among students is enhanced by **common areas.**	1	4	4	Corridors end in larger "common" spaces, but could be better designated or organized for use.
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	There is a consistent color scheme throughout, however there is seemingly a lack of way finding or organization that could be beneficial. Use of flags and "sails" help engage and activate the space, but could be more consistent.
2.7	Windows and skylights provide access to **adequately controlled daylight** for regularly occupied spaces.	3	3	9	Where windows and daylight is available blinds seem to be in ok condition. Higher clearstory windows have blinds with cords hanging down. This could be a concern if those classrooms were used for young students in the future.
2.8	Windows provide access to **quality views** (to exterior, courtyards, artwork etc.) for regularly occupied spaces.	3	2	6	At least 6 classrooms have no access to exterior views or daylight. Many other classrooms have only a very small window.
2.9	**Lighting has proper controls** to provide the required light levels for various teaching and learning needs.	2	5	10	A small handful of classrooms are using blue light covers. Lighting is LED and does have dimming controls.
2.10	**Staff dedicated spaces** include conference space, work space, and dedicated restrooms.	1	2	2	Staff spaces are designated, however, many of the spaces are multi use and seemingly inadequate in space size. There is a lack of meeting spaces for one-on-one or small group meetings.

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	Location is good. The spaces throughout the main office seem to be undersized for their multi-use functions.
2.12	**Break room** is adequately sized and furnished for proper use.	1	3	3	Break room is combined with storage and additional desk spaces.
2.13	**Mother's room** is a separate designated space properly furnished.	1	0	0	No mothers room designated, and there seems to be a lack of private spaces.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	3	3	Showing wear at transition strips and in high traffic areas.
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	2	2	Most all classrooms have dirty ceiling tiles around mechanical diffusers. There is a large area of water damage in the corridor near the admin offices. Appeared to be in progress of some repairs.
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	4	4	Base of wall sealant where there is no base (restrooms and corridors) is in poor shape. There is an approximately 4" x 4" hole in wall at room 1495.
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	4	12	Door to classroom 1065 is not sitting square and is very difficult to shut.
2.19	**Facility doors** are keyed to standardized master keying system.	3	4	12	Mechanical room 1635 is a separate key and hardware configuration.
2.20	**Restroom partitions** are securely mounted and of durable finish.	2	3	6	Restrooms closest to the administration offices are in poor shape. Upcoming project is scheduled, likely to address some of these issues. Other restrooms and restroom fixtures are in good condition.

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	3	9	Doors have office type function with closers. Most all doors have intruder magnetic strips, several doors are using door stops to prop open. Art room doors may benifit from panic hardware. Teacher expressed concern that students struggle with that door.
2.24	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	3	3	9	Room 1485 does not contain a vision lite.
2.25	**Vision lite** in doors is clear and uncovered.	2	4	8	Most are uncovered but if they are covered it is with contact paper or construction paper.
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	N/A	0	
2.30	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	N/A	0	

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			264	

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	Entrance is recessed into the north side of the building but easily found from student drop off and visitor parking areas.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	2	6	Approx. 30,200 SF of mod. bitumen roof is in questionable condition. Surface is crazing and much of the surface granules have eroded. Remainder of building has relatively new TPO roofing (<10 yrs old) and appears to be in good condition. Only the most recent two additions include overflow drainage.
3.3	**Roof access** is safe for all roofs.	3	3	9	Access to roof from mechanical penthouse should be updated. Provide new ladder, and interior guardrail. Provide new exterior fall protection rails at exterior of hatch and at adjacent roof edge. Provide ladder from main roof to gymnasium roof. Roof ladder down to main roof is acceptable.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	3	9	Window sealant generally in good condition, however, beginning to pull away from frame at (8) openings in the original portion of the building.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	4	4	Insulated glazing appears to be in place throughout. Low-E coating undetermined.
3.6	**Operable windows** are functional and safe. Operable portion of window fully seals when closed without gapping or leaking.	2	4	8	No issues noted. Exterior window screens in good condition.
3.7	**Exterior doors** are of durable material requiring minimum maintenance.	2	3	6	All exterior doors are hollow metal or aluminum/composite. Door and frame #1520 (Double HM door on east) is rusting and should be replaced. Repaint (3) doors: N entry on east side, W entry on north side, W entry on south side.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	2	2	Primary wall material is brick. Original building walls generally will require re-pointing of mortar joints in near future. Metal wall panels on original building are rusting through the paint finish and should be replaced. Newer masonry, precast concrete,and metal walls in good condition.
3.9	**Exterior Doors** open outward and are equipped with **panic hardware.**	1	5	5	No comments.
3.10	**Exterior Doors are monitored** or controlled by an access control system.	1	3	3	Primary building, playground and kitchen entrances contain access control. (5 locations.) Other secondary exits are uncontrolled, but locked. (3 locations). (2) Locations do not consistently re-latch: Inactive leaf at main entry, and exit door from gymnasium.
	TOTAL		60		

C | Civil

ASSESSOR: Jack Gorman

4.0 Lovejoy Elementary

		Weight Factor	Rating	Points	Comments
4.1	**Site topography** and grading drains water away from the building and retaining walls.	1	3	3	Good drainage away from building, little steep on the east and west sides of the site. The discharge from the flume in the east parking lot has eroded the soil under the fence near the detention pond. The FES on the NE corner of site needs rip-rap added to it and re-graded, undercutting footing.
4.2	**Parking areas** are in good condition.	5	3	15	Portions of the east parking lot looked new as well as the extension to the south, both were in good condition. The asphalt pavement was cracking with some sagging areas.
4.3	**Drive areas** are in good condition.	3	3	9	Most of the concrete areas were in good condition. Some of the concrete and all of the asphalt on the east side of the east parking lot were cracking/chipping substantially with subsurface drainage issues.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	4	4	There were open spaces in the east parking lot and the south extension, staff parking is okay for day to day.
4.5	**Sidewalks** around the facility are in good **condition.**	1	3	3	Most of the sidewalk on site was in good condition. The sidewalk south of the building connecting the south drop off had significantly deteriorated sections. The sidewalk around the north bus lane also has sections needing replacement.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	5	5	Site was easy to navigate by sidewalk and all building door had access to them.
4.7	**Hard surface** playground surfaces are in good condition.	3	4	12	All the new concrete playground surfaces was holding up well. The asphalt track was cracking throughout and will need replacement down the road.
4.8	**Fencing** around the site is in good condition.	1	5	5	The fence around the site looked new and in good condition.
4.9	**Trash enclosure** is in good condition.	1	4	4	The guardrails and gate were all in good condition and undamaged. The north trash enclosure wall had a brick on top that was popping off.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	4	4	A couple of cleanouts had their iron lids removed and were chipped. An outlet in the NE section of the parking lot could use some dirt behind it to prevent water from ponding. The detention basin outlets both looked to be in good condition. The FES on the NE corner of site needs rip-rap added.

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	4	4	More parking could be added on the south side of the existing parking lot and the building could be expanded to the south or southeast.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	4	4	Bus lane is on the north side of the school, with parent pickup/drop off in the east parking lot. There is conflict between parents leaving the east lot and buses exiting the north drive.
	TOTAL		72		

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	4	8	Minor rotational settlement at window projected masonry assemblies of rooms 1225, 1235, 1250, and 1265. The condition is stable, however, exterior construction joint sealant around these projections have failed and need to be replaced.
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	Minor differential slab settlement was observed in the corridors between the new addition and existing building slabs. Differential settlement between slabs outside of room 1080 and 1095 (north wing corridor) is about 1/8" to 3/16" and the slabs outside of room 1285 and 1265 (south wing corridor) is less than 1/8".
Exterior Walls					
5.7	**Brick masonry** appears to be in good condition.	2	4	8	Majority of brick veneer is in good shape, there are some isolated areas of cracked mortar joints. Specifically along the east exterior wall of room 1045, there is a diagonal mortar crack extending from the corner of the brick lintel up to near the top of the wall. Crack likely occurred due to no control joints.
5.8	**Lintels** appear in good condition (no visible deflection or rust).	1	4	4	Some lintels have some very minor amounts of rust along the east elevation windows to rooms 1670, 1680, 1685, and the main northeast entrance lintel supporting the projected walls.
5.9	**CMU** is in good condition.	1	5	5	
5.10	**Precast** is in good condition.	1	5	5	

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	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	3	3	Site block retaining walls around the West water detention basin have failed in a few spots. Concrete ramp walls at the East entrance has some minor spider cracks in the finish across the top of the walls in a few spots and one corner has a chunk of spalled concrete at the top of the wall.
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	4	4	Ladder to the mechanical mezzanine 2003 is not secured to the wall and is missing anchor bolts.
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	N/A	0	
5.22	There is a **designated hardened area** in the building.	1	N/A	0	
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL		126		

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	4	12	Appears to be true. Score reduced as sensors are proprietary from VRF system manufacturer in many spaces, meaning point is transmitted through integration.
6.2	**Thermostat location.** Thermostats are properly located in the space.	3	5	15	Generally appears to be true.
6.3	Appropriate **amount of ventilation** are provided to each space.	5	5	25	Generally appears to be true.
6.4	**Ventilation** is provided during occupied hours.	5	5	25	Generally appears to be true.
6.5	**Outdoor air intake locations** are appropriate.	4	5	20	Locations appear to be appropriate.
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	4	20	True for most spaces. A few spaces, notably the Art Room, appear to be short (Art Teacher did not have any concerns with air quality in space). Art room exhaust termination for Kiln appears to have had issues. May be opportunity to improve this condition without significant changes.
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	5	10	Appears to be acceptable.
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	2	10	VRF system appears to be significant concern at approximately 10-11 years of service. Major components appear to have failed or required extensive repair. Other systems appear to be in better condition with remaining useful life.
6.9	**Cooling loads** are within equipment operational capacity.	5	5	25	Generally appears to be true.
6.10	**Heating loads** are within equipment operations capacity.	5	2	10	Numerous space heaters observed. Some may be related to recent VRF system failure, but overhead heating with ceiling heights provided and VRF system does not appear suitable for many spaces regardless of system functionality.

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	Appears to be true.
6.13	Appropriate **backflow preventer** is provided at connection to city water supply.	5	5	25	Yes.
6.14	**Domestic hot-water systems** are within equipment operational capacity.	5	5	25	Appears to be true.
6.15	Domestic **hot-water reicrulcating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	4	12	Appears to be reasonable. 30-45 seconds to get warm water at tested lavatories.
6.16	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	5	25	Appears to be true. No specific issues observed.
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	1	5	There are overflows for new areas and it appears first addition had sloped roofs with gutters/downspouts. Original building only has primary drains with parapet high enough to create issues with ponding due to plugged drain.
6.19	**Restroom fixtures** comply with DMPS preferences.	3	3	9	Manual flush valves.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	2	6	True for newer equipment on roof. Equipment from 2012/2013 project is difficult to access at some locations due to screens mounted to units. Some VRF fan coils appear likely to be difficult to access as well.

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

		Weight Factor	Rating	Points	Comments
6.21	AHUs and chiller are provided with **coil pull space.**	2	N/A	0	N/A.
6.22	**Filter** sizes are standard and filter types are standard.	2	1	2	Variety of filter sizes due to variety of equipment (VRF FCUs, VRF cassettes, WSHPs, RTUs, etc.). It appears that filter replacement in some areas may not have been consistent based on dust/dirt on ceiling tiles near diffusers.
6.23	**Equipment mounting heights** are reasonable.	3	2	6	Some ceiling-mounted equipment is above high lay-in ceilings. This likely makes it difficult to access and may explain some issues observed related to potential filter change problems.
6.24	**Floor surfaces** throughout the mechanical room are non-slip and are dry.	2	5	10	Yes.
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	Yes.
6.26	Appropriate means are provided for **airflow and water balancing.**	3	5	15	Yes.
6.27	**Hose Bibbs** located in proximity to **outdoor condensers and condensing units**. Is cottonwood an issue at this location?	2	2	4	No hose bibbs near most of roof-mounted RTUs with condenser coils that likely require cleaning. Mature trees throughout area around school.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge.	2	4	8	Other than roof access hatch, don't appear to be any areas of concern at equipment.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	4	16	Yes. Appears most are integrated through VRF system. FC bus vintage system. Controllers are not most current 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	5	25	Yes. Appears to be a glycol zone serving dry heads along with wet zone.
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	Yes.
6.33	**Emergency eye-washes and tempering valves** are located where required.	5	0	0	Eyewash not observed. Recommend evaluation with 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	N/A	0	N/A.
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	0	0	None observed. There are a few natural gas-fired water heaters in the building.
	TOTAL			480	

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	
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	2	6	Difficult to access MDP, and very large quantities of storage directly in front of equipment.
7.4	The **MDP** appears serviceable.	4	4	16	MPD is in good condition, installed in 2012. -1 point for age older than 10 years from point of assessment.
7.5	The MDP is **maintainable.**	3	5	15	Eaton breakers and materials are readily available and backwards compatible.
7.6	The MDP will support **future expansion.**	4	0	0	MDP has 10 breaker spaces, and all 10 are utilized. One spare 60A breaker is open, but addition in 2019 needed to add an enclosed circuit breaker to handle the increased load. No remaining spare capacity.
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: 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	Panels present are Eaton make, with one Square D NQOD panelboard in the mechanical mezzanine. Light storage in some cases.
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	4	4	Receptacles present are adequate. Some maintenance needs are present to repair broken covers and upgrade to in-use covers.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	3	15	Dark areas at pickup lanes/north side of building, parking area, SW side of building, and west side inset. Glare from SE corner visible and distracting from Porter Ave and adjacent residential areas (re-aim fixtures).
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	Room is generally well organized, but additions made are not utilizing cable management devices present and are loose.
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	5	20	Two 45U racks present allow for future growth.
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	0	0	MDF receptacles fed from unknown location outside of room.
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Majority of cabling is CAT5e, additional cables are CAT6 and 6A.
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	3	3	MDF fed with single mode FO cable. IDF fed with multi-mode OM3 12-strand armored cable.

E | Electrical

ASSESSOR: David Carlson

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	3	6	Grounding bar is small, but adequate for the space. Grounding connections to data racks and cable tray are absent.
7.22	Building is equipped with an **addressable fire alarm system.**	5	4	20	Building Fire Control system is of Simplex make, but is a 4010 panel in lieu of a 4100 series. 2019 addition ties in a 4003EC panel.
7.23	Building is equipped with an **access control system.**	5	3	15	JCI system present and in good condition. Noted unknown LG device connected to JCI system. 7/11=64%
7.24	Building is equipped with a **CCTV system.**	5	5	25	Exterior lighting interferes with entry camera after dark. Consider glare shield or re-aiming fixtures.
7.25	Building is equipped with an **intercom system.**	4	5	20	DMPS standard Bogen system.
7.26	Building is equipped with a **master clock system.**	4	3	12	DMPS standard Primex system. Error light blinking on unit.
	TOTAL			285	

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 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	Ceiling tiles in corridor outside of the administration offices were missing and water stained. It appeared to be in the process of repair. Finish repairs and replace damaged and stained ceiling tiles in this area.
Interior Wall Repair	Repair wall damage in room 1495. There is a hole in the wall approximately 6" in diameter. Repair block and repaint.
Exterior Door Latch Repairs	Adjust the following doors so that they latch property from any closing position: exit only door at the Gym and left door of the front entry.
Mechanical Filter Replacement	Mechanical equipment filters are varied in sizes and types but should be consistently checked and changed. The dirt on the adjacent ceiling tiles indicates this may be an issue, or has been an ongoing issue.
Cap Valves Installation	Provide plugs/caps at ball valves at lines to geothermal bore field.
Investigate Primex Clock Error Light	Error light was present during assessment. Investigate issue.
Exterior Receptacles Repair and Replacement	Repair broken in-use covers for exterior receptacles and replace non in-use covers.
Exterior Lighting Adjustment	Re-aim fixtures to try to eliminate glare from fixtures at south (east end) and at front entry (conflicts with CCTV).

1 - 2 Year Priority

		Project Costs
Interior Door Replacement	Replace art room door hardware with exit panic hardware. Replace door to room 1485 with door that contains a vision lite. Previously a storage room is now used for student support.	$12,000
Wall Base Installation	Clean and prep base of the corridor walls and restrooms. Install tile, or other durable wall base, at restrooms and west wing corridors for future ease of maintenance and better overall cleanability. Approximately 1,100 LF of wall base.	$40,000
Roof Replacement and Access Improvements	Replacement of the modified bitumen roofing and insulation with TPO membrane for roofs G - H. Approximately 30,200SF. Add roof drains at each roof. Approximately 5 new drain locations. Roof access improvements also recommended at this time include, new interior access ladder (10 LF), new interior guardrail (20 LF), new exterior guard at hatch, and new exterior guard at roof edge (15 LF).	$800,000
Exterior Door Replacement and Repainting	Replace exterior double doors that are rusting and repair surrounding conditions to prevent future issues. The doors included are from room 1520 and the southwest exit. Repaint metal wall panels at original building and penthouse to extend life. Approximately 500 SF.	$13,000
Sidewalk and Curb Replacement	Remove and replace the degraded sidewalk pavement on site. Return curbs to newly constructed condition. For locations refer to civil site plan found in the appendix of this report.	$20,000
Hose Bib Installation	Add hose bibbs/hydrants to allow for improved maintenance of roof-mounted equipment. Approximately three (3) locations.	$12,000
MDF Improvements	Add a 100A branch panelboard to supply MDF and all communications infrastructure within. Ground racks and CT.	$25,000
	Total 1-2 Year Project Costs:	**$922,000.00**

3 - 4 Year Priority

		Project Costs
Exterior Masonry Repairs	Around the original building remove and tuck-point masonry joints. This also includes exposed brick above low roof. Approximately 7500 SF. Expansion joints and movement joints are included in that total area approximately 50 LF.	$15,000
Exterior Sealant Replacement	Reseal window perimeters on original building and vertical joints in masonry intersections at each side of bay windows. Approximately 700 LF total.	$12,000
Parking Pavement Replacement	Remove and replace 662 SY of asphalt and concrete parking pavement and install a rock base under the 200 SY experiencing subsurface moisture issues. For location, refer to civil site plan exhibit found in the appendix of this report.	$110,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 298 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$55,000
Asphalt Replacement	Take out and restore deteriorated walking track asphalt. Approximately 590 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$85,000
Install Rip-Rap	Place rip-rap at flume and storm outlet for better erosion control. For location, refer to civil site plan exhibit found in the appendix of this report.	$9,000
MDP Capacity Installation	Expand breaker capacity of MDP via replacement of unit or by adding a new distribution panel.	$90,000
VRF System Upgrades/Replacement	Major issues are apparent with existing VRF system. Recommend planning for full system replacement May also help with heating issues observed and reduce number of filter sizes/types and could improve accessibility due to equipment height.	$580,000
Art Room Exhaust Repairs	Appear to be issues with art room exhaust levels and kiln exhaust discharge. Review options to improve these conditions.	$15,000

Mechanical Screening Replacement	Replace screening around roof-mounted equipment to improve access. Multiple units are difficult to access due to screen-mounted equipment.	$210,000

Total 3-4 Year Project Costs: $1,181,000.00

5 - 10 Year Priority

		Project Costs
Window Installation	Modify exterior walls at the north and south elevations to install new windows at each classroom, to increase access to natural light and quality views. Approximately (10) 8'-0 x 7'- 6" aluminum windows including structural supports, sills, and blinds. Project recommended based on assessment items 2.7 and 2.8. Current conditions provide minimal access to daylight and views to the exterior.	$220,000
Modular Block Wall Replacement	Disassemble and repair sections of modular block wall. Approximately 54 LF. For location, refer to civil site plan exhibit found in the appendix of this report.	$10,000
Parking Pavement Repairs	Remove and replace 659 SY of parking pavement. For location, refer to civil site plan exhibit found in the appendix of this report.	$120,000
Sidewalk and Curb Repair	Repair damaged sidewalks across the site. Approximately 55 SY. Including areas around columns outside of the library. Return damaged curbs to new condition. Approximately 74 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$20,000

Total 5-10 Year Project Costs: $370,000.00

Projects Requiring Study

		Design Services Fee
Administration Space	Spatial study to determine additional space needs and renovation of the current entrance, staff offices, and staff support spaces, including a mother's room. This could result in an addition and complete renovation of the existing administration suite.	$10,000

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:	**$12,500**

APPENDIX

5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

80 0 40 80 160

bbs ARCHITECTS ENGINEERS

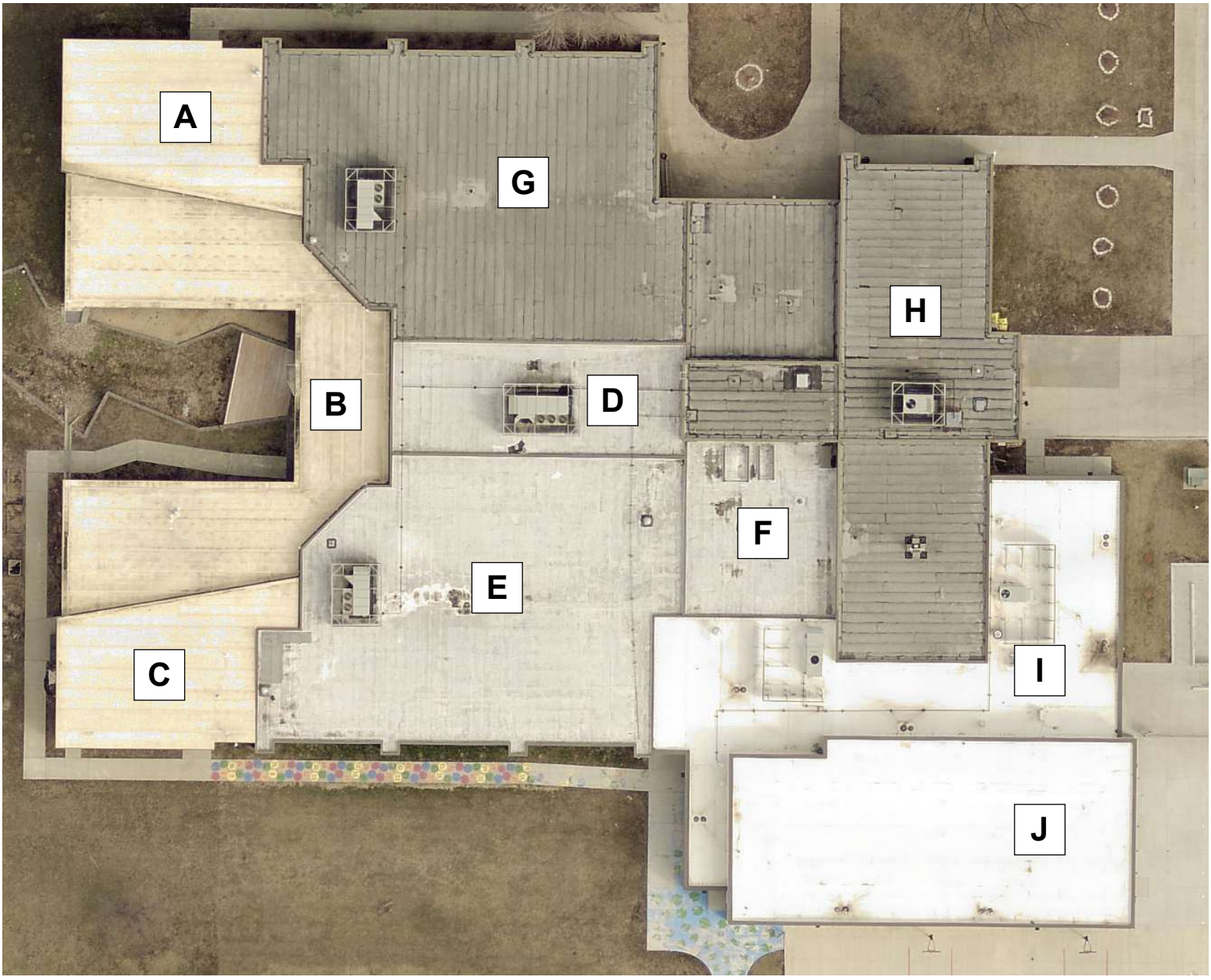
BISHOP ENGINEERING +

LOVEJOY ELEMENTARY

EXHIBIT

PROJECT # 230286-18

DATE 10/23/2023



N

bbs ARCHITECTS ENGINEERS

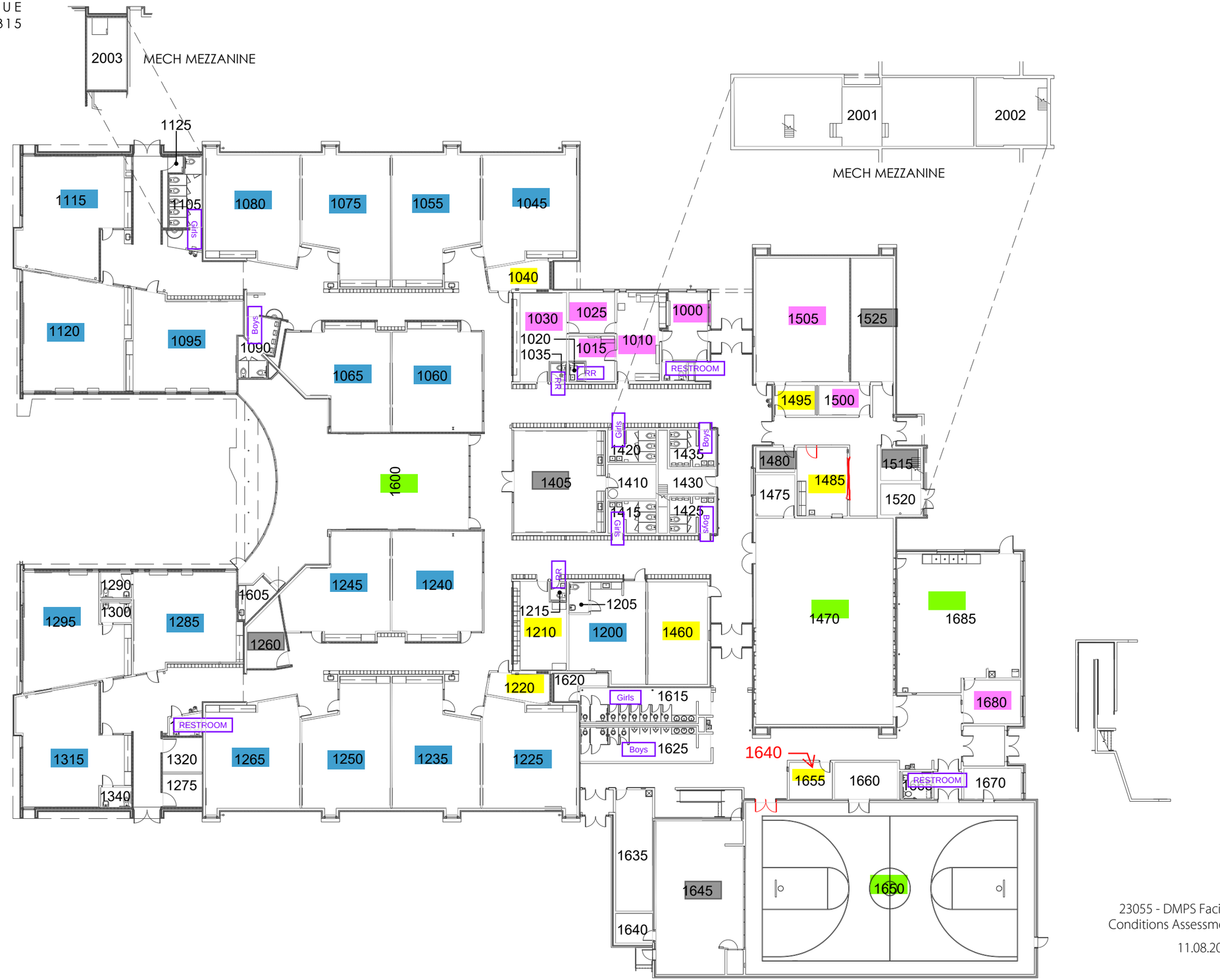
23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Lovejoy Elementary
11.8.2023

LOEJOY ELEMENTARY SCHOOL

801 E KENYON AVENUE
DES MOINES, IOWA 50315

FIRST FLOOR

NORTH



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

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment

11.08.2023