DMPS FACILITY ASSESSMENT | GREENWOOD ELEMENTARY

12.6.2023

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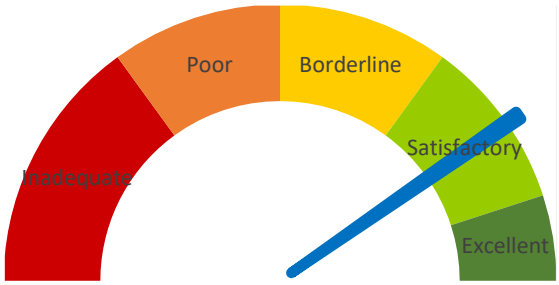


REPORT ORGANIZATION

EXECUTIVE BUILDING SUMMARY

Greenwood Elementary's on-site facility conditions assessment was conducted on December 6, 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 Greenwood Elementary are: exterior door latch repair, modular block wall repair, ERV disconnect repairs, and intercom grounding repair. There are several deferred maintenance items that have been noted as recommended projects in the upcoming 2 years. Mechanical and elevator equipment is at or nearing the end of its serviceable life and the building exterior is in need of some repairs, especially where water damage has been noted on the interior of the Administration offices.

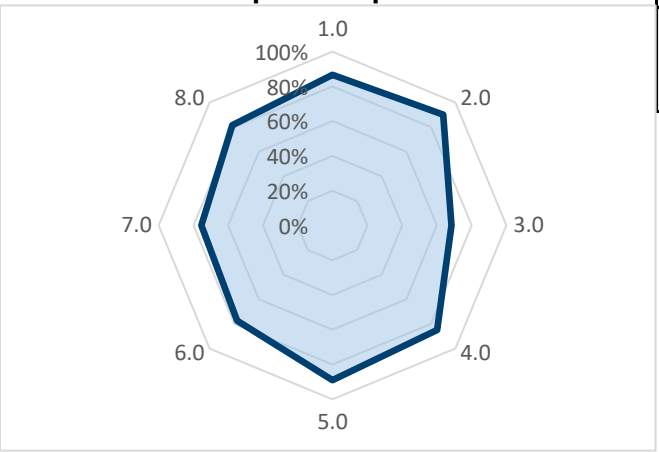
A summary of the recommended projects for Greenwood Elementary to be completed in the next 1-2 years are as follows:

- Wall Repair
- Interior Refinish, Partial
- Exterior Masonry Repairs (in several areas)
- Site Repairs
- Concrete Foundation Repair
- HVAC Retrofit
- MDF Panelboard Installation
- Elevator Modernization

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	143	2.00	330	286	87%	Satisfactory
2.0	Environment for Education	375	338	0.60	225	203	90%	Excellent
3.0	Exterior Envelope	95	65	3.00	285	195	68%	Borderline
4.0	School Site	100	85	1.50	150	128	85%	Satisfactory
5.0	Structural Conditions	145	129	1.30	189	168	89%	Satisfactory
6.0	Mechanical Systems	610	473	0.80	488	378	78%	Satisfactory
7.0	Electrical Systems	375	283	0.75	281	212	75%	Satisfactory
8.0	Elevator Conditions	65	53	1.00	65	53	82%	Satisfactory
Total					**2,013**	**1,623**	**81%**	**Satisfactory**

Greenwood 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 Greenwood Elementary scored a building health rating of 81%, 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. Greenwood Elementary is within this positive range. Improvements to the building envelope, mechanical systems, and electrical systems as noted within this report would contribute the most to increasing the building rating to Excellent.

Building Data Record

Building Name: Greenwood Elementary

Date: 11.29.2023

Address: 316 37th St
Des Moines, IA 50312

High School Feeder System: Roosevelt High

Building SF: 62,227 SF

Site Acreage: 5.72 Acres

Date(s) of Construction: 1901, 1924, 1960, 1971, 2001

Date(s) of Roof Replacement: 2001

Current/Scheduled Projects: Door and Restoration
Restroom upgrades
Geothermal vault replacement design

Existing Building Data:

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

Site Items:

- [ ] Student Garden
- [ ] Loading Dock
- [ ] 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
- [ ] 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
- [x] Wood
- [ ] Other

Exterior Facade:

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

Floor/Roof Structure:

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

A | Architectural, Programming

ASSESSOR: Kaela Shoemaker

1.0 Educational Adequacy

		Weight Factor	Rating	Points	Comments
General					
1.1	**Floor materials** are appropriate for space type.	2	4	8	Restrooms in the north wing have 2x2 mosaic tile that is difficult to clean and is damaged in many 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	4	8	Cafeteria doubles as a performing arts space. The space is well utilized and arranged. The kitchen, however is separated from the cafeteria and is located across the corridor.
1.4	**Music room** is adequate for providing introductory music instruction.	2	4	8	There is a large mezzanine storage room that appears under utilized in the music room. The band/orchestra lessons are held in a room on ground level (015).
1.5	**Art room** has sufficient accommodations for program.	2	4	8	Has one small kiln storage room, no other paper storage. Supplies and storage appear organized and sufficient but space is less than typically observed.
1.6	**Library/Resource/Media Center** provides appropriate and attractive space.	1	4	4	Media center appears adequate. Furniture, especially soft seating, is dated and worn.
Core Classroom					
1.7	Classroom space permits arrangements for **small group activity.**	3	5	15	
1.8	**Student storage space** is adequate.	2	4	8	In classroom desk storage is adequate, however the desks throughout do not all match and are dated showing wear.
1.9	**Teacher storage space** is adequate.	3	3	9	Some kindergarten classrooms appear to be lacking in adequate teacher storage. Curriculum storage appears to be in the classrooms which makes day-to-day storage limited. Dedicated staff prep/storage would improve the issue. The art room has many cupboards and appears well organized, however, only has a very small kiln room with no additional storage room.
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	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	2	2	Single mid size dedicated conference room for approximately 3-6 people. Limited other spaces for private meetings.
1.14	**Main office** has a check-in and waiting area.	2	4	8	Waiting area within the office is very small, however the vestibule is quite large and does have additional seating.
	TOTAL			143	

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	5	5	
2.2	Communication among students is enhanced by **common areas.**	1	4	4	Corridor paths and common areas are present and aid traffic flow, but could be more engaging with artwork installations, benches or other selectively placed seating.
2.3	Areas for students to **interact are suitable to the age group.**	1	4	4	Common areas could be more engaging as noted above, collaborative furniture is present and adequate but showing age and wear.
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	3	3	Furniture is aging and showing wear especially classroom desks and media center soft seating.
2.6	**Color schemes**, building materials, and decor are **engaging and unify** the school character.	2	4	8	Painting refresh is needed throughout the building but colors are consistent with school character and fairly consistent between original and newer additions.
2.7	Windows and skylights provide access to **adequately controlled daylight** for regularly occupied spaces.	3	4	12	Blinds in many areas are starting to have minor damage and show signs of wear. All still appear operable.
2.8	Windows provide access to **quality views** (to exterior, courtyards, artwork etc.) for regularly occupied spaces.	3	3	9	Due to the arrangement of the school and additions on the site many areas have windows that look out to adjacent brick walls. Plantings or artwork may add interest to increase the view quality but would add maintenance efforts.
2.9	**Lighting has proper controls** to provide the required light levels for various teaching and learning needs.	2	5	10	Light diffuser needs replaced in room 211
2.10	**Staff dedicated spaces** include conference space, work space, and dedicated restrooms.	1	4	4	Single dedicated conference room for about 3- 6 people. There are limited other areas to meet. Break room, staff restrooms, and work room is adequate.

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	5	10	
2.12	**Break room** is adequately sized and furnished for proper use.	1	4	4	Break room and work room are a single large space, but adequately organized and arranged.
2.13	**Mother's room** is a separate designated space properly furnished.	1	1	1	Conference room designated as mothers room as needed.
Maintainability					
2.14	**Floor surfaces** are durable and in good condition.	1	5	5	Apppears to have new carpet throughout .
2.15	**Ceilings** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	2	2	Level 2 and level 3 classroom hard ceilings are generally in good condition, however the textured act tile is showing damage and wear. Level 1 ceilings have various staining and damage on both 12x12 tiles as well as the textured ACT. Room 210 is currently used as a behavioral breakout space. the ceiling is approximately 8' or less and is very damaged.
2.16	**Walls** throughout the building – including services areas – are easily cleaned and resistant to stain.	1	2	2	2nd grade - north addition wing walls are all 2" mosaic tiles in poor condition with areas of missing and damaged tiles. Interior brick connection to that north wing needs some minor tuck-pointing and brick repair. Administration exterior walls are showing signs of water damage and paint bubbling that need repair and refinishing.
2.17	**Built-in casework** is designed and constructed for ease of maintenance.	1	4	4	All classroom casework is plastic laminate which is not as durable or resistant to water as other materials. The art room counter top is starting to swell at the seams. Other casework is currently in good condition.
2.18	**Doors** are either solid core wood or hollow metal with a hollow metal frame and well maintained.	3	3	9	Interior doors are in ok condition. The wood is showing minor surface wear throughout, but no immediate needs. Exterior doors are all in need of refinishing with select doors needing replacement. See project recommendations for additional specific information.
2.19	**Facility doors** are keyed to standardized master keying system.	3	4	12	Ground level IDP Room 012 is keyed differently.
2.20	**Restroom partitions** are securely mounted and of durable finish.	2	5	10	

A | Architectural, Interior

ASSESSOR: Kaela Shoemaker

		Weight Factor	Rating	Points	Comments
2.21	**Adequate electrical outlets** are located to permit routine cleaning in corridors and large spaces.	1	5	5	
Occupant Safety					
2.22	Classroom doors are **recessed and open outward.**	4	5	20	
2.23	Door hardware (into classrooms or any occupied rooms off of corridors) include **intruder classroom locksets.**	3	4	12	Mortise locksets with keyed access on interior and exterior of classrooms. Only a few interior doors have closures, most have no closures. Some classroom have magnetic strips to keep door from latching, other teachers use a mask over the door handle.
2.24	**Door panels** into classrooms and other occupied spaces contain **vision lite.**	3	5	15	
2.25	**Vision lite** in doors is clear and uncovered.	2	5	10	
2.26	**Glass** is properly located and protected to prevent accidental injury.	2	5	10	
2.27	**Flooring** is maintained in a **non-slip** condition	2	5	10	
2.28	**Traffic areas terminate at exit or** stairway leading to egress	5	5	25	
2.29	Multi-story buildings have at least **two stairways** from all upper levels for student egress.	5	5	25	
2.30	**Stairs (interior and exterior)** are well maintained and in good condition meeting current safety requirements.	5	5	25	

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			335	

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	Main entrance is difficult to discern. The nearby exit on original bldg carries similar visual hierarchy.
Maintainability					
3.2	**Roofs** appear sound, have positive drainage, and are water tight.	3	4	12	Roofs all appear to be in good condition, with no significant areas of concern other than general service life. Roofs L-O should be replaced in approx. 5 years, based on service life expectations. Roofs C-E and G-K should be replaced in approx.10 years, based on service life expectations.
3.3	**Roof access** is safe for all roofs.	3	3	9	Access to original roof should be improved within attic space. Updated roof hatch and lockable ladder in place. Add guard rail at roof hatch. Access to lower roofs is through window. This should be improved. Access from Roof D to B occurs at edge of the lower roof. Add guardrail at roof edge.
3.4	Exterior **window sealant** is fully intact without cracks or gaps.	3	3	9	Sealant generally in acceptable condition, however, sealant is starting to pull away at limited number of windows. Recommend full building replacement within 5 years.
3.5	**Glazing** is low-e coated, insulated, and overall in good condition.	1	4	4	Insulated glazing units do appear to be tinted.
3.6	**Operable windows** are functional and safe. Operable portion of window fully seals when closed without gapping or leaking.	2	4	8	Windows have been updated to be aluminum units or aluminum clad wood units.
3.7	**Exterior doors** are of durable material requiring minimum maintenance.	2	3	6	Most doors are aluminum or steel, however two locations still contain original wood units. (5) doors/frames are rusting and should be replaced. Repaint all exterior steel doors. Repaint or replace wood doors.
3.8	**Exterior walls** are of material and finish requiring little maintenance,	1	3	3	Brick is the primary wall material. There are some limited areas that will require repointing, and one area (patio wall) of significant repair. Stucco on north addition columns and roof beam line will require re-painting. Corrugated steel panels on west addition in good condition.
3.9	**Exterior Doors** open outward and are equipped with **panic hardware.**	1	3	3	Two doors (6 and 17) do not consistently latch so will require immediate maintenance attention.
3.10	**Exterior Doors are monitored** or controlled by an access control system.	1	3	3	(6) Doors have full access control. (5) Doors have keyed exterior hardware only. (9) Doors have exterior pulls only. All doors except two (storage and east entry to original bulding) have identification signage.
	TOTAL			65	

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	4	4	Site has good drainage away from building, one wash out area to correct to the south of the building by the stair down to the playground.
4.2	**Parking areas** are in good condition.	5	5	25	Parking areas on both the east and west appeared to be new concrete and were in good condition.
4.3	**Drive areas** are in good condition.	3	4	12	The drive areas in the east lot appeared to be new concrete and were in good condition. The access to the west parking lot off 38th Pl. was a mix of asphalt and concrete and had an area needing replacement. The remainder of the west lot drive areas was in good condition.
4.4	**Sufficient on-site, solid surface parking** is provided for faculty, staff, and community.	1	5	5	There were multiple spaces available in both the east and west parking lots.
4.5	**Sidewalks** around the facility are in good **condition.**	1	4	4	There were a couple of tripping hazards and a some panels that will need replacement but sidewalk conditions were good overall.
4.6	**Sidewalks are located** in appropriate areas with adequate building access.	1	4	4	There was one door without sidewalk access, but it was easy to move around across site by sidewalk otherwise.
4.7	**Hard surface** playground surfaces are in good condition.	3	4	12	Some of the asphalt was cracking but not failing on the western side of the playground area. The concrete playground surface and walk track were in good condition.
4.8	**Fencing** around the site is in good condition.	1	4	4	A section of fence on the SE side of the site needs replacement
4.9	**Trash enclosure** is in good condition.	1	4	4	The gate was damaged a little bit and the pavement in front of the trash enclosure was cracking at the joints. The masonry brick around the enclosure was in good condition.
4.10	**Utilities** are in newly constructed conditions and placed in suitable locations.	1	5	5	All of the site's utilites were placed well and without damage. An intake might be useful on the SW side of the site.

ASSESSOR: Jack Gorman Joel Jackson

		Weight Factor	Rating	Points	Comments
4.11	**Site has sufficient room** for both building and parking expansion.	1	1	1	The site appears to have expanded to its' maximum capacity. The building addition was completed in 2002 and the west parking lot appears to be new.
4.12	Site has **onsite bus and parent pickup** up with adequate length, good separation and general good site circulation.	1	5	5	Bus drop off is to the west and is separated from the parent drop off on that side. Another parent drop off is the east of the site as well.
	TOTAL			85	

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	4	4	(2) corners of the exposed concrete foundation wall of rooms 114 and 115 are cracked and in need of repairs. Cracks should be injected with epoxy and sealed to prevent further deterioration from water infiltration and freeze thaw. Some minor concrete spalling under window sill of corridor ramp landing near room 116.
5.2	There does not appear to be any **foundation settlement.**	2	5	10	
5.3	**Basement walls** do not appear to have any cracks.	1	5	5	
5.4	**Stoops** appear to be in good condition.	1	5	5	
Slab on Grade					
5.5	**Slabs on grade** do not appear to have any cracks	1	4	4	The main entrance vestibule slab has (2) large diagonal cracks across the slab. No control joints were observed to have been provided in this slab. There did not appear to by any settlement in the slab.
5.6	Slabs on grade do not appear to have any **settlement.**	1	5	5	
Exterior Walls					
5.7	**Brick masonry** appears to be in good condition.	2	4	8	Inside the attic space of the original building, severe deterioration of the mortar joists was observed. The problem was observed to be at the same elevation and depth of the exterior decorative cornice around the exterior parapets. It appears that this cornice is catching water and now allowing the masonry to dry.
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: 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	4	12	Concrete columns around the perimeter of the North East wing are showing early signs of spalling due to rusting of interior rebar. Some columns are cracked while others sound hollow when a knock test is performed (indicating a delamination of the concrete cover).
Miscellaneous					
5.15	**Retaining walls** appear to be in good condition.	1	3	3	Exterior brick masonry planter boxes outside of media room 129
5.16	**Canopies** appear to be in good condition.	1	4	4	Canopy outside 002 Entrance: Exterior column base plate and anchors are rusted and in need of maintenance. Anchor rod plate washers have severe corrosion and are in need of replacement.
5.17	**Loading dock concrete** appears to be in good condition.	2	N/A	0	
5.18	**Mechanical screening** appears to be in good condition.	2	5	10	
5.19	**Stairs** appear to be in good condition.	1	5	5	
5.20	**Stair railings** appear to be in good condition.	1	4	4	Guardrail at exterior egress stair of North West corridor of rooms 113-116 has rusted base plates and anchors and is in need of maintenance.

S | Structural

ASSESSOR: Tyler Scott, P.E.

		Weight Factor	Rating	Points	Comments
5.21	**Tunnels** appear to be in good condition without cracks.	1	5	5	
5.22	There is a **designated hardened area** in the building.	1	0	0	No designated hardened area.
5.23	The hardened area appears consistent with the **ICC 2018 code.**	1	N/A	0	
	TOTAL			129	

MP | Mechanical & Plumbing

ASSESSOR: Corey Metzger

6.0 Mechanical Systems

HVAC Design

		Weight Factor	Rating	Points	Comments
6.1	**Zone Control.** Thermostats are provided in each space for individual zone control of space temperatures.	3	5	15	Appears to be true.
6.2	**Thermostat location.** Thermostats are properly located in the space.	3	4	12	A few sensors located in undesirable locations (e.g. sensor in media center is on exterior wall adjacent to open window).
6.3	Appropriate **amount of ventilation** are provided to each space.	5	2	10	Numerous spaces without mechanical ventilation. Appears original design accounted for natural ventilation from operable windows in these areas.
6.4	**Ventilation** is provided during occupied hours.	5	3	15	Appears true where mechanical ventilation is provided.
6.5	**Outdoor air intake locations** are appropriate.	4	5	20	Generally appears to be true.
6.6	Appropriate **levels of exhaust** are provided for areas requiring this such as restrooms, janitor's closets and locker rooms.	5	5	25	Appears to be true.
6.7	**Building pressurization.** The design takes into account the balance between ventilation and exhaust air	2	4	8	Generally appears acceptable, however natural ventilation in some areas and air distribution to spaces such as gym may result in some issues with pressure relationships.
6.8	**Major HVAC Equipment** appears to be within it's acceptable **service life.**	5	2	10	Much of the equipment, with exception of new roof-mounted DOAS unit and geothermal loop pumps, appears to have exceeded expected useful life.
6.9	**Cooling loads** are within equipment operational capacity.	5	3	15	Some concerns were identified in spaces regarding capacities. Some observed rooms at north addition area were very hot when observed (not a design cooling day).
6.10	**Heating loads** are within equipment operations capacity.	5	4	20	

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	2	6	True for new roof-mounted DOAS, but not for areas without mechanical ventilation or using roof-mounted intake ventilators connected directly into heat pump units.
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. Somewhat difficult to access.
6.14	**Domestic hot-water systems** are within equipment operational capacity.	5	3	15	Units are ground-coupled water-to-water heat pumps. DMPS personnel indicated they have been problematic.
6.15	Domestic **hot-water reicrulcating systems** allow for hot-water at fixtures within a reasonable amount of time.	3	5	15	Hot water observed almost immediately at top floor.
6.16	**Sanitary sewer systems** are sized and sloped to allow for proper drainage.	5	5	25	Appears to be true.
6.17	Appropriately sized **grease interceptors** are provided for facilities with food service.	3	5	15	Appears to be true.
6.18	**Roof drainage** systems are sized appropriately and overflow drainage systems are installed.	5	5	25	Appears to be true.
6.19	**Restroom fixtures** are in good condition and comply with current DMPS standards.	3	3	9	Fixtures appear to be in okay condition. Sealant around most of the single occupant fixtures appears to need re-done, but there is no apparent leaks. Flush valves are primarily manual.
Maintainability					
6.20	Equipment is provided with **adequate service clearance** to allow for regular maintenance	3	3	9	Service clearance in space below stairs for major components is limited.

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	3	6	Numerous device types (horizontal heat pumps, console heat pumps, rooftop equipment) lead to multiple filter sizes and types.
6.23	**Equipment mounting heights** are reasonable.	3	4	12	Generally appears true. Several heat pumps in original building are mounted fairly high.
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	Appears to be true.
6.26	Appropriate means are provided for **airflow and water balancing.**	3	5	15	Appears to be true.
6.27	**Hose Bibbs** located in proximity to **outdoor condensers and condensing units**. Is cottonwood an issue at this location?	2	0	0	None observed. Only major equipment to serve is new DOAS unit.
6.28	**Fall protection** is provided for equipment within 15 ft of roof edge as per OSHA standard 1910.28(b).	2	3	6	A few small exhaust fans are closer than 15 feet to roof edges. There is also at least one ladder that appears to be cause for concern in accessing roof in center of building.
6.29	**Building devices are on DDC controls** and fully visible through Building Automation System. No pneumatic controls remain.	4	5	20	Appears to be true and controllers appear to be newest generation.
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. Both wet and dry sprinkler zones. Compressor for dry system was observed running while on site, which may indicate a leak somewhere in the system.
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	Hot water available almost immediately.
6.33	**Emergency eye-washes and tempering valves** are located where required.	5	0	0	Not observed. Recommend evaluation with an occupational safety and health professional to determine necessity of eye wash(es) for facility spaces.
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	N/A	0	N/A.
	TOTAL			473	

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	Service entrance consists of 500kVA 208/120V transformer.
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	Storage present in front of MDP. Room clearances meet code, but give no room for any modification as clear space between MDP and Panel BA is 36-1/2", which meets code (36") but is difficult to traverse. Signage on MDP indicates that no work may take place while gear is live. No egress panic hardware present.
7.4	The **MDP** appears serviceable.	4	4	16	MDP is Square D QED-2 Switchboard manufactured in 2002. -1 point for age greater than 10 years. Power monitor currently not functional.
7.5	The MDP is **maintainable.**	3	5	15	
7.6	The MDP will support **future expansion.**	4	5	20	MDP has 126" of total available mounting space, with 66" being utilized.
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 observed had adequate clearance. Branch panelboards are starting to run low on spare breaker capacity, noting Panel 1C is is at capacity with all 84 positions in use.
7.12	Building has adequate and appropriately located, **safe exterior power** to allow for regular maintenance activities.	1	1	1	Exterior receptacles are minimal. Recommend additional receptacles at request of building staff.
7.13	Building has adequate **exterior lighting** to promote safety and security of the property.	5	3	15	Staff entrance from 38th Place and parking are dark. Two areas in between building sections from back 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	
7.15	MDF Equipment Racks have adequate space for **future growth.**	4	4	16	Data rack has 15 of 45 rack units open for further use. -1 point for less than 50% spare capacity.
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	3	3	Receptacle serving all telecom equipment is a quad 20A receptacle, but all other receptacles in MDF are 15A.
7.18	MDF Power is supplied from a branch panel located in the room with **adequate spare circuit capacity.**	1	0	0	No panel present within the MDF. Power supplied from Panel BA in main electrical room.
7.19	MDF employs up-to-date **network cabling.**	2	4	8	Majority of cabling is CAT5e. -1 point for not being CAT6/6A.
7.20	MDF is connected to Intermediate Distribution Frame (IDF) closets with **fiber optic cabling.**	1	3	3	Connection to IDF is 12-strand 50µm multi-mode FO cable. -2 points for not conforming to current DMPS standard of single mode FO cable.

E | Electrical

ASSESSOR: David Carlson

		Weight Factor	Rating	Points	Comments
7.21	MDF has adequate **grounding busbar capacity.**	2	3	6	Capacity of grounding busbar is adequate, but no main connection to the building MDP grounding bus or intersystem bonding termination exists. Does not meet telecom standards for grounding.
7.22	Building is equipped with an **addressable fire alarm system.**	5	5	25	
7.23	Building is equipped with an **access control system.**	5	1	5	Of fifteen exterior entrances, only four have card access capabilities. Recommend more be added at DMPS' discretion, recommend adding eight additional card access locations.
7.24	Building is equipped with a **CCTV system.**	5	2	10	4/15=27%
7.25	Building is equipped with an **intercom system.**	4	3	12	Reconnect grounding connection to all portions of the existing Bogen intercom system. One connection hanging loose at time of assessment.
7.26	Building is equipped with a **master clock system.**	4	4	16	Time Clock present is Simplex make. -1 point for non-conformance with current DMPS standard programming (Primex).
	TOTAL			283	

EV | Elevator

ASSESSOR: Mike Brown - ATIS

8.0 Elevator Conditions

		Weight Factor	Rating	Points	Comments
Design					
8.1	**Size** meets minimum as directed by ADA.	2	5	10	
8.2	**Control protections and signals** meet ADA standards.	2	5	10	
8.3	**Signage** meets code requirements.	1	5	5	
Operation and Safety					
8.4	Elevators have **proper level accuracy and door times.**	1	5	5	
8.5	**Safety devices** are in place and operable.	1	3	3	The elevator door protection needs upgraded to a full length screen on both car doors.
Condition and Maintainability					
8.6	**Equipment is easily accessible** for periodic maintenance.	1	5	5	
8.7	**Equipment** is at an acceptable point in the life cycle, and does not contain obsolete parts.	2	1	2	The control system is obsolete and not supported by the original manufacturer.
8.8	**Finishes** are adequate and maintainable.	1	3	3	Signs of wear are present on car interior.
8.9	**Maintenance** is adequate.	1	5	5	
8.10	**Testing** is up to date, and all **record and logbooks** are present and filled out.	1	5	5	
	TOTAL			53	

RECOMMENDED PROJECTS AND COST ESTIMATING METHODOLOGIES

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

Project Descriptions

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

Projects Requiring a Study

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

Cost Estimating

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

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

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

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

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

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

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

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

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

Light Diffuser Replacement	Replace missing light fixture diffuser in room 211.
Exterior Door Adjustment	Door 6 (SW corner of Room 001--Multipurpose) does latch. Door seems to bind on frame. Door 17 (SE end of north addition--next to Room 104) does NOT consistently latch.
Modular Block Wall Repair	Disassemble and repair the modular block wall outside of door on the north side of the building. For location, refer to civil site plan exhibit found in the appendix of this report.
Temperature Control	Review operation of equipment serving east rooms on north wing. These spaces were very warm when observed (likely well above 80 degrees F on a 45 degree F ambient day).
ERV Disconnect Repair	Disconnect on ERV was broken when observed. Manufacturer's representative was called immediately and replacement switch should be provided under warranty. Confirm work is completed.
Roof Cleaning	There was significant construction debris remaining around ERV-3 on roof (screws, ductwork, other scraps, etc.). Contractor or DMPS staff should clean this area.
Intercom Grounding Repair	Reconnect grounding conductor to all portions of Bogen Intercom system components. Provide grounding bushing for disconnected portion of grounding conductors.
Telecom Grounding Busbar Cable Installation	Install a dedicated 250kcmil grounding electrode conductor from MDP ground bus or IBT to the TMGB in the MDF.

1 - 2 Year Priority

		Project Costs
Interior Wall Repair	Signs of past water damage are present by the cracking and peeling of interior paint along the exterior walls of the administration offices. Remove finish, repair any water damage to the wall and refinish. Paint the rest of the Main Office space. Approximately 90 SF of wall repairs and re-finish. Approximately 1500 SF of wall paint in the Main Office.	$11,000
Interior Refinish	Remove mosaic tile throughout the north addition and replace with phenolic paneling or similar durable wall material. Approximately 2,000 SF. Paint all classroom and corridor walls In North Addition. Approximately 8000 SF.	$95,000
Restroom Refinish	Remove mosaic tile from single occupant restrooms (10) in the north addition and replace with large format tile such as 12x24 or similar. Replace fixtures as well. Approximately 300 SF of floor tile replacement, 1,175 SF wall tile replacement, and 720 SF of painting total.	$170,000
Exterior Door Replacement	Replace wood doors and frames with new hollow metal. (1) double door with center frame, exit #3. (1) single door and frame from room 212. Replace (2) double hollow metal door and frame. Replace (4) single hollow metal doors with new, frames to remain. Repaint all steel doors and frames. (8) single doors and (2) double doors.	$90,000
Masonry Tuckpointing	Repoint masonry, at north wall of 129, at north wall of 030/031, and at parapet of 212/216. Approximately 3,000SF Also, 90 SF pointing outside of main office. Recommended to be done concurrent with planter box repair project and pointing at attic space for gained project efficiencies.	$55,000
Curb Repair	Return damaged curbs to new condition. Approximately 22 LF of 6" curbs. For locations, refer to civil site plan exhibit found in the appendix of this report.	$6,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 8 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$7,000

Concrete Foundation Wall Repair	Repair cracked corners of foundation walls located at exterior corners of north addition rooms114 & 115. Cracks shall be filled with crack repair epoxy. Total length of cracks is approximately 12 feet.	$6,000
Concrete Window Sill Repair	Provide concrete patch repair/replacement to sill of window at South East corner of room 116 and landing of corridor ramp. Size repair is 6'-0" x 1'-0" x 1'-0". Provide (2) - #4 horizontal bars by 5'-9" long.	$12,000
Masonry Tuckpointing at Attic	Make repairs to brick mortar joints around perimeter attic walls. Area of repairs is approximately 1000 SF.	$20,000
Brick Repairs at Beam Pocket	Make repairs to exterior brick around tube steel pocket of supporting beam of exterior egress stair of room 212. Repair area is approximately 2'-0" x 2'-0".	$6,000
Canopy Column Base Plate Repair	Restoration of the exterior steel column base plate and anchor rods at the canopy over the entrance 002. Recommended to replace column base plate and provide elevated concrete pier. Column base plate should be raised under new pier by 1'-0" above pavement. 18" diameter round pier approximately 2 to 3 feet tall is recommended (1'-0" above pavement and 1 - 2 feet below pavement).	$8,000
Replace Heat Pumps	Replace Heat Pumps in Areas "A" and "B" which were installed in 2002 and in "New Addition" which were originally installed in 2005.	$1,300,000
Install new DOAS Units	Replace existing gravity intake ventilators with new DOAS units with ERV, electric heat, DX cooling. Combine smaller gravity intake ventilator into a larger DOAS units.	$1,100,000
Water heater Replacement	Replace heat pump water heaters with traditional electric water heater.	$40,000
Wall Hydrant Installation	Add wall hydrant on Area "C" for cleaning of ERV-3 condenser coils.	$11,000

MDF Panelboard Installation	Install 100A branch panelboard in MDF to serve all equipment therein.	$20,000
Elevator Controller Replacement	The control system is obsolete. In order to risk prolonged downtime a modernization should be initiated.	$210,000

Total 1-2 Year Project Costs: $3,167,000.00

3 - 4 Year Priority

		Project Costs
Ceiling Replacement	Replace textured ceiling tile throughout the building with a smooth faced ACT product. Approximately 3,000 SF. Paint level 3 decorative metal ceiling, approximately 600 SF. Replace 12x12 ceiling tiles in north addition with ACT suspended ceiling to match the rest of the building. Approximately 3,100 SF.	$120,000
Interior Refinish	38,000 SF of wall paint in corridors and classrooms throughout the building.	$170,000
Door Hardware Replacement	Replace existing hardware on main electrical room with panic bar hardware to facilitate rapid egress in the event of an emergency.	$11,000
Exterior Sealant Replacement	Remove and replace sealant at all windows. Approx. 4,000 LF.	$55,000
Roof Access Installation	Provide vertical ladder within attic in place of sloped ladder serving G. (4 LF) Provide guard at roof hatch. Provide (10 LF) guardrail at roof edge adjacent to ladder from B to D. Provide ladder dock to provide access to Roofs A and B. Refer to appendix for roof identification plan.	$15,000
Fall Protection Installation	Add fall protection at (3) locations where equipment is less than ten feet from roof edge.	$40,000

Parking Pavement Replacement	Remove and replace 265 SY of asphalt. Remove, replace, and reinforce 45 SY of pavement in front of trash enclosure and install a rock base. For locations, refer to civil site plan exhibit found in the appendix of this report.	$50,000
Sidewalk Repair	Repair damaged sidewalks across the site. Approximately 37 SY. For locations, refer to civil site plan exhibit found in the appendix of this report.	$11,000
Concrete Column Repairs	Concrete patch repairs are recommended for exposed exterior concrete columns of the NE classroom wing. Removal of de-laminated concrete is required down to sound concrete, in addition, rust removal cleaning of exposed rebar will be necessary prior to concrete patch application. Columns are 12" x 12" x 10' tall and a total of 5 columns will need repairs. Concrete patch repair is assumed to be for the full exterior face of the columns at a depth of 3". Patch stucco finish at upper walls of this wing (25 SF) and repaint concrete/stucco on entire wing. (1800 SF paint.)	$35,000
	Total 3-4 Year Project Costs:	**$507,000.00**

5- 10 Year Priority

		Project Costs
Casework Replacement	Replace plastic-laminate countertops with solid surface, approximately 100 LF and 9 sink locations. Recommended projected based on current conditions and expected life of plastic laminate at wet locations of approximately 8 years. Maintaining the sealant will extend the life of the current plastic laminate.	$120,000
Furniture Replacement	Soft seating is showing age and wear, specifically in the media center. Classroom desks and chairs, in approximately 15 classrooms, are showing wear and age as they are not as collaborative or ergonomic as the ideal. Project recommendation is based on assessed condition.	DMPS
Roof Replacement	Replace TPO roofs L-O with new TPO membrane and insulation. Approximately 3000 SF on (4) roof areas.	$100,000
Roof Replacement	Replace PVC roofs C-E and G-K with new TPO membrane and insulation. Approximately 7300 SF on (7) roof areas. These areas are recommended to be replaced between 8-10 years, or 3-4 years after Roofs L-O.	$240,000

Parking Pavement Replacement	Remove and replace 14 SY of PCC. For location, refer to civil site plan exhibit found in the appendix of this report.	$8,000
Sidewalk Repair	Repair damaged sidewalks and stone path on site. Approximately 159 SY of sidewalk and 40 SY of stone. For locations, refer to civil site plan exhibit found in the appendix of this report.	$45,000
Fencing Replacement	Remove and replace 106 LF of chain link fence. For location, refer to civil site plan exhibit found in the appendix of this report.	$15,000

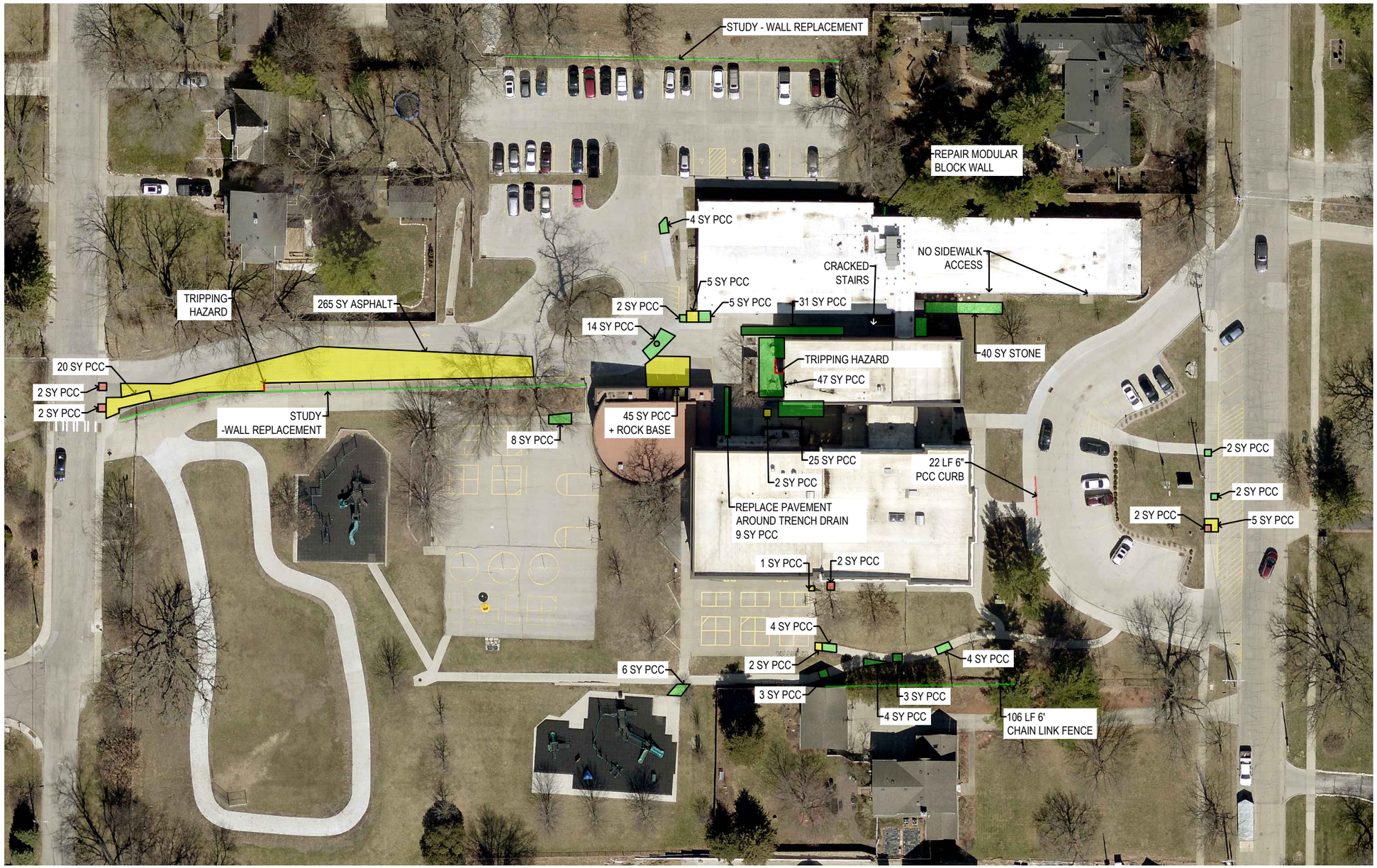
Total 5-10 Year Project Costs: $528,000.00

Projects Requiring Study

		Design Services Fee
Mother's Room Space Study	Study to define a private dedicated space for a Mother's Room that includes at least a sink, side table, chair, and privacy door hardware.	$5,000
Playground Retaining Wall Replacement	Two options would be to replace the walk and wall, or to remove the nearby trees and grade a new slope instead of a wall. Replacing the walk and wall without removing the trees would likely be a more expensive option.	$4,000
Study of Parapet Cornice around Attic	Conduct study to exterior cornice detail to determine if corrections to cornice flashing and venting are required to mitigate future moisture issues of brick masonry attic walls.	$5,000
Designated Hardened Area	No designated hardened area was observed. Study to determine the feasibility of adding a designated hardened area, including location, within the existing building, schematic design concept if deemed feasible, and preliminary project costs.	$2,500
Rebuild Masonry Planter Box	Rebuild exterior brick and CMU planter box outside of media room 129 in the North East corner of the patio in a more durable fashion; also determine cause of deterioration to avoid repetition. At the same time, raise pavement near planter box.	$1,500

Add Mechanical Ventilation	Review options to add mechanical ventilation to areas where operable windows are considered to meet the ventilation needs. Anticipated Capital Investment:	$1,700,000	$5,000
		Anticipated Capital Investment Costs:	**$1,700,000**
		Total Study Design Service Fees:	**$23,000**

APPENDIX



5+ YEAR REPLACEMENT

3-4 YEAR REPLACEMENT

1-2 YEAR REPLACEMENT

NORTH

GRAPHIC SCALE

60 0 30 60 120

bbs ARCHITECTS ENGINEERS

BISHOP ENGINEERING +

GREENWOOD ELEMENTARY

EXHIBIT

PROJECT # 230286-10

DATE 10/30/2023

N

bbs ARCHITECTS ENGINEERS

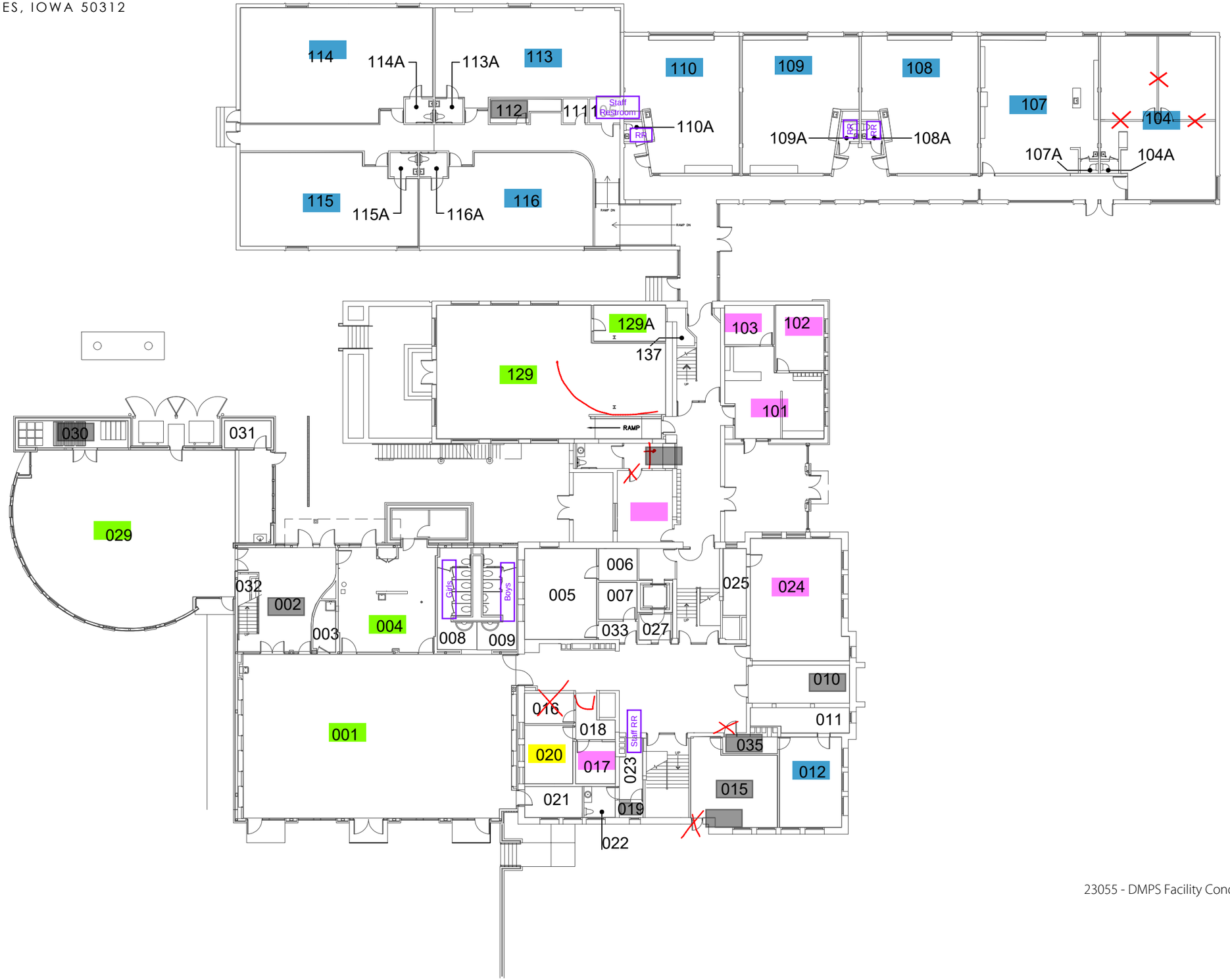
23055 - DMPS Facility Conditions Assessment
Roof Identification Image
Greenwood Elementary
12.6.2023

GREENWOOD ELEMENTARY SCHOOL

316 37TH STREET
DES MOINES, IOWA 50312

GROUND FLOOR

NORTH



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

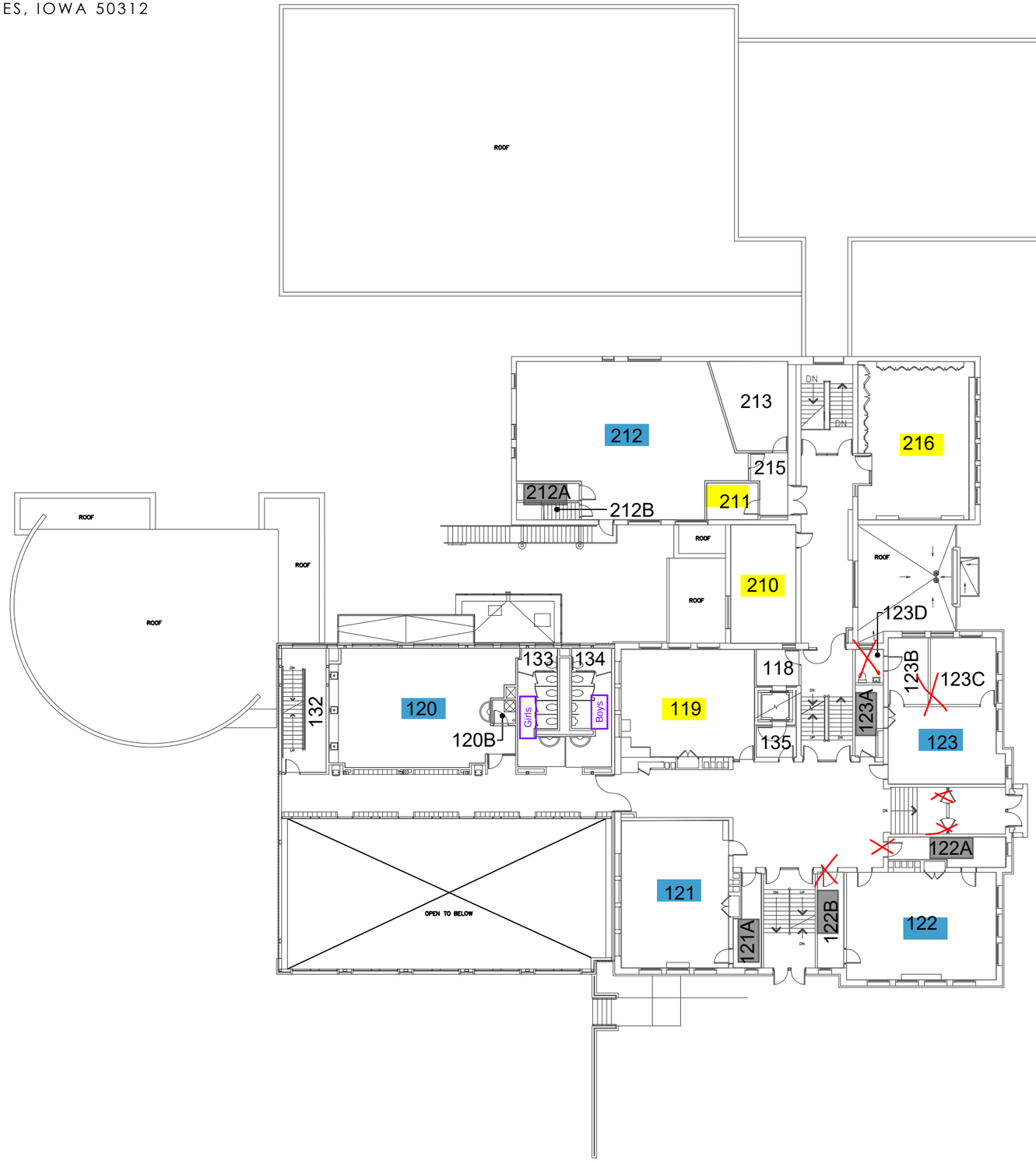
bbs ARCHITECTS ENGINEERS

GREENWOOD ELEMENTARY SCHOOL

316 37TH STREET
DES MOINES, IOWA 50312

FIRST FLOOR

NORTH



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

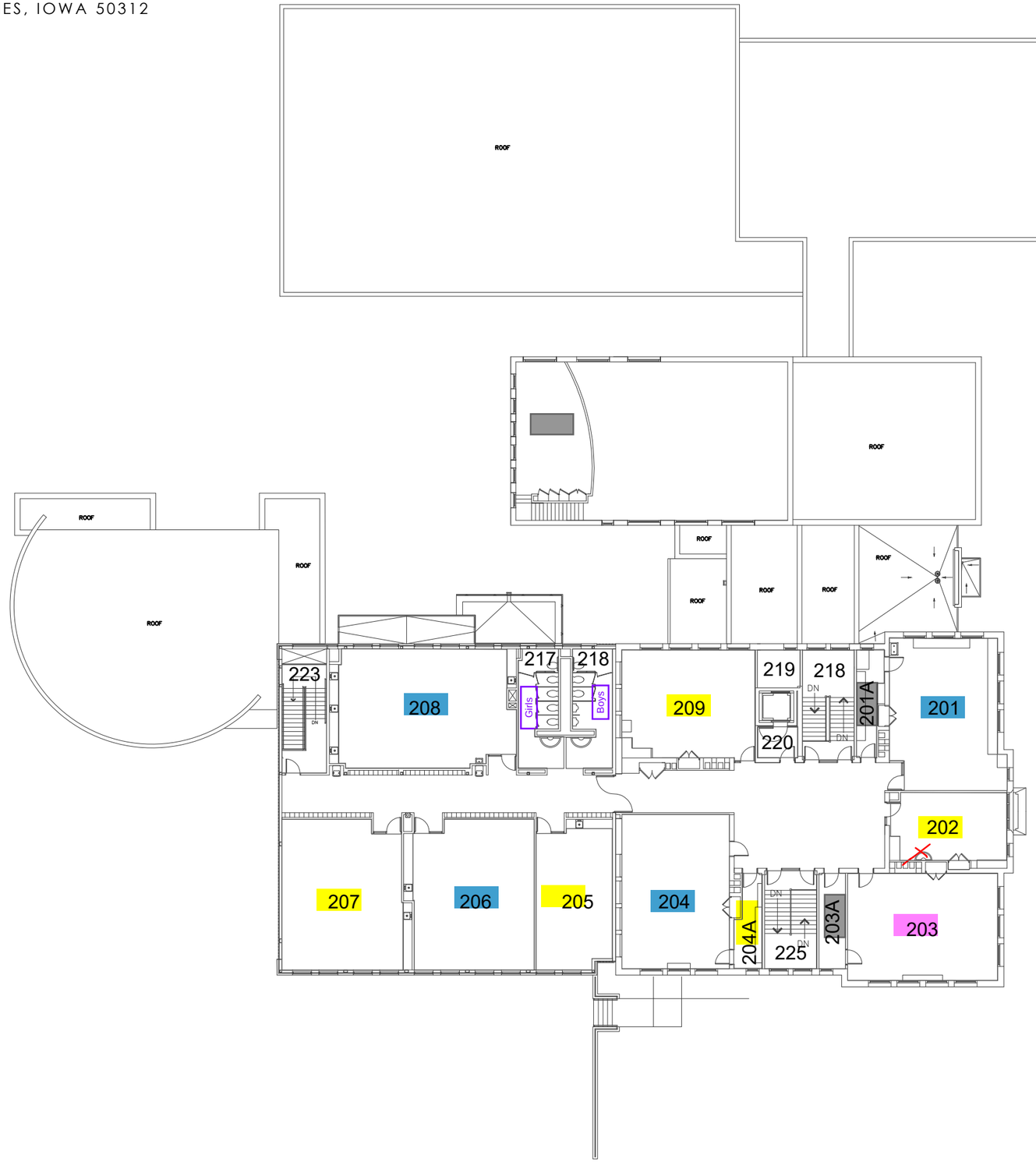
bbs ARCHITECTS ENGINEERS

GREENWOOD ELEMENTARY SCHOOL

316 37TH STREET
DES MOINES, IOWA 50312

SECOND FLOOR

NORTH



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

bbs ARCHITECTS ENGINEERS

23055 - DMPS Facility Conditions Assessment

12.6.2023