

FACILITY CONDITION ASSESSMENT

Prepared for

Ann Arbor Public Schools
2555 South State Street
Ann Arbor, Michigan 48104
Jim Vibbart



PREPARED BY:

EMG

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July 2, 2018

ONSITE DATE:

February 6, 2018

FACILITY CONDITION ASSESSMENT

OF

THURSTON ELEMENTARY
2300 PRAIRIE STREET
ANN ARBOR, MICHIGAN 48105



engineering | environmental | capital planning | project management

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Immediate Repairs Report
Thurston Elementary
7/2/2018



Location Name	EMG Renamed Item Number	ID	Cost Description	Quantity	Unit	Unit Cost *	Subtotal	Deficiency Repair Estimate *
Thurston Elementary	D30	885569	Air Conditioning, Central, Install	58470	SF	\$11.50	\$672,405	\$672,405
Thurston Elementary	B20	852342	Exterior Wall, Painted Surface, 1-2 Stories, Prep & Paint	7500	SF	\$3.30	\$24,760	\$24,760
Thurston Elementary	B20	852628	Brick Veneer Exterior Wall, , Repair	500	SF	\$47.47	\$23,737	\$23,737
Thurston Elementary	B2020	852535	Window Screen, Aluminum 12 SF, Replace	80	EA	\$596.28	\$47,702	\$47,702
Thurston Elementary	E10	852542	Sink, Stainless Steel, Replace	3	EA	\$1,212.16	\$3,636	\$3,636
Thurston Elementary	D20	852348	Drinking Fountain, Refrigerated, Replace	1	EA	\$1,446.13	\$1,446	\$1,446
Thurston Elementary	D30	847822	Boiler, Gas, 2049 MBH, Replace	1	EA	\$62,324.51	\$62,325	\$62,325
Thurston Elementary	D30	847881	Boiler, Gas, 2049 MBH, Replace	1	EA	\$62,324.51	\$62,325	\$62,325
Thurston Elementary	D30	847814	Boiler, Gas, 2049 MBH, Replace	1	EA	\$62,324.51	\$62,325	\$62,325
Thurston Elementary	D30	847877	Air Handler, Interior, 6,501 to 8,000 CFM, Replace	1	EA	\$29,919.11	\$29,919	\$29,919
Thurston Elementary	D30	847825	Air Handler, Exterior, 6,001 to 8,000 CFM, Replace	1	EA	\$43,473.39	\$43,473	\$43,473
Thurston Elementary	D30	847819	Exhaust Fan, Centrifugal, 801 to 2,000 CFM, Replace	1	EA	\$3,063.80	\$3,064	\$3,064
Thurston Elementary	D30	847870	Distribution Pump, Heating Water, 5 HP, Replace	1	EA	\$6,346.72	\$6,347	\$6,347
Thurston Elementary	D30	847840	Distribution Pump, Heating Water, 5 HP, Replace	1	EA	\$6,346.72	\$6,347	\$6,347
Thurston Elementary	D30	847905	HVAC Automation/Safety, ,	58470	SF	\$6.17	\$360,577	\$360,577
Thurston Elementary	D70	852320	Exit Lighting Fixture, w/ Battery, Replace	40	EA	\$481.79	\$19,272	\$19,272
Thurston Elementary	C10	852530	Stage Curtain, Medium Weight Velour, Flameproof (per SF), Replace	80	SF	\$14.95	\$1,196	\$1,196
Thurston Elementary	C10	852572	Kitchen Cabinet, Base and Wall Section, Wood, Replace	50	LF	\$537.78	\$26,889	\$26,889
Thurston Elementary		958694	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	66643.6	LS	\$1.15	\$76,640	\$76,640
Thurston Elementary	G20	847798	Parking Lot, , Repair	50000	SF	\$3.77	\$188,623	\$188,623
Thurston Elementary	G20	847865	Fences & Gates, Chain Link, 4' High, Replace	1500	LF	\$35.09	\$52,633	\$52,633
Thurston Elementary	G20	847896	Basketball Backboard, ,	1	EA	\$10,850.98	\$10,851	\$10,851
Thurston Elementary	A10	852331	Engineer, Structural, General, Design	1	EA	\$7,475.00	\$7,475	\$7,475
Immediate Repairs Total								\$1,793,966

* Location Factor included in totals.

EMG Renamed Item Number	ID	Cost Description	Lifespan (EUL)	EAge	RUL	Quantity	Unit	Unit Cost	w/ Markup	Subtotal	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	RRR_Row	GrandTotal	Label													
D50	945822	Clock and Bell System, Wireless or Ethernet Enabled, Up To 100 Total Clocks / Bells, Replace	15	14	1	58470	SF	\$0.51	\$0.59	\$34,293		\$34,293																				\$68,585														
D70	852563	Manual Pull Station, Replace	15	12	3	40	EA	\$186.08	\$213.99	\$8,560				\$8,560																		\$8,560	\$17,119													
D40	852599	Annunciator Alarm Panel, Replace	15	12	3	1	EA	\$1,448.32	\$1,665.56	\$1,666				\$1,666																		\$1,666	\$3,331													
D70	847845	Fire Alarm Control Panel, Multiplex, Replace	15	10	5	1	EA	\$4,284.35	\$4,927.00	\$4,927						\$4,927																		\$4,927												
D70	852329	Fire Alarm Horn & Strobe, Replace	20	13	7	40	EA	\$249.48	\$286.90	\$11,476							\$11,476																	\$11,476												
D70	847812	Fire Alarm System, School, Install	20	8	12	58470	SF	\$3.13	\$3.60	\$210,577													\$210,577											\$210,577												
D70	852337	Security/Surveillance System, Cameras and CCTV, Install	10	8	2	58470	SF	\$4.35	\$5.00	\$292,308			\$292,308										\$292,308												\$292,308	\$584,616										
D70	852320	Exit Lighting Fixture, w/ Battery, Replace	10	38	0	40	EA	\$418.95	\$481.79	\$19,272	\$19,272											\$19,272													\$19,272	\$38,544										
D70	852583	Emergency Lighting Pack, 2 Light w/ Battery, Replace	10	7	3	50	EA	\$1,227.87	\$1,412.05	\$70,602				\$70,602										\$70,602											\$70,602	\$141,205										
D70	852317	Exit Lighting Fixture, w/ Battery, Replace	10	3	7	21	EA	\$418.95	\$481.79	\$10,118							\$10,118												\$10,118						\$10,118	\$20,235										
C10	852530	Stage Curtain, Medium Weight Velour, Flameproof (per SF), Replace	15	15	0	80	SF	\$13.00	\$14.95	\$1,196	\$1,196														\$1,196										\$1,196	\$2,392										
D70	852335	Defibrillator, Cabinet Mounted, Replace	5	3	2	3	EA	\$1,409.50	\$1,620.93	\$4,863			\$4,863				\$4,863						\$4,863						\$4,863						\$4,863	\$19,451										
E10	852537	Commercial Kitchen, Food Warmer, Replace	15	10	5	1	EA	\$1,551.91	\$1,784.69	\$1,785						\$1,785																			\$1,785	\$1,785										
E10	852538	Commercial Kitchen, Refrigerator, 2-Door Reach-In, Replace	15	10	5	1	EA	\$4,256.00	\$4,894.40	\$4,894						\$4,894																			\$4,894	\$4,894										
E10	852539	Commercial Kitchen, Steamer, Tabletop, Replace	10	1	9	1	EA	\$6,344.00	\$7,295.60	\$7,296											\$7,296														\$7,296	\$14,591										
E10	852536	Commercial Kitchen, Freezer, 1-Door Reach-In, Replace	15	5	10	1	EA	\$2,838.00	\$3,263.70	\$3,264												\$3,264													\$3,264	\$3,264										
E10	852575	Residential Appliances, Refrigerator, 14-18 CF, Replace	15	13	2	1	EA	\$956.04	\$956.04	\$956			\$956																					\$956	\$1,912											
E10	852580	Residential Appliances, Range, Electric, Replace	15	10	5	1	EA	\$665.09	\$665.09	\$665						\$665																			\$665	\$665										
C10	852572	Kitchen Cabinet, Base and Wall Section, Wood, Replace	20	55	0	50	LF	\$467.63	\$537.78	\$26,889	\$26,889																								\$26,889	\$26,889										
	958694	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	1	1	0	66643.6	LS	\$1.00	\$1.15	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$76,640	\$1,532,803										
G20	847798	Parking Lot, , Repair	25	25	0	50000	SF	\$3.28	\$3.77	\$188,623	\$188,623																									\$188,623	\$188,623									
G20	847883	Parking Lot, , Repair	5	0	5	50000	SF	\$0.38	\$0.44	\$21,821						\$21,821						\$21,821				\$21,821										\$21,821	\$65,464									
G20	847806	Pedestrian Pavement, , Replace	25	12	13	11600	SF	\$5.00	\$5.75	\$66,700													\$66,700													\$66,700	\$66,700									
G20	847861	Pedestrian Pavement, , Replace	30	12	18	20000	SF	\$9.00	\$10.35	\$207,000																									\$207,000	\$207,000										
G20	847865	Fences & Gates, Chain Link, 4' High, Replace	30	30	0	1500	LF	\$30.51	\$35.09	\$52,633	\$52,633																									\$52,633	\$52,633									
G20	847833	Site Signage, , Replace/Install	20	17	3	1	EA	\$8,602.00	\$9,892.30	\$9,892				\$9,892																						\$9,892	\$9,892									
G20	847888	Bike Rack, , Replace	25	15	10	8	EA	\$1,090.00	\$1,253.50	\$10,028												\$10,028														\$10,028	\$10,028									
G20	847896	Basketball Backboard, ,	10	10	0	1	EA	\$9,435.64	\$10,850.98	\$10,851	\$10,851											\$10,851														\$10,851	\$21,702									
G20	847839	Play Structure, Medium, Replace	20	15	5	1	EA	\$40,005.63	\$46,006.47	\$46,006						\$46,006																				\$46,006	\$46,006									
G20	847834	Play Structure, Small, Replace	20	15	5	1	EA	\$18,975.00	\$21,821.25	\$21,821						\$21,821																				\$21,821	\$21,821									
G20	847820	Play Structure, Small, Replace	20	15	5	1	EA	\$18,975.00	\$21,821.25	\$21,821						\$21,821																				\$21,821	\$21,821									
G20	847852	Play Structure, Large, Replace	20	13	7	1	EA	\$53,130.00	\$61,099.50	\$61,100							\$61,100																			\$61,100	\$61,100									
G20	847887	Play Structure, Small, Replace	20	13	7	1	EA	\$18,975.00	\$21,821.25	\$21,821							\$21,821																			\$21,821	\$21,821									
G20	847885	Flagpole, ,	20	17	3	1	EA	\$2,530.00	\$2,909.50	\$2,910				\$2,910																						\$2,910	\$2,910									
G40	847891	Pole Light, Exterior, 135 to 1000 W HID (Double Fixture, with Metal Pole), Replace	20	5	15	14	EA	\$8,523.34	\$9,801.84	\$137,226													\$137,226													\$137,226	\$137,226									
A10	852331	Engineer, Structural, General, Design	0	55	0	1	EA	\$6,500.00	\$7,475.00	\$7,475	\$7,475																									\$7,475	\$7,475									
Totals, Unescalated											\$1,793,966	\$147,801	\$549,578	\$389,449	\$1,530,171	\$205,843	\$253,680	\$320,342	\$653,900	\$143,698	\$1,191,632	\$76,640	\$713,367	\$329,963	\$253,680	\$2,594,051	\$110,933	\$125,913	\$504,345	\$83,936												\$11,972,888				
Totals, Escalated (3.0% inflation, compounded annually)											\$1,793,966	\$152,235	\$583,048	\$425,561	\$1,722,221	\$238,628	\$302,907	\$393,980	\$828,341	\$187,493	\$1,601,453	\$106,088	\$1,017,091	\$484,562	\$383,713	\$4,041,447	\$178,015	\$208,115	\$858,614	\$147,182															\$15,654,661	

* Markup/LocationFactor (1.0) has been included in unit costs. Markup includes a and 15% Ann Arbor Premium factors applied to the location adjusted unit cost.

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1 Executive Summary

1.1 Property Information and General Physical Condition

The property information is summarized in the table below. More detailed descriptions may be found in the various sections of the report and in the Appendices.

Property Information	
Address:	2300 Prairie Street, Ann Arbor, Washtenaw, Ann Arbor 48105
Year Constructed/Renovated:	1963
Current Occupants:	Ann Arbor Schools
Percent Utilization:	100
Management Point of Contact:	Ann Arbor Public Schools, Jim Vibbart, Facilities Manager 734.320.3613 phone vibbart.j@aaps.k12.mi.us email
Property Type:	Classrooms
Site Area:	24.75 acres
Building Area:	58470 SF
Number of Buildings:	2
Number of Stories:	1
Parking Type and Number of Spaces:	77 spaces in open lots.
Building Construction:	Masonry bearing walls and metal-framed decks.
Roof Construction:	Flat roofs with built-up membrane.
Exterior Finishes:	Brick
Heating, Ventilation & Air Conditioning:	Central system with boilers, package units, makeup air units, hydronic wall heaters and cabinet heaters.
Fire and Life/Safety:	Sprinklers, hydrants, smoke detectors, alarms, strobes, extinguishers, pull stations, alarm panel and exit signs.
ADA:	This building has no major ADA issues.
All 58,470 square feet of the building are occupied by a single occupant, Ann Arbor Schools. The spaces are a combination of classrooms, and supporting restrooms, administrative offices, mechanical and other utility spaces.	
Most of the interior spaces were observed in order to gain a clear understanding of the property's overall condition. Other areas accessed included the site within the property boundaries, exterior of the property and the roof. All areas of the property were available for observation during the site visit.	
A "down unit" or area is a term used to describe a unit or space that cannot be occupied due to poor conditions such as fire damage, water damage, missing equipment, damaged floor, wall or ceiling surfaces, or other significant deficiencies. There are no down units or areas.	
Assessment Information	
Dates of Visit:	2/6/2018
On-Site Point of Contact (POC):	Jim Vibbart
Assessment and Report Prepared by:	James Cuellar
Reviewed by:	Al Diefert Technical report Reviewer For Andrew Hupp Program Manager ahupp@emgcorp.com 800.733.0660 x6632

1.2 Key Findings

Site: The parking lot has multiple cracks from erosion. The fencing in the front of the property is damaged. The basketball backboards are distressed. A cost allowance to repair and/or replace these deficient attributes is included in the cost tables.

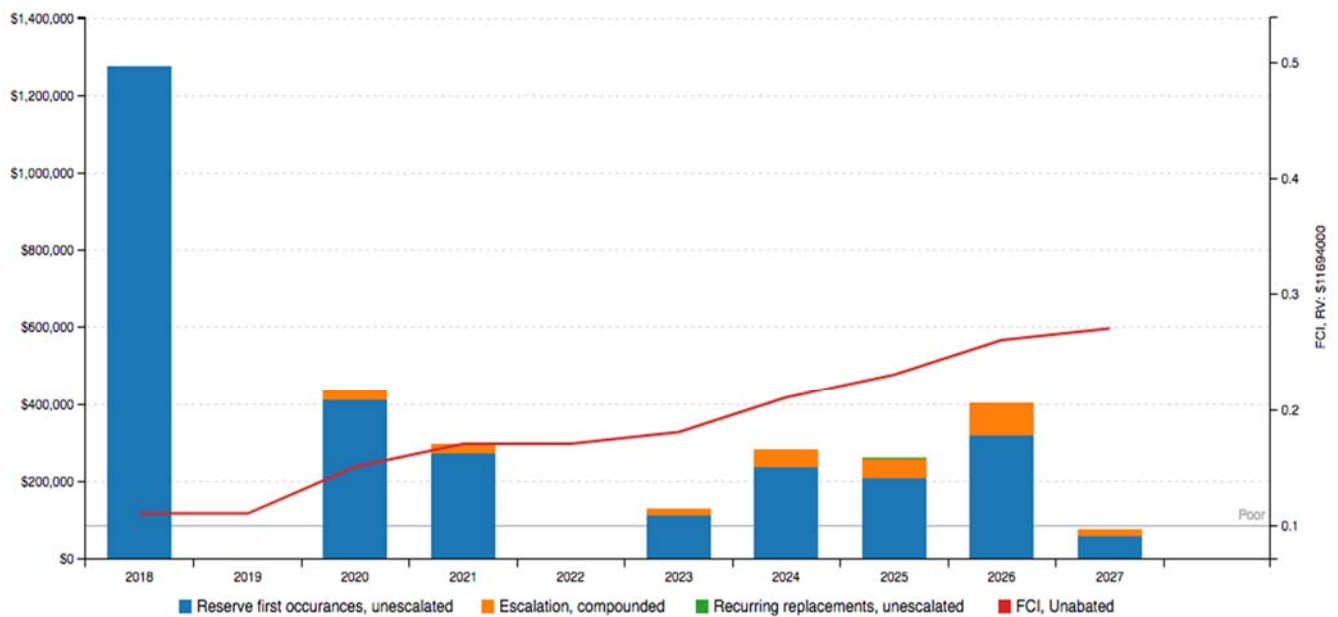
Architectural: The foundation has significant areas of damage. A professional engineer must be retained to analyze the existing condition, provide recommendations and, if necessary, estimate the scope and cost of any required repairs. A cost allowance to repair and/or replace these deficient attributes is included in the cost tables

MEPF: Most of the electrical components are antiquated and will require replacement over the evaluation period. The piping in the building may contain asbestos. A professional engineer must be retained to analyze the existing condition, provide recommendations and, if necessary, estimate the scope and cost of any required repairs. A The kitchen cabinets, vanities, appliances and sinks are damaged. Some of the makeup air units are in failed or poor condition. The main RTU`s have become antiquated and have been reported to be problematic. A cost allowance to repair and/or replace these deficient attributes is included in the cost tables.

1.3 Facility Condition Index (FCI)

FCI Analysis: Thurston Elementary

Replacement Value: \$ 11,694,000; Inflation rate: 3.0%



One of the major goals of the FCA is to calculate the FCI, which gives an indication of a building's overall condition. Two FCI ratios are calculated and presented, the Current Year and Ten-Year. The Current Year FCI is the ratio of Immediate Repair Costs to the building's Current Replacement Value. Similarly, the Ten-Year FCI is the ratio of anticipated Capital Reserve Needs over the next ten years to the Current Replacement Value.

FCI Condition Rating	Definition	Percentage Value
Good	In new or well-maintained condition, with no visual evidence of wear, soiling or other deficiencies.	0 to .05
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.	> than .05 to .10
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.	> than .10 to .60



FCI Condition Rating	Definition	Percentage Value
Very Poor	Has reached the end of its useful or serviceable life. Renewal is now necessary.	> than .60

The graphs above and tables below represent summary-level findings for the FCA. The deficiencies identified in this assessment can be combined with potential new construction requirements to develop an overall strategy that can serve as the basis for a portfolio-wide capital improvement funding strategy. Key findings from the assessment include:

KEY FINDING	METRIC
Current Year Facility Condition Index (FCI) $FCI = (IR)/(CRV)$:	10.90%
Current Year FCI Rating:	2018
10-Year Facility Condition Index (FCI) $FCI = (RR)/(CRV)$:	27.03%
10-Year FCI Rating	0.27
Current Replacement Value (CRV):	\$11,694,000
Year 0 (Current Year) - Immediate Repairs (IR):	\$1,274,269
Years 1-10 - Replacement Reserves (RR):	\$1,887,025
Total Capital Needs:	\$3,161,294

2 Building Structure

A10 Foundations

Building Foundation		
Item	Description	Condition
Foundation	Slab on grade with integral footings	Poor
Basement and Crawl Space	None	--

Anticipated Lifecycle Replacements

- Slab Foundation

Actions/Comments:

- The foundations and footings cannot be directly observed. However, there are isolated areas of cracking, movement, and vertically displaced slabs along the east side of the building. This condition typically indicates excessive settlement or other potential problems with the foundation system. A Professional Engineer with specific expertise in structural design and construction in this geographical area must be retained to evaluate the structure and to provide remedial recommendations consistent with local regulatory and code requirements. Although the estimated cost of repair cannot be accurately determined without the recommended study, a budgetary cost allowance to repair the affected elements is also included.

B10 Superstructure

B1010 Floor Construction & B1020 Roof Construction		
Item	Description	Condition
Framing / Load-Bearing Walls	Masonry walls	Fair
Ground Floor	Concrete slab	Fair
Upper Floor Framing	--	--
Upper Floor Decking	--	--
Balcony Framing	--	--
Balcony Decking	None	--
Balcony Deck Toppings	None	--
Balcony Guardrails	None	--
Roof Framing	Steel beams or girders	Fair
Roof Decking	Plywood or OSB	Fair

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Caulk minor cracking	<input type="checkbox"/>	Monitor cracking for growth	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- The superstructure is concealed. Walls and floors appear to be plumb, level, and stable. There are no significant signs of deflection or movement.

B1080 Stairs					
Type	Description	Riser	Handrail	Balusters	Condition
Building Exterior Stairs	None	--	--	--	--
Building Interior Stairs	None	--	--	--	--

3 Building Envelope

B20 Exterior Vertical Enclosures

B2010 Exterior Walls		
Type	Location	Condition
Primary Finish	Brick	Fair
Secondary Finish	Curtain wall	Fair
Accented with	--	--
Soffits	Exposed	Fair
Building sealants	Between dissimilar materials, at joints, around windows and doors	Fair

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Graffiti	<input type="checkbox"/>	Efflorescence	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Anticipated Lifecycle Replacements:

- Exterior paint
- Masonry re-pointing

Actions/Comments:

- The soffits have significant portions that are damaged, deteriorated and weathered. The affected portions of the soffits must be painted.
- Isolated portions of the mortar joints along the brick are cracked on the chimney. The damaged mortar joints must be cleaned and re-pointed.

B2020 Exterior Windows				
Window Framing	Glazing	Location	Window Screen	Condition
Curtain wall	Double glaze	Entire Building	<input type="checkbox"/>	Fair
Aluminum framed, operable	Double glaze	Entire Building	<input checked="" type="checkbox"/>	Fair

B2050 Exterior Doors		
Main Entrance Doors	Door Type	Condition
	Metal, hollow	Fair
Secondary Entrance Doors	Metal, hollow	Fair



B2050 Exterior Doors		
Main Entrance Doors	Door Type	Condition
	Metal, hollow	Fair
Service Doors	None	--
Overhead Doors	None	--

Anticipated Lifecycle Replacements:

- Windows
- Exterior aluminum doors

Actions/Comments:

- The screens on the windows show signs of damage. The window screens require replacement.

B30 Roofs

B3010 Primary Roof			
Location	Entire Building	Finish	Single-ply membrane
Type / Geometry	Flat	Roof Age	5 Yrs
Flashing	Sheet metal	Warranties	None reported
Parapet Copings	Parapet with sheet metal coping	Roof Drains	Internal drains
Fascia	Metal Panel	Insulation	Rigid Board
Soffits	Exposed Soffits	Skylights	No
Attics	Steel beams	Ventilation Source-1	Power Vents
Roof Condition	Fair	Ventilation Source-2	--

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Drainage components broken/missing	<input type="checkbox"/>	Vegetation/fungal growth	<input type="checkbox"/>
Blocked Drains	<input type="checkbox"/>	Debris	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Evidence of roof leaks	<input type="checkbox"/>	Significant ponding	<input type="checkbox"/>
Excessive patching or repairs	<input type="checkbox"/>	Blistering or ridging	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>



Anticipated Lifecycle Replacements:

- EPDM roof membrane
- Roof flashings (included as part of overall membrane replacement)
- Parapet wall copings (included as part of overall membrane replacement)

Actions/Comments:

- The roof was installed in 2013 according to the POC. Information regarding roof warranties or bonds was not available. A copy of the warranty was requested but was not available. The roofs are maintained by an outside contractor.
- According to the POC, there are active roof leaks. Roof leaks have occurred in the past year. The active leaks must be repaired.
- There is no evidence of roof deck or insulation deterioration. The roof substrate and insulation should be inspected during any future roof repair or replacement work.
- Roof drainage appears to be adequate. Clearing and minor repair of drain system components should be performed regularly as part of the property management's routine maintenance and operations program.
- The attics are not accessible, and it could not be determined if there is moisture, water intrusion, or excessive daylight in the attics.

4 Interiors

C10 Interior Construction

C1030 Interior Doors		
Item	Type	Condition
Interior Doors	Metal	Fair
Door Framing	Metal	Fair
Fire Doors	No	--
Closet Doors	--	--

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Improperly adjusted door closures	<input type="checkbox"/>	Damaged/loose door hardware	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

The following table generally describes the locations and typical conditions of the interior finishes within the facility:

Interior Finishes - THURSTON ELEMENTARY

Location / Space	Finish	Master_Cost	Quantity (SF)	Condition	Action	RUL	Est. Cost
Common area restrooms	Floor	Ceramic Tile	1600	Good	Replace	33	25,208
Modular building in rear	Walls	Gypsum Board/Plaster/Metal	16000	Excellent	Prep & Paint	6	22,771
Modular building in Rear	Floor	Vinyl Tile (VCT)	6400	Excellent	Replace	13	30,724
Modular building in Rear	Ceilings	Suspended Acoustical Tile (ACT)	6400	Excellent	Replace	18	19,910
Throughout	Walls	Gypsum Board/Plaster/Metal	150000	Fair	Prep & Paint	6	213,480
Throughout	Floor	Vinyl Tile (VCT)	44000	Good	Replace	10	211,226
Throughout	Floor	Carpet Tile Commercial-Grade	15000	Fair	Replace	2	104,444
Throughout	Ceilings	Suspended Acoustical Tile (ACT)	58470	Fair	Replace	8	181,900

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Loose carpeting/flooring	<input type="checkbox"/>	Minor areas of stained ceiling tiles	<input type="checkbox"/>
Minor paint touch-up	<input type="checkbox"/>	Areas of damaged/missing baseboard	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Anticipated Lifecycle Replacements:

- Carpet
- Vinyl tile
- Ceramic tile

- Interior paint
- Suspended acoustic ceiling tile
- Interior doors
- Stage curtain

Actions/Comments:

- The interior areas were last renovated in 2006. No significant repair actions or short-term replacement costs are required. Routine and periodic maintenance is recommended. Future lifecycle replacements of the components or systems listed above will be required.
- The auditorium stage curtain is frayed and has a large hole in it. The stage curtain is recommended for replacement.

5 Services (MEPF)

See the Mechanical Equipment List in the Appendices for the quantity, manufacturer's name, model number, capacity and year of manufacturer of the major mechanical equipment, if available.

D10 Conveying Systems

Not applicable. There are no elevators or conveying systems.

D20 Plumbing

D2010 Domestic Water Distribution		
Type	Description	Condition
Water Supply Piping	Copper	Good
Water Meter Location	Boiler Room	

Domestic Water Heaters or Boilers	
Components	Water Heater
Fuel	Natural gas
Boiler or Water Heater Condition	Good
Supplementary Storage Tanks?	No
Adequacy of Hot Water	Adequate
Adequacy of Water Pressure	Adequate

D2020 Sanitary Drainage		
Type	Description	Condition
Waste/Sewer Piping	Cast iron	Fair
Vent Piping	Cast iron	Fair

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Hot water temperature too hot or cold	<input type="checkbox"/>	Minor or isolated leaks	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Plumbing Systems - THURSTON ELEMENTARY

Location	Component	Component Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
Boiler room	Backflow Preventer	1"	1	EA	Good	Replace	10	1,276
Boiler room	Water Heater	Gas, Commercial, 60 to 120 GAL	1	EA	Fair	Replace	10	10,699
Boiler room	Domestic Circulator or Booster Pump	0.5 HP	1	EA	Fair	Replace	8	3,414
Commercial kitchen	Sink	Stainless Steel	3	EA	Poor	Replace	0	3,162
Commercial kitchen	Sink	Stainless Steel	1	EA	Fair	Replace	8	1,054
Common area restrooms	Toilet	Flush Tank (Water Closet)	27	EA	Fair	Replace	3	28,489
Common area restrooms	Urinal	Vitreous China	5	EA	Fair	Replace	3	5,967
Common area restrooms	Sink	Porcelain Enamel, Cast Iron	20	EA	Fair	Replace	13	23,346
Mechanical room	Domestic Circulator or Booster Pump	0.75 HP	1	EA	Fair	Replace	9	4,017
Throughout	Drinking Fountain	Refrigerated	6	EA	Good	Replace	7	7,545
Throughout	Drinking Fountain	Refrigerated	1	EA	Poor	Replace	0	1,258
Utility closet	Service Sink	Floor	4	EA	Fair	Replace	20	6,398

Anticipated Lifecycle Replacements:

- Circulation pumps
- Water heaters
- Toilets
- Urinals
- Sinks
- Drinking Fountains

Actions/Comments:

- The plumbing systems appear to be well maintained and functioning adequately. The water pressure appears to be sufficient. No significant repair actions or short-term replacement costs are required. Routine and periodic maintenance is recommended. Future lifecycle replacements of the components or systems listed above will be required.

D30 Building Heating, Ventilating, and Air Conditioning (HVAC)

Building Central Heating System	
Primary Heating System Type	Hot water boilers
Heating Fuel	Natural gas
Location of Major Equipment	Boiler room
Space Served by System	Entire building

Distribution System	
HVAC Water Distribution System	Four-Pipe
Air Distribution System	Constant
Location of Air Handlers	Mechanical rooms
Terminal Units	Cabinet Heaters
Quantity and Capacity of Terminal Units	Quantity and capacity of cabinet heaters, unit heaters difficult to determine without construction drawings. Number of units are estimated.
Location of Terminal Units	Classrooms and Hallways



Packaged, Split & Individual Units	
Primary Components	Package units
Cooling (if separate from above)	performed via components above
Heating Fuel	Natural gas
Location of Equipment	Rooftop
Space Served by System	Entire building

Supplemental/Secondary Components	
Supplemental Component #1	Make-up air units
Location / Space Served by make-up air units	Mixed uses room
Make-up air units Condition	Fair
Supplemental Component #2	None
Location / Space Served by make-up air units	--
Make-up air units Condition	--
Supplemental Component #3	Wall heaters
Location / Space Served by wall heaters	Hallways
Wall heaters Condition	Fair

Controls and Ventilation	
HVAC Control System	BAS, hybrid pneumatic/electronic system
HVAC Control System Condition	Fair
Building Ventilation	Roof top exhaust fans
Ventilation System Condition	Fair

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Ductwork/grills need cleaned	<input type="checkbox"/>	Minor control adjustments needed	<input type="checkbox"/>
Leaking condensate lines	<input checked="" type="checkbox"/>	Poor mechanical area access	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>



Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Heating, Cooling or Ventilation is not adequate	<input checked="" type="checkbox"/>	Major system inefficiencies	<input checked="" type="checkbox"/>
HVAC controls pneumatic or antiquated	<input checked="" type="checkbox"/>	Obsolete refrigerants: R11, R12, R22, R123, R502	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Mechanical Systems - THURSTON ELEMENTARY

Location	Component	Component Description	Quantity	Unit	Condition	Category	RUL	Est.cost
Boiler room	Boiler	Gas, 2,001 to 2,500 MBH	1	EA	Poor	Replace	0	54,195
Boiler room	Boiler	Gas, 2,001 to 2,500 MBH	1	EA	Poor	Replace	0	54,195
Boiler room	Boiler	Gas, 2,001 to 2,500 MBH	1	EA	Poor	Replace	0	54,195
Boiler room	Air Separator	4"	1	EA	Fair	Replace	3	3,546
Boiler room	Expansion Tank	31 to 60 GAL	1	EA	Fair	Replace	13	2,483
Boiler room	Expansion Tank	31 to 60 GAL	1	EA	Fair	Replace	13	2,483
Boiler room	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	3	2,199
Boiler room	Distribution Pump	Heating Water, 5 HP	1	EA	Fair	Replace	3	5,519
Boiler room	Distribution Pump	Heating Water, 5 HP	1	EA	Poor	Replace	0	5,519
Boiler room	Distribution Pump	Heating Water, 5 HP	1	EA	Fair	Replace	8	5,519
Boiler room	Distribution Pump	Heating Water, 5 HP	1	EA	Poor	Replace	0	5,519
Boiler room	Distribution Pump	Heating Water, 5 HP	1	EA	Fair	Replace	8	5,519
Boiler room	HVAC Automation	HVAC Controls	58470	SF	NA	Upgrade	0	313,545
Ceiling	Unit Heater	Electric, 3 to 6 kW	15	EA	Fair	Replace	2	26,124
Classroom	Cabinet Heater	Electric	24	EA	Fair	Replace	8	76,318
Hallways	Unit Heater	Electric, 3 to 6 kW	15	EA	Fair	Replace	3	26,124
Mechanical room	Air Handler	Exterior, 6,001 to 8,000 CFM	1	EA	Poor	Replace	0	37,803
Mechanical room	Air Handler	Interior, 6,501 to 8,000 CFM	1	EA	Poor	Replace	0	26,017
Multipurpose Room	Fan	Axial Flow, 2,000 to 3,800 CFM	4	EA	Good	Replace	7	34,478
Roof	Condensing Unit/Heat Pump	Split System, 3 Ton	1	EA	Fair	Replace	2	3,579
Roof	Make-Up Air Unit	6,001 to 12,000 CFM	1	EA	Fair	Replace	7	44,658
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	2	2,664
Roof	Exhaust Fan	Roof Mounted, 60 to 150 CFM	1	EA	Fair	Replace	3	1,474
Roof	Exhaust Fan	Roof Mounted, 801 to 1,000 CFM	1	EA	Fair	Replace	3	1,769
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	2	2,664
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Poor	Replace	0	2,664
Roof	Exhaust Fan	Roof Mounted, 401 to 500 CFM	1	EA	Fair	Replace	3	1,557
Roof	Exhaust Fan	Roof Mounted, 1,501 to 2,000 CFM	1	EA	Fair	Replace	3	2,045
Roof	Exhaust Fan	Roof Mounted, 1,501 to 2,000 CFM	1	EA	Fair	Replace	3	2,045
Roof	Exhaust Fan	Roof Mounted, 1,001 to 1,500 CFM	1	EA	Fair	Replace	3	1,928
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Exhaust Fan	Roof Mounted, 1,001 to 1,500 CFM	1	EA	Fair	Replace	3	1,928
Roof	Exhaust Fan	Roof Mounted, 151 to 400 CFM	1	EA	Fair	Replace	3	1,500
Roof	Exhaust Fan	Roof Mounted, 151 to 400 CFM	1	EA	Fair	Replace	3	1,500
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Exhaust Fan	Roof Mounted, 1,501 to 2,000 CFM	1	EA	Fair	Replace	3	2,045
Roof	Exhaust Fan	Roof Mounted, 1,001 to 1,500 CFM	1	EA	Fair	Replace	3	1,928
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Exhaust Fan	Roof Mounted, 151 to 400 CFM	1	EA	Fair	Replace	3	1,500
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Exhaust Fan	Roof Mounted, 151 to 400 CFM	1	EA	Fair	Replace	3	1,500
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Exhaust Fan	Roof Mounted, 1,501 to 2,000 CFM	1	EA	Fair	Replace	2	2,664
Roof	Exhaust Fan	Roof Mounted, 1,501 to 2,000 CFM	1	EA	Fair	Replace	3	2,045
Roof	Exhaust Fan	Roof Mounted, 2,001 to 5,000 CFM	1	EA	Fair	Replace	3	2,763
Roof	Exhaust Fan	Roof Mounted, 2,001 to 5,000 CFM	1	EA	Fair	Replace	3	2,763
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Exhaust Fan	Centrifugal, 251 to 800 CFM	1	EA	Fair	Replace	3	2,022
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	3	2,664
Roof	Packaged Unit (RTU)	3 Ton	1	EA	Fair	Replace	3	9,872
Roof	Packaged Unit (RTU)	6 to 7.5 Ton	1	EA	Fair	Replace	3	14,396
Roof	Packaged Unit (RTU)	3 Ton	1	EA	Fair	Replace	3	9,872
Roof	Packaged Unit (RTU)	3 Ton	1	EA	Fair	Replace	2	9,872
Roof	Packaged Unit (RTU)	6 to 7.5 Ton	1	EA	Good	Replace	13	14,396

Anticipated Lifecycle Replacements:

- Boiler
- Air handling units



- Cabinet heaters
- Distribution pumps and motors
- Package units
- Electric wall heaters
- Suspended hydronic unit heaters
- Rooftop exhaust fans
- Expansion tanks

Actions/Comments:

- The HVAC systems are maintained by an outside contractor. Records of the installation, maintenance, upgrades, and replacement of the HVAC equipment at the property have been maintained since the property was first occupied.
- The HVAC equipment varies in age. HVAC equipment is replaced on an "as needed" basis.
- The facility HVAC is controlled using an outdated hybrid pneumatic / DDC control system. For modernization, reliability, and increased control, full conversion to a web-based direct digital control (DDC) platform is highly recommended.
- The heating water pumps show minor evidence of corrosion and damage. The heating water pumps are recommended for replacement.
- The boilers exhibit significant evidence of corrosion and damage. The boilers are recommended for replacement.
- The air handlers show signs of rust, corrosion and are antiquated. The air handlers require replacement.

D40 Fire Protection

Item	Description					
Type	Wet pipe					
Sprinkler System	None	<input type="checkbox"/>	Standpipes	<input type="checkbox"/>	Backflow Preventer	<input type="checkbox"/>
	Hose Cabinets	<input type="checkbox"/>	Fire Pumps	<input type="checkbox"/>	Siamese Connections	<input type="checkbox"/>
Sprinkler System Condition	Poor					
Fire Extinguishers	Last Service Date			Servicing Current?		
	August 2017			Yes		
Hydrant Location	None found					
Siamese Location	None found					
Special Systems	Kitchen Suppression System		<input type="checkbox"/>	Computer Room Suppression System		<input type="checkbox"/>

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Extinguisher tag expired	<input type="checkbox"/>	Riser tag expired (5 year)	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Anticipated Lifecycle Replacements:

- No components of significance



Actions/Comments:

- The vast majority of the building is not protected by fire suppression. Due to its construction date, the facility is most likely “grandfathered” by code and the installation of fire sprinklers not required until major renovations are performed. Regardless of when or if installation of facility-wide fire suppression is required by the governing municipality, EMG recommends a retrofit be performed. As part of the major planned short-term renovations, a facility-wide fire suppression retrofit is recommended. A budgetary cost is included.
- Fire extinguishers appear to be missing at many locations. New fire extinguishers must be installed at all required locations immediately.

D50 Electrical

Distribution & Lighting			
Electrical Lines	Underground	Transformer	Pad-mounted
Main Service Size	1000 Amps	Volts	120/208 Volt, three-phase
Meter & Panel Location	Mechanical room	Branch Wiring	Copper
Conduit	Metallic	Step-Down Transformers?	No
Security / Surveillance System?	Yes	Building Intercom System?	Yes
Lighting Fixtures	T-8, CFL, LED		
Main Distribution Condition	Fair		
Secondary Panel and Transformer Condition	Fair		
Lighting Condition	Fair		

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Improperly stored material	<input type="checkbox"/>	Unsecured high voltage area	<input type="checkbox"/>
Loose cables or improper use of conduit	<input type="checkbox"/>	Poor electrical room ventilation	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Anticipated Lifecycle Replacements:

- Circuit breaker panels
- Main switchboard
- Interior light fixtures

Actions/Comments:

- The onsite electrical systems up to the meter are owned and maintained by the respective utility company.
- The electrical service and capacity appear to be adequate for the property's demands.
- The panels and switchboards are mostly original 1977 components. The electrical service appears to be adequate for the facility's needs. However, due to the age of the panels and switchboards and increasing difficulty of obtaining replacement parts over time, lifecycle replacements are recommended per above.



- The light fixtures throughout most of the facility utilize older, inefficient T-8 lamps. Replacement with newer fixtures with electronic ballasts and LED lamps is highly recommended to save substantial amounts of energy.

D60 Communications

D6060 Public Address Systems						
Item	Description					
Communication Equipment	Public Address System	<input checked="" type="checkbox"/>	Nurse Call System	<input type="checkbox"/>	Clock	<input checked="" type="checkbox"/>

D70 Electronic Safety and Security

D7010 Access Control and Intrusion Detection / D7050 Detection and Alarm						
Item	Intrusion Alarm System, Camera System					
Access Control and Intrusion Detection	Exterior Camera	<input checked="" type="checkbox"/>	Interior Camera	<input checked="" type="checkbox"/>	Front Door Camera Only	<input type="checkbox"/>
	Cameras monitored	<input checked="" type="checkbox"/>	Security Personnel On-Site	<input checked="" type="checkbox"/>	Intercom/Door Buzzer	<input checked="" type="checkbox"/>
Fire Alarm System	Central Alarm Panel	<input checked="" type="checkbox"/>	Battery-Operated Smoke Detectors	<input type="checkbox"/>	Alarm Horns	<input checked="" type="checkbox"/>
	Annunciator Panels	<input type="checkbox"/>	Hard-Wired Smoke Detectors	<input checked="" type="checkbox"/>	Strobe Light Alarms	<input checked="" type="checkbox"/>
	Pull Stations	<input checked="" type="checkbox"/>	Emergency Battery-Pack Lighting	<input type="checkbox"/>	Illuminated EXIT Signs	<input checked="" type="checkbox"/>
Fire Alarm System Condition	Fair					
Central Alarm Panel System	Location of Alarm Panel		Installation Date of Alarm Panel			
	Administration offices		2006			

Anticipated Lifecycle Replacements:

- Central alarm panel
- Alarm devices and system
- Exit Signs
- Emergency Lights

Actions/Comments:

- The emergency lighting in the older sections of the building are antiquated. The older emergency lighting is recommended for replacement.

6 Equipment & Furnishings

E10 Equipment

The kitchen area has a variety of commercial kitchen appliances, fixtures, and equipment. The equipment is owned and by outside tenant. The tenants are responsible for any necessary replacement costs.

The cafeteria kitchen includes the following major appliances, fixtures, and equipment:

E1030 Commercial Kitchen Equipment		
Appliance	Comment	Condition
Refrigerators	Up-right	Fair
Freezers	Reach-in	Fair
Ranges	<input type="checkbox"/>	--
Ovens	<input type="checkbox"/>	--
Griddles / Grills	<input type="checkbox"/>	--
Fryers	<input type="checkbox"/>	--
Hood	Exhaust ducted to recirculated	Fair
Dishwasher	Owned	Poor
Microwave	<input type="checkbox"/>	--
Ice Machines	<input type="checkbox"/>	--
Steam Tables	<input type="checkbox"/>	--
Work Tables	<input type="checkbox"/>	--
Shelving	<input type="checkbox"/>	--

Anticipated Lifecycle Replacements:

- Refrigerators
- Cooking Range
- Reach-in coolers
- Reach-in freezers
- Food warmers
- Steam tables
- Kitchen cabinets

Actions/Comments:

- The sink is leaking and in disrepair. The sink and associated hardware requires replacement.
- The metal kitchen cabinets show signs of rust and are antiquated. The cabinets require replacement.

7 Sitework

G20 Site Improvements

G2020 Parking Lots & G2030 Pedestrian Walkways		
Item	Material	Condition
Entrance Driveway Apron	Asphalt	Fair
Parking Lot	Asphalt	Fair
Drive Aisles	Asphalt	Fair
Service Aisles	Asphalt	Fair
Sidewalks	Concrete	Fair
Curbs	Concrete	Fair
Pedestrian Ramps	None	--
Ground Floor Patio or Terrace	None	--

Parking Count				
Open Lot	Carport	Private Garage	Subterranean Garage	Freestanding Parking Structure
77	-	-	-	-
Total Number of ADA Compliant Spaces			4	
Number of ADA Compliant Spaces for Vans			1	
Total Parking Spaces			77	

Site Stairs			
Location	Material	Handrails	Condition
Modular building ramp	Aluminum	Aluminum	Excellent

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Pavement oil stains	<input type="checkbox"/>	Vegetation growth in joints	<input type="checkbox"/>
Stair/ramp rails loose	<input type="checkbox"/>	Stair/ramp rail needs scraped and painted	<input type="checkbox"/>
Fence damage	<input checked="" type="checkbox"/>	Other	<input type="checkbox"/>

Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Potholes/depressions	<input checked="" type="checkbox"/>	Alligator cracking	<input checked="" type="checkbox"/>
Concrete spalling	<input checked="" type="checkbox"/>	Trip hazards (settlement/heaving)	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Anticipated Lifecycle Replacements:

- Asphalt seal coating
- Asphalt pavement
- Concrete pavement
- Sidewalks
- Curbs
- Ramp railings

Actions/Comments:

- The asphalt pavement exhibits significant areas of failure and deterioration, such as alligator cracking, transverse cracking, extensive raveling, and localized depressions throughout the parking areas. The most severely damaged areas of paving must be cut and patched in order to maintain the integrity of the overall pavement system. Complete milling and overlay of the entire lot is also recommended.

G2060 Site Development	
Property Signage	
Property Signage	Monument
Street Address Displayed?	Yes

Site Fencing		
Type	Location	Condition
Chain link with metal posts	Perimeter	Poor

Refuse Disposal				
Refuse Disposal	Common area dumpsters			
Dumpster Locations	Mounting	Enclosure	Contracted?	Condition
East	Asphalt paving	CMU fence	Yes	Good

Other Site Amenities			
	Description	Location	Condition
Playground Equipment	Plastic and metal	Scattered	Good
Tennis Courts	None	--	--



Other Site Amenities			
Basketball Court	Asphalt	South East	Good
Swimming Pool	None	--	--

The playground equipment and basketball courts are surrounded by a chain link fence.

Anticipated Lifecycle Replacements:

- Signage
- Site fencing
- Playground equipment
- Playground surfaces
- Basketball backboards

Actions/Comments:

- The metal site fencing has isolated portions of the fence that are damaged. The affected portions of the fence must be replaced.
- The basketball backboards show signs of damage. The basketball backboard require replacement.

G2080 Landscaping		
Drainage System and Erosion Control		
System	Exists At Site	Condition
Surface Flow	<input checked="" type="checkbox"/>	Fair
Inlets	<input checked="" type="checkbox"/>	Fair
Swales	<input checked="" type="checkbox"/>	Fair
Detention pond	<input type="checkbox"/>	--
Lagoons	<input type="checkbox"/>	--
Ponds	<input type="checkbox"/>	--
Underground Piping	<input type="checkbox"/>	--
Pits	<input type="checkbox"/>	--
Municipal System	<input checked="" type="checkbox"/>	Fair
Dry Well	<input type="checkbox"/>	--

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- There is no evidence of storm water runoff from adjacent properties. The storm water system appears to provide adequate runoff capacity. There is no evidence of major ponding or erosion.

Item	Description						
Site Topography	Slopes gently down from the building to the property lines.						
Landscaping	Trees	Grass	Flower Beds	Planters	Drought Tolerant Plants	Decorative Stone	None



Item	Description						
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landscaping Condition	Fair						
Irrigation	Automatic Underground	Drip	Hand Watering	None			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Irrigation Condition	--						

Retaining Walls		
Type	Location	Condition
None	--	--

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- The topography and adjacent uses do not appear to present conditions detrimental to the property. There are no significant areas of erosion.

G30 Liquid & Gas Site Utilities

G3060 Site Fuel Distribution	
Item	Description
Natural Gas	Gas service is supplied from the gas main on the adjacent public street. The gas meter and regulator are located along the exterior walls of the building. The gas distribution piping within the building is malleable steel (black iron).

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- The pressure and quantity of gas appear to be adequate.
- The gas meter and regulator appear to be functioning adequately and will require routine maintenance.
- Only limited observation of the gas distribution piping can be made due to hidden conditions.

G40 Electrical Site Improvements

G4050 Site Lighting					
Site Lighting	None	Pole Mounted	Bollard Lights	Ground Mounted	Parking Lot Pole Type
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



G4050 Site Lighting			
	Fair		
Building Lighting	None	Wall Mounted	Recessed Soffit
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Poor		

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Isolated bulb/lamp replacement	<input type="checkbox"/>	Discolored/dirty lens cover	<input type="checkbox"/>
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>

Anticipated Lifecycle Replacements:

- Exterior lighting

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended. Future lifecycle replacements of the components listed above will be required.

8 Ancillary Structures

Other Ancillary Structures			
Type	Rear modular building	Location	North
Item	Material	Item	Material
Exterior Siding	Vinyl	Roof Finishes	EPDM
Interior Finishes	Floor: VCT Ceiling: Suspended ACT Walls: Gypsum	MEPF	See Tables in Section 5
Overall Building Condition			Excellent

Anticipated Lifecycle Replacements:

- Vinyl flooring
- Suspended ceiling tiles
- Interior paint
- Roof membrane

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.

9 Opinions of Probable Costs

Cost estimates are attached at the front of this report (following the cover page).

These estimates are based on Invoice or Bid Document/s provided either by the Owner/facility and construction costs developed by construction resources such as *R.S. Means* and *Marshall & Swift*, EMG's experience with past costs for similar properties, city cost indexes, and assumptions regarding future economic conditions.

Opinions of probable costs should only be construed as preliminary, order of magnitude budgets. Actual costs most probably will vary from the consultant's opinions of probable costs depending on such matters as type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, whether a physical deficiency is repaired or replaced in whole, phasing of the work (if applicable), quality of contractor, quality of project management exercised, market conditions, and whether competitive pricing is solicited, etc. ASTM E2018-08 recognizes that certain opinions of probable costs cannot be developed within the scope of this guide without further study. Opinions of probable cost for further study should be included in the FCA.

9.1 Methodology

Based upon site observations, research, and judgment, along with referencing Expected Useful Life (EUL) tables from various industry sources, EMG opines as to when a system or component will most probably necessitate replacement. Accurate historical replacement records, if provided, are typically the best source of information. Exposure to the elements, initial quality and installation, extent of use, the quality and amount of preventive maintenance exercised, etc., are all factors that impact the effective age of a system or component. As a result, a system or component may have an effective age that is greater or less than its actual chronological age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its effective age. Projections of Remaining Useful Life (RUL) are based on continued use of the Property similar to the reported past use. Significant changes in occupants and/or usage may affect the service life of some systems or components.

Where quantities could not be derived from an actual take-off, lump sum costs or allowances are used. Estimated costs are based on professional judgment and the probable or actual extent of the observed defect, inclusive of the cost to design, procure, construct and manage the corrections.

9.2 Immediate Repairs

Immediate repairs are opinions of probable costs that require immediate action as a result of: (1) material existing or potential unsafe conditions, (2) material building or fire code violations, or (3) conditions that, if not addressed, have the potential to result in, or contribute to, critical element or system failure within one year or will most probably result in a significant escalation of its remedial cost.

9.3 Replacement Reserves

Replacement Reserves are for recurring probable expenditures, which are not classified as operation or maintenance expenses. The replacement reserves should be budgeted for in advance on an annual basis. Replacement Reserves are reasonably predictable both in terms of frequency and cost. However, Replacement Reserves may also include components or systems that have an indeterminable life but, nonetheless, have a potential for failure within an estimated time period.

Replacement Reserves exclude systems or components that are estimated to expire after the reserve term and are not considered material to the structural and mechanical integrity of the subject property. Furthermore, systems and components that are not deemed to have a material effect on the use of the Property are also excluded. Costs that are caused by acts of God, accidents, or other occurrences that are typically covered by insurance, rather than reserved for, are also excluded.

Replacement costs are solicited from ownership/property management, EMG's discussions with service companies, manufacturers' representatives, and previous experience in preparing such schedules for other similar facilities. Costs for work performed by the ownership's or property management's maintenance staff are also considered.

EMG's reserve methodology involves identification and quantification of those systems or components requiring capital reserve funds within the assessment period. The assessment period is defined as the effective age plus the reserve term. Additional information concerning system's or component's respective replacement costs (in today's dollars), typical expected useful lives, and remaining useful lives were estimated so that a funding schedule could be prepared. The Replacement Reserves Schedule presupposes that all required remedial work has been performed or that monies for remediation have been budgeted for items defined in the Immediate Repair Cost Estimate

10 Purpose and Scope

10.1 Purpose

EMG was retained by the client to render an opinion as to the Property's current general physical condition on the day of the site visit.

Based on the observations, interviews and document review outlined below, this report identifies significant deferred maintenance issues, existing deficiencies, and material code violations of record at municipal offices, which affect the Property's use. Opinions are rendered as to its structural integrity, building system condition and the Property's overall condition. The report also notes building systems or components that have realized or exceeded their typical expected useful lives.

CONDITIONS:

The physical condition of building systems and related components are typically defined as being in one of five conditions: Excellent, Good, Fair, Poor, Failed or a combination thereof. For the purposes of this report, the following definitions are used:

Excellent	=	New or very close to new; component or system typically has been installed within the past year, sound and performing its function. Eventual repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
Good	=	Satisfactory as-is. Component or system is sound and performing its function, typically within the first third of its lifecycle. However, it may show minor signs of normal wear and tear. Repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
Fair	=	Showing signs of wear and use but still satisfactory as-is, typically near the median of its estimated useful life. Component or system is performing adequately at this time but may exhibit some signs of wear, deferred maintenance, or evidence of previous repairs. Repair or replacement will be required due to the component or system's condition and/or its estimated remaining useful life.
Poor	=	Component or system is significantly aged, flawed, functioning intermittently or unreliably; displays obvious signs of deferred maintenance; shows evidence of previous repair or workmanship not in compliance with commonly accepted standards; has become obsolete; or exhibits an inherent deficiency. The present condition could contribute to or cause the deterioration of contiguous elements or systems. Either full component replacement is needed or repairs are required to restore to good condition, prevent premature failure, and/or prolong useful life.
Failed	=	Component or system has ceased functioning or performing as intended. Replacement, repair, or other significant corrective action is recommended or required.
Not Applicable	=	Assigning a condition does not apply or make logical sense, most commonly due to the item in question not being present.

Throughout sections 5 through 9 of this report, each report section will typically contain three subsections organized in the following sequence:

- A descriptive table (and/or narrative), which identifies the components assessed, their condition, and other key data points.
- A simple bulleted list of Anticipated Lifecycle Replacements, which lists components and assets typically in Excellent, Good, or Fair condition at the time of the assessment but that will require replacement or some other attention once aged past their estimated useful life. These listed components are typically included in the associated inventory database with costs identified and budgeted beyond the first several years.
- A bulleted cluster of Actions/Comments, which include more detailed narratives describing deficiencies, recommended repairs, and short term replacements. The assets and components associated with these bullets are/were typically problematic and in Poor or Failed condition at the time of the assessment, with corresponding costs included within the first few years.

PLAN TYPES:

Each line item in the cost database is assigned a Plan Type, which is the primary reason or rationale for the recommended replacement, repair, or other corrective action. This is the “why” part of the equation. A cost or line item may commonly have more than one applicable Plan Type; however, only one Plan Type will be assigned based on the “best” fit, typically the one with the greatest significance. The following Plan Types are listed in general weighted order of importance:

Safety	=	An observed or reported unsafe condition that if left unaddressed could result in an injury; a system or component that presents a potential liability risk.
Performance/Integrity	=	Component or system has failed, is almost failing, performs unreliably, does not perform as intended, and/or poses a risk to overall system stability.
Accessibility	=	Does not meet ADA, UFAS, and/or other handicap accessibility requirements.
Environmental	=	Improvements to air or water quality, including removal of hazardous materials from the building or site.
Modernization/Adaptation	=	Conditions, systems, or spaces that need to be upgraded in appearance or function to meet current standards, facility usage, or client/occupant needs.
Lifecycle/Renewal	=	Any component or system in which future repair or replacement is anticipated beyond the next several years and/or is of minimal substantial early-term consequence.

10.2 Scope

The standard scope of the Facility Condition Assessment includes the following:

- Visit the Property to evaluate the general condition of the building and site improvements, review available construction documents in order to familiarize ourselves with, and be able to comment on, the in-place construction systems, life safety, mechanical, electrical, and plumbing systems, and the general built environment.
- Identify those components that are exhibiting deferred maintenance issues and provide cost estimates for Immediate Costs and Replacement Reserves based on observed conditions, maintenance history and industry standard useful life estimates. This will include the review of documented capital improvements completed within the last five-year period and work currently contracted for, if applicable.
- Provide a full description of the Property with descriptions of in-place systems and commentary on observed conditions.
- Provide a general statement of the subject Property’s compliance to Title III of the Americans with Disabilities Act. This will not constitute a full ADA survey, but will help identify exposure to issues and the need for further review.
- Perform a limited assessment of accessible areas of the building(s) for the presence of fungal growth, conditions conducive to fungal growth, and/or evidence of moisture. EMG will also interview Project personnel regarding the presence of any known or suspected fungal growth, elevated relative humidity, water intrusion, or mildew-like odors. Potentially affected areas will be photographed. Sampling will not be considered in routine assessments.
- List the current utility service providers.
- Review maintenance records and procedures with the in-place maintenance personnel.
- Observe a representative sample of the interior spaces/units, including vacant spaces/units, in order to gain a clear understanding of the property’s overall condition. Other areas to be observed include the exterior of the property, the roofs, interior common areas, and the significant mechanical, electrical and elevator equipment rooms.
- Provide recommendations for additional studies, if required, with related budgetary information.
- Provide an Executive Summary at the beginning of this report.
- Prepare a mechanical inventory list.

11 Accessibility and Property Research

11.1 ADA Accessibility

Generally, Title III of the Americans with Disabilities Act (ADA) prohibits discrimination by entities to access and use of “areas of public accommodations” and “commercial facilities” on the basis of disability. Regardless of its age, these areas and facilities must be maintained and operated to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Buildings completed and occupied after January 26, 1992 are required to comply fully with the ADAAG. Existing facilities constructed prior to this date are held to the lesser standard of compliance to the extent allowed by structural feasibility and the financial resources available. As an alternative, a reasonable accommodation pertaining to the deficiency must be made.

During the FCA, a limited visual observation for ADA accessibility compliance was conducted. The scope of the visual observation was limited to those areas set forth in *EMG's Abbreviated Accessibility Checklist* provided in Appendix D of this report. It is understood by the Client that the limited observations described herein does not comprise a full ADA Compliance Survey, and that such a survey is beyond the scope of EMG's undertaking. Only a representative sample of areas was observed and, other than as shown on the Abbreviated Accessibility Checklist, actual measurements were not taken to verify compliance.

At a school property, the areas considered as a public accommodation besides the site itself and parking, are the exterior accessible route, the interior accessible route up to the tenant lease lines and the interior common areas, including the common area restrooms.

The facility generally appears to be accessible as stated within the defined priorities of Title III of the Americans with Disabilities Act.

A full ADA Compliance Survey may reveal aspects of the property that are not in compliance.

Corrections of these conditions should be addressed from a liability standpoint but are not necessarily code violations. The Americans with Disabilities Act Accessibility Guidelines concern civil rights issues as they pertain to the disabled and are not a construction code, although many local jurisdictions have adopted the Guidelines as such.

11.2 Flood Zone

According to the Flood Insurance Rate Map, published by the Federal Emergency Management Agency (FEMA) and dated April 3, 2012, the property is located in Zone X, defined as an area outside the 500-year flood plain with less than 0.2% annual probability of flooding. Annual Probability of Flooding of Less than one percent.

12 Certification

Ann Arbor Schools retained EMG to perform this Facility Condition Assessment in connection with its continued operation of Thurston Elementary, 2300 Prairie Street, Ann Arbor, Michigan, the "Property". It is our understanding that the primary interest of Ann Arbor Schools is to locate and evaluate materials and building system defects that might significantly affect the value of the property and to determine if the present Property has conditions that will have a significant impact on its continued operations.

The conclusions and recommendations presented in this report are based on the brief review of the plans and records made available to our Project Manager during the site visit, interviews of available property management personnel and maintenance contractors familiar with the Property, appropriate inquiry of municipal authorities, our Project Manager's walk-through observations during the site visit, and our experience with similar properties.

No testing, exploratory probing, dismantling or operating of equipment or in-depth studies were performed unless specifically required under Section 2 of this report. This assessment did not include engineering calculations to determine the adequacy of the Property's original design or existing systems. Although walk-through observations were performed, not all areas were observed (See Section 4.2 for areas observed). There may be defects in the Property, which were in areas not observed or readily accessible, may not have been visible, or were not disclosed by management personnel when questioned. The report describes property conditions at the time that the observations and research were conducted.

This report has been prepared on behalf of and exclusively for the use of the client for the purpose stated within Section 10.1 of this report. The report, or any excerpt thereof, shall not be used by any party other than the client or for any other purpose than that specifically stated in our agreement or within Section 10.2 of this report without the express written consent of EMG.

Any reuse or distribution of this report without such consent shall be at Ann Arbor Schools and the recipient's sole risk, without liability to EMG.

Prepared by: James Cuellar,
Project Manager

Reviewed by:



Al Diefert
Technical Report Reviewer For
Andrew Hupp
Program Manager

13 Appendices

- Appendix A: Photographic Record
- Appendix B: Site Plan
- Appendix C: Supporting Documentation
- Appendix D: Pre-Survey Questionnaire

Appendix A: Photographic Record



#1:	FRONT ELEVATION
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#2:	SIDE ELEVATION
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#3:	SIDE ELEVATION
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#4:	REAR ELEVATION
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#5:	DRIVE AISLE
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#6:	SIDEWALK
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#7:	MULTIPURPOSE ROOM
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#8:	LIBRARY
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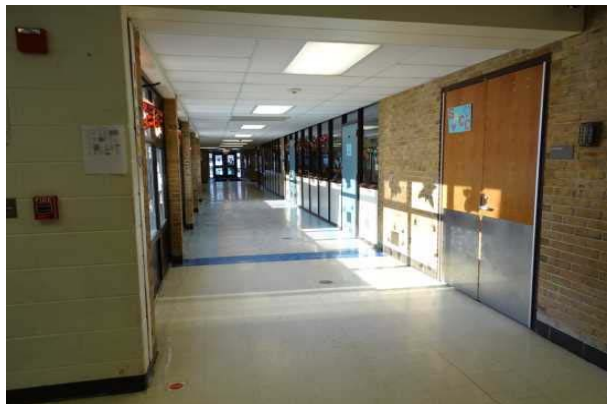
#9:	CLASS ROOM
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#10:	CLASS ROOM
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#11:	GYMNASIUM
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#12:	HALLWAY
------	---------



#13:	BOILER ROOM
------	-------------



#14:	SIGNAGE
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#15:	EXTERIOR LIGHTING
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#16:	EXTERIOR LIGHT POLE
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#17:	ROOF, SINGLE-PLY EPDM MEMBRANE
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#18:	ROOF, ASPHALT SHINGLE
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#19:	PLAYGROUND
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#20:	EXTERIOR WALL, BRICK
------	----------------------



#21:	EXTERIOR DOOR
------	---------------



#22:	EXTERIOR DOOR
------	---------------



#23:	BOILER
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#24:	EXPANSION TANK
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#25:	CIRCULATING PUMP
------	------------------



#26:	HEATING WATER PUMP
------	--------------------



#27:	BUILDING AUTOMATION SYSTEM (HVAC CONTROLS)
------	--



#28:	AIR COMPRESSOR FOR PNEUMATICS
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#29:	MAKE-UP AIR UNIT
------	------------------



#30:	AIR HANDLER
------	-------------



#31:	PACKAGED UNIT (RTU)
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#32:	UNIT HEATER, ELECTRIC
------	-----------------------



#33:	CABINET HEATER
------	----------------



#34:	EXHAUST FAN, CENTRIFUGAL,
------	---------------------------



#35:	VFD
------	-----



#36:	WATER HEATER
------	--------------



#37:	SINKS
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#38:	URINALS
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#39:	TOILETS
------	---------



#40:	INTERIOR LIGHTING
------	-------------------



#41:	MAIN SWITCHBOARD
------	------------------



#42:	DISTRIBUTION PANEL
------	--------------------



#43:	FIRE PANEL
------	------------



#44:	INTERIOR DOORS
------	----------------



#45:	INTERIOR DOORS
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#46:	CERAMIC TILE
------	--------------



#47:	TOILET PARTITIONS
------	-------------------



#48:	INTERIOR CEILING SUSPENDED ACOUSTICAL TILE (ACT)
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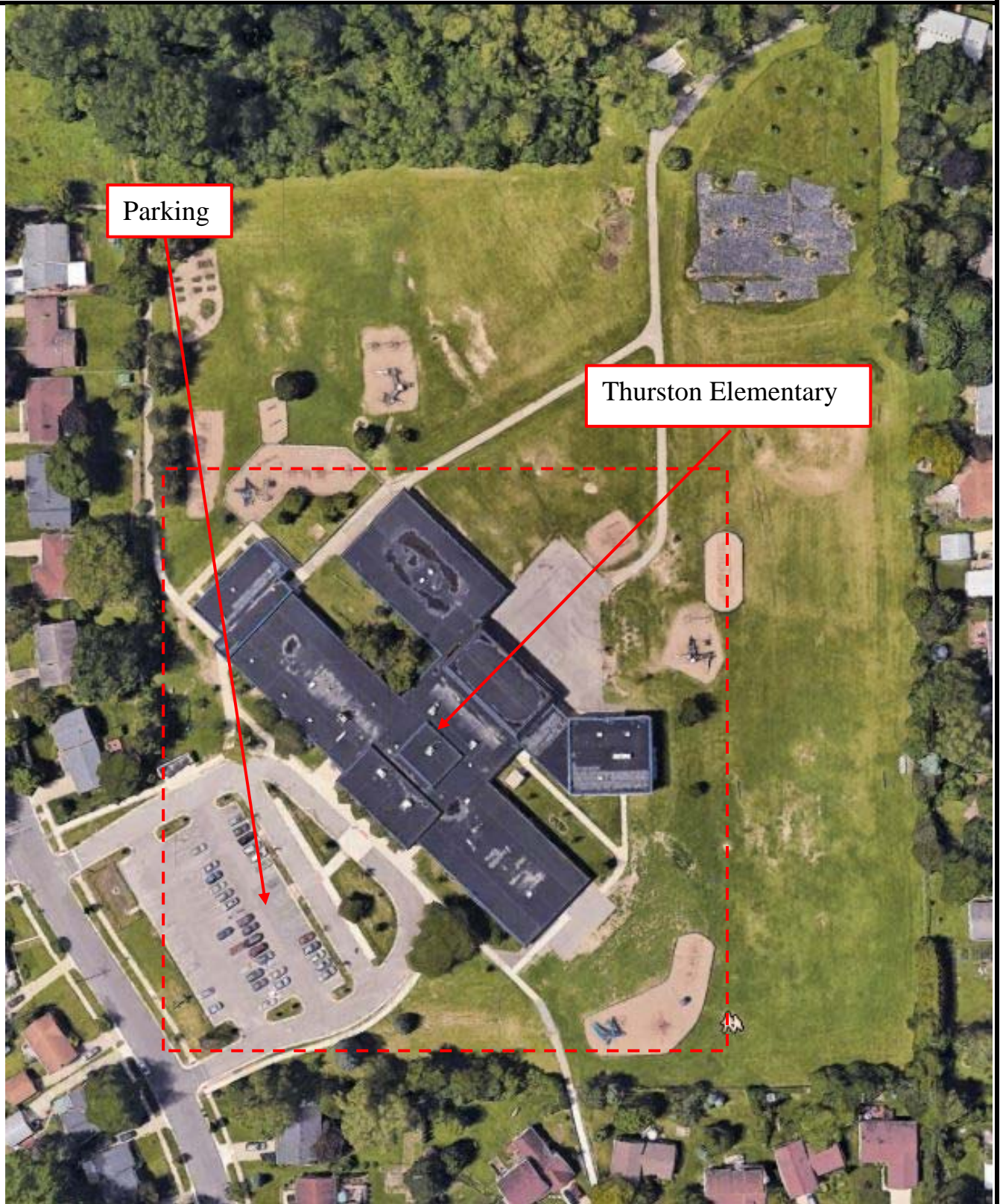
#49:	VINYL TILE (VCT)
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#50:	WINDOWS
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Appendix B: Site Plan

Site Plan



Project Name:
Thurston Elementary

Source:
Google Earth Pro

Project Number:
129010.18R000-022.354

On-Site Date:
February 6, 2018

Appendix C: Supporting Documentation

Flood Map

National Flood Hazard Layer FIRMette

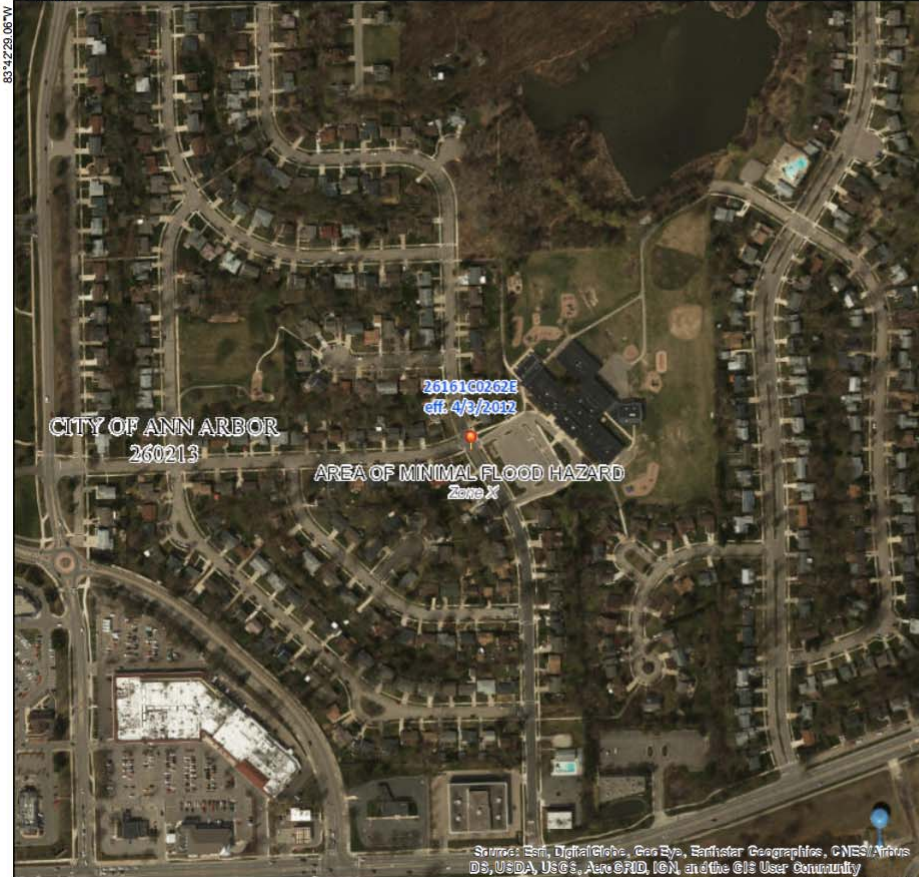


Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth
	Regulatory Floodway Zone AE, AO, AH, VE, AR
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee. See Notes, Zone X
	Area with Flood Risk due to Levee Zone D
	Area of Minimal Flood Hazard Zone X
	Effective LOMRs
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Digital Data Available
	No Digital Data Available
	Unmapped

42°18'35.54"N



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The base map shown complies with FEMA's base map accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/15/2018 at 5:09:19 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet 1:6,000 42°18'35.54"N 83°41'51.60"W



Project Name:

Thurston Elementary

Project Number:

129010.18R000-022.354

Source:

FEMA Map Number: 26161C0262E
Dated: April 3, 2012

On-Site Date:

February 5, 2018

Appendix D: Pre-Survey Questionnaire

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BLANK.**

On the day of the site visit, provide EMG's Field Observer access to all of the available documents listed below. Provide copies if possible.

INFORMATION REQUIRED

1. All available construction documents (blueprints) for the original construction of the building or for any tenant improvement work or other recent construction work.
2. A site plan, preferably 8 1/2" X 11", which depicts the arrangement of buildings, roads, parking stalls, and other site features.
3. For commercial properties, provide a tenant list which identifies the names of each tenant, vacant tenant units, the floor area of each tenant space, and the gross and net leasable area of the building(s).
4. For apartment properties, provide a summary of the apartment unit types and apartment unit type quantities, including the floor area of each apartment unit as measured in square feet.
5. For hotel or nursing home properties, provide a summary of the room types and room type quantities.
6. Copies of Certificates of Occupancy, building permits, fire or health department inspection reports, elevator inspection certificates, roof or HVAC warranties, or any other similar, relevant documents.
7. The names of the local utility companies which serve the property, including the water, sewer, electric, gas, and phone companies.

8. The company name, phone number, and contact person of all outside vendors who serve the property, such as mechanical contractors, roof contractors, fire sprinkler or fire extinguisher testing contractors, and elevator contractors.
9. A summary of recent (over the last 5 years) capital improvement work which describes the scope of the work and the estimated cost of the improvements. Executed contracts or proposals for improvements. Historical costs for repairs, improvements, and replacements.
10. Records of system & material ages (roof, MEP, paving, finishes, furnishings).
11. Any brochures or marketing information.
12. Appraisal, either current or previously prepared.
13. Current occupancy percentage and typical turnover rate records (for commercial and apartment properties).
14. Previous reports pertaining to the physical condition of property.
15. ADA survey and status of improvements implemented.
16. Current / pending litigation related to property condition.

Your timely compliance with this request is greatly appreciated.

