FACILITY CONDITION ASSESSMENT

Prepared for

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

FACILITY CONDITION ASSESSMENT

OF

ABBOT ELEMENTARY
2670 SEQUOIA PARKWAY
ANN ARBOR, MICHIGAN 48103

PREPARED BY:
EMG
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EMG PROJECT #:
129010.18R000-004.354

DATE OF REPORT:
June 28, 2018

ONSITE DATE:
February 7, 2018

Immediate Repairs
Report Abbot Elementary
6/28/2018

EMG Renamed Item Number	ID	Cost Description	Quantity	Unit	Unit Cost *	Subtotal	Deficiency Repair Estimate *
1.2	852254	Engineer, Environmental, Asbestos (ACM) & Lead Base Paint (LBP), Evaluate/Report	1	EA	$5,750.00	$5,750	**$5,750**
D30	885512	Air Conditioning, Central, Install	60300	SF	$11.50	$693,450	**$693,450**
C10	847972	Toilet Partitions, Metal Overhead-Braced, Replace	5	EA	$977.50	$4,887	**$4,887**
C10	847990	Interior Floor Finish, Vinyl Tile (VCT) w/ Asbestos Abatement, Replace	1000	SF	$9.42	$9,422	**$9,422**
D30	847947	Building Automation System (HVAC Controls), Retrocommissioning, Repair	60300	SF	$2.07	$124,821	**$124,821**
D50	848025	Incandescent Lighting Fixture, Basic, 100 W, Replace	15	EA	$216.83	$3,253	**$3,253**
D50	848016	Fluorescent Lighting Fixture, 80 W, Replace	471	EA	$278.15	$131,010	**$131,010**
D50	848017	Fluorescent Lighting Fixture, 6 lamp, Replace	8	EA	$302.08	$2,417	**$2,417**
D50	848021	Fluorescent Lighting Fixture, 160 W, Replace	135	EA	$302.08	$40,781	**$40,781**
	958675	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	50504.8	LS	$1.15	$58,081	**$58,081**
G20	852209	Parking Lots, Asphalt Pavement, Seal & Stripe	28200	SF	$0.44	$12,307	**$12,307**
G20	852208	Play Surfaces & Sports Courts, Asphalt, Seal & Stripe	18400	SF	$0.44	$8,051	**$8,051**
Immediate Repairs Total							**$1,094,229**

* Location Factor (1.0) included in totals.

Replacement Reserves

Report Abbot Elementary

6/28/2018

Location	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	Total Escalated Estimate
Abbot Elementary	$1,094,229	$1,137,647	$967,646	$1,281,441	$92,315	$714,719	$471,526	$544,187	$127,025	$190,931	$263,784	$805,513	$132,038	$331,298	$267,814	$219,500	$1,412,756	$447,441	$892,804	$512,220	**$11,906,832**
GrandTotal	**$1,094,229**	**$1,137,647**	**$967,646**	**$1,281,441**	**$92,315**	**$714,719**	**$471,526**	**$544,187**	**$127,025**	**$190,931**	**$263,784**	**$805,513**	**$132,038**	**$331,298**	**$267,814**	**$219,500**	**$1,412,756**	**$447,441**	**$892,804**	**$512,220**	**$11,906,832**

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_RowGrandTotalLabel
1.2	852254	Engineer, Environmental, Asbestos (ACM) & Lead Base Paint (LBP), Evaluate/Report	0	0	0	1	EA	$5,000.00	$5,750.00	$5,750	$5,750																				**$5,750**
D30	885512	Air Conditioning, Central, Install	50	50	0	60300	SF	$10.00	$11.50	$693,450	$693,450																				**$693,450**
B20	852056	Exterior Wall, Concrete/Masonry (CMU), 1-2 Stories, Clean	10	8	2	250	SF	$4.39	$5.05	$1,262			$1,262										$1,262								**$2,524**
B20	852543	Exterior Wall, Brick or Brick Veneer, 1-2 Stories, Repoint	25	13	12	200	SF	$41.28	$47.47	$9,495													$9,495								**$9,495**
B20	852541	Exterior Wall, Aluminum Siding, 1-2 Stories, Replace	40	21	19	4800	SF	$8.67	$9.98	$47,885																				$47,885	**$47,885**
B20	851678	Curtain Wall, Aluminum-Framed System w/ Glazing, Replace	30	29	1	2300	SF	$101.42	$116.63	$268,245		$268,245																			**$268,245**
B20	847958	Exterior Door, Steel w/ Safety Glass, Replace	25	21	4	9	EA	$1,352.72	$1,555.63	$14,001					$14,001																**$14,001**
B20	847960	Exterior Door, Steel, Replace	25	20	5	30	EA	$950.12	$1,092.64	$32,779						$32,779															**$32,779**
B20	852202	Roof, Single-Ply EPDM Membrane, Replace	20	4	16	60300	SF	$10.52	$12.10	$729,509																	$729,509				**$729,509**
B20	848000	Roof Skylight, Plexiglass Dome Fixed 9-20 SF, Replace	30	16	14	6	EA	$1,207.20	$1,388.27	$8,330															$8,330						**$8,330**
C10	852330	Interior Door, Wood Solid-Core, Replace	20	15	5	84	EA	$1,423.11	$1,636.58	$137,473						$137,473															**$137,473**
D70	946118	Exterior Door Hardware, Electronic Doorlocks ANSI F39 Lockset, Replace	30	29	1	9	EA	$1,345.00	$1,546.75	$13,921		$13,921																			**$13,921**
C10	847972	Toilet Partitions, Metal Overhead-Braced, Replace	20	48	0	5	EA	$850.00	$977.50	$4,887	$4,887																				**$4,887**
C10	847985	Interior Wall Finish, Concrete/Masonry, Prep & Paint	8	5	3	111555	SF	$1.45	$1.67	$186,146				$186,146								$186,146								$186,146	**$558,439**
C10	847980	Interior Floor Finish, Epoxy Coating, Prep & Paint	10	8	2	1000	SF	$8.74	$10.05	$10,051			$10,051										$10,051								**$20,102**
C10	847990	Interior Floor Finish, Vinyl Tile (VCT) w/ Asbestos Abatement, Replace	15	48	0	1000	SF	$8.19	$9.42	$9,422	$9,422															$9,422					**$18,844**
C10	847997	Interior Floor Finish, Vinyl Tile (VCT), Replace	15	12	3	49500	SF	$4.80	$5.52	$273,274				$273,274															$273,274		**$546,548**
C10	847995	Interior Floor Finish, Vinyl Tile (VCT), Replace	15	8	7	49500	SF	$4.80	$5.52	$273,274								$273,274													**$273,274**
C10	852247	Interior Floor Finish, Ceramic Tile, Replace	50	39	11	2000	SF	$15.76	$18.12	$36,237												$36,237									**$36,237**
C10	847989	Interior Floor Finish, Carpet Tile Commercial-Grade, Replace	10	4	6	6800	SF	$6.96	$8.01	$54,450							$54,450										$54,450				**$108,900**
C10	852315	Interior Ceiling Finish, Exposed/Generic, Prep & Paint	10	5	5	5000	SF	$2.27	$2.61	$13,053						$13,053										$13,053					**$26,105**
C10	848004	Interior Ceiling Finish, Acoustical Tile (ACT) Dropped Fiberglass, Replace	20	18	2	25000	SF	$5.05	$8.33	$208,222			$208,222																		**$208,222**
C10	851680	Interior Ceiling Finish, Acoustical Tile sound dampening, Replace	20	15	5	10000	SF	$5.05	$7.07	$70,669						$70,669															**$70,669**
C10	851921	Interior Ceiling Finish, Acoustical Tile (ACT) Standard, Replace	20	10	10	20300	SF	$5.05	$5.80	$117,841											$117,841										**$117,841**
D20	847974	Toilet, Tankless (Water Closet), Replace	20	3	17	40	EA	$842.97	$969.41	$38,776																		$38,776			**$38,776**
D20	847977	Urinal, Vitreous China, Replace	20	6	14	2	EA	$1,193.44	$1,372.46	$2,745															$2,745						**$2,745**
D20	847971	Sink, Vitreous China, Replace	20	14	6	30	EA	$861.51	$990.74	$29,722							$29,722														**$29,722**
D20	847963	Sink, Stainless Steel, Replace	20	11	9	38	EA	$1,054.05	$1,212.16	$46,062										$46,062											**$46,062**
D20	847965	Drinking Fountain, Vitreous China, Replace	15	10	5	24	EA	$1,938.99	$2,229.84	$53,516						$53,516															**$53,516**
D20	847964	Drinking Fountain, Refrigerated, Replace	10	5	5	5	EA	$1,257.51	$1,446.13	$7,231						$7,231										$7,231					**$14,461**
D20	851864	Water Heater, Electric, Residential, 5 to 15 GAL, Replace	15	12	3	1	EA	$1,014.17	$1,166.30	$1,166				$1,166																$1,166	**$2,333**
D30	852233	Domestic Circulator or Booster Pump, 5 to 7.5 HP, Replace	20	12	8	1	EA	$11,641.34	$13,387.55	$13,388									$13,388												**$13,388**
D30	847912	Domestic Circulator or Booster Pump, 2 HP, Replace	20	12	8	2	EA	$5,945.45	$6,837.27	$13,675									$13,675												**$13,675**
D30	847910	Domestic Circulator or Booster Pump, 5 to 7.5 HP, Replace	20	12	8	1	EA	$11,641.34	$13,387.55	$13,388									$13,388												**$13,388**
D20	847934	Water Heater, Gas, Commercial, 60 to 120 GAL, Replace	15	3	12	1	EA	$10,698.82	$12,303.64	$12,304													$12,304								**$12,304**
D20	852223	Sump Pump, 1/2 HP, Replace	15	12	3	1	EA	$2,062.81	$2,372.23	$2,372				$2,372																$2,372	**$4,744**
D20	847917	Sump Pump, 1/2 HP, Replace	15	12	3	1	EA	$2,062.81	$2,372.23	$2,372				$2,372																$2,372	**$4,744**
D30	847916	Air Compressor, controls duplex, 3 HP, Replace	20	15	5	1	EA	$9,652.21	$11,100.05	$11,100						$11,100															**$11,100**
	960785	Solar Instillation Project, Roof Mounted Solar Instillation, Install	20	18	2	201000	SF	$1.00	$1.15	$231,150			$231,150																		**$231,150**
D30	847797	Boiler #1, Gas, 2,501 to 4,200 MBH, Replace	25	12	13	1	EA	$120,905.15	$139,040.92	$139,041														$139,041						**$139,041**
D30	851774	Ductless Split System, Multi Zone (per 1 to 2 Ton Fan Coil Unit), Replace	15	12	3	1	EA	$3,578.72	$4,115.53	$4,116				$4,116																$4,116	**$8,231**
D30	851775	Ductless Split System, Multi Zone (per 1 to 2 Ton Fan Coil Unit), Replace	15	12	3	1	EA	$3,578.72	$4,115.53	$4,116				$4,116																$4,116	**$8,231**
D30	851810	Condenser, Air-Cooled, 15 Ton, Replace	15	12	3	1	EA	$8,640.25	$9,936.29	$9,936				$9,936																$9,936	**$19,873**
D30	851808	Condenser, Air-Cooled, 5 Ton, Replace	15	12	3	1	EA	$4,237.42	$4,873.03	$4,873				$4,873																$4,873	**$9,746**
d30	851781	Condensing Unit/Heat Pump, Split System, 8 to 10 Ton, Replace	15	12	3	1	EA	$15,825.28	$18,199.07	$18,199				$18,199																$18,199	**$36,398**
D30	851778	Ductless Split System, Multi Zone (per 1 to 2 Ton Fan Coil Unit), Replace	15	12	3	1	EA	$3,578.72	$4,115.53	$4,116				$4,116																$4,116	**$8,231**
D30	851773	Ductless Split System, Multi Zone (per 1 to 2 Ton Fan Coil Unit), Replace	15	12	3	1	EA	$3,578.72	$4,115.53	$4,116				$4,116																$4,116	**$8,231**

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_RowGrandTotalLabel
D30	851805	Condensing Unit/Heat Pump, Split System, 2 Ton, Replace	15	12	3	1	EA	$3,122.18	$3,590.50	$3,591				$3,591															$3,591		**$7,181**
D30	851759	Ductless Split System, Multi Zone (per 1 to 2 Ton Fan Coil Unit), Replace	15	12	3	1	EA	$3,578.72	$4,115.53	$4,116				$4,116															$4,116		**$8,231**
D30	851776	Ductless Split System, Multi Zone (per 1 to 2 Ton Fan Coil Unit), Replace	15	12	3	1	EA	$3,578.72	$4,115.53	$4,116				$4,116															$4,116		**$8,231**
D30	851806	Ductless Split System, Single Zone, 1.5 to 2 Ton, Replace	15	12	3	1	EA	$4,473.11	$5,144.08	$5,144				$5,144															$5,144		**$10,288**
D30	851779	Ductless Split System, Multi Zone (per 1 to 2 Ton Fan Coil Unit), Replace	15	12	3	1	EA	$3,578.72	$4,115.53	$4,116				$4,116															$4,116		**$8,231**
D30	851720	Ductless Split System, Single Zone, 1.5 to 2 Ton, Replace	15	6	9	1	EA	$4,473.11	$5,144.08	$5,144										$5,144											**$5,144**
D30	848002	Condensing Unit/Heat Pump, Split System, 2 Ton, Replace	15	6	9	1	EA	$3,122.18	$3,590.50	$3,591										$3,591											**$3,591**
D30	851730	Air Handler, Exterior, 3,001 to 4,000 CFM, Replace	15	12	3	1	EA	$19,738.18	$22,698.91	$22,699				$22,699															$22,699		**$45,398**
D30	851683	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	12	3	1	EA	$3,235.37	$3,720.68	$3,721				$3,721															$3,721		**$7,441**
D30	851750	Air Handler, Exterior, 2,001 to 3,000 CFM, Replace	15	12	3	1	EA	$15,679.20	$18,031.08	$18,031				$18,031															$18,031		**$36,062**
D30	851751	Air Handler, Exterior, 2,001 to 3,000 CFM, Replace	15	12	3	1	EA	$15,679.20	$18,031.08	$18,031				$18,031															$18,031		**$36,062**
D30	851729	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	12	3	1	EA	$4,986.01	$5,733.91	$5,734				$5,734															$5,734		**$11,468**
D30	851709	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	12	3	1	EA	$4,986.01	$5,733.91	$5,734				$5,734															$5,734		**$11,468**
D30	851723	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	12	3	1	EA	$4,986.01	$5,733.91	$5,734				$5,734															$5,734		**$11,468**
D30	851899	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	12	3	1	EA	$4,986.01	$5,733.91	$5,734				$5,734															$5,734		**$11,468**
D30	851727	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	12	3	1	EA	$4,986.01	$5,733.91	$5,734				$5,734															$5,734		**$11,468**
D30	851702	Fan Coil Unit, Hydronic, 401 to 800 CFM, Replace	15	12	3	1	EA	$2,198.58	$2,528.37	$2,528				$2,528															$2,528		**$5,057**
D30	851708	Fan Coil Unit, Hydronic, 401 to 800 CFM, Replace	15	12	3	1	EA	$2,198.58	$2,528.37	$2,528				$2,528															$2,528		**$5,057**
D30	851721	Fan Coil Unit, Hydronic, 401 to 800 CFM, Replace	15	12	3	1	EA	$2,198.58	$2,528.37	$2,528				$2,528															$2,528		**$5,057**
D30	851703	Fan Coil Unit, Hydronic, 401 to 800 CFM, Replace	15	12	3	1	EA	$2,198.58	$2,528.37	$2,528				$2,528															$2,528		**$5,057**
D30	851684	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	12	3	1	EA	$3,235.37	$3,720.68	$3,721				$3,721															$3,721		**$7,441**
D30	851820	Air Handler, Exterior, 3,001 to 4,000 CFM, Replace	15	10	5	1	EA	$19,738.18	$22,698.91	$22,699						$22,699															**$22,699**
D30	851824	Air Handler, Exterior, 4,001 to 6,000 CFM, Replace	15	10	5	1	EA	$27,804.57	$31,975.26	$31,975						$31,975															**$31,975**
D30	851770	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	851714	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	851768	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	851767	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	852066	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	851771	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	851764	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	852038	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	852079	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	852046	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	851769	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	851881	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	852072	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	852068	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	851906	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	852074	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	851890	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	851766	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	851845	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	852043	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	852077	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	851765	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	852049	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM, Replace	15	9	6	1	EA	$4,986.01	$5,733.91	$5,734							$5,734														**$5,734**
D30	851907	Fan Coil Unit, Hydronic, 401 to 800 CFM, Replace	15	9	6	1	EA	$2,198.58	$2,528.37	$2,528							$2,528														**$2,528**
D30	852080	Fan Coil Unit, Hydronic, 401 to 800 CFM, Replace	15	9	6	1	EA	$2,198.58	$2,528.37	$2,528							$2,528														**$2,528**
D30	851851	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	851889	Fan Coil Unit, Hydronic, 801 to 1,200 CFM, Replace	15	9	6	1	EA	$3,235.37	$3,720.68	$3,721							$3,721														**$3,721**
D30	852214	Exhaust Fan, Centrifugal, 251 to 800 CFM, Replace	15	12	3	1	EA	$2,021.87	$2,325.15	$2,325				$2,325															$2,325		**$4,650**
D30	852218	Exhaust Fan, Centrifugal, 251 to 800 CFM, Replace	15	12	3	1	EA	$2,021.87	$2,325.15	$2,325				$2,325															$2,325		**$4,650**
D30	852219	Exhaust Fan, Centrifugal, 251 to 800 CFM, Replace	15	12	3	1	EA	$2,021.87	$2,325.15	$2,325				$2,325															$2,325		**$4,650**
D30	852215	Exhaust Fan, Centrifugal, 251 to 800 CFM, Replace	15	12	3	1	EA	$2,021.87	$2,325.15	$2,325				$2,325															$2,325		**$4,650**
D30	852220	Exhaust Fan, Centrifugal, 251 to 800 CFM, Replace	15	12	3	1	EA	$2,021.87	$2,325.15	$2,325				$2,325															$2,325		**$4,650**
D30	851904	Air Conditioner, Window/Thru-Wall, 1.5 to 2 Ton, Replace	10	5	5	1	EA	$2,588.52	$2,976.80	$2,977						$2,977										$2,977					**$5,954**

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_RowGrandTotalLabel
D30	851909	Air Conditioner, Window/Thru-Wall, 1.5 to 2 Ton, Replace	10	5	5	1	EA	$2,588.52	$2,976.80	$2,977						$2,977										$2,977						**$5,954**
D30	852067	Air Conditioner, Window/Thru-Wall, 1.5 to 2 Ton, Replace	10	5	5	1	EA	$2,588.52	$2,976.80	$2,977						$2,977										$2,977						**$5,954**
D30	847956	Air Conditioner, Window/Thru-Wall, 1.5 to 2 Ton, Replace	10	5	5	6	EA	$2,588.52	$2,976.80	$17,861						$17,861										$17,861						**$35,722**
D30	852069	Air Conditioner, Window/Thru-Wall, 1.5 to 2 Ton, Replace	10	5	5	1	EA	$2,588.52	$2,976.80	$2,977						$2,977										$2,977						**$5,954**
D30	852075	Air Conditioner, Window/Thru-Wall, 1.5 to 2 Ton, Replace	10	5	5	1	EA	$2,588.52	$2,976.80	$2,977						$2,977										$2,977						**$5,954**
D30	851724	Air Conditioner, Window/Thru-Wall, 1.5 to 2 Ton, Replace	10	4	6	1	EA	$2,588.52	$2,976.80	$2,977							$2,977										$2,977					**$5,954**
D30	847944	Unit Heater, Hydronic, 13 to 36 MBH, Replace	20	12	8	1	EA	$1,516.80	$1,744.32	$1,744									$1,744												**$1,744**
D30	847947	Building Automation System (HVAC Controls), Retrocommissioning, Repair	0	46	0	60300	SF	$1.80	$2.07	$124,821	$124,821																				**$124,821**
D40	854545	Sprinkler System, Full Retrofit, School (per SF), Renovate	50	47	3	60300	SF	$6.25	$7.19	$433,649				$433,649																	**$433,649**
D50	852686	Building/Main Switchgear, 208 Y, 120 V, 800 Amp, Replace	30	29	1	1	EA	$179,033.12	$205,888.09	$205,888		$205,888																			**$205,888**
D50	851713	Distribution Panel, 208 Y, 120 V, 200 Amp, Replace	30	16	14	10	EA	$7,906.20	$9,092.13	$90,921															$90,921						**$90,921**
D50	848025	Incandescent Lighting Fixture, Basic, 100 W, Replace	20	20	0	15	EA	$188.55	$216.83	$3,253	$3,253																				**$3,253**
D50	848016	Fluorescent Lighting Fixture, 80 W, Replace	20	20	0	471	EA	$241.87	$278.15	$131,010	$131,010																				**$131,010**
D50	848017	Fluorescent Lighting Fixture, 6 lamp, Replace	20	20	0	8	EA	$262.68	$302.08	$2,417	$2,417																				**$2,417**
D50	848021	Fluorescent Lighting Fixture, 160 W, Replace	20	20	0	135	EA	$262.68	$302.08	$40,781	$40,781																				**$40,781**
G20	852672	LED Lighting Fixture w/ Electronic Ballast, Wall Mount LED, Replace	20	3	17	37	EA	$574.32	$660.47	$24,437																	$24,437				**$24,437**
D60	946120	Intercom Master Station, Replace	20	19	1	1	EA	$3,814.50	$4,386.67	$4,387		$4,387																			**$4,387**
D50	945780	Clock and Bell System, Wireless or Ethernet Enabled, Up To 100 Total Clocks / Bells, Replace	15	14	1	60300	SF	$0.51	$0.59	$35,366		$35,366															$35,366				**$70,732**
D70	847949	Fire Alarm System, School, Install	20	19	1	60300	SF	$3.13	$3.60	$217,168		$217,168																			**$217,168**
D70	946119	Security/Surveillance System, Cameras and CCTV, Install	10	9	1	60300	SF	$4.35	$5.00	$301,457		$301,457										$301,457									**$602,913**
D50	847968	Emergency Lighting Pack, 2 Light w/ Battery, Replace	10	7	3	15	EA	$1,227.87	$1,412.05	$21,181				$21,181										$21,181							**$42,361**
C10	848030	Stage Curtain, Medium Weight Velour, Flameproof (per SF), Replace	15	9	6	1350	SF	$13.00	$14.95	$20,183							$20,183														**$20,183**
E10	851844	Commercial Kitchen, Steamer, Tabletop, Replace	10	7	3	1	EA	$6,344.00	$7,295.60	$7,296				$7,296										$7,296							**$14,591**
E10	851836	Commercial Kitchen, Convection Oven, Double, Replace	10	6	4	1	EA	$8,643.00	$9,939.45	$9,939					$9,939										$9,939						**$19,879**
E10	851834	Commercial Kitchen, Refrigerator, 2-Door Reach-In, Replace	15	9	6	1	EA	$4,256.00	$4,894.40	$4,894							$4,894														**$4,894**
E10	851835	Commercial Kitchen, Refrigerator, 2-Door Reach-In, Replace	15	8	7	1	EA	$4,256.00	$4,894.40	$4,894								$4,894													**$4,894**
D30	847999	Big A** Fans Fixtures, Ceiling Fan, Replace	15	3	12	2	EA	$354.11	$708.22	$1,416													$1,416								**$1,416**
C10	852064	Kitchen Cabinet, Base and Wall Section, Wood, Replace	20	18	2	750	LF	$467.63	$537.78	$403,333			$403,333																		**$403,333**
	958675	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	1	1	0	50504.8	LS	$1.00	$1.15	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	$58,081	**$1,161,610**
G20	852204	Roadways, Asphalt Pavement, Mill & Overlay	25	18	7	28200	SF	$3.28	$3.77	$106,224								$106,224													**$106,224**
G20	852209	Parking Lots, Asphalt Pavement, Seal & Stripe	5	5	0	28200	SF	$0.38	$0.44	$12,307	$12,307					$12,307					$12,307					$12,307					**$49,229**
G20	852663	Parking Lots, Asphalt Pavement, Mill & Overlay	25	19	6	28200	SF	$3.28	$3.77	$106,383							$106,383														**$106,383**
G20	852666	Fences & Gates, Chain Link, 6' High, Replace	30	21	9	775	LF	$37.54	$43.17	$33,456										$33,456											**$33,456**
G20	852221	Site Furnishings, Picnic Table, Plastic-Coated Metal, Replace	20	6	14	3	EA	$1,391.50	$1,600.23	$4,801															$4,801						**$4,801**
G20	852222	Site Furnishings, Park Bench, Metal/Wood/Plastic, Replace	20	6	14	4	EA	$487.03	$560.08	$2,240															$2,240						**$2,240**
G20	852208	Play Surfaces & Sports Courts, Asphalt, Seal & Stripe	5	5	0	18400	SF	$0.38	$0.44	$8,051	$8,051					$8,051					$8,051					$8,051					**$32,206**
G20	852207	Play Surfaces & Sports Courts, Asphalt, Replace	25	20	5	18400	SF	$5.90	$6.79	$124,844						$124,844															**$124,844**
G20	852211	Play Structure, Medium, Replace	20	3	17	3	EA	$40,005.63	$46,006.47	$138,019																	$138,019				**$138,019**
G20	852671	Pole Light, Exterior, 105 to 200 W LED (Fixture & Bracket Arm Only), Replace	20	3	17	3	EA	$3,303.00	$3,798.45	$11,395																	$11,395				**$11,395**
Totals, Unescalated											**$1,094,229**	**$1,104,511**	**$912,099**	**$1,172,700**	**$82,021**	**$616,523**	**$394,896**	**$442,474**	**$100,274**	**$146,333**	**$196,280**	**$581,920**	**$92,609**	**$225,598**	**$177,057**	**$140,889**	**$880,383**	**$270,709**	**$524,428**	**$292,112**	**$9,448,043**
Totals, Escalated (3.0% inflation, compounded annually)											**$1,094,229**	**$1,137,647**	**$967,646**	**$1,281,441**	**$92,315**	**$714,719**	**$471,526**	**$544,187**	**$127,025**	**$190,931**	**$263,784**	**$805,513**	**$132,038**	**$331,298**	**$267,814**	**$219,500**	**$1,412,756**	**$447,441**	**$892,804**	**$512,220**	**$11,906,832**

* 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.

TABLE OF CONTENTS

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:	2670 Sequoia Parkway, Ann Arbor, Washtenaw, Michigan 48103	
Year Constructed/Renovated:	1962 Original Building. No date for small addition	
Current Occupants:	Ann Arbor Public Schools	
Percent Utilization:	The entire facility is used for classrooms or support operations.	
Management Point of Contact:	Ann Arbor Pubic Schools/Physical Properties, Jim Vibbart, 734-320-3613 phone	
Property Type:	Classrooms	
Site Area:	9.6 acres	
Building Area:	60,300 SF	
Number of Buildings:	1	
Number of Stories:	1	
Parking Type and Number of Spaces:	60 spaces in open lots	
Building Construction:	Masonry bearing walls with steel joists and metal decking.	
Roof Construction:	Flat roofs with built-up membrane.	
Exterior Finishes:	Brick Veneer	
Heating, Ventilation & Air Conditioning:	Central system with boiler, air handlers, hydronic baseboard radiators and cabinets units. Media and office areas are also served with ductless split systems for additional cooling.	
Fire and Life/Safety:	Hydrants, smoke detectors, alarms, strobes, extinguishers, pull stations, alarm panel, exit signs, and sprinkler heads only in addition (Art Room).	
ADA :	This building does not have any major ADA issues	
All 60,300 square feet of the building are occupied by a single occupant, Ann Arbor Public Schools. The space is mostly a combination of offices, classrooms, supporting restrooms, mechanical and other utility spaces.		
Most representative sample 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. Areas of note that were either inaccessible or not observed for other reasons are listed in the table below:		
Key Spaces Not Observed		
Room Number	Area	Access Issues
AV Storage	AV Storage	Locked room and no key This room has additional cooling
Roof	Roof	Roof Hatch was locked
Assessment Information		
Dates of Visit:	Febraury 7, 2018	
On-Site Point of Contact (POC):	Jim Vibbart	

Property Information	
Assessment and Report Prepared by:	Randall Patzke
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 site paving and playgrounds need attention related to sealcoating of the asphalt paving.

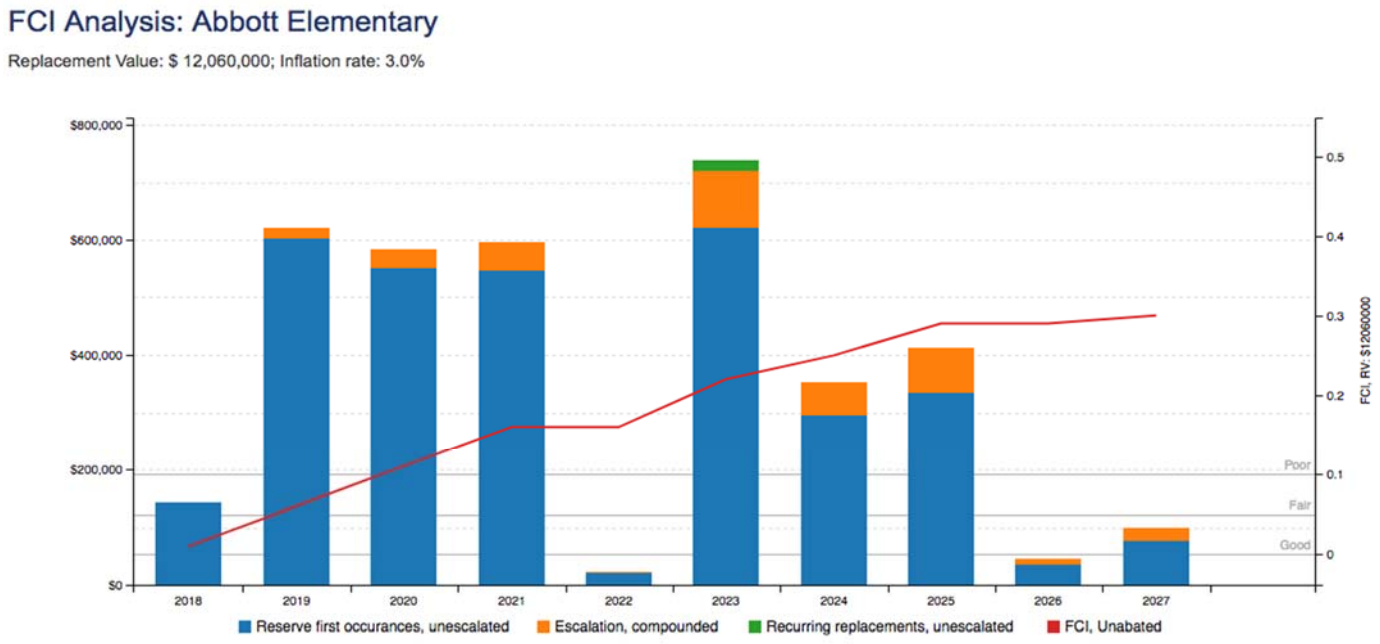
Architectural :

The curtain walls and curtain wall glazing are inefficient echanically and are starting to rust out. The rusting is in the bottlem panels and the main frames. The ceilings tiles in some of the classrooms might contain asbestos. The floor tiles in the janitors room by the boiler are also likely asbestos containing. A study related to asbestos abatement has been included in the reserve numbers.

MEPF :

The fire alarm system for the building is outdate and should be replaced with a new modern system with annunciator panels at the two main entry doors that would be used by the fire department. The main electrical panel is older and spare parts may be an issue in the future. This panel just contains the main building breaker. The Building controls system is a hybrid system with both digital components and pneumatic these should be replacedwith a full digtal system that permits all building to be controlled from a cental location.

1.3 Facility Condition Index (FCI)



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
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):	1.19%
Current Year FCI Rating:	2018
10-Year Facility Condition Index (FCI) FCI = (RR)/(CRV):	29.97%
10-Year FCI Rating	0.3
Current Replacement Value (CRV):	$12,060,000
Year 0 (Current Year) - Immediate Repairs (IR):	$143,686
Years 1-10 - Replacement Reserves (RR):	$3,470,516
Total Capital Needs:	$3,614,202

Further detail on the specific costs that make up the Immediate Repair Costs can be found in the cost tables at the beginning of this report.

2 Building Structure

A10 Foundations

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

Anticipated Lifecycle Replacements

- No components of significance

Actions/Comments:

- The foundation systems are concealed. There are no significant signs of settlement, deflection, or movement.

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	--	--
Balcony Deck Toppings	--	--
Balcony Guardrails	--	--
Roof Framing	Open-web steel joists	Good
Roof Decking	Metal decking	Good

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Caulk minor cracking	☒	Monitor cracking for growth	☐
Brick cleaning	☒	Other	☐

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- The superstructure is exposed in some locations, which allows for limited observation. Walls and floors appear to be plumb, level, and stable. There are no significant signs of deflection or movement.
- The brick on the inside show sign of efflorescence and cleaning is required.

B1080 Stairs					
Type	Description	Riser	Handrail	Balusters	Condition
Building Exterior Stairs	Concrete stairs	Closed	Metal	None	Good
Building Interior Stairs	Wood-framed	Closed	Metal	None	Good

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

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

3 Building Envelope

B20 Exterior Vertical Enclosures

B2010 Exterior Walls		
Type	Location	Condition
Primary Finish	Brick veneer	Good
Secondary Finish	Curtain wall	Poor
Accented with	Metal siding	Fair
Soffits	Concealed	Fair
Building sealants	Between dissimilar materials, at joints, around windows and doors	Fair

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Graffiti	☐	Efflorescence	☒
Other	☐	Other	☐

Anticipated Lifecycle Replacements:

- Vertical Metal siding
- Masonry re-pointing

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance, including patching repairs, graffiti removal, and re-caulking, is highly recommended. Future lifecycle replacements of the components listed above will be required.
- The brick walls have isolated areas of cracked mortar and efflorescence. The damaged mortar must be repaired and the bricks cleaned and sealed. The efflorescence is a sign of water leakage into the facility. This could be related to roof, flashing or caulking issues. There is not a way to tell when this was caused.
- The curtain wall system has significant areas of deteriorated panels and cracked sealants. The glass panes used are wire reinforced which are no longer permit per, Mr. Jim Vibbart. The curtain wall bottom panels and track are rusting at the joints. There is rust in some areas is showing the layering stage of deterioration. The ceiling caulking is opening up and pulling away. The glazing and panel are all uninsulated. The curtain wall must be replaced.

B2020 Exterior Windows				
Window Framing	Glazing	Location	Window Screen	Condition
Aluminum framed, operable	Double glaze	Whole facility	☒	Good
Aluminum framed, fixed	Double glaze	Whole facility	☐	Good
Curtain wall	Single glaze	Connection Halls	☐	Poor

B2050 Exterior Doors		
Main Entrance Doors	Door Type	Condition
	Fully glazed, metal framed	Fair
Secondary Entrance Doors	Metal, insulated	Fair
Service Doors	Metal, insulated	Fair
Overhead Doors	None	--

Anticipated Lifecycle Replacements:

- Curtain wall
- Exterior doors

Actions/Comments:

- No significant actions are identified at the present time. On-going periodic maintenance is highly recommended.
- The curtain wall system has significant areas of deteriorated panels and cracked sealants. The glass panes used are wire reinforced which are no longer permit per, Mr. Jim Vibbart. The curtain wall bottom panels and track are rusting at the joints. There is rust in some areas is showing the layering stage of deterioration. The ceiling caulking is opening up and pulling away. The glazing and panel are all uninsulated. The curtain wall must be replaced.

B30 Roof

B3010 Primary Roof			
Location	Whole Facility	Finish	Single-ply membrane
Type / Geometry	Flat	Roof Age	3 Yrs
Flashing	Membrane	Warranties	unknown
Parapet Copings	Parapet with sheet metal coping	Roof Drains	Internal drains
Fascia	Metal Panel	Insulation	Rigid Board
Soffits	Concealed Soffits	Skylights	Yes
Attics	None	Ventilation Source-1	None
Roof Condition	Fair	Ventilation Source-2	None

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Drainage components broken/missing	☐	Vegetation/fungal growth	☐
Blocked Drains	☐	Debris	☐
Other	☐	Other	☐

Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Evidence of roof leaks	☐	Significant ponding	☐
Excessive patching or repairs	☐	Blistering or ridging	☐
Other	☐	Other	☐

Anticipated Lifecycle Replacements: assessment

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

Actions/Comments:

- The roof was not inspected during the assessment as the roof hatch was locked and the school closed for a snow day. A copy of the last roofing inspecton report was to be sent but it was not received prior to writing the report. The age of the roof was estimated at 3 years. The roofs are maintained by an outside contractor.
- The POC had no first hand knowledge of any specific roof leaks. There are signs that leaks have occurred inside the Wing A doors, at the doors into the computer lab and across from the computer lab.

4 Interiors

C10 Interior Construction

C1030 Interior Doors		
Item	Type	Condition
Interior Doors	Solid core wood	Fair
Door Framing	Metal	Good
Fire Doors	No	--
Closet Doors	Solid core wood	Fair

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Improperly adjusted door closures	☒	Damaged/loose door hardware	☐
Other	☐	Other	☐

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

Interior Finishes - ABBOTT ELEMENTARY

Location	Finish		Quantity (SF)	Condition	Action	RUL	Est. Cost
Class Toilets	Floor	Epoxy Coating	1000	Poor	Prep & Paint	2	8,740
Classroom	Ceiling	Acoustical Tile (ACT) Dropped Fiberglass	25000	Fair	Replace	2	189,293
Custodian Rooms	Floor	Vinyl Tile (VCT) w/ Asbestos Abatement	1000	Fair	Replace	0	8,193
Gymnasium & Mech rooms	Ceiling	Exposed/Generic	5000	Fair	Prep & Paint	5	11,350
hallways	Floor	Vinyl Tile (VCT)	49500	Poor	Replace	3	237,630
Hallways	Ceiling	Acoustical Tile (ACT) Dropped Fiberglass	10000	Fair	Replace	5	63,098
Restrooms	Floor	Ceramic Tile	2000	Fair	Replace	11	31,510
Select areas	Floor	Carpet Tile Commercial-Grade	6800	Fair	Replace	6	47,348
Throughout	Floor	Vinyl Tile (VCT)	49500	Fair	Replace	7	237,630
Throughout	Ceiling	Acoustical Tile (ACT) Dropped Fiberglass	20300	Fair	Replace	10	102,470
Throughout	Wall	Concrete/Masonry	79200	Poor	Prep & Paint	3	114,919

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Loose carpeting/flooring	☐	Minor areas of stained ceiling tiles	☐
Minor paint touch-up	☒	Areas of damaged/missing baseboard	☒
Other	☐	Other	☐

Anticipated Lifecycle Replacements:

- Carpet
- Vinyl tile
- Ceramic tile
- Interior paint
- Suspended acoustic ceiling tile
- Acoustic ceiling tile
- Sound Dampening Ceiling panels
- Interior doors

Actions/Comments:

- The interior areas were last renovated within the last 5 years.
- The toilet partitions in the men's restroom have a broken wall bracket, rusting out and the bottom is exposed below the patch.
- The paint in the classrooms and the gym is starting to peel off the pervious layers of paint on the CMUs. It is isolated and spotty areas. In the gym are worst area is above the bars on the left side towards the rear. In the classrooms it is very random for size and location.
- The VCT flooring in the janitors area appears to be an asbestos containing tile. This can only be confirmed with a test.
- The small inter-locking ceiling tiles could also contain asbestos. There as numerous damaged or missing tiles in the facility.
- The epoxy floor finish in the toilet rooms is stained should be refinished.

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	Fair
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	☐	Minor or isolated leaks	☐
Other	☐	Other	☐

Plumbing Systems - ABBOTT ELEMENTARY

Location	Component	Component_Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
Boiler Room	Domestic Circulator or Booster Pump	5 to 7.5 HP	1	EA	Fair	Replace	8	11,641
Boiler room	Domestic Circulator or Booster Pump	2 HP	2	EA	Fair	Replace	8	11,891
boiler room	Water Heater	Gas, Commercial, 60 to 120 GAL	1	EA	Good	Replace	12	10,699
Boiler Room	Domestic Circulator or Booster Pump	5 to 7.5 HP	1	EA	Fair	Replace	8	11,641
boiler room	Sump Pump	3 HP	1	EA	Fair	Replace	3	2,063
boiler room	Sump Pump	3 HP	1	EA	Fair	Replace	3	2,063
Boiler Room	Air Compressor, controls duplex	5 HP	1	EA	Fair	Replace	5	9,652
Kitchen	Water Heater	Electric, Residential, 5 to 15 GAL	1	EA	Fair	Replace	3	1,014
Restroom behind Gym	Urinal	Vitreous China	2	EA	Fair	Replace	14	2,387
through	Sink	Vitreous China	30	EA	Fair	Replace	6	25,845
Throughout	Sink	Stainless Steel	38	EA	Fair	Replace	9	40,054
Throughout	Drinking Fountain	Refrigerated	5	EA	Fair	Replace	5	6,288
Throughout	Drinking Fountain	Vitreous China	24	EA	Fair	Replace	5	46,536
Throughout	Toilet	Tankless (Water Closet)	40	EA	Fair	Replace	17	33,719

Anticipated Lifecycle Replacements:

- Circulation pumps
- Water heaters
- Toilets
- Urinals
- Sinks
- Sump Pumps

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	Mechanical rooms
Space Served by System	Entire building

Building Central Cooling System	
Primary Cooling System Type	Roof top Condensers/Heat Pumps
Refrigerant	Unknown
Cooling Towers	None
Location of Major Equipment	Rooftop
Space Served by System	Entire building

Distribution System	
HVAC Water Distribution System	Two-pipe
Air Distribution System	Constant
Location of Air Handlers	Mechanical rooms
Terminal Units	Fan coil units (hydronic)
Quantity and Capacity of Terminal Units	approximately 40 fan coil units ranging from 400 to 800 CFM
Location of Terminal Units	Adjacent to windows

Packaged, Split & Individual Units	
Primary Components	Package units
Cooling (if separate from above)	Unknown
Heating Fuel	Unknown
Location of Equipment	Rooftop
Space Served by System	The multi-purpose room.

Supplemental/Secondary Components	
Supplemental Component #1	Ductless mini-split systems
Location / Space Served by	Store room in Wing A
Condition	Good
Supplemental Component #2	Ductless mini-split systems
Location / Space Served by	Main Office block perimeter
Condition	Good
Supplemental Component #3	Ductless mini-split systems
Location / Space Served by	AV Storage Room
Condition	Good

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	☐	Minor control adjustments needed	☐
Leaking condensate lines	☐	Poor mechanical area access	☒
Other	☐	Other	☐

Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Heating, Cooling or Ventilation is not adequate	☐	Major system inefficiencies	☐
HVAC controls pneumatic or antiquated	☒	Obsolete refrigerants : R11, R12, R22, R123, R502	☐
Asbestos Insulation	☒	Other	☐

Mechanical Systems - ABBOTT ELEMENTARY

Location	Component	Component Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
A Hub	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	3	3,235
A Hub	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	3	3,235
A JC	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
A Storeroom	Ductless Split System	Single Zone, 1.5 to 2 Ton	1	EA	Good	Replace	9	4,473
A Wing roof	Condensing Unit/Heat Pump	Split System, 2 Ton	1	EA	Fair	Replace	9	3,122
A10	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	3	4,986
A3	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	3	2,199
A4	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	3	2,199
A5	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	3	2,199
A6	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	3	4,986
A7	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	3	2,199
A8	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	3	4,986
A8	Air Conditioner	Window/Thru-Wall, 1.5 to 2 Ton	1	EA	Fair	Replace	6	2,589
A9	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	3	4,986
Art	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
B115	Ductless Split System	Multi Zone (per 1 to 2 Ton Fan Coil Unit)	1	EA	Fair	Replace	3	3,579
B115	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
B116	Ductless Split System	Multi Zone (per 1 to 2 Ton Fan Coil Unit)	1	EA	Fair	Replace	3	3,579
B116	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
B117	Ductless Split System	Multi Zone (per 1 to 2 Ton Fan Coil Unit)	1	EA	Fair	Replace	3	3,579
B117	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
B118	Ductless Split System	Multi Zone (per 1 to 2 Ton Fan Coil Unit)	1	EA	Fair	Replace	3	3,579
B118	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
B173	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
Boiler Room	Boiler	Gas, 2,501 to 4,200 MBH	1	EA	Fair	Replace	13	120,905
Boiler room	Unit Heater	Hydronic, 13 to 36 MBH	1	EA	Fair	Replace	8	1,517
Boiler room	Building Automation System	HVAC Controls	60300	SF	Poor	Replace	0	108,540
C JC	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	3	4,986
C3	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
C3	Air Conditioner	Window/Thru-Wall, 1.5 to 2 Ton	1	EA	Fair	Replace	5	2,589
C4	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	6	2,199
C4	Air Conditioner	Window/Thru-Wall, 1.5 to 2 Ton	1	EA	Fair	Replace	5	2,589
C5	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
C6	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
C7	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
C8	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
Childcare	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
corner conf. rm	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
corner conf. rm.	Ductless Split System	Multi Zone (per 1 to 2 Ton Fan Coil Unit)	1	EA	Fair	Replace	3	3,579
D2	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
D2	Air Conditioner	Window/Thru-Wall, 1.5 to 2 Ton	1	EA	Fair	Replace	5	2,589
D3	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
D4	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
D4	Air Conditioner	Window/Thru-Wall, 1.5 to 2 Ton	1	EA	Fair	Replace	5	2,589
D5	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
D6	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
D6	Air Conditioner	Window/Thru-Wall, 1.5 to 2 Ton	1	EA	Fair	Replace	5	2,589
D7	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
D8	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	6	2,199
First Steps	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
Gym #1	Air Handler	Exterior, 2,001 to 3,000 CFM	1	EA	Fair	Replace	3	15,679
Gym #2	Air Handler	Exterior, 2,001 to 3,000 CFM	1	EA	Fair	Replace	3	15,679
media AV	Ductless Split System	Single Zone, 1.5 to 2 Ton	1	EA	Fair	Replace	3	4,473
media AV Roof	Condensing Unit/Heat Pump	Split System, 2 Ton	1	EA	Fair	Replace	3	3,122
Multi-purpose	Air Handler	Exterior, 3,001 to 4,000 CFM	1	EA	Fair	Replace	3	19,738
Multi-purpose left Media	Air Handler	Exterior, 4,001 to 6,000 CFM	1	EA	Good	Replace	5	27,805
Multi-Purpose Right AHU 2	Air Handler	Exterior, 3,001 to 4,000 CFM	1	EA	Fair	Replace	5	19,738
Multi-purpose Roof	Condenser	Air-Cooled, 15 Ton	1	EA	Fair	Replace	3	8,640
Multipurpose Roof	Condenser	Air-Cooled, 5 Ton	1	EA	Fair	Replace	3	4,237
Music	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
Prin. Office	Ductless Split System	Multi Zone (per 1 to 2 Ton Fan Coil Unit)	1	EA	Fair	Replace	3	3,579
prin. office	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
recep office	Fan Coil Unit	Hydronic, 801 to 1,200 CFM	1	EA	Fair	Replace	6	3,235
recep office store room	Fan Coil Unit	Hydronic, 1,201 to 1,800 CFM	1	EA	Fair	Replace	6	4,986
Recep. Office	Ductless Split System	Multi Zone (per 1 to 2 Ton Fan Coil Unit)	1	EA	Fair	Replace	3	3,579
Roof A	Exhaust Fan	Centrifugal, 251 to 800 CFM	1	EA	Fair	Replace	3	2,022
Roof A	Exhaust Fan	Centrifugal, 251 to 800 CFM	1	EA	Fair	Replace	3	2,022
Roof B	Exhaust Fan	Centrifugal, 251 to 800 CFM	1	EA	Fair	Replace	3	2,022
Roof B	Exhaust Fan	Centrifugal, 251 to 800 CFM	1	EA	Fair	Replace	3	2,022
Roof B	Exhaust Fan	Centrifugal, 251 to 800 CFM	1	EA	Fair	Replace	3	2,022
roof office	Condensing Unit/Heat Pump	Split System, 8 to 10 Ton	1	EA	Fair	Replace	3	15,825
Throughout	Air Conditioner	Window/Thru-Wall, 1.5 to 2 Ton	6	EA	Fair	Replace	5	15,531

Anticipated Lifecycle Replacements:

- Boiler
- Air handling units
- Distribution pumps and motors
- Fan coil units
- Rooftop Package units
- Condensing unit/Heat pumps
- Baseboard heaters
- Through-wall air conditioners
- Rooftop exhaust fans

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 not been maintained.
- The HVAC equipment varies in age. The facility had a major equipment update in 2007. Since then some equipment has been added or replaced.
- The HVAC equipment appears to be functioning adequately overall. The POC was interviewed about the historical and recent performance of the equipment and systems. No chronic problems were reported. However, due to the inevitable failure of parts and components over time, some of the equipment will require replacement. A budgetary cost for this work is included.
- The facility HVAC is controlled using an outdated pneumatic system supplied by an air compressor. For modernization, reliability, and increased control, full conversion to a web-based direct digital control (DDC) platform is highly recommended.
- Some pipe insulation in the facility contains Asbestos. It may or may not be labeled.

D40 Fire Protection

Item	Description					
Type	Wet pipe					
Sprinkler System	None	☐	Standpipes	☐	Backflow Preventer	☐
	Hose Cabinets	☐	Fire Pumps	☐	Siamese Connections	☐
Sprinkler System Condition	Fair					
Fire Extinguishers	Last Service Date		Servicing Current?			
	August 2017		Yes			
Hydrant Location	Start of Kim Ct.					
Siamese Location	None					
Special Systems	Kitchen Suppression System	☐	Computer Room Suppression System	☐		

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Extinguisher tag expired	☒	Riser tag expired (5 year)	☐
Other	☐	Other	☐

Anticipated Lifecycle Replacements:

- No components of significance.

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.

D50 Electrical

Distribution & Lighting			
Electrical Lines	Underground	Transformer	Pad-mounted
Main Service Size	800 Amps	Volts	120/208 Volt, three-phase
Meter & Panel Location	Boiler Room	Branch Wiring	Copper
Conduit	Metallic	Step-Down Transformers?	No
Security / Surveillance System?	Yes	Building Intercom System?	Yes
Lighting Fixtures	T-8, CFL, T-5 in gym		
Main Distribution Condition	Fair		
Secondary Panel and Transformer Condition	Fair		
Lighting Condition	Fair		

Building Emergency Systems			
Size	None	Fuel	--
Generator / UPS Serves	--	Tank Location	--
Testing Frequency	--	Tank Type	--
Generator / UPS Condition	--		

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Improperly stored material	☒	Unsecured high voltage area	☐
Loose cables or impoper use of conduit	☐	Poor electrical room ventilation	☐
Other	☐	Other	☐

Anticipated Lifecycle Replacements:

- Circuit breaker panels

- Main switchgear
- Switchboards
- Step-down transformers
- 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 switchboards are mostly original 1962 components. The electrical service appears to be adequate for the facility's needs. However, due to the age of the switchboards and increasing difficulty of obtaining replacement parts over time, lifecycle replacements are recommended per above.

D60 Communications

D6060 Public Address Systems						
Item	Description					
Communication Equipment	Public Address System	☒	Nurse Call System	☐	Clock	☐

D70 Electronic Safety and Security

D7010 Access Control and Intrusion Detection / D7050 Detection and Alarm						
Item	Description					
Access Control and Intrusion Detection	Exterior Camera	☒	Interior Camera	☒	Front Door Camera Only	☐
	Cameras monitored	☐	Security Personnel On-Site	☐	Intercom/Door Buzzer	☐
Fire Alarm System	Central Alarm Panel	☒	Battery-Operated Smoke Detectors	☐	Alarm Horns	☒
	Annunciator Panels	☐	Hard-Wired Smoke Detectors	☒	Strobe Light Alarms	☒
	Pull Stations	☒	Emergency Battery-Pack Lighting	☒	Illuminated EXIT Signs	☒
Fire Alarm System Condition	Poor					
Central Alarm Panel System	Location of Alarm Panel		Installation Date of Alarm Panel			
	Teachers Lounge		1990			

Anticipated Lifecycle Replacements:

- Central alarm panel
- Alarm devices and system

Actions/Comments:

- The fire alarm systems appear somewhat antiquated and not up to current standards. The contractor has updated many of the devise on the system. The system di not have a panel near the front entry that would assist the fire department with a call to the building. The system will likely experience difficulty acquiring replacement parts in the future. Due to the age of the components and apparent shortcomings, a full modernization project is recommended. A budgetary cost is included.

6 Equipment & Furnishings

E10 Equipment

The cafeteria area has limited commercial kitchen appliances, fixtures, and equipment, since they only maintain temperature and serve meals. The equipment is owned and maintained in-house.

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

E1030 Commercial Kitchen Equipment		
Appliance	Comment	Condition
Refrigerators	Up-right	Good
Freezers	☐	--
Ranges	☐	--
Ovens	Electric	Good
Griddles / Grills	☐	--
Fryers	☐	--
Hood	☐	--
Dishwasher	☐	--
Microwave	☒	Fair
Ice Machines	☐	--
Steam Tables	☒	Fair
Work Tables	☐	--
Shelving	☒	Good

E1030 Commercial Laundry		
Equipment	Comment	Condition
Commercial Washing Machines	☐	--
Commercial Dryers	☐	--
Residential Washers	☐	--
Residential Dryers	☐	--

Anticipated Lifecycle Replacements:

- Milk Cooler
- Double Door Refrigerator
- Convection warming oven
- Steam Table
- Roll-up Doors

Actions/Comments:

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

7 Sitework

G20 Site Improvements

G2020 Parking Lots & G2030 Pedestrian Walkways		
Item	Material	Condition
Entrance Driveway Apron	Asphalt	Good
Parking Lot	Asphalt	Fair
Drive Aisles	Asphalt	Fair
Service Aisles	Asphalt	Fair
Sidewalks	Concrete	Good
Curbs	Concrete	Good
Pedestrian Ramps	Cast-in-place concrete	Good
Ground Floor Patio or Terrace	Concrete	Good

Parking Count				
Open Lot	Carport	Private Garage	Subterranean Garage	Freestanding Parking Structure
57	-	-	-	-
Total Number of ADA Compliant Spaces			2	
Number of ADA Compliant Spaces for Vans			1	
Total Parking Spaces			60	

Site Stairs			
Location	Material	Handrails	Condition
Front Entry	Concrete stairs	Wood	Good

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Pavement oil stains	☐	Vegetation growth in joints	☐
Stair/ramp rails loose	☐	Stair/ramp rail needs scraped and painted	☐
Other	☐	Other	☐

Degradation Issues			
Observation	Exists At Site	Observation	Exists At Site
Potholes/depressions	☐	Alligator cracking	☒
Concrete spalling	☐	Trip hazards (settlement/heaving)	☐
Other	☐	Other	☐

Anticipated Lifecycle Replacements:

- Asphalt seal coating
- Asphalt pavement
- Concrete pavement
- Sidewalks
- Curbs
- Site stairs
- Pedestrian ramps
- Patios
- Terrace

Actions/Comments:

- On-going periodic maintenance is highly recommended. Future lifecycle replacements of the components listed above will be required.

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

Site Fencing		
Type	Location	Condition
Chain link with metal posts	Front right side	Fair

Refuse Disposal				
Refuse Disposal	Common area dumpsters			
Dumpster Locations	Mounting	Enclosure	Contracted?	Condition
Kim Ct. Parking lot	Asphalt paving	None	Yes	Fair

Other Site Amenities			
	Description	Location	Condition
Playground Equipment	Plastic and metal	Around facility	Good
Tennis Courts	None	--	--
Basketball Court	Asphalt	Rear of School	Fair
Swimming Pool	None	--	--

Anticipated Lifecycle Replacements:

- Signage
- Site fencing
- Playground equipment
- Playground surfaces
- Tables and benchs

Actions/Comments:

- On-going periodic maintenance is highly recommended. Future lifecycle replacements of the components listed above will be required.

G2080 Landscaping		
Drainage System and Erosion Control		
System	Exists At Site	Condition
Surface Flow	☒	Fair
Inlets	☒	Fair
Swales	☐	--
Detention pond	☐	--
Lagoons	☐	--
Ponds	☐	--
Underground Piping	☒	Good
Pits	☐	--
Municipal System	☒	Good
Dry Well	☐	--

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	The site is relatively flat from the north to the school then the site has a gentle slow to the south and east.						
Landscaping	Trees	Grass	Flower Beds	Planters	Drought Tolerant Plants	Decorative Stone	None
	☒	☒	☐	☐	☐	☐	☐
Landscaping Condition	Fair						
Irrigation	Automatic Underground	Drip	Hand Watering	None			
	☐	☐	☐	☒			
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 is located in the boiler room 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
	☐	☐	☐	☐	☒
	Good				
Building Lighting	None		Wall Mounted		Recessed Soffit
	☐		☒		☒
	Good				

Maintenance Issues			
Observation	Exists At Site	Observation	Exists At Site
Isolated bulb/lamp replacement	☐	Discolored/dirty lens cover	☐
Other	☐	Other	☐

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

Not applicable. There are no major accessory structures.

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.

Accessibility Issues			
Component	Major Issue	Moderate Issue	Minor Issue
Parking	☐	☐	☐
Exterior Accessible Route	☐	☐	☐
Interior Accessible Route	☐	☐	☐
Restrooms	☐	☐	☐
Elevators	☐	☐	☐

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 and Seismic Zone

According to the Flood Insurance Rate Map, published by the Federal Emergency Management Agency (FEMA) and dated 4/8/2012 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.

According to the 1997 Uniform Building Code Seismic Zone Map of the United States, the property is located in Seismic Zone 1, defined as an area of low probability of damaging ground motion.

12 Certification

Ann Arbor Public Schools retained EMG to perform this Facility Condition Assessment in connection with its continued operation of Abbot Elementary, 2670 Sequoia Parkway, Ann Arbor, Michigan, the "Property". It is our understanding that the primary interest of Ann Arbor Public 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 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 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 Public Schools and the recipient's sole risk, without liability to EMG.

Prepared by: Randall Patzke,
Project Manager

Reviewed by:

Al Diefert
Technical Report Reviewer For
Andrew Hupp
Program Manager

13 Appendices

Appendix A: Photographic Record
Appendix B: Site and Floor Plans
Appendix C: Supporting Documentation
Appendix D: Pre-Survey Questionnaire

Appendix A:
Photographic Record

#1:	FRONT ELEVATION

#2:	RIGHT ELEVATION

#3:	REAR ELEVATION

#4:	LEFT ELEVATION

#5:	GYM

#6:	FAILED CAULKING AT CURTAIN WALL

#7:	EXTERIOR DOOR AND POSSIBLE ASBESTOS CEILING TILES

#8:	CURTAIN WALLS

#9:	ENTRY DOORS

#10:	BRICK VENEER WALLS, ACCENT SIDING

#11:	RUSTING CURTAIN WALL PANEL AND EFFLORESCENCE

#12:	RUSTING UN-INSULATED CURTAIN WALL PANEL

#13:	METAL EXTERIOR DOORS

#14:	DAMAGED ACOUSTICAL CEILING

#15:	DAMAGED ACOUSTICAL CEILING

#16:	CERAMIC FLOOR TILE

#17:	PEELING PAINT ON BLOCK WALL

#18:	LIGHT FIXTURES, ACT TILES

#19:	POSSIBLE ASBESTOS CONTAINING TILE

#20:	CARPET AND CASEWORK IN OFFICE AREA

#21:	DAMAGED VCT NEAR DOOR

#22:	ASBESTOS LABEL

#23:	GYM

#24:	DAMAGED CASEWORK

#25:	TOILET PARTITION WITH BROKEN WALL BRACKET

#26:	EXTERIOR WALL WITH EFFLORESCENCE

#27:	SINKS WITH WRAPPED DRAINS

#28:	CASEWORK WITH MISSING SINK

#29:	CARPET

#30:	CASEWORK

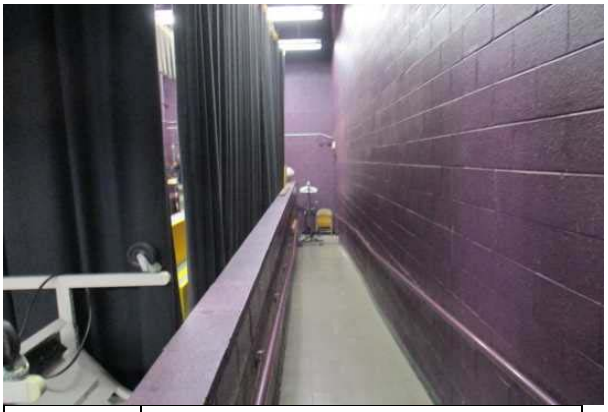
#31:	CLASSROOM

#32:	VCT FLOORING

#33:	GYM

#34:	DAMAGED AND MISSING ACOUSTICAL CEILING TILES

#35:	TOILET PARTITION WITH BOTTOM FALLING OFF



#36:	STAGE CURTAIN

#37:	LIBRARY

#38:	DRINKING FOUNTAIN

#39:	URINAL, TOILET AND CERAMIC FLOORING

#40:	SINKS WITH WRAPPED DRAINS

#41:	TOILET, EPOXY FLOOR FINISH AND RADIATOR COVER NEEDING PAINTING

#42:	GAS WATER HEATER

#43:	WINDOWS AND BLINDS

#44:	DOMESTIC CIRCULATOR PUMP

#45:	BUILDING AUTOMATION SYSTEM PNUEMATIC COMPONENTS

#46:	WINDOW/THRU-WALL AIR CONDITION IN CLASSROOM

#47:	CEILING FAN IN MULTI-PURPOSE ROOM

#48:	HYDRONIC FAN COIL CABINET IN A JANITOR CLOSET

#49:	BUILDING AUTOMATION SYSTEM, DIGITAL CONTROL CABINET

#50:	SOUND DAMPENING CEILING TILES

#51:	HYDRONIC FAN COIL CABINET

#52:	AIR HANDLER IN GYM

#53:	BOILER

#54:	SPLIT SYSTEM CONDENSING UNIT AND EXHAUST FAN

#55:	AIR HANDLER IN MULTIPURPOSE ROOM

#56:	DUCTLESS FAN COIL, MISSING CEILING TILE

#57:	BUILDING CONTROLS AIR COMPRESSOR

#58:	CLASSROOM WS

#59:	CLASSROOM

#60:	CLASSROOM

#61:	CLASSROOM

#62:	ROOFTOP EXHAUST FANS AND HEAT PUMP CONDENSER

#63:	CLASSROOM

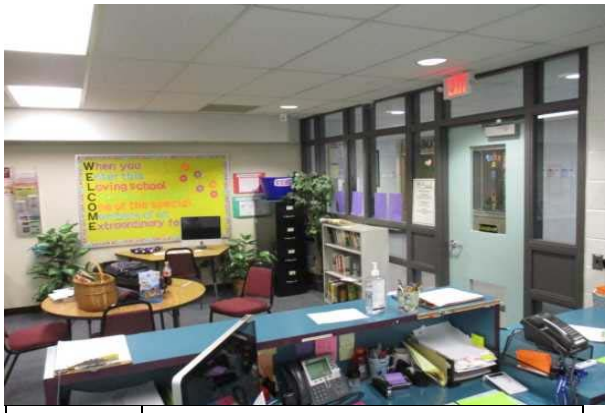
#64:	CLASSROOM

#65:	FIRE RISER AND FIRE ALARM PANEL

#66:	MAIN BREAKER

#67:	MAIN BUILDING ELECTRICAL BREAKER

#68:	DISTRIBUTION PANEL



#69:	CLASSROOM

#70:	OUTDATED FIRE ALARM SYSTEM

#71:	PLAY STRUCTURE

#72:	ASPHALT NEEDING SEALCOAT AND FUTURE MILL AND OVERLAY

#73:	PLAYGROUND AREA

#74:	PARKING LOT AND DUMPSTER AREA

#75:	SIDEWALK AND ENTRY DRIVE

#76:	PARKING LOT

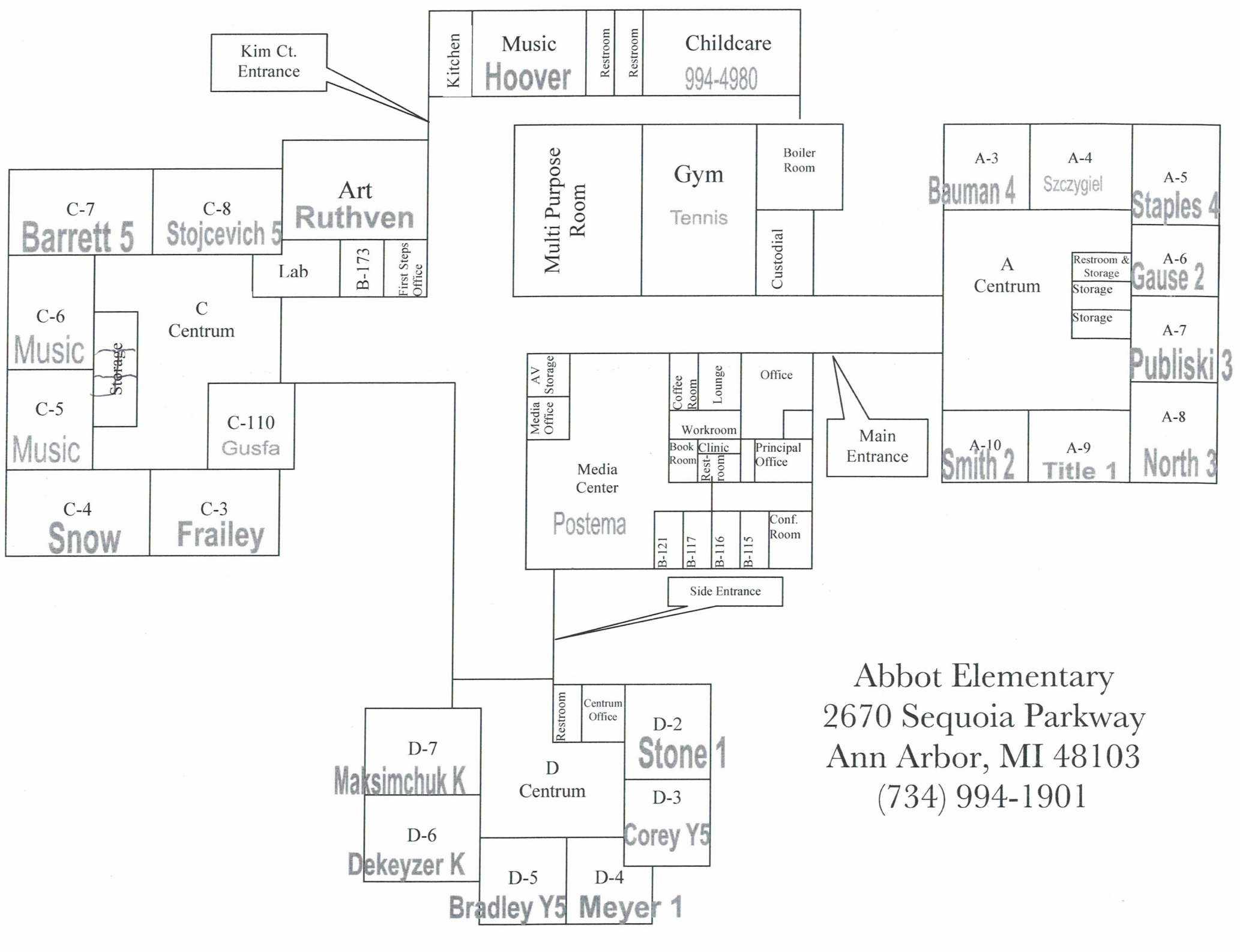
#77:	PLAYGROUND STRUCTURE AND PLASTIC COATED METAL TABLES

#78:	CHAIN LINK FENCE

Appendix B:
Site and Floor Plans

Site Plan

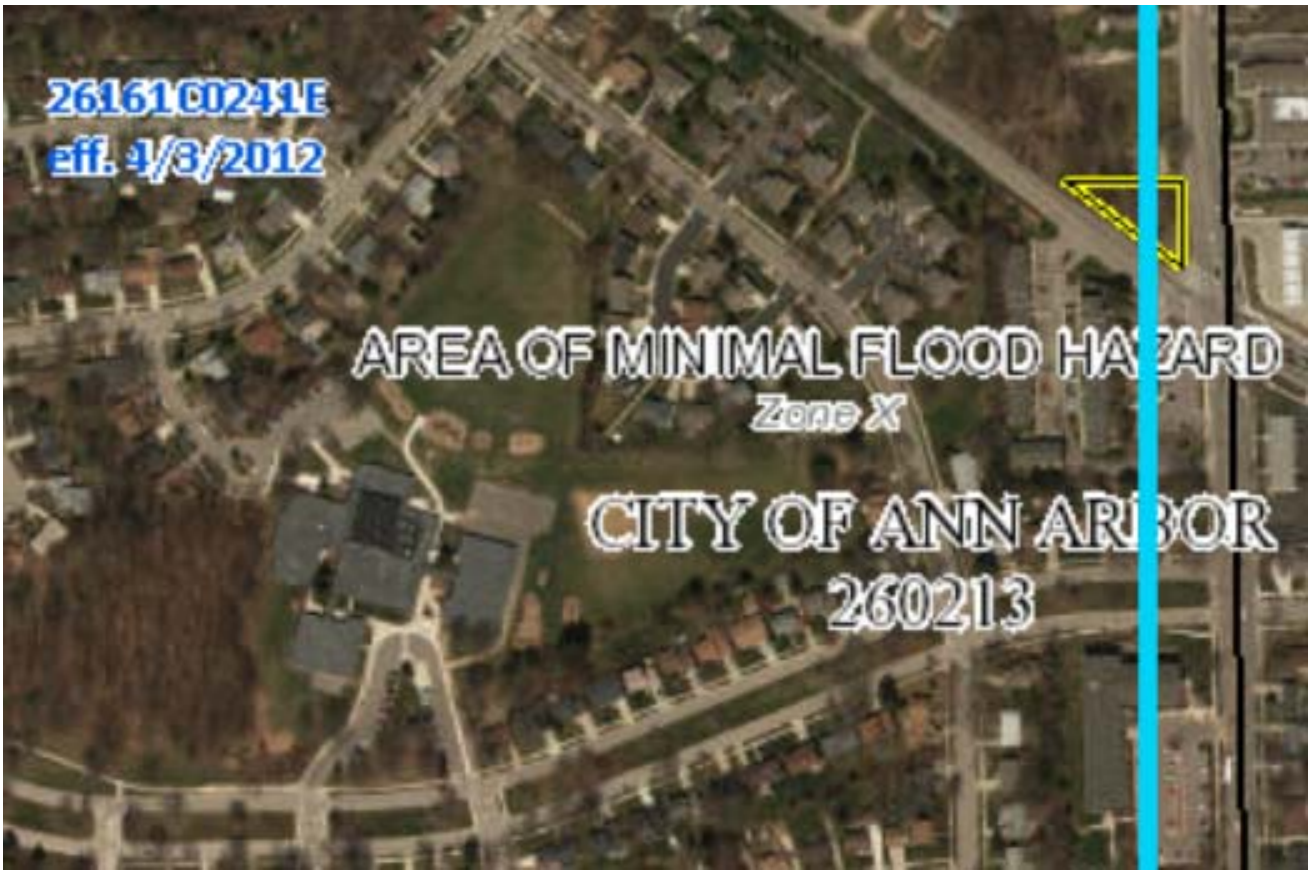
emg	**Project Name:** Abbot Elementary	**Project Number:** 129010.18R000-004.354
	Source: Google Earth Pro	**On-Site Date:** February 7, 2018



Abbot Elementary
2670 Sequoia Parkway
Ann Arbor, MI 48103
(734) 994-1901

Appendix C:
Supporting Documentation

Flood Map



emg	**Project Name:** Abbot Elementary	**Project Number:** 129010.18R000-004.354
	Source: FEMA Map Number: 26161CO241E Dated: 4/8/2012	**On-Site Date:** February 7, 2018

Appendix D:
Pre-Survey Questionnaire

PRE-SURVEY QUESTIONNAIRE	
Name of Person Completing Questionnaire:	N/A - Not returned to EMG
Association with Property:	
Length of Assocation with Property:	
Date Completed:	
Phone Number:	
Property Name:	
EMG Project Number:	

	Inspections	Date Last Inspected	List any Outstanding Repairs Required
1	Elevators		
2	HVAC, Mechanical, Electric, Plumbing		
3	Life-Safety/Fire		
4	Roofs		

	Question	Response
5	List any major capital improvement within the last three years.	
6	List any major capital expenditures planned for the next year.	
7	What is the age of the roof(s)?	
8	What building systems (HVAC, roof, interior/exterior finishes, paving, etc.) are the responsibilities of the tenant to maintain and replace?	

	Question	Yes	No	Unk	N/A	Comments
9	Are there any unresolved building, fire, or zoning code issues?					
10	Are there any "down" or unusable units?					
11	Are there any problems with erosion, stormwater drainage or areas of paving that do not drain?					
12	Is the property served by a private water well?					
13	Is the property served by a private septic system or other waste treatment systems?					
14	Are there any problems with foundations or structures?					
15	Is there any water infiltration in basements or crawl spaces?					
16	Are there any wall, or window leaks?					
17	Are there any roof leaks?					
18	Is the roofing covered by a warranty or bond?					
19	Are there any poorly insulated areas?					
20	Is Fire Retardant Treated (FRT) plywood used?					

PRE-SURVEY QUESTIONNAIRE						
Question		Yes	No	Unk	N/A	Comments
21	Is exterior insulation and finish system (EIFS) or a synthetic stucco finish used?					
22	Are there any problems with the utilities, such as inadequate capacities?					
23	Are there any problems with the landscape irrigation systems?					
24	Has a termite/wood boring insect inspection been performed within the last year?					
25	Do any of the HVAC systems use R-11, 12, or 22 refrigerants?					
26	Has any part of the property ever contained visible suspect mold growth?					
27	Is there a mold Operations and Maintenance Plan?					
28	Have there been indoor air quality or mold related complaints from tenants?					
29	Is polybutylene piping used?					
30	Are there any plumbing leaks or water pressure problems?					
31	Are there any leaks or pressure problems with natural gas service?					
32	Does any part of the electrical system use aluminum wiring?					
33	Do Residential units have a less than 60-Amp service?					
34	Do Commercial units have less than 200-Amp service?					
35	Are there any recalled fire sprinkler heads (Star, GEM, Central, Omega)?					
36	Is there any pending litigation concerning the property?					
37	Has the management previously completed an ADA review?					
38	Have any ADA improvements been made to the property?					
39	Does a Barrier Removal Plan exist for the property?					
40	Has the Barrier Removal Plan been approved by an arms-length third party?					
41	Has building ownership or management received any ADA related complaints?					
42	Does elevator equipment require upgrades to meet ADA standards?					
43	Are there any problems with exterior lighting?					
44	Are there any other significant issues/hazards with the property?					

PRE-SURVEY QUESTIONNAIRE						
Question		Yes	No	Unk	N/A	Comments
45	Are there any unresolved construction defects at the property?					

Comments

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.