FACILITY CONDITION ASSESSMENT

prepared for

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

FACILITY CONDITION ASSESSMENT
OF
LOGAN ELEMENTARY
2685 TRAVER ROAD
ANN ARBOR, MICHIGAN 48105

PREPARED BY:
EMG
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DATE OF REPORT:
June 29, 2018

ONSITE DATE:
February 7, 2018

Immediate Repairs Report
Logan Elementary
6/29/2018

EMG Renamed Item Number	Location Description	ID	Cost Description	Quantity	Unit	Unit Cost *	Subtotal	Deficiency Repair Estimate *
D30	Interior	937491	Air Conditioning, Central, Install	59970	SF	$11.50	$689,655	**$689,655**
B20	Building Exterior	847737	Exterior Wall, Brick or Brick Veneer, 1-2 Stories, Repoint	2000	SF	$47.47	$94,950	**$94,950**
B20	Building Windows	847717	Window, Aluminum Single-Glazed 12 SF, 1-2 Stories, Modernization	20	EA	$671.84	$13,437	**$13,437**
B20	Building Windows	847705	Window, Aluminum Single-Glazed 24 SF, 1-2 Stories, Replace	90	EA	$1,001.02	$90,091	**$90,091**
B20	Building Exterior	847769	Exterior Door, Steel w/ Safety Glass, Replace	8	EA	$1,555.63	$12,445	**$12,445**
B20	Building Exterior	847764	Exterior Door, Steel Insulated, Replace	34	EA	$1,814.16	$61,681	**$61,681**
C2010	Site	847745	Interior Wall Finish, Concrete/Masonry, Prep & Paint	110900	SF	$1.67	$185,053	**$185,053**
C2030	Throughout	855010	Interior Floor Finish, Vinyl Tile (VCT), Replace	500	SF	$5.52	$2,760	**$2,760**
C2030	Throughout building	847722	Floor Finishings, , Replace	5000	SF	$8.34	$41,724	**$41,724**
D20	302	847738	Check Valve, 4", Replace	1	EA	$3,385.45	$3,385	**$3,385**
D30	Utility closet upper floor	847750	Water Source Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	1	EA	$32,949.33	$32,949	**$32,949**
D30	Utility closet upper floor	847706	Water Source Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	1	EA	$32,949.33	$32,949	**$32,949**
D30	Utility closet upper floor	855619	Water Source Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	1	EA	$32,949.33	$32,949	**$32,949**
D30	Utility closet	855220	Water Source Heat Pump, 16.6 Ton, 200 MBH, Replace	1	EA	$79,071.36	$79,071	**$79,071**
D30	Utility closet	847720	Water Source Heat Pump, 16.6 Ton, 200 MBH, Replace	1	EA	$79,071.36	$79,071	**$79,071**
D30	Utility closet	847776	Water Source Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	1	EA	$17,624.06	$17,624	**$17,624**
D40	Throughout	854557	Fire Extinguisher, Replace	10	EA	$410.02	$4,100	**$4,100**
D50	Utility closet upper floor	847716	Switchboard, 225 Amp, Replace	1	EA	$28,483.27	$28,483	**$28,483**
D50	Utility closet upper floor	847773	Secondary Transformer, Dry, 30 kVA, Replace	1	EA	$6,999.32	$6,999	**$6,999**
D50	Utility closet upper floor	847762	Secondary Transformer, Dry, 30 kVA, Replace	1	EA	$6,999.32	$6,999	**$6,999**
D50	302	847759	Distribution Panel, 208 Y, 120 V, 100 Amp, Replace	1	EA	$5,841.92	$5,842	**$5,842**
D50	302	847790	Building/Main Switchboard, 277 V, 480 V, 1,200 Amp, Replace	1	EA	$244,105.10	$244,105	**$244,105**
D50	Utility closet upper floor	847761	Switchboard, 225 Amp, Replace	1	EA	$28,483.27	$28,483	**$28,483**
D40	Office	847783	Fire Alarm System, School, Install	59970	SF	$3.60	$215,979	**$215,979**
	Site	958706	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	70656.23	LS	$1.15	$81,255	**$81,255**
G20	Site	847746	Parking Lot, , Repair	81000	SF	$3.77	$305,569	**$305,569**

Immediate Repairs Report
Logan Elementary
6/29/2018

EMG Renamed Item Number	Location Description	ID	Cost Description	Quantity	Unit	Unit Cost *	Subtotal	Deficiency Repair Estimate *
G20	Exterior	855205	Fences & Gates, Chain Link, 4' High, Replace	350	LF	$35.09	$12,281	**$12,281**
D30	Throughout	855949	Engineer, HVAC System, Controls Re-Balance, Evaluate/Report	1	EA	$5,750.00	$5,750	**$5,750**
Immediate Repairs Total								**$2,415,644**

* Location Factor (1.0) included in totals.

Replacement Reserves Report

Logan Elementary

6/29/2018

Location	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	Total Escalated Estimate
Logan Elementary	$2,415,644	$137,183	$803,996	$1,597,584	$1,769,384	$1,242,353	$248,801	$103,920	$1,111,275	$118,643	$868,604	$325,332	$140,367	$467,934	$124,351	$2,512,280	$523,066	$154,275	$2,407,003	$142,481	**$17,214,477**
GrandTotal	**$2,415,644**	**$137,183**	**$803,996**	**$1,597,584**	**$1,769,384**	**$1,242,353**	**$248,801**	**$103,920**	**$1,111,275**	**$118,643**	**$868,604**	**$325,332**	**$140,367**	**$467,934**	**$124,351**	**$2,512,280**	**$523,066**	**$154,275**	**$2,407,003**	**$142,481**	**$17,214,477**

EMG Renamed Item Number	Location Description	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	Interior	937491	Air Conditioning, Central, Install	50	50	0	59970	SF	$10.00	$11.50	$689,655	$689,655																				**$689,655**
C10	Multipurpose room	854923	Structural Flooring/Decking, Wood, Replace	20	10	10	500	SF	$10.13	$11.65	$5,826											$5,826										**$5,826**
G20	Throughout	855207	Exterior Stair/Ramp Rails, Metal, Refinish	10	2	8	1000	LF	$1.44	$1.65	$1,655									$1,655										$1,655		**$3,310**
B20	Building Exterior	847737	Exterior Wall, Brick or Brick Veneer, 1-2 Stories, Repoint	25	61	0	2000	SF	$41.28	$47.47	$94,950	$94,950																				**$94,950**
B20	Soffits	855650	Exterior Wall, Painted Surface, 1-2 Stories, Prep & Paint	10	8	2	500	SF	$2.87	$3.30	$1,651			$1,651										$1,651								**$3,301**
B20	Exterior	855213	Exterior Wall, Stucco, 1-2 Stories, Replace	20	10	10	1000	SF	$18.18	$20.90	$20,904											$20,904										**$20,904**
B20	Building Windows	847717	Window, Aluminum Single-Glazed 12 SF, 1-2 Stories, Modernization	30	61	0	20	EA	$584.21	$671.84	$13,437	$13,437																				**$13,437**
B20	Building Windows	847705	Window, Aluminum Single-Glazed 24 SF, 1-2 Stories, Replace	30	61	0	90	EA	$870.45	$1,001.02	$90,091	$90,091																				**$90,091**
B20	Building Exterior	847769	Exterior Door, Steel w/ Safety Glass, Replace	25	61	0	8	EA	$1,352.72	$1,555.63	$12,445	$12,445																				**$12,445**
B20	Building Exterior	847764	Exterior Door, Steel Insulated, Replace	25	61	0	34	EA	$1,577.53	$1,814.16	$61,681	$61,681																				**$61,681**
B30	Roof	847734	Roof, Single-Ply EPDM Membrane, Replace	20	18	2	55000	SF	$10.52	$12.10	$665,390			$665,390																		**$665,390**
C10	Throughout	847785	Interior Door, Steel, Replace	25	17	8	75	EA	$950.12	$1,092.64	$81,948									$81,948												**$81,948**
C10	Throughout	854608	Interior Door, Fire 90-Minutes and Over, Replace	20	5	15	4	EA	$1,649.06	$1,896.42	$7,586																$7,586					**$7,586**
	Throughout	947069	Exterior Door Hardware, Electronic Door Locks ANSI F39 Lockset, Replace	30	29	1	8	EA	$1,345.00	$1,546.75	$12,374		$12,374																			**$12,374**
C10	Throughout	847728	Door Hardware System, School (per Door), Replace	10	5	5	125	EA	$375.00	$431.25	$53,906						$53,906										$53,906					**$107,813**
C10	Throughout	847736	Interior Door, Metal Wire Mesh, Replace	20	5	15	50	EA	$1,430.71	$1,645.31	$82,266																$82,266					**$82,266**
C10	Common area restroom	847760	Toilet Partitions, , Replace	20	5	15	8	EA	$850.00	$977.50	$7,820																$7,820					**$7,820**
C2010	Site	847745	Interior Wall Finish, Concrete/Masonry, Prep & Paint	8	15	0	110900	SF	$1.45	$1.67	$185,053	$185,053								$185,053								$185,053				**$555,160**
C2030	Throughout	847784	Floor Finishings, Epoxy Coating, Prep & Paint, Replace	10	5	5	3000	SF	$8.74	$10.05	$30,153						$30,153										$30,153					**$60,307**
C2030	Throughout	855010	Interior Floor Finish, Vinyl Tile (VCT), Replace	15	15	0	500	SF	$4.80	$5.52	$2,760	$2,760															$2,760					**$5,521**
C2030	Throughout building	847766	Floor Finishings, , Replace	15	5	10	55000	SF	$4.80	$5.52	$303,638											$303,638										**$303,638**
C2030	Gymnasium	847767	Floor Finishings, , Replace	15	5	10	5000	SF	$4.80	$5.52	$27,603											$27,603										**$27,603**
C2030	Throughout building	847722	Floor Finishings, , Replace	10	22	0	5000	SF	$7.26	$8.34	$41,724	$41,724										$41,724										**$83,447**
C2050	Throughout	847781	Ceilings, Gypsum Board/Plaster, Prep & Paint, Repair	10	5	5	15000	SF	$1.94	$2.23	$33,406						$33,406										$33,406					**$66,813**
C2050	Throughout	847713	Ceilings, Suspended Acoustical Tile (ACT), Replace	20	12	8	45000	SF	$3.11	$3.58	$160,994									$160,994												**$160,994**
C2050	Throughout	854922	Interior Ceiling Finish, Suspended Acoustical Tile (ACT), Replace	20	10	10	1500	SF	$3.11	$3.58	$5,366											$5,366										**$5,366**
D20	Common area restroom	847788	Toilet, , Replace	20	5	15	36	EA	$1,055.15	$1,213.43	$43,683																$43,683					**$43,683**
D20	Common area restroom	847787	Urinal, , Replace	20	5	15	4	EA	$1,193.44	$1,372.46	$5,490																$5,490					**$5,490**
D20	Common area restroom	847770	Lavatory, Porcelain Enamel, Cast Iron, Replace	20	5	15	20	EA	$795.35	$914.65	$18,293																$18,293					**$18,293**
D20	Art Room	855054	Sink, Stainless Steel, Replace	20	11	9	2	EA	$1,054.05	$1,212.16	$2,424										$2,424											**$2,424**
D20	Throughout building	847723	Drinking Fountain, Refrigerated, Replace	10	5	5	6	EA	$1,257.51	$1,446.13	$8,677						$8,677										$8,677					**$17,354**
D20	302	847738	Check Valve, 4", Replace	15	42	0	1	EA	$2,943.87	$3,385.45	$3,385	$3,385															$3,385					**$6,771**
D20	302	847711	Backflow Preventer, 1", Replace	15	12	3	1	EA	$1,276.01	$1,467.41	$1,467				$1,467															$1,467		**$2,935**
D20	302	847789	Water Heater, Gas, Commercial, 80 GAL, Replace	15	3	12	1	EA	$10,698.82	$12,303.64	$12,304													$12,304								**$12,304**
	Roof	960793	Solar Instillation Project, Roof Mounted Solar Instillation, Install	20	15	5	675000	SF	$1.00	$1.15	$776,250						$776,250															**$776,250**
D30	302	847743	Boiler, Gas, 2400 MBH, Replace	25	22	3	1	EA	$54,195.22	$62,324.51	$62,325				$62,325																	**$62,325**
D30	302	847765	Boiler, Gas, 650 MBH, Replace	25	15	10	1	EA	$23,840.87	$27,417.01	$27,417											$27,417										**$27,417**
D30	Boiler room	847714	Chemical Feed System, , Replace	25	9	16	1	EA	$10,642.24	$12,238.58	$12,239																	$12,239				**$12,239**
D30	Room next to boiler room	847715	Chemical Feed System, , Replace	25	9	16	1	EA	$10,642.24	$12,238.58	$12,239																	$12,239				**$12,239**
D30	North	855189	Cooling Tower, 100 Ton, Replace	20	10	10	1	EA	$24,952.51	$28,695.38	$28,695											$28,695										**$28,695**
D30	Roof	855218	Condensing Unit/Heat Pump, Split System, 2 Ton, Replace	15	10	5	1	EA	$3,122.18	$3,590.50	$3,591						$3,591															**$3,591**
D30	215	855101	Ductless Split System, Single Zone, 2.5 to 3 Ton, Replace	15	2	13	1	EA	$6,577.13	$7,563.70	$7,564														$7,564							**$7,564**
D30	Ceiling	854750	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	Ceiling	854828	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	Ceiling	847748	Variable Air Volume (VAV) Unit, 3880 CFM @ 1" static pressure, Replace	15	12	3	25	EA	$12,334.46	$14,184.63	$354,616				$354,616															$354,616		**$709,231**
D30	302	854873	Air Handler, Interior, 2650 CFM, Replace	20	9	11	10	EA	$13,371.48	$15,377.20	$153,772												$153,772									**$153,772**
D30	Roof	855193	Exhaust Fan, Centrifugal, 801 to 2,000 CFM, Replace	15	10	5	1	EA	$2,664.18	$3,063.80	$3,064						$3,064															**$3,064**
D30	Roof	855203	Exhaust Fan, Centrifugal, 801 to 2,000 CFM, Replace	15	10	5	1	EA	$2,664.18	$3,063.80	$3,064						$3,064															**$3,064**
D30	Roof	855194	Exhaust Fan, Centrifugal, 801 to 2,000 CFM, Replace	15	10	5	1	EA	$2,664.18	$3,063.80	$3,064						$3,064															**$3,064**
D30	302	854874	Distribution Pump, Heating Water, 3/4 HP, Replace	20	18	2	1	EA	$4,652.29	$5,350.13	$5,350			$5,350																		**$5,350**
D30	302	847757	Distribution Pump, Heating Water, 3/4 HP, Replace	20	17	3	1	EA	$4,652.29	$5,350.13	$5,350				$5,350																	**$5,350**
D30	302	847778	Distribution Pump, Heating Water, 92 Watt, Replace	20	17	3	1	EA	$4,652.29	$5,350.13	$5,350				$5,350																	**$5,350**

EMG Renamed Item Number	Location Description	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	302	847719	Distribution Pump, Heating Water, Replace	20	15	5	1	EA	$4,652.29	$5,350.13	$5,350						$5,350															**$5,350**
D30	302	847782	Distribution Pump, Heating Water, 3/4 HP, Replace	20	12	8	1	EA	$4,652.29	$5,350.13	$5,350									$5,350												**$5,350**
D30	302	847729	Distribution Pump, Heating Water, 40 HP, Replace	20	5	15	1	EA	$31,071.80	$35,732.57	$35,733																$35,733					**$35,733**
D30	302	847708	Distribution Pump, Heating Water, 40 HP, Replace	20	5	15	1	EA	$31,071.80	$35,732.57	$35,733																$35,733					**$35,733**
D30	Cooling tower	855190	Distribution Pump, Chiller & Condenser Water, 3 HP, Replace	20	10	10	1	EA	$4,652.29	$5,350.13	$5,350											$5,350										**$5,350**
D30	Hallways	854605	Unit Heater, Electric, 10 kW, Replace	20	17	3	20	EA	$1,974.37	$2,270.53	$45,411				$45,411																	**$45,411**
D30	Utility closet upper floor	847750	Water Source Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	15	42	0	1	EA	$15,325.27	$32,949.33	$32,949	$32,949															$32,949					**$65,899**
D30	Utility closet upper floor	847706	Water Source Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	15	42	0	1	EA	$15,325.27	$32,949.33	$32,949	$32,949															$32,949					**$65,899**
D30	Utility closet upper floor	855619	Water Source Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	15	42	0	1	EA	$15,325.27	$32,949.33	$32,949	$32,949															$32,949					**$65,899**
D30	Utility closet	855220	Water Source Heat Pump, 16.6 Ton, 200 MBH, Replace	15	42	0	1	EA	$36,777.37	$79,071.36	$79,071	$79,071															$79,071					**$158,143**
D30	Utility closet	847720	Water Source Heat Pump, 16.6 Ton, 200 MBH, Replace	15	42	0	1	EA	$36,777.37	$79,071.36	$79,071	$79,071															$79,071					**$158,143**
D30	Utility closet	847776	Water Source Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	15	42	0	1	EA	$15,325.27	$17,624.06	$17,624	$17,624															$17,624					**$35,248**
D30	Utility closet upper floor	847779	Water Source Heat Pump, 3 Ton, Replace	15	12	3	30	EA	$9,871.90	$21,224.59	$636,738				$636,738															$636,738		**$1,273,475**
D30	Roof	855192	Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	15	12	3	1	EA	$15,325.27	$17,624.06	$17,624				$17,624															$17,624		**$35,248**
D30	Utility closet upper floor	847730	Water Source Heat Pump, 4 Ton, Replace	15	9	6	1	EA	$10,581.39	$22,749.98	$22,750							$22,750														**$22,750**
D30	Utility closet upper floor	847768	Water Source Heat Pump, 2 Ton, Replace	15	9	6	1	EA	$7,257.71	$15,604.07	$15,604							$15,604														**$15,604**
D30	Utility closet upper floor	855224	Water Source Heat Pump, 2 Ton, Replace	15	9	6	1	EA	$7,257.71	$15,604.07	$15,604							$15,604														**$15,604**
D30	Utility closet upper floor	855222	Water Source Heat Pump, 4 Ton, Replace	15	9	6	1	EA	$10,581.39	$22,749.98	$22,750							$22,750														**$22,750**
D30	Utility closet upper floor	847777	Water Source Heat Pump, 2 Ton, Replace	15	9	6	1	EA	$7,257.71	$15,604.07	$15,604							$15,604														**$15,604**
D30	Utility closet upper floor	855223	Water Source Heat Pump, 2 Ton, Replace	15	9	6	1	EA	$7,257.71	$15,604.07	$15,604							$15,604														**$15,604**
D30	Utility closet upper floor	847727	Heat Pump, Packaged (RTU), 3.5 to 5 Ton, Replace	15	9	6	1	EA	$8,928.22	$19,195.68	$19,196							$19,196														**$19,196**
D30	Throughout building	847754	HVAC Automation/Safety, ,	20	5	15	59970	SF	$5.36	$6.17	$369,827																$369,827					**$369,827**
D40	Throughout	847772	Sprinkler System, Full Retrofit, School (per SF), Renovate	50	46	4	59970	SF	$6.25	$7.19	$431,276					$431,276																**$431,276**
D40	Throughout	854557	Fire Extinguisher, Replace	15	15	0	10	EA	$356.54	$410.02	$4,100	$4,100															$4,100					**$8,200**
D50	Utility closet upper floor	847716	Switchboard, 225 Amp, Replace	30	42	0	1	EA	$24,768.06	$28,483.27	$28,483	$28,483																				**$28,483**
D50	Utility closet upper floor	847773	Secondary Transformer, Dry, 30 kVA, Replace	30	42	0	1	EA	$6,086.36	$6,999.32	$6,999	$6,999																				**$6,999**
D50	Utility closet upper floor	847762	Secondary Transformer, Dry, 30 kVA, Replace	30	42	0	1	EA	$6,086.36	$6,999.32	$6,999	$6,999																				**$6,999**
D50	302	847759	Distribution Panel, 208 Y, 120 V, 100 Amp, Replace	30	42	0	1	EA	$5,079.93	$5,841.92	$5,842	$5,842																				**$5,842**
D50	302	847790	Building/Main Switchboard, 277 V, 480 V, 1,200 Amp, Replace	30	42	0	1	EA	$212,265.31	$244,105.10	$244,105	$244,105																				**$244,105**
D50	Utility closet upper floor	847761	Switchboard, 225 Amp, Replace	30	42	0	1	EA	$24,768.06	$28,483.27	$28,483	$28,483																				**$28,483**
D50	302	847709	Secondary Transformer, Dry, 45 kVA, Replace	30	22	8	1	EA	$6,857.93	$7,886.62	$7,887									$7,887												**$7,887**
D30	302	847786	Variable Frequency Drive (VFD), 10 HP Motor, Replace	20	11	9	1	EA	$6,304.96	$7,250.70	$7,251										$7,251											**$7,251**
D50	302	847756	Variable Frequency Drive (VFD), 40 HP Motor, Replace	20	10	10	1	EA	$15,305.32	$17,601.12	$17,601											$17,601										**$17,601**
D50	302	847712	Secondary Transformer, Dry, 45 kVA, Replace	30	13	17	1	EA	$6,857.93	$7,886.62	$7,887																		$7,887			**$7,887**
G40	Site	847733	Flood Light, Exterior, Replace	20	5	15	20	EA	$995.47	$1,144.79	$22,896																$22,896					**$22,896**
D50	Library	847747	Lighting Fixture, High Bay, Globe, HPS / Metal Halide, Replace	20	5	15	30	EA	$602.44	$692.81	$20,784																$20,784					**$20,784**
D50	Cafeteria	847771	Lighting System, Interior, School, Upgrade	25	21	4	59970	SF	$15.36	$17.67	$1,059,545					$1,059,545																**$1,059,545**
	Front entrance	947070	Intercom Master Station, Replace	20	19	1	1	EA	$3,814.50	$4,386.67	$4,387		$4,387																			**$4,387**
D70	Site	847749	Sound System, 7 Channel, Replace	15	12	3	1	EA	$2,318.93	$2,666.77	$2,667				$2,667															$2,667		**$5,334**
D70	Gymnasium	856503	Public Announcement Loudspeaker, Omnidirectional, Ceiling Hung, Replace	15	2	13	1	EA	$12,142.00	$13,963.30	$13,963														$13,963							**$13,963**
D50	Throughout	945805	Clock and Bell System, Wireless or Ethernet Enabled, Up To 100 Total Clocks / Bells, Replace	15	14	1	59970	SF	$0.51	$0.59	$35,172		$35,172															$35,172				**$70,345**
D40	Office	847783	Fire Alarm System, School, Install	20	20	0	59970	SF	$3.13	$3.60	$215,979	$215,979																				**$215,979**
D70	Throughout	854704	Magnetic Lock and Access Control Card Reader, 600 to 1,200 Pounds Force, Install	20	10	10	6	EA	$5,804.00	$6,674.60	$40,048											$40,048										**$40,048**
D70	Throughout	854659	Security/Surveillance System, Cameras and CCTV, Install	10	2	8	59970	SF	$4.35	$5.00	$299,807									$299,807										$299,807		**$599,614**
D70	Throughout	854551	Emergency/Exit Combo LED, Replace	10	5	5	40	EA	$687.51	$790.64	$31,626						$31,626										$31,626					**$63,251**
D70	Throughout	854606	Defibrillator, Cabinet Mounted, Replace	5	3	2	2	EA	$1,409.50	$1,620.93	$3,242			$3,242					$3,242					$3,242				$3,242				**$12,967**
E10	Commercial kitchen	854560	Commercial Kitchen, Freezer, 1-Door Reach-In, Replace	15	12	3	1	EA	$2,838.00	$3,263.70	$3,264				$3,264															$3,264		**$6,527**
E10	Commercial kitchen	854561	Commercial Kitchen, Steamer, Tabletop, Replace	10	2	8	1	EA	$6,344.00	$7,295.60	$7,296									$7,296										$7,296		**$14,591**
E10	Commercial kitchen	854559	Commercial Kitchen, Food Warmer, Replace	15	5	10	1	EA	$1,551.91	$1,784.69	$1,785											$1,785										**$1,785**
E10	Commercial kitchen	854558	Commercial Kitchen, Refrigerator, 2-Door Reach-In, Replace	15	2	13	1	EA	$4,256.00	$4,894.40	$4,894														$4,894							**$4,894**
E10	Commercial kitchen	854920	Residential Appliances, Refrigerator, 14-18 CF, Replace	15	13	2	1	EA	$956.04	$956.04	$956			$956															$956			**$1,912**
E10	Commercial kitchen	854554	Residential Appliances, Range Hood, Vented or Ventless, Replace	15	12	3	2	EA	$271.61	$271.61	$543				$543															$543		**$1,086**
E10	Commercial kitchen	854918	Residential Appliances, Range Hood, Vented or Ventless, Replace	15	12	3	2	EA	$271.61	$271.61	$543				$543															$543		**$1,086**
E10	Commercial kitchen	854896	Residential Appliances, Range, Electric, Replace	15	12	3	1	EA	$665.09	$665.09	$665				$665															$665		**$1,330**
E10	Commercial kitchen	854555	Residential Appliances, Range, Electric, Replace	15	12	3	1	EA	$665.09	$665.09	$665				$665															$665		**$1,330**
E10	Commercial kitchen	854556	Residential Appliances, Refrigerator, 14-18 CF, Replace	15	1	14	1	EA	$956.04	$956.04	$956															$956						**$956**
E10	Classroom	855143	Kitchen Counter, Plastic Laminate, Postformed, Replace	10	7	3	120	LF	$43.90	$50.48	$6,058				$6,058										$6,058							**$12,115**
E10	Kitchen	855099	Kitchen Cabinet, Base and Wall Section, Wood, Replace	20	17	3	120	LF	$467.63	$537.78	$64,533				$64,533																	**$64,533**
E10	Kitchen	854552	Kitchen Cabinet, Base and Wall Section, Wood, Replace	20	17	3	100	LF	$467.63	$537.78	$53,778				$53,778																	**$53,778**
E10	Kitchen	854553	Kitchen Counter, Plastic Laminate, Postformed, Replace	10	7	3	25	LF	$43.90	$50.48	$1,262				$1,262										$1,262							**$2,524**
	Site	958706	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	1	1	0	70656.23	LS	$1.00	$1.15	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	$81,255	**$1,625,093**

EMG Renamed Item Number	Location Description	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
G20	Parking lot	856002	Roadways, Concrete Curb & Gutter, Replace	25	10	15	3000	LF	$24.00	$27.60	$82,800																$82,800					**$82,800**
G20	Site	847746	Parking Lot, , Repair	25	25	0	81000	SF	$3.28	$3.77	$305,569	$305,569																				**$305,569**
G20	Site	847735	Parking Lot, , Repair	5	0	5	81000	SF	$0.38	$0.44	$35,350						$35,350					$35,350					$35,350					**$106,051**
G20	Site	847742	Pedestrian Pavement, , Replace	30	15	15	30000	SF	$9.00	$10.35	$310,500																$310,500					**$310,500**
G20	Exterior	855205	Fences & Gates, Chain Link, 4' High, Replace	30	30	0	350	LF	$30.51	$35.09	$12,281	$12,281																				**$12,281**
G20	Site	847710	Site Signage, , Replace/Install	20	5	15	1	EA	$8,602.00	$9,892.30	$9,892																$9,892					**$9,892**
G20	Exterior	855204	Site Furnishings, Bike Rack, Replace	25	15	10	3	EA	$1,090.00	$1,253.50	$3,761											$3,761										**$3,761**
G20	Site	847763	Play Surfaces & Sports Courts, Wood Chips, 3" Depth, Replace	20	17	3	17500	SF	$0.81	$0.93	$16,237				$16,237																	**$16,237**
G20	Throughout	854550	Sports Apparatus, Basketball Backstop, Replace	10	7	3	8	EA	$9,435.64	$10,850.98	$86,808				$86,808										$86,808							**$173,616**
G20	Site	847726	Play Structure, Medium, Replace	20	12	8	1	EA	$40,005.63	$46,006.47	$46,006									$46,006												**$46,006**
G20	Site	847731	Play Structure, Small, Replace	20	7	13	1	EA	$18,975.00	$21,821.25	$21,821														$21,821							**$21,821**
G20	Site	847725	Play Structure, Medium, Replace	20	7	13	1	EA	$40,005.63	$46,006.47	$46,006														$46,006							**$46,006**
G20	Site	847752	Flagpole, ,	20	15	5	1	EA	$2,530.00	$2,909.50	$2,910						$2,910															**$2,910**
G40	Site	855215	Pole Light, Exterior, 135 to 1000 W HID (Double Fixture, with Metal Pole), Replace	20	17	3	1	EA	$8,523.34	$9,801.84	$9,802				$9,802																	**$9,802**
G40	Site	847758	Pole Light, Exterior, 135 to 1000 W HID (Double Fixture, with Metal Pole), Replace	20	7	13	5	EA	$8,523.34	$9,801.84	$49,009														$49,009							**$49,009**
D30	Throughout	855949	Engineer, HVAC System, Controls Re-Balance, Evaluate/Report	0	0	0	1	EA	$5,000.00	$5,750.00	$5,750	$5,750																				**$5,750**
Totals, Unescalated												**$2,415,644**	**$133,188**	**$757,843**	**$1,462,016**	**$1,572,075**	**$1,071,665**	**$208,367**	**$84,497**	**$877,251**	**$90,930**	**$646,323**	**$235,027**	**$98,451**	**$318,640**	**$82,211**	**$1,612,537**	**$325,958**	**$93,339**	**$1,413,861**	**$81,255**	**$13,581,074**
Totals, Escalated (3.0% inflation, compounded annually)												**$2,415,644**	**$137,183**	**$803,996**	**$1,597,584**	**$1,769,384**	**$1,242,353**	**$248,801**	**$103,920**	**$1,111,275**	**$118,643**	**$868,604**	**$325,332**	**$140,367**	**$467,934**	**$124,351**	**$2,512,280**	**$523,066**	**$154,275**	**$2,407,003**	**$142,481**	**$17,214,477**

* 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:	2685 Traver Road, Ann Arbor, Washtenaw, Ann Arbor 48105
Year Constructed/Renovated:	1977
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:	9.75 acres
Building Area:	59,970 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 and metal-framed decks.
Roof Construction:	Flat roofs with built-up membrane.
Exterior Finishes:	Brick
Heating, Ventilation and Air Conditioning:	Water source heat pumps, boilers, cooling tower, package units, hydronic hanging heaters and wall heaters.
Fire and Life/Safety:	Sprinkler, hydrants, smoke detectors, alarms, strobes, extinguishers, pull stations, alarm panel and exit signs.
ADA :	This building has no major ADA issues.
All 59,970 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.	

Key Spaces Not Observed		
Room Number	Area	Access Issues
--	2 Upper Mechanical Rooms	No POC onsite. Could not find the door to go up to this area.
--	Roof	Snow covered sloped roof. Unable to access due to safety.
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:	2/7/2018
On-Site Point of Contact (POC):	Jim Vibbart

Property Information	
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

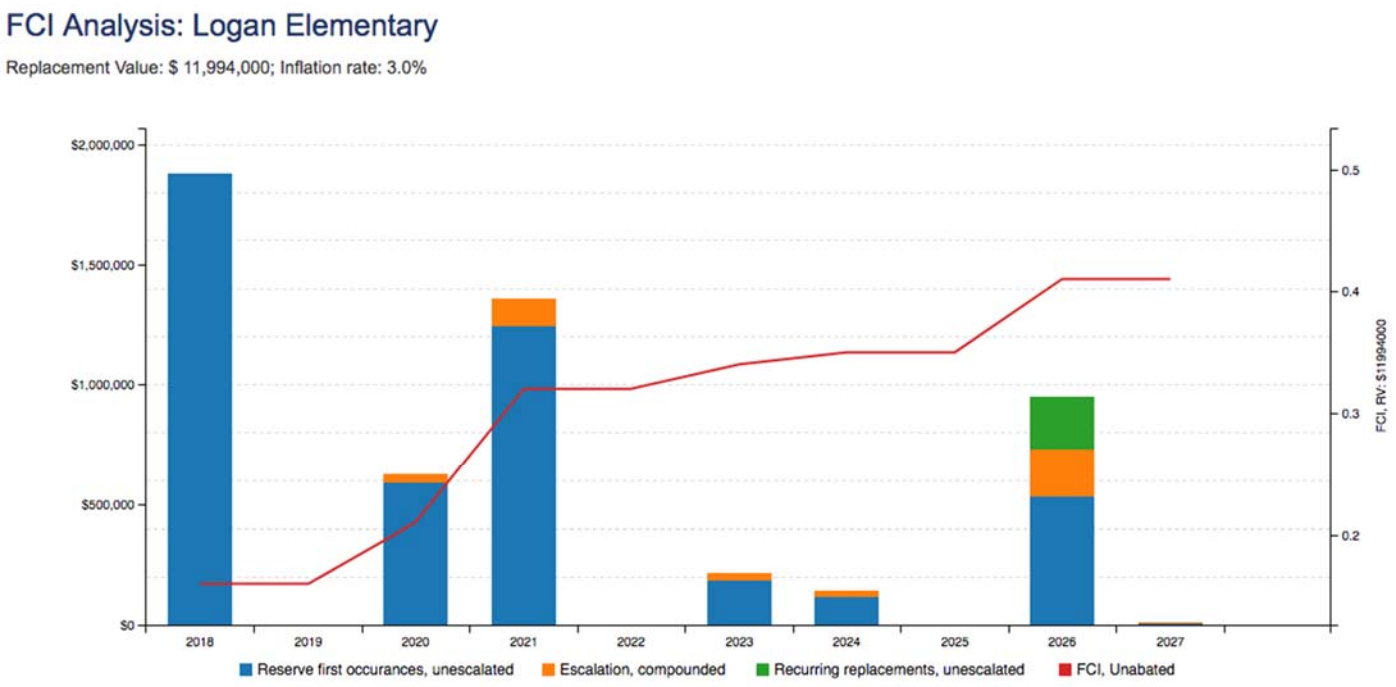
1.2. Key Findings

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: Isolated portions of the mortar joints along the brick are cracked around the property. A cost allowance to repair and/or replace these deficient attributes is included in the cost tables.

MEPF: Some electrical components in the building are original and are antiquated. Some of the water source heat pumps show signs of damage and are antiquated. A cost allowance to repair and/or replace these deficient attributes is included in the cost tables.

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):	15.65%
Current Year FCI Rating:	2018
10-Year Facility Condition Index (FCI) FCI = (RR)/(CRV):	43.16%
10-Year FCI Rating	0.41
Current Replacement Value (CRV):	$11,994,000
Year 0 (Current Year) - Immediate Repairs (IR):	$1,877,551
Years 1-10 - Replacement Reserves (RR):	$3,299,062
Total Capital Needs:	$5,176,613

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 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.

B10 Superstructure

B1010 Floor Construction and 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	Steel beams or girders	Fair
Roof Decking	Plywood or OSB	Fair

Maintenance Issues			
Observation	Exists at Site	Observation	Exists at Site
Caulk minor cracking	☐	Monitor cracking for growth	☐
Other	☐	Other	☐

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	--	--	--	--

Anticipated Lifecycle Replacements:

- No components of significance

Actions/Comments:

- No significant actions are identified at the present time.

3. Building Envelope

B20 Exterior Vertical Enclosures

B2010 Exterior Walls		
Type	Location	Condition
Primary Finish	Brick	Fair
Secondary Finish	Stucco	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	☐	Efflorescence	☐
Other	☐	Other	☐

Anticipated Lifecycle Replacements:

- Exterior paint
- Stucco

Actions/Comments:

- The soffits have significant portions that are rusted, faded and weathered. The affected portions of the soffits must be sanded and painted.
- Isolated portions of the mortar joints along the brick are cracked around the property. The damaged mortar joints must be cleaned and re-pointed.

B2020 Exterior Windows				
Window Framing	Glazing	Location	Window Screen	Condition
Aluminum framed, fixed	Double glaze	Entire Building	☐	Fair

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

Anticipated Lifecycle Replacements:

- Windows
- Exterior Steel Doors

Actions/Comments:

- There are a significant number of damaged, delaminated, deteriorated and rusted doors and door frames. The damaged doors and frames must be replaced.

B30 Roofs

B3010 Primary Roof			
Location	Entire Building	Finish	Single-ply membrane
Type / Geometry	Flat	Roof Age	15 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	None
Roof Condition	Fair	Ventilation Source-2	--

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:

- 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 appears to be installed more than 15 years ago. 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	☐	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 - LOGAN ELEMENTARY

Location	Finish		Quantity (SF)	Condition	Action	RUL	Est. Cost
Gymnasium	Floor Finishings	Vinyl Tile (VCT)	5000	Good	Replace	10	24,003
Throughout building	Interior Wall Finish	Concrete/Masonry	150000	Poor	Prep & Paint	0	217,650
Throughout building	Floor Finishings	Epoxy Coating	3000	Fair	Prep & Paint	5	26,220
Throughout building	Floor Finishings	Vinyl Tile (VCT)	55000	Good	Replace	10	264,033
Throughout building	Interior Floor Finish	Vinyl Tile (VCT)	500	Poor	Replace	0	2,400
Throughout building	Floor Finishings	Carpet Standard-Commercial Medium-Traffic	5000	Poor	Replace	0	36,282
Throughout building	Ceilings	Gypsum Board/Plaster	15000	Fair	Prep & Paint	5	29,049
Throughout building	Ceilings	Suspended Acoustical Tile (ACT)	45000	Fair	Replace	8	139,995

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
- Interior paint

- Suspended acoustic ceiling tile
- Interior doors

Actions/Comments:

- The interior areas were last renovated in 2006.
- The auditorium stage curtain is frayed and has a large hole in it. The stage curtain is recommended for replacement.
- There are isolated areas of damaged wall finishes throughout the building. The damaged wall areas need to be repainted.
- There are isolated areas of damaged vinyl flooring throughout the building. The damaged floor areas need to be replaced. The cost for this work is relatively insignificant and the work can be performed as part of the property management's routine maintenance program.
- The ceiling tiles have isolated areas of water-damaged ceiling tiles throughout the building. The damaged ceiling tiles need to be replaced. The cost for this work is relatively insignificant and the work can be performed as part of the property management's routine maintenance program.
- The carpet was installed in 1996, has areas of damage, stains, and is past its useful life. The carpet 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	Fair
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 - LOGAN ELEMENTARY

Location	Component	Component Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
302	Backflow Preventer	1"	1	EA	Fair	Replace	3	1,276
302	Check Valve	4"	1	EA	Poor	Replace	0	2,944
302	Water Heater	Gas, Commercial, 60 to 120 GAL	1	EA	Fair	Replace	12	10,699
Art Room	Sink	Stainless Steel	2	EA	Fair	Replace	9	2,108
Common area restroom	Toilet	Flush Tank (Water Closet)	36	EA	Good	Replace	15	37,986
Common area restroom	Urinal	Vitreous China	4	EA	Good	Replace	15	4,774
Common area restroom	Lavatory	Porcelain Enamel, Cast Iron	20	EA	Good	Replace	15	15,907
Throughout building	Drinking Fountain	Refrigerated	6	EA	Fair	Replace	5	7,545

Anticipated Lifecycle Replacements:

- Water heater
- Toilets
- Urinals
- Sinks
- Drinking Fountains
- Main Water Check Valve

Actions/Comments:

- The plumbing systems appear to be well maintained and functioning adequately. The water pressure appears to be sufficient. Routine and periodic maintenance is recommended. Future lifecycle replacements of the components or systems listed above will be required.
- The piping on the water supply line in the boiler room is rusted and appears to be cracked. The damaged section of piping requires replacement. The cost for this work is relatively insignificant and the work can be performed as part of the property management's routine maintenance program.

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	Variable
Location of Air Handlers	Mechanical rooms
Terminal Units	Unit Heaters
Quantity and Capacity of Terminal Units	Quantity and capacity of VAV boxes, unit heaters difficult to determine without construction drawings. Number of units are estimated.
Location of Terminal Units	Classrooms and Hallways

Packaged, Split and 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	Water source heat pumps
Location / Space Served	Classrooms
Units Condition	Fair
Supplemental Component #2	VAV boxes
Location / Space Served	Ceilings
Units Condition	Fair
Supplemental Component #3	Wall heaters
Location / Space Served	Hallways
Condition	Fair

Controls and Ventilation	
HVAC Control System	BAS, direct digital controls (DDC)
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	☒
Other	☐	Other	☐

Mechanical Systems - LOGAN ELEMENTARY

Location	Component	Component Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
215	Ductless Split System	Single Zone, 2.5 to 3 Ton	1	EA	Good	Replace	13	6,577
302	Air Handler	Interior, 2,501 to 4,000 CFM	10	EA	Good	Replace	11	133,715
302	Distribution Pump	Heating Water, 30 to 75 HP	1	EA	Good	Replace	15	31,072
302	Distribution Pump	Heating Water, 3 HP	1	EA	Fair	Replace	5	4,652
302	Distribution Pump	Heating Water, 30 to 75 HP	1	EA	Good	Replace	15	31,072
302	Distribution Pump	Heating Water, 3 HP	1	EA	Fair	Replace	3	4,652
302	Distribution Pump	Heating Water, 3 HP	1	EA	Fair	Replace	3	4,652
302	Distribution Pump	Heating Water, 3 HP	1	EA	Fair	Replace	8	4,652
302	Distribution Pump	Heating Water, 3 HP	1	EA	Fair	Replace	2	4,652
Ceiling	Variable Air Volume (VAV) Unit	2,501 to 5,000 CFM	25	EA	Fair	Replace	3	308,361
Ceiling	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	3	2,199
Ceiling	Fan Coil Unit	Hydronic, 401 to 800 CFM	1	EA	Fair	Replace	3	2,199
Cooling tower	Distribution Pump	Chiller & Condenser Water, 3 HP	1	EA	Fair	Replace	10	4,652
Hallways	Unit Heater	Electric, 10 kW	20	EA	Fair	Replace	3	39,487
North	Cooling Tower	76 to 100 Ton, Replace	1	EA	Good	Replace	10	24,953
Roof	Condensing Unit/Heat Pump	Split System, 2 Ton	1	EA	Fair	Replace	5	3,122
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	5	2,664
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	5	2,664
Roof	Exhaust Fan	Centrifugal, 801 to 2,000 CFM	1	EA	Fair	Replace	5	2,664
Roof	Heat Pump	Packaged (RTU), 6 to 10 Ton	1	EA	Fair	Replace	3	15,325
Throughout building	HVAC Automation/Safety	HVAC Controls	59970	SF	Good	Upgrade	15	321,589
Utility closet	Water Source Heat Pump	Packaged 16 to 20 Ton	1	EA	Poor	Replace	0	73,555
Utility closet	Water Source Heat Pump	Packaged 6 to 10 Ton	1	EA	Poor	Replace	0	15,325
Utility closet	Water Source Heat Pump	Packaged 16 to 20 Ton	1	EA	Poor	Replace	0	73,555
Utility closet upper floor	Water Source Heat Pump	Packaged 6 to 10 Ton	1	EA	Poor	Replace	0	30,651
Utility closet upper floor	Heat Pump	Packaged 3.5 to 5 Ton	1	EA	Good	Replace	6	17,856
Utility closet upper floor	Water Source Heat Pump	Packaged 4 Ton	1	EA	Fair	Replace	6	21,163
Utility closet upper floor	Water Source Heat Pump	Packaged 6 to 10 Ton	1	EA	Poor	Replace	0	30,651
Utility closet upper floor	Water Source Heat Pump	Packaged 2 Ton	1	EA	Fair	Replace	6	14,515
Utility closet upper floor	Water Source Heat Pump	Packaged 2 Ton	1	EA	Fair	Replace	6	14,515
Utility closet upper floor	Water Source Heat Pump	Packaged 3 Ton	30	EA	Fair	Replace	3	592,314
Utility closet upper floor	Water Source Heat Pump	Packaged 4 Ton	1	EA	Fair	Replace	6	21,163
Utility closet upper floor	Water Source Heat Pump	Packaged 2 Ton	1	EA	Fair	Replace	6	14,515
Utility closet upper floor	Water Source Heat Pump	Packaged 2 Ton	1	EA	Fair	Replace	6	14,515
Utility closet upper floor	Water Source Heat Pump	Packaged 6 to 10 Ton	1	EA	Poor	Replace	0	30,651

Anticipated Lifecycle Replacements:

- Boilers
- Water source heat pumps
- VAV boxes
- VFD`s
- Ductless split system
- Condensing unit
- Distribution pumps and motors
- Package units
- Electric wall heaters
- Suspended hydronic unit heaters
- Rooftop exhaust fans
- Expansion tanks

- Building automation system

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 piping on the boiler is rusted and seems to be cracked. The damaged section of piping requires replacement. The cost for this work is relatively insignificant and the work can be performed as part of the property management's routine maintenance program.
- Some water source heat pumps show signs of corrosion, damage and are antiquated. Some water source heat pumps require replacement.
- The POC has mentioned the inconsistency of temperatures throughout the building. Air balancing and adjusting controls is recommended.

D40 Fire Protection

Item	Description					
Type	Wet pipe					
Sprinkler System	None	☐	Standpipes	☐	Backflow Preventer	☐
	Hose Cabinets	☐	Fire Pumps	☐	Siamese Connections	☐
Sprinkler System Condition	Poor					
Fire Extinguishers	Last Service Date		Servicing Current?			
	August 2017		Yes			
Hydrant Location	Near parking lot					
Siamese Location	Along walls					
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 component 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 and Lighting			
Electrical Lines	Underground	Transformer	Pad-mounted
Main Service Size	1200 Amps	Volts	277/480 Volt, three-phase
Meter and Panel Location	Mechanical rooms	Branch Wiring	Copper
Conduit	Metallic	Step-Down Transformers?	Yes
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	☐	Unsecured high voltage area	☐
Loose cables or improper use of conduit	☒	Poor electrical room ventilation	☐
Other	☐	Other	☐

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 T-8 lamps. Replacement with newer fixtures with electronic ballasts and LED lamps is highly recommended to save substantial amounts of energy.
- The sound system in the auditorium closet is wired incorrectly and is a fire hazard. Devices must be hardwired, and the use of extension cords are not recommended. The cost to repair the wiring is relatively insignificant and the work can be performed as part of the property management's routine maintenance program by a licensed contractor.

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	Intrusion Alarm System, Camera System					
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	Fair					
Central Alarm Panel System	Location of Alarm Panel		Installation Date of Alarm Panel			
	Administration offices		20+			

Anticipated Lifecycle Replacements:

- Fire alarm system and devices
- Exit Signs
- Access Control
- Omnidirectional Loudspeaker

Actions/Comments:

- The fire alarm systems appear antiquated and not up to current standards. Due to the age of the components and apparent shortcomings, a full modernization is recommended.

6. Equipment & Furnishings

E10 Equipment

The kitchen area has a variety of commercial kitchen appliances, fixtures, and equipment. 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	Fair
Freezers	Reach-in	Fair
Ranges	Electric	Fair
Ovens	--	--
Griddles / Grills	--	--
Fryers	--	--
Hood	Exhaust ducted to recirculate	Fair
Dishwasher	--	--
Microwave	☐	--
Ice Machines	☐	--
Steam Tables	☐	--
Work Tables	☐	--
Shelving	☐	--

Anticipated Lifecycle Replacements:

- Refrigerators
- Range
- Reach-in freezers
- Steam tables
- Kitchen cabinets

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.

7. Sitework

G20 Site Improvements

G2020 Parking Lots and 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
60	-	-	-	-
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
None	--	--	--

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	☐
Fence damage	☒	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
- Sidewalks
- Curbs
- Ramp railing finishes

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	Front of property	Poor

Refuse Disposal				
Refuse Disposal	Common area dumpsters			
Dumpster Locations	Mounting	Enclosure	Contracted?	Condition
North	Asphalt paving	None	Yes	Good

Other Site Amenities			
	Description	Location	Condition
Playground Equipment	Plastic and metal	South	Good
Tennis Courts	None	--	--
Basketball Court	Asphalt	North west	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
- Bike Rack

Actions/Comments:

- The metal site fencing has significant 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 backboards require replacement.

G2080 Landscaping		
Drainage System and Erosion Control		
System	Exists at Site	Condition
Surface Flow	☒	Fair
Inlets	☒	Fair
Swales	☒	Fair
Detention pond	☐	--
Lagoons	☐	--
Ponds	☐	--
Underground Piping	☐	--
Pits	☐	--
Municipal System	☒	Fair
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	Slopes gently down from the building to the property lines.						
Landscaping	Trees	Grass	Flower Beds	Planters	Drought Tolerant Plants	Decorative Stone	None
	☒	☒	☒	☐	☐	☐	☐
Landscaping Condition	Fair						
Irrigation	Automatic Underground	Drip	Hand Watering	None			
	☐	☐	☐	☒			

Item	Description
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
	☐	☐	☐	☐	☒
	Fair				
Building Lighting	None		Wall Mounted		Recessed Soffit
	☐		☒		☐
	Fair				

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:

- The recessed lighting shows signs of damage. This light is by door 16. The recessed lighting requires replacement.

8. Ancillary Structures

Not applicable. There are no ancillary 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.

FORMAT OF THE BODY OF THE REPORT:

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.

According to the 1997 Uniform Building Code Seismic Zone Map of the United States, the property is located in Seismic Zone1, defined as an area of low probability of damaging ground motion.

12. Certification

Ann Arbor Schools retained EMG to perform this Facility Condition Assessment in connection with its continued operation of Logan Elementary, 2685 Traver Road, 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 10.1 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

#2:	LEFT ELEVATION

#3:	RIGHT ELEVATION

#4:	REAR ELEVATION

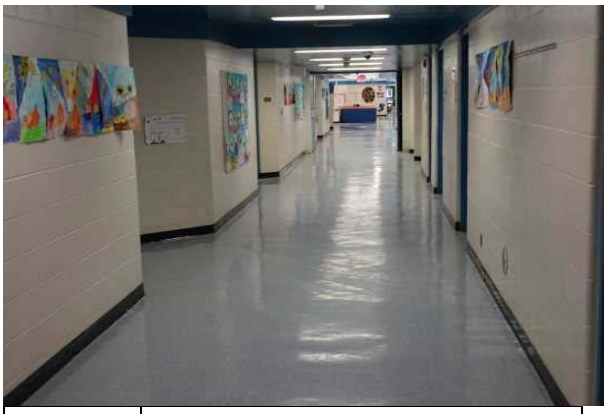
#5:	CLASSROOM

#6:	GYMNASIUM

#7:	MULTIPURPOSE ROOM

#8:	LIBRARY

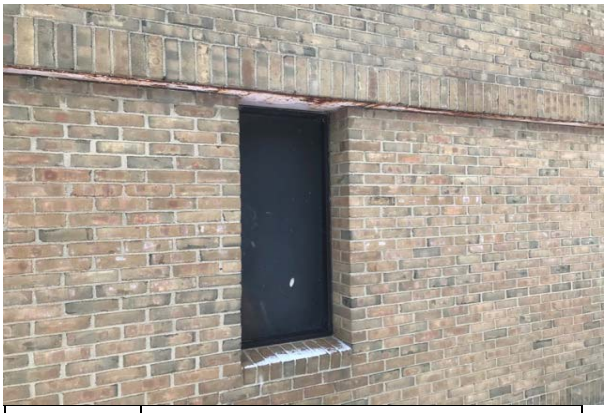
#9:	MECHANICAL ROOM



#10:	HALLWAYS

#11:	EXTERIOR DOORS

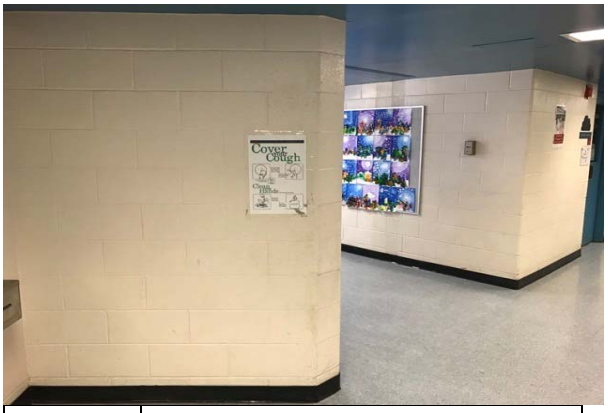
#12:	EXTERIOR DOORS



#13:	WINDOWS

#14:	WINDOWS

#15:	BRICK



#16:	WALLS

#17:	INTERIOR FLOOR FINISH, VINYL TILE (VCT)

#18:	INTERIOR FLOOR FINISH, EPOXY COATING

#19:	STRUCTURAL FLOORING/DECKING, WOOD

#20:	INTERIOR FLOOR FINISH, CARPET

#21:	SUSPENDED ACOUSTICAL TILE (ACT)

#22:	INTERIOR DOORS

#23:	INTERIOR DOORS

#24:	URINAL

#25:	TOILETS

#26:	SINKS

#27:	WATER HEATER

#28:	WATER SOURCE HEAT PUMP

#29:	WATER SOURCE HEAT PUMP

#30:	COOLING TOWER

#31:	HEATING WATER PUMPS

#32:	VARIABLE AIR VOLUME (VAV) UNIT

#33:	AIR SEPERATOR

#34:	CHEMICAL BALANCING SYSTEM

#35:	EXPANSION TANK

#36:	BOILER

#37:	HEAT PUMP, PACKAGED (RTU)

#38:	EXHAUST FAN

#39:	HYDRONIC UNIT HEATER

#40:	AIR HANDLER

#41:	FIRE ALARM SYSTEM

#42:	MAIN SWITCHBOARD

#43:	TRANSFORMER

#44:	LIGHTING SYSTEM

#45:	KITCHEN CABINETS

#46:	KITCHEN CABINETS

#47:	SIDEWALK

#48:	SIDEWALK

#49:	PARKING LOTS

#50:	PARKING LOTS

#51:	PLAY STRUCTURES

#52:	PLAY STRUCTURES

#53:	SIGNAGE

#54:	FLAGPOLE

#55:	POLE LIGHT

#56:	POLE LIGHT

#57:	BUILDING MOUNTED LIGHTING

#58:	SECURITY/SURVEILLANCE SYSTEM, CAMERAS AND CCTV

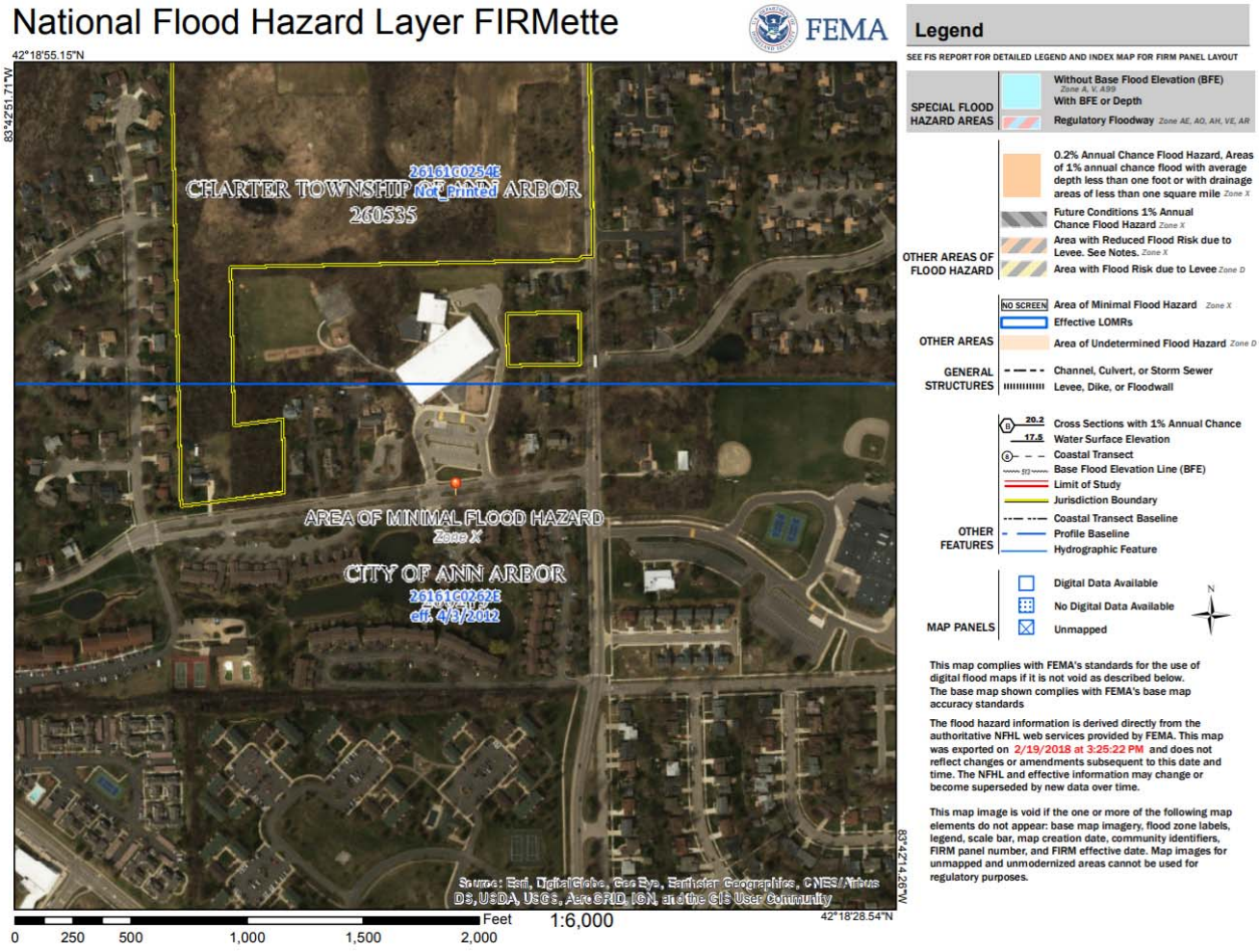
Appendix B:
Site Plan

Site Plan

emg	**Project Name:** Logan Elementary	**Project Number:** 129010.18R000-017.354
	Source: Google Earth Pro	**On-Site Date:** February 7, 2018

Appendix C:
Supporting Documentation

Flood Map



emg	**Project Name:** **Logan Elementary**	**Project Number:** **129010.18R000-017.354**
	Source: **FEMA Map Number: 26161C0262E** **Dated: 04/03/2012**	**On-Site Date:** **February 7, 2018**

Appendix D:
Pre-Survey Questionnaire

EMG FACILITY CONDITION ASSESSMENT: PRE-SURVEY QUESTIONNAIRE

Building / Facility Name: PSQ was not returned to EMG

Name of person completing form:

Title / Association with property:

Length of time associated w/ property:

Date Completed:

Phone Number:

Directions: Please answer all questions to the best of your knowledge and in good faith. Please provide additional details in the Comments column, or backup documentation for any ***Yes*** responses.

DATA OVERVIEW		RESPONSE			
1	Year/s constructed				
2	Building size in SF				
3	Major Renovation Dates	Façade		HVAC	
		Roof		Electrical	
		Interiors		Site Pavement	
		Accessibility		other	

QUESTION		RESPONSE
4	Provide additional detail about the scope of the MAJOR additions, renovations, or systemic rehabilitations since construction (referenced above in Question 3).	
5	List other significant but somewhat lesser capital improvements, focusing on recent years (provide approximate year completed).	
6	List any major capital expenditures planned/requested for the next few years. Have they been budgeted?	
7	Describe any on-going extremely problematic, historically chronic, or immediate facility needs.	

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any ***Yes*** responses. (**NA** indicates "*Not Applicable*", **Unk** indicates *"Unknown"*)						
QUESTION		RESPONSE				COMMENTS
		Yes	No	Unk	NA	
8	Are there any problems with foundations or structures, like excessive settlement?					
9	Has any part of the facility ever contained visible suspect mold growth, or have there been any indoor air quality or mold related complaints from occupants?					
10	Are there any wall, window, basement or roof leaks?					
11	Are there any plumbing leaks, water pressure, or clogging/back-up problems?					
12	Have there been any leaks or pressure problems with natural gas, HVAC supply/return lines, or steam service?					
13	Are any areas of the facility inadequately heated, cooled or ventilated? Any poorly insulated areas?					
14	Is the electrical service outdated, undersized, or otherwise problematic?					
15	Are there any problems or inadequacies with exterior building-mounted lighting?					
16	Is site/parking drainage inadequate, with excessive ponding or other problems?					
17	Are there any other unresolved construction defects or significant issues/hazards at the property that have not yet been identified above?					
18	ADA: Has an accessibility study been performed at the site? If so, indicate when.					
19	ADA: If a study has occurred, have the associated recommendations been addressed? In full or in part?					
20	ADA: Have there been regular complaints about accessibility issues, or associated previous or pending litigation?					

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 and 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.