FACILITY CONDITION ASSESSMENT

prepared for

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

FACILITY CONDITION ASSESSMENT
OF
FORSYTHE MIDDLE SCHOOL
1655 NEWPORT ROAD
ANN ARBOR, MICHIGAN 48103

PREPARED BY:
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EMG PROJECT #:
129010.18R000-027.354

DATE OF REPORT:
July 2, 2018

ONSITE DATE:
February 26-27, 2018

Immediate Repairs Report
Forsythe Middle School
7/2/2018

Location Name	EMG Renamed Item Number	ID	Cost Description	Quantity	Unit	Unit Cost *	Subtotal	Deficiency Repair Estimate *
Forsythe Middle School	D30	885581	Air Conditioning, Central, Install	185156	SF	$11.50	$2,129,294	**$2,129,294**
Forsythe Middle School	D70	869433	Fire Alarm Control Panel, Addressable, Replace	1	EA	$23,342.23	$23,342	**$23,342**
Forsythe Middle School		958684	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	141452.01	LS	$1.15	$162,670	**$162,670**
Forsythe Middle School	G20	868187	Play Surfaces & Sports Courts, Asphalt, Replace	6500	SF	$6.79	$44,103	**$44,103**
Forsythe Middle School	G20	868208	Play Surfaces & Sports Courts, Asphalt, Seal & Stripe	13000	SF	$0.44	$5,688	**$5,688**
Immediate Repairs Total								**$2,365,097**

* Location Factor included in totals.

Replacement Reserves Report

Forsythe Middle School

10/23/2019

Location	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total Escalated Estimate
Forsythe Middle School	$2,365,097	$1,261,705	$4,923,600	$1,000,040	$6,488,008	$1,545,504	$222,174	$2,602,160	$206,065	$359,917	$441,000	$2,312,413	$3,335,841	$238,886	$1,419,615	$468,893	$444,669	$1,696,189	$309,825	$2,217,103	$800,095	**$34,658,800**
Grand Total	**$2,365,097**	**$1,261,705**	**$4,923,600**	**$1,000,040**	**$6,488,008**	**$1,545,504**	**$222,174**	**$2,602,160**	**$206,065**	**$359,917**	**$441,000**	**$2,312,413**	**$3,335,841**	**$238,886**	**$1,419,615**	**$468,893**	**$444,669**	**$1,696,189**	**$309,825**	**$2,217,103**	**$800,095**	**$34,658,800**

Uniformat Code	ID	Cost Description	Lifespan (EUL)	EAge	RUL	Quantity	Unit	Unit Cost *	Subtotal	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Deficiency Repair Estimate
_0001	885581	Air Conditioning, Central, Install	50	50	0	185156	SF	$11.50	$2,129,294	$2,129,294																					**$2,129,294**
B2011	869235	Exterior Wall, Insulated Finishing System (EIFS), 1-2 Stories, Refinish	10	8	2	17000	SF	$4.80	$81,572			$81,572										$81,572									**$163,145**
B2011	869233	Exterior Wall, Painted Surface, 1-2 Stories, Prep & Paint	10	3	7	70000	SF	$3.30	$231,091								$231,091										$231,091				**$462,183**
B2011	868201	Exterior Wall, Brick or Brick Veneer, 1-2 Stories, Repoint	25	18	7	19000	SF	$47.47	$902,025								$902,025														**$902,025**
B2021	868149	Window, Aluminum Double-Glazed 12 SF, 1-2 Stories, Replace	30	28	2	200	EA	$671.84	$134,368			$134,368																			**$134,368**
B3011	868180	Roof, Single-Ply TPO/PVC Membrane, Replace	20	18	2	23000	SF	$18.32	$421,349			$421,349																			**$421,349**
B3011	868159	Roof, Single-Ply EPDM Membrane, Replace	20	18	2	140000	SF	$12.10	$1,693,720			$1,693,720																			**$1,693,720**
C1021	868157	Interior Door, Steel, Replace	25	10	15	100	EA	$1,092.64	$109,264															$109,264							**$109,264**
C1023	946235	Exterior Door Hardware, Electronic Door Locks ANSI F39 Lockset, Replace	30	29	1	35	EA	$658.95	$23,063		$23,063																				**$23,063**
C1031	868152	Toilet Partitions, Metal Overhead-Braced, Replace	20	13	7	30	EA	$977.50	$29,325								$29,325														**$29,325**
C1033	869305	Lockers, Steel Baked Enamel 12" W x 15" D x 72" H, 1 to 5 Tiers, Replace	20	8	12	700	EA	$554.88	$388,413													$388,413									**$388,413**
C3012	868156	Interior Wall Finish, Concrete/Masonry, Prep & Paint	8	5	3	348800	SF	$1.67	$581,624				$581,624								$581,624								$581,624		**$1,744,872**
C3024	868148	Interior Floor Finish, Vinyl Tile (VCT), Replace	15	11	4	92500	SF	$5.52	$510,600					$510,600															$510,600		**$1,021,200**
C3024	868202	Interior Floor Finish, Ceramic Tile, Replace	50	38	12	30000	SF	$18.12	$543,720													$543,720									**$543,720**
C3025	868189	Interior Floor Finish, Carpet Tile Commercial-Grade, Replace	10	3	7	55500	SF	$8.00	$444,222								$444,222										$444,222				**$888,444**
C3031	868195	Interior Ceiling Finish, Exposed/Generic, Prep & Paint	10	8	2	30000	SF	$2.61	$78,315			$78,315										$78,315									**$156,630**
C3032	868181	Interior Ceiling Finish, Acoustical Tile (ACT) Dropped Fiberglass, Replace	20	16	4	140000	SF	$5.81	$813,050					$813,050																	**$813,050**
D2011	868206	Toilet, Tankless (Water Closet), Replace	20	11	9	50	EA	$969.42	$48,471										$48,471												**$48,471**
D2012	868145	Urinal, Vitreous China, Replace	20	11	9	10	EA	$1,372.46	$13,725										$13,725												**$13,725**
D2014	868178	Sink, Stainless Steel, Replace	20	18	2	25	EA	$1,212.16	$30,304			$30,304																			**$30,304**
D2014	868194	Sink, Vitreous China, Replace	20	11	9	45	EA	$990.74	$44,583										$44,583												**$44,583**
D2018	868146	Drinking Fountain, Refrigerated, Replace	10	8	2	10	EA	$1,446.14	$14,461			$14,461										$14,461									**$28,923**
D2023	868164	Domestic Boiler, Gas, 260 to 500 MBH, Replace	22	15	7	1	EA	$23,479.63	$23,480								$23,480														**$23,480**
D2023	869422	Water Storage Tank, 151 to 250 GAL, Replace	20	8	12	1	EA	$3,194.98	$3,195													$3,195									**$3,195**
D2043	868160	Sump Pump, 1/2 HP, Replace	15	11	4	4	EA	$2,372.23	$9,489					$9,489															$9,489		**$18,978**
D2091	868169	Air Compressor, controls duplex, 5 HP, Replace	20	14	6	1	EA	$11,100.04	$11,100							$11,100															**$11,100**
D3016	960774	Solar Instillation Project, Roof Mounted Solar Instillation, Install	20	15	5	900000	SF	$1.15	$1,035,000						$1,035,000																**$1,035,000**
D3021	868165	Boiler, Gas, 4,201 to 10,000 MBH, Replace	25	11	14	1	EA	$382,797.63	$382,798															$382,798							**$382,798**
D3021	869395	Boiler, Gas, 4,201 to 10,000 MBH, Replace	25	11	14	1	EA	$382,797.63	$382,798															$382,798							**$382,798**
D3032	869426	Condenser, Air-Cooled, 10 Ton, Replace	15	13	2	1	EA	$6,458.30	$6,458			$6,458															$6,458				**$12,917**
D3032	868200	Condensing Unit/Heat Pump, Split System, 3 Ton, Replace	15	13	2	1	EA	$4,115.47	$4,115			$4,115															$4,115				**$8,231**
D3032	869425	Condenser, Air-Cooled, 10 Ton, Replace	15	13	2	1	EA	$6,458.30	$6,458			$6,458															$6,458				**$12,917**
D3032	868172	Condenser, Air-Cooled, 10 Ton, Replace	15	9	6	1	EA	$6,458.30	$6,458							$6,458															**$6,458**
D3032	869344	Ductless Split System, Single Zone, 1.5 to 2 Ton, Replace	15	8	7	1	EA	$5,144.08	$5,144								$5,144														**$5,144**
D3041	868158	Air Handler, Exterior, 4,001 to 6,000 CFM, Replace	15	13	2	1	EA	$31,975.26	$31,975			$31,975															$31,975				**$63,951**
D3041	869594	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869589	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869388	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869604	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869464	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869463	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869598	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869605	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869461	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869599	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869593	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869603	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869466	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**
D3041	869462	Air Handler, Interior, 1,301 to 2,500 CFM, Replace	20	17	3	1	EA	$10,826.05	$10,826				$10,826																		**$10,826**

Uniformat Code	ID	Cost Description	Lifespan (EUL)	EAge	RUL	Quantity	Unit	Unit Cost *	Subtotal	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Deficiency Repair Estimate
D3041	869472	Air Handler, Interior, 10,001 to 15,000 CFM, Replace	30	20	10	1	EA	$48,276.05	$48,276											$48,276											**$48,276**
D3041	869473	Air Handler, Interior, 10,001 to 15,000 CFM, Replace	30	20	10	1	EA	$48,276.05	$48,276											$48,276											**$48,276**
D3041	869467	Air Handler, Interior, 10,001 to 15,000 CFM, Replace	30	10	20	1	EA	$48,276.05	$48,276																					$48,276	**$48,276**
D3041	869469	Air Handler, Interior, 10,001 to 15,000 CFM, Replace	30	10	20	1	EA	$48,276.05	$48,276																					$48,276	**$48,276**
D3041	869470	Air Handler, Interior, 10,001 to 15,000 CFM, Replace	30	10	20	1	EA	$48,276.05	$48,276																					$48,276	**$48,276**
D3042	868196	Exhaust Fan, Centrifugal, 251 to 800 CFM, Replace	15	10	5	35	EA	$2,325.15	$81,380						$81,380															$81,380	**$162,761**
D3044	868184	Distribution Pump, Heating Water, 5 HP, Replace	20	13	7	2	EA	$6,346.71	$12,693								$12,693														**$12,693**
D3051	868153	Unit Heater, Hydronic, 13 to 36 MBH, Replace	20	11	9	2	EA	$1,744.32	$3,489										$3,489												**$3,489**
D3051	869386	Radiator, Hydronic Baseboard (per LF), Replace	50	38	12	750	LF	$152.69	$114,514													$114,514									**$114,514**
D3052	869380	Heat Pump, Packaged (RTU), 1.5 to 2 Ton, Replace	15	13	2	1	EA	$5,785.28	$5,785			$5,785															$5,785				**$11,571**
D3052	869383	Heat Pump, Packaged (RTU), 1.5 to 2 Ton, Replace	15	13	2	1	EA	$5,785.28	$5,785			$5,785															$5,785				**$11,571**
D3052	869358	Heat Pump, Packaged (RTU), 6 to 10 Ton, Replace	15	10	5	1	EA	$17,624.06	$17,624						$17,624															$17,624	**$35,248**
D3052	869381	Heat Pump, Packaged (RTU), 3.5 to 5 Ton, Replace	15	10	5	1	EA	$10,267.45	$10,267						$10,267															$10,267	**$20,535**
D3052	869347	Heat Pump, Packaged (RTU), 3.5 to 5 Ton, Replace	15	10	5	1	EA	$10,267.45	$10,267						$10,267															$10,267	**$20,535**
D3052	869348	Heat Pump, Packaged (RTU), 3.5 to 5 Ton, Replace	15	10	5	1	EA	$10,267.45	$10,267						$10,267															$10,267	**$20,535**
D3052	869374	Heat Pump, Packaged (RTU), 3.5 to 5 Ton, Replace	15	1	14	1	EA	$10,267.45	$10,267															$10,267							**$10,267**
D3068	945795	Building Automation System (HVAC Controls), Upgrade	20	18	2	185156	SF	$6.16	$1,141,302			$1,141,302																			**$1,141,302**
D4012	869474	Fire Pump, 66 HP, Replace	20	10	10	1	EA	$53,342.52	$53,343											$53,343											**$53,343**
D4019	937415	Sprinkler System, Full Retrofit, School (per SF), Renovate	50	46	4	138867	SF	$7.19	$998,107					$998,107																	**$998,107**
D5012	868179	Building/Main Switchgear, 208 Y, 120 V, 2,000 Amp, Replace	30	18	12	1	EA	$320,539.25	$320,539													$320,539									**$320,539**
D5022	869458	LED Lighting Fixture, Basic, 20 W, Replace	20	3	17	30	EA	$207.22	$6,217																		$6,217				**$6,217**
D5029	868176	Lighting System, Interior, School, Upgrade	25	21	4	185156	SF	$17.66	$3,270,596					$3,270,596																	**$3,270,596**
D5032	946236	Intercom Master Station, Replace	20	19	1	1	EA	$4,386.68	$4,387		$4,387																				**$4,387**
D5036	945794	Clock and Bell System, Wireless or Ethernet Enabled, Up To 100 Total Clocks / Bells, Replace	15	14	1	185156	SF	$0.59	$108,594		$108,594															$108,594					**$217,188**
D5037	869433	Fire Alarm Control Panel, Addressable, Replace	15	38	0	1	EA	$23,342.23	$23,342	$23,342															$23,342						**$46,684**
D5037	868191	Fire Alarm System, School, Install	20	18	2	185156	SF	$3.60	$666,469			$666,469																			**$666,469**
D5038	946234	Security/Surveillance System, Cameras and CCTV, Install	10	9	1	185156	SF	$5.00	$926,243		$926,243										$926,243										**$1,852,486**
E1023	868147	Stage Curtain, Medium Weight Velour, Flameproof (per SF), Replace	15	8	7	500	SF	$14.95	$7,475								$7,475														**$7,475**
E1027	869584	Dust Collection System, Replace, Replace	30	18	12	1	EA	$11,101.78	$11,102													$11,102									**$11,102**
E1093	868211	Commercial Kitchen, Range/Oven, 4-Burner w/ Griddle, Replace	15	13	2	1	EA	$7,046.63	$7,047			$7,047															$7,047				**$14,093**
E1093	869542	Commercial Kitchen, Dishwasher, Replace	10	8	2	1	EA	$22,611.09	$22,611			$22,611										$22,611									**$45,222**
E1093	868188	Commercial Kitchen, Walk-In Refrigerator, Replace	20	18	2	2	EA	$14,093.25	$28,187			$28,187																			**$28,187**
E1093	868168	Commercial Kitchen, Convection Oven, Double, Replace	10	8	2	2	EA	$9,939.45	$19,879			$19,879										$19,879									**$39,758**
E1093	868209	Commercial Kitchen, Refrigerator, 3-Door Reach-In, Replace	15	13	2	1	EA	$6,674.60	$6,675			$6,675															$6,675				**$13,349**
E1093	868154	Commercial Kitchen, Refrigerator, 2-Door Reach-In, Replace	15	13	2	1	EA	$4,894.40	$4,894			$4,894															$4,894				**$9,789**
E1093	869539	Commercial Kitchen, Exhaust Hood, Replace	15	13	2	1	EA	$8,707.48	$8,707			$8,707															$8,707				**$17,415**
E1093	868185	Commercial Kitchen, Steamer, Tabletop, Replace	10	8	2	1	EA	$7,295.60	$7,296			$7,296										$7,296									**$14,591**
E1093	869540	Commercial Kitchen, Convection Oven, Single, Replace	10	4	6	1	EA	$5,839.26	$5,839							$5,839										$5,839					**$11,679**
E1093	869556	Commercial Kitchen, Icemaker, Freestanding, Replace	15	8	7	1	EA	$7,036.33	$7,036								$7,036														**$7,036**
E1093	869552	Commercial Kitchen, Food Warmer, Replace	15	8	7	1	EA	$1,784.70	$1,785								$1,785														**$1,785**
E1099	869307	Bleacher, Telescoping Manual, to 15 Tier, Replace	20	13	7	200	EA	$324.30	$64,860								$64,860														**$64,860**
F1029	958684	Davis Bacon Prevailing Wages, Surcharge for Prevailing Wages, 10% surcharge for prevailing wages	1	1	0	141452.01	LS	$1.15	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	$162,670	**$3,416,066**
F1041	868198	Aquatics, Swimming Pool Pump, 11 to 20 HP, Replace	10	8	2	1	EA	$13,417.36	$13,417			$13,417										$13,417									**$26,835**
F1041	869456	Swimming Pool Plaster, Reline, Refinish	15	12	3	3000	SF	$6.44	$19,320				$19,320															$19,320			**$38,640**
F1041	868199	Swimming Pool Filtration System, Replace, Replace	15	8	7	3	EA	$7,743.28	$23,230								$23,230														**$23,230**
F1041	868183	Swimming Pool Heater, Gas-Fired, 300 MBH, Replace	15	8	7	1	EA	$8,349.00	$8,349								$8,349														**$8,349**
G2022	868162	Parking Lots, Asphalt Pavement, Seal & Stripe	5	3	2	85000	SF	$0.44	$37,145			$37,145					$37,145					$37,145					$37,145				**$148,580**
G2022	868192	Parking Lots, Asphalt Pavement, Mill & Overlay	25	13	12	85000	SF	$3.77	$320,620													$320,620									**$320,620**
G2031	869450	Pedestrian Pavement, Sidewalk, Concrete Large Areas, Replace	30	18	12	17000	SF	$10.35	$175,950													$175,950									**$175,950**
G2035	869452	Exterior Stairs & Ramps, Handrails, Metal, Replace	25	18	7	1000	LF	$57.50	$57,500								$57,500														**$57,500**
G2035	869451	Exterior Stairs & Ramps, Concrete (per LF of Nosing), Replace	25	18	7	1250	LF	$44.19	$55,243								$55,243														**$55,243**
G2041	868170	Fences & Gates, Chain Link, 8' High, Replace	30	23	7	250	LF	$61.99	$15,496								$15,496														**$15,496**
G2041	869447	Fences & Gates, Chain Link, 6' High, Replace	30	23	7	500	LF	$43.17	$21,584								$21,584														**$21,584**
G2044	869453	Signage, Property, Monument/Pylon, Replace	20	10	10	1	EA	$9,892.30	$9,892											$9,892											**$9,892**
G2045	868182	Site Furnishings, Picnic Table, Plastic-Coated Metal, Replace	20	13	7	2	EA	$1,600.23	$3,200								$3,200														**$3,200**
G2045	868212	Site Furnishings, Park Bench, Metal/Wood/Plastic, Replace	20	13	7	4	EA	$560.08	$2,240								$2,240														**$2,240**
G2047	868187	Play Surfaces & Sports Courts, Asphalt, Replace	25	48	0	6500	SF	$6.79	$44,103	$44,103																					**$44,103**
G2047	868208	Play Surfaces & Sports Courts, Asphalt, Seal & Stripe	5	8	0	13000	SF	$0.44	$5,688	$5,688					$5,688					$5,688					$5,688				$5,688	**$28,442**

Uniformat Code	ID	Cost Description	Lifespan (EUL)	EAge	RUL	Quantity	Unit	Unit Cost *	Subtotal	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Deficiency Repair Estimate
G2047	869306	Sports Apparatus, Scoreboard, Replace	20	8	12	1	EA	$24,272.51	$24,273													$24,273									**$24,273**
G2048	869454	Flagpole, Metal, Replace	20	11	9	1	EA	$2,909.50	$2,910										$2,910												**$2,910**
G4021	868150	Pole Light, Exterior, 105 to 200 W LED (Fixture & Bracket Arm Only), Replace	20	3	17	15	EA	$3,798.45	$56,977																		$56,977				**$56,977**
Totals, Unescalated										**$2,365,097**	**$1,224,957**	**$4,640,965**	**$915,179**	**$5,764,511**	**$1,333,165**	**$186,067**	**$2,115,794**	**$162,670**	**$275,846**	**$328,145**	**$1,670,537**	**$2,339,692**	**$162,670**	**$938,533**	**$300,964**	**$277,103**	**$1,026,222**	**$181,990**	**$1,264,383**	**$442,993**	**$27,917,483**
Totals, Escalated (3.0% inflation, compounded annually)										**$2,365,097**	**$1,261,705**	**$4,923,600**	**$1,000,040**	**$6,488,008**	**$1,545,504**	**$222,174**	**$2,602,160**	**$206,065**	**$359,917**	**$441,000**	**$2,312,413**	**$3,335,841**	**$238,886**	**$1,419,615**	**$468,893**	**$444,669**	**$1,696,189**	**$309,825**	**$2,217,103**	**$800,095**	**$34,658,800**

* Markup/LocationFactor (1) 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:	1655 Newport Road Ann Arbor, Michigan 48103
Year Constructed/Renovated:	1960
Current Occupants:	Forsythe Middle School
Percent Utilization:	100%
Management Point of Contact:	Ann Arbor Public Schools, Jim Vibbart, Maintenance Supervisor
Property Type:	Middle School
Site Area:	26.0 acres
Building Area:	185,156 SF
Number of Buildings:	One
Number of Stories:	One
Parking Type and Number of Spaces:	83 spaces in open lots
Building Construction:	Masonry bearing walls and concrete-topped metal decks.
Roof Construction:	Flat roofs with single-ply membrane.
Exterior Finishes:	Brick Veneer
Heating, Ventilation and Air Conditioning:	Central system with boilers, condensers, air handlers, and rooftop units feeding hydronic terminal units. Supplemental components: ductless split-systems, suspended unit heaters.
Fire and Life/Safety:	Partial fire sprinklers, hydrants, smoke detectors, alarms, strobes, extinguishers, pull stations, alarm panel, and exit signs.
ADA :	This building does not have any major ADA issues.
All 185,156 square feet of the building are occupied by a single occupant, Forsythe Middle School. The spaces are a combination of offices, classrooms, extracurricular spaces, and supporting restrooms, 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
NA	Exterior Storage Shed	Locked room and no key
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:	February 26-27, 2018

Assessment Information	
On-Site Point of Contact (POC):	Ralph Logan
Assessment and Report Prepared by:	Sean Luxem
Reviewed by:	Al Diefert Technical Report Reviewer For Andrew Hupp Program Manager ahupp@emgcorp.com 800.733.0660 x6632

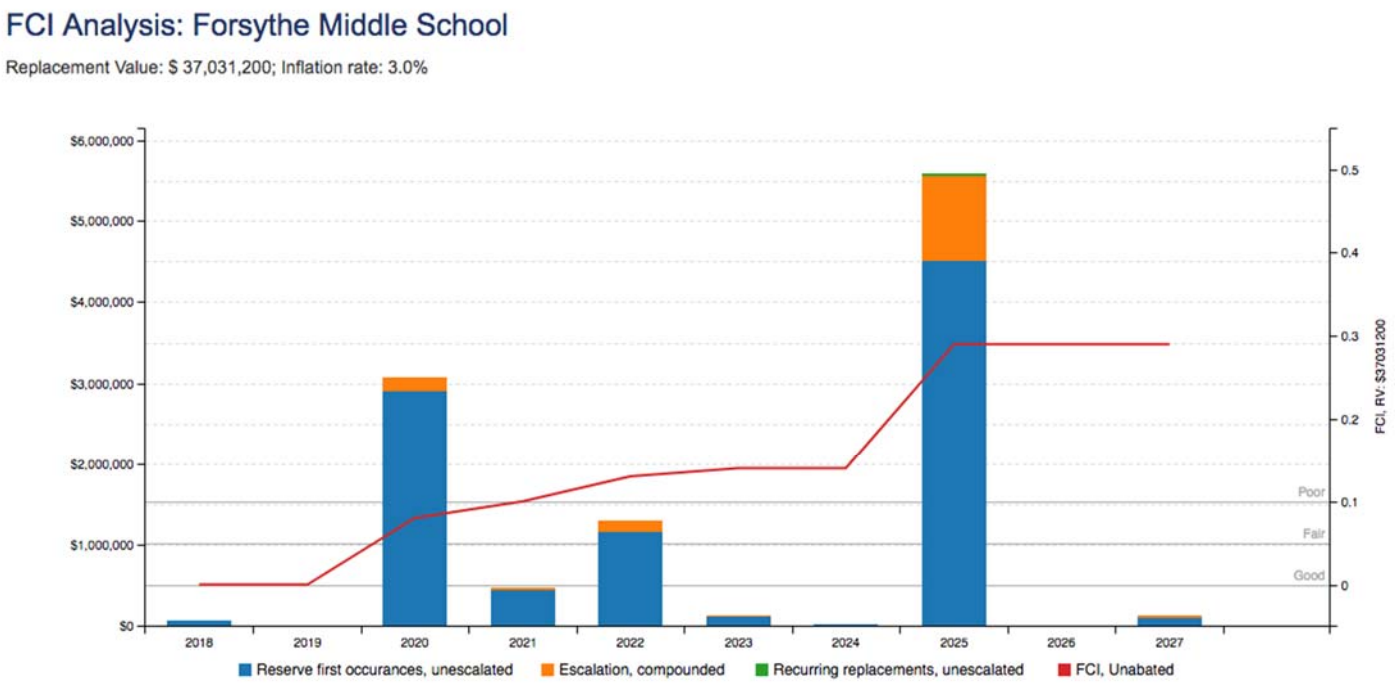
1.2. Key Findings

Site : Deteriorating court surfaces on the basketball court and tennis courts.

Architectural : EIFS has areas showing deterioration, and should be refinished in the short term.

MEPF : The majority of the systems are antiquated, or nearing the end of their useful life and will require replacement in the near term.

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 Rating	Definition	Percentage Value
Good	In new or well-maintained condition, with no visual evidence of wear, soiling or other deficiencies.	0 to .05

FCI Rating	Definition	Percentage Value
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):	0.17%
Current Year FCI Rating:	2018
10-Year Facility Condition Index (FCI) FCI = (RR)/(CRV):	29.17%
10-Year FCI Rating	0.29
Current Replacement Value (CRV):	$37,031,200
Year 0 (Current Year) - Immediate Repairs (IR):	$63,594
Years 1-10 - Replacement Reserves (RR):	$10,739,454
Total Capital Needs:	$10,803,048

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	Good
Basement and Crawl Space	Concrete slab and masonry walls	Good

Anticipated Lifecycle Replacements

- No components of significance

Actions/Comments:

- Isolated areas of the foundation systems are exposed, which allows for limited observation. 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	Good
Ground Floor	Concrete slab	Good
Roof Framing	Steel beams or girders	Good
Roof Decking	Metal decking with concrete topping	Good

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
None		☐	None		☐
Other		☐	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.

B1080 Stairs					
Type	Description	Riser	Handrail	Balusters	Condition
Building Exterior Stairs	Concrete stairs	Closed	Metal	Metal	Fair
Building Interior Stairs	None				

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	EIFS	Fair
Accented with	Painted tile	Good
Soffits	Concealed	Fair
Building sealants	Between dissimilar materials, at joints, around windows and doors	Good

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
Graffiti		☐	Efflorescence		☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- Brick Veneer repointing
- Exterior paint
- Refinish EIFS

Actions/Comments:

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

B2020 Exterior Windows				
Window Framing	Glazing	Location	Window Screen	Condition
Aluminum framed, fixed	Double glaze	Throughout	☐	Fair
Aluminum framed, operable	Double glaze	Classrooms	☒	Fair

B2050 Exterior Doors		
Main Entrance Doors	Door Type	Condition
	Vinyl coated, insulated	Good

B2050 Exterior Doors		
Secondary Entrance Doors	Vinyl coated, insulated	Good
Service Doors	Metal, insulated	Fair
Overhead Doors	None	--

Anticipated Lifecycle Replacements:

- Windows
- Exterior doors

Actions/Comments:

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

B3010 Primary Roof			
Location	Main Building	Finish	Single-ply membrane
Type / Geometry	Flat	Roof Age	20+ Yrs
Flashing	Sheet metal	Warranties	Unknown
Parapet Copings	None	Roof Drains	Internal drains
Fascia	Metal Panel	Insulation	Rigid Board
Soffits	Concealed Soffits	Skylights	No
Attics	Concrete-topped steel decks	Ventilation Source-1	None
Roof Condition	Fair	Ventilation Source-2	None

B3010 Secondary Roof			
Roof Location	Auditorium	Finish	Single-ply membrane
Type / Geometry	Flat	Roof Age	10+ Yrs
Flashing	Sheet metal	Warranties	Unknown
Parapet Copings	None	Roof Drains	Internal drains
Fascia	Metal Panel	Insulation	Rigid Board
Soffits	Concealed Soffits	Skylights	No
Attics	Concrete-topped steel decks	Ventilation Source-1	None
Roof Condition	Fair	Ventilation Source-2	None

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	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
- TPO roof membrane

Actions/Comments:

- The roof finishes were installed over ten years ago. Information regarding roof warranties or bonds was not available. The roofs are maintained by an outside contractor.
- 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.
- Current roof leaks should be repaired as a part of routine maintenance.
- 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	Solid core wood	Fair

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	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 - FORSYTHE MIDDLE SCHOOL

Location	Finish		Quantity (SF)	Condition	Action	RUL	Est. Cost
Gymnasium	Floor	Wood Strip	7000	Good	Replace	27	94,670
Interior	Floor	Carpet Tile Commercial-Grade	55500	Fair	Replace	7	386,441
Interior	Ceiling	Exposed/Generic	30000	Fair	Prep & Paint	2	68,100
Locker rooms	Floor	Terrazzo	2000	Good	Replace	47	24,111
Restrooms	Floor	Ceramic Tile	30000	Fair	Replace	12	472,650
Throughout	Floor	Vinyl Tile (VCT)	92500	Fair	Replace	4	444,056
Throughout	Ceiling	Acoustical Tile (ACT) Dropped Fiberglass	140000	Fair	Replace	4	706,692
Throughout	Wall	Concrete/Masonry	200000	Fair	Prep & Paint	3	290,200

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	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
- Interior doors
- Bleachers
- Lockers

Actions/Comments:

- It appears that the interior finishes have not been renovated within the last 10 years.
- 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.

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	Mechanical Room	

Domestic Water Heaters or Boilers	
Components	Boiler
Fuel	Natural gas
Boiler or Water Heater Condition	Fair
Supplementary Storage Tanks?	Yes
Adequacy of Hot Water	Adequate
Adequacy of Water Pressure	Adequate

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

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
Hot water temperature too hot or cold		☐	Minor or isolated leaks		☐
Other		☐	Other		☐

Plumbing System - FORSYTHE MIDDLE SCHOOL

Location	Component	Component Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
Boiler room	Domestic Boiler	Gas, 260 to 500 MBH	1	EA	Fair	Replace	7	20,417
Mechanical room	Water Storage Tank	151 to 250 GAL	1	EA	Good	Replace	12	2,778
Throughout	Toilet	Tankless (Water Closet)	50	EA	Fair	Replace	9	42,148
Throughout	Urinal	Vitreous China	10	EA	Fair	Replace	9	11,934
Throughout	Sink	Stainless Steel	25	EA	Fair	Replace	2	26,351
Throughout	Sink	Vitreous China	45	EA	Fair	Replace	9	38,768
Throughout	Drinking Fountain	Refrigerated	10	EA	Fair	Replace	2	12,575

Anticipated Lifecycle Replacements:

- Boiler
- Storage tank
- Toilets
- Urinals
- Sinks
- Showers
- Drinking fountains
- 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	Air-cooled condensers
Refrigerant	R-22
Cooling Towers	None
Location of Major Equipment	Building exterior
Space Served by System	Entire building

Distribution System	
HVAC Water Distribution System	Two-pipe

Distribution System	
Air Distribution System	Constant
Location of Air Handlers	Mechanical rooms
Terminal Units	Hydronic wall units
Quantity and Capacity of Terminal Units	Approximately 750 LF of hydronic wall units
Location of Terminal Units	Within interior spaces

Packaged, Split & Individual Units	
Primary Components	Rooftop units
Cooling (if separate from above)	performed via components above
Heating Fuel	None
Location of Equipment	Rooftop
Space Served by System	Throughout

Supplemental/Secondary Components	
Supplemental Component #1	Suspended unit heaters
Location / Space Served by units	BOH Areas
Unit Condition	Fair
Supplemental Component #2	Ductless mini-splits
Location / Space Served by units	Offices
Unit Condition	Fair

Controls and Ventilation	
HVAC Control System	BAS, direct digital controls (DDC)
HVAC Control System Condition	Good
Building Ventilation	Roof top exhaust fans
Ventilation System Condition	Fair

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
Ductwork/grills need cleaned		☐	Minor control adjustments needed		☐

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
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 - FORSYTHE MIDDLE SCHOOL

Location_Description	Component	Component Description	Quantity	Unit	Condition	Action	RUL	Est. Cost
Boiler Room	Boiler	Gas, 4,201 to 10,000 MBH	1	EA	Good	Replace	14	332,867
Boiler Room	Boiler	Gas, 4,201 to 10,000 MBH	1	EA	Good	Replace	14	332,867
Boiler room	Unit Heater	Hydronic, 13 to 36 MBH	2	EA	Fair	Replace	9	3,034
Building exterior	Condenser	Air-Cooled, 10 Ton	1	EA	Fair	Replace	2	5,616
Building exterior	Condenser	Air-Cooled, 10 Ton	1	EA	Fair	Replace	2	5,616
Ceiling	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Ceiling	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Ceiling	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Ceiling	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Ceiling	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Ceiling	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Ceiling	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Mechanical room	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Mechanical room	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Mechanical room	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Mechanical room	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Mechanical room	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Mechanical room	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414
Mechanical room	Air Handler	Interior, 10,001 to 15,000 CFM	1	EA	Fair	Replace	20	41,979
Mechanical room	Air Handler	Interior, 10,001 to 15,000 CFM	1	EA	Fair	Replace	20	41,979
Mechanical room	Air Handler	Interior, 10,001 to 15,000 CFM	1	EA	Fair	Replace	20	41,979
Mechanical room	Air Handler	Interior, 10,001 to 15,000 CFM	1	EA	Fair	Replace	10	41,979
Mechanical room	Air Handler	Interior, 10,001 to 15,000 CFM	1	EA	Fair	Replace	10	41,979
Mechanical room	Distribution Pump	Heating Water, 5 HP	2	EA	Fair	Replace	7	11,038
Roof	Condenser	Air-Cooled, 10 Ton	1	EA	Fair	Replace	6	5,616
Roof	Condensing Unit/Heat Pump	Split System, 3 Ton	1	EA	Fair	Replace	2	3,579
Roof	Ductless Split System	Single Zone, 1.5 to 2 Ton	1	EA	Fair	Replace	7	4,473
Roof	Air Handler	Exterior, 4,001 to 6,000 CFM	1	EA	Fair	Replace	2	27,805
Roof	Exhaust Fan	Centrifugal, 251 to 800 CFM	35	EA	Fair	Replace	5	70,765
Roof	Heat Pump	RTU, 3.5 to 5 Ton	1	EA	Good	Replace	14	8,928
Roof	Heat Pump	RTU, 3.5 to 5 Ton	1	EA	Fair	Replace	5	8,928
Roof	Heat Pump	RTU, 3.5 to 5 Ton	1	EA	Fair	Replace	5	8,928
Roof	Heat Pump	RTU, 6 to 10 Ton	1	EA	Fair	Replace	5	15,325
Roof	Heat Pump	RTU, 1.5 to 2 Ton	1	EA	Fair	Replace	2	5,031
Roof	Heat Pump	RTU, 3.5 to 5 Ton	1	EA	Fair	Replace	5	8,928
Roof	Heat Pump	RTU, 1.5 to 2 Ton	1	EA	Fair	Replace	2	5,031
Throughout	Radiator	Hydronic Baseboard	750	LF	Fair	Replace	12	99,578
Workshop	Air Handler	Interior, 1,301 to 2,500 CFM	1	EA	Fair	Replace	3	9,414

Anticipated Lifecycle Replacements:

- Boilers
- Condensers
- Air handlers
- Distribution pumps and motors
- Package units
- Ductless mini-splits
- Suspended hydronic unit heaters
- Hydronic baseboard heaters
- Rooftop exhaust fans

Actions/Comments:

- The HVAC systems are maintained by an outside contractor.
- The HVAC equipment varies in age. HVAC equipment is replaced on an "as needed" basis.
- The HVAC equipment appears to be functioning adequately overall. However, due to the inevitable failure of parts and components over time, some of the equipment will require replacement

D40 Fire Protection

Item	Description					
Type	Partial wet pipe system, with supplementary components					
Sprinkler System	None	☐	Standpipes	☒	Backflow Preventer	☒
	Hose Cabinets	☐	Fire Pumps	☒	Siamese Connections	☐
Sprinkler System Condition	Good					
Fire Extinguishers	Last Service Date		Servicing Current?			
	July 2017		Yes			
Hydrant Location	Exterior					
Siamese Location	NA					
Special Systems	Kitchen Suppression System	☐	Computer Room Suppression System	☐		

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
Extinguisher tag expired		☐	Riser tag expired (5 year)		☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- Fire pump

Actions/Comments:

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

D50 Electrical

Distribution & Lighting			
Electrical Lines	Underground	Transformer	Pad-mounted
Main Service Size	2.000 Amps	Volts	120/208 Volt, three-phase
Meter and Panel Location	Electrical room	Branch Wiring	Copper
Conduit	Metallic	Step-Down Transformers?	No
Security / Surveillance System?	Yes	Building Intercom System?	Yes
Lighting Fixtures	T-8, CFL, LED		

Distribution & Lighting	
Main Distribution Condition	Fair
Secondary Panel and Transformer Condition	Fair
Lighting Condition	Good

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

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
Improperly stored material		☐	Unsecured high voltage area		☐
Other		☐	Other		☐

Anticipated Lifecycle Replacements:

- Main distribution panel

Actions/Comments:

- The onsite electrical systems up to the meters 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 1990-2000 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.

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	Fair					
Central Alarm Panel System	Location of Alarm Panel		Installation Date of Alarm Panel			
	Main Office		2000			

Anticipated Lifecycle Replacements:

- Central alarm panel
- Alarm devices and system

Actions/Comments:

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

6. Equipment & Furnishings

E10 Equipment

The cafeteria 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	Reach-in	Fair
Freezers	Walk-in	Fair
Ranges	☐	--
Ovens	Gas	Fair
Griddles / Grills	☒	Fair
Fryers	☐	--
Hood	☒	Fair
Dishwasher	☒	Fair
Microwave	☐	--
Ice Machines	☒	Fair
Steam Tables	☒	Fair

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

E1050 Pool Equipment		
Equipment	Comment	Condition
Pump	☒	Fair
Filters	☒	Good

Anticipated Lifecycle Replacements:

- Oven
- Reach-in cooler

- Walk-in freezer
- Grill
- Hood
- Steam tables
- Ice machine
- Dishwasher
- Pool pump
- Pool filter
- Scoreboard

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	Fair
Parking Lot	Asphalt	Fair
Drive Aisles	Asphalt	Fair
Service Aisles	None	--
Sidewalks	Concrete	Good
Curbs	Concrete	Good
Pedestrian Ramps	Cast-in-place concrete	Good
Ground Floor Patio or Terrace	Concrete	Fair

Parking Count				
Open Lot	Carport	Private Garage	Subterranean Garage	Freestanding Parking Structure
83	--	--	--	--
Total Number of ADA Compliant Spaces			8	
Number of ADA Compliant Spaces for Vans			4	
Total Parking Spaces			83	

Site Stairs			
Location	Material	Handrails	Condition
Entrance	Concrete stairs	Metal	Fair
Auditorium	Concrete stairs	Metal	Good
South parking lot	Concrete stairs	Metal	Fair

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
Pavement oil stains		☐	Vegetation growth in joints		☐

Maintenance Issues					
Observation	Location	Exists at Site	Observation	Location	Exists at Site
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
- Sidewalks
- Site stairs and handrails
- Pedestrian ramps

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.

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

Site Fencing		
Type	Location	Condition
Chain link with metal posts	Tennis courts	Fair
Chain link with metal posts	Baseball and Softball Field	Fair

Refuse Disposal	
Refuse Disposal	Common area dumpsters

Refuse Disposal				
Dumpster Locations	Mounting	Enclosure	Contracted?	Condition
South parking lot	Concrete pad	Chain link fence	Yes	Good

Other Site Amenities			
	Description	Location	Condition
Playground Equipment	None	NA	--
Tennis Courts	Asphalt	Rear Exterior	Fair
Basketball Court	Asphalt	Rear Exterior	Fair
Swimming Pool	Yes	Interior	Fair

Anticipated Lifecycle Replacements:

- Signage
- Site fencing
- Court surfaces
- Flagpole
- Pool liner

Actions/Comments:

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

G2080 Landscaping		
Drainage System and Erosion Control		
System	Exists at Site	Condition
Surface Flow	☐	Good
Inlets	☒	Good
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	Slopes gently down from the north side of the property to the south property line.						
Landscaping	Trees	Grass	Flower Beds	Planters	Drought Tolerant Plants	Decorative Stone	None
	☒	☒	☒	☐	☐	☐	☐
Landscaping Condition	Good						
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 meters and regulators are located in the mechanical room. 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 meters and regulators 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	Location	Exists at Site	Observation	Location	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.

8. Ancillary Structures

Other Ancillary Structures			
Type	Maintenance/Storage Shed	Location	South Parking Lot
Item	Material	Item	Material
Exterior Siding	Concrete	Roof Finishes	Concrete
Interior Finishes	Floor : Unknown, no access Ceiling : Unknown, no access Walls : Unknown, no access	MEPF	See Tables in Section 5
Overall Building Condition			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.

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 Table* below. 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 actual measurements were not taken to verify compliance.

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 (ADA Study Recommended)	Moderate Issue (ADA Study Recommended)	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.

12. Certification

Ann Arbor Public Schools retained EMG to perform this Facility Condition Assessment in connection with its continued operation of Forsythe Middle School, 1655 Newport Road, 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 12 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 12 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: Sean Luxem,
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

PHOTO #1:	WEST ELEVATION

PHOTO #2:	NORTH ELEVATION

PHOTO #3:	EAST ELEVATION

PHOTO #4:	SOUTH ELEVATION

PHOTO #5:	ENTRANCE DOORS

PHOTO #6:	PROPERTY SIGNAGE

PHOTO #7:	CONCRETE SIDEWALKS AND ASPHALT PAVEMENT

PHOTO #8:	ADA PARKING AREA

PHOTO #9:	TENNIS COURT

PHOTO #10:	WINDOWS

PHOTO #11:	CONCRETE RAMP

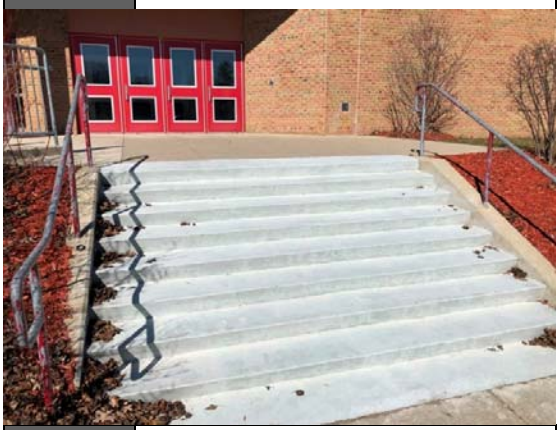


PHOTO #12:	CONCRETE STAIRS

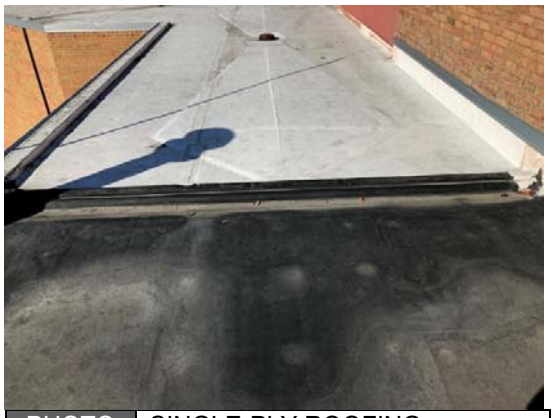


PHOTO #13:	SINGLE-PLY ROOFING

PHOTO #14:	ROOFTOP UNIT

PHOTO #15:	HVAC BOILERS

PHOTO #16:	CIRCULATION PUMP

PHOTO #17:	AIR HANDLER

PHOTO #18:	HYDRONIC TERMINAL UNIT

PHOTO #19:	MINI-SPLIT UNIT

PHOTO #20:	SUSPENDED HEATER

PHOTO #21:	DOMESTIC WATER BOILER

PHOTO #22:	MAIN DISTRIBUTION PANEL

PHOTO #23:	FIRE PANEL

PHOTO #24:	KITCHEN EQUIPMENT

PHOTO #25:	LOBBY

PHOTO #26:	OFFICE

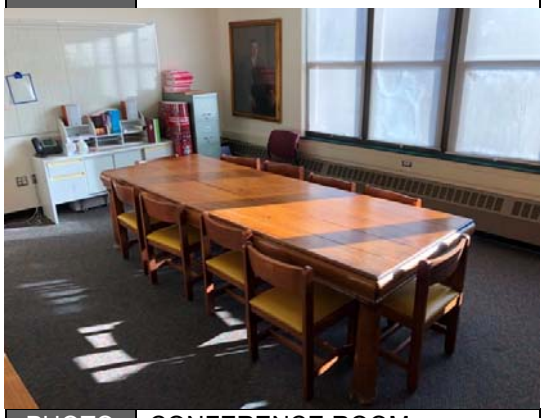


PHOTO #27:	CONFERENCE ROOM

PHOTO #28:	CLASSROOM

PHOTO #29:	MEDIA CENTER

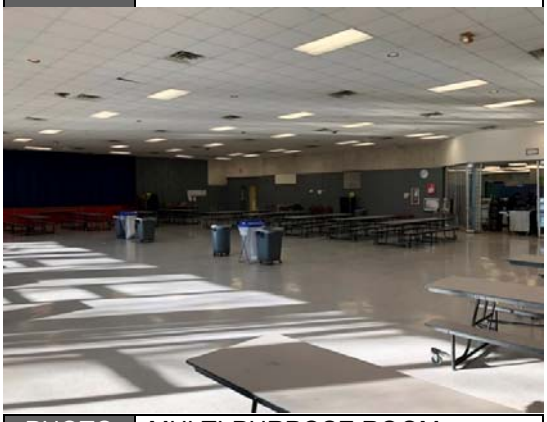


PHOTO #30:	MULTI-PURPOSE ROOM

PHOTO #31:	HALLWAY AND LOCKERS

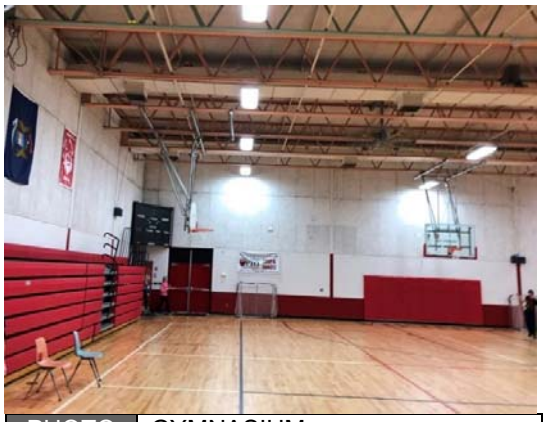


PHOTO #32:	GYMNASIUM

PHOTO #33:	GYM ANNEX

PHOTO #34:	POOL

PHOTO #35:	AUDITORIUM

PHOTO #36:	RESTROOM FINISHES

Appendix B:
Site Plan

Site Plan

emg	**Project Name:** Forsythe Middle School	**Project Number:** 129010.18R000-027.354
	Source: Google Earth	**On-Site Date:** February 26-27, 2018

Appendix C:
Supporting Documentation

THIS APPENDIX IS INTENTIONALLY LEFT BLANK.

Appendix D:
Pre-Survey Questionnaire

THE PRE-SURVEY QUESTIONNAIRE WAS NOT RETURNED TO EMG