FACILITIES NEEDS ASSESSMENT

STAMFORD PUBLIC SCHOOLS
888 Washington Boulevard
Stamford, Connecticut 06901
Domenick Tramontozzi

Facilities Needs Assessment
of
K.T. MURPHY ELEMENTARY SCHOOL

19 Horton Street
Stamford, Connecticut 06902

PREPARED BY:

EMG
222 Schilling Circle, Suite 275
Hunt Valley, Maryland 21031
800.733.0660
410.785.6220 (fax)
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EMG CONTACT:

Bill Champion
Director - Asset Management Consulting
800.733.0660, x6234
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EMG Project #: 88166.09R-002.017
Date of Report: August 27, 2009
On site Date: March 23, 2009

Replacement Reserves Report
Elementary Schools / KT Murphy Elementary
8/27/2009

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Inflation	3.0%	4.0%	4.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Report Section	ID	Cost Description	Lifespan (EUL)	Observed Age (EAge)	Remaining Life (RUL)	Quantity	Unit	Unit Cost *	Subtotal	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Deficiency Repair Estimate
1.2	2437	Directed Study of Electrical Equipment	0	0	0	1	EA	$5,216.40	$5,216	$5,216										**$5,216**
1.2	2477	Measured ADA Study of Property	0	0	0	1	EA	$6,930.00	$6,930	$6,930										**$6,930**
1.2	2425	HVAC system study	0	0	0	1	EA	$9,135.00	$9,135	$9,135										**$9,135**
3.1	2490	ADA cane detection barrier rails	30	30	0	10	PR	$144.90	$1,449	$1,449										**$1,449**
3.1	2483	Replace school door knobs with ADA lever	20	20	0	25	EA	$682.92	$17,073	$17,073										**$17,073**
3.1	2487	Replace school door knobs with ADA lever	20	20	0	60	EA	$682.92	$40,975	$40,975										**$40,975**
3.1	2485	ADA, lower existing toilet room accessories and mirrors	0	0	0	75	EA	$115.11	$8,634	$8,634										**$8,634**
3.1	2484	Add ADA Grab Bar and blocking	20	20	0	25	EA	$1,575.00	$39,375	$39,375										**$39,375**
3.1	3596	Install compliant signage indicating accessible entrances and general information	20	20	0	2	EA	$75.60	$151	$151										**$151**
3.1	3663	Add new 3-story hydraulic elevator and enclosure	30	30	0	1	EA	$130,668.30	$130,668	$130,668										**$130,668**
3.1	2491	Install new wheelchair lift 3 'to 8'	20	20	0	3	EA	$18,078.30	$54,235	$54,235										**$54,235**
3.1	2486	Replace lavatory with ADA lever handles	20	20	0	10	EA	$699.30	$6,993	$6,993										**$6,993**
3.1	2488	ADA Drinking Fountain Cup Dispenser	15	15	0	10	EA	$69.30	$693	$693										**$693**
3.1	2479	ADA, Install curb cut, concrete, 6" rise	25	25	0	2	EA	$4,566.34	$9,133	$9,133										**$9,133**
3.1	2480	ADA, Parking lot access aisle striping	0	0	0	80	LF	$8.19	$655	$655										**$655**
3.1	2478	ADA, paint van-accessible space with signage	5	5	0	1	EA	$277.20	$277	$277					$277					**$554**
3.1	2489	ADA, Wrap drain pipes below accessible lavatory	0	0	0	25	EA	$81.90	$2,048	$2,048										**$2,048**
5.2	2413	Replace damaged concrete	30	30	0	8	SY	$450.99	$3,608	$3,608										**$3,608**
5.2	2414	Repair Concrete stairs (spalls)	0	0	0	100	SF	$24.32	$2,432	$2,432										**$2,432**
5.2	2411	Demolition of existing asphalt pavement 3" to 6"	25	24	1	1116	SY	$1.15	$1,280		$1,280									**$1,280**
5.2	2464	Excavate and recompact soil at playground	0	0	0	10500	SF	$12.60	$132,300	$132,300										**$132,300**
5.2	2412	Install New Paving rock and asphalt	25	24	1	10050	SF	$3.19	$32,037		$32,037									**$32,037**
5.2	2409	Repair and Seal Coat asphalt	5	3	2	3.4425	10000 SF	$5,848.92	$20,135			$20,135					$20,135			**$40,270**
5.2	2408	Cut & Patch asphalt	10	9	1	1400	SF	$3.01	$4,216		$4,216									**$4,216**
5.2	5928	Remove and widen curb cuts	0	0	0	2	EA	$3,780.00	$7,560	$7,560										**$7,560**
5.2	2410	Overlay asphalt play area	10	4	6	34.425	1000 SF	$963.02	$33,152							$33,152				**$33,152**
5.4	2416	Replace wood RR-tie wall	25	22	3	200	SF Face	$33.29	$6,658				$6,658							**$6,658**
5.4	2415	Remove and replace retaining wall, cast in place concrete, reinforced, up to 6' high, no shoring or protection	50	45	5	105	LF	$708.02	$74,342						$74,342					**$74,342**
5.4	4720	Reseed and fertilize grass areas, push spreader	0	0	0	12	1000 SF	$454.34	$5,452	$5,452										**$5,452**
5.4	2522	Mature Tree Removal or major trimming	0	0	0	2	EA	$1,108.80	$2,218	$2,218										**$2,218**
5.4	4722	New shrubs, medium	20	19	1	1	EA	$24,640.56	$24,641		$24,641									**$24,641**
5.4	5918	Capital Plan - Install underground irrigation system and seed erosion prone areas	0	0	0	1	EA	$37,800.00	$37,800	$37,800										**$37,800**
5.5	2422	Replace wood fence dumpster enclosure	10	10	0	40	LF	$79.38	$3,175	$3,175										**$3,175**
5.5	2419	Replace chain link fence, 6-foot high	20	19	1	540	LF	$47.01	$25,386		$25,386									**$25,386**
5.5	2418	Remove and replace 4-foot chain link fence	10	9	1	50	LF	$27.87	$1,394		$1,394									**$1,394**
5.5	2420	Replace Play Structure, Small	20	17	3	1	EA	$18,900.00	$18,900				$18,900							**$18,900**
5.5	2421	Add wood chips, 3" deep, hand spread	10	4	6	950	SY	$7.23	$6,871							$6,871				**$6,871**
5.5	3599	New Aluminum pole-mounted double light 400 W HPS fixture and pole	0	0	0	2	EA	$8,651.16	$17,302	$17,302										**$17,302**

Replacement Reserves Report
Elementary Schools / KT Murphy Elementary
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6.3	2498	Replace fire escape ladder	0	0	0	16	VLF	$131.67	$2,107	$2,107										**$2,107**
6.3	12197	Stamford Roof Assessment - Asphalt Shingle Roof Replacement	20	20	0	43	SQ	$319.14	$13,723	$13,723										**$13,723**
6.3	12200	Stamford Roof Assessment - BUR Roof Replacement	20	12	8	43	SQ	$1,666.66	$71,666									$71,666		**$71,666**
6.3	12198	Stamford Roof Assessment Roof Repair Recommendations	0	0	0	1	EA	$3,455.44	$3,455	$3,455										**$3,455**
6.3	2820	Blown in Cellulose Attic Insulation R-30	40	39	1	4200	SF	$1.68	$7,038		$7,038									**$7,038**
6.3	2497	Replace roof hatch	25	16	9	4	EA	$1,770.31	$7,081										$7,081	**$7,081**
6.4	2516	General painting cost per SF, minor prep work, single story bldg. (up to 15 feet)	10	10	0	4600	SF	$1.56	$7,187	$7,187										**$7,187**
6.4	2519	Point brick wall first floor	10	9	1	5	CSF	$1,194.48	$5,972		$5,972									**$5,972**
6.4	2508	Point brick wall upper floor	10	4	6	360	CSF	$1,301.58	$468,569							$468,569				**$468,569**
6.4	2511	Caulking, polyurethane,1/4"x1/4", remove and replace	15	7	8	14160	LF	$4.84	$68,512									$68,512		**$68,512**
6.4	2515	Replace and finish wood clapboards, third floor	0	0	0	56	CSF	$1,519.56	$85,095	$85,095										**$85,095**
6.5	2514	Remove and replace wood stairs	0	0	0	144	Riser	$302.40	$43,546	$43,546										**$43,546**
6.6	2499	Replace 3'-0" x 4'-0"aluminum window screen - 1st floor	50	50	0	57	EA	$253.18	$14,432	$14,432										**$14,432**
6.6	2501	Replace 3' x 4' aluminum window operable	25	25	0	4	EA	$1,147.86	$4,591	$4,591										**$4,591**
6.6	2500	Replace 3'-0" x 4'-0"aluminum window screen - 1st floor	50	45	5	177	EA	$253.18	$44,814						$44,814					**$44,814**
6.6	2503	Replace 6' x 3' aluminum window upper floor	25	20	5	50	EA	$2,232.72	$111,636						$111,636					**$111,636**
6.6	2520	Replace 3' x 4' aluminum window operable	25	24	1	20	EA	$1,147.86	$22,957		$22,957									**$22,957**
6.6	2502	Replace 6' x 3' aluminum window first floor	25	20	5	127	EA	$2,085.30	$264,833						$264,833					**$264,833**
6.6	2510	Replace 3'-0" x 7'-0" solid core, w/safety glass, ptd. door	40	37	3	26	EA	$1,869.84	$48,616				$48,616							**$48,616**
6.6	2518	Fire door, steel, flush, 90 minute, vision lite,including demo, with hardware	25	24	1	10	EA	$1,512.00	$15,120		$15,120									**$15,120**
6.8	5926	Capital Plan - Install gymnasium wall padding	0	0	0	1	EA	$15,120.00	$15,120	$15,120										**$15,120**
6.8	2509	Replace Vinyl tile	18	16	2	240	SY	$81.90	$19,656			$19,656								**$19,656**
6.8	2505	Replace Vinyl tile	18	10	8	7080	SY	$81.90	$579,852									$579,852		**$579,852**
6.8	2504	Replace Vinyl tile	18	18	0	40	SY	$81.90	$3,276	$3,276										**$3,276**
6.8	2512	Replace hardwood Standard	40	40	0	800	SF	$17.30	$13,840	$13,840										**$13,840**
6.8	2513	Sand and refinish hardwood floor	10	5	5	4800	SF	$6.93	$33,264						$33,264					**$33,264**
6.8	2506	Replace carpet - standard commercial	8	3	5	1180	SY	$63.23	$74,608						$74,608					**$74,608**
6.8	2507	Replace acoustical ceiling tile system, complete including demo	20	15	5	700	CSF	$522.90	$366,030						$366,030					**$366,030**
6.8	4748	Asbestos floor tile and mastic removal	0	0	0	28000	SF	$3.15	$88,200	$88,200										**$88,200**
6.8	5932	Stamford - Lead Abatement Allowance	0	0	0	85000	SF	$3.78	$321,300	$321,300										**$321,300**
7.1	3121	Install Air-Conditioning at entire building	30	28	2	77000	SF	$16.22	$1,248,647			$1,248,647								**$1,248,647**
7.1	2427	Replace split System Ductless wall mount 1-ton	15	6	9	1	EA	$3,413.34	$3,413										$3,413	**$3,413**
7.1	2462	VAV Box replacement, 600 to 1500 CFM	20	19	1	12	EA	$1,723.68	$20,684		$20,684									**$20,684**
7.1	4752	3000 - 3700 CFM aluminum dome exhaust fan	7	5	2	6	EA	$3,257.10	$19,543			$19,543								**$19,543**
7.1	2463	VAV Box replacement, 270 to 600 CFM	20	19	1	9	EA	$1,243.62	$11,193		$11,193									**$11,193**
7.1	2467	Make up air unit 5000 CFM	20	20	0	1	EA	$20,248.20	$20,248	$20,248										**$20,248**
7.1	4753	Exhaust Fan 2000 CFM	10	8	2	4	EA	$5,498.64	$21,995			$21,995								**$21,995**
7.1	2426	Pad-Mounted Condenser 2-ton	15	8	7	2	EA	$2,954.70	$5,909								$5,909			**$5,909**
7.1	2461	Rooftop Unit, Variable volume, 30 ton, DX cooling, No heat	15	14	1	1	EA	$29,788.92	$29,789		$29,789									**$29,789**
7.1	2468	Pad Mounted condenser 16-ton	15	7	8	2	EA	$16,741.62	$33,483									$33,483		**$33,483**
7.1	2428	Retrofit of HVAC and Controls	0	0	0	1	EA	$28,350.00	$28,350	$28,350										**$28,350**

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7.1	5930	Asbestos transite board removal at KT Murphy School	0	0	0	1	EA	$5,339.88	$5,340	$5,340										**$5,340**
7.2	2435	Replace flush valve & water closet	25	16	9	43	EA	$1,123.59	$48,314										$48,314	**$48,314**
7.2	2433	Replace urinal	35	26	9	9	EA	$1,277.51	$11,498										$11,498	**$11,498**
7.2	2434	Replace lavatory porcelain 20"x17"	20	11	9	39	EA	$416.10	$16,228										$16,228	**$16,228**
7.2	2436	Replace drinking fountain	10	1	9	41	EA	$1,505.70	$61,734										$61,734	**$61,734**
7.2	6089	Capital Plan - Install outdoor drinking fountain, pedestal type	0	0	0	2	EA	$2,451.56	$4,903	$4,903										**$4,903**
7.2	6090	Capital Plan - Install one inch copper pipe for drinking fountain	0	0	0	350	LF	$31.63	$11,069	$11,069										**$11,069**
7.2	2429	Replace cast iron pipe 4"	40	32	8	300	LF	$64.70	$19,410									$19,410		**$19,410**
7.2	3600	Sump Pump	20	12	8	1	EA	$648.27	$648									$648		**$648**
7.4	2438	Replace Switchgear, mainframe, 1600 amps	20	18	2	1	EA	$9,341.64	$9,342			$9,342								**$9,342**
7.4	6077	Upgrade lighting for energy conservation	0	0	0	85000	SF	$5.92	$503,370	$503,370										**$503,370**
7.4	2440	Room intercom units	10	9	1	60	EA	$961.54	$57,693		$57,693									**$57,693**
7.4	2444	Replace Transfer Switch	18	17	1	1	EA	$5,555.19	$5,555		$5,555									**$5,555**
7.4	2443	Replace Diesel Generator 60KW	25	24	1	1	EA	$40,499.61	$40,500		$40,500									**$40,500**
7.4	2442	Sound system including amplifier	15	13	2	1	EA	$15,757.56	$15,758			$15,758								**$15,758**
7.4	2441	Replace stage lighting equipment	15	13	2	1	EA	$69,426.00	$69,426			$69,426								**$69,426**
7.4	5929	Asbestos electrical insulation, removal 300 LF	0	0	0	1	EA	$5,733.00	$5,733	$5,733										**$5,733**
7.6	2469	Install Ansul System at kitchen hood	20	20	0	1	EA	$5,990.29	$5,990	$5,990										**$5,990**
7.6	2445	Fire alarm panel addressable, with voice	15	11	4	1	EA	$15,264.77	$15,265					$15,265						**$15,265**
8.1	2517	Paint interior walls, CMU,including surface prep	7	3	4	26550	SF	$1.12	$29,773					$29,773						**$29,773**
8.1	5919	Capital Plan - Add area rugs at tiled classrooms	0	0	0	1	EA	$12,600.00	$12,600	$12,600										**$12,600**
8.1	4742	Residential kitchen countertop 10.5 ' w/new sink and disp.	15	12	3	1	EA	$1,541.35	$1,541				$1,541							**$1,541**
8.1	2521	Horizontal Blinds aluminum 1" slats	7	6	1	10620	SF	$6.49	$68,913		$68,913							$68,913		**$137,826**
8.2	12193	Stamford Kitchen Equipment Replacement Allowance	10	5	5	1	EA	$63,000.00	$63,000						$63,000					**$63,000**
Totals, Unescalated										**$1,758,963**	**$374,367**	**$1,424,501**	**$75,715**	**$45,038**	**$1,032,804**	**$508,591**	**$26,044**	**$842,485**	**$148,268**	**$6,236,776**
Soft Costs:																				
Architectural/Consultant Fees (10.0%)										**$175,896**	**$37,437**	**$142,450**	**$7,572**	**$4,504**	**$103,280**	**$50,859**	**$2,604**	**$84,249**	**$14,827**	**$623,678**
General Requirements (Bonds, Insurance, GC/CM Mark-up) (10.0%)										**$175,896**	**$37,437**	**$142,450**	**$7,572**	**$4,504**	**$103,280**	**$50,859**	**$2,604**	**$84,249**	**$14,827**	**$623,678**
Prevailing Wage/Labor Compliance (5.0%)										**$87,948**	**$18,718**	**$71,225**	**$3,786**	**$2,252**	**$51,640**	**$25,430**	**$1,302**	**$42,124**	**$7,413**	**$311,839**
Contingency (5.0%)										**$87,948**	**$18,718**	**$71,225**	**$3,786**	**$2,252**	**$51,640**	**$25,430**	**$1,302**	**$42,124**	**$7,413**	**$311,839**
Location Factor (1.11)										**$188,209**	**$40,057**	**$152,422**	**$8,102**	**$4,819**	**$110,510**	**$54,419**	**$2,787**	**$90,146**	**$15,865**	**$667,335**
Totals, Escalated (see inflation table above)										**$2,474,861**	**$542,536**	**$2,146,977**	**$118,681**	**$74,125**	**$1,784,820**	**$922,858**	**$49,621**	**$1,685,415**	**$311,446**	**$10,111,339**

* Markup has been included in unit costs.

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CERTIFICATION

EMG has completed a Comprehensive Facilities Needs Assessment of the subject property, K.T. Murphy Elementary School, located at 19 Horton Street, in Stamford, Connecticut.

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 Physical Plant personnel 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 evaluation 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 the Physical Plant personnel when questioned. The report describes property conditions at the time that the observations and research were conducted.

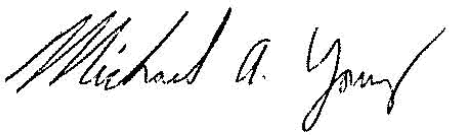
This report has been prepared on behalf of and exclusively for the use of City of Stamford, Connecticut Public Schools for the purpose stated within Section 2.0 of this report. The report, or any excerpt thereof, shall not be used by any party other than City of Stamford, Connecticut Public Schools or for any other purpose than that specifically stated in our agreement or within Section 2.0 of this report without the express written consent of EMG.

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

Any questions regarding this report should be directed to Bill Champion at bchampion@emgcorp.com or at (800) 733-0660, Extension 6234.

Prepared by: Scott A. Cameron, R.A. and Kevin Lantry, Field Observers

Reviewed by:



Michael A. Young
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Bill Champion
Director - Asset Management Consulting
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1. EXECUTIVE SUMMARY

1.1. SUMMARY OF FINDINGS

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:	19 Horton Street, Stamford, Fairfield County, Connecticut, 06902
Year constructed:	1900 Renovated 1989
Current owner of property:	City of Stamford
School occupying building:	K. T. Murphy Elementary School
Current usage of property:	Elementary
Management Point of Contact:	City of Stamford Engineering, Domenic Tramontozzi and Robert Gerbert, Jr. 203.977.5534 phone 203.977.4137 fax
Site acreage:	2.53 acres
Gross floor area:	85,000 Square Feet
Number of buildings:	One
Number of stories:	1 and 3
Parking type and number of spaces:	30 spaces in open lot at southwest corner of property, Limited parking in northwest paved area and on adjacent public streets
Building construction:	Predominantly reinforced concrete slab-on-grade with limited crawl spaces Masonry bearing walls and wood-framed roofs. Steel frame with concrete-topped metal decks.
Bay Column Spacing:	Approximately 12′-10″ x 30′-0″
Interior vertical clearance:	Approximately 12 to 15 Feet
Roof construction:	Hip roof with asphalt shingles at 3-story portion. Two flat, gravel surfaced built-up roofs (BUR). Predominantly flat, fully adhered white EPDM systems.
Exterior Finishes:	Unpainted brick veneer, painted wood trim
Heating and/or Air-conditioning:	Central heating system with dual-fuel boilers and perimeter finned-tube radiant heat units. Air-conditioning provided in limited areas by a rooftop air-conditioning unit, split system cooling units, and individual window mounted air-conditioning units.

Property Information	
Fire and Life/Safety:	Fire sprinklers, extinguishers, central alarm system, pull stations, alarm horns, hydrants, smoke detectors, security system.
Date of visit:	March 23, 2009
Point of Contact (POC):	Mrs. Marilyn Armengal, Assistant Principal 203.977.4834 Mr. Leonard Norman, Head Custodian 203.977.5757

Generally, the property appears to have been constructed within industry standards in force at the time of construction. The property appears to have been well maintained since it was first occupied and is in good overall condition.

According to City of Stamford Public Schools personnel, the property has had a limited capital improvement expenditure program over the past three years, primarily consisting of two new central heating boilers, asphalt pavement crack repairs, and white EPDM roof replacement in 2002. Supporting documentation was not provided in support of these claims but some of the work is evident.

1.2. FOLLOW-UP RECOMMENDATIONS

The following issues require additional study:

- The Property has received very few mobility impaired/handicapped accessibility related improvements with regards to parking, entrances, stairs/ramps and toilet rooms. The only accessible entrance is at the front office entrance. Restrooms are not accessible. Also of note, the 3-story original building portion has no elevator. An accessibility specialist must be retained to analyze the existing condition, provide recommendations and, if necessary, estimate the scope and cost of any required repairs. The estimated cost to retain a specialist is included in the Replacement Reserves Report. Separate itemized costs for various interim accessibility improvements are included in the Replacement Reserves Report and described in detail is included in section 3.1.
- The majority of the school is not air conditioned or mechanically ventilated. As such, a follow-up study is recommended to examine the feasibility of and determine design constraints and costs estimates for installing a central air-conditioning and ventilation system for the entire school. The cost of the study is included in the Replacement Reserves Report. The costs of the follow-up recommendations are to be determined by the study. An estimated budgetary cost allowance for the installation of an air-conditioning and ventilation system is included in section 7.1.
- The electrical power is reportedly inadequate for the property's demands. Maintenance staff reported recurring issues with breakers tripping and limited outlets in corridors for cleaning activities. It is recommended that the electrical system be upgraded to ensure adequate capacity. A follow-up study will be required to determine the appropriate electrical capacity. The cost of the study is included in the Replacement Reserves Report. The costs of the follow-up recommendations are to be determined by the study. An estimated budgetary cost allowance for the upgrades is included in section 7.4.
- There are no unresolved Fire Code violations. See Section 3.2 of the Facilities Needs Assessment for descriptions and comments.

The following issues should be considered.

- Verify that any alterations, installations, or other improvements since the project was first constructed and occupied have been properly permitted and approved by municipal agencies.
- Verify that no defective materials or equipment are used at the property.

1.3. OPINIONS OF PROBABLE COST

The estimates for the repair and capital reserves items noted within this PCR are attached to the front of this report, following the cover page.

These estimates are based on invoices and/or bid documents provided by the Owner and/or facility, 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.

1.3.1. Methodology

Based upon our observations, research and judgment, along with consulting commonly accepted empirical Expected Useful Life (EUL) tables; EMG will render our opinion as to when a system or component will most probably necessitate replacement. Accurate historical replacement records provided by the facility manager are typically the best source for this data. Exposure to the weather elements, initial system quality and installation, extent of use, the quality and amount of preventive maintenance exercised 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 age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its effective age.

In addition to determining the EUL and the RUL for each major prime system and building component, EMG will categorize each cited deficiency within one of the following four Priorities:

Priority 1: Currently Critical (Immediate)

Items in this category require immediate action and include corrective measures to:

- Return a building component to normal operation
- Stop accelerated deterioration
- Replace items that have reached or exceeded their useful service life
- Correct a cited safety hazard

Priority 2: Potentially Critical (Years 1-2)

Items in this category require action in the next 1-2 years and include corrective measures to:

- Return a building component to normal operation
- Stop rapid deterioration
- Correct potential life safety issues and/or code hazards
- Correct building components that are experiencing Intermittent operations

Priority 3: Necessary – Not Yet Critical (Years 3-5)

Items in this category require appropriate attention to preclude predictable deterioration, potential downtime, additional damage and higher costs to remediation if deferred further.

Priority 4: Recommended (Years 6-10)

Items in this category represent a sensible improvement to the existing conditions. These are not required for the most basic function of the facility; however, Priority 4 projects will improve overall usability and/or reduce long-term maintenance costs.

Priority 5: Recommended (Years 11+)

Items in this category represent anticipated required capital expenditures due to Estimated Useful Life (EUL) only. These systems are generally in good operational condition, but will require replacement due to the system(s) finite life expectancy.

In addition to identifying and prioritizing all of the observed deficiencies, EMG will also provide the physical conditions of building components. The physical condition is typically defined as being in one of four categories: Good, Fair, Poor and Not Applicable. For the purposes of our assessments, the following definitions are used:

Good (G) =	Component or system is sound and performing its function. However, it may show signs of normal wear and tear, commensurate with its age, some minor remedial work may be required.
Fair (F) =	Component or system is performing adequately at this time but exhibits deferred maintenance, evidence of previous repairs, workmanship not in compliance with commonly accepted standards, is obsolete, or is approaching the end of its typical Expected Useful Life. Repair or replacement is required to prevent further deterioration, restore it to good condition, prevent premature failure, or to prolong its Expected Useful Life. Component or system exhibits an inherent deficiency of which the cost to remedy is not commensurate with the deficiency but is best remedied by a program of increased preventative maintenance or periodic repairs.
Poor (P) =	Component or system has either failed or cannot be relied upon to continue performing its original function as a result of: having realized or exceeded its typical expected useful life, excessive deferred maintenance, state of disrepair, an inherent design deficiency or workmanship. Present condition could contribute or cause the deterioration of contiguous elements or systems. Repair or replacement is required.
N/A =	Not Applicable

2. PURPOSE AND SCOPE

2.1. PURPOSE

The purpose of this report is to assist the Client in evaluating the physical aspects of this property and how its condition may affect the Client's financial decisions over time. For this Comprehensive Facilities Needs Assessment, the major independent building components were observed and their physical conditions were evaluated in accordance with ASTM E2018-01. These components include the site and building exteriors and representative interior areas. The estimated costs for repairs and/or capital reserve items are included in the enclosed cost tables. All findings relating to these opinions of probable costs are included in the relevant narrative sections of this Report.

The Physical Plant staff and code enforcement agencies were interviewed for specific information relating to the physical property, code compliance, available maintenance procedures, available drawings, and other documentation.

2.2. SCOPE

ASTM E2018-01 requires that any deviations from the Guide be so stated within the report. EMG's probable cost threshold limitation is reduced from the Guide's $3,000 to $1,000, thus allowing for a more comprehensive assessment on smaller scale properties. Therefore, EMG's opinions of probable costs that are individually less than a threshold amount of $1,000 are typically omitted from this PCR. However, comments and estimated costs regarding identified deficiencies relating to life, safety or accessibility items are included regardless of this cost threshold.

In lieu of providing written record of communication forms, personnel interviewed from the facility and government agencies are identified in Section 2.3. Relevant information based on these interviews is included in Sections 2.3, 3.1, and other applicable report sections.

The assessment team will visit each identified property to evaluate the general condition of the building(s) and site improvements, review available construction documents in order to familiarize themselves with and be able to comment on the in-place construction systems, life safety, mechanical, electrical and plumbing systems, and the general built environment. The assessment team will conduct a walk-through survey of the building(s) in order to observe building systems and components, identify physical deficiencies and formulate recommendations to remedy the physical deficiencies.

- As a part of the walk-through survey, the assessment team will survey 100% of the facility's interior. In addition, EMG will survey the exterior of the properties including the building exterior, roofs, and sidewalk/pavement.
- The assessment team will interview the building maintenance staff so as to inquire about the subject property's historical repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements.

- The assessment team will develop opinions based on their site assessment, interviews with City of Stamford, Connecticut Public Schools building maintenance staff and experience gained on similar properties previously evaluated. The assessment team may also question others who are knowledgeable of the subject property's physical condition and operation or knowledgeable of similar systems to gain comparative information to use in evaluation of the subject property.
- The assessment team may review documents and information provided by City of Stamford, Connecticut Public Schools building maintenance staff that could also aid the knowledge of the subject property's physical improvements, extent and type of use, and/or assist in identifying material discrepancies between reported information and observed conditions.
- EMG will provide City of Stamford, Connecticut Public Schools with Sustainable Alternative Recommendations that will concentrate on Utility Savings Potential, Health and Environmental Benefits.
- EMG will provide an Energy Benchmarking Analysis to establish energy performance with relation to similar types of buildings.

2.3. PERSONNEL INTERVIEWED

The following personnel from the facility and government agencies were interviewed in the process of conducting the Comprehensive Facilities Needs Assessment:

Name and Title	Organization	Phone Number
Mrs. Marilyn Armengol Assistant Principal	K.T. Murphy Elementary School	203.977.4834
Mr. Leonard Norman Head Custodian	K.T. Murphy Elementary School	203.977.5757
Mr. Gus Burreisci Project Manager	City of Stamford Public Schools	203.223.8118

The Comprehensive Facilities Needs Assessment was performed with the assistance of Mrs. Marilyn Armengol, Assistant Principal and Mr. Leonard Norman, Head Custodian, the on site Points of Contact (POC), who were cooperative and provided information that appeared to be accurate based upon subsequent site observations. The on site contacts are very knowledgeable about the subject property and answered most questions posed during the interview process. The POC's management involvement at the property has been for the past 14 years and 8 months years, respectively.

2.4. DOCUMENTATION REVIEWED

Prior to the Comprehensive Facilities Needs Assessment, relevant documentation was requested that could aid in the knowledge of the subject property's physical improvements, extent and type of use, and/or assist in identifying material discrepancies between reported information and observed conditions. The review of submitted documents does not include comment on the accuracy of such documents or their preparation, methodology, or protocol. The following documents were provided for review while performing the Comprehensive Facilities Needs Assessment:

- Site plan
- Floor plans
- Large addition/renovation drawings by Massari & Raymond Architects dated November 12, 1954

- East elevation addition drawings by Maitland/Strauss/Behr Architects, P.C. dated May 12, 1986
- Re-roofing drawings by Salamone & Associates, P.C. Consulting Engineers dated May 16, 2002
- Capital improvement summary
- Roof warranty information
- Certificates of occupancy
- Add additional documents as appropriate.

No other documents were reviewed. The Documentation Request Form is provided in Appendix E.

2.5. PRE-SURVEY QUESTIONNAIRE

A Pre-survey Questionnaire was sent to the POC prior to the site visit. The questionnaire is included in Appendix E. Information obtained from the questionnaire has been used in preparation of this Facilities Needs Assessment.

3. ACCESSIBILITY, CODE & MOLD

3.1. 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 Comprehensive Building Condition Assessment, 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. ADA compliance issues inside spaces are not within the scope of the survey.

The facility does not appear to be accessible with Title III of the Americans with Disabilities Act. Elements as defined by the ADAAG that are not accessible as stated within the priorities of Title III, are as follows:

Parking

- Adequate number of designated parking stalls and signage for vans are not provided.
- Access aisles adjacent to parking spaces, crossing hazardous vehicle areas, from main roadways or public transportation stops to the building sidewalks and entrances are not provided. Currently the two nearest common entrances to the two ADA parking stalls have no painted access aisle striping. Install approximately 80 LF of striping to each entrance.
- The two exterior common entrances nearest to the ADA parking stalls are currently not equipped with dropped curbs allowing wheelchair access to the kindergarten and auditorium entrances. Install two concrete dropped curbs.
- Signage directing to accessible parking or accessible building entrances to the facility are not provided at the kindergarten rear entrance and auditorium entrance.

Entrances/Exits

- Lever action hardware is not provided at all accessible locations including classrooms. Replace all knobs with level type hardware.

Paths of Travel

- Install cup dispenser at an existing non-conforming water fountains along corridors, within classrooms and inside the gymnasium.
- All common child water fountains located along the corridors, within the classrooms and within the gymnasium currently project more than 4" into the space. Install cane detection bars on either side of each fountain.
- Due to grade changes, interior common corridors have steps and large sections of the school are not wheelchair accessible. Wheelchair lifts should be installed at the main office lobby leading to the original 3-story portion, at the auditorium entrance and within the media center.

Elevators

- The original 3-story building portion built around 1900 is currently not equipped with an elevator. A single 3-stop hydraulic passenger elevator should be installed.

Restrooms

- Lever action hardware is not provided at all accessible locations. All common toilet room doors, both single and multi-user, currently have knob type hardware. All knobs should be replaced with lever type hardware.
- Install grab bars in accessible stalls at 36″ above the floor. All common toilet room toilets, both single and multi-user, currently have no grab bars. One non-compliant grab bar was noted at the nurse's office. All toilets should be equipped with proper ADA grab bars.
- Modify existing toilet room accessories and mirrors. All common toilet room toilets, both single and multi-user, currently have improperly mounted accessories (soap, toilet paper and towels) set too high. In addition, mirrors are typically mounted too high as well. All accessories and mirrors should be replaced and set at the correct ADA heights.
- Modify existing lavatory faucets to paddle type faucets. Several of the common toilet room toilets, both single and multi-user, currently have knob type or non-ADA type sink hardware. All affected sinks should be equipped with lever type sink hardware.
- Wrap drain pipes below lavatory with insulation; protect against contact with hot, sharp, or abrasive surfaces. All common toilet room toilets, both single and multi-user, currently have no drain pipe insulation padding. All affected sinks should have padding installed.

A full ADA Compliance Survey may reveal additional 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 concerns civil rights issues as they pertain to the disabled and its Accessibility Guidelines are not a construction code, although many local jurisdictions have adopted them as such. The estimated costs to address the achievable items noted above are included in the Replacement Reserves Report.

3.2. CODE INFORMATION AND FLOOD ZONE

According to the receptionist for Deputy Fire Marshal Terrance Shay of the Stamford Fire & Rescue, there are no outstanding fire code violations on file. The most recent inspection was conducted by the fire department on August 5, 2008 and December 3, 2008. The fire department inspects the property on an annual basis.

According to the Flood Insurance Rate Map, published by the Federal Emergency Management Agency (FEMA) and dated November 17, 1993, the property is located in Zone X, defined as areas outside the one percent annual chance floodplain, areas of one percent annual chance sheet flow flooding where average depths are less than one foot, areas of one percent annual chance stream flooding where the contributing drainage area is less than one square mile, or areas protected from the one percent annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones. In communities that participate in the NFIP, flood insurance is available to all property owners and renters in this zone.

3.3. MOLD

EMG performed a limited visual assessment for the presence of mold, conditions conducive to mold, and evidence of moisture in readily accessible interior areas of the property. EMG did not note obvious visual indications of the presence of mold, conditions conducive to mold, or evidence of moisture in readily accessible interior areas of the property. No further action or investigation is recommended regarding mold at the property.

4. EXISTING BUILDING EVALUATION

4.1. ROOM TYPES

The following table identifies the reported room types and mix at the subject property.

Room Types and Mix			
Quantity	**Type**	**Vacant Rooms**	**Down Rooms**
30	Classroom	0	0
16	Office	0	0
2	Mechanical	0	0
4	Storage	0	0
1	Gymnasium	0	0
1	Cafeteria	0	0
1	Auditorium	0	0
1	Media Center	0	0
56	**TOTAL**	**0**	**0**

4.2. ROOMS OBSERVED

EMG observed 100 percent of the building in order to gain a clear understanding of the property's overall condition. Other areas accessed included the exterior of the property, a representative sample of the roofs, and the interior common areas.

All areas of the property were available for observation during the site visit.

A "down room" or area is a term used to describe a non-usable room or area due to poor conditions such as fire damage, water damage, missing equipment, damaged floor, wall or ceiling surfaces, or other significant deficiencies. According to the head custodian, there are no down rooms or areas. No down rooms or areas were observed during the site visit.

The following areas were not available for observation during the site visit:

- None

5. SITE IMPROVEMENTS

5.1. UTILITIES

The following table identifies the utility suppliers and the condition and adequacy of the services.

Site Utilities		
Utility	**Supplier**	**Condition & Adequacy**
Sanitary sewer	City of Stamford	Good
Storm sewer	City of Stamford	Good
Domestic water	Aquarian	Good
Electric service	CLMP	Fair
Natural gas service	Yankee Gas	Good

Observations/Comments:

- The utilities provided appear to be adequate for the property. There are no unique, on site utility systems such as emergency generators, septic systems, water or waste water treatment plants, or propane gas tanks.
- See Section 7.1 for descriptions and comments regarding the fuel oil storage tank.
- See Section 7.4 for descriptions and comments regarding the emergency power system.

5.2. PARKING, PAVING, AND SIDEWALKS

The main entrance drive is located along Horton Street, on the north side of the property. An additional entrance drive is located north of the main entrance, along Horton Street. The parking areas and drive aisles are paved with asphalt. The entrance driveway aprons are paved with concrete.

Based on a physical count, parking is provided for approximately 30 cars. The parking ratio is 0.35 spaces per thousand square feet of floor area. All of the parking stalls are located in an open lot. Additional parking is available on the surrounding public streets. There are a total of two handicapped-accessible parking stalls, none of which are van-accessible.

The student play area at the northwest side of the building is paved with asphalt. The play area contains a basketball court and open space for recess. Limited parking is available near the building, in the paved play area. An additional paved area is located near the playground at the southeast corner of the property. The pavement is finished with an acrylic coating.

The sidewalks throughout the property and near the building entrances are constructed of cast-in-place concrete. Cast-in-place concrete steps with metal handrails are located at the grade change at the south side of the building. The pavement edges do not have curbing. Surface runoff is directed to the landscaped areas and public streets bordering the paved areas.

Observations/Comments:

- The pavement in the south parking lot was observed to be in good to fair condition. Surface deterioration in the form of sinking and cracking was observed near the middle of the lot. A small area of heaving, likely due to tree roots beneath the surface was observed near the building entrance. The damaged areas of paving must be cut and patched in order to maintain the integrity of the overall pavement system. The estimated cost of this work is included in the Replacement Reserves Report.
- The pavement in the northwest play area was observed to be in good to fair condition. Alligator cracking was observed throughout the paved area. The cracked areas must be cut and patched in order to maintain the integrity of the overall pavement system. The estimated cost of this work is included in the Replacement Reserves Report.
- The pavement near the southeast playground appears to be in poor condition. Large cracks were observed in the asphalt pavement, possibly indicating excessive settlement beneath the surface. The paved area will require full depth repair, including addition of fill dirt and compaction to stabilize the subsurface. The estimated costs for the repairs are included in the Replacement Reserves Report.
- The south parking lot and the northwest play area will require an overlay with new asphalt paving during the evaluation period in order to maintain the integrity of the overall pavement system. The estimated cost of this work is included in the Replacement Reserves Report.
- In order to maximize the pavement life, pothole patching, crack sealing, seal coating, and restriping of the asphalt pavement at the south parking lot and the northwest play area will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The concrete sidewalks are in fair condition. Tripping hazards due to vertical displacement of the concrete were observed in the sidewalks near the main building entrance and near the west building entrance. It is recommended that the tripping hazards be repaired. The estimated cost of this work is included in the Replacement Reserves Report.
- Epoxy sealing of minor cracks will be required during the evaluation period as part of the Physical Plant's routine maintenance program.
- The concrete steps were in good to fair condition. Minor damage was observed on the steps near the south playground. The damaged areas will require concrete repair during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The metal handrails were in generally good condition. Painting is considered to be routine maintenance.

Sustainable Recommendations:

- A sustainable recommendation for asphalt is to use recycled asphalt pavement (RAP) from a local source. This will reduce carbon emissions from production and transportation of new asphalt material.
- A sustainable recommendation for concrete is to use recycled concrete aggregate (RCA) from a local source. This will reduce carbon emissions from production and transportation of new concrete materials.

5.3. DRAINAGE SYSTEMS AND EROSION CONTROL

Storm water from the roofs, landscaped areas, and paved areas flows across the surface into the adjacent public streets.

Observations/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.

Sustainable Recommendations:

- There are no sustainable recommendations for the drainage systems.

5.4. TOPOGRAPHY AND LANDSCAPING

The property slopes moderately downward from the east side of the property toward the west property line.

The landscaping consists of trees, shrubs, and grasses. Flowerbeds are located along the front of the building.

Surrounding properties include residential developments.

Reinforced concrete retaining walls are located at grade changes along the east property line adjacent to Horton Street, at the south end of the property adjacent to the playground, and at the west side of the property between the paved area and the west entrance. Chain link fencing is mounted on top of the retaining walls. Wood timber retaining walls are located along the east property line near the front of the school and at the southeast corner of the property near the playground.

Observations/Comments:

- The topography and adjacent uses do not appear to present conditions detrimental to the property.
- The landscape materials are in good to fair condition. Barren landscaping was observed near the main entrance to the building. It is recommended that this area be seeded or protected with ground cover to prevent erosion in the area. Installation of shrubs and/or small trees is also recommended in this area. According to the client provided JMOA five year capital plan, underground irrigation system installation and seeding is planned for areas prone to erosion. A budgetary cost allowance for this work is included in the Replacement Reserves Report.
- Some of the trees along the front elevation of the building were becoming overgrown and were making contact with the roof and exterior walls. It is recommended that the trees near the building be trimmed or removed as appropriate. The estimated cost of this work is included in the Replacement Reserves Report.
- The concrete retaining walls are in good to fair condition. The retaining wall along the east property line was observed to be out-of-plumb. Evidence of prior repairs was observed along the face of the wall. The retaining wall will require sectional replacement during the evaluation period. The estimated costs for theses repair are included in the Replacement Reserves Report.
- The expansion joints in the retaining wall adjacent to the playground were observed to be missing sealant. It is recommended that the expansion joints be filled with the appropriate sealant. This work can be completed as part of the Physical Plant's routine maintenance program.
- The timber retaining walls are in good to fair condition. Minor damage and displacement were observed along both of the timber retaining walls. The retaining walls will require replacement during the evaluation period. The estimated costs for theses repair are included in the Replacement Reserves Report.

Sustainable Recommendations:

- There are no sustainable recommendations for landscaping.

5.5. GENERAL SITE IMPROVEMENTS

Property identification is provided by building-mounted signage above the main entrance.

Site lighting is provided by city-owned, metal, streetlight standards. The light standards are located along the adjacent public streets. Exterior building illumination is provided by surface-mounted light fixtures on the exterior walls.

Perimeter fencing is located along the north and south property lines and along the south end of the east property line. The fencing is constructed of chain link with metal posts.

Two playground areas are located on the property. The east playground is located at the northeast corner of the property and contains three jungle gym structures, two swing sets, and a funnel ball goal. The surface of the playground in topped with wood chips and asphalt pavement. The south playground is located at the south side of the property, adjacent to the base of the retaining wall, and contains three small pieces of play equipment. The playground surfaces consist of wood chips. A basketball goal is located in the paved play area at the northwest side of the property. The paved sections of the playground are described in Section 5.2.

Dumpsters are located in the paved area at the northwest corner of the property, along the north elevation of the building, and are placed on the asphalt paving. The dumpsters are not in enclosures.

Observations/Comments:

- The property identification signs are in good condition. Routine maintenance will be required during the evaluation period.
- Inadequate signage was reported in the parking areas, leading to traffic control problems during drop-off and dismissal. The installation of additional signs is recommended to improve traffic flow around the school.
- The building light fixtures are in good condition. Routine maintenance will be required during the evaluation period.
- The site lighting on the property appears to be inadequate. Maintenance staff reported dimly lit areas around the building. It is recommended that additional lighting be added in the parking lot and the northwest play area. The estimated cost of this work is included in the Replacement Reserves Report.
- The site fencing is in good to poor condition. Damaged sections of chain link fence were observed along the north property line and along the top of the retaining wall at the west side of the property. The damaged fence sections will require replacement. The estimated cost of this work is included in the Replacement Reserves Report.
- The playground equipment is in good to fair condition. Based on their estimated Remaining Useful Life (RUL), the swing sets will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The playground surfaces are in good condition. Addition of wood chips will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The dumpsters are owned and maintained by the refuse contractor. It is recommended that the dumpsters be placed in enclosures. The estimated cost to construct an enclosure is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for site lighting is to install energy efficient light fixtures controlled by photo cells.
- A sustainable recommendation for fencing is to use fencing constructed of recycled PVC materials.

6. BUILDING ARCHITECTURAL AND STRUCTURAL SYSTEMS

6.1. FOUNDATIONS

Based on the structural drawings and structures of similar size, configuration, and geographic location, the foundations consist of cast-in-place concrete, perimeter spread footings supporting wall and column loads and slab-on-grade. Only partial sub-grade crawlspace levels exist.

Observations/Comments:

- The foundations and footings could not be directly observed during the site visit. There is no evidence of movement that would indicate excessive settlement.

Sustainable Recommendations:

There are no sustainable recommendations for foundations.

6.2. SUPERSTRUCTURE

The original 3-story building portion is a conventional, wood-framed structure and has load-bearing, unpainted brick masonry exterior walls supporting the upper floor and roof. The upper floors are constructed with wood joists and are sheathed with plywood and wood planks. This building portion has an accessible attic space. The flat roofs are constructed of metal decks supported by steel beams and open-web, steel joists.

The newer building sections are constructed of conventional steel framing, non-load bearing concrete masonry unit (CMU) walls, and interior steel columns and beams, supporting the open web steel roof joists and corrugated metal decking.

Observations/Comments:

- The superstructure is exposed in some locations, allowing for limited observation. Walls and floors appear to be plumb, level, and stable. There are no significant signs of deflection or movement.

Sustainable Recommendations:

- There are no sustainable recommendations for superstructure.

6.3. ROOFING

The original (1900) schoolhouse portion is roofed over with a steeply pitched, hip roof system finished with asphalt shingles. This building portion is also flanked on each end with a flat, gravel surfaced built-up roof (GSBUR) section.

The primary roofs are classified as flat roofs. The roofs are finished with a white single-ply, fully adhered PVC membrane. A limited portion of the main entrance lobby/foyer is roofed over with a steeply pitched, standing seam metal roof system and glass pyramid type skylight system. The PVC roofs are insulated with tapered rigid insulation boards that direct storm water towards the roof surface drains.

The roof membrane turns up the sides of the parapet walls and terminates at sheet metal copings. The roofs have sheet metal flashing elements and single-ply base and edge flashing.

Storm water is drained from the roofs by internal surface drains and through parapet scuppers at the flat roof sections and lead lined, integral gutters and copper leaders at the pitched roof sections. The drains discharge onto paved and landscaped areas and/or into the underground storm drainage system.

Observations/Comments:

- The roof finishes vary in age – the flat white PVC sections are approximately 7 years old. The flat gravel surfaced BUR sections are reportedly greater than ten years old and the pitched asphalt shingle roofs are 12-15 years old. A copy of the flat PVC 20-year warranty beginning October 1, 2002 is attached in Appendix C. The roofs are maintained by the in-house maintenance staff.
- The fields of the roofs are in good condition. Based on their estimated Remaining Useful Life (RUL), the built-up roof membranes will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The white EPDM fields of the roofs are in good condition and will require routine maintenance during the evaluation period.
- Several isolated sections of the pitched asphalt shingle roof system over the original 3-story section have damaged or missing shingles. Deterioration was especially noted along hip ridges. All affected sections should be professionally repaired. The estimated cost of this work is included in the Replacement Reserves Report.
- EMG also conducted a separate roof assessment for this project. Wet areas of insulation requiring repair were found at the PVC roof during infrared scans of the roof. Additionally recommendations for anticipated roof replacement work are also provided in this report. Estimated costs from this report recommended during the evaluation period are included in the Replacement Reserves Report. See EMG project number 88166.09R-002.244 for more detailed discussion and findings.
- According to the head custodian, there are no active roof leaks.
- 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.
- There is no evidence of fire retardant treated plywood (FRT) and, according to the head custodian, FRT plywood is not used.
- The PVC roof flashings are in good condition and will require routine maintenance during the evaluation period.
- The parapet walls and copings are in good condition and will require routine maintenance during the evaluation period.

- Roof drainage appears to be adequate. Clearing and minor repair of drain system components should be performed regularly as part of the Physical Plant's routine maintenance program. Of note, several of the roof surface drain strainers are currently missing and should be replaced and secured. This work is considered routine maintenance.
- The roof vents are in good condition and will require routine maintenance during the evaluation period.
- Based on their estimated Remaining Useful Life (RUL), the roof access hatches will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The property is currently not equipped with a fixed, painted metal roof ladder to access the gymnasium roof. A fixed ladder is recommended. The estimated cost of this work is included in the Replacement Reserves Report.
- The skylights are in good condition and will require routine maintenance during the evaluation period. However, the head custodian did report a single occasional drip at one of the pitched skylights directly over the media center. It appears that several previous re-caulking attempts have failed. All failed caulking and gaskets should be removed/raked out and new sealants neatly tooled. This repair can be accomplished as routine maintenance by the In-House staff.
- There is no evidence of moisture, water intrusion, or excessive daylight in the 3-story attic. However, the attic currently has no insulation. The 3rd floor classrooms do complain of ambient temperature fluctuations and lack of control – this may be caused by or worsened by the lack of attic insulation. We recommend that the attic walkways be clearly defined leading to the hatches and all other areas be covered with blown in cellulose insulation.

Sustainable Recommendations:

- A sustainable recommendation for roofing is to replace the built up roofing with a light colored single ply membrane.

6.4. EXTERIOR WALLS

The exterior walls are finished primarily with unpainted brick veneer and wood trim. The soffits are finished with painted wood at the 3-story building and aluminum slats at the newer 1-story portions and are exposed. Limited use of painted exterior insulation and finish system (EIFS) is utilized at the main lobby entrance.

Building sealants (caulking) are located between dissimilar materials, at joints, and around window and door openings.

Observations/Comments:

- The exterior brick finishes are in generally good condition. Minor isolated sections of deteriorated mortar joints were noted along the lower rear façade of the 3-story portion, roof level brick chimney and at both sides of the front main office lobby entrance were observed. In addition, all efflorescence should be properly cleaned. Cleaning can be performed as part of routine maintenance. In addition, repointing and brick patching will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

- Many sections of the wood trim, eaves, soffits, dormers and bell tower at the original (1900) 3-story portion were found to be loose, rotted and deteriorated. Bird nesting along the front soffit/eave was reported by the head custodian due to holes/rotted sections. Temporary repairs have been installed. All damaged wood trim should be replaced and painted. Portions of this work will be difficult to access and scaffolding will likely be required. The estimated cost of this work is included in the Replacement Reserves Report.
- Many of the exterior stair railings, entrance columns, entrance roof soffits and fascias, roof trim and door frames were noted to have peeling paint and rusting. All affected areas should be wire brushed, primed and repainted yellow or white to match surrounding areas. The estimated cost of this work is included in the Replacement Reserves Report.
- The window/door frame sealant is flexible, smooth, and in good condition and will require periodic re-application over the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for exterior finishes is to use low VOC sealant or caulking around exterior doors and windows and the paint finishes on the wood trim and metals.

6.5. EXTERIOR AND INTERIOR STAIRS

The interior stairs are constructed of steel and have closed risers and concrete-filled, steel pan treads. The handrails and balusters are constructed of painted metal.

The exterior stairs are constructed of reinforced concrete. The handrails and balusters are constructed of painted metal.

Observations/Comments:

- The exterior and interior stairs, balusters, and handrails are in good condition and will require routine maintenance during the evaluation period.
- Both wood framed stairwells within the 3-story portion were reported and observed to be out-of-plumb, sagging and with soft spots under the textured vinyl floor material. It is recommended that major structural repairs be carried out and possibly each wood stair run be replaced. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for interior stairs is to use low VOC coatings for the stairs and guardrails when repainting.

6.6. WINDOWS AND DOORS

Some of the fixed windows are part of a painted metal framed, storefront system incorporating the exterior entry doors. The windows are glazed with insulated panes set in metal frames. The doors are fully-glazed, painted metal-framed doors set in the metal framing system. Most of the classroom windows are anodized aluminum framed, insulated fixed, awning and double hung type units.

The interior office and classroom entrance doors are stained, solid-core, wood doors set in painted metal frames. The entrance doors have cylindrical locksets with knob handle hardware.

Exterior service doors are of painted metal with various sized glass vision panels set in painted metal frames. The doors have cylindrical locksets with knob handle hardware.

The loading dock is equipped only with bumpers. No overhead roll-up steel doors are provided at the kitchen dock/delivery area.

Observations/Comments:

- The storefront window system is in good condition and will require routine maintenance during the evaluation period.
- Several of the aluminum framed fixed window units located in the stairwells (Palladian), classrooms and PPT conference room were noted to have failed internal seals with trapped internal fogging. All affected units should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- According to the head custodian, the property does not experience a significant number of complaints regarding window leaks or window condensation.
- All of the exterior common use and service doors were reported and observed to have rusting, difficult operation, mis-aligned hardware, delaminating skins, and sagging hinges/frames. All exterior doors should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- All stairwell fire doors exhibits defects and wear including sagging in frames, improper closing operation, mis-aligned throw bolts and hardware. Each affected door should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- The head custodian and teachers complained of several previous helper spring lift failures at the aluminum framed, double hung sashes. The upper sash has crashed down nearly hitting the teacher/students. All affected windows should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- Many of the classroom and toilet room window screens were observed to be torn or missing. All damaged screens should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- The dock equipment is in good condition and will require routine maintenance during the evaluation period.

Sustainable Recommendations:

- A sustainable recommendation for windows is to replace all single paned windows with insulated paned units with thermal breaks.
- A sustainable recommendation for doors is to replace with insulated, energy efficient doors.

6.7. PATIO, TERRACE, AND BALCONY

Not applicable. There are no patios, terraces, courtyards or balconies.

6.8. COMMON AREAS, ENTRANCES, AND CORRIDORS

The main school office lobby contains display cases, bulletin boards and the entrance to the main administrative office. Corridors and the Media Center are accessed directly from the lobby.

Classrooms and offices are accessed from corridors beyond the lobby.

Common area restrooms are located off the lobby, near the auditorium, near the computer lab and on the 2nd and 3rd floors. There are a total of five sets of common area restrooms. No handicapped accessible restrooms are provided on site. Major modifications and renovations are required at each toilet room to make ADA accessible. The estimated cost of this work is included in the Replacement Reserves Report.

Common Area	Floors	Walls	Ceilings
Lobby	Ceramic tile	Painted plaster, wood panels, vinyl wallcovering	Suspended and adhered acoustic tiles
Corridor	Vinyl tile	Painted concrete block, ceramic tile, painted plaster	Adhered acoustic tiles or suspended acoustic tiles, painted plaster or gypsum board
Common Area Restrooms	Ceramic tile	Ceramic tile or painted drywall or painted concrete masonry units (CMU) or brick	Painted plaster
Office	Vinyl tile or carpet	Painted drywall	Suspended acoustic tiles and adhered acoustic tiles
Media Center	Carpet	Painted drywall and stained wood panels	Painted drywall and suspended acoustic tiles
Auditorium	Painted concrete, carpet aisles	Painted concrete masonry units, wood panels and plaster	Painted plaster
Cafeteria	Vinyl tile	Painted concrete block and plaster	Suspended acoustic tiles
Gymnasium	Wood plank	Painted plaster, CMU or ceramic tile	Exposed roof structure

Observations/Comments:

- It appears that the interior finishes in the common areas have not been renovated within the last five to ten years.
- The interior finishes in the common areas are in good to fair condition. Based on its estimated Remaining Useful Life (RUL), the common area carpeting will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

- Interior painting and wall finish replacement will also be required during the evaluation period. The estimated cost of this work is included in Section 8.1 of the Replacement Reserves Report.
- The wood flooring in the gymnasium is in good condition. The wood flooring within the auditorium stage is in poor overall condition with large sections of splinters and rough surfaces. Refinishing of the gymnasium flooring and replacement of the auditorium stage will be required during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- According to the client provided JMOA five year capital plan, wall padding is required at the gymnasium. A budgetary cost allowance for this work is included in the Replacement Reserves Report.
- The cafeteria kitchen textured vinyl floor tiles are in fair to poor condition. All kitchen floor tiles should be replaced early in the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Partial isolated suspended ceiling tile replacement will also be required during the evaluation period due to stains, damage or missing tiles. This work is considered to be part of routine maintenance operations and no costs are included in the tables. In addition, phased replacement of some of the suspended and adhered acoustic ceiling tiles should also be anticipated at the end of the evaluation period. The cost of this work is included in the Replacement Reserves Report.
- Several isolated sections of the vinyl floor tiles along the common corridors were noted to be cracked, or lifted at expansion joint bolts. All damaged tiles should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- According to the client provided AHERA document asbestos containing material is located in the first floor mechanical room, storage closets, and the majority of the classrooms, in the form of vinyl asbestos tile. A cost allowance for proper removal and disposal of the asbestos containing vinyl tile is included in the Replacement Reserves Report as part of the recommended vinyl tile repair/replacement work. This allowance is based solely on the information presented in the client provided AHERA document. An excerpt of this AHERA document is included in the appendices. Identifying asbestos containing material is not within the scope of this facility condition assessment.
- A cost allowance for the abatement of lead containing materials is included in the client provided JMOA five year capital plan. Lead containing materials were not reported; however, based on the cost budgeted in the capital plan, an allowance for lead abatement is included in Replacement Reserves Report.

Sustainable Recommendations:

- Sustainable recommendations for the interior finishes are to use low VOC paints, linoleum or cork flooring, and recycled material carpeting.

7. BUILDING (CENTRAL) MECHANICAL AND ELECTRICAL SYSTEMS

7.1. BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Cooling is provided in the media center and the surrounding offices by an individual, direct-expansion, variable-volume, packaged, rooftop-mounted, air-conditioning unit. The rooftop unit has a cooling capacity of 30 tons. Cooled air is distributed through ducts to variable air volume (VAV) terminals concealed above the ceilings in each conditioned space. There are a total of 18 VAV terminals, ranging in capacity from 350 to 1,600 CFM. The VAV terminals are equipped with reheat coils. The system is controlled by the building energy management system (EMS). The cooling equipment uses R-22 as a refrigerant.

Heating is provided in the classrooms and offices by perimeter, cabinet-mounted, finned-tube, radiant heat units. Additional heating is provided in the corridors and restrooms by baseboard-mounted units and recessed, wall-mounted units. The radiant units are supplied with steam by the central system.

Steam for the central heating system is supplied by two dual-fuel boilers. Each boiler has a rated input capacity of 4,180 MBH and is located in the boiler room. Fuel oil is supplied to the boilers by a fuel oil pump set and a 5,000-gallon fiberglass underground storage tank (UST). The UST is located beneath the paved area at the northwest corner of the building.

Circulating pumps provide steam to each temperature-controlled space and condensate return to the boilers via a two-pipe distribution system. The steam supplies the finned tube radiant heat units.

Supplemental cooling is provided in classrooms 1 and 2 by two small split system air-conditioning units. Each unit has a cooling capacity of two tons. The fan coil units are concealed above the ceilings and the condensing units are mounted on the roof. Additional supplemental cooling is provided in classroom 16 by a ductless split system. The ductless system has a cooling capacity of one ton. The interior unit is wall-mounted in the office and the condensing unit is pad-mounted on grade. Approximately six of the classrooms are provided with individual window-mounted air-conditioning units.

Ventilation air is provided in the auditorium by two split system air-conditioning units. Each unit has an airflow capacity of 6,000 CFM and a cooling capacity of 16 tons. Supplemental heating is provided by electric resistance coils in the fan coil units. The fan coil units are located in the basement mechanical room and the condensing units are pad-mounted on grade. Ventilation air is provided in the gymnasium by make-up air unit located in the penthouse mechanical room. The make-up air unit contains a steam heating coil and has an air flow capacity of 5,000 CFM.

The bathrooms and kitchen are ventilated by mechanical exhaust fans. High-capacity ventilation fans are mounted on the roof and are connected by concealed ducts to each ventilated space.

The heating and cooling system is controlled by a building energy management system (EMS), located in the custodial office. The EMS provides individual control and performance data for the boilers, circulating pumps, the rooftop unit, and the domestic water heating system. The EMS does not control the individual classroom thermostats. The system is actuated by pneumatic controls. The air compressor is located in the boiler room.

Observations/Comments:

- The HVAC systems are maintained by the in-house maintenance staff.
- The HVAC equipment varies in age. The boilers were installed in 2006. The majority of the heating system components were replaced in 1989. The media center air-conditioning system was installed in 1989. The auditorium ventilation system was installed in 1998.
- The boilers appear to be in good condition and will require routine maintenance during the evaluation period.
- The UST appear to be in good condition and will require routine maintenance during the evaluation period.
- The finned-tube radiant heat units appear to be in good condition and will require routine maintenance and minor repairs during the evaluation period.
- The maintenance staff reported an issue with clogged steam traps at the property. It is recommended that the steam traps be inspected and repaired as necessary. This work can be completed as part of routine maintenance at the property.
- The air-conditioning system for the media center and main office areas appears to be in fair condition. Based on its estimated Remaining Useful Life (RUL), the rooftop air-conditioning unit and the associated VAV terminals will require replacement during the evaluation period. Many of the offices served by this air-conditioning unit reportedly receive poor temperature control. The construction plans indicated that multiple offices are served by a single VAV terminal in some instances. At the time of replacement it is recommended that the system be redesigned for better temperature control. The estimated cost of this work is included in the Replacement Reserves Report.
- The majority of the school is not air conditioned or mechanically ventilated. As such, a follow-up study is recommended to examine the feasibility and determine design constraints and costs estimates for installing a central air-conditioning and ventilation system. The cost of the study is included in section 1.2. The costs of the follow-up recommendations are to be determined by the study. An estimated budgetary cost allowance for the installation of an air-conditioning and ventilation system is included in the Replacement Reserves Report.
- The make-up air unit for the gymnasium/cafeteria is in fair to poor condition. The unit reportedly functions, but does not adequately heat the ventilation air during periods of cold weather. It is recommended that the make-up air unit be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- The auditorium ventilation system appears to be in good condition. Based on its estimated Remaining Useful Life (RUL), the condensing units for the auditorium ventilation system will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The supplemental split systems for classrooms 1 and 2 appear to be in good condition. Based on their estimated Remaining Useful Life (RUL), the roof-mounted condensing units will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The ductless split system appears to be in good condition. Based on its estimated Remaining Useful Life (RUL), the ductless system will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The window air-conditioning units appear to be in good to fair condition. Two of the window units were installed using plywood in the window opening. It is recommended that these units be installed using a proper mounting bracket. In addition, the window units will require replacement during the evaluation period. This work can be completed as part of routine maintenance at the property.

- The mechanical ventilation system and equipment appear to be in fair condition and will require routine maintenance during the evaluation period. Exhaust capacity in the restrooms is reportedly inadequate, resulting in an odor problem. It is recommended that the existing exhaust fans be replaced and additional fans be added for increased capacity. The estimated cost of this work is included in the Replacement Reserves Report.
- The building EMS appeared to be in good condition, but reportedly had limited control over the heating system. It is recommended that the EMS be upgraded to include control of all conditioned spaces in the building. The estimated cost of this work is included in the Replacement Reserves Report. This work should be performed concurrently with the proposed air-conditioning installation.
- According to the client provided AHERA document asbestos containing material is located behind radiators in four classrooms. A cost allowance for proper removal and disposal of the asbestos containing transite board is included in the Replacement Reserves Report as part of the recommended radiator repair/replacement work. This allowance is based solely on the information presented in the client provided AHERA document. An excerpt of this AHERA document is included in the appendices. Identifying asbestos containing material is not within the scope of this facility condition assessment.

Sustainable Recommendations:

- A sustainable recommendation for HVAC is to replace existing air-conditioning equipment with high-efficiency components.
- A sustainable recommendation for HVAC is to pursue energy efficient methods for cooling and ventilating the building if a central system is installed.

7.2. BUILDING PLUMBING

The plumbing systems include the incoming water service, the cold water piping system, and the sanitary sewer and vent system. The risers and the horizontal distribution piping are reported to be copper. The sanitary sewer and vent systems are reported to be polyvinyl chloride (PVC) plastic and cast iron. Storm water sump pumps are located in the boiler room.

The water meter is located in the crawlspace beneath the original portion of the building.

Domestic hot water is supplied by two gas-fired boilers. Each boiler has a rated input capacity of 120,000 MBH and is located in the boiler room. Domestic hot water storage is provided by a 119-gallon storage tank located adjacent to the boilers.

The restrooms have commercial-grade fixtures and accessories, including water closets, urinals and lavatories. Drinking fountains are located in the corridors and in each classroom.

Observations/Comments:

- The plumbing system appears to be well maintained and in good to fair condition. The water pressure appears to be adequate. Corrosion was observed on some of the exposed drain lines, specifically in the auditorium area. Based on the observed condition, the drain lines will require sectional replacement during the evaluation period. A cost allowance for this work is included in the Replacement Reserves Report.
- There is no evidence that the property uses polybutylene piping for the domestic water distribution system. According to the POC, polybutylene piping is not used at the property.

- The sump pumps appear to be in good condition. Based on its estimated Remaining Useful Life (RUL), the sump pumps will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The pressure and quantity of hot water appear to be adequate.
- The boilers appear to be in good condition and will require routine maintenance during the evaluation period.
- The hot water storage tank appears to be in good condition and will require routine maintenance during the evaluation period.
- The accessories and fixtures in the restrooms are in good to fair condition. Based on their estimated Remaining Useful Life (RUL), the plumbing fixtures will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- The drinking fountains are in good to fair condition. Based on their estimated Remaining Useful Life (RUL), the drinking fountains will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- Currently the two playgrounds are not equipped with drinking fountains. A budgetary cost allowance for the water supply line and two fountains are included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for plumbing is to install high-efficiency boilers for the domestic hot water system.
- A sustainable recommendation for plumbing is to install low flush volume toilets and faucet aerators to reduce domestic water consumption.

7.3. BUILDING GAS DISTRIBUTION

Gas service is supplied from the gas main on the adjacent public street. The gas meter and regulator are located along the front exterior wall of the building. The gas distribution piping within the buildings is malleable steel (black iron).

Observations/Comments:

- The pressure and quantity of gas appear to be adequate.
- The gas meter and regulator appear to be in good condition and will require routine maintenance during the evaluation period.
- Only limited observation of the gas distribution piping can be made due to hidden conditions. The gas piping is in good condition and, according to the POC, there have been no gas leaks.

Sustainable Recommendations:

- There are no sustainable recommendations for gas distribution.

7.4. BUILDING ELECTRICAL

The electrical supply lines run overhead to a pole-mounted transformer that feeds the interior-mounted electrical meter.

The main electrical service size is 1,200-Amps, 120/208-Volt, three-phase, four-wire, alternating current (AC). An additional circuit was recently added to support computers in the building. The electrical wiring is reportedly copper, installed in metallic conduit. Circuit breaker panels are located throughout the building.

The building is equipped with a public address and intercom system, which allows commutation between the main office and each classroom. The public address control unit is located in the main office. The auditorium is equipped with a stage lighting system and a basic sound system.

Emergency power is provided by a 7.5 kW battery backup system located in the basement mechanical room. The battery backup system supplies emergency power to the emergency lights and fire alarm system.

Observations/Comments:

- The on site electrical systems are owned and maintained by the utility company. This includes transformers, meters, and all elements of the on site systems.
- The electrical power appears is reportedly inadequate for the property's demands. Maintenance staff reported recurring issues with breakers tripping and limited outlets in corridors for cleaning activities. It is recommended that the electrical system be upgraded to ensure adequate capacity. A follow-up study will be required to determine the appropriate electrical capacity. The cost of the study is included in section 1.2. The costs of the follow-up recommendations are to be determined by the study. An estimated budgetary cost allowance for the electrical upgrades, which includes classroom and office technology upgrades, is included in the Replacement Reserves Report.
- The circuit breaker panels, and electrical meters appear to be in good condition and will require routine maintenance during the evaluation period.
- The interior lighting is in fair condition. Upgrades and replacements to the interior lighting have not been performed in recent years. Based on energy conservation and current condition, EMG recommends replacing all lighting fixtures with high-efficiency fluorescent light fixtures or LED fixtures. An estimated budgetary cost allowance for the lighting upgrades is included in the Replacement Reserves Report.
- The public address system appears to be in fair condition. Administrative staff reported issues with two-way communication and volume control and a lack of intercom stations in critical areas. Maintenance personnel reported that the system was upgraded, but installed using the original wiring. It is recommended that the system be rewired and the room intercoms be replaced to ensure adequate communication between the office and classrooms. The addition of intercom stations is also recommended to ensure that communication is available where required. The estimated cost of this work is included in the Replacement Reserves Report.
- The auditorium lighting system appears to be in good condition but does not have a control system. Lights are currently operated by the breaker panel at the stage. It is recommended that a lighting control system be installed for the auditorium and the lighting system be upgraded. The estimated cost of this work is included in the Replacement Reserves Report.
- The auditorium sound system consists of speakers and microphone jacks. It is recommended that the auditorium sound system be upgraded with a modern control unit. The estimated cost of this work is included in the Replacement Reserves Report.

- According to the client provided AHERA document asbestos containing material is located in the auditorium, in the form of electrical insulation. A cost allowance for proper removal and disposal of the asbestos containing insulation is included in the Replacement Reserves Report as part of the recommended sound and lighting upgrades in the auditorium. This allowance is based solely on the information presented in the client provided AHERA document. An excerpt of this AHERA document is included in the appendices. Identifying asbestos containing material is not within the scope of this facility condition assessment.
- The battery backup system is in fair condition. The system appears to be obsolete and replacement with a generator is recommended to provide adequate emergency power in the building. The estimated cost of this work is included in the Replacement Reserves Report. This work should be coordinated with the electrical study and system upgrades.

Sustainable Recommendations:

- A sustainable recommendation for building electrical is to install occupancy sensors in all classrooms, restrooms, and offices to ensure that lights are turned off when the space is not occupied.

7.5. ELEVATORS AND CONVEYING SYSTEMS

Not applicable. There are no elevators or conveying systems.

7.6. FIRE PROTECTION SYSTEMS

The fire protection systems consist of a wet-pipe sprinkler system, a dry-pipe sprinkler system, portable fire extinguishers, smoke detectors, pull stations, and alarm horns with strobe lights. The wet system covers the occupied areas of the school building and the dry system covers the attic space. Siamese connections are located on the exterior of the building. Hardwired smoke detectors are located throughout the common areas. The nearest fire hydrants are located along the public streets bordering the property and are approximately 40 feet from the building.

Common areas and corridors are equipped with battery back-up exit lights, illuminated exit signs, pull stations, alarm horns, and strobe light alarms.

The wet and dry system fire sprinkler risers are located in a utility closet in classroom 42. The system is equipped with a backflow preventor.

A central fire alarm panel is located in the electrical room and monitors the pull stations, smoke detectors, and flow switches. The alarm panel also sounds the alarm and automatically notifies the monitoring service or the fire department in the event of trouble.

Observations/Comments:

- Information regarding fire department inspection information is included in Section 3.2.
- The fire sprinklers appear to be in good condition and are inspected by a qualified contractor on a routine basis. The sprinklers were lasted inspected on January 20, 2009. The fire sprinklers will require routine maintenance during the evaluation period.
- The fire extinguishers are tested annually and appear to be in good condition. The fire extinguishers were tested and inspected in August of 2008.

- The pull stations and alarm horns appear to be in good condition and will require routine maintenance during the evaluation period.
- Smoke detector replacement is considered to be routine maintenance.
- Exit sign and emergency light replacement is considered to be routine maintenance.
- The central alarm panel appears to be in good condition and is tested regularly by a qualified fire equipment contractor. Equipment testing is not within the scope of a Facilities Needs Assessment. Based on the estimated Remaining Useful Life (RUL), and because replacement parts and components for this type of equipment may be obsolete, the alarm panel will require replacement over the assessment period. The estimated cost of this work is included in the Replacement Reserves Report.
- The security panel appears to be in good condition. Equipment testing is not within the scope of a Facilities Needs Assessment.
- The cooking surfaces in the kitchen are not covered by dry-chemical, fire suppression system. It is recommended that an Ansul-type system be installed in the exhaust hood, above all cooking surfaces. The costs are included in the Replacement Reserves Report.

Sustainable Recommendations:

- There are no sustainable recommendations for fire protection.

8. INTERIOR SPACES

8.1. INTERIOR FINISHES

The following table generally describes the interior finishes in units:

Typical Space Finishes			
Room	**Floor**	**Walls**	**Ceiling**
Classrooms	Vinyl tile, area rugs, few with wall-to-wall carpet	Painted drywall / plaster	Suspended acoustic tiles
Maintenance Shop & Storage	Painted concrete slab	Painted drywall / plaster	Suspended acoustic tiles
Kitchens	Ceramic tile	Painted drywall / plaster and ceramic tile	Suspended acoustic tiles
Restrooms	Ceramic tile	Painted drywall / plaster	Suspended acoustic tiles

The interior doors are stained, solid-core, wood doors set in painted metal frames. The interior doors have cylindrical locksets with knob type handle hardware.

Observations/Comments:

- The interior finishes are in good condition. Based on the Estimated Useful Life and the observed conditions, replacement of the carpeting and vinyl tile flooring is recommended over the evaluation period. The cost of this work is included in Section 6.8 of the Replacement Reserves Report.
- According to the client provided JMOA five year capital plan, some vinyl tiled classrooms require area rugs. A budgetary cost allowance for this work is included in the Replacement Reserves Report.
- Interior painting is also anticipated over the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.
- All of the existing window blinds were observed to be dated, broken or reported to operate poorly or not at all. All window blinds should be replaced. The estimated cost of this work is included in the Replacement Reserves Report.
- Some areas of acoustic ceiling tile replacement are anticipated over the evaluation period. The cost of this work is included in Section 6.8 of the Replacement Reserves Report.
- The interior doors and door hardware are in good condition and will require routine maintenance during the evaluation period.
- The counter area in the teachers' lounge is in good to fair condition and will require replacement during the evaluation period. The estimated cost of this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- Sustainable recommendations for the interior finishes are to use low VOC paints, linoleum or cork flooring, and recycled material carpeting.

8.2. COMMERCIAL KITCHEN EQUIPMENT

The kitchen area has a variety of commercial kitchen appliances, fixtures, and equipment. The kitchen includes the following major appliances, fixtures, and equipment:

Appliance	Comment
Refrigerators	Upright, Chest
Freezers	Upright, Chest
Range	Gas
Ovens	Convection
Griddles / Grills	No
Fryers	No
Hood	Exhaust ducted to exterior
Dishwasher	None
Steamer	Yes
Microwave	None
Ice Machines	Yes
Steam tables	Stainless steel
Work tables	Stainless steel
Shelving	Stainless steel

Observations/Comments:

- The kitchen appliances appear to be in good condition. Based on their estimated Remaining Useful Life (RUL), some of the kitchen appliances will require replacement during the evaluation period. A cost allowance for this work is included in the Replacement Reserves Report.

Sustainable Recommendations:

- A sustainable recommendation for the cooking equipment is to replace the appliances and refrigeration units with Energy Star rated or equivalent equipment.

8.3. HVAC

See Section 7.1 for building mechanical systems.

8.4. PLUMBING

Domestic water is supplied by the central system described in Section 7.2.

9. OTHER STRUCTURES

Not applicable. There are no major accessory structures.

10. ENERGY BENCHMARKING

This section is pending additional information from the client.

11. APPENDICES

APPENDIX A: Photographic Record

APPENDIX B: Site and Floor Plans

APPENDIX C: Supporting Documentation

APPENDIX D: EMG Abbreviated Accessibility Checklist

APPENDIX E: Pre-Survey Questionnaire and Documentation Request Checklist

APPENDIX F: Acronyms and Out of Scope Items

APPENDIX G: Resumes for Report Reviewer and Field Observer

APPENDIX A:
PHOTOGRAPHIC RECORD

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #1:	View of the front façade and main office lobby entrance

Photo #2:	Detail of the main entrance

Photo #3:	Detail of the efflorescence and worn brick mortar joints at main entrance

Photo #4:	Secondary common entrances exist on all façades. note peeling paint

Photo #5:	View of the common entrance to the auditorium - no ADA ramp exists

Photo #6:	View of the common entrance to the kindergarten wing - no ADA ramp exists

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

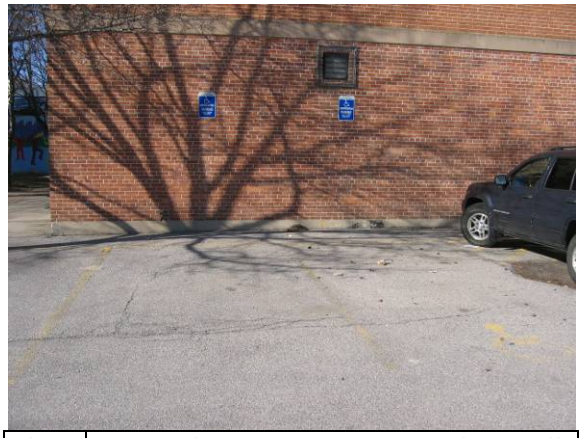


Photo #7:	View of the two on-site ADA parking stalls - striping is faded and no access aisle exists

Photo #8:	View of the kitchen service entrance and gymnasium rear entrance

Photo #9:	Second view of the front façade at the 1900 original 3-story portion

Photo #10:	Detail of deteriorated wood soffits and eaves at the 3-story portion

Photo #11:	View of the rear façade facing the bus parking lot

Photo #12:	Detail of the isolated brick step cracks and open mortar joints

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

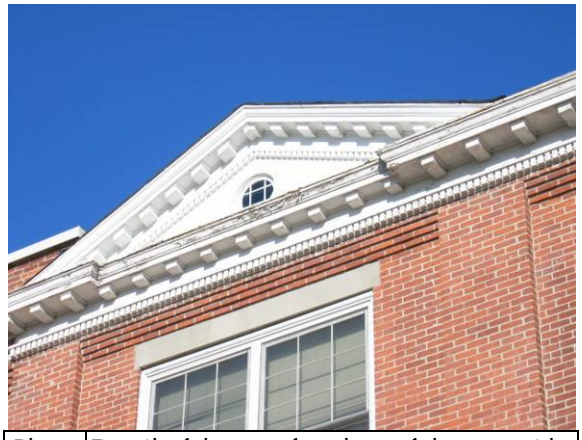


Photo #13:	Detail of the rear façade roof dormer with deteriorated wood trim

Photo #14:	View of the north façade of the 3-story portion

Photo #15:	View of the south façade of the 3-story portion

Photo #16:	View of the south façade of the 1-story first grade wing

Photo #17:	Detail of the widespread damaged window screens

Photo #18:	View of the south façades of the first and second grade sections

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #19:	View of the rear façade of the kindergarten, first grade and gym

Photo #20:	Several of the stairwell and classroom windows were failed with fogging

Photo #21:	Overview of the flat white EPDM roofs towards the rear

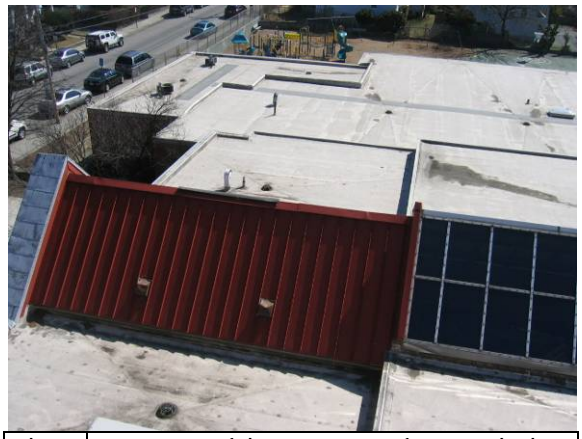


Photo #22:	Overview of the EPDM roofs towards the front - the pitched metal roof is over the office lobby entrance

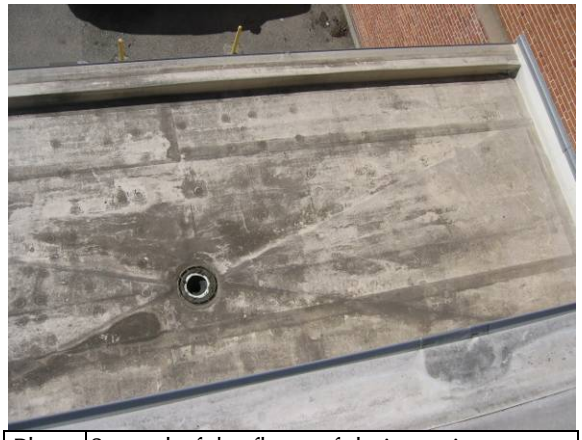


Photo #23:	Several of the flat roof drain strainers were observed to be missing

Photo #24:	Management reported that vandals have accessed the lower kindergarten roof via this stair wall

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #25:	A short length of chain link fence was installed but has been unsuccessful

Photo #26:	Several of the outdoor common and roof access doors are rusted

Photo #27:	Detail of the pitched, standing seam metal roof above the office lobby

Photo #28:	View of the pitched skylight system over the media center

Photo #29:	One occasional leak was reported in the media center skylight system

Photo #30:	Access to the upper gymnasium flat roof would be improved with a fixed roof ladder secured to the brick wall

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #31:	Overview of the flat white EPDM gymnasium roof

Photo #32:	View of the pitched asphalt shingle roof over the original 3-story portion

Photo #33:	Detail of the damaged or missing roof shingles along the hip ridges

Photo #34:	The brick chimney exhibited a few isolated open mortar joints

Photo #35:	Close-up views of the front and rear wood dormers revealed peeling paint and deteriorated wood trim

Photo #36:	Detail view of the wood and painted metal bell tower - note the deteriorated wood work

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #37:	Two flat gravel surfaced built-up roof (BUR) sections also exist at the 3-story portion at the east and west ends

Photo #38:	View of the pitched roof attic - no insulation exists

Photo #39:	View of the main entrance lobby and media center entrance

Photo #40:	View of the lobby and steps leading to the original 3-story portion

Photo #41:	View of the main office

Photo #42:	View of the media center interior

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #43:	Isolated sections of the suspended acoustic ceilings were stained

Photo #44:	View of the auditorium interior

Photo #45:	Detailed view of the deteriorated auditorium stage wood planks

Photo #46:	View of the egress corridor near the auditorium. A clogged or leaking roof drain exists within the CMU wall.

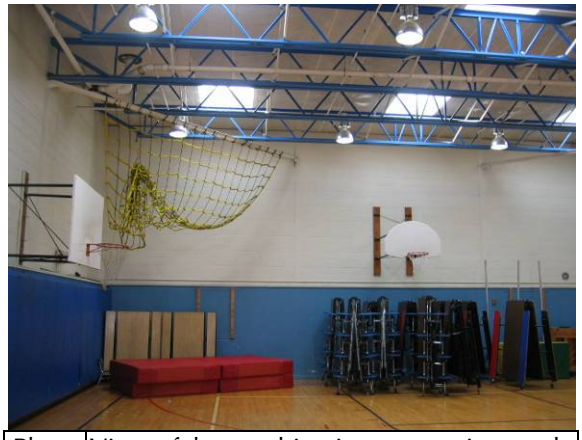


Photo #47:	View of the combination gymnasium and cafeteria - note folded tables

Photo #48:	View of the cafeteria kitchen

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #49:	Detail view of the deteriorated and lifting kitchen floor tiles

Photo #50:	View of the nurse's office interior

Photo #51:	View of a typical common interior corridor

Photo #52:	Detail view of several isolated sections of damaged VCT floor tiles

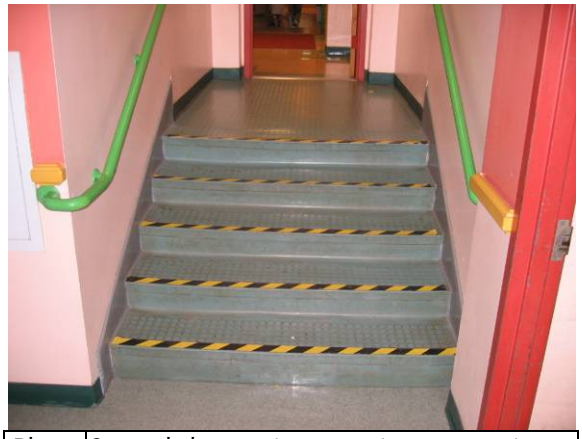


Photo #53:	Several short stair runs exists connecting the two main building sections - no wheelchair lifts exist

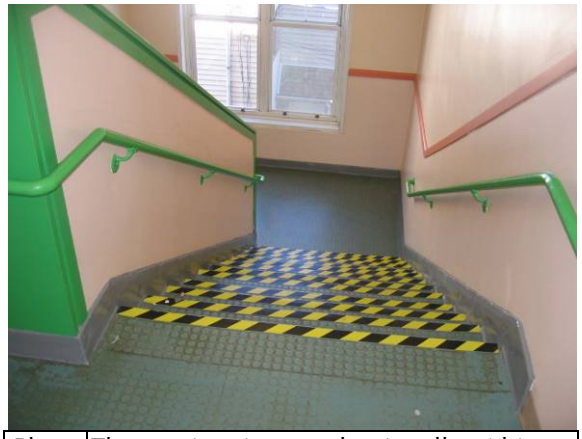


Photo #54:	The two interior wood stairwells within the 3-story portion appear out of level/plumb and with soft spots

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #55:	Several sections of the textured vinyl floor material are lifting on the landings

Photo #56:	Several of the interior corridor/stairwells fire doors do not close properly

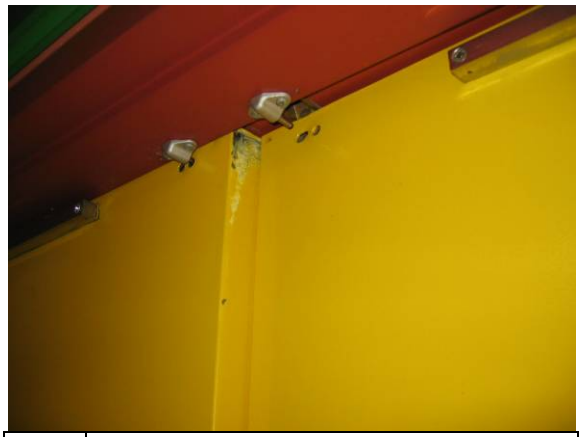


Photo #57:	Detail view of the improperly closing fire doors

Photo #58:	Detail view of the rusted and delaminating exterior doors

Photo #59:	None of the common child toilet rooms are handicapped accessible

Photo #60:	Second view of a typical toilet room with limited handicapped access

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #61:	The single user toilet room within the nurse's office has one grab bar

Photo #62:	None of the corridor or gymnasium child water fountains are accessible

Photo #63:	Neither of the multi-user toilet rooms near the auditorium provide ADA access

Photo #64:	View of a typical first grade classroom

Photo #65:	View of a typical kindergarten classroom

Photo #66:	View of a typical 2nd grade classroom

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #67:	View of the computer lab

Photo #68:	View of the school supply closet - stained/missing ceilings tiles were noted

Photo #69:	View of the teacher's lounge

Photo #70:	View of the PPT conference room

Photo #71:	View of the on-site kiln, located near the first floor art room (Room #42)

Photo #72:	Limited portions of the school have crawl space type cellars

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #73:	Boilers

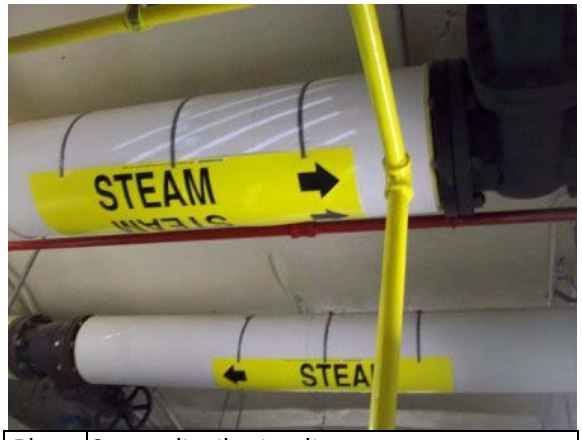


Photo #74:	Steam distribution lines

Photo #75:	Condensate pumps

Photo #76:	Typical radiant heat unit

Photo #77:	Fuel oil pump set

Photo #78:	Underground storage tank location

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #79:	Rooftop air conditioning unit for media center area

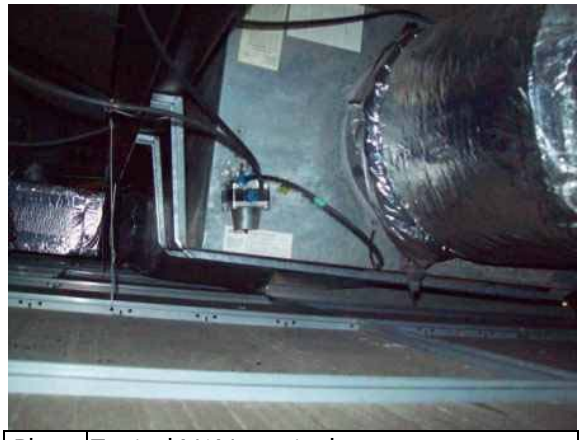


Photo #80:	Typical VAV terminal

Photo #81:	Split condenser for auditorium (1 of 2)

Photo #82:	Fan coil units for auditorium

Photo #83:	Make-up air unit for gymnasium/cafeteria

Photo #84:	Split condensing unit for Classroom 1

Photo #85:	Ductless split system for Classroom 16

Photo #86:	Typical window air conditioning unit note plywood installation

Photo #87:	HVAC control terminal

Photo #88:	Compressor for pneumatic controls

Photo #89:	Pneumatic control panel

Photo #90:	Typical thermostat

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

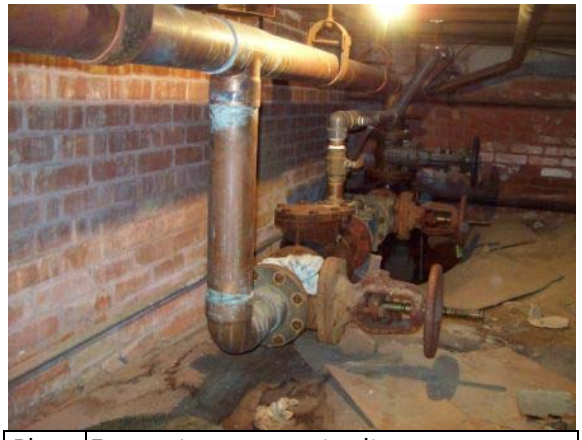


Photo #91:	Domestic water service line

Photo #92:	Domestic water meter

Photo #93:	Domestic water boilers and storage tank

Photo #94:	Domestic water circulating pump

Photo #95:	Sump pump

Photo #96:	Corroded sanitary waste lines

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #97:	Natural gas meter

Photo #98:	Natural gas regulator and distribution lines for boilers

Photo #99:	Electric meter

Photo #100:	Switchgear

Photo #101:	Battery backup system

Photo #102:	Typical fluorescent lighting ballast

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #103:	Breaker panel for stage lighting control

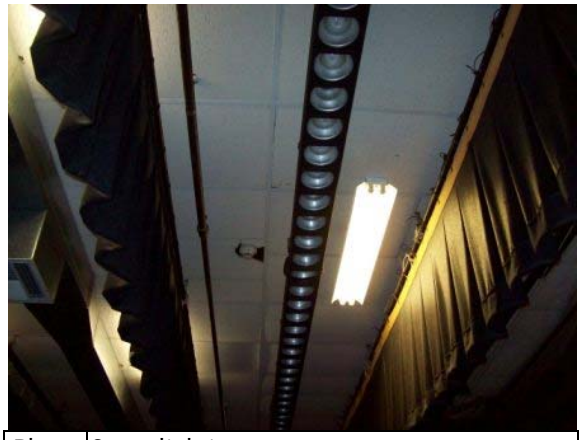


Photo #104:	Stage lighting

Photo #105:	Auditorium sound system

Photo #106:	Microphone input jack

Photo #107:	Public address system control unit

Photo #108:	Public address button in classroom

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #109:	Wet pipe sprinkler riser

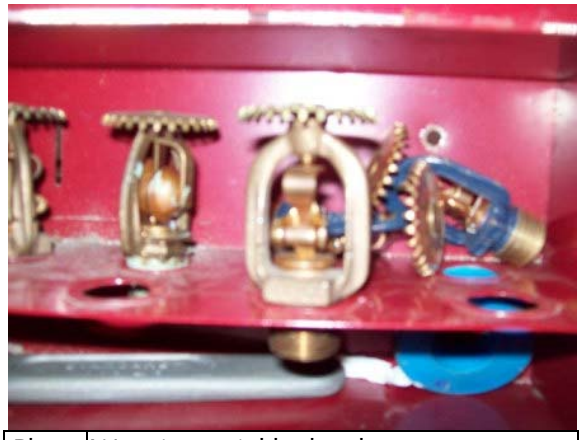


Photo #110:	Wet pipe sprinkler head

Photo #111:	Dry-pipe sprinkler riser and compressor

Photo #112:	Dry-pipe sprinkler head in attic

Photo #113:	Fire alarm control panel

Photo #114:	Fire alarm annunciator panel

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #115:	Fire department Siamese connection on building exterior

Photo #116:	Security control panel

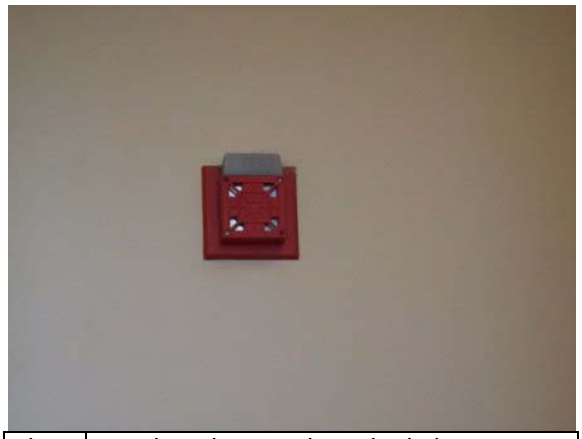


Photo #117:	Fire alarm horn with strobe light

Photo #118:	Fire alarm pull station

Photo #119:	Fire extinguisher

Photo #120:	Exit light

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #121:	Staff parking lot

Photo #122:	Accessible parking stalls

Photo #123:	Damaged area in staff parking lot

Photo #124:	Northwest paved area

Photo #125:	Damage in northwest paved area

Photo #126:	Damage in northwest paved area

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #127:	Paved area at playground

Photo #128:	Cracking in paved area

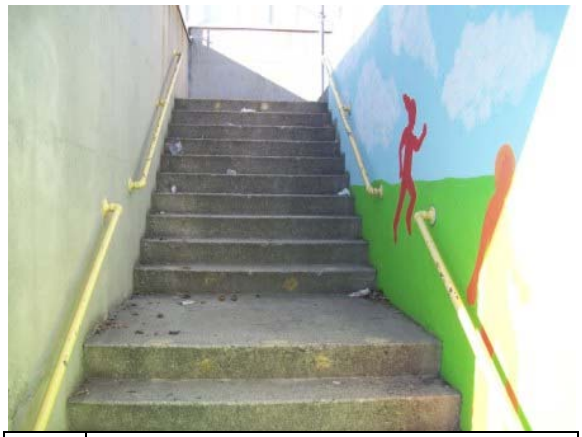


Photo #129:	Concrete steps

Photo #130:	Damage at concrete steps

Photo #131:	Concrete sidewalk

Photo #132:	Tripping hazard near front entrance

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #133:	Barren landscaping near front entrance

Photo #134:	Tree growing close to school building

Photo #135:	Concrete retaining wall along east property line

Photo #136:	Concrete retaining wall at west side of building

Photo #137:	Concrete retaining wall near playground at south side of building

Photo #138:	Expansion joint missing sealant (south retaining wall)

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

Photo #139:	Wood timber retaining wall at east side of building

Photo #140:	Wood timber retaining wall at southeast corner of property

Photo #141:	Typical site fencing

Photo #142:	Perimeter fence at parking lot

Photo #143:	Damaged fence at west retaining wall

Photo #144:	Damaged fence at north property line

EMG PHOTOGRAPHIC RECORD

Project No.: 88166.09R-002.017 **Project Name: K.T. Murphy Elementary School**

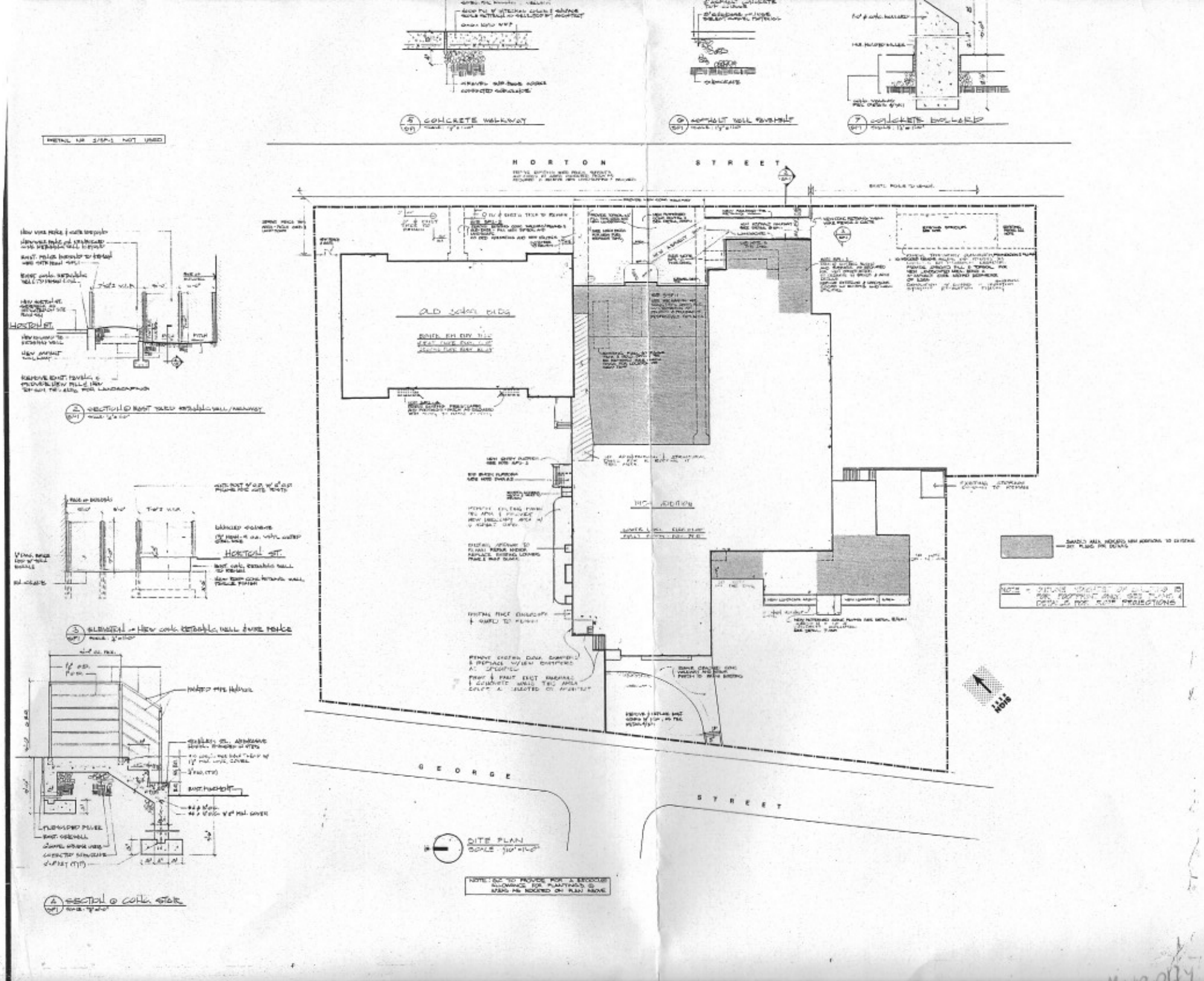
Photo #145:	Exterior building-mounted lighting

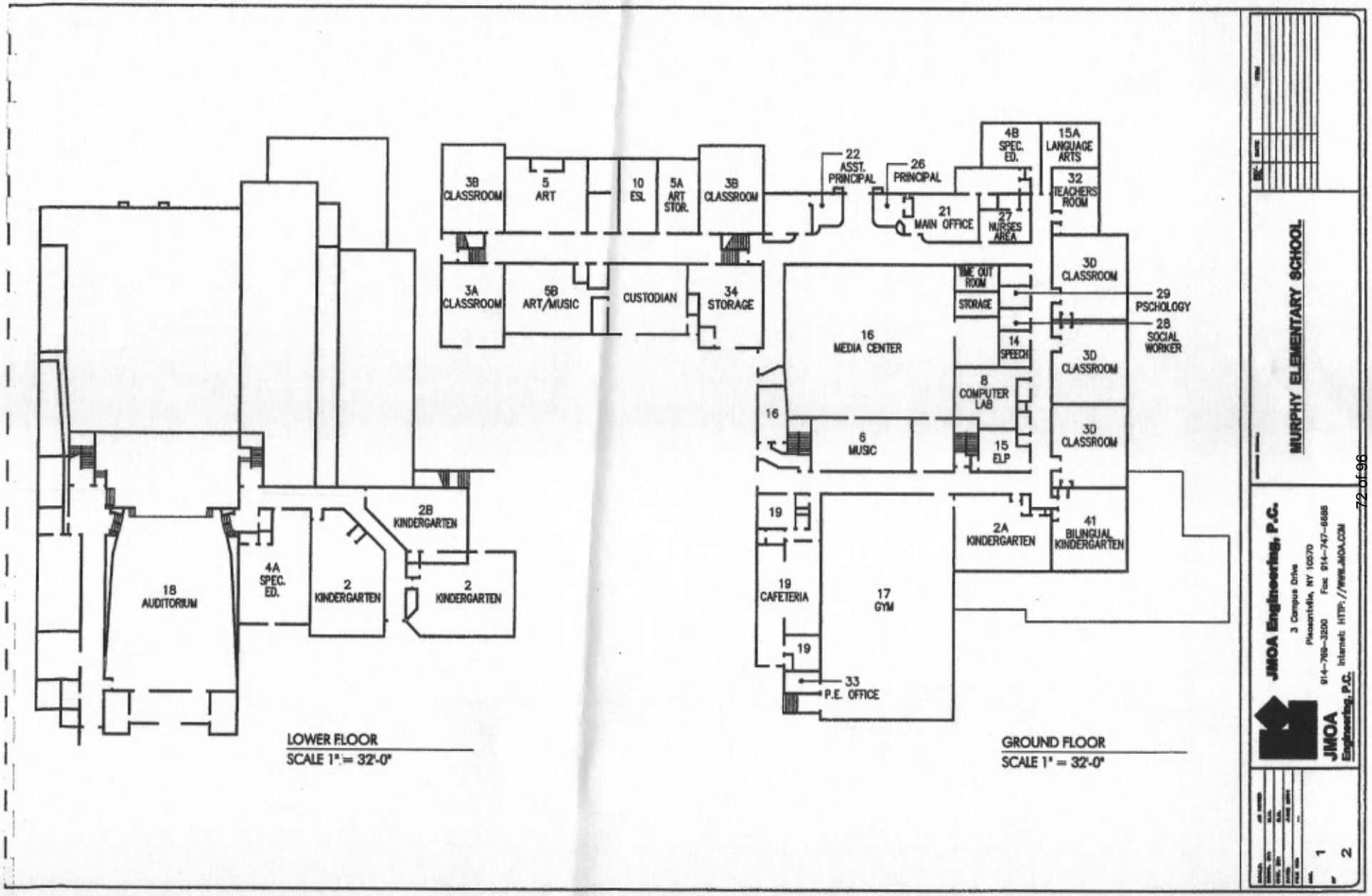
Photo #146:	Exterior building-mounted lighting

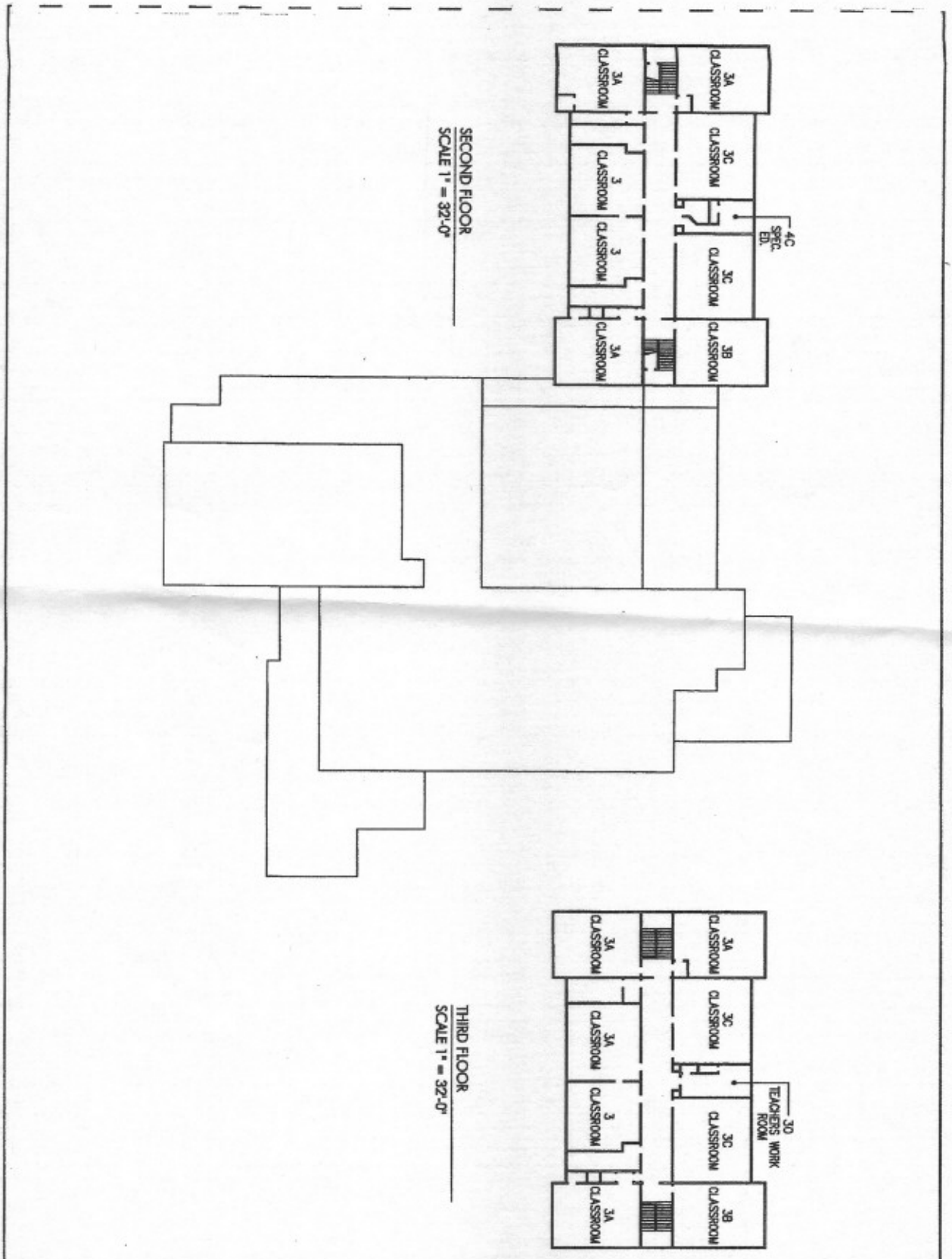
Photo #147:	Main playground at southeast corner of property

Photo #148:	Minor playground equipment west of retaining wall

APPENDIX B:
SITE AND FLOOR PLANS


HORTON STREET
OLD SCHOOL BLDG
NEW ADDITION
GEORGE STREET
SITE PLAN
SCALE 1/10"=1'-0"
HORTON ST.
5 CONCRETE WALKWAY
6 ASPHALT WALL PAVEMENT
7 CONCRETE BOLLARD
2 SECTION @ BENT TIERED RETAINING WALL / WALKWAY
3 ELEVATION - NEW CONC. RETAINING WALL & WIRE FENCE
4 SECTION @ CONC. STAIR


3B CLASSROOM
5 ART
10 ESL
5A ART STOR.
3B CLASSROOM
22 ASST. PRINCIPAL
26 PRINCIPAL
21 MAIN OFFICE
27 NURSES AREA
4B SPEC. ED.
15A LANGUAGE ARTS
32 TEACHERS ROOM
3A CLASSROOM
5B ART/MUSIC
CUSTODIAN
34 STORAGE
TIME OUT ROOM
STORAGE
16 MEDIA CENTER
14 SPEECH
3D CLASSROOM
29 PSCHOLOGY
28 SOCIAL WORKER
8 COMPUTER LAB
16
6 MUSIC
15 ELP
3D CLASSROOM
3D CLASSROOM
19
2A KINDERGARTEN
41 BILINGUAL KINDERGARTEN
19 CAFETERIA
17 GYM
19
33 P.E. OFFICE
18 AUDITORIUM
4A SPEC. ED.
2 KINDERGARTEN
2B KINDERGARTEN
2 KINDERGARTEN
LOWER FLOOR
SCALE 1" = 32'-0"
GROUND FLOOR
SCALE 1" = 32'-0"
MURPHY ELEMENTARY SCHOOL
JMOA Engineering, P.C.
3 Campus Drive
Placentivia, NY 10570
914-769-3300 Fax 914-747-6585
Internet: HTTP://WWW.JMOA.COM
JMOA Engineering, P.C.



SCALE:	AS NOTED	
DESIGN. BY:	G.A.	
CHK. BY:	G.A.	
DATE:	JUNE 2011	
FILE NO:	--	
SH. 2 OF 2		

JMOA Engineering, P.C.
3 Campus Drive
Pleasantville, NY 10570
914-769-3200 Fax: 914-747-6586
Internet: HTTP://WWW.JMOA.COM

JMOA Engineering, P.C.

DRAWING DETAIL

MURPHY ELEMENTARY SCHOOL

REV.	DATE	ITEM

APPENDIX C:
SUPPORTING DOCUMENTATION

Cost Comparison Between JMOA Capital Plan and EMG Replacement Reserves						
KT Murphy Elementary						
Client - Project Name	**Client Cost**	**EMG Cost**	**EMG Shortage**	**Out of Scope?**	**Is work completed?**	**EMG Cost Comments**
Widen curb cuts at street entrance	$8,755	$7,560	$1,195	No	No	
Re-seed front lawn and add shrubs	$32,426	$26,101	$6,325	No	No	Added additional landscaping items
Install signs for traffic control	$2,839	$2,211	$628	No	No	Added item
Add sprinkler system and seeding for erosion control	$27,448	$37,800	-$10,352	Yes	No	Added
Repair/overlay exisiting asphalt pavement	$183,536	$223,120	-$39,584	No	No	
Replace fencing	$85,437	$21,541	$63,896	Yes	No	Costs appear high
Re-paint outside of building	$45,419	$7,187	$38,232	No	No	Costs appear high
Repair foundation wall cracks	$61,079	$0	$61,079	No		No deficiency observed/reported
Replace corroded frames on exterior doors	$67,465	$48,616	$18,849	No	No	
Replace selected roofs	$81,230	$27,816	$53,414	No	Yes/No	**Some roofs have been replaced**
Replace damaged screens for windows	$14,640	$59,246	-$44,606	No	No	
Replace deteriorating sofits	$8,240	$85,095	-$76,855	No	No	
Repair selected roofs	$18,015	$0	$18,015	No	Yes	**Complete**
Repair wood panels in main lobby	$6,153	$13,840	-$7,687	No	No	
Replace carpet with VCT in classrooms	$118,557	$74,608	$43,949	No	No	Costs appear high
Replace carpet in media center	$50,660	$0	$50,660	No	Yes	**Complete**
Paint selected walls and door frames	$5,253	$29,773	-$24,520	No	No	
Replace venetian blinds	$41,163	$68,913	-$27,750	No	No	
Install new stage lighting and sound	$79,156	$67,606	$11,550	No	No	
Install electric projection screen in auditorium	$1,804	$0	$1,804	Yes	No	Moveable fixture -do not include
Install wall padding in gymnasium	$10,927	$15,120	-$4,193	Yes	No	Added
Install new sink counter in teachers lounge	$1,500	$0	$1,500	No	No	Added item
Place area rugs in classrooms with tile floors	$8,487	$12,600	-$4,113	Yes	No	Added

Replace dining tables	$3,930	$0	$3,930	Yes	No	Moveable fixture -do not include
Abate selected asbestos and remove lead	$421,125	$420,573	$552	No	No	
Provide additional storage	$123,160	$0	$123,160	Yes	No	JMOA Scope not defined
Replace old water fountains	$16,583	$61,734	-$45,151	No	No	
Modify or move sewage ejector pumps from rms 32 and 33	$90,939	$0	$90,939	Yes	No	No deficiency noted; JMOA Scope not defined
Improve ventilation in 1900 bldg	$129,960	$129,960	$0	No	No	Included in AC item
Install new and upgrade existing exhaust fans in toilet rooms	$42,745	$32,966	$9,779	No	No	Added item
Install air conditioning for top floor of 1900 building	$396,433	$559,343	-$162,910	No	No	Included in AC item
Install air conditioning in computer rooms and admin area	$203,658	$559,343	-$355,685	No	No	Included in AC item
Repair/replace leaking piping	$209,090	$19,410	$189,680	No	No	No deficiency noted; JMOA Scope not defined
Add speakers for PA system in missing areas	$61,861	$45,787	$16,074	Yes	No	
Add site lighting for building security	$23,870	$17,302	$6,568	No	No	
Install ladder for basement egress	$5,517	$0	$5,517	No	No	Added item
Replace emergency lighting and add generator	$48,907	$40,500	$8,407	No	No	
	JMOA Cost	**EMG Cost**	**Shortage**			
	$2,737,967	$6,236,776	-$3,498,809			
less completed items	$2,615,878					
Soft Costs (30%)		$1,871,033				
Location factor(11%)		$686,045				
Totals(Unescalated)		$8,793,854	-$6,177,976			

Commercial/Industrial Roofing Systems

Manville

UltraGard® Roofing Systems Guarantee

ding Owner:
City of Stamford
Stamford, CT 06901

Building Name:
K.T. Murphy ES
19 Horton Street

Stamford , CT 06902

Approved Roofing Contractor:
The Hartford Roofing Co Inc
P.O. Box 444

Glastonbury, CT 06033

Guarantee Number: ANP011018157

Term & Maximum Monetary Obligation to Maintain a Watertight Roofing System

Date of Completion: 10/1/02

Years 20 **$** No Dollar Limit

Total Squares: 302

COVERAGE
The components of the Roofing System covered by this Guarantee are:

Membrane Spec. and Type	Adhered- , Adhered- , Adhered-SP8RA	PVC
Flashing Spec. and Type	PE-11,PW-31PE-11,PW-31PE-11,PW-31	2822 Linear Feet
Insulation Type	TISO1 TISO1 TISO1	
Accessories (Type and Quantity)		

These Johns Manville Guaranteed components are referred to below as the "Roofing System", and ALL OTHER COMPONENTS OF THE OWNER'S DING ARE EXCLUDED FROM THE TERMS OF THIS GUARANTEE.

Johns Manville* guarantees to the original Building Owner that during the Term commencing with the Date of Completion, JM will pay for the materials and labor required to promptly repair the Roofing System to return it to a watertight condition if leaks occur due to: ordinary wear and tear, or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System.

WHAT TO DO IF YOUR ROOF LEAKS
If you should have a roof leak please refer to directions on the reverse side.

LIMITATIONS AND EXCLUSIONS
This Guarantee is not a maintenance agreement or an insurance policy; therefore, routine inspections and maintenance are the Building Owner's responsibility (see reverse side of this document). Failure to follow the Maintenance Program on the reverse side of this document will void the Guarantee. This Guarantee does not obligate JM to repair the Roofing System, or any part of the Roofing System, for leaks resulting from (a) natural disasters including but not limited to the direct or indirect effect of lightning, fire, hailstorm, earthquake, tornadoes, hurricanes or other extraordinary natural occurance and/or wind speeds in excess of 72 miles per hour, (b) misuse, abuse or negligence, (c) installation or material failures other than those involving the component materials expressly defined above as the Roofing System or exposure of the Roofing System components to damaging substances such as oil or solvents or to damaging conditions such as vermin, (d) changes to the Roofing System or the Building's usage that are not preapproved in writing by JM, or (e) failure of the Building substrate (mechanical, structural or otherwise and whether resulting from Building movement, design defects or other causes) or improper drainage. JM is not responsible for leaks and damage resulting from water entry from any portion of the Building structure not a part of the Roofing System.

This Guarantee becomes effective when (1) it is delivered to Owner; and (2) all bills for installation, materials and services have been paid in full to the Approved Roofing Contractor and to JM. Until that time, this Guarantee is not in force and has no effect.

The parties agree that any controversy or claims relating to this Guarantee shall be first submitted to mediation under the Construction Industry Arbitration and Mediation Rules of the American Arbitration Association (Regular Track Procedures) or to such other mediation arrangement as the parties mutually agree. No court or other tribunal shall have jurisdiction until the mediation is completed.

TO THE FULLEST EXTENT PERMITTED BY LAW, JM DISCLAIMS ANY IMPLIED WARRANTY, INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND LIMITS SUCH WARRANTY TO THE DURATION AND TO THE EXTENT OF THE EXPRESS WARRANTY CONTAINED IN THIS GUARANTEE.

THE EXCLUSIVE RESPONSIBILITY AND LIABILITY OF JM UNDER THIS GUARANTEE IS TO MAKE REPAIRS NECESSARY TO MAINTAIN THE ROOFING SYSTEM IN A WATERTIGHT CONDITION IN ACCORDANCE WITH THE OBLIGATIONS OF JM UNDER THIS GUARANTEE.

JM AND ITS AFFILIATES WILL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES TO THE BUILDING STRUCTURE (UPON WHICH THE ROOFING SYSTEM IS AFFIXED) OR ITS CONTENTS, LOSS OF TIME OR PROFITS OR ANY INCONVENIENCE. JM AND ITS AFFILIATES SHALL NOT BE LIABLE FOR ANY DAMAGES WHICH ARE BASED UPON NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY OTHER THAN THE EXCLUSIVE LIABILITY SET FORTH IN THIS GUARANTEE.

No one is authorized to change, alter or modify the provisions of this Guarantee other than the Manager, Marketing and Technical Services or authorized delegate. JM's delay or failure in enforcing the terms and conditions contained in this Guarantee shall not operate as a waiver of such terms and conditions. This Guarantee is solely for the benefit of the Building Owner identified above and Building Owner's rights hereunder are not assignable. Upon or other transfer of the Building, Building Owner may request transfer of this Guarantee to the new owner, and JM may transfer this Guarantee, in its discretion only after receiving satisfactory information and payment of a transfer fee, which must be paid no later than 30 days after the date of Building ownership transfer.

In the event JM pays for repairs which are required due to the acts or omissions of others, JM shall be subrogated to all rights of recovery of the Building Owner to the extent of the amount of the repairs.

Because JM does not practice Engineering or Architecture, neither the issuance of this Guarantee nor any review of the Building's construction or

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

Please keep this Facility Summary for your own records; do not submit it to EPA. Only the Statement of Energy Performance (SEP), Data Checklist and Letter of Agreement need to be submitted to EPA when applying for the ENERGY STAR.

Facility
K.T. Murphy Elementary School
345 Pepper Ridge Rd
Stamford, CT 06905

Facility Owner
N/A

Primary Contact for this Facility
N/A

General Information

K.T. Murphy Elementary School	
Gross Floor Area Excluding Parking: (ft^2)	85,000
Year Built	1900
For 12-month Evaluation Period Ending Date:	March 31, 2009

Facility Space Use Summary

K.T. Murphy	
Space Type	K-12 School
Gross Floor Area(ft^2)	85,000
Open Weekends?	No
Number of PCs	170
Number of walk-in refrigeration/freezer units	4
Presence of cooking facilities	Yes
Percent Cooled	50
Percent Heated	100
Months°	11
High School?	No
School District°	Stamford

Energy Performance Comparison

	Evaluation Periods		Comparisons		
Performance Metrics	**Current** (Ending Date 03/31/2009)	**Baseline** (Ending Date 03/31/2009)	**Rating of 75**	**Target**	**National Average**
Energy Performance Rating	88	88	75	N/A	50
Energy Intensity					
Site (kBtu/ft^2)	64	64	78	N/A	100
Source (kBtu/ft^2)	95	95	117	N/A	150
Energy Cost					
$/year	$ 112,882.44	$ 112,882.44	$ 138,820.63	N/A	$ 177,515.60
$/$ft^2$/year	$ 1.33	$ 1.33	$ 1.64	N/A	$ 2.09
Greenhouse Gas Emissions					
$MtCO_2e$/year	360	360	443	N/A	566
$kgCO_2e/ft^2$/year	4	4	5	N/A	6

More than 50% of your building is defined as K-12 School. Please note that your rating accounts for all of the spaces listed. The National Average column presents energy performance data your building would have if your building had an average rating of 50.

Notes:
o - This attribute is optional.
d - A default value has been supplied by Portfolio Manager.

APPENDIX D:
EMG ABBREVIATED ACCESSIBILITY CHECKLIST

Property Name: K.T. Murphy Elementary School
Date: March 23, 2009
Project Number: 88166.09R-002-017

EMG Abbreviated Accessibility Checklist					
	Building History	**Yes**	**No**	**N/A**	**Comments**
1.	Has the management previously completed an ADA review?		✓		
2.	Have any ADA improvements been made to the property?		✓		
3.	Does a Barrier Removal Plan exist for the property?		✓		
4.	Has the Barrier Removal Plan been reviewed/approved by an arms-length third party such as an engineering firm, architectural firm, building department, other agencies, etc.?		✓		
5.	Has building ownership or management received any ADA related complaints that have not been resolved?		✓		
6.	Is any litigation pending related to ADA issues?		✓		
	Parking	**Yes**	**No**	**N/A**	**Comments**
1.	Are there sufficient parking spaces with respect to the total number of reported spaces?	✓			
2.	Are there sufficient van-accessible parking spaces available (96" wide/ 96" aisle for van)?		✓		
3.	Are accessible spaces marked with the International Symbol of Accessibility? Are there signs reading "Van Accessible" at van spaces?	✓	✓		Two ADA parking spaces with signs – NO van spaces
4.	Is there at least one accessible route provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones, if provided, and public streets and sidewalks?		✓		

EMG Abbreviated Accessibility Checklist					
5.	Do curbs on the accessible route have depressed, ramped curb cuts at drives, paths, and drop-offs?		✓		
6.	Does signage exist directing you to accessible parking and an accessible building entrance?		✓		
	Ramps	**Yes**	**No**	**N/A**	**Comments**
1.	If there is a ramp from parking to an accessible building entrance, does it meet slope requirements? (1:12)		✓	✓	
2.	Are ramps longer than 6 ft complete with railings on both sides?	✓			
3.	Is the width between railings at least 36 inches?	✓			
4.	Is there a level landing for every 30 ft horizontal length of ramp, at the top and at the bottom of ramps and switchbacks?	✓			
	Entrances/Exits	**Yes**	**No**	**N/A**	**Comments**
1.	Is the main accessible entrance doorway at least 32 inches wide?	✓			
2.	If the main entrance is inaccessible, are there alternate accessible entrances?	✓			
3.	Can the alternate accessible entrance be used independently?	✓			
4.	Is the door hardware easy to operate (lever/push type hardware, no twisting required, and not higher than 48 inches above the floor)?		✓		Knobs
5.	Are main entry doors other than revolving door available?	✓			
6.	If there are two main doors in series, is the minimum space between the doors 48 inches plus the width of any door swinging into the space?	✓			
	Paths of Travel	**Yes**	**No**	**N/A**	**Comments**
1.	Is the main path of travel free of obstruction and wide enough for a wheelchair (at least 36 inches wide)?	✓			
2.	Does a visual scan of the main path reveal any obstacles (phones, fountains, etc.) that protrude more than 4 inches into walkways or corridors?		✓		Water fountains

EMG Abbreviated Accessibility Checklist					
3.	Are floor surfaces firm, stable, and slip resistant (carpets wheelchair friendly)?	✓			
4.	Is at least one wheelchair-accessible public telephone available?	✓			
5.	Are wheelchair-accessible facilities (toilet rooms, exits, etc.) identified with signage?		✓		
6.	Is there a path of travel that does not require the use of stairs?		✓		
7.	If audible fire alarms are present, are visual alarms (strobe light alarms) also installed in all common areas?	✓			
	Elevators	**Yes**	**No**	**N/A**	**Comments**
1.	Do the call buttons have visual signals to indicate when a call is registered and answered?		✓	✓	No elevators
2.	Is the "UP" button above the "DOWN" button?			✓	
3.	Are there visual and audible signals inside cars indicating floor change?			✓	
4.	Are there standard raised and Braille marking on both jambs of each host way entrance?			✓	
5.	Do elevator doors have a reopening device that will stop and reopen a car door if an object or a person obstructs the door?			✓	
6.	Do elevator lobbies have visual and audible indicators of car arrival?			✓	
7	Does the elevator interior provide sufficient wheelchair turning area (51" x 68")?			✓	
8.	Are elevator controls low enough to be reached from a wheelchair (48 inches front approach/54 inches side approach)?			✓	
9.	Are elevator control buttons designated by Braille and by raised standard alphabet characters (mounted to the left of the button)?			✓	
10.	If a two-way emergency communication system is provided within the elevator cab, is it usable without voice communication?			✓	
	Restrooms				
1.	Are common area public restrooms located on an accessible route?		✓		
2.	Are pull handles push/pull or lever type?		✓		

EMG Abbreviated Accessibility Checklist					
3.	Are there audible and visual fire alarm devices in the toilet rooms?	✓			
4.	Are corridor access doors wheelchair-accessible (at least 32 inches wide)?	✓			
5.	Are public restrooms large enough to accommodate a wheelchair turnaround (60″ turning diameter)?	✓			
6.	In unisex toilet rooms, are there safety alarms with pull cords?		✓	✓	None provided
7.	Are stall doors wheelchair accessible (at least 32″ wide)?		✓		
8.	Are grab bars provided in toilet stalls?	✓	✓		
9.	Are sinks provided with clearance for a wheelchair to roll under (29″ clearance)?		✓		
10.	Are sink handles operable with one hand without grasping, pinching or twisting?	✓	✓		
11.	Are exposed pipes under sink sufficiently insulated against contact?		✓		
12.	Are soap dispensers, towel, etc. reachable (48″ from floor for frontal approach, 54″ for side approach)?	✓	✓		
13.	Is the base of the mirror no more than 40″ from the floor?		✓		

APPENDIX E:
PRE-SURVEY QUESTIONNAIRE AND DOCUMENTATION REQUEST CHECKLIST

PRE-SURVEY QUESTIONNAIRE

This questionnaire was completed by the property owner, the owner's designated representative, or someone knowledgeable about the subject property. ***This completed form*** was ***presented to EMG's Field Observer on the day of the site visit***.

Project Name:	**K.T. Murphy Elementary School**	**Project Number:**	**88166.09R-002.017**
Person completing form:	**Mrs. Marilyn Armengol**	**Date:**	**March 23, 2009**
Association with Project:	**Assistant Principal**	**Phone Number:**	**203.977.4834**
Years associated w/Proj.:	**14 years**	**Fax Number:**	**203.977.5103**
Current Owner:		**Estimated Value:**	**$XXX**

Unk = Unknown, NA = Not Applicable

	Yes	No	Unk	NA	Comments
1. Does the property have full-time maintenance personnel on site?	✓				
2. Have there been any capital improvements in the last five years?	✓				Oil tank relocation, 2 new central heating boilers, partial concrete front sidewalks, all EPDM roofing (2002)
If so, are details available?					
3. Are there any unresolved building, fire, or zoning code issues?		✓			
If so, what additional info is available?					
4. Are there any "down", unusable units?		✓			
5. Are there any problems or hazards at the property?		✓			
6. Has the property ever had an ADA accessibility review?		✓			
If so, is a copy available?					
7. Does a Barrier removal plan exist for the property?		✓			
8. Are there any unresolved accessibility issues at the property?	✓				No elevators, no stair lifts, toilet rooms
9. Is there any pending litigation concerning the property?		✓			
10. Is site drainage adequate?	✓				
11. Has a termite inspection occurred within the last year?		✓			
Is a copy of an inspection report available?					
12. Are there any problems with foundations or structures?		✓			
If so, are there plans to address?					
13. Is there any water infiltration in basements or crawl spaces?		✓			
14. Are there any wall or window leaks?		✓			
15. Are there any poorly insulated areas?	✓				3-story portion attic
16. Are there any current roof leaks at the property?		✓			
17. Are any roof finishes more than ten years old?	✓				Pitched roofs 9-10 years old
18. Is the roofing covered by a warranty or bond?	✓				White ERPDM covered by 20 years warranty beginning in 2002
19. Is Fire Retardant Treated (FRT) plywood used at the property?		✓			

	Yes	No	Unk	NA	Comments
20. Does the property have an exterior insulation and finish system (EIFS) with a synthetic stucco finish	✓				Limited EIFS at main entrance
21. Do the utilities (electric, gas, sewer, water) provide adequate service?	✓				
22. Is the property served by an on site water system?		✓			
23. Is the property served by an on site septic system?		✓			
24. If present, do irrigation systems function properly?		✓			
25. Are HVAC systems at the property inspected and maintained, at a minimum, annually?	✓				
26. Is the HVAC equipment more than ten years old?	✓				
27. Do any of the HVAC systems use R-11, 12, or 22 refrigerants?	✓				
28. Do tenants contract for their own HVAC work?				✓	
29. Has any HVAC system, or any other part of the property, ever contained visible suspect mold growth?		✓			
If so, where and when?					
30. Has the property ever been tested for indoor air quality or suspect mold?	✓				
If so, where and when? Results?					
31. Is there a response action in place to prevent mold growth or respond to its presence?		✓			
If so, describe. Is a copy available?					
32. Are the water heaters/boilers more than ten years old?		✓			
33. Is polybutylene piping used at the property?		✓			
34. Are there any plumbing leaks or water pressure problems?		✓			
35. Are the any leaks or pressure problems with natural gas service?		✓			
36. Does any part of the electrical system use aluminum wiring?		✓			
37. Do Residential units have a min. of 60-Amp service or Commercial units have a min. 200-Amp service?				✓	
38. Has elevator equipment been replaced in the last ten years?			✓	✓	No elevators
39. Are the elevators maintained by a contractor on a regular basis?				✓	
40. Is the elevator emergency communication equipment functional?				✓	
41. Is the elevator emergency communication equipment ADA compliant?				✓	
42. Have the fire/life safety systems been inspected within the last year?	✓				
43. Are there any smoke evacuation or pressurization systems?		✓			
44. Are there any recalled Omega or Central brand fire sprinkler heads that have not yet been replaced?		✓			
45. Are there any emergency electrical generators?		✓		✓	None
46. Are the generators maintained on a regular basis?				✓	
47. Do tenants contract for their own improvement work?				✓	
48. Are tenants responsible for any roof, HVAC, or exterior wall maintenance, repair, or replacement?				✓	
If so, what, where and how?					

	Yes	No	Unk	NA	Comments
49. Have there been previous due diligence, engineering, environmental, or geological studies done?		✓			
If so, are copies available?					
50. Is there anything else that EMG should know about when assessing this property? If so, what?		✓			

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

INFORMATION REQUIRED

1. All available construction documents (blueprints) for the original construction of the building or for any tenant improvement work or other recent construction work.

2. A site plan, preferably 8 1/2" X 11", which depicts the arrangement of buildings, roads, parking stalls, and other site features.

3. For commercial properties, provide a tenant list which identifies the names of each tenant, vacant tenant units, the floor area of each tenant space, and the gross and net leasable area of the building(s).

4. For apartment properties, provide a summary of the apartment unit types and apartment unit type quantities, including the floor area of each apartment unit as measured in square feet.

5. For hotel or nursing home properties, provide a summary of the room types and room type quantities.

6. Copies of Certificates of Occupancy, building permits, fire or health department inspection reports, elevator inspection certificates, roof or HVAC warranties, or any other similar, relevant documents.

7. The names of the local utility companies which serve the property, including the water, sewer, electric, gas, and phone companies.

8. The company name, phone number, and contact person of all outside vendors who serve the property, such as mechanical contractors, roof contractors, fire sprinkler or fire extinguisher testing contractors, and elevator contractors.

9. A summary of recent (over the last 5 years) capital improvement work which describes the scope of the work and the estimated cost of the improvements. Executed contracts or proposals for improvements. Historical costs for repairs, improvements, and replacements.

10. Records of system & material ages (roof, MEP, paving, finishes, furnishings).

11. Any brochures or marketing information.

12. Appraisal, either current or previously prepared.

13. Current occupancy percentage and typical turnover rate records (for commercial and apartment properties).

14. Previous reports pertaining to the physical condition of property.

15. ADA survey and status of improvements implemented.

16. Current / pending litigation related to property condition.

Your timely compliance with this request is greatly appreciated.

APPENDIX F:
ACRONYMS AND OUT OF SCOPE ITEMS

ASTM E2018-01 ACRONYMS

ADA - The Americans with Disabilities Act
ASTM - American Society for Testing and Materials
BOMA - Building Owners & Managers Association
BUR - Built-up Roofing
DWV – Drainage, Waste, Ventilation
EIFS - Exterior Insulation and Finish System
EMF – Electro Magnetic Fields
EMS - Energy Management System
EUL - Expected Useful Life
FEMA - Federal Emergency Management Agency
FFHA - Federal Fair Housing Act
FIRMS - Flood Insurance Rate Maps
FNA – Facilities Needs Assessment
FRT- Fire Retardant Treated
FOIA - U.S. Freedom of Information Act (5 USC 552 et seq.) and similar state statutes.
FOIL - Freedom of Information Letter
FM - Factory Mutual
HVAC - Heating, Ventilating and Air-conditioning
IAQ - Indoor Air Quality
MEP – Mechanical, Electrical & Plumbing
NFPA - National Fire Protection Association
PCR - Property Condition Report
PML - Probable Maximum Loss
RTU - Rooftop Unit
RUL - Remaining Useful Life
STC – Sound Transmission Class
UBC – Uniform Building Code

Ref #	Section 8: ASTM E 2018-01 Out of Scope Items
8.4.1.8	***Utilities:*** Operating conditions of any systems or accessing manholes or utility pits.
8.4.2.2	***Structural Frame and Building Envelope:*** Entering of crawl or confined space areas (however, field observer should observe conditions to the extent easily visible from the point of access to the crawl or confined space areas), determination of previous substructure flooding or water penetration unless easily visible or if such information is provided.
8.4.3.2	***Roofs:*** Walking on pitched roofs, or any roof areas that appear to be unsafe, or roofs with no built-in access, or determining any roofing design criteria.
8.4.4.2	***Plumbing:*** Determining adequate pressure and flow rate, fixture-unit values and counts, or verifying pipe sizes and verifying the point of discharge for underground systems.
8.4.5.2	***Heating:*** Observation of flue connections, interiors of chimneys, flues or boiler stacks, or -owned or maintained equipment.
8.4.6.2	***Air-conditioning and Ventilation:*** Evaluation of process related equipment or condition of owned/maintained equipment.
8.4.7.2	***Electrical:*** Removing of electrical panel covers, except if removed by building staff, EMF issues, electrical testing, or operating of any electrical devices. Process related equipment or owned equipment.
8.4.8.2	***Vertical Transportation:*** Examining of cables, sheaves, controllers, motors, inspection tags, or entering elevator/escalator pits or shafts
8.4.9.1	***Life Safety / Fire Protection***: Determining NFPA hazard classifications, classifying, or testing fire rating of assemblies.
8.4.10.2	***Interior Elements:*** Operating appliances or fixtures, determining or reporting STC (Sound Transmission Class) ratings, and flammability issues/regulations.

Ref #	Section 11: ASTM E 2018-01 Out of Scope Items
11.1	*Activity Exclusions* - The activities listed below are generally excluded from or otherwise represent limitations to the scope of a Comprehensive Building Condition Assessment prepared in accordance with this *guide*. These should not be construed as all-inclusive or implying that any exclusion not specifically identified is a Comprehensive Building Condition Assessment requirement under this *guide*.
11.1.1	Removing or relocating materials, furniture, storage containers, personal effects, debris material or finishes; conducting exploratory probing or testing; *dismantling* or operating of equipment or appliances; or disturbing personal items or *property* which obstructs access or visibility.
11.1.2	Preparing *engineering* calculations (civil, structural, mechanical, electrical, etc.) to determine any *system's*, *component's*, or equipment's adequacy or compliance with any specific or commonly accepted design requirements or *building codes*, or preparing designs or specifications to remedy any *physical deficiency*.
11.1.3	Taking measurements or quantities to establish or confirm any information or representations provided by the *owner* or *user* such as: size and dimensions of the *subject property* or *subject building*, any legal encumbrances such as easements, dwelling unit count and mix, building *property* line setbacks or elevations, number and size of parking spaces, etc.
11.1.4	Reporting on the presence or absence of pests such as wood damaging organisms, rodents, or insects unless evidence of such presence is readily apparent during the course of the *field observer's walk-through survey* or such information is provided to the *consultant* by the *owner*, *user*, property manager, etc. The *consultant* is not required to provide a *suggested remedy* for treatment or remediation, determine the extent of infestation, nor provide *opinions of probable costs* for treatment or remediation of any deterioration that may have resulted.
11.1.5	Reporting on the condition of subterranean conditions such as underground utilities, separate sewage disposal *systems*, wells; *systems* that are either considered process-related or peculiar to a specific tenancy or use; waste water treatment plants; or items or *systems* that are not permanently installed.

Ref #	Section 11: ASTM E 2018-01 Out of Scope Items
11.1.6	Entering or accessing any area of the premises deemed to pose a threat of *dangerous or adverse conditions* with respect to the *field observer* or to perform any procedure, which may damage or impair the physical integrity of the *property*, any *system*, or *component*.
11.1.7	Providing an opinion on the condition of any *system* or *component,* which is *shutdown,* or whose operation by the *field observer* may significantly increase the registered electrical demand-load. However, *consultant* is to provide an opinion of its physical condition to the extent reasonably possible considering its age, obvious condition, manufacturer, etc.
11.1.8	Evaluating acoustical or insulating characteristics of *systems* or *components*.
11.1.9	Providing an opinion on matters regarding security of the *subject property* and protection of its occupants or *users* from unauthorized access.
11.1.10	Operating or witnessing the operation of lighting or other *systems* typically controlled by time clocks or that are normally operated by the building's operation staff or service companies.
11.1.11	Providing an environmental assessment or opinion on the presence of any environmental issues such as asbestos, hazardous wastes, toxic materials, the location and presence of designated wetlands, IAQ, etc.
11.2	*Warranty, Guarantee and Code Compliance Exclusions* - By conducting a Comprehensive Building Condition Assessment and preparing a PCR, the *consultant* is merely providing an opinion and does not warrant or guarantee the present or future condition of the *subject property,* nor may the Comprehensive Building Condition Assessment be construed as either a warranty or guarantee of any of the following:
11.2.1	any *system's* or *component's* physical condition or use, nor is a Comprehensive Building Condition Assessment to be construed as substituting for any *system*'s or equipment's warranty transfer inspection;
11.2.2	compliance with any federal, state, or local statute, ordinance, rule or regulation including, but not limited to, *building codes*, safety codes, environmental regulations, health codes or zoning ordinances or compliance with trade/design standards or the standards developed by the insurance industry. However, should there be any conspicuous *material* present violations *observed* or reported based upon *actual knowledge* of the *field observer* or the *PCR reviewer*, they should be identified in the PCR;
11.2.3	compliance of any material, equipment, or *system* with any certification or actuation rate program, vendor's or manufacturer's warranty provisions, or provisions established by any standards that are related to insurance industry acceptance/approval such as FM, State Board of Fire Underwriters, etc.
11.3	Additional/General Considerations:
11.3.1	Further Inquiry - There may be physical condition issues or certain physical improvements at the *subject property* that the parties may wish to assess in connection with a *commercial real estate transaction* that are outside the scope of this *guide*. Such issues are referred to as non-scope considerations and if included in the PCR, should be identified under Section 10.9.
11.3.2	*Non-Scope Considerations* - Whether or not a *user* elects to inquire into non-scope considerations in connection with this *guide* is a decision to be made by the *user*. No assessment of such non-scope considerations is required for a Comprehensive Building Condition Assessment to be conducted in compliance with this *guide*.

APPENDIX G:
RESUMES FOR REPORT REVIEWER AND FIELD OBSERVER

MICHAEL A. YOUNG

Senior Engineering Consultant

Education

- BS, Agricultural Engineering, The University of Georgia, Athens, Georgia

Project Experience

- ***Hospitality, Nationwide –*** Mr. Young served as the technical lead on a Property Condition Evaluation portfolio. A number of additional studies were required during the completion of this portfolio that were critical to the client in determining property needs.
- ***Healthcare - Skilled Nursing and Assisted Living, Nationwide -*** Mr. Young was the technical lead for a 183 site portfolio of SNF/ALF properties. He reviewed reports, participated in kick-off and progress meetings and provided summaries and follow-on studies/issues matrices to the client. All projects were completed on schedule and delivered on time to the client.
- ***Retail/Office – Bank, Nationwide –*** Mr. Young served as the technical lead for a 75 property portfolio of bank properties. The objective of the portfolio was to provide Property Condition Assessment reports addressing any property needs required and anticipated during the evaluation period.
- ***Multi-Family, Nationwide -*** Mr. Young was the technical lead for a Property Condition Assessment portfolio of approximately 43 Multi-Family Residential properties. Many of the properties in this portfolio required or were currently experiencing major renovation work. Other properties were under construction. Accurate state of renovation/construction and costs for any remaining work were significant to the client to make an effective business decision.
- ***Industrial - Packaging, Southern U.S. –*** Mr. Young was the technical lead for a Property Condition Assessment portfolio of approximately 34 industrial properties. The objective of the portfolio was to provide initial preliminary field reports and cost tables for each property and ultimately a full Property Condition Assessment report, including immediate repairs and reserve replacements.
- Michael has completed in excess of 150 Property Condition Assessments (debt reports) and Property Condition Evaluations (equity reports) while at EMG.
- Michael has reviewed or been technically involved in excess of 1,000 Property Condition Assessments (debt reports), Property Condition Evaluations (equity reports), and other due diligence related reports while at EMG.

Industry Tenure

- A/E: 1996
- EMG: 2004

Related Experience

- Healthcare/Senior Housing Portfolios
- Industrial/Warehouse Portfolios
- National Hotel Chain Portfolios
- Multifamily Housing Portfolios
- Manufactured Home Community Portfolios
- Retail Portfolios

Industry Experience

- Healthcare/Senior Living Housing
- Hospitality
- Retail
- Multifamily Housing
- Affordable Housing/HUD
- Office
- Industrial/Warehouse Facilities
- Manufactured Home Communities

Regional Location

- Atlanta, GA

BILL CHAMPION, PMP

Program Manager

Cost Segregation Manager

Education

- MBA from the University of Rochester (Simon)
- MS in Mechanical Engineering from the State University of New York at Buffalo
- BS in Mechanical Engineering from the State University of New York at Buffalo

Project Experience

- ***Housing Authority of the City of Pittsburgh, Pittsburgh, PA*** – Mr. Champion was a member of the Quality Assurance Review Team for this Physical Needs Assessment portfolio that encompassed over 6,114 housing units within 20 separate communities in City of Pittsburgh, Pennsylvania. The objective of the PNA was to provide a general description of all physical improvements that the Client would need to undertake to bring its properties, including dwellings and non-dwellings structures, to a level that will provide safe, decent and sanitary living conditions for the residents. Mr. Champion utilized his engineering expertise to ensure that the methodology and protocol were not compromised during the execution of the assessment.
- ***George Mason University, Fairfax, VA***- As Program Manager, Mr. Champion was responsible for meeting with the Client and developing a specific program that exceeded the Client's expectations. The program was designed to provide facility condition assessments and prepare a database for tracking, systems, building components, deficiencies and replacements. This database was customized further to include a detailed equipment inventory. This database was designed based on Client input and the end user in mind. Mr. Champion's ability to troubleshoot issues allowed EMG to conduct this program effectively and maintain the schedule and budget.
- ***University of Virginia, Charlottesville, VA*** – Mr. Champion performed Facilities Condition Audits on academic buildings on the campus of The University of Virginia. He evaluated building condition and systems, outlined physical deficiencies and gave recommendations for prioritizing them to maximize safety and minimize long-term costs.

Industry Tenure

- A/E: 1994
- EMG: 2002

Related Experience

- Multifamily Housing Portfolios
- Government Agency Portfolios
- K-12 Education Portfolios
- Higher Education Portfolios
- Retail Portfolios
- Industrial Portfolios

Industry Experience

- Multi-family Housing
- Cost Segregation
- Government
- Retail
- Industrial
- K-12 Education
- Higher Education

Active Licenses / Registrations

- Certified Project Management Professional (PMP) by the Project Management Institute, # 50241
- Engineer in Training in the State of New York, # 046094
- Member- American Society of Mechanical Engineers

Regional Location

- Baltimore, Maryland

KEVIN M. LANTRY

Project Manager

Education

- BS, Mechanical Engineering, Purdue University School of Mechanical Engineering, 2003

Project Experience

- **Kettering Tower, Dayton, OH –** Project Manager. Completed a Property Condition Assessment of this 30-story building in downtown Dayton. The 486,000 square foot facility contains office and retail space and an attached six level parking garage.
- **Two Illinois Center, Chicago, IL –** Project Manager. Completed an Equity Level Property Condition Evaluation of this 32-story building in Chicago's East Loop office district. The 1.2 million square foot facility contains office and retail space along with a four level subterranean parking garage.
- **Orange County Parks Depreciation Study, Orange County, CA** – Project Manager. Performed facility assessments on over 20 harbor, beach and park properties, including recreational facilities, maintenance facilities, and offices. Compiled data into individual Property Condition Reports, which included a Depreciation Study and 10-year Capital Plan for each facility.
- **Mark to Market Green PCAs, Various Locations –** Project Manager. Completed multiple Mark to Market Green PCAs per Housing and Urban Development (HUD) protocol. Reports included standard Mark to market assessments with energy audits and recommendations for sustainability.
- **Alan Bible Federal Building, Las Vegas, NV –** Project Manager. Completed a Level IV Web Building Engineering Report (BER) for the US Government General Services Administration. Evaluated the mechanical, plumbing, and elevator systems as part of the assessment team sent by EMG to analyze all building components.
- **First Energy Facility Assessments, Multiple Sites, PA -** Project Manager. Performed facility assessments on over forty sites for a large electric utility in central and eastern Pennsylvania. Evaluated a wide range of sites, including district offices, regional headquarters and maintenance facilities. Compiled results into individual Facility Condition Reports and EMG's Assetcalc software to be used by the client for capital planning and facility investment purposes.

Industry Tenure

- A/E: 2001
- EMG: 2004

Related Experience

- GSA Assessment Team

Industry Experience

- Industrial
- Commercial
- Multi-family Residential

Special Skills & Training

- ISO 9000
- AutoCAD
- VFA.Facility Certified
- Cross Trained for Environmental Assessments

Memberships

- ASHRAE
- ASME

Regional Location

- Indianapolis, IN