Stoughton
Massachusetts

Town-wide
FACILITIES MASTER PLAN - APPENDIX

May 17, 2010

Drummey Rosane Anderson, Inc.

Existing Reports

The following existing reports were referenced in this scope of work with the permission of the owner.

Former Armory – Hazardous Materials Inspection, R.I. Analytical Laboratories, Inc., January 25, 2010.

ADA Compliance Inspection Report – Stoughton Public Schools, Gale Associates, Inc., December 2001.

Roof Management Program – Stoughton Public Schools, Gale Associates, Inc., December 2003.

Exterior Façade Evaluation at Stoughton High School, Gale Associates, Inc., April 2006.

Thermographic Anlaysis, Infra-red Building and Power Service, Inc., December 10, 2003.

Thermographic Anlaysis, Infra-red Building and Power Service, Inc., December 10, 2006.

Thermographic Anlaysis, Infra-red Building and Power Service, Inc., December 10, 2007.

Town of Stoughton Facilities Survey of Department Managers, Town of Stoughton, January 2009.

Stoughton, Massachusetts

FACILITIES ASSESSMENT

May 17, 2010

Facility	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	Total by Building	Recommendation
High School	$ 3,893,275	$ 5,161,900	$ 433,050	$ 524,250	$ 1,198,500	$ 11,210,975	Submit Statement of Interest to MSBA, perform min. urgent repairs
Middle School	$ 133,810	$ 3,531,275	$ 504,000	$ 496,475	$ 576,000	$ 5,241,560	Candidate for MSBA Repairs program: HVAC
E. A. Jones Elementary School	$ 550,650	$ 1,016,700	$ 377,932	$ -	$ 182,000	$ 2,127,282	Extend longevity, continue regular repair program
Helen H. Hansen School	$ 522,172	$ 773,241	$ 521,923	$ 127,500	$ 92,053	$ 2,036,888	Extend longevity, continue regular repair program
South Elementary School	$ 868,700	$ 1,821,250	$ 1,551,600	$ 138,730	$ 328,500	$ 4,708,780	Perform Feasibility Study; consider full range of alternatives, including new construction
West School	$ 335,750	$ 1,304,212	$ 335,963	$ 607,350	$ 122,905	$ 2,706,180	Extend longevity, continue regular repair program
Dawe Elementary School	$ 56,825	$ 1,732,100	$ 1,559,885	$ 41,200	$ 412,100	$ 3,802,110	Candidate for MSBA Repairs program: HVAC, windows
Gibbons School	$ 58,200	$ 2,664,185	$ 1,004,360	$ 564,625	$ 305,700	$ 4,597,070	Candidate for MSBA Repairs program: HVAC, roof, windows
Town Hall	$ 299,200	$ 317,522	$ 73,963	$ -	$ 55,213	$ 745,897	Pursue historic grant(s) to repair exterior envelope; upgrade interior acoustics
Public Works Garage (BLDG B)	$ -	$ 2,000	$ 73,400	$ -	$ 4,500	$ 79,900	Regular maintenance and repairs
Public Works Storage & Garage (BLDGs A & C)	$ -	$ 500	$ 23,400	$ -	$ 3,000	$ 26,900	Regular maintenance and repairs
Club House	$ -	$ 15,000	$ 25,308	$ 11,550	$ 9,050	$ 60,908	Regular maintenance and repairs
Public Library	$ 44,000	$ 439,500	$ 116,000	$ -	$ 33,000	$ 632,500	Feasibility Study on-going
Fire Station (#1)	$ 103,950	$ 156,200	$ 224,600	$ -	$ 89,950	$ 574,700	Feasibility Study to evaluate investment value
Fire Station (#2)	$ -	$ -	$ -	$ -	$ -	$ -	Under repair
Council on Aging/Youth Commission	$ 10,000	$ 500	$ 22,000	$ -	$ -	$ 32,500	Make immediate repairs; regular maintenance
Police Station	$ 57,000	$ 70,750	$ 27,000	$ 7,590	$ -	$ 162,340	Study to determine scope of HVAC repairs, upgrade roof drainage issues, upgrade security items
Clapp Memorial Building (Historical Society)	$ 17,900	$ 17,650	$ 51,000	$ 12,500	$ 10,750	$ 109,800	Study Accessibility issues, make immediate repairs
Animal Control w/Park Rest Room	$ 3,250	$ 5,000	$ 8,000	$ -	$ -	$ 16,250	Not worthy of significant investment
Armory	$ -	$ -	$ -	$ -	$ 1,474,930	$ 1,474,930	Evaluate/determine future municipal use before investment
Bath House CS	$ -	$ -	$ 155,700	$ -	$ 8,250	$ 163,950	Regular maintenance and repairs
Bleachers	$ -	$ 45,000	$ -	$ -	$ -	$ 45,000	Regular maintenance and repairs
Pressbox	$ -	$ -	$ -	$ -	$ -	$ -	Regular maintenance and repairs
Field House	$ -	$ -	$ 6,200	$ -	$ 2,000	$ 8,200	Regular maintenance and repairs
Athletic Storage Shed	$ -	$ -	$ -	$ -	$ 1,000	$ 1,000	Regular maintenance and repairs
Pump Station #1	$ -	$ 97,750	$ 10,000	$ 9,750	$ -	$ 117,500	Make immediate masonry, structural repairs
HARD COSTS PER ANNUM	$ 6,954,682	$ 19,172,235	$ 7,105,283	$ 2,541,520	$ 4,909,400	$ 40,683,120	
Soft Costs (25%)	$ 1,738,671	$ 4,793,059	$ 1,776,321	$ 635,380	$ 1,227,350	$ 10,170,780	
TOTAL COSTS PER ANNUM	**$ 8,693,353**	**$ 23,965,294**	**$ 8,881,603**	**$ 3,176,900**	**$ 6,136,750**	**$ 50,853,899**	

Stoughton, Massachusetts
FACILITIES ASSESSMENT

May 17, 2010

Facility	Component Value - Year One: Structure	Roof	Exterior	Interior	Equipment	Electrical	Mechanical	Special Construction	Conveyance	Total by Building
High School	$ -	$ 3,400,000.00	$ 265,750.00	$ 227,525.00	$ -	$ -	$ -	$ -	$ -	$ 3,893,275.00
Middle School	$ -	$ -	$ -	$ 133,810.00	$ -	$ -	$ -	$ -	$ -	$ 133,810.00
E. A. Jones Elementary School	$ 8,500.00	$ 491,250.00	$ -	$ 50,900.00	$ -	$ -	$ -	$ -	$ -	$ 550,650.00
Helen H. Hansen School	$ 5,000.00	$ -	$ 383,530.00	$ -	$ -	$ 73,642.00	$ 20,000.00	$ -	$ 40,000.00	$ 522,172.00
South Elementary School	$ 9,000.00	$ -	$ 444,600.00	$ 282,100.00	$ -	$ 133,000.00	$ -	$ -	$ -	$ 868,700.00
West School	$ -	$ -	$ 5,000.00	$ 330,750.00	$ -	$ -	$ -	$ -	$ -	$ 335,750.00
Dawe Elementary School	$ -	$ 1,125.00	$ 9,900.00	$ 5,800.00	$ -	$ -	$ -	$ -	$ 40,000.00	$ 56,825.00
Gibbons School	$ -	$ -	$ 12,400.00	$ 5,800.00	$ -	$ -	$ -	$ -	$ 40,000.00	$ 58,200.00
Town Hall	$ -	$ 164,500.00	$ 95,700.00	$ -	$ -	$ 39,000.00	$ -	$ -	$ -	$ 299,200.00
Public Works Garage (BLDG B)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Public Works Storage & Garage (BLDGs A & C)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Club House	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Public Library						$ 44,000.00	$ -	$ -		$ 44,000.00
Fire Station (#1)	$ 48,000.00	$ 12,750.00	$ -	$ -	$ -	$ 28,800.00	$ -	$ 14,400.00	$ -	$ 103,950.00
Fire Station (#2)										$ -
Council on Aging/Youth Commission	$ 3,200.00	$ -	$ 6,800.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000.00
Police Station	$ -	$ -	$ -	$ 7,000.00	$ -	$ -	$ 35,000.00	$ 15,000.00	$ -	$ 57,000.00
Clapp Memorial Building (Historical Society)	$ -	$ -	$ -	$ -	$ -	$ 11,900.00	$ -	$ -	$ 6,000.00	$ 17,900.00
Animal Control w/Park Rest Room	$ -	$ -	$ -	$ -	$ -	$ 2,500.00	$ 750.00	$ -	$ -	$ 3,250.00
Armory	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bath House CS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bleachers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pressbox	$ -	$ -	$ -	$ -	$ -	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	$ -	$ -
Field House	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Athletic Storage Shed	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pump Station #1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL PER COMPONENT	$ 73,700.00	$ 4,069,625.00	$ 1,223,680.00	$ 1,043,685.00	$ -	$ 332,842.00	$ 55,750.00	$ 29,400.00	$ 126,000.00	$ 6,954,682.00

Facility	Component Value - Year Two: Structure	Roof	Exterior	Interior	Equipment	Electrical	Mechanical	Special Construction	Conveyance	Total by Building
High School	$ -	$ -	$ -	$ 593,900.00	$ -	$ -	$ 4,568,000.00	$ -	$ -	$ 5,161,900.00
Middle School	$ -	$ -	$ 207,275.00	$ -	$ -	$ -	$ 3,324,000.00	$ -	$ -	$ 3,531,275.00
E. A. Jones Elementary School	$ -	$ -	$ -	$ -	$ 1,500.00	$ -	$ 907,200.00	$ 108,000.00	$ -	$ 1,016,700.00
Helen H. Hansen School	$ -	$ -	$ -	$ -	$ -	$ -	$ 773,241.00	$ -	$ -	$ 773,241.00
South Elementary School	$ -	$ -	$ -	$ 415,250.00	$ 33,000.00	$ -	$ 1,098,000.00	$ 95,000.00	$ 180,000.00	$ 1,821,250.00
West School	$ -	$ -	$ -	$ -	$ 25,000.00	$ 142,986.00	$ 1,096,226.00	$ -	$ 40,000.00	$ 1,304,212.00
Dawe Elementary School	$ -	$ -	$ -	$ -	$ 12,500.00	$ -	$ 1,719,600.00	$ -	$ -	$ 1,732,100.00
Gibbons School	$ -	$ 942,085.00	$ -	$ -	$ 2,500.00	$ -	$ 1,719,600.00	$ -	$ -	$ 2,664,185.00
Town Hall	$ -	$ -	$ -	$ 29,182.00	$ -	$ -	$ 244,170.00	$ 44,170.00	$ -	$ 317,522.00
Public Works Garage (BLDG B)	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000.00	$ -	$ -	$ 2,000.00
Public Works Storage & Garage (BLDGs A & C)	$ -	$ -	$ -	$ 500.00	$ -	$ -	$ -	$ -	$ -	$ 500.00
Club House	$ 15,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000.00
Public Library						$ -	$ 396,000.00	$ 43,500.00		$ 439,500.00
Fire Station (#1)	$ -	$ -	$ -	$ -	$ -	$ -	$ 156,200.00	$ -	$ -	$ 156,200.00
Fire Station (#2)										$ -
Council on Aging/Youth Commission	$ -	$ 500.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 500.00
Police Station	$ -	$ 59,500.00	$ 6,250.00	$ -	$ -	$ -	$ 5,000.00	$ -	$ -	$ 70,750.00
Clapp Memorial Building (Historical Society)	$ -	$ -	$ 10,850.00	$ -	$ -	$ 6,800.00	$ -	$ -	$ -	$ 17,650.00
Animal Control w/Park Rest Room	$ -	$ -	$ -	$ -	$ -	$ 2,000.00	$ -	$ 3,000.00	$ -	$ 5,000.00
Armory	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bath House CS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bleachers	$ -	$ -	$ 5,000.00	$ -	$ -	$ -	$ -	$ -	$ 40,000.00	$ 45,000.00
Pressbox	$ -	$ -	$ -	$ -	$ -	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	$ -	$ -
Field House	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Athletic Storage Shed	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pump Station #1	$ 43,500.00	$ 750.00	$ 10,000.00	$ -	$ -	$ 6,500.00	$ 25,000.00	$ 12,000.00	$ -	$ 97,750.00
										$ -
TOTAL PER COMPONENT	$ 58,500.00	$ 1,002,835.00	$ 239,375.00	$ 1,038,832.00	$ 74,500.00	$ 158,286.00	$ 16,034,237.00	$ 305,670.00	$ 260,000.00	$ 19,172,235.00

Facility	Component Value - Year Three									Total by Building
	Structure	Roof	Exterior	Interior	Equipment	Electrical	Mechanical	Special Construction	Conveyance	
High School	$ 92,500.00	$ -	$ 67,250.00	$ 153,300.00	$ -	$ -	$ 120,000.00	$ -	$ -	$ 433,050.00
Middle School	$ -	$ -	$ -	$ -	$ -	$ 360,000.00	$ 144,000.00	$ -	$ -	$ 504,000.00
E. A. Jones Elementary School	$ 1,500.00	$ -	$ -	$ 208,732.00	$ 8,100.00	$ 129,600.00	$ 30,000.00	$ -	$ -	$ 377,932.00
Helen H. Hansen School	$ -	$ -	$ -	$ 377,370.00	$ 6,500.00	$ 92,052.50	$ 46,000.00	$ -	$ -	$ 521,922.50
South Elementary School	$ 13,000.00	$ 961,400.00	$ 114,200.00	$ 227,000.00	$ -	$ 190,000.00	$ 46,000.00	$ -	$ -	$ 1,551,600.00
West School	$ 5,500.00	$ -	$ 62,850.00	$ 122,120.00	$ -	$ -	$ 145,493.00	$ -	$ -	$ 335,963.00
Dawe Elementary School	$ 2,875.00	$ -	$ 542,300.00	$ 597,910.00	$ -	$ 202,800.00	$ 64,000.00	$ -	$ 150,000.00	$ 1,559,885.00
Gibbons School	$ -	$ -	$ -	$ 580,360.00	$ -	$ 210,000.00	$ 64,000.00	$ -	$ 150,000.00	$ 1,004,360.00
Town Hall	$ -	$ -	$ -	$ -	$ -	$ 55,212.50	$ 18,750.00	$ -	$ -	$ 73,962.50
Public Works Garage (BLDG B)	$ -	$ 10,500.00	$ 55,400.00	$ -	$ -	$ -	$ 7,500.00	$ -	$ -	$ 73,400.00
Public Works Storage & Garage (BLDGs A & C)	$ -	$ 7,000.00	$ 1,400.00	$ -	$ -	$ -	$ 15,000.00	$ -	$ -	$ 23,400.00
Club House	$ -	$ -	$ -	$ 3,600.00	$ -	$ 14,707.50	$ 7,000.00	$ -	$ -	$ 25,307.50
Public Library						$ 110,000.00	$ 6,000.00	$ -		$ 116,000.00
Fire Station (#1)	$ -	$ 500.00	$ 17,600.00	$ 4,500.00	$ -	$ 72,000.00	$ 30,000.00	$ -	$ 100,000.00	$ 224,600.00
Fire Station (#2)										$ -
Council on Aging/Youth Commission	$ -	$ -	$ -	$ -	$ -	$ 15,000.00	$ 7,000.00	$ -	$ -	$ 22,000.00
Police Station	$ -	$ -	$ -	$ -	$ -	$ 12,000.00	$ 15,000.00	$ -	$ -	$ 27,000.00
Clapp Memorial Building (Historical Society)	$ -	$ -	$ -	$ 45,000.00	$ -	$ -	$ 6,000.00	$ -	$ -	$ 51,000.00
Animal Control w/Park Rest Room	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,000.00	$ -	$ -	$ 8,000.00
Armory	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bath House CS	$ -	$ 200.00	$ 150,500.00	$ -	$ -	$ -	$ 5,000.00	$ -	$ -	$ 155,700.00
Bleachers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pressbox	$ -	$ -	$ -	$ -	$ -	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	$ -	$ -
Field House	$ -	$ -	$ -	$ -	$ -	$ 6,200.00	$ -	$ -	$ -	$ 6,200.00
Athletic Storage Shed	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pump Station #1	$ -	$ -	$ -	$ -	$ -	$ 10,000.00	$ -	$ -	$ -	$ 10,000.00
TOTAL PER COMPONENT	$ 115,375.00	$ 979,600.00	$ 1,011,500.00	$ 2,319,892.00	$ 14,600.00	$ 1,479,572.50	$ 784,743.00	$ -	$ 400,000.00	$ 7,105,282.50

Stoughton, Massachusetts
FACILITIES ASSESSMENT

May 17, 2010

Facility	Component Value - Year Four									Total by Building
	Structure	Roof	Exterior	Interior	Equipment	Electrical	Mechanical	Special Construction	Conveyance	
High School	$ 55,250.00	$ -	$ -	$ -	$ 29,000.00	$ -	$ -	$ -	$ 440,000.00	$ 524,250.00
Middle School	$ 47,150.00	$ -	$ 10,000.00	$ 439,325.00	$ -	$ -	$ -	$ -	$ -	$ 496,475.00
E. A. Jones Elementary School	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Helen H. Hansen School	$ -	$ -	$ 2,500.00	$ -	$ 125,000.00	$ -	$ -	$ -	$ -	$ 127,500.00
South Elementary School	$ -	$ -	$ -	$ 138,730.00	$ -	$ -	$ -	$ -	$ -	$ 138,730.00
West School	$ -	$ 601,250.00	$ -	$ -	$ 6,100.00	$ -	$ -	$ -	$ -	$ 607,350.00
Dawe Elementary School	$ -	$ -	$ 27,200.00	$ -	$ 14,000.00	$ -	$ -	$ -	$ -	$ 41,200.00
Gibbons School	$ 2,875.00	$ -	$ 561,750.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 564,625.00
Town Hall	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Public Works Garage (BLDG B)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Public Works Storage & Garage (BLDGs A & C)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Club House	$ 7,200.00	$ -	$ -	$ 4,350.00	$ -	$ -	$ -	$ -	$ -	$ 11,550.00
Public Library						$ -	$ -	$ -		$ -
Fire Station (#1)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Fire Station (#2)										$ -
Council on Aging/Youth Commission	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Police Station	$ -	$ -	$ -	$ 7,590.00	$ -	$ -	$ -	$ -	$ -	$ 7,590.00
Clapp Memorial Building (Historical Society)	$ -	$ -	$ 12,500.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,500.00
Animal Control w/Park Rest Room	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Armory	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bath House CS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bleachers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pressbox	$ -	$ -	$ -	$ -	$ -	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	$ -	$ -
Field House	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Athletic Storage Shed	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pump Station #1	$ -	$ 5,000.00	$ 4,750.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,750.00
TOTAL PER COMPONENT	$ 112,475.00	$ 606,250.00	$ 618,700.00	$ 589,995.00	$ 174,100.00	$ -	$ -	$ -	$ 440,000.00	$ 2,541,520.00

Stoughton, Massachusetts
FACILITIES ASSESSMENT

May 17, 2010

Facility	Component Value - Year Five									Total by Building
	Structure	Roof	Exterior	Interior	Equipment	Electrical	Mechanical	Special Construction	Conveyance	
High School	$ -	$ -	$ 34,500.00	$ -	$ -	$ 485,000.00	$ 291,000.00	$ 388,000.00	$ -	$ 1,198,500.00
Middle School	$ -	$ -	$ -	$ -	$ -	$ 288,000.00	$ -	$ 288,000.00	$ -	$ 576,000.00
E. A. Jones Elementary School	$ -	$ -	$ 74,000.00	$ -	$ -	$ 108,000.00	$ -	$ -	$ -	$ 182,000.00
Helen H. Hansen School	$ -	$ -	$ -	$ -	$ -	$ 92,052.50	$ -	$ -	$ -	$ 92,052.50
South Elementary School	$ -	$ -	$ -	$ 100,500.00	$ -	$ 95,000.00	$ -	$ 133,000.00	$ -	$ 328,500.00
West School	$ -	$ -	$ -	$ 3,750.00	$ -	$ 119,155.00	$ -	$ -	$ -	$ 122,905.00
Dawe Elementary School	$ -	$ -	$ 1,500.00	$ -	$ -	$ 174,000.00	$ -	$ 236,600.00	$ -	$ 412,100.00
Gibbons School	$ -	$ -	$ 1,500.00	$ -	$ -	$ 169,000.00	$ -	$ 135,200.00	$ -	$ 305,700.00
Town Hall	$ -	$ -	$ -	$ -	$ -	$ 55,212.50	$ -	$ -	$ -	$ 55,212.50
Public Works Garage (BLDG B)	$ -	$ -	$ -	$ 4,500.00	$ -	$ -	$ -	$ -	$ -	$ 4,500.00
Public Works Storage & Garage (BLDGs A & C)	$ -	$ -	$ -	$ 3,000.00	$ -	$ -	$ -	$ -	$ -	$ 3,000.00
Club House	$ -	$ -	$ 9,050.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,050.00
Public Library						$ 33,000.00	$ -	$ -		$ 33,000.00
Fire Station (#1)	$ -	$ -	$ 12,950.00	$ 41,000.00	$ -	$ 36,000.00	$ -	$ -	$ -	$ 89,950.00
Fire Station (#2)										$ -
Council on Aging/Youth Commission	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Police Station	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Clapp Memorial Building (Historical Society)	$ -	$ -	$ -	$ 2,250.00	$ -	$ 8,500.00	$ -	$ -	$ -	$ 10,750.00
Animal Control w/Park Rest Room	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Armory	$ 10,000.00	$ 188,850.00	$ 193,250.00	$ 249,622.00	$ -	$ 329,717.33	$ 266,069.33	$ 202,421.33	$ 35,000.00	$ 1,474,930.00
Bath House CS	$ -	$ -	$ -	$ 8,250.00	$ -	$ -	$ -	$ -	$ -	$ 8,250.00
Bleachers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pressbox	$ -	$ -	$ -	$ -	$ -	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	Inlcuded in Bleachers Above	$ -	$ -
Field House	$ 2,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000.00
Athletic Storage Shed	$ 1,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000.00
Pump Station #1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL PER COMPONENT	$ 13,000.00	$ 188,850.00	$ 326,750.00	$ 412,872.00	$ -	$ 1,992,637.33	$ 557,069.33	$ 1,383,221.33	$ 35,000.00	$ 4,909,400.00

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$227,525	$593,900	$153,300	$0	$0	$974,725
Structure	$0	$0	$92,500	$55,250	$0	$147,750
Exterior	$265,750	$0	$67,250	$0	$34,500	$367,500
Conveyance	$0	$0	$0	$440,000	$0	$440,000
Equipment	$0	$0	$0	$29,000	$0	$29,000
Roofing	$3,400,000	$0	$0	$0	$0	$3,400,000
Spec. Constr.	$0	$0	$0	$0	$388,000	$388,000
Mechanical	$0	$4,568,000	$120,000	$0	$291,000	$4,979,000
Electrical	$0	$0	$0	$0	$485,000	$485,000
Totals	$3,893,275	$5,161,900	$433,050	$524,250	$1,198,500	**$11,210,975**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Painted Concrete		C	3	Remove peeling paint and repaint	1440 SF (wall area)			1440	3600						
Glazed Brick		B													
Painted Brick		B													
Painted CMU		B	1	Reconstruct Cracked Wall with Control Joint	10 SF	LS	10000								
		B	3	Repaint	300 SF (wall area)			300	800						
Glazed Block		B													
12x12 Fiberboard Tiles		C	2	Remove fiberboard tiles and repair walls	1600 SF (wall area)			1600	4000						
			4	Add acoustical Panels to walls	1600 SF (wall area)			1600	4000						
Plastic Laminate Panels		A													
4x4 Ceramic Tile		C	2	Replace Missing Tiles	10 SF			LS	750						
Painted Paneling		D	2	Remove Wall Paneling & Repair Water Damage	2400 SF (wall area)			2400	18000						
Expansion Joints		D	2	Add Expansion Joint to Walls	8 SF			LS	2500						
		D	2	Remove, Recaulk and Recover	34 LF			34	2900						
			4	Replace Sealant in Wall Joints	30 LF			30	2600						
Painted Plaster		C	2	Correct Water Damage and Replace Wall Finish	16 SF (wall area)			LS	2500						
Floors															
VCT/ 9"x9"		B	1	Replace VCT	8000 SF	8000	36000								
VCT 12x12		C	1	Replace Damaged VCT	900 SF	900	4050								
Carpet		C	2	Replace Carpet	2000 SF			200	7000						
		C	2	Repair carpet seams	150 LF			LS	3000						
Terrazzo		B													
12x12 Terrazzo Tiles		B													
Polished Concrete		B													
12x12 Ceramic Tile															
2x2 Ceramic Tile		C	2	Patch Floor	4 SF			LS	1000						
Wood			3	Strip Wood Floor and Refinish	11000 SF			11000	38500						
			3	Strip and Sand Wood Floor & Refinish	7000 SF			7000	24500						
4"High Ceramic Tile Base		D	2	Replace missing CT Base	10 LF			LS	3000						
Rubber Flooring		D	2	Remove Rubber and Refinish Slab Under & Refinish	250 SF			LS	3000						
			2	Resecure Rubber Flooring				250	1250						
Expansion Joints		C	2	Add expansion Joint	16 LF			LS	2000						
Ceilings															
12x12 Fiberboard		C	1	Replace	3500 SF	3500	19250								
2x4 Acoustical Panels		B	1	Reinstall Ceiling Panels	225 Tiles	900	4950								
Old Style 2x4 Acoustic Panels		B	4	Replace or refinish panels and grid	2200 Tiles	8800	48400								
Painted Plaster		C	3	Repair Ceiling Cracks & Repaint	150 SF					LS	3000				
		C	3	Remove peeling paint and repaint	1000 SF					1000	7500				
Painted GWB															
Skylights		C	4	Remove Skylights & Patch Ceiling						LS	15000				
Doors															
Wood in wood frames		B													
Wood in HM Frames		B	3	Replace Narrow Doors	24			24	48000						

INTERIORS (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
			3	Correct Deep Recess at Doors	33			33	247500						
HM Doors & Frames		B	2	Repair Rusted Door Frame											
Fiberglass Doors		A													
Hardware		B		Replace Knobset	1	LS	1000								
			3	Reduce Threshold Height	1			LS	2500						
			1	Add Threshold at Door	2	2	1000								
			1	Repair Closer	1	LS	1000								
			2	Add Door Closers	18			18	13500						
Sliding Kalameine Fire Door		D	1	Replace with Fire Door controled by Smoke Detectors	2			LS	10000						
Windows															
Wood Windows		B													
Aluminum Windows		B													
Built-ins		C	4	Replace Laminate Tops	180 LF					180	31500				
			3	Add ADA compliant Sink	10					10	22500				
			2	Replace sagging heater grille	5 Locations			LS	2500						
			4	Paint Built-in Cabinets	36 LF					720	1800				
			2	Add Side Protection for Display Case				LS	5000						
Media Center Circulation Desk		B	3	Add ADA Counter	1			LS	7500						
Accessible Lab Stations		B	3	Add ADA lab station	5			5	37500						
Stairs			1	Add continuous inside handrails	6 Stairwell Locations	LS	40000								
			1	Replace Guardrail at Windows		LS	5000								
			1	Add Handrails to Stair		LS	40000								
Permanent Seating															
Auditorium Seats		B	4	Replace old Style Seats	288					288	72000				
Boards															
Lockers		B/D	3	Replace old style lockers	100 Lockers +/-			100	32500						
			3	Refinish Lockers				1000	5000						
Partitions															
Glazing															
Ramps		A	1	Add Handrail to Ramp	2 Locations - 24 LF total	LS	6000								
		D	1	Add ramp at choir room platform	1	LS	10000								
		D	1	Replace guardrail at stairwell	7 LF	LS	875								
Other															
Drinking Fountains		C	2	Add side protection	11			11	55000						
Mirror Mounting Height		C	2	Lower to ADA compliant	5			5	2500						
Totals							$227,525		$593,900		$153,300		$0		$0	**$974,725**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Floor Slabs															
Foundations															
Exposed Painted Concrete Retaining Wall		C	2	Add sealant at cracked foundation wall						LS	2500				
Stairs															
Concrete		B													
Steel		C	2	Scrape flaking paint, remove rust and repaint	(1) 4 FT Wide Egress Stair										
Ramps															
Concrete		B													
Loading Dock															
Walls															
CMU															
Painted Concrete															
Decks															
Tectum				Paint	8500 SF										
Steel				Clean	9000 SF										
Wood															
Columns															
Steel				Paint Steel structure in Gymnasium											
Painted Reinforced Concrete		C	3	Patch and repair	500 SF Total							500	2250		
		C	3	Remove flaking paint and repaint	All exterior painted concrete surfaces							LS	25000		
Masonry															
See Walls Above															
Metals															
Painted Exposed Steel Lintels		C	3	Scrape and repaint	All Window Openings					LS	40000				
		C	2	Remove and replace deflected lintels at East Elevations	600 LF					LS	50000				
Exposed Steel Roof Structure		C	3	Scrape and repaint	At Gymnasuim							LS	28000		
Slabs															
Concrete		C	3	Patch and repair at area way	15 SF										
TOTALS							$0		$0		$92,500		$55,250		$0	**$147,750**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend

1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Bituminous Concrete															
Sidewalks															
Bituminous Concrete															
Concrete Stairs															
Concrete Pads															
Exposed Aggregate Concrete		B	3	Fill cracks and add control joint	12 LF									LS	2500
Asphalt Paving															
Bituminous Paving															
Doors															
Fiberglass															
HM Frames															
O/H Door															
Windows															
Aluminum		A													
Steel		A													
Kalwall		A													
Railings															
Painted Steel		B	3	Remove flaking paint and repaint	50 LF									50	1000
		C	2	Remove railing and install ADA compliant guardrails and handrails	48 LF									48	6000
Stainless Steel		A													
Masonry															
Brick		C	3	Repair and Repoint	500 SF					500	56000				
		C	2	Repair diagonal cracking at expansion joints and window lintels	250 LF					250	11250				
		C	2	Remove and replace top third of chimney above roof; repair and repoint two-thirds of chimney above roof - see Gale report	550 SF Total	550	35750							
		C	2	Remove and replace façade - See Gale report	6500 SF	6500	227500							
Stone Retaining Walls		A													
Expansion Joints		C	2	Remove failing sealant, reseal	500 LF	500	2500								
Glazing															
Polycarbonate															
Single Glazing															
Insulated Glass															
Solid Panels (Material?)															
Signage															
Fences/Gates															
Chain Link Fence		B													

EXTERIOR (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Soffits																
Wood (pressure treated)		C	3	Remove and replace split and damaged boards	100 LF											
Fiber Board		D	1	Remove and replace with metal soffit material	750 SF											
Painted Wood		B	3	Clean and repaint	2000 SF											
Fascias																
Metal		C	3	Remove and replace	All exterior canopy locations - 1000 LF Total									LS	25000	
TOTALS							$265,750		$0		$67,250		$0		$34,500	**$367,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
Undersized Elevator																
Add Elevator												1	280000			
Permanent Lifts																
				ADD 4								4	160000			
Portable Lifts																
TOTALS							$0		$0		$0		$440,000		$0	**$440,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Classroom																
White marker boards		C	4													
Chalk boards		D	3	Replace with marker boards	+/- 30%							24	$19,000			
Custodial																
N/A																
Maintenance																
N/A																
Technology																
N/A																
Food Service																
Stainless Steel commercial grade		B	4													
some Wood cabinets, countertops		C	4	should be replaced								LS	$10,000			
				Sign Too Low - Correct												
Athletic/PE																
Glass backboards		C	4													
Plastic retrofit bleachers over wood		C	4													
Operable partition		D	4	Remove												
Grounds/Exterior																
N/A																
Clinic																
N/A																
Office																
N/A																
Life Safety																
TOTALS							$0		$0		$0		$29,000		$0	**$29,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Membrane																
Ballasted Black EPDM Over Gravel-surfaced Coal-tar Bulit-up System		C	2	Remove existing roofing system down to roof deck	180,000 SF	LS	$3,400,000									
Decking																
Tectum		B	3	Patch and repair with roof replacement		INCL. W/TOTAL ABOVE										
Steel		B	3	Patch and repair with roof replacement		INCL. W/TOTAL ABOVE										
Wood		B	3	Patch and repair with roof replacement		INCL. W/TOTAL ABOVE										
Insulation																
Poly-Iso				See Membrane above		INCL. W/TOTAL ABOVE										
Flashing/Sheetmetal																
Copper				See Membrane above		INCL. W/TOTAL ABOVE										
Aluminum				See Membrane above		INCL. W/TOTAL ABOVE										
Ladders																
Steel		C	3	Remove and replace - see Membrane above		INCL. W/TOTAL ABOVE										
Hatches																
Panels																
Walkways																
Curbs																
Gutter/Downspouts																
Steel		B	3	See Membrane above		INCL. W/TOTAL ABOVE										
Expansion Joints																
TOTALS							3400000		0		0		0		0	**$3,400,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Stoughton High School
Stoughton, Massachusetts
January 27, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 20100003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 4" domestic water service which enters the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building and each subsequent addition.
2. Natural Gas:
   a. Existing Natural Gas Service: There are currently 3 natural gas services to the building serving the boilers, hot water heaters and select kitchen equipment. These services enter the rear of the building at the various boiler rooms.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and running to the buildings municipal sewer system.
4. Fuel Oil:
   a. There is currently no on site fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted; with auto flush valves, vitreous china.
   - Urinals are wall mounted vitreous china, with auto flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a combination of single lever handle and two lever handles and some with auto function.
   - Drinking fountains are surface mounted stainless steel units. Most are non-ADA compliant. The units are in good condition.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are in good/fair condition.

- Typical laboratory classroom sinks are counter top, 2-lever gooseneck faucets and are in good condition.
- Fixtures in locker rooms are older and in fair condition no auto faucets are included on lavatories, urinals or water closets.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The Schools domestic hot water is generated by gas fired water heaters which feed the schools hot water needs. The water heaters are in good condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection coverage (sprinklers) currently at the facility.
2. The kitchen hood is supplied with a fire suppression system within the hood is new and in very good condition.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by two hot water boilers and two steam boilers. The two hot water boilers are Highlander Automatic with burners currently operating on Natural gas and a capacity of 6300 MBH each. This equipment is approximately 20 years old and in good condition. The two steam boilers are Cleaver Brooks with burners currently operating on Natural gas and a capacity of 6277 MBH each. This equipment is approximately 30+ years old and in good/Fair condition although its useful life expectancy is being approached.
2. The present Heating and Ventilating systems consist of finned tube radiation, steam radiators, unit ventilators in the classrooms and exhaust systems. The auditorium is served by a new air conditioning unit which includes a supply air component. The cafeteria was noted as having no issues. Areas such as the office area, school superintendent, guidance and mail room were all noted to be served by split system A/C systems. Mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building.

3. Unit Ventilators in classrooms are approximately 20 years old manufactured by Nesbitt. They have begun to fail and repairs are becoming more frequent as they are at the end of the useful life. Although they have been able to obtain repair parts for repairs when needed, obtaining these parts may become more of an issue as more units fail and require replacement parts.

4. Exhaust systems servicing the classrooms utilize a single exhaust grille. Exhaust grills are located slightly above floor level and in some cases are blocked by classroom materials and should be cleared. It was noted by maintenance personnel that all roof exhaust fans are new within the last 5 years.

5. The existing temperature controls in the school are pneumatic. The temperature control system air compressor is located in the Boiler Room and includes an air dryer.

6. Some thru the wall/window AC units exist in select small office areas.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a 208Y/120volts, 3-phase, 4-wire electrical service capacity was indeterminable without opening the equipment. The service equipment is located in the basement of the building. The service equipment is fair condition.
2. There are a number of electrical panels located throughout the facility. These panel boards all are older having been added at the time of various building additions and/or on an as-needed basis. The condition of these panel boards range from fair to poor. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or have space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of 1' x 4' 2-lamp wraparound fluorescent fixtures in the classrooms and 2' x 4' acrylic lens troffers in the corridors. The lighting throughout the facility is in good condition having been upgraded approximately 5 years ago and utilizes current T8 lamping technology. Classrooms include motion sensor control. The light levels appear to be within recommended levels.
4. The fire alarm system is a Notifier with the main FACP having been replaced within the last 3 years and all devices and wiring having been replaced within the last 9-10 years. There are manual fire alarm pull stations, horn strobes and magnetic door holders

located throughout the building. Heat and smoke detectors are located in select areas throughout the building including classrooms and corridors for detection and alarm. It was noted by school personnel during the walk-thru that the system had been upgraded and has been problem free.

5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights.
6. There exists two standby generators one within the older section of the school serving lighting within that area of the school and the second within the newer section of the school also serving lighting. The older generator is a Reiner 45KW unit in good condition and the newer unit is a 85 KW generator manufactured by Katolight. Both units are complete with transfer switches and distribution panels and both units operate on natural gas as a fuel source.
7. Life safety emergency lighting is provided via Emergency battery units with unit mounted emergency light heads units are newer and in good condition.
8. The existing clock system is functioning without any noted problems and appears to be in good condition. The existing paging system is older and has been problematic and should be replaced.
9. There is currently a controlled access at the main front entry as well as CCTV cameras at various locations within the school and at main entry points at the outside of the school. All systems were noted as functioning with any issues.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (45+ years old), to as recent as 3-5 years old. Some equipment such as the unit ventilators in the classrooms, the pneumatic control system and the two older steam boilers have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems throughout seem to be in good working condition with the exception of the restrooms in the D wing which are older and in only fair condition. Replacement of faucets and flush valves on toilets and urinals to automatic units in the older restrooms in the D wing should be implemented as a water conservation measure. Select sinks and drinking fountains should be replaced with ADA compliant units.

The Electrical systems appear to be in fair condition and operating without issues. The older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to existing circuitry. A thermo scan of the main electrical rooms' equipment and wiring should be preformed, due to its age, to ensure that all equipment is functioning properly and that no overloads and/or loose connections exist. The lighting systems are newer and in good condition, the addition of automated lighting controls in the few areas not already incorporated should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system, emergency power generation and exit lighting systems are newer and appear to be in good condition. Existing paging system which has been problematic should be replaced.

Stoughton MA

Capital Needs Survey Form

High School

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (194,000sf)				**1955/65**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		B	A												
Clock/Paging Systems		C	C										1	$ 388,000.00	replace clock system
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		D	C										1	$ 291,000.00	replace piping sysems
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		D	C												
Plumbing Fixtures / Equipment		C	C						1	$ 120,000.00					lavatories faucets w/auto & ADA sinks and D building fixtures
Water Heaters		B	C												
Boiler / Furnaces / Accessories		E	B				2	$ 300,000.00							2 new Steam boilers
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Unit Ventilators		E	B				1	$ 3,492,000.00							new UV in classrooms
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	$ 776,000.00							New pneumatic controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												

Stoughton MA

Capital Needs Survey Form

High School

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Electrical Service / Distribution		D	C										1	$ 485,000.00	satalite panelboards & gear Thermoscan
Lighting - General		B	B												
Lighting - Exit/Emergency Lighting		D	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$133,810	$0	$0	$439,325	$0	$573,135
Structure	$0	$0	$0	$47,150	$0	$47,150
Exterior	$0	$207,275	$0	$10,000	$0	$217,275
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$0	$0	$0	$288,000	$288,000
Mechanical	$0	$3,324,000	$144,000	$0	$0	$3,468,000
Electrical	$0	$0	$360,000	$0	$288,000	$648,000
Totals	$133,810	$3,531,275	$504,000	$496,475	$576,000	**$5,241,560**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
CMU		B	3	Paint Room	900 SF (wall area)							900	$3,150		
		C	2	Remove flaking paint and repaint	50 SF (wall area)							50	$175		
			3	Paint Changing Cubicles								LS	$5,000		
			2	Add side Protection at Drinking Fountains		LS	$4,000								
Glazed Concrete Block															
Plaster		B	2	Repair Water Damage	6 SF							LS	$3,000		
Acoustical panels		B													
Brick		B	3	Repair Crack In Chimney								LS	$5,000		
CMU Base		B	3	Repaint Base	50 SF							50	$250		
Floors															
12x12 VCT		B	2	Replace Broken Tiles	1750 SF	1750	$8,750								
			2	Replace Buckled Tiles	50 SF	50	$250								
Terrazzo		C	3	Repair Floor Cracks	3	LS	$3,000								
			1	Remove and Replace Damaged Terrazzo	7 SF	LS	$3,000								
Carpet		C	2	Replace Carpet	4050	4050	$15,750								
Expansion Joints		C	3	Add Expansion Joint in Terrazzo	2	LS	$5,000								
			2	Replace Floor Expansion Joint	2	LS	$3,500								
Ceilings															
2x4 Acoustical Ceiling Panels		C	4	Ceilings Sagging - Monitor											
				Replace missing panels	130 Panels	1040	$4,680								
			2	Replace Severely Sagging Ceiling Panels	1500 Panels	12000	$54,000								
			2	Replace Loose Ceiling Panels		LS	$1,000								
			3	Replace Stained Ceiling Panels	30	240	$1,080								
Doors															
		C	4	Enlarge Narrow Doors	2 PR										
			2	Replace Door	1 (3'-0"x7'-0)	1	$750								
Hardware		B	3	Replace Knobsets w/ Levers	3 Sets	3	$1,050								
Windows															
Built-ins															
		C	3	Modify Counter for Accessible Sink	6 locations							6	6300		
			4	Paint Grilles under Windows	53 CRs							53	$7,950		
			4	Replace Laminate Tops at Windows	53 CRs							53	$397,500		
Media Center Circulation Desk		B	4	Add Accessible Section to Media Ctr Circ Desk	1							LS	$6,000		
Stairs															
		B	1	Replace Missing Nosing	6 Risers	LS	$1,000								
		B	1	Add Guardrail under Stair		LS	$2,000								
Permanent Seating															
Boards															
Lockers															
Metal		B	3												

INTERIORS (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Partitions																
Changing Cubicles		B	3	Paint								LS	$5,000			
Glazing																
Ramps																
Concrete																
Other																
Condensation on Kitchen Floor																
EWC not protected				Add side Protection at Drinking Fountains	7 locations	LS	$25,000									
TOTALS							$133,810		$0		$0		$439,325		$0	**$573,135**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Concrete floor slabs and roof decks															
Painted Exposed Concrete Foundation/ Retaining Wall															
Painted Cast-in-place Concrete Wall Panel		B	3	Repaint	400 SF							400	$2,800		
		C	2	Reseal at brick	40 LF							LS	$750		
Stairs															
Concrete															
Ramps															
Concrete															
Loading Dock															
N/A															
Walls															
Brick		C	2	Patch and repair vertical crack	10 LF							LS	$500		
		C	3	Patch and repair damaged units at unit ventilators and reseal	20 units							LS	$5,000		
CMU		C	3												
Light Gauge Metal Frame															
Wood Framing															
Structural Facing Tile		B	3	Remove and replace damaged units	25							LS	$5,000		
				Remove and replace sealant at vertical joints								LS	$5,000		
				Straighten and repair damaged Aluminum mullions	15 Locations							LS	$10,000		
Painted Structural Facing Tile		B	3	Clean and repaint	720 SF							720	$3,600		
Polycarbonate Insulated Wall Panel		B	3	Clean	500 SF							500	$2,500		
Decks															
Steel															
Columns															
Masonry															
See Walls Above															
Metals															
Slabs															
Concrete		C	3	Patch and repair at Courtyard	200 SF							200	$2,000		
Concrete		C	3	Moisture mitigation at Kitchen Office and Corridor								LS	$10,000		
TOTALS							$0		$0		$0		$47,150		$0	**$47,150**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Sidewalks															
Concrete															
Gravel															
Bitumous Concrete Paving															
Asphalt Paving															
Bitumous Concrete Paving															
Doors															
Fiberglass in HM Frames		B	3	Replace or Add Weatherstripping to Doors	18 Locations - 35 Leaves Total			35	$4,375						
Metal in HM Frames		B	3												
Windows															
Single Glazed in Aluminum Storefront		C	2	Remove and replace with insulated glass in metal storefront	1800 SF			1800	$117,000						
Single Glazed Windows in Aluminum Frames		C	2	Remove and replace with insulated glass in metal frames	240 SF			240	$15,600						
Insulated Sliding Windows in Aluminum Frames		C	2	Adjust Windows so they can close - may be due to vegetative growth in track outside	6 Locations @ 8 SF ea = 48 SF			6	$720						
		C	2	Remove and replace	6 Locations @ 8 SF ea = 48 SF			48	$3,600						
			2	Correct Leaks at Window Panels	53 CRs			53	$4,240						
			2	Add Sealant to Windows	53 CRs			53	$4,240						
Railings															
Painted Steel															
PVC Pipe		D	1	Remove and replace with metal ADA compliant railings	64 LF			64	$8,000						
Masonry															
Brick															
Painted Concrete Block															
Structural Facing Tile															
Glazing															
he Lexane in Aluminum Curtain Wall System		C	2	Remove and replace with insulated translucent wall panel or similar in Aluminum curtain wall system	2 Locations @ 280 SF ea. = 560 SF			560	$42,000						
Polycarbonate		B	3												
Corrugated Metal Panel															
Signage															
Fences/Gates															
Split Rail Wood		B													
Chain Link		B													
Metal															

EXTERIOR (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Corrugated Metal Panel																
Aluminum Joint Covers		B	3	Straighten and repair damaged units	15 Locations			15	$7,500							
Soffits																
Painted Wood		B	3	Repaint								LS	$10,000			
Fascias																
Metal		B	3													
TOTALS							$0		$207,275		$0		$10,000		$0	**$217,275**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
Permanent Lifts																
Portable Lifts																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
Custodial															
Maintenance															
Technology															
Food Service															
Athletic/PE															
Grounds/Exterior															
Clinic															
Office															
Life Safety				No Second Means of Egress From Boiler Room Level											
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Single-ply adhered EPDM over gravel surfaced, coal-tar, and asphalt- based built-up roof systems		A													
Decking															
Metal		A													
Wood		A													
Insulation															
Poly-Iso		A													
Flashing/Sheetmetal															
Metal Roof Edge		A													
Ladders															
Metal		A													
Hatches															
Panels															
Walkways															
Curbs															
Gutter/Downspouts															
Metal scuppers and downspouts		A													
Expansion Joints															
TOTALS							0		0		0		0		0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

R.G. O'Donnell Middle School
Stoughton, Massachusetts
January 27, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 20100003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2" inch domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building and each subsequent addition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently a natural gas service to the building serving the boilers and hot water heaters. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and running to the buildings exterior leaching field. There is no current tie in to the cities municipal sewer system.
4. Fuel Oil:
   a. There is no fuel storage on site.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted; most have auto-flush valves, vitreous china.
   - Urinals are wall mounted vitreous china, with auto flush valves.
   - Lavatories are older wall hung vitreous china. Faucets are a combination of single lever handle and two lever handles these should be replaced with new including auto faucets.
   - Drinking fountains are surface mounted vitreous china, and stainless steel units. Most are non-ADA compliant. The vitreous china units are in fair condition.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are in poor condition.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The Schools domestic hot water is generated by dedicated gas fired water heaters.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is full fire protection coverage (sprinklers) currently at the facility. All areas were noted to contain coverage. Service enters in the front office area in a dedicated room in the front office area complete with back flow prevention and valves.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by two steam boilers. The two boilers are H. B. Smith with natural gas fired Industrial Combustion burners. Boilers have a capacity of 2437 and 2220 MBH each. This equipment is newer approximately 20 years old and in good condition.
2. The present Heating and Ventilating systems consist of radiation, unit ventilators in the classrooms and exhaust systems. Areas such as the Gymnasium served by ceiling hung H&V units and have a supply air component also. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building. The air-handling units have heating coils, filter sections and exhaust fans.
3. Unit Ventilators in classrooms are approximately 20+ years old with the majority manufactured by Herman-Nelson and some by Nesbitt. They have begun to fail and repairs are becoming more frequent as they have exceeded their useful life. Although they have been able to obtain repair parts for repairs when needed, obtaining these parts may become more of an issue as more units fail and require replacement parts. It was noted that a number of units froze during extreme cold periods during the 2008-9 winter season this problem however is believed to have been corrected and it has not been experience thus far this heating season.
4. Exhaust systems servicing the classrooms utilize a single exhaust grille. Exhaust grills are located slightly above floor level and in some cases are blocked by classroom materials and should be cleared.

5. The existing temperature controls in the school are pneumatic. The temperature control system air compressor is new and located in the boiler room and includes an air dryer. It was noted that there have been ongoing problems with the pneumatic system tubes leaking especially at the thermostats.

6. There are some areas that include air conditioning. This is accomplished thru the use of both thru the wall/window AC units and some split systems covering select office/administrative areas.

7. It was noted that the media/library area is covered by a roof top unit (heating and ventilation only).

8. It was noted during the investigation by maintenance personnel that there existed a humidity problem in the kitchen area. Upon inspection of the area and further discussions it determined the problem was more likely a vapor barrier/insulation issue due to the fact the moisture appears to be coming up thru the seams in tile floor and this only occurs in the early wet weeks of spring.

D. ELECTRICAL NARRATIVE

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 1200 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the buildings main electric room. This service equipment consists of a utility company metering a 1200 ampere GE Spectra series Switchboard. The service equipment is newer and believed to be part of the 1995 addition and is in very good condition.
2. There are a number of electrical panels located throughout the facility. These panel boards range from being original to the facility to newer panel boards having been added at the time of various building additions and on an as-needed basis. The condition of these panel boards range from poor, to good, the most recent additions. The majority of the panel boards are older Westinghouse panels and do not have spare circuit breakers available for new circuits to be added, or have space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of surface mounted 2 lamp wraparound fluorescent fixtures and 2' x 4' recessed acrylic lens troffers. The lighting

throughout the facility is in good condition having been upgraded and utilizes current T8 lamping technology. The light levels appear to be within recommended levels.

4. The fire alarm system is a newer Simplex addressable system. There are manual fire alarm pull stations and horn strobes located throughout the building. Heat and smoke detectors are located in select areas throughout the building including corridors for detection and alarm. It was noted by school personnel during the walk-thru that the system had been upgraded and has been problem free.
5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights
6. There is no standby generator at the facility.
7. Life safety emergency lighting is provided via emergency battery units with unit mounted light heads. Battery powered exit lights are installed throughout the facility
8. The existing paging system although older and recently repaired was noted to be currently functioning without any noted problems.
9. The existing clock system was noted to be newer and function without any issues.
10. There is currently a security and CCTV system installed in the facility both seem to be operating without any issues

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (30+ years old), to as recent as 3-5 years old. Some equipment such as the unit ventilators in the classrooms, the pneumatic control system have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems although older seem to be in good working condition. Replacement of faucets with automatic units should be implemented as a water conservation measure. Select sinks and drinking fountains should be replaced with ADA compliant units including those in the classrooms.

The Electrical systems appear to be in good condition however the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to existing circuitry. The lighting systems are newer and in good condition, the addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system and exit lighting systems are newer and appear to be in good condition. The older paging system which has experienced recent problems should be scheduled for replacement.

Stoughton MA

Capital Needs Survey Form

R.G. O'Donnell Middle School

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (144,000sf)				**1967/95**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		B	A												
Clock/Paging Systems		D	C										1	$ 288,000.00	replace older paging system
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		D	C												
Plumbing Fixtures / Equipment		C	C						1	$ 144,000.00					lavatories faucets w/auto & ADA sinks
Water Heaters		B	C												
Boiler / Furnaces / Accessories		E	B				2	$ 300,000.00							2 new steam boilers
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Unit Ventilators		E	B				1	$ 2,592,000.00							new UV in classrooms
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	$ 432,000.00							new pneumatic controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		D	C										1	$ 288,000.00	satellite panelboards
Lighting - General		C	B						1	$ 360,000.00					New lighting auto controls
Lighting - Exit/Emergency Lighting		C	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$50,900	$0	$208,732	$0	$0	$259,632
Structure	$8,500	$0	$1,500	$0	$0	$10,000
Exterior	$0	$0	$0	$0	$74,000	$74,000
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$1,500	$8,100	$0	$0	$9,600
Roofing	$491,250	$0	$0	$0	$0	$491,250
Spec. Constr.	$0	$108,000	$0	$0	$0	$108,000
Mechanical	$0	$907,200	$30,000	$0	$0	$937,200
Electrical	$0	$0	$129,600	$0	$108,000	$237,600
Totals	$550,650	$1,016,700	$377,932	$0	$182,000	**$2,127,282**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Painted CMU				Paint Walls	2000 SF					2000					
Glazed Block				Repair Damaged CMU	?					LS					
Vinyl Wall Covering				Repair Water Damage	?					LS					
Brick															
Painted Brick		B	3	Repair Water Damage and Repaint	160 SF					160	$2,400				
Grided Wood with Plaster		C													
Plaster		D	2	Replace Water Damaged Plaster	300 SF					300	$7,500				
12X12 Fiberboard Panels		C	2	Remove & Refinish Wall	4800 SF					4800	$48,000				
			1	Add Fire caulk at penetrations thru partitions	5LF	LS	$1,500								
Floors															
VCT 9"x9" & 12"x12"		C	2	Replace 9x9 VCT	20000 SF					20000	$92,000				
			1	Replace Cracked VCT	5 SF					incl. Above					
			2	Replace VCT in Toilet Rooms	210 SF					210	$3,150				
Carpet				Replace Carpet	?					9	$32				
Wood															
Wood Base				Resecure & Paint Base	235 LF					LS	$2,500				
Terrazo Stair Tread															
Terrazzo															
Painted Concrete				Repaint Concrete	3000 SF					3000					
				Paint not Adhering to Concrete											
Painted Steel Diamond Plate		B	3	Repaint Diamond Plate	32 SF					LS	$500				
Quarry Tile 6"x6"															
Linoleum		D	2	Replace Cracked Linoleum	320 SF					320	$2,400				
Ceilings															
12x12 Fiberboard		D	1	Replace 12x12 Fiberboard	3200 SF	3200	$14,400								
2x2 Acoustical Panels															
2x4 Acoustical Panels															
Plaster				Repair Holes in Ceiling	4 SF	LS	$1,000								
				Remove and replace water damaged plaster	100 SF	100	$1,500								
Painted Wood															
Exposed Tectum															
Doors															
Wood in Hollow Metal frames		C	3	High Threshold											
			3	Paint Door Frame											
			2	Replace Damaged Doors	0										
				Need Closer(s)	12					12	$1,500				
				Add Weatherstripping											
Windows															
Tectum Panels		C	3	Refinish window panel	?										
Polycarb Single Glazed Alum Windows w/ Storm Panels		C		OK											
Kalwall		B		OK											
Built-ins															
		C	3	Replace Laminate Tops	9					9	$16,200				
			3	Paint Cabinet 40 LF	9					9	$1,800				
			3	Modify Counter for Accessible Sink	9					9	20250				
		D	3	Replace Radiator Enclosure	4					4	$8,000				
Gym Backboards		D	3	Replace Backboard	1					1	$2,500				

INTERIORS (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
			4	Refinish Backboards	3											
			4	Lockers Need Painting												
			4	Add side Protection at Drinking Fountains												
Stairs																
		C	2	Correct Nosings for ADA	150 RISERS	LS	$20,000									
		D	3	Paint Steps or add Vinyl Treads												
Large Openings In Stair Railings		C	1	Modify Railings to reduce Openings	4 FLIGHTS	LS	$10,000									
Permanent Seating				N/A												
Boards																
Lockers				Paint Lockers												
Partitions																
Glazing				OK												
Ramps		B	2	Needs Side Protection	22 LF	LS	$2,500									
TOTALS							$50,900		$0		$208,732		$0		$0	**$259,632**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Concrete Roof Deck															
Exposed Concrete Foundation Wall/ Retaining Wall															
Stairs															
Ramps															
Concrete		C	1	Lengthen ramp		LS	$3,500								
				Extend guardrails/handrails		LS	$5,000								
Loading Dock															
Walls															
Decks															
Tectum Deck															
Concrete Roof Deck															
T&G Wood Roof Deck															
Columns															
Masonry															
Brick															
Metals															
Slabs															
Concrete		B	3	Patch and repair at Loading Dock	5 SF					LS	$1,500				
TOTALS							8500		0		1500		0		0 **$10,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Sidewalks															
Concrete															
Asphalt Paving															
Bitumous Concrete Paving															
Doors															
Fiberglass in Aluminum Storefront															
Fiberglass in HM Frame		C	2	Remove and replace door in existing frame	1									1	$1,000
Windows															
Pre-cast Concrete Window Sills		B	3	Patch and repair										LS	$20,000
Insulated Translucent Wall Panel		A													
Insulated Glass in Aluminum Frames w/ Storm Panels		B													
Railings															
Painted Steel Guardrail		C	3	Remove flaking paint and repaint										LS	$2,000
Galvanized Steel Guardrail with Chainlink Infill		B	3	Reset guardrail at loading dock	1									LS	$5,000
Masonry															
Brick		B	3	Clean Brick & Limestone	Entire Exterior									LS	$25,000
				Repair Masonry Cracks	24 SF									LS	$1,500
Wood															
		C	3	Remove and replace damaged decorative wood trim, repaint at Southeast Entry	150 SF									150	$2,250
Glazing															
Signage				Clean and repaint building sign	120 SF									LS	$1,000
Fences/Gates															
Chain Link															
Soffits															
Painted Wood		B	3	Repaint	250 SF									250	$3,750
Fascias															
Painted Wood		B	3	Repaint	500 SF									500	$7,500
EFIS		B	3	Clean staining from copper roofing										LS	$5,000
Metal		B	4												
Lead-coated Copper		B	4												
TOTALS							0		0		0		0		$74,000	**$74,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
One Provided		OK														
Permanent Lifts																
Portable Lifts																
TOTALS							0		0		0		0		0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
Marker Boards		B	4												
Custodial															
NA															
Maintenance															
NA															
Technology															
NA															
Food Service															
Walk-in Cooler		B	3	Need insul at floor? To prevent condensation				LS	1500						
Athletic/PE															
				Replace Backboard	1					1	7500				
				Repaint Backboards	3					3	600				
Grounds/Exterior															
NA															
Clinic															
NA															
Office															
NA															
Life Safety															
NA															
TOTALS							0		1500		8100		0		0	**$9,600**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Stone-ballasted EPDM over Gravel-surfaced Coal-tar Built-up System		C	2	Remove existing roofing material and insulation down to existing deck and replace with new roofing material	22,500 SF	22500	$416,250									
Standing Seam Lead-coated Copper		B	3	Reflash where standing seam ties into membrane roofing - See Gale report	100 LF	LS	$15,000									
Decking															
Tectum Deck															
Concrete Roof Deck															
T&G Wood Roof Deck															
Insulation															
Poly-Iso		C	2	See membrane above	Included above										
Mineral Fiber		C	2	See membrane above	Included above										
Flashing/Sheetmetal															
Aluminum Parapet Caps		C	2	Remove and replace	Entire Roof Perimeter	LS	$20,000								
Lead-coated Copper through-wall		C	2	Raise flashing and add weeps - See Gale report		LS	$25,000								
Ladders															
Hatches															
Panels															
Walkways															
Curbs															
Gutter/Downspouts															
Lead-coated Copper		B	4	See membrane above											
Steel		B	4	See membrane above											
		D	1	Add emergency scuppers at roof area D - See Gale report		LS	$15,000									
Expansion Joints															
TOTALS							491250		0		0		0		0	**$491,250**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

E.A. Jones Elementary School
Stoughton, Massachusetts
January 27, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 20100003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2" inch domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building and each subsequent addition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers, hot water heaters and select kitchen equipment. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and running to the cities municipal sewer system.
4. Fuel Oil:
   a. There is no on site fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets wall mounted; auto flush valve, vitreous china.
   - Urinals are floor mounted vitreous china, with auto flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a combination of single lever handle and two lever handles.
   - Drinking fountains are surface mounted stainless steel units. Most are ADA compliant.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are in fair condition.

- Typical classroom sinks are counter top, vitreous china with 2-lever handles faucets. All are non-ADA compliant.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The Schools domestic hot water is generated by a dedicated gas fired water heater. One 87 gallon feeding the needs of the schools hot water needs. The water heater appears new and is in very good condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection coverage (sprinklers) currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by two steam boilers. The two boilers are Smith with burners operating on natural gas with a capacity of 2560 MBH each. These two units are newer with one being approximately 20 years old and the second being only 10 years old. Both appear to be in very good condition, with approximately 10 and 20 years respectively left on their useful life expectance.
2. The present Heating and Ventilating systems consist of steam radiation, unit ventilators in the classrooms and exhaust systems. Areas such as the Gymnasium are served by ceiling hung H&V units and have a supply air component. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building.
3. Unit Ventilators in classrooms are approximately 20 years old manufactured by Nesbitt. They have begun to fail and repairs are becoming more frequent as they are at the end of the useful life. Although they have been able to obtain repair parts for repairs when needed, obtaining these parts may become more of an issue as more units fail and require replacement parts.

4. Exhaust systems servicing the classrooms utilize a single exhaust grille. Exhaust grills are located slightly above floor level and in some cases are blocked by classroom materials and should be cleared.

5. The existing temperature controls in the school are pneumatic. The temperature control system air compressor is located in the Boiler Room and includes an air dryer.

6. Some thru the wall/window AC units exist in select small office areas and in some classrooms.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 400 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the main electric room. This service consists of a pole mounted transformer bank, an underground service to a utility company meter compartment and service disconnect. The service equipment is original believed to be installed at the time of the 1954 addition and manufactured by Federal Pacific. The equipment is in fair condition.
2. There are a number of electrical panels located throughout the facility. These panel boards range from being original to the facility to newer panel boards having been added at various times on an as-needed basis. The condition of these panel boards range from poor, the original equipment, to fair, the most recent additions. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or have space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of pendent and surface mounted 2 lamp wraparound fluorescent fixtures and 2' x 4' acrylic lens troffers. The predominance of the lighting throughout the facility is in good condition having been upgraded 4-5 years ago and utilizes current T8 lamping technology. The light levels appear to be within recommended levels.
4. The fire alarm system is a zoned system. There are manual fire alarm pull stations and horn strobes located throughout the building. Heat and smoke detectors are located in select areas throughout the building for detection and alarm there were no detection devices noted on the second floor. It was noted by school personnel during the walk-thru that the system had been upgraded and has been problem free.

5. Site lighting is accomplished via building mounted wall packs recessed down lights at door canopies and a couple of pole mounted flood lights all appear to be in poor condition
6. There exists no standby generator at the building.
7. Due to the age of the existing main distribution equipment it is recommended that it be thermo scanned in order to identify any potentially hazardous issues.
8. Life safety emergency lighting is provided via new emergency battery units with unit mounted light heads and new battery powered exit lights.
9. The existing clock and paging system although older are functioning without any noted problems.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the buildings 1954 renovation (50+ years old), to as recent as 4-5 years old. Some equipment such as the unit ventilators in the classrooms, the pneumatic control system have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems although older seem to be in good working condition. Replacement of faucets to automatic units should be implemented as a water conservation measure. Select sinks and drinking fountains should be replaced with ADA compliant units including those in the classrooms.

The Electrical systems appear to be in fair condition however are very old the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to existing circuitry. A thermo scan of the main electrical rooms' equipment and wiring should be preformed to ensure that the equipment is functioning properly and that there are no issues of circuit overloading. The lighting systems are newer and in good condition, the addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system and exit lighting systems are newer and appear to be in good condition. Fire alarm system should be expanded to add detection devices on the second floor.

Stoughton MA

Capital Needs Survey Form

E.A. Jones Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (43,200sf)				**1930/54**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		D	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		D	A				1	108000							add smokes 2nd floor
Clock/Paging Systems		C	C												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		D	C												
Plumbing Fixtures / Equipment		C	C						1	30000					lavatories faucets w/auto & ADA sinks
Water Heaters		B	C												
Boiler / Furnaces / Accessories		B	B												
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Unit Ventilators		E	B				1	777600							new UV in classrooms
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	129600							pneumatic controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												

Stoughton MA

Capital Needs Survey Form

E.A. Jones Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Electrical Service / Distribution		D	C										1	108000	new satellite panelboards & gear thermoscan
Lighting - General		C	B						1	129600					New auto controls
Lighting - Exit/Emergency Lighting		C	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$377,370	$0	$0	$377,370
Structure	$5,000	$0	$0	$0	$0	$5,000
Exterior	$383,530	$0	$0	$2,500	$0	$386,030
Conveyance	$40,000	$0	$0	$0	$0	$40,000
Equipment	$0	$0	$6,500	$125,000	$0	$131,500
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$20,000	$773,241	$46,000	$0	$0	$839,241
Electrical	$73,642	$0	$92,053	$0	$92,053	$257,747
Totals	$522,172	$773,241	$521,923	$127,500	$92,053	**$2,036,888**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Expansion Joints		D	3	Replace Cracked Sealant						LS	$10,000				
Perforated MDF		C	2	Remove & Refinish Wall	600 SF					600	$9,000				
Vinyl Wall Covering		D	3	Replace VWC	600 SF					600					
Floors															
VCT/ 9"x9"		B	2	Replace 9x9 Tiles	30300 SF					30300	$139,380				
N/A															
Carpet		C	3	Replace Carpet	2350 SF					2350	$9,100				
Ceramic Tile															
Floor Grilles		D	4	Replace Floor Grilles in Gymnasium	3					3	$3,600				
Ceilings															
2x4 Acoustical Panels															
Perforated MDF		B	2	Remove & Refinish Ceiling	165 SF					165	$2,475				
Painted GWB		C	4	Paint Ceiling	4500 SF					4500	$22,500				
Skylight Lenses															
Doors															
Wood in wood frames			2	Add Closer	4 LEAVES					4	$800				
			3	Enlarge Narrow Doors	22 LOCATIONS					22	$33,000				
			3	Correct Deep Recess at Doors	12 LOCATIONS					12	$60,000				
			1	Add Door Latch	1					1	$125				
HM Doors & Frames															
Fiberglas Doors															
Windows															
Aluminum Windows Single Glazed		C	2	Remove and replace	500 SF					500	$37,500				
Window Blinds		D	4	Replace	800 SF					800	$5,200				
Built-ins															
Coat Hooks		C	3	Add Accessible Hooks						LS	$10,000				
			3	Replace Missing Coat Hooks						LS	$2,000				
Cabinets		C	3	Modify Counter for Accessible Sink	10					10	$4,950				
			4	Add side Protection at Drinking Fountains	3					3	$12,000				
Stairs															
		C	2	Add Handrail Extensions	6 EXTENSIONS					6	$7,500				
			2	Correct Nosings for ADA	8 RISERS					LS	$5,000				
Permanent Seating															
Boards															
Lockers															
Partitions															
Toilet Partitions															
VWC Covered Folding Partition		D	3	Replace Ripped VWC	270 SF					270	$3,240				
Glazing															
Ramps															
TOTALS							$0		$0		$377,370		$0		$0	**$377,370**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Floor Slabs															
Foundations		C	3	Patch and repair cracked and damaged exposed foundation	50 SF	LS	$5,000								
Stairs															
Concrete															
Ramps															
Concrete															
Loading Dock															
Concrete															
Walls															
Brick veneer															
Concrete block															
Decks															
Metal															
Columns															
Steel frame															
Masonry															
Brick veneer															
CMU															
Metals															
Bar Joists															
Slabs															
Concrete slab-on-grade															
TOTALS							5000		0		0		0		0	**$5,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Sidewalks															
Bituminous Concrete Paving		B													
Concrete Steps		D	1	Patch and repair	40 LF	40	$1,000								
		D	1	Remove and replace cast-in-place tactile nosings at stairs	80 LF	80	$1,200								
		D	1	Repaint Yellow Warning Stripes at stair nosings	70 LF	LS	$500								
		C	2	Add step at Toilet Room exit slab and Custodian Room exit	2	LS	$3,000								
Asphalt Paving															
Bitumous Concrete Paving		B	3												
Doors															
Fiberglass in Aluminum Frames															
Steel Doors in Aluminum Frames															
Fiberglass in HM frames															
Aluminum Windows Single Glazed		C	2	Remove and replace -Type 1	19 Loctaions @ 185 SF ea. = 3515 SF	3515	$246,050								
		C	2	Remove and replace -Type 2	3 Loctaions @ 38 SF ea. = 114 SF	114	$7,980								
		C	2	Remove and replace -Type 3	6 Loctaions @ 15 SF ea. = 150 SF	150	$10,500								
		C	2	Remove and replace - Other	500 SF	500	$35,000								
Single Glazed Windows in Aluminum Storefront		C	2		5 locations - 644 SF total	644	$48,300								
Single Glazed Windows in Steel Storefront		C	2		1 Location - 164 SF	164	$12,300								
Railings															
Aluminum		B	3	Straighten bent railings	1	LS	$5,000								
		C	2	Add guardrails at Outside Storage Room	36 LF	36	$5,400								
		C	2	Add guardrails at Kitchen exit	12 LF	12	$1,800								
Masonry															
Brick		B	3	Patch and repair cracked brick	50 SF	LS	$2,500								
		C	2	Remove and replace sealant at vertical joints and brick piers	64 LF	LS	$3,000								
Glazing															
Signage															

EXTERIOR (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Fences/Gates																
Chain Link		B	3													
Soffits																
Corrugated Metal		A														
Painted Plywood		C	3	Remove flaking paint and repaint	250 SF							250	$1,250			
Fascias																
Metal		A														
Painted Plywood		C	3	Remove flaking paint and repaint	250 SF							250	$1,250			
TOTALS							$383,530		0		0		$2,500		0	**$386,030**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
				Add Lift to Stage	1	1	$40,000									
TOTALS							$40,000		0		0		0		0	**$40,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Classroom																
Marker Boards		C	4													
Open Metal Shelving w/P.Lam tops		D	4	Replace (with unit ventilators)	21 CR							500	$125,000			
Custodial																
N/A																
Maintenance																
N/A																
Technology																
N/A																
Food Service																
Stainless Steel commercial grade		B	4													
Galvanized Hood		C	3	should be upgraded to Stls Stl.						LS	3500					
some Wood cabinets, countertops		C	3	should be replaced						LS	3000					
Athletic/PE																
Wood backboards		C	4													
Grounds/Exterior																
N/A																
Clinic																
N/A																
Office																
N/A																
Life Safety																
N/A																
TOTALS							0		0		6500		125000		0	**$131,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Sarnafil		B	3	Regular maintenance											
Decking															
Painted Steel		A													
Insulation															
Poly-Iso		A													
Flashing/Sheetmetal															
Copper through-wall		B													
Metal		A													
Aluminum		B													
Ladders															
Steel															
Hatches															
Panels															
Gutter/Downspouts															
Metal		B													
Expansion Joints															
TOTALS							0		0		0		0		0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

H. H. Hansen Elementary School
Stoughton, Massachusetts
January 27, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 20100003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2-1/2" inch domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building and each subsequent addition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently a natural gas service to the building serving the boilers and hot water heaters. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and running to the buildings exterior tie in to the cities municipal sewer system.
4. Fuel Oil:
   a. There is no current on site fuel oil storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted; auto-flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with auto-flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a combination of single lever handle and two lever handles.
   - Drinking fountains are surface mounted stainless steel units dual level units. Most are ADA compliant. The units are in good condition.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are in fair condition.

- Typical classroom sinks are counter top, stainless steel with 2-lever gooseneck faucets. All are non-ADA compliant.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The Schools domestic hot water is generated by a dedicated gas fired water heater. One 75 gallon tank feeding the schools hot water needs. The water heater is in good condition with having been installed approximately 5 years ago.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection coverage (sprinklers) currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEM

1. The existing building is heated by two hot water boilers. The two boilers are Highlander Automatic with burners operating on Natural gas and a capacity of 3348 MBH each. This equipment is approximately 20 years old and in good condition.
2. The present Heating and Ventilating systems consist of finned tube radiation, unit ventilators in the classrooms and exhaust systems. Areas such as the Gymnasium and music area are served by ceiling hung H&V units located in remote closets which have a supply air component also. Air is ducted down the walls and enters the space via floor registers, these registers are old and in very poor condition. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building. The air-handling units have hot water heating coils, filter sections and exhaust fans.
3. Unit Ventilators in classrooms are 20+ years old manufactured by Nesbitt. They have begun to fail and repairs are becoming more frequent as they are at the end of the useful life. Although they have been able to obtain repair parts for repairs when needed, obtaining these parts may become more of an issue as more units fail and require replacement parts.

4. Exhaust systems servicing the classrooms utilize a single exhaust grille. Exhaust grills are located slightly above floor level and in many cases are blocked by classroom materials and should be cleared.
5. It was noted by operational personnel that the cafeteria needs additional ventilation and/or AC as the space gets hot when occupied during warmer weather months.
6. The existing temperature controls in the school are pneumatic. The temperature control system air compressor is located in the Boiler Room and includes an air dryer and is new and in good condition.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 600 amperes, 208Y/120volts, 3-phase, 4-wire. This service consists of a utility company transformer and a GE 600 ampere main circuit breaker switchboard and metering per utility company requirements. The service equipment was thermo tested in 1999.
2. There are a number of electrical panels located throughout the facility. These panel boards range from being original to the facility to newer panel boards having been added at the time of various building additions and/or on an as-needed basis. The condition of these panel boards range from poor, the original equipment, to good, the most recent additions. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or have space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of 2’ x 4’ 3 lamp acrylic lens troffers. The older sections of the school utilize surface mounted 1’ x 4’ 2 lamp wraparounds. With the exception of the older wraparound fixtures which are in poor condition the lighting throughout the facility is in good condition. All lighting utilizes current T8 lamping technology. The light levels appear to be within recommended levels.
4. The fire alarm system is a Silent Knight system. There are manual fire alarm pull stations, horn strobes and magnetic door holders located throughout the building. Smoke detectors are located in select areas throughout the building including all

corridors for detection and alarm. It was noted by school personnel during the walk-thru that the system had been upgraded and has been problem free.

5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights
6. There is no on site standby generator. There is however a manual transfer switch and all required equipment including instruction for obtaining and hooking up a temporary emergency generator. All equipment and components are setup and designed for 100% backup.
7. Life safety emergency lighting is provided via remote emergency light heads powered from a central battery unit and battery powered exit lighting units located throughout.
8. The existing clock and paging system are functioning without any noted problems and appear to be in good condition.
9. There is currently a security system and CCTV system in the school consisting of motion sensors in the corridors and classrooms and cameras at the entry doors.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (40+ years old), to as recent as 3-5 years old. Some equipment such as the unit ventilators in the classrooms and the pneumatic control system have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system. Select areas as noted in the report including the Gymnasium and Music areas should have the floor registers replaced in order to improve the air flow of the system.

Plumbing systems although older seem to be in good working condition with no noted problems. Replacement of faucets with auto flush valves should be implemented as a water conservation measure. Select sinks and drinking fountains should be replaced with ADA compliant units including those in the classrooms.

The Electrical systems appear to be in good condition however the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to existing circuitry. The lighting systems are in good condition with the exception of the older recesses and 1’ x 4’ wraparounds which should be replaced. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system are newer and appear to be in good condition. Emergency lighting system emergency battery units should be replaced

Stoughton MA

Capital Needs Survey Form

H.H. Hansen Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (36,821sf)				**1962/66**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		C	A												
Clock/Paging Systems		C	C												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		D	C												
Plumbing Fixtures / Equipment		C	C						1	46000					lavatories faucets w/auto & ADA sinks
Water Heaters		B	C												
Boiler / Furnaces / Accessories		C	B												
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Unit Ventilators		E	B				1	662778							new UV in classrooms
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	110463							new pneumatic controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												

Stoughton MA

Capital Needs Survey Form

H.H. Hansen Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Electrical Service / Distribution		D	C										1	92053	new satellite panelboards
Lighting - General		C	B						1	92053					replace older wraps & add auto controls
Lighting - Exit/Emergency Lighting		D	A		1	73642									New Emg. Batt units
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

South Elementary

May 17, 2010

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$282,100	$415,250	$227,000	$138,730	$100,500	$1,163,580
Structure	$9,000	$0	$13,000	$0	$0	$22,000
Exterior	$444,600	$0	$114,200	$0	$0	$558,800
Conveyance	$0	$180,000	$0	$0	$0	$180,000
Equipment	$0	$33,000	$0	$0	$0	$33,000
Roofing	$0	$0	$961,400	$0	$0	$961,400
Spec. Constr.	$0	$95,000	$0	$0	$133,000	$228,000
Mechanical	$0	$1,098,000	$46,000	$0	$0	$1,144,000
Electrical	$133,000	$0	$190,000	$0	$95,000	$418,000
Totals	$868,700	$1,821,250	$1,551,600	$138,730	$328,500	**$4,708,780**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
			4	Paint Walls										LS	$80,000
			3	Repair Damaged CMU	6 SF					LS	$1,000				
			3	Repair Water Damage	6 SF					LS	$500				
			3	Reconstruct Masonry at Cracks	30 SF							30	$2,250		
			4	Fountains	5 Locations									5	$12,500
Floors															
VCT/ 9"x9" & 12"x12"		B	2	Replace 9x9 VCT	26700 SF			26700	$120,000						
			2	Replace Cracked VCT	40 SF	40	$200								
Carpet		C	2	Replace Carpet	410 SY			410	$14,350						
Synthetic Gym Floor		A	3	Restripe Gym Floor	2960 SF							2,960	$1,480		
Ceramic Tile		B		OK											
Ceilings															
12x12 Fiberboard		E	2	Replace 12x12 Fiberboard	17876 SF	17876	$80,400								
Exposed Tectum Decking		C	3	Paint Tectum Deck	4200 SF					4,200	$21,000				
2x4 Acoustical Panels		C	4	Replace 2x4 panels	225 SF	225	$900								
Exposed Acoustical Metal Deck		C	3	Paint Exposed Metal Deck Rusted	900					900	$4,500				
			3	Add Acoustical Treatment in Gym	2960 SF							LS	$15,000		
Skylight Lenses		B	3	Remove Lenses	Locations	Locations									
Doors															
Wood in wood frames		C	3	Correct Deep Recess at Doors	20							20	$120,000		
			3	Enlarge Narrow Door	Pairs					LS					
			2	Replace Damaged Doors	2 Locations			2	$1,900						
			4	Clean Doors or Add Kickplates										LS	$8,000
HM Doors & Frames		C		OK											
Fiberglass Doors		A	3	Add Weatherstripping	6 Locations	6	$600								
Windows															
Wood Windows	NO	C	3	Windows						ALLOW	$200,000				
Aluminum Windows		A		OK											
Steel Windows	NO	D	3	Replace Single Glazed Windows		ALLOW	$200,000	ALLOW	$200,000						
Built-ins		D													
			4	Replace Laminate Tops at Windows											
			4	Paint Cabinet Grilles											
			3	Modify Counter for Accessible Sink	21Locations			21	$31,500						
Stairs															
	NO		3	Correct Nosings for ADA	5 Stairs			LS	$7,500						
	NO		2	Add lift to stage	1 Location			1 Location	$40,000						
Permanent Seating				N/A											
Boards															
Lockers				N/A											
Partitions															
Glazing				OK											
Ramps															
Carpeted Concrete (too steep)	NO		2	Replace Ramp with Lift	3 Locations			3 Locations							
TOTALS							$282,100		$415,250		$227,000		$138,730		$100,500	**$1,163,580**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Concrete																
Floor Slabs				OK												
Foundations				Repaint Foundations												
				Test for moisture content - evidence of water migration at foundation walls		ALLOWANCE	$5,000									
				Repair wall at basement access												
Conc Retaining Wall				OK												
Stairs																
Concrete				Patch Nosings @ exterior stairs		ALLOWANCE	4000									
Ramps																
Concrete/Carpet				Replace with Lifts or extend ramps												
Loading Dock																
Suspended Slab				Patch Edging						LS	$2,500					
Steel Edging				Paint steel edging						LS	$500					
Aluminum Roof				Structural Capability?												
Walls																
Decks																
Tectum				Paint												
Acous. Metal Pan				Paint												
Columns																
Steel				Paint Exterior Columns						LS	$5,000					
				Paint Exterior Beams						LS	$5,000					
Steel Bent and purlins @ Auditorium				OK												
Masonry																
Brick Exterior																
Glazed Block																
CMU																
Metals																
Exposed Painted Steel Beams																
Exposed Painted Bulb Tees																
Slabs																
Concrete																
TOTALS							$9,000		$0		$13,000		$0		$0	**$22,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
				Improve drainage around Media Center, uphill side of foundation	550 LF	550	$29,300								
				Remove vines growing over masonry		LS	$2,000								
Fields															
Playgrounds															
Bituminous Concrete				Crack Sealer Required		LS	$2,000								
Sidewalks															
Bituminous Concrete				Crack Sealer Required		LS	$2,000								
Concrete Stairs				Patch Nosings		ALLOWANCE	$3,000								
Concrete Pads				Replace at main entrance	300 SF	300	$3,300								
Asphalt Paving															
Bituminous Paving				Replace paving incl. new base	40000 SF					40000	$66,700				
Doors															
Fiberglass				Need Weatherstripping						LS	$2,000				
HM Frames				Paint						LS	$4,000				
O/H Door				OK											
Windows															
Single Glazed in Wood Storefront				Remove and replace with insulated glass in metal storefront	4,000 SF total	4000	$280,000								
Single Glazed in Wood Framing				Remove and replace with insulated glass metal frames	500 SF	500	$35,000								
Single Glazed in Aluminum Frames				Remove and replace with insulated glass in metal frames	900 SF Total	900	$63,000								
Insulated Glass in Steel Frames				OK											
Singled Glazed in Steel Storefront				Remove and replace with insulated glass in metal storefront	250 SF Total	250	$17,500								
Railings															
Painted Steel				Paint						LS	$4,000				
Masonry															
Brick				OK											
				Clean brick where stained by scuppers						LS	$5,000				
				Pursue destructive testing at vegetation growth through brick for water migration	3 locations	LS	$7,500								
Precast Concrete Caps				OK											
Brick Chimney				Repoint	40 SF					40	$4,000				
Glazed Block				OK											
Stone Retaining Walls				Minor Cracking. Generally OK											
Glazing															
Translucent															
Polycarbonate				Replace (see windows)											
Single Glazing				Replace at HM frames w/ insul glass											
Insulated Glass				OK											
Solid Panels (Material?)				OK											
Signage															
Fences/Gates															
Chain link Fences				OK											
Galvanized Steel Gates				Reset 2 gated openings.						LS	$1,500				
Soffits															

EXTERIOR (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Fiberboard		C	2	Remove and replace water damaged panels	500 LF					LS	$10,000					
Exposed Painted Steel Bulb Tees		B	3	Remove flaking paint and repaint	500 LF					LS	$4,000					
Painted Plywood		B	3	Remove flaking paint and repaint	500 LF					500	$10,000					
Cementitous Wall Board		B	2	Repaint	600 SF					600	$3,000					
Fascias																
Painted Aluminum Roof Edge		C	2	Remove and replace with properly detailed and installed fascia												
Painted Plywood		B	3	Remove flaking paint and repaint												
Painted T&G Vertical Siding		B	3	Remove flaking paint and repaint												
TOTALS							$444,600		$0		$114,200		$0		$0	**$558,800**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
NONE																
Permanent Lifts																
ONE PROVIDED				ADD 4	4			4	$180,000							
Portable Lifts																
NONE																
TOTALS							$0		$180,000		$0		$0		$0	**$180,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Classroom																
Marker Boards		C	4													
Wood Shelving		C	3	Replace with Unit Ventilators	25%			LS	$30,000							
Custodial																
NA																
Maintenance																
NA																
Technology																
NA																
Food Service																
Stainless Steel Commercial Grade		B	4													
Stainless Steel Kitchen Hood		B	4	Add Fire supression system				LS	$3,000							
Athletic/PE																
Wood backboards																
Grounds/Exterior																
NA																
Clinic																
NA																
Office																
NA																
Life Safety																
NA																
TOTALS							$0		$33,000		$0		$0		$0	**$33,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Black EPDM over Gravel-surfaced Asphalt-based Built-up System		C	2	Remove existing roofing material and insulation down to existing deck and replace with new roofing material	48,000 SF					48800	$902,800				
		C	2	Add White EPDM under overhangs at Clerestory Windows	1,600 SF					1,600	$13,600				
EPDM		C	2	See comments above	Included above										
Decking															
Tectum															
Acoust. Metal															
Cementitious Wood Fiber															
Insulation															
Poly-Iso															
Flashing/Sheetmetal															
Membrane				Remove and replace - see Membrane above											
Metal				Remove and replace - see Membrane above											
Aluminum				Remove and replace - see Membrane above											
Ladders															
				Add roof access						LS	$10,000				
Hatches															
				Add roof access						LS	$15,000				
Panels															
Walkways															
Curbs															
Gutter/Downspouts															
Aluminum Scuppers				Enlarge						LS	$20,000				
Aluminum Gutters															
Expansion Joints															
TOTALS							$0		$0		$961,400		$0		$0	**$961,400**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

South Elementary School
Stoughton, Massachusetts
January 27, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2" inch domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building and each subsequent addition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers, hot water heaters and select kitchen equipment. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor and wall mounted; auto flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with auto flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a combination of single lever handle and two lever handles.
   - Drinking fountains are surface mounted stainless steel units. Most appear to be ADA compliant, and are in good condition.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are older and in fair condition.

- Typical classroom sinks are counter top, vitreous china units with single lever gooseneck faucets. All are non-ADA compliant.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The Schools domestic hot water is generated by a single Lochinvar tankless gas fired water heater. The unit appears new and in very good condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by two hot water boilers. The two boilers are H. B. Smith Mills series with burners currently operating on Natural gas. These two boilers are approximately 40+ years old and in fair/poor condition, and their useful life expectancy has already been exceeded.
2. The present Heating and Ventilating systems consist of finned tube radiation, unit ventilators in the classrooms and exhaust systems. Areas such as the Gymnasium/Cafeteria are served by ceiling hung H&V units and include a supply air component. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building. The air-handling units have hot water heating coils, filter sections and exhaust fans.
3. Unit Ventilators in classrooms are approximately 25+ years old manufactured by AAF and Nelson/Aire. They have begun to fail and repairs are becoming more frequent as they have already exceeded their useful life. Although they have been able to obtain repair parts for repairs when needed, obtaining these parts may become more of an issue as more units fail and require replacement parts.

4. Exhaust systems servicing the classrooms utilize a single exhaust grille to draw air out of the classroom. Exhaust grills are located slightly above floor level and in many cases are blocked by classroom materials and should be cleared.

5. The existing temperature controls in the school are pneumatic thermostats are older. The temperature control system air compressor is located in the Boiler Room and includes an air dryer and is new and in good condition. Thermostats and pneumatic tubing is older and problems with leaks within the system have become more frequent.

6. Some thru the wall/window AC units exist in select small office areas were noted.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 400 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the boiler room. The service equipment consists of utility company pole mounted transformers believed to be 3-25KVA units, an underground feed to utility metering equipment a 400amp main disconnect switch and distribution panel located in the boiler room. The predominance of the main distribution equipment service equipment is new and in good condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are older Westinghouse panels believed to be original to the facility, some newer panels have been added at the time of various building additions and on an as-needed basis. The condition of these panel boards range from poor, the original equipment, to good, the most recent. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of surface mounted 2 lamp wraparound fluorescent fixtures and 2' x 4' acrylic lens troffers. The lighting throughout the facility is older and in fair/good condition. The light levels appear to be within recommended levels.
4. The fire alarm system is a Silent Knight zoned system. There are manual fire alarm pull stations, horn strobes located throughout the building. Heat and smoke detectors are not present with the exception of heat detectors in select areas. It was noted by school personnel during the walk-thru that the system had been problem free.

5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights both appear to be in good condition.
6. There is no on site emergency standby generator, however provisions exist including a manual transfer switch and detailed instructions for obtaining one from the town maintenance department that can be connected into the system for 100% of the building via the 400amp manual transfer switch.
7. Life safety emergency lighting is provided via remote emergency light heads powered from central battery units. These units are old and in poor condition.
8. Battery powered exit lighting is installed throughout, and is in good condition.
9. The existing clock system is a Simplex 2350 mater time system and although older is functioning without problems.
10. The existing paging system is a Bogen intercom system and although older is functioning without any noted problems.
11. There is currently a Knight Security system including cameras at the main doors and motion sensor detection devices throughout.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (40+ years old), to as recent as 5-7 years old. Some equipment such as the unit ventilators in the classrooms, the pneumatic control system and the boilers have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems although older seem to be in good working condition. Replacement of faucets to automatic units should be implemented as a water conservation measure. Select sinks should be replaced with ADA compliant units including those in the classrooms.

The Electrical systems appear to be in good condition however the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to the existing circuitry. The lighting systems are older and should be replaced with newer more efficient fixtures utilizing the latest lamping and ballasting configurations in order to improve energy efficiency. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system should be expanded and or upgraded to add detection devices for earlier detection of any problems. Existing exits and emergency lighting units should be replaced to ensure the reliability of these systems in case of an emergency.

Stoughton MA

Capital Needs Survey Form

South Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (38,000sf)				**1958/67**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		D	A				1	95000							add smokes
Clock/Paging Systems		C	C										1	133000	replace clock & paging system
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		D	C												
Plumbing Fixtures / Equipment		C	C						1	46000					lavatories faucets w/auto & ADA sinks
Water Heaters		B	C												
Boiler / Furnaces / Accessories		E	B				2	300000							2 new hot water boilers
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Unit Ventilators		E	B				1	684000							new UV in classrooms
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	114000							new pneumatic controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												

Stoughton MA

Capital Needs Survey Form

South Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Electrical Service / Distribution		D	C										1	95000	satellite panelboards
Lighting - General		C	B						1	190000					New lighting & auto controls
Lighting - Exit/Emergency Lighting		D	A		1	133000									New Exit and Emg. Batt units
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

West Elementary

May 17, 2010

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$330,750	$0	$122,120	$0	$3,750	$456,620
Structure	$0	$0	$5,500	$0	$0	$5,500
Exterior	$5,000	$0	$62,850	$0	$0	$67,850
Conveyance	$0	$40,000	$0	$0	$0	$40,000
Equipment	$0	$25,000	$0	$6,100	$0	$31,100
Roofing	$0	$0	$0	$601,250	$0	$601,250
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$1,096,226	$145,493	$0	$0	$1,241,719
Electrical	$0	$142,986	$0	$0	$119,155	$262,141
Totals	$335,750	$1,304,212	$335,963	$607,350	$122,905	**$2,706,180**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
CMU		B	3	Repair Crack from Lintel	5 LF					LS	2500				
Paint Room					2 Locations - 1500 SF Total									1500	3750
2x2 Acoustical Panels on Walls		B													
1x1 Acoustical Panels on Walls		C	1	Replace	7500 SF (wall area)	7500	187500								
Cracks in walls				Add Expansion Joints	1 Location					LS	3500				
Floors															
9x9 VCT		B	1	Replace Floor Tiles	26000 SF	26000	117000								
Carpet		C	2	Replace Carpet	1500 SF					200	6400				
Ceilings															
12x12 Ceiling Tiles		C	1	Replace Ceiling Tiles	4300 SF	4300	15050								
Plaster Ceiling		B	2	Patch Holes in Ceilings	2 Locations - 20 SF Total	LS	2500								
Doors															
Wood Doors in Hollow Metal Frames		C	3	Enlarge Narrow Door	9 Single Leaf; 1 Double Leaf					10	20000				
			3	Correct Deep Recess	2 Locations					2	20000				
Louvered Corridor Doors (Transformer, Elec., & Generator)			1	Replace Doors	3 Doors	3	3600								
Hardware		C	3	Replace Knobsets with Levers	13 Single Leaf; 1 Double Leaf - 14 Sets Total	14	4200								
			2	Add Closer	5 Doors	5	750								
			2	Add Strike to Frame	1 Door	1	150								
Windows															
Aluminum Awning w/ Plexiglass & Glazed Storm Panels		C	3	Plexiglass is Clouded											
Single Pane Aluminum Windows		C	3	Replace with Units w/ Low E Insul Glass	?										
Built-ins															
			3	Modify Counter for Accessible Sink	12 Locations					12	27000				
Coat Racks (Projecting into Hallway)		B	2	Add Bench Below	2 Locations					LS	15000				
			3	Modify Counter for accessible area at Main Office	1 Location					LS	10000				
Stairs															
		B	2	Correct Projecting Nosings	3 Sets of Stairs					LS	6000				
			2	Add Handrails to Stairs	3 Sets of Stairs					LS	6120				
Permanent Seating															
Boards															

INTERIORS (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Lockers																
Partitions																
Chain Link		A														
Toilet Partitions		C	2	Add Lock to HC Stall	1					LS	100					
Glazing																
Ramps																
			2	Add toe kicks	1 Location					LS	2000					
Other																
Drinking Fountain		B	3	Raise Height of Fountain	1					LS	3000					
		B	3	Lower mirror mounting height	1					LS	500					
TOTALS							$330,750		$0		$122,120		$0		$3,750	**$456,620**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Light-weight concrete decks				See Roofing											
Stairs															
Concrete															
Painted concrete		B	3	Remove flaking paint and repaint - repaint yellow warning stips at nosings.	2 locations					LS	3000				
Painted concrete retaining wall		B	3	Remove flaking paint and repaint	250 SF					LS	2500				
Ramps															
Concrete															
Loading Dock															
N/A															
Walls															
Brick with CMU Back-up															
Painted CMU															
Decks															
Columns															
Masonry															
See Walls above															
Granite caps		A													
Metals															
Steel frame															
Slabs															
TOTALS							$0		$0		$5,500		$0		$0	**$5,500**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Sidewalks															
Concrete															
Asphalt Paving															
Doors															
Fiberglass in Aluminum Storefront		B	3												
Metal in HM Frames		C	3	Remove and replace door and frames	2										
Metal in Metal Storefront		B	3												
Windows															
Insulated Glass in Aluminum Frames		B	3												
Pre-cast Concrete Window Sills		B	3	Patch and repair	9 LF					LS	2500				
		C	3	Remove and replace	4 LF					LS	4000				
Painted Pre-cast Concrete Window Sills		B	3	Repaint	96 LF					LS	2000				
Sealant		C	2	Remove and replace sealant	500LF					500	2750				
Railings															
Painted Steel		B	3	Remove flaking paint and repaint	400 LF					400	4000				
Masonry															
Brick		B	3	Repointing at louvers	20 SF					20	2000				
		B	3	Clean stained brick	500 SF Total					500	600				
Brick Chimney		C	2	Remove top third of chimney and replace brick and mortar	240 SF					LS	25000				
Glazing															
Translucent		B	3												
Vinyl Opaque lamenated Wall Panel		B	3												
Polycarbonate		B	3												
Cedar Siding		B	3												
Signage															
Fences/Gates															
Chain Link Fence		A													
Soffits															
Painted Wood		B	3	Repaint	500 SF					500	5000				
EFIS		B	3												
Painted Metal		B	3	Remove flaking paint and repaint	Entire Perimeter of Building					LS	7500				

EXTERIOR (cont')	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Fascias																
Metal		B														
Painted Metal		C	3	Remove flaking paint and repaint	Entire Perimeter of Building					LS	7500					
EFIS		C	3	Pursue destructive testing at Main Entry to investigate staining due to water migritation	150 SF	LS	5000									
TOTALS							$5,000		$0		$62,850		$0		$0	**$67,850**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
One Provided, but non-accessible		C	2	grandfathered, until next reno.?	1											
Permanent Lifts																
			2	Install lift at Stage	1			1	40000							
Portable Lifts																
TOTALS							$0		$40,000		$0		$0		$0	**$40,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D		
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority	

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
Marker Boards		B	4	replace remaining Chalk Boards	12							12	6100		
Metal Shelving		B	4												
Wood base cabinets		D	3	replace (except sink base elsewhwer	12			12	25000						
Custodial															
NA															
Maintenance															
NA															
Technology															
NA															
Food Service															
Stainless Steel Commercial		C	4	(expanded servery scheduled)											
Insul Walk-in cooler		C	4												
Athletic/PE															
Wood backboards		C	4												
Grounds/Exterior															
NA															
Clinic															
NA															
Office															
NA															
Life Safety															
NA															
TOTALS							$0		$25,000		$0		$6,100		$0	**$31,100**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Membrane																
Stone-ballasted EPDM		C	2	Replace entire w/EPDM	32,500 SF							32500	601250			
Standing Seam Metal		B	3													
Decking																
Lightweight Concrete		C	2	Patch and repair												
Insulation																
Flashing/Sheetmetal																
Aluminum				See Membrane above												
Lead-coated Copper				See Membrane above												
Ladders																
Hatches																
Panels																
Access Hatch		C	2	Remove and replace	1											
Walkways																
Curbs																
Gutter/Downspouts																
Expansion Joints																
TOTALS							$0		$0		$0		$601,250		$0	**$601,250**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

West Elementary School
Stoughton, Massachusetts
January 27, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 20100003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2-" inch domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building and each subsequent addition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently a natural gas service to the building serving the boilers and hot water heaters. This service enters the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and running to the buildings exterior tie in to the cities municipal sewer system.
4. Fuel Oil:
   a. There is no current on site fuel oil storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted; flush valve, vitreous china.
   - Urinals are floor mounted vitreous china, with flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a combination of single lever handle and the majority two lever handles.
   - Drinking fountains are surface mounted vitreous china, and stainless steel units. Most are non-ADA compliant. The vitreous china units are in fair condition.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are in fair condition.

- Typical classroom sinks are counter top, vitreous china with 2-lever handles. All are non-ADA compliant.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The Schools domestic hot water is generated by two water heaters one a new gas fired tank-less hot water heater by Rinnai and the second a 65 gallon electric water heater. The two heaters supply the schools hot water needs. The electric water heater is older and appears in fair condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection coverage (sprinklers) currently at the facility.
2. The Kitchen Hood includes a hood fire suppression system.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEM

1. The existing building is heated by two steam boilers. The two boilers are H. B. Smith with burners operating on Natural gas and a capacity of 2559 MBH and 2220MBH. These units are approximately 10 and 20 years old respectively and in very good condition.
2. The present Heating and Ventilating systems consist of radiation, unit ventilators in the classrooms and exhaust systems. Areas such as the cafeteria are served by ceiling hung H&V units and have a supply air component also. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building. The air-handling units have hot water heating coils, filter sections and exhaust fans.
3. Unit Ventilators in classrooms are 20+ years old manufactured by Nesbitt with some by Herman-Nelson in the library the majority are in fair/poor condition. They have begun to fail and repairs are becoming more frequent as they have exceeded their useful life. Although they have been able to obtain repair parts for repairs when needed, obtaining these parts may become more of an issue as more units fail and require replacement parts.

4. Some air conditioning is provided in select rooms via thru wall A/C units.

5. Exhaust systems servicing the classrooms utilize a single exhaust grille. Exhaust grills are located slightly above floor level and in many cases are blocked by classroom materials and should be cleared.

6. The existing temperature controls in the school are pneumatic. The temperature control system air compressor is located in the Boiler Room and includes an air dryer and is new and in good condition.

D. ELECTRICAL NARRATIVE

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 1200 amperes, 208Y/120volts, 3-phase, 4-wire. This service consists of a utility company transformer located in a transformer vault which serves a 1200ampere Kinney Switchboard and metering equipment in the main electric room. This switchboard was noted as tagged as having recently been thermo scanned.
2. There are a number of electrical panels located throughout the facility. These panel boards range from being original to the facility to panel boards having been added at the time of various building additions and/or on an as-needed basis. The condition of these panel boards range from fair to poor. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or have space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of 2' x 4' 3 lamp acrylic lens troffers installed within the last 3-5 years in common areas. Classrooms throughout the school utilize pendent mounted 1' x 4' 2 lamp wraparounds which are in good condition. All lighting utilizes current T8 lamping technology. The light levels appear to be within recommended levels. All classroom lighting utilizes motion sensor control.
4. The fire alarm system is a Simplex 4010. There are manual fire alarm pull stations, horn strobes located throughout the building. Smoke detectors are located in select areas throughout the building including all corridors for detection and alarm. It was noted by school personnel during the walk-thru that the system had been upgraded and has been problem free.

5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights
6. There is a 30 KW natural gas standby emergency generator manufactured by Owan complete with automatic transfer switch and distribution equipment, the generator is in good condition.
7. Life safety emergency lighting is provided via select lighting fixtures connected into the emergency power generation system. Battery powered exit lighting units are located throughout.
8. The existing clock and paging system are functioning without any noted problems and appear to be in good condition.
9. There is currently a security system and CCTV system in the school consisting of motion sensors in the corridors and classrooms and cameras at the entry doors.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (40+ years old), to as recent as 3-5 years old. Some equipment such as the unit ventilators in the classrooms and the pneumatic control system have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems throughout are older and are in fair working condition it was noted that there has been an increase occurrence of leaks within the buildings piping systems and it is recommended that the system be replaced. Replacement of older floor mounted urinals should be implemented. Replacement of older sink faucets with auto units should be implemented as a water conservation measure. Water closets and urinals most without automatic flush valves should also be upgraded. Select sinks and drinking fountains should be replaced with ADA compliant units including those in the classrooms.

The Electrical systems appear to be in good condition however the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to existing circuitry. The lighting systems are in good condition. The addition of automated lighting controls in those areas not already covered should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system and emergency lighting systems are newer and appear to be in good condition.

Stoughton MA

Capital Needs Survey Form

West Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (47,662sf)				**1954/62**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		B	A												
Clock/Paging Systems		C	C												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		D	C						1	71493					upgrade of water distribution piping
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		D	C				1	95324							upgrade of heating piping
Plumbing Fixtures / Equipment		D	C						1	74000					lavatories faucets w/auto, ADA sinks,,new wall urinals,toilet auto valves
Water Heaters		B	C												
Boiler / Furnaces / Accessories		B	B												
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Unit Ventilators		E	B				1	857916							new UV in classrooms
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	142986							new pneumatic controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												

Stoughton MA

Capital Needs Survey Form

West Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Electrical Service / Distribution		D	C										1	119155	satellite panelboards
Lighting - General		C	B				1	142986							Add auto controls
Lighting - Exit/Emergency Lighting		C	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

DAWE ELEMENTARY SCHOOL

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$5,800	$0	$597,910	$0	$0	$603,710
Structure	$0	$0	$2,875	$0	$0	$2,875
Exterior	$9,900	$0	$542,300	$27,200	$1,500	$580,900
Conveyance	$40,000	$0	$150,000	$0	$0	$190,000
Equipment	$0	$12,500	$0	$14,000	$0	$26,500
Roofing	$1,125	$0	$0	$0	$0	$1,125
Spec. Constr.	$0	$0	$0	$0	$236,600	$236,600
Mechanical	$0	$1,719,600	$64,000	$0	$0	$1,783,600
Electrical	$0	$0	$202,800	$0	$174,000	$376,800
Totals	$56,825	$1,732,100	$1,559,885	$41,200	$412,100	**$3,802,110**

DAWE ELEMENTARY SCHOOL

May 17, 2010

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Brick		A													
Glazed Block		A													
Glazed Block Base		A													
Painted CMU		A													
Corrugated Transluscent Panels		B	4	Clean											
Floors															
VCT		C	2	Remove and replace	2700 SF					2700	$17,550				
Carpet		B													
Quarry Tile		A													
Terrazzo		A													
Painted Concrete		B													
Slate Floor		C	3												
Ceilings															
Acoustical Ceiling Tile		C	3	Replace	Entire Building 67,600 SF					67600	$304,200				
Acoustic Panels		B	4	Clean											
Doors															
Wood Door In Hollow Metal Frame		C	1	Correct Doors that do not open	4	4	$4,000								
Hardware		C	1	Add automatic openers to non-accessible doors	25					25	$150,000				
Windows															
Single Glazed Windows in Aluminum Frames		A													
Wired Glass in Hollow Metal Frames															
Built-ins															
P-Laminated wood casework with p-lam countertops		C	2	Modify Counter for Accessible Sink	28					28	$13,860				
		C	3	Remove and replace plam countertops	24 CR @ 20 LF ea. = 480 LF					480	$72,000				
Stairs															
At Stage		D	1	Remove and replace with ADA compliant handrails	3 locations @ 6 LF ea. = 18 LF	3	$1,800								
Hardwood Treads on Wood Framing		B													
Permanent Seating															
Boards															
Slate Chalkboards		B	3	Replace with markerboards, ea. CR	24					48	$35,300				
Lockers															
Wall-mounted wood shelves and coat hooks		B	3	Lower a portion to accessible height						LS	$5,000				
Partitions															
Glazing															
Ramps															
TOTALS							$5,800		$0		$597,910		$0		$0	**$603,710**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

DAWE ELEMENTARY SCHOOL

May 17, 2010

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Concrete Foundation Wall															
Stairs															
Precast Terrazo Treads on Metal Stringers															
Hard Wood Treads on Wood Framing		B													
Ramps															
Loading Dock															
Painted Open Metal Grate Platform and Stair		C	3	Remove flaking paint and repaint	25 SF					25	$375				
Concrete Dock w/ Rubber Bumbers		C	3	Patch and repair damaged concrete	5 SF					LS	$2,500				
Walls															
Painted CMU with Brick Veneer		A													
Painted CMU		A													
Decks															
Wood Roof Deck															
Painted Steel															
Columns															
Masonry															
See walls above															
Wood															
Glue Laminated Beams															
Metals															
Slabs															
Painted concrete															
TOTALS							$0		$0		$2,875		$0		$0	**$2,875**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Sidewalks															
Concrete		A													
		D	1	Add accessible curb cuts at courtyard doors - OR - extend sidewalk across courtyard	2	2	$3,000								
Bitumous Concrete Paving		A													
Asphalt Paving															
Bitumous Concrete Paving		A													
Doors															
Fiberglass in Metal Frames		C	2	Remove and replace with Metal Doors in HM Frames	1 pr (3'-0x7'-0)					1	$3,000				
Metal in Aluminum Frames		B	3	Remove and replace	8 pr (3'-0x7'-0)					8	$56,000				
Metal Doors in Metal Frames		B	2	Remove and replace	2 (3'-0x7'-0)					2	$6,000				
Windows															
Single Glazed Windows in Aluminum Frames		C	2	Replace Windows - Type 1	140 locations @ 32 SF ea. = 4480 SF					4480	$313,600				
Single Glazed Windows in Aluminum Frames		C	2	Replace Windows - Type 2	20 locations @ 26 SF ea. = 520 SF					520	$36,400				
Single Glazed Windows in Aluminum Frames		C	2	Replace Windows - Type 3	6 locations @ 30 SF ea. = 180 SF					180	$12,600				
Single Glazed Windows in Aluminum Frames		C	2	Replace Curtain Wall System	2 locations @ 280 SF ea. = 560 SF					560	$53,200				
Single Glazed Windows in Aluminum Frames		C	2	Replace Storefront System - Type 1	2 locations @ 240 SF ea. = 580 SF					580	$43,500				
Single Glazed Windows in Aluminum Frames		C	2	Replace Storefront System - Type 2	2 locations @ 120 SF ea. = 240 SF					240	$18,000				
Railings															
Painted Steel Guard Rail		B	3	Remove flaking paint and repaint	72 LF									LS	$1,000
Painted Steel Handrail		B	3	Remove flaking paint and repaint	30 LF									LS	$500
		D	1	Add accessible handrails at exterior ramps	48 LF	48	$6,900								
Masonry															
Brick		A		Repair minor brick damage	5 SF										
Glazing															
Signage															
Fences/Gates															
Chain Link Fence		D	2	Remove and replace damaged fence	450 LF							450	$14,600		
Wide Flange Painted Steel Ballards		A													
Soffits															

EXTERIOR (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
EFIS		C	2	Pursue destructive testing at locations indicating a thermal break resulting in staining - See note below	90% of Building Perimeter							900	$6,300			
Fascias																
Corrugated Metal Panel		A														
Metal		A														
Cementitious Concrete Wall Panel		B	3													
EFIS		C	2	Pursue destructive testing at locations indicating a thermal break resulting in staining - See note below	90 % of Building Perimeter							900	$6,300			
TOTALS							$9,900		$0		$542,300		$27,200		$1,500	**$580,900**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

DAWE ELEMENTARY SCHOOL

May 17, 2010

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators			1	Elevator is Undersized	1					1	$150,000					
Permanent Lifts			1	Add lift at Stage	1	1	$40,000									
Portable Lifts																
TOTALS							$40,000		$0		$150,000		$0		$0	**$190,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

DAWE ELEMENTARY SCHOOL

May 17, 2010

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
Metal Shelving		C	4												
Marker boards		C	4	Replace chalkboards	27							27	14000		
Custodial															
NA															
Maintenance															
NA															
Technology															
NA															
Food Service															
Stainless Steel Commercial Grade		C	4	add Fire Suppression to Hood				LS	2500						
Walk-in Cooler/Freezer		C	3	Insulation needed to prevent condensation				LS	10000						
Athletic/PE															
Wood backboards		C	4												
Grounds/Exterior															
NA															
Clinic															
NA															
Office															
NA															
Life Safety															
NA															
TOTALS							$0		$12,500		$0		$14,000		$0	**$26,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
White, reflective PVC?		B	4	Regular maintenance											
Decking															
Painted Steel															
Wood															
Insulation															
Tapered Poly-Iso		A													
Flashing/Sheetmetal															
Metal		B	4	See Exterior - Fascias											
Copper		B	4												
Ladders															
Steel															
Hatches															
Panels															
Walkways															
Curbs															
Gutter/Downspouts															
Expansion Joints															
		C	2	Remove and replace sealant at vertical expansion joints above roofs	150 lf	150	$1,125								
TOTALS							$1,125		0		0		0		0

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

J.R. Dawe Jr Elementary School
Stoughton, Massachusetts
January 27, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 20100003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2-1/2" inch domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers, hot water heaters and select kitchen equipment. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and running to the buildings exterior tie in to the cities municipal sewer system.
4. Fuel Oil:
   a. There is no existing on site fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted with auto flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with auto flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a combination of single lever handle and two lever handles.
   - Drinking fountains are wall surface mounted stainless steel units. Most are ADA compliant. The units are in good condition.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are in good condition.

- Typical classroom sinks are counter top, stainless steel with 2-lever gooseneck faucets. All are non-ADA compliant.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The Schools domestic hot water is generated by a dedicated 100 gallon gas fired water heater. The water heaters are in good condition with the unit being approximately 4 years old.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection coverage (sprinklers) currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by two hot water boilers. The two boilers are currently operating on Natural gas. This equipment is approximately 40+ years old and in fair condition, although their useful life expectancy has been reached.
2. The present Heating and Ventilating systems consist of finned tube radiation, unit ventilators in the classrooms and exhaust systems. Areas such as the Gymnasium served by 2 ceiling hung H&V units have a supply air component also. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building. The air-handling units have hot water heating coils, filter sections and exhaust fans.
3. Unit Ventilators in classrooms are approximately 25+ years old manufactured by Barbor Colman and by Schemenauer. They are operational but some units have begun to fail and repairs are becoming more frequent as they are at the end of the useful life. Although they have been able to obtain repair parts for repairs when needed, obtaining these parts may become more of an issue as more units fail and require more major repairs and replacement parts.

4. Exhaust systems servicing the classrooms utilize a single exhaust grille. Exhaust grills are located slightly above floor level and in some cases are blocked by classroom materials and should be cleared.

5. The existing temperature controls in the school are pneumatic. The temperature control system air compressor is located in the Boiler Room and includes an air dryer the compressor was noted as being new and in very good condition.

6. Some thru the wall/window AC units exist in select small office areas as well as one split system serving a single classroom.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 1000 amperes, 208Y/120volts, 3-phase, 4-wire and is located in a dedicated room at the back end of the building adjacent tot the boiler room. This service equipment consists of a utility company pad mounted transformer which feeds underground to a 1000 amp Federal Pacific switchboard. Utility company metering requirements are located in the electric room. The service equipment is original to the building and although old is in good condition.
2. There are a number of electrical panels located throughout the facility for localized distribution. These panel boards range from being original to the facility to newer panel boards having been added at the time of various building additions and on an as-needed basis (the majority of these panel boards are newer). The condition of these panel boards range from poor, the original equipment, to good for the newer panels. The majority of the older panel boards do not have spare circuit breakers available for new circuits to be added, or have space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of surface mounted 2 lamp wraparound fluorescent fixtures in the classrooms and 2' x 4' recessed acrylic lens fixtures in the corridors and common space areas. The lighting throughout the facility is in good condition and most were noted to utilize current T8 lamping technology. The light levels appear to be within recommended levels.
4. The fire alarm system is a Silent Knight zoned system. There are manual fire alarm pull stations and horn strobes located throughout the building. It was noted by school personnel during the walk-thru that the system had been functioning problem free.

5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights
6. There exists an interior gas fired 30KW Kohler standby generator. The generator and its associated transfer switch and distribution equipment are all housed in a separate room dedicated to the equipment and is accessed thru the main electric room. All equipment is older but appears to be in good condition. The generator per on site personnel supports the schools lighting as well as the cooler and freezer in the kitchen area.
7. Life safety emergency lighting is provided via remote emergency light heads and battery powered exit signs.
8. The existing paging system is an older Dukane system and generally is functioning without any noted problems with the exception of inadequate exterior speakers.
9. The existing clock system was experiencing issues in approximately 6 locations but the wiring was replaced with new and now appears to be operating without any noted problems.

E. There is currently a security camera system installed at the main entry points.

MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (40+ years old), to as recent as 3-5 years old. Some equipment such as the unit ventilators in the classrooms, the pneumatic control system and the boilers have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems although older seem to be in good working and physical condition. Replacement of faucets to automatic units should be implemented as a water conservation measure. Select sinks and drinking fountains should be replaced with ADA compliant units including those in the classrooms.

The Electrical systems appear to be in good condition however the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to existing circuitry. A thermo scan of the main electrical rooms' equipment and wiring should be preformed to ensure that all connections are tight and that no feeders are overloaded. The lighting systems are in good condition, the addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system, emergency power generation and exit lighting systems are appear to be in good condition.

The paging and clock systems given their age and recent problems should be replaced.

Stoughton MA

Capital Needs Survey Form

J.R. Dawe Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (67,600sf)				**1971**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		C	A												
Clock/Paging Systems		C	C										1	236600	replace clock & paging system
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		D	C												
Plumbing Fixtures / Equipment		C	C						1	64000					lavatories faucets w/auto
Water Heaters		B	C												
Boiler / Furnaces / Accessories		E	B				2	300000							2 hot water boilers
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Unit Ventilators		E	B				1	1216800							new UV in classrooms
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	202800							new pneumatic controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												

Stoughton MA

Capital Needs Survey Form

J.R. Dawe Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Electrical Service / Distribution		D	C										1	174000	satellite panelboards & gear Thermoscan
Lighting - General		C	B						1	202800					add automated controls
Lighting - Exit/Emergency Lighting		C	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$5,800	$0	$580,360	$0	$0	$586,160
Structure	$0	$0	$0	$2,875	$0	$2,875
Exterior	$12,400	$0	$0	$561,750	$1,500	$575,650
Conveyance	$40,000	$0	$150,000	$0	$0	$190,000
Equipment	$0	$2,500	$0	$0	$0	$2,500
Roofing	$0	$942,085	$0	$0	$0	$942,085
Spec. Constr.	$0	$0	$0	$0	$135,200	$135,200
Mechanical	$0	$1,719,600	$64,000	$0	$0	$1,783,600
Electrical	$0	$0	$210,000	$0	$169,000	$379,000
Totals	$58,200	$2,664,185	$1,004,360	$564,625	$305,700	**$4,597,070**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Brick		A													
Glazed Block		A													
Glazed Block Base		A													
Painted CMU		A													
Corrugated Transluscent Panels		B	4	Clean											
Floors															
VCT		B													
Carpet		B													
Quarry Tile		A													
Terrazzo		A													
Painted Concrete		B													
Ceilings															
Acoustical Ceiling Tile		C	3	Replace	Entire Building 67,600 SF					67600	$304,200				
Acoustic Panels		B	4	Clean											
Doors															
Wood Door In Hollow Metal Frame		C	1	Correct Doors that do not open	4	4	$4,000								
Hardware		C	1	Add automatic openers to non-accessible doors	25					25	$150,000				
Windows															
Single Glazed Windows in Aluminum Frames		A													
Wired Glass in Hollow Metal Frames															
Built-ins															
P-Laminated wood casework with p-lam countertops		C	2	Modify Counter for Accessible Sink	28					28	$13,860				
		C	3	Remove and replace plam countertops	24 CR @ 20 LF ea. = 480 LF					480	$72,000				
Stairs															
At Stage		D	1	Remove and replace with ADA compliant handrails	3 locations @ 6 LF ea. = 18 LF	3	$1,800								
Hardwood Treads on wood framing		B													
Permanent Seating															
Boards															
Slate Chalkboards		B	3	Replace with markerboards, ea. CR	24					48	$35,300				
Lockers															
Wall-mounted wood shelves and coat hooks		B	3	Lower a portion to accessible height						LS	$5,000				
Partitions															
Glazing															
Ramps															
TOTALS							$5,800		$0		$580,360		$0		$0	**$586,160**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Concrete Foundation Wall															
Stairs															
Precast Terrazo Treads on Metal Stringers															
Hard Wood Treads on Wood Framing		B													
Ramps															
Loading Dock															
Painted Open Metal Grate Platform		C	3	Remove flaking paint and repaint	25 SF							25	$375		
Concrete Dock w/ Rubber Bumbers		C	3	Patch and repair damaged concrete	5 SF							LS	$2,500		
Walls															
Painted CMU with Brick Veneer		A													
Painted CMU		A													
Decks															
Wood Roof Deck															
Painted Steel															
Columns															
Masonry															
See walls above															
Wood															
Glue Laminated Beams															
Metals															
Slabs															
Painted concrete															
TOTALS								$0		$0		$0		$2,875		$0	**$2,875**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Sidewalks															
Concrete		A													
		D	1	Add accessible curb cuts at courtyard doors - OR - extend sidewalk across courtyard	2	2	$3,000								
Asphalt Paving															
Bitumous Concrete Paving		A													
Doors															
Fiberglass in Metal Frames		C	2	Remove and replace with Metal Doors in HM Frames	1 pr (3'-0x7'-0)							1	$3,000		
Metal in Aluminum Frames		B	3	Remove and replace	8 pr (3'-0x7'-0)							8	$56,000		
Metal Doors in Metal Frames		B	2	Remove and replace	2 (3'-0x7'-0)							2	$6,000		
Painted Galvanized Steel Overhead Garage Door		C	3	Remove flaking paint and repaint	1 (10'-0)							LS	$750		
				Remove rust, repair metal frame and repaint	1							LS	$250		
Windows															
Single Glazed Windows in Aluminum Frames		C	2	Replace Windows - Type 1	140 locations @ 32 SF ea. = 4480 SF							4480	$313,600		
Single Glazed Windows in Aluminum Frames		C	2	Replace Windows - Type 2	20 locations @ 26 SF ea. = 520 SF							520	$36,400		
Single Glazed Windows in Aluminum Frames		C	2	Replace Windows - Type 3	6 locations @ 30 SF ea. = 180 SF							180	$12,600		
Single Glazed Windows in Aluminum Frames		C	2	Replace Curtain Wall System	2 locations @ 280 SF ea. = 560 SF							560	$53,200		
Single Glazed Windows in Aluminum Frames		C	2	Replace Storefront System - Type 1	2 locations @ 240 SF ea. = 580 SF							580	$43,500		

EXTERIOR (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Single Glazed Windows in Aluminum Frames		C	2	Replace Storefront System - Type 2	2 locations @ 120 SF ea. = 240 SF							240	$18,000			
Railings																
Painted Steel Guard Rail		B	3	Remove flaking paint and repaint	72 LF									LS	$1,000	
Painted Steel Handrail		B	3	Remove flaking paint and repaint	30 LF									LS	$500	
		D	1	Add accessible handrails at exterior ramps	48 LF	48	$6,900									
Masonry																
Brick		A		Repair minor brick damage	5 SF											
Glazing																
Signage																
Fences/Gates																
Chain Link Fence		D	2	Remove and replace damaged fence	450 LF							450	$14,600			
Soffits																
EFIS		C	2	Pursue destructive testing at locations indicating a thermal break resulting in staining	50% of Building Perimeter							500	$3,500			
Fascias																
Metal		C	2	Remove and replace metal roof edge with correctly detailed joints		LS	$2,500									
Cementitious Concrete Wall Panel		B	3													
EFIS		C	2	Pursue destructive testing at locations indicating a thermal break resulting in staining	5 % of Building Perimeter							50	$350			
TOTALS							$12,400		$0		$0		$561,750		$1,500	**$575,650**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators			1	Elevator is Undersized	1					1	$150,000					
Permanent Lifts			1	Add lift at Stage	1	1	$40,000									
Portable Lifts																
TOTALS							$40,000		$0		$150,000		$0		$0	**$190,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
Markerboards		C	4	Replace chalkboards (see interior)											
Custodial															
NA															
Maintenance															
NA															
Technology															
NA															
Food Service															
Stainless Steel Commercial Grade		C	4	add Fire Suppression to Hood				LS	2500						
Athletic/PE															
Grounds/Exterior															
NA															
Clinic															
NA															
Office															
NA															
Life Safety															
NA															
TOTALS							$0		$2,500		$0		$0		$0	**$2,500**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Membrane																
Stone Ballasted EPDM over Gravel-surfaced Asphalt-based Built-up System		C	2	Remove and replace - Asbestos Containing Materials detected in at least three samples during Gale investigation.	50600 SF			50,600	$936,100							
Decking																
Painted Steel																
Wood																
Insulation																
Poly-Iso				Remove and replace - see Membrane above												
Mineral Fiberboard				Remove - see Membrane above												
Flashing/Sheetmetal																
Metal		C	2	See Exterior - Fascias												
Copper		B	3	Gale reports that Chimney flashing is too low.												
Ladders																
Steel		C	3	Remove and replace all access ladders. Install access ladders to roof areas A and B - see Gale report	3			3	$4,860							
Hatches																
Panels																
Walkways																
Curbs																
Gutter/Downspouts																
Expansion Joints																
		C	2	Remove and replace sealant at vertical expansion joints above roofs	150			150	$1,125							
TOTALS							0		$942,085		0		0		0	**$942,085**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

J.H. Gibbons Elementary School
Stoughton, Massachusetts
January 27, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 20100003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 4" inch domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building and each subsequent addition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers and hot water heaters. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and running to the buildings exterior tie in to the cities municipal sewer system.
4. Fuel Oil:
   a. There is currently no on site fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted; most with auto flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with auto flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a combination of single lever handle and two lever handles.
   - Drinking fountains are surface mounted stainless steel dual and single level units. Most are ADA compliant. The units are in good condition.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are in good condition.

- Typical classroom sinks are counter top, stainless steel with single lever gooseneck faucets. All are non-ADA compliant.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The Schools domestic hot water is generated by one 75 gallon gas hot water heater feeding the needs of the school. This water heater is in good condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection coverage (sprinklers) currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by two hot water boilers. The two boilers are H. B. Smith with burners currently operating on Natural gas and a capacity of 4200 MBH each. This equipment is approximately 30+ years old and in good/fair condition, they are operating without problems although their useful life expectancy is being reached.
2. The present Heating and Ventilating systems consist of finned tube radiation, unit ventilators in the classrooms and exhaust systems. Areas such as the gymnasium and cafeteria are served by ceiling hung H&V units have a supply air component also. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building. The air-handling units have hot water heating coils, filter sections and exhaust fans.
3. Unit Ventilators in classrooms are approximately 20 years old manufactured by Nesbitt. They have begun to fail and repairs are becoming more frequent as they are at the end of the useful life. Although they have been able to obtain repair parts for repairs when needed, obtaining these parts may become more of an issue as more units fail and require replacement parts.

4. Exhaust systems servicing the classrooms utilize a single exhaust grille. Exhaust grills are located slightly above floor level and in many cases are blocked by classroom materials and should be cleared.

5. The existing temperature controls in the school are pneumatic. The temperature control system air compressor is located in the Boiler Room and includes an air dryer this compressor is old and although functioning appears in poor condition.

6. Some thru the wall/window AC units exist in select small office areas as well as the teachers lounge.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 1200 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the basement level at the rear of the building. This service equipment consists of a utility company pad mounted transformer feeding underground to a 1200 ampere Federal Pacific switchboard complete with utility company metering equipment. The service equipment appears original to the building and is in good condition.
2. There are a number of electrical panels located throughout the facility. These panel boards range from being original to the facility to newer panel boards having been added at the time of various building additions and/or on an as-needed basis. The condition of these panel boards range between fair and poor. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or have space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of older surface mounted 2 lamp wraparound fluorescent fixtures in the classrooms and newer 2' x 4' acrylic lens troffers in the corridors. Second floor lighting in the classrooms is accomplished via 2' x 4' acrylic lens troffers and are in good condition. The lighting throughout the facility does utilize current T8 lamping technology. The light levels appear to be within recommended levels.
4. The fire alarm system is a Silent Knight zoned system. There are manual fire alarm pull stations and horn strobes located throughout the building. Heat and smoke detectors

are located in select areas throughout the building including corridors for detection and alarm. It was noted by school personnel during the walk-thru that the system had been upgraded and has been problem free.

5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights building mounted lighting fixtures are in poor condition.
6. There exists an interior natural Gas 50KW Kohler standby generator. The generator and its associated transfer switch and distribution equipment is all in good condition. The generator provides power to select lighting throughout the school.
7. Life safety emergency lighting is provided via select fixtures throughout the school being connected to the emergency generator and battery powered exit signs.
8. The existing clock system is a newer Sync Master system and is functioning without any noted problems.
9. The existing Bogen paging system although older is functioning without any noted problems but appears in poor condition and should be replaced.
10. There is currently a card access and CCTV system in the school both functioning without any problems.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (35+ years old), to as recent as 3-5 years old. Some equipment such as the unit ventilators in the classrooms, the pneumatic control system and the boilers have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems although older all seem to be in good working condition. Replacement of faucets to automatic units should be implemented as a water conservation measure. Select sinks should be replaced with ADA compliant units including those in the classrooms.

The Electrical systems appear to be in good condition however the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to existing circuitry. A thermo scan of the main electrical rooms' equipment and wiring should be preformed to ensure that all equipment is functioning as intended and that no feeders have been overloaded over the course of time. The lighting systems are newer and in good condition with the exception of the classroom fixtures which should be replaced. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system, emergency power generation and exit lighting systems are newer and appear to be in good condition. A new paging system should be installed before the system begins to have problems.

Stoughton MA

Capital Needs Survey Form

Gibbons Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (67,600sf)				**1971**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		B	A												
Clock/Paging Systems		C	C										1	135200	replace paging system
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		C	C												
Plumbing Fixtures / Equipment		C	C						1	64000					lavatories faucets w/auto & ADA sinks
Water Heaters		B	C												
Boiler / Furnaces / Accessories		E	B				2	300000							2 new hot water boilers
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Unit Ventilators		E	B				1	1216800							new UV in classrooms
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	202800							new Pneumatic controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												

Stoughton MA

Capital Needs Survey Form

Gibbons Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Electrical Service / Distribution		D	C										1	169000	satellite panelboards & gear Thermoscan
Lighting - General		C	B						1	210000					New lighting & auto controls
Lighting - Exit/Emergency Lighting		D	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$29,182	$0	$0	$0	$29,182
Structure	$0	$0	$0	$0	$0	$0
Exterior	$95,700	$0	$0	$0	$0	$95,700
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$164,500	$0	$0	$0	$0	$164,500
Spec. Constr.	$0	$44,170	$0	$0	$0	$44,170
Mechanical	$0	$244,170	$18,750	$0	$0	$262,920
Electrical	$39,000	$0	$55,213	$0	$55,213	$149,425
Totals	$299,200	$317,522	$73,963	$0	$55,213	**$745,897**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Painted Plaster		A													
Painted GWB		A	4	Add side protection to EWC	2			2							
Painted Brick		B													
Painted CMU		C	4	Cover w/ painted gwb on furrings	300 SF							300			
4x4 Ceramic Tile Wainscot		A													
Painted Wood Wainscot		A													
Vinyl Base		C	2	Replace 8'-0" missing section in Basement											
Floors															
Sheet Vinyl		B													
Carpet		A	2	Clean Carpet 2nd Floor Conference Room	700 SF					700					
Ceramic Tile		A													
Ceilings															
2x4 Acoustical Panels		C	3	Replace Stained & Sagging Panels	352 SF			352	1232						
Painted Plaster		A	2	Repair Water Damage Window Jambs	25 SF			LS	500						
Painted Gypsum Wallboard		A													
Stencilled Plaster		A													
12 x 12 Acoustical Panels		C	4	Replace 12 x 12 panels	700 SF			ALLOWANCE	2000						
Acoustical Problems				Add Acoustical Panels to Great Hall Partitions	540 SF			540	13500						
Doors															
Wood in wood frames															
Kalamein Fire Door															
HM Doors & Frames															
Fiberglass Doors															
		D	1	Add threshold to Basement HC Entrance Door.	1			1	250						
Windows															
Wood Windows		D	2	Strip, Consolidate Wood and Repaint Exterior of Windows.	91	91									
Aluminum Window Inserts w/ Insul Glass		B													
Built-ins															
Town Clerk's Counter				Add 36" wide gate in Counter for HC Access to space	1										
				Add Accessible Section	3 LF			3	1050						
Town Clerk's Public Counter				Modify heights for ADA	5 LF			5	1750						
Treasurer's Counter				Add Accessible Section	3 LF			3	1050						
Assessor's Counter				Add Accessible Section	3 LF			3	1050						
Assessor's Public Counter				Modify heights for ADA	5 LF			5	1750						
Building Official's Counter				Add Accessible Section	3 LF			3	1050						

INTERIORS (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Stairs																
Abrasive Aluminum Treads		C	1	Add tapers under projecting Nosings	136 Risers (6 Flights)			6	3000							
Stained Wood Handrails		A														
Steel guardrails		A														
Permanent Seating																
Boards																
Lockers																
Partitions																
Glazing																
Ramps																
Short & Steep Ramps in Basement		D	1	Add Ramps to Basement Floor	3 @ 2" high	3 @ 2" high		3	1000							
TOTALS							$0		$29,182		$0		$0		$0	**$29,182**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Stairs															
Metal Pan Stairs															
Ramps															
Concrete Ramp															
Loading Dock															
Walls															
Brick															
Decks															
Wood Floor Decks															
Columns															
Masonry															
Brick Exterior															
Granite Foundation															
CMU															
Metals															
Slabs															
Concrete															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Bituminous Concrete															
Sidewalks															
Concrete Sidewalks															
Granite Steps															
Concrete Landing at Top of Steps & Ramp		C	1	Replace Concrete Landing	100 SF	LS	800								
		D	2	Paint conduit to push button for Door	1										
Asphalt Paving															
Bituminous Paving		D	2	Remove and Replace Bituminous Concrete Paving	1600 SY	1600	20000								
		C	2	Add crack Sealant	200 LF	200	400								
Stamped Concrete paving		A													
Granite Curbs		A													
Doors															
Fiberglass		C	3	Doors are fading. Refinish	8	8	2000								
Windows															
Wood		D	2	Strip, Consolidate Wood and Repaint Exterior of Windows.		LS	20000								
Aluminum Inserts		B													
Steel Expanded Lath Grilles		D	3	Paint Grilles											
Railings															
Color Galvanized Steel		A													
Masonry															
Brick		D	2	Clean brick and stone Exterior	7000 SF	7000	21000								
		D	2	Repoint Brick (15% of West Wall).	1050 SF	1050	12600								
		D	2	Repoint Brick (10% of South Wall).	450 SF	450	5400								
		D	2	Repoint Brick (5% of North Wall).	225 SF	225	2700								
Gray Granite															
Pink Granite															
Parging at Ramp Walls		D	2	Replace Parging											
Stone Retaining Walls		D	3	Reset Cap Stones											
Glazing															
Single Glazing															
Insulated Glass															
Signage															
Fences/Gates															
Chain link Fences		A													
Galvanized Steel Gates		A													
Soffits & Cornices															
Painted Wood		D	2	Strip and Repaint	400 LF	400	2400								

EXTERIOR (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Fascias, Gutters & Downspouts																
Painted Wood		D	2	Strip and Repaint	400 LF	400	2400									
Lead Coated Copper		C	4	Strip and Repaint	400 LF	400	6000									
TOTALS							$95,700		$0		$0		$0		$0	**$95,700**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators	Yes			Replace Up/Down arrow cover at door jamb.												
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

EQUIPMENT	**Meets Code**	**Rating**	**Priority**	**Improvements**	**Total Quantity**	**Year 1, Quantity**	**Year 1, Budget**	**Year 2, Quantity**	**Year 2, Budget**	**Year 3, Quantity**	**Year 3, Budget**	**Year 4, Quantity**	**Year 4, Budget**	**Year 5, Quantity**	**Year 5, Budget**	
No Equipment																
							$0		$0		$0		$0		$0	**$0**

▨	Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B	Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Membrane																
Asphalt Shingles		D	2	Replace Asphalt Shingles	7150 SF	7150	129000									
Flat Roof EPDM				Replace EPDM	1300 SF	1300	32500									
Decking																
Wood																
Insulation																
Fiberglass Batts																
Flashing/Sheetmetal																
Lead Coated Copper																
Ladders																
N/A																
Hatches																
Panels																
N/A																
Walkways																
N/A																
Curbs																
Gutter/Downspouts																
Lead Coated Copper Gutters				Repaint		ALLOWANC	2500									
Lead Coated Copper Downspouts				Add missing Section/Downspout	8 LF	ALLOWANC	500									
Expansion Joints																
N/A																
TOTALS							$164,500		$0		$0		$0		$0	**$164,500**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Town Hall
Stoughton, Massachusetts
February 18, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2" inch domestic water service located within the sprinkler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the buildings domestic water needs. The water distribution system appears to have been upgraded at some point and as it is not original to the building and is in good condition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers and hot water heaters. This service enters the rear of the building adjacent to the sprinkler room.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets wall mounted; with flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with flush valves.
   - Lavatories are wall hung vitreous china. Faucets are predominantly two lever handles.
   - Drinking fountains are surface mounted stainless steel units and are in good condition.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are older and in fair condition.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water is generated by the buildings boiler system via a hot water heat exchanger the unit appears in good condition and no problems were noted by building operation personnel.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. The building appears to be a 100% covered by a fire protection system (sprinklers). The sprinkler system is complete with all backflow prevention devices and Fire Alarm monitoring. It is served via a dedicated 8" line and includes standpipes in the stairwells.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is heated by two hot water boilers. The two boilers are Multitem with burners currently operating on Natural gas. These two boilers appear very old and although no problems were noted their useful life expectancy has already been exceeded.
2. The present heating and ventilating systems consists of finned tube radiation, some newer unit ventilators in select areas and exhaust systems. Areas such as the great hall are served by ceiling hung H&V units and include a supply air component. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building. The air-handling units have hot water heating coils, filter sections and exhaust fans.
3. Unit ventilators where noted appeared to be newer and in good condition. There were no heating or ventilation issues noted by operations personnel.
4. The existing temperature controls in the school are pneumatic thermostats. The temperature control system air compressor is located in the Boiler Room and includes an air dryer and is new and in good condition. Thermostats and pneumatic tubing is older but no problems were noted.
5. Select split system units were noted with exterior ground mounted compressors which appeared to be newer and in good condition

6. Some thru the wall/window AC units were noted in select small office areas.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 800 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the electric room accessed from the boiler room. The service equipment consists of utility company metering equipment, an 800amp main disconnect switch housed within a switchboard, the switchboard is manufactured by GE appears newer and is in very good condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are newer although some older panels believed to be original to the facility are still in use. , The condition of these panel boards range from poor, the original equipment, to good, the newer. The majority of the older panel boards do not have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of recess mounted 2 x 2 and 2 x 4 fluorescent acrylic lens troffers. The lighting throughout the facility is in good condition. The light levels appear to be within recommended levels and fixtures utilize current T-8 lamping technology.
4. The fire alarm system is a Fire Control Instruments (FCI) zoned system. There are manual fire alarm pull stations, Smoke detectors and horn strobes located throughout the building. It was noted by building personnel during the walk-thru that the system had been problem free. Horn light units appeared to be ADA compliant units but this should be confirmed
5. Site lighting is accomplished via building wall mounted fixtures these appear to be in good condition.
6. There is an exterior emergency standby generator which serves the buildings emergency lighting in case of a power failure. This is complete with an automatic transfer switch located in the main electric room. The unit is manufactured by Generac and is natural gas fired. The unit appears newer and in good condition.
7. Life safety emergency lighting is provided via lighting wired into the emergency generator supported system.

8. Exit lighting is installed throughout however is older and in poor condition.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from approximately 30 years old, to as recent as a few years old. Some equipment such as the, the pneumatic control system and the boilers have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems appear newer and in good operational and physical condition. Replacement of faucets to automatic units as well as the installation of auto flush valves on toilets and urinals should be implemented as a water conservation measure. Select sinks should be replaced with ADA compliant units.

The Electrical systems appear to be in good condition however the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to the existing circuitry. The lighting systems are in good condition utilizing the latest lamping configurations. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system is in good condition. Existing exits lighting units should be replaced to ensure the reliability of this system in case of an emergency.

Stoughton MA

Capital Needs Survey Form

Town Hall

2-18-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (22,085sf)				**1890/67**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Fire Alarm Systems		D	A				1	44170							ADA horn/stobes
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		C	C												
Plumbing Fixtures / Equipment		C	C						1	18750					lavatories faucets,toilets and urinals w/auto
Water Heaters		B	C												
Boiler / Furnaces / Accessories		D	B				2	200000							2 new hot water boilers
Ventilation Systems		C	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Air Handling Systems		C	B												
Exhaust Systems		C	B												
Control Systems		D	B				1	44170							new controls
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		D	C										1	55213	satellite panelboards
Lighting - General		C	B						1	55213					New lighting auto controls

Stoughton MA

Capital Needs Survey Form

Town Hall

2-18-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Lighting - Exit/Emergency Lighting		D	A		1	39000									New Exit and Emg. Batt units
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

DPW Building B C

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$4,500	$4,500
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$0	$55,400	$0	$0	$55,400
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$10,500	$0	$0	$10,500
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$2,000	$7,500	$0	$0	$9,500
Electrical	$0	$0	$0	$0	$0	$0
Totals	$0	$2,000	$73,400	$0	$4,500	**$79,900**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Painted CMU		B	4												
Painted GWB on Metal Stud Framing		B	4												
Painted Concrete		B	4												
Sanitary Fiberglass Wall Panel		A													
Floors															
Sealed Concrete		A													
VCT		B	4												
Rubber Base		B	4												
Quarry Tile		A													
Carpet		A													
Mosaic Tile		A													
Ceilings															
2x4 Acoustical Panels		B	4												
2x2 Acoustical Panels		B	4												
Painted GWB		A													
Doors															
HM Doors & Frames		C	3	Replace	2									2	1500
Wood Doors in Metal Frames		B	3	Replace	4									4	3000
Windows															
Laminated Window Sills		A													
Built-ins															
P-Lam Reception Counter		A													
Stairs															
Steel Channel Stringers with Rubber Treads and Painted Steel Risers		A													
Permanent Seating															
Wood Benches on Steel Posts		A													
Boards															
Marker Boards		A													
Lockers															
12"Wx72"H Metal		A													
Partitions															
Phenolic Toilet Partitions		A													
Phenolic Shower Partitions		A													
Glazing															
Ramps															
TOTALS							$0		$0		$0		$0	$4,500	**$4,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Exposed Foundation Wall		A													
Stairs															
Open Tred Galvanized Steel		A													
Steel Channel Stringers with Rubber Treads and Painted Steel Risers		A													
Ramps															
N/A															
Loading Dock															
N/A															
Walls															
Metal Stud w/ GWB		A													
See Masonry Below															
Decks															
Metal Roof Deck		A													
Stained Cedar Roof Deck		A													
Exposed Painted Steel Decking		A													
Columns															
Steel		A													
Masonry															
Painted CMU		A													
Split-face CMU		A													
Metals															
Exposed Painted Steel		A													
Exposed Steel Bar Joists		A													
HSS Sleepers		A													
Slabs															
Sealed Concrete		A													
Paitned Concrete		A													
TOTALS							$0		$0		$0		$0		$0 **$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
N/A															
Fields															
N/A															
Playgrounds															
N/A															
Sidewalks															
N/A															
Asphalt Paving															
See Building A															
Metals															
Corrugated Metal Panel		A													
Doors															
Metal in HM Frames		B	4												
Insulated Steel Overhead Garage Doors		A													
Windows															
Insulated glass in Aluminum Frames		A													
12" Single-glazed Panes in Steel frames and Grilles		D	2	Replace with insulated glass in metal frames and CMU infill.	25					25	52500				
Pre-cast Concrete Window Sills															
Railings															
Galvanized Steel		A													
Masonry															
Painted CMU		A													
Split-face CMU		A													
Glazing															
N/A															
Signage															
N/A															
Fences/Gates															
Chain link Fences with Barbed Wire		A													
Stone Wall															
Galvanized Steel Gates		A													
Soffits & Cornices															
Painted Wood Trim		D	2	Strip and Repaint	50 SF					LS	400				
Fascias, Gutters & Downspouts															
Painted Wood		D	2	Strip and Repaint	500 LF					500	2500				
Metal Fascia		B	4												
Steel Gutters and Downspouts		B	4												
TOTALS							$0		$0		$55,400		$0		$0	**$55,400**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
One		A														
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
No Equipment																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend								
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Gravel Ballasted Built-up Modified Bitumen		C	2	See Flashing Below											
Fully-adhered Membrane		B	3	See Flashing Below											
Metal Panel Mansard		A													
Decking															
Steel		A													
Stained T&G Wood Roof Decking		A													
Insulation															
Fiberglass w/ Liner		A													
Flashing/Sheetmetal															
Mebrane		C	2	Replace membrane flashing at all roof transitions and roof top units	300 LF					300	10500				
Ladders															
Steel															
Hatches															
Panels															
N/A															
Walkways															
N/A															
Curbs															
Pre-fabricated		C	2	See Flashing Above											
Gutter/Downspouts															
Steel Scupper Box and Downspouts		A													
Expansion Joints															
TOTALS							$0		$0		$10,500		$0		$0	**$10,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Public Works Garage (1960)
Stoughton, Massachusetts
February 18, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2-1/2" domestic water service located at the rear far end of the building. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the buildings domestic water needs. The water distribution system is original to the building.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the roof top units and the gas fired unit heaters in the truck bays. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the facility. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:

   a. There are currently multiple above ground tanks located within the facility these include two 325 gallon tanks containing two different grades of motor oil these are located in a dedicated room with a dedicated exhaust system. The third tank is for used motor oil. This motor oil is recycled via burning it for heat in an oil waste furnace.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted; with flush valve, vitreous china.
   - Lavatories are wall hung vitreous china and are in good condition. Faucets are two lever handles all of which appeared to be in good condition and working order.
   - There were no drinking fountains noted within the building during the walkthrough.
   - The operational compressed air system is functioning without any issues with the main compressor being only 2 years old +/-.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water is generated by a single small ceiling hung electric hot water heater located in the truck bay closest to the office area. The unit appears in good condition. This water heater appears to be approximately 10 gallons and it was noted by operations personnel that it is too small as it serves both the sink below it within the truck bay and the toilet room sink. Given the nature of the functions preformed within this facility and the need to wash up it is recommended that this unit be changed to a larger preferably gas unit for quicker recovery time.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is a complete fire protection system (sprinklers) currently installed at the facility. All areas of the building appear to be covered. A back flow protection device including all valves and fire alarm system monitoring appear to be present at the service entry point which is located at the far end of the building to the rear of the garage along with the water service, the service appears to be an 8" incoming line.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by a combination of different systems including gas fired unit heaters and gas fired roof top heating and ventilating units. The open garage areas are served by a combination of ceiling hung gas fired unit heaters and roof top heating and ventilating units all appear to be in good condition. The office areas are served by roof top units
2. Exhaust systems servicing the garage areas are via both the rooftop H&V units and thru wall exhaust fans.
3. The existing temperature control system in the building is functioning well with no noted problems by the users.

D. ELECTRICAL NARRATIVE

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 800 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the buildings main electric room. The service equipment consists of an underground feed to exterior utility metering equipment located on the main electric rooms' exterior wall. An 800amp main switchboard section and a distribution panel which feeds all the buildings equipment and/or subpanels. All of the main distribution equipment service equipment is newer and in very good condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are newer and believed to be original to the facility's renovation in (2003). The condition of these panel boards is all very good. The majority of the panel boards do have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of recessed 2'x2' lensed troffers in the office and common areas and pendent mounted high bay fluorescent down lights in the garage/storage areas. The lighting throughout the facility is newer and in very good condition utilizing the current T-8 and compact fluorescent lamping technology. The light levels appear to be within recommended levels.
4. The fire alarm system is a Gamewell addressable system. There are manual fire alarm pull stations, horn strobes located throughout the building. Heat and smoke detectors are present with the office and common areas of the building. Smoke duct detectors are provided in the roof top units of the garage bay units. It was noted by building personnel during the walk-thru that the system had been problem free.
5. Site lighting is accomplished via building mounted wall packs which appear to be in very good condition.
6. There is an exterior natural gas fired standby generator. It is a manual transfer unit and was installed within 5-7 years and has been problem free. This unit serves the lighting throughout and the heating of the building.
7. Life safety emergency lighting is provided emergency battery units, these units are in very good condition.

8. Battery powered exit lighting is installed throughout, and is in very good condition.
9. There was no intrusion detection system installed in the building.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (30+ years old), to as recent as 1-2 years old. The HVAC systems throughout are newer (2003 renovation) in good to very good condition and are operating without any noted problems.

Plumbing systems are all in good physical condition and seem to be in good working order as well as meet the needs of the facility personnel. Replacement of the small electric water heater to meet the usage demand should be implemented. Automatic flush valves should be installed on toilets as a water conservation measure.

The Electrical systems appear to be in good condition. With no immediate recommendations for upgrades or replacement. The lighting systems are newer and in good condition. Fire alarm system is also newer and in good condition with all areas being covered. Existing exits and emergency lighting units are in good condition and the facility is adequately covered.

Stoughton MA

Capital Needs Survey Form

Plublic Works (1960)

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (13,800sf)				**1960/2003**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		B	C												
Pole Mounted Fixtures		B	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		B	A												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		B	C												
Water Distribution System		B	C												
Plumbing Drainage System		B	B												
Storm Drainage System		B	D												
Heating/Cooling Piping System		B	C												
Plumbing Fixtures / Equipment		C	C						1	7500					lavatories faucets and toilets w/auto
Water Heaters		C	C				1	2000							New larger water heater
Boiler / Furnaces / Accessories		B	B												
Ventilation Systems		B	B												
Ductwork/Accessories		B	D												
Mechanical Insulation		B	C												
Air Handling Systems		B	B												
Exhaust Systems		B	B												
Control Systems		B	B												
Heating Fuel Systems		B	C												
Air Conditioning Systems		B	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		B	C												

Stoughton MA

Capital Needs Survey Form

Plublic Works (1960)

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Lighting - General		C	B												
Lighting - Exit/Emergency Lighting		B	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

DPW Building A

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$500	$0	$0	$3,000	$3,500
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$0	$1,400	$0	$0	$1,400
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$7,000	$0	$0	$7,000
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$15,000	$0	$0	$15,000
Electrical	$0	$0	$0	$0	$0	$0
Totals	$0	$500	$23,400	$0	$3,000	**$26,900**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Painted CMU		B	4												
Corrugated Fiberglass Panel on Exposed Metal Studs		A													
Corrugated Metal Panel on Metal Studs		C	4	Replace with Painted GWB	100 SF										
Painted GWB on Metal Studs		C	3	Patch, Repair and Repaint	1000 SF										
Painted Exposed Concrete Foundation		B	4												
Floors															
Sealed Concrete		A													
VCT		B	4												
Rubber Base		B	4												
Ceilings															
2x2 Acoustical Panels and Grid		B	4												
Corrugated Fiberglass Panel on Exposed Metal Studs		A													
Painted GWB		A													
Doors															
HM Doors & Frames		B	3	Replace doors in existing frames	3 Total (2) PR 3'-0" and (1) 3'-0"									3	3000
Insulated Steel Overhead Garage Doors		A													
Windows															
Insulated Glass in Aluminum Frames		A													
Built-ins															
Laminated Casework in Break Room		B	2	Modify case work at sink to be access	2 LF			LS	500						
Laminated Countertop in Break Room		B	4												
Stairs															
N/A															
Permanent Seating															
N/A															
Boards															
Pegboard		B	4	Replace deteriorated sheets	32 SF										
Lockers															
N/A															
Partitions															
N/A															
Glazing															
Ramps															
TOTALS							$0		$500		$0		$0	$3,000	**$3,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

DPW Building A

May 17, 2010

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Exposed Foundation Wall		A													
Stairs															
N/A															
Ramps															
N/A															
Loading Dock															
N/A															
Walls															
See Masonry Below		A													
Corrugated Metal Wall Panel on Metal Stud		A													
Concrete		A													
Exposed Bagged Insulation		A													
Decks															
Steel Roof Deck		A													
Columns															
Steel		A													
Painted Wood															
Masonry															
Painted CMU		A													
Wood															
P.T. Wood Ledger Boards		A													
P.T. Roof Trusses		A													
Metals															
Exposed Steel Structure		A													
Slabs															
Sealed Concrete		A													
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

DPW Building A

May 17, 2010

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
N/A															
Playgrounds															
N/A															
Sidewalks															
N/A															
Concrete															
Steel Reinforced Concrete Refueling Pad		A													
Asphalt Paving															
Bituminous Concrete Paving															
		C	2	Add crack Sealant	200 LF										
Metals															
Insulated, Corrugated, Metal Panel		A													
Metal Louvers		A													
Doors															
Metal in HM Frames		B	4	Replace man doors in original building											
Insulated Steel Overhead Garage Doors		A													
Windows															
N/A															
Railings															
N/A															
Masonry															
N/A															
Glazing															
N/A															
Signage															
N/A															
Fences/Gates															
Chain link Fences		A													
Galvanized Steel Gates		A													
Fiberglass															
Corrugated Fiberglass Reinforced Wall Panels		A													
Soffits & Cornices															
Metal Soffits		D	2	Strip and Repaint	400 LF					400	1400				
Fascias, Gutters & Downspouts															
Metal Fascia and Trim		A													
Steel Gutter and Downspout		A													
TOTALS							$0		$0		$1,400		$0		$0	**$1,400**

Item Covered on Other Worksheets

Rating Legend	Excellent = A			High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

DPW Building A

May 17, 2010

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

DPW Building A

May 17, 2010

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
No Equipment																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Insulated Standing Seam Metal Roof		A													
Decking															
Steel		A													
Insulation															
Fiberglass w/ Liner		A													
Flashing/Sheetmetal															
Metal		B	3	Replace/Repair flashing at all roof transitions and roof top units	200 LF					200	7000				
Ladders															
Steel		A													
Hatches															
One		A													
Panels															
Corrugated Fiberglass Reinfored		A													
Walkways															
N/A															
Curbs															
Prefabricated Metal		B	3	See flashing above											
Gutter/Downspouts															
Steel Gutters and Downspouts		A													
Metal Snow Guards		A													
Expansion Joints															
Metal Expansion Joint Cover		B	3	See flashing above											
TOTALS							$0		$0		$7,000		$0		$0	**$7,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Public Works Garage (2003)
Stoughton, Massachusetts
February 18, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the buildings domestic water needs. The water distribution system is original to the building.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers, hot water heater, the gas fired unit heaters in the truck bays and the roof top H & V units. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the facility. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:

   a. There are currently multiple above and below ground onsite fuel storage tanks. There are two 10,000 gallon tanks one diesel and one Gasoline that serve the fuel oil pumps for the town's vehicles. These are dual wall tanks and are inspected annually. The remaining tanks are for vehicle oil (new and used) in various weights and are located within the Public works Garage building 1960 and will be covered in that report in more detail.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted; with flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with flush valves.
   - Lavatories are wall hung vitreous china and are in good condition. Faucets are a combination of single lever handle and two lever handles some of which were noted as having been damaged and should be replaced.

- Drinking fountains are surface mounted stainless steel units. Most appear to be ADA compliant, and are in good condition.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water is generated by a single 125 gallon gas fired hot water tank located in the boiler room. The unit appears new and in good condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is a complete fire protection system (sprinklers) currently installed at the facility. All areas of the building appear to be covered. A back flow protection device including all valves and fire alarm system monitoring appear to be present at the service entry point which is located in the boiler room.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by a combination of different systems including a hot water boiler, gas fired unit heaters and gas fired roof top heating and ventilating units. The boiler is an H. B. Smith with its burner currently operating on Natural gas and is located in the boiler room on the first floor level and serves the fin tube radiation in the two story office and command center portion of the building. This boiler is newer and is in very good condition. The open garage and caged storage areas are served by a combination of ceiling hung gas fired unit heaters and roof top heating and ventilating units all appear to be in good condition.
2. Exhaust systems servicing the garage and storage areas are via both the rooftop H&V units and thru wall exhaust fans.
3. The existing temperature control system in the building is functioning well with no noted problems by the users.

4. The two story office and control center space as well as the adjacent lounge area are served by rooftop heating and are conditioning units. No thru the wall/window AC units were noted to be in use and no problems were noted by the users.

D. ELECTRICAL NARRATIVE

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 400 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the buildings main electric room. The service equipment consists of an underground feed to exterior utility metering equipment located on the main electric rooms' wall. A 400amp GE Spectra series main switchboard section and a distribution panel which feeds all the buildings equipment and /or subpanels. All of the main distribution equipment service equipment is newer and in very good condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are newer and believed to be original to the facility (2003). The condition of these panel boards is all very good. The majority of the panel boards do have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of recessed parabolic 2'x2' and lensed troffers in the office and common areas and surface/pendent mounted Industrial fluorescents in the garage/storage areas. The lighting throughout the facility is newer and in very good condition utilizing the current T-8 lamping technology. The light levels appear to be within recommended levels.
4. The fire alarm system is a Gamewell addressable system. There are manual fire alarm pull stations, horn strobes located throughout the building. Heat and smoke detectors are present with the office and common areas of the building. Smoke duct detectors are provided in the roof top units of the garage bay units. It was noted by building personnel during the walk-thru that the system had been problem free.
5. Site lighting is accomplished via building mounted wall packs which appear to be in very good condition.
6. There is an exterior natural gas fired standby generator. It is manufactured by Stamford is rated 45KW 240V 1-phase and is a manual transfer unit. It appears older but looks to be in very good condition and was noted as operating problem free. This unit serves the

lighting throughout the office portion of the building as well as the power within the command center and the controls and power to the fuel tank pumps.

7. Life safety emergency lighting is provided emergency battery units, these units are in very good condition.
8. Battery powered exit lighting is installed throughout, and is in very good condition.
9. There is currently a vulcain intrusion detection system installed in the building which monitors entry points into the building.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (7+ years old), to as recent as 1-2 years old. The HVAC systems throughout are in good to very good condition and are operating without any noted problems.

Plumbing systems are all in good condition and seem to be in good working condition as well as meet the needs of the facility personnel. Replacement of some faucets which have been damaged due to the high level of use given the function of the facility should be implemented. Automatic flush valves should be installed on toilets and urinals as a water conservation measure.

The Electrical systems appear to be in good condition. With no immediate recommendations for upgrades or replacement. The lighting systems are newer and in good condition. Fire alarm system is also newer and in good condition with all areas being covered. Existing exits and emergency lighting units are in good condition and the facility is adequately covered.

Stoughton MA

Capital Needs Survey Form

Public Works 2003

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (16,000sf)				**2003**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		B	C												
Pole Mounted Fixtures		B	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		B	A												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		B	C												
Water Distribution System		B	C												
Plumbing Drainage System		B	B												
Storm Drainage System		B	D												
Heating/Cooling Piping System		B	C												
Plumbing Fixtures / Equipment		B	C						1	15000					lavatories faucets, toilets and urinals w/auto
Water Heaters		B	C												
Boiler / Furnaces / Accessories		B	B												
Ventilation Systems		B	B												
Ductwork/Accessories		B	D												
Mechanical Insulation		B	C												
Air Handling Systems		B	B												
Exhaust Systems		B	B												
Control Systems		B	B												
Heating Fuel Systems		B	C												
Air Conditioning Systems		B	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		B	C												

Stoughton MA

Capital Needs Survey Form

Public Works 2003

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Lighting - General		B	B												
Lighting - Exit/Emergency Lighting		B	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		B	B												
Technology Systems		B	B												

Cedar Hill Club House

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$3,600	$4,350	$0	$7,950
Structure	$0	$15,000	$0	$7,200	$0	$22,200
Exterior	$0	$0	$0	$0	$9,050	$9,050
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$7,000	$0	$0	$7,000
Electrical	$0	$0	$14,708	$0	$0	$14,708
Totals	$0	$15,000	$25,308	$11,550	$9,050	**$60,908**

Cedar Hill Club House

May 17, 2010

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Metal Stud		A													
Wood Stud		A													
Fiberglass Sanitary Wall Panel		A													
Painted GWB		B	3	Patch and repair, repaint	200 SF							200	$2,000		
CMU		A													
Floors															
Hardwood		A													
VCT		C	3	Remove and replace	200 SF							200	$800		
Mosaic Floor Tile		A													
Glass Tile		A													
Rubber Base		A													
Sealed Concrete		A													
Carpet		B	3												
Epoxy Resin		A													
Ceilings															
Painted Decorative Wood Beams		A													
ACT		B	4	Replaced damaged and stained tiles	25 Tiles							200	$800		
Doors															
Wood Stud and Plywood Doors in Wood Frames		B	4	Install diagonal bracing and replace hinges	1							1	$750		
Six Panel Wood Door in Wood Frame		C	3	Remove and replace with commercial grade door	1					1	$750				
Windows															
Shellacked Wood Window Sills		A													
Insulated Glass in Steel Storefront		A													
Insulated Glass in Steel Frames		A													
Built-ins															
Vinyl Laminate Countertops															
Panelized Wood Casework and P-lam Counterops		A													
Stairs															
Permanent Seating															
N/A															
Boards															
N/A															
Lockers															
N/A															
Partitions															
Steel Toilet Partitions		C	3	Replace rusted partitions	3 Partitions					3	$2,850				
Glazing															
N/A															
Ramps															
TOTALS							$0		$0		$3,600		$4,350		$0	**$7,950**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

Cedar Hill Club House

May 17, 2010

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Concrete Foundation Wall		C	3	Patch and repair, repaint	100 % of North, East, and South Elevations							3,000	$4,500		
Stairs															
Painted Open-Tred Steel		D	2	Replace with compliant egress stair	2			1	$15,000						
Ramps															
Accessibility Ramp at Main Entry		B	3	(Verify slope conforms to 1:12)											
Loading Dock															
N/A															
Walls															
See Masonry Below															
Decks															
N/A															
Columns															
Wood															
Painted Wood		B	3	Repaint	(8) 4x4s							LS	$1,500		
Concrete		B	3	Patch and repair	5 SF								$1,200		
Masonry															
Painted CMU		C	3	Repaint	100 % of North, East, and South Elevations										
Metals															
Steel Beams															
Slabs															
Sealed Concrete		A													
Wood															
Wood Frame Roof Trusses		A													
TOTALS							$0		$15,000		$0		$7,200		$0 **$22,200**

Item Covered on Other Worksheets

Rating Legend	Excellent = A	High = B	Medium = C	Low = D
Priority Legend	1 Health & Safety	2 High Priority	3 Medium Priority	4 Low Priority

Cedar Hill Club House

May 17, 2010

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
N/A															
Fields															
N/A															
Playgrounds															
N/A															
Sidewalks															
Asphalt Paving		3	B	Patch and repair cracking	150 SF									150	$500
Concrete			A												
Asphalt Paving															
Sand and Gravel Mix (Parking)		3	B												
Asphalt		3	B	Patch and repair cracking	500 SF									500	$500
Metals															
Steel Strapping over East-Facing Windows		3	C	Strip and repaint	17 Pieces									LS	$500
Doors															
Coiling Galvanized Steel		3	C	Strip and repaint door housing	6 Units									LS	$200
Windows															
Insulated Glass in Steel frame			A												
Railings															
Painted Steel		3	C	Strip and repaint	50 LF									LS	$50
Masonry															
Painted Brick Window Sills		3	C	Repaint	6									6	$600
Brick Vineer			A												
Painted CMU		3	C	Repaint										LS	$2,000
				Install compressable sealant at expan	16 LF										
Glazing															
N/A															
Signage															
N/A															
Fences/Gates															
PVC			A												
Soffits & Cornices															
Painted Wood		3	C	Repaint	600 SF									600	$1,200
Vinyl Siding			A												
Fascias, Gutters & Downspouts															
Metal Fascia		3	B	Replace missing and damaged pieces	100 LF									100	$3,500
Steel Gutters and Downspouts			A												
TOTALS							$0		$0		$0		$0		$9,050	**$9,050**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Cedar Hill Club House

May 17, 2010

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Cedar Hill Club House

May 17, 2010

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Food Service																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Cedar Hill Club House

May 17, 2010

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Fiberglass Shingles		A													
Decking															
Plywood		B	3												
Insulation															
Batt Insulation															
Flashing/Sheetmetal															
Break Metal Fascia and Ridge Cap		B	3												
Aluminum															
Bituthane															
Ladders															
N/A															
Hatches															
N/A															
Panels															
N/A															
Walkways															
N/A															
Curbs															
Metal															
Gutter/Downspouts															
Steel Gutters and Downspouts		A													
Expansion Joints															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Cedar Hill Club House
Stoughton, Massachusetts
February 25, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 1" inch domestic water service located within the basement utility space. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the buildings domestic water needs. The water distribution system is original to the building.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boiler, bar room HVAC unit, hot water heater and select kitchen cooking equipment. This service enters the rear of the building at the basement utility room.
3. Sanitary:
   a. Existing Sanitary Service: The facilities sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the facility. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building via a sewage ejector pump and tying into the Facilities Septic system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor mounted; tank type, vitreous china.
   - Urinals *are* wall mounted vitreous china, with auto flush valves.
   - Lavatories are wall hung vitreous china. Faucets are two lever handle type.
   - Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are in good condition.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water is generated by a single 50 gallon gas fired hot water heater. The unit is new 2-3 years old and in very good condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by two hot water boilers, some electric baseboard heat and a combined heating and cooling unit. The two boilers are located in the basement one is and serve the basement area. One of these two boilers is new, 3-4 years old, and the second has been abandoned in place and is not required to heat the space. Electric baseboard radiation is utilized in a few small office areas. The upstairs bar area is serviced by a combination heating and cooling unit cooling is provided via an exterior mounted Carrier condensing unit. All equipment appears to be newer and in good condition with no noted problems.

2. The existing temperature controls in the school are electronic thermostats these appear newer and in good condition are older.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition

4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 400 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the basement utility room. The service equipment consists of utility company pole mounted transformers, an underground feed to utility metering equipment a 400amp main circuit breaker distribution panel located in the lower level utility room. The predominance of the main distribution equipment service equipment is new and in good condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are newer panels that have been added at the time of various building additions/renovations and on an as-needed basis. The condition of these panel boards is good. The majority of the panel boards have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of surface mounted 2 lamp strip fluorescent fixtures in the basement utility spaces and 2' x 4' 4-lamp acrylic lens troffers in the upper level with some incandescent track lighting. The lighting throughout the facility is older and in good/fair condition. The light levels appear to be within recommended levels.
4. The fire alarm system is an ELS Sentrol 1500 series zoned system. There are manual fire alarm pull stations, horn strobes located throughout the building. Heat and smoke detectors are present throughout. It was noted by operations personnel during the walk-thru that the system had been problem free.
5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights both appear to be in good condition.
6. There is no on site emergency standby generator.
7. Life safety emergency lighting is provided via emergency battery units with unit mounted light heads. These units are newer and in good condition.
8. Battery powered exit lighting is installed throughout, and is in good condition.
9. There is currently a Security system including door monitoring at the main doors and motion sensor detection devices throughout.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the buildings most recent renovation (15 years old), to as recent as 2-3 years old. Heating systems are newer and in good condition.

Plumbing systems are in good physical and working condition. Replacement of faucets to automatic units should be implemented as a water conservation measure, as well as the addition of auto flush valves to urinals.

The Electrical systems appear to be newer and in good condition. The lighting systems are older and should be replaced with newer more efficient fixtures utilizing the latest lamping

and ballasting configurations in order to improve energy efficiency. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system is in good operating condition. Existing exits and emergency lighting units newer and in good condition.

Stoughton MA

Capital Needs Survey Form

Cedar Hill Club house

2-25-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (3,922sf)				**1965/95**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		B	A												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		C	C												
Plumbing Fixtures / Equipment		C	C						1	7000					lavatories faucets and urinals w/auto
Water Heaters		B	C												
Boiler / Furnaces / Accessories		A	B												
Ventilation Systems		C	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Air Handling Systems		C	B												
Exhaust Systems		C	B												
Control Systems		C	B												
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		B	C												
Lighting - General		C	B						1	14708					New lighting & auto controls

Stoughton MA

Capital Needs Survey Form

Cedar Hill Club house

2-25-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Lighting - Exit/Emergency Lighting		C	A												
Grounding and Bonding		B	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

Mechanical and Electrical Systems
Existing Conditions Narrative

Town Library
Stoughton, Massachusetts
February 25, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valve. This water service currently serves all of the buildings domestic water needs. The water distribution system is original to the building and each subsequent addition/renovation.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers. This service enters the rear of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor mounted; with flush valve, vitreous china.
   - Lavatories are wall hung vitreous china. Faucets are of the two lever handle type.
   - Drinking fountains are surface mounted stainless steel units.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water is generated by a single 30 gallon electric hot water heater. The unit appears in good condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by a Weil McLain steam boiler. The boiler burner currently is operating on Natural gas. This boiler is approximately 40 years old and in fair/poor condition, although no problems were noted its useful life expectancy has already been exceeded.
2. The present Heating and ventilating systems consist of closet mounted air handler units. These H&V units and include a supply air component. The mechanical equipment is located primarily on exterior walls and in various indoor mechanical spaces within the building. The air-handling units have heating and cooling coils, filter sections and exhaust fans.
3. The H&V Units appear original to the building and are manufactured by Carrier. They have begun to fail and repairs are becoming more frequent as they have already exceeded their useful life.
4. The existing chiller is manufactured by Carrier and is believed to be original to the building and is in fair/poor condition. This equipment has already exceeded is useful life expectancy.
5. The existing temperature controls in the library are pneumatic thermostats. The temperature control system air compressor is located in the Boiler Room and includes an air dryer and is new and in good condition. Thermostats and pneumatic tubing are older and problems with leaks will become more frequent and should be replaced.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 800 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the boiler room. The service equipment consists of utility company transformer, an underground feed to utility metering equipment an 800amp main disconnect switch and distribution panel located in the boiler room. The predominance of the main distribution equipment service equipment is older and in good/fair condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are newer panels. The condition of these panel boards is good with the exception of some which are older and should be replaced. The majority of the panel boards do have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of newer surface mounted 2 lamp wraparound fluorescent fixtures and older surface mounted 2' x 2' parabolic on the main level. The lighting on the upper level consists mainly of older 2' x 4' lensed troffers. The light levels appear to be within recommended levels.
4. The fire alarm system is an FCI single zone system with all devices connected to the single zone. It was noted by library personnel that this has been a problem when the fire department responds to an alarm in determining what and where the problem is. There are manual fire alarm pull stations, horn strobes located throughout the building. Heat and smoke detectors are both present on the lower main level and older heats only on the upper level.
5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted flood lights both appear to be in good condition.
6. There is no on site emergency standby generator.
7. Life safety emergency lighting is provided via emergency battery units with light heads. These units are in good condition.
8. Battery powered exit lighting is installed throughout, these units are in poor condition.
9. There is currently a Ranger 8600 intrusion detection system with motion detectors throughout the system does not include CCTV cameras which is desired by operational personnel

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building (40 years old), to as recent as 5-7 years old. Some equipment such as the boiler, the pneumatic control system tubing and the AHU's have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems seem to be in good physical and working condition. Replacement of faucets to automatic units should be implemented as a water conservation measure.

The Electrical systems appear to be in good condition. The lighting systems are a mix of newer and older fixtures. The older fixtures should be replaced with newer more efficient fixtures utilizing the latest lamping and ballasting configurations in order to improve energy efficiency. The addition of automated lighting controls where appropriate should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system should be upgraded to add smoke detectors and multi-zoning. Existing exits should be replaced in order to ensure the reliability of these systems in case of an emergency.

Stoughton MA

Capital Needs Survey Form

Town Library

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (22,000sf)				**1969**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B				1	10500							Add CCTV at doors
Fire Alarm Systems		E	A				1	33000							New Fire alarm system
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		D	C												
Plumbing Fixtures / Equipment		C	C						1	6000					lavatories faucets w/auto
Water Heaters		B	C												
Boiler / Furnaces / Accessories		E	B				1								included below
Ventilation Systems		D	B												
Ductwork/Accessories		D	D												
Mechanical Insulation		D	C												
Air Handling Systems		E	B				1	396000							New HVAC Systems
Exhaust Systems		D	B												
Control Systems		D	B												included above
Heating Fuel Systems		C	C												
Air Conditioning Systems		E	D												
Compressed Air Equipment		B	C												included above
Electrical															
General Electrical (Starters, VFD's, etc…)		C	C												
Electrical Service / Distribution		C	C										1	33000	upgrade select distribution equipment

Stoughton MA

Capital Needs Survey Form

Town Library

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Lighting - General		C/D	B						1	110000					New lighting & auto controls
Lighting - Exit/Emergency Lighting		D	A		1	44000									New Exit and Emg. Batt units
Grounding and Bonding		B	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

Fire Station #1

May 17, 2010

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$4,500	$0	$41,000	$45,500
Structure	$48,000	$0	$0	$0	$0	$48,000
Exterior	$0	$0	$17,600	$0	$12,950	$30,550
Conveyance	$0	$0	$100,000	$0	$0	$100,000
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$12,750	$0	$500	$0	$0	$13,250
Spec. Constr.	$14,400	$0	$0	$0	$0	$57,600
Mechanical	$0	$156,200	$30,000	$0	$0	$186,200
Electrical	$28,800	$0	$72,000	$0	$36,000	$223,200
Totals	$103,950	$156,200	$224,600	$0	$89,950	**$574,700**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Wood Paneling		C	3	Remove and replace with painted GWB	500 SF										
Painted Brick		C	3	Clean and prepare surface, repaint	All oringinal vehicle bays and control center										
Painted CMU		B	3	Clean and prepare surface, repaint	All added vehicle bays										
Unidentified Sheet Good															
Painted Stucco		B	3	Repaint	All common dormitory areas										
Painted Wood Siding		B	3	Repaint											
Painted GWB				Clean, patch, and repair. Repaint	All dormitory areas									5000	17500
Floors															
Rubber Tile		D	3	Remove and replace	All dormitory areas									1000	7500
Sealed Concrete		D	2	Remove and replace with thickened slab at original vehicle bays	3000 SF										
Painted Concrete		C	3	Clean and prepare surface, repaint	300 SF at Toilet/Shower Room									300	1200
Resilient Base		C	3	Remove and replace	All dormitory and stair locations									LS	250
Epoxy Resin		B	3												
VCT															
Vinyl Base		C	3	Reomve and replace with resilient base	at Stair									LS	300
Brick			4												
Ceilings															
Painted GWB				Remove and replaced damaged sections, repaint	200 SF									LS	1500
ACT				Remove and replace damaged tiles	50 Tiles									LS	250
Painted Cedar Floor and Roof Deck		B	3	Clean and repaint	2400 SF										
Stained Cedar Floor and Roof Deck		B	3												
Doors															
Steel Doors in Wood Frames		C	3	Remove and replace with metal doors in HM frames										3	3750
		D	1	Add Automatic openers and closers											

INTERIORS (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Steel Door in HM Frame		D	1	Replace knob hardware with lever hardware											
		D	1	Add Automatic openers and closers						1	4500				
Wood Door in Wood Frame		C	3	Remove and replace with metal doors in HM frames										3	3750
		D	1	Add Automatic openers and closers											
Windows															
Shellacked Wood Window Sills		B	3												
Translucent Glazing in Painted Wood Frames		B	3												
Insulated Glass in Aluminum Storefront		A													
Built-ins															
Resisdential Grade Wood Casework		B	4												
Laminated Countertops		B	3												
Painted Wood Shelving		B	3												
Shellacked Wood Shelving		B	3												
Wood Booth		B	3												
Metal Vented Shelving		B	3												
Wood Staff Mailboxes		B	3												
Stairs															
Concrete		A													
Steel handrail		C	2	Remove flaking paint and repaint. Install compliant handrail both sides of stair.										LS	2500
Wood Handrail		C	2	Remove and replace existing handrail. Install new handrail opposite side.										LS	2500
Permanent Seating															
N/A															
Boards															
Tackboard in Wood Frames		B	4												
Lockers															
12"Wx72"H Steel		B	4												
Partitions															
Glazing															
Clear Glass in Wood Frames		B	4												
Ramps															
N/A															
TOTALS							$0		$0		$4,500		$0		$41,000	**$45,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Concrete																
Pre-cast Concrete Cornices, Lintels, Window Sills		D	2	Patch and Repair Damaged Pieces												
Exposed Concrete Foundation Wall																
Stairs																
Concrete		D	1	Remove and replace handrails to comply with ADA	32 LF	32	4000									
Steel Open-Tread Egress Stair		C	3	Remove flaking paint and repaint		LS	2000									
Ramps																
N/A																
Loading Dock																
N/A																
Walls																
See Masonry Below																
Wood Frame with variety of surface finishes																
Painted Concrete																
Decks																
Stained Cedar Floor and Roof Decking		B	3													
Painted Cedar Floor Decking		B	3	Remove flaking paint and repaint	150 SF											
Form Board		B	3													
Columns																
Exposed Painted Wood Beams																
Masonry																
Painted CMU																
Painted Brick																
Brick Window Sills		A														
Wood																
Painted Wood Beams																
Metals																
Steel Bar Joists		A														
Steel Bulb Tees		A														
Slabs																
Sealed Concrete		D	2	Remove and replace with thickened slab at original vehicle bays	3000 SF	3000	42000									
TOTALS							$48,000		$0		$0		$0		$0	**$48,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Sidewalks															
Concrete		B	3	Patch and repair										LS	2500
Asphalt Paving															
N/A															
Metals															
Metal Parapet Caps		B	3												
Doors															
Metal Door in HM Frame		C	2	Remove and replace all exterior doors	3					3	4500				
Insulated Steel Overhead Garage Door				Repaint	7										
Windows															
Insulated Glass in Aluminum Frames		D	1	Lower to accessible height	1					1	1500				
Storefront with Aluminum Mullions		B	3												
Insulated Glazing in Steel Frame		B	3	Remove and replace with pair of operable casement windows at each location.	4					4	5200				
Single Glazed Window in Steel Frame		D	2	Remove and replace with insulted glass in metal frames.	4					4	5200				
Railings															
Painted Steel		C	3	Remove flaking paint and repaint	12 LF									LS	250
Masonry															
Brick				Repoint	20% of total surface area									ALLOWANCE	10000
Glazing															
Wood															
Exposed, Unfinshed Plywood at Window A/C Units		D	2	Remove. See HVAC notes for air-handling and thermal confort recommendations.	10										
Signage															
Fences/Gates															
Soffits & Cornices															
Pre-cast Concrete Cornices, Lintels, Window Sills		D	2	Patch and repair damaged pieces, repaint											
Painted Soffit Board		B	3	Repaint	10 SF									10	200

EXTERIOR (con't)	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Ramps																
		D	1	Ramp required at main entry for accessiblity (approx. 4" rise)						LS	1200					
Fascias, Gutters & Downspouts																
Metal Fascia		B	3													
Steel Scuppers and Downspouts		B	3													
TOTALS							$0		$0		$17,600		$0		$12,950	**$30,550**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
None		D	2	Add elevator	1					1	$100,000					
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$100,000		$0		$0	**$100,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
No Equipment																
TOTALS							$0		$0		$0		$0		$0	**$0**

▨ Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Membrane																
Rubber Membrane Roofing		D	1	Remove and replace roofing at low roof between vehicle bays	1200 SF	1200	$12,000									
				All roofing is at least 30 years old and likely due for replacement.												
Decking																
P.T. Wood Recreational Deck		C	2	Remove and replace with appropriate structure for roofing below.	150 SF	150	$750									
Tongue and Groove Cedar Decking		B	3	Repair low roof between vehicle bays during roof replacement.												
Insulation																
Flashing/Sheetmetal																
Metal Parapet Caps		B	3													
Metal Though-wall Flashing		B	3													
Membrane Flashing		C	2	Replace all membrane flashing at curbs, parapet walls, and roof transitions with new roof												
Ladders																
Steel		C	3	Remove rust and flaking paint, repaint						LS	$500					
Hatches																
N/A																
Panels																
N/A																
Walkways																
N/A																
Curbs																
See Flashing Above																
Gutter/Downspouts																
Steel Scuppers and Downspouts		B	3													
Expansion Joints																
Metal expansion joint covers		B	3													
TOTALS							$12,750		$0		$500		$0		$0	**$13,250**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | $2 High Priority | $3 Medium Priority | 4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Fire Station # 1
Stoughton, Massachusetts
February 18, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 1-1/2" inch domestic water service located within the boiler room in the basement. The domestic water service equipment includes a water meter and isolation valve. This water service currently serves all of the buildings domestic water needs. The water distribution system is original to the building.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers, hot water heaters and select kitchen equipment. This service enters the front of the building at the boiler room.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the facility. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:

   a. There is a small exterior 150 gallon above ground tank next to the repair bay utilized to store oil for truck oil changes.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor mounted; residential tank type, vitreous china.
   - Urinals are wall mounted vitreous china, with flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a two lever handles. Some units were noted as being very old and should be replaced.
   - Drinking fountains were wall mounted electric water coolers.
   - Janitor's mop sinks are floor mounted plastic basins with 2 handle faucets. This basin and in fair condition.

- It was noted that the floor drain system in the apparatus bays has been an ongoing issue with the drains backing up and not draining properly. It is believed to be caused by the drains being clogged. These drain basins should be cleaned out and the pipes cleaned.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The facilities domestic hot water is generated by a single gas fired 40 gallon hot water heater located in the boiler room. The unit appears in good/fair condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by a single hot water boiler. The boiler is a Burnham with the burner currently operating on Natural gas. The boiler appears in good condition and was noted by personnel as operating without any noted problems, although problems were noted with regulating the heat throughout the building
2. The present Heating and Ventilating systems consist of finned tube radiation, ceiling hung hot water unit heaters in the apparatus bays and exhaust systems.
3. Exhaust systems servicing the apparatus bays utilize a Plymo vent type system with exhaust drops for connection to the trucks this system is newer and in good condition.
4. The existing temperature controls in the building are low voltage thermostats, are older and may be part of the heat regulation problem within the office and living areas of the station.
5. Some thru the wall/window AC units exist in the building.

6. Heating system hot water pumps (2) were noted as being in good condition with one appearing very new.

7. The older abandoned in place apparatus bay exhaust fan was noted as running drawing warm air out of the apparatus bays and should disabled.

8. Ventilation of the living quarter's portion of the building is via operable windows allowing natural ventilation.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 400 amperes, 240/120volts, 1-phase, 3-wire and is located in the boiler room. The service equipment consists of a 400 amp main service disconnect, utility company metering equipment and distribution panel located all located in the boiler room in the basement. The predominance of the main distribution equipment service equipment is new and in good condition.
2. There are a number of electrical panels located throughout the facility. These panel boards are old C. E. Sherman panels believed to be original to the facility and are in poor condition. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of surface mounted 2 lamp wraparound fluorescent fixtures these fixtures are in poor condition. The lighting in the apparatus bays consists of strip fluorescent fixtures that appear to be newer and in good condition. The light levels appear to be within recommended levels for the apparatus bays but insufficient for the remainder of the facility.
4. Lighting in the basement was predominantly Incandescent as well as a number of incandescent fixtures on the second floor
5. The fire alarm system is a Gamewell Zans zoned system. There are manual fire alarm pull stations, horn strobes but these appear to be insufficient for the building. Heat and smoke detectors are located throughout.
6. Site lighting is accomplished via building mounted fixtures at the doorways and the apparatus bay doors these appear adequate to be in good condition with the exception of one fixture at the side door which was broken.

7. There is an interior natural gas fired emergency standby generator located in the basement. It is newer 5+/- years old 60KVA Generac unit and is in good condition. The generator supplies the lighting throughout the facility.
8. Life safety emergency lighting is provided via the facilities lighting fixtures being wired to the emergency power generator source.
9. Exit lighting is minimal and in poor condition.
10. There is currently no security system installed at the facility as it is manned 24/7.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building reopening 1970, to as recent as 5-7 years old. Some systems such as the thermostat controls are older and not functioning as intended making temperature regulation difficult.

Plumbing systems although older seem to be in good working condition. Replacement of fixtures throughout as well as including faucets, urinals and toilets with automatic units should be implemented as a water conservation measure.

The Electrical systems appear to be in good condition however the older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to the existing circuitry. The lighting systems are older and should be replaced with newer more efficient fixtures utilizing the latest lamping and ballasting configurations in order to improve energy efficiency. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs when the lighting is upgraded. Fire alarm system should be replaced and should include sufficient notification devices. Existing exits should be replaced and new units added in order to provide sufficient coverage.

Stoughton MA

Capital Needs Survey Form

Fire Station # 1

2-18-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (14,400sf)				**1927/70**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Site - Gas		C	D												
Site - Water		C	D												
Special Construction															
Fire Alarm Systems		E	A		1	14400									New F/A system
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D				1	5000							Clean bay drains
Heating/Cooling Piping System		D	C												
Plumbing Fixtures / Equipment		C	C						1	30000					New sinks,urinals w auto flush
Water Heaters		C	C												
Boiler / Furnaces / Accessories		C	B				1	129600							new boiler and heating system
Ventilation Systems		D	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		E	B				1	21600							New heating controls
Heating Fuel Systems		C	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		C	C												
Electrical Service / Distribution		D	C										1	36000	New electric distribution equipment
Lighting - General		D	B						1	72000					New lighting & auto controls
Lighting - Exit/Emergency Lighting		D	A		1	28800									New Exit and Emg. Batt units
Grounding and Bonding		C	A												
Packaged Engine Generators		C	A												

Stoughton MA

Capital Needs Survey Form

Fire Station # 1

2-18-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Overhead Electrical Distribution		C	C												
Communication Systems		C	B												
Technology Systems		C	B												

Fire Station #2

May 17, 2010

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$0	$0
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$0	$0	$0	$0	$0
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$0	$0	$0	$0
Electrical	$0	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$0	$0	**$0**

Facility was under repair at the time of observations. No significant additional investment is expected.

Council on Aging

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$0	$0
Structure	$3,200	$0	$0	$0	$0	$3,200
Exterior	$6,800	$0	$0	$0	$0	$6,800
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$500	$0	$0	$0	$500
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$7,000	$0	$0	$7,000
Electrical	$0	$0	$15,000	$0	$0	$15,000
Totals	$10,000	$500	$22,000	$0	$0	**$32,500**

Council on Aging

May 17, 2010

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Vinyl Wall Laminate		A													
Single-glazed Wood Storefront Systems		A													
Painted GWB		A													
Floors															
VCT		A													
Carpet		A													
Ceramic Tile		A													
ACT		A													
Sealed Concrete		A													
Resilient Base		A													
Quarry Tile		A													
Wood Trim		A													
Ceilings															
ACT		A													
Painted GWB		A													
Doors															
Wood Door in HM Frames		A													
Metal in HM Frames		A													
Aluminum in HM Frames		A													
Windows															
Single Glazing in Wood frame Storefront		A													
Fixed Glass in HM Frames		A													
Built-ins															
Wood Casework with P-Lam Countertops		A													
P-Lam Countertop and Backsplash		A													
P-Lam Book Cases		A													
Stairs															
Pre-fabricated metal ships ladder		A													
Permanent Seating															
N/A															
Boards															
Marker Board		A													
Lockers															
Two-Tier P-Lam Lockers		A													
Partitions															
Operable Acoustical Partition		A													
P-Lam Toilet Partitions		A													
P-Lam Sight Screens		A													
Glazing															
See Windows Above															
Ramps															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Concrete																
Exposed Conrete Foundation Wall		A														
Concrete Piers		A														
Stairs																
Ramps																
Loading Dock																
Walls																
Wood Stud		A														
Metal Stud		A														
Decks																
Plywood Roof Decking		A														
Columns																
Wood																
Painted Wood		D	2	Scrape flaking paint, inspect for water damage and repaint.	12	LS	$1,000									
Masonry																
N/A																
Metals																
N/A																
Wood																
Wood Frame Trusses																
Exposed Exterior Painted Glue-LAM Horizontals		D	2	Scrape flaking paint, inspect for water damage and repaint.	40 ft	LS	$1,200									
Exposed P.T. Painted Wood Frame Beams		D	2	Scrape flaking paint, inspect for water damage and repaint.	32 ft	LS	$1,000									
Slabs																
Concrete		A														
TOTALS							$3,200		$0		$0		$0		$0	**$3,200**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend 1 Health & Safety 2 High Priority 3 Medium Priority 4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Landscape																
N/A																
Fields																
N/A																
Playgrounds																
N/A																
Sidewalks																
Concrete		A														
Crushed Stone		A														
Asphalt Paving																
Bitumous Concrete Paving		B	3	Patch cracking	500 SF											
Metals																
Aluminum Drip Edge																
Doors																
Steel Garage Door																
Windows																
Insulated Glass Aluminum Storefront				Replace window gasket	24 windows	24	2400									
Painted Wood Trim		D	2	Remove and replace water-damaged sills and trim boards	22 places	LS	400									
Railings																
N/A																
Masonry																
N/A																
Glazing																
N/A																
Signage																
N/A																
Fences/Gates																
Wood Frame and Siding Mechanical Screens		A														
Soffits & Cornices																
Aluminum Soffit		A														
Painted Wood		A														
Vent Screen		A														
Fascias, Gutters & Downspouts																
Painted Wood		B	3													
Wood																
P.T. Rear Canopy		D	2	Remove and replace with gabled canopy		LS	3000									
Stained Cedar Shingles		D	2	Remove 4 courses at exhaust surround, reflash and replace shingles	10 SF	LS	500									
				Repair shingles separating from exterior fascades	200 SF	ALLOWANC	500									
TOTALS							$6,800		$0		$0		$0		$0	**$6,800**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Council on Aging

May 17, 2010

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Food Service		A														
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Asphalt Shingles															
Fabric Canopy on Steel Frame		D	1	Remove and replace with wood frame construction											
Decking															
Plywood		A													
Insulation															
Batt Insulation		A													
Flashing/Sheetmetal															
Aluminum		A													
Membrane		B	3	Extend membrane flashing at exhaust surrounds	20 SF			LS	500						
Ladders															
N/A															
Hatches															
N/A															
Panels															
N/A															
Walkways															
N/A															
Curbs															
N/A															
Gutter/Downspouts															
N/A															
Expansion Joints															
TOTALS							$0		$500		$0		$0		$0	**$500**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Senior Center
Stoughton, Massachusetts
February 24, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 1-1/2" inch domestic water service located within the mechanical room at the rear of the building. The domestic water service equipment includes a water meter and isolation valve. This water service currently serves all of the buildings domestic water needs. The water distribution system is original to the building and appears in very good condition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the heat pumps, hot water heater and select kitchen equipment. This service enters the rear of the building at the mechanical room.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor mounted; with flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with flush valves.
   - Lavatories are wall hung vitreous china. Faucets are two lever handles.
   - Drinking fountains are surface mounted stainless steel units. Most appear to be in good condition.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The facilities domestic hot water is generated by a single 100 Gallon gas fired water heater. The unit appears new and in very good condition including the circulator pump.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is a complete fire protection (sprinklers) system in the facility. Coverage appears to cover all areas of the buildings. The system is complete with all back flow prevention devices and fire alarm system monitoring.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by a number of gas fired heat pumps located in the attic. These units are original to the building and appear to be in very good condition. They were noted by operating personnel to be operating problem free with no noted heating problems.
2. The existing temperature controls in the building are via programmable electronic thermostats, these units appear in very good condition and are operating problem free.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code

5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 400 amperes, 208Y/120volts, 3-phase, 4-wire and is located in a dedicated electric room at the rear of the building. The service equipment consists of utility company pole mounted transformers, an underground feed to exterior utility metering equipment a 400amp main circuit breaker distribution panel located in the main electric room. The main distribution equipment service equipment is new and in very good condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are newer GE panels believed to be original to the facility. The condition of these panel boards is very good. The majority of the panel boards do have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of recess mounted parabolic fixtures in office areas, and compact fluorescent down lights in corridor and some open areas. The lighting throughout the facility is in very good condition and utilizes the latest in lamping technology. The light levels appear to be within recommended levels.
4. The fire alarm system is a Zans 400 Gamewell zoned system. There are manual fire alarm pull stations, horn strobes located throughout the building. Heat and smoke detectors are present throughout the facility. It was noted by building personnel during the walk-thru that the system had been problem free.
5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted shoebox lights both appear to be in good condition.
6. There is no on site emergency standby generator.
7. Life safety emergency lighting is provided via emergency light battery units. These units are in very good condition.
8. Battery powered exit lighting is installed throughout, and is in very good condition.
9. There is an existing PA system in the main function room which appears newer and in very good condition.
10. There is currently a Ranger 8600E intrusion detection system including motion sensors located throughout.

E. MEP SYSTEMS CONCLUSION

In general, the systems all appear to be original to the building and are in very good condition with no problems noted.

Plumbing systems appear in good condition and working condition. Replacement of faucets to automatic units should be implemented as a water conservation measure. Auto flush valves should be added to toilets and urinals as a water conservation measure.

The Electrical systems appear to be in very good condition. The addition of automated lighting controls where not currently installed should be implemented in order to meet current energy codes and to save on energy costs.

Stoughton MA

Capital Needs Survey Form

Senior Center

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (6,000sf)				**2000**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		B	C												
Pole Mounted Fixtures		B	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		B	A												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		B	C												
Water Distribution System		B	C												
Plumbing Drainage System		B	B												
Storm Drainage System		B	D												
Heating/Cooling Piping System		B	C												
Plumbing Fixtures / Equipment		B	C						1	7000					lavatories faucets, toilets and urinals w/auto
Water Heaters		B	C												
Boiler / Furnaces / Accessories		B	B												
Ventilation Systems		B	B												
Ductwork/Accessories		B	D												
Mechanical Insulation		B	C												
Air Handling Systems		B	B												
Exhaust Systems		B	B												
Control Systems		B	B												
Heating Fuel Systems		B	C												
Air Conditioning Systems		B	D												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		B	C												
Lighting - General		B	B						1	15000					New lighting auto controls

Stoughton MA

Capital Needs Survey Form

Senior Center

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Lighting - Exit/Emergency Lighting		B	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		B	A												
Overhead Electrical Distribution		B	C												
Communication Systems		B	B												
Technology Systems		B	B												

Police Station

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$7,000	$0	$0	$7,590	$0	$14,590
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$6,250	$0	$0	$0	$6,250
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$59,500	$0	$0	$0	$59,500
Spec. Constr.	$15,000	$0	$0	$0	$0	$15,000
Mechanical	$35,000	$5,000	$15,000	$0	$0	$55,000
Electrical	$0	$0	$12,000	$0	$0	$12,000
Totals	$57,000	$70,750	$27,000	$7,590	$0	**$162,340**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Gypsum Drywall		B													
CMU		A													
Floors															
VCT/ 9"x9" & 12"x12"		B													
Rubber		C	3	Showing wear	612 sf							612	$4,590		
Carpet		B													
Epoxy Floor		C	3	Cracks need repair at Mechanical per	LS							LS	$3,000		
Ceramic Tile		A													
Sealed Concrete		B													
Ceilings															
Gypsum Drywall		B													
2 x 2 Acoustical Tile		B/D	2	Stained tiles at water leaks		LS	$500								
2x4 Acoustical Panels		B/D	2	Stained tiles at water leaks		LS	$500								
Exposed Metal Deck		B													
Doors															
Wood in HM frames		B													
HM Doors & Frames		B/D	1	warped, poor fit at few locations	6	6	$6,000								
OH roll-up doors		B													
Aluminum entrance doors		B													
Windows															
Aluminum Windows		B	2	air leaks at sealant?/or HVAC?											
Built-ins															
Wood/Plas. Lam. Casework		B													
Stainless Steel Cell equipment		B													
Stairs															
Metal pan		A													
Metal handrails		B													
Permanent Seating															
Boards															
Lockers metal		B													
Partitions															
Glazing															
Ramps															
TOTALS							$7,000		$0		$0		$7,590		$0	**$14,590**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Floor Slabs		A													
Foundations		A													
Stairs															
Concrete															
Ramps															
Loading Dock															
Conc. Slab		B													
Steel Edging															
Metal Roof		B													
Walls															
Decks															
Tectum															
Acous. Metal Pan															
Columns															
Steel		A													
Masonry															
Brick Exterior															
Glazed Block															
CMU															
Metals															
Bar Joists		A													
Slabs															
Concrete															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
		B													
Fields															
Playgrounds															
Sidewalks															
Concrete		D	1	Breaking up at joints under roof O.H.	600 SF			600	4500						
Concrete Stairs		B													
Concrete Pads		B													
Asphalt Paving															
Bituminous Paving		C	1	Repair at roof drip edge	500 SF			500	1750						
Doors															
Aluminum entrances		B													
HM Frames		C													
O/H Door		B													
Windows															
Aluminum		B													
Railings															
Painted Steel		B													
Masonry															
Brick		B													
Precast Concrete Caps		B													
Brick Chimney															
Glazing															
Translucent															
Polycarbonate															
Single Glazing															
Insulated Glass		A													
Solid Panels (Material?)															
Signage															
Fences/Gates															
Chain link Fences															
Galvanized Steel Gates															
Soffits															
Tectum/Steel															
Acoustiical Metal/Steel		B													
Painted Plywood															
Fiber Board															
Fascias															
Aluminum		B													
Painted Wood															
Painted T&G Wood															
TOTALS							$0		$6,250		$0		$0		$0	**$6,250**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators				NO ACCESS TO BASEMENT STORAGE AREAS												
NONE																
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
No Equipment																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Black EPDM	C	C	2		4,000 sf			4,000	$31,000						
Decking															
Metal	B	B													
Insulation															
Rigid	B	B		consider adding during re-roofing											
Flashing/Sheetmetal	C	C	2		260 lf			LS	$5,000						
Ladders															
Hatches															
Panels															
Walkways															
Curbs															
Gutter/Downspouts															
Snow Fences	B	B	2	Partial-Need to add				LS	$10,000						
Aluminum Gutters			2	Missing-Need to add to avoid sidewalks	300 lf			300	$13,500						
Expansion Joints															
TOTALS							$0		$59,500		$0		$0		$0	**$59,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Police Station
Stoughton, Massachusetts
February 25, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 1 1/2" inch domestic water service located within the basement water service room. The domestic water service equipment includes a water meter and isolation valve. This water service currently serves all of the facilities domestic water needs. The water distribution system is original to the building.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers, hot water heater.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the facility. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:

   a. There is a 2000 gallon underground diesel fuel storage which serves the facilities emergency generator.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are wall mounted; flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with flush valves.
   - Lavatories are wall hung and counter recessed vitreous china. Faucets are a single lever handle.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The stations domestic hot water is generated by a single 119 gallon gas fired water heater. The unit appears to be in good condition, it was noted that there was a lack of hot water at the locker room sinks and showers this was tested during the walk-thru and it was noted only to be a problem at the sinks.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is complete fire protection (sprinklers) coverage currently at the facility. This service enters the building in the basement in the water service room and includes all backflow prevention devices and valves as well as Fire alarm system monitoring.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by 10 individual gas fired heat pumps located in the mechanical room on the second floor air is distributed from this point throughout the facility. Each unit is dedicated to serve a specific room or area.
2. Heat pumps are new but have been problematic in terms of their ability to supply heating to some of the remote areas of the building. These units should be evaluated to determine if the units and/or ductwork is of the proper size to meet the loads.
3. The existing temperature controls in the station are via electronic thermostats these appear to be in good condition but should be evaluated as part of the overall heating system evaluation.
4. It was noted by building personnel that there had been a humidity problem in the basements records room which appeared to be the result of lack of air to the room this should be evaluated and corrected

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition

4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 600 amperes, 208Y/120volts, 3-phase, 4-wire and is located in the main electric room in the basement. The service equipment consists of a utility company transformer, an underground feed to utility metering equipment a 600amp main disconnect switch and distribution panel located in the main electric room. The main distribution equipment and service equipment is original to the building and in good condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are believed to be original to the facility and are in very good condition. The majority of the panel boards have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of recess mounted 2' x 4' 3-lamp fluorescent acrylic lens troffers. The lighting throughout the facility is in good condition. The light levels appear to be within recommended levels.
4. The fire alarm system is a Simplex 4005 addressable system. There are manual fire alarm pull stations, horn strobes located throughout the building. Heat and smoke detectors are present throughout. It was noted by personnel during the walk-thru that the system had been problem free.
5. Site lighting is accomplished via building mounted wall packs and a number of pole mounted lights both appear to be in good condition.
6. There is a 200KW interior diesel emergency standby generator located on the basement level in a dedicated room complete with fuel pump system, fuel containment and air intake. The generator is wired and sized to support the facility 100%.
7. Life safety emergency lighting is provided via emergency battery units with light heads as well as select fixtures containing bodine type ballasts as well as the facilities lighting being wired to the emergency generation circuitry.
8. Battery powered exit lighting is installed throughout, and is in good condition.
9. There is currently a security system including cameras throughout the interior and exterior as well as security control access doors. It was noted that the control access door devices have been problematic and should be replaced.

E. MEP SYSTEMS CONCLUSION

In general, the systems are original to the building (12+ years old) and are in good condition. Some systems such as the heating system and the domestic hot water system have been problematic for quite some time and should be fully evaluated to determine the cause and repair options.

Plumbing systems are in good physical condition and working order. Faucets however are in disrepair and should be replaced. When replacing faucets automatic units should be implemented as a water conservation measure.

The Electrical systems appear to be in good condition. The lighting systems are in good condition and utilizing the latest lamping technologies. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system is in good condition without any noted problems and/or modifications required. Existing exits and emergency lighting units are in good condition. The security system for access control should be replaced in order to maintain proper security levels.

Stoughton MA

Capital Needs Survey Form

Police Station

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (12,000sf)				**1998**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		B	A												
Pole Mounted Fixtures		B	A												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		D	A		1	15000									New door control system
Fire Alarm Systems		B	A												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C				1	5000							Hot water system evaluation
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		C	C												
Plumbing Fixtures / Equipment		C	C						1	15000					lavatories faucets/urinals & toilets w/auto
Water Heaters		B	C												
Boiler / Furnaces / Accessories		C	B		1	35000									Heating system evaluation/repairs
Ventilation Systems		C	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Air Handling Systems		D	B												
Exhaust Systems		D	B												
Control Systems		C	B												
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		D	C												
Lighting - General		C	B						1	12000					New lighting auto controls

Stoughton MA

Capital Needs Survey Form

Police Station

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Lighting - Exit/Emergency Lighting		D	A												
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

Clapp Memorial Building (Historical Society)

May 17, 2010

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$45,000	$0	$2,250	$47,250
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$10,850	$0	$12,500	$0	$23,350
Conveyance	$6,000	$0	$0	$0	$0	$6,000
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$6,000	$0	$0	$6,000
Electrical	$11,900	$6,800	$0	$0	$8,500	$27,200
Totals	$17,900	$17,650	$51,000	$12,500	$10,750	**$109,800**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Lathe and Plaster		B	3	Patch and repair cracking plaster	1000 SF									1000	1250
Stained Wood Trim		A													
Painted Wood Trim		B	3	Remove puckering paint and repaint										ALLOWANCE	500
Exposed Brick		B	3	Efflouresence. Reseal?										ALLOWANCE	500
Stained Wood Paneling		A													
Floors															
VCT		C	3	Remove and replace with hardwood	?										
Hardwood		B	3	Strip and resurface											
Linoleum		B	3	Remove and replace	100 SF										
Sealed Concrete		A													
Carpet		B	3												
Ceilings															
Lathe and Plaster		B	3	Patch and repair cracking plaster	1000 SF										
Doors															
Windows															
Single Glazed in Wood Frames		B	3												
Built-ins															
Laminated Countertops		B	3												
Stained Wood Shelving		B	3												
Stairs															
Marble Entry Stair		C	2	Restore marble treads, risers and trim pieces and ornamental stairs						ALLOWANCE	4000				
Open-tread Wood Egress Stair		D	1	Remove and replace with permanent	1 flight					1	16000				
Stained Wood Handrail		D	1	Add compliant handrail at main stair	1 flight										
Permanent Seating															
N/A															
Boards															
N/A															
Lockers															
N/A															
Partitions															
N/A															
Glazing															
See windows above															
Ramps															
None		D	1	Access needed at main entry						ALLOWANCE	25000				
TOTALS							$0		$0		$45,000		$0		$2,250	**$47,250**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Precast Concrete		B	3												
Stairs															
Open-tread Wood		D	1	Remove and replace egress stairs in basement with permanent construction											
Marble		C	2	Restore marble treads, risers and trim pieces and ornamental stairs											
Ramps															
N/A															
Loading Dock															
N/A															
Walls															
Fire Brick		A													
Wood Frame, Lathe and Plaster		C	2												
See Masonry Below															
Decks															
Wood															
Columns															
Pre-cast Concrete		B	3	Patch repair bases											
Masonry															
Painted Stone Foundation Wall		B	3												
Load-bearing Brick at Basement		B	3	Efflouresence present. Reseal?											
Metals															
Slabs															
Sealed Concrete		B	3	Patch and repair cracks											
TOTALS							$0		$0		$0		$0		$0 **$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Landscape																
Shrubbery		A														
Fields																
N/A																
Playgrounds																
N/A																
Sidewalks																
Concrete																
Granite Steps																
Asphalt Paving																
Bitumous Concrete Paving																
Metals																
Doors																
Glazed Doors in Aluminum Frames		D	1	Add Accessibility openers?	2			2	3000							
Wood Doors in Wood Frames		D	1	Add panic hardware at egress doors	3			3	1500							
		C	2	Restore or replace all exterior wood doors and frames	4			4	3800							
Windows																
Single Glazed Windows in Wood Frames		C	3	Add interior storm windows	500 sf							500	12500			
		C	2	Replaced damaged and broken panes in existing frames	3											
Railings																
Painted Decorative (Wrought Iron)Guardrail		B	2	Remove and replace guardrail with compliant guard rail and handrail	30 LF			30	2550							
Masonry																
Brick		B	3													
Glazing																
See Windows Above																
Signage																
Brass Memorial Plaques																
Fences/Gates																
N/A																
Soffits & Cornices																
Precast Concrete		B	3													
Granite Parapet Caps		B	3													
Painted Wood with Dentals		B	3													
Fascias, Gutters & Downspouts																
d-coated Copper Scuppers and Downspouts		B	3													
TOTALS							$0		$10,850		$0		$12,500		$0	**$23,350**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
NONE		D	1	Add elevator if basement is open to public	1?											
Permanent Lifts																
NONE		D	1	One needed at main stair, if accessible entrance point	1?											
Portable Lifts																
NONE				Study Accessibility options-parking, exterior,interior travel paths and toilet rooms		LS	6000									
TOTALS							$6,000		$0		$0		$0		$0	**$6,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Clapp Memorial Building (Historical Society)

May 17, 2010

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
No equipment																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Slate Roof		A													
Decking															
Wood		A													
Insulation															
Flashing/Sheetmetal															
Lead-coated Copper		B	3												
Ladders															
Hatches															
Panels															
Walkways															
N/A															
Curbs															
N/A															
Gutter/Downspouts															
Lead-coated Copper															
Expansion Joints															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Clapp Library (historical society)
Stoughton, Massachusetts
February 25, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a domestic water service located within the basement storage room. The domestic water service equipment includes a water meter and isolation valve. This water service currently serves all of the buildings domestic water needs. The water distribution system appears to have been upgraded at some point and is not original to the building and is in good condition.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boiler. This service enters the rear of the building at the boilers in the basement.
3. Sanitary:
   a. Existing Sanitary Service: The facilities sanitary sewer system provides sanitary waste drainage for plumbing fixtures located on the lower level of the building. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor mounted; tank type, vitreous china.
   - Lavatories are wall hung vitreous china. Faucets are of the two lever handle type.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water is generated by a gas fired water heater.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by two hot water boilers. The two boilers are manufactured by Hydrotherm with burners currently operating on Natural gas. These two boilers appear to be in good condition.
2. The present Heating and Ventilating systems consist of finned tube radiation. Areas on the upper lever are served by ceiling hung H&V units located in the basement and feeding up thru floor registers in conjunction with the fin tube. The air-handling units have hot water heating coils, filter sections and exhaust fans.
3. A dehumidification system was recently installed to control the environment for historical document preservation.

ELECTRICAL NARRATIVE

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 200 amperes, 240/120volts, 1-phase, 3-wire and is located in the basement storage room. The service equipment consists of utility company transformer, a feed to utility metering equipment in the basement and a 200amp main circuit breaker panel located in the storage room. The main distribution equipment service equipment is new and in very good condition.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are older panels believed to have been added at the time of various building additions and/or and on an as-needed basis. The condition of these panel boards is generally fair/poor. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of surface mounted 2 lamp wraparound fluorescent fixtures in the basement and 2 lamp pendant mounted wraparounds on the upper level. The lighting throughout the facility is newer and in good condition. The light levels appear to be within recommended levels.
4. The fire alarm system is a Notifier SFP-400B zoned system. There are manual fire alarm pull stations, horn strobes and heat detectors located throughout the building. It was noted by building personnel during the walk-thru that the system had been problem free.
5. There is no on site emergency standby generator.
6. Life safety emergency lighting is provided via emergency battery light heads and exits these are in fair condition and should be replaced as well as additional units added.
7. There is currently an intrusion detection system installed.

D. **MEP SYSTEMS CONCLUSION**

In general, the systems vary in age but most appear to be in good physical and operational condition. Some equipment such as the boilers are older but appear to have a number of years before they reach their life expectancy, regular maintenance can help prolong that as well as cut down on the operational costs associated with the heating system.

Plumbing systems seem to be in good working condition. Replacement of faucets to automatic units should be implemented as a water conservation measure.

The Electrical systems appear to be in good condition however the older equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to the existing circuitry. The lighting systems are newer and in good condition utilizing the latest lamping technologies. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system is in good condition with no noted problems.

Stoughton MA

Capital Needs Survey Form

Clapp Library (historical soc.)

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (3,400sf)				**1904**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		C	A												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		C	C												
Plumbing Fixtures / Equipment		C	C						1	6000					lavatories faucets w/auto
Water Heaters		B	C												
Boiler / Furnaces / Accessories		C	B												
Ventilation Systems		C	B												
Ductwork/Accessories		C	D												
Mechanical Insulation		C	C												
Air Handling Systems		C	B												
Exhaust Systems		C	B												
Control Systems		C	B												
Heating Fuel Systems		C	C												
Air Conditioning Systems		C	D												
Compressed Air Equipment		B	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		D	C										1	8500	satellite panelboards
Lighting - General		C	B				1	6800							New lighting & auto controls

Stoughton MA

Capital Needs Survey Form

Clapp Library (historical soc.)

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Lighting - Exit/Emergency Lighting		D	A		1	11900									New Exit and Emg. Batt units
Grounding and Bonding		B	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$0	$0
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$0	$0	$0	$0	$0
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$3,000	$0	$0	$0	$3,000
Mechanical	$750	$0	$8,000	$0	$0	$8,750
Electrical	$2,500	$2,000	$0	$0	$0	$4,500
Totals	$3,250	$5,000	$8,000	$0	$0	**$16,250**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Painted CMU		B	3	Repaint	500 SF (Floor Area)										
Floors															
Linoleum Tile		D	2	Remove. Repair and Reseal concrete below.	256 LF										
Sealed Concrete		C	3	Patch and Repair. Reseal.	512 SF										
Ceilings															
Painted Plywood		D	2	Remove and replace with ACT and Grid	256 LF										
Exposed Painted Steel Beams and Columns		B	3												
Doors															
Steel Doors in Metal Frames		D	1	Widen opening to accept 3'-0" door for second means of egress	1										
Windows															
Built-ins															
Laminated Casework		D	3	Remove and replace	16 LF										
Stairs															
Permanent Seating															
Boards															
Lockers															
Chain Link Pet Cages		3	B												
Partitions															
Glazing															
Ramps															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Stairs															
Ramps															
Loading Dock															
Walls															
See Masonry Below															
Decks															
Columns															
Painted Steel		A													
Masonry															
Painted CMU		B	3	Repaint	512 SF (Floor Area)										
Metals															
Painted Steel Beam		A													
Slabs															
Concrete Slab on Grade		C	3	Patch and Repair											
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Fields															
Playgrounds															
Sidewalks															
Concrete		B	3	Patch and repair.	150 SF										
Asphalt		B	3	Patch and repair.	50 SF										
Asphalt Paving															
Sand and Gravel Mix (entry and parking)		C	3	Fill ruts and depressions	1000 SF										
Metals															
Metal Fascia		C	2	Remove and replace	128 LF										
Doors															
Steel Door in Wood Frame		D	1	Replace with commercial grade metal door with accessible hardware and panic hardware	2										
Steel Door in Metal Frame		D	1	Replace	2										
Painted Steel Pet Egress Doors		B	3	Replace or remove completely improve heat loss through doors.	12										
Windows															
Residential Grade Vinyl Replacement		B	3												
Railings															
Masonry															
Painted CMU		B	3	Repaint	512 SF (Floor Area)										
Glazing															
Signage															
Fences/Gates															
Chain link with barbed wire		C	3	Horizontals are badly rusted and should be replaced	200 LF										
Soffits & Cornices															
Painted Plywood		B	3	Remove and replace	150 SF										
Fascias, Gutters & Downspouts															
Painted Wood		D	2	Remove and replace	150 LF										
See Metals Above															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend								
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
No Equipment																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Membrane																
Painted Wood Canopy over Sidewalk																
Unknown																
Decking																
Unknown																
Insulation																
Unknown																
Flashing/Sheetmetal																
Unknown																
Ladders																
N/A																
Hatches																
N/A																
Panels																
N/A																
Walkways																
N/A																
Curbs																
N/A																
Gutter/Downspouts																
N/A																
Expansion Joints																
N/A																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Animal Control
Stoughton, Massachusetts
February 25, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. PLUMBING NARRATIVE

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 1" inch domestic water service located within the buildings vestibule area. The domestic water service equipment includes a water meter and isolation valve. This water service currently serves all of the Buildings domestic water needs including the attached public restrooms which serve the needs of the adjacent ball field. The water distribution system appears to be original to the building.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently no gas service to the building.
3. Sanitary:
   a. Existing Sanitary Service: The Facilities sanitary sewer system provides sanitary waste drainage for plumbing fixtures located in the animal control building and the public restrooms. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor and wall mounted; flush valve, vitreous china.
   - Urinals are wall mounted vitreous china, with flush valves.
   - Lavatories are wall hung vitreous china. Faucets are a combination of single lever handle and two lever handles.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water is generated by a single 50 Gallon electric hot water heater located in the dog shelter. The unit appears to be in good condition.

B. FIRE PROTECTION NARRATIVE

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. MECHANICAL SYSTEMS:

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by Electric unit heaters in the animal control building and unheated in the public restrooms.
2. The present Ventilating system consists of operable windows and exhaust fans.

D. ELECTRICAL NARRATIVE

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements, including the Bureau of School Facilities.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 100 amperes, 240/120volts, 1-phase, 3-wire and is located in the animal shelter vestibule area. The service equipment consists of utility company pole mounted transformer, an overhead feed to exterior utility metering equipment to a 100amp main circuit breaker panelboard located in the shelter. This panel is older and should be replaced.

2. The lighting throughout the facility consists primarily of surface mounted 2 lamp strip fluorescent fixtures. The lighting throughout the facility is in good condition. The light levels appear to be within recommended levels.
3. There is no fire alarm system located in the facility.
4. Site lighting is accomplished via building mounted flood lights and they appear to be in good condition.
5. There is no on site emergency standby generator.
6. There is no emergency lighting located in the facility.
7. There is no exit lighting is installed in the facility.
8. There is no Security system located in the facility.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building to as recent as 3-5 years old. Some equipment plumbing fixtures are older and although they seem to be in good working condition should be replaced. Replacement of faucets to automatic units and the installation of automatic flush valves on toilets should be implemented as a water conservation measure. Drains should be cleaned to ensure adequate flow.

The Electrical systems appear to be adequate however the older distribution equipment (panelboard) should be replaced with new equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to the existing circuitry. The lighting systems are newer and in good condition. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. New exits and emergency lighting units should be added to ensure the safety of personnel in the event of an emergency. Given the remote location of the facility and unmanned nature a basic intrusion detection system should be installed.

Stoughton MA															
Capital Needs Survey Form															
Dog Pound															
2-25-2010															
SYSTEM	**Meets Code**	**System Rating A to E** (A Excellent,B Very good,C Good, D Fair,E Poor)	**System Priority A to E** (A-Health & Safety, B-High, C-Medium, D-Low)	**Last Major Reconstruction (Year)**	**Year 1 Quantity**	**Year 1 Budget**	**Year 2 Quantity**	**Year 2 Budget**	**Year 3 Quantity**	**Year 3 Budget**	**Year 4 Quantity**	**Year 4 Budget**	**Year 5 Quantity**	**Year 5 Budget**	**Remarks**
General Building (900sf)				**1976**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Water		B	D												
Special Construction															
Security Systems		B	B				1	3000							new intrusion detection system w/smoke detectors
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	C		1	750									Clean Drains
Heating		D	C												
Plumbing Fixtures / Equipment		C	C						1	8000					lavatories faucets/toilets w/auto and new fixtures
Water Heaters		B	C												
Ventilation Systems		C	C												
Control Systems		C	C												
Electrical															
General Electrical		C	C												
Electrical Service / Distribution		D	C				1	2000							Panelboard
Lighting - General		C	C												
Lighting - Exit/Emergency Lighting		D	A		1	2500									New Exit and Emg. Batt units
Grounding and Bonding		B	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$249,622	$249,622
Structure	$0	$0	$0	$0	$10,000	$10,000
Exterior	$0	$0	$0	$0	$193,250	$193,250
Conveyance	$0	$0	$0	$0	$35,000	$35,000
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$188,850	$188,850
Plumbing	$0	$0	$0	$0	$202,421	$202,421
Mechanical	$0	$0	$0	$0	$266,069	$266,069
Electrical	$0	$0	$0	$0	$329,717	$329,717
Totals	$0	$0	$0	$0	$1,474,930	**$1,474,930**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
CMU		C	1	needs mold removal, cleaning, painting	LS									LS	$75,000
Gyp Bd Partitions at Offices		D	2	re-build	60 lf									60	$4,590
Floors															
VCT/ 9"x9" & 12"x12"		D	1	needs total replacement, mold removal	7500 sf									7,500	$30,000
Sealed Concrete		C	3	needs re-finishing	6500 sf									6,500	$9,750
Ceilings															
Gypsum Drywall		D	2	Stained, deteriorated at water leaks	1200 sf									1,200	$8,700
2 x 4 Acoustical Tile		D	2	Stained, deteriorated at water leaks	7500 sf									7,500	$26,250
Plaster		D	2	Stained, deteriorated at water leaks	200 sf									200	$2,400
Exposed Wood Deck		B	3	needs re-finishing	5000 sf									5,000	$12,500
Doors															
Wood in HM frames		D	2	Not salvagable	12									12	$13,200
HM Doors & Frames		D	2	rusted, need repair, refinishing	8									8	$7,600
OH roll-up doors		C	3	need replacement	2									2	$5,000
Windows															
Aluminum Windows		D	2	single pane, need replacement	see ext.										
Built-ins															
Wood/Plas. Lam. Casework		D		nothing salvagable	LS									LS	$10,000
Stairs															
Concrete		B													
Metal handrails		C	3	needs re-finishing	LS									LS	$4,000
Permanent Seating															
Boards														4	$2,560
Tackboards				need replacement	8									8	$3,072
Whiteboards				need replacement	4										
Lockers														100	$27,500
metal 12x15x72		D	3	nothing salvagable	100										
Partitions															
Glazing															
Ramps			1	missing at rear entrance or chairlift	LS									LS	$7,500
TOTALS							$0		$0		$0		$0		$249,622	**$249,622**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

STRUCTURE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Concrete																
Foundations		A														
Stairs																
Concrete																
Ramps																
Loading Dock																
Conc. Slab		B														
Steel Edging																
Walls																
CMU Bearing Walls		B														
Decks																
Concrete Plank		C	2	Some repair needed at leaks										LS	$10,000	
Wood T&G decking		B														
Columns																
Wood Glu-Lam Beams		B														
Masonry																
CMU Bearing Walls		B														
Metals																
Metal Roof deck																
Slabs																
Heavy Duty Floor Slabs		A														
TOTALS							$0		$0		$0		$0		$10,000	**$10,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Landscape																
grass areas		C	4	needs re-seeding	500 sy									500	$1,250	
shrubs, plantings		C	4	needs pruning										LS	$3,000	
Fields																
Playgrounds																
Sidewalks																
Concrete		C	4	minor repair										LS	$5,000	
Concrete Stairs		B														
Concrete Pads		B														
Asphalt Paving																
Bituminous Paving		B	4	Some cracking, repair & recoat	2000 sy									2,000	$24,000	
Doors																
Aluminum entrances		C	3	Need replacement	4 pr									4	$28,000	
HM Frames		C	3	Need replacement	4									4	$10,000	
OH roll-up doors		C	3	need replacement	2									2	$4,000	
Windows																
Steel		D	3	single pane, need replacement	1000	SF								1,000	$65,000	
Railings																
Painted Steel		B														
Masonry																
Brick Exterior		B	3	some re-pointing needed	LS									LS	$10,000	
Pre-cast window sills		B	3	re-caulking needed	LS									LS	$4,000	
Brick Chimney		B	3	re-build, re-line	LS									LS	$10,000	
Glazing																
Single Glazing		C	3	Needs replacement	incl. w/ windows											
Signage		B	4	replacement	LS									LS	$5,000	
Fences/Gates																
Chain link Fences		D	3	Needs replacement	800 lf									800	$24,000	
Soffits																
Tectum/Steel		B														
Fascias																
Aluminum		B														
TOTALS							$0		$0		$0		$0		$193,250	**$193,250**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
NONE																
Permanent Lifts																
NONE				need ramp/lifts to lower levels										LS	$35,000	
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$35,000	**$35,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A			High = B			Medium = C			Low = D
Priority Legend	1	Health & Safety		2	High Priority		3	Medium Priority		4 Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
Custodial															
Maintenance															
Technology															
Food Service															
Athletic/PE															
Grounds/Exterior															
Clinic															
Office															
Life Safety															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Membrane																
Black EPDM		D	2		9,000 sf									9,000	$69,750	
Asphalt Shingle		C	2		5,000 sf									5,000		
Decking																
Wood T & G		B		replace blocking										LS	$25,000	
Metal		B		spot repair, replace blocking										LS	$25,000	
Insulation																
Rigid		B		consider adding during re-roofing	5,000 sf									5,000	$30,000	
Flashing/Sheetmetal		C	2	replace with roofing	480 lf									480	$21,600	
Ladders																
Hatches				replace with roof										LS	$7,500	
Panels																
Walkways																
Curbs				replace with HVAC equipment												
Gutter/Downspouts																
		C	2	Partial-Need to add										LS	$10,000	
Expansion Joints																
TOTALS							$0		$0		$0		$0		$188,850	**$188,850**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Armory
Stoughton, Massachusetts
February 18, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

Note: This facility has been decommissioned and all services shut down. All survey items indicated below are based on visual inspection as operational observations could not be made.

PLUMBING NARRATIVE

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a 2" inch domestic water service located within the boiler room. The domestic water service equipment includes a water meter and isolation valve. This water service currently serves all of the buildings domestic water needs. The water distribution system is original to the building. At the time of inspection the water service to the building had been shut off.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boilers. This service enters the rear of the building at the boiler room. At the time of inspection the Gas service to the building had been shut off.
3. Sanitary:
   a. Existing Sanitary Service: The facilities sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no known onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:

- Water closets are floor and wall mounted; auto flush valve, vitreous china.
- Urinals are wall mounted vitreous china, with flush valves.
- Lavatories are wall hung vitreous china. Faucets are of the two lever handles type.
- Drinking fountains were not noted as being located in the building.
- Janitor's mop sinks are wall mounted basins with 2-faucets and vacuum breakers. These basins are older and in fair condition.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water appears to have been generated by the boiler as no water heaters were noted during the walk thru of the facility.

A. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

B. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by a single hot water boiler. The boiler is an H. B. Smith with burner currently connected to the on Natural gas piping. This boiler appears to be original to the building making it approximately 50+ years old it is inoperable at this time and looks to be in poor condition. Its useful life expectancy has already been exceeded.
2. The present Heating and Ventilating systems consist of finned tube radiation, some Herman Miller unit ventilators and exhaust systems. Areas such as the main assembly room are served by 2 ceiling hung H&V units and include a supply air component.
3. The existing boiler flue to the chimney appears to be in poor condition.
4. The existing boiler hot water pumps appear to be very old and in poor condition.

C. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 400 amperes, and is located in the boiler room. The service equipment consists of metering equipment a 400amp main disconnect switch and distribution panel located in the boiler room. The predominance of the main distribution equipment service equipment is old and in poor condition. The service was de-energized at the time of inspection.
2. There are a number of electrical panels located throughout the facility. The predominance of these panel boards are older panels believed to be original to the facility. The condition of these panel boards is poor. The majority of the panel boards do not have spare circuit breakers available for new circuits to be added, or include the space to add new circuit breakers.
3. The lighting throughout the facility consists primarily of older incandescent fixtures these fixtures are in poor condition. The light levels were indeterminable due to there being no power in the facility.
4. There did not appear to be any fire alarm system in the building.
5. Site lighting is accomplished via building mounted wall packs and these appear to be in good condition.
6. There is no on site emergency standby generator.
7. Life safety emergency lighting is provided via emergency light heads these units are old and in poor condition.
8. Battery powered exit lighting is installed throughout, and is in poor condition.
9. There is currently no security system in the facility.

D. **MEP SYSTEMS CONCLUSION**

In general, the systems all appear to be original to the building 40+ years old. None of the existing systems or equipment appear to be salvageable given their age and/or condition. The existing lighting is old and deteriorating and does not utilize current energy efficient technology. The boilers have exceeded their life expectancy and should be replaced.

Plumbing systems appear original and in poor condition given the current decommissioned state will most likely be problematic if they were brought back on line. Existing faucets are older two handled units and would need to be replaced with automatic units.

The Electrical systems are old and in poor condition and should be replaced. The existing distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to the existing circuitry. The lighting systems are older and should be replaced with newer more efficient fixtures utilizing the latest lamping and ballasting configurations in order to improve energy efficiency. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system does not exist and should be added. Existing exits and emergency lighting units are in poor condition and should be replaced to ensure the reliability of these systems in case of an emergency.

In summary all the existing systems within the building need to be replaced. Given this and the existing condition of the interior of the building due to water leaks in the existing roof it would be recommended that this building be treated as gut rehabilitation.

Stoughton MA

Capital Needs Survey Form

Armory

2-24-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (20,216sf)				**1960**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Site - Gas		C	D												
Site - Water		C	D												
Special Construction															
Fire Alarm Systems		E	A												
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		E	C												
Water Distribution System		E	C												
Plumbing Drainage System		E	B												
Storm Drainage System		E	D												
Heating/Cooling Piping System		E	C												
Plumbing Fixtures / Equipment		E	C												
Boiler / Furnaces / Accessories		E	B												
Ventilation Systems		E	B												
Ductwork/Accessories		E	D												
Mechanical Insulation		E	C												
Unit Ventilators		E	B												
Air Handling Systems		E	B												
Exhaust Systems		E	B												
Control Systems		E	B												
Electrical															
General Electrical (Starters, VFD's, etc…)		E	C												
Electrical Service / Distribution		E	C												
Lighting - General		E	B												
Lighting - Exit/Emergency Lighting		E	A												
Grounding and Bonding		E	A												

Stoughton MA

Capital Needs Survey Form

Armory

2-24-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
Overhead Electrical Distribution		E	C												
Communication Systems		E	B												
Technology Systems		E	B												

AMES BATH HOUSE

May 17, 2010

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$8,250	$8,250
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$0	$150,500	$0	$0	$150,500
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$200	$0	$0	$200
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$5,000	$0	$0	$5,000
Electrical	$0	$0	$0	$0	$0	$0
Totals	$0	$0	$155,700	$0	$8,250	**$163,950**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Painted CMU with Surface Finish		C	3	Remove and paint CMU below	256 SF									250	500
Painted Wood Battens and Trim		D	2	Replace	32 LF									LS	300
Floors															
Painted Concrete		C	3	Repair and repaint w/epoxy	500 SF									500	4750
Ceilings															
Exposed Wood Trusses		A													
Doors															
Windows															
Translucent Skylights		B			2										
Built-ins															
Lamenated Casework and Countertops															
Stairs															
Permanent Seating															
Boards															
Lockers															
Partitions															
Painted Wood Toilet Partitions		D	4	Replace. Stalls will need to be reconfigured for accessiblity.	3 Stalls									3	2700
Glazing															
Ramps															
TOTALS							$0		$0		$0		$0	$8,250	**$8,250**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Stairs															
Ramps															
Loading Dock															
Walls															
See Masonry Below		A													
Decks															
Columns															
Masonry															
Painted CMU		A													
Metals															
Wood															
Wood Frame Trusses		A													
Slabs															
Concrete Slab on Grade		A													
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Mulch Beds and Natural Vegitation															
Fields															
Playgrounds															
Sidewalks															
Concrete			3	Patch and Repair	100 SF					100	500				
Asphalt Paving															
Bituminous Paving		D	2	Remove and Replace Bituminous Concrete Paving Implement water erosion strategy	Entire Parking Lot					10000	150000				
Doors															
HM Doors & Frames		B	4												
Steel Overhead Garage Door		B	4												
Windows															
Wood Louvers in Wood Frames with Bug Screens		A													
Railings															
Masonry															
Painted CMU		A	4												
Siding & Trim															
Horizontal Stained Wood		B	3		25 SF										
Stained Wood		B	3		25 LF										
Glazing															
Signage															
Fences/Gates															
Chain link Fences		C	3												
Galvanized Steel Gates		C	3												
Soffits & Cornices															
Stained Wood		B	3	Strip and Restain	384 SF										
Fascias, Gutters & Downspouts															
Stained Wood		B	3	Strip and Restain	96 LF										
TOTALS							$0		$0		$150,500		$0		$0	**$150,500**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
NONE																
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

AMES BATH HOUSE

May 17, 2010

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
No equipment																
TOTALS							$0		$0		$0		$0	Low = D	$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Asphalt Shingles		B	3												
Decking															
Plywood		A	4												
Insulation															
N/A															
Flashing/Sheetmetal															
Ladders															
N/A															
Hatches															
N/A															
Panels															
N/A															
Walkways															
N/A															
Curbs															
N/A															
Gutter/Downspouts															
Steel Gutter		C	3	Install downspount and end cap	1 ea.					LS	200				
Expansion Joints															
N/A															
TOTALS							$0		$0		$200		$0		$0	**$200**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Ames Pond Boathouse
Stoughton, Massachusetts
February 25, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a domestic water service located within the utility room. The domestic water service equipment includes a water meter and isolation valve. This water service currently serves all of the buildings domestic water needs. The water distribution system is original to the building and each subsequent renovation.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently no gas service to the facility.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor mounted; tank type, vitreous china.
   - Urinals are wall mounted vitreous china, with flush valves.
   - Lavatories are wall hung vitreous china. Faucets are of the two lever handle type.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The buildings domestic hot water is generated by a single 40 gallon electric hot water heater. The unit is an exterior grade unit and in very good condition.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. There are no heating or ventilation systems present in the facility. Ventilation is via open air type construction. The facility is open only during summer months and is shut down and made safe from freezing the remainder of the year.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 100 amperes, 240/120volts, 1-phase, 3-wire and is located in the utility room. The service equipment consists of utility company pole mounted transformer, an overhead feed to utility metering equipment and a 100amp main circuit breaker panel located in the utility room. The main distribution equipment is in good condition.

2. The lighting throughout the facility consists primarily of pendent mounted 2 lamp wraparound fluorescent fixtures. The lighting throughout the facility is newer and in good condition. The light levels appear to be within recommended levels.
3. There is no fire alarm system in the facility.

E. MEP SYSTEMS CONCLUSION

In general, the systems all appear to be newer 5-7 years old and in good condition.

Plumbing systems seem to be in good physical and working condition. Replacement of faucets and urinals to automatic units should be implemented as a water conservation measure and also to repair one faucet which was noted as broken.

The Electrical systems appear to be in good condition. The lighting systems are newer and in good condition.

Stoughton MA

Capital Needs Survey Form

Ames Pond Bath House

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (544sf)				**1972/05**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Site - Water		B	D												
Special Construction															
Mechanical															
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Plumbing Fixtures / Equipment		C	C						1	5000					lavatories faucets and urinals w/auto
Water Heaters		B	C												
Electrical															
Electrical Service / Distribution		B	C												
Lighting - General		B	C												
Grounding and Bonding		B	A												
Overhead Electrical Distribution		B	C												

Bleachers

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$0	$0
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$5,000	$0	$0	$0	$5,000
Conveyance	$0	$40,000	$0	$0	$0	$40,000
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$0	$0	$0	$0
Electrical	$0	$0	$0	$0	$0	$0
Totals	$0	$45,000	$0	$0	$0	**$45,000**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
N/A															
Floors															
Wood planks		C	4												
Ceilings															
N/A															
Doors															
N/A															
Windows															
N/A															
Built-ins															
N/A															
Stairs															
Wood planks on steel frame		C	4												
Permanent Seating															
Plastic covered wood planks		C	4												
Boards															
N/A															
Lockers															
N/A															
Partitions															
N/A															
Glazing															
N/A															
Ramps															
None															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Concrete sono-tubes		C	4												
Stairs															
N/A															
Ramps															
N/A															
Loading Dock															
N/A															
Walls															
N/A															
Decks															
N/A															
Columns															
N/A															
Masonry															
N/A															
Metals															
Steel angle iron frame		C	4												
Wood															
Slabs															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
N/A															
Fields															
N/A															
Playgrounds															
N/A															
Sidewalks															
N/A															
Asphalt Paving															
N/A															
Doors															
N/A															
Windows															
N/A															
Railings															
Pipe Railings	x	C	4	Hand Rails not to code at stairs				LS	$5,000						
Masonry															
N/A															
Siding & Trim															
N/A															
Glazing															
N/A															
Signage															
N/A															
Fences/Gates															
N/A															
Soffits & Cornices															
N/A															
Fascias, Gutters & Downspouts															
N/A															
TOTALS							$0		$5,000		$0		$0		$0	**$5,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Bleachers

May 17, 2010

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
NONE																
Permanent Lifts																
NONE				Need accessibility ramp or lift				LS	$40,000							
Portable Lifts																
NONE																
TOTALS							$0		$40,000		$0		$0		$0	**$40,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
N/A															
Custodial															
N/A															
Maintenance															
N/A															
Technology															
N/A															
Food Service															
N/A															
Athletic/PE															
N/A															
Grounds/Exterior															
N/A															
Clinic															
N/A															
Office															
N/A															
Life Safety															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
N/A															
Decking															
N/A															
Insulation															
N/A															
Flashing/Sheetmetal															
N/A															
Ladders															
N/A															
Hatches															
N/A															
Panels															
N/A															
Walkways															
N/A															
Curbs															
N/A															
Gutter/Downspouts															
N/A															
Expansion Joints															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend

1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Pressbox

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$0	$0
Structure	$0	$0	$0	$0	$0	$0
Exterior	$0	$0	$0	$0	$0	$0
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers
Mechanical	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers
Electrical	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers	Included in Bleachers
Totals	$0	$0	$0	$0	$0	**$0**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
T-111 Wood panels		C	4												
Floors															
plywood		C	4												
Ceilings															
None															
Doors															
None															
Windows															
None															
Built-ins															
N/A															
Stairs															
N/A															
Permanent Seating															
N/A															
Boards															
N/A															
Lockers															
N/A															
Partitions															
N/A															
Glazing															
N/A															
Ramps															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
N/A															
Stairs															
N/A															
Ramps															
N/A															
Loading Dock															
N/A															
Walls															
Painted T-111 Wood Panels		C	4												
Decks															
plywood		C	4												
Columns															
Wood frame		C	4												
Masonry															
N/A															
Metals															
None															
Wood															
Slabs															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend						
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
N/A															
Fields															
N/A															
Playgrounds															
N/A															
Sidewalks															
N/A															
Asphalt Paving															
N/A															
Doors															
Wood		C	4												
Windows															
N/A															
Railings															
N/A															
Masonry															
N/A															
Siding & Trim															
T-111 wood panels		C	4												
Glazing															
None															
Signage															
N/A															
Fences/Gates															
N/A															
Soffits & Cornices															
Wood		C	4												
Fascias, Gutters & Downspouts															
None															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
NONE				Variance may be needed												
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
N/A															
Custodial															
N/A															
Maintenance															
N/A															
Technology															
N/A															
Food Service															
N/A															
Athletic/PE															
N/A															
Grounds/Exterior															
N/A															
Clinic															
N/A															
Office															
N/A															
Life Safety															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Asphalt Shingles		B	4												
Decking															
Plywood		C	4												
Insulation															
None															
Flashing/Sheetmetal															
None															
Ladders															
N/A															
Hatches															
N/A															
Panels															
N/A															
Walkways															
N/A															
Curbs															
N/A															
Gutter/Downspouts															
None															
Expansion Joints															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend 1 Health & Safety 2 High Priority 3 Medium Priority 4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

High School Press Box, Bleachers
And Field Storage
Stoughton, Massachusetts

February 26, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. PLUMBING NARRATIVE

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: There is no existing water service to any of the subject facilities.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently no natural gas service to any of the subject facilities.
3. Sanitary:
   a. Existing Sanitary Service: There is currently no sanitary sewer service to any of the subject facilities.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - There are no plumbing fixtures in either the press box or the bleachers

DOMESTIC HOT WATER SYSTEMS

1. There is no Domestic Hot Water System in the building.

B. FIRE PROTECTION NARRATIVE

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage at any of the subject facilities.

C. MECHANICAL SYSTEMS:

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing buildings/Structures have no mechanical heating ventilation or air conditioning systems.

D. ELECTRICAL NARRATIVE

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The press box is served from a feed from the field house which serves the receptacles and lighting within the press box.
2. The lighting located within the press box consists of fluorescent strips and are in good condition.
3. There is no fire alarm system in any of the subject facilities.
4. There is no on site emergency standby generator in any of the subject facilities.
5. There is no Life safety emergency or exit lighting in any of the subject facilities.

E. MEP SYSTEMS CONCLUSION

In general, the systems in the buildings/structures are minimal but meet the requirements of the facilities.

Stoughton MA															
Capital Needs Survey Form															
Press box & Bleachers															
6-07-10															
SYSTEM	**Meets Code**	**System Rating A to E** (A Excellent,B Very good,C Good, D Fair,E Poor)	**System Priority A to E** (A-Health & Safety, B-High, C-Medium, D-Low)	**Last Major Reconstruction (Year)**	**Year 1 Quantity**	**Year 1 Budget**	**Year 2 Quantity**	**Year 2 Budget**	**Year 3 Quantity**	**Year 3 Budget**	**Year 4 Quantity**	**Year 4 Budget**	**Year 5 Quantity**	**Year 5 Budget**	**Remarks**
General Building (250sf)				**1958/95**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		B	B												
Special Construction															
None															
Mechanical															
None															
Electrical															
Electrical Service / Distribution		C	B												
Lighting - General		A	A												

Field House

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$0	$0
Structure	$0	$0	$0	$0	$2,000	$2,000
Exterior	$0	$0	$0	$0	$0	$0
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$0	$0	$0	$0
Electrical	$0	$0	$6,200	$0	$0	$6,200
Totals	$0	$0	$6,200	$0	$2,000	**$8,200**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Walls																
Corrugated metal panel		C	4													
Floors																
Concrete slab-on-grade		C	4													
Ceilings																
N/A																
Doors																
None																
Windows																
Translucent Fiberglass panels		C	4													
Built-ins																
None																
Stairs																
N/A																
Permanent Seating																
N/A																
Boards																
N/A																
Lockers																
N/A																
Partitions																
None																
Glazing																
N/A																
Ramps																
N/A																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
?Foundation?															
Stairs															
N/A															
Ramps															
N/A															
Loading Dock															
N/A															
Walls															
Pre-engineered Metal Building		C	4											LS	$2,000
Decks															
N/A															
Columns															
Pre-engineered Metal Building		C	4												
Masonry															
Metals															
Pre-engineered Metal Building		C	4												
Wood															
N/A															
Slabs															
Concrete Slab-on-grade		C	4												
TOTALS							$0		$0		$0		$0	$2,000	**$2,000**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend						
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
N/A															
Fields															
N/A															
Playgrounds															
N/A															
Sidewalks															
N/A															
Asphalt Paving															
N/A															
Doors															
OH Garage Doors		C	4												
Wood		C	4												
Windows															
None															
Railings															
N/A															
Masonry															
None															
Siding & Trim															
Glazing															
None															
Signage															
None															
Fences/Gates															
N/A															
Soffits & Cornices															
N/A															
Fascias, Gutters & Downspouts															
None															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
NONE																
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
N/A															
Custodial															
N/A															
Maintenance															
N/A															
Technology															
N/A															
Food Service															
N/A															
Athletic/PE															
N/A															
Grounds/Exterior															
N/A															
Clinic															
N/A															
Office															
N/A															
Life Safety															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
N/A															
Decking															
Corrugated metal		C	4												
Translucent Fiberglas panels		C	4												
Insulation															
None															
Flashing/Sheetmetal															
None															
Ladders															
N/A															
Hatches															
N/A															
Panels															
N/A															
Walkways															
N/A															
Curbs															
N/A															
Gutter/Downspouts															
None															
Expansion Joints															
None															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend 1 Health & Safety | 2 High Priority | 3 Medium Priority | 4 Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

High School Field House
Stoughton, Massachusetts
February 26, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. **PLUMBING NARRATIVE**

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a water service this domestic water service equipment includes isolation valves. This water service currently serves the Irrigation system which is seasonal and was shut down at the time of inspection.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently no natural gas service to the building.
3. Sanitary:
   a. Existing Sanitary Service: The building currently has no sanitary sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - There are no Water closets in the building.
   - There are no Urinals in the building.
   - There are no Lavatories in the building.

DOMESTIC HOT WATER SYSTEMS

1. There is no Domestic Hot Water System in the building.

B. **FIRE PROTECTION NARRATIVE**

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. **MECHANICAL SYSTEMS:**

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building has no mechanical heating ventilation or air conditioning systems.

D. **ELECTRICAL NARRATIVE**

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 200 amperes, 208Y/120volts, 1-phase, 3-wire and is located adjacent to the entry door. The service equipment consists of utility company pole mounted transformers, an underground feed to utility metering cabinet 200 amp main disconnect switch and distribution panel. This service equipment is in poor condition and should be replaced.
2. The lighting throughout the facility consists primarily of surface mounted single porcelain sockets with bare incandescent bulbs. The lighting throughout the facility is older and in good condition. The light levels appear to meet the needs of the facility however they could be replaced with compact fluorescent units with globes.
3. There is no fire alarm system in the facility.
4. There is no on site emergency standby generator.
5. There is no Life safety emergency or exit lighting in the facility.

E. MEP SYSTEMS CONCLUSION

In general, the systems in the building are minimal but meet the requirements of the building. The only apparent upgrade that should be made is the upgrade of the service entry electric panel and the change-out of the lighting fixtures to fluorescent units with some type of globe.

Stoughton MA

Capital Needs Survey Form

HS Field House

2-25-2010

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (1,850sf)				**1952**											
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Water		B	D												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		D	C						1	3000					New service panel
Lighting - General		C	B						1	3200					New lighting
Grounding and Bonding		B	A												
Overhead Electrical Distribution		B	C												

Athletic Storage

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$0	$0
Structure	$0	$0	$0	$0	$1,000	$1,000
Exterior	$0	$0	$0	$0	$0	$0
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$0	$0	$0	$0	$0
Spec. Constr.	$0	$0	$0	$0	$0	$0
Mechanical	$0	$0	$0	$0	$0	$0
Electrical	$0	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$0	$1,000	**$1,000**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Walls															
Corrugated Metal Panel		C	4												
Floors															
Concrete Slab-on-grade		C	4												
Ceilings															
N/A															
Doors															
OH garage door		C	4												
Windows															
Built-ins															
N/A															
Stairs															
N/A															
Permanent Seating															
N/A															
Boards															
N/A															
Lockers															
N/A															
Partitions															
N/A															
Glazing															
N/A															
Ramps															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
Concrete Slab-on-grade		C	4												
Stairs															
N/A															
Ramps															
N/A															
Loading Dock															
N/A															
Walls															
Decks															
N/A															
Columns															
Pre-engineered metal building		C	4												
Masonry															
None															
Metals															
Corrugated metal siding and roof		C	4	Scrape and paint										LS	$1,000
Wood															
None															
Slabs															
Concrete Slab-on-grade			4												
TOTALS							$0		$0		$0		$0	$1,000	**$1,000**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
N/A															
Fields															
N/A															
Playgrounds															
N/A															
Sidewalks															
N/A															
Asphalt Paving															
N/A															
Doors															
Windows															
None															
Railings															
N/A															
Masonry															
None															
Siding & Trim															
Glazing															
None															
Signage															
None															
Fences/Gates															
N/A															
Soffits & Cornices															
N/A															
Fascias, Gutters & Downspouts															
None															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
NONE																
Permanent Lifts																
NONE																
Portable Lifts																
NONE																
TOTALS								$0		$0		$0		$0		$0 **$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D		
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority	

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
N/A															
Custodial															
N/A															
Maintenance															
N/A															
Technology															
N/A															
Food Service															
N/A															
Athletic/PE															
N/A															
Grounds/Exterior															
N/A															
Clinic															
N/A															
Office															
N/A															
Life Safety															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Decking															
Insulation															
None															
Flashing/Sheetmetal															
None															
Ladders															
N/A															
Hatches															
N/A															
Panels															
N/A															
Walkways															
N/A															
Curbs															
N/A															
Gutter/Downspouts															
None															
Expansion Joints															
None															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A High = B Medium = C Low = D

Priority Legend								
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Pump Station #1

May 17, 2010

	Year 1, Budget	Year 2, Budget	Year 3, Budget	Year 4, Budget	Year 5, Budget	
Interior	$0	$0	$0	$0	$0	$0
Structure	$0	$43,500	$0	$0	$0	$43,500
Exterior	$0	$10,000	$0	$4,750	$0	$14,750
Conveyance	$0	$0	$0	$0	$0	$0
Equipment	$0	$0	$0	$0	$0	$0
Roofing	$0	$750	$0	$5,000	$0	$5,750
Spec. Constr.	$0	$12,000	$0	$0	$0	$12,000
Mechanical	$0	$25,000	$0	$0	$0	$25,000
Electrical	$0	$6,500	$10,000	$0	$0	$16,500
Totals	$0	$97,750	$10,000	$9,750	$0	**$117,500**

INTERIORS	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Walls																
Painted brick		A														
Floors																
Painted Concrete		A														
Ceilings																
Stained wood		A														
Painted wood		A														
Doors																
Wood in wood frames		B	4													
Windows																
Single-glazed in wood frames with paitned metal grilles		B	4													
Built-ins																
Painted wood		B	4													
Stairs																
N/A																
Permanent Seating																
N/A																
Boards																
N/A																
Lockers																
N/A																
Partitions																
N/A																
Glazing																
N/A																
Ramps																
N/A																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Structure	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Concrete															
foundation wall		B	4												
Stairs															
N/A															
Ramps															
N/A															
Loading Dock															
N/A															
Walls															
Load-bearing masonry		C	2	Repoint 30% of exterior brick surface				LS	$20,000						
		C	2	Repoint 30% of chimney stack				LS	$7,500						
				Clean off mastic	100 SF			LS	$1,000						
Decks															
Columns															
Masonry															
Load-bearing brick		C	2	See walls above											
Granite block foundation walls		A													
Metals															
Steel bracing/ reinforcement		B	4	Exterior masonry wall is badly bowed to the exterior. Structural consult may be required.				LS	$15,000						
Wood															
Wood frame roofing rafters and trusses		A													
Slabs															
Painted concrete floor		B	4												
TOTALS							$0		$43,500		$0		$0		$0 **$43,500**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

EXTERIOR	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Landscape															
Shrubbery at main entrance		B	3												
Fields															
N/A															
Playgrounds															
N/A															
Sidewalks															
N/A															
Asphalt Paving															
Bitumous concrete		A													
Doors															
Paitned wood with glass panels		B	3	Strip and repaint								LS	500		
Insulated steel overhead		A													
Metal in HM frames		B	3	Clean and repaint	1 door (3'-0"x 6'-8")							LS	250		
Windows															
Single-glazed in wood frames and painted metal grilles		B	3	Remove and replace broken panes	6 panes							LS	500		
Painted metal grates over window openings		B	3	Remove flaking paint and repaint								LS	250		
Painted wood infill panels in wood frames		C	2	Remove and replace deteriorated panels and trim at copula	160 SF			LS	$10,000						
Railings															
N/A															
Masonry															
Brick		C	2	See Structure											
Siding & Trim															
Painted wood		B	3	Clean and repaint trim at overhead door								LS	250		
		C	3	Remove and replace deteriorate wood trim at window openings								LS	750		
Painted pre-cast decorative panels		B	4												
Glazing															
Signage															
Painted pre-cast decorative signage		B	4												
Fences/Gates															
N/A															
Soffits & Cornices															
Painted pre-cast concrete parapet cap		B	4												
Fascias, Gutters & Downspouts															
Metal roof edge		C	3	Remove and replace damged edges	15 LF							LS	250		
Metal gutter and downspouts		C	3	Remove and replace damaged gutter	15 LF							LS	1000		
				Remove and replace rusted downspout	15 LF							LS	500		
				Replace missing downspout	15 LF							LS	500		
Copper gutters and downspouts		B	4												
TOTALS							$0		$10,000		$0		$4,750		$0	**$14,750**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4 Low Priority

CONVEYANCE	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget	
Elevators																
N/A																
Permanent Lifts																
N/A																
Portable Lifts																
N/A																
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D		
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority	

EQUIPMENT	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Classroom															
N/A															
Custodial															
N/A															
Maintenance															
N/A															
Technology															
N/A															
Food Service															
N/A															
Athletic/PE															
N/A															
Grounds/Exterior															
N/A															
Clinic															
N/A															
Office															
N/A															
Life Safety															
N/A															
TOTALS							$0		$0		$0		$0		$0	**$0**

Item Covered on Other Worksheets

Rating Legend Excellent = A | High = B | Medium = C | Low = D

Priority Legend							
1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

ROOFING	Meets Code	Rating	Priority	Improvements	Total Quantity	Year 1, Quantity	Year 1, Budget	Year 2, Quantity	Year 2, Budget	Year 3, Quantity	Year 3, Budget	Year 4, Quantity	Year 4, Budget	Year 5, Quantity	Year 5, Budget
Membrane															
Membrane roofing		B	4	Not well executed but no reports of leaking											
Slate		B	3	Remove and replace damaged and missing tiles	150 SF							150	$3,750		
Decorative terra cotta ridge caps		B	4	Remove missing ridge cap tile	1 piece							LS	$500		
Decking															
Plywood															
Insulation															
Flashing/Sheetmetal															
Copper															
Galvanized metal		B	3	Remove and replace flashing at Chlorine Storage Room	30 LF							LS	$750		
Membrane		C	2	Repair/Replace membrane flashing at skylights	24 LF			LS	$750						
Ladders															
N/A															
Skylights															
Single-glazed in metal frames		B	3	See flashing above. Eastern skylight leaking.											
Panels															
Walkways															
Curbs															
Gutter/Downspouts															
Expansion Joints															
TOTALS							$0		$750		$0		$5,000		$0	**$5,750**

Item Covered on Other Worksheets

Rating Legend	Excellent = A		High = B		Medium = C		Low = D	
Priority Legend	1	Health & Safety	2	High Priority	3	Medium Priority	4	Low Priority

Mechanical and Electrical Systems
Existing Conditions Narrative

Pump Station # 1
Stoughton, Massachusetts

May 17, 2010

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 2010003.00

A. PLUMBING NARRATIVE

APPLICABLE CODES AND STANDARDS

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts Fire Prevention Regulations
3. Massachusetts State Fuel Gas and Plumbing Code
4. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The existing building is currently served by a domestic water service. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the facilities domestic water needs. The water distribution system is original to the building and upgrades.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently an existing natural gas service to the building serving the boiler. This service enters the front of the building.
3. Sanitary:
   a. Existing Sanitary Service: The buildings sanitary sewer system provides sanitary waste drainage for plumbing fixtures. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and tying into the towns' municipal sewer system.
4. Fuel Oil:
   a. There is no onsite fuel storage.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   - Water closets are floor mounted; tank type, vitreous china.
   - Lavatories are counter recess mounted vitreous china. Faucets are of two lever handles.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The domestic hot water is generated by the gas fired boiler. The unit is older and appears fair condition.

B. FIRE PROTECTION NARRATIVE

FIRE PROTECTION SERVICE

1. There is no fire protection (sprinklers) coverage currently at the facility.

C. MECHANICAL SYSTEMS:

APPLICABLE CODES AND STANDARDS

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th edition
2. Massachusetts Fire Prevention Regulations
3. International Mechanical Code
4. NFPA, Latest Version
5. ASHRAE 90.1

EXISTING SYSTEMS

1. The existing building is heated by a single hot water boiler. The boiler is an American Standard Arcoliner with burners currently operating on Natural gas. This boiler is approximately 30+ years old and in fair/poor condition, and its useful life expectancy has been exceeded.
2. The present Heating and Ventilating systems consist of finned tube radiation and exhaust systems.
3. Electric unit heaters are provided in the Garage area to heat the space.
4. The existing temperature controls in the facility are electronic thermostats.

D. ELECTRICAL NARRATIVE

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. Massachusetts State Building Code 7th Edition
2. Massachusetts State Fire Prevention Regulations
3. NFPA Latest Edition
4. 2008 Massachusetts Electrical Code
5. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
6. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single electrical service rated 600 amperes, 480Y/277volts, 3-phase, 4-wire and is located in the main pump room. The service equipment consists of utility company pole mounted transformers, an overhead feed to exterior utility

metering equipment a 600amp main disconnect switch and distribution equipment is located in the Main Pump room. The predominance of the main distribution equipment service equipment is in good condition.

2. The lighting throughout the facility consists primarily of pendent mounted 2 lamp industrial fluorescent fixtures. The lighting throughout the facility is older and in fair/good condition. The light levels appear to be within recommended levels.
3. The fire alarm system is a Game well 4-zoned system. There are manual fire alarm pull stations at the exits and horn units located throughout. It was noted by facility personnel during the walk-thru that the system had been problem free.
4. Site lighting is accomplished via building mounted, motion sensor controlled, spot lights. These lights appear to be newer and in good condition.
5. There is a small 120/240 volt emergency standby generator believed to be 6KW, including an automatic transfer switch. This unit is believed to power the controls and monitoring equipment.
6. There does not appear to be any Life safety emergency or exit lighting in the facility.
7. There is currently a Security system including intrusion detection devices at the main doors and motion sensor detection devices throughout.

E. MEP SYSTEMS CONCLUSION

In general, the systems vary in age from original to the building and/or renovations. Some equipment such as the boiler have reached their life expectancy and should be replaced in order to improve the reliability, efficiency and to cut down on the operational and maintenance costs associated with the heating system.

Plumbing systems although older seem to be in good working condition.

The Electrical systems appear to be in good condition however some older distribution equipment (panelboards) should be replaced with newer equipment with additional breaker spaces to meet any future needs and to alleviate the possibility of overloading individual circuits when new equipment and or devices are added to the existing circuitry. The lighting systems are older and should be replaced with newer more efficient fixtures utilizing the latest lamping and ballasting configurations in order to improve energy efficiency. The addition of automated lighting controls should be implemented in order to meet current energy codes and to save on energy costs. Fire alarm system should be replaced to add additional detection and audio visual annunciation devices. Exits and emergency lighting units should be installed to ensure that these systems are available in case of an emergency.

Stoughton MA

Capital Needs Survey Form

South Elementary

1-27-10

SYSTEM	Meets Code	System Rating A to E (A Excellent,B Very good,C Good, D Fair,E Poor)	System Priority A to E (A-Health & Safety, B-High, C-Medium, D-Low)	Last Major Reconstruction (Year)	Year 1 Quantity	Year 1 Budget	Year 2 Quantity	Year 2 Budget	Year 3 Quantity	Year 3 Budget	Year 4 Quantity	Year 4 Budget	Year 5 Quantity	Year 5 Budget	Remarks
General Building (3,000sf)															
Site Construction															
Site - Electrical															
Site - Lighting															
Building Mounted Fixtures		C	C												
Pole Mounted Fixtures		C	C												
Site - Gas		B	D												
Site - Water		B	D												
Special Construction															
Security Systems		B	B												
Fire Alarm Systems		D	A				1	12000							New F/A system
Mechanical															
General Mechanical (Motors, filters, hangers, etc…)		C	C												
Water Distribution System		C	C												
Plumbing Drainage System		C	B												
Storm Drainage System		C	D												
Heating/Cooling Piping System		C	C												
Plumbing Fixtures / Equipment		C	C												
Water Heaters		B	C												
Boiler / Furnaces / Accessories		D	B				1	25000							1 new hot water boiler
Ventilation Systems		C	B												
Exhaust Systems		D	B												
Heating Fuel Systems		C	C												
Electrical															
General Electrical (Starters, VFD's, etc…)		B	C												
Electrical Service / Distribution		C	C												
Lighting - General		C	B						1	10000					New lighting & auto controls
Lighting - Exit/Emergency Lighting		E	A				1	6500							New Exit and Emg. Batt units
Grounding and Bonding		B	A												
Packaged Engine Generators		C	A												
Overhead Electrical Distribution		B	C												
Communication Systems		C	B												
Technology Systems		C	B												