



Milton

Consolidated Facilities Department

William F. Ritchie, CPE, CFA

Director of Consolidated Facilities

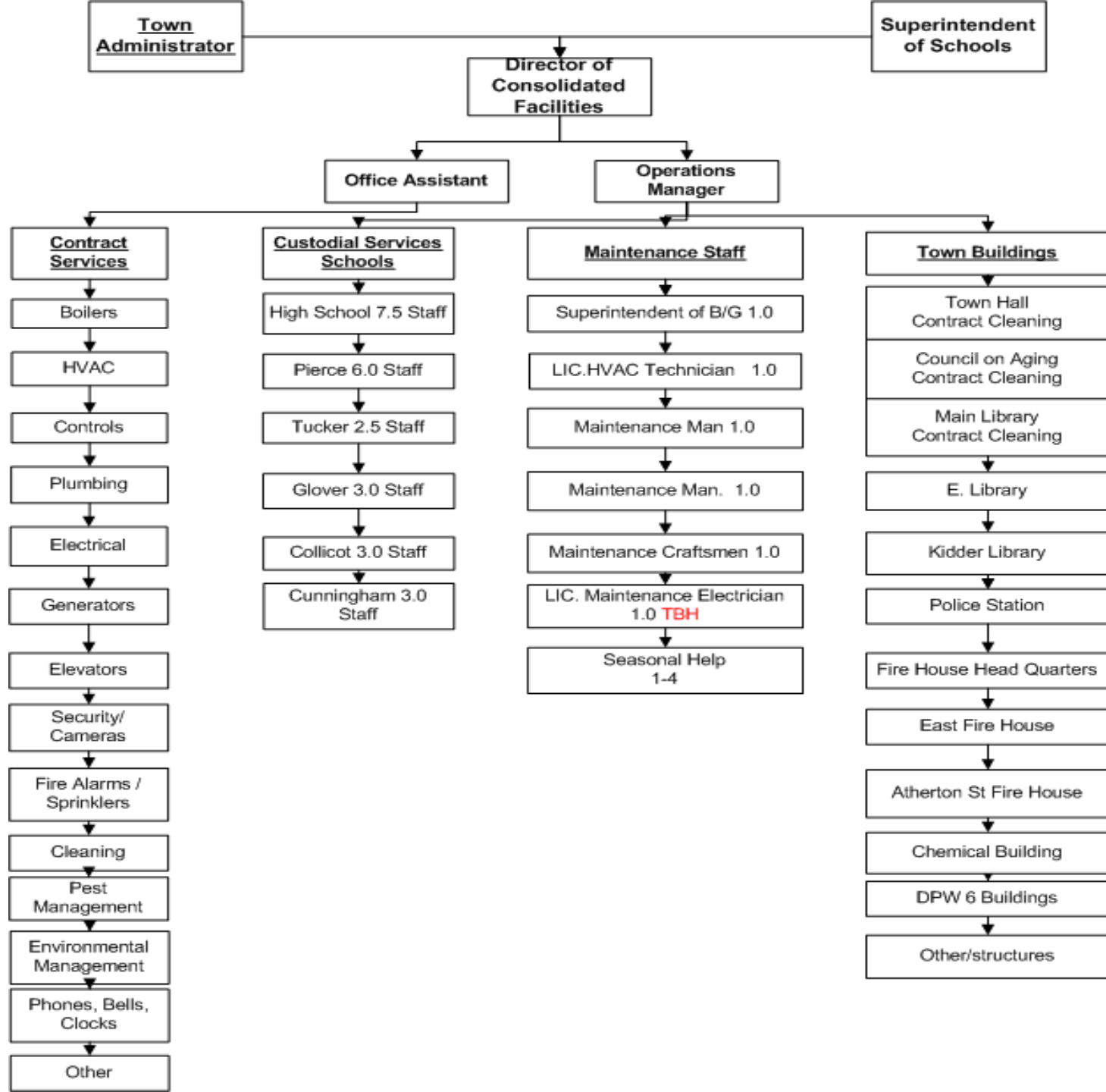
April 2012

Mission Statement

The mission of the Consolidated Facilities Department is to provide professional Facilities Management and services to all town buildings in the planning, construction, renovation, maintenance and cleaning operations in the most cost-effective manner possible in order to promote a safe, clean and well maintained environment for all building occupants.

CURRENT CONSOLIDATED FACILITIES OVERSIGHT

Number of Town and School Facilities	22
Estimated Gross Square Feet of C.F.D.	863,238+
Estimated Value of Facilities	\$175,000,00
<u>Total</u> Staff oversight Schools/Town	April 2, 2012 32
(Includes) -Consolidated Facilities Staff	5
(Includes) – School Facilities Staff	27
Contract Services/Vendors	25
Cleaning Contracts (Town Hall, Main Library and Senior Center)	1



TBH & Items in
Red are future
hires

Overview of Responsibilities

Operations Manager

- Reports to the Consolidated Facilities Director
- Maintenance/custodial support services
- Assists with evaluation of staff
- Oversee/coordinate Grounds, Maintenance and pedestrian snow removal/with various Departments
- Review/assign all work orders
- Coordinates day to day operations
- Assists with (IPM,AHERA,DEP) regulations
- Preventative Maintenance work (implement & monitor)
- Personnel issues
- Assist Director with MIIA Inspections/ corrective actions
- Performs routine and scheduled facilities inspections
- Assists Building Principals/Department Heads with daily operations and project management

CURRENT GOALS OF THE CFD

- To complete Building Condition Study of all Facilities
- Implement web based preventative maintenance and work order system to maintain buildings, equipment and HVAC systems
- Evaluate and consolidate vendor contracts for efficiency/cost savings
- Continue to obtain and recommend Energy Grants to reduce energy consumption/cost savings



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Milton Consolidated Facilities
Date Created: 2/29/2012 10:46AM

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Work Order ID: 112		Completion Date:	
Description	case of paper to copy area 2nd Fl.		
Location	Town Hall	Building	
Area	Office	Priority	Low
Area Number		Craft	Custodial
Custom Category		Type	
Status	Void	Estimated Hour	0.00
Assigned To	Colligan, Diane	Requester	Bill Ritchie 617-898-4930
Estimated Start	2/29/2012	Request Date	2/29/2012
Est. Completion Date		Req. Completion	
Budget Code		Purpose Code	Other
Project Code		Project Description	
Equip Item No.		Equip Desc	
Notes			

Purchases						To Date: \$0.00
Date	Inv/Ref	Description	Supplier	Pool	Qty	Cost Each

Labor			To Date:	h
Date	Name			Hours

Technician Name
www.schooldude.com MaintenanceDirect

Date

Confirmation

Date
Printed by Diane Colligan

	MILTON	PUBLIC	SCHOOLS	
	Square Footage	Of Buildings,	Staffing Levels	
	BEFORE Const. (2000)	AFTER Const. (NOW)	S.F.INCREASE	% INCREASE
MILTON HIGH SCHOOL	138,000	238,000	100,000	72%
PIERCE	118,000	160,000	42,000	36%
COLLICOT	36,000	67,300	31,300	87%
CUNNINGHAM	52,000	75,800	23,800	46%
GLOVER	59,000	72,000	13,000	22%
TUCKER	44,000	66,000	22,000	50%
TOTALS	447,000	679,100	232,100	52%
STAFFING LEVELS (CUST)	25FT CUSTODIANS	25FT CUSTODIANS		
	2 FLOATERS	NONE		
SQ FT PER CLEANING STAFF	16,500SF	27,164SF		
STAFFING LEVEL (MAINT)	5 FULL TIME MAINTENANCE	1 FT MAINTENANCE 1FT HVAC		

CUSTODIAL	CLEANING	COMPARISON
TOWN	AREA/ PER. CUST. (SF)	
WELLESLEY TOTAL DISTRICT	25,000	
HAMILTON	28,000	
NORTHBRIDGE	37,000	
WESTFIELD HIGH SCHOOL	22,000	
PEMBROKE HIGH SCHOOL	41,000	
CANTON HIGH SCHOOL	42,000	
NEWTON ELEMENTARY SCHOOLS	23,356	
NEWTON MIDDLE SCHOOLS	26,590	
NEWTON HIGH SCHOOLS	32,500	
BLUE HILLS REGIONAL SCHOOL	48,847	
WESTBOROUGH	30,000	

National Guidelines for Custodial Cleaning

- Based on information from the **National Custodial Staffing Guidelines** and the **International Sanitary Supply Association (ISSA)** a five-tiered system was developed to determine what the cleaning expectation of one full time custodian during an eight hour shift.
-
- **Assumptions:** These cleaning recommendations do not take into account for two hours of cafeteria cleaning, errands, deliveries, function setup, sidewalk snow removal, personal breaks and other normal school distractions. Based on these assumptions, there would be a reduction of 2.5 hours of productive cleaning for every daytime custodian (8 staff or 20 hours) and 1 hour reduction in productive cleaning for every evening custodian (18 staff or 18 hours).
- At a minimum, 38 hours of productive cleaning would be lost per day or a total of 5 staff. Now, the average cleaning per S.F per custodian would increase to about 32,000 SF.
- **Level one cleaning:** Results in a **spotless building** and is usually found in a hospital and hotel setting. It also assumes that the custodian has proper equipment, supplies and specialized training. Cleaning capacity at this level is approximately **14,000 square feet** for an eight hour shift.
- **Level two cleaning:** Results in an **above average** standard and is usually only performed in the kitchen and rest room areas. Hallways would be routinely buffed. Cleaning capacity at this level is approximately **23,000 square feet** per an eight hour shift.
- **Level Three Cleaning:** Results in an **acceptable** cleaning practice for most schools. Not every area of the building would shine but the educational space is clean, well kept and restrooms sanitized. Cleaning capacity at this level is approximately **33,000 square feet** per eight hour shift.
- **Level Four Cleaning:** Results in a **not so clean** educational space. Classrooms are only cleaned every other day, carpets every third or fourth day, major mopping, buffing and dusting only takes place three times per year. This level of cleaning would not be accepted in the industry. A custodian at this level could clean approximately **50,000 square feet** of space per eight hour shift.
- **Level Five Cleaning:** Results in an **unhealthy** education space. Trash removal, minor vacuuming, mopping and bathroom cleaning may only take place once per week. This custodian can clean up to **80,000 square feet** of educational space.
- *Based on the information and assumptions presented I can personally say that our custodians are doing a good job in maintaining our School Facilities. Our floors continue to be washed, buffed, waxed and the general upkeep of most of our school buildings are in an above average condition and in good shape.*

Green Cleaning Initiatives

- Since 2001 Milton Public Schools has been committed and continues to promote the purchasing of environmentally friendly and or certified green cleaning products.
- In 2000 only 15% of the cleaning products were environmentally friendly.
- Today 70% of all cleaning products used are either EPA green certified or environmentally friendly.
- We use safe glass cleaners, general surface cleaners and we now use safe floor strippers.
- This spring/summer we are working with a janitorial supply company to help us evaluate our current cleaning procedures. We are piloting Pierce Middle School .

Environmental Achievement Awards

- 2007: Alliance for a Healthy Tomorrow (Green Cleaners and Promoting Healthy Schools Award)
- 2006: Commonwealth of Massachusetts EPA “Environmental Purchasing and Sustainability Award
- 2003: U.S. Environmental Protection Agency “Leadership Award” Tools for Schools Indoor Air Quality
- 2001: University of Massachusetts “Promoting Healthy Schools Award



**ROOFING REPAIR AND COATING PROJECT 40% COMPLETED AT
GLOVER ELEMENTARY**



INSPECTION OF EXTERIOR DUCT WORK AT 50% COMPLETED AND ROOF COATING PROJECT AT 100% COMPLETED

Calendar 2011 Glover & Tucker Roof Restoration In-Sourcing Projects						
	Glover	Tucker			Glover	Tucker
Roof Area SF	16,500	17,834		Roof Area SF	16,500	17,834
Est. Bid Cost	\$ 110,000	\$ 116,000		Total In-House	\$ 37,947	\$ 38,974
Bid Cost per SF	\$ 6.67	\$ 6.50		In-House Per SF	\$ 2.30	\$ 2.19
Warranty	10 yrs	10 yrs		Warranty	10 yrs	10 yrs
				White Knight	\$ 28,861	\$ 31,072
				Poly Grip	\$ 791	\$ 650
				Rollers & Misc	\$ 100	\$ 100
				Cleaning Prep Materials	\$ 75	\$ 75
				Materials Subtotal	\$ 29,827	\$ 31,897
				Labor (Mostly OT)	\$ 8,120	\$ 7,077
				Est Bid Cost	\$110,000	\$116,000
				Actual In-House	\$ 37,947	\$ 38,974
				Cost Avoided	\$ 72,053	\$ 77,026
				Bid Price By the Dollar	\$ 1.00	\$ 1.00
				% Discount from Bid	\$ 0.66	\$ 0.66
				In-house Per Dollar Cost	\$ 0.34	\$ 0.34



EXTERIOR DUCT WORK PRIOR TO REPAIR AND REPLACEMENT AT PIERCE MIDDLE SCHOOL



NEW EXTERIOR DUCT WORK COMPLETED AT PIERCE MIDDLE SCHOOL



NEW EXTERIOR DUCT WORK 100% COMPLETED AT PIERCE MIDDLE SCHOOL

ON GOING ENERGY CONSERVATION MEASURES

- We are currently working with a third party energy consultant to investigate additional energy options.
- **Indoor/Outdoor Lighting Retrofits, such as LED Interior and Parking Lot Fixtures**
- **Variable Speed Drives & Motors**
- **Energy Management System, such as Demand Control Ventilation**

Pierce Middle School:

- We recently completed an energy project at our Pierce Middle School by replacing 170 hallway fixtures. (93 Watts to 57 Watts) due to light bulbs and ballast upgrade.
- We used Green Communities funding of roughly \$24,000 to pay for materials and labor.
- We received an additional \$6,200 from an NSTAR Grant that we obtained.
- The total in-house cost to the School Department was ZERO Dollars.



EXISTING HIGH SCHOOL BOILER HAS LINKAGE CONTROLS AND WITHOUT A VFD ON THE 10HP MOTOR. WE ARE INVESTIGATING ENERGY OPTIONS TO CONVERT TO COMPUTERIZED CONTROLS AND VFD. (NEXT SLIDE)



AN EXAMPLE OF A SIMILAR BOILER WITH UPDATE CONTROLS AND VFD.



EXISTING 900 GAL. HW TANK LOCATED AT THE HIGH SCHOOL. WE WILL BE INVESTIGATING OUR OPTIONS TO CONVERT TO A SMALLER UNIT FOR SUMMER USAGE TO SAVE ON ENERGY.



NEW SOLAR PANELS ON OUR FIELD HOUSE ROOF



**SOLAR PANELS ON OUR HIGH SCHOOL
ROOF AT BC LINK**



FOUR HIGH SCHOOL SOLAR PANEL INVERTERS



Energy Star Rating Update:

We have begun the process in applying for energy star rating once again for Milton High School. We scored a 92% this year. We will submit the score for Tucker in the near future.



STATEMENT OF ENERGY PERFORMANCE

Milton High School

Building ID: 1998917
For 12-month Period Ending: February 29, 2012¹
Date SEP becomes ineligible: June 28, 2012

Date SEP Generated: March 20, 2012

Facility
 Milton High School
 25 Gile Road
 Milton, MA 02186

Facility Owner
 Milton School Department
 25 Gile Road
 Milton, MA 02186
 617-696-5040

Primary Contact for this Facility
 William Ritchie
 25 Gile Road
 Milton, MA 02186
 617-696-5040
 britchie@miltonps.org

Year Built: 2002
Gross Floor Area (ft²): 238,000

Energy Performance Rating² (1-100) 92

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	4,878,372
Electricity - On-Site Solar(kBtu)	4,229
Fuel Oil (No. 2) (kBtu)	67,436
Natural Gas (kBtu) ⁴	6,903,236
Total Energy (kBtu)	11,853,273

Energy Intensity⁴

Site (kBtu/ft ² /yr)	50
Source (kBtu/ft ² /yr)	99

Emissions (based on site energy use)
 Greenhouse Gas Emissions (MtCO₂e/year)

913

Electric Distribution Utility
 NSTAR Electric Co

National Median Comparison

National Median Site EUI	86
National Median Source EUI	172
% Difference from National Median Source EUI	-42%
Building Type	K-12 School

Meets Industry Standards⁵ for Indoor Environmental Conditions:

Ventilation for Acceptable Indoor Air Quality	Yes
Acceptable Thermal Environmental Conditions	Yes
Adequate Illumination	Yes

Professional Engineer Stamp
Signature: _____
Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate and in accordance with the Licensed Professional Guide.

Professional Engineer
 License Number: 46492
 State: MA
 Charles Mace
 24 Lovell Rd.
 Melrose, MA 02176
 617-303-1133

Notes:

1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.

UTILITY CONSUMPTION REPORT

[illegible]