I. Executive Summary

The Milton Department of Public Works operates out of a single site which it shares with the Park and Recreation Department (a separate and distinct municipal department). The site, comprised of 8.7 acres, is configured in a generally irregular shape and includes a total of 12 buildings scattered across the acreage. There is no single operational headquarters where employees can report to for work, change and store their belongings, wash-up, eat their lunch, or assemble for training or other purposes. The administrative headquarters operates out of a wooden building that was moved to the site as a "temporary facility" more than some forty years ago. There is inadequate interior vehicle storage resulting in exterior storage of emergency response vehicles. There is inadequate storage space for construction materials, supplies, and handling of waste materials. There is inadequate shop space. Several operational functions directly conflict where trucking and equipment traffic interact with customer traffic.

The Town's Park Department and Consolidated Facilities Department also operate out of inadequate facilities. It has been the position that consolidating special needs of the various DPW operations, Park Department operations, and Consolidated Facilities operations into a single operational headquarters (or fewer total buildings) would greatly improve customer service and safety, employee morale, operational efficiency, energy efficiency, and greatly improve environmental conditions in the affected departments. The existing facility does not meet the current needs of the DPW or the Park Department, and hasn't met those needs for more than several decades. It stands to reason that the existing DPW facility cannot possibly house or accommodate the added special needs of the Consolidated Facilities Department.

The existing facilities use several buildings that are more than 100 years old. Most of these buildings fail to meet even the most basic of building code requirements. The union that represents the labor force of the DPW, Parks, and Consolidated Facilities Departments has a formal grievance in place which speaks to the deplorable conditions and/or nonexistence of locker room, restrooms, wash areas, and assembly and training areas.

In August of 2012, the Consolidated Facilities Department published a report of the assessment of all municipal facilities. Relative to the DPW facility the report states "Overall this facility is in need of major reorganization to function more efficiently…" The report substantiates that most of the buildings are both functionally obsolete and physically

deficient. The general conclusion is that the facility needs to be replaced. In fact, the roof of one of the DPW garage buildings has since collapsed. This has resulted in the loss of an additional 1,500 square-feet of garage space.

The Town issued a Request for Proposals for Architectural/Engineering services to conduct a comprehensive needs assessment and feasibility study. Funding for such a study was brought before the Town's Capital Planning Committee several years in a row. All members recognized the need for not only a study, but for facility improvements. However, the project failed to garner support for funding during the budget process. Finally, support for the project resulted in a Town Meeting ARTICLE in 2014. Town Meeting authorized funding to conduct the needs assessment project but added the provision that a citizens committee be established to develop the scope of the project and oversee the process. This report is the product of that process.

In summary, the report confirmed the deficiencies in the existing facilities as well as the impacts to the operations associated with these deficiencies. The report recommends the construction an approximately 72,500 square foot new/renovated Department of Public Works, Parks Department, and Consolidated Facilities Operations Facility at the main DPW yard located at 629 Randolph Avenue which will serve the current and future needs of the departments.

I. Introduction

The Town of Milton retained the services of Weston & Sampson to prepare a feasibility study for a new facility to house the Department of Public Works (DPW), Parks Department, and Consolidated Facilities Department (CFD). The object of the study was to develop a program of buildings and site features which are capable of cost effectively and efficiently supporting the services offered by the departments to the community. The study included inspecting existing facilities, identifying deficiencies, interviewing staff, identifying current and future needs, developing conceptual alternatives, evaluating the preferred conceptual alternatives with DPW Yard Study Committee, and preparing budget cost estimates for the preferred alternatives.

II. Space Needs Assessment

The Project Team prepared a space needs assessment to identify the current and future needs of the Department of Public Work, Parks Department and Consolidated Facilities Department. The assessment included analyzing current deficiencies in the facility which need to be corrected with the construction of a new facility. The assessment also included interviewing key staff to learn first-hand the operational issues with the existing facility. The staff interviews were supplemented with support by the project team's knowledge of industry practices and familiarity with solutions which have been implemented on recently constructed public works facilities.

Operational Analysis

The operational analysis was based on inspection of the existing facilities which are used to support the Department of Public Works, Parks Department, and Consolidated Facilities operations, and a determination of the functional inadequacies and space limitations of the

existing building and site.

The DPW is composed of several divisions, including Administration, Engineering & GIS, Operations, Vehicle Maintenance, Wire and Special Projects Division. These divisions, in conjunction with the Consolidated Facilities Department (CFD) and Parks Department, are responsible for maintaining the Town infrastructure and associated open space within the community. A list of some of the vital services provided by DPW, CFD and Parks includes:

- Engineering services for design, oversight, and management of capital construction projects, including improvements to roadways, traffic systems, water, sewer, and drainage infrastructure
- Water and sewer billing
- Snow plowing and sanding
- Road/sidewalk maintenance
- Street sweeping
- Street sign installations and maintenance
- Trash, recycling & yard waste collections
- Stormwater management
- Tree maintenance and clearing downed limbs
- Custodial care/cleaning, maintenance, repair, landscaping, and pedestrian snow removal for all town owned facilities including Town Hall, High School, Piece Middle School, Collicot Elementary School, (3) town libraries, Senior Center, Cemetery, Police Station and (3) Fire Houses.
- Maintenance of 115 acres of parks
- Maintaining streetlights, municipal fire alarms, traffic lights and town owned electric systems such as sewer pumping station electric systems

The existing operations are supported out of a number of facilities around town. The main

DPW yard is located at 629 Randolph Avenue, and includes 12 separate buildings scattered across an 8.7 acre site. The total gross area of all the existing buildings at the current DPW yard is 40,446. The DPW headquarters building is a 50+ year old 4,587 square foot building located near the only entrance to the site. This building includes the director's office, administration staff offices and workstations, the Engineering and GIS Department, and the public counter area. Vehicle Maintenance is a 4,100 square foot concrete masonry block building built in the 1970's with five vehicle maintenance bays, mechanic's offices, parts and tire storage. The current Operations and Vehicle Storage areas are located in five buildings dispersed across the site. The Consolidated Facilities Department administration staff (3 people) is located at Town Hall and their field staff (6 People) are housed in various locations, including small remote garages and the basement of the High School. The Parks Department is housed in a 1,766 sf building near the recycling area. These facilities have received only minimal upgrades to support the growing DPW operations, Parks Department, and the newly created Consolidated Facilities Department. The facilities at the DPW yard site have been developed haphazardly due to budget and space constraints as needs arose rather than as part of a coordinated master plan for the site. As a result, there are multiple operational inefficiencies which impact the level of service the DPW, CFD and Parks Departments are able to provide to the community. The following is a summary of some of the deficiencies and/or inefficiencies associated with the existing facility:

- The Vehicle Storage facilities are undersized and are unable to efficiently support current operations, resulting in a large portion of the multi-million dollar fleet being stored outdoors. This impacts DPW response times during cold and inclement weather conditions. It also contributes to the rapid deterioration of high value Town owned equipment and increases vehicle maintenance costs.
- The DPW Headquarters building is also undersized, lacks adequate office space, conference room, storage areas, and code compliant Men's and Women's toilets.
- The maintenance area is generally undersized and cannot fit the Fire Department

ladder truck inside the maintenance bays.

- The buildings and site have limited public accessibility.
- The physical separation between buildings and departments makes it difficult for DPW management to maintain safety and monitor workforce activities.
- Inadequate working environment, including:
  -Poor ventilation
  -Inadequate lighting
  -Confined workshop areas
  -Inadequate facilities for state mandated training
  -Inadequate employee facilities for mustering, breakroom, toilets, and lockers

These deficiencies directly impact operations and the efficiency of service that the DPW, CFD, and Parks Departments are able to provide to the town.

Staff Interviews

The staff interviews conducted by the project team focused on identifying all DPW, CFD, and Parks Department functions, identifying current deficiencies, and identifying current and future space requirements. The information obtained during these interviews included detailed accounts of space deficiencies in the existing facilities which affect day-to-day operations. A summary of the departmental organization and equipment inventory is as follows:

Department	**Supervisor Office**	**Admin Shared Office**	**Workstations**	**Staff Full-Time**	**Future Staff**	**Total Staff**
Administration	2	1	4	5	0	5
Engineering/GIS	2	1	8	3	2	5
Operations	1	1	4	25	0	25
Vehicle Maint.	1	0	0	2	0	2
Wire & Special Projects	1	0	0	3	0	3
Parks	1	1	2	3	0	3
Offsite						
Consolidated Facilities	1	1	2	9	0	9
TOTAL	10	5	20	50	2	52

Vehicles / Equipment	**Quantity**
Large Vehicles o Dump Trucks o Loaders / Backhoes o Sweepers	36
Small Vehicles o Sedans o Utility Vehicles o Pickups / 1 Ton / ¾ tons	50

This listing does not include small support equipment such as tractors, mowers, chippers, trailers, compressors, pumps, hand tools, etc. However, provisions for storage of these types of items have been included in the final program.

Space Needs / Room Part Plans

The data obtained from the operations analysis and interviews were compiled and analyzed by Weston & Sampson. The analysis consisted of individually identifying the space needs for the operations of each function by developing sketches of individual rooms. Sketches were prepared for each major space including office and office support areas, employee facilities, shop spaces, vehicle maintenance, wash area, and vehicle/equipment storage areas. These space requirements were then assembled into a comprehensive space allocation matrix. The space needs assessment identified an initial requirement of approximately 83,983 square feet. The results of the initial space needs were then reviewed in detail by the Project Team and DPW staff to determine if the spaces could be reduced without negatively impacting operations. Based on valuable input from DPW, Park, and CFD staff, the team was able to reduce, and in some cases combine, spaces in an effort to control the size and cost of the building program. These reductions resulted in a modified space needs projection of 72,492 square feet. This reflected an overall reduction in the space needs of 11,491 square feet, or approximately 14%.

The results of the final space needs assessment were then compared to Weston & Sampson's in-house *Department of Public Works Space Needs Guidelines.* These guidelines have been developed utilizing historic data from similar DPW facilities which have been programmed and constructed for other New England communities. Utilizing the size of the Milton DPW, Park, and CFD departments and the associated vehicle fleet, the guidelines identify a facility size ranging from approximately 71,340 square feet to 83,929 square feet. These guidelines confirm that the final detailed space needs assessment is in line with today's standards for similar facilities.

A copy of the space needs guidelines worksheet has been included as **Appendix AA** of this Report.

III. Site Assessment and Summary of Deficiencies for Existing Structures

A detailed site assessment was conducted on the existing DPW Yard at 629 Randolph Avenue. The assessment included a summary of deficiencies of the existing structures, a zoning analysis, and a review of available property data from the Assessor's office. In general, our site assessment did not identify any restrictions that would prevent the Town from constructing new buildings on the site. Additionally, we identified existing structures that could be renovated and reused as part of the new facility, as well as those that should be demolished and completely replaced. A summary of the existing structures that are suitable for renovation and reuse is as follows:

- Fuel island
- Crew lockers, breakroom, showers, toilets building
- Vehicle maintenance building
- Engineered metal storage building

A copy of the Summary of Deficiencies for Existing Structures has been included as **Appendix BB** of this report. However, it should be noted that several issues will require further investigation and analysis when the project moves forward including, but not limited to:

- Structural evaluation of the existing buildings
- Compliance with State and local regulations, including Chapter 34 of the Building code (for existing buildings)

- Cost / benefit analysis of reusing existing structures
- Operational suitability with proposed new structures and site circulation.

IV. Conceptual Design Alternatives

Based on the results of the final space needs assessment, the Project Team prepared conceptual alternatives for the redevelopment of the existing DPW Yard site. The alternatives were prepared with the following operational considerations in mind:

- Attempt to reuse as many of the existing structures on the site without compromising operational efficiency
- Arrange interior space to provide efficient circulation patterns
- Provide visual screening of DPW Yard operations from surrounding abutters
- Maximize the existing changes in grade to facilitate loading of bulk waste and other materials.
- Attempt to segregate small/public vehicle traffic from heavy truck traffic
- Providing adequate parking for public and employees
- Provide full access and safe vehicle movement around the perimeter of the facility
- Provide bulk material storage area with adequate yard area for large vehicle maneuvering
- Maintain safe and functional access to/from the salt/sand operations area
- Maintain a counterclockwise circulation pattern to promote safe turning movements for large vehicles

The conceptual alternatives were prepared by developing “Block Building Plans”. These Block Building Plans were developed for each of the major space categories for the new facility as follows:

- Administration & Employee Facilities
- Shops
- Vehicle Maintenance
- Vehicle / Equipment Storage
- Salt
- Fuel
- Wash Bay

The configuration and size of the planning "block" for each building was developed by assembling the individual room sketches identified during the space needs assessment. The economic constraints of the anticipated project and the recommendations of the Committee dictated that the concepts attempt to reuse as many of the existing site facilities as possible. The configurations of the concepts for the DPW Yard were therefore focused on maximizing the reuse of existing structures. Care was taken to appropriately re-program existing elements, and to add new facilities to create a comprehensive master plan, to consolidate the number of buildings on the DPW Yard site, and locate programmatic elements in order to optimize operational efficiencies. In all, fourteen conceptual alternatives were initially generated. The Project Team reviewed each alternative and eliminated the concepts which did not effectively meet the operational criteria established above. Eight alternatives were then presented to the DPW Yard Study Committee. A comparative list of advantages and disadvantages were presented for each alternative. After completing a comprehensive assessment of the alternatives with the DPW Yard Study Committee, Scheme 3B was selected as the most desirable, cost effective and efficient concept. Copies of the initial eight conceptual site plans are included as **Appendix CC** of this report.

V. Phasing Plan for Preferred Design Alternative

After selection of the preferred alternative concept plan, the DPW Yard Study Committee

requested that the project team develop a phasing plan for design and construction. The Committee suggested two scenarios for a possible design and construction schedule: The first considers the entire project being approved at Town Meeting and proceeding with design and construction under a single contract. The second anticipates three distinct phases, each approved at separate Town Meetings, and under separated design and construction contracts. The phases under the second scenario are as follows:

Phase I (Estimated duration: design and construction = 10 months):

- Renovation of existing crew breakroom, lockers, showers, and toilets (approximately 2,400 square feet.)
- Complete gut renovation of interior, replacement of partitions, finishes, doors, windows, fixtures, and insulation at exterior walls.

Phase II (Estimated duration: design and construction = 24 months):

- New Vehicle Storage garage (approximately 32,700 square feet.)
- New Vehicle Maintenance building (approximately 6,000 square feet)
- New Wash Bay (approximately 1,400 square feet)
- Salt Shed (approximately 6,000 square feet)
- Re-skin of existing Vehicle Storage garage (approximately 6,000 square feet)

Phase III (Estimated duration: design and construction = 18 months)

- Renovation of existing Vehicle Maintenance facility to accommodate 2-story administration offices (approximately 8,000 square feet)
- Complete gut renovated interior.
- Cutting and patching of concrete slab
- Infill of overhead door openings
- Infill louvered openings as needed for HVAC and pressure ventilation
- New partition walls, doors, windows, and insulation at exterior walls.

- New egress stair and elevator towers
- Shops Area (approximately 12,600 square feet)
- Employee Facilities (approximately 2,400 square feet)
- New fuel canopy and pumps (reuse existing fuel tanks)

A draft of the proposed design and construction schedule for each scenario has been included as **Appendix DD** of this report.

V1. Conceptual Cost Estimate

A conceptual cost estimate was prepared for the preferred alternative, using square foot costs based on historical data for similar DPW facilities. In general, the cost estimate assumes cost effective building systems, finishes, and equipment as identified in the estimate spreadsheet and as described as follows:

- Construction of a new pre-engineered metal building with partial masonry wall finish and concrete protection wall for the vehicle storage area, maintenance area, wash bay, and shop areas
- Factory foam insulated architectural metal panel with improved exterior finish system.
- Renovation of existing single story block building with complete gut of interior and new partition walls, doors, windows, and insulation on exterior walls
- Re-skin of existing Vehicle Storage building, including roof and walls
- Renovation of existing Vehicle Maintenance space to become two-story Administration Area, with ADA compliant elevator and new stair towers
- Primary industrial support equipment for vehicle maintenance operations
- Site improvements, including storm water management and paving upgrades
- New fuel island canopy and fuel pumps (reuse existing fuel tanks)
- New Salt Shed

- Contingency allowance for unanticipated design and construction costs, pending final design.

Our estimated costs for new building construction, building renovations and site improvements are based on costs of similar construction for which bid prices are available, supplemented by cost data obtained from published sources. It is assumed that the project will be publicly bid under Chapter 149 requirements, and prices are based on 2015 costs. Our cost projection does account for one (1) year of cost escalation. Additional escalation factors should be included once the project time line has been established by the Town. The results of this cost estimate are included in the following pages:

Scenario 1 – Entire project under single contract:

New Building Cost:	$11,307,386	
Renovated Building Cost:	$2,300,000	
Industrial Equipment:	$634,400	
Mezzanine Systems:	$520,000	
Site Development and Support Structure Costs:	$2,952,400	
Design Contingency (10%):	$1,812,967	
Escalation (6%):	$1,196,558	
Subtotal Construction Cost:		$21,139,195
Owner Costs:	$4,118,663	
Construction contingency (8%):	$1,691,136	
Subtotal Administrative and Contingency:		$5,809,799
Total Project Cost DPW Facility – Scenario 1 (Based on anticipated Bid Price):		**$26,948,994**

- A&E Fees
- Furnishings
- Communication/low voltage system
- Printing/advertisement
- Testing & Inspections

This estimate is based on the average bid prices for similar projects completed in the last four years with escalation included to account for anticipated cost increases through the mid- 2016.

Scenario 2 – Phased construction under separate contracts:

Phase I: (Crew Locker, Showers, Toilets, Lockers)

Renovated Building Cost:	$420,000	
Design Contingency (10%):	$42,840	
Escalation (6%):	$28,274	
Subtotal construction cost:		$499,514
Owner Costs:		$303,918
Construction Contingency (8%):	$39,961	
Subtotal Administrative and Contingency:		$343,879
Total Project Cost DPW Facility – Scenario 2 – Phase 1 (Based on anticipated Bid Price):		**$843,393**

- A&E Fees
- Furnishings
- Communication/low voltage system
- Printing/advertisement
- Test & Inspections

Phase II: (Vehicle Storage, Vehicle Maintenance, Wash Bay, Salt Shed)

New Building Cost:	$7,859,479
Renovated Building Cost:	$480,000

Industrial Equipment:	$702,720	
Mezzanine Systems:	$312,000	
Site Development and Support Structure Costs:	$2,793,400	
Design Contingency (10%):	$1,239,055	
Escalation (6%):	$817,776	
Subtotal Construction Cost:		$14,447,382

Owner Administrative Costs: $2,715,055

- A&E Fees
- Furnishings
- Communication/low voltage system
- Printing/advertisement
- Test & Inspections

Construction Contingency (8%):	$1,155,791	
Subtotal Administrative and Contingency:		$3,870,846

Total Project Cost DPW Facility – Scenario 2 – Phase 2
(Based on anticipated Bid Price): **$18,318,228**

Phase III:

New Building Cost:	$3,447,907
Renovated Building Cost:	$1,400,000
Industrial Equipment:	$171,600
Mezzanine Systems:	$208,000
Site Development and Support Structure Costs:	$887,000

Design Contingency (10%):	$623,680	
Escalation (6%):	$411,629	
Subtotal Construction Cost:		$7,272,106
Owner Administrative Costs:	$1,576,258	
Construction Contingency (8%):	$581,768	
Subtotal Administrative and Contingency:		$2,158,026
Total Project Cost DPW Facility – Scenario 2 – Phase 3 (Based on anticipated Bid Price):		**$9,430,132**
Total Project Cost DPW Facility – Complete Scenario 2		**$28,591,753**

- A&E Fees
- Furnishings
- Communication/low voltage system
- Printing/advertisement
- Test & Inspections

The foregoing estimates are based on the average received bid prices for similar projects completed in the last four years, with escalation included to account for anticipated cost increases through the middle of 2016.

Due to the preliminary nature of the development of the design for this project, many budget items are based on general building costs per square foot, with site development costs per -acre. Estimates include a design contingency to allow for scope adjustments identified during design development. In addition, the estimate includes a construction contingency to account

for potential unforeseen conditions which may be discovered during construction. Copies of our conceptual cost estimate are included as **Appendix EE** of this report.