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report

Final Report

Facility Needs Assessment and Feasibility Study

Department of Public Works, Parks Department, and Consolidated Facilities
Milton, MA

August 21, 2015

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Town of Milton
Department of Public Works, Parks Department, and Consolidated Facilities
Facility Needs Assessment and Feasibility Study

Section 1 – Narrative

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. This exterior storage contributes to decreased service life and increased maintenance cost to the equipment. 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 three bays of the DPW garage buildings has since collapsed and has been evacuated and abandoned from use. 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 (nearly double the building square footage currently existing at the site) 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.

II. 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.

III. 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. Refer to **Section 2** for an overall existing conditions plan for 629 Randolph Avenue site. 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,

and is neither handicapped accessible nor handicapped compliant..

- 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. Refer to **Section 3** for a copy of the staff interview notes.

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%. Refer to **Section 4** for space needs matrix and room data sheets.

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 **Section 5** of this Report.

IV. 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. (This building rehabilitation and re-fit is slated for 2015/2016 and is funded at $450,000. Note that the total estimated cost is approximately $500,000 as shown in cost estimate presented under Scenario 2 (Phased Construction.)
- Vehicle maintenance building
- Engineered metal storage building

A copy of the Summary of Deficiencies for Existing Structures has been included as **Section 6** 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.

V. 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
- As recommended by the committee, maximize the use of existing serviceable buildings

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 3C was selected as the most desirable, cost effective and efficient concept. A copy of the preferred

alternative is included as **Section 7** of this report.

VI. 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 **Section 8** of this report.

V1I. 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:	$642,720	
Mezzanine Systems:	$312,000	
Site Development and Support Structure Costs:	$2,793,400	
Design Contingency (10%):	$1,239,055	
Escalation-Year 1 (6%):	$817,776	
Escalation-Year 2 (5%):	$722,369	
Subtotal Construction Cost:		$15,169,751

Owner Administrative Costs: $2,837,858

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

Construction Contingency (8%):	$1,213,580	
Subtotal Administrative and Contingency:		$4,051,438

Total Project Cost DPW Facility – Scenario 2 – Phase 2
(Based on anticipated Bid Price): **$19,221,189**

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 –Year 1 (6%):		$411,629
Escalation – Year 2 (5%):		$363,605
Escalation – Year 3 (4%):		$305,428
Subtotal Construction Cost:		$7,941,139
Owner Administrative Costs:	$1,689,994	
Construction Contingency (8%):	$635,291	
Subtotal Administrative and Contingency:		$2,325,285
Total Project Cost DPW Facility – Scenario 2 – Phase 3 (Based on anticipated Bid Price):		**$10,266,424**
Total Project Cost DPW Facility – Complete Scenario 2		**$30,331,006**

- 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 2018.

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. A copy of our conceptual cost estimate for Scenario 1 – Entire project under single contract is included under **Section 9**. A copy of our conceptual cost estimate for Scenario 2 – Phased construction under separate contracts is included under **Section 10**.

Section 2 – Overall Existing Conditions Plan

EXISTING SITE FEATURES

#	STRUCTURE	DESCRIPTION	APPROX. AREA
1		EQUIPMENT GARAGES	9,702 SF
2		PARKS DEPARTMENT	1,766 SF
3		SALT BARN	2,606 SF
4		EQUIPMENT GARAGE	6,286 SF
5		EQUIPMENT STORAGE	488 SF
6		EQUIPMENT GARAGE / CREW LOCKERS, TRAINING & BREAK ROOM	7,691 SF
7		FUEL ISLAND	834 SF
8		CENTRAL MAINTENANCE	4,100 SF
9		DPW HEADQUARTERS	4,587 SF
10		GILBANE BUILDING	1,100 SF
11		STORAGE BUILDING	430 SF
12		STORAGE BUILDING	856 SF
			40,446 SF

SITE INFORMATION

TOTAL AREA
383,323 SF (8.739 ACRES)

ZONING DISTRICT
RESIDENCE C

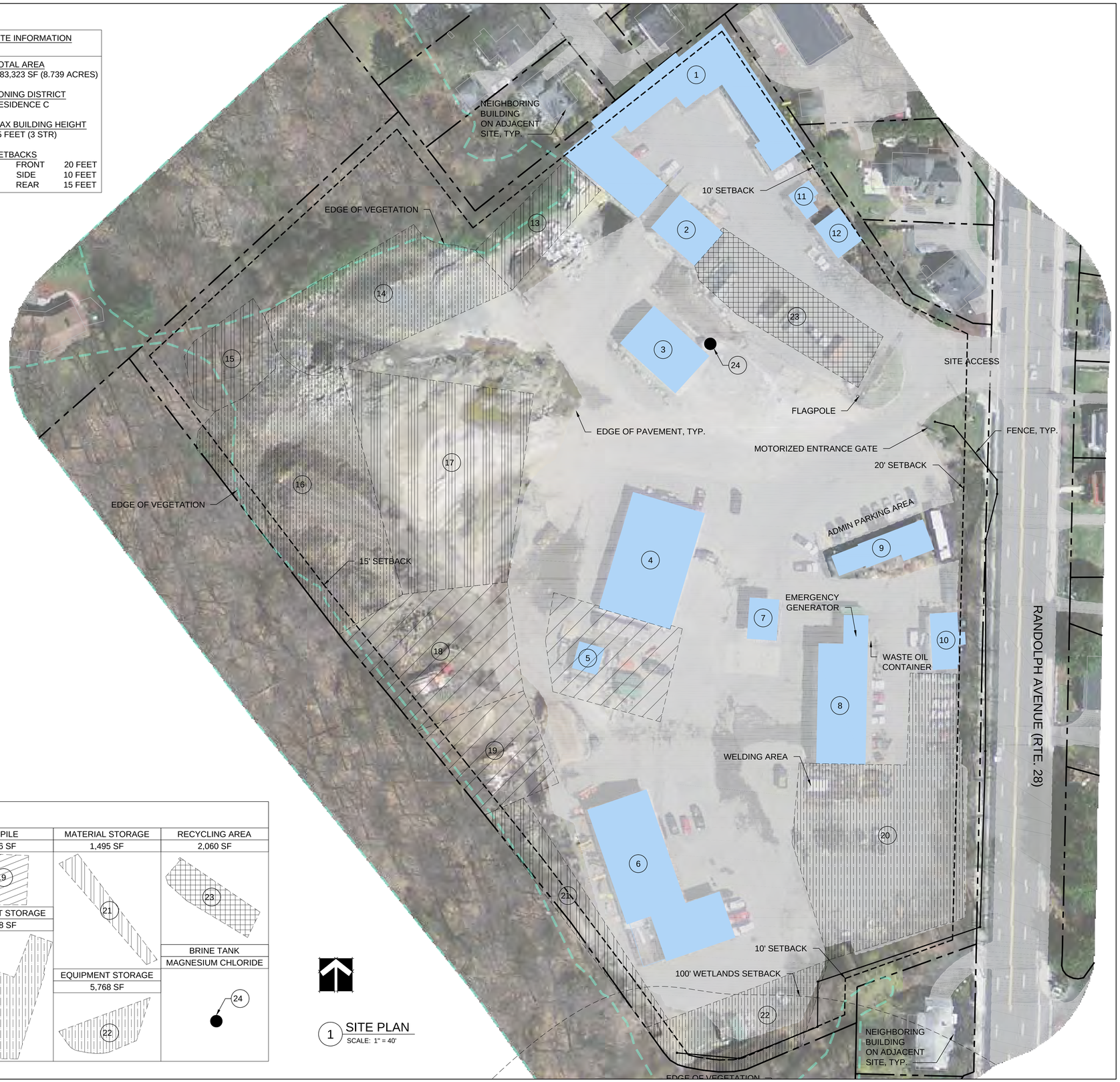
MAX BUILDING HEIGHT
35 FEET (3 STR)

SETBACKS

FRONT	20 FEET
SIDE	10 FEET
REAR	15 FEET

EXISTING SITE AMENITIES

MATERIAL STORAGE	MATERIAL STORAGE	SOILS STOCKPILE	LOG PILE	MATERIAL STORAGE	RECYCLING AREA
1,145 SF	1,156 SF	5,377 SF	1,706 SF	1,495 SF	2,060 SF
13	15	17	19	21	23
BULK AGGRGT STORAGE	STREET SWEEP STCKPLE	WOOD CLIP STCKPLE	EQUIPMENT STORAGE	EQUIPMENT STORAGE	BRINE TANK
3,334 SF	5,370 SF	3,144 SF	5,768 SF	5,768 SF	MAGNESIUM CHLORIDE
14	16	18	20	22	24



1 SITE PLAN
SCALE: 1" = 40'

Project:

TOWN OF MILTON, MA FACILITY NEEDS ASSESSMENT AND FEASIBILITY STUDY

Weston&Sampson
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(508) 698-3034 (800) SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

Rev	Date	Description

Seal:

Issued For:

CONCEPTUAL DESIGN

Date:	August 04, 2015
Scale:	1" = 40'
Drawn By:	JWW
Reviewed By:	JJA
Checked By:	JJA
Approved By:	JJA

Drawing Title:

OVERALL EXISTING SITE PLAN

Sheet Number:

A1.02

Section 3 – Staff Interview Notes

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TO: Milton DPW Study File

FROM: Jared Wright-Ward

DATE: 13 April 2015 (Revised with comments from Joseph Lynch 09 June 2015)

SUBJECT: Staff Interviews

This is a summary of the notes and observations, based on interviews conducted with Town of Milton Department of Public Works, Consolidated Facilities, and Parks and Recreation staff, and information gathered from site walk on April 9, 2015 and historical records provided by department staff.

Weston & Sampson project team:
Jeff Alberti
Joseph Fitzpatrick
Jared Wright-Ward

Department of Public Works Staff Interviews:
Apr. 09, 2015
Joseph Lynch, Director of Public Works
John P. Thomas, Town Engineer
Dale Horsman, Civil Engineer
Kathy Bowen, Senior Administrative Clerk
Alan Bishop, GIS / Engineering
DPW Workforce (Ben, Danny, Patrick, David, Kevin, Chris**,** Brian)

Consolidated Facilities Staff Interviews:
William F. Ritchie, Director of Consolidated Facilities
Jim, HVAC / Schools

Parks and Recreation Staff Interviews:
David Perdios, Director of Parks & Recreation Department
John Baxter, Foreman

Existing Facility Site Visit:
Address: 629 Randolph Avenue

DPW Headquarters
Gilbane Building
Central Maintenance
Equipment Garages
Crew Lockers, Training & Break Room
Salt Barn
Parks Department
Recycling Area
Storage Buildings
Bulk Material Storage

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General

The existing Public Works Facility is located at 629 Randolph Avenue, the facility includes DPW Headquarters, Gilbane Building, Salt Barn, Parks Department Shops, Central Maintenance, Recycling Area, Equipment Garages, Storage Buildings, Crew Lockers, Training & Break Room, and Bulk Material Storage scattered across an 8.739 acre site. Some of the storage and equipment garages are wood framed and/or concrete block construction and unsafe due to structural issues (step cracking) and roof failure. These storage and equipment garages have no insulation and inadequate circulation/exits. There is also a need for better vehicle circulation around the recycling area and separation between it and DPW Operations.

Department of Public Works Full-Time / Part-Time / Seasonal Staff

Department	Full-time	Winter Seasonal Full-time	Summer Seasonal Full-time	Part-time	Future
Public Works					
Administration (*note 1)	**5**	-	-	-	
Engineering & GIS (*note 2)	**3**	-	-	**2** (co-op)	**2**
Maintenance/Operations (*note 4)	**25**	-	**8**	-	
Vehicle Maintenance	**2**	-	-	-	
Consolidated Facilities					
Administration	**3**	-	-	-	
Maintenance (*note 3)	**6**	-	-	**4**	
Parks & Recreation Department					
Operations (*note 5)	**3**	-	**11**	-	
Total Staffing Need	**47**	-	**19**	**6**	**2**

*note 1: Includes (2) Water & Sewer billing positions currently located at Town Hall to be relocated to the new facilities.

*note 2: Includes (1) future Assistant Town Engineer position, (1) future Storm Water Engineer position, and (1) GIS Intern

*note 3: Includes (1) future Maintenance Electrician

*note 4: (24) Workforce and (1) Operations Supervisor

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*note 5: (3) Supervisory staffs remain @ Town Hall (Director, Recreation Supervisor, Clerk)

Engineering and GIS Department

New facility includes ADA accessible public counter w/computer and open office area.

(5) Workstations:

(1) Future Storm Water Engineer, (2) co-op students, (1) GIS engineering, and (1) Civil Engineer.

2 Offices:

(1) Town Engineer, (1) Assistant Town Engineer office adjacent to open office area, offices to be near the small conference room.

Space and storage requirements:

- Plan layout/map cutting tables
- Plotter room (large plotter, color plotter, small printer, plotter supply storage)
- Large scanner
- Plan Storage in flat files
- File cabinets
- Consider u-shaped workstations
- Roll Files Storage
- Separate secured closet for Survey Equipment
- Engineering library (Contracts, Binders)
- Space for permit storage (currently at Town Hall)
- Shared work area for work order processing and docking stations for tablets
- Consider Smart Screen TV
- Consider moving engineering archive storage currently at Town Hall to new facility
- Kitchenette (Consider shared kitchen with DPW admin area)

Vehicle storage requirements:

- Ford Escape
- Ford Fusion
- (2) Future

DPW Administration Office Area

New facility includes ADA accessible public counter (consider separating from Engineering public counter), and open work area w/workstations for (3) DPW admin employees, including (2) Water & Sewer billing positions currently located at Town Hall to be relocated, and a Senior Administrative Clerk. Provide (3) offices: (1) Director of Public Works, (1) Assistant Director / Manager of Operations, (1) Manager of Wires and Special Projects. Consider reusing the current maintenance building as admin office area.

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Foxborough, Massachusetts 02035
www.westonandsampson.com
Tel: (508) 698-3034 Fax: (508) 698-0843

Innovative Solutions since 1899

Space and storage requirements:

- Large conference room (w/AV technology)
- Copy/File/Mail Area
- Copier Supply Storage
- Conservation File Storage
- File Cabinet Storage (permits)
- Consider cash register
- Men's and Women's Admin Toilets
- Separate Uni-Sex Public Toilet
- Murphy bed or closet with bed/toilet in director's office
- Kitchenette (shared w/engineering)
- Coat closet
- Cable TV

Vehicle storage requirements:

- (1) Ford Fusion
- (1) 1-Ton Utility

Maintenance/Operations

Operations provide dispatch/coordination of snow removal operations for 122.42 miles of road during the winter, including subcontracted plowing and salting support operations during storm events. Maintenance provides asphalt patching of roads, small repair and upkeep of town properties and signage. Summer operations include tree maintenance, street sweeping, maintenance and repair of storm drains and sewer systems, water main breaks and staffing for the recycling center the first Saturday of every month. Provide shared foreman work area for (3) foreman. Consider reusing "new" metal equipment garage.

Maintenance/Operations Staff at Interviews:

Ben – Senior Foreman
Danny-Senior Forman (Water)
Patrick-Paving Foreman
David- Street Sweeping
Kevin-Wire Division
Chris-Tree Division
Brian-Head Mechanic

Space and storage requirements:

- Asphalt Pavement Shop (2) pick-up trucks, trailer, (3) separated bays, minimal secured storage.
- Street Sweeper Shop (large enough to fit street sweeper, sweeper parts and supplies)

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- Water and Sewer Shop (3) separate bays, heated space, no meter testing, maintenance of pumps, water material storage, meter storage, future SCADA room, storage of pumps, hoses, brass fittings and bypass hoses.
- Sign Shop (temporary construction sign storage)
- Carpentry Shop
- Locker/Shower/Toilet Room
- Muster Room (accommodate up to 40 people)
- Lunch/Break Room
- Multi-Purpose/Bulk Room (cots for storm events)
- Emergency Generator Storage
- Covered Storage for plow blades, bulk materials
- Bulk Material Storage
- Bulk Aggregate Storage
- Miscellaneous Soils Stockpile
- Street Sweeping Stockpile
- Wood Chip Pile
- Log Pile
- Fuel Island (currently 8,000[Gal] Diesel & 10,000 [Gal] Gas)
- Salt Storage Building
- Recycling Area
- Vehicle Wash Bay
- Storage for miscellaneous equipment in onsite storage containers

Vehicle storage requirements:

- Refer to Milton DPW Vehicle + Equipment Inventory

*Site visit scheduled for 16 April 2015 to determine vehicle storage requirements. (John 617-799-9251)

Vehicle Maintenance – (2) full-time mechanics, work includes maintenance of all town vehicles including fire trucks, police vehicles, highway work vehicles and heavy equipment, as well as pickup trucks, dump trucks, loaders, backhoes and other heavy equipment. Some small equipment repair / maintenance work for skid steer, trailers and attachments, plows, sanders, and miscellaneous equipment.

***General space and storage requirements:**

- (5) Maintenance bays including heavy duty maintenance bays w/ 60'-0" depth to accommodate ladder trucks and plow trucks.
- Bridge crane system
- Minimum one heavy duty lift and one small lift
- Flammable Storage
- Fluid Storage for 55 gallon drums

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- Waste oil burner

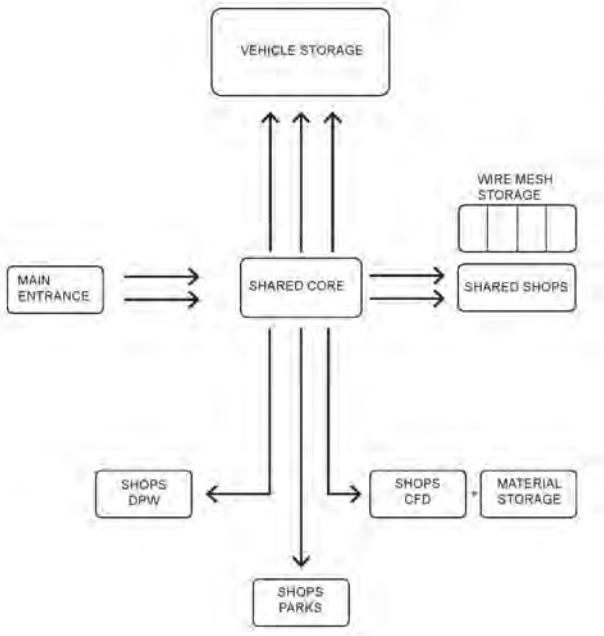
*note: Specific maintenance space and storage requirements will be determined by a separate staff interview with Weston and Sampson's industrial equipment experts.

Consolidated Facilities Administration/Maintenance

Consolidated Facilities provides custodial care/cleaning, maintenance, repair, landscaping, and pedestrian snow removal for all of the some 23 town owned facilities, including Town Hall, High School, Pierce Middle School, Collicot Elementary School, Cunningham Elementary School, Glover Elementary School, Tucker Elementary School, (3) Town Libraries, Senior Center (COA), Cemetery, Police Station, and (3) Fire Houses. Labor staff are currently housed in various locations around town including small garages around town and the basement of the High School.

New facility includes public counter, (1) office Director of Consolidated Facilities, open office area with workstations for Operations Manager (possibly adjacent to shops area) and Administrative Assistant, Conference Room/Meeting Space, Copy/File Storage Area (file cabinets and hanging file), Small Kitchen Area and Break Room.

Figure 1: Diagram of shared functional relationships between CFD, Parks, and DPW operations



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Space and storage requirements:

- Approximately 2,000 SF of General CFD shops area for multiple trades (electrical, HVAC, Carpentry and painting shop). Include lift table and crane hoist.
- Approximately 5,000 SF for bulk supply storage for town buildings. Supplies include: copy paper, trash bags, toilet tissue and hand towels.
- Vehicle and Equipment Repair Facility (25'x30'), 1-2 bay doors. Workbench and cabinets for storage of tools.
- Vehicle and Equipment Storage (50'x100') 4-5 bay doors.
- Covered fabric structure for material storage, including Loam, Park Soil, and Fibar.
- Additional bulk material storage for stone and sand.
- Plan storage area (10x12) with layout table
- Bulk material storage cages (Electrical 20'x20', Painter 14'x20', General 14'x20', HVAC 14'x20').

Vehicle storage requirements:

(1) 2001 Chevy Econ Van, (1) 1996 Ford F250, (1) 2010 F250, (1) 2008 F350, (1) 2013 F250, (1) 2013 Econ Van, (1) 2003 Chevy Van.

Equipment storage requirements:

Snow removal

(1) Fisher Hopper and connections for district parking lot sanding.

Lawn Equipment

(3) Commercial walk behind snow blowers, (3) commercial mowers (48", 36", and 32" mow decks), (3) gas cans, (2) rotary spreaders, (1) 100 Gal Watering Container, 5-rakes, 10-shovels, 3-hand edger's and 6-water hoses.

Maintenance Shop Equipment

(2) Shop tables with vice, (4) Filing cabinets, (3) Storage cabinets, (2) table saws, (1) shop vac, (1) chop saw, (4) cordless drills, (7) electric drills, (1) small compressor, (1) power washer, (2) drain auger, (2) chain saws, (1) key machine, (2) extension ladders, (4) step ladders, (8) electrical cords, small assortment of breaker staging, (2) metal and (2) wooden staging planks, (2) fire-rated paint storage cabinets, (5) free standing storage racks, levels, hammers and a large assortment of odds and ends hand tools. Miscellaneous supplies for routine repair services including plumbing supplies, air filters, motors, nails, screws, nuts, bolts, washers, locks, chains, door hardware, floor tile, rubber base, exterior light fixtures, light bulbs and some window stock.

Parks & Recreation Department Administration/Maintenance

Maintain 115 acres of parks. Director of Parks & Recreation, Recreation Supervisor, and Clerk will retain offices at Town Hall.

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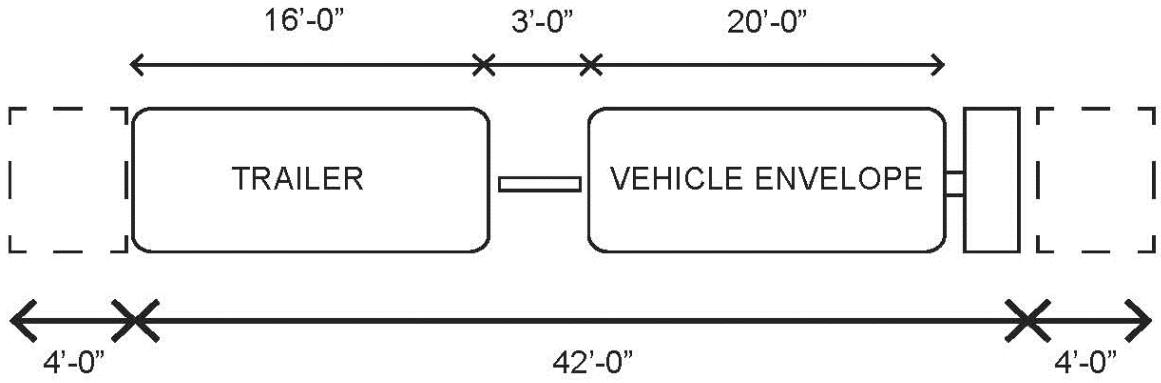
Figure 2: Diagram of Parks & Recreation vehicle with trailer attached



Space and storage requirements:

- Vehicle & equipment storage (50'x100') 4-5 bays.
- Vehicle & equipment repair facility (25'x30') 1-2 bays 2-post vehicle & equipment lift for maintenance.
- Fluid Storage Room
- 30'x30' staff muster area with small kitchen.
- (1) office for parks & recreation foreman.
- 20'x20' wood shop & sign storage (signage, wood benches)
- Bulk material storage Loam, Stone, Park Soil, Fibar, and Sand. 5-single stalls 12' wide x 15' deep.
- Knockdown pad for washing mowers.
- Better circulation for turning Parks & Recreation vehicles with trailers attached.
- Platform Lift for mower maintenance

Section 4 – Space Needs Matrix / Room Data Sheets

Town of Milton
Department of Public Works
Space Needs Summary
Date: 05-12-2015 (Rev. 06-09-2015)

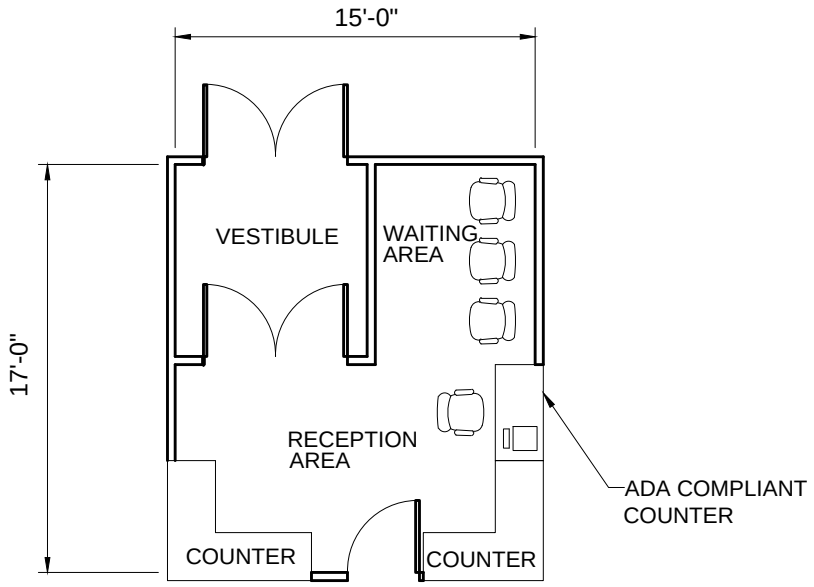
Building Requirements

Area	Description	Size (SF)	Ref #	Sheet No.	Room / Area Dimensions length	width	size
Office & Office Support Areas	Shared Vestibule/Waiting/Reception	255		A1.01	15	17	255
	Shared Copy/File/Mail	225		A1.02	15	15	225
	Shared Active File Storage	320		A1.03	16	20	320
	Shared Archive File Storage	240		A1.04	16	15	240
	Shared Large Conference Room	285		A1.05	15	19	285
	Shared Small Conference Room	100		A1.06	10	10	100
	Shared Kitchenette	168		A1.07	12	14	168
	Telephone / Data Room	80		A1.08	8	10	80
	Coat Closet	24		A1.09	4	6	24
	Janitor Closet	36		A1.10	6	6	36
	Admin Toilet Facilities	200		A1.11	8	25	200
	Uni-Sex Public Toilet Facilities	81		A1.12	9	9	81
	DPW Director	294		A1.13			-
	Assistant Director / Manager of Operations	180		A1.14	12	15	180
	Manager of Wires and Special Projects	180		A1.15	12	15	180
	Town Engineer	180		A1.16	12	15	180
	Assistant Town Engineer	144		A1.17	12	12	144
	Engineering Office Area	816		A1.18	24	34	816
	Engineering Layout Area	400		A1.19	20	20	400
	Administration Office Area	480		A1.20	20	24	480
	Engineering Reference Area	100		A1.21	5	20	100
	Survey Equipment Closet	100		A1.22	10	10	100
	Director of Consolidated Facilities	270		A1.23	15	18	270
	Consolidated Facilities Open Office Area	288		A1.24	24	12	288
	Subtotal:	5,446					
	Area Grossing Factor (15%):	817					
	Circulation (15%):	939					
	TOTAL:	**7,202**					
Employee Facilities	Shared Men's Locker/Shower/Toilet	1,100		B1.01			-
	Shared Women's Locker/Shower/Toilet	247		B1.02	13	19	247
	Shared Workforce Lunch Room	1,150		B1.03			-
	Shared Multipurpose Room	660		B1.04	22	30	660
	Shared Main Electric Room	150		B1.05	10	15	150
	Shared Plumbing/Fire Protection Room	150		B1.06	10	15	150
	Shared Foreman	200		B1.07	10	20	200
	General Foreman	120		B1.08	10	12	120
	Parks and Recreation Foreman	100		B1.09	10	10	100
	Subtotal:	3,877					
	Area Grossing Factor (15%):	582					
	Circulation (15%):	669					
	TOTAL:	**5,127**					
Work Shops & Material Storage	Shared Sign Shop /Storage Area	600		C1.01	30	20	600
	Shared Carpentry Shop	1,440		C1.02	30	48	1,440
	Shared General Workshop	3,168		C1.03	66	48	3,168
	Secured Tool Room	300		C1.04	20	15	300
	CFD Paint Room	225		C1.05	15	15	225
	Consolidated Facilities Equipment Repair	750		C1.05	30	25	750
	Material Storage Cages	1,380		C1.06	69	20	1,380
	Consolidated Facilities Material Storage	900		C1.07	30	30	900
	Parks & Recreation Equipment Repair	750		C1.08	30	25	750
	Support Material Storage	96		C1.09	8	12	96
	Subtotal:	9,609					
	Area Grossing Factor (10%):	961					
	Circulation (5%):	528					
	TOTAL:	**11,098**					

Town of Milton
Department of Public Works
Space Needs Summary
Date: 05-12-2015 (Rev. 06-09-2015)

Building Requirements

Area	Description	Size (SF)	Ref #	Sheet No.	Room / Area Dimensions length	width	size
Vehicle Maintenance	Fluid Storage Room	300		D1.01	15	20	300
	Heavy Equipment Bay	1,080		D1.02	18	60	1,080
	Heavy Equipment Bay	1,200		D1.02	20	60	1,200
	Heavy Equipment Bay	1,200		D1.02	20	60	1,200
	Heavy Equipment Bay	1,080		D1.02	18	60	1,080
	Mechanics Office	216		D1.03	12	18	216
	Small Maintenance Workshop	160		D1.04	8	20	160
	Maintenance Tire Storage & Shop	414		D1.05	23	18	414
	Parts Storage Room	576		D1.06	24	24	576
	Secured Tool Storage Room	96		D1.07	8	12	96
	Compressor Room	80		D1.08	8	10	80
	Subtotal:	6,402					
	Area Grossing Factor (10%):	640					
	Circulation (5%):	352					
	TOTAL:	**7,394**					
Wash Area	Wash Bay	1,375		E1.01	25	55	1,375
	Wash Equipment Room	140		E1.01	10	14	140
	Subtotal:	1,515					
	Area Grossing Factor (5%):	76					
	Circulation:	n/a					
	TOTAL:	**1,591**					
Vehicle and Equipment Storage	Large Vehicle & Equipment Storage	13,580		F1.01	97	140	13,580
	Small Vehicle & Equipment Storage	21,340		F1.01	97	220	21,340
	Parks Vehicle Storage	3,250		F1.02			
	Subtotal:	38,170					
	Area Grossing Factor (5%):	1,909					
	Circulation:	n/a					
	TOTAL:	**40,079**					
	TOTAL:	**72,492**					



SHARED VESTIBULE/WAITING/RECEPTION

15' X 17' = 255 SF

Weston&Sampson®

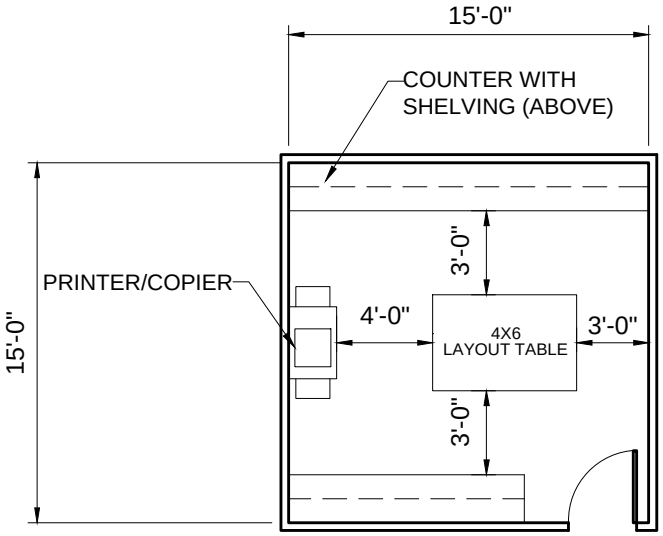
RECEPTION AREA

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.01



SHARED COPY - FILE - MAIL AREA

15' X 15' = 225 SF

Weston&Sampson®

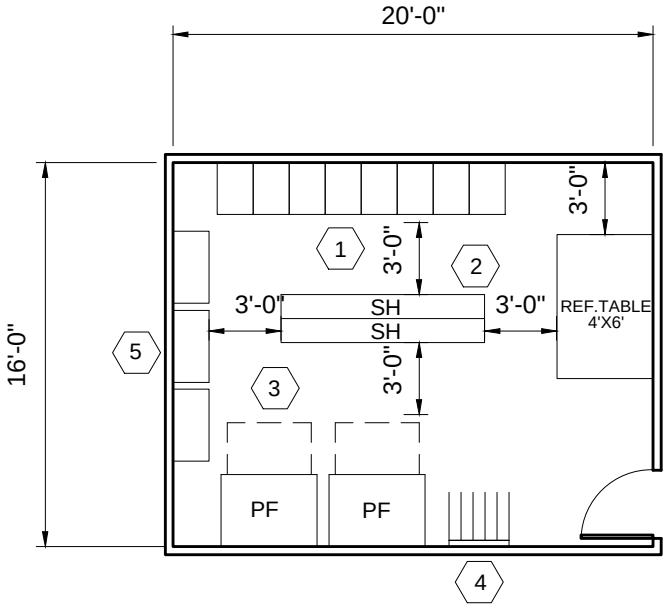
SHARED COPY AREA

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.02

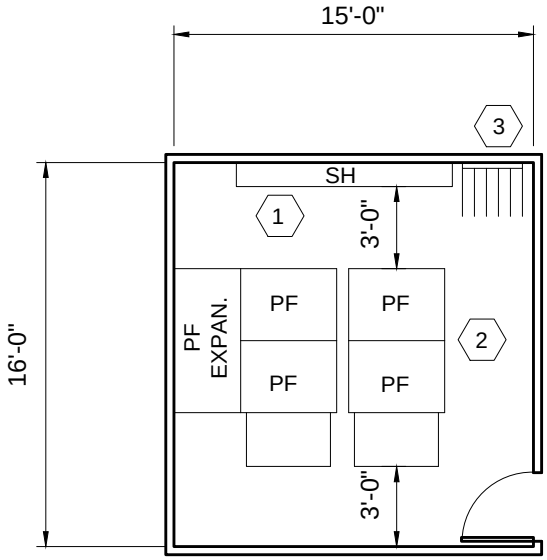


1. FILE CABINETS
2. HEAVY DUTY SHELVING
3. PLAN FILES
4. HANGING PLAN FILE
5. LATERAL FILE CABINETS

SHARED ACTIVE FILE STORAGE
16' X 20' = 320 SF

Weston&Sampson®

ACTIVE FILE STORAGE
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET A 1.03



1. HEAVY DUTY SHELVING
2. PLAN FILES
3. HANGING PLAN FILE

SHARED ARCHIVE FILE STORAGE

16' X 15' = 240 SF

Weston&Sampson®

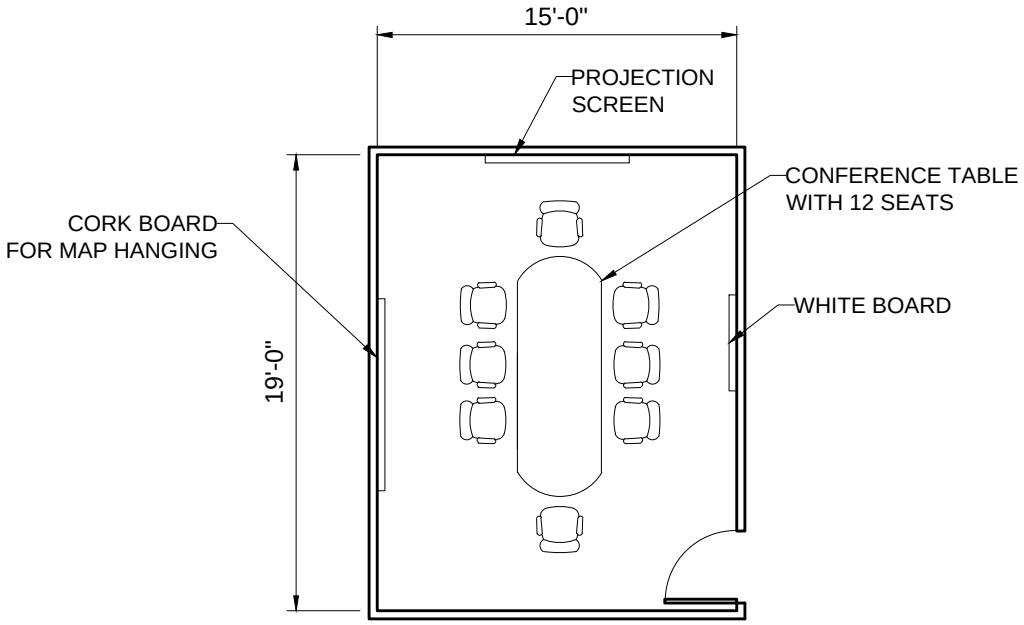
ARCHIVE FILE STORAGE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.04



SHARED LARGE CONFERENCE ROOM

15' X 19' = 285 SF

Weston&Sampson®

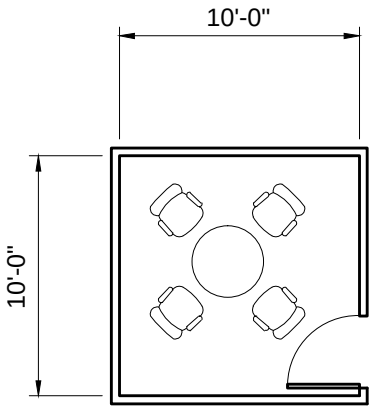
LARGE CONFERENCE ROOM

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.05



SHARED SMALL CONFERENCE ROOM

10' X 10' = 100 SF

Weston&Sampson®

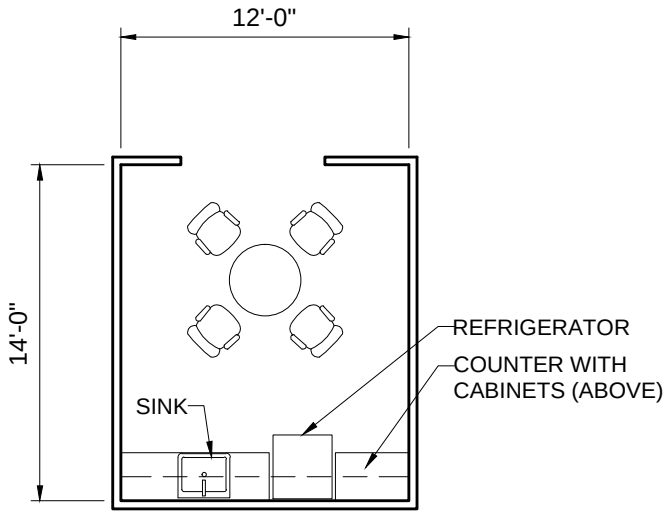
SMALL CONFERENCE ROOM

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

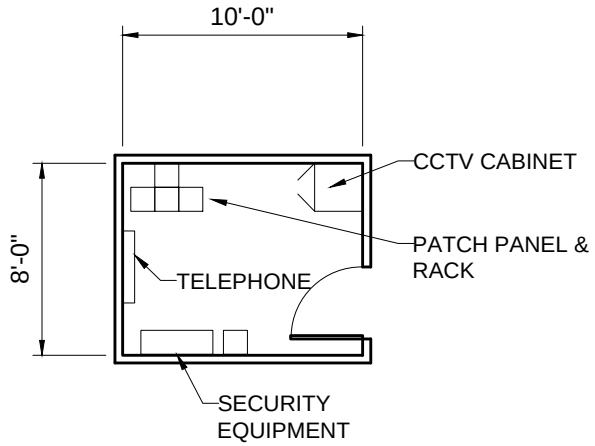
SHEET A 1.06



SHARED KITCHENETTE
12' X 14' = 168 SF

Weston&Sampson®

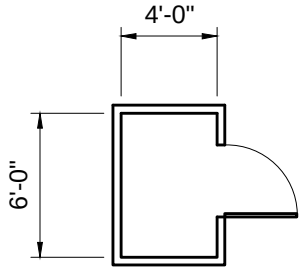
SHARED KITCHENETTE
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET A 1.07



TELEPHONE / DATA ROOM
8' X 10' = 80 SF

Weston&Sampson®

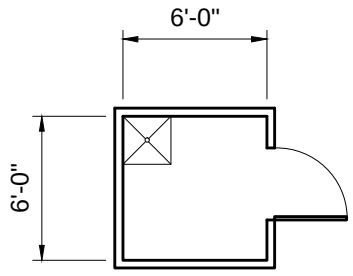
TELEPHONE/DATA
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET A 1.08



COAT CLOSET
4' X 6' = 24 SF

Weston&Sampson®

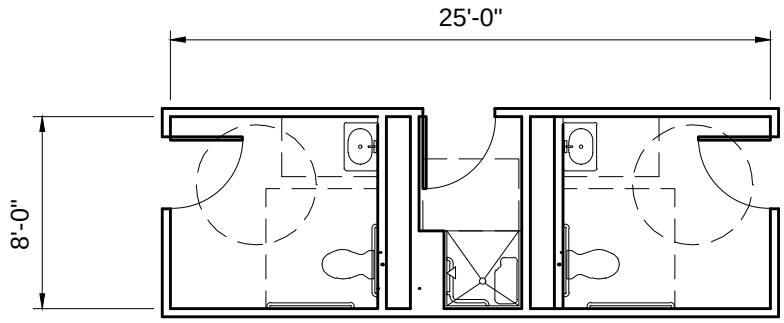
COAT CLOSET
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET A 1.09



JANITOR CLOSET
6' X 6' = 36 SF

Weston&Sampson®

JANITOR CLOSET
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET A 1.10



SHARED ADMINISTRATION TOILET FACILITIES

8' X 25' = 152 SF

Weston&Sampson®

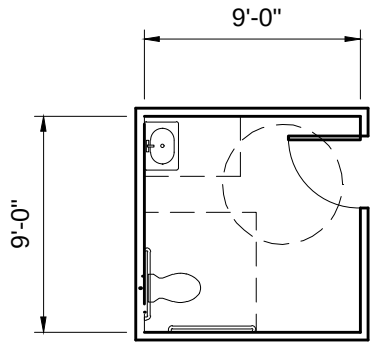
ADMINISTRATION TOILETS

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.11



SHARED UNI-SEX PUBLIC TOILET FACILITIES

9' X 9' = 81 SF

Weston&Sampson®

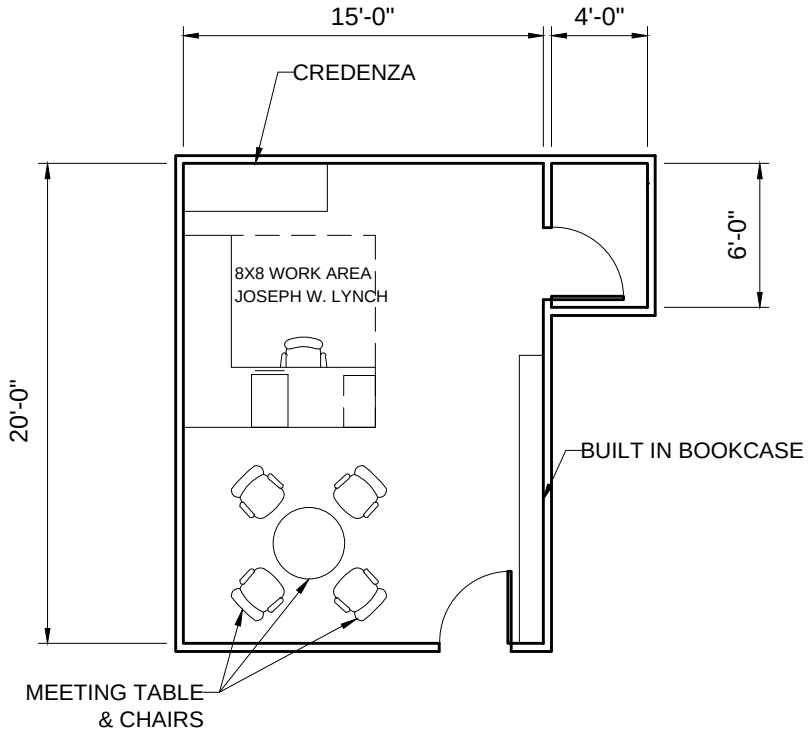
PUBLIC TOILETS

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.12



DIRECTOR OF PUBLIC WORKS

15' X 18' = 270 SF

4' X6' = 24 SF

TOTAL = 294 SF

Weston&Sampson®

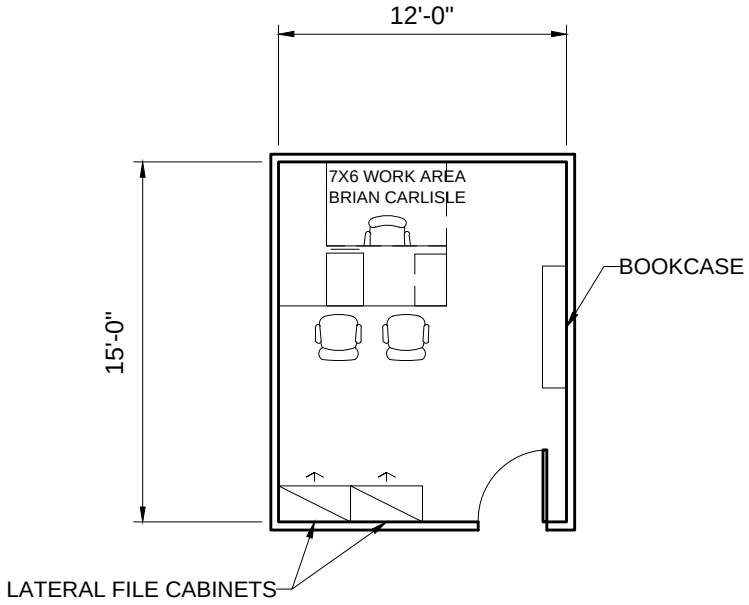
DIRECTOR'S OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.13



ASSISTANT DIRECTOR / MANAGER OF OPERATIONS OFFICE

12' X 15' = 180 SF

Weston&Sampson®

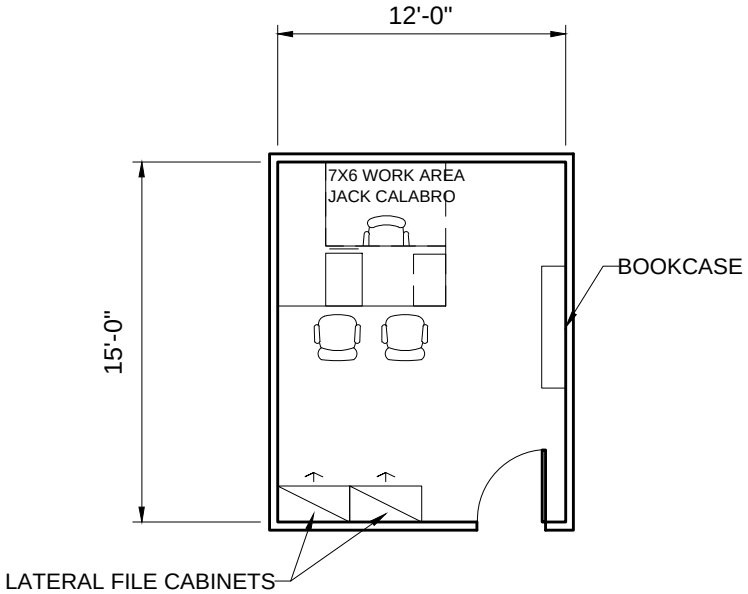
ASSIST. DIRECTOR'S OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.14



MANAGER OF WIRES AND SPECIAL PROJECTS OFFICE

12' X 15' = 180 SF

Weston&Sampson®

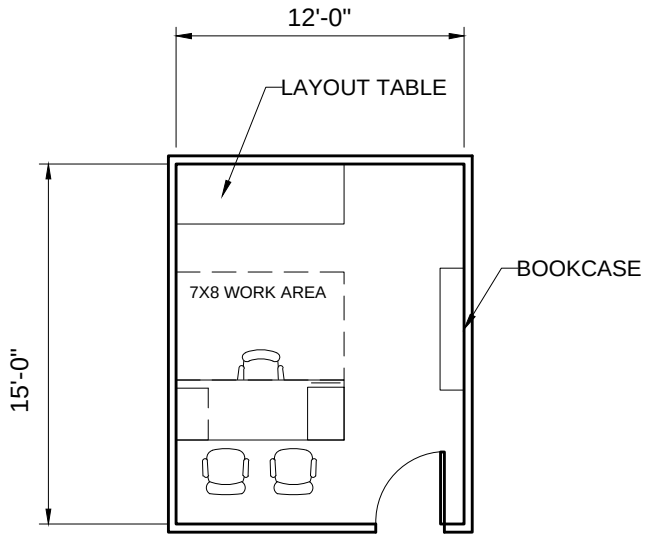
MANAGER'S OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

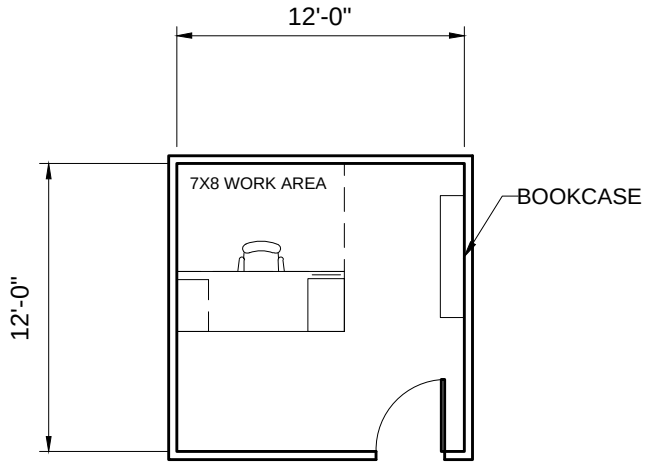
SHEET A 1.15



TOWN ENGINEER OFFICE
12' X 15' = 216 SF

Weston&Sampson®

ENGINEER'S OFFICE
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET A 1.16



ASSISTANT TOWN ENGINEER OFFICE

12' X 12' = 144 SF

Weston&Sampson®

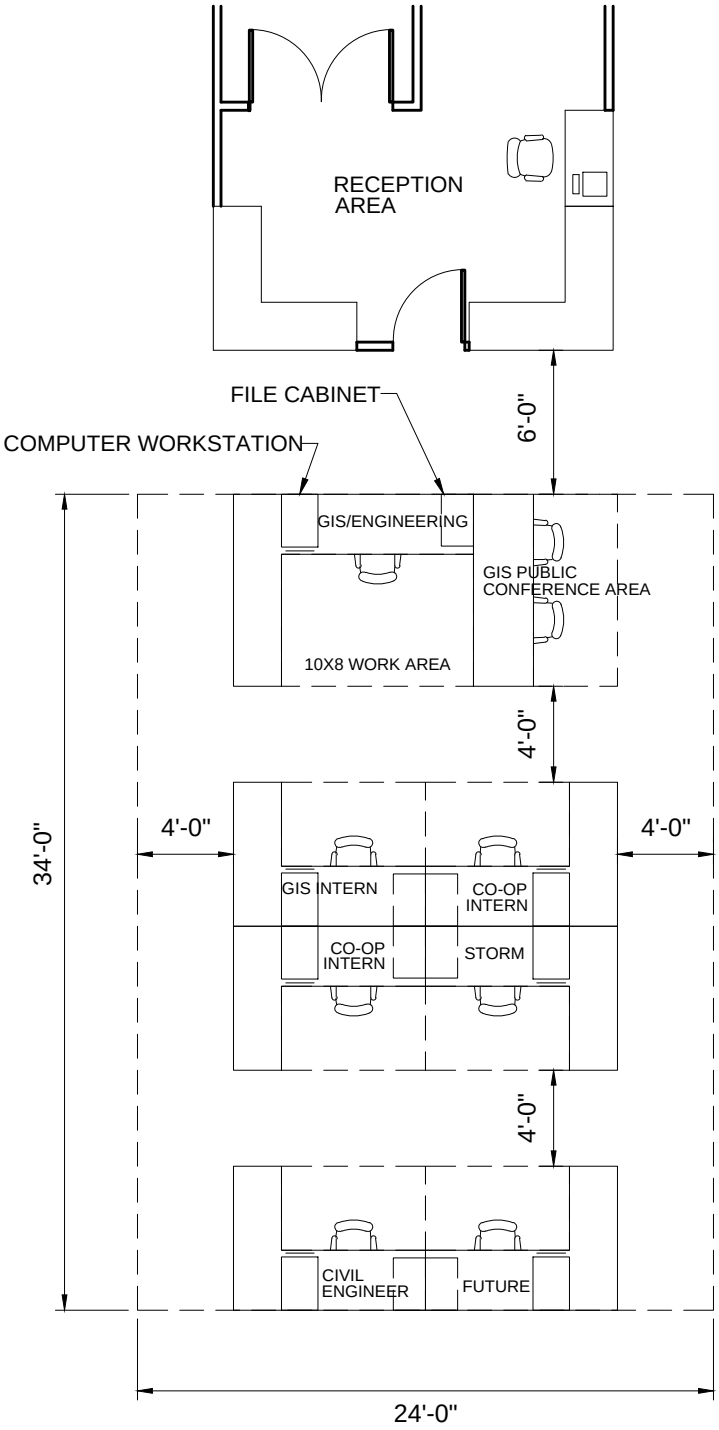
ENGINEER'S OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.17



ENGINEERING OFFICE AREA

34' X 24' =816 SF

Weston&Sampson®

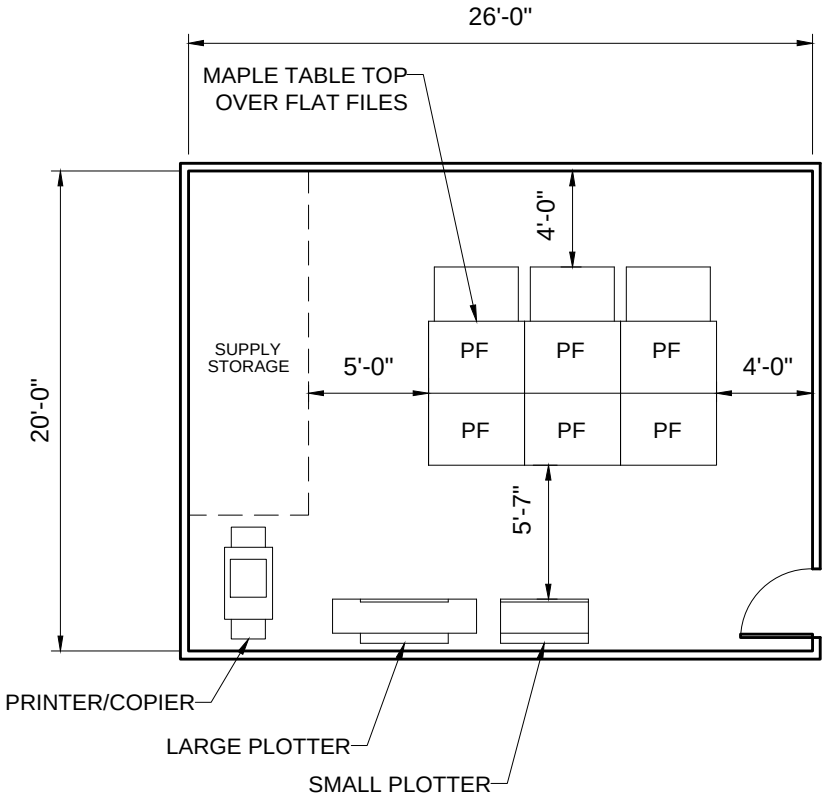
ENGINEERING OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.18



ENGINEER LAYOUT AREA

20' X 26' = 520 SF

Weston&Sampson®

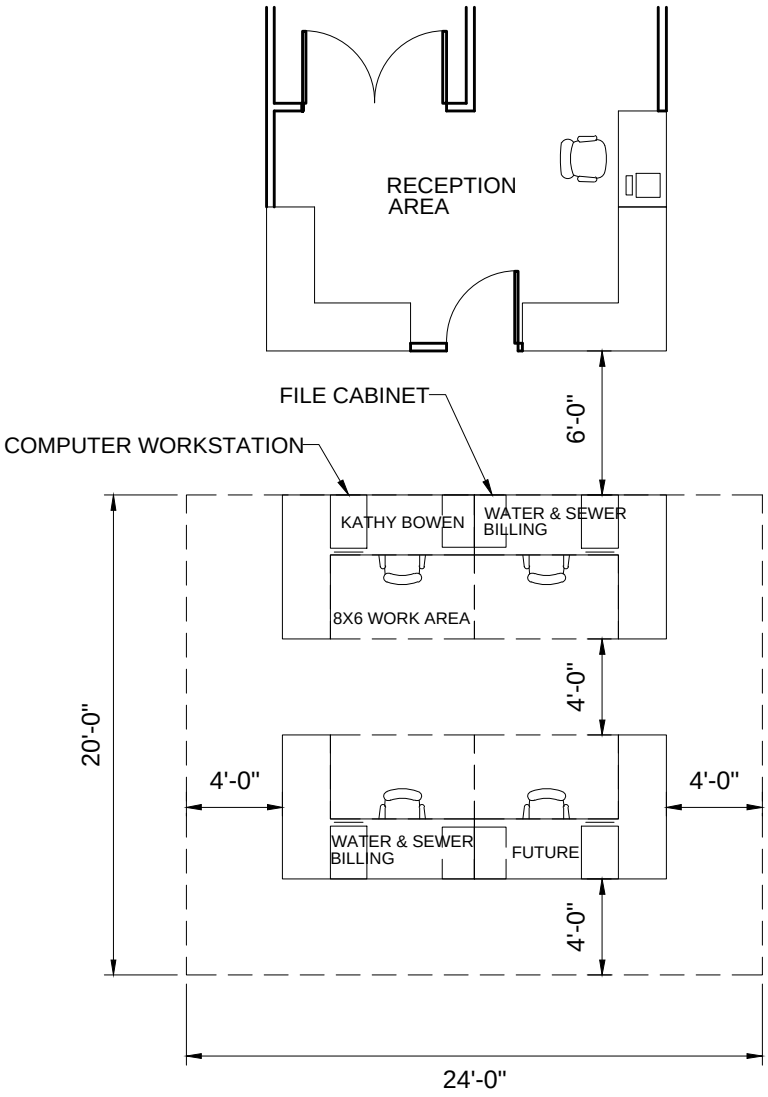
ENGINEER'S LAYOUT

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

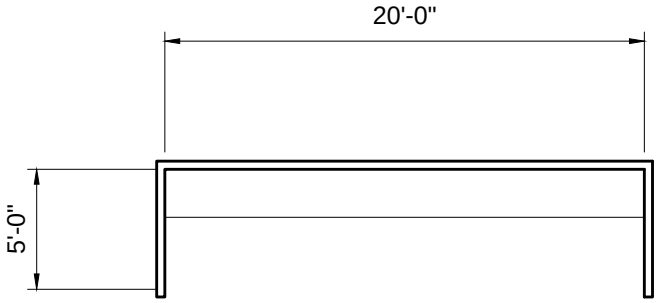
SHEET A 1.19



ADMINISTRATION
OFFICE AREA
24' X 20' =480 SF

Weston&Sampson®

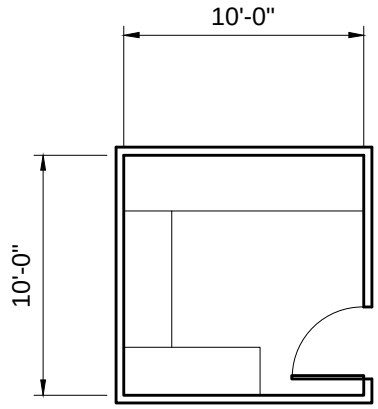
ADMINISTRATION AREA
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET A 1.20



ENGINEER REFERENCE AREA
20' X 5' = 100 SF

Weston&Sampson®

ENGINEER'S REFERENCE
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET A 1.21



SURVEY EQUIPMENT CLOSET

10' X 10' = 100 SF

Weston&Sampson®

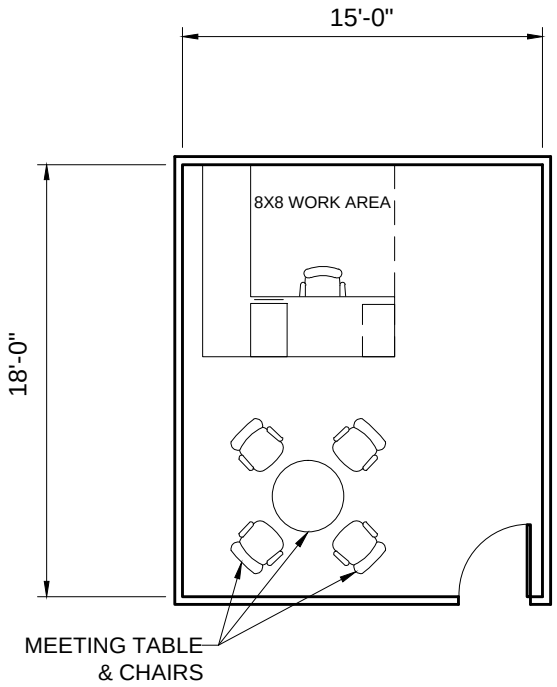
EQUIPMENT CLOSET

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.22



DIRECTOR OF CONSOLIDATED FACILITIES

15' X 18' = 270 SF

Weston&Sampson®

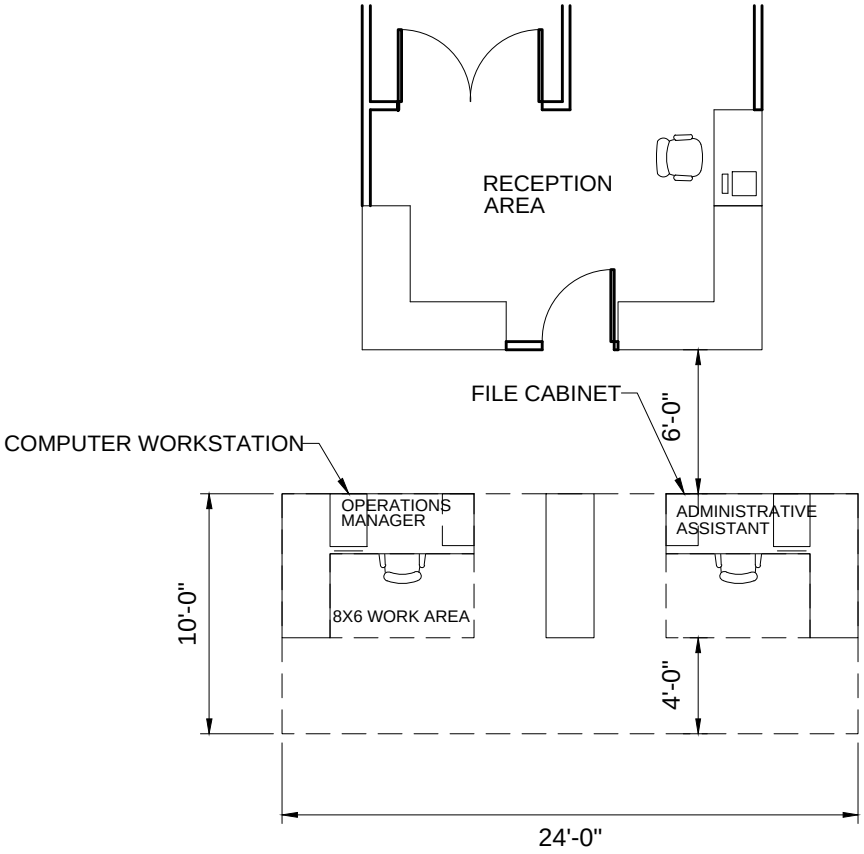
DIRECTOR'S OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.23



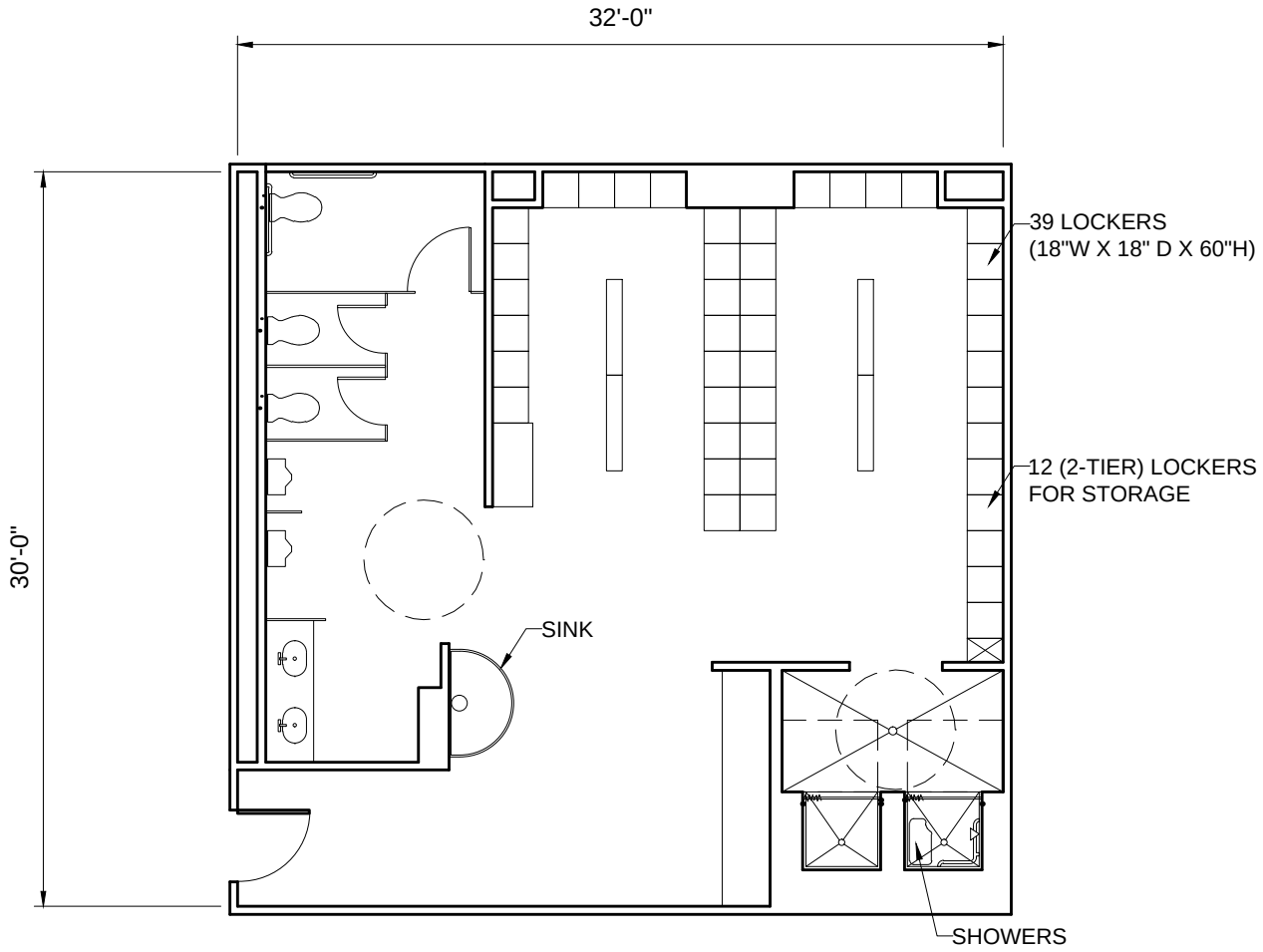
CONSOLIDATED FACILITIES
OFFICE AREA
24' X 10' =240 SF

ADMINISTRATION AREA
ROOM DATA SHEETS
MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET A 1.24

Weston&Sampson®



TOILETS/LOCKERS/SHOWERS

32'-0" X 30' = 960 SF

Weston&Sampson®

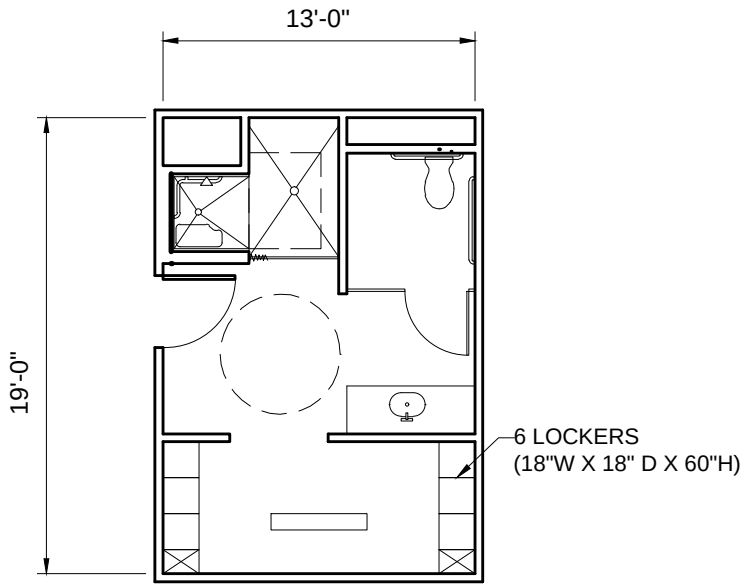
WORKFORCE LOCKERS

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET B 1.01



FEMALE LOCKERS / SHOWERS / TOILETS

13' X 19' = 247 SF

Weston&Sampson®

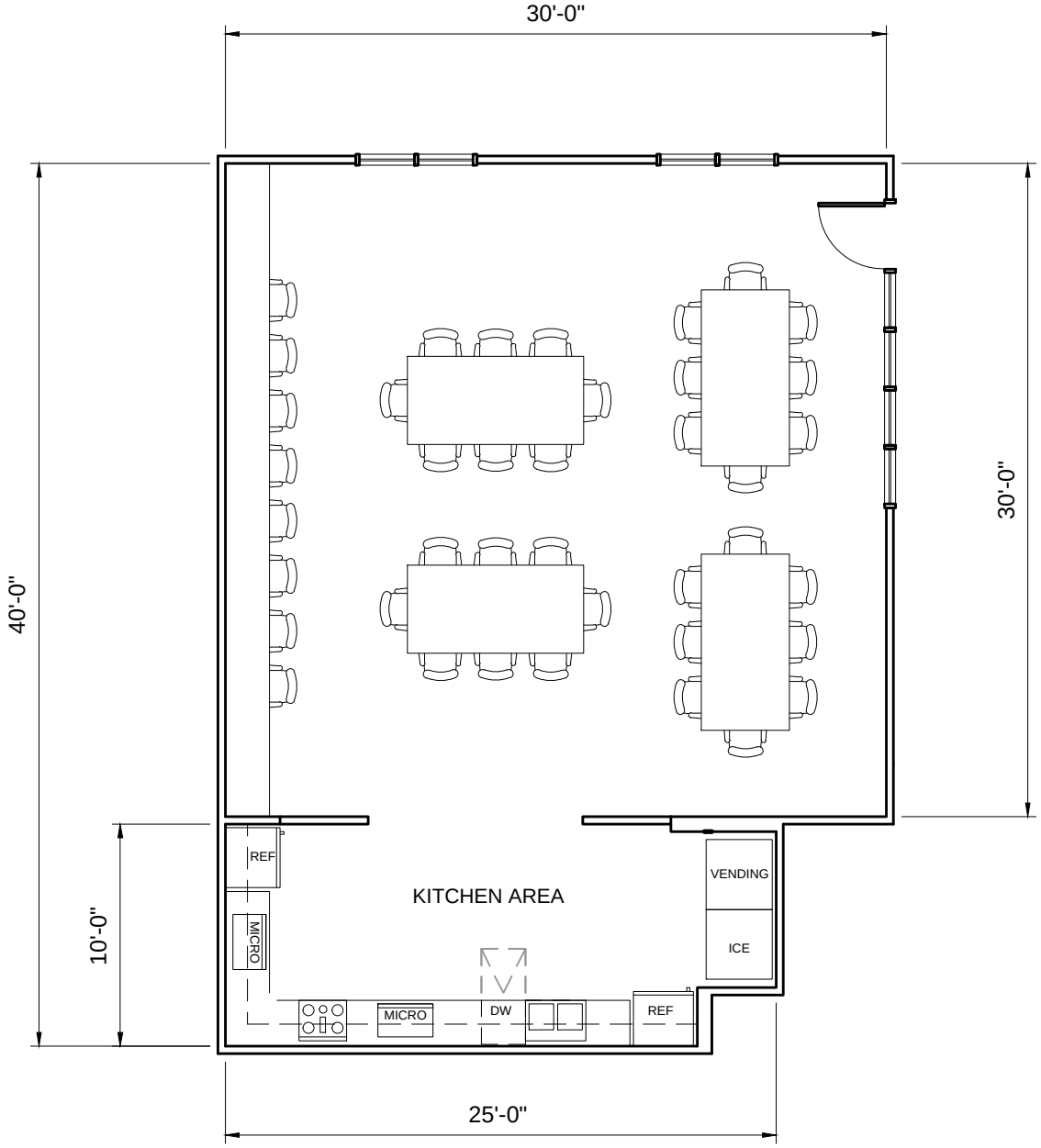
WORKFORCE LOCKERS

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET B 1.02



SEATING AREA
30' X 30' = 900 SF

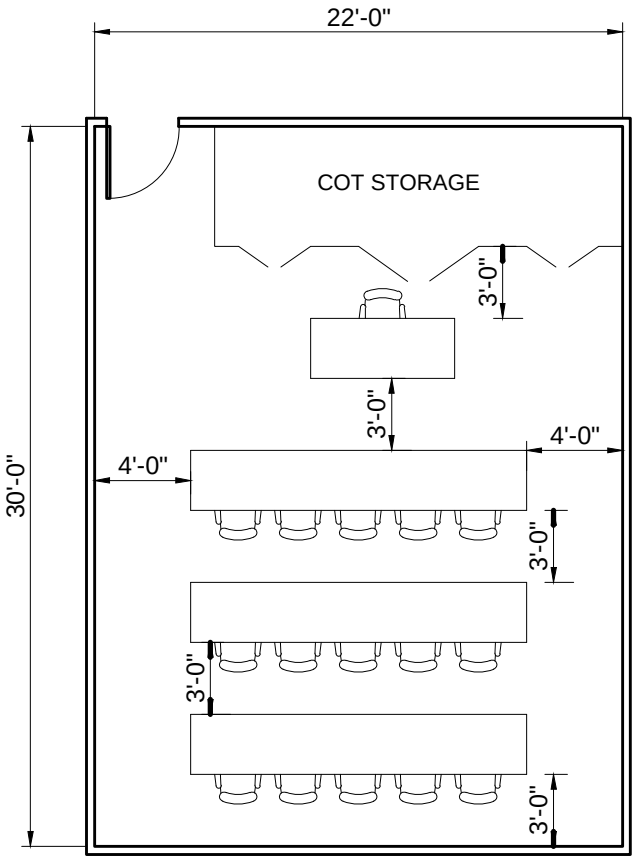
KITCHEN AREA
10' X 25' = 250 SF

TOTAL = 1,150 SF

NOTE:
SEATING FOR UP TO 40 PERSONNEL

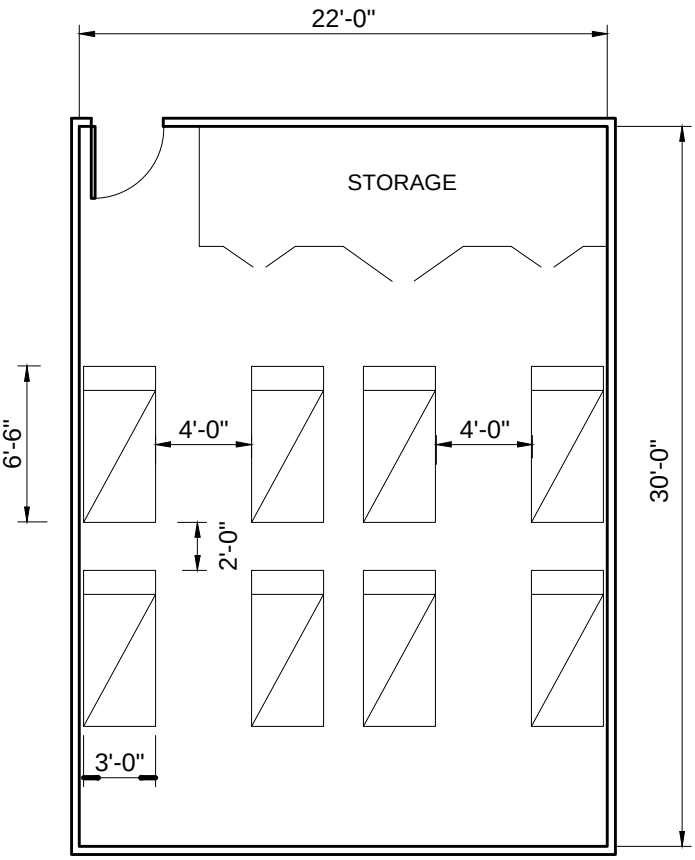
Weston&Sampson®

MUSTER ROOM
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET B 1.03



TRAINING ROOM SETUP
22' X 30' = 660 SF

NOTE:
SIZED TO ACCOMMODATE 16 EMPLOYEES FOR TRAINING AT ONE TIME

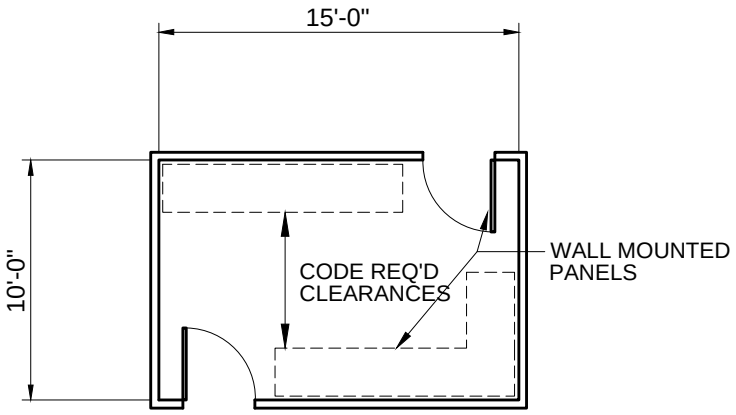


STORM EVENT SETUP
22' X 30' = 660 SF

NOTE:
SIZED TO ACCOMMODATE 8 COTS FOR EXTENDED STORM EVENTS

Weston&Sampson®

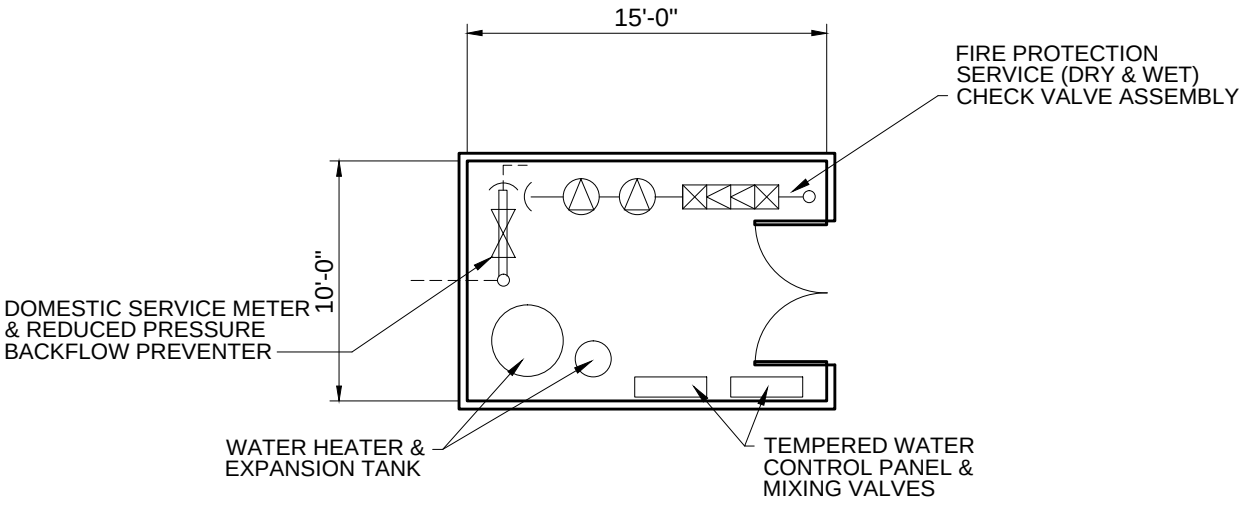
MULTI-PURPOSE ROOM
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET B 1.04



MAIN ELECTRIC ROOM
15' X 10' = 150 SF

Weston&Sampson®

MAIN ELECTRIC ROOM
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET B 1.05



PLUMBING / FIRE PROTECTION ROOM

15' X 10' = 150 SF

Weston&Sampson®

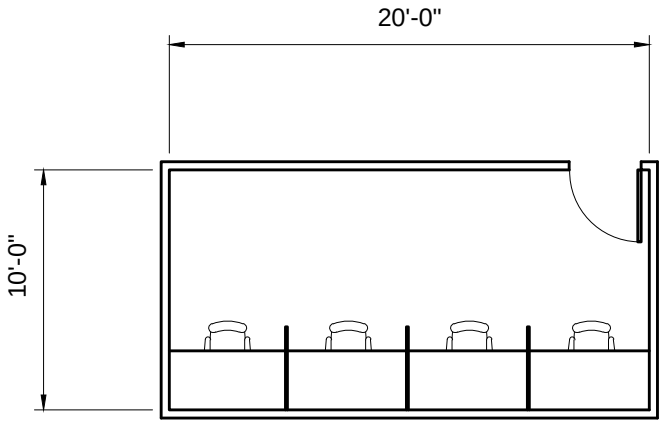
FIRE PROTECTION ROOM

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET B 1.06



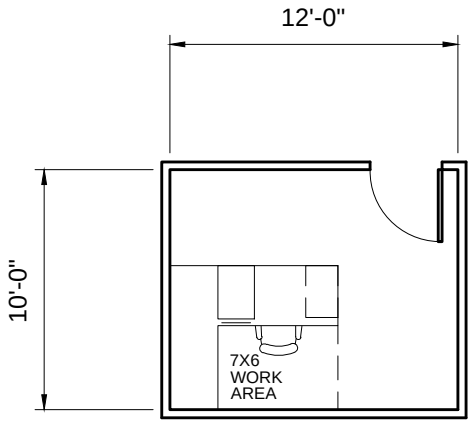
SHARED FOREMAN OFFICE
10' X 20' = 200 SF

FOREMAN OFFICE
ROOM DATA SHEETS
MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET B1.07

Weston&Sampson®



GENERAL FOREMAN OFFICE

10' X 12' = 120 SF

Weston&Sampson®

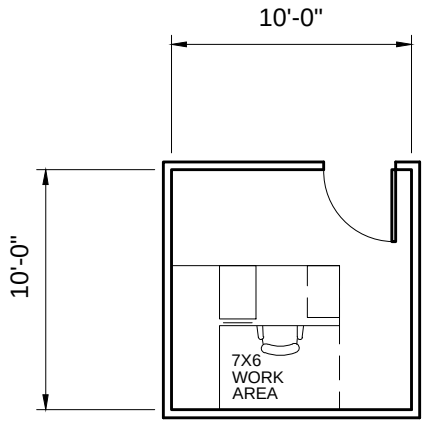
FOREMAN OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET B1.08



PARKS & RECREATION FOREMAN OFFICE

10' X 10' = 100 SF

Weston&Sampson®

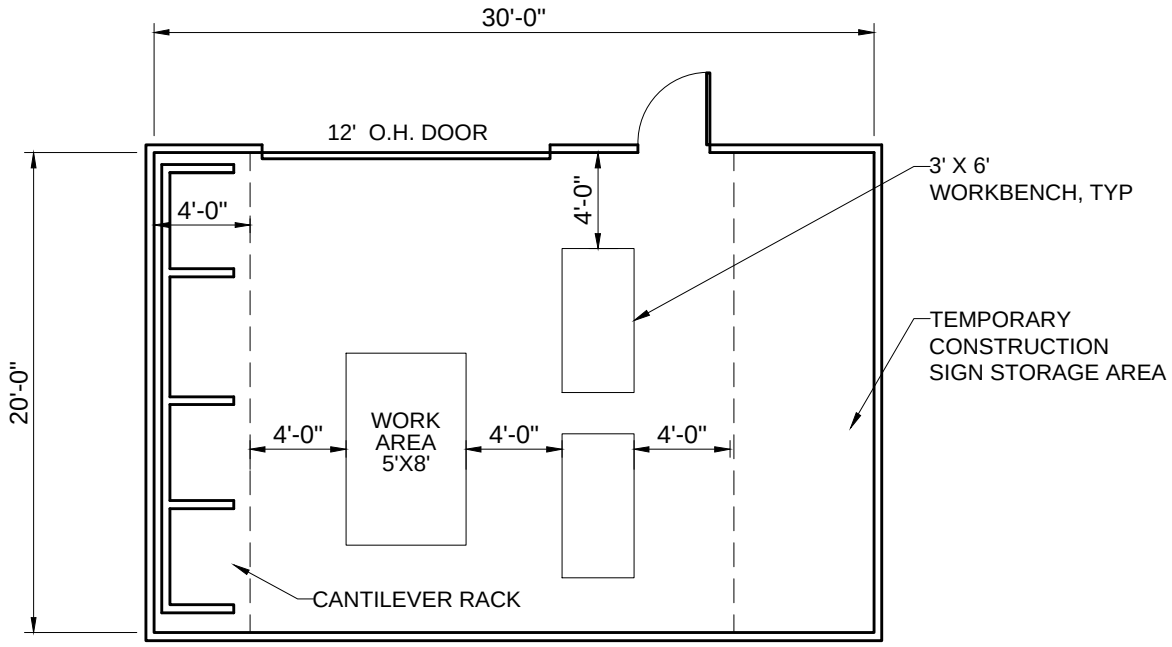
FOREMAN OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET B 1.09



SHARED SIGN SHOP/STORAGE AREA

30' X 20' = 600 SF

Weston&Sampson®

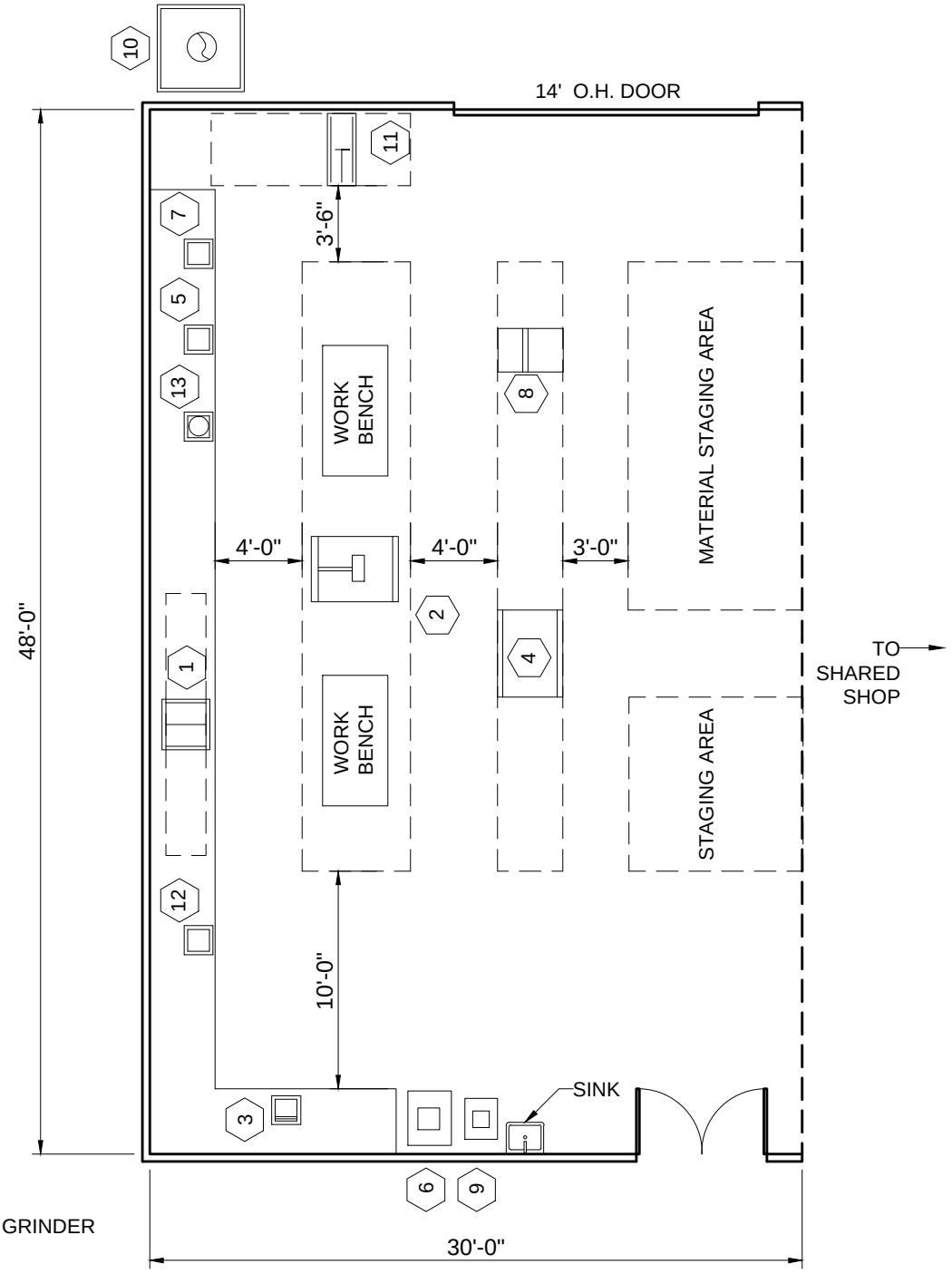
SIGN SHOP

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET C 1.01



SHARED CARPENTRY SHOP

30' X 48' = 1,302 SF

EQUIPMENT

1. (MITRE SAW)
2. TABLE SAW
3. BENCH MOUNTED GRINDER
4. PLANER
5. BENCH GRINDER
6. DRILL PRESS
7. BLADE GRINDER
8. BAND SAW
9. DRILL PRESS
10. DUST COLLECTION SYSTEM
11. RADIAL ARM SAW
12. TABLE MOUNTED ROUTER
13. SANDER

Weston&Sampson®

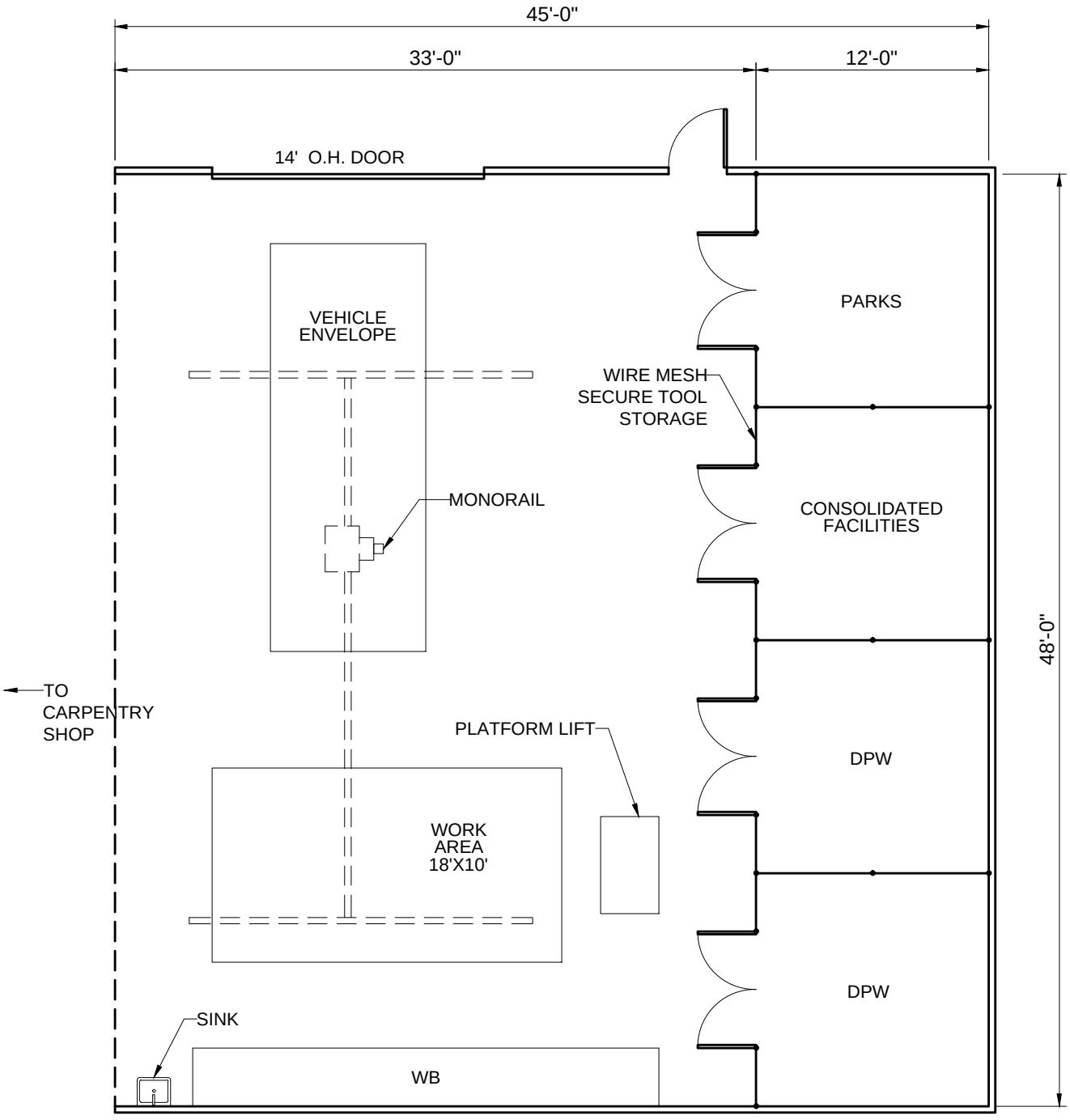
CARPENTRY SHOP

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET C 1.02



SHARED GENERAL WORKSHOP

45' X 48' = 2,160 SF

Weston&Sampson®

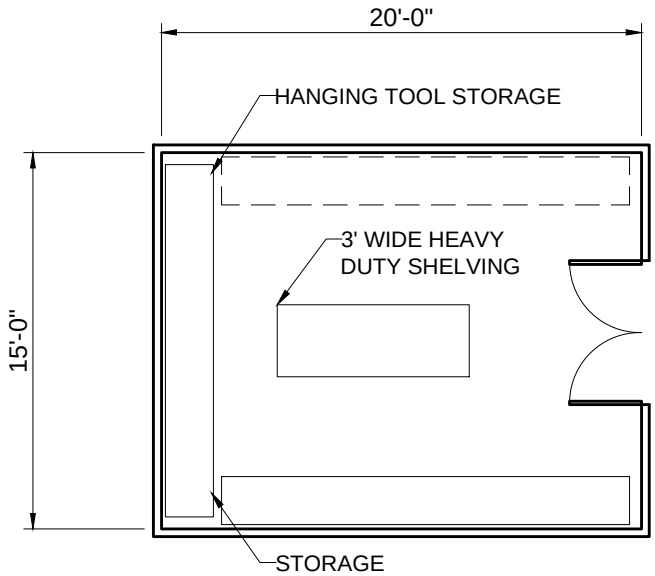
SHARED WORKSHOP

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET C 1.03



- CHAINSAWS
- BLOWERS
- WEED WHACKERS
- POLE SAWS
- POWER BROOMS
- HAND TOOLS

SECURED TOOL ROOM

20' X 15' = 300 SF

Weston&Sampson®

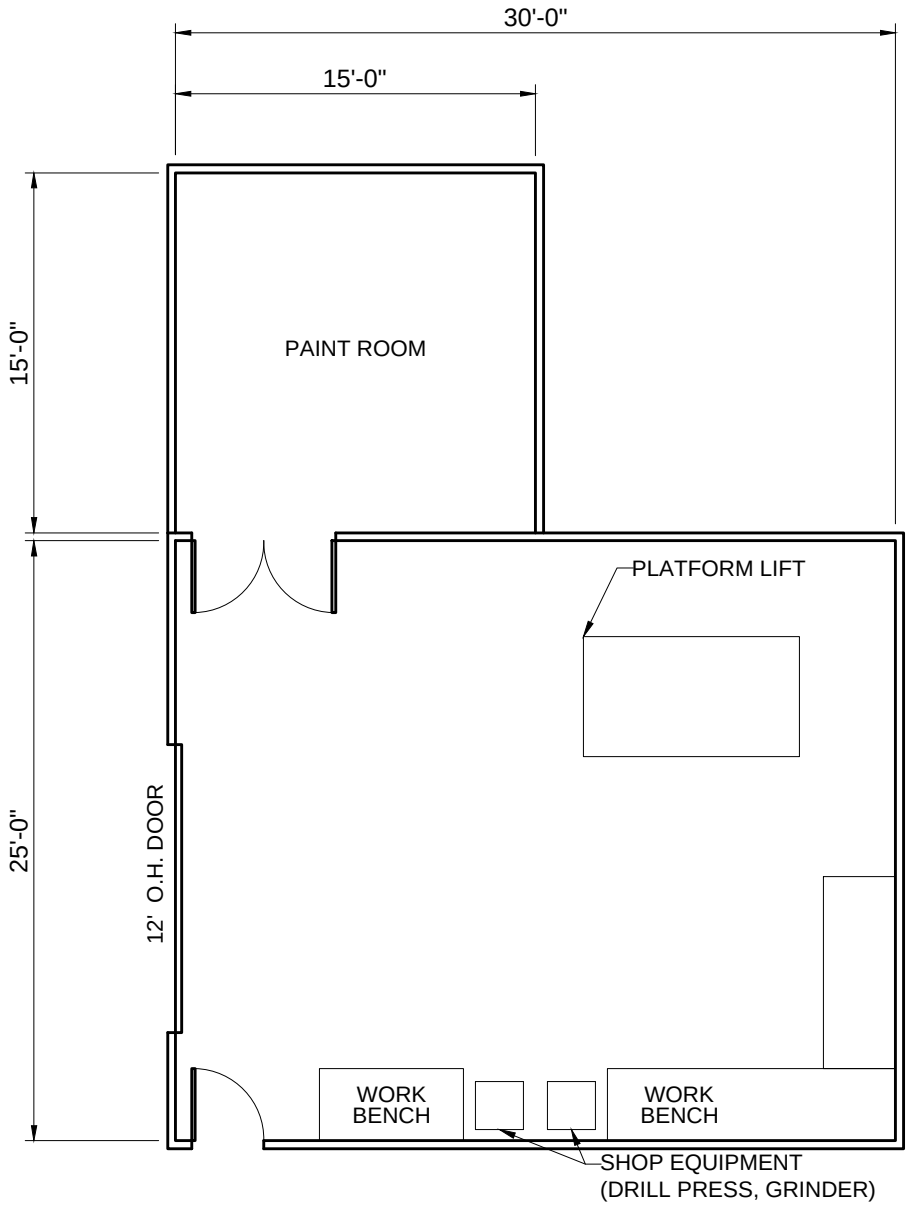
SECURED TOOL ROOM

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET C 1.04

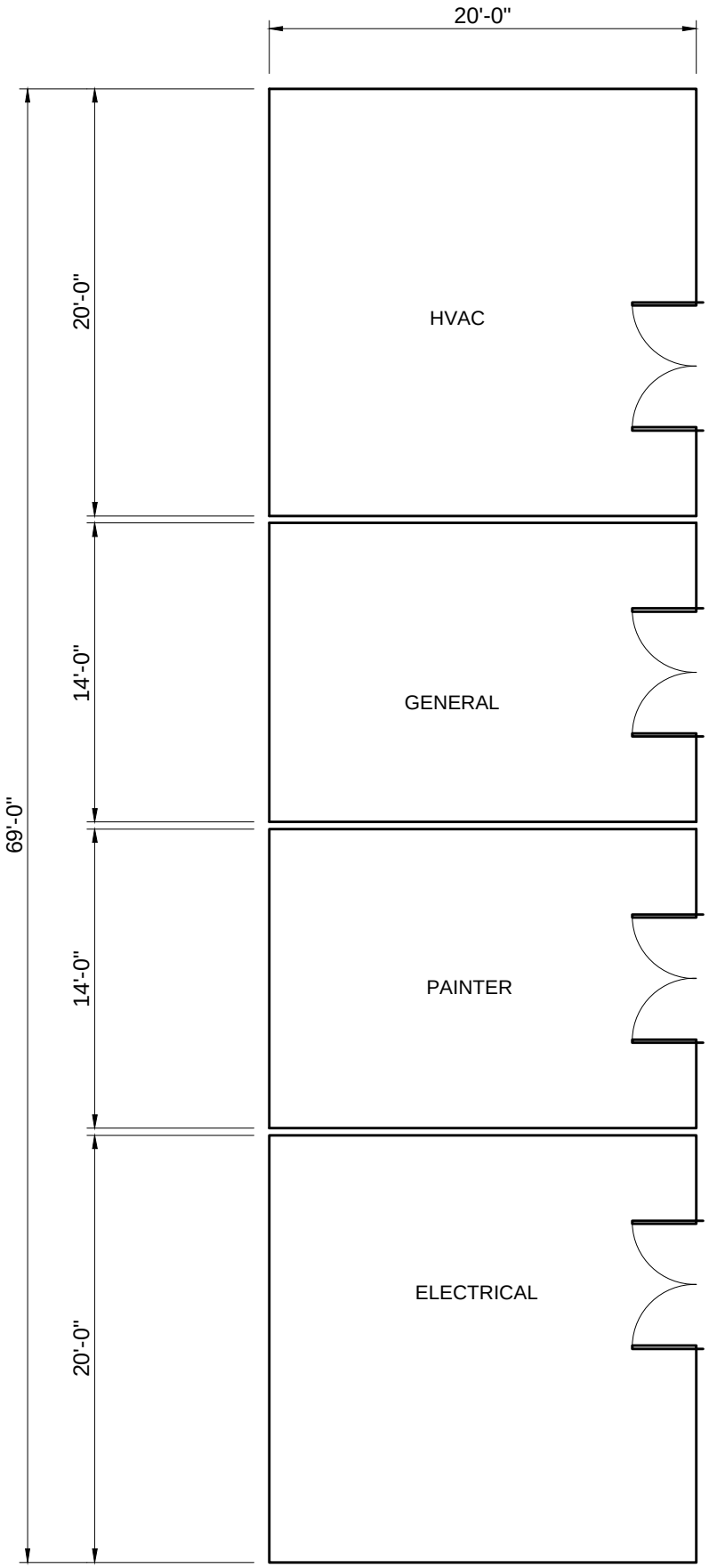


CONSOLIDATED FACILITIES EQUIPMENT REPAIR
30' X 25' = 750 SF

PAINT ROOM
15' X 15' = 225 SF

Weston&Sampson®

EQUIPMENT REPAIR SHOP
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET C 1.05



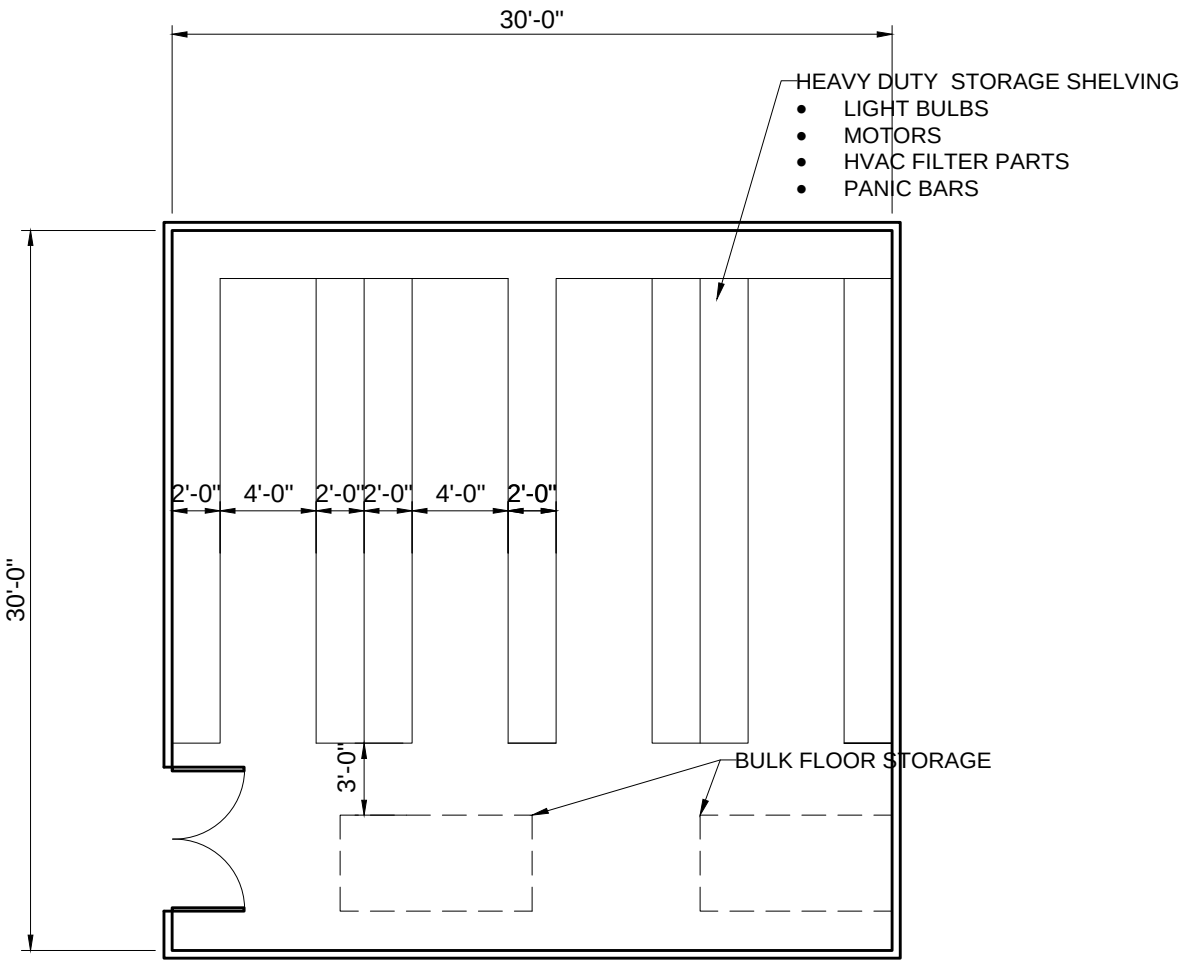
MATERIAL STORAGE CAGES
57' X 20' = 1,140 SF

MATERIAL STORAGE CAGES
ROOM DATA SHEETS
MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET C 1.06

Weston&Sampson®



CONSOLIDATED FACILITIES BULK MATERIAL STORAGE

30' X 30' = 900 SF

Weston&Sampson®

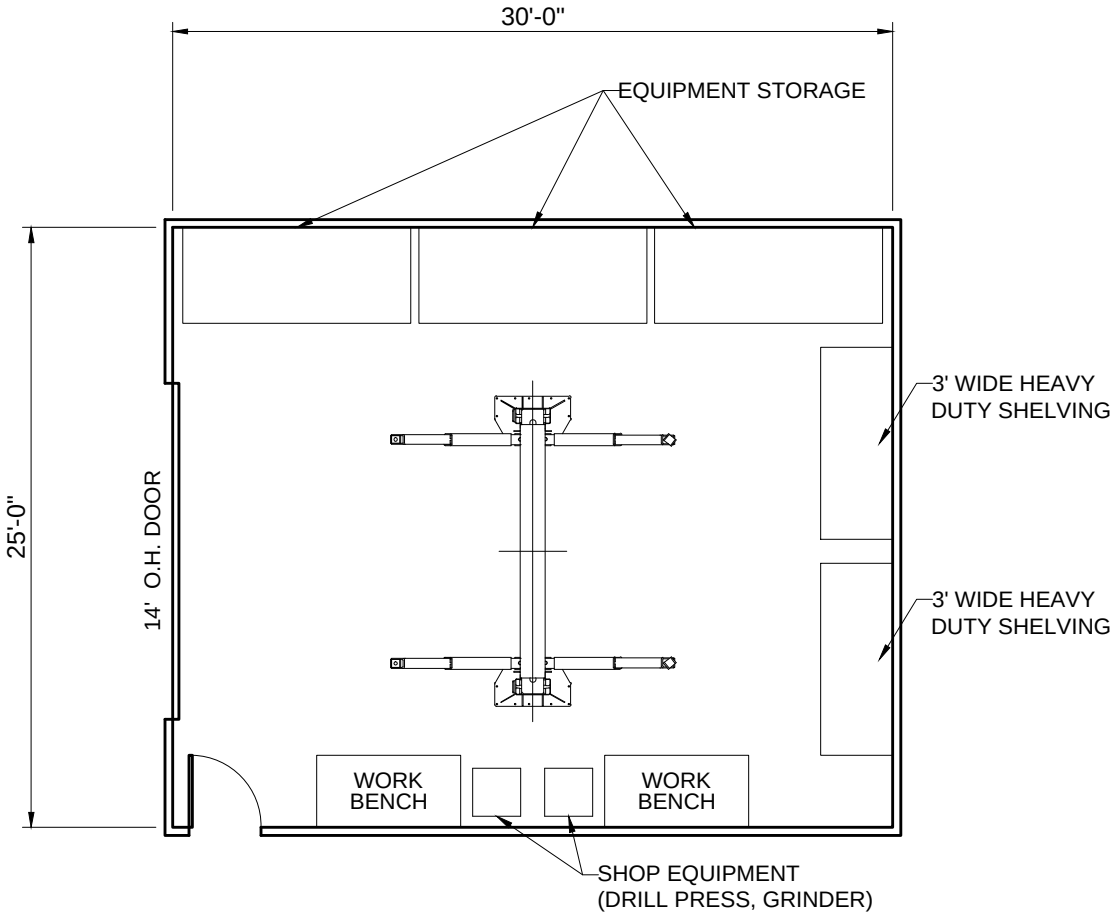
BULK MATL STORAGE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET C 1.07



PARKS & RECREATION DEPARTMENT EQUIPMENT REPAIR

30' X 25' = 750 SF

Weston&Sampson®

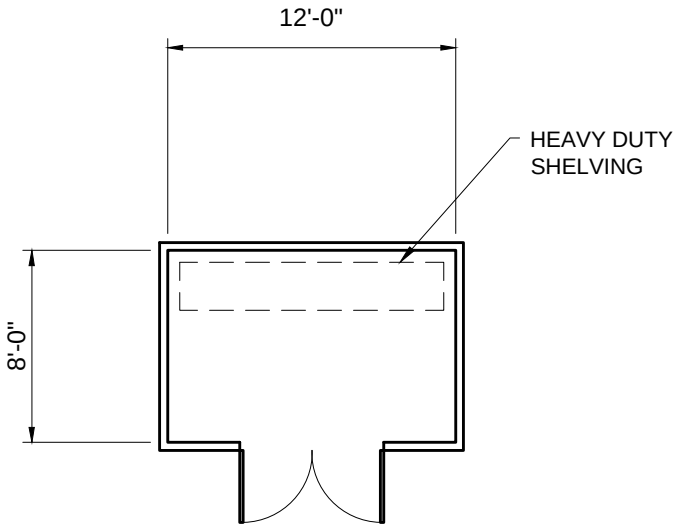
EQUIPMENT REPAIR SHOP

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET C 1.08



SUPPORT MATERIAL STORAGE ROOM

8' X 12' = 96 SF

SECURED TOOL ROOM

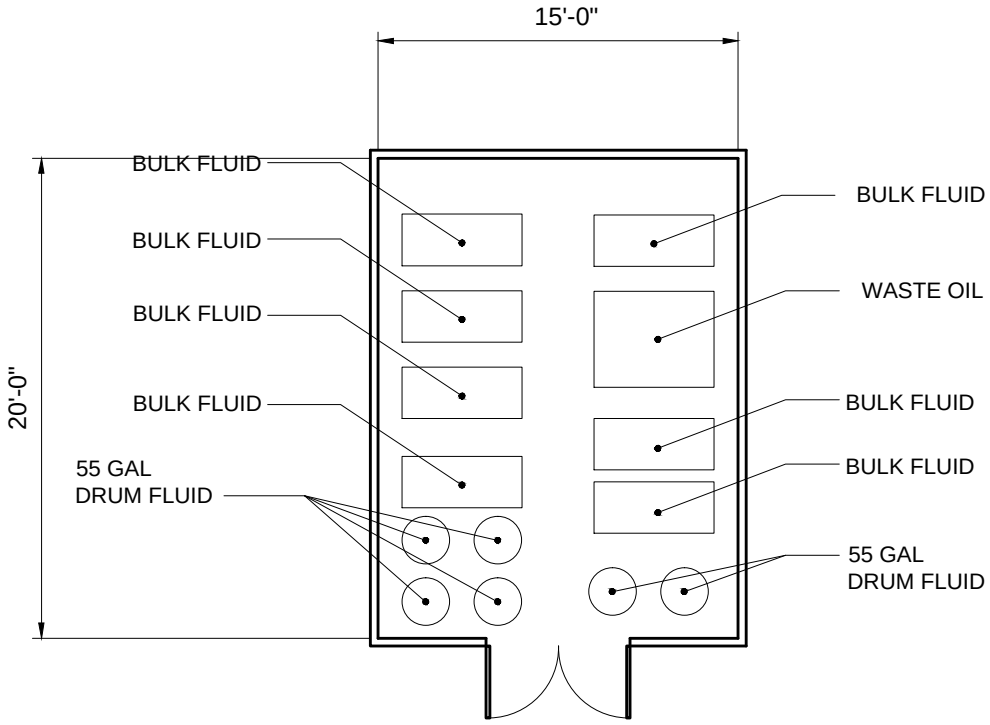
ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET C 1.09

Weston&Sampson®



FLUID STORAGE ROOM

15' X 15' = 225 SF

Weston&Sampson®

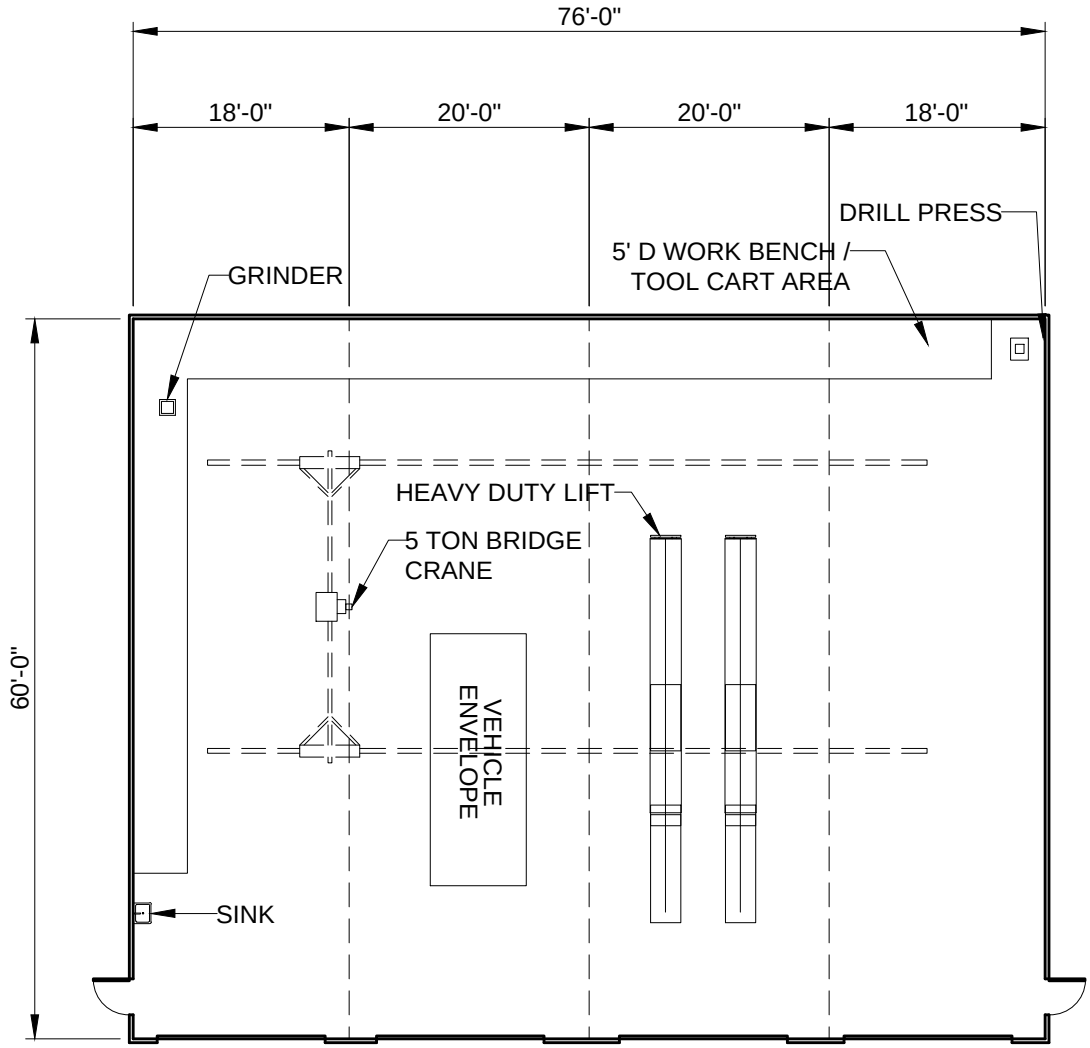
FLUID STORAGE ROOM

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET D 1.01

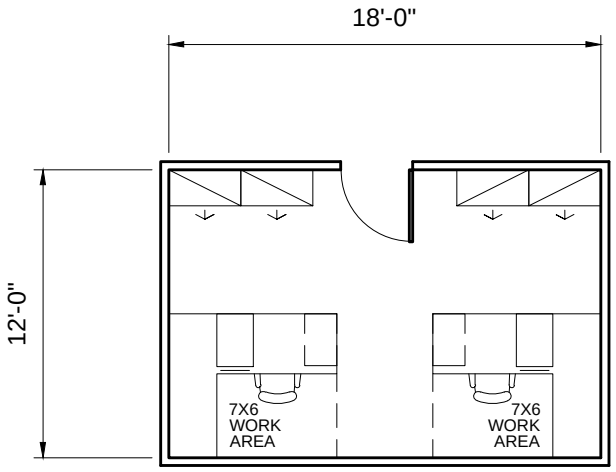


MAINTENANCE BAYS
60' X 80' = 4,800 SF

NOTES:
1. PROVIDE OVERHEAD TAILPIPE EXHAUST SYSTEM
2. PROVIDE LUBRICATION DISTRIBUTION SYSTEM
3. PROVIDE BRIDGE CRANE
4. PROVIDE HEAVY DUTY LIFT AND LIGHT DUTY LIFT

Weston&Sampson®

MAINTENANCE BAYS
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/16" = 1'-0"
SHEET D 1.02



MECHANICS OFFICE/REFERENCE ROOM

12' X 18' = 216 SF

Weston&Sampson®

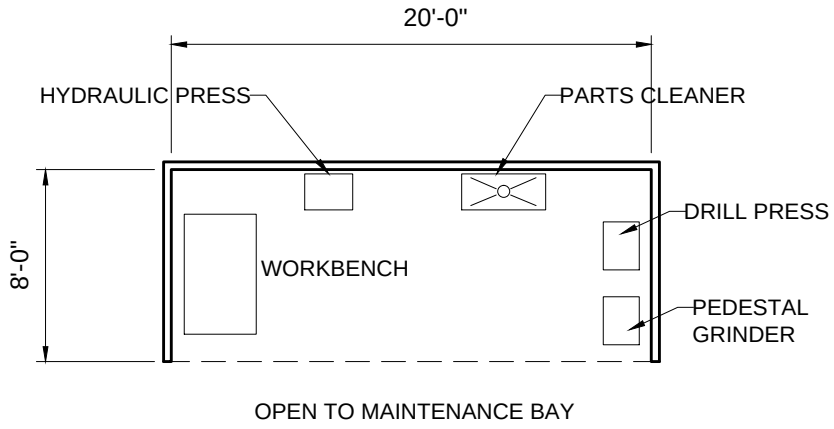
MECHANICS OFFICE

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET D 1.03



MAINTENANCE WORKSHOP

20' X 8' = 160 SF

Weston&Sampson®

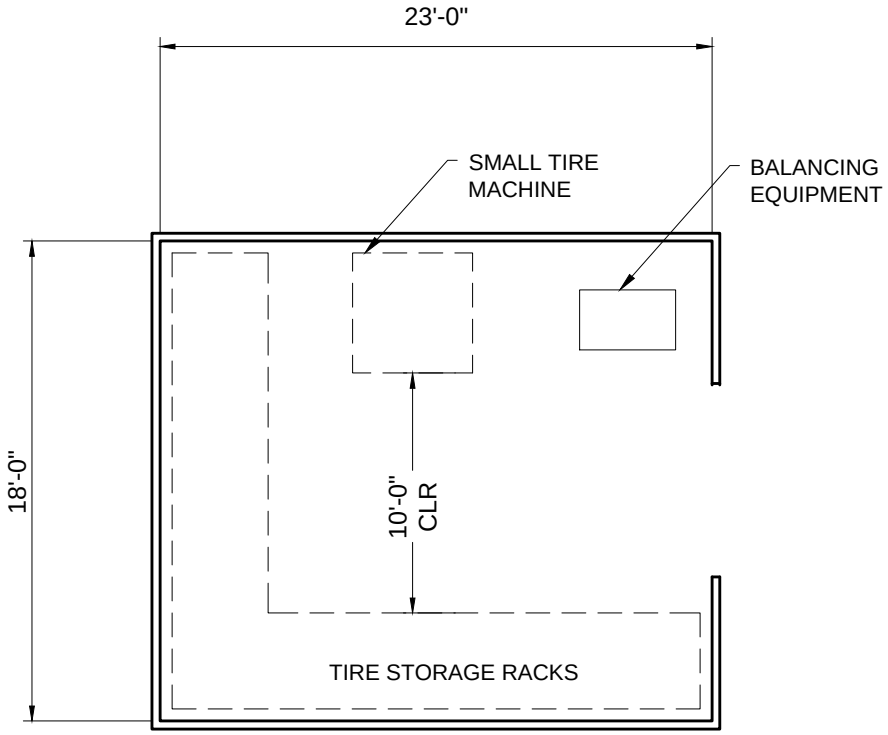
MAINTENANCE WORKSHOP

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET D 1.04



MAINTENANCE TIRE WORKSHOP

23' X 18' = 414 SF

TIRE WORKSHOP

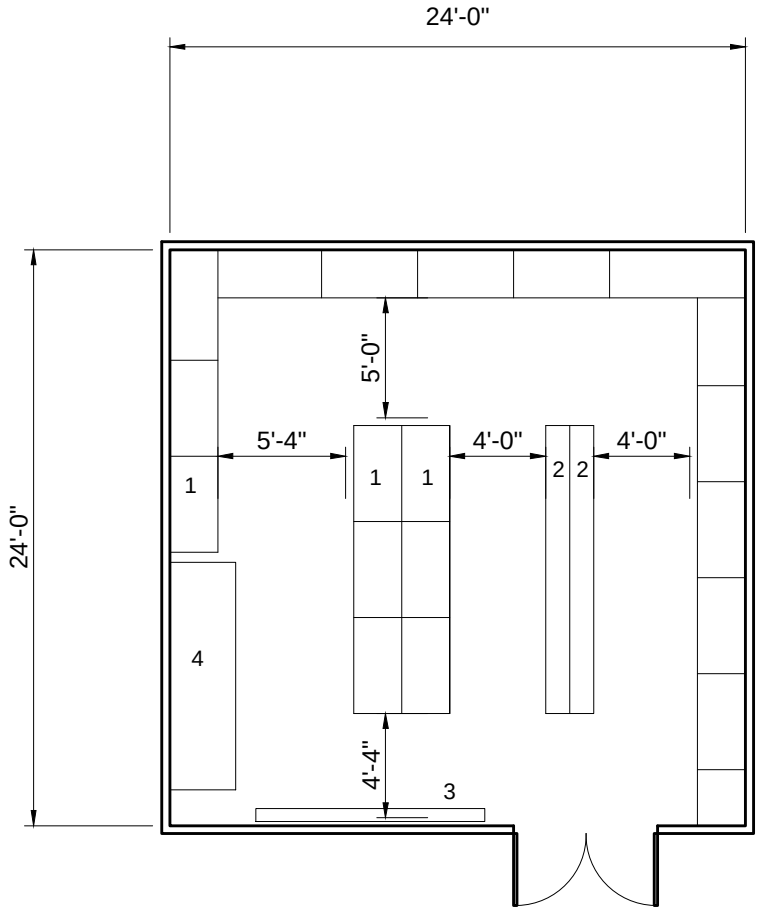
ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET D 1.05

Weston&Sampson®

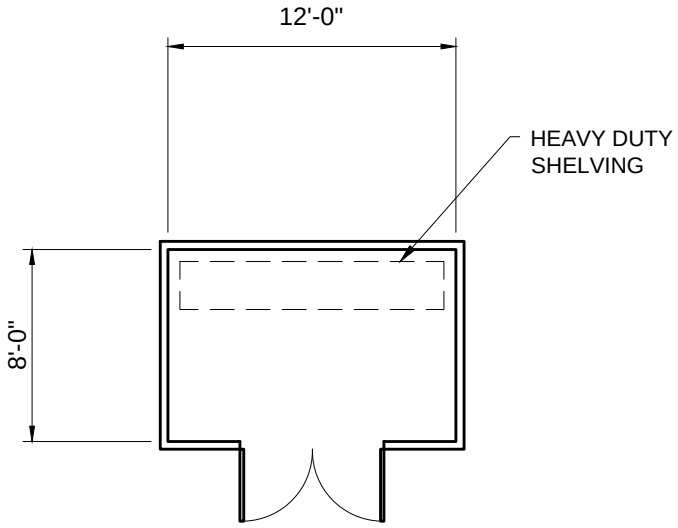


PARTS STORAGE ROOM
24' X 24' = 576 SF

NOTES:
1. 24" HEAVY DUTY SHELVING
2. SMALL PARTS BIN
3. WALL STORAGE (HANGING HOSES, BELTS, ETC.)
4. BULK FLOOR STORAGE

Weston&Sampson®

PARTS STORAGE ROOM
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET D 1.06



SECURED TOOL STORAGE ROOM

8' X 12' = 96 SF

Weston&Sampson®

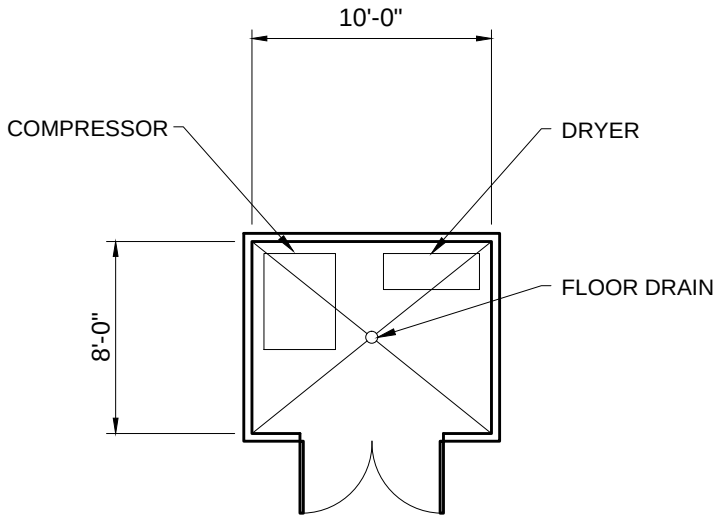
SECURED TOOL ROOM

ROOM DATA SHEETS

MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

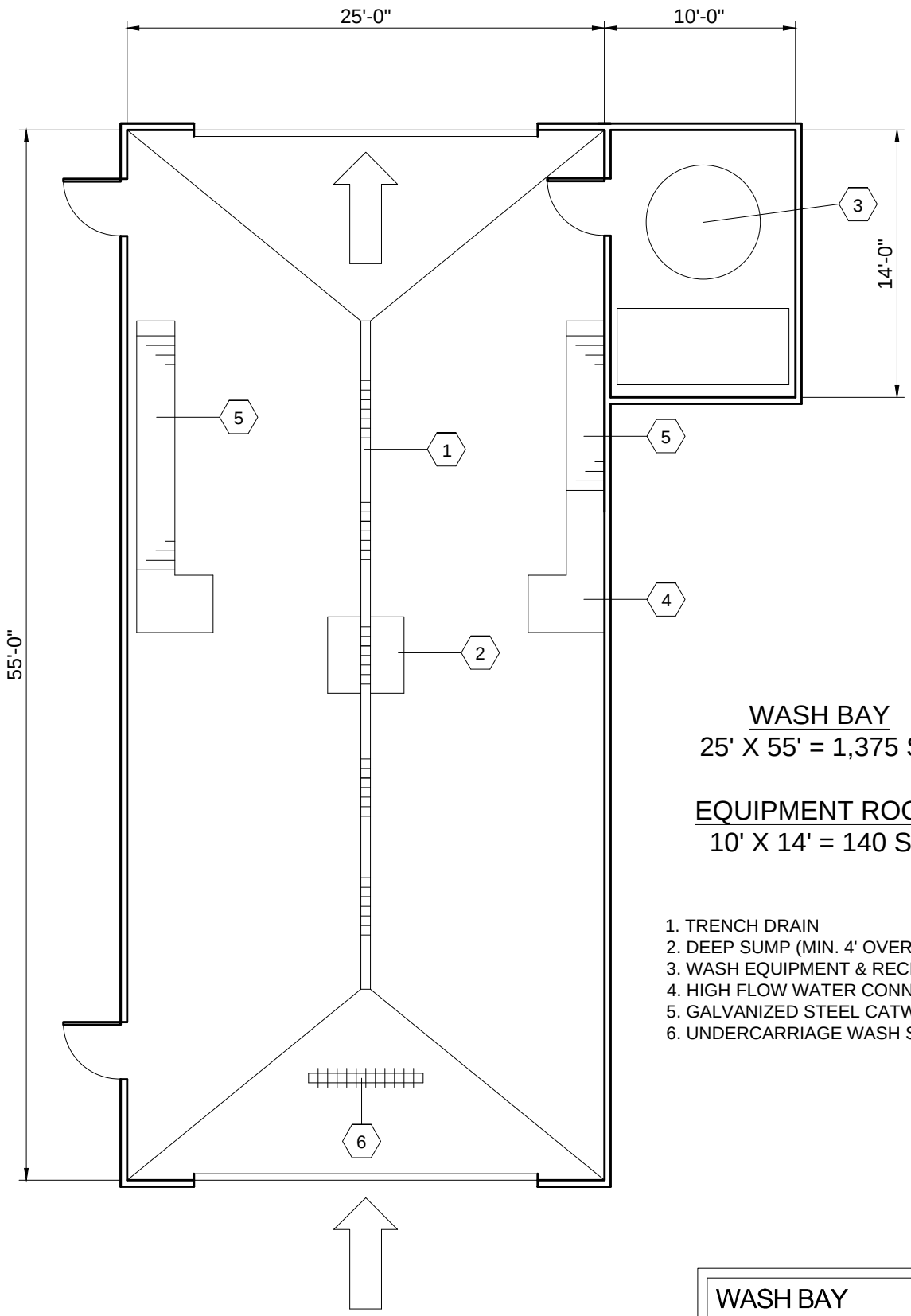
SHEET D 1.07



COMPRESSOR ROOM
8' X 10' = 80 SF

Weston&Sampson®

COMPRESSOR ROOM
ROOM DATA SHEETS
MILTON, MASSACHUSETTS
SCALE: 1/8" = 1'-0"
SHEET D 1.08



WASH BAY
25' X 55' = 1,375 SF

EQUIPMENT ROOM
10' X 14' = 140 SF

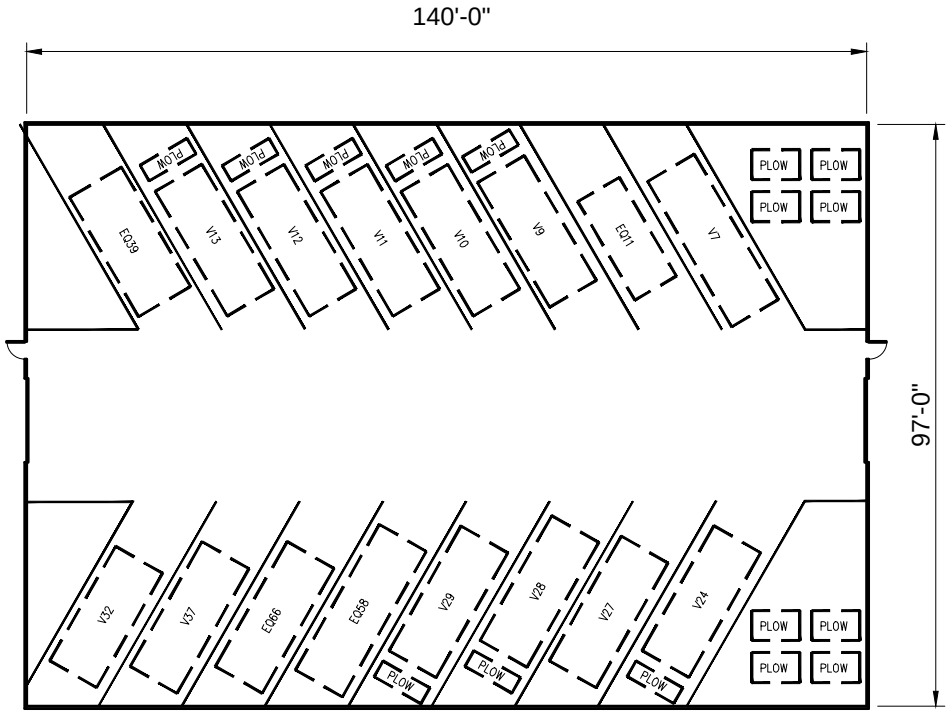
1. TRENCH DRAIN
2. DEEP SUMP (MIN. 4' OVERBURDEN)
3. WASH EQUIPMENT & RECLAIM EQUIPMENT
4. HIGH FLOW WATER CONNECTION
5. GALVANIZED STEEL CATWALK
6. UNDERCARRIAGE WASH SYSTEM

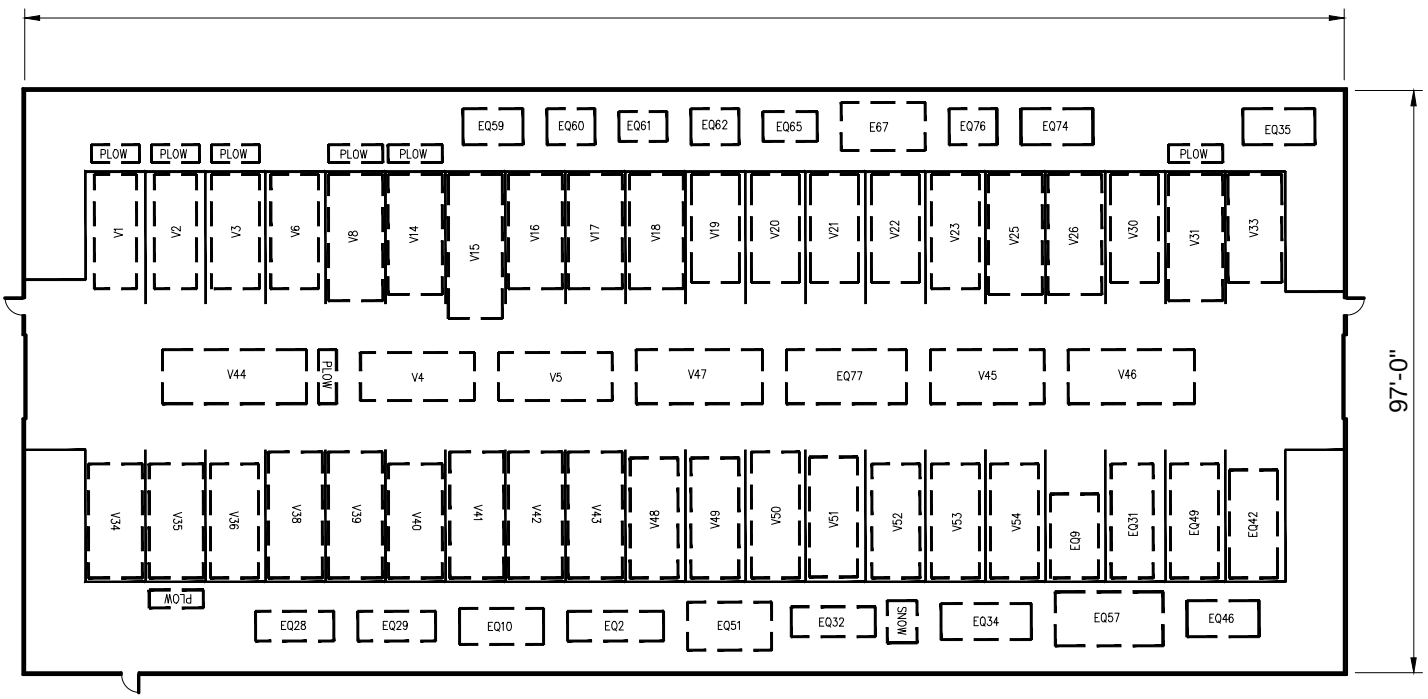
Weston&Sampson®

WASH BAY
ROOM DATA SHEETS
MILTON, MASSACHUSETTS

SCALE: 1/8" = 1'-0"

SHEET E 1.01





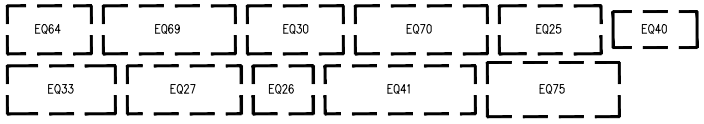
VEHICLE AND EQUIPMENT STORAGE

140' X 97' = 13,580 SF

220' X 97' = 21,340 SF

TOTAL = 34,920

*VEHICLES TO REMAIN OUTDOORS



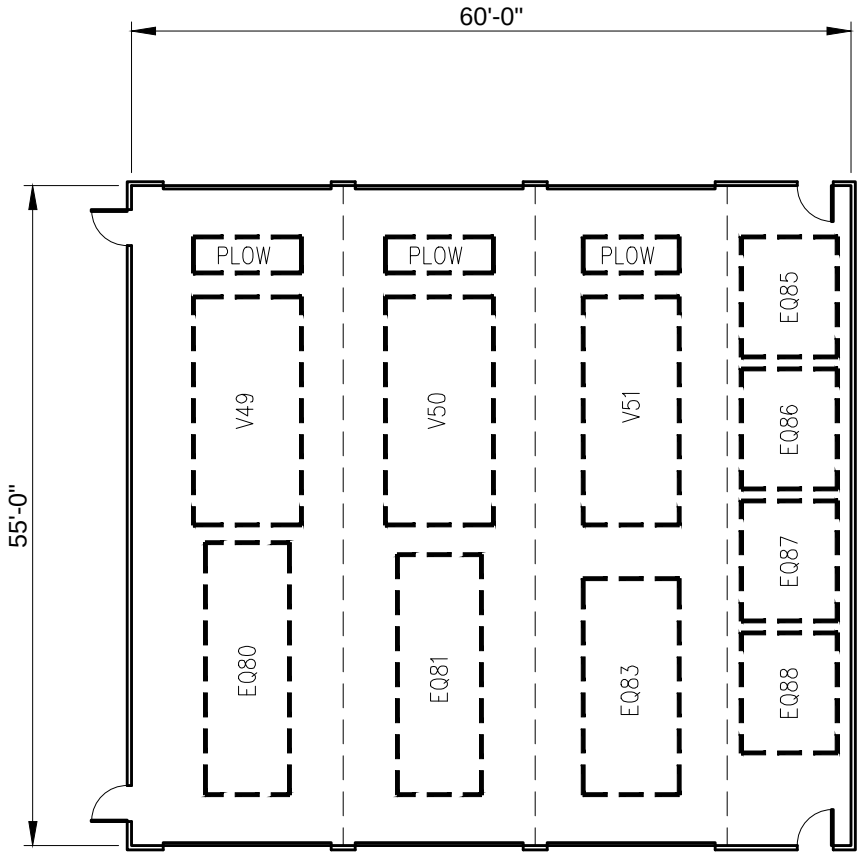
Weston&Sampson®

VEHICLE AND EQUIPMENT STORAGE

MILTON, MASSACHUSETTS

SCALE: 1/32" = 1'-0"

SHEET F 1.01



PARKS VEHICLE STORAGE
60' X 55' = 3,300 SF

PARKS VEHICLE STORAGE
ROOM DATA SHEETS
MILTON, MASSACHUSETTS

SCALE: 1/16" = 1'-0"

SHEET F 1.02

Weston&Sampson®

Town of Milton
Department of Public Works, Parks Department, and Consolidated Facilities
Facility Needs Assessment and Feasibility Study

Section 5 – Space Needs Guidelines Worksheet

Department of Public Works
Space Needs Guidelines
WORK SHEET

These guidelines have been prepared by Weston & Sampson based upon our experience with more than 70 public works facility projects in the last 15 years. These guidelines can be utilized by communities to identify an estimated facility size prior to undertaking a comprehensive programming effort.

INSTRUCTIONS:

1. Fill in the quantity of employees, divisions, and vehicles in the "green" blocks
2. Multiply the "green" blocks by the "blue" blocks and fill in the # in the "yellow" block
3. Add all the "yellow" blocks together and this is the recommended facility size

Guidelines (as developed from similar completed DPW projects):		Ideal	Minimum
Administration	Average SF per Admin Person	670	569
Employee Facilities	Average SF per Work Force Person	130	110
Shops (including Maintenance)	Average SF per Division	3,554	3,021
Vehicle / Equipment Storage (for centre drive-thru)	Average SF per Rolling Stock	817	695
Vehicle / Equipment Storage (for stacked parking)	Average SF per Rolling Stock	695	591
Wash /Other	Average SF	2,955	2,512

Note: Average SF guidelines include all common spaces including circulation, toilets, common reception, etc.

IDEAL SPACE NEEDS		Qty		SF		Ideal SF
Administration	Number of Administration Personnel	13	x	670	=	8,710
Employee Facilities	Number of Work Force Employees	42	x	130	=	5,452
Shops	Number of Divisions - DPW Water & Sewer - DPW Streets, Wire, Tree - Vehicle Maintenance - Parks - CFD	5	x	3,554	=	17,770
Vehicle / Equipment Storage	Number of Vehicles (see note 1)	60	x	817	=	49,042
Wash / Other	(see note 2)	1	x	2,955	=	2,955
				TOTAL:		83,929

MINIMUM SPACE NEEDS		Qty		SF		Minimum SF
Administration	Number of Administration Personnel	13	x	569	=	7,403
Employee Facilities	Number of Work Force Employees	42	x	110	=	4,634
Shops	Number of Divisions - DPW Water & Sewer - DPW Streets, Wire, Tree - Vehicle Maintenance - Parks - CFD	5	x	3,021	=	15,105
Vehicle / Equipment Storage	Number of Vehicles (see note 1)	60	x	695	=	41,686
Wash / Other	(see note 2)	1	x	2,512	=	2,512
				TOTAL:		71,340

Notes:
1. When determining number of vehicles, include all pickups, sedans, medium & large trucks, large tractors, and construction equipment. Do not include small equipment such as trailers, sidewalk plows, mowers, etc. This smaller equipment is built into the guidelines.
2. "Other" includes open canopies for cold storage or sander body storage (this is a fixed #)
3. The minimum SF guidelines are based on a 15% reduction in the ideal space needs.

Maint Assumptions
- 1.5 bays per mechanic
- 1 bay is +/- 20' wide x 100' long (includes support space)
(or use an average of 3,500 SF per Mechanic)

Section 6 – Summary of Deficiencies for Existing Structures

Existing Conditions Report: Existing Department of Public Works facility site at 629 Randolph Avenue.

At the request of the Town of Milton Public Works Department, Weston & Sampson was asked to perform an evaluation of the town owned Public Works facility at 629 Randolph Avenue as it relates to the safe and efficient functioning of day to day operations. The existing public works facility includes 12 structures scattered across an 8.4 acres site. The purpose of the evaluation was to assess the general physical condition of the various building system components, the quality and suitability of the interior buildings environment and the general physical condition and suitability of accessory storage buildings on the site.

The Equipment Garages were built in the 1930's and currently house the Town's Highway and Parks Departments. The Equipment Garages are single-story structures, 9,702SF approximately 15 feet in height. The Parks Department building is a two story, 1,766SF structure approximately 25 feet in height.

Figures 1: Equipment garages, built in 1930's, currently unable to store all Vehicles & Equipment

Figure 2: Equipment garages built in 1930's

Figure 3: Parks Department, built in 1930's currently unable to store all parks vehicles, equipment, and trailers

Figure 4: Equipment garages, Built in 1930's

The Central Vehicle Maintenance department is located in a separate building built in the 1970's. The building houses five vehicle maintenance and storage bays accessed by overhead garage doors, the mechanics offices and a parts storage room make up the lower level of a 6th bay. The typical maintenance bay is 18' wide x 38' deep. There are two mezzanine storage areas located within the garage area, one over the mechanics office area that is used for parts storage. The second mezzanine storage area is used for tire storage.

Figure 5&6: Vehicle Maintenance / Water & Sewer Department, Crew Lockers, Shower, Toilet

The Water/Sewer Department is located in a separate metal building in a highly rusted condition. Crew lockers, showers and toilets are located in a single-story building adjacent to the Water/Sewer Department. Additional equipment storage is located in separate trailers parked on the side of the building.

Figure 7&8: Engineered Metal Building / DPW Headquarters

The Engineered Metal Building located at the center of the site is used to store vehicles and equipment. The building houses five vehicle storage bays accesses by overhead garage doors. The building is in good condition but inadequate for the storage of DPW vehicles and equipment and its central location constricts site circulation.

The DPW headquarters / administration building is located near the entrance and includes the Director's office, staff offices and workstations, Engineering and GIS Departments, and the Public Counter Area. The DPW headquarters building is a single-story, 4,587SF structure approximately 20 feet in height.
The Gilbane Building is 1,100SF single-story structure approximately 15 feet in height that is used for by the operations to provide dispatch/coordination for snow removal, and a muster room, it includes a private bathroom, kitchen area and storage in the basement.

Figure 9: Gilbane Building

Building Systems - Exterior Envelope

Roof – Equipment Garages & Parks Department:

Access to the roof was not provided, but it appears from online aerial images and what could be observed from the ground that the current roof is asphalt shingles which are pitched to perimeter drainage gutters connected to downspouts. There is evidence of rotted roofs, interior water damage due to roof leaks, and failure of roof systems in (3) buildings. The roof is not insulated. It is not clear how old the current roof is, but a typical asphalt shingle roof should be expected to last 15-20 years.

Figure 10&11: Equipment Garages & Parks Department: Completely failure of roof systems on (3) buildings

Roof – Central Vehicle Maintenance:

The current roof is a ballasted roof with a single-ply membrane which is pitched to perimeter drainage scuppers connected to downspouts. There is some evidence from the online aerial photographs of ponding at either end of the roof which could be the result of a blocked drainage path. It is not clear how old the current roof membrane is, but a typical single-ply membrane roof should be expected to last between 20-25 years.

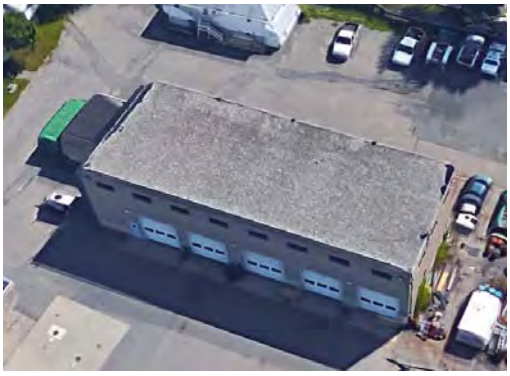


Figure 12&13: Vehicle Maintenance Ponding at Corners / Water & Sewer Department highly rusted roof

Roof – Water/Sewer Department & Crew Lockers, Showers, and Toilet:

It appears from online aerial images that the current roof is corrugated metal in a highly rusted condition. The roof over the Crew Lockers, Showers, and Toilet Building is a single-ply membrane pitched to the rear with a gutter and downspout system.

Roof – Engineered Metal Building & DPW Headquarters:

The Engineered metal building roof is a standing seam metal, sloped to the long edge of the building. Roof drainage is a gutter and downspout system. The DPW Headquarters roof is asphalt shingles with a gutters and drainage to the DPW yard, it was replaced in 2013.

Figure 14&15: Engineered Metal Building / DPW Headquarters

Exterior Walls - Equipment Garages & Parks Department:

The exterior walls are constructed of wood framed walls in some areas and single-wythe load bearing concrete masonry units in some areas. The wood framed walls do not contain insulation and the un-grouted block cores, would provide only minimal heat-loss benefit by current energy code standards. There is some evidence of building settlement with resultant mortar cracking and voids in the concrete block coursing especially near wall openings.

Figure 16: Sag in the failed rear wall system

Figure 17: Failure of masonry wall at window opening

Exterior Walls - Central Vehicle Maintenance:

The exterior walls are constructed of tube steel, steel beams and steel joists structure with CMU block walls. Insulation has been attached to the interior walls of the building, which would provide only minimal heat loss benefit by current energy code standards.

Figure 18: View of maintenance bays-

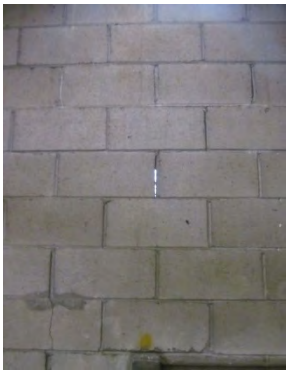


Figure 19: Voids in grouted block walls

Exterior Openings:

Windows and Doors: The equipment garages have the original wood windows; the overhead doors appear to have been replaced at some point within the last 20 years. The DPW headquarters has aluminum replacement double-hung windows with storm windows on the exterior.

The five overhead garage doors in the Vehicle Maintenance building appear to be higher performing insulated overhead doors while the existing overhead doors in the Water and Sewer Dept. and equipment garages appear to be of an older, less thermally efficient make. The hollow metal and wood exterior personal doors throughout the facility are loose fitting and without perimeter weather-stripping making them energy inefficient.

Interior Environment

In general, all of the building interiors are cramped, poorly lighted and poorly ventilated, and contain many conditions considered non-compliant based on current OSHA and building code regulations. Specific areas are described below.

Storage Mezzanines:

The tire storage mezzanines are accessed by steel stairs with open risers and without proper hand rails or guards resulting in a potential fall hazard for employees. The mezzanines are not considered legally occupiable spaces by current building code standards as they lack the minimum required egress requirements. The edge of the mezzanine is not protected by compliant guards or toe kicks to prevent either occupants or tools from potentially falling to the maintenance shop floor below.

Figure 20: Non-compliant, unsafe, stairs to mezzanine

Figure 21: Mezzanine with non-compliant guardrails

Maintenance Bays:

The vehicle maintenance bay area lacks sufficient length for the Fire Department ladder trucks. There is no function to the service pit at the end of one of the maintenance bays. The pit has an open side without guardrails representing a fall hazard.

No ventilation system to deal with direct vehicle exhaust is present, the garage lacks the current code required exhaust system designed to evacuate carbon monoxide or nitrous oxide gas build-up which is a potential danger to building occupants.

Figure 22: Service pit with open side

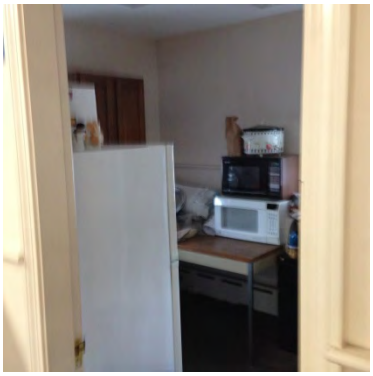
Figure 23: Bay is too short for ladder truck maintenance


Figures 24 & 25: Insufficient storage space for tires, and parts

There is inadequate storage space for tires and parts within the building causing the "stacking" of tires and parts in an inefficient manner.

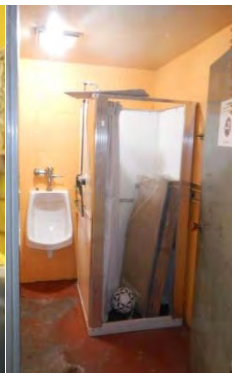
Operations Support Areas:

The employee office and break areas are undersized; the dispatch/operations office and muster area is separated from the crew lockers, showers, and toilet area. The building does not contain code required women's toilet facilities. Although the facilities likely met the requirements of the codes when they were constructed, they do not conform to current State Building Code, Plumbing Code, and ADA Guidelines.




Figures 26 & 27: One toilet and a small kitchen area in the Gilbane building





Figures 28, 29, & 30: Crew lockers were salvaged from a building being demolished; no eating facilities, no windows or ventilation, there is one toilet, one urinal, and a shower stall.

General Site Existing Conditions:

Exterior Storage Structures:

A collection of exterior storage structures of differing age and condition serve to house equipment, and materials required for the day to day operation of the Highway and Water, Sewer, and Parks Departments. Some equipment is stored long term in shipping containers while other pieces of equipment are stored outside without any protection from the elements resulting in reduced service life and functionality.

The sand and salt shed is in poor condition with its exterior walls supported by wood bracing. These structures, along with other outbuildings on the site, do not adequately protect the stored materials or equipment from the elements increasing maintenance costs and reducing their effectiveness in an emergency event.

Figure 31: Aerial view of site


Figure 32: Debris must be lifted into bins


Figure 33: Failing salt and stand storage shed

Figure 34: Unprotected town equipment

Figure 35: Storage shipping containers

Summary and Conclusion:

In conclusion the town's Public Works facility is over 50 years old with associated building systems and components generally past their useful lives. The building interior is cramped and inefficient. The facility is poorly insulated and energy inefficient by current standards. Storage for parts and equipment is inadequate and mezzanine access and use is not suitable for today's operations.

Many of the exterior storage structures are deteriorating and do little to protect the town's vehicles and equipment stored within. There is not enough storage for plows and other equipment, which sit unprotected and rusting on the ground. The vehicles and equipment stored in unheated and unprotected out-buildings will experience shortened services lives along with increased maintenance costs and an increased likelihood of failure when called upon during emergency storm events.

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Section 7 – Preferred Design Alternative

SYMBOL LEGEND

	Existing Building to Remain
	Setback Line
	Property Line
	Fence Line

	ADMINISTRATION / EMPLOYEE FACILITIES	12,800 SF
	SHOPS	12,600 SF
	VEHICLE MAINTENANCE	6,000 SF
	VEHICLE STORAGE	38,700 SF
	TOTAL	70, 100 SF
	SALT	6,000 SF
	FUEL	1,200 SF
	WASH	1,400 SF

SCHEME 3C -
REUSES 3 STRUCTURES

SCALE 1" = 40'

Project:

TOWN OF MILTON, MA FACILITY NEEDS ASSESSMENT AND FEASIBILITY STUDY

Weston&Sampson
100 Foxboro Blvd. Foxboro, MA 02035
(508) 698-3034 (800) SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

Rev	Date	Description

Seal:

Issued For:

CONCEPTUAL DESIGN

Date: August 04, 2015
Scale: 1" = 40'
Drawn By: JWW
Reviewed By: DS
Checked By: JA
Approved By: JA

Drawing Title:

SITE ALTERNATIVES

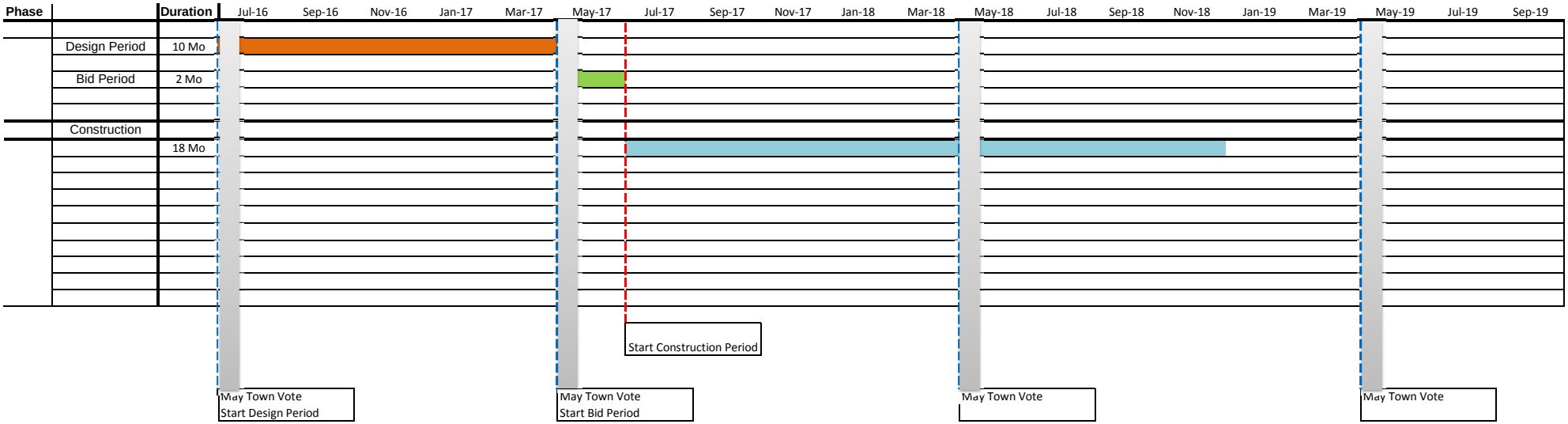
Sheet Number:

SCH - 3C

Section 8 – Proposed Design and Construction Schedule

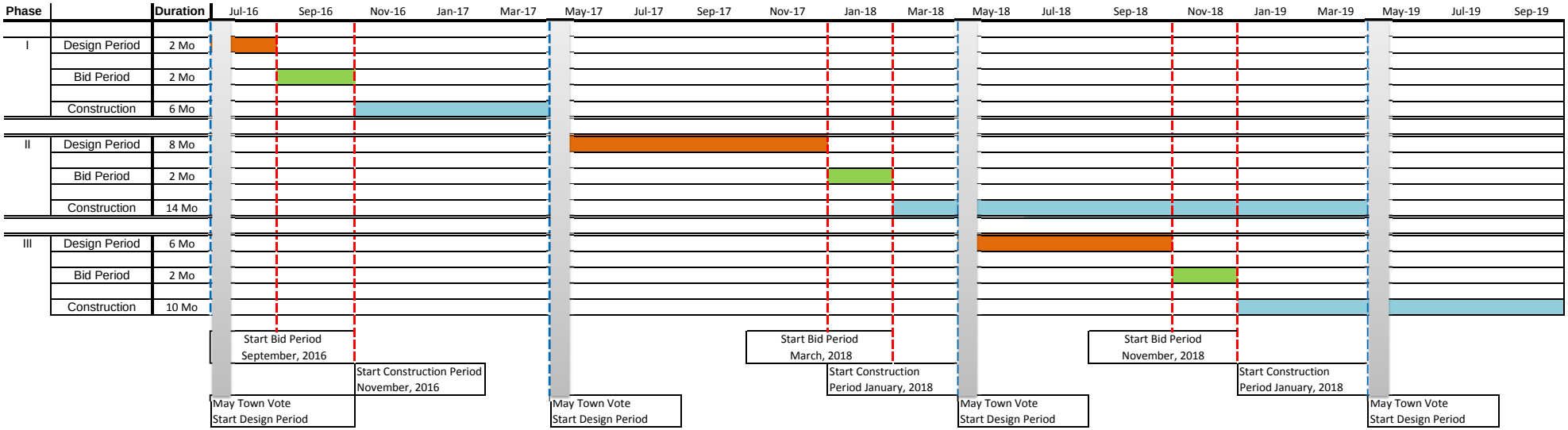
Weston Sampson
100 Foxborough Blvd., Suite 250
Foxborough, MA 02035

Town of Milton, MA
Department Of Public Works, Parks Department, and Consolidated Facilities Department
Proposed Design and Construction Schedule (Single Project)



Weston Sampson
100 Foxborough Blvd., Suite 250
Foxborough, MA 02035

Town of Milton, MA
Department Of Public Works, Parks Department, and Consolidated Facilities Department
Proposed Design and Construction Schedule (Seperated Projects)



Section 9 – Conceptual Cost Estimate for Single Project

Town of Milton
New Public Works Facility
Budget Total Project Cost

8/4/2015

New Construction **Area**	**Size (SF)**	**Cost/SF (w/ markups)**	**Cost**
Administration / Employee Facilities	2,400	$ 290	$ 696,902
Shops	12,600	$ 204	$ 2,571,005
Vehicle Maintenance (not including equipment)	6,000	$ 204	$ 1,224,288
Wash	1,400	$ 386	$ 540,204
Vehicle/Equipment Storage	32,700	$ 161	$ 5,260,907
Added Cost for Specialty Foundations (based on 1st floor area)	40,100	$ 21	$ 834,080
		Place a "x" if applicable	
Added Cost for Elevator / Egress Stair (based on one flight):	$ 180,000	x	$ 180,000
New Construction Subtotal:	**55,100**		**$ 11,307,386**
Building Cost per SF:	205		
Renovation			
Full Office Interior Renovation (gut & replace)	8,000	$ 175	$ 1,400,000
Full Employee Facilities Interior Fit-out	2,400	$ 175	$ 420,000
Maintenance Renovations (clean/h&v/elec/walls)	-	$ 160	$ -
Shops Renovation (clean/h&v/elec/walls)	-	$ 160	$ -
Garage Renovation (clean/h&v/elec)	6,000	$ 80	$ 480,000
Mezzanine Renovations (gut & replace)	-	$ 130	$ -
Renovation Subtotal:	**16,400**		**$ 2,300,000**
Building Cost per SF:	$ 140		
		Place a "x" here if included	
Industrial Equipment			
- Wash Equipment	$ 57,200	X	$ 57,200
- Heavy Duty Vehicle Lift (Fixed)	$ 114,400	X	$ 114,400
- Heavy Duty Vehicle Lift (Portable)	$ 83,200	X	$ 83,200
- Light Duty Vehicle Lift (16,000 lb capacity minimum)	$ 26,000	X	$ 26,000
- Bridge Crane	$ 104,000	X	$ 104,000
- Overhead Lubrication System	$ 124,800	X	$ 124,800
- Miscellaneous Shop and Support Equipment	$ 52,000	X	$ 52,000
- Storage Shelving / Benches / Racks	$ 41,600	X	$ 41,600
- Exhaust Removal System	$ 31,200	X	$ 31,200
Industrial Equipment Subtotal:			**$ 634,400**

Fuel System					
- 2 - 10,000 Gallon Tanks	$	83,200			
- Concrete Ballast Pad	$	20,800			
- Concrete Surface Pad	$	20,800			
- Pea Stone Backfill	$	14,560			
- Dispensing System & Associated Pipe	$	37,440			
- Canopy	$	36,400			
- Fuel Management System	$	26,000			
- Installation	$	187,200			
- Subcontractor markups	$	85,280			
- Misc. Upgrades to Existing System	$	60,000	x	$	60,000
Fuel System Subtotal:				**$**	**60,000**
Building & Equipment Total:				**$**	**14,301,786**
Mezzanines	10,000	$	52	$	520,000
Open Canopy Storage	-	$	78	$	-
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	6	$	364,000	$	2,184,000
Specialty Site Work	250,000	$	1	$	250,000
Salt/Sand Sheds	6,000		86	$	518,400
			Subtotal Bldg, Equip, & Site:	$	17,774,186
			Market Adjustment (2%):	$	355,484
			Design Contingency (10%):	$	1,812,967
			Escalation - 1 Year (6% per year):	$	1,196,558
			Total Construction:	**$**	**21,139,195**
			Total Construction Cost/SF:		**296**

Department of Public Works **Budget Total Project Cost**			
Owner's Soft Costs			
A&E Fees (design, bid, const.)	$ 2,113,919	(Assume 10% of Const. Value)	
A&E Special Services	$ 634,176	(Assume 3% of Const. Value)	
Owner's Project Manager Fees	$ 845,568	(Avg 4% of Const. Value)	
Furnishings (FFE)	$ 80,000	allowance	
Communic. / Low Voltage System	$ 40,000	allowance	
Temporary Facilities	$ 250,000	allowance	
Printing Cost - Advertisement	$ 10,000	allowance	
Legal Costs	$ 30,000	allowance	
Commissioning	$ 30,000	allowance	
Abatement	$ 50,000	allowance	
Chapter 17 Test & Inspections	$ 35,000	allowance	
Construction Contingency (8%)	$ 1,691,136	allowance	
		Total Soft Costs: (current dollars)	**$ 5,809,799**
TOTAL PROJECT COST (Average Bid Price)	**$ 26,948,994**		

Section 10 – Conceptual Cost Estimate for Phased Project

Town of Milton
New Public Works Facility
Budget Total Project Cost - Phase 1

8/14/2015

New Construction **Area**	**Size (SF)**	**Cost/SF (w/ markups)**	**Cost**
Administration / Employee Facilities	-	$ 290	$ -
Shops	-	$ 204	$ -
Vehicle Maintenance (not including equipment)	-	$ 204	$ -
Wash	-	$ 386	$ -
Vehicle/Equipment Storage	-	$ 161	$ -
Added Cost for Specialty Foundations (based on 1st floor area)	-	$ 21	$ -
		Place a "x" if applicable	
Added Cost for Elevator / Egress Stair (based on one flight):	$ 180,000		
New Construction Subtotal:	**-**		**$ -**
Building Cost per SF:	#DIV/0!		
Renovation			
Full Office Interior Renovation (gut & replace)	-	$ 175	$ -
Full Employee Facilities Interior Fit-out	2,400	$ 175	$ 420,000
Maintenance Renovations (clean/h&v/elec/walls)	-	$ 160	$ -
Shops Renovation (clean/h&v/elec/walls)	-	$ 160	$ -
Garage Renovation (clean/h&v/elec)	-	$ 80	$ -
Mezzanine Renovations (gut & replace)	-	$ 130	$ -
Renovation Subtotal:	**2,400**		**$ 420,000**
Building Cost per SF:	$ 175		
		Place a "x" here if included	
Industrial Equipment			
- Wash Equipment	$ 57,200		
- Heavy Duty Vehicle Lift (Fixed)	$ 114,400		
- Heavy Duty Vehicle Lift (Portable)	$ 83,200		
- Light Duty Vehicle Lift (16,000 lb capacity minimum)	$ 26,000		
- Bridge Crane	$ 104,000		
- Overhead Lubrication System	$ 124,800		
- Miscellaneous Shop and Support Equipment	$ 52,000		
- Storage Shelving / Benches / Racks	$ 41,600		
- Monorail Crane	$ 60,320		
- Exhaust Removal System	$ 31,200		
Industrial Equipment Subtotal:			**$ -**

Fuel System					
- 2 - 10,000 Gallon Tanks	$	83,200			
- Concrete Ballast Pad	$	20,800			
- Concrete Surface Pad	$	20,800			
- Pea Stone Backfill	$	14,560			
- Dispensing System & Associated Pipe	$	37,440			
- Canopy	$	36,400			
- Fuel Management System	$	26,000			
- Installation	$	187,200			
- Subcontractor markups	$	85,280			
- Misc. Upgrades to Existing System	$	60,000			
Fuel System Subtotal:				**$**	**-**
Building & Equipment Total:				**$**	**420,000**
Mezzanines	-	$	52	$	-
Open Canopy Storage	-	$	78	$	-
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	-	$	364,000	$	-
Specialty Site Work	-	$	1	$	-
Salt/Sand Sheds	-		86	$	-
			Subtotal Bldg, Equip, & Site:	$	420,000
			Market Adjustment (2%):	$	8,400
			Design Contingency (10%):	$	42,840
			Escalation - 1 Year (6% per year):	$	28,274
			Total Construction:	**$**	**499,514**
			Total Construction Cost/SF:		**208**

Department of Public Works
Budget Total Project Cost

Owner's Soft Costs

A&E Fees (design, bid, const.)	$ 49,951	(Assume 10% of Const. Value)	
A&E Special Services	$ 14,985	(Assume 3% of Const. Value)	
Owner's Project Manager Fees	$ 19,981	(Avg 4% of Const. Value)	
Furnishings (FFE)	$ 10,000	allowance	
Communic. / Low Voltage System	$ 10,000	allowance	
Temporary Facilities	$ 50,000	allowance	
Printing Cost - Advertisement	$ 4,000	allowance	
Legal Costs	$ 30,000	allowance	
Commissioning	$ 30,000	allowance	
Abatement	$ 50,000	allowance	
Chapter 17 Test & Inspections	$ 35,000	allowance	
Construction Contingency (8%)	$ 39,961	allowance	
		Total Soft Costs: (current dollars)	**$ 343,879**
TOTAL PROJECT COST (Average Bid Price)	**$ 843,393**		

Town of Milton
New Public Works Facility
Budget Total Project Cost - Phase 2

8/14/2015

New Construction **Area**		**Size (SF)**		**Cost/SF (w/ markups)**		**Cost**
Administration / Employee Facilities		-	$	290	$	-
Shops		-	$	204	$	-
Vehicle Maintenance (not including equipment)		6,000	$	204	$	1,224,288
Wash		1,400	$	386	$	540,204
Vehicle/Equipment Storage		32,700	$	161	$	5,260,907
Added Cost for Specialty Foundations (based on 1st floor area)		40,100	$	21	$	834,080
				Place a "x" if applicable		
Added Cost for Elevator / Egress Stair (based on one flight):	$	180,000				
New Construction Subtotal:		**40,100**			**$**	**7,859,479**
Building Cost per SF:		196				
Renovation						
Full Office Interior Renovation (gut & replace)		-	$	175	$	-
Full Employee Facilities Interior Fit-out		-	$	175	$	-
Maintenance Renovations (clean/h&v/elec/walls)		-	$	160	$	-
Shops Renovation (clean/h&v/elec/walls)		-	$	160	$	-
Garage Renovation (clean/h&v/elec)		6,000	$	80	$	480,000
Mezzanine Renovations (gut & replace)		-	$	130	$	-
Renovation Subtotal:		**6,000**			**$**	**480,000**
Building Cost per SF:	$	80				
				Place a "x" here if included		
Industrial Equipment						
- Wash Equipment	$	57,200	X		$	57,200
- Heavy Duty Vehicle Lift (Fixed)	$	114,400	X		$	114,400
- Heavy Duty Vehicle Lift (Portable)	$	83,200	X		$	83,200
- Light Duty Vehicle Lift (16,000 lb capacity minimum)	$	26,000	X		$	26,000
- Bridge Crane	$	104,000	X		$	104,000
- Overhead Lubrication System	$	124,800	X		$	124,800
- Miscellaneous Shop and Support Equipment	$	52,000	X		$	52,000
- Storage Shelving / Benches / Racks	$	41,600	X		$	41,600
- Monorail Crane	$	60,320				
- Exhaust Removal System	$	39,520	X		$	39,520
Industrial Equipment Subtotal:					**$**	**642,720**

Fuel System					
- 2 - 10,000 Gallon Tanks	$	83,200			
- Concrete Ballast Pad	$	20,800			
- Concrete Surface Pad	$	20,800			
- Pea Stone Backfill	$	14,560			
- Dispensing System & Associated Pipe	$	37,440			
- Canopy	$	36,400			
- Fuel Management System	$	26,000			
- Installation	$	187,200			
- Subcontractor markups	$	85,280			
- Misc. Upgrades to Existing System	$	60,000	x	$	60,000
Fuel System Subtotal:				**$**	**60,000**
Building & Equipment Total:				**$**	**9,042,199**
Mezzanines	6,000	$	52	$	312,000
Open Canopy Storage	-	$	78	$	-
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	6.25	$	364,000	$	2,275,000
Specialty Site Work	-			$	-
Salt/Sand Sheds	6,000		86	$	518,400
			Subtotal Bldg, Equip, & Site:	$	12,147,599
			Market Adjustment (2%):	$	242,952
			Design Contingency (10%):	$	1,239,055
			Escalation - Year 1 (6% per year):	$	817,776
			Escalation - Year 2 (5% per year):	$	722,369
			Total Construction:	**$**	**15,169,751**
			Total Construction Cost/SF:		**329**

Department of Public Works **Budget Total Project Cost**			
Owner's Soft Costs			
A&E Fees (design, bid, const.)	$ 1,516,975	(Assume 10% of Const. Value)	
A&E Special Services	$ 455,093	(Assume 3% of Const. Value)	
Owner's Project Manager Fees	$ 606,790	(Avg 4% of Const. Value)	
Furnishings (FFE)	$ 10,000	allowance	
Communic. / Low Voltage System	$ 20,000	allowance	
Temporary Facilities	$ 80,000	allowance	
Printing Cost - Advertisement	$ 4,000	allowance	
Legal Costs	$ 30,000	allowance	
Commissioning	$ 30,000	allowance	
Abatement	$ 50,000	allowance	
Chapter 17 Test & Inspections	$ 35,000	allowance	
Construction Contingency (8%)	$ 1,213,580	allowance	
		Total Soft Costs: (current dollars)	**$ 4,051,438**
TOTAL PROJECT COST (Average Bid Price)	**$ 19,221,189**		

Town of Milton
New Public Works Facility
Budget Total Project Cost - Phase 3

8/14/2015

New Construction **Area**	**Size (SF)**	**Cost/SF (w/ markups)**	**Cost**
Administration / Employee Facilities	2,400	$ 290	$ 696,902
Shops	12,600	$ 204	$ 2,571,005
Vehicle Maintenance (not including equipment)	-	$ 204	$ -
Wash	-	$ 386	$ -
Vehicle/Equipment Storage	-	$ 161	$ -
Added Cost for Specialty Foundations (based on 1st floor area)	-	$ 21	$ -
		Place a "x" if applicable	
Added Cost for Elevator / Egress Stair (based on one flight):	$ 180,000	x	$ 180,000
New Construction Subtotal:	**15,000**		**$ 3,447,907**
Building Cost per SF:	230		
Renovation			
Full Office Interior Renovation (gut & replace)	8,000	$ 175	$ 1,400,000
Full Employee Facilities Interior Fit-out	-	$ 175	$ -
Maintenance Renovations (clean/h&v/elec/walls)	-	$ 160	$ -
Shops Renovation (clean/h&v/elec/walls)	-	$ 160	$ -
Garage Renovation (clean/h&v/elec)	-	$ 80	$ -
Mezzanine Renovations (gut & replace)	-	$ 130	$ -
Renovation Subtotal:	**8,000**		**$ 1,400,000**
Building Cost per SF:	$ 175		
		Place a "x" here if included	
Industrial Equipment			
- Wash Equipment	$ 57,200		
- Heavy Duty Vehicle Lift (Fixed)	$ 114,400		
- Heavy Duty Vehicle Lift (Portable)	$ 83,200		
- Light Duty Vehicle Lift (16,000 lb capacity minimum)	$ 26,000	X	$ 26,000
- Bridge Crane	$ 104,000		
- Overhead Lubrication System	$ 124,800		
- Miscellaneous Shop and Support Equipment	$ 52,000	X	$ 52,000
- Storage Shelving / Benches / Racks	$ 41,600	X	$ 41,600
- Monorail Crane	$ 20,800	X	$ 20,800
- Exhaust Removal System	$ 31,200	X	$ 31,200
Industrial Equipment Subtotal:			**$ 171,600**

Fuel System					
- 2 - 10,000 Gallon Tanks	$	83,200			
- Concrete Ballast Pad	$	20,800			
- Concrete Surface Pad	$	20,800			
- Pea Stone Backfill	$	14,560			
- Dispensing System & Associated Pipe	$	37,440			
- Canopy	$	36,400			
- Fuel Management System	$	26,000			
- Installation	$	187,200			
- Subcontractor markups	$	85,280			
- Misc. Upgrades to Existing System	$	60,000			
Fuel System Subtotal:				**$**	**-**
Building & Equipment Total:				**$**	**5,019,507**
Mezzanines	4,000	$	52	$	208,000
Open Canopy Storage	-	$	78	$	-
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	1.75	$	364,000	$	637,000
Specialty Site Work	250,000	$	1	$	250,000
Salt/Sand Sheds	-		86	$	-
			Subtotal Bldg, Equip, & Site:	$	6,114,507
			Market Adjustment (2%):	$	122,290
			Design Contingency (10%):	$	623,680
			Escalation - Year 1 (6% per year):	$	411,629
			Escalation - Year 2 (5% per year):	$	363,605
			Escalation - Year 3 (4% per year):	$	305,428
			Total Construction:	**$**	**7,941,139**
			Total Construction Cost/SF:		**345**

Department of Public Works **Budget Total Project Cost**			
Owner's Soft Costs			
A&E Fees (design, bid, const.)	$ 794,114	(Assume 10% of Const. Value)	
A&E Special Services	$ 238,234	(Assume 3% of Const. Value)	
Owner's Project Manager Fees	$ 317,646	(Avg 4% of Const. Value)	
Furnishings (FFE)	$ 50,000	allowance	
Communic. / Low Voltage System	$ 20,000	allowance	
Temporary Facilities	$ 120,000	allowance	
Printing Cost - Advertisement	$ 5,000	allowance	
Legal Costs	$ 30,000	allowance	
Commissioning	$ 30,000	allowance	
Abatement	$ 50,000	allowance	
Chapter 17 Test & Inspections	$ 35,000	allowance	
Construction Contingency (8%)	$ 635,291	allowance	
		Total Soft Costs: (current dollars)	**$ 2,325,285**
TOTAL PROJECT COST (Average Bid Price)	**$ 10,266,424**		