

# TOWN OF STURBRIDGE

## DEPARTMENT OF PUBLIC WORKS PROGRAM

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Prepared for:

The Town of Sturbridge Massachusetts





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## EXECUTIVE SUMMARY

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The Town of Sturbridge, interested in evaluating the adequacy of space at the existing Department of Public Works facility at 69 New Boston Road Extension, engaged the services of CME Associates, Inc. to prepare a space needs analysis and facility program for use as a planning tool that will guide the future development of the facility. The study included an inspection of existing facilities, interviews with Greg Morse, the DPW Director, documentation of deficiencies, research into potential future growth trends and recommendations for space required to meet future demand and to address operational and functional deficiencies. A complete feasibility study should follow this report which defines the space needs of an upgraded DPW facility.

Consisting of almost 39 square miles, the Town Sturbridge is home to about 10,150 (2017<sup>1</sup>) residents. Given its location within commuting distance of several major urban environments, the fact that tourist attractions, historic sites, parks and open space provide attractive recreational opportunities, that the population is well educated with a high median income and a strong school system, it is expected that Sturbridge will continue to experience significant growth. Planning for this growth within the DPW service areas will be critical for the development of facilities which will serve the Town for the next decade.

The DPW is responsible for the operation and administration of the Highway, Landfill, Water and Wastewater departments as well as the Tree Warden. In addition, maintenance of recreation facilities and town cemeteries fall under the purview of DPW. At present, a private entity, Veolia Water, operates the Water and Wastewater facilities. The focus of this study is the DPW building and grounds at 69 New Boston Road which house the administrative offices, vehicle storage and maintenance bays, and miscellaneous materials and equipment. Currently the school bus fleet and dispatch operations are housed on site.

In general, storage facilities for equipment are lacking. Additional enclosed storage bays for highway trucks and vehicles is desirable. Expensive specialized equipment for catch basin cleaning, street sweeping, mowing, sanding, salting and snow plowing should be stored under cover so that their value can be retained over time. At present there is little covered storage. In addition, facilities for DPW personnel are cramped and deficient with regard to code compliance and security, affecting the safety and well-being of the employees.

An investment in improved and expanded DPW facilities in the town of Sturbridge will be a cost saving measure in the long term as the current investment in equipment will be preserved if properly stored and maintained under optimal conditions. If the school bus fleet were to be relocated, an addition to the rear of the building could accommodate the needs for covered and enclosed storage. Expansion of the administrative space will require further study of site

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<sup>1</sup> Town of Sturbridge Finance Committee Report Fiscal Year 2018.

circulation options and precisely locating site features such as the septic system to determine the ideal location for an addition.

## EXISTING CONDITIONS SURVEY



Figure 1: Current DPW location adjacent to the Transfer Water Treatment Plant and Interstate 84.

### *Site Description*

Strategically located in the geographic center of the Town of Sturbridge, the Department of Public Works facility is sited on just over 14 acres of land which it shares with the Water Pollution Control facility and the Dog Pound. The DPW portion of the site contains a wide variety of uses. The main building, constructed in 1970, incorporates administrative offices, vehicle maintenance, and vehicle and equipment storage uses. Additional equipment is stored, uncovered, around the property. Earthwork materials such as loam, sand and gravel are stored in designated areas. In addition, a salt shed provides cover for road salt and winter mix. While adequate to cover the material, sanding trucks must be loaded in the open. Another area of the site provides storage for concrete drainage structures and drainage pipe. In addition, there is a fueling facility consisting of underground fiberglass coated steel storage tanks, replaced in 1997, housing 8,000 gallons of gasoline and 10,000 gallons of diesel fuel. The tanks have a life span of 30 to 40 years,

but the pumps are now 20 years old and should be upgraded. The Sturbridge dog pound is also located in the northwest corner of the site.

The main entrance to the site is directly off of the west side of New Boston Road Extension. New Boston Road Extension provides access to the Town owned playing fields to the south of the DPW facility. At present, materials and equipment are stored on both sides of the road utilized by the public to access the fields, potentially creating a security issue. With the exception of the front lawn under which resides the septic system, the area around the building is paved for vehicular access and parking. Currently the paved area on the west side of the garage is designated as storage for twenty school buses. School bus drivers park at the western tree line while DPW employees park their vehicles south of the main building.

Site circulation to remote material and equipment storage appears to work well, with a change in grade facilitating delivery of sand at the upper grade and loading at the lower level. Equipment and materials line the roadways for ease of access to install sanders and plows onto the dump trucks.



Figure 2: The main building on the site houses DPW administration, maintenance and storage bays. The public entrance is in the center of the photograph.





Figure 3: Equipment storage bays form the end of the administration wing.



Figure 4: The Salt Shed houses salt and loading equipment. Sand is stockpiled adjacent to the shed.



Figure 5: Forty year old Salt Shed interior bays house material and equipment.



Figure 6: Sanding equipment is stored in the open near the Salt Shed and sand pile.



Figure 7: The existing fueling island is in good repair although dispensers will need to be replaced.



Figure 8: Seasonal equipment is stored in an open area adjacent to the Salt Shed.



Figure 9: The area south of the Salt Shed is used for storage of drainage structures and conduit.



Figure 10: Areas for stockpiling of various roadway materials line the interior access roads.



Figure 11: Plows, trailers and other equipment are stored around the perimeter of the building.

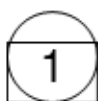
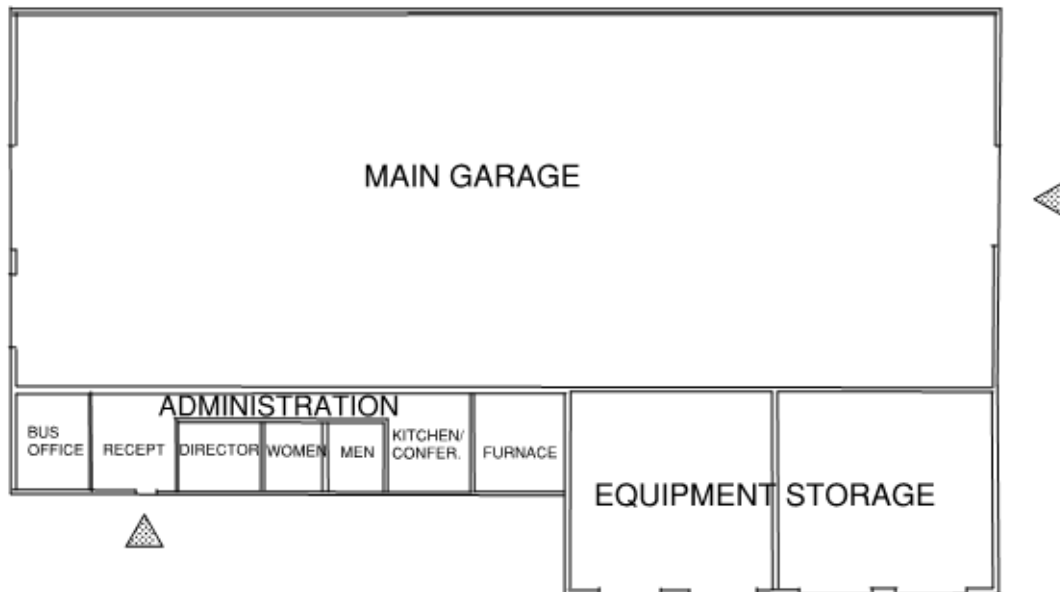


Figure 12: The Town owned school busses are stored and dispatched at the DPW site.



### ***Building Description***

Constructed in 1970, the building serves three main functions; Administration, Main Garage, and Equipment Storage.



**MAIN DEPARTMENT OF PUBLIC WORKS BUILDING SKETCH PLAN**

NOT TO SCALE

### ***Administrative Facility Description***

The existing administrative facilities are housed within a single story portion of the main building, adjacent to the Main Garage. These facilities include the Receptionist, Director of Public Works office, School Bus Dispatch Office, Break Room, Toilet Rooms and Mechanical Room. Facilities in the Administrative areas are utilized by the fifteen current DPW employees and eighteen School Bus drivers and employees.

### ***Administrative Facility Deficiencies***

- The DPW Director's Office is overcrowded with items that should be moved to a dedicated storage room. There is no room for private conferencing regarding personnel issues.
- The Administrative Assistant shares the Reception/Waiting Room which is publically accessible. This arrangement provides no privacy or security for administrative personnel.
- Storage area for office supplies, equipment, manuals, records, drawings, etc. is inadequate. Some supplies are stored in the shower stall of the men's toilet room.
- Toilet rooms presently serve a single occupant. With a potential occupant load of 33 persons including DPW personnel and bus drivers, more toilet facilities are warranted.

- There are no locker or changing rooms. Some lockers are currently housed in the main corridor of the administrative area while others line the wall in the women's toilet room further limiting access to this room.
- The Break Room is very small, accommodating 6 people at a table if it is pulled away from the wall, with minimal kitchen facilities and no day room area.
- There are no conference facilities. Conferencing takes place in the Break Room which is not private and provides limited seating or training tools.
- The Administration area is not ADA compliant. While the public may not utilize this area on a regular basis, employees requiring universal accessibility would not be accommodated.



Figure 11: The Director's Office is crowded with records for which there is no space elsewhere.





Figure 13: The width of the main Corridor in the Administrative area is impeded by lockers creating building code and ADA compliance issues.



Figure 14: Limited Break Room facilities include seating at the plan layout table. The room is shared as a Conference space.

### ***Main Garage and Equipment Storage Description***

A 10,000 square foot concrete block building serves as the maintenance facility and vehicle garage. All associated materials and operations take place within one large open area including maintenance activities involving welding and grinding. The vehicle wash bay is also accommodated within the main garage with the waste water captured in a tunnel under the garage slab and dispersed to holding tanks.

Circulation is accommodated by means of a center aisle with access through overhead doors on either end of the building. The western side of the building serves as the vehicle parking area primarily used by the school bus fleet and bus driver parking.

### ***Main Garage and Equipment Storage Deficiencies***

The DPW employees have done an outstanding job of protecting the town of Sturbridge investment in public works equipment. There are however needs that are unmet which would further enhance the facility for users, protect equipment, and shelter materials.

- The vehicle circulation path through the center aisle of the main garage means that during the winter it must be kept clear to allow plows to maneuver from diagonal parking into the center aisle to the exit. During the summer months, a portion of the center is used for vehicle storage. These vehicles must be parked outside, uncovered, during the winter months.
- There is no physical segregation of functions within the main garage. Welding and grinding operations take place adjacent to the mechanics bay and Operations Manager's Desk. Consequently, air quality suffers for those who are working in the garage and exposed to these fumes and materials.
- The Mechanics need a separate and secure office area for a computer and maintenance manuals.
- There is not enough indoor storage to accommodate all vehicles. Equipment such as the backhoe, front end loader, road side mower, grader and other items are stored uncovered outside.
- There is no covered storage for equipment such as salt hoppers, plows, trailers and other items which would benefit from being protected from the elements.
- A dedicated paint room/spray booth should be provided including adequate ventilation.
- The forty year old Salt Shed does protect the material within. A new drive thru salt and sand (or mix) shed should be considered for future efficiency of loading operations under cover.
- Interior lighting should be upgraded to LED fixtures to promote energy efficiency.



Figure 13: Diagonally parked, 6 plow trucks line the west wall of the main garage.

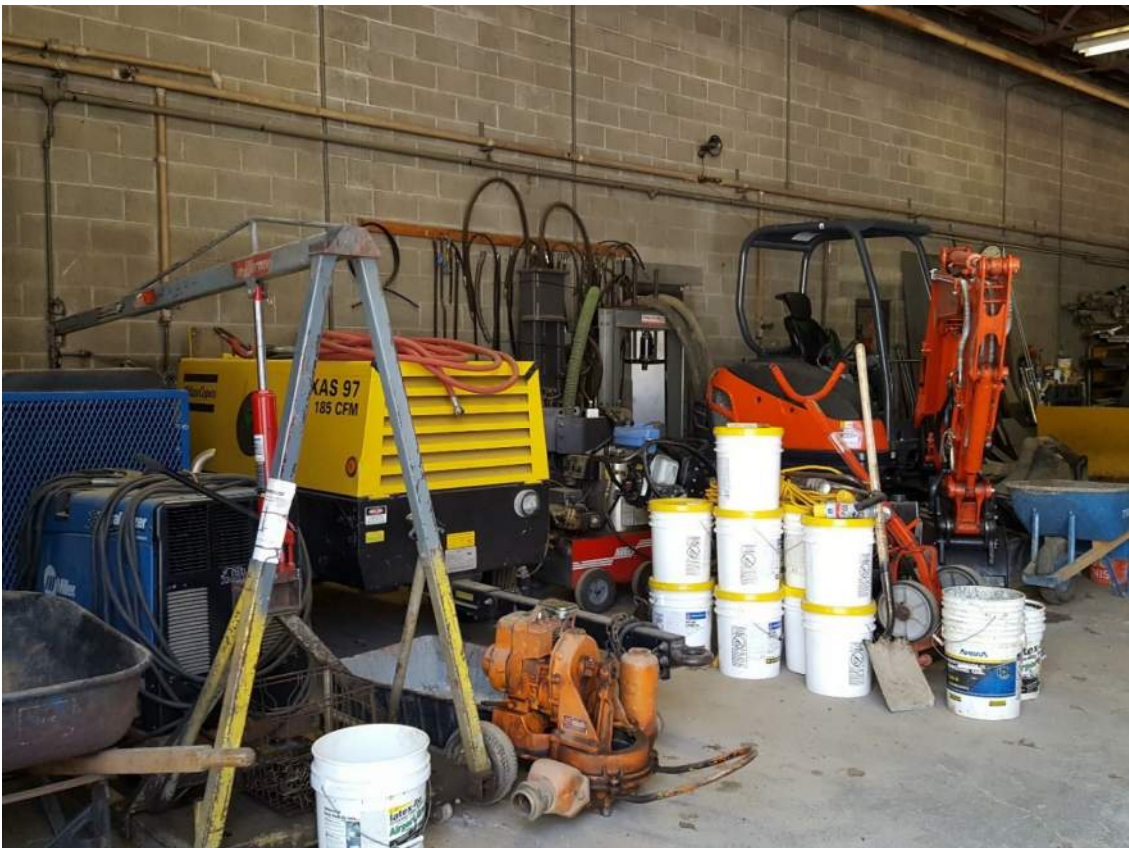


Figure 14: Equipment and supplies are organized along the east wall of the garage.

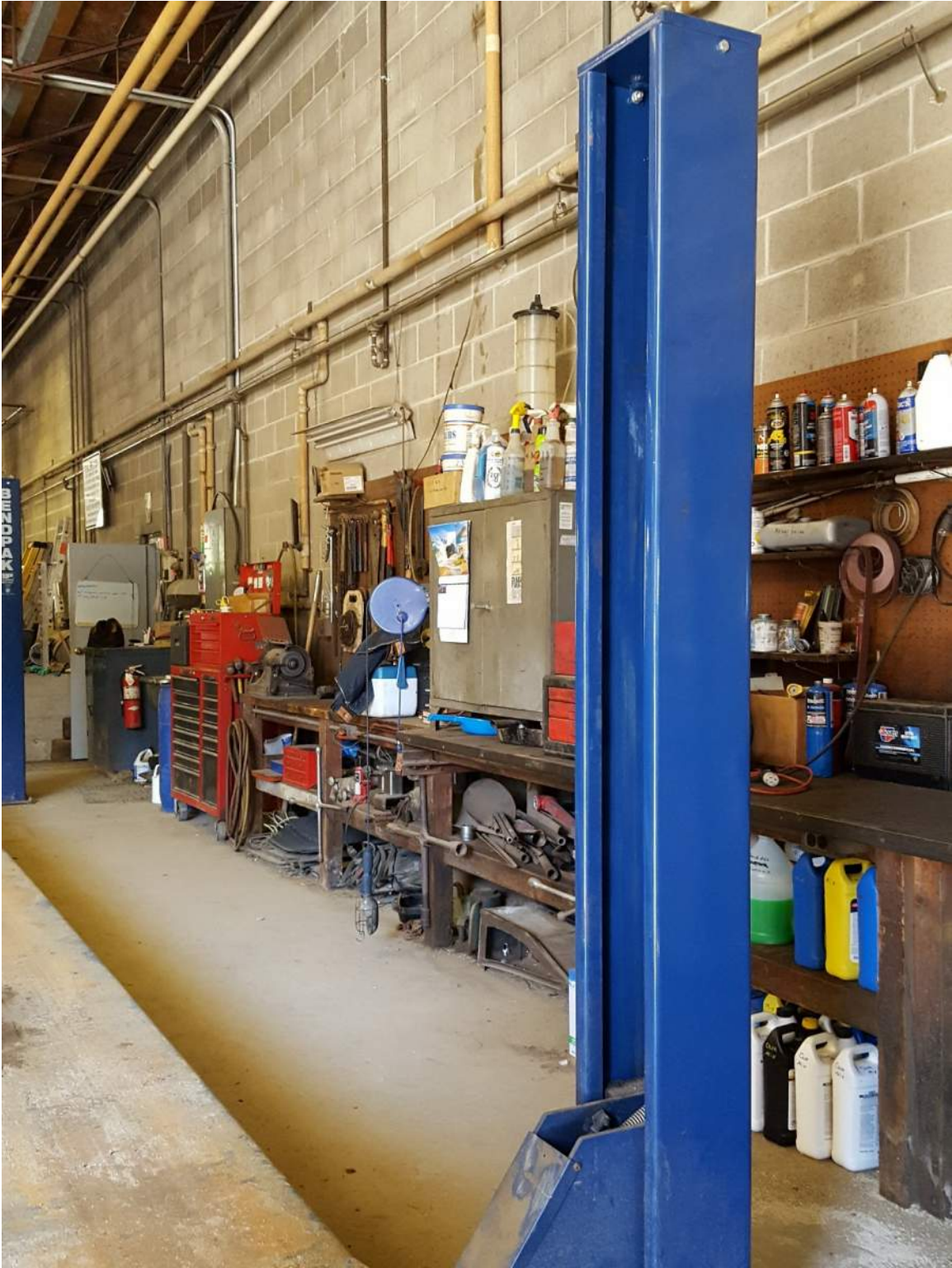


Figure 15: Mechanics tools are stored adjacent to the the vehicle lift.



Figure 16: A secure two-story crib for specialized equipment and supplies lines a portion of the west wall.

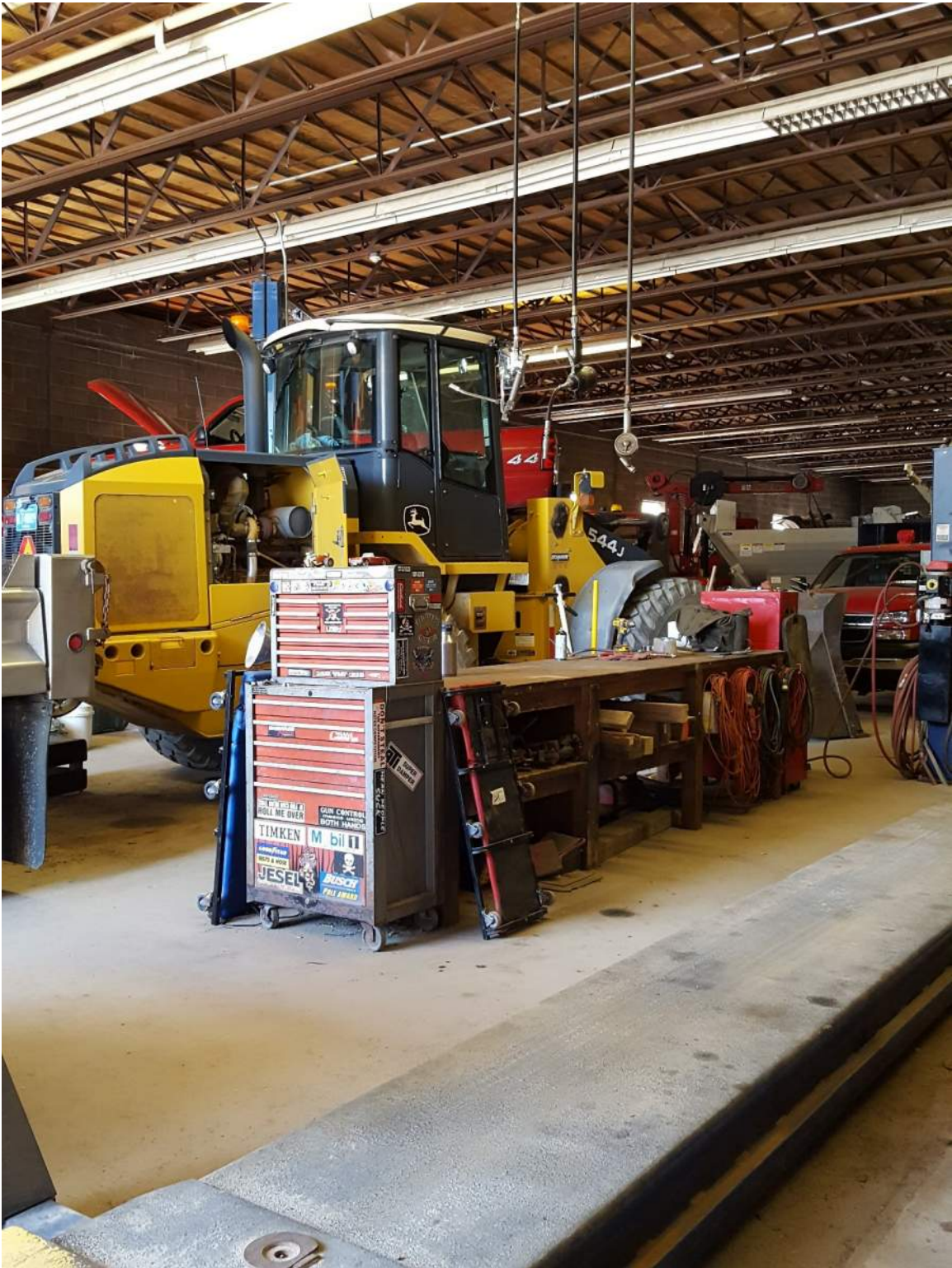


Figure 17: A jumble of equipment is temporarily stored in the center drive aisle. Note the vehicle lift in the foreground, an island with mechanics tools in the center, and vehicles stored or awaiting service in the center aisle. Dump trucks are stored beyond the center aisle.

# FACILITY GOALS AND OBJECTIVES AND RECOMMENDATIONS

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## Goals

- Design a Department of Public Works facility that meets the current and anticipated future needs of the Town of Sturbridge.
- Design a facility that ensures the safety and protection of DPW employees, equipment and resources.
- Integrate environmentally friendly and energy efficient materials and systems into the building design to the greatest extent possible.

## Objectives

- Site the building(s) to accommodate safety, security, and accessibility of DPW personnel and the public;
- Provide site features that address environmental conservation and storm water best practices.
- Provide building features that insure user comfort, safety and accessibility.
- Incorporate operational efficiencies to insure the timely delivery of DPW services.
- Provide covered storage facilities for environmentally hazardous materials to avoid runoff.

## Site Considerations and Recommendations

- Separate circulation of DPW vehicles and public/visitor vehicles.
- Accommodate parking for 15 DPW employees and two public spaces.
- Accommodate bus parking and driver's vehicles if busses are to stay on site.
- Include water oil separator and holding tank to support wash bay activity.
- Accommodate septic tank and field.
- Provide well to support domestic use and wash bay activity.
- Provide space for two automatic propane stand-by generators with automatic transfer switch.
- Provide material storage containment facilities.
- Provide space and circulation for a stand-alone Salt Shed where product can be stored and loaded under cover.

## Building Considerations and Recommendations

- Double the current square footage to allow for adequate support of administrative functions. The addition of school bus storage and dispatch operations from the DPW facility has reduced the amount of space available for DPW administrative and equipment storage needs.
- Separate the public from the administrative functions with a secure lobby.
- Add space for storage of plans and specifications for public buildings which are under DPW purview.
- Create separate and equal toilet and shower facilities including locker rooms to be code compliant.
- Relocate lockers out of common hallways to provide for code compliant path of egress and universal accessibility.
- Provide a dedicated space for cooking and dining facilities. This area can double as a meeting space.

## TABULATED SPACE NEEDS

Space Name	Existing SF	Proposed SF	
<b>Administrative Facilities</b>			
Public Lobby		0	100
Administrative Assistant Office		80	120
Operations and Maintenance Office		30	120
DPW Director's Office		140	250
File Storage, Supply Storage and Copy Room		0	80
<b>Subtotal</b>	<b>250</b>		<b>670</b>
<b>Support Facilities</b>			
Day Room with Kitchen/Conference Table		200	300
Toilet Rooms	2 @ 80	160	2 @ 145
Showers	included		2 @ 40
Locker Room		0	2 @ 100
Storage/Utility Room		0	30
Mechanical Room		200	200
<b>Subtotal</b>	<b>560</b>		<b>1,100</b>
<b>Equipment Facilities</b>			
Mechanics Bay	1 @ 500	500	1 @ 500
Small Parts Storage		250	500
Large Parts Storage		250	500
Tire Storage		250	250
Vehicle Storage Bays	6 @ 700	4,200	10 @ 700
Equipment Storage Bays		2,380	2,400
Wash Bay	1 @ 500	500	1 @ 500
Tool Box Storage		150	150
Paint Room/Storage		0	150
Welding Shop		0	100
Tool Crib		500	500
Hydraulic Parts Storage		0	50
Oil/Hydraulic Fluid Storage		100	100
Mechanics wash area		0	25
Sign Shop and Storage		0	300
Center Aisle Circulation/Seasonal Storage		3,200	3,000
Waste Oil Heater		100	100
<b>Subtotal</b>	<b>12,380</b>		<b>16,125</b>
<b>Total of Enclosed Square Footage</b>		<b>13,190</b>	<b>17,895</b>
<b>Salt Shed Building</b>		<b>2,400</b>	<b>10,400</b>
<b>Covered Equipment Storage</b>		<b>0</b>	<b>4,400</b>

Recommended square footages represent an increase of 36% for enclosed storage and administrative functions. The Salt Shed will need to be replaced in the next 10 years due to its age. A state-of-the-art shed that protects material and equipment would be warranted. Construction of shed-roof exterior storage areas is best practice to cover equipment stored outside.







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