



Figure 17 - DWP Entrance

Department Description

The Department of Public Works consists of four departments: Utilities, Highway, Buildings and Grounds, and Recycling. The Highway Department is responsible for such things as repairing or replacing street signs, stop signs and guardrails, patching potholes, roadside mowing, cleaning up debris, etc. They are also actively involved with many other projects around town.

Existing Site Uses and Zoning Considerations

The Public Works Department property is located west of Elm Street and north of Route 101 is located in the Commercial District (Refer to Figure 18) The site is approximately 26 acres . Approximately 2% of the lot is occupied by the structure, and 3% covered by impermeable materials. The parcel is part of the historic "Evans Flat" tract, and as such the potential for future development of this parcel is an issue due to natural resource and potential historic constraints.

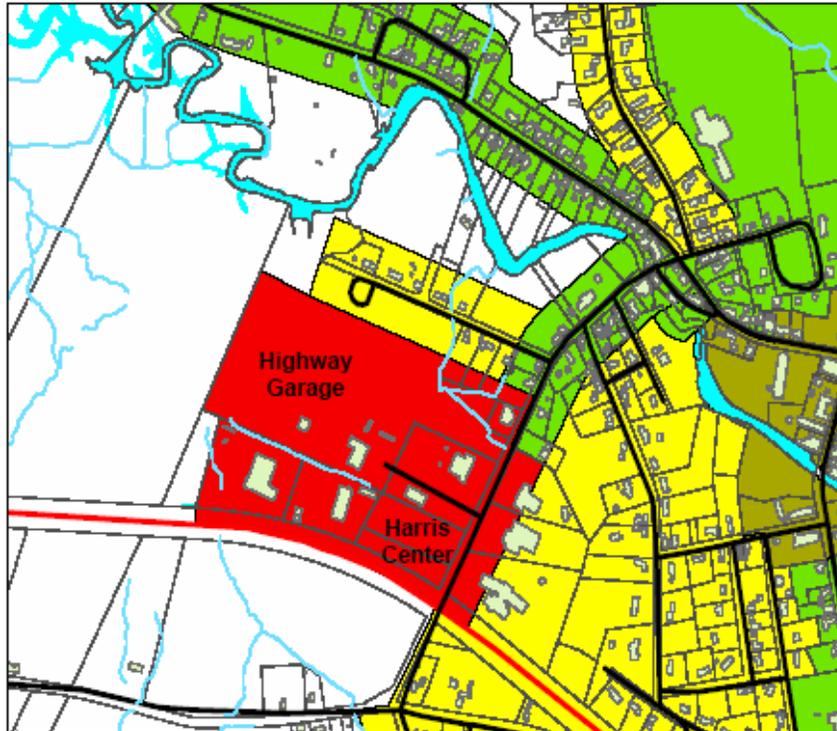


Figure 18 - Zoning Districts around DPW Site

Characteristics of Existing Public Works Building

The current facility occupied by the Peterborough Department of Public Works was built in 1970, after the Town was given the land by the Goyette family for a Town Barn in 1969. The facility has served the town for over 35 years, but now is too small and in need of repair. The location, at Evans Flat⁶, maybe difficult to expand further due to wetland considerations reflected in the town master plan (Refer to Figure 19).

⁶ A history of the area as prepared by the NH Division of Historical Resources indicates that wetlands were filled to allow the construction of the Town Barn, and that prior proposals to build an elementary school on the site were defeated because the land was considered too wet. The Evans Flats area is part of what was the "Gridley Lot"; this was one of the original Four Great Farms laid out around 1738. This land came into the ownership of Asa Evans, a wealthy farmer and Selectman in the late 1700s. Early road development skirted this area, presumably because it was partly flooded and wet much of the time. Until Route 101 was built in 1958 there was very little development in this area. Some housing was constructed on Evans Road in the 1950s; the National Guard was built in the 1950s; the Town Barn was built in 1968; and in the 1970s and 1980s the bowling alley, garage, and motel were built. Today, much of the original Gridley Lot south of the Nubanusit remains undeveloped. Conservation efforts by the Town and the Harris Center for Conservation Education have preserved 104 acres. See the "Evans Flat Land Use Analysis" Peterborough Master Plan Steering Committee, November 1, 2004. The Peterborough Heritage Commission has been inventorying the Evans Flat area as well.



Figure 19 Existing Public Works Facility

Building and Fire Codes

Weller & Michal Architects reviewed key elements (primarily fire and life-safety related) of the ICC 2000 International Building Code⁷ (IBC2000) and the 2003 Life Safety Code⁸ (NFPA 101) as they affect the current facility used by the Peterborough Department of Public Works.

Size Limits Established by Fire and Building Codes

Under codes, the maximum legal size of a building is dependent on how a building is constructed and what it is used for.

The current building is classified as Construction Type V-B (unprotected construction) and an S-2 Storage Occupancy. The current building size is under the total maximum allowable building area per floor (7,200 square feet plus an additional 3,600 square feet for street frontage for a total maximum allowable area of 10,800 square feet. The building is allowed to be two stories.

Codes Issues

Current building does not present any major code violations or areas of concern which impact life safety and/or egress code requirements. However, the code does require fire separations of different types of uses such as welding and storage of combustibles from the remainder of the building.

⁷ IBC2000, with amendments, is the current Building Code applicable throughout the state of New Hampshire.

⁸ The 1997 NFPA 101 is the current code enforced by the State Fire Marshal. We elected to review the 2003 edition of this Code because it is anticipated that the State of New Hampshire will move to the current edition within the next two years.



Figure 20 – Dilapidated Storage Shed

ADA Accessibility

Current building does not fully comply with ADA accessibility requirements for publicly owned facilities (Title II).

Existing Space Uses

The current facility (Refer to Figure 21 below) occupied by the Peterborough Department of Public Works contains approximately 10,441 net square feet primarily on one floor, though a small mezzanine is available. About 95% of the net floor space, or 9,908 square feet, is directly used for specific functions for vehicle storage, equipment repairs, staff areas and storage.

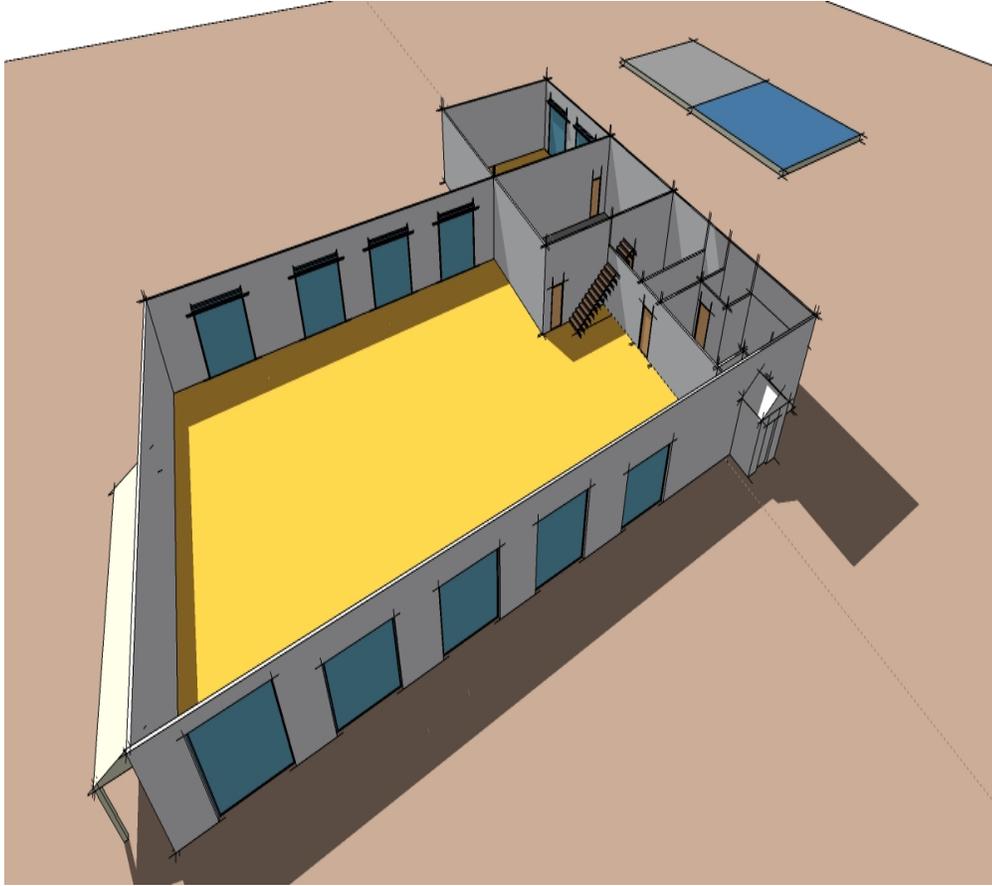


Figure 21 - Existing DPW Building Layout



Figure 22 - Interior of Existing Vehicle Garage

The current facility will need to address the following design and/or code issues in order to assure a modern public works department:

- Adequate space for equipment storage
- Adequate supply storage
- Additional vehicle bays
- On site parking for 30 vehicles
- ADA – men and women toilet rooms
- Adequate space for employee lunch room, lockers and meeting space (expanding staff)

Primary Building Systems

The following analysis was conducted by our engineers, W.V. Engineering, Inc, and summarizes all the major systems and life-safety code items that will need to be addressed in order to continue safe and prudent operation of the current public works department.

Electrical Systems

Power Distribution

Electrical service includes an underground 400 amp, 3 phase, 4-wire service, located at the south end of the main garage, and is sufficient size to provide anticipated future needs.

Service equipment is located adjacent to the sprinkler entrance and includes a main disconnect switch and residential load center style panel boards for distribution.

Facility is supplied with a 20 KW standby generator, installed in 2000, which presently provide back up power for the entire building. However, the generator rating is not sufficient to backup the entire 400 amp service if the entire service was fully loaded.

Branch Circuitry

Distribution wiring within the building is predominantly original (1970 era) with additional wiring added to serve new or relocated equipment.

Distribution panel boards located in the shop/repair area, which are wall mounted, presently have other equipment located in front of the panels, and therefore do not comply with current NEC code (Refer to Figure 23).

Ground fault circuit protection for receptacles located in the garage area need to be retrofitted or replaced with ground fault protection for personnel safety and NEC codes. Some conduit work needs to be reattached or re-supported in compliance with current NEC codes.



Figure 23 Existing Electrical Distribution Systems

Lighting

Interior lighting throughout the facility was replaced in 2003 through a PSNH program.

Exterior lighting includes fixtures mounted on the building and yard pole mounted fixtures. Exterior lighting coverage appear not to be sufficient given the level of night time activities associated with winter plowing, etc. Public Works staff reports indicate lighting is sufficient with truck headlights are in operation. Recommend a review of night time lighting requirements in order to eliminate glare and reduce energy consumption.

Fire Alarm and Sprinkler System

The fire alarm system within the building is a self contained system with modern ADA compliant horns and strobes. However, placement and location of devices is non compliant with current NFPA 72 code requirements to ensure complete building coverage.

Building mounted heat detectors are installed in only some areas. Recommend a complete fire alarm review and upgrade as part of a comprehensive renovation of the building.

Communication System

Communication wiring includes an older phone service entrance which appears to be original with the building. Additional communications, phone and data wiring have been added over time.

Mechanical Systems

Heating System

The primary heating plant is new HB Smith oil fired boiler; model 19H, 5 sections and rated output of 500 MBH.

The building appear to be one zone with distribution pump positioned on the supply main with high and low combustion air openings and a backflow prevention device located on the makeup water connection.

Four 270 gallon (nominally 1,000 gallons total) above ground diesel tanks (Refer to Figure 24 on the next page), located adjacent to the unrated exterior shed, provide a minimum fuel supply for the facility and town uses. Greater storage capacity, perhaps 4,000 to 5,000 gallons, would allow the Town to take advantage of larger 'drops' and bulk fuel prices from vendors. Similarly, should the Town try use of biodiesel; the minimum delivery quantity is 4,000 gallons. (Appropriate containment features will be needed with bulk storage tanks.)



Figure 24 Existing Oil Fuel Tanks

The garage area of the building is primarily heated with hot water horizontal unit heaters and with a waste oil heater located in the shop area. The office and break areas are equipped with baseboard radiation and through the wall air conditioners.

Plumbing

Existing plumbing fixtures do not comply with ADA requirements and are in poor condition. Currently, the existing kitchen sink has been used as a janitor mop sink; this violates building codes. The building is served with a combination sprinkler and domestic water service entrance. The building has a 1 inch domestic water service and a 6 inch sprinkler main. Backflow prevention is not provided (Refer to Figure 25).



Figure 25 – Existing Plumbing Fixtures and Sprinkler Riser

Fire Protection

Building is fully sprinklered with a complete system and has a wet type alarm valve. (Refer to Figure 25).



Figure 26 - Existing Hazardous Materials Storage

Recommendations

Needs and Wants

For the purposes of this study, **Wants** are defined as improvements and changes that would enhance the operation and function of the building and make it a more desirable asset for the Peterborough Public Works Department. These suggestions and recommendations would receive lower priority when allocating scarce resources.

Needs are defined not solely as requirements for change mandated by law (or building codes), but also as improvements and changes that are compelling in their logic and would be a positive response to a clearly and strongly held complaints with the existing facility. Without addressing these **Needs**, the building will continue to deteriorate, frustrate many and fall short of its full potential to serve the needs of the Peterborough Public Works Department.

If the option to build new on a new site is NOT pursued the list of Needs and Wants are as follows:

Potentially, the list of **Needs** includes:

- Additional Garage Space for town vehicles
- ADA – Install horn and strobes per current NFPA 72 code requirements
- Increase Capacity of Fuel Dispensing Tanks – provide spill contaminant protection
- At least one bulk storage tank (4,000 gallon minimum) at cost of \$40-\$50,000

Potentially, the list of **Wants** includes:

- Upgrade exterior lighting to provide coverage to support night time activities
- Ground fault circuit protection located in the Garage
- Replace existing plumbing fixtures
- Provide backflow prevention for existing sprinkler and domestic water service
- Install a janitor room with a dedicated mop sink



Water and Wastewater Department

Characteristics of Existing Facilities

The Water/Utility Division manages the city's water and wastewater system and is responsible for overseeing wastewater facilities, including the distribution and collection systems, monitoring town wells and sewer system. Water/Utility division staff is also responsible for repairing fire hydrants and breaks in the water and sewer system.



Figure 27 - Existing Waste Water Treatment Plant

The current facility occupied by the Peterborough Waste Water Department, as part of the Public Works Department, was built in 1971 (Refer to Figure 27). The Director of Public Works has stated the current facility will need to be replaced in the near future in order to meet state standards.

The Water Department shares facilities with the Wastewater Treatment Plant and stores parts and equipment at other Town Departments (including the Police Department, Town Garage and the small Hunt Road building).

The current waste water facilities, including storage at the Hunt Road Building and garage space at the current police garage, contains approximately 2,855 net square feet. About 70% of the net floor space, or 2,800 square feet, is directly used for specific functions for pump and well equipment, electrical transformers, lab and lunch room, staff areas and storage (Refer to Figure 28 on the next page).

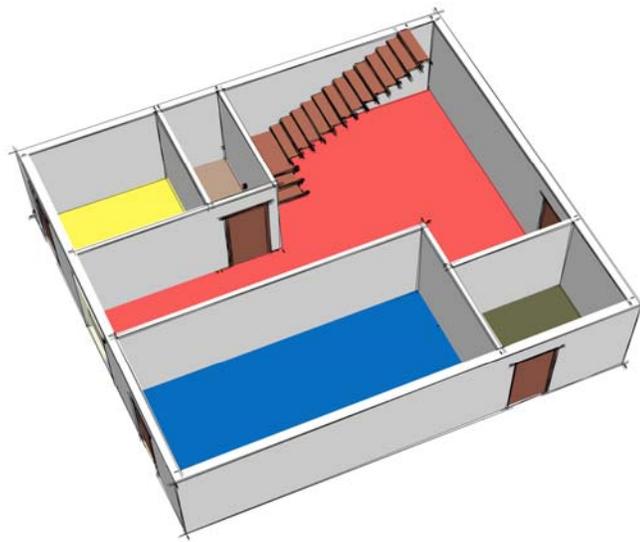


Figure 28 Existing Floor Plan Waste Water Treatment Plant



Figure 29 - Existing Storage Facilities

The current facility will need to address the following design and/or code issues in order to assure a modern public works department.

Potentially, the list of **Needs** includes:

- Staff lockers and shower room (employee health)
- Adequate administrative work space and storage for current and future staff
- Covered garage storage for (6-8) vehicles (protection from the weather)
- Centralized storage of equipment and supplies (staff efficiency)
- Ability to expand facilities as future growth in town services occurs