



The Town of Pelham

Public Works Operational Review

Council Presentation

February 1st, 2021



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We had access to information up to January 21, 2021 in order to arrive at our observations but, should additional documentation or other information become available which impacts upon the observations reached in our report, we will reserve the right, if we consider it necessary, to amend our report accordingly. This report and the observations and recommendations expressed herein are valid only in the context of the whole report. Selected observations and recommendations should not be examined outside of the context of the report in its entirety.

Our observations and full report are confidential and are intended for the use of the Client. Our review was limited to, and our recommendations are based on, the procedures conducted. The scope of our engagement was, by design, limited and therefore the observations and recommendations should be considered in the context of the procedures performed. In this capacity, we are not acting as external auditors nor value for money auditors and, accordingly, our work does not constitute an audit, examination, value for money, attestation, or specified procedures engagement in the nature of that conducted by external auditors on financial statements or other information and does not result in the expression of an opinion.

Pursuant to the terms of our engagement, it is understood and agreed that all decisions in connection with the implementation of advice and recommendations as provided by KPMG during the course of this engagement shall be the responsibility of, and made by, the Town of Pelham. KPMG has not and will not perform management functions or make management decisions for the Town of Pelham.

KPMG has no present or contemplated interest in the Town of Pelham, nor are we an insider or associate of the client. Accordingly, we believe we are independent of the Town of Pelham and are acting objectively.

Table of Contents

The contacts at KPMG
in connection with this
report are:

Bruce Peever

Public Sector Advisory
Partner

Tel: 905-523-2224
bpeever@kpmg.ca

Jamie Cameron

Infrastructure Advisory
Senior Manager

Tel: 416-777-3995
jcameron@kpmg.ca

Town of Pelham Public Works Operational Review

Project Overview

Existing Yard

Comparator Analysis

Optimization Methodology

Future State

Risks and Challenges

Page

4

5

8

10

11

13

Introduction

This report was prepared to present observations and evidence to form a potential case for change arising from research, analysis and consultation with staff from the Town of Pelham (the “Town” or “Pelham”). This report will provide the foundation for possible opportunities to ensure the Town has sufficient resources and facilities to efficiently meet service level expectations of the Town's infrastructure both currently and into the future.

Project Objectives

KPMG was engaged by the Town of Pelham (“the Town”) to assist in the development of a plan to use the existing Operational Facility and Patrol Yard (Tice Road Facility) to optimally support current and future operational needs for the Town's Public Works Division including the Operational, Engineering and Facility departments. The overall objective of the engagement was to provide a plan to ensure that the Town has sufficient resources and facilities that will efficiently meet service level expectations of the Town's infrastructure both currently and into the future at the lowest life-cycle cost. The project had three secondary objectives:

1. Conduct Current State Review

We conducted a review to assess current operations and facilities at each of the division's locations. The objective was to identify what the existing space and amenities can accommodate at current industry standards and what gaps (if any) exist.

2. Anticipate Projected Future Workload

We reviewed current workload and support staffing, equipment, supplies, and materials to help us summarize the plan with an anticipation of future resources needed to maintain the Town's infrastructure including, but not limited to, roads, bridges, culverts, water-wastewater infrastructure, facilities and parks and cemeteries.

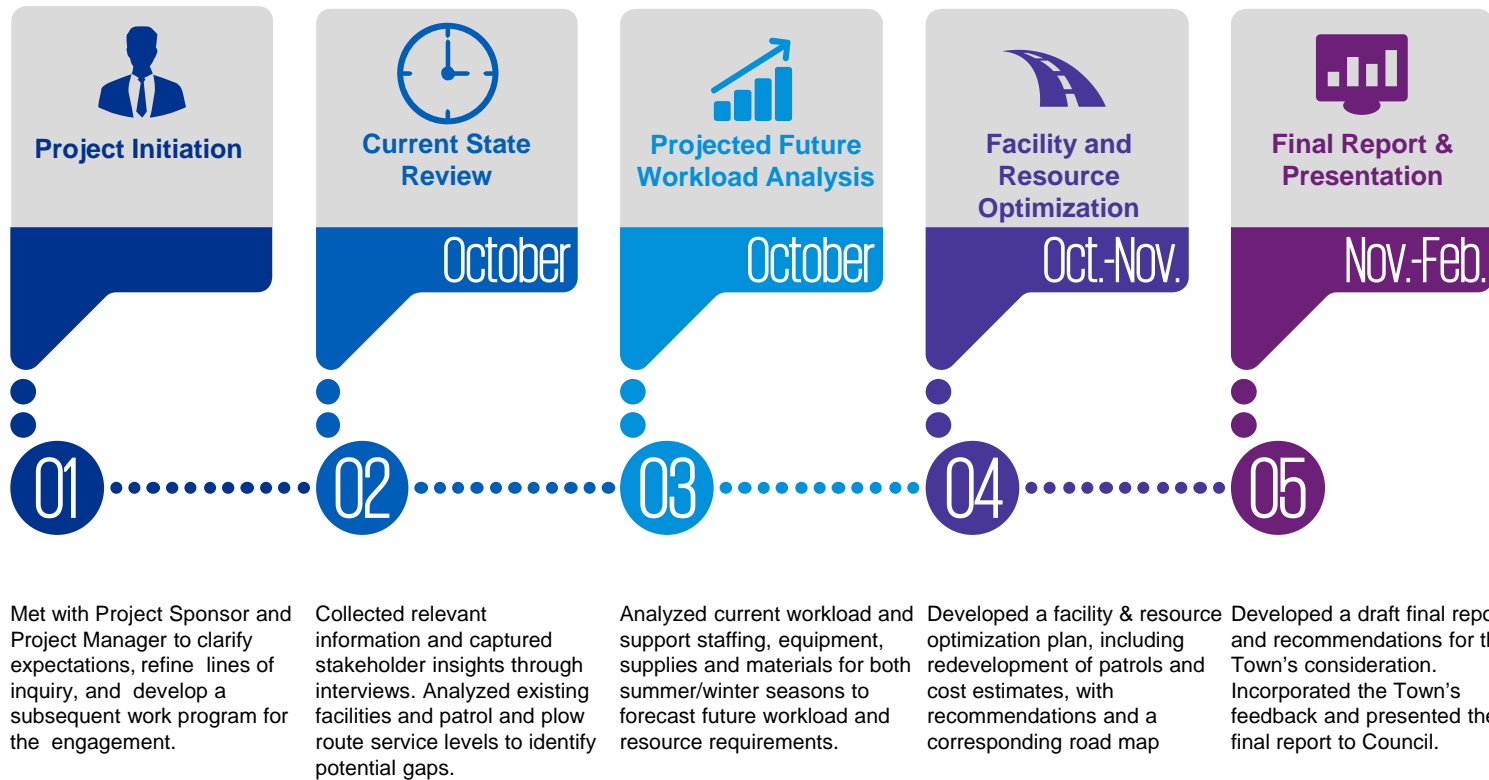
3. Provide Facility and Resource Optimization Plan

We prepared a plan that identified current risks (if any) with the current facility and overall operations. It also included recommendations to optimize operations (winter and summer) and associated changes needed at the operations centre and office locations.

Introduction and Context

Work Plan

This engagement commenced in the fall of 2020 and will be completed when the final report is presented to Town Council in February 1, 2021. The diagram below depicts the key phases as outlined in the Project Charter.



Current State Public Works



Source: Google Maps (Tice Road Facility)

	Indoor Unheated Storage 302 sq. m.		Outdoor Parking Space (Employees) 449 sq. m.		Outdoor Open Storage (Materials) – 607 sq. m.		Outdoor Parking Space 106 sq. m.
	Indoor Garage Bay 183 sq. m.		Yellow: Outdoor Covered (Materials) – 313 sq. m.		Outdoor Open Storage 775 sq. m.		Employee Space 321 sq. m.

Pelham Public Works

The Town's Public Works Division is currently responsible to support activities related to Operations, Beautification, Roads, Winter Control, Water/Wastewater, Engineering, Fleet and Facilities. All activities are operated from the Town of Pelham Patrol Yard (Tice Road Facility) except the Engineering Department, located at Town Hall. The Tice Road Facility is approximately 8,130 square metres (2 acres) and contains various heated/unheated indoor storage space, outdoor storage space, and open space. The Town stores approximately 52 pieces of equipment (i.e., trucks, snow plows, mowers, etc.) at the facility with up to 32 employees onsite during the summer months. The Engineering department currently uses 1 pick-up truck and a compact SUV which are parked at Town Hall.

KPMG analyzed the current operations at the facility and completed a facility tour to identify what the existing space and amenities can accommodate at the current service level. KPMG used the following key metrics a part of this analysis:

- Current service levels and inventory of equipment
- Total space (sq.m) per piece of equipment
- Total space (sq.m) per employee
- Required equipment to meet service levels

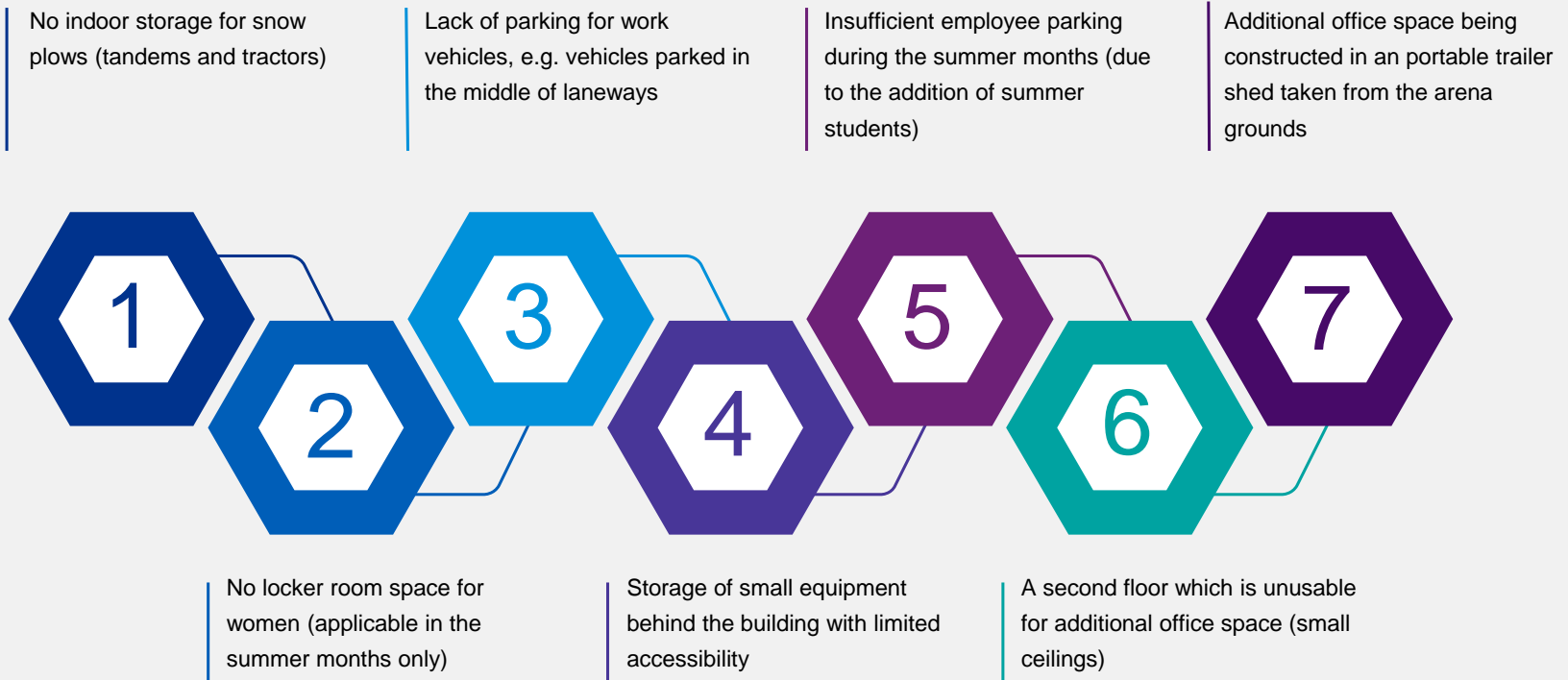
Based on this analysis, KPMG identified gaps with respect to current facility capacity, equipment and staffing.

The Tice Road Facility

Challenges with the Current Yard

Limitations and Challenges

KPMG visited the yard at 675 Tice Road in order to assess current space available, the property line, and limitations with the yard. KPMG observed that the yard is 'filled to the brim': vehicles are being parking in laneways; materials and small equipment are being stored behind the facility with limited accessibility; and an old portable trailer, placed immediately beside the property line, is being repurposed for office space. KPMG observed the following key challenges based on observation and discussion with Town staff:



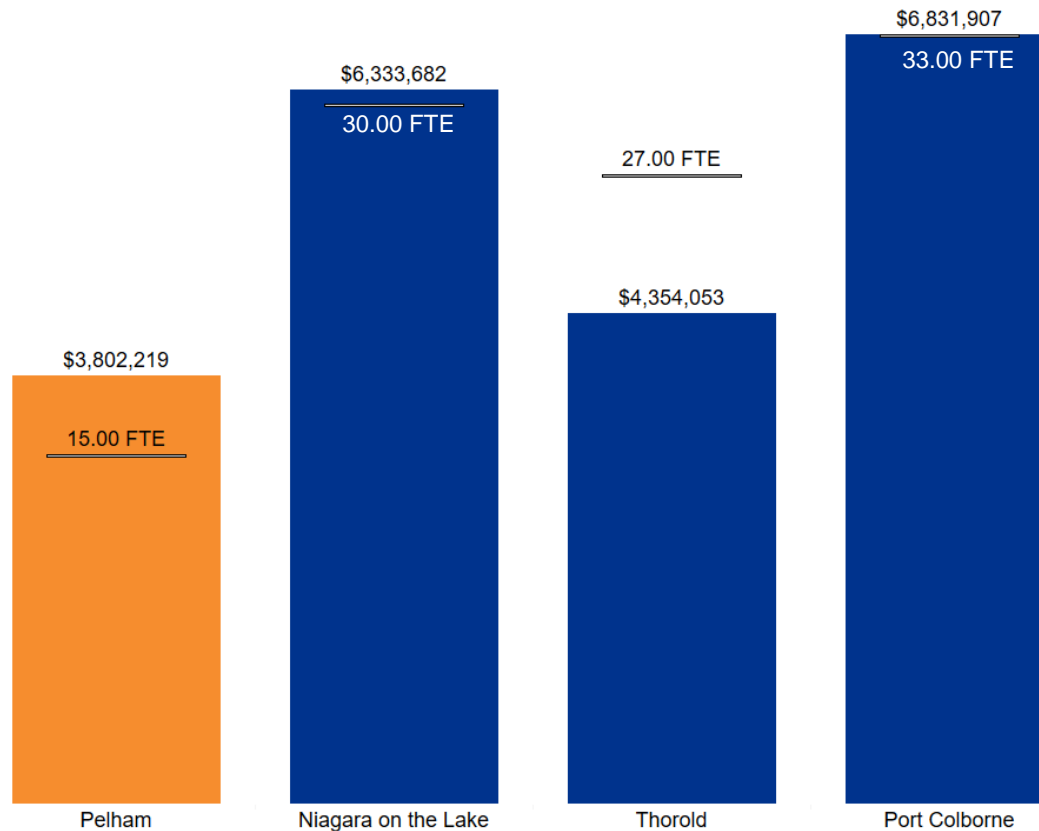
Comparator Analysis

Public Works Expense vs. FTE

The Town's Public Works department employs the fewest number of FTEs relative to its budget among the comparator group. The Town employs one (1) FTE for every \$253K of budget whereas Niagara-on-the-Lake, Thorold and Port Colborne employ 1 FTE for every \$211K, \$161K, and \$207K respectively.

Given the expected growth of the Town over the next 5 years, there is a risk that Public Works will be unable to maintain the required level of service with the current staffing complement.

Public Works Expense vs FTE



Source – KPMG analysis of 2019 FIR, Schedule 40, Transportation Services (lines 611-698), Environmental Services (lines 811 -898), and Parks (line 1610) and Schedule 80A line 225. Port Colborne's 2019 FIR was not available for the analysis, therefore data highlighted was sourced from the 2018 FIR.

Comparator Analysis

Public Works Facility Size

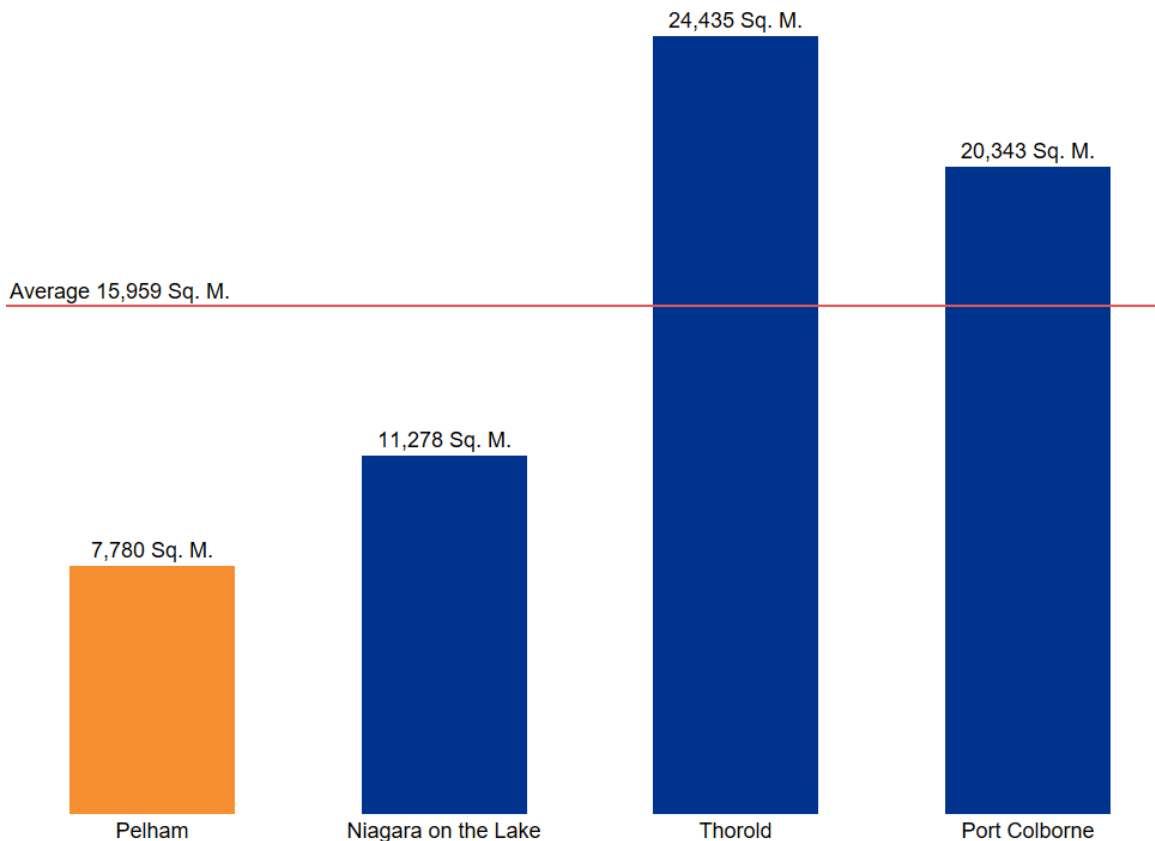
The Town's Public Works facility (Tice Road) is the smallest Public Works facility among the comparator group. The facility measures 7,780 square metres or 1.9 acres, whereas Niagara-on-the-Lake, Thorold, and Port Colborne facilities are 2.8 acres, 6 acres, and 5 acres respectively.

Based on our current state facility assessment (slide 26), the Town requires an additional 184 sq.m. of space to store its current equipment inventory.

In addition, the Town has the second highest Public Works expense per sq. m .

Mun.	Expense per Sq. M
Pelham	\$488.71
NOTL	\$561.60
Thorold	\$178.19
Port Colborne	\$335.84

PW Facility Size



Source - Facility size via mapdevelopers.com

Public Works Optimization Methodology

Data Preparation

KPMG received the Town's Public Works maintenance standards and operations policies, department activity lists, department budgets, inventory register, facility floor plans, and East Fonthill and East Fenwick demonstrative plans in order to gather the following data inputs for entry into the optimization model:



Overall Growth in Yard Space Requirements

Based on bottoms up modelling and requirements of the Town's services, analysis suggests that the Town will require approximately 1,016 square metres of additional yard space by 2025, an increase of 33%. The projected growth in yard space for the next twenty (20) years is shown below.

Projected Yard Space Requirements by Year (sq. m.)

	Current Space	2025	2030	2035	2041
Summer & Winter Operations	1,672	2,368	2,424	2,458	2,484
Employee Space	1,263	1,365	1,377	1,386	1,393
Space due to Climate Change	-	164	171	171	178
Total	2,935	3,898	3,973	4,016	4,056
Growth		33%	35%	37%	38%

Notes:

1- Yard space requirements include spacing factors.

2- Growth in summer operations space also includes space for materials and small equipment

Factors Contributing to Growth of the Yard

Factors Contributing to Growth

Our model considers numerous factors that will contribute to the growth of the Public Works department. Based on discussions with management, the key drivers for growth over the next 10 years will be the East Fonthill and East Fenwick residential developments. The following outlines the key expected growth factors:



The Town's population is expected to increase by
9,120

+53%



The Town will add an additional 3,800 dwellings

+58%

+9%

The Town will add 50 lane KMs of road



+8%

The Town will add 2.5 trail KMs



Risks and Challenges

Comparison of Scenarios

The Town can consider the following options, along with their respective advantages and challenges, in order to increase space requirements for the Public Works Yard and the Engineering department.

	Advantages	Challenges and Risks
Option 1: Expand Current Site at Tice Road	<p>Expanding the current site has many advantages including:</p> <ul style="list-style-type: none"> The Town can conveniently add more storage space beside the current facility with little impact to current operations Close proximity to Fonthill (8 minute drive) and East Fenwick (5 minute drive) Close proximity to current sand-salt provider, Lafarge, situated on Tice Road No need to re-locate all vehicles, equipment, and materials to a new yard 	<p>Expanding the current site will:</p> <ul style="list-style-type: none"> Require a willing sale from the adjacent property owner to the West of the current facility, or an expropriation of land by the municipality Force the Town to build around the current indoor facility as opposed to being able to build from scratch should it purchase and develop a parcel of land
Option 2: Purchase Land and Develop a New Facility	<p>Purchasing a developing a parcel of land has numerous advantages such as:</p> <ul style="list-style-type: none"> The ability to design a new, purpose-built facility according to long-term plans and forecasts The storage of snow plows in indoor heated bays Does not require expropriation of land Would allow the Engineering and Public Works Operations teams to work in the same facility 	<p>There are also challenges and risks with this option including:</p> <ul style="list-style-type: none"> Public consultation and buy-in would be required The challenge of finding a centralized location High sale price due to rising price inflation in the area Uncertainty regarding the timing of purchase and sale Costs and time to examine the site prior to construction and to built the new facility
Other Considerations	<ul style="list-style-type: none"> The Town can also consider leasing a portion of the Region's current Public Works yard; however, it would not be able to accommodate the entirety of the Town's operation due to size limitations. The Town would need to consider a 'split-operations' model wherein its operations would be divided between multiple sites. In addition, the Region's current yard is on the border of Pelham and not in a centralized location which would increase travel time and the cost of gas. 	

Option 1: Expanding the Current Site at Tice Road

Based on KPMG's forecast, the Town will require an additional 965 square metres (0.23 acres) of space by 2025 and an additional 156 square metres of space between 2026 and 2041 – for a total of 0.28 acres. Compared to the current site, this additional requirements are shown by their relative size in the image at right. Additional space is required for access laneway bringing **total required space to 0.40 acres**.

These expansion assumptions rely on storing equipment in the same manner it is stored now, primarily with the snow plows being stored outside. Indoor storage has numerous benefits including increased longevity of the plows, fewer repairs and lower maintenance costs.

In our experience, both across Ontario and in other provinces, it is typical of municipal, county and provincial level public works and transportation departments to aim to store their equipment inside.

The Town of Scugog is a helpful case study. Compared to Pelham, Scugog has a population approximately 25% higher, an area almost 4x higher, but a similar urban/rural mix. Scugog's facilities only allow half of its plow fleet to be stored indoors. Scugog's operations team notes that this results in the outdoor fleet having more maintenance issues, more equipment that won't start, pre-shift safety checks being more difficult outdoors due to snow/ice buildup and dim outdoor light, and the outdoor vehicles leaving the yard upwards of 30 minutes later than the indoor vehicles.

The space requirements for an expanded indoor facility are detailed more on the following slide, but are over and above what it highlighted here.

Growth in Yard Space Requirements relative to the Current Yard



Risks and Challenges

Option 2: Purchase Land and Develop a New Facility

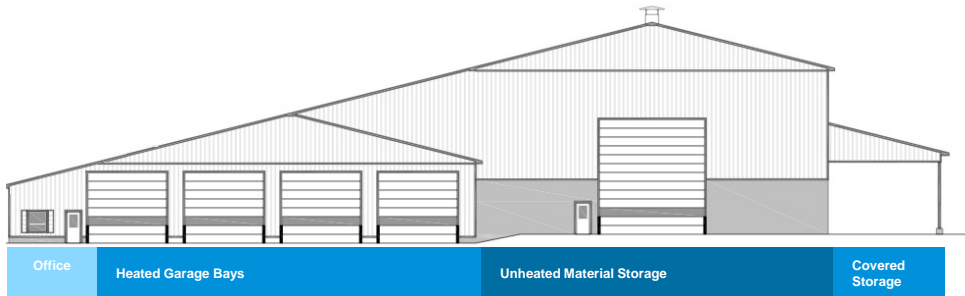
The Town could develop a new yard by purchasing vacant land in Pelham. In addition to the potential need to store more equipment indoors, it is likely that in the 20 year time horizon, a diminished local availability of sand could force the Town to maintain storage for a season's worth of salt and sand.

These two demands would significantly increase the need for a new facility, and new land could furnish sufficient space to construct heated bays, more indoor and covered storage, a large material shed, and employee spaces including offices, a lunch room, and locker rooms for men and women. During the site visit, KPMG noted little indoor storage compared to outdoor storage, and no separate locker rooms for women (relevant during summer months), and a shortage of space for the Engineering department at City Hall.

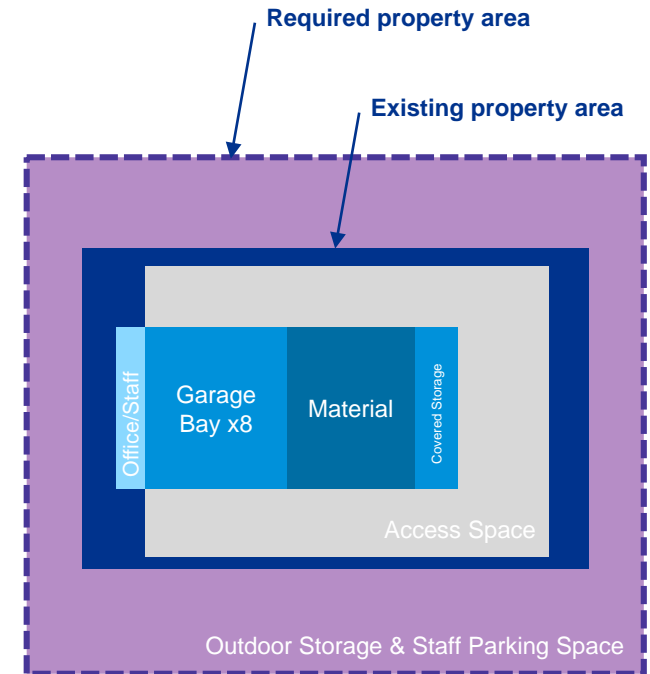
Based on KPMG's analysis and the comparable facilities of other jurisdictions, the Town would require a total of eight (8) indoor heated bays (seven (7) for plows and one (1) for maintenance/spare). The maintenance/spare bay could house a water truck to prevent freezing in the winter, a current practice. The Town could also construct a sand-salt storage which is connected to the bays for convenience. An example of such as facility, with 4 bays, is shown below. As a single structure, its overlay on the existing yard site is shown at right, which would result in a space need close to double the size of the existing property.

The Town's current yard measures 2 acres. Based on KPMG's forecast, the Town will at minimum require a total of 2.40 acres by 2041, or closer to 4 acres if a new facility were to be developed.

Note: The Town could also build this type of facility on its existing site (Option 1) although it would need to demolish or retrofit the existing buildings.



Sample Public Works Facility with Bays attached to Sand-Salt Storage (Front)

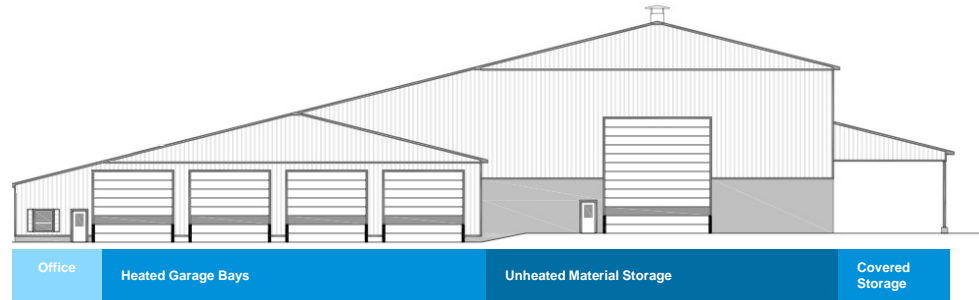


Estimated Construction Costs to Develop a New Facility

Using high-level typical cost/sq ft. estimates from other municipalities for the construction of similar facilities, the total construction cost for a facility as shown at right could be approximately \$2.6M¹. (See Table 1).

These projections assume that Engineering and Operations staff would both have office space in the new facility. Currently, the Engineering department, located at Town Hall, is separate from the Public Works Operations team.

In addition to alleviating space constraints at other Town properties, co-location or hotelling allows greater interaction and collaboration between those that are constantly in the field and those in the office. These interactions would allow more opportunities for engineering staff to understand issues in the field as they are identified and could allow greater collaboration between staff to the benefit of service delivery.



Sample Public Works Facility with Bays attached to Sand-Salt Storage (Front)

Table 1: Construction Costs to Develop the Facility Pictured Above

Space Type	Cost / sq. Foot	Sq. Feet Required	Total Cost ¹
Unheated Space	\$65	~9,600	\$624,000
Heated Space	\$90	12,600	\$1,134,000
Office Space	\$190	3,300	\$627,000
Outdoor Covered Space	\$40	3,100	\$124,000
Fueling Station & Septic			\$100,000
Total		28,600	\$2,609,000¹

Notes:

1- According to AACE, these numbers are class 5 estimates, assuming 0-2% design. Typically we would expect a 30% design definition to support a business case.



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