

**Lot 38 McDonald Drive Picton  
Wentworth offices**

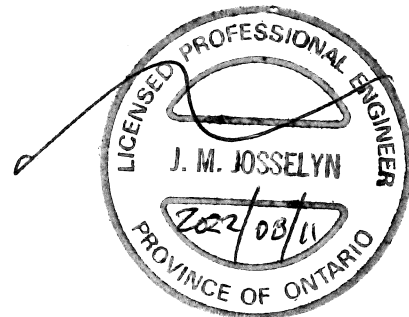
**SERVICING REPORT**

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August 10, 2022

JEI Project 1570



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## **1. Introduction**

The purpose of this analysis is to determine the servicing requirements for the proposed development at Lot 38 on Macdonald Drive in the Town of Picton, in the Prince Edward Industrial Park. The intent of this report is to identify the existing and available services to the land, and identify requirements for new servicing. The site plan of the development is attached as Appendix A.

The legal description of the property is Part 6 Plan 47R-8409, located in Lot 3 Concession 1 northwest of Carrying Place, Geographic Township of Hallowell, Municipality of the County of Prince Edward. Lot 38 is an identifier assigned in the servicing and SWM studies, which has no legal status.

This report is to determine the perimeter servicing available and confirm sufficient capacity is available within the existing sanitary and water works to service the lands, and identify requirements for new services for the development.

## **2. Existing Conditions**

The site is presently vacant, and drains generally easterly to the existing stormwater management facility.

McDonald Drive is constructed to a rural standard, with roadside ditches for drainage. Municipal sanitary sewer and water is available on the street.

## **3. Proposed Development**

The proposed development within the 0.44 ha parcel consists of a 542 m<sup>2</sup> industrial building, 833 m<sup>2</sup> asphalt parking and 1968 m<sup>2</sup> of gravel area.

## **4. Sanitary Sewer**

There is an existing municipally owned 200 mm diameter sanitary sewer on McDonald Drive adjacent to the property. Existing services are shown on plans by Totten Sims Hubicki project 14-8678-02 dated April 1989.

Based on the usage of the building, and the minimal facilities provided in the building, a 150 mm sanitary service at 2% gradient is more than sufficient for expected flows. A new tee connection to the main is proposed, with a manhole to be located at the property line. This manhole can be used by the municipality for effluent sampling.

Due to the shallowness of the existing pipe, insulation is proposed where the cover is less than 1.2 metres.

## **5. Water Service**

Provision of municipal water service will be required to meet the requirements for domestic water demand, and for fire protection. There is an existing 200 mm watermain on McDonald Drive across the frontage of the property.

### **5.1. Domestic Water Demand**

Due to the minimal number of facilities provided in the building, a 50 mm water service will be more than adequate for provision of domestic water. A new connection to the existing main is proposed, with a shut-off valve and box located at the street line.

### **5.2. Water for Fire Protection**

To meet the requirements for fire protection, the system should maintain a minimum pressure of 140 kPa (20 psi) at ground level everywhere in the system during a maximum day plus fire flow demand condition.

Detailed Fire Flow calculations for the proposed building as per Fire Underwriters Survey for Water Supply for Public Fire Protection - 1999 (FUS) are attached as Appendix B. The building is constructed of normal construction materials, with normal occupancy, and without sprinklers. The building requires a fire flow of 117 litres per second.

As shown on the attached mapping provided by the municipality, available pressure during peak hour is between 60 and 80 psi, and the available fire flow at 20 psi is shown as being between 75 and 117 l/s, which meets the required 117 l/sec, and is therefore sufficient.

The distance from the closest municipal hydrant to the building is shown on the servicing plan.

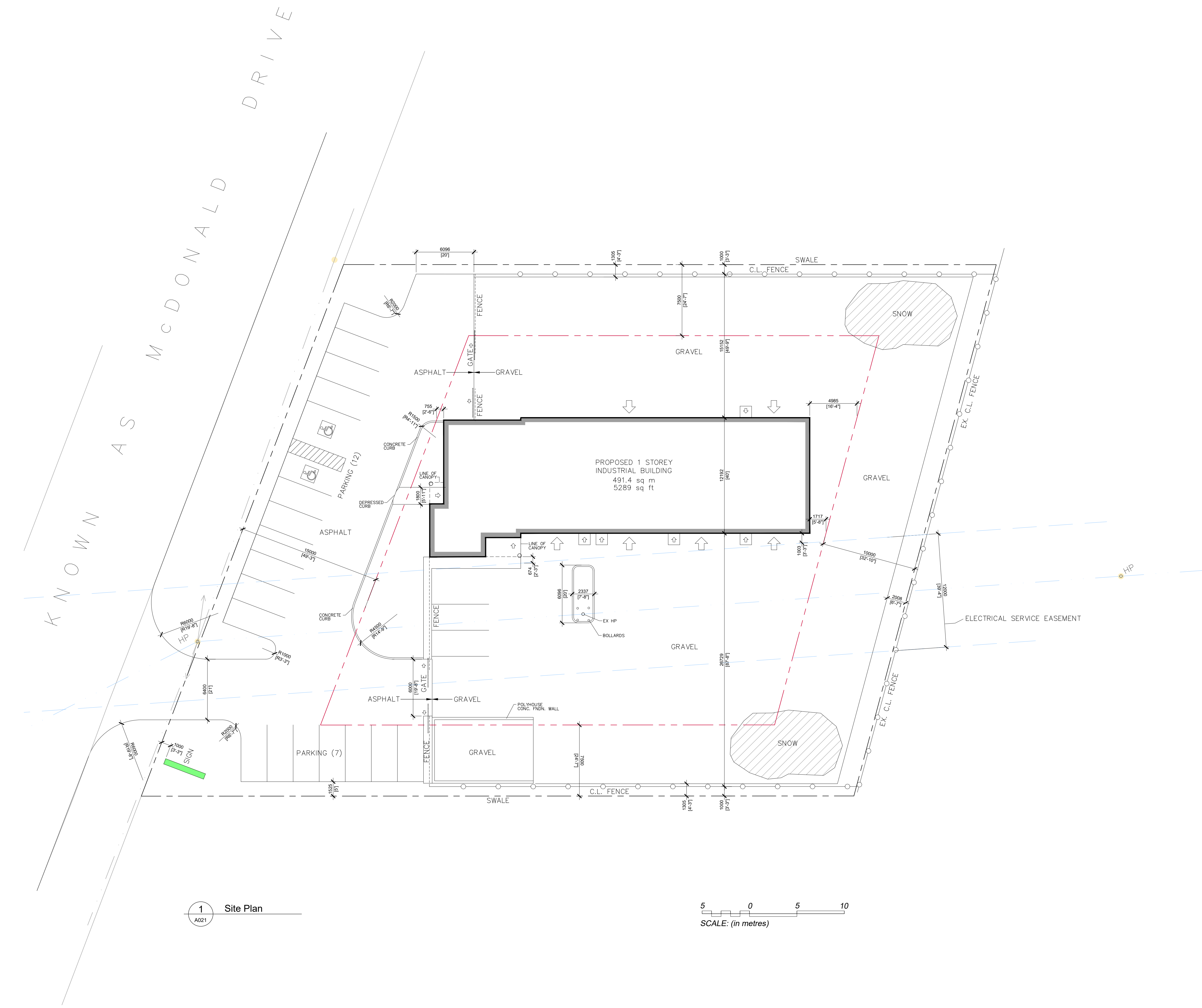
## **6. Conclusions and Recommendations**

Based on the above, the following conclusions are made, and recommendations presented.

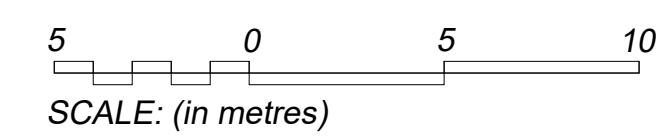
- A 150 mm sanitary service for this site will be provided from MacDonald Street, to meet the requirements of OBC.
- A 50 mm water service for this site will be provided from MacDonald Street, to meet the requirements of OBC. Fire protection is adequately provided by the existing municipal system.

**Appendix A**

Site Plan



1 Site Plan  
A021



3	ISSUED FOR PERMIT	JULY 27 2022
2	RE-ISSUED	
2	SITE PLAN CONTROL	MAY 25 2022
1	ISSUE FOR	
1	SITE PLAN CONTROL	JAN 7 2022
Revision	Description	Date

Project  
Wentworth Offices & Warehouse

Location  
38 McDonald Drive  
Picton, ON.

Client  
Wentworth Landscapes Group

Drawing  
Site Plan

Drawn by jmi/HLG	Date 2022_05_24
File Name 21121-A021	Scale 1:200
Client Project #	Drawing Number
Project # 21121	Revision # 3
<b>A021</b>	

**Appendix B**

Fire Flow Calculations  
Water distribution maps

**Appendix C**

Lot 38 McDonald Drive - Wentworth

Calculation of required fire flows using Fire Underwriters (1999) methodology

	distance (m)	maximum charge	applied percentage of maximum charge	applied charge/credit		Notes
approximate building footprint (m2)					491.4	
number of storeys					1	
A = total floor area (m2)					491.4	
C = coefficient related to type of construction *1					1	Coefficient for ordinary construction
Step 1 calculation of (F=220 x C x A^0.5) in litres per minute					4877	
Reduction for low hazard occupancy				0%	0	
Step 2 - calculation result (l/min)					4877	
Step 3 - reduction for sprinklers (l/min)				0%	0	
Step 4 - Separation charges (see table)						
south side	26.7	10%	100%	10%		to south property line
west side	35.0	5%	100%	5%		to far side of road allowance
north side	15.1	15%	100%	15%		to north property line
east side	21.0	10%	100%	10%		so far side of SWM pond
total separation charges as a percentage of step 2 value (maximum = 75%) (l/min)				40%	1951	
<b>TOTAL REQUIRED FIRE FLOW (Step 2, plus charges and credits, rounded to nearest 1000 litres/minute)</b>					<b>7000</b>	
<b>TOTAL REQUIRED FIRE FLOW (l/s)</b>					<b>117</b>	
<b>TOTAL REQUIRED FIRE FLOW (USGPM)</b>					<b>1848</b>	

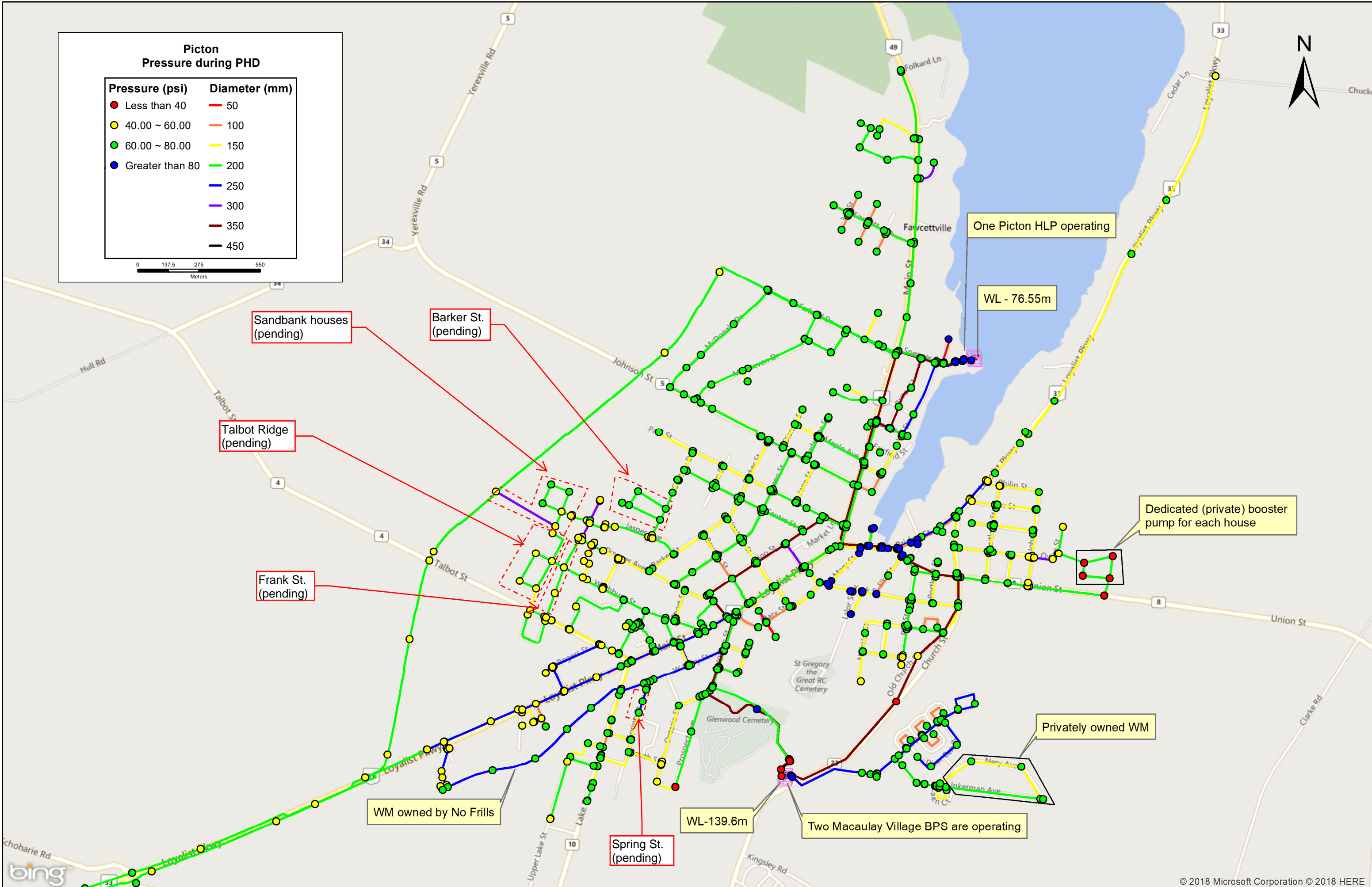
<b>Separation</b>	
<b>distance (m)</b>	<b>Maximum Charge</b>
0 to 3	25%
3.1 to 10	20%
10.1 to 20	15%
20.1 to 30	10%
30.1 to 45	5%

The total percentage shall not exceed 75%.

**Picton Pressure during PHD**

Pressure (psi)	Diameter (mm)
Less than 40	50
40.00 ~ 60.00	100
60.00 ~ 80.00	150
Greater than 80	200
	250
	300
	350
	450

0 137.5 275 550  
Meters





**Picton**  
**Available Fire Flow during MDD**

Available Flow (L/s)	Diameter (mm)
less than 67.00	50
67.00 ~ 75.00	100
75.00 ~ 117.00	150
117.00 ~ 150.00	200
150.00 ~ 200.00	250
200.00 ~ 239.00	300
greater than 239	350
	450

0 137.5 275 550  
Meters

