7956 SPRING BLOSSOM DRIVE

Functional Servicing Report

Project Location:

7956 Spring Blossom Drive

Niagara Falls, Ontario

Prepared for:

..

Prepared by:

AM Engineering

July 2025

File No: 25037

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1.0 INTRODUCTION

AM Engineering was retained to complete a Functional Servicing Report in support of proposed development on lands located at 7956 Spring Blossom Drive, Niagara Falls. The subject site is approximately 0.1815 Hectares and is currently vacant and covered by grass and some trees near the south west property line. It is bounded by Spring Blossom Drive to the north and residential properties on all other sides. (Refer to Figure 1).

The proposed development is for seven Townhouses as well as required parking to serve the development. **(See Figure 1)**.

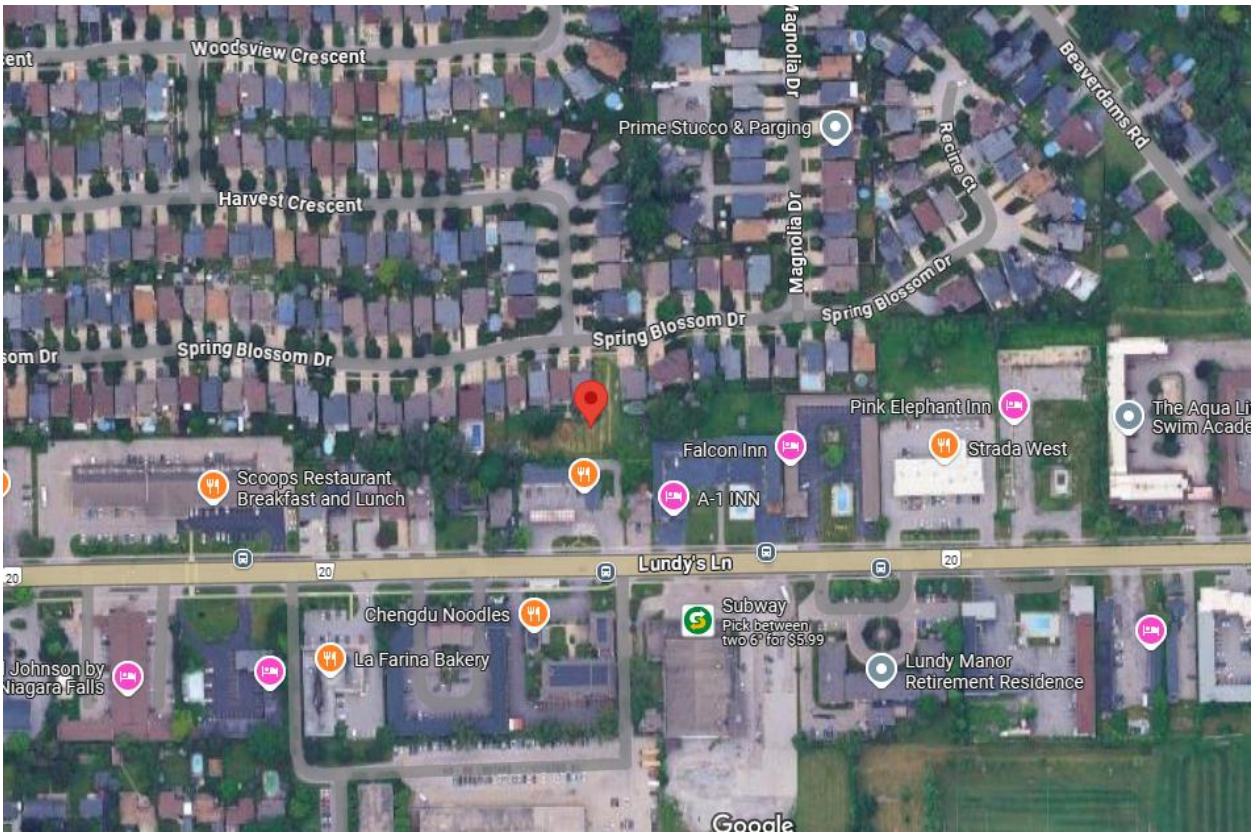


Figure 1: Location Map

2.0 MUNCIPAL SERVICING

2.1 Sanitary Servicing

2.1.1 Existing Sanitary Servicing

Municipal records indicate that a 200mm sanitary sewer exists on Spring Blossom Drive. All redundant services to the property if any shall be capped at the property line by the Developer's Contractor.

2.1.2 Proposed Sanitary Servicing and Peak Discharge Rates

The sanitary servicing for the proposed development is proposed to be provided by means of a proposed 150mm diameter sanitary connection to the existing 200mm sanitary sewer as shown on the servicing drawing.

The proposed peak sanitary discharge generated from the development has been calculated as follows:

Residential:

Number of Units = 7

Number persons/unit = 1.6

Population = 7 x 1.6 = 12 persons

Daily flow = 450 L/person/day

Total Daily Flow = 12 x 450 = 5400 L/Day = 0.063 L/s

Peaking Factor = $\frac{5}{P^{0.2}} = \frac{5}{12^{0.2}}$ = 3.04 L/s

Design Peak Discharge = 0.063 x 3.04 = 0.19 L/s

Infiltration Amount = 0.28 L/s/ha x 0.1815 ha = 0.05 L/sec

Total Average Discharge = Peak Discharge + Infiltration Amount

= 0.19 L/sec + 0.05 L/sec

= 0.24 L/sec

Therefore, the peak sanitary discharge to the existing sanitary sewer will be approximately 0.24 L/sec.

The proposed 150mm sanitary service at 0.5% slope has a full capacity of 10.77 L/s which is adequate to accommodate this peak discharge.

2.2 Water Distribution

2.2.1 Existing Water Services & City Watermains

City records indicate that a 200mm diameter watermain is available on Spring Blossom Drive. Any existing redundant water services to the site, should there be any, shall be capped at the main by City's Public Works Department at the Developer's expense.

2.2.2 Proposed Water Services

It is proposed to service the development with 150mm diameter water service off the existing 200mm diameter watermain on Spring Blossom Drive. The location and configuration of this proposed service is shown on the Site Servicing Plan.

2.2.3 Domestic Flow Demand

Proposed domestic flow demand based on DGSSMS as follows:

Residential:

Number of Units = 7

Number persons/unit = 1.6

Population = 7 x 1.6 = 12 persons

Demand = 450 L/person/day

Daily Flow = 12 x 450 = 5400 L/Day = 0.063 L/s

Total Daily Flow (Residential) = 0.063

Average Flow = 0.063 L/s

Max Day Factor = 2.0

Max Day Flow = 0.126 L/s

Max Hour Factor = 3.0

Max Hour Flow = 0.189 L/s

2.3 Fire Flow Demand Requirements

Fire flow requirements for the proposed development have been estimated using the Fire Underwriter's Survey: *Water Supply for Public Fire Protection - 1999*. The calculations are provided below:

1. Building Construction

Proposed building is non-sprinkled and combustible construction.

2. Base Fire Flow

F = base fire flow requirement (L/min)
= 220 x C x $A^{0.5}$

A = 434 sq.m
C = fire resistance coefficient
= 1.0 (combustible construction)

F = 220 x 1.0 x $434^{0.5}$ = 4582.2 l/min = 5000 L/min [to the nearest 1000 L/min]

3. Adjustment for Sprinkler System

Proposed building shall not be equipped with a sprinkler system.

Reduction due to sprinkler system = 0.0%

4. Adjustment for Adjacent Buildings

East face within 20.1-30m of building	= add 10% of Adjusted F
West face >45m of building	= add 0% of Adjusted F
South face within 3.1-10m of building	= add 20% of Adjusted F
North face within 20.1-30m of building	= add 10% of Adjusted F
Total	= 40% of Adjusted F (Max Value)
	= 40% x 5000 l/min
	= 2000 l/min

5. Final Fire Flow Calculation = 5000 + 2000
= 7000 L/min
= 7,000 L/min [rounded the nearest 1000 L/min]
= **116.7 L/s**

2.4 Available Fire Flow

The closest fire hydrant to the proposed development is located on Spring Blossom Drive, approximately 42m west of the entrance to the property (see Servicing Drawing).

The un-obstructed distance from the fire hydrant to the proposed Townhouses in more than 90m. Accordingly, a private fire hydrant is within the site as shown the servoicing and grading plans.

Based on a Fire Hydrant Test dated May 30, 2025, the predicted fire flow at 20psi is 326.5L/s (5175usgpm). Therefore, the capacity from this hydrant at 20psi is greater than the calculated fire flows requirement of 116.7L/s and as such can be considered adequate. Fire Hydrant flow test is attached in the Appendix.

The proposed private fire hydrant distance from the proposed building building which satisfies the 45m OBC (3.2.5.15) requirement.

3.0 STORMWATER MANAGEMENT

Storm drainage for the proposed conditions is provided through surface and underground drainage systems. The minor system comprises surface flow and storm sewers. Major flows are directed to Spring Blossom Drive. Stormwater Management is discussed in detail in a SWM report provided under a separate cover.

4.0 EROSION AND SEDIMENT CONTROL

Prior to any grading or servicing works taking place on-site, sediment and erosion control measures must be in place to prevent the transport of sediments off the site and into the secondary drains or adjacent properties. The location and design of sediment control includes:

- Installation of siltation control fencing
- Proposed and/or existing catchbasins or inlets within the work area are to be protected from silt by wrapping their tops with filter fabric or providing a sediment trap around the structure
- Proposed swales are to be sodded after they have been shaped in order to prevent scouring and/or down-cutting of the swale invert.
- Spoils from any excavation should be removed from the site. Excavated soils should not be placed over the table land near the crest of slope.
- During construction, stockpiles of materials, supplies and construction debris should be located away from the slope crest. Additional loading from stockpiled materials should be avoided in proximity to the slope crest.
- Debris littering the slope should be removed and vegetation on the slope surface and site should be maintained as much as possible.

The erosion control measures shall be maintained in good repair during the entire construction period until all construction is complete or until determined they are no longer required.

5.0 SUMMARY

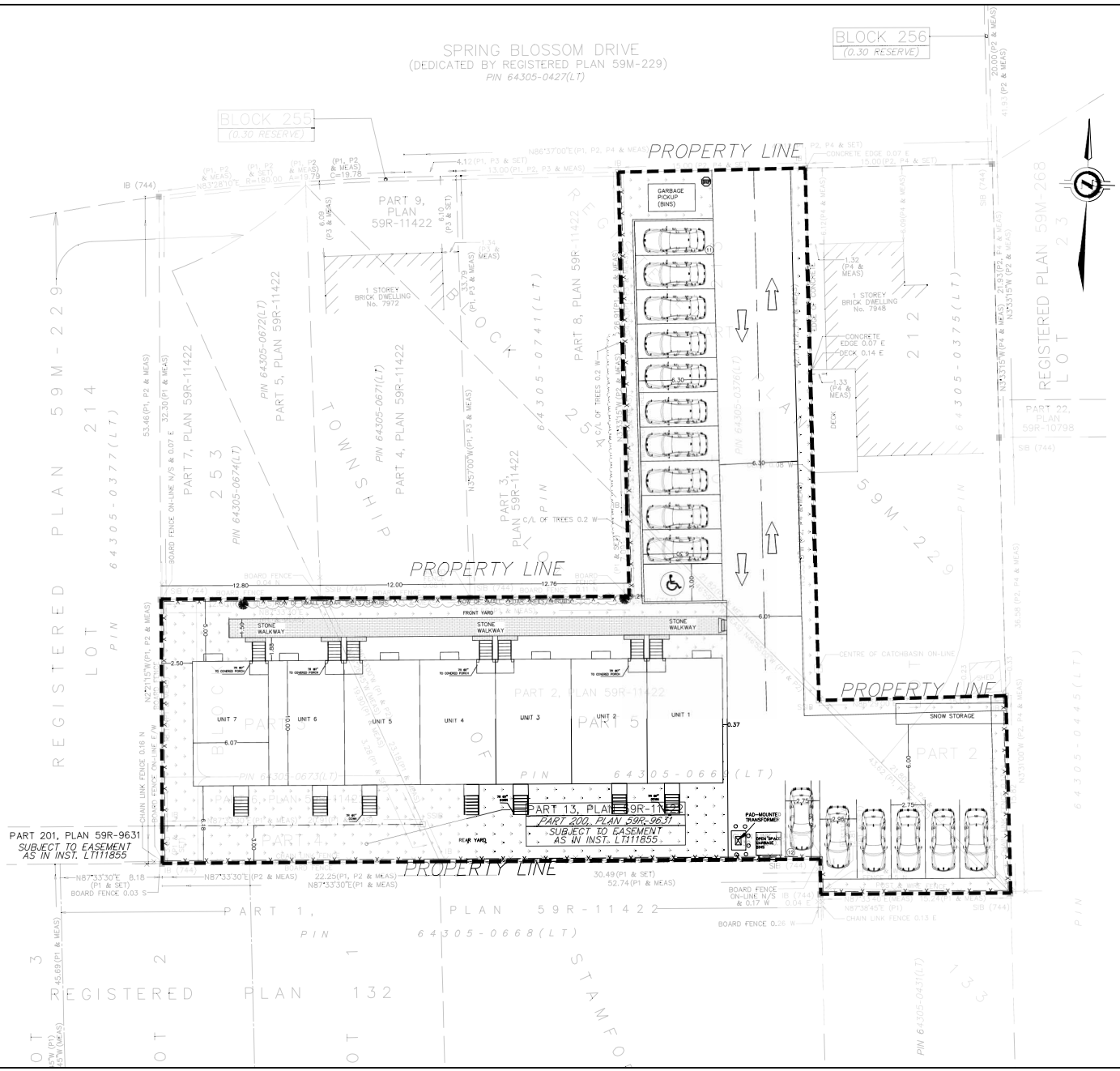
The main findings of the servicing report for the proposed DEVELOPMENT are:

1. The proposed development can be serviced through the existing water, sanitary and storm sewer systems in the area.
2. The property's storm water servicing requirements can be adequately addressed through the proposed stormwater management plan for quantity and quality controls.
3. Proposed site grading provides for "major" overland flow conveyance towards Spring Blossom Drive, provide adequate cover over services and generally match existing road and boundary grades with appropriate slopes

AM Engineering.

Gurbir Mundi, P.Eng.

Appendix A
Site Plan



LEGEND:

PROPERTY LINE

CENTER LINE OF ROAD

FLOW OF TRAFFIC

Contractor must verify all dimensions on the Project Site and report any discrepancies before proceeding with the Work.

This drawing is a part of the Contract Documents and is to be read in conjunction with all other Contract Documents.

All provided drawings are measured to the best of our knowledge and is subject to change during construction. Contractor must visit site to familiarize with existing conditions before quoting for the job.

AM ENGINEERING
www.amengineering.ca

Title:
CONCEPTUAL SITE PLAN
7956 SPRINGBLOSSOM DR
NIAGARA FALLS, ON

Client:
MR. Bruno Ivana Galante

No.	DATE	DESCRIPTION	BY	APPD
3				
2				
1	2025/05/29	ISSUED FOR CLIENT REVIEW	JG	GM

REVISION / ISSUE

Designed:	JG
Drawn:	JG
Checked:	GM
Date:	2025/08/02
Scale:	1:150
Approved:	

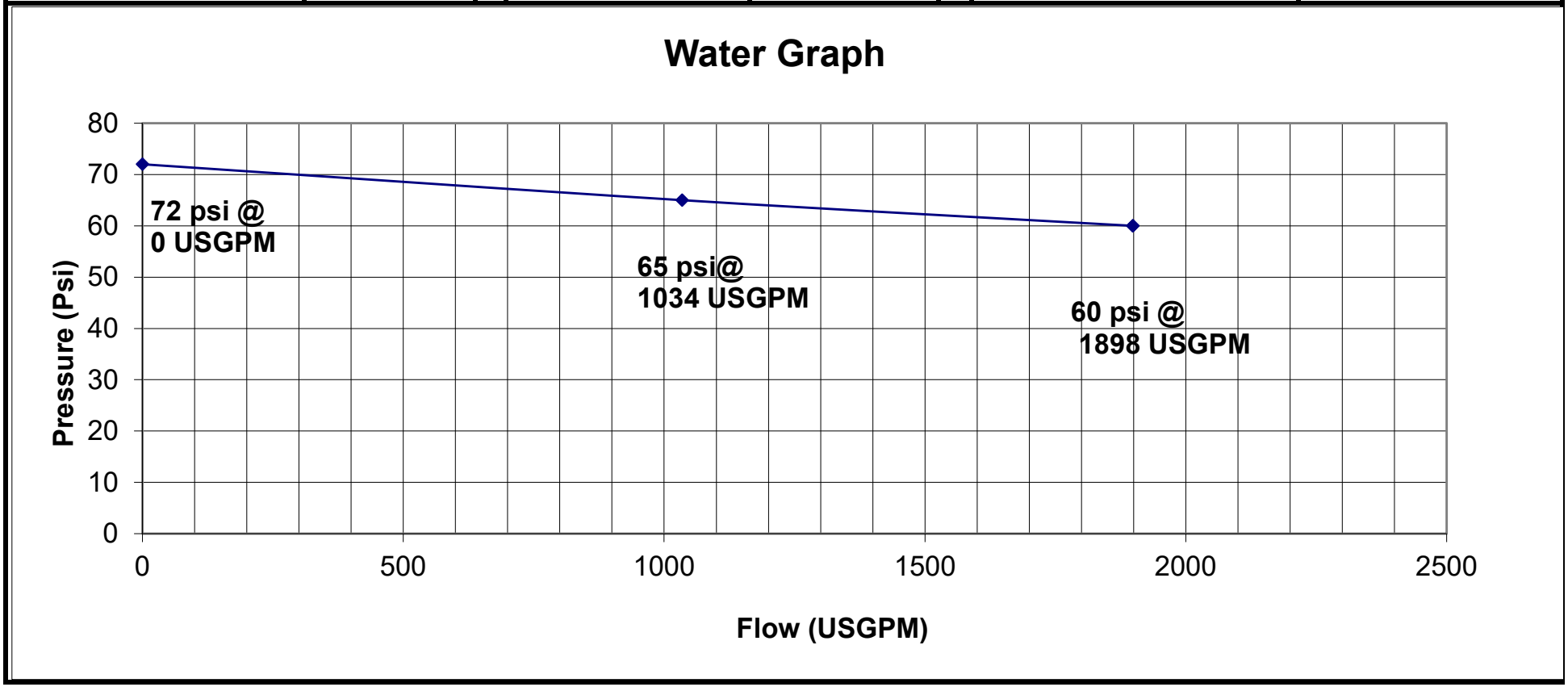
DRAWING NO. 20250522

Appendix B
Fire Hydrant Test

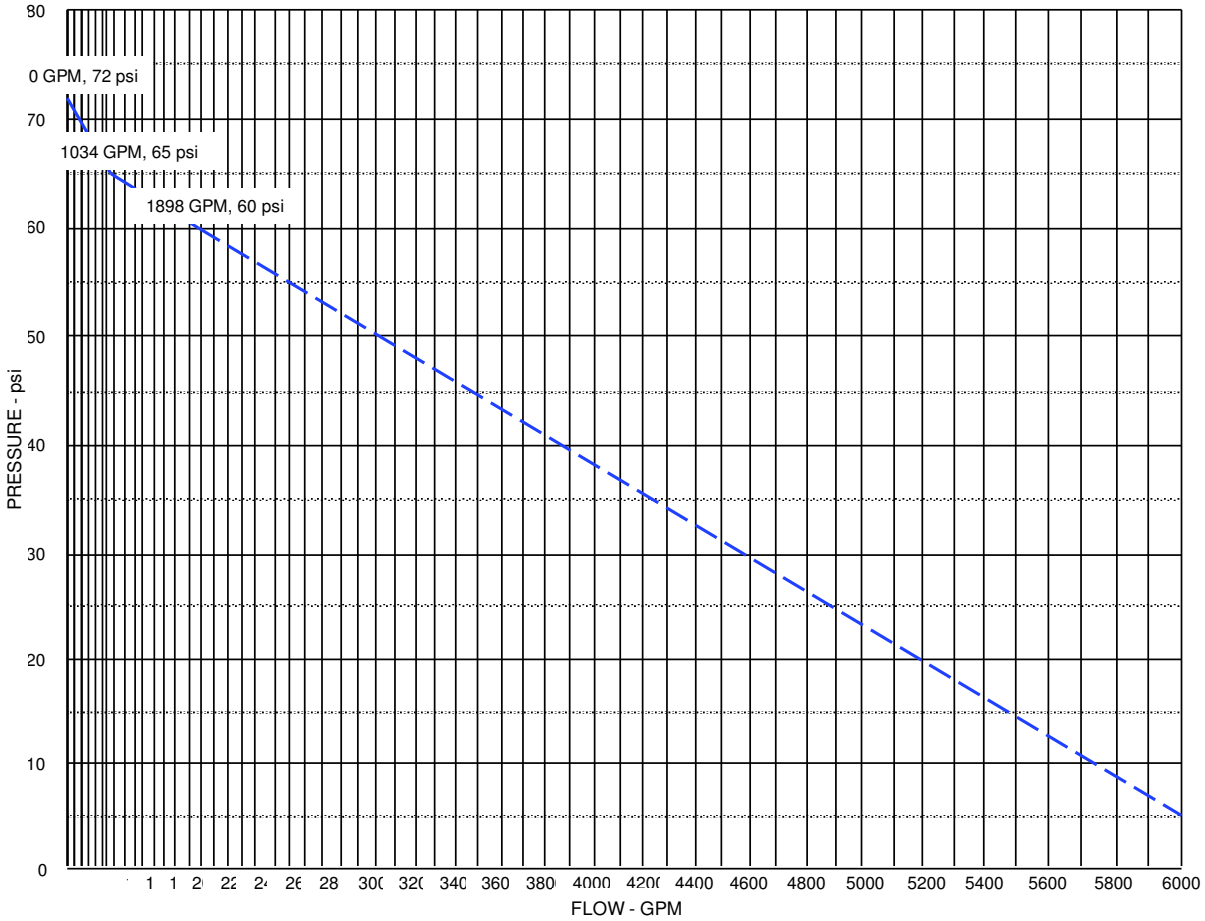
NIAGARA REGIONAL FIRE PROTECTION INC.

Flow Test Location: 7956 Spring Blossom Dr.

Static Pressure (Psi)		**Pitot Reading 1**	38	**# of Outlets Flowed 1**	1
	72	**Outlet Size 1**	2.5	**# of Outlets Flowed 2**	2
Residual Pressure 1 (Psi)		**Pitot Reading 2**	32	**# of Outlets Flowed 3**	2
	65	**Outlet Size 2**	2.5	**Graph Data:**	
Residual Pressure 2 (Psi)		**Pitot Reading 3**	32	**Pressure Values (y-axis)**	**Flow Values (x-axis)**
	60	**Outlet Size 3**	2.5	72	0
Residual Pressure 3 (Psi)		**Flow 1 Calculated**		65	1034
	60		1034.4	60	1898
		Flow 2 Calculated		60	1898
			1898.4	**Date & Time of Test :**	**May 30/2025**
Coefficient value		**Flow 3 Calculated**			**8:30AM**
	0.9		1898.4	**Performed by:**	Alex & Dylan



Available Water Supply Graph



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7956 Spring Blossom Drive

NIAGARA FALLS

Test By

Niagara Regional Fire Protection

Test Date

MAY 31 2025

Results

Pressure (PSI)	Flow (GPM)
72 PSI	0 GPM
65 PSI	1034 GPM
60 PSI	1898 GPM
20 psi	5175 GPM

NRFP
Niagara Regional Fire Protection
professional, honest and reliable sprinkler experts