FUNCTIONAL SERVICING REPORT
UPPER MILL POND SUBDIVISION

November 29, 2023

Revised: **February 26, 2025**

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TABLE OF CONTENTS

1. BACKGROUND 1

1.1 EXISTING USE 1

1.2 SITE DESCRIPTION 1

1.3 PROPOSED DEVELOPMENT 2

1.4 SERVICING OPTIONS STATEMENT 2

2. WATER DISTRIBUTION SYSTEM 3

2.1 DESIGN CRITERIA 3

2.2 WATERMAIN DESIGN 4

2.3 DRINKING WATER DISTRIBUTION SYSTEM 6

2.4 DRINKING WATER TREATMENT SYSTEM 8

2.5 WATER SERVICING CONCLUSIONS & RECOMMENDATIONS 10

3. SANITARY SEWER SYSTEM 11

3.1 DESIGN CRITERIA 12

3.2 SANITARY SEWER NETWORK DESIGN 12

3.3 WASTEWATER TREATMENT SYSTEM 15

3.4 SANITARY SERVICING CONCLUSIONS AND RECOMMENDATIONS 16

4. STORM SEWER SYSTEM 17

5. UTILITIES 23

6. CONCLUSIONS 24

7. REFERENCES 26

TABLE OF FIGURES

FIGURE 1: SUBJECT PROPERTY LOCATION 1
FIGURE 2: DEVELOPMENT SITE PLAN 2
FIGURE 3: PROPOSED WATERMAIN NETWORK 4
FIGURE 4: PROPOSED SANITARY SERVICING ROUTE 11
FIGURE 5: SANITARY CATCHMENT PLAN 14
FIGURE 6: STORM CATCHMENT PLAN 21
FIGURE 7: STORMWATER MANAGEMENT FACILITY 22

TABLE OF TABLES

TABLE 1: POPULATION DENSITY 5
TABLE 2: SINGLE AVERAGE DEMAND 5
TABLE 3: TOWNHOME AVERAGE DEMAND 5
TABLE 4: APARTMENT AVERAGE DEMAND 5
TABLE 5: SUMMARY OF AVERAGE WATER DEMAND 5
TABLE 6: DRINKING WATER TREATMENT SYSTEM REQUIREMENTS 5
TABLE 7: EXISTING HYDRANT FLOW TEST DATA 6
TABLE 8: AVAILABLE FLOW 6
TABLE 9: PHASE 1 – WATERCAD RESULTS 7
TABLE 10: FULL DEVELOPMENT – WATERCAD RESULTS 8
TABLE 11: STANDPIPE CAPACITY 9
TABLE 12: DRINKING WATER SYSTEM CAPACITY (WELLS) 9
TABLE 13: SANITARY DESIGN SHEET 13
TABLE 14: UPPER MILL POND SEWAGE FLOWS – FULL BUILD OUT 15
TABLE 15: WASTEWATER TREATMENT PLANT CAPACITY 16
TABLE 15: STORM DESIGN SHEET 18

APPENDICES

APPENDIX A: DEVELOPMENT SITE PLAN

APPENDIX B: PHASING PLAN

APPENDIX C: PRELIMINARY GRADING PLAN

APPENDIX D: COMMUNICATIONS

1. Background

CAP Norwood Developments Inc. engaged Jewell Engineering Inc. (Jewell) to complete a servicing study to review the feasibility of a residential development north of Mill Street, south of the Canadian Pacific (CP) Railway and west of Asphodel 10th Line in Norwood, Ontario. The Development Site Plan is provided in Appendix A.

This servicing report has been prepared to support the Plan of Subdivision for Upper Mill Pond Subdivision as shown below in Figure 1.

Figure 1: Subject Property Location

Sanitary and water servicing have been considered in this report and stormwater management has been evaluated under separate cover.

1.1 Existing Use

The proposed development area is approximately 35.5 hectares (ha). The surrounding land uses are low density residential to the south, industrial and residential to the north and rural to the south and east.

1.2 Site Description

The subdivision fronts onto Mill Street and Asphodel 10th Line. The northwest property line is along the CP Railway. The development site is currently primarily being used for agricultural crops excluding an area in the interior of the parcel which contains a cell tower.

The topography is smooth and gently sloping to the southwest corner (towards Mill Pond East).

1.3 Proposed Development

The subdivision is to be low/medium density residential. There will be municipal roads throughout the subdivision with access from Mill Street and Asphodel 10th Line. Municipal water and sanitary infrastructure will service the subdivision. Municipal infrastructure has been designed to specifications set out by the Ministry of Environment, Conservation, and Parks (MECP/MOE) and municipal standards. The Development Site Plan (as developed by RFA Planning) is provided in Appendix A and shown below in Figure 2.

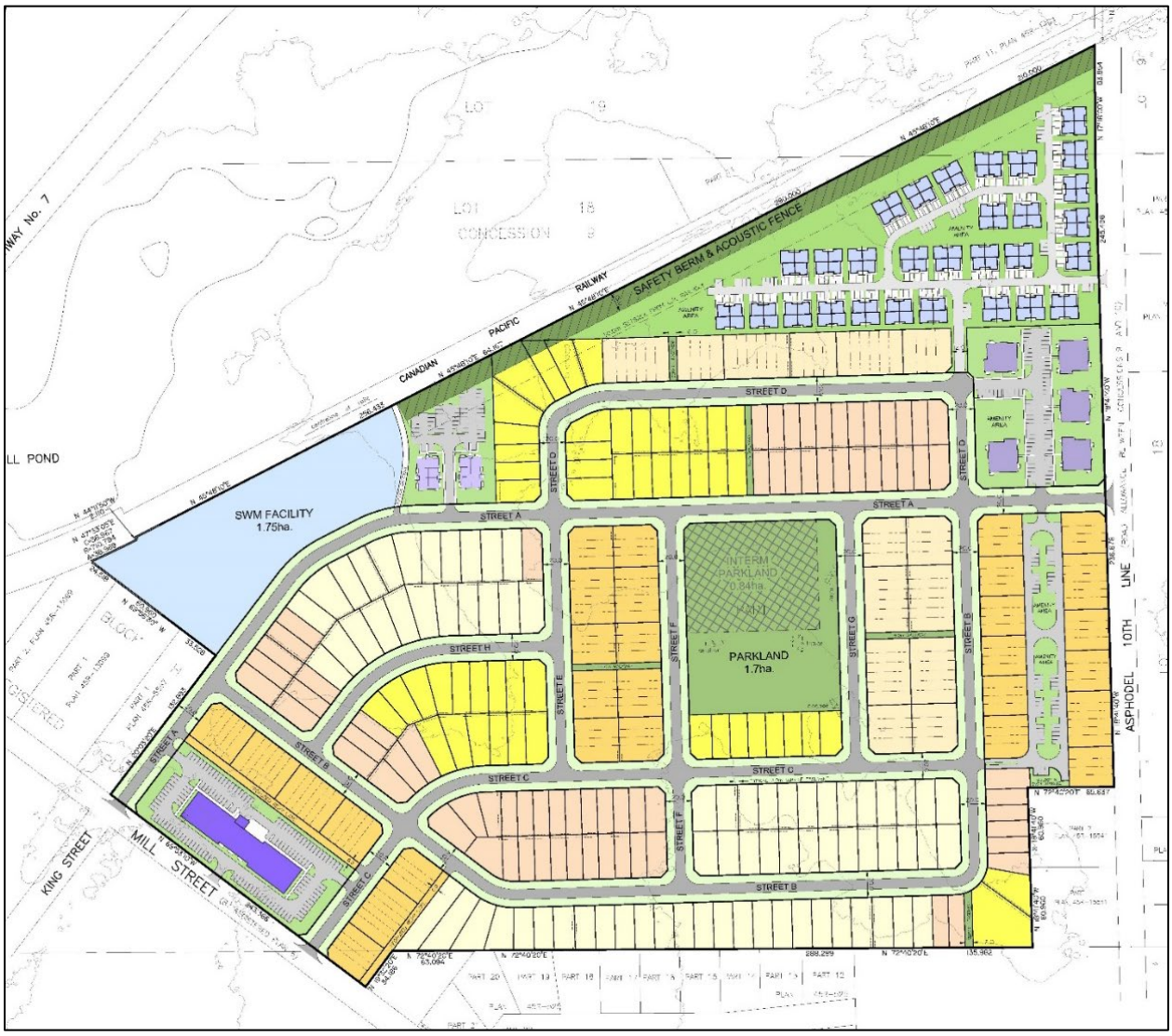

Figure 2: Development Site Plan

1.4 Servicing Options Statement

The Provincial Policy Statement (2020) Subsection 1.6.6.2 specifies that "municipal sewage services and municipal water services are the preferred form of servicing for settlement areas to support protection of the environment and minimize potential risks to human health and safety."

As the Upper Mill Pond development lies within the settlement area of Norwood, municipal services are the preferred form of servicing for this site. Both municipal sanitary sewer and municipal watermain services are present at the site frontage on Mill Street. Connection to these services is further evaluated in subsequent sections of this report.

2. Water Distribution System

It is understood that the Township of Asphodel Norwood has recently completed an extensive review of their existing infrastructure in order to identify future development needs. The "Norwood Infrastructure Assessment" was completed in 2021 by Engage Engineering. As a result of the review and to accommodate future development, it is understood that the existing water standpipe for treated water storage was replaced. The new standpipe was constructed and put into service in June 2024 with an operational capacity of 3200 m^3. The new standpipe provides increased treated water supply and increased pressures throughout the system. The municipal system is fed via four municipal wells with low lift pumps and treatment systems. It is noted that the water system mapping included in the "Norwood Infrastructure Assessment" shows that the east side of the town is fed by a single watermain connection across the Ouse River at Flora Street, however, discussions with Town staff indicate that a second connection across the river is already in place. A 200 mm PVC watermain is present at the Mill Street/King Street intersection to service the proposed development.

2.1 Design Criteria

The watermain design criteria used are based on MOE guidelines, which are summarized below:

- Minimum Watermain Diameter Size: 200 mm
- Average Residential Daily Domestic Demand:
  - Existing: 450 L/d*cap
  - Future*: 350 L/d*cap
- Population Factors:
  - Single Family: 4.0 person/unit
  - Townhomes: 2.5 person/unit
  - Apartment: 2.0 person/unit
- Peak Flow Factors:
  - Commercial: 0.33 L/s*ha
- Maximum Day Factor: 2.25
- Peak Hour Factor: 3.38
- Minimum Fire Flow**: 2,000 L/min
- Minimum Normal Operating Pressure: 40 psi
- Minimum Pressure – Max Day + Fire Flow: 20 psi

*As discussed with Township staff – design flows for future development for sanitary and water usage are reduced to 350 L/d*cap to reflect the reduced water usage as a result of efficient appliances, water metering, new construction, etc. See Appendix D (#3) for Township confirmation.

**In accordance with the "Norwood Infrastructure Assessment" completed in 2021 by Engage Engineering.

2.2 Watermain Design

The proposed watermain network is shown on Figure 3. It is understood that the existing 150mm watermain on Mill Street is being upgraded to a 200mm watermain. The proposed development will connect to the watermain on Mill Street in two locations (at Street A and Street C) in Phase 1 of the development. A servicing block has also been provided to facilitate looping through adjacent development lands to the south in the future (if required by the Township). Within Upper Mill Pond Development, a 200 mm watermain will be provided.

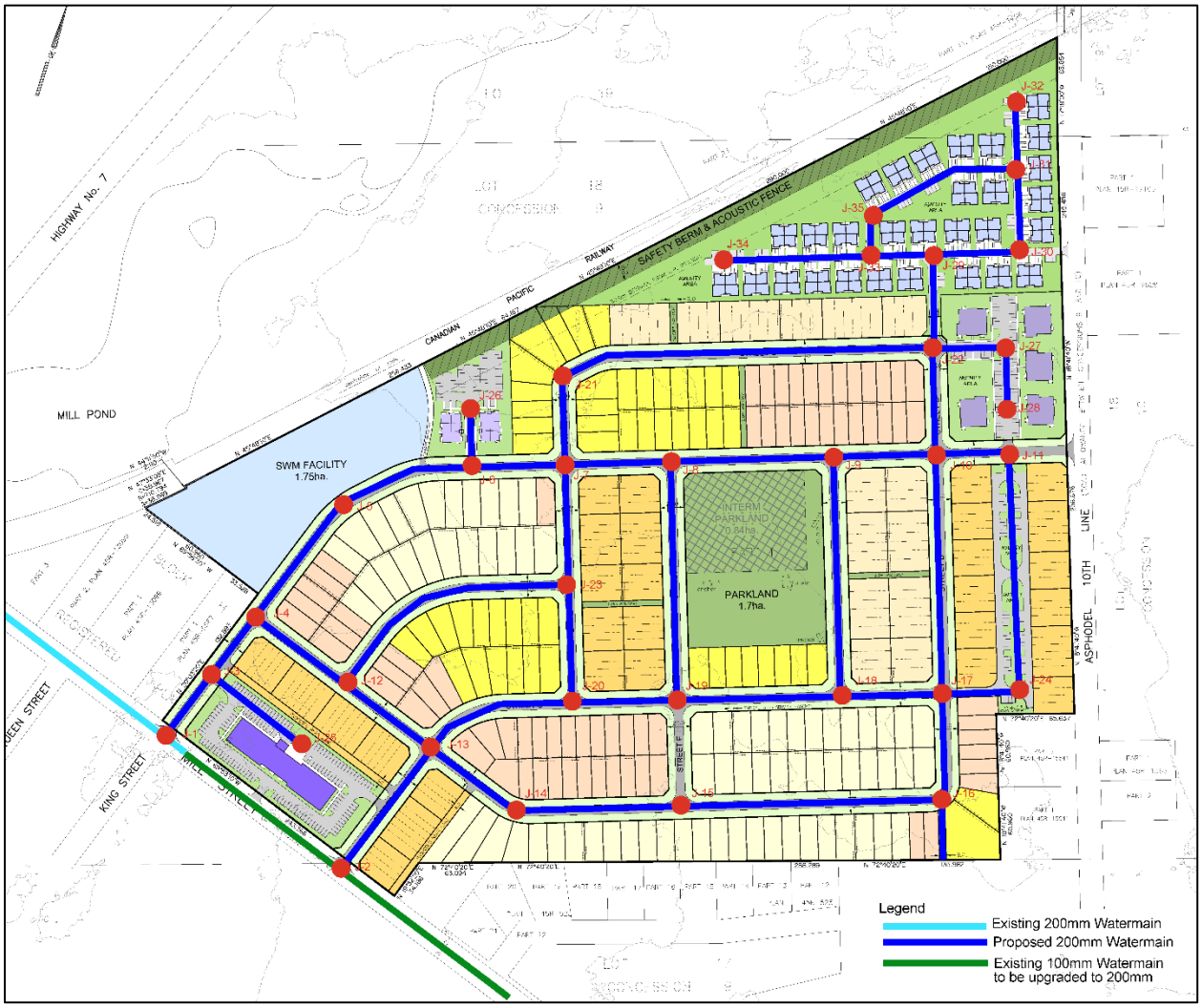

Figure 3: Proposed Watermain Network

Jewell determined the base water demands for each type of dwelling within the development using the population densities found in Table 1. The base average demand for each type of dwelling can be found in Table 2 to Table 4.

Table 1: Population Density

Population Density	
Single	4.0
Townhome	2.5
Apartment	2.0

Table 2: Single Average Demand

Type	Single	
# of Units	1	
Population/Unit	4.0	
Population	4.0	
Capita Usage	350	L/d*cap
Demand	1,400	L/d

Table 3: Townhome Average Demand

Type	Townhome	
# of Units	1	
Population/Unit	2.5	
Population	2.5	
Capita Usage	350	L/d*cap
Demand	875	L/d

Table 4: Apartment Average Demand

Type	Apartment	
# of Units	1	
Population/Unit	2.0	
Population	2.0	
Capita Usage	350	L/d*cap
Demand	700	L/d

A total summary of the average daily water demand can be found in Table 5.

Table 5: Summary of Average Water Demand

	Phase 1			**Full Development**		
	# Units	Population	Average Demand (L/d)	# Units	Population	Average Demand (L/d)
Single Detached	60	240	84,000	196	784	274,400
Townhome/4plex	59	147.5	51,625	344	860	301,000
Apartment	0	0	0	100	200	70,000
Total	**119**	**387.5**	**135,625**	**640**	**1,844**	**645,400**

With the appropriate average demand established, peaking factors are applied to determine max day and peak hour demands.

Table 6: Drinking Water Treatment System Requirements

	Development Flow (m^3/d)	
	Phase 1	Full Development
Average Day Flow	135.6	645.4
Peak Hour Flow	458.3	2,181.5
Maximum Day Flow	305.1	1,452.1
Fire Flow	2,880	2,880
Maximum Day + Fire Flow	3,185.1	4,332.1

2.3 Drinking Water Distribution System

The "Norwood Infrastructure Assessment" completed in 2021 by Engage Engineering found that existing treated water storage is insufficient. As a result of the review, a new water standpipe for treated water storage has been constructed to accommodate future development. The new standpipe provides increased treated water supply pressures throughout the system. Although the Upper Mill Pond development lands were not specifically included in the "Norwood Infrastructure Assessment," 2021 by Engage Engineering, the adjacent lands were included and considered a maximum land elevation of 216.0. The Upper Mill Pond development has an estimated maximum land elevation of 212.4 (as shown on the attached preliminary grading plan, Appendix C). Accordingly, as the Upper Mill Pond development is at a lower elevation than the adjacent development, design of the new standpipe would not be impacted in terms of pressure requirements.

Hydrant test data was provided by the Township after commissioning of the new standpipe and notes existing pressures of 55 – 60 psi and maximum flows of 2,300 – 5,000 L/min in the area of the proposed development.

Table 7: Existing Hydrant Flow Test Data

Hydrant Location	Watermain Size (mm)	Static Pressure (psi)	Residual Pressure (psi)	Residual Flow (USGPM)	Residual Flow (L/s)
King/Mill Street	200	60	39	951	60
106 Mill Street	150	55	19	634	40

The available flow at 20 psi (max day + fire flow) and 40 psi (minimum regular operating pressure) was determined as follows based on the flow test data:

Table 8: Available Flow

Hydrant Location	Watermain Size (mm)	Available Flow (USGPM)	Available Flow (L/s)	Available Flow (L/min)
King/Mill Street @ 20 psi	200	1,347	85	5,098
King/Mill Street @ 40 psi	200	926	58	3,506

Hydrant tests show that existing static pressures are within MOE requirements (40 – 100 psi) and existing fire flow available meets Township requirements (2,000 L/min) at the connection point to the proposed development (King/Mill St).

The proposed system expansion must provide adequate pressure and flow to supply the residential development under the following scenarios:

- Scenario 1: Peak Hour Demand
- Scenario 2: Maximum Day Demand + Fire Flow

Jewell utilized the water modeling software program Bentley WaterCAD to determine anticipated pressures and flows within the proposed development. The hydrant flow test results were used to calibrate the water model and simulate the existing network system. The results are summarized in Table 9 & Table 10.

Table 9: Phase 1 – WaterCAD Results

Water Model Results - Phase 1							
Label	Elevation	Base Demand	Peak Hour		Max Day + Fire Flow		
			Demand	Pressure	Demand	Pressure	Flow Available
	(m)	(L/min)	(L/min)	(psi)	(L/min)	(psi)	(L/min)
J-1	205.3	0.0	0.00	59.7	0.00	59.8	4,575.70
J-2	206.5	6.1	18.20	58.0	12.20	58.1	4,450.40
J-3	206.4	0.0	0.00	58.2	0.00	58.3	4,454.60
J-4	206.0	6.0	17.90	58.7	11.90	58.8	4,379.80
J-5	205.7	5.8	17.50	59.1	11.70	59.2	4,299.30
J-6	206.9	5.8	17.50	57.3	11.70	57.5	4,229.10
J-7	208.5	4.4	13.10	55.1	8.70	55.2	4,174.30
J-12	206.5	19.9	59.80	58.0	39.90	58.1	4,389.60
J-13	207.2	12.3	36.80	57.0	24.50	57.1	4,378.70
J-20	207.9	12.2	36.50	56.0	24.30	56.1	4,287.40
J-23	208.4	21.8	65.30	55.3	43.50	55.4	4,286.20
	Designed:	Julie Humphries, C.E.T.		Project:	Upper Mill Pond Subdivision		
	Checked:	Amanda Redden, P.Eng.			Norwood		

Table 10: Full Development – WaterCAD Results

Water Model Results - Full Build-out							
Label	Elevation	Base Demand	Peak Hour		Max Day + Fire Flow		
			Demand	Pressure	Demand	Pressure	Flow Available
	(m)	(L/min)	(L/min)	(psi)	(L/min)	(psi)	(L/min)
J-1	205.3	0.0	0.00	56.5	0.00	58.3	3,439.70
J-2	206.5	6.1	18.20	54.6	12.20	56.5	3,302.70
J-3	206.4	0.0	0.00	54.9	0.00	56.7	3,330.20
J-4	206.0	6.0	17.90	55.3	11.90	57.2	3,274.40
J-5	205.7	5.8	17.50	55.6	11.70	57.5	3,242.30
J-6	206.9	5.8	17.50	53.8	11.70	55.8	3,216.50
J-7	208.5	8.3	24.80	51.6	16.50	53.6	3,200.50
J-8	210.6	15.3	45.90	48.5	30.60	50.5	3,201.90
J-9	211.5	14.8	44.50	47.3	29.70	49.3	3,174.20
J-10	212.0	16.3	48.90	46.5	32.60	48.5	3,152.50
J-11	212.4	8.5	25.50	46.1	17.00	48.1	3,088.10
J-12	206.5	19.9	59.80	54.5	39.90	56.5	3,277.80
J-13	207.2	12.3	36.80	53.5	24.50	55.5	3,252.30
J-14	208.7	13.6	40.80	51.3	27.20	53.3	3,236.90
J-15	210.5	22.4	67.10	48.8	44.70	50.8	3,233.30
J-16	212.0	18.5	55.40	46.6	36.90	48.6	3,152.70
J-17	211.3	18.2	54.70	47.7	36.50	49.7	3,172.90
J-18	210.6	17.7	53.20	48.5	35.50	50.5	3,184.30
J-19	209.7	15.2	45.60	49.9	30.40	51.9	3,205.10
J-20	207.9	14.1	42.30	52.5	28.20	54.5	3,224.50
J-21	208.8	26.3	78.70	51.1	52.50	53.1	3,225.80
J-22	210.7	19.2	57.60	48.4	38.40	50.4	3,176.00
J-23	208.4	21.8	65.30	51.7	43.50	53.7	3,242.90
J-24	212.0	8.5	25.50	46.6	17.00	48.6	3,126.30
J-25	206.4	19.4	58.30	54.8	38.90	56.7	3,370.00
J-26	207.5	14.0	42.00	53.0	28.00	55.0	3,233.30
J-27	211.0	17.5	52.50	48.0	35.00	50.0	3,075.20
J-28	211.4	11.7	35.00	47.4	23.30	49.4	2,972.10
J-29	211.0	9.7	29.20	48.0	19.40	50.0	3,011.40
J-30	211.5	9.7	29.20	47.3	19.40	49.3	2,953.10
J-31	211.0	17.0	51.00	48.0	34.00	50.0	2,982.70
J-32	210.5	2.4	7.30	48.7	4.90	50.7	2,930.30
J-33	210.8	7.3	21.90	48.3	14.60	50.3	2,994.30
J-34	210.3	9.7	29.20	49.0	19.40	51.1	2,894.90
J-35	210.5	14.6	43.70	48.7	29.20	50.7	3,002.60
	Designed:	Julie Humphries, C.E.T.		Project:	Upper Mill Pond Subdivision		
	Checked:	Amanda Redden, P.Eng.			Norwood		

As demonstrated by Table 9 and Table 10 there is sufficient pressure (peak hour is within 40 – 100 psi), flow, and fire protection (2,000 L/min minimum) to provide service to the subdivision with a 200 mm watermain connected to the existing system at Mill St.

2.4 Drinking Water Treatment System

The "Norwood Infrastructure Assessment" completed in 2021 by Engage Engineering found that existing treated water storage is insufficient. As a result of the review, a new water standpipe for treated water storage has been constructed to accommodate future development with a capacity of 3,200 m^3. The new standpipe has been operational since June 2024. A council presentation on Nov. 8, 2023, by Watson & Associates Economists Ltd. determined that with a capacity of 3,200 m^3, the new standpipe will provide adequate storage capacity to service an additional 3,768 people. As shown previously in Table

5, Phase 1 of the Upper Mill Pond Development will serve a population of 387.5 people, and the full development will serve ≈1,844 people. Therefore, as shown in Table 11, there is sufficient capacity in the standpipe to service Phase 1 (and additional future development).

Table 11: Standpipe Capacity

Flows	Population Served	Total Population Capacity	Remaining Population Capacity
Existing	2,499	6,267	3,768
Existing + UMP Phase 1	2,886.5	6,267	3,380.5
Existing + UMP Phase 1 + Trent Meadows Phase 1	3,500.5	6,267	2,766.5
Existing + UMP Full Development + Trent Meadows Phase 1	4,957	6,267	1,310

The Nov. 8, 2023, council presentation by Watson & Associates Economists Ltd. also indicates the need to install additional wells to increase the rated capacity of the drinking water system. The Township has advised that they have begun the process to increase the well capacity and increase the Permit to Take Water to approximately 3,900 m^3/day. One new well was drilled in 2024, and another well is planned to be drilled in 2026. The increase to the PTTW would then follow.

As shown in Table 9, there is sufficient capacity in the existing drinking water system to service Upper Mill Pond Phase 1. However, sufficient capacity is not available to service both Trent Meadows Phase 1 (adjacent development at 67 Mill St) and Upper Mill Pond Phase 1 until the drinking water system capacity is increased (or 19 single family units are removed).

It should be noted that these calculations are based on highly conservative population factors of 4 ppl/single unit and 2.5 ppl/townhome. A reduced population factor of 3 ppl/single unit would result in a Max Daily flow of 1,862.5 m^3/day for Existing + Upper Mill Pond Phase 1 + Trent Meadows Phase 1 in which case there would be sufficient capacity in the existing drinking water system to support both Upper Mill Pond Phase 1 and Trent Meadows Phase 1.

Table 12: Drinking Water System Capacity (Wells)

Flows	Max Daily Flow (m^3/day)	Current Rated Capacity (m^3/day)	Remaining Capacity (m^3/day)
Existing (includes Norwood Park Phase 4)	1,236	1,965	729
Existing + UMP Phase 1	1,541.1	1,965	423.9
Existing + UMP Phase 1 + Trent Meadows Phase 1	2,024.6	1,965	(-59.6)
Existing + UMP Full Development + Trent Meadows Phase 1	3,171.6	1,965	(-1,206.6)

Upon completion of the treatment system upgrades (increasing the rated capacity to 3,900 m^3/day), there will be sufficient capacity to support Full Build Out of the Upper Mill Pond Development and Trent Meadows Phase 1.

Note that:

- the Upper Mill Pond development will be registered in phases (phasing plan is provided in Appendix B), therefore the ultimate capacity would not be expected to be required for ≈8 – 10 years (upon full build out).
- the number of units in Upper Mill Pond Phase 1 is approximate only and may be reduced based on builder and/or market demand.

2.5 Water Servicing Conclusions & Recommendations

The Upper Mill Pond Subdivision will be serviced via municipal water. There will be two connections to the 200 mm watermain on Mill Street. A servicing block has also been provided to facilitate looping through adjacent development lands to the south in the future (if required by the Township). 200 mm watermains will be provided throughout the proposed development.

There is sufficient pressure (peak hour is within 40 – 100 psi), flow, and fire protection (2,000 L/min minimum) to provide service to the subdivision with a 200 mm watermain connected to the existing system at Mill St.

There is sufficient capacity in the new standpipe to service Phase 1 (and additional future development).

There is sufficient capacity in the existing drinking water system to service Upper Mill Pond Phase 1. However, sufficient capacity is not available to service both Trent Meadows Phase 1 (adjacent development at 67 Mill St) and Upper Mill Pond Phase 1:

- until the drinking water system capacity is increased – which is currently in progress by the Township; OR
- 19 single family units are removed from the Upper Mill Pond/Trent Meadows Phase 1 plans: OR
- a reduced population factor of 3 ppl/single unit is utilized.

Upon completion of the treatment system upgrades (increasing the rated capacity to 3,900 m^3/day), there will be sufficient capacity to support Full Build Out of the Upper Mill Pond Development and Trent Meadows Phase 1.

3. Sanitary Sewer System

The Township of Asphodel Norwood has recently completed an extensive review of their existing infrastructure in order to identify future development needs. The "Norwood Infrastructure Assessment" was completed in 2021 by Engage Engineering.

The topography of the Upper Mill Pond Subdivision site is conducive to a gravity system. There is a 200 mm sanitary main on Mill Street that continues down King Street, however, based on the results of the "Norwood Infrastructure Assessment", it is understood that these downstream sewers are currently at capacity.

Therefore, an alternative servicing route was investigated for the Upper Mill Pond Development ("Lutes lands") via Legion Street. From discussions with Township staff, it is understood that upgrades were recently completed to a portion of this route (identified in yellow below). The northern portion of this route will need to be upgraded to support the proposed development (identified in red below) but limits the need for reconstruction of existing streets to a small section on Cedar Street, Legion Street, and a portion of Mill Street that is already expected to be disturbed by the development to the east ("HBNG Property").

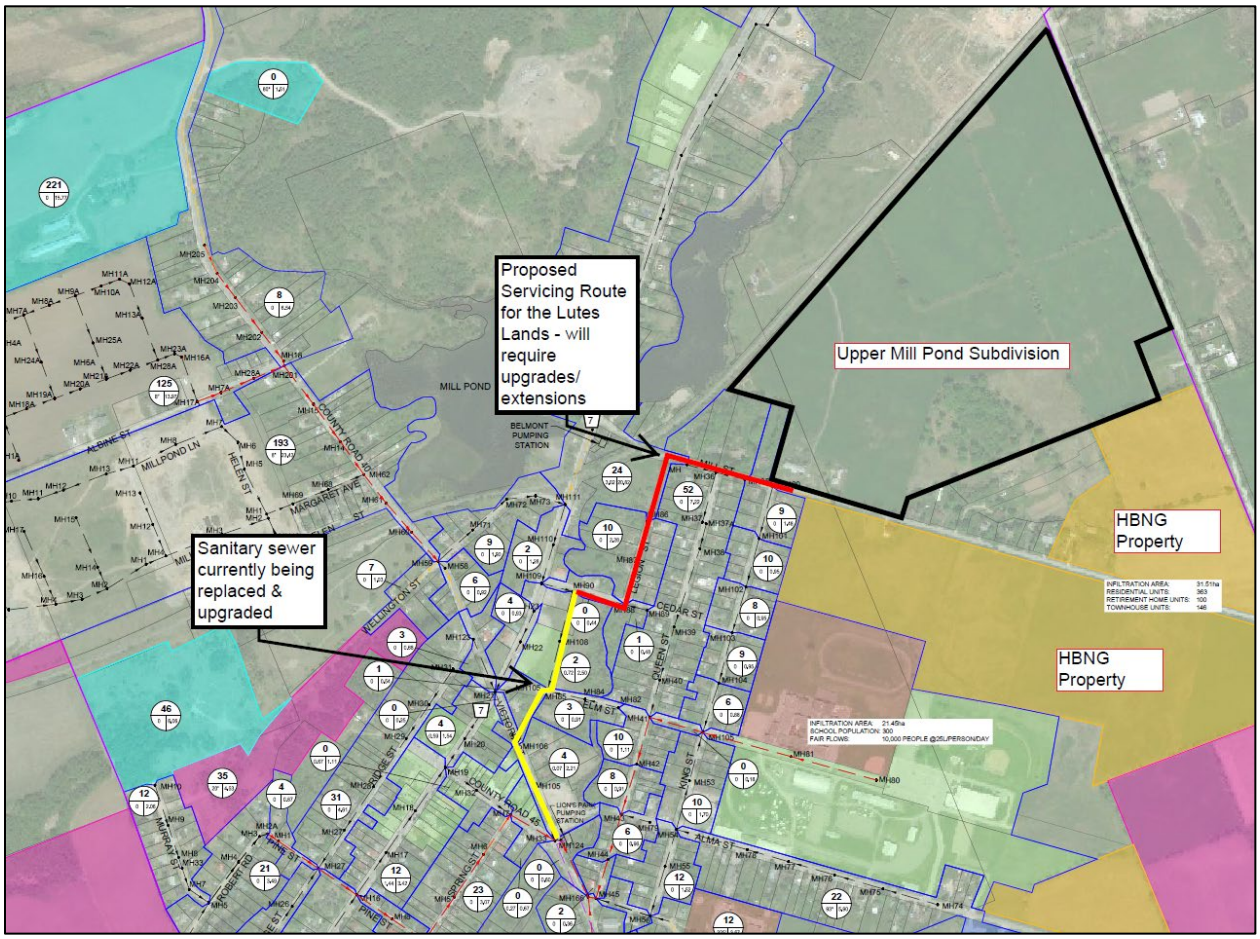

Figure 4: Proposed Sanitary Servicing Route

3.1 Design Criteria

The sanitary design criteria used are based on MECP guidelines, which are summarized below.

- Minimum Sanitary Sewer Diameter Size: 200 mm
- Minimum Full Flow Velocities: 0.6 m/s
- Maximum Full Flow Velocities: 3.0 m/s
- Extraneous Flow Allowance: 0.28 L/s*ha
- Peaking Factor: Harmon's formula
- Average Daily Residential Domestic Design Flow*:
    - Existing: 450 L/d*cap
    - Future: 350 L/d*cap
- Population Factors:
    - Single Family: 4.0 persons/unit
    - Townhomes: 2.5 persons/unit
    - Apartment: 2.0 persons/unit
- Peak Flows:
    - Commercial: 0.33 L/s*ha

*As discussed with Township staff – design flows for future development for sanitary and water usage are reduced to 350 L/d*cap to reflect the reduced water usage as a result of efficient appliances, water metering, new construction, etc. See Appendix D (#3) for Township confirmation.

3.2 Sanitary Sewer Network Design

Review of the sanitary sewer network capacity was based on the analysis completed in the "Norwood Infrastructure Assessment," 2021 by Engage Engineering. The upgrades made to the servicing route (portion identified in yellow on Figure 4), and the future development lands included in the report, were considered in the analysis. Table 13 provides the detailed calculations and sanitary sewer design for the Upper Mill Pond Development and downstream system. The associated catchment area plan and proposed sewer system/upgrades is shown in Figure 5.

A portion of the adjacent development lands ("HBNG Property") have also been considered to drain via the Legion Street servicing route (as capacity exists in the system and the Township has expressed a desire to limit the amount of disturbance to existing residents as much as possible). Therefore, accommodating a portion of the "HBNG Property" via the Legion Street route can eliminate the need for upgrades on Elm & Queen Street (which is the servicing route identified for these lands in the "Norwood Infrastructure Assessment"). For analysis purposes, 262 singles and 24 towns have been accounted for from the HBNG property draining to the Mill St sewer which accounts for Trent Meadows Phase 1 & 2.

Table 13: Sanitary Design Sheet

SANITARY SEWER DESIGN SHEET

Flow	Type	Value	Unit
Single Family	Residence	4.0	person/unit
Townhomes	Residence	2.5	person/unit
Apartment	Residence	2.0	person/unit
Retirement Home	Residence	1.0	person/unit
Commercial	Peak Flow	0.33	L/s*ha
Single Family (Future)	Residence	4.0	
Townhomes (Future)	Residence	2.5	

Peak Flow	Value	Unit
Flow Rate (Existing)	450	L/d*cap
Flow Rate (Future)	350	L/d*cap
Infiltration Rate	0.28	L/s*ha
Max Capacity	80%	

Legend
- Assumed
- Upgraded for Norwood Park Phase 3
- Future Development
- Upgraded for Future Development
- Capacity greater than 80%
- Lutes & Crowley Lands via Legion Street

Location			Peak Flow Calculation																				Sewer Data								
Street Name	Upstream Manhole	Downstream Manhole	Single Family		Townhomes		Apartment		Retirement Home		Residential Population					Residential Area		Commercial Area		Design Flow (L/s)				Diameter	Slope	Length	Material	Mannings	Velocity	Capacity	Capacity	Act. Vel.
			# of Units	Population	# of Units	Population	# of Units	Population	# of Units	Population	Tot. Ind.	Cum. Ex.	Cum. Fut.	Tot. Cum.	Harmon	(ha)	Cum. (ha)	(ha)	Cum. (ha)	Residential	Commercial	Infiltration	Peak	(mm)	(%)	(m)		(n)	(m/s)	(L/s)	(%)	(m/s)
North PS Inlet																															
CR 40 - Future		MH205	221	884.0	0	0.0	0	0.0	80	80.0	964.0	0.0	964.0	964.0	3.81	17.28	17.28	0.00	0.00	14.88	0.00	4.84	19.72	250	0.7%	100.0	PVC	0.013	1.01	49.8	39.6%	0.95
CR 40	MH205	MH201	8	32.0	0	0.0	0	0.0	0	0.0	32.0	32.0	964.0	996.0	3.80	6.54	23.82	0.00	0.00	15.48	0.00	6.67	22.15	200	1.0%	259.7	RCP	0.013	1.04	32.8	67.5%	1.12
Albine - Future		MH17A	273	1,092.0	8	20.0	0	0.0	0	0.0	1,112.0	0.0	1,112.0	1,112.0	3.77	19.48	19.48	0.00	0.00	16.98	0.00	5.45	22.44	250	0.5%	100.0	PVC	0.013	0.86	42.1	53.4%	0.87
Albine	MH17A	MH201	125	500.0	0	0.0	0	0.0	0	0.0	500.0	500.0	1,112.0	1,612.0	3.66	13.97	33.45	0.00	0.00	26.00	0.00	9.37	35.36	300	0.4%	167.0	PVC	0.013	0.87	61.2	57.8%	0.90
CR 40	MH201	MH59	193	772.0	0	0.0	0	0.0	0	0.0	772.0	1,304.0	2,076.0	3,380.0	3.40	23.43	80.70	0.00	0.00	51.65	0.00	22.60	74.25	375	0.7%	430.0	RCP	0.013	1.33	146.7	50.6%	1.33
Wellington - Future		MH59	35	140.0	20	50.0	0	0.0	0	0.0	190.0	0.0	190.0	190.0	4.16	4.53	4.53	0.00	0.00	3.20	0.00	1.27	4.47	200	0.5%	100.0	PVC	0.013	0.74	23.2	19.3%	0.57
Wellington		MH59	7	28.0	0	0.0	0	0.0	0	0.0	28.0	28.0	0.0	28.0	4.36	1.03	1.03	0.00	0.00	0.64	0.00	0.29	0.92	200	0.7%	105.0	RCP	0.013	0.87	27.4	3.4%	0.40
CR 40 S		MH59	6	24.0	0	0.0	0	0.0	0	0.0	24.0	24.0	0.0	24.0	4.37	0.92	0.92	0.00	0.00	0.55	0.00	0.26	0.80	200	0.7%	99.0	RCP	0.013	0.87	27.4	2.9%	0.38
Wellington	MH59	MH111	9	36.0	0	0.0	0	0.0	0	0.0	36.0	1,392.0	2,266.0	3,658.0	3.37	1.90	89.08	3.02	3.02	55.33	1.00	24.94	81.27	375	0.6%	272.0	PVC	0.013	1.23	135.8	59.8%	1.28
HWY 7		MH111	24	96.0	0	0.0	0	0.0	0	0.0	96.0	96.0	0.0	96.0	4.25	20.82	20.82	0.00	0.00	2.12	0.00	5.83	7.95	200	0.4%	604.0	RCP	0.013	0.66	20.7	38.3%	0.62
HWY 7	MH111	MH109	2	8.0	0	0.0	0	0.0	0	0.0	8.0	1,496.0	2,266.0	3,762.0	3.36	1.28	111.18	0.00	3.02	56.97	1.00	31.13	89.10	375	0.5%	147.0	PVC	0.013	1.12	124.0	71.9%	1.22
Cedar St	MH109	MH5A	0	0.0	0	0.0	0	0.0	0	0.0	0.0	1,496.0	2,266.0	3,762.0	3.36	0.44	111.62	0.00	3.02	56.97	1.00	31.25	89.22	375	0.5%	57.0	PVC	0.013	1.12	124.0	72.0%	1.22
Mill St - Future (HBNG Phase 3/4)		PS South	202	808.0	30	75.0	0	0.0	0	0.0	883.0	0.0	883.0	883.0	3.83	14.31	14.31	2.10	2.10	13.71	0.69	4.01	18.41	250	0.4%	200.0	PVC	0.013	0.77	37.6	49.0%	0.76
Mill St - Future (HBNG Phase 2)	MH4B	MH3B	114	456.0	12	30.0	0	0.0	0	0.0	486.0	0.0	486.0	486.0	3.98	9.44	9.44	0.00	0.00	7.84	0.00	2.64	10.48	200	0.4%	200.0	PVC	0.013	0.66	20.7	50.5%	0.66
Mill St - Future (HBNG Phase 1)	MH3B	MH1B	148	592.0	12	30.0	0	0.0	0	0.0	622.0	0.0	1,108.0	1,108.0	3.77	11.21	20.65	0.00	0.00	16.93	0.00	5.78	22.71	300	0.4%	350.0	PVC	0.013	0.87	61.2	37.1%	0.80
HBNG Total			***464***	***1,856.0***	***54***	***135.0***	***0***	***0.0***	***0***	***0.0***						***34.96***		***2.10***														
Mill St - Future (UMPS)	MH5B	MH1B	196	784.0	344	860.0	100	200.0	0	0.0	1,844.0	0.0	1,844.0	1,844.0	3.61	35.50	35.50	0.00	0.00	26.99	0.00	9.94	36.93	300	0.4%	120.0	PVC	0.013	0.87	61.2	60.4%	0.91
Mill St	MH1B	MH86	29	116.0	0	0.0	0	0.0	0	0.0	116.0	116.0	2,952.0	3,068.0	3.43	7.65	63.80	0.00	0.00	43.14	0.00	17.86	61.00	375	0.4%	420.0	PVC	0.013	1.00	110.9	55.0%	1.03
Legion St	MH86	MH88	10	40.0	0	0.0	0	0.0	0	0.0	40.0	156.0	2,952.0	3,108.0	3.43	2.28	66.08	0.00	0.00	43.79	0.00	18.50	62.29	375	0.4%	152.0	RCP	0.013	1.00	110.9	56.2%	1.03
Cedar St	MH89	MH88	1	4.0	0	0.0	0	0.0	0	0.0	4.0	4.0	0.0	4.0	4.45	0.48	0.48	0.00	0.00	0.09	0.00	0.13	0.23	200	0.4%	40.0	RCP	0.013	0.66	20.7	1.1%	0.22
Cedar St	MH88	MH5A	0	0.0	0	0.0	0	0.0	0	0.0	0.0	160.0	2,952.0	3,112.0	3.43	0.00	66.56	0.00	0.00	43.86	0.00	18.64	62.50	375	0.4%	97.0	RCP	0.013	1.00	110.9	56.4%	1.03
Easement	MH5A	MH7A	2	8.0	0	0.0	0	0.0	0	0.0	8.0	1,664.0	5,218.0	6,882.0	3.11	2.50	180.68	0.72	3.74	92.81	1.23	50.59	144.64	450	0.4%	184.7	PVC	0.013	1.13	180.3	80.2%	1.26
Elm St	MH82	MH7A	3	12.0	0	0.0	0	0.0	0	0.0	12.0	12.0	0.0	12.0	4.41	0.91	0.91	0.00	0.00	0.28	0.00	0.25	0.53	200	0.7%	128.0	RCP	0.013	0.87	27.4	1.9%	0.34
Easement	MH7A	MH8A	0	0.0	0	0.0	0	0.0	0	0.0	0.0	1,676.0	5,218.0	6,894.0	3.11	0.00	181.59	0.00	3.74	92.98	1.23	50.85	145.06	450	0.3%	15.5	PVC	0.013	0.98	156.2	92.9%	1.11
Easement	MH8A	MH9A	1	4.0	0	0.0	0	0.0	0	0.0	4.0	1,680.0	5,218.0	6,898.0	3.11	0.54	182.13	0.00	3.74	93.04	1.23	51.00	145.27	450	0.4%	93.8	PVC	0.013	1.13	180.3	80.6%	1.26
HWY 7	MH23	MH21	4	16.0	0	0.0	0	0.0	0	0.0	16.0	16.0	0.0	16.0	4.39	0.93	0.93	0.00	0.00	0.37	0.00	0.26	0.63	200	0.6%	160.0	RCP	0.013	0.81	25.4	2.5%	0.34
CR 40	MH123	MH21	3	12.0	0	0.0	0	0.0	0	0.0	12.0	12.0	0.0	12.0	4.41	0.68	0.68	0.00	0.00	0.28	0.00	0.19	0.47	200	9.2%	102.0	RCP	0.013	3.17	99.5	0.5%	0.78
HWY 7	MH19	MH21	4	16.0	0	0.0	0	0.0	0	0.0	16.0	16.0	0.0	16.0	4.39	1.54	1.54	0.59	0.59	0.37	0.19	0.43	0.99	200	1.6%	161.0	RCP	0.013	1.32	41.5	2.4%	0.55
Victoria St	MH21	MH9A	4	16.0	0	0.0	0	0.0	0	0.0	16.0	60.0	0.0	60.0	4.30	0.25	3.40	0.07	0.66	1.34	0.22	0.95	2.51	200	1.6%	103.0	RCP	0.013	1.32	41.5	6.1%	0.72
Victoria St	MH9A	MH11A	0	0.0	0	0.0	0	0.0	0	0.0	0.0	1,740.0	5,218.0	6,958.0	3.11	2.21	187.74	0.00	4.40	93.89	1.45	52.57	147.91	450	0.5%	158.7	PVC	0.013	1.27	201.6	73.4%	1.38
Victoria St	MH11A	MH12A	0	0.0	0	0.0	0	0.0	0	0.0	0.0	1,740.0	5,218.0	6,958.0	3.11	0.00	187.74	0.00	4.40	93.89	1.45	52.57	147.91	450	0.5%	24.0	PVC	0.013	1.27	201.6	73.4%	1.38
Victoria St	MH12A	PS	0	0.0	0	0.0	0	0.0	0	0.0	0.0	1,740.0	5,218.0	6,958.0	3.11	0.00	187.74	0.00	4.40	93.89	1.45	52.57	147.91	525	0.5%	6.0	PVC	0.013	1.40	304.1	48.6%	1.39

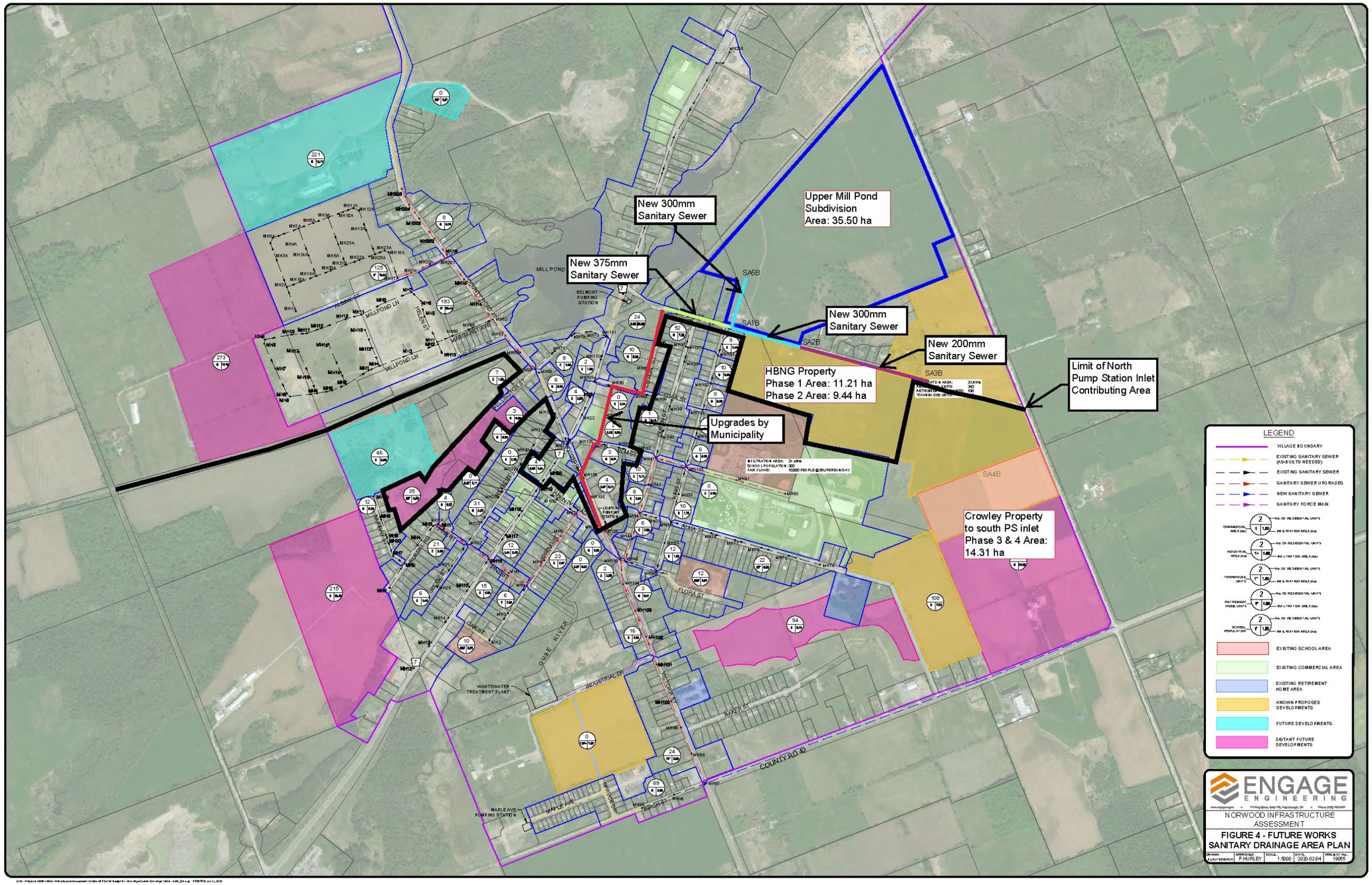

Figure 5: Sanitary Catchment Plan

As shown in Table 13 and Figure 5, the existing gravity main along Cedar Street and Legion Street will need to be removed and upgraded to a 375 mm sewer to service the Upper Mill Pond and HBNG Developments. These upgrades are to be completed by the Township. The new sewer along Cedar and Legion will run at minimum slope in order to cross the low-lying area at the north end of Legion St.

A 375 mm gravity main is required along Mill Street to King Street/Street A to service the Upper Mill Pond and HBNG Developments. At the Mill Street/King Street intersection, the sanitary sewer will need to be approximately 4.0 m deep in order facilitate gravity service of the Upper Mill Pond Development. Increased depth may be required to service the HBNG Development – subject to their review and confirmation. This depth is readily available as the proposed sewer will be ≈3 m deep at Mill/Legion and there is approximately a 5.4 m centreline of road elevation difference from the proposed manhole at Mill/Legion and the proposed manhole at Mill/King.

On Mill Street from King Street to the east, a 300 mm gravity main is required to service the HBNG Development.

The Upper Mill Pond development will be serviced with gravity mains ranging in size from 200 mm to 300 mm with a minimum slope of 0.4%, connecting at the King Street/Mill Street intersection.

The Servicing route identified in Figure 4 discharges to the Lion's Park Pumping Station. The operation of this pump station was reviewed in the "Norwood Infrastructure Assessment," 2021 by Engage Engineering and found to be nearing capacity under existing conditions. 94 additional single-family units could be accommodated at that time and have since been added via the Norwood Park Phase 4 development; therefore, the pump station is currently operating at capacity. As a result of the review, pump station/forcemain upgrades have been identified to accommodate future development; however, upgrades have not yet been completed. Upgrades will be required to support future development.

3.3 Wastewater Treatment System

The "Norwood Infrastructure Assessment" completed in 2021 by Engage Engineering found that the WWTP is currently operating at 39% and therefore has capacity to support some future development. This determination was based on utilization of the full plant rated capacity of 1,500 m^3/day. Table 14 provides calculations of design flows for the Upper Mill Pond development. Assessment of Wastewater Treatment Plant Capacity is provided in Table 15.

Table 14: Upper Mill Pond Sewage Flows

	Phase 1		**Full Build-Out**	
	Flow (L/s)	Flow (m^3/day)	Flow (L/s)	Flow (m^3/day)
Average Flow	1.57	135.7	7.47	645.4
Peak Flow	6.32	546.0	26.99	2,331.9
Infiltration Flow	2.17	187.5	9.94	858.8
Peak Design Flow	8.5	734.4	36.93	3,190.8

Table 15: Wastewater Treatment Plant Capacity

Flows	Average Daily Flow (m^3/day)	Current Rated Capacity (m^3/day)	Remaining Capacity (m^3/day)
Existing (includes Norwood Park Phase 4)	766	1,500	729
Existing + UMP Phase 1	901.7	1,500	598.3
Existing + UMP Phase 1 + Trent Meadows Phase 1	1,119.4	1,500	380.6
Existing + UMP Full Development + Trent Meadows Phase 1	1,629.1	1,500	(-129.1)

As shown in Table 15, there is sufficient capacity in the WWTP to support Upper Mill Pond and Trent Meadows Phase 1. Upgrades to the WWTP will be required to support the full build out of Upper Mill Pond Subdivision.

It is noted that the Upper Mill Pond development will be registered in phases (phasing plan is provided in Appendix B), therefore the ultimate capacity would not be expected to be required for ≈8 – 10 years (upon full build out).

3.4 Sanitary Servicing Conclusions and Recommendations

The Upper Mill Pond Subdivision will be serviced via municipal sanitary sewer:

- The gravity main along Cedar Street and Legion Street will need to be upgraded to a 375 mm sewer to service the Upper Mill Pond & HBNG developments. These upgrades are to be completed by the Township
- A 375 mm gravity main is required along Mill Street to King Street/Street A to service the Upper Mill Pond & HBNG developments. At the Mill Street/King Street intersection, the sanitary sewer will need to be approximately 4.0 m deep in order facilitate gravity service of the Upper Mill Pond Development. Increased depth may be required to service the HBNG Development - subject to their review and confirmation;
- On Mill Street, from King Street to the east, a 300 mm gravity main is required to service the HBNG development;
- The Upper Mill Pond development will be serviced with gravity mains ranging in size from 200 mm to 300 mm with a minimum slope of 0.4%, connecting at the King Street/Mill Street intersection.
- The Lion's Park pump station is currently at capacity and will require upgrades to support the proposed development.
- There is sufficient capacity in the WWTP to support Upper Mill Pond Phase 1 and Trent Meadows Phase 1. Upgrades to the WWTP will be required to support the full build out of Upper Mill Pond Subdivision.

It is noted that the Upper Mill Pond development will be registered in phases (phasing plan is provided in Appendix B), therefore the ultimate capacity would not be expected to be required for ≈8 – 10 years (upon full build out).

4. Storm Sewer System

Drainage design follows the Major/Minor strategy. Minor flows are those derived from all frequent storm events up to, and including, the 5-yr return period. Storm sewers are proposed to convey the minor flows underground to the stormwater management facility. Storm sewer pipes range in diameter from 300 mm to 1200 mm. Storm calculation sheets can be found in Table 16 with the corresponding catchment plan in Figure 6.

Major flows are to be routed overland through streets and easements toward the stormwater management facility.

A stormwater management report was authored by Jewell under a separate cover. The report shows the site runoff will be increased as development proceeds and will require quality and quantity mitigation measures. One wet pond facility is proposed to provide water quantity and water quality treatment prior to discharging outflows into Mill Pond.

The facility achieves the treatment targets and provides in excess of 40 years of service life prior to requiring any major maintenance. The pond will retain water year-round at a depth of 2.5 m in the forebay and 2.0 m in the main cell. It will crest up to 4.3 m deep in the forebay and 3.8 m deep in the main cell during the 100-yr regulatory storm event. See Figure 7 for the pond elevations. Side slopes of 5:1 have been incorporated such that fencing of the facility is not required and it can be incorporated as a feature within the development.

Refer to "*Preliminary Stormwater Management Report, Upper Mill Pond Development*" dated February 20, 2025, by Jewell Engineering for additional details.

Table 16: Storm Design Sheet

STORM SEWER DESIGN SHEET

Peak Runoff Estimate by Rational Method

$$Q = \frac{1}{360}\, C\, i\, A$$

Where:

Q = Peak Flow in cms
C = Runoff Coefficient
i = Rainfall Intensity in mm/hr
A = Area in hectares

Intensity for: Trenton
Station: 6158875

$$i = A * T_c^{\,B}$$

Where:

i = Rainfall Intensity in mm/hr
T_c = Time of Concentration in hours

5-Year Parameters
A = 25.2
B = -0.664

100-Year Parameters
A = 43.4
B = -0.674

Manning's Coef
CSP 0.024
RCP/PVC 0.013

Pipe Capacity by Manning's Equation

Where: $$Q = \frac{1}{n}\, A\, R^{2/3}\, S^{1/2}$$

A = area of pipe in m^2
R = Hydraulic radius = A / P
P = Wetted perimeter
S = Slope (m/m)
n = Manning's friction coef.

Check
$q \leq Q$
$V \leq 6\ m/s$

LOCATION				PEAK FLOW CALCULATION										PROPOSED SEWER								
Street	Catchment ID	Upstream Structure	Downstream Structure	Catchment Areas Runoff Coefficient 0.25	0.40	0.45	0.55	0.65	RC x A Individual (ha)	RC x A Cummulitive (ha)	Time of Concentration (min)	Intensity (mm/hr)	Peak Flow (m^3/s)	Pipe Size (mm)	Length (m)	Type of Pipe (material)	Grade (m/m) (%)	Capacity, n 0.013 (m^3/s)	Full Flow Velocity (m/s)	Time of Flow (min)	Actual Velocity at Q_d (m/s)	Check Capacity
Street B	1	ST78	**ST63**					0.13	0.08	0.08	15.00	63.3	0.01	300	14.5	PVC	0.30%	0.05	0.75	0.32	0.64	OK
Street G	2	ST77	**ST62**					0.11	0.07	0.07	15.00	63.3	0.01	300	14.5	PVC	0.30%	0.05	0.75	0.32	0.61	OK
Street F	3	ST76	**ST60**					0.11	0.07	0.07	15.00	63.3	0.01	300	14.4	PVC	0.30%	0.05	0.75	0.32	0.61	OK
Street E	4	ST75	**ST57**					0.11	0.07	0.07	15.00	63.3	0.01	300	13.9	PVC	0.30%	0.05	0.75	0.31	0.61	OK
Street D	5	ST74	ST73					0.19	0.12	0.12	15.00	63.3	0.02	300	115.3	PVC	0.30%	0.05	0.75	2.56	0.71	OK
Street D	6	ST73	ST72					1.57	1.02	1.14	17.56	57.0	0.18	600	87.5	RCP	0.30%	0.34	1.19	1.23	1.21	OK
Street D	7	ST72	ST71					0.55	0.36	1.50	18.79	54.5	0.23	600	48.5	RCP	0.30%	0.34	1.19	0.68	1.27	OK
Street D		ST71	ST70						0.00	1.50	19.47	53.2	0.22	600	13.2	RCP	0.30%	0.34	1.19	0.18	1.27	OK
Street D	8	ST70	ST69					4.93	3.20	4.71	19.66	52.9	0.69	900	7.2	RCP	0.30%	0.99	1.56	0.08	1.68	OK
Street D		ST69	ST68						0.00	4.71	19.73	52.7	0.69	900	13.7	RCP	0.30%	0.99	1.56	0.15	1.68	OK
Street D		ST68	ST67						0.00	4.71	19.88	52.5	0.69	900	8.2	RCP	0.30%	0.99	1.56	0.09	1.68	OK
Street D	9	ST67	ST66					0.58	0.38	5.08	19.97	52.3	0.74	975	8.6	RCP	0.30%	1.23	1.64	0.09	1.71	OK
Street D		ST66	ST65						0.00	5.08	20.05	52.2	0.74	975	49.8	RCP	0.30%	1.23	1.64	0.50	1.71	OK
Street D	10	ST65	**ST57**					0.22	0.14	5.23	20.56	51.3	0.75	975	6.9	RCP	0.30%	1.23	1.64	0.07	1.71	OK
Street A	11	ST64	**ST63**					1.31	0.85	0.85	15.00	63.3	0.15	525	14.5	RCP	0.30%	0.24	1.09	0.22	1.15	OK
Street A		**ST63**	**ST62**						0.00	0.94	15.32	62.4	0.16	525	86.8	RCP	0.30%	0.24	1.09	1.33	1.17	OK
Street A	12	**ST62**	ST61					0.47	0.31	1.31	16.65	59.0	0.22	600	69.5	RCP	0.30%	0.34	1.19	0.97	1.26	OK
Street A	13, 14	ST61	**ST60**		0.47			0.19	0.31	1.62	17.63	56.8	0.26	675	63.5	RCP	0.30%	0.46	1.29	0.82	1.32	OK
Street A	15	**ST60**	ST59					0.18	0.12	1.81	18.45	55.1	0.28	675	38.9	RCP	0.30%	0.46	1.29	0.50	1.34	OK
Street A	16, 17	ST59	ST58					0.88	0.57	2.39	18.95	54.2	0.36	750	30.4	RCP	0.30%	0.61	1.38	0.37	1.43	OK
Street A	18	ST58	**ST57**					0.18	0.12	2.50	19.32	53.5	0.37	750	13.8	RCP	0.30%	0.61	1.38	0.17	1.44	OK
Street A	19	**ST57**	ST56					0.97	0.63	8.43	20.63	51.2	1.20	1200	65.4	RCP	0.30%	2.14	1.89	0.58	1.93	OK
Street A		ST56	ST55						0.00	8.43	21.21	50.3	1.18	1200	36.7	RCP	0.30%	2.14	1.89	0.32	1.93	OK
Street A		ST55	**ST1**						0.00	8.43	21.53	49.8	1.17	1200	24.0	RCP	0.30%	2.14	1.89	0.21	1.92	OK
Street H	20	ST53	ST52					0.25	0.16	0.16	15.00	63.3	0.03	300	44.6	PVC	0.30%	0.05	0.75	0.99	0.76	OK
Street H		ST52	ST51						0.00	0.16	15.99	60.6	0.03	300	44.6	PVC	0.30%	0.05	0.75	0.99	0.75	OK
Street H	21	ST51	ST50					0.31	0.20	0.36	16.98	58.3	0.06	375	37.1	PVC	0.30%	0.10	0.87	0.71	0.91	OK
Street H	22	ST50	**ST8**					0.14	0.09	0.46	17.70	56.7	0.07	450	7.2	PVC	0.30%	0.16	0.98	0.12	0.96	OK
Street B	23	ST49	**ST38**					0.13	0.08	0.08	15.00	63.3	0.01	300	14.4	PVC	0.30%	0.05	0.75	0.32	0.64	OK

Table 16: Storm Design Sheet (continued)

STORM SEWER DESIGN SHEET

Peak Runoff Estimate by Rational Method

$$Q = \frac{1}{360} C\, i\, A$$

Where:

Q = Peak Flow in cms
C = Runoff Coefficient
i = Rainfall Intensity in mm/hr
A = Area in hectares

Intensity for: Trenton
Station: 6158875

$$i = A * T_c^{\,B}$$

Where:

i = Rainfall Intensity in mm/hr
T_c = Time of Concentration in hours

5-Year Parameters
A = 25.2
B = -0.664

100-Year Parameters
A = 43.4
B = -0.674

Manning's Coef
CSP 0.024
RCP/PVC 0.013

Pipe Capacity by Manning's Equation

Where: $$Q = \frac{1}{n} A\, R^{2/3}\, S^{1/2}$$

A = area of pipe in m^2
R = Hydraulic radius = A / P
P = Wetted perimeter
S = Slope (m/m)
n = Manning's friction coef.

Check
$q \leq Q$
$V \leq 6\ m/s$

LOCATION				PEAK FLOW CALCULATION											PROPOSED SEWER							
Street	Catchment ID	Upstream Structure	Downstream Structure	Catchment Areas Runoff Coefficient 0.25	0.40	0.45	0.55	0.65	RC x A Individual (ha)	RC x A Cummulitive (ha)	Time of Concentration (min)	Intensity (mm/hr)	Peak Flow (m^3/s)	Pipe Size (mm)	Length (m)	Type of Pipe (material)	Grade (m/m) (%)	Capacity, n 0.013 (m^3/s)	Full Flow Velocity (m/s)	Time of Flow (min)	Actual Velocity at Q_d (m/s)	Check Capacity
Street B	24	ST48	ST47					0.19	0.12	0.12	15.00	63.3	0.02	300	86.6	PVC	0.30%	0.05	0.75	1.93	0.71	OK
Street B	25	ST47	**ST38**					0.32	0.21	0.33	16.93	58.4	0.05	375	7.6	PVC	0.30%	0.10	0.87	0.15	0.89	OK
Street G	26	ST46	ST45					0.42	0.27	0.27	15.00	63.3	0.05	375	86.6	PVC	0.30%	0.10	0.87	1.66	0.87	OK
Street G	27	ST45	**ST35**					0.25	0.16	0.44	16.66	59.0	0.07	450	7.6	PVC	0.30%	0.16	0.98	0.13	0.96	OK
Street F	28	ST44	**ST32**					0.14	0.09	0.09	15.00	63.3	0.02	300	14.2	PVC	0.30%	0.05	0.75	0.32	0.66	OK
Street F	29, 30, 31	ST43	ST42		1.22			0.49	0.81	0.81	15.00	63.3	0.14	525	69.2	RCP	0.30%	0.24	1.09	1.06	1.13	OK
Street F	32	ST42	**ST32**					0.20	0.13	0.94	16.06	60.5	0.16	600	7.5	RCP	0.30%	0.34	1.19	0.11	1.17	OK
Street E	33	ST41	ST40					0.10	0.07	0.07	15.00	63.3	0.01	300	28.2	PVC	0.30%	0.05	0.75	0.63	0.60	OK
Street E	34	ST40	ST39					0.48	0.31	0.38	15.63	61.6	0.06	375	69.2	PVC	0.30%	0.10	0.87	1.33	0.93	OK
Street E	35	ST39	**ST29**					0.20	0.13	0.51	16.95	58.3	0.08	450	7.5	RCP	0.30%	0.16	0.98	0.13	0.99	OK
Street C	36	**ST38**	ST37					1.90	1.24	1.65	17.07	58.1	0.27	675	40.1	RCP	0.30%	0.46	1.29	0.52	1.33	OK
Street C	37	ST37	ST36					0.48	0.31	1.96	17.59	56.9	0.31	675	30.0	RCP	0.30%	0.46	1.29	0.39	1.38	OK
Street C	38	ST36	**ST35**					0.24	0.16	2.12	17.98	56.1	0.33	675	14.2	RCP	0.30%	0.46	1.29	0.18	1.40	OK
Street C		**ST35**	ST34						0.00	2.55	18.16	55.7	0.40	750	86.3	RCP	0.30%	0.61	1.38	1.04	1.46	OK
Street C	39	ST34	ST33					1.10	0.72	3.27	19.21	53.7	0.49	825	30.8	RCP	0.30%	0.79	1.47	0.35	1.54	OK
Street C	40	ST33	**ST32**					0.46	0.30	3.57	19.56	53.1	0.53	825	14.1	RCP	0.30%	0.79	1.47	0.16	1.57	OK
Street C		**ST32**	ST31						0.00	4.60	19.71	52.8	0.67	900	38.6	RCP	0.30%	0.99	1.56	0.41	1.67	OK
Street C	41	ST31	ST30					0.38	0.25	4.84	20.13	52.0	0.70	900	30.2	RCP	0.30%	0.99	1.56	0.32	1.69	OK
Street C	42	ST30	**ST29**					0.23	0.15	4.99	20.45	51.5	0.71	900	13.9	RCP	0.30%	0.99	1.56	0.15	1.70	OK
Street C		**ST29**	ST28						0.00	5.50	20.60	51.3	0.78	975	42.9	RCP	0.30%	1.23	1.64	0.43	1.74	OK
Street C	43	ST28	ST27					0.87	0.57	6.07	21.03	50.5	0.85	975	7.7	RCP	0.30%	1.23	1.64	0.08	1.77	OK
Street C		ST27	ST26						0.00	6.07	21.11	50.4	0.85	975	30.7	RCP	0.30%	1.23	1.64	0.31	1.77	OK
Street C		ST26	ST25						0.00	6.07	21.42	49.9	0.84	975	30.7	RCP	0.30%	1.23	1.64	0.31	1.77	OK
Street C	44	ST25	**ST11**					0.26	0.17	6.23	21.73	49.5	0.86	975	6.4	RCP	0.30%	1.23	1.64	0.06	1.77	OK
Street C	45	ST24	**ST11**					0.15	0.10	0.10	15.00	63.3	0.02	300	14.5	PVC	0.30%	0.05	0.75	0.32	0.67	OK
Street A	47	ST80	ST23					0.63	0.41	0.41	15.00	63.3	0.07	525	33.4	RCP	0.30%	0.24	1.09	0.51	0.96	OK
Street A		ST23	**ST6**						0.00	0.41	15.51	61.9	0.07	525	13.9	RCP	0.30%	0.24	1.09	0.21	0.95	OK
Street B	48	ST22	ST21					0.77	0.50	0.50	15.00	63.3	0.09	450	63.0	RCP	0.30%	0.16	0.98	1.07	1.01	OK
Street B	49, 50	ST21	ST20					0.50	0.33	0.83	16.07	60.4	0.14	525	67.9	RCP	0.30%	0.24	1.09	1.04	1.13	OK

Table 16: Storm Design Sheet (continued)

STORM SEWER DESIGN SHEET

Peak Runoff Estimate by Rational Method

$$Q = \frac{1}{360}\, C\, i\, A$$

Where:

Q = Peak Flow in cms
C = Runoff Coefficient
i = Rainfall Intensity in mm/hr
A = Area in hectares

Intensity for: Trenton
Station: 6158875

$$i = A * T_c^{\,B}$$

Where:

i = Rainfall Intensity in mm/hr
T_c = Time of Concentration in hours

5-Year Parameters
A = 25.2
B = -0.664

100-Year Parameters
A = 43.4
B = -0.674

Manning's Coef
CSP 0.024
RCP/PVC 0.013

Pipe Capacity by Manning's Equation

Where: $$Q = \frac{1}{n}\, A\, R^{2/3}\, S^{1/2}$$

A = area of pipe in m^2
R = Hydraulic radius = A / P
P = Wetted perimeter
S = Slope (m/m)
n = Manning's friction coef.

Check
$q \leq Q$
$V \leq 6\ m/s$

LOCATION				PEAK FLOW CALCULATION											PROPOSED SEWER							
Street	Catchment ID	Upstream Structure	Downstream Structure	Catchment Areas / Runoff Coefficient 0.25	0.40	0.45	0.55	0.65	RC x A Individual (ha)	RC x A Cummulitive (ha)	Time of Concentration (min)	Intensity (mm/hr)	Peak Flow (m^3/s)	Pipe Size (mm)	Length (m)	Type of Pipe (material)	Grade (m/m) (%)	Capacity, n 0.013 (m^3/s)	Full Flow Velocity (m/s)	Time of Flow (min)	Actual Velocity at Q_d (m/s)	Check Capacity
Street B		ST20	ST19						0.00	0.83	17.11	58.0	0.13	525	62.0	RCP	0.30%	0.24	1.09	0.95	1.12	OK
Street B	51	ST19	ST18					0.47	0.31	1.13	18.06	55.9	0.18	600	14.5	RCP	0.30%	0.34	1.19	0.20	1.20	OK
Street B		ST18	ST17						0.00	1.13	18.26	55.5	0.17	600	77.6	RCP	0.30%	0.34	1.19	1.09	1.20	OK
Street B	52	ST17	ST16					0.68	0.44	1.57	19.35	53.4	0.23	600	42.5	RCP	0.30%	0.34	1.19	0.60	1.28	OK
Street B		ST16	ST15						0.00	1.57	19.95	52.4	0.23	600	11.2	RCP	0.30%	0.34	1.19	0.16	1.28	OK
Street B		ST15	ST14						0.00	1.57	20.10	52.1	0.23	600	11.0	RCP	0.30%	0.34	1.19	0.15	1.27	OK
Street B	53	ST14	ST13					0.24	0.16	1.73	20.26	51.8	0.25	675	23.7	RCP	0.30%	0.46	1.29	0.31	1.31	OK
Street B	54, 55	ST13	ST12					0.93	0.60	2.33	20.56	51.3	0.33	750	34.8	RCP	0.30%	0.61	1.38	0.42	1.41	OK
Street B	56	ST12	**ST11**					0.15	0.10	2.43	20.98	50.6	0.34	750	13.9	RCP	0.30%	0.61	1.38	0.17	1.41	OK
Street B		**ST11**	ST10						0.00	8.76	21.80	49.4	1.20	1200	38.2	RCP	0.30%	2.14	1.89	0.34	1.94	OK
Street B	57	ST10	ST9					1.00	0.65	9.41	22.14	48.9	1.28	1200	31.9	RCP	0.30%	2.14	1.89	0.28	1.96	OK
Street B	58	ST9	**ST8**					0.21	0.14	9.55	22.42	48.4	1.29	1200	13.3	RCP	0.30%	2.14	1.89	0.12	1.97	OK
Street B		**ST8**	ST7						0.00	10.00	22.54	48.3	1.34	1200	74.5	RCP	0.30%	2.14	1.89	0.66	1.99	OK
Street B	59	ST7	**ST6**					0.27	0.18	10.18	23.19	47.4	1.34	1200	13.4	RCP	0.30%	2.14	1.89	0.12	1.98	OK
Street A		**ST6**	ST5						0.00	10.59	23.31	47.2	1.39	1200	73.4	RCP	0.30%	2.14	1.89	0.65	2.00	OK
Street A	60	ST5	ST4					1.26	0.82	11.41	23.96	46.4	1.47	1200	13.7	RCP	0.30%	2.14	1.89	0.12	2.03	OK
Street A		ST4	ST3						0.00	11.41	24.08	46.2	1.47	1200	16.3	RCP	0.30%	2.14	1.89	0.14	2.03	OK
Street A		ST3	ST2						0.00	11.41	24.22	46.0	1.46	1200	16.3	RCP	0.30%	2.14	1.89	0.14	2.03	OK
Street A	61	ST2	**ST1**					0.79	0.51	11.92	24.37	45.8	1.52	1200	42.1	RCP	0.30%	2.14	1.89	0.37	2.05	OK
Street A	62	**ST1**	Pond Inlet					0.17	0.11	20.46	24.74	45.4	2.58	1200	32.9	RCP	2.50%	6.16	5.45	0.10	5.18	OK
SWM Facility	Pond	ST79	Outlet										1.10	900	15.3	RCP	0.50%	1.28	2.01	0.13	2.27	OK

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Designed:	Julie Humphrie, C.E.T.
Checked:	Amanda Redden, P.Eng.
Date:	February 11, 2025
Project:	Upper Mill Pond Subdivision
	Norwood, Ontario

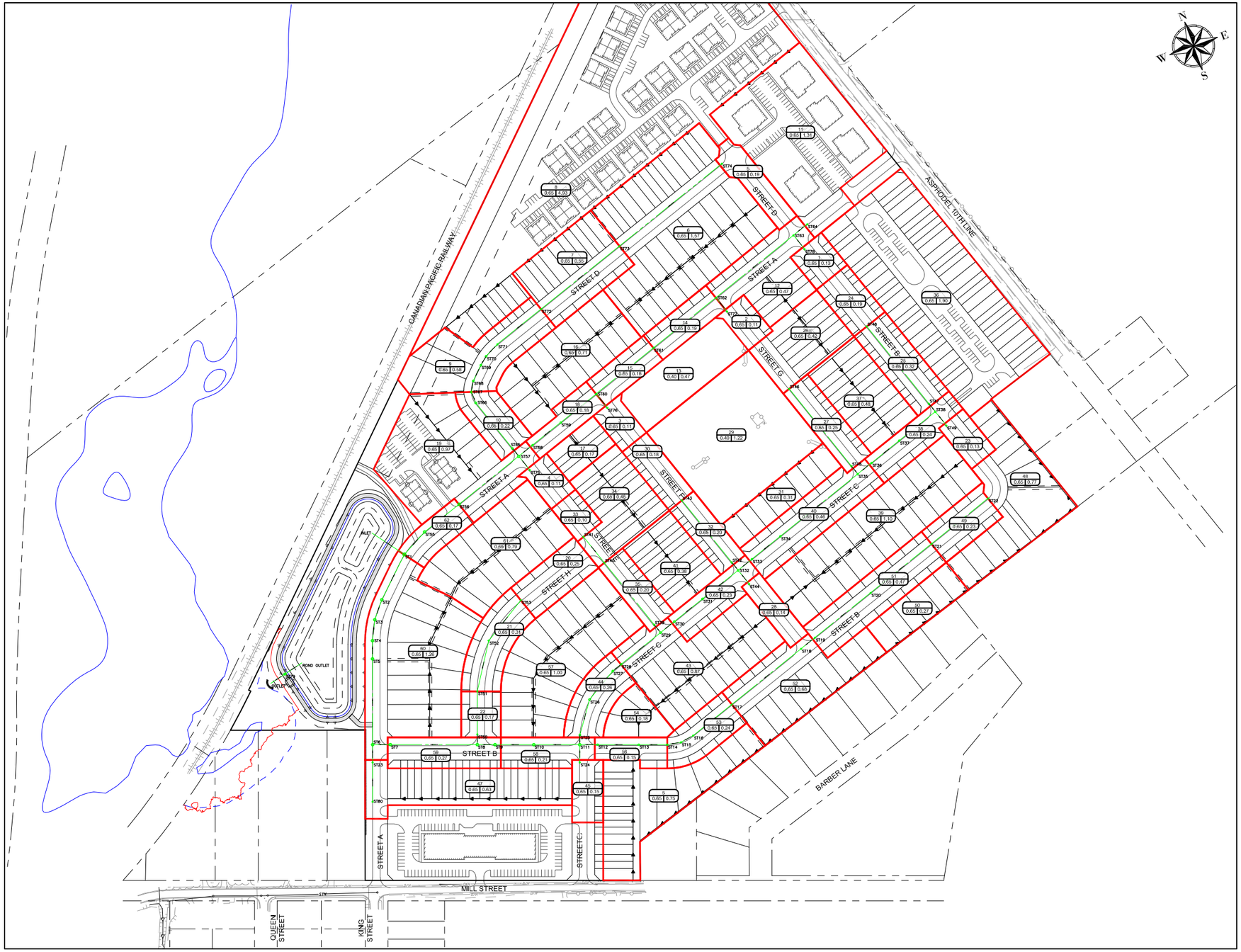


Figure 6: Storm Catchment Plan

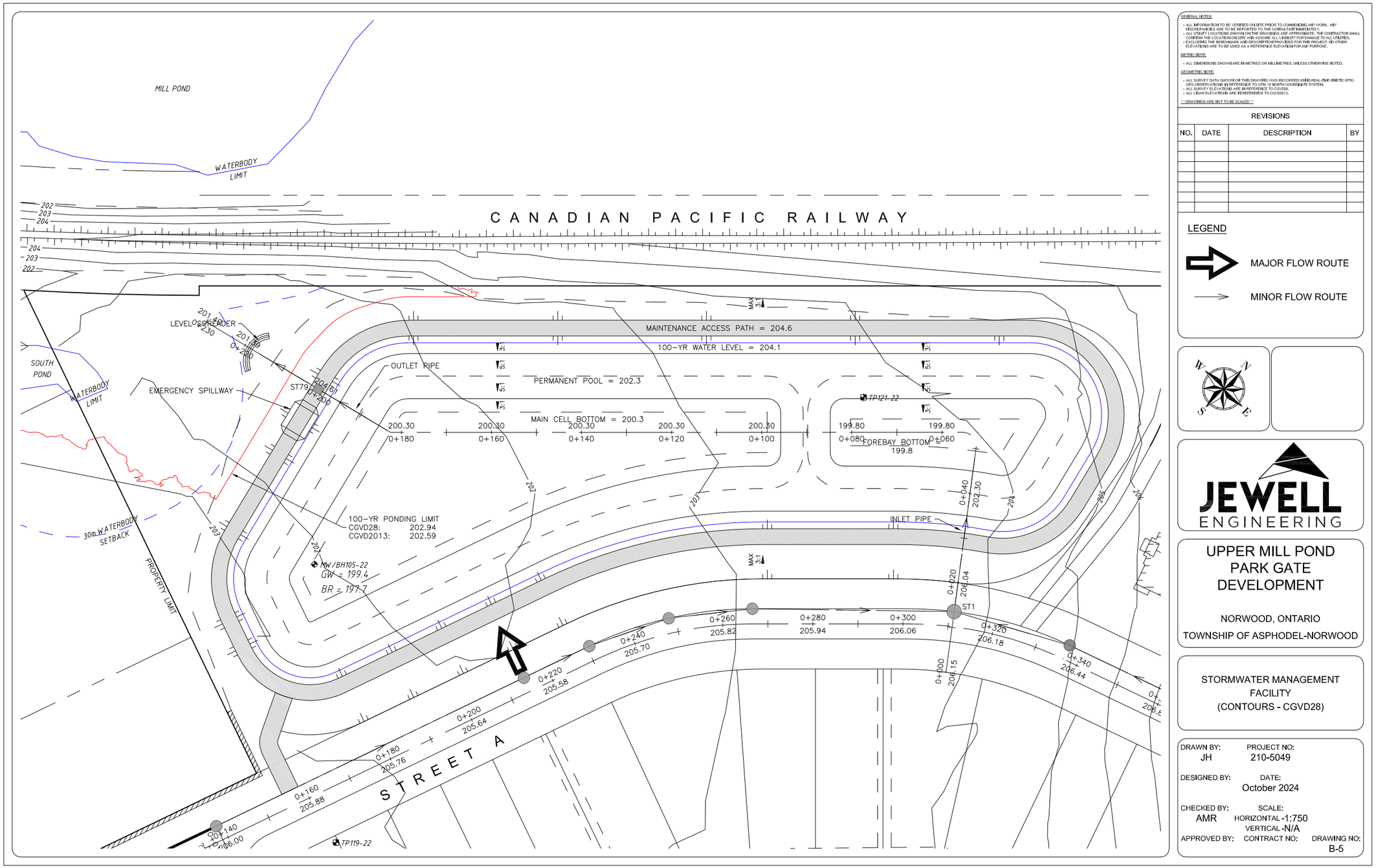


Figure 7: Stormwater Management Facility

5. Utilities

Hydro, communication, and gas services for the proposed development will be installed within a joint utility trench. All hydro, communication, and gas services will be designed by their respective agencies and installed in accordance with their specifications during detailed engineering design. The developer has made initial contact with the utility companies in order to ensure availability of service to the development.

The street lighting design and street light illumination plans will be completed in accordance with the municipal design standards and guidelines at the time of detailed design.

6. Conclusions

Jewell studied the proposed Upper Mill Pond development and has made the following conclusions:

1) Water Servicing
    a. The Upper Mill Pond Subdivision will be serviced via municipal water via connection to Mill Street.
    b. There is sufficient pressure (peak hour is within 40 – 100 psi), flow, and fire protection (2,000 L/min minimum) to provide service to the subdivision with a 200 mm watermain connected to the existing system at Mill St.
    c. There is sufficient capacity in the new standpipe to service Phase 1 (and additional future development).
    d. There is sufficient capacity in the existing drinking water system to service Upper Mill Pond Phase 1. However, sufficient capacity is not available to service both Trent Meadows Phase 1 (adjacent development at 67 Mill St) and Upper Mill Pond Phase 1:
        i. until the drinking water system capacity is increased – which is currently in progress by the Township; OR
        ii. 19 single family units are removed from the Phase 1 plans: OR
        iii. a reduced population factor of 3 ppl/single unit is utilized.
    e. Upon completion of the treatment system upgrades (increasing the rated capacity to 3,900 m^3/day), there will be sufficient capacity to support Full Build Out of the Upper Mill Pond Development and Trent Meadows Phase 1.

2) Sanitary Servicing
    a. The Upper Mill Pond Subdivision will be serviced via municipal sanitary sewer:
        i. The gravity main along Cedar Street and Legion Street will need to be upgraded to a 375 mm sewer to service to service the Upper Mill Pond and HBNG Developments. These upgrades are to be completed by the Township;
        ii. A 375 mm gravity main is required along Mill Street to King Street/Street A to service the Upper Mill Pond & HBNG developments. At the Mill Street/King Street intersection, the sanitary sewer will need to be approximately 4.0 m deep in order facilitate gravity service of the Upper Mill Pond Development. Increased depth may be required to service the HBNG Development – subject to their review and confirmation.
        iii. On Mill Street, from King Street to the east, a 300 mm gravity main is required to service the HBNG development;
        iv. The Upper Mill Pond development will be serviced with gravity mains ranging in size from 200 mm to 300 mm with a minimum slope of 0.4%, connecting at the King Street/Mill Street intersection.
    b. The Lion's Park pump station is currently at capacity and will require upgrades to support the proposed development.

c. There is sufficient capacity in the WWTP to support Upper Mill Pond Phase 1 and Trent Meadows Phase 1. Upgrades to the WWTP will be required to support the full build out of Upper Mill Pond Subdivision.

3) Storm Sewers
   a. Storm sewers are proposed to convey the minor flows underground to the stormwater management facility. Storm sewer pipes range in diameter from 300 mm to 1200 mm.
   b. Major flows are to be routed overland through streets and easements toward the stormwater management facility.
   c. One wet pond facility is proposed to provide water quantity and water quality treatment prior to discharging outflows into Mill Pond.
4) Utilities
   a. Hydro, communication, and gas services are available for the proposed development and will be installed within a joint utility trench.

In conclusion, the development is serviceable in accordance with the above conclusions.

Submitted by:

Julie Humphries, C.E.T.
Jewell Engineering Inc.

Amanda Redden, P.Eng.
Jewell Engineering Inc.

7. References

The information used to prepare this report is based on the following documents and information provided as noted below:

- Ontario Ministry of Environment
    - Design Guidelines for Sewage Works, 2007
    - Design Guidelines for Drinking-Water Systems, 2007
- Ontario Building Code
- Engage Engineering
    - Norwood Infrastructure Assessment, 2021
- Watson & Associates Economists Ltd.
    - Township of Asphodel-Norwood, Water and Wastewater Connection Charges Council Presentation, Nov. 8, 2023
    - Township of Asphodel-Norwood, Development Charges Background Study, Oct. 13, 2023

APPENDIX A:
DEVELOPMENT SITE PLAN

DEVELOPMENT SITE PLAN

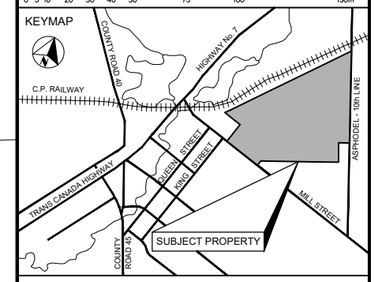
UPPER MILL POND

PART OF BLOCK H, REGISTERED PLAN 6
FORMERLY VILLAGE OF NORWOOD
AND PART OF LOTS 17, 18 AND 19
CONCESSION 9
GEOGRAPHIC TOWNSHIP OF ASPHODEL
TOWNSHIP OF ASPHODEL-NORWOOD
COUNTY OF PETERBOROUGH

SCALE = N.T.S.

0 5 10 20 30 40 50 75 100 150m

KEYMAP



LAND USE SUMMARY

LAND USE	AREA(ha)	AREA%	UNITS	UNITS
12.2m - SINGLE DETACHED LOTS	3.41	9.6	76	
13.7m - SINGLE DETACHED LOTS	3.50	9.9	57	
15.0m - SINGLE DETACHED LOTS	3.79	10.7	66	
6.1m - 2 STOREY TOWNHOUSES (INCLUDING LANES)	3.44	9.7	134	
7.4m - BUNGALOW TOWNHOUSES	2.07	5.8	70	
LOW DENSITY TOTAL - 16.21ha				403
3 STOREY APARTMENT BUILDING WITH COMMERCIAL AT GRADE (SOUTH WEST SIDE) 1842sq.m GFA	1.08	3.0	40	
2 - 12 UNIT, 3 STOREY, STACKED TOWNHOUSE BUILDINGS	0.66	1.9	24	
MEDIUM DENSITY CONDOMINIUM BLOCK 29 - 4 PLEX BUNGALOW UNITS	4.74	13.3	116	
5 - 12 UNIT, 3 STOREY, BUILDINGS	1.21	3.4	60	
MEDIUM DENSITY TOTAL - 7.69ha				240
LANEWAY COMMON ELEMENT FOR TOWNHOUSES	0.82	2.3		
PRIVATE LANE	0.03	0.1		
PARKLAND, WALKWAYS & SERVICE EASEMENTS	1.84	5.2		
STORM WATER POND	1.75	4.9		
20.0m MUNICIPAL ROAD ALLOWANCE = 3607.0m (STREETS A, B, C, D, E, F, G & H)	7.16	20.2		
TOTAL	35.50ha	100.0%		643

LOW DENSITY RESIDENTIAL
403 UNITS/16.21ha. = 24 UNITS/ha (NET)

MEDIUM DENSITY RESIDENTIAL
240 UNITS/7.69ha. = 31 UNITS/ha (NET)

OVERALL NET DENSITY
643 UNITS/23.90ha. = 27 UNITS/ha (NET)

No.	REVISION	DATE	APP'D

DRAWN BY: L.B. | CHECKED BY: R.F.A. | DATE: DEC. 22, 2023 | SCALE: N.T.S.

METRIC NOTE:
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO IMPERIAL BY DIVIDING BY 0.3048.

CONTOURS NOTE:
CONTOURS PROVIDED BY CANADIAN LIDAR DATA AND DRAWING AT 5.0m INTERVALS.

DECEMBER 22, 2023

JOB No. 852-DSP

RFA PLANNING CONSULTANT INC
211 Dundas Street East, Suite 202,
Belleville, Ontario, K8N 1E2

APPENDIX B:
PHASING PLAN

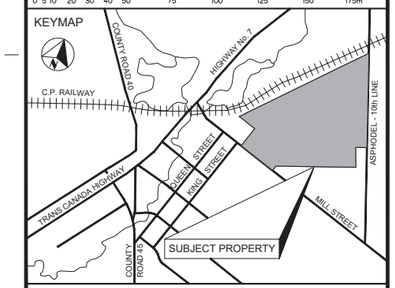
PRELIMINARY PHASING PLAN
UPPER MILL POND

PART OF BLOCK H, REGISTERED PLAN 6
FORMERLY VILLAGE OF NORWOOD
AND PART OF LOTS 17, 18 AND 19
CONCESSION 9

GEOGRAPHIC TOWNSHIP OF ASPHODEL
TOWNSHIP OF ASPHODEL-NORWOOD
COUNTY OF PETERBOROUGH

SCALE = 1:1500

0 5 10 20 30 40 50 75 100 125 150 175m



LAND USE SUMMARY

BUILDING PHASES	1	2	3	4	5	6	7	8	TOTAL
12.2m SINGLE DETACHED LOT	23		16	20	12				71
13.7m SINGLE DETACHED LOT	15		12	5	20				52
15.0m SINGLE DETACHED LOT	22		38	13					73
6.1m - 2 STOREY TOWNHOUSES	59		23			52			134
7.4m - BUNGALOW TOWNHOUSES				40	30				70
3 STOREY STACKED TOWNHOUSES		24							24
12 UNIT, 3 STOREY APARTMENT BUILDINGS								60	60
3 STOREY MIXED USE COMMERCIAL/RESIDENTIAL		40							40
4 PLEX BUNGALOW UNITS							116		116
PHASE SUB TOTAL	119	64	89	78	62	52	116	60	
								SITE TOTAL	640

NOTES:

1. PHASES 2, 6, 7 & 8 ARE SUBJECT TO SITE PLAN APPROVAL AND OR CONDOMINIUM REGISTRATION.
2. NO BUILDINGS WILL EXCEED 3 STOREYS IN HEIGHT.
3. PHASING IS PRELIMINARY AND BASED ON MARKET CONDITIONS.

No.	REVISION	DATE	APPR'D

DRAWN BY: L.B. | CHECKED BY: R.F.A. | DATE: NOVEMBER 6, 2023 | SCALE: 1:1500

METRIC NOTE:
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO IMPERIAL BY DIVIDING BY 0.3048.

CONTOURS NOTE:
CONTOURS PROVIDED BY CANADIAN LiDAR DATA AND DRAWING AT X.Xm INTERVALS.

NOVEMBER 6, 2023

JOB No. 852

RFA PLANNING CONSULTANT INC
211 Dundas Street East, Suite 202,
Belleville, Ontario, K8N 1E2

APPENDIX C:
PRELIMINARY GRADING PLAN

11/09/2023

GR-3

GR-2

PRELIMINARY

STREET A

STREET H

STREET B

STREET C

STREET E

LANE

MILL STREET

PROPOSED RETAINING WALL

GENERAL NOTES:

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METRIC NOTE:

- ALL DIMENSIONS SHOWN ARE IN METRES OR MILLIMETRES, UNLESS OTHERWISE NOTED.

GEOMETRIC NOTE:

- ALL SURVEY DATA SHOWN ON THIS DRAWING WAS RECORDED USING REAL-TIME KINETIC (RTK) GPS OBSERVATIONS IN REFERENCE TO UTM 18 NORTH COORDINATE SYSTEM.
- ALL ELEVATIONS ARE IN REFERENCE TO LOCAL DATUM NAD83 - GEODETIC MODEL HT2_0, UNLESS DESCRIBED OTHERWISE.

** DRAWINGS ARE NOT TO BE SCALED **

REVISIONS

NO.	DATE	DESCRIPTION	BY

KEY PLAN
SCALE - N.T.S.

LEGEND

SYMBOL	DESCRIPTION
	ROAD GRADING - HIGH POINT
	ROAD GRADING - LOW POINT
	ROAD GRADING - GRADE CHANGE
	LOT DRAINAGE
	OVERLAND FLOW ROUTE
	REAR YARD SWALE

JEWELL ENGINEERING

MILL STREET SUBDIVISION
PARK GATE DEVELOPMENT

NORWOOD, ONTARIO
TOWNSHIP OF ASPHODEL-NORWOOD

PRELIMINARY
GRADING PLAN
1 of 4

DRAWN BY: JH	PROJECT NO: 210-5049		
DESIGNED BY:	DATE: November 2023		
CHECKED BY: AMR	SCALE: HORIZONTAL - 1:600 VERTICAL - N/A		
APPROVED BY:	CONTRACT NO:	DRAWING NO: GR-1	

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11/09/2023

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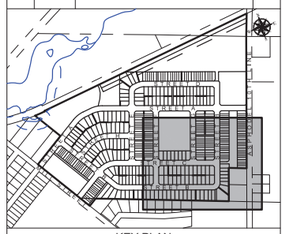
NO.	DATE	DESCRIPTION	BY



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N W E S

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PARK GATE DEVELOPMENT

NORWOOD, ONTARIO
TOWNSHIP OF ASPHODEL-NORWOOD

PRELIMINARY
GRADING PLAN
2 of 4

DRAWN BY: JH	PROJECT NO: 210-5049		
DESIGNED BY:	DATE: November 2023		
CHECKED BY: AMR	SCALE: HORIZONTAL - 1:600 VERTICAL - N/A		
APPROVED BY:	CONTRACT NO:	DRAWING NO: GR-2	

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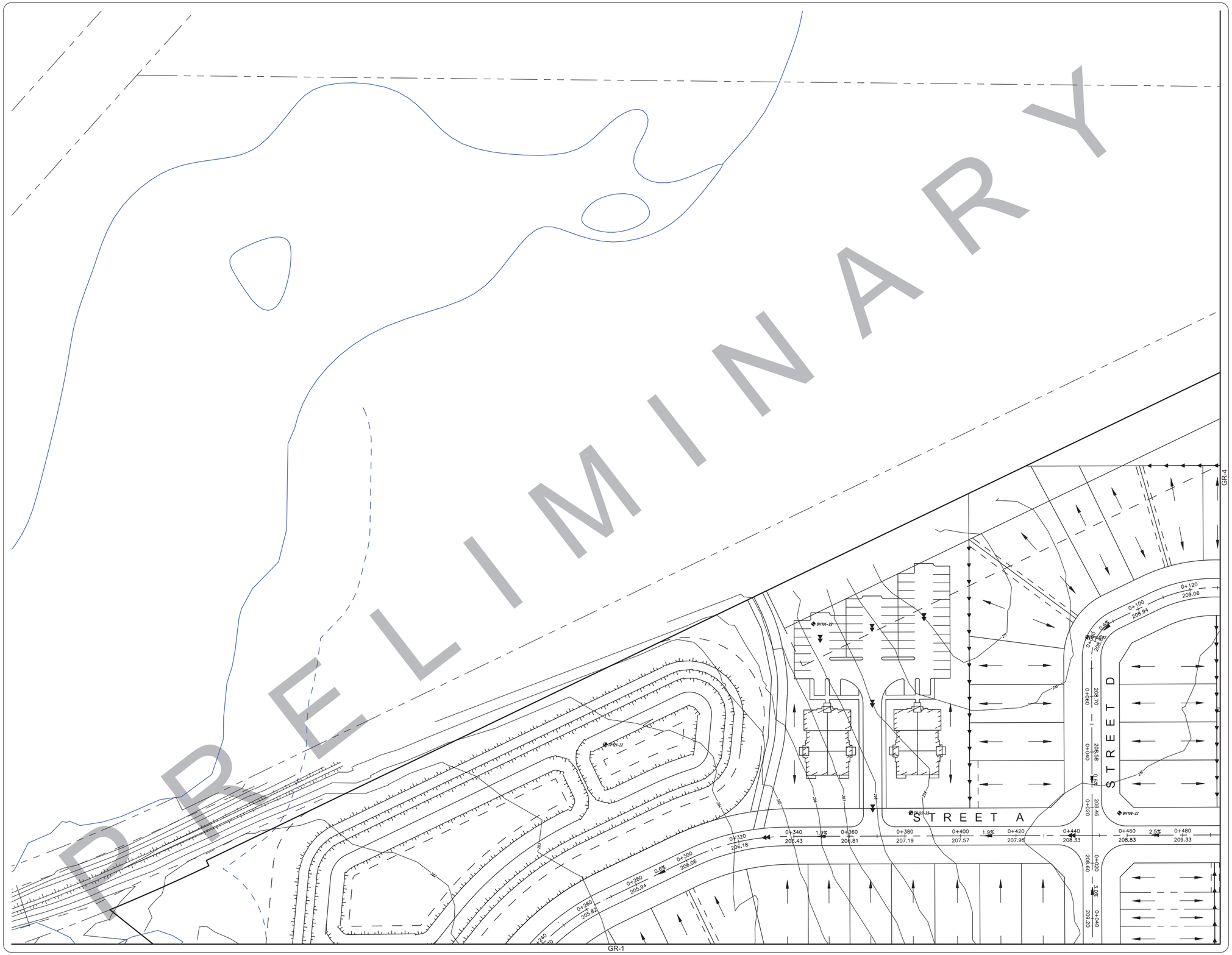
11/09/2023



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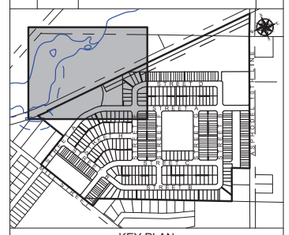

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SCALE - N.T.S.

LEGEND

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JEWELL ENGINEERING

MILL STREET SUBDIVISION
PARK GATE DEVELOPMENT

NORWOOD, ONTARIO
TOWNSHIP OF ASPHODEL-NORWOOD

PRELIMINARY
GRADING PLAN
3 of 4

DRAWN BY: JH	PROJECT NO: 210-5049
DESIGNED BY:	DATE: November 2023
CHECKED BY: AMR	SCALE: HORIZONTAL - 1:600, VERTICAL - N/A
APPROVED BY:	CONTRACT NO:
	DRAWING NO: GR-3

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11/09/2023

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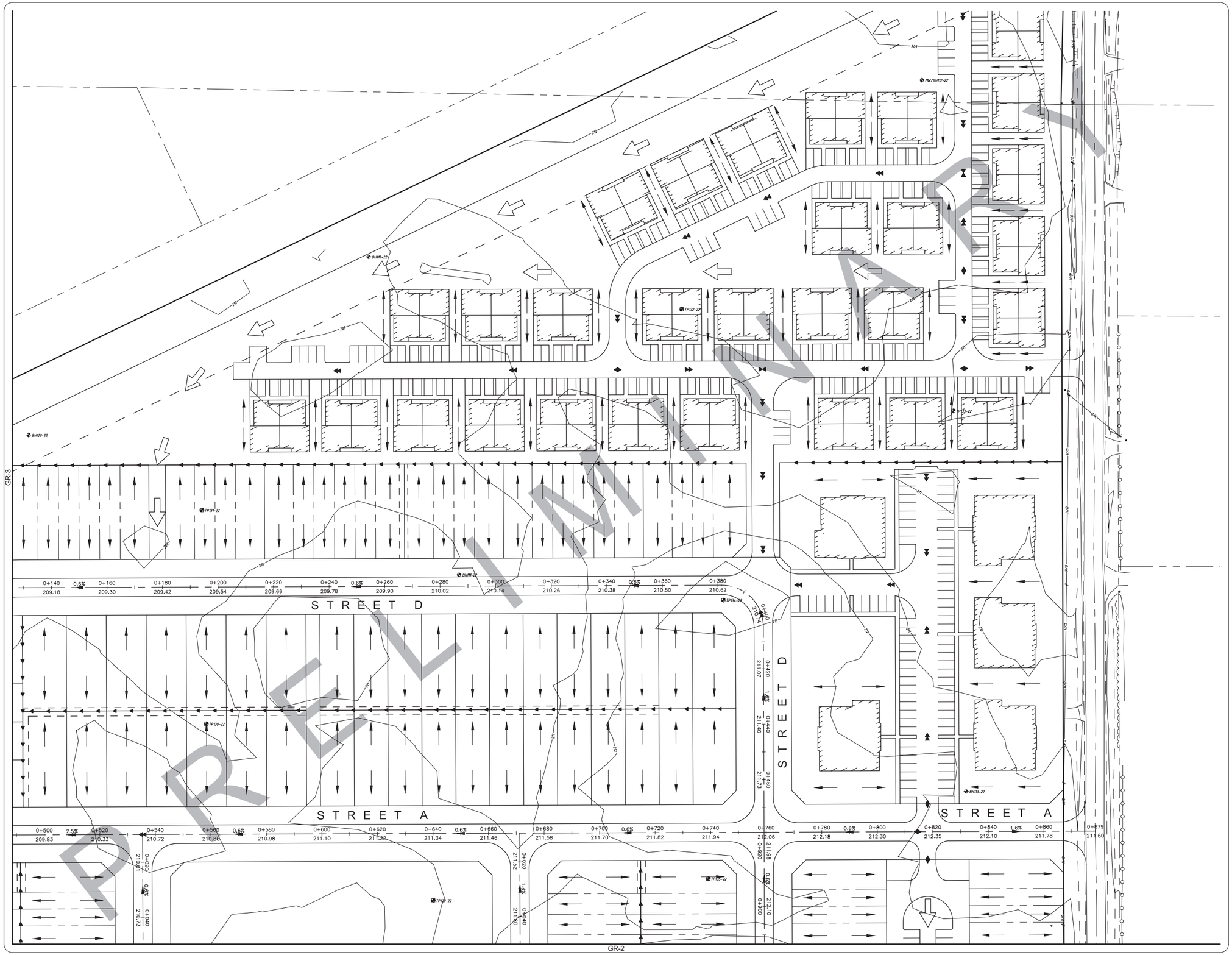

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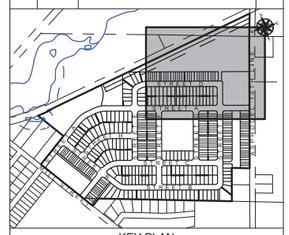

KEY PLAN
SCALE - N.T.S.

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N W E S

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MILL STREET SUBDIVISION
PARK GATE DEVELOPMENT

NORWOOD, ONTARIO
TOWNSHIP OF ASPHODEL-NORWOOD

PRELIMINARY
GRADING PLAN
4 of 4

DRAWN BY: JH	PROJECT NO: 210-5049
DESIGNED BY:	DATE: November 2023
CHECKED BY: AMR	SCALE: HORIZONTAL - 1:600 VERTICAL - N/A
APPROVED BY:	CONTRACT NO:
	DRAWING NO: GR-4

APPENDIX D:
COMMUNICATIONS

From: Adam Terry <aterry@antownship.ca>
Sent: February-18-25 9:08 AM
To: Amanda Redden <reddena@jewelleng.ca>; Allan Hewitt <ahewitt@antownship.ca>
Cc: Nick Sestito <nsestito@hbng.ca>; apug@cogeco.ca; Jeff Waldon <jwaldon@antownship.ca>; Ed Whitmore <ewhitmore@antownship.ca>; Jordan Webb <jwebb@antownship.ca>
Subject: RE: [External] - RE: Mill Street Boreholes

Hi Amanda,

Please find the Townships response to the questions in red.

Some of the peer review comments require input/confirmation from the Township so I'm hoping you are able to help me with the following:

1) Can you provide an update on any water system upgrades recently completed by the Town?

   New standpipe was put into service in June 2024. Standpipe has an operational capacity of 3200m^3.

2) Can you provide an update on the future planned upgrade to the municipal well capacity? Our report has notes that "Based on the additional servicing capacity targeted of 3,750 people, it is expected that there will be sufficient capacity within the municipal system to accommodate the Upper Mill Pond development upon completion of the treatment system upgrades". The peer reviewer is looking for further details/confirmation.

   The Township has begun the process to increase our well capacity and increase the Permit to Take Water to approximately 3900m^3/day. One new well was drilled in 2024 and another well is planned to be drilled in 2026 with the increase to the PTTW to follow.

3) As discussed previously, we have utilized design flows of 450L/d*cap for existing development. For future development, usage has been reduced to 350L/d*cap to reflect the reduced water usage as a result of efficient appliances, water metering, new construction, etc. To satisfy the peer reviewers, please confirm this is in accordance with our previous discussions.

   Confirmed that 350L/day is acceptable to use as water usage.

4) Can you provide an update on the forcemain/pump station upgrades? As of November 2023 it was understood that upgrades were underway. Have they now been completed? If so, what is the new pump station/forcemain capacity?

   The forcemain/pumping station upgrades have not been completed yet. Unfortunately, the Township was not successful in its grant application for funding this project. The Township is currently not in a position to fund a project of this magnitude.

Best regards.

Adam Terry
Acting Water and Wastewater Operations Manager
Township of Asphodel Norwood
2357 County Road 45, P.O. Box 29
Norwood, ON K0L 2V0
P: 705-639-5343 F: 705-639-1880
www.antownship.ca

Asphodel Norwood A Growing Success

Amanda Redden

From: apug@cogeco.ca
Sent: February-19-24 9:47 AM
To: 'Robert Rigatti'
Cc: Amanda Redden
Subject: RE: Hydro One Applications - Norwood Developments
Attachments: Upper Mill Pond - Phasing Plan - Dec 22-23.pdf; MILL POND.pdf

Hi Robert

As discussed, the maximum we would service in Phase 1 is the 119 units as per the attached plan. However, depending on market conditions we may reduce the phase by approx. 26 units by removing a portion of Streets C and E. Not sure if that will make a difference for these initial discussions, I wouldn't think so, but I thought I would bring it to your attention.

Thanks

Angelo Puglisi, P.Eng.
(cell) 289-925-6096

From: Robert Rigatti <RRigatti@primaryeng.com>
Sent: February 8, 2024 9:39 AM
To: BABIC Randylin <Randylin.Babic@hydroone.com>; MACLEOD Sarah <Sarah.MacLeod@HydroOne.com>
Cc: James Stevenson <jstevenson@hbng.ca>; apug@cogeco.ca; MACNAMARA Corey <Corey.MacNamara@HydroOne.com>; Subdivision Project Management <subdivision_pm@hydroone.com>
Subject: RE: Hydro One Applications - Norwood Developments

Good morning Randylin.

Correct, Phase 1 for each and loading outlined below in RED. Cheers.

Robert Rigatti, CET
Director, ON Operations
416-315-2447
primaryeng.com

From: BABIC Randylin <Randylin.Babic@hydroone.com>
Sent: Thursday, February 8, 2024 9:32 AM
To: Robert Rigatti <RRigatti@primaryeng.com>; MACLEOD Sarah <Sarah.MacLeod@HydroOne.com>
Cc: James Stevenson <jstevenson@hbng.ca>; apug@cogeco.ca; MACNAMARA Corey <Corey.MacNamara@HydroOne.com>; Subdivision Project Management <subdivision_pm@hydroone.com>
Subject: RE: Hydro One Applications - Norwood Developments

Morning Robert and company,

I am processing the NCCI forms and setting up the projects mentioned.
For Upper Mill Pond

1

Here is the data from flow testing. I also want to mention that figure 6 in the FSR states there is currently a 150mm PVC main on Mill St which is incorrect. It is currently a 100mm AC main from King St intersection to the end of Mill St. Hence the lower flow and pressure at the end of Mill St.

Hydrant Corner King & Mill:

- Static-60 psi
- Flow-39 psi
- Flow rate- 60 l/s approx.

Hydrant 106 Mill:

- Static- 55 psi
- Flow- 19 psi
- Flow rate- 40 l/s appox.

Adam Terry
Acting Water and Wastewater Operations Manager
Township of Asphodel Norwood
2357 County Road 45, P.O. Box 29
Norwood, ON K0L 2V0
P: 705-639-5343 F: 705-639-1880
www.antownship.ca

Asphodel Norwood A Growing Success

Enbridge Gas Inc.
500 Consumers Road
North York, Ontario M2J 1P8
Canada

February 26, 2024

Malini Menon
Planner
County of Peterborough
Planning Division
470 Water Street
Peterborough, ON K9H 3M3

Dear Malini,

Re: Draft Plan of Subdivision, Official Plan Amendment
CAP Norwood Developments Inc.
42 & 52 Mill Street
County of Peterborough
File No.: 15T-24001, 15OP-24001

Enbridge Gas does not object to the proposed application(s) however, we reserve the right to amend or remove development conditions. This response does not signify an approval for the site/development.

Please always call before you dig, see web link for additional details:
https://www.enbridgegas.com/safety/digging-safety-for-contractors

This response does not constitute a pipe locate, clearance for construction or availability of gas.

The applicant shall use the Enbridge Gas Get Connected tool to determine gas availability, service and meter installation details and to ensure all gas piping is installed prior to the commencement of site landscaping and/or asphalt paving.
(https://enbridge.outsystemsenterprise.com/GetConnected_Th/Login2?OriginalURL=https%3A%2F%2Fenbridge.outsystemsenterprise.com%2FGetConnectedApp_UI%2F)

If the gas main(s) needs to be relocated as a result of changes in the alignment or grade of the future road allowances or for temporary gas pipe installations pertaining to phased construction, all costs are the responsibility of the applicant.

In the event that easement(s) are required to service this development, and any future adjacent developments, the applicant will provide the easement(s) to Enbridge Gas at no cost.

Sincerely,

Jasleen Kaur
Municipal Planning Coordinator
Engineering

ENBRIDGE
TEL: 437-929-8083
500 Consumers Rd, North York, ON M2J1P8
enbridge.com
Safety. Integrity. Respect. Inclusion.

From: PrimeCities
To: Menon, Malini
Subject: OPA (15OP-24001) & Draft Plan of Subdivision (15T-24001), 42 & 52 Mill St., Asphodel-Norwood
Date: Thursday, February 22, 2024 12:32:34 PM

2/22/2024
Malini Menon

Asphodel-Norwood
Peterborough County 470 Water Street Peterborough, Ontario, K9H 3M3

Attention: Malini Menon

Re: OPA (15OP-24001) & Draft Plan of Subdivision (15T-24001), 42 & 52 Mill St., Asphodel-Norwood;
Your File No. 15OP-24001,15T-24001
Our File No. DTS: 38579 / Circ: 40659

Dear Sir/Madam,

We have reviewed the circulation regarding the above noted application. The following paragraphs are to be included as a condition of approval:

Bell Canada Condition(s) of Approval
1) The Owner acknowledges and agrees to convey any easement(s) as deemed necessary by Bell Canada to service this new development. The Owner further agrees and acknowledges to convey such easements at no cost to Bell Canada.

2) The Owner agrees that should any conflict arise with existing Bell Canada facilities where a current and valid easement exists within the subject area, the Owner shall be responsible for the relocation of any such facilities or easements at their own cost.

Upon receipt of this comment letter, the Owner is to provide Bell Canada with servicing plans/CUP at their earliest convenience to planninganddevelopment@bell.ca to confirm the provision of communication/telecommunication infrastructure needed to service the development.

It shall be noted that it is the responsibility of the Owner to provide entrance/service duct(s) from Bell Canada's existing network infrastructure to service this development. In the event that no such network infrastructure exists, in accordance with the Bell Canada Act, the Owner may be required to pay for the extension of such network infrastructure.

If the Owner elects not to pay for the above noted connection, Bell Canada may decide not to provide service to this development.

Concluding Remarks:

To ensure that we are able to continue to actively participate in the planning process and provide detailed provisioning comments, we note that we would be pleased to receive circulations on all applications received by the Municipality and/or recirculations.

If you believe that these comments have been sent to you in error or have questions regarding Bell's protocols for responding to municipal circulations and enquiries, please contact planninganddevelopment@bell.ca directly.

We note that WSP operates Bell Canada's development tracking system, which includes the intake and processing of municipal circulations. **However, all responses to circulations and requests for information, such as requests for clearance, will come directly from Bell Canada, and not from WSP.** WSP is not responsible for Bell's responses and for any of the content herein.

Should you have any questions, please contact the undersigned.

Yours Truly,

Juan Corvalan
Senior Manager - Municipal Liaison
Email: planninganddevelopment@bell.ca.