Stayner Water and Wastewater Servicing Study

Township of Clearview

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Township of Clearview

R.J. Burnside & Associates Limited
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Collingwood ON L9Y 4J6 CANADA

September 2026
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-	September 8, 2026	Initial Submission to Township of Clearview

R.J. Burnside & Associates Limited

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JLL:smm

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1.0 Introduction

The Town of Stayner is considering the expansion of the existing settlement boundary to incorporate additional lands. The existing and proposed limits are illustrated in Figure 1 included as Appendix A.

This study has been prepared to document the existing water and wastewater infrastructure and its current capacity, identify the projected additional serving needs and to identify a servicing strategy to support the additional lands.

2.0 Projected Service Population

The residential population of Stayner is approximately 5,325 persons.

The Township of Clearview (Township) completed a review of undeveloped lands within the settlement boundary and estimates that lands located within the current settlement boundary can accommodate a total of 7,052 additional units on the developable lands. The unit count was developed based on draft and or approved proposed plans, where these are available as well as using typical densities for lands where plans are not yet in progress, but the land is developable. No units were assigned to lands which are not anticipated to be developed (EP lands, etc.). At 3.0 persons per unit, as per the Township's engineering standards, it is anticipated that an additional 21,156 persons are expected within the current Settlement Area once it is built to the boundary, or at "build out" of the existing Settlement Area. The Township used a similar process to identify the number of units in the lands proposed to be added to the Settlement Area. A small number of land parcels within the proposed expansions area did not have an estimated unit count developed by the Township. R.J. Burnside & Associates Limited (Burnside) developed estimates for these lands using the same assumed development density as that used by the Township. The lands in the expansion area are expected to accommodate approximately 4,735 additional units. At 3.0 persons per unit, as per the Township's engineering standards, it is anticipated that an additional 14,205 persons are expected within the expansion area once it is built to the new boundary, or at "build out" of the additional lands. As such, the total project service population of Stayner at build out to the expanded Settlement Boundary is approximately 40,686 persons. The population projections are summarized in Table 1. Background documentation provided by the Township is included in Appendix B.

Table 1: Population Projection

Item	Population (Persons)	
Existing Population		5,325
Additional Population with Existing Settlement Boundary	21,156	
Additional Population in Area of Settlement Boundary Expansion	14,205	
Subtotal Additional Persons		35,361
	Total	**40,686**

3.0 Water Servicing

3.1 Existing Works

The Stayner Drinking Water System (DWS) includes three water treatment facilities, supplied by four groundwater wells, a water distribution system and 7,100 m^3 of water storage. The pertinent information related to Permit to Take Water (PTTW), the Drinking Water Works Permit (DWWP) and Municipal Drinking Water System (MDWL) are summarized in the following table. The Stayner DWS consists of a single pressure zone.

Table 2: Summary of Permits

Instrument	Unit	Well #1	Well #2	Well #3	Well #4
Permit to Take Water	L/min	909	1,818	1,818	1,500
	m^3/day	1,309	2,618	2,618	2,160
	Total from all wells m^3/day	6,545 Wells 2 and 4 combined limited to 1,818 L/min and 2,618 m^3/day.			
Drinking Water Works Permit	L/sec	15.15	25	30.3	25
Municipal Drinking Water License	Total supplied to distribution system m^3/day	1,309	2,619	2,619	2,160
		Well pumps 2 and 4 can be operated individually or simultaneously, however, the combined pumping capacity shall not exceed 2,619 m^3/day.			

Well #1 is equipped with its own pumphouse, that provides primary and secondary disinfection by chlorination. This facility is not equipped with dedicated standby power.

Well #2 and Well #4 share a pumphouse, that provides primary and secondary disinfection by chlorination. This facility is equipped with dedicated standby power.

Well #4 is equipped with its own pumphouse, the provides primary and secondary disinfection by chlorination.

The water storage facility is grade level facility, consisting of two equally sized glass lined bolted steel tanks providing a total of 7,100 m^3 of water storage.

3.2 Works In Progress

The Municipality is currently constructing a new water supply, storage and pump facility. The proposed facility will be equipped with three 40 L/s wells and one 30 L/s well, providing a firm well capacity at this site of 110 L/s. The pumphouse and treatment facility is designed to supply 120 L/s, as it is planned to upgrade the 30 L/s well in the future. The facility is equipped with 4,366 m^3 of treated water storage. The facility includes a high lift pumping system to convey 120 L/s plus emergency flows.

Table 3: Summary of Existing Water Supply Capacity

	PTTW (m^3/d)	Actual (m^3/d)	Existing Total (m^3/d)	Existing Firm (m^3/d)	Existing & Planned Total (m^3/d)	Existing & Planned Firm (m^3/d)
Well 1	1,309	1,224	1,224	1,224	1,224	1,224
Well 2	2,618	1,224	1,224	1,224	1,224	1,224
Well 3	2,618	2,448	2,448	N/A	2,448	2,448
Well 4*	2,160	792	792	792	792	792
Well 5	3,456	3,456	-	-	3,456	N/A
Well 6	2,592	2,592	-	-	2,592	2,592
Well 7	3,456	3,456	-	-	3,456	3,456
Well 8	3,456	3,456	-	-	3,456	3,456
			5,688	3,240	18,648	15,192

Based on the above, the actual total pumping capacity of the existing works is 5,688 m^3/d. The actual firm pumping capacity of the existing works is 3,240 m^3/d.

The existing water supply actual firm capacity of 3,240 m^3/d is below the historical MDD of 4,052 m^3/d (2025) and as such the water supply is considered undersized. However, the total available capacity exceeds the historical MDD. The existing water storage of 7,100 m^3 is also adequate for the existing user base.

The total pumping capacity of the existing system in combination with the planned wells is 18,648 m^3/d. The actual firm capacity of the existing and planned wells is 15,192 m^3/d. This significantly exceeds the needs of the existing users and provides an opportunity to accommodate some additional users.

3.3 Existing and Projected Needs

The water demand and storage estimates are presented in Appendix C.

3.3.1 Build Out to Existing Settlement Boundary

An estimate of the required water supply rate and required water storage volume required to service all the existing developed lands and the developable lands within the existing settlement area has been completed. The estimate assumes that the average daily demand (ADD) for water from the existing users will be unchanged and the ADD for water from additional users is 400 L/person/day as per the current Township engineering standards. Water systems that provide floating water storage are required to be able to supply the maximum daily demand (MDD). The estimated MDD has been estimated using MECP's recommended maximum day factor which is based on the projected population. Water storage has been estimated using the Ministry of Environment Conservation and Parks (MECP) A, B, C rule. The input population for the MDF and water storage are based on equivalent residential service population as recommended in MECP guidelines. For Stayner, the existing equivalent service population is estimated at 7,988 persons. The water demand from an existing large industrial water user is estimated at 2,663 equivalent persons.

At build out of the existing Stayner Settlement Boundary the total required firm water supply capacity is estimated at 19,245 m^3/d. This exceeds the firm water supply rate that can be supplied by the existing system in combination with the Klondike Park Facility currently under construction.

At build out of the existing Stayner Settlement Boundary the total required water storage volume is 13,169 m^3. This exceeds the total water storage available from the existing system in combination with the Klondike Park Facility currently under construction.

Assuming that the Klondike Park Road Facility (110 L/s) is in place (currently under construction), an additional water supply of 4,053 m^3/d is required and additional water storage of 1,703 m^3 is required.

3.3.2 Build Out to Expanded Settlement Boundary

An estimate of the required water supply rate and required water storage volume required to service all the existing developed lands, the developable lands within the existing service area, and the additional developable lands associated with the settlement boundary expansion has been prepared. The estimate assumes that the average daily demand (ADD) for water from the existing users will be unchanged and the ADD for water from additional users is 400 L/person/day as per the current Township engineering standards. Water systems that provide floating water storage are required to be able to supply the maximum daily demand (MDD). The estimated MDD has been estimated using MECP recommended maximum day factor which is based on the projected service population. Water storage has been estimated using the MECP A, B, C rule. The input population for the MDF and water storage are based on equivalent residential service population as recommended in MECP guidelines. For Stayner, the

existing equivalent service population is estimated at 7,988 persons. The water demand from an existing large industrial water user is estimated at 2,663 equivalent persons.

At build out of the expanded Stayner Settlement Boundary, the total required firm water supply capacity is estimated at 29,473 m^3/d. This exceeds the firm water supply rate that can be supplied by the existing system in combination with the Klondike Park Facility currently under construction.

At build out of the expanded Stayner Settlement Boundary, the total required water storage volume is 19,416 m^3. This exceeds the total water storage available from the existing system in combination with the Klondike Park Facility currently under construction.

Assuming that the Klondike Park Road Facility (110 L/s) is in place (currently under construction), an additional water supply of 14,281 m^3/d is required and additional water storage of 7,950 m^3 is required.

3.4 Future Water Supply and Storage Requirements

The existing and planned water supply has a firm supply capacity of 15,192 m^3/d and represents about 52% of the total projected need after considering the additional service population within the existing settlement boundary and within the expanded settlement boundary.

As such the scale of additional supply is similar to that of the KPR facility currently being constructed. The work to support such an increase in the water supply has not yet been initiated. This work would be expected to include hydrogeology evaluations to identify additional well locations and available supply volumes, municipal class EA's for proposed facilities, detailed design, approvals, and construction.

Past hydrogeological study has suggested that upgrading Well 6 from 30 L/s to 40 L/s is likely possible and the proposed treatment at KPR is designed to accommodate this. Beyond this, investigations have not been completed to date to identify additional groundwater sources. Past study in the Stayner Area (which was unsuccessful), suggests that any additional supply would most probably be located at least as far east as the KPR facility.

The existing and planned water storage has capacity of 11,466 m^3/d and represents about 61% of the total projected need of 19,416 m^3 after considering the additional service population within the existing settlement boundary and within the expanded settlement boundary. The deficit is 7,950 m^3 of water storage.

As such, the scale of additional storage is similar to that of the existing water storage facility on Airport Road. Assuming that any necessary lands could be secured, an

expansion of a reservoir facility is pre-approved under the current EA framework. The design, approval, and construction would need to be completed and have not been initiated. It is anticipated that expansion of the water storage at the existing storage site on Airport Road is the most likely solution for additional storage.

3.4.1 Alternative Solutions for Water Supply

There are essentially three significant alternative ways to supply additional water to Stayner, these are:

1. Identify and Develop Additional Groundwater Sources;

2. Establish a new Surface Water Treatment Facility with a new intake to Georgian Bay; and

3. Obtain water from an adjacent system (Collingwood). The Town of Collingwood DWS conveys treated water from Collingwood to New Tecumseth via a trunk watermain which runs directly through Stayner.

Past Master Plan work has considered these options, but they have not been revisited recently considering the updated population projections. All the above would be significant projects requiring various investigations and studies, municipal class environmental assessments, detailed design, and approvals.

3.4.2 Distribution System Upgrades

The existing computerized water model for the Stayner drinking water system was used to identify upgrades to the existing system and expansions of it to support the projected additional demands associated with the additional service population within the existing settlement boundary and the expanded settlement boundary. A brief summary memo and supporting figures are included in Appendix D. The analysis is based on the premise that the additional water supply would come from the KPR area via the 600 mm trunk watermain that is currently under construction and that the additional water storage would be provided at the existing storage site on Airport Road. The various required upgrades are summarized below and shown in Figure 2, in Appendix E.

Within the settlement Boundary:

- Provide additional 600 mm diameter watermain connection from KPR (i.e., KPR Project) through Emerald Creek to Hwy 26;
- Provide 300 mm diameter watermain from HWY 26 North to connect infill development lands to the west (Cityscape, Clearview Gardens, Bridle Park);
- Increase diameter of ex. 100 mm diameter watermain on Elm from Brock St to Jonathon Court to a 300 mm diameter watermain to improve fire flow;

- Increase diameter of watermain on Margaret Street to a 300 mm diameter. Connect Margaret watermain through Warrington and north to Sunnidale Street; and
- Increase diameter of 50 mm watermain on Phillips south of Sunnidale to a 300 mm diameter watermain to complete 300 mm diameter looping.

In the expanded settlement boundary (GRO Lands):

- Include all recommended upgrades from ex. Settlement boundary expansion;
- Provide a 600 mm diameter watermain from KPR along County Road 7 south to Hwy 26. Continue 600 mm diameter past Sunnidale and transition to a 300 mm diameter watermain along Centre Line Road to Nottawasaga Side Road 21/22;
- Provide a 300 mm diameter watermain along Nottawasaga Side Road 21/22 and loop to Airport Road watermain;
- Provide a 200 mm diameter watermain along Mowat Street from KPR south; and
- Loop watermain from Mowat to County Road 7 through GRO Lands with 200 mm diameter watermain, or larger depending on fire flow requirements in development lands.

4.0 Wastewater Servicing

4.1 Existing Works

The Stayner Wastewater System includes a gravity collection system, three sewage pumping stations and the Stayner WPCP.

The Stayner Water Pollution Control Plant (WPCP) was built in 1984 and subsequently upgraded in 1991 and modified in 2004 giving the plant a rated average daily flow capacity of 2,500 m^3/d and a peak flow capacity of 6,250 m^3/d. The plant serves Stayner, and the estimated number of users is about 4,699 persons. The current ECA for the facility is Environmental Compliance Approval (ECA) 3718-A4CQTD issued January 4, 2016.

The Stayner WPCP was upgraded in 2025 to increase firm aeration capacity.

The Dominion Drive SPS (SPS1) and Stayner SPS (SPS2) discharge independently, directly to the Stayner WPCP. There is no gravity flow directly to the Stayner WPCP. The Southeast Stayner SPS (SPS3) discharges to the gravity sewer system which in turn drains to Stayner SPS 2.

The municipality has also established a servicing agreement with the Town of Wasaga Beach which allows up to 5,000 m^3/d ADF to be directed to the Town of Wasaga Beach collection system for treatment at the Wasaga Beach WWTP. The agreement currently limits the discharge to 2,500 m^3/day. Improvements to the Wasaga Beach WWTP are required and will need to be in place prior to using the remaining 2,500 m^3/day. The

agreement does not allow industrial wastewater to be discharged. As such, the discharge from industrial users needs to be directed to the Stayner WPCP.

The Stayner SPS 2 was designed to discharge wastewater via forcemain to the Town of Wasaga Beach collection system. The forcemain has been constructed but is not currently in use. The Stayner SPS in its current configuration is equipped to pump an ADF of 2,500 m^3/d to Wasaga Beach. The existing pumps and standby power will need to be upgraded to convey an ADF of 5,000 m^3/d. The building and piping within have been designed to accommodate this upgrade. Current flows to the Stayner SPS 2 are pumped to the Stayner WPCP.

Dominion Drive SPS receives wastewater generated within a significant portion of Stayner. Gravity sewers convey wastewater to Dominion Drive SPS. The existing pumping station located on the west side of Dominion Drive and was upgraded (C of A No. 8872-5NTKX6) in 2004 to a firm rated capacity of 94.75 L/sec. This is a wet well dry well style station with two pumps each rated at 94.75 L/sec at 22.9 m TDH. The SPS is equipped with a 60 kW natural gas fired generator set. As such this station has a firm capacity of 8,165 m^3/d.

4.2 Works in Progress

There are currently no capacity related, collection, pumping, or wastewater treatment projects underway in Stayner. The Township has initiated a project to provide standby power for the Stayner WPCP.

4.3 Existing and Projected Needs

Existing Flows

Stayner SPS 1 and Stayner SPS 2 pump independently to the Stayner WPCP. The combined historical flow rates to the WPCP are summarized in the following Table.

Table 4: Stayner WPCP Historical Flows

Year	Average Daily Flow (ADF) (m^3/d)	Peak Daily Flow (PDF) (m^3/d)
2023	1,488	1,920
2024	1,616	4,208
2025	1,718	5,309

The ADF in 2025 of 1,718 m^3/d represented 69% of the 2,500 m^3/d approved rated capacity of the Stayner WPCP. The reported residential service population is 4,699 persons.

The PDF in 2025 of 5,309 m^3/d represented 85% of the 6,250 m^3/d peak flow handling capacity of the existing WPCP. As PDF will underestimate peak instantaneous flow, the ability to handle peak flows is at less than 15% remaining.

The additional service population with the settlement boundary is 21,156 persons.

The additional service population with the expanded settlement area is 14,205.

The Sanitary Flow projection worksheet is included in Appendix F.

4.3.1 Build Out to Existing Settlement Boundary

An estimate of the required wastewater treatment capacity required to service all of the existing developed lands and the developable lands within the existing settlement area has been completed. The estimate assumes that the average daily flow from the existing users will be unchanged and that the flow from additional user will be 400 L/person/day plus as per the current Township engineering standards plus an average day allowance for infiltration of 90 L/person per day. Associated peak flows were developed using the Harmon peaking factor and a peak infiltration allowance of 227 L/person/day and proposed service populations.

At build out of the existing Stayner Settlement Boundary, the total required wastewater treatment capacity is estimated to an ADF of 12,084 m^3/d including average infiltration. This exceeds the currently planned treatment capacity of 7,500 m^3/day provided by the existing Stayner WPCP in combination with the capacity provided through agreement with the Town of Wasaga Beach.

4.3.2 Build Out to the Expanded Settlement Boundary

An estimate of the required wastewater treatment capacity is required to service all the existing developed lands, the developable lands within the existing service area, and the additional developable lands associated with the settlement boundary expansion. The estimate assumes that the average daily flow from the existing users will be unchanged and that the flow from additional users will be 400 L/person/day, as per the current Township engineering standards, plus an average day allowance for infiltration of 90 L/person per day. Associated peak flows were developed using the Harmon peaking factor and a peak infiltration allowance of 227 L/person/day and proposed service populations.

At build out of the existing Stayner Settlement Boundary, the total required wastewater treatment capacity is estimated to be an ADF of 19,045 m^3/d including average infiltration. This exceeds the currently planned treatment capacity of 7,500 m^3/day provided by the existing Stayner WPCP in combination with the capacity provided through agreement with the Town of Wasaga Beach.

4.4 Future Wastewater Collection, Pumping, and Treatment

4.4.1 Wastewater Treatment

The existing and planned wastewater treatment system has a planned average day flow capacity of 7,500 m^3/d and represents approximately 39% of the projected need. The deficit at build out to the expanded settlement boundary is 11,545 m^3/d.

Past study has identified very limited potential to increase the capacity of the Stayner WPCP, with the primary limitation being a small receiving stream. Under the current regulatory framework, a Schedule C Municipal Class EA would be required to identify and evaluate alternative solutions to provide additional wastewater treatment capacity.

The existing Town of Wasaga Beach Servicing agreement restricts flows to residential flows only. It is recommended that the wording of any future agreement be clarified, subject to discussion, to confirm the assumed intent that discharges to the Town of Wasaga Beach sanitary sewer system meet the Town of Wasaga Beach's sewer use bylaw.

4.4.2 Collection System

The existing sanitary sewer collection system in Stayner has generally not been designed to accommodate additional development in the area of the proposed settlement boundary expansions.

As such, the servicing strategy for the developable lands within the expanded settlement area has been developed so that it does not generally rely on the existing collection system.

It is anticipated that a new gravity sewer will be required though the southern portion of the expanded service area, which will drain from west to east. Area 3 will drain to a new SPS6, where a forcemain will convey wastewater to a new gravity sewer in Area 2, flowing west and then north to new SPS 5. The SPS will discharge via forcemain to the southeast corner of Area 1, where it will flow by gravity northward to new SPS 4. Ultimately this pumping station would need to direct wastewater to an as yet unidentified treatment facility. Initially, depending on the timing of development with the existing settlement boundary and in the expanded settlement boundary, it may be possible to for SPS4 to discharge to existing SPS 2, for conveyance to Wasaga. Ultimately it is anticipated that the flows from lands south and west of SPS 2 would exceed the capacity of SPS 2 and upgrades or replacement of SPS 2 would also be required. The ultimate configuration for SPS 4 and SPS 2 will be a function of the location of the additional required wastewater treatment capacity.

The wastewater servicing strategy is illustrated in Figure 3 in Appendix G.

Key Wastewater Projects Required:

1. Minor Upgrade at SPS 2 to Commence Pumping of 2,500 m^3/d ADF from SPS 2 to Wasaga.

2. Pump upgrade and Generator Upgrade at SPS2 to increase flows to Wasaga Beach to 5,000 m^3/d ADF as per current agreement.

3. Class EA for Additional Wastewater Treatment beyond a total of 7,500 m^3/d ADF to 19,405 m^3/d ADF at build out of expanded settlement boundary.

4. New Sewers in Area 3 draining to new SPS6 in Area 3, with forcemain to Area 2.

5. New Sewers in Area 2 draining to new SPS5 in Area 2, with forcemain to Area 1.

6. New Sewers in Area 1 draining to new SPS4 in Area 1. New forcemain potentially discharging to upgraded SPS 2 but ultimately may be forcemain to either expanded SPS2 or additional SPS.

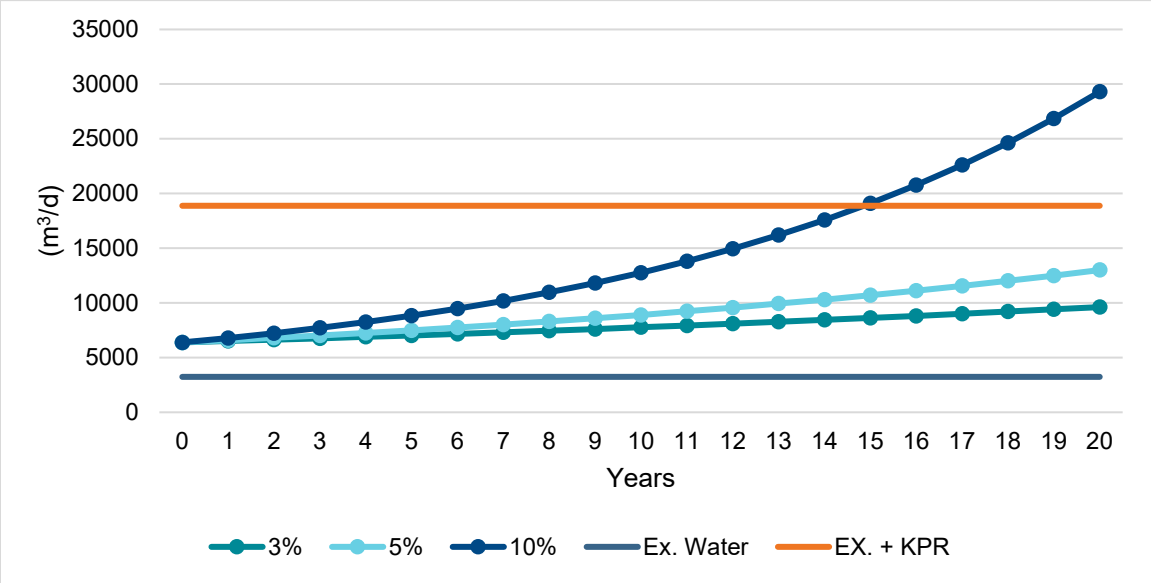
5.0 Growth Rates and Servicing Capacity

While ultimately additional water supply and wastewater treatment capacity will be required, the timing as to when these upgrades are needed will be dictated by the rate of growth in the community.

A sensitivity analysis was completed to estimate when the additional water supply and wastewater treatment capacity would need to be online. The rates of population growth considered were 3%, 5%, and 10% per year.

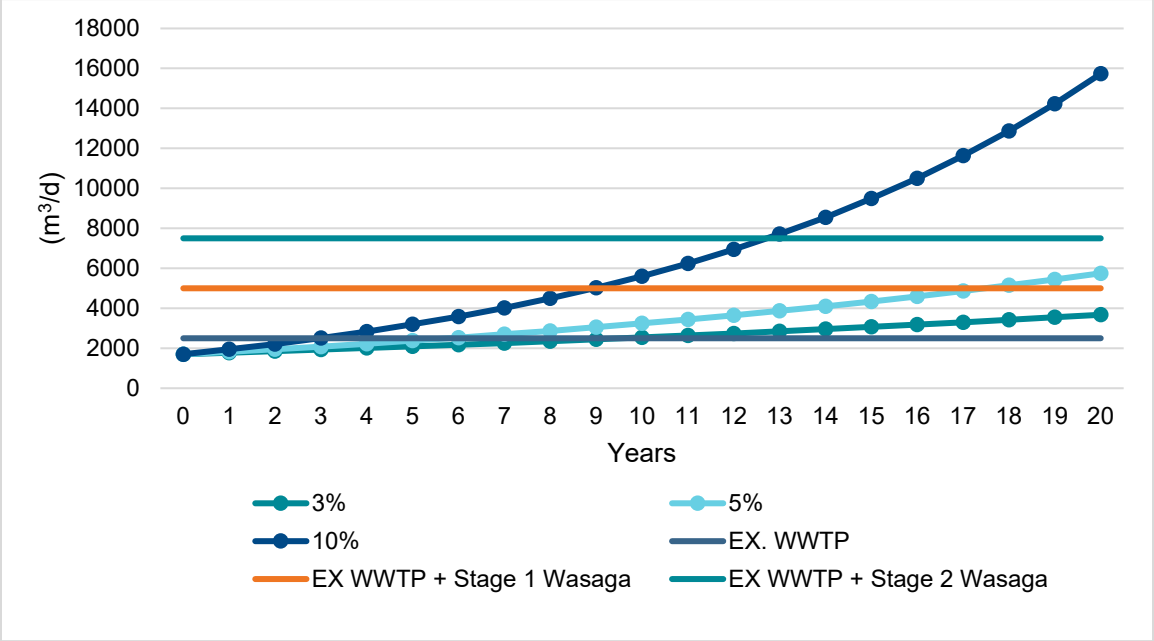
For water supply, assuming that KPR is in place, it is anticipated that additional water supply would not be needed for more than 20 years assuming a 5% growth rate. At a 10% growth rate, additional water supply is expected to be required in approximately 15 years. The relationship between forecasted water demand at various rates of growth and the existing and planned water supply is shown in the Figure below.

Figure 4: Water Supply vs. Water Demand (m^3/day)



With the existing planned infrastructure in place, it is anticipated that additional wastewater treatment capacity would not be needed for more than 20 years at a 5% growth rate. The capacity associated with Stage 2 of the existing Wasaga Beach agreement is required in about 18 years at 5% growth rate. At a 10% growth rate, Stage 2 of the existing Wasaga Beach agreement is required in about 9 years and additional treatment capacity is required in approximately 15 years. The relationship between forecasted wastewater flows at various growth rates and existing planned wastewater treatment capacity at various rates of growth and the existing and planned water supply is shown in the Figure below.

Figure 5: Wastewater Flows vs. Wastewater Treatment (m^3/day)



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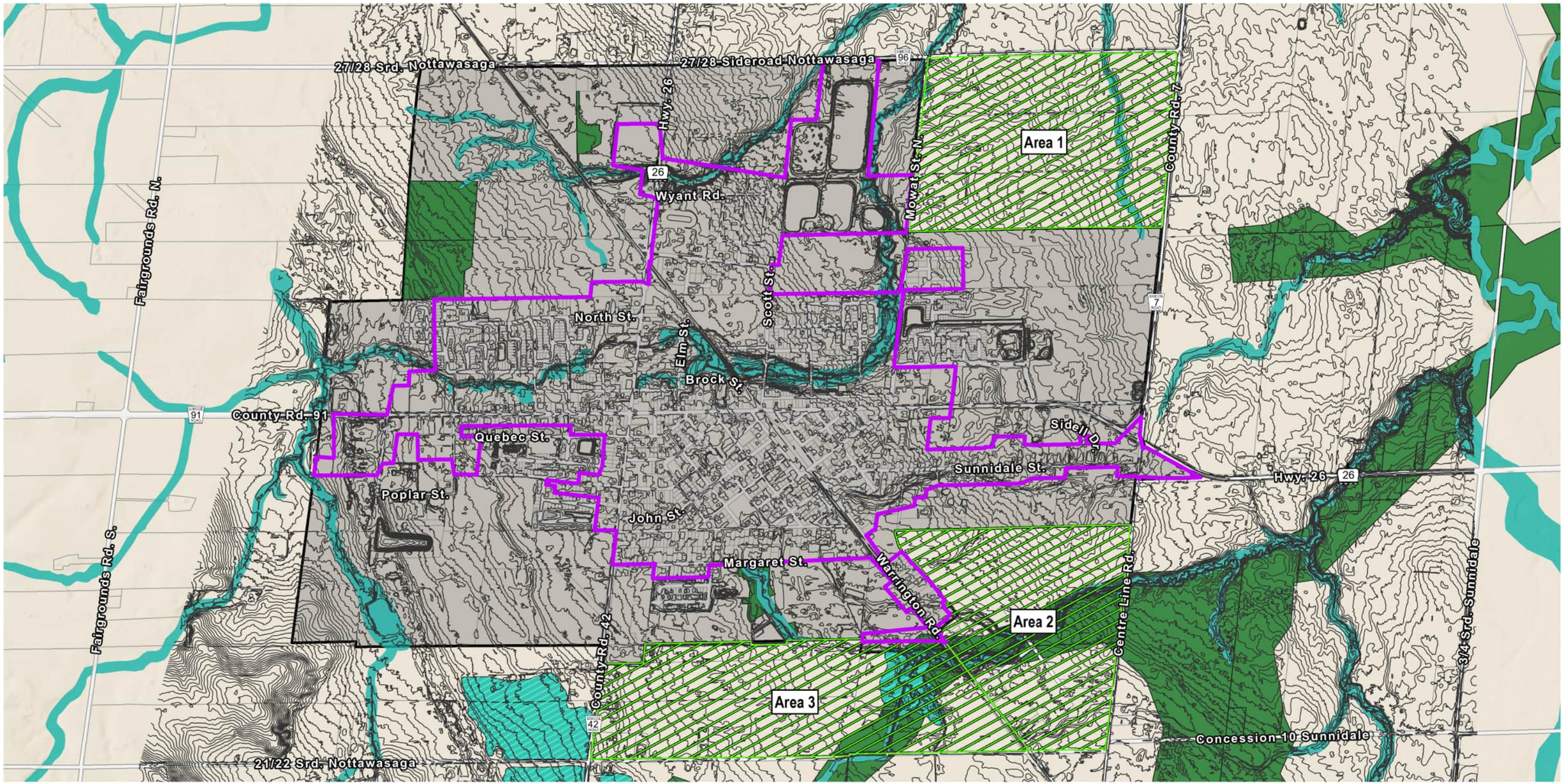
Appendix A

Existing and Proposed Settlement Areas



Contour 0.5m
Greenland - Hazard Lands Area
Greenland - Natural Heritage Area
Greenland - Wetlands Area
Existing Stayner Settlement Area
Built Boundary
Lands Proposed to be Added to Stayner Settlement Area

Datum: North American 1983 CSRS
Coord. System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Central Meridian: 81°0'0.00"W
False Easting: 500,000m
False Northing: 0m
Scale Factor: 0.99960

Drawn By: HN
Checked By: JL
Client: Township of Clearview
Project: Stayner Secondary Plan Servicing
Project Number: 300061604
Date: 2026/09/01

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0 1,000 2,000
Metres
1:20,000

Figure: 1 - Existing and Proposed Settlement Area

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Appendix B

Township Population Projections

CLEARVIEW
TOWNSHIP

Housing-Enabling Water Systems Fund Application Intake 2

From: Amy Cann, M. PL., MCIP, RPP, Director of Planning & Building

Date: October 28, 2024

Subject: Planning Act Alignment

Supplement to Schedule K - Appendix A: Technical Schedule

Housing Components

Planning Alignment:

Do all of the housing units that would be enabled by the proposed water infrastructure project conform with current provincial policy, the approved municipal Official Plan, and current zoning by-laws?

Township Analysis & Response

The 2001 in-force Township of Clearview Official Plan and the 2024 Official Plan (pending County of Simcoe approval on November 12, 2024) establish the Stayner settlement area as one of the Township's fully serviced urban settlement areas. As noted in the submitted HEWSF application, there are 2941 units within the Stayner settlement boundary that are approved for Draft Plan of Subdivision. All residential development lands within Stayner that are draft approved for subdivision development are designated 'Residential' in the Township 2001 and 2024 Official Plans. Of the 11 developments that are draft approved, eight (8) are zoned for residential development representing 1479 (50%) of the draft approved units. The Clearview Development Team (along with its Planning and Engineering Consultants) is well equipped to process any submitted Zoning By-law Amendment Applications required to ensure zoning conformity for development of the draft approved lands.

As part of this funding application, Township Planning & Development Staff have completed a growth management assessment. The purpose of this assessment was to gain a comprehensive understanding of the future development potential in Stayner. Through this exercise, 25 infill opportunities were identified for future residential development, equalling

116 ha in gross land area available for future projects. The calculation of 'gross' hectare or land area is consistent with the 2024 Township Official Plan and equals total land area (ha) less any mapped natural hazard and natural heritage features impacting the lands. This extent of gross land area could be developed to contain upwards of 2384 dwelling units at a total median density of 20 units/ha. These infill opportunities do not account for the number of additional residential units (ARUs) that have the potential to be developed with adequate water capacity servicing Stayner. Infill projects large and small present unmatched opportunities for municipal servicing providers to realize infrastructure efficiencies and decrease servicing costs per connection.

Certain lands outside of the Stayner settlement area boundary have been tentatively identified as having long-term development potential and are therefore being considered in long-term infrastructure planning exercises. These lands have been shown in a separate category known as the 'Growth Reserve Overlay (GRO)'. Consistency with the Provincial Planning Statement and conformity with the County of Simcoe and Township Official Plans has not yet been demonstrated for the GRO lands. Discussion of the GRO lands is intended to demonstrate that the Township is currently working on infrastructure and strategic growth planning for projected needs and those needs beyond the 30-year time horizon.

Three (3) strategic growth areas, known as GRO Neighbourhoods, have been identified adjacent to but outside of the existing Stayner settlement area boundary. The three identified neighbourhoods have potential to contain 5629 residential units, subject to infrastructure planning and capability, and are sized 273 gross ha containing 47 existing parcels of land. As noted, the calculation of 'gross' hectare or land area is consistent with the 2024 Township Official Plan and equals total land area (ha) less any mapped natural hazard and natural heritage features impacting the lands.

Within the identified GRO Neighbourhoods, seven (7) parcels are being or have been promoted for development by specific parties (e.g., owner, developer). These seven (7) parcels are identified as GRO Lands and have a land area of 174 gross ha. Subject to a series of Planning Act Approvals and infrastructure analysis, the identified GRO Lands could contain 3567 dwelling units at a total median density of 20 units/ha.

Table 1 summarizes the Stayner dwelling unit counts relative to any applicable Planning Act Approval status and the unit potential for the GRO Lands.

Approval Status	Status Description	Units
Project Complete	Development that has received final subdivision approval and construction is complete	119
Active Construction	Development that has received final subdivision approval and is currently under construction	517
Total Stayner Dwelling Units Near or Recently Complete		**636**

Approval Status	Status Description	Units
Final Approved	Development that has received final subdivision approval with construction pending	0
Draft Approved	Planned residential that has received draft plan of subdivision approval	2941
Draft Approval Application	Planned residential with active or inactive application for draft plan approval submitted to the Township	870
Concept Only	Planned residential; not yet draft approved	221
No Known Concept (Infill Opportunities)	Land capable of containing residential; usually designated for residential uses; no known plan or concept from landowner; smaller infill candidate	2384
Total Stayner Dwelling Units Possible in the Short- & Medium-term*		**6416**
GRO Neighbourhoods	Areas located outside of the existing Stayner Settlement Area Boundary that may be considered for long-term infrastructure planning and residential growth	5629
Total Stayner Dwelling Units, plus GRO Neighbourhoods		**12,045**

**Plus micro infill and ARU opportunities*

Table 1: Stayner Units by Approval Status

Attachments

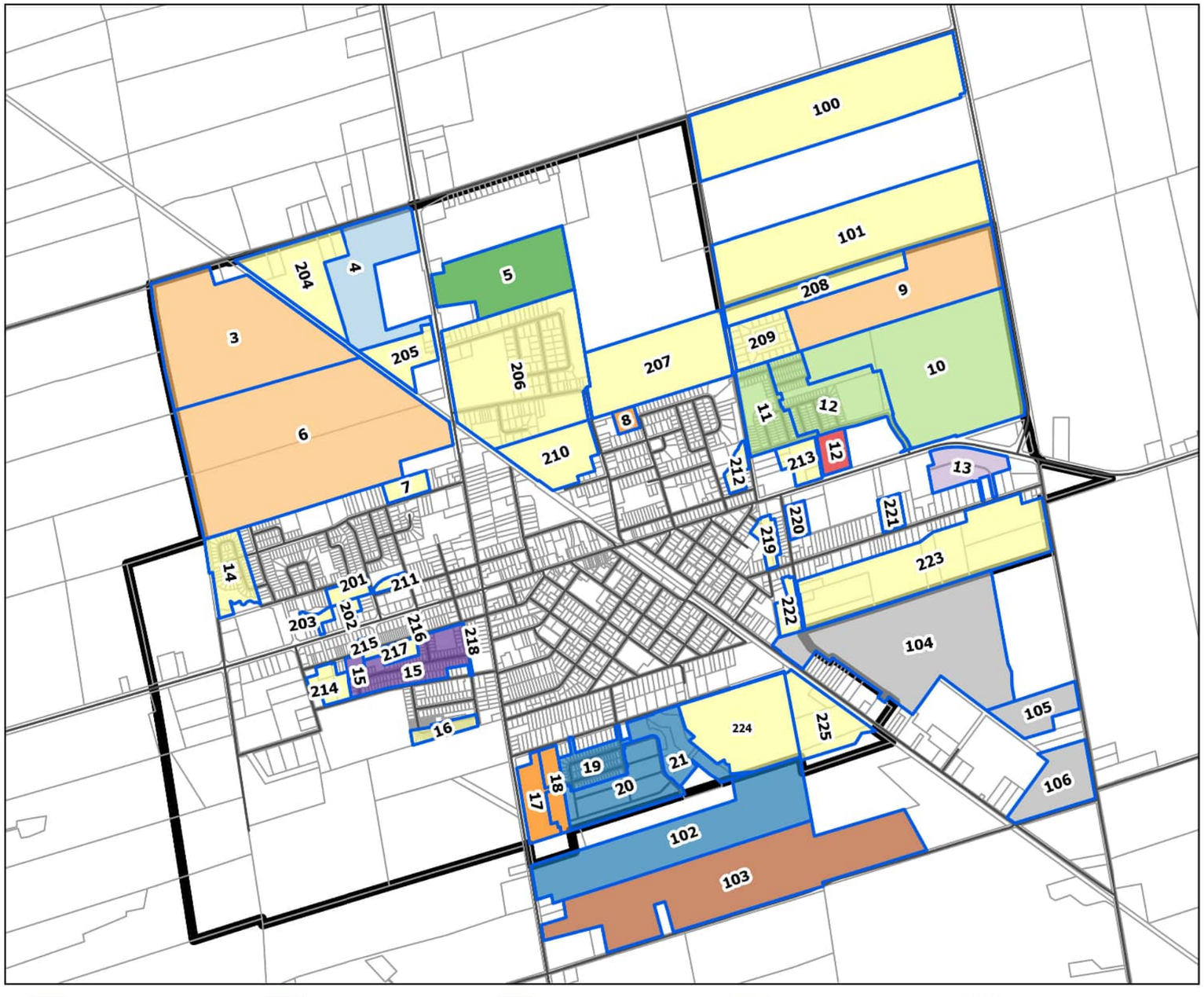
In response to the questions posed in 'Schedule K - Appendix A: Technical Schedule' of the HEWSF Application, a series of maps (Schedule A-E) have been produced to illustrate the status of conformity with the approved Township Official Plan and with the Township Zoning By-law.

- Schedule A: Stayner Residential Development Projects by Developer
- Schedule B: Stayner Residential Development Projects by Application Status
- Schedule C: Stayner Residential Development Infill and Growth Reserve Overlay Options
- Schedule D: Stayner Residential Development Projects by Official Plan Designation
- Schedule E: Stayner Residential Development Projects by Zone

CLEARVIEW TOWNSHIP

Residential Development Projects

Stayner Residential Projects - v Sept 2024



Cityscape
Cortel
Dancor
FPLMET Group
Huang
Jarlette
Kingsmen (Tentative)
Mamta
Manortown
Treasure Hill
Unknown
Walker
Miele

Project #	Project Name	Developer Quick Reference
3	Clearview Garden	Kingsmen (Tentative)
4	Cityscape	Cityscape
5	Emerald Creek	FPLMET Group
6	Bridle Park	Kingsmen (Tentative)
7	211 North Street	Unknown
8	Simcoe Gardens	Mamta
9	Clearview Park	Kingsmen (Tentative)
10	Nottawasaga Station (Estates of Clearview) Phase 3+	Dancor
11	Nottawasaga Station (Estates of Clearview) Phase 1	Dancor
12	Nottawasaga Station (Estates of Clearview) Phase 2	Dancor
12	Jarelette LTC & Senior Care Home (Phase 1 & 2)	Jarlette
13	Manortown Homes	Manortown
14	Zancor	Unknown
15	Ridgeview Phase 1-3	Treasure Hill
15	Ridgeview Phase 4	Treasure Hill
16	Aspen Ridge Phase 2	Unknown
17	Mamta County Road 42	Mamta
18	Mamta Margaret Street	Mamta
19	Ashton Meadows Phase 1A	Cortel
20	Ashton Meadows Phase 1B	Cortel
21	Ashton Meadows Phase 2	Cortel
100	Former Sunrise Mowat Street Phase 1 (GRO Lands)	Unknown
101	Former Sunrise Mowat Street Phase 2 (GRO Lands)	Unknown
102	Ashton Meadows Phase 3 (GRO Lands)	Cortel
103	Walker Subdivision (GRO Lands)	Walker
104	272 Warrington Subdivision (GRO Lands)	Miele
105	1210 Centre Line Subdivision (GRO Lands)	Miele
106	450 Warrington Subdivision (GRO Lands)	Miele
201	Infill Opportunity 1	Unknown
202	Infill Opportunity 2	Unknown
203	Infill Opportunity 3	Unknown
204	Infill Opportunity 4	Unknown
205	Infill Opportunity 5	Unknown
206	Infill Opportunity 6	Unknown
207	Infill Opportunity 7	Unknown
208	Infill Opportunity 8	Unknown
209	Infill Opportunity 9	Unknown
210	Infill Opportunity 10	Unknown
211	Infill Opportunity 11	Unknown
212	Infill Opportunity 12	Unknown
213	Infill Opportunity 13	Unknown
214	Infill Opportunity 14	Unknown
215	Infill Opportunity 15	Unknown
216	Infill Opportunity 16	Unknown
217	Infill Opportunity 17	Unknown
218	Infill Opportunity 18	Unknown
219	Infill Opportunity 19	Unknown
220	Infill Opportunity 20	Huang
221	Infill Opportunity 21	Unknown
222	Infill Opportunity 22	Unknown
223	Infill Opportunity 23	Unknown
224	Infill Opportunity 24	Unknown
225	Infill Opportunity 25	Unknown

CLEARVIEW TOWNSHIP

Stayner Residential Development Projects by Application Status

Application Status

- Final Approved
- Draft Approved
- Draft Approval Application
- Active Construction
- Project Complete
- Concept Only

Other Features

- Roads & Streets
- Built Boundary
- Assessment Parcel Fabric
- Settlement Areas
- Clearview Boundary

HEWSF_SchB_Stayner_Residential_Development_Projects_by_Application_Status_vSept2024
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#	Project Name	Built	Total	Status	Status Description
3	Clearview Garden	0	730	DAA	Draft Approval Application
4	Cityscape	0	200	DA	Draft Approved
5	Emerald Creek	0	177	DA	Draft Approved
6	Bridle Park	0	858	DA	Draft Approved
7	211 North Street	0	37	DA	Draft Approved
8	Simcoe Gardens	0	18	DA	Draft Approved
9	Clearview Park	0	404	DA	Draft Approved
10	Nottawasaga Station (Estates of Clearview) Phase 3+	0	805	DA	Draft Approved
11	Nottawasaga Station (Estates of Clearview) Phase 1	72	75	AC	Active Construction
12	Nottawasaga Station (Estates of Clearview) Phase 2	118	118	AC	Active Construction
12	Jarelette LTC & Senior Care Home (Phase 1 & 2)	0	291	AC	Active Construction

#	Project Name	Built	Total	Status	Status Description
13	Manortown Homes	0	81	DA	Draft Approved
14	Zancor	55	55	PC	Project Complete
15	Ridgeview Phase 1-3	96	101	AC	Active Construction
15	Ridgeview Phase 4	0	12	DAA	Draft Approval Application
16	Aspen Ridge Phase 2	64	64	PC	Project Complete
17	Mamta County Road 42	0	128	DAA	Draft Approval Application
18	Mamta Margaret Street	0	69	DA	Draft Approved
19	Ashton Meadows Phase 1A	0	72	FA	Final Approved
20	Ashton Meadows Phase 1B	0	152	DA	Draft Approved
21	Ashton Meadows Phase 2	0	221	CO	Concept Only

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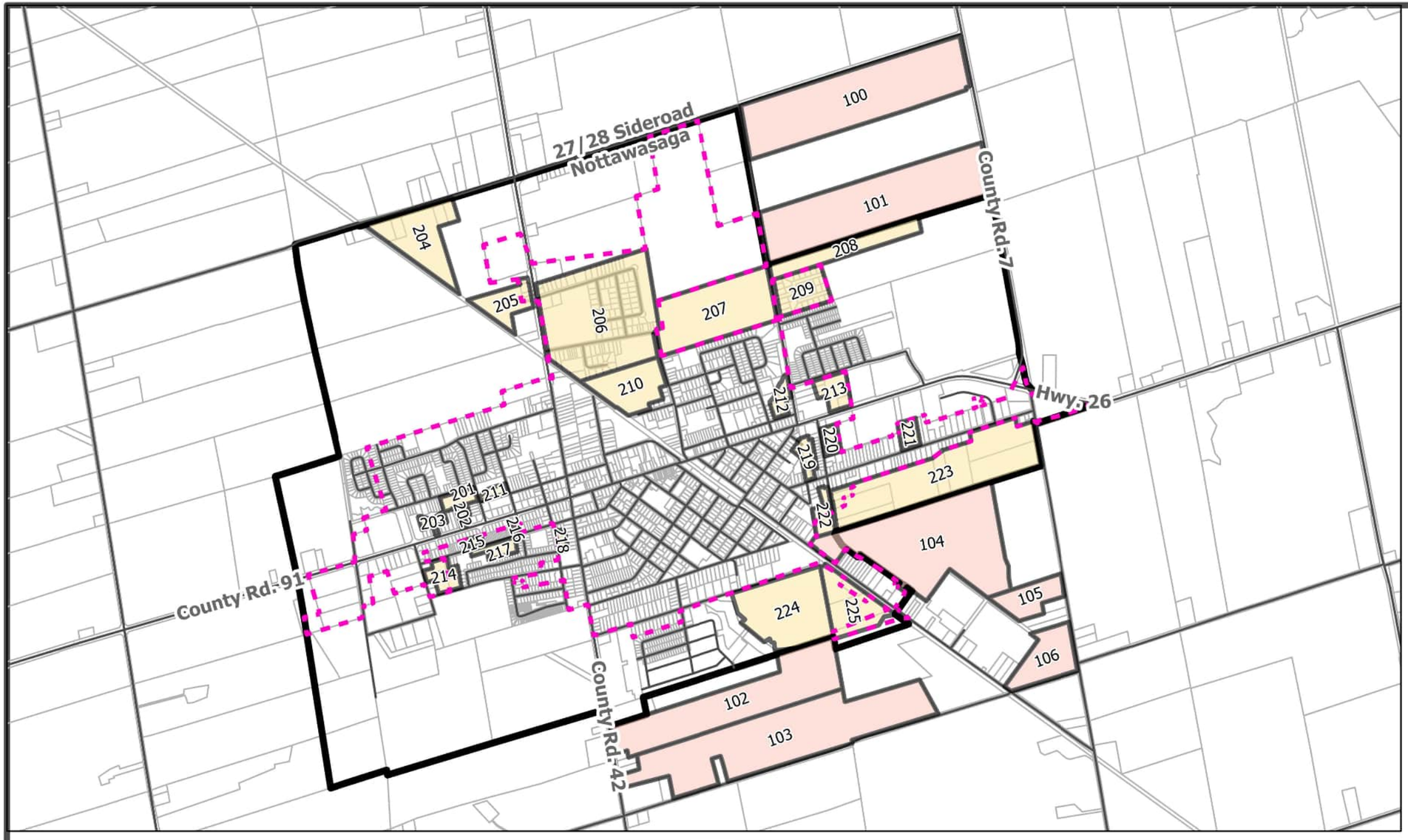

CLEARVIEW TOWNSHIP

Stayner Residential Development Infill and Growth Reserve Overlay Options

Growth Types

- GRO Lands
- Infill Opportunity

Other Features

- Roads & Streets
- Built Boundary
- Assessment Parcel Fabric
- Settlement Areas
- Clearview Boundary

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#	Project Name	Built	Total	Status	Status Description
100	Former Sunrise Mowat Street Phase 1 (GRO Lands)	0	767	GRO	GRO Lands
101	Former Sunrise Mowat Street Phase 2 (GRO Lands)	0	793	GRO	GRO Lands
102	Ashton Meadows Phase 3 (GRO Lands)	0	529	GRO	GRO Lands
103	Walker Subdivision (GRO Lands)	0	730	GRO	GRO Lands
104	272 Warrington Subdivision (GRO Lands)	0	519	GRO	GRO Lands
105	1210 Centre Line Subdivision (GRO Lands)	0	90	GRO	GRO Lands
106	450 Warrington Subdivision (GRO Lands)	0	139	GRO	GRO Lands
201	Infill Opportunity 1	0	16	NKC	No Known Concept
202	Infill Opportunity 2	0	8	NKC	No Known Concept
203	Infill Opportunity 3	0	20	NKC	No Known Concept
204	Infill Opportunity 4	0	22	NKC	No Known Concept
205	Infill Opportunity 5	0	73	NKC	No Known Concept
206	Infill Opportunity 6	0	494	NKC	No Known Concept
207	Infill Opportunity 7	0	155	NKC	No Known Concept
208	Infill Opportunity 8	0	165	NKC	No Known Concept
209	Infill Opportunity 9	0	126	NKC	No Known Concept

#	Project Name	Built	Total	Status	Status Description
210	Infill Opportunity 10	0	47	NKC	No Known Concept
211	Infill Opportunity 11	0	14	NKC	No Known Concept
212	Infill Opportunity 12	0	35	NKC	No Known Concept
213	Infill Opportunity 13	0	63	NKC	No Known Concept
214	Infill Opportunity 14	0	53	NKC	No Known Concept
215	Infill Opportunity 15	0	8	NKC	No Known Concept
216	Infill Opportunity 16	0	4	NKC	No Known Concept
217	Infill Opportunity 17	0	35	NKC	No Known Concept
218	Infill Opportunity 18	0	12	NKC	No Known Concept
219	Infill Opportunity 19	0	39	NKC	No Known Concept
220	Infill Opportunity 20	0	28	NKC	No Known Concept
221	Infill Opportunity 21	0	24	NKC	No Known Concept
222	Infill Opportunity 22	0	41	NKC	No Known Concept
223	Infill Opportunity 23	0	384	NKC	No Known Concept
224	Infill Opportunity 24	0	368	NKC	No Known Concept
225	Infill Opportunity 25	0	130	NKC	No Known Concept

The dwelling unit totals referenced here have been calculated by the Township of Clearview based on gross land areas (ha) and anticipated median density consistent with the policies of the 2024 Township Official Plan. The unit totals are subject to change and correction over time or based on receipt of actual development proposals through Planning Act Applications.

N

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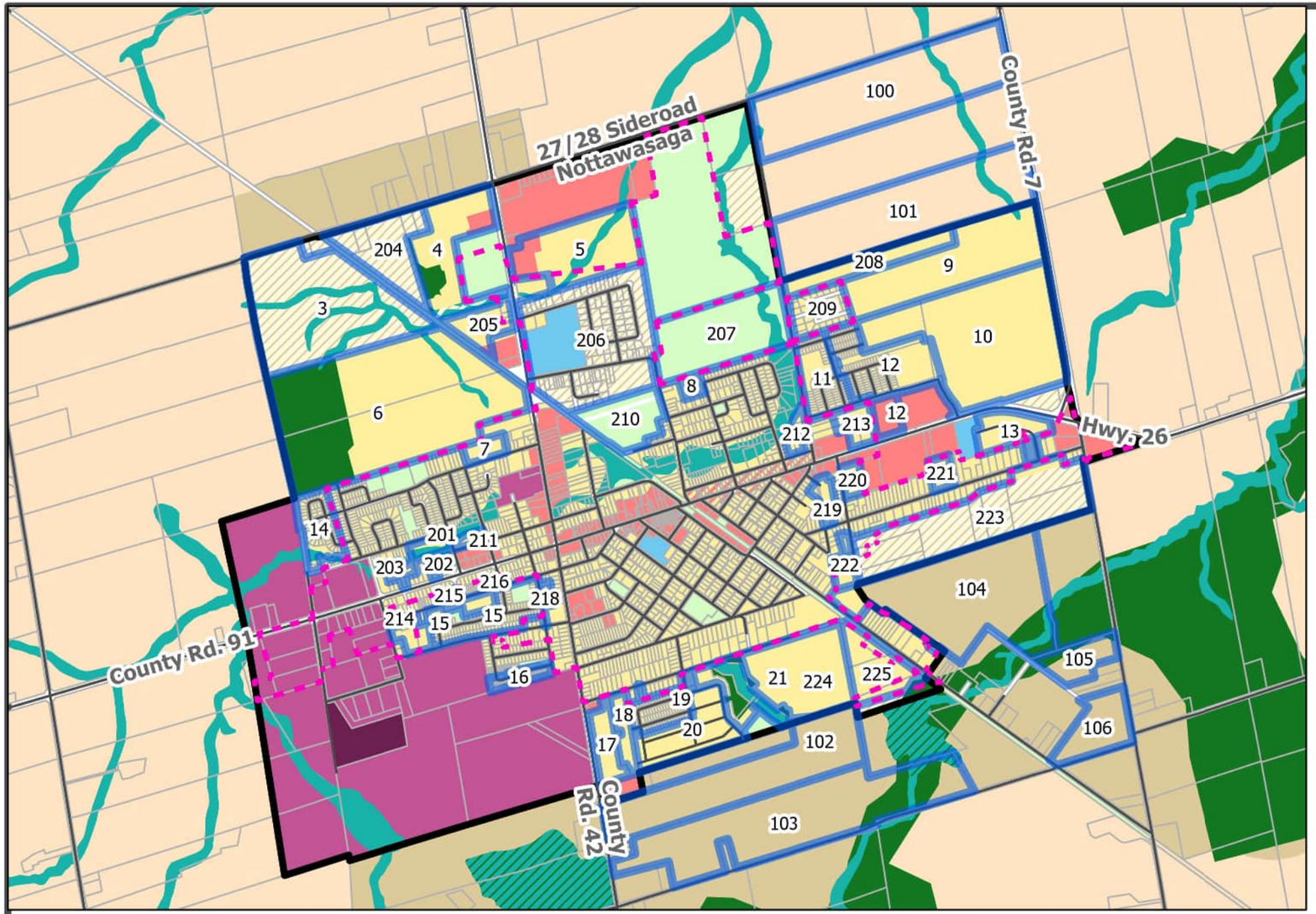

CLEARVIEW TOWNSHIP

Stayner Residential Development Projects and Official Plan 2024 Designations

OP 2024 Land Use Designations

- Residential
- Future Development
- Commercial
- Transition Corridor
- Institutional
- Industrial
- Waste Management Industrial
- Open Space
- Rural
- Agricultural
- Greenland - Hazard Lands Area
- Greenland - Natural Heritage Area
- Greenland - Wetlands Area

Other Features

- Roads & Streets
- Built Boundary
- Settlement Area
- Assessment Parcel Fabric
- Clearview Boundary

N

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#	Project Name
3	Clearview Garden
4	Cityscape
5	Emerald Creek
6	Bridle Park
7	211 North Street
8	Simcoe Gardens
9	Clearview Park
10	Nottawasaga Station (Estates of Clearview) Phase 3+
11	Nottawasaga Station (Estates of Clearview) Phase 1
12	Nottawasaga Station (Estates of Clearview) Phase 2
12	Jarelette LTC & Senior Care Home (Phase 1 & 2)
13	Manortown Homes
14	Zancor
15	Ridgeview Phase 1-3

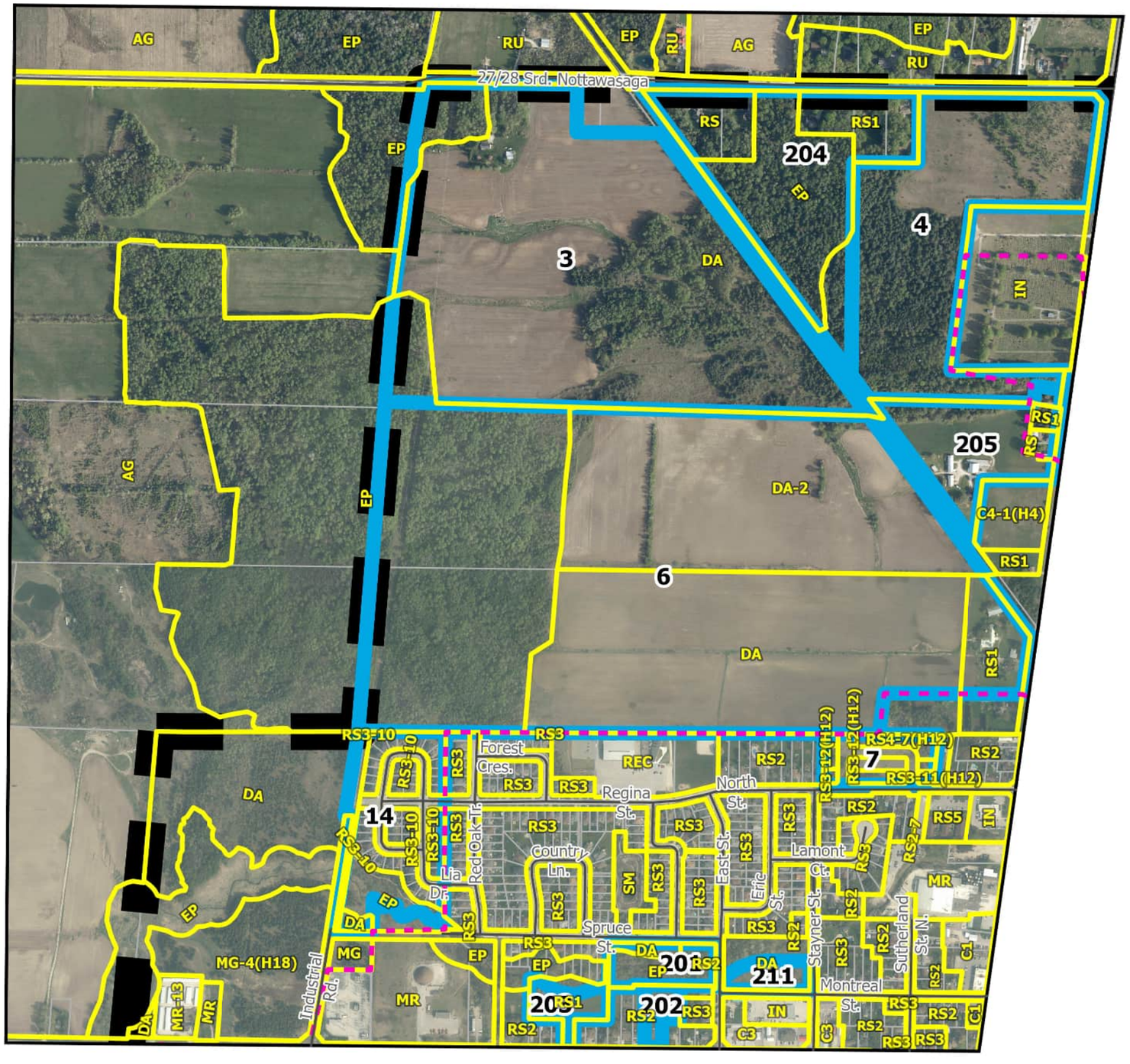
#	Project Name
15	Ridgeview Phase 4
16	Aspen Ridge Phase 2
17	Mamta County Road 42
18	Mamta Margaret Street
19	Ashton Meadows Phase 1A
20	Ashton Meadows Phase 1B
21	Ashton Meadows Phase 2
100	Former Sunrise Mowat Street Phase 1 (GRO Lands)
101	Former Sunrise Mowat Street Phase 2 (GRO Lands)
102	Ashton Meadows Phase 3 (GRO Lands)
103	Walker Subdivision (GRO Lands)
104	272 Warrington Subdivision (GRO Lands)
105	1210 Centre Line Subdivision (GRO Lands)
106	450 Warrington Subdivision (GRO Lands)

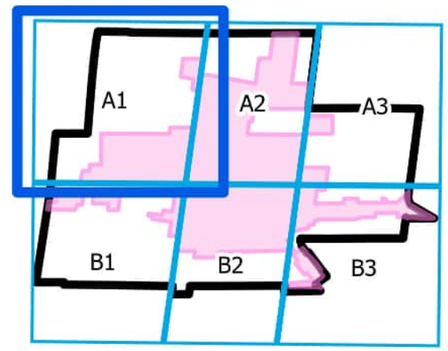
#	Project Name
201	Infill Opportunity 1
202	Infill Opportunity 2
203	Infill Opportunity 3
204	Infill Opportunity 4
205	Infill Opportunity 5
206	Infill Opportunity 6
207	Infill Opportunity 7
208	Infill Opportunity 8
209	Infill Opportunity 9
210	Infill Opportunity 10
211	Infill Opportunity 11
212	Infill Opportunity 12
213	Infill Opportunity 13
214	Infill Opportunity 14

#	Project Name
215	Infill Opportunity 15
216	Infill Opportunity 16
217	Infill Opportunity 17
218	Infill Opportunity 18
219	Infill Opportunity 19
220	Infill Opportunity 20
221	Infill Opportunity 21
222	Infill Opportunity 22
223	Infill Opportunity 23
224	Infill Opportunity 24
225	Infill Opportunity 25

Stayner Residential Development Projects and Zoning

CLEARVIEW TOWNSHIP





Roads & Streets
Built Boundary
Settlement Area
Assessment Parcel Fabric
Zoning Boundaries
Clearview Boundary

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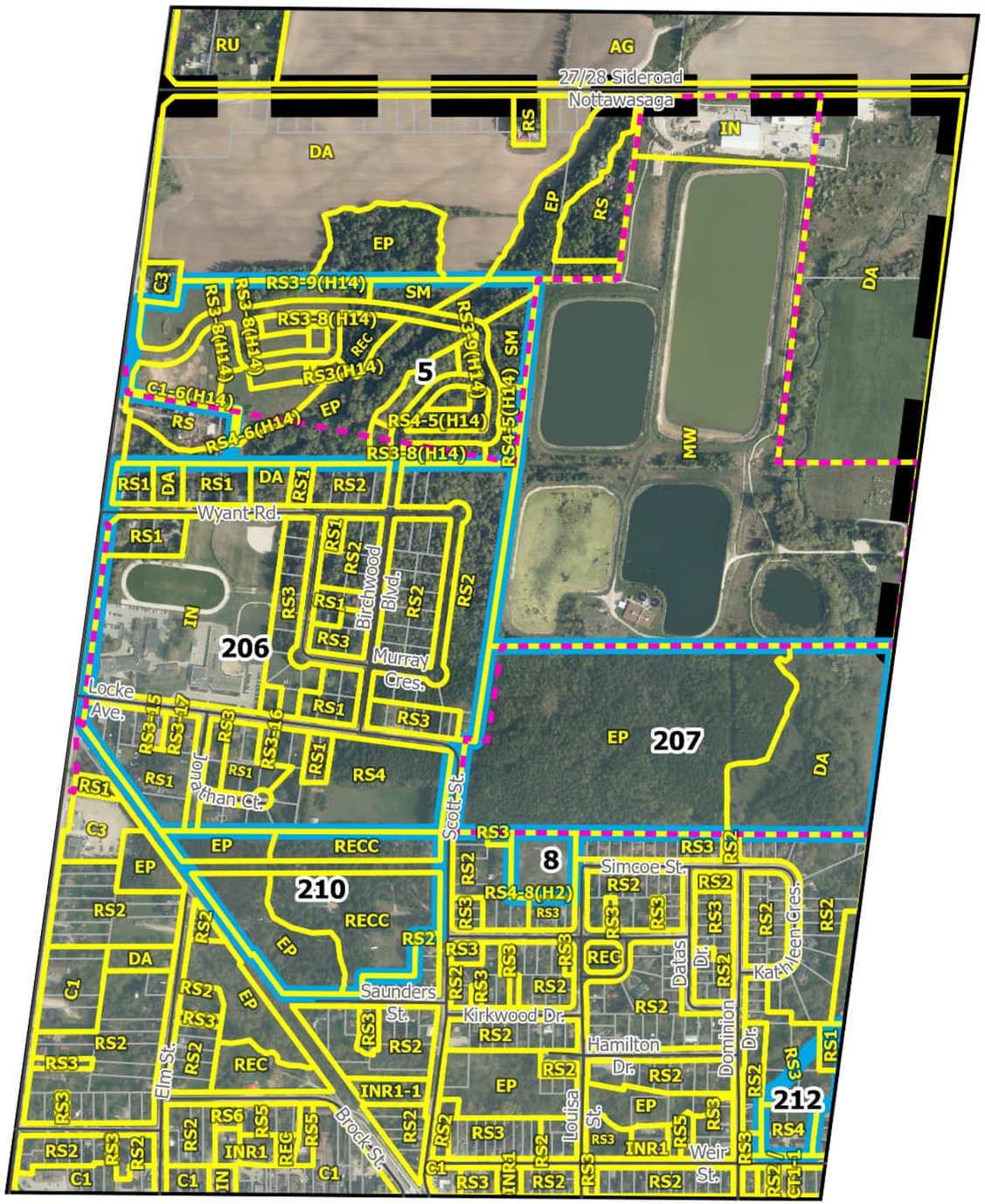
Development Projects in View

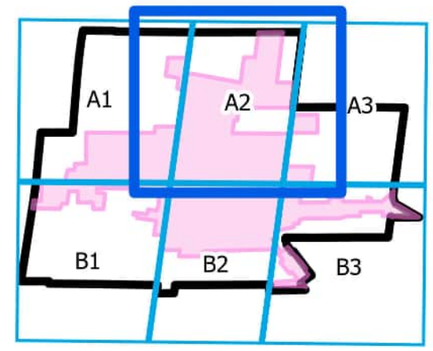
#	Project Name
3	Clearview Garden
4	Cityscape
6	Bridle Park
7	211 North Street
14	Zancor
201	Infill Opportunity 1
202	Infill Opportunity 2
203	Infill Opportunity 3
204	Infill Opportunity 4
205	Infill Opportunity 5
211	Infill Opportunity 11



CLEARVIEW TOWNSHIP

Stayner Residential Development Projects and Zoning

A2 - Page 2 of 6



Roads & Streets
Built Boundary
Settlement Area
Assessment Parcel Fabric
Zoning Boundaries
Clearview Boundary

N

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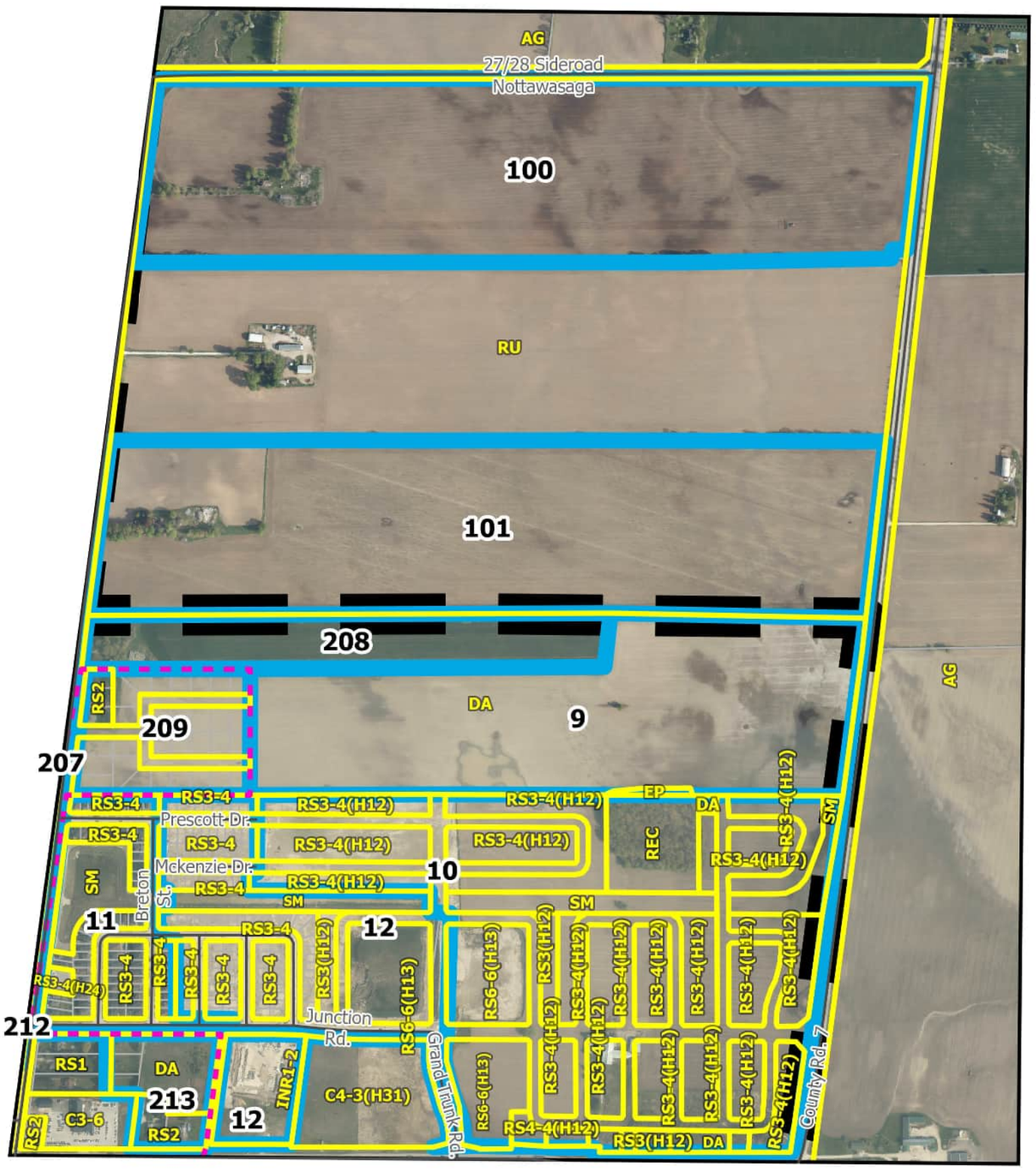
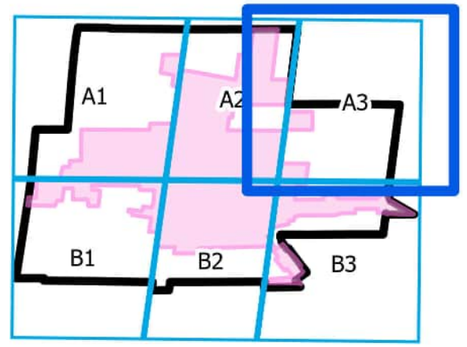
Development Projects in View

#	Project Name
5	Emerald Creek
8	Simcoe Gardens
206	Infill Opportunity 6
207	Infill Opportunity 7
210	Infill Opportunity 10
212	Infill Opportunity 12



CLEARVIEW TOWNSHIP

Stayner Residential Development Projects and Zoning



Roads & Streets
Built Boundary
Settlement Area
Assessment Parcel Fabric
Zoning Boundaries
Clearview Boundary

N

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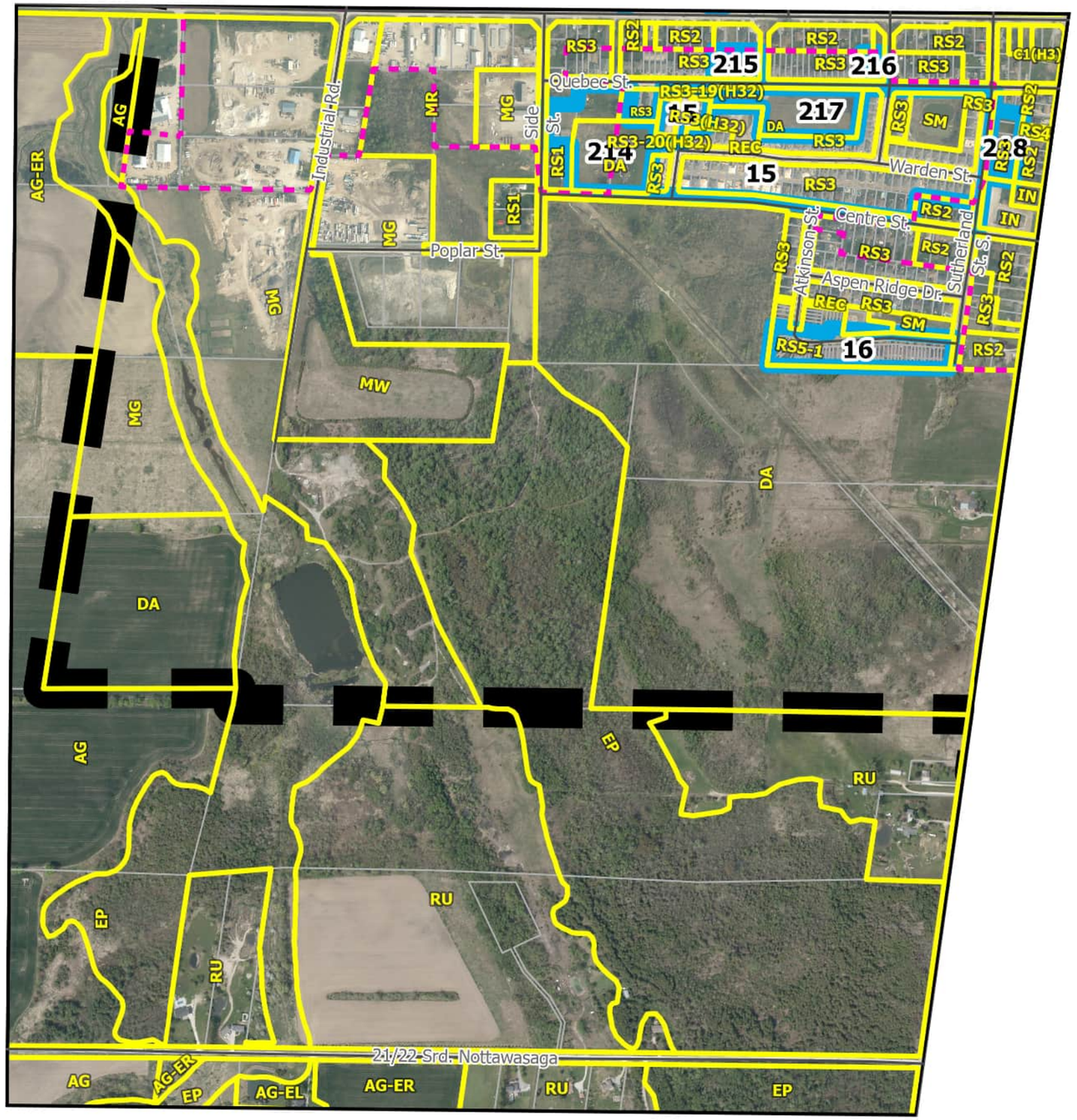
Date Saved: 2024-11-01 12:43 PM

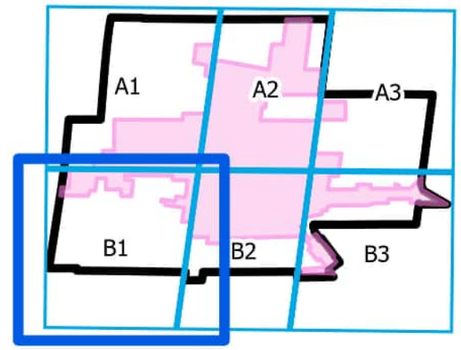
Development Projects in View

#	Project Name
9	Clearview Park
10	Nottawasaga Station (Estates of Clearview) Phase 3+
11	Nottawasaga Station (Estates of Clearview) Phase 1
12	Nottawasaga Station (Estates of Clearview) Phase 2
12	Jarelette LTC & Senior Care Home (Phase 1 & 2)
100	Former Sunrise Mowat Street Phase 1 (GRO Lands)
101	Former Sunrise Mowat Street Phase 2 (GRO Lands)
207	Infill Opportunity 7
208	Infill Opportunity 8
209	Infill Opportunity 9
212	Infill Opportunity 12
213	Infill Opportunity 13



CLEARVIEW TOWNSHIP

Stayner Residential Development Projects and Zoning



Roads & Streets
Built Boundary
Settlement Area
Assessment Parcel Fabric
Zoning Boundaries
Clearview Boundary

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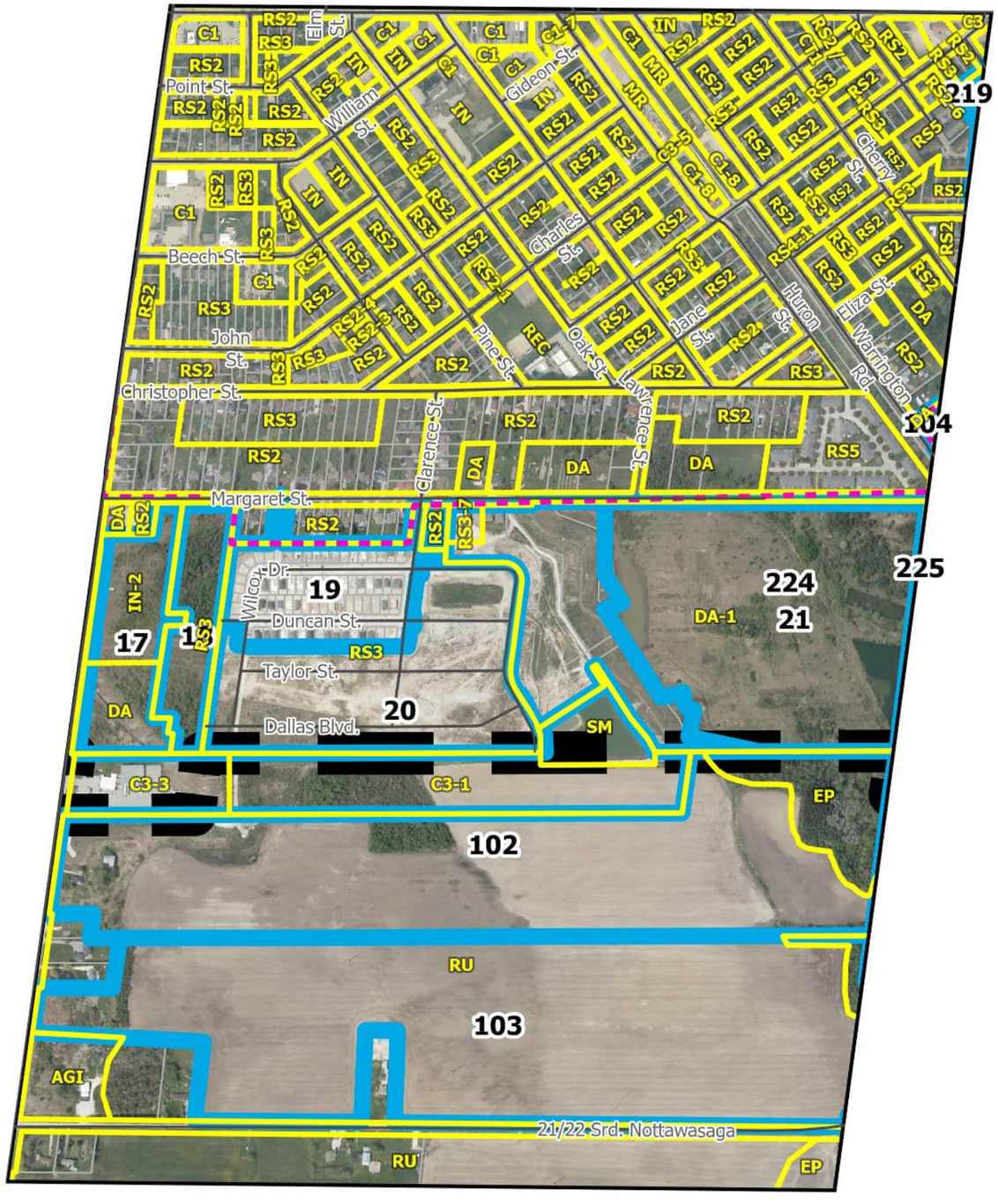
Date Saved: 2024-11-01 12:43 PM

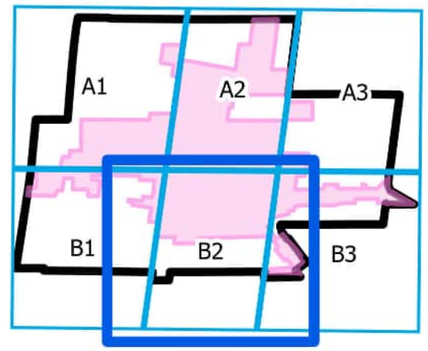
Development Projects in View

#	Project Name
15	Ridgeview Phase 1-3
15	Ridgeview Phase 4
16	Aspen Ridge Phase 2
214	Infill Opportunity 14
215	Infill Opportunity 15
216	Infill Opportunity 16
217	Infill Opportunity 17
218	Infill Opportunity 18



CLEARVIEW TOWNSHIP

Stayner Residential Development Projects and Zoning



Roads & Streets
Built Boundary
Settlement Area
Assessment Parcel Fabric
Zoning Boundaries
Clearview Boundary

N

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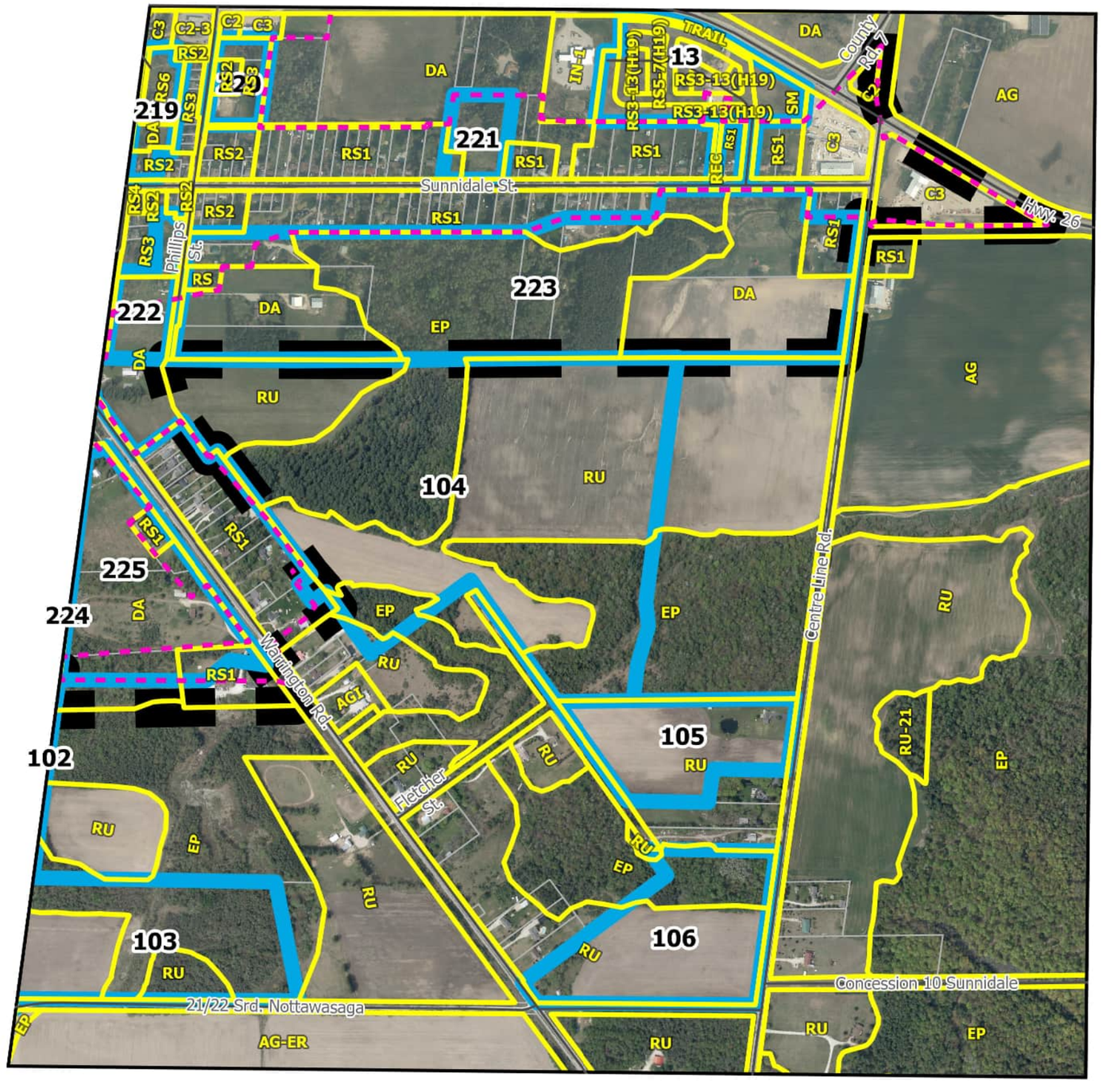
Date Saved: 2024-11-01 12:43 PM

Development Projects in View

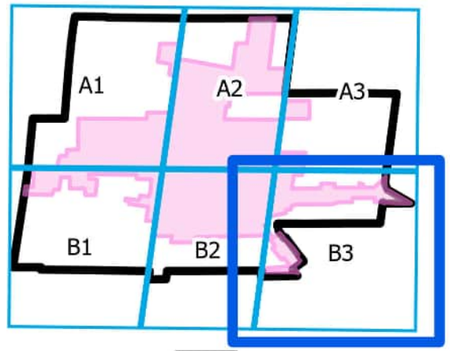
#	Project Name
17	Mamta County Road 42
18	Mamta Margaret Street
19	Ashton Meadows Phase 1A
20	Ashton Meadows Phase 1B
21	Ashton Meadows Phase 2
102	Ashton Meadows Phase 3 (GRO Lands)
103	Walker Subdivision (GRO Lands)
104	272 Warrington Subdivision (GRO Lands)
219	Infill Opportunity 19
224	Infill Opportunity 24
225	Infill Opportunity 25



CLEARVIEW TOWNSHIP

Stayner Residential Development Projects and Zoning

B3 - Page 6 of 6



Roads & Streets
Built Boundary
Settlement Area
Assessment Parcel Fabric
Zoning Boundaries
Clearview Boundary

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Date Saved: 2024-11-01 12:43 PM

Development Projects in View

#	Project Name
13	Manortown Homes
21	Ashton Meadows Phase 2
102	Ashton Meadows Phase 3 (GRO Lands)
103	Walker Subdivision (GRO Lands)
104	272 Warrington Subdivision (GRO Lands)
105	1210 Centre Line Subdivision (GRO Lands)
106	450 Warrington Subdivision (GRO Lands)
219	Infill Opportunity 19
220	Infill Opportunity 20
221	Infill Opportunity 21
222	Infill Opportunity 22
223	Infill Opportunity 23
224	Infill Opportunity 24
225	Infill Opportunity 25

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Appendix C

Water Demand Projection

Stayner Water Supply and Storage Forecast

Existing Info

2025 Population	5325	persons		
2025 WTP MDD	4052	m3/d	MDF =	1.82
2025 WTP ADD	2229.3	m3/d		
2025 RFL ADD	743.1	m3/d		
2025 Other Non Residential	0	m3/d		
2025 Residential	1486.2	m3/d		
	279	L/person/day		

Design Criteria

Flow Per Person	400	L/p/d
Assumed Density for Development	3	ppu
Actual Residential Service Popn	5325	persons
Equivalent Non Res Pop	2663	
Incl Eq non res popn	y	
Total Ex. Equivalent Persons	7988	persons

Additional Development within Current Settlement Boundary

Developments and Infill	7052	units	21156	persons

Additional Development Outside Development Boundary

Area 1	2353	units	7059	persons
Area 2	1123	units	3369	persons
Area 3	1259	units	3777	persons
Total	4735	units	14205	persons

				Water Demands (m3/d)						
	Units	Persons per unit		Persons	Cumul. Pop.	ADD (m3/d)	Cumil. ADD (m3/d)	MDD	Cumulative MDD (m3/d)	Cumulative MDD (L/s)
2025 Ex. ADD				7988	7987.5		2229.3	2	4459	51.6
Ex. Settlement Boundary	7052	3		21156	29143.5	8462.4	10691.7	1.8	19245	222.7
Area 1	2353	3		7059	36202.5	2823.6	13515.3	1.80	24328	281.6
Area 2	1123	3		3369	39571.5	1347.6	14862.9	1.80	26753	309.6
Area 3	1259	3		3777	43348.5	1510.8	16373.7	1.80	29473	341.1

Required Fire Flow and Water Storage Requirements					
Flow Rate (L/s)	Duration (hrs.)	A = Recommended Fire Storage (m3)	B = Eq. Storage (m3)	C = Emergency (m3)	Total Storage (m3)
159.00	3.00	1717	1115	708	3540
318.00	5.00	5724	4811	2634	13169
348.00	5.00	6264	6082	3086	15432
348.00	5.00	6264	6688	3238	16190
378.00	6.00	8165	7368	3883	19416

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Appendix D

WaterCAD Memo

R.J. Burnside & Associates Limited 3 Ronell Crescent Collingwood ON L9Y 4J6 CANADA
telephone (705) 446-0515 **fax** (226) 526-9660 **web** www.rjburnside.com

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Technical Memorandum Hydraulic Water Distribution Model

Date: September 8, 2026 **Project No.:** 300061604.0000

Project Name: Stayner Secondary Plan Servicing Study

Client Name: Township of Clearview

Submitted To: Township of Clearview

Submitted By: Rachel Walton, P.Eng., MASc.

Reviewed By: Jeff Langlois, P.Eng., MBA

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by the Township of Clearview (Township) to update the existing water distribution model for the community of Stayner to explore system upgrades required for future expansion as part of the Stayner Secondary Plan Servicing Study.

2.0 Hydraulic Modelling

The Stayner water distribution system was modelled using Bentley WaterCAD software. The following criteria were used to evaluate the system's ability to meet demands at adequate pressures and deliver the target fire flows.

2.1 Roughness Coefficient ("C" Value)

The friction factors "C" used in the model are based on the Ministry of Environment, Conservation and Parks (MECP) Design Guidelines for Drinking Water Systems (2008) as follows:

- 150 mm diameter: C=100;
- 200 mm or 250 mm diameter: C=110;
- 300 mm to 600 mm diameter: C=120; and
- >600 mm diameter: C=130.

2.2 System Pressures

As per the MECP Design Guidelines the pressure guidelines are as follows:

- Pressure Range during Average Day Demand (ADD) and Maximum Day Demand (MDD): 350 kPa (50 psi) to 480 kPa (70 psi);
- Minimum Pressure during Peak Hour Demands (PHD): 276 kPa (40 psi);
- Minimum Pressure during Maximum Day + Fire Flow: 138 kPa (20 psi); and
- Maximum Pressure under any flow scenario: 689 kPa (100 psi).

2.3 Fire Flow

The water model has been used to simulate a minimum 159 L/s fire flow throughout Stayner during the MDD scenario while maintaining a minimum system wide pressure of 140 kPa (20 psi).

3.0 Hydraulic Modelling

The Stayner model has been simulated under the existing 2025 scenario, the settlement boundary expansion scenario, and the GRO lands scenario. Table 1 outlines the demands for each scenario and the well setpoints in the model. It is noted that the 2025 scenario assumes that the Klondike Park Road (KPR) watermain and well site is not online.

All wells have been modelled as a node with a negative demand.

Table 1: Demands and Well Setpoints

Scenario	Demand (L/s)	Well 1 (L/s)	Well 2 (L/s)	Well 3 (L/s)	Well 4 (L/s)	KPR (L/s)	Total Well Supply (L/s)	Flow From Airport Rd Reservoir (L/s)
ADD 2025	25.8	14.16	14.16	OFF	9.16	-	37.48	-
MDD 2025	51.6	14.16	14.16	OFF	9.16	-	37.48	14.12
MDD + Fire 2025 (159 L/s Fire)	210.6	14.16	14.16	OFF	9.16	-	37.48	-
ADD EX. Settlement Bndy	123.7	14.16	14.16	OFF	9.16	86.223	123.703	-
MDD EX. Settlement Bndy	222.7	14.16	14.16	OFF	9.16	185.17	222.65	-
MDD + Fire EX. Settlement Bndy (159 L/s Fire)	381.7	14.16	14.16	OFF	9.16	185.17	222.65	159.05

Scenario	Demand (L/s)	Well 1 (L/s)	Well 2 (L/s)	Well 3 (L/s)	Well 4 (L/s)	KPR (L/s)	Total Well Supply (L/s)	Flow From Airport Rd Reservoir (L/s)
ADD GRO Lands	180.1	14.16	14.16	OFF	9.16	144.64	178.45	-
MDD GRO Lands	327.8	14.16	14.16	OFF	9.16	290.35	321.22	-
MDD + Fire GRO Lands (159 L/s Fire)	486.8	14.16	14.16	OFF	9.16	290.35	321.22	159.98

3.1 2025 Scenario Results

Figure 1 displays the system pressures under the 2025 MDD scenario and Figure 2 displays the 2025 MDD + Fire Flow results. The system pressures are controlled by the Airport Road Reservoir. During the 2025 MDD, the system pressures are above 50 psi and below 100 psi.

3.2 Existing Settlement Boundary Expansion Scenario Results

Figure 3 displays the system pressures under the Existing Settlement Boundary Expansion MDD scenario and Figure 4 displays the Existing Settlement Boundary Expansion MDD + Fire Flow results. The following recommendations have been considered in the modeling:

- Provide additional 600 mm diameter watermain connection from KPR through Emerald Creek to Hwy 26.
- Provide 300 mm diameter watermain from HWY 26 north to connect infill development lands to the west (Cityscape, Clearview Gardens, Bridle Park).
- Increase diameter of ex. 100 mm diameter watermain on Elm from Brock Street to Jonathon Court to a 300 mm diameter watermain to improve fire flow.
- Increase diameter of watermain on Margaret Street to a 300 mm diameter. Connect Margaret watermain through Warrington and north to Sunnidale Street. Increase diameter of 50 mm watermain on Phillips south of Sunnidale to a 300 mm diameter watermain to complete 300 mm diameter looping.

During the Existing Settlement Boundary Expansion MDD, the system pressures within the community are above 50 psi and below 100 psi. There are some locations along the KPR watermain with pressures that exceed 100 psi.

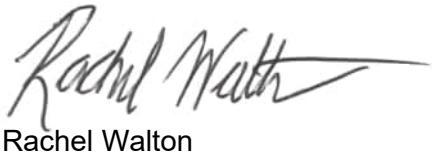
3.3 GRO Lands Scenario Results

Figure 5 displays the system pressures under the GRO Lands MDD scenario and Figure 6 displays the GRO Lands MDD + Fire Flow results. The following recommendations have been considered in the modeling:

- Include all recommended upgrades from Existing Settlement Boundary Expansion Scenario
- Provide a 600 mm diameter watermain from KPR along County Road 7 south to Hwy 26. Continue 600 mm diameter past Sunnidale and transition to a 300 mm diameter watermain along Centre Line Road to Nottawasaga Side Road 21/22.
- Provide a 300 mm diameter watermain along Nottawasaga Side Road 21/22 and loop into future GRO lands. 300 mm diameter could be increased if a higher fire flow is required in GRO lands.
- Provide a 200 mm diameter water along Mowat Street from KPR south.
- Loop watermain from Mowat to County Road 7 through GRO Lands with 200 mm diameter watermain, or larger depending on fire flow requirements in development lands.

During the GRO MDD scenario the system pressures within the community are above 50 psi and below 100 psi. There are some locations along the KPR watermain with pressures that exceed 100 psi.

R.J. Burnside & Associates Limited



Rachel Walton
Project Engineer

RW:smm

Enclosure(s) Figure 1 EX 2025 MDD
Figure 2 MDD + Fire Flow
Figure 3 MDD EX Settlement Boundary
Figure 4 MDD + Fire Flow EX Settlement Boundary
Figure 5 MDD-GRO
Figure 6 MDD + Fire GRO Lands

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MDD

- AIRPORT ROAD RESERVOIR ELEV. = 268.14 m
- WELL 1 = 14.16 L/s (SUNNIDALE ST.)
- WELL 2 = 14.16 L/s (COUNTY RD. 42)
- WELL 3 = 0 L/s (SUNNIDALE ST.)
- WELL 4 = 9.16 L/s (COUNTY RD. 42)

Notes

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NOT FOR CONSTRUCTION

No.	Issue / Revision	Date	Auth.

PIPE DIAMETER (mm)

- 50
- 100
- 150
- 200
- 250
- 300
- 600

JUNCTION PRESSURE (PSI)

- <20
- 20-50
- 50-80
- 80-100
- >100

BURNSIDE

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Client

TOWNSHIP OF CLEARVIEW
217 GIDEON STREET
STAYNER, ON
L0M 1S0

Drawing Title

STAYNER WATER DISTRIBUTION SYSTEM

EXISTING 2025 SCENARIO
MAXIMUM DAY DEMAND

Drawn	Checked	Designed	Checked	Date	Drawing No.
RW	JLL	-		JULY 2026	1
Scale		Project No.		Revision No.	
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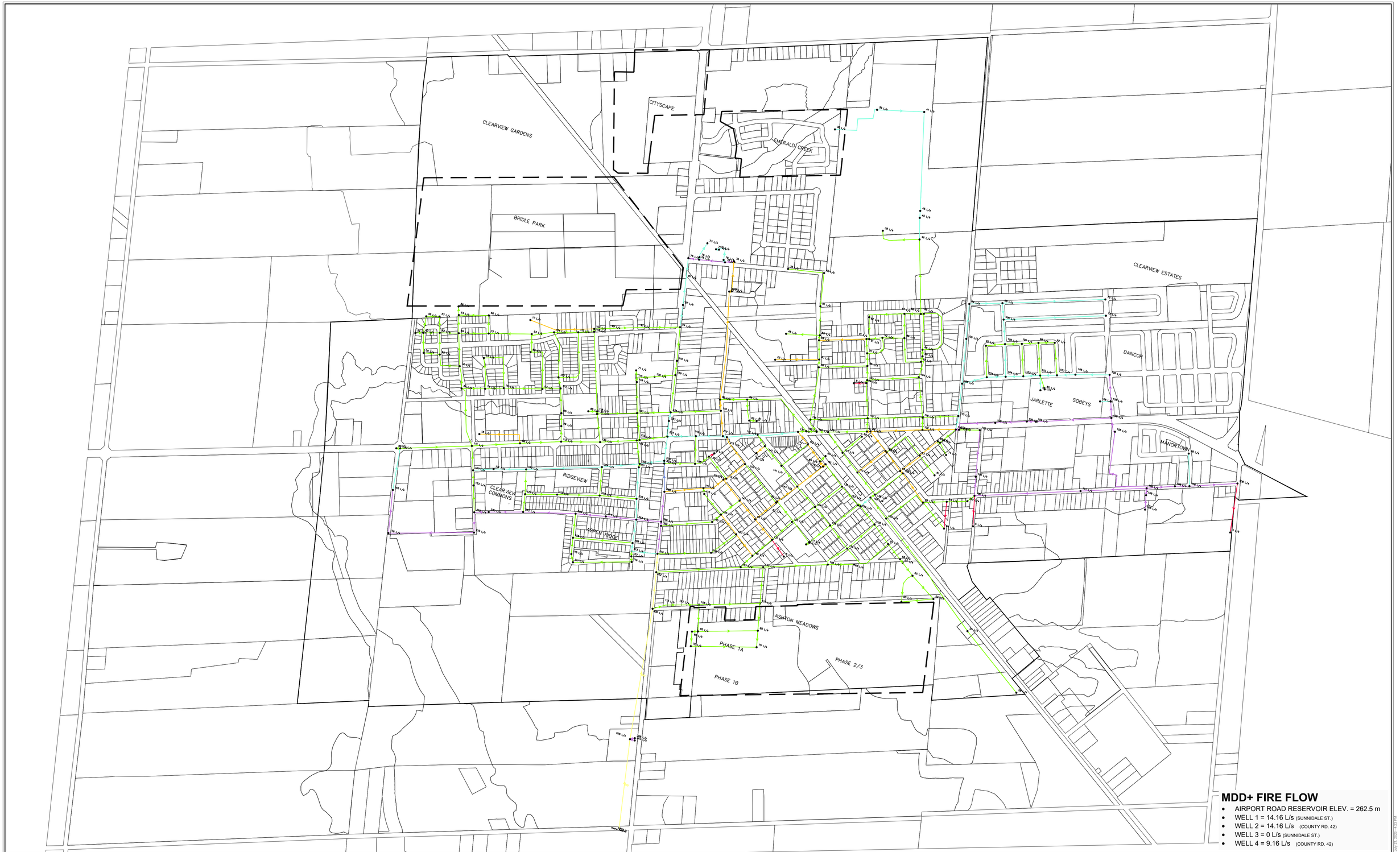

MDD+ FIRE FLOW

- AIRPORT ROAD RESERVOIR ELEV. = 262.5 m
- WELL 1 = 14.16 L/s (SUNNIDALE ST.)
- WELL 2 = 14.16 L/s (COUNTY RD. 42)
- WELL 3 = 0 L/s (SUNNIDALE ST.)
- WELL 4 = 9.16 L/s (COUNTY RD. 42)

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TOWNSHIP OF CLEARVIEW

217 GIDEON STREET
STAYNER, ON
L0M 1S0

Drawing Title

STAYNER WATER DISTRIBUTION SYSTEM

EXISTING 2025 SCENARIO
MAXIMUM DAY DEMAND + FIRE FLOW

Drawn	Checked	Designed	Checked	Date	Drawing No.
RW	JLL	-		JULY 2026	2
Scale		Project No.		Revision No.	
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MDD

- AIRPORT ROAD RESERVOIR ELEV. = 268.14 m
- WELL 1 = 14.16 L/s (SUNNIDALE ST.)
- WELL 2 = 14.16 L/s (COUNTY RD. 42)
- WELL 3 = 0 L/s (SUNNIDALE ST.)
- WELL 4 = 9.16 L/s (COUNTY RD. 42
- KPR = 185.17 L/s

Notes

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- 300
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JUNCTION PRESSURE (PSI)

- <20
- 20-50
- 50-80
- 80-100
- >100

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217 GIDEON STREET
STAYNER, ON
L0M 1S0

Drawing Title

STAYNER WATER DISTRIBUTION SYSTEM

SETTLEMENT BOUNDARY LANDS
MAXIMUM DAY DEMAND

Drawn	Checked	Designed	Checked	Date	Drawing No.
RW	JLL	-		JULY 2026	3
Scale		Project No.		Revision No.	
NTS		300061604		0	

File Name: 300061604-Stayner Watermain.dwg Date Plotted: July 22, 2026 - 9:42 AM

MDD

- AIRPORT ROAD RESERVOIR ELEV. = 262.5 m
- WELL 1 = 14.16 L/s (SUNNIDALE ST.)
- WELL 2 = 14.16 L/s (COUNTY RD. 42)
- WELL 3 = 0 L/s (SUNNIDALE ST.)
- WELL 4 = 9.16 L/s (COUNTY RD. 42
- KPR = 185.17 L/s

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No.	Issue / Revision	Date	Auth.

PIPE DIAMETER (mm)

- 50
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- 600

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STAYNER, ON
L0M 1S0

Drawing Title
STAYNER WATER DISTRIBUTION SYSTEM

SETTLEMENT BOUNDARY LANDS
MAXIMUM DAY DEMAND + FIRE FLOW

Drawn	Checked	Designed	Checked	Date	Drawing No.
RW	JLL	-		JULY 2026	4
Scale		Project No.		Revision No.	
NTS		300061604		0	

File Name: 2026-Stayner Watercad.dwg Date Plotted: July 22, 2026 - 9:43 AM

MDD

- AIRPORT ROAD RESERVOIR ELEV. = 268.14 m
- WELL 1 = 14.16 L/s (SUNNIDALE ST.)
- WELL 2 = 14.16 L/s (COUNTY RD. 42)
- WELL 3 = 0 L/s (SUNNIDALE ST.)
- WELL 4 = 9.16 L/s (COUNTY RD. 42
- KPR = 290.35 L/s

Notes

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PIPE DIAMETER (mm)

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- 300
- 600

JUNCTION PRESSURE (PSI)

- <20
- 20-50
- 50-80
- 80-100
- >100

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Drawing Title
STAYNER WATER DISTRIBUTION SYSTEM

GRO LANDS
MAXIMUM DAY DEMAND

Drawn	Checked	Designed	Checked	Date	Drawing No.
RW	JLL	-		JULY 2026	5
Scale		Project No.		Revision No.	
NTS		300061604		0	

File Name: 2026-Stayner Watercad.dwg Date Plotted: September 8, 2026 - 3:51 PM

MDD

- AIRPORT ROAD RESERVOIR ELEV. = 262.5 m
- WELL 1 = 14.16 L/s (SUNNIDALE ST.)
- WELL 2 = 14.16 L/s (COUNTY RD. 42)
- WELL 3 = 0 L/s (SUNNIDALE ST.)
- WELL 4 = 9.16 L/s (COUNTY RD. 42
- KPR = 290.35 L/s

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No.	Issue / Revision	Date	Auth.

PIPE DIAMETER (mm)
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- 200
- 250
- 300
- 600

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Client
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217 GIDEON STREET
STAYNER, ON
L0M 1S0

Drawing Title
STAYNER WATER DISTRIBUTION SYSTEM

GRO LANDS
MAXIMUM DAY DEMAND + FIRE FLOW

Drawn	Checked	Designed	Checked	Date	Drawing No.
RW	JLL	-		JULY 2026	6
Scale		Project No.		Revision No.	
NTS		300061604		0	

File Name: 2026-Stayner Watercad.dwg Date Plotted: September 8, 2026 - 3:56 PM

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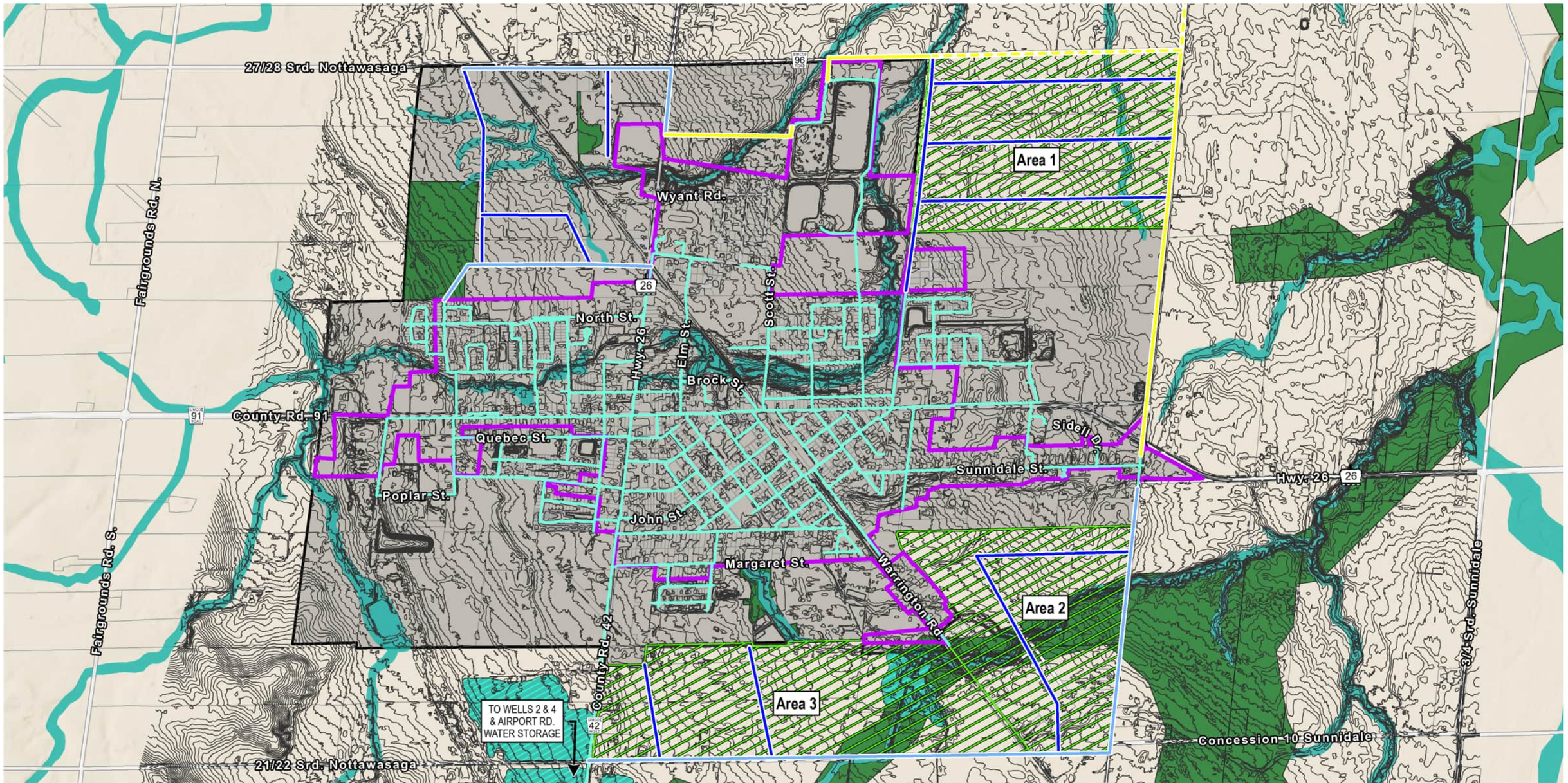
Appendix E

Water Servicing Strategy



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Coord. System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Central Meridian: 81°0'0.00"W
False Easting: 500,000m
False Northing: 0m
Scale Factor: 0.99960

Drawn By: HN
Checked By: JL
Client: Township of Clearview
Project: Stayner Secondary Plan Servicing
Project Number: 300061604
Date: 2026/09/01

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0 1,000 2,000
Metres
1:20,000

Figure: 2 - Water Servicing Strategy

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Appendix F

Wastewater Flow Projection

Stayner Secondary Plan Expansion - Wastewater Flow Projections

Existing Info			
2025 Population	4699	persons	
2025 WWTP ADF	1718	m3/d	
2025 RFL	103	m3/d	
2025 Other Non Residential	0	m3/d	
2025 Residential	1615	m3/d	
	344	L/person/day	

Design Criteria				
Flow Per Person			400	L/p/d
Avg i/i			90	L/p/d
Peak i/i			227	L/p/d
Persons Per Unit Ex.			2.5	ppu
Actual Residential Service Pop			4699	persons
Non Residential Service Pop				
RFL	103	m3d	300	persons
Other Non residential	0			
Eq. Residential Service Population associated with I/C/I			300	
Include Eq. Population in Existing Population		n		
Ex. Equivalent Service Population			4699	persons

Assumed Density for Development 3 ppu

Additional Development within Current Settlement Boundary

Developments and Infill	7052	units	21156	persons

Additional Development Outside Development Boundary

Area 1	2353	units	7059	persons
Area 2	1123	units	3369	persons
Area 3	1259	units	3777	persons
Total	4735	units	14205	persons

			Average Flows (m3/d)							Peak Flows (m3/d)			
	Units	PPU	Persons	Cumul. Pop.	ADF(dry) m3/d	Cumul. Dry ADF	Avg. Infill	Cumul. Avg Inf m3/d	Cumul. ADF m3/d	Peaking Factor	Cumul. Peak Dry m3/d	Cumul. Peak I/I m3/d	Peak Flow m3/d
2025 Ex. ADF			4699	4699		1718			1718	3.27	5617.7	1066.7	6684
Ex. Settlement Boundary	7052	3	21156	25855	8462	10180	1904	1904	12084	2.54	25868.8	5869.1	31738
Area 1	2353	3	7059	32914	2824	13004	635	2539	15543	2.44	31701.2	7471.5	39173
Area 2	1123	3	3369	36283	1348	14352	303	2843	17194	2.40	34396.7	8236.2	42633
Area 3	1259	3	3777	40060	1511	15862	340	3182	19045	2.36	37361.8	9093.6	46455

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Appendix G

Wastewater Servicing Strategy

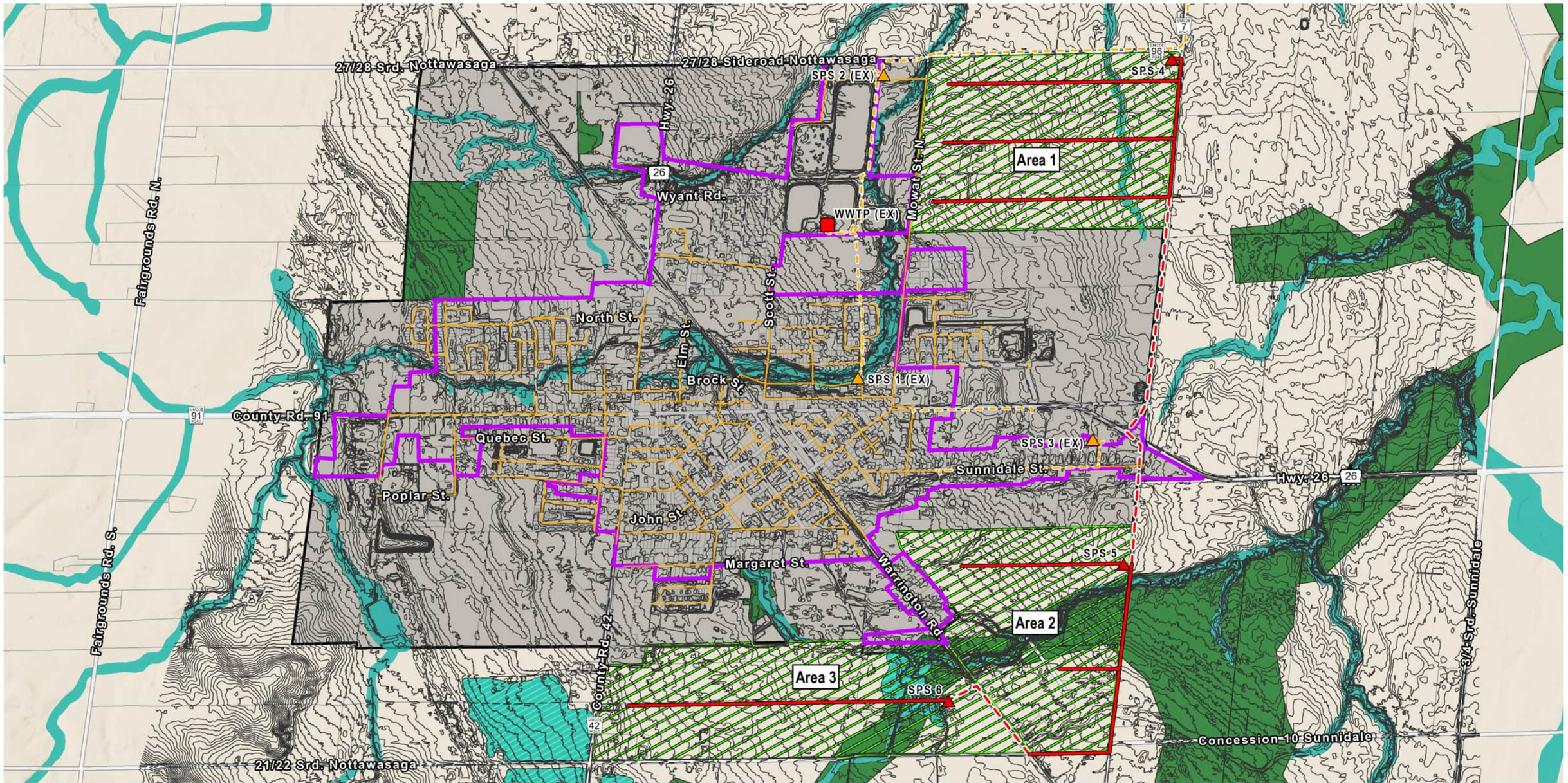

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Figure: 3 - Wastewater Servicing Strategy

File Path: Z:\061604\0000\08-GIS\061604\061604.aprx Print Date: 2026/09/01 Time: 01:27 PM

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