

318 LAKE STREET HILLSIDE SUBDIVISION

Functional Servicing Report

April 25th, 2025

Prepared for:

Homes First Development Corporation
315 Oak Street
Richmond Hill, On L4C 6R5

Submitted by:

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TABLE OF CONTENTS

1	BACKGROUND	1
1.1	LAND USE / ZONING	2
1.2	PROPOSED DEVELOPMENT	2
2	WASTEWATER CONVEYANCE AND TREATMENT.....	4
2.1	WASTEWATER TREATMENT PLANT	4
2.2	WASTEWATER COLLECTION & CONVEYANCE.....	7
2.2.1	Connection Point to Existing System	7
2.2.2	Wastewater Demand and Pipe Capacity	9
2.2.3	Municipal Network Extension	11
2.2.4	Internal Pipe Network	12
2.2.5	Sanitary Collection and Conveyance Summary	13
3	WATER SUPPLY & TREATMENT	14
3.1	PICTON WATER TREATMENT PLANT	14
3.2	WATER DISTRIBUTION SYSTEM	16
3.2.1	Hydrant Test Results	17
3.2.2	Preliminary Water Pressure Analysis	17
3.2.3	Preliminary Service Water Flow Demand	18
3.2.4	Preliminary Fire Flow Requirements.....	19
3.2.5	Water Distribution System Summary	20
4	PRELIMINARY ROAD, STORM AND SANITARY NETWORK GRADES.....	20
5	CONCLUSIONS.....	21

1 BACKGROUND

The Greer Galloway Group (a Division of Jp2g Consultants Inc.) has been engaged to provide a Functional Servicing Report (FSR) for the proposed development at 318 County Road 10 (Lake Street), commonly known as Hillside Subdivision in the Town of Picton.

The intent of this FSR is to satisfy draft plan of subdivision submission requirements for:

- Water supply and treatment demands.
- Wastewater supply and treatment demands.
- Provide preliminary road grading, gravity sanitary and gravity sanitary pipe network plans.

The property is located on the east side of County Road 10 (Lake Street), between Browns Street and County Road 22.

Made up of multiple individual parcels, the subject lands total 26.5 ha with 14.46 ha being zoned as environmentally projected and 12.04 ha of developable lands.

The properties are located inside of, and at the south limits of the Picton urban boundary.

There is no municipal water or wastewater infrastructure currently at the property boundary. An extension to this infrastructure will be required to service this development.

This FSR will outline our understanding (to the extent the referenced information allows) of the existing municipal infrastructure and projected drinking water and wastewater servicing demands for the proposed development.



Figure 1: Subject Lands – Aerial (PEC GIS)

1.1 LAND USE / ZONING

The development lands are made up of a combination of farmland, woodlot and wetland.

The current zoning of the lands is illustrated in the image on the right below, and include Future Development (brown) and Environmentally Protected (green hatch). The EP lands are associated with a portion of the forested area and Marsh Creek on the east side of the property.

The lands proposed for development are contained in the lands zoned for future development.

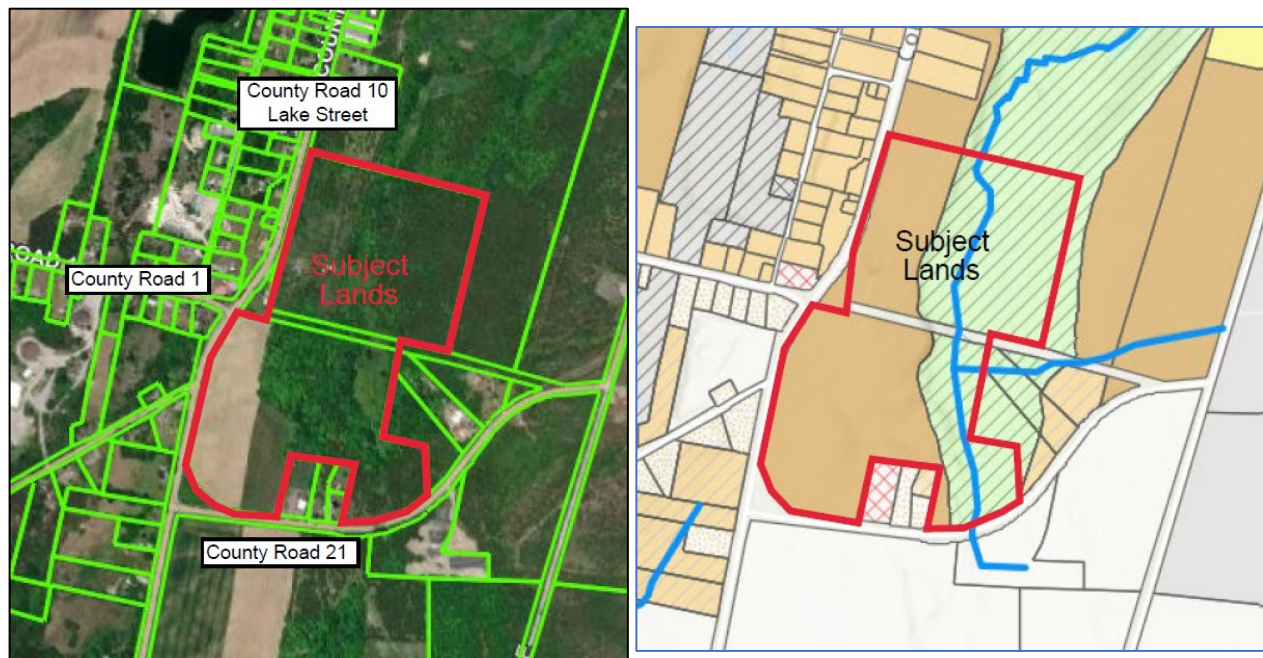


Figure 2: Subject Lands – Property Aerial and Zoning (PEC GIS)

1.2 PROPOSED DEVELOPMENT

The proposed development will include 483 residential units including:

- 53 single family homes.
- 54 link or semi-detached style homes.
- 86 townhomes.
- 290 apartment units.

The development site plan is illustrated on the following page. This is an excerpt from Homes First Development Corporation (HSPM) Holdings Inc. draft plan of Subdivision Concept Plan drawing #SCP100 (complete drawing is appended).

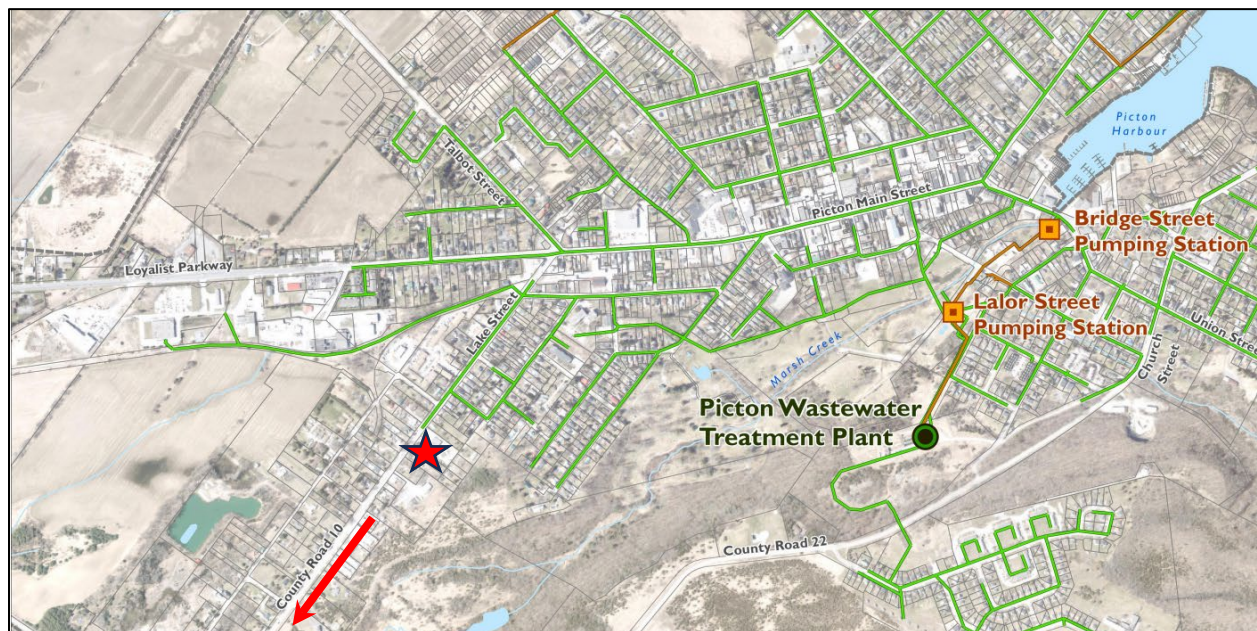


2 WASTEWATER CONVEYANCE AND TREATMENT

While the lands are not currently serviced by the existing municipal wastewater treatment plant or collection system, they are inside the urban boundary and included in the future servicing area. Accordingly, as part of the development of these lands an expansion of the existing collection network will be required and additional demand placed on the treatment plant.

For reference, below is an illustration of the Picton wastewater network showing:

- The wastewater treatment plant is located west of Church Street / Pitt Street.
- The Lalor Street pump station and destination for community gravity flows.
- The existing community sewer collection system pipe network (green lines).
- The nearest connection point for the existing Picton wastewater collection system is marked by the red star, and the red arrow points in the direction of the development lands southwest along Lake Street just beyond the image edge.



2.1 WASTEWATER TREATMENT PLANT

The Picton Wastewater Treatment Plant (WWTP) is located at 60 Church Street on the south side of Picton.

We have reviewed the documents available and provide the following summary of information:

Picton Master Servicing Plan (2024) – Wastewater Findings (October 2nd 2024 Public Meeting):

- Serves 4,573 people.
- Rated capacity of the plant is 6,000 m³/d (based on theoretical design and Ministry approved ECA).
- ‘Sustainable’ plant capacity is 4,800 m³/d (determined based on a recent study of actual plant operating conditions).

2023 Picton Wastewater Treatment Plant Annual Performance Report:

1. MECP Identifier Number: 120000667
2. Certificate of Approval #5464-AKATW7
3. Approved Capacity (Rated Capacity / Annual Average Daily Flow): 6,000 m³/day
4. Approved Capacity (Peak Daily Flow Rate): 26,400 m³/day
5. Flow records are summarized in the following report excerpts.

The 2023 annual average flow of 3,101.76 m³/day (below) is under both rated and sustainable capacities. Peak flows are also below the approved capacity.

Capacity Assessment: Influent and Effluent Quantities				
Based on the 2023 flow data, the Picton Wastewater Treatment Plant maintained operations within approved capacity requirements as per Environmental Compliance Approval No. 5464-AKATW7.				
Table 11: Influent Quantity; Flow Data, 2023				
Month	Approved Capacity (Rated Capacity) ¹	Monthly Average	Approved Capacity (Peak Daily Flow Rate) ²	Monthly Peak Flow
	m ³ /day	m ³ /day	m ³ /day	m ³ /day
January	6000	2402.90	26400	2899.08
February	6000	3694.28	26400	8700.72
March	6000	4448.13	26400	6242.90
April	6000	4214.77	26400	5778.94
May	6000	3367.21	26400	4882.22
June	6000	3046.50	26400	3936.16
July	6000	2433.36	26400	2973.17
August	6000	2007.21	26400	2352.67
September	6000	2013.84	26400	4172.76
October	6000	2117.46	26400	2713.45
November	6000	2542.48	26400	5308.81
December	6000	4932.96	26400	16448.88
Annual	6000	3101.76	26400	5534.15

Note¹: As per ECA No. 5464-AKATW7, "Rated Capacity" is defined as the Annual Average Daily Flow for which the Sewage Treatment Plant is designed to handle. The Picton WWTP maintained an average daily flow within approved capacity requirements for the 2023 operational year.

Note²: As per ECA No. 5464-AKATW7, "Peak Flow Rate" is defined as the Peak Instantaneous Flow Rate, Peak Hourly Flow Rate or Peak Daily Flow Rate for which the Sewage Treatment Plant or treatment process unit or equipment is designed to handle, as appropriate. The Picton WWTP maintained Peak Daily Flow Rate within approved capacity requirements for the 2023 operational year.

There were concerns acknowledged by the County during the recent stakeholder meeting relating to the limited reserve capacity available at the treatment plant. While no specific details were available at that time, it is part of the Master Servicing Plan scope of work currently underway and specific details relating to existing available capacity as well as future interim and ultimate improvements to improve available capacity are expected from that Plan.

The recent Master Servicing Plan stakeholder meeting stated the plant serves ‘around 2,515 customers’ which will be used as the number of existing connected services.

Reserve Capacity Calculation

The Ministry of Environment, Conservation and Parks recommends the number of lots in approved plans of subdivision, developments committed by virtue of approved zoning, new official plans or site-specific official plan amendments, should not exceed the design capacity of the sewage and/or water system. To ensure that capacity is not exceeded, it is necessary to determine what uncommitted reserve capacity is available.

To determine what capacity is available at a municipal wastewater treatment plant the Ministry of Environment “Procedure D-5-1 Calculating and Reporting Uncommitted Reserve Capacity at Sewage and Water Treatment Plants” can be followed and is summarized below:

$$C_u = C_r - (L \times F \times P)/H$$

C_u = Uncommitted Hydraulic Reserve Capacity (m^3/d)

C_r = Hydraulic Reserve Capacity (m^3/d)

L = Number of Unconnected Approved Lots

P = Existing Connected Population

H = Number of Households or Residential Connections

Wastewater Treatment Plant:

F = Average Day Flow per Capita ($m^3/capita/day$)

(Note: In this calculation average day flow is used for wastewater treatment plants while max day flow is used for a similar calculation for domestic water treatment plants.)

As noted above, we know:

Plant Rated Capacity = $6,000 m^3/d$

Sustainable Plant Capacity = $4,800 m^3/d$

Average Daily Flow = $3,101 m^3/d$

‘Sustainable’ Hydraulic Reserve Capacity (C_r) = $4,800 m^3/d - 3,101 m^3/d = 1,699 m^3/d$

The number of unconnected approved lots (L) includes:

1. Vacant lots/units in registered plans of subdivision and condominium.
2. Lots/units in draft approved plans of subdivision and condominium.
3. The maximum development potential of lands as permitted under existing zoning.
4. Registered plans of condominium.
5. Vacant lots created by consent in serviced areas.

For this document the number of unconnected approved lots (L) is assumed to be zero. This assumption is made to calculate the actual current hydraulic capacity available for additional

development and acknowledges that only the Municipality will be aware of the status of all lands within the municipal servicing boundary.

This calculation is provided as an approximate reference. The municipality will ultimately need to confirm an accepted plant uncommitted reserve capacity based on their most recent information and development commitments.

- Number of Unconnected Approved Lots (L) = 0
- Therefore, $C_u = C_r$

The existing Hydraulic Demand per lot is calculated by dividing Average Daily Flow 3,101 m³/d by the number of service connections (2,515) which equals 1.23 m³/d/connection.

If we consider the sustainable capacity, there is a Hydraulic Reserve Capacity of 1,699 m³/d. With a demand per connection of 1.23 m³/d there would be capacity at the wastewater treatment plant for approximately 1,381 additional connections.

Picton and Prince Edward County generally, is seeing significant development activity. While there appears to be capacity at the treatment plant for the proposed development, it is possible the wastewater reserve capacity will be exceeded in the near future by developments that have already been approved, without considering those soon to be requesting capacity allocations.

It is recommended that the County be consulted to confirm whether this development will be allocated capacity now, or when that allocation can be expected to support this development.

2.2 WASTEWATER COLLECTION & CONVEYANCE

2.2.1 CONNECTION POINT TO EXISTING SYSTEM

We understand the closest point to which a connection can be made to the existing wastewater collection system is on Lake Street at maintenance hole #525 approximately 1.0 km north of the subject lands, immediately south of Albert Street.

The County has completed an earlier *Municipal Class Environmental Assessment Report, Picton Sanitary Sewer and Watermain Extension Study (2006) and Addendum (2011)*. The study included a series of network expansion phases, temporary facilities and other elements that would be necessary to service lands on the west and south side of Picton – including the subject lands. This earlier master plan will soon be replaced by an updated master plan currently being completed however the details of that new plan are not available at this time.

While this earlier master plan will soon be replaced, for reference, the image below from the 2006/2011 master plan is provided and the following is noted:

- The construction of a trunk sewer on Lake Street to County Road 1 (Sandy Hook Road) is included in “Phase 1” among other network improvements suggesting this is a priority task and would benefit the servicing of this development.

- The southern development parcel (south of County Road 1) of the proposed development is not included in the future development service area (blue boundary line) despite being zoned as 'future development'.

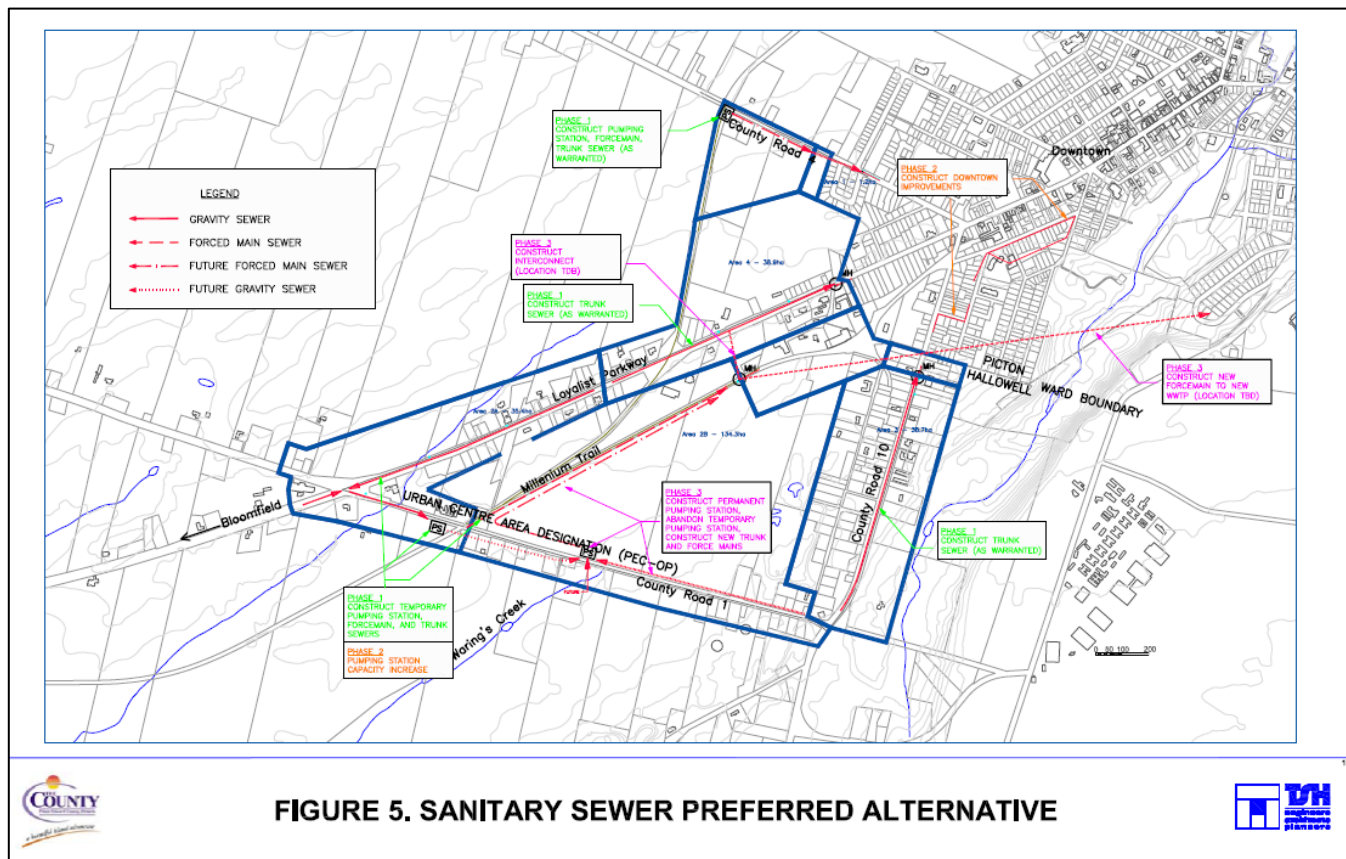


Figure 4: 2006/2011 Sanitary Sewer Collection System Master Plan, TSH

As the future plans for the wastewater network are not known at this time, we will focus our comments on the subject development, its demands and ability to connect to the existing limits of the existing network.

The size, slope and relative available capacity of the sanitary pipe network between the connection point (MH #525) and the wastewater treatment plan are not known. We understand that the County maintains a computer model of the wastewater collection network, but this model is not publicly available. Basic existing network information is available through the County GIS system providing structure labels, size and pipe slope as illustrated below.

Lake Street Sanitary Sewer

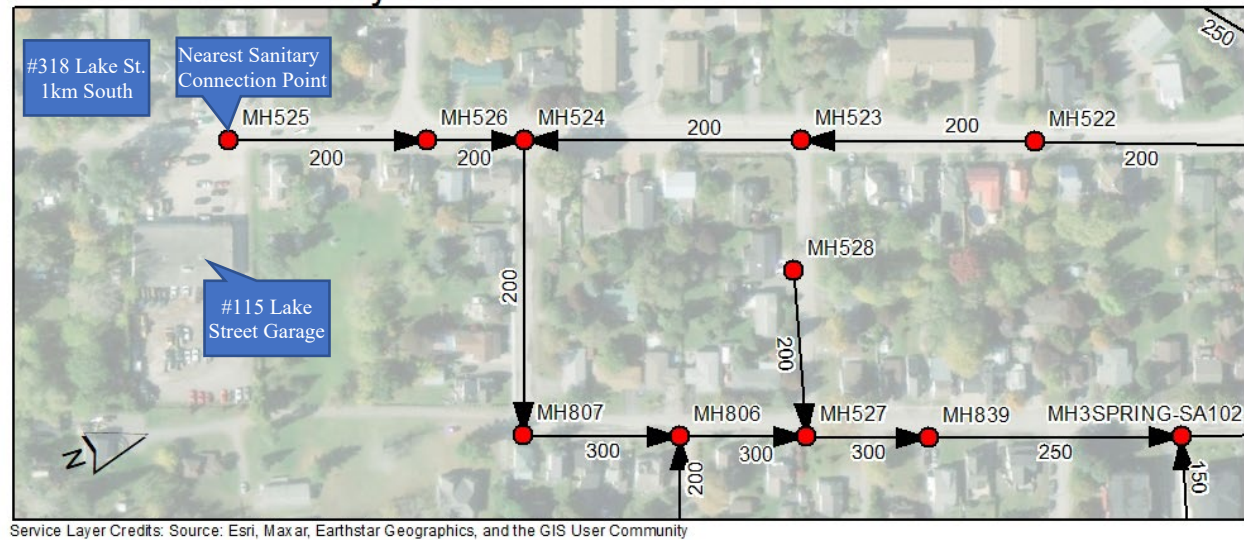


Figure 5: Sanitary Sewer Network (PEC GIS)

The PEC Sanitary GIS identifies the first three pipes downstream from MH #525 as 200mm with slopes that are flatter than Ministry design guidelines. Input from the County and their network model will be required to determine what, if any, improvements are required in the existing network to support this development.

2.2.2 WASTEWATER DEMAND AND PIPE CAPACITY

We created a sanitary sewer design sheet (appended) to determine the peak wastewater flows from the development under various conditions. We considered the following:

- 483 proposed residential units.
- 2008 Ministry of Environment Design Guidelines for Sewage Works recommends average daily domestic demands in the range of 225 – 450 L/capita/day.
- Being a new development with new fixtures, etc. it is likely that demand will fall at the low end of this range.
- For the purpose of this estimate, a conservative per capita daily demand in the middle of this range of 350 L/capita/day has been assumed.
- There is a development focus on affordable housing and a combination of apartment, town and single family homes with an assumed average occupancy of 2.5 people.
- Assuming an average occupancy of 2.5 people per dwelling, a total development population of 1,208 results.

-
- At 350 L/capita/day, an average daily demand of 422,800 L/d (4.89 L/s) can be expected from the development.
 - A peaking factor of 3.75 is calculated for this flow resulting in a peak daily demand of 18.32 L/s.
 - Allowing extraneous demands resulting from system leakage, unintended connections, etc. an additional 3.37 L/s is allowed for. This is based on the 12.04 ha developable area and an extraneous flow rate of 0.28 L/s/ha.
 - Total peak daily demands in the order of 21.70 L/s have been calculated.
 - This flow is equivalent to the minimum allowable sanitary sewer pipe size of 200mm, installed at its minimum slope of 0.40%, flowing 105% full.
 - As the minimum pipe size would be over capacity when the full development is contributing. Considering a 300mm pipe installed at its minimum slope of 0.22% would flow at 48% full at this flow rate.
 - Estimated flows can be conveyed via an increased pipe size or an increase in slope as determined during the development detailed design.

It is assumed that all existing properties between the proposed subdivision and the existing sanitary system will be connected to the new extension. The County GIS shows 33 residential properties along this stretch of Lake Street, resulting in 33 additional residential connections.

- Assuming three people per household, an additional 99 people will be added to the connected population.
- Total peak daily demands increase to 25.68 L/s have been calculated, including the development site and the existing properties between it the MH #525 connection point.
- This flow is roughly equivalent to the minimum allowable sanitary pipe size of 200mm, installed at its minimum slope of 0.4%, flowing 124% full.
- As the minimum pipe size would be over capacity when the full development and existing properties are contributing, considering a 300mm pipe installed at its minimum slope of 0.22% would flow at 57% full.
- Gravity sewer pipes to the Lake Street connection no larger than 300mm diameter will be required if the anticipated minimum slope installation is required.

As the County maintains the model of the wastewater collection system, we are unable to comment fully on capacity details beyond the receiving point at MH #525. The County will therefore be responsible for confirming that capacity is available throughout the downstream system.

2.2.3 MUNICIPAL NETWORK EXTENSION

To determine if the proposed development may be able to connect to the existing system via gravity or if a pumped connection is required, we will consider the relative elevations and possible gravity sewer connection path between the property and the existing network.

Until an outlet point from the proposed development is confirmed, existing sewer system depths confirmed, topographic survey completed to identify surface low points and buried conflicts to a gravity system are detailed, the following will be an approximation but we believe it will provide a useful frame of reference for development servicing requirements.

The following image shows an approximate road profile of Lake Street /County Road 10 between MH #525 and County Road 22. Select features and elevations have been identified along the alignment and are labelled as Landmarks 1-7.

- Landmark #1 – Connection point to the existing municipal system.
- Landmark #2 – High spot south of Hineman Street.
- Landmark #3 – Low spot north of Browns Street.
- Landmark #4 – North property boundary.
- Landmark #5 – Surface highpoint.
- Landmark #6 – Sandy Hook Road
- Landmark #7 – County Road 22 intersection.

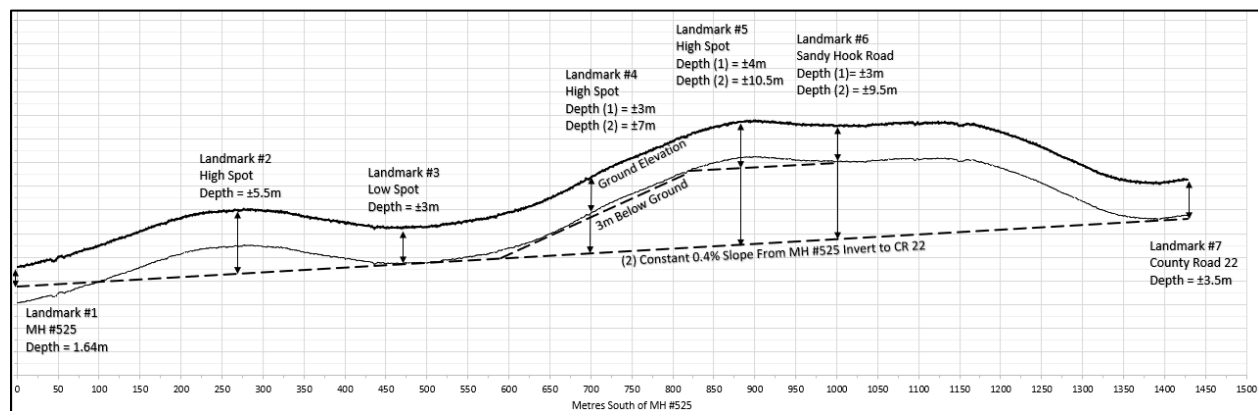


Figure 6: Lake Street Sanitary Sewer Profile

This profile was created using data from the Lidar Eastern Acquisition Project (LEAP), which is made available by the Province of Ontario. This dataset has a 95% vertical accuracy of $\pm 200\text{mm}$ for non-vegetated areas, which is appropriate accuracy for the high-level nature of this report.

We found that the LEAP road elevations and the maintenance hole lid elevations from the PEC sanitary network GIS data aligned and believe it can be used for this general process.

From the PEC sanitary GIS data, we understand the following about MH #525:

- Lid elevation is 94.03m;
- Invert elevation is 92.39m;
- Overall structure depth is 1.64m.

From the MH #525 invert, running new pipes south at a slope of 0.4% to the development results in a pipe depth that varies between 3m and 10.5m along its length.

A typical minimum sanitary sewer depth of 3.0m has been assumed to provide a commonly sufficient depth for gravity sewer service from a basement depth (where the property is not sitting low relative to the road).

Sanitary sewer depths beyond 5.0m are considered prohibitive to construction.

The section described above suggests sewer depths well exceeding 5m are likely should the gravity system be extended all the way to the low lying area at County Road 22. If the system were to stop short of County Road 22 there would be an opportunity to significantly reduce sewer depths by introducing an inflection point at Landmark #3 and track more closely the existing surface grades to Sandy Hook Road, or some distance south of that.

(*Lake Street gravity sewer depth estimates are very rough and intended to provide a general reference as to the barriers that might exist when considering a connection to the proposed development. For instance, it does not allow for the impact of conflicting works along its path which may impact the grades required to avoid the conflict.)

The development is likely to require a pump station to collect flows from lands south of Sandy Hook Road, pumped to higher ground and outlet via gravity to Lake Street via the internal road / pipe network to keep wastewater flows internal to the development until they are outlet at the proposed intersection of Street A. Development flows can be outlet to the more shallow gravity sewer path illustrated and there is no need to extend the Lake Street municipal sewer beyond this northern development entrance.

2.2.4 INTERNAL PIPE NETWORK

The wastewater pipe layout will follow the development internal road network.

There are significant undulations across the property which will require refining as part of preliminary / detailed design moves along, however we are able to summarize the proposed on-site collection system as follows:

- The new wastewater pipes are assumed to be a minimum of 3m deep.
- Pipe slopes will reflect road slopes and maintain a constant depth of cover or minimum pipe slopes as stated by the MECP where roads are particularly flat.
- A combination of cut and fill will be required to achieve the necessary pipe depth and minimum slope.

- A minimum pipe slope of 0.40% has been assumed across the schematic to provide flexibility in the pipe sizing in subsequent design iterations. (Minimum slope for 200mm pipe is 0.4%; minimum slope for 300mm pipe is 0.22%.)
- Lands south of County Road 1 / Sandy Hook Road will require a local pump station as most of the lands are too low to provide gravity drainage without excessive depths.
- The pump station will have an outlet internal to the development, discharging to higher lands to the north.
- All flows will be kept internal to the property until a connection is made to Lake Street at Street A.

A schematic of a possible wastewater pipe network is appended.

2.2.5 SANITARY COLLECTION AND CONVEYANCE SUMMARY

Based on the information noted previously, the following summary is provided:

- A portion of the southern block of the development lands will require pumping to service lower lying lands.

Pumping options may include:

- Individual pump facilities in each dwelling. This would remove the need for a local pump station.
 - A local pump station located on development lands outlet to the north block. This would contain all required works on development lands.
 - A shared pump station serving both the proposed development and surrounding municipal lands. This would require coordination with the County.
- There appears to be sufficient fall in elevation from the development property to MH #525 at Upper Lake Street to suggest a municipal gravity wastewater connection could be extended up Lake Street to the proposed development.

(The actual path will need to be confirmed as part of a future design process where potential conflicts are identified; slopes refined; etc. to create a preliminary and ultimately detailed design.)

- If improvements have not already been made as part of ongoing municipal servicing improvement efforts, modification of the existing network will be required to address existing areas of concern and accommodate the additional development demand. The extent of improvement will require input from the County.
- Gravity wastewater pipes on development lands may vary in size from 200mm to 300mm in diameter.

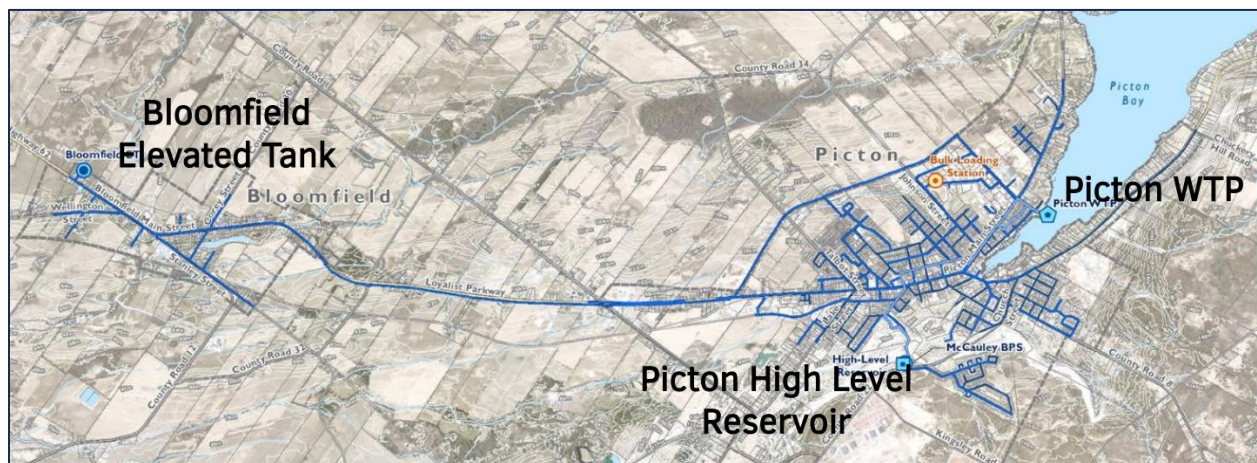
All development wastewater sewers will be sized and designed as required consistent with current standards and good practices under the Ministry of Environment, Conservation and Parks Environmental Compliance Approval to satisfy associated approvals and Municipal Standards.

3 WATER SUPPLY & TREATMENT

While the development lands are not currently serviced by the existing Picton domestic water distribution system and treatment plant, they are in the urban boundary and would be included in the future servicing area. Accordingly, as part of the development of these lands an expansion of the existing distribution network will be required and additional demand placed on the water treatment plant.

For reference, below is an illustration of the Picton water network showing:

- The water treatment plant is located at the east end of Spencer Street on the shore of Picton Bay.
- The high level storage reservoir on County Road 22 / Church Street on the top of the escarpment.
- The existing water distribution system network, including transmission main to the neighbouring community of Bloomfield roughly 7km to the west.



3.1 PICTON WATER TREATMENT PLANT

Similar to earlier wastewater comments, Prince Edward County has undertaken the Picton Master Servicing Plan for Water, Wastewater, and Stormwater Management.

Picton Master Servicing Plan – Drinking Water Findings (October 2nd 2024 Public Meeting)

- Constructed in 1928, upgraded in 2009.
- Serves 4,573 people.
- Rated capacity of the plant is 10,400 m³/d.
- Stress test capacity – 6,000 m³/d.
- Sustainable plant capacity based on staff experience = 5,200 m³/d.

2023 Picton Water Treatment Plant & Water Distribution System Annual Report

1. *Drinking Water System Number 220000987*
2. *Max Daily Capacity: 10,400 m³/day*
3. *Flow records are provided in the excerpt from the report below:*

Picton DWS: Treated Water Flows 2023				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m ³	m ³	m ³	m ³
January	65279.50	1103.19	2105.79	3128.25
February	55053.71	1540.25	1966.20	2503.90
March	57144.74	1313.38	1843.38	2581.77
April	60396.31	1556.05	2013.21	3440.84
May	74468.93	1733.14	2402.22	3100.09
June	82282.84	1947.67	2742.76	5256.26
July	85567.50	2065.08	2760.24	3251.84
August	81733.88	1825.55	2636.58	3178.62
September	83006.37	2237.79	2766.88	3398.47
October	73130.73	1743.95	2359.06	2931.39
November	64007.10	1694.07	2133.57	2596.93
December	65092.37	1458.28	2099.75	2691.85
Annual Total	847163.97	1103.19	2319.14	5256.26

Picton DWS: Treated Water Flow Comparison		
Rated Capacity as per MDWL/DWWP	10400 m ³	% of Maximum
Actual Maximum Daily Capacity	5256.26 m ³	50.54 %
Actual Mean Daily Capacity	2319.14 m ³	22.29 %

Reserve Capacity Calculation

The process for determining the reserve capacity of the drinking water plant is like that of the wastewater treatment plant and follows MOE Procedure D-5-1. The calculation is summarized below:

$$C_u = C_r - (L \times F \times P)/H$$

C_u = Uncommitted Hydraulic Reserve Capacity (m³/d)

C_r = Hydraulic Reserve Capacity (m³/d)

L = Number of Unconnected Approved Lots

P = Existing Connected Population

H = Number of Households or Residential Connections

Water Treatment Plant:

F = Maximum Daily Flow per Capita (m³/capita/day)

(Note: In this calculation max day flow is used for water treatment plants while average day flow is used for wastewater treatment plants.)

As noted previously, we know:

Plant Rated Capacity = 10,400 m³/d
Street Test Capacity = 6,000 m³/d
Sustainable Plant Capacity = 5,200 m³/d

2023 Maximum Daily Flow = 5,256 m³/d*

* It appears the sustainable plant capacity has already been exceeded.

Similar to the wastewater treatment section, it is understood that Picton, and Prince Edward County in general, is experiencing a great deal of development activity and it appears likely that the imminent development demands will exceed plant capacity in the near future, if it hasn't already.

It is recommended that the County be consulted to confirm whether this development will be allocated capacity now, or when that allocation can be expected to support this development.

3.2 WATER DISTRIBUTION SYSTEM

The County maintains a water network model which can be used to model different scenarios, including future development. This model, however, is not available to the public and accordingly we provide the following comments based on the best information available.

The development will connect to the end of the existing Lake Street watermain.

Records show the pipe network varies in the vicinity of this point of connection. It appears to generally be 150mm diameter (the minimum size recommended for a municipal watermain), with exceptions as noted below:

- The last 65m of watermain (north from Hydrant #1291) is 200mm diameter. This is where the connection to the existing system would be made.
- There is 180m of twinned pipe north of Albert Street, including 20m of 150mm/150mm pipes and 160m of 100mm/150mm pipes.

The remaining watermain on Lake Street to County Road 33 is 150mm, including 150m of pipe between the County's Roads Department (115 Lake Street) and Albert Street. This stretch of the watermain is not twinned.

An image of the water network local to this connection point is provided below.

Lake Street Watermains



Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

All development watermains will be sized and designed as required consistent with current standards and good practices under the Ministry of Environment, Conservation and Parks Environmental Compliance Approval to satisfy associated approvals and Municipal Standards.

3.2.1 HYDRANT TEST RESULTS

To illustrate existing network pressure and fire flow capacity, the County provided 2019 hydrant test data for the end of the Lake Street leg of the system. It is unlikely this data will have changed without significant modifications to the network.

Hydrant #1290 is the second-last hydrant on Lake Street and located outside the County Roads Department property. Hydrant #1291 is the last. The results are attached. They showed:

- Static pressure of 57.9 psi at Hydrant #1290.
- Flow of 551 USGPM (equivalent to 35 L/s) at Hydrant #1291.

This static pressure is within a typical recommended range.

Fire flow results are low.

3.2.2 PRELIMINARY WATER PRESSURE ANALYSIS

Referencing LEAP data, the ground elevation at Hydrant #1290 is estimated at 94.28m. At County Road 1 (Sandy Hook Road) the ground elevation is 106.11m. Over roughly 1km, the elevation at Sandy Hook Road is about 11.83m higher than the Hydrant #1290.

Accounting only for the change in elevation at a rate of 1.4 psi per metre, a drop in pressure of 16.6 psi can be expected at County Road 1. This results in a static pressure reduction from 58 psi to 41.4 psi at County Road 1, which is at the low end of MECF minimum pressure requirements.

The highpoint of the property is located in the area of the Street A / Street C intersection at an elevation of roughly 120m, a difference of 25.7m or 36 psi from the hydrant test data. This would result in a static pressure reduction from 58 psi to 22 psi which is below MECF minimum pressure requirements (under non-fire flow conditions).

As a point of comparison, to confirm anticipated pressure conditions, the elevation of the Picton water reservoir is roughly 140m (where pressure would be essentially 0 psi). Comparing that to the highpoint of the development at 120m, a maximum pressure of 28 psi is estimated confirming low pressure conditions can be expected on the property based on the existing network conditions.

It is unclear what opportunities exist to support water pressure on the development lands without access to the network model, but it appears some pressure support may be required. This could be done passively through additional elevated storage or through a local pressure boosting pump station and associated pressure zone.

The County's master servicing plan is considering changing the Picton water supply source to Wellington. It is not known how this might affect pressures for the subject lands, but with a proposed path to the reservoir travelling along Sandy Hook Road, it is felt likely to improve conditions for this development should this proceed.

3.2.3 PRELIMINARY SERVICE WATER FLOW DEMAND

The Ontario Ministry of Environment Design Guideline for Drinking Water Systems (2008) was used to determine the service peak hour water demand of the development.

Water demand estimates are based on the following:

- 483 residential units are proposed.
- An average of 2.5 people per unit totaling 1,208 people.
- Average per capita water usage of 350 L/day totaling 422,625 L/day.
- With a population between 3,001 – 10,000 the MECP (Design Guide Table 3-1) provides a typical peaking factor of 2.0x for maximum day demands and 3.0x for peak hour demands relative to average day demands.

Type		Mixed Res	
# of Units		483	
Pop/Unit		2.5	
# of People		1208	
Capita Usage		350	L/cap/day
Average Day	Peaking Factor	1.0	
	Demand	422625	L/Day
	Demand	293.49	L/min
	Demand	4.89	L/sec
	Demand	77.53	gpm
Max Day	Peaking Factor	2.0	
	Demand	845250	L/Day
	Demand	586.98	L/min
	Demand	9.78	L/sec
	Demand	155.06	gpm
Peak Hour	Peaking Factor	3.0	
	Demand	1267875	L/Day
	Demand	880.47	L/min
	Demand	14.67	L/sec
	Demand	232.60	gpm

3.2.4 PRELIMINARY FIRE FLOW REQUIREMENTS

There are different methods of calculating fire flow requirements for a building. The most stringent is typically the Fire Underwriters Survey which is understood to be the County standard.

(It is noted that where permissible, both the Ontario Building Code and National Fire Protection Association have processes to calculate fire flow which may yield more attainable results when compared to the Fire Underwriters Survey if the County were to permit the use of these standards.)

The development is has a mixture of proposed dwellings. The apartment structure(s) present the most significant fire flow burden and will be considered below.

The apartment was assessed against the Fire Underwriters Survey (FUS) Fire Flow Requirements (2020) based on the structure design information provided. It was determined that 9,000 L/min (150 L/s or 2,378 USgpm) for 2 hrs from 2 hydrants will be required to deliver the necessary fire protection of the building. The fire flow requirement calculation sheet is provided in the appendix. While specifics of the apartment have not been finalized at this early stage, the following general assumptions have been made to provide an estimate:

- Type II – Non-Combustible Construction.
- Approximately 6,630m² total floor area.
- Limited Combustible building contents.
- A fully supervised, automatic sprinkler system with standard water supply.
- Exposure on 2 sides to adjacent wood frame construction (residential) buildings and/or road / property boundaries.
- Six storeys above grade, and the lower (basement) level will be partially below grade, except where constructed on a slope where a ‘walk out’ style of basement is possible.
- That the National Building Code will be applied to the building design and construction.

After rounding, this results in a fire flow of 9,000 LPM which allows for the following:

- A 15% reduction for limited combustible building contents is applied.
- A 50% reduction for fully supervised, automatic sprinkler system is applied.
- An increase of 23% based on exposure to adjacent homes, property and roads is applied.

Estimated fire flow requirements will not be met by the existing network based on the records available.

Part of the required improvements to the municipal water network to extend water service to the subject lands should include the provision of fire flow to the property to meet County requirements.

Additional water storage and pumping may be required to meet fire flow requirements. The requirements should be confirmed as part of the detailed design and County network master plan design.

3.2.5 WATER DISTRIBUTION SYSTEM SUMMARY

Based on this information and assumptions, the following is provided:

- The existing water treatment plant is close to, or may already be exceeding its sustainable capacity.
- The closest connection point to the existing water distribution network is on Lake Street, south of Upper Lake Street.
- Based on the hydrant test records from the existing network, it appears there will be:
 - o Insufficient pressure without network improvements or a pressure boosting station.
 - o Insufficient fire flow without network improvements.

The existing municipal water model is the best tool to assess theoretical network fire and service flow for the development. Accordingly, we recommend the County have the model updated to include the proposed development to confirm anticipated conditions.

4 PRELIMINARY ROAD, STORM AND SANITARY NETWORK GRADES

As part of this document future road grades across the development were considered to support the traffic study and other submissions made separately.

The property is shown below, looking northeast from the County Road 22 intersection.



It is likely that during the detailed design a series of cuts and fills will be required and these grades will be refined due to existing hilly conditions.

Appended is a possible proposed road grading plan illustrating possible road grades to match existing at property boundaries and maintain slopes consistent with accepted design standards.

In particular we note:

- The Transportation Association of Canada Geometric Design Guide for Canadian Roads (Table 3.3.1 Maximum Gradients) permits a road slope of 8.0% for urban areas, on local streets, on undivided roads and rolling topography. This threshold is increased to 9.0% for distances of 150m or less.
- Grades within the Lake Street municipal right of way have been limited to +/- 2.0%.

Gravity storm pipes follow the proposed road grades with an assumed 2.0m depth from proposed surface to pipe invert and outlet to the proposed ponds.

Gravity sanitary pipes follow the proposed road grades with an assumed 3.0m depth from proposed surface to pipe invert. The south portion of the property outlets to a pump station at the north side of the south pond and the northern portion of the property outlets to Lake Street.

Road and pipe network illustrations are appended.

5 CONCLUSIONS

The following summarizes the findings of this report as it relates to the proposed 318 Lake Street (Hillside) Subdivision Development.

1. The servicing of the subject lands are highly dependent on the results of the Picton Master Servicing Plan currently underway. This plan is understood to have identified concerns relating to water / wastewater treatment and network collection / distribution systems.
2. Without a clear understanding of the County's plans in regards to existing capacities and future system modifications, the comments provided herein are subject to change.
3. Available treatment plant capacity for both water and wastewater is not sufficient for the developments that are, or will soon be, requesting allocation.
4. Available water and wastewater collection / distribution systems will require extensions and improvements to service the subject lands.
5. The specifics of the infrastructure work required for this development require coordination and cooperation from the County to resolve and clarify the measures required to service the subject lands.

This report is provided as a required part of the 318 Lake Street (Hillside) Draft Plan of Subdivision application.

This servicing study is an initial step in the development application and approval process, minor changes in the development plans can be expected and information available upon which this report is based may change as additional information becomes available, or County infrastructure plans are released.

The statements made in this report are of a general nature and limited by the ongoing Master Servicing Plan process. This document may be refined as additional infrastructure information becomes available.

Respectfully Submitted,

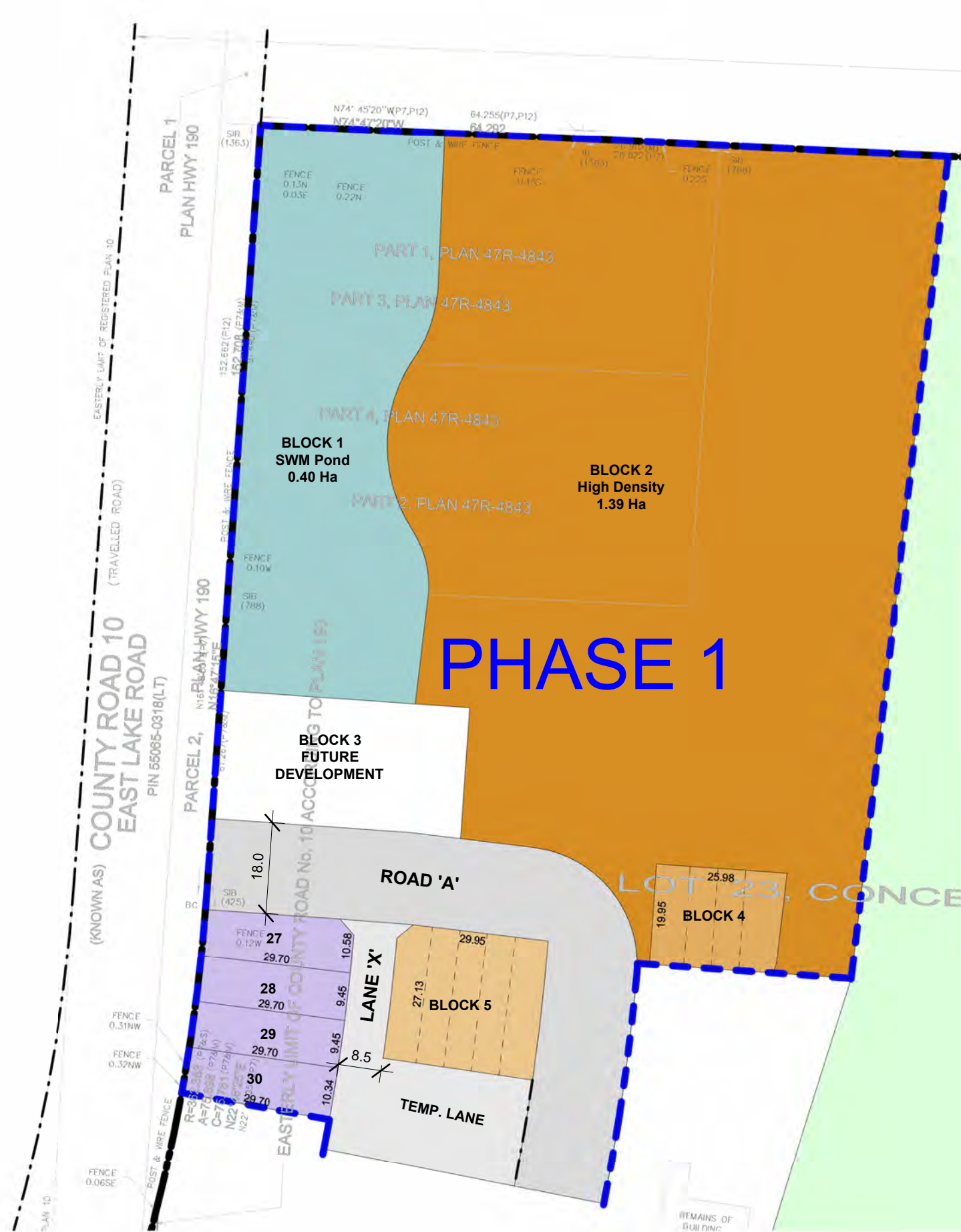
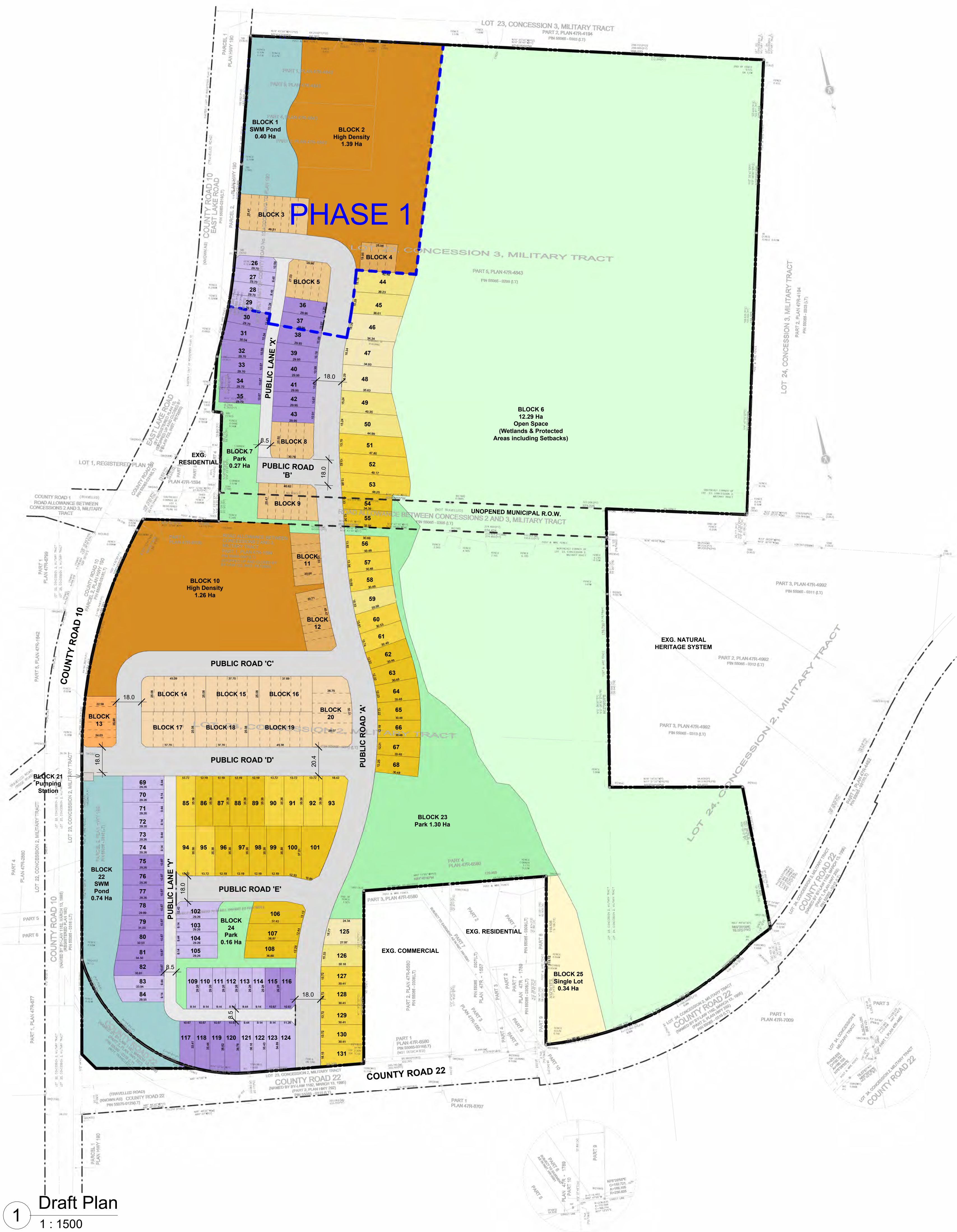


Matthew McIntosh, P.Eng.
Senior Civil Engineer

Attachments:

1. Development Plan
2. Sanitary Design Sheet
3. Hydrant Test Data
4. Fire Flow Calculation
5. Servicing Schematic Drawings - Road Grades / Stormwater / Sanitary

Appendix



2 Draft Plan Phase 1
1 : 1000

Phase 1 Land Use Schedule						
Lot/ Block #	Unit Type	Min. Lot Width (m)	Min. Lot Width (ft)	No. Units	Area (Ha)	Density (Units/Ha)
Lot 26, 27, 28, 29	Link	9.15m	(30 ft)	4	0.11	36.4
Block 5	Townhouse	5.50m	(18 ft)	5	0.08	62.5
Block 4	Townhouse	5.50m	(18 ft)	4	0.05	80.0
Block 2	High Density			145	1.39	104.3
Net Phase 1 Developable Total				158	1.63	96.9
Block 1	SWM Pond				0.40	
Lane X	R.O.W. Public Lane				0.01	
Road A	R.O.W. Public Street				0.23	
Total Phase 1 Site Area					2.27	

Total Land Use Schedule						
Lot/ Block #	Unit Type	Min. Lot Width (m)	Min. Lot Width (ft)	No. Units	Area (Ha)	Density (Units/Ha)
Lot 26, 27, 28, 29, 69, 70, 71, 72, 73, 74, 83, 84, 102, 103, 104, 105, 109, 110, 111, 112, 113, 114, 121, 122, 123, 124	Link	9.15m	(30 ft)	26	0.75	34.7
Lot 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 75, 76, 77, 78, 79, 80, 81, 82, 115, 116, 117, 118, 119, 120	Link	10.51m	(35 ft)	28	0.94	29.8
Total Link				54	1.69	32.0
Lot 54, 55, 62, 63, 64, 65, 66, 67, 68, 86, 87, 88, 89, 96, 97, 98, 99, 100, 101, 106, 107, 108	Single Detached	12.19m	(40 ft)	22	0.97	22.7
Lot 51, 52, 53, 56, 57, 58, 60, 61, 85, 90, 91, 92, 93, 94, 95, 127, 128, 129, 130, 131	Single Detached	13.35m	(45 ft)	20	0.94	21.3
Lot 44, 45, 49, 50, 59, 126	Single Detached	15.24	(50 ft)	6	0.28	21.4
Lot 46, 47, 48, 125	Single Detached	18.29	(60 ft)	4	0.24	16.7
Lot 25	Single Detached	43.8	(144 ft)	1	0.34	2.9
Total Single Detached				53	2.77	19.1
Block 3, 5, 8, 9	Townhouse	5.50m	(18 ft)	25	0.39	64.1
Block 4, 11, 12, 13	Townhouse	5.50m	(18 ft)	23	0.30	76.7
Block 14, 15, 16, 17, 18, 19, 20	Townhouse	7.00m	(23 ft)	38	0.74	51.4
Total Townhouse				86	1.43	60.1
Block 2, 10	High Density			290	2.65	109.4
Total High Density				290	2.65	109.4
Net Developable Total				483	8.54	56.6
Block 1, 22	SWM Pond				1.14	
Block 21	Pumping Station				0.005	
Lane X, Y	R.O.W. Public Lane				0.34	
Road A, B, C, D, E	R.O.W. Public Street				2.19	
Block 7, 23, 24	Parkland Dedication				1.73	
Block 6	EP Land Conveyance				12.29	
Total Site Area					26.24	

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2. DO NOT SCALE DRAWINGS.

3. CONTRACTOR TO VERIFY JOB SITE, DRAWING DIMENSIONS AND CONDITIONS AND REPORT ANY AND ALL DISCREPANCIES TO THE DESIGNER PRIOR TO CONSTRUCTION.

4. ALL WORK MUST CONFORM TO THE LATEST LOCAL BUILDING CODE, LOCAL BY-LAWS AND NFPA 96.

5. THESE DRAWINGS ARE PROTECTED BY COPYRIGHT.

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LEGAL DESCRIPTION
PART OF LOTS 23 AND 24
CONCESSION 2
MILITARY TRAIL
TOWNSHIP OF HALLOWELL
COUNTY OF PRINCE EDWARD

KEY PLAN - N.T.S.

Revisions		
No.	Description	Date

REQUIRED INFORMATION:
AS REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

(a) See surveyors certificate
(b) As shown on Draft Plan
(c) As shown on Draft Plan
(d) See Land Use Schedule
(e) See Draft Plan
(f) As shown on Draft Plan
(g) As shown on Draft Plan
(h) Piped water to be provided
(i) Silty clay and sand, some gravel
(j) As shown on Draft Plan
(k) Sanitary and storm sewers to be provided
(l) As shown on Draft Plan

SURVEYORS CERTIFICATE:
I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATE AND CORRECTLY SHOWN IN ACCORDANCE WITH A PLAN OF SURVEY PREPARED BY KRCMAR SURVEYORS LTD.

SASA KRCMAR O.L.S.

DATE

OWNERS CERTIFICATE:
I HEREBY AUTHORIZE SWN ARCHITECTS + PLANNERS TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE COUNTY OF PRINCE EDWARD.

HOMES FIRST DEVELOPMENT CORPORATION

DATE

HSPM
HOLDINGS INC.

51 OAK AVENUE, RICHMOND HILL, ON L4C 6R5
BETH@HSPMHOLDINGS.COM

Homes First Development Corporation

Lake Street

**SUBDIVISION
CONCEPT PLAN**

Project number	22-3
Date	Issue Date
Drawn by	HSPM
Checked by	HSPM

SCP 100

Scale	As indicated
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1 Draft Plan
1 : 1500

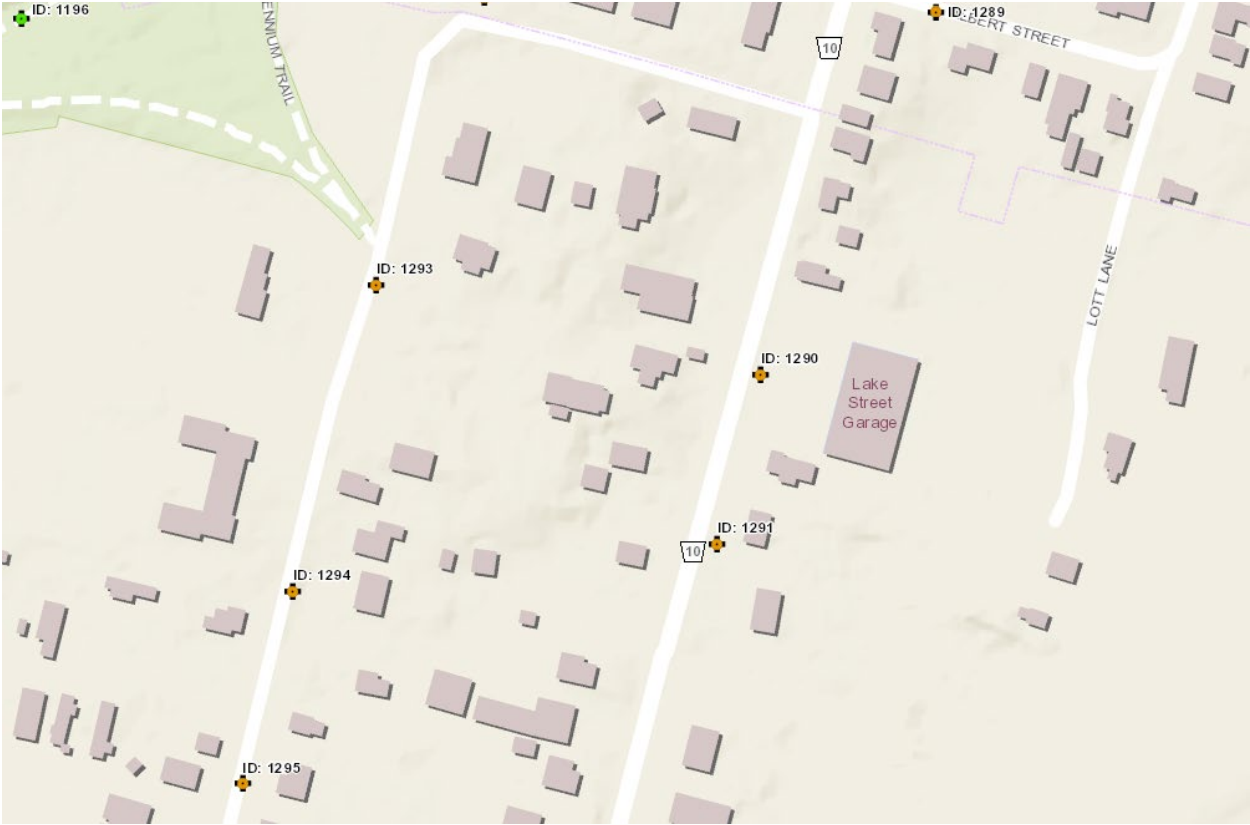


SANITARY SEWER DESIGN SHEET
318 LAKE ST SUBDIVISION - PICTON, ON
GGG Project Number: 23-3-6593

Residential Unit Average Daily Flow (q):	350	L/cap.d	(225~450 L/cap.d)	People per New Unit:	2.5
Unit Extraneous Flow (E):	0.28	L/s/ha	(0.1-0.28L.s.ha)	People per Existing Unit:	3.0
Hospital Average Flow	N/A	L/bed.day			
Commercial Area Average Flow(c):	28	m ³ /ha.d			
Industrial Area Average Flow(i):	NA	m ³ /ha.d		Roughness Coefficient (n)	0.013

q = average daily per capita flow (L/cap.d) I = Unit of peak extraneous flow (L/s/ha) Q(p) = peak population flow (L/s) Q(e) = peak extraneous flow (L/s) Q(d) = peak design flow (L/s)	Peaking Factor: $M = 1 + 14 / (4 + (P/1000)^{0.5})$ Q(p) = (P/1000)qM/86.4 (L/s) Q(e) = EA (L/s); where A = Area in hectares Q(d) = Q(p) + Q(l) (L/s)	Manning Equation: $Q_{cap} = (1/n) \cdot A \cdot R^{2/3} \cdot S^{1/2}$ D: pipe size (mm) S: slope (grade) of pipe (%) n: roughness coefficient
--	---	---

[illegible]



TEST INFORMATION					TEST HYDRANT INFORMATION						FLOW HYDRANT(S) INFORMATION								TOTAL				
Date	Time	Test #	Map #	WO#	TEST	Static	Residual	% Drop	@ 20 PSI	Colour	Hyd	Ports	Pitot	(USGPM)	Hyd	Ports	Pitot	(USGPM)	Total (GPM)	Comments			
19-Jun-19	10:30am	10	WPX	1	1290	57.9	23	60.3	576.3	ORANGE	1291	1	15.4	551				0	551	Before Orange			

FIRE FLOW CALCULATION - FIRE UNDERWRITERS SURVEY

Project Name: 318 Lake Street / Hillside Subdivision
Project Number:2336593
Date: April 15, 2025
Structure Considered: Apartment

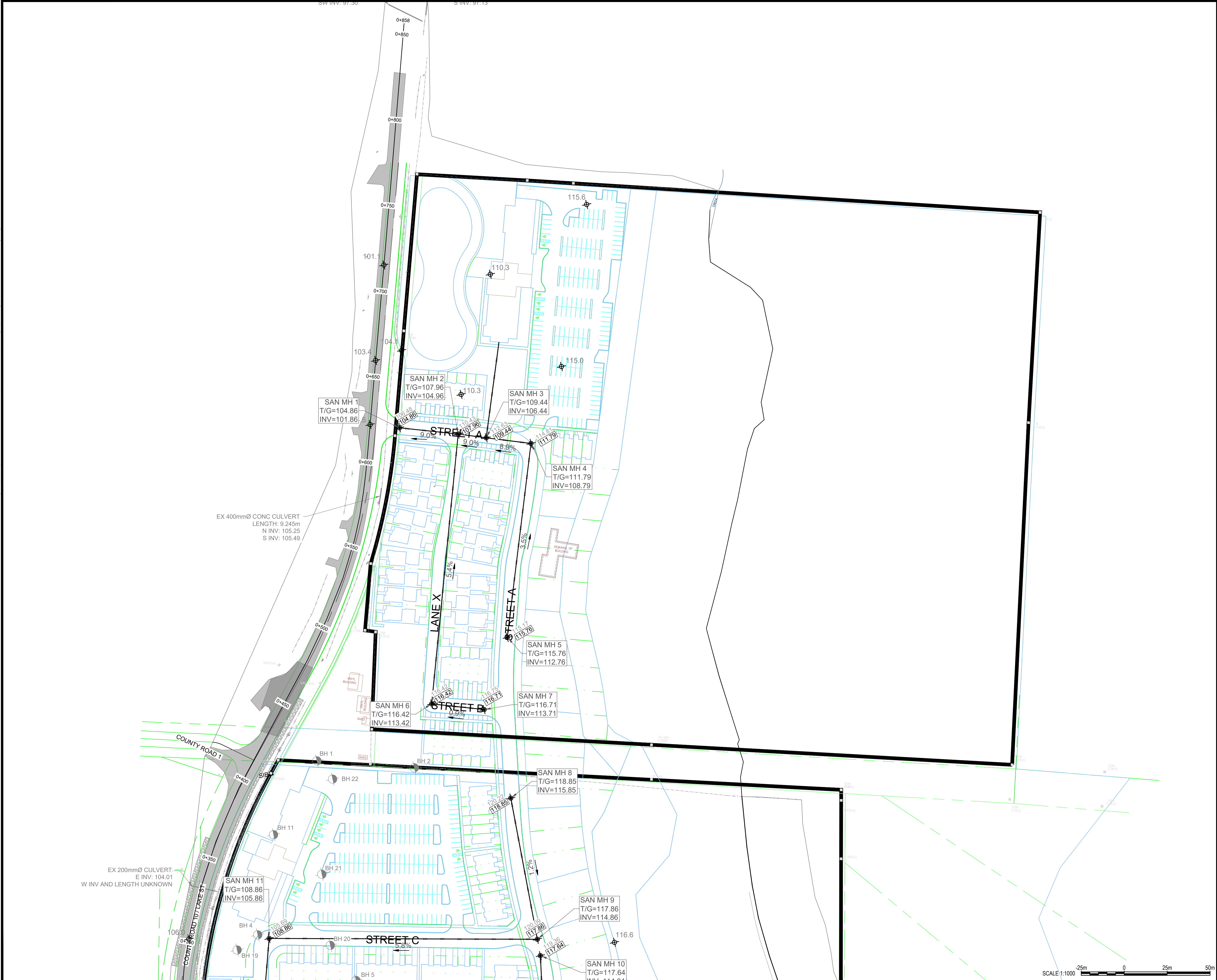
Step	Task	Term	Options	Multiplier Associated with Option	Choose:	Value used	Unit	Total Fire Flow (L/min)
A	Choose Frame used for unit construction	Co-efficient related to type of construction (C).	Type V Wood Frame Construction	1.5	Type II Non-Combustible Construction	0.8	m	
			Type IV-A Mass Timber Construction	0.8				
			Type IV-B Mass Timber Construction	0.9				
			Type IV-C Mass Timber Construction	1				
			Type IV-D Mass Timber Construction	1.5				
			Type III Ordinary Construction	1				
			Type II Non-Combustible Construction	0.8				
			Type I Fire resistive construction	0.6				
B	Choose type of housing and number of storeys (if Townhouse, enter number of units per townhouse block)	Type of Housing	Single Family			-	Each	
			Townhouse - indicate # of Units					
			Other (Comm, Ind, etc.)					
			Number of Floors/Storeys not including basement	7	Storeys			
C	Floor Area	Measurement Units	Total Adjusted Floor Area		6630	6630	m2	
			Square Feet (ft2)	0.09290304	Square Metres (m2)			
			Square Metres (m2)	1				
			Hectares (ha)	10000				
D	Obtain Required Fire Flow Without Reductions							14000
E	Choose Combustibility of Building Contents	Occupancy content hazard reduction or increase.	Reductions/Increases Owing to Factors Affecting Burning		Limited Combustible	-2100	N/A	11900
			Non-combustible	-0.25				
			Limited Combustible	-0.15				
			Combustible	0				
			Free burning	0.15				
	Rapid burning	0.25						
F	Choose Reduction for Presence of Sprinklers	Sprinkler Reduction	Complete Automatic Sprinkler Protection	-0.3	Complete Automatic Sprinkler Protection	-5950	N/A	5950
			Standard water supply (sprinkler and fire department)	-0.1	tandard water supply (sprinkler and fire department)			
			Fully supervised system	-0.1	Fully supervised system			
			Community Sprinkler system	-0.25	None			
			None	0	None			
			Sprinkler Area (% of floor area)		100.00%			
		G	Choose Separation Distance Between Units	Exposure Distance Between Units	Side 1 - Road / Property Line		0.08	2737
Side 2 - Residential Home					0.15			
Side 3 - Greater than 30m					0			
Side 4 - Greater than 30m					0			
H	Obtain Required Fire Flow, Duration, Volume and Hydrant Information	Total Required Fire Flow, rounded to nearest 1000 L/min, with max/min limits applied:						9000
		Total Required Fire Flow (above) in L/s						150
		Total Required Fire Flow (above) in Usgpm						2378
		Required Duration of Fire Flow (hrs)						2
		Maximum Hydrant Spacing						135
		Maximum Hydrant Distance						70
		Required hydrants						2
		Required Volume of Fire Flow (m3)						1080

Notes: if fire rating is below 1.0 and is a multistorey construction, only the 2 largest adjoining floor areas plus 50% of the above floors (up to 8) is required. If openings are protected, then only the largest floor plus 25% of the adjoining floors is needed. This is the adjusted floor area.

If exposed building is protected with an automatic sprinkler system, reduce exposure value by 50%

If both exposed and subject building are protected by an automatic sprinkler system, apply no exposure modifier

if a type 5 exposed building has a face with a 1 hr FFR, treat exposure as type III/IV



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BELLEVILLE, ONTARIO, K8N 4Z5
PHONE: 613-966-3068
FAX: 613-966-3087

NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
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3. ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
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5. CONTRACTOR MUST REPORT ANY DISCREPANCIES TO ENGINEER FOR RESOLUTION BEFORE COMMENCING THE WORK.
6. ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

A

B

A DETAIL NO.

B DRAWING NO. - WHERE DETAILED

01	DRAFT PLAN SUBMISSION	24/12/02
REVISION	DESCRIPTION	DATE

STAMP

PROJECT

318 LAKE STREET
DEVELOPMENT

UD&D INCORPORATED
PRINCE EDWARD COUNTY, ONTARIO

DRAWING TITLE

PRELIMINARY SANITARY
PLAN NORTH SIDE

DESIGNED BY

M. MCINTOSH

DRAWN BY

B. CRUZ-FUENTES

REVIEWED BY

—

APPROVED BY

—

PROJECT DATE

2023/03/21

PROJECT #

23-3-6593

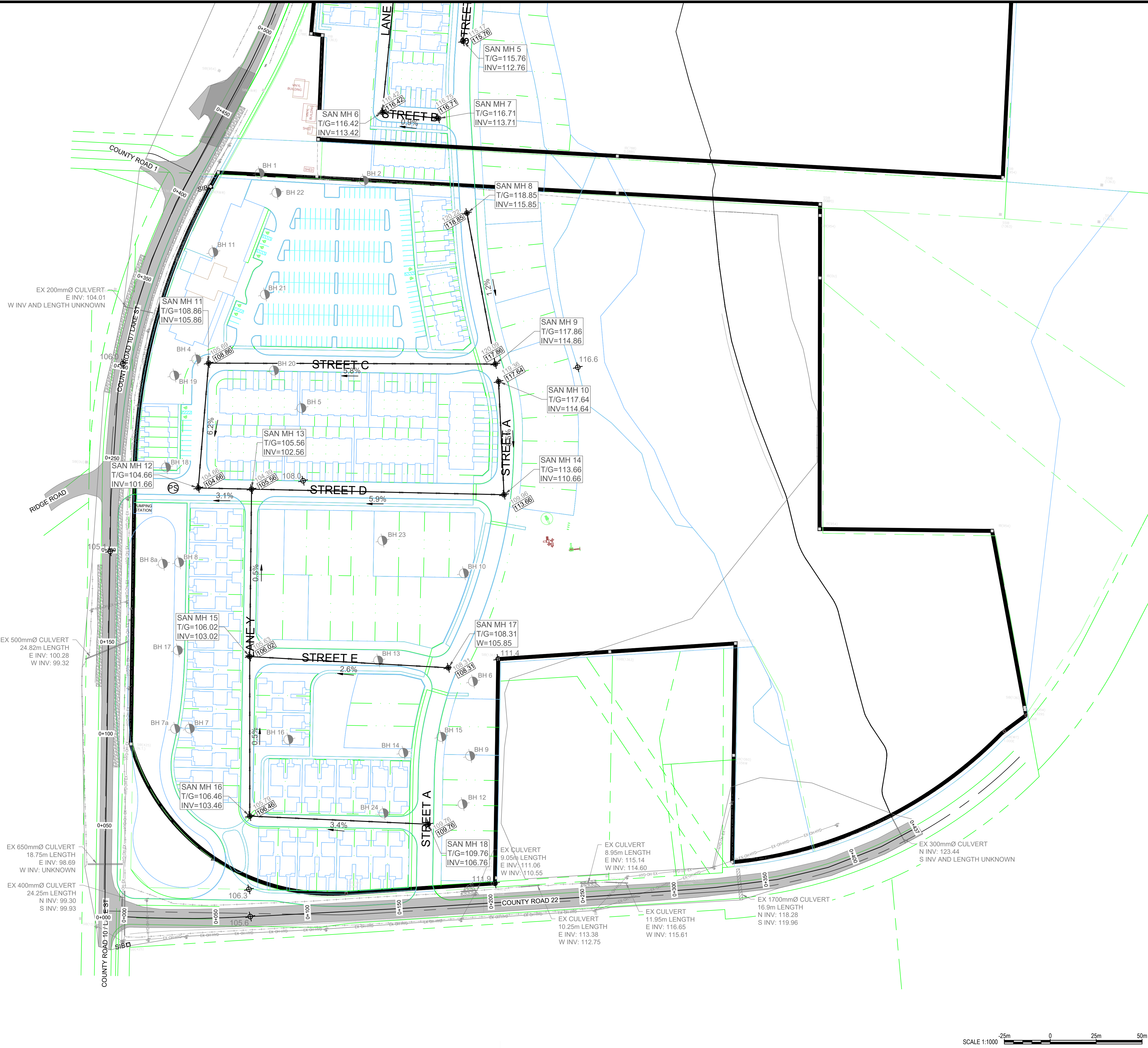
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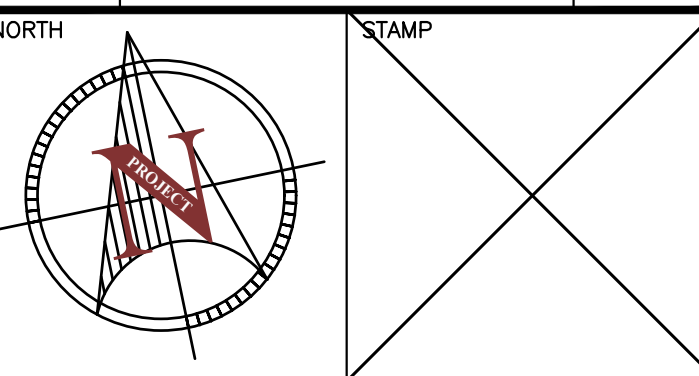
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- A A DETAIL NO.
B B DRAWING NO. - WHERE DETAILED

01	DRAFT PLAN SUBMISSION	24/12/02
REVISION	DESCRIPTION	DATE

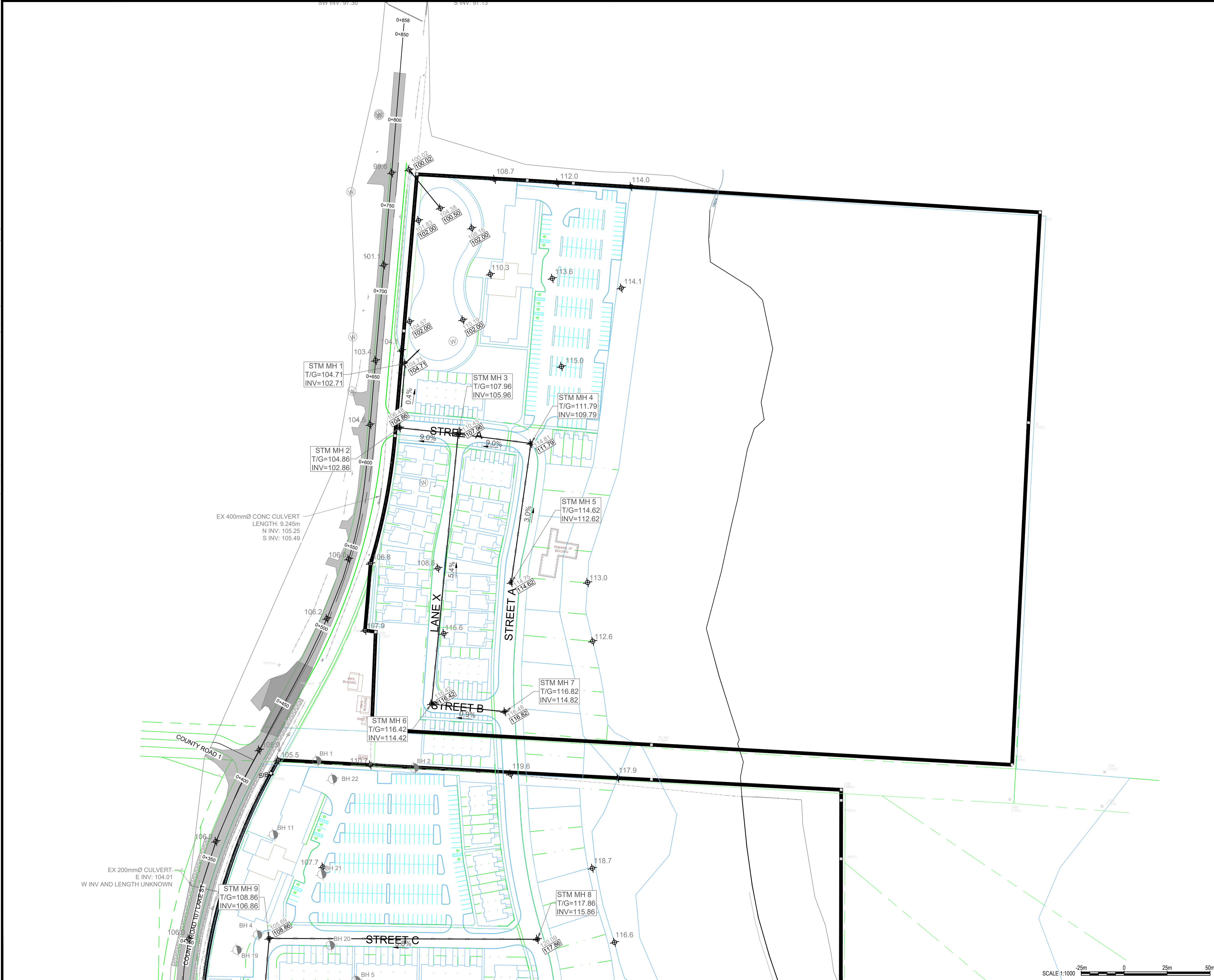


PROJECT
318 LAKE STREET
DEVELOPMENT

UD&D INCORPORATED
PRINCE EDWARD COUNTY, ONTARIO

DRAWING TITLE
PRELIMINARY SANITARY
PLAN SOUTH SIDE

DESIGNED BY	M. MCINTOSH
DRAWN BY	B. CRUZ-FUENTES
REVIEWED BY	—
APPROVED BY	—
PROJECT DATE	2023/03/21 (YYY/MM/DD)
PROJECT #	23-3-6593
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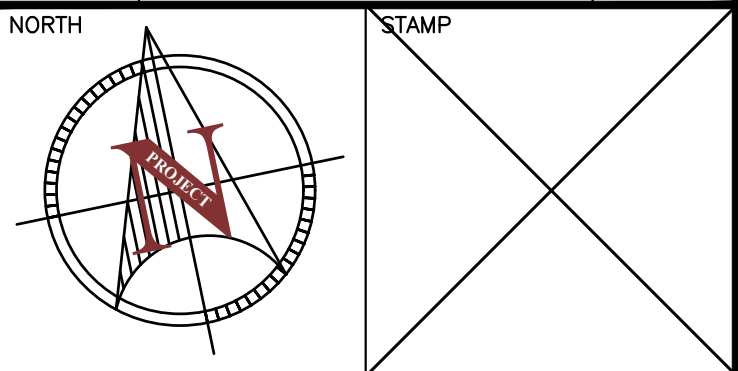


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A	A DETAIL NO.
B	B DRAWING NO. - WHERE DETAILED

01	DRAFT PLAN SUBMISSION	24/12/02
REVISION	DESCRIPTION	DATE



PROJECT
318 LAKE STREET
DEVELOPMENT

UD&D INCORPORATED
PRINCE EDWARD COUNTY, ONTARIO

DRAWING TITLE
PRELIMINARY STORM
PLAN NORTH SIDE

DESIGNED BY
M. MCINTOSH

DRAWN BY
B. CRUZ-FUENTES

REVIEWED BY
—

APPROVED BY
—

PROJECT DATE
2023/03/21 (YYYY/MM/DD)

PROJECT #
23-3-6593

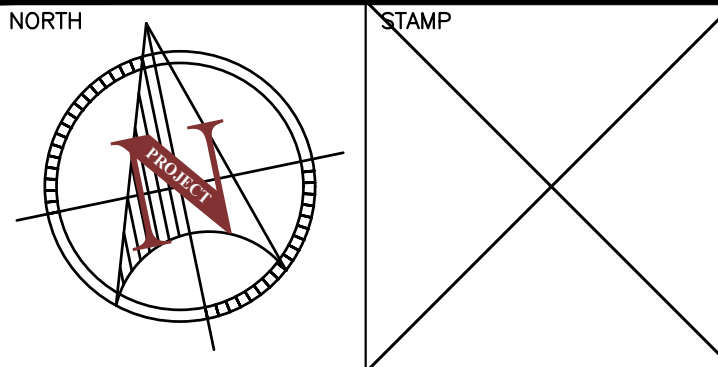
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A	A DETAIL NO.
B	B DRAWING NO. - WHERE DETAILED

01	DRAFT PLAN SUBMISSION	24/12/02
REVISION	DESCRIPTION	DATE



PROJECT
318 LAKE STREET
DEVELOPMENT

UD&D INCORPORATED
PRINCE EDWARD COUNTY, ONTARIO

DRAWING TITLE
PRELIMINARY STORM
PLAN SOUTH SIDE

DESIGNED BY
M. MCINTOSH

DRAWN BY
B. CRUZ-FUENTES

REVIEWED BY
—

APPROVED BY
—

PROJECT DATE
2023/03/21 (YYYY/MM/DD)

PROJECT #
23-3-6593

DRAWING # STM2	DRAWING SCALE (ISO A1) HOR: 1 : 1000 VER: N/A
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SCALE 1:1000

NOTE
TAC TABLE 3.3.1: MAXIMUM GRADIENTS
PERMITS A ROAD SLOPE OF 8.0% IN
URBAN/LOCAL/UNDIVIDED/ROLLING
TOPOGRAPHY ROADS. IT FURTHER PERMITS
THIS TO BE INCREASED BY 1.0% FOR
DISTANCES OF 150m OR LESS.

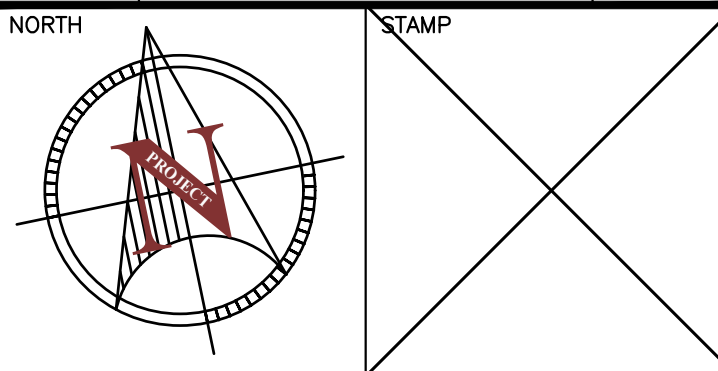


GREER GALLOWAY
CONSULTING ENGINEERS
PETERBOROUGH
BELLEVILLE
KINGSTON
1620 WALLBRIDGE LOYALIST ROAD
BELLEVILLE, ONTARIO, K8N 4Z5
PHONE: 613-966-3068
FAX: 613-966-3087

- NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
 2. ALL DRAWINGS AND ADDENDA ARE TO BE READ AS, AND IN CONJUNCTION WITH THE SPECIFICATIONS.
 3. ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
 4. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK AND BE RESPONSIBLE FOR SAME.
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B B DRAWING NO. - WHERE DETAILED

01	DRAFT PLAN SUBMISSION	24/12/02
REVISION	DESCRIPTION	DATE



PROJECT
318 LAKE STREET
DEVELOPMENT

UD&D INCORPORATED
PRINCE EDWARD COUNTY, ONTARIO

DRAWING TITLE
PRELIMINARY GRADING
PLAN NORTH SIDE

DESIGNED BY
M. MCINTOSH

DRAWN BY
B. CRUZ-FUENTES

REVIEWED BY
—

APPROVED BY
—

PROJECT DATE
2023/03/21
(YYYY/MM/DD)

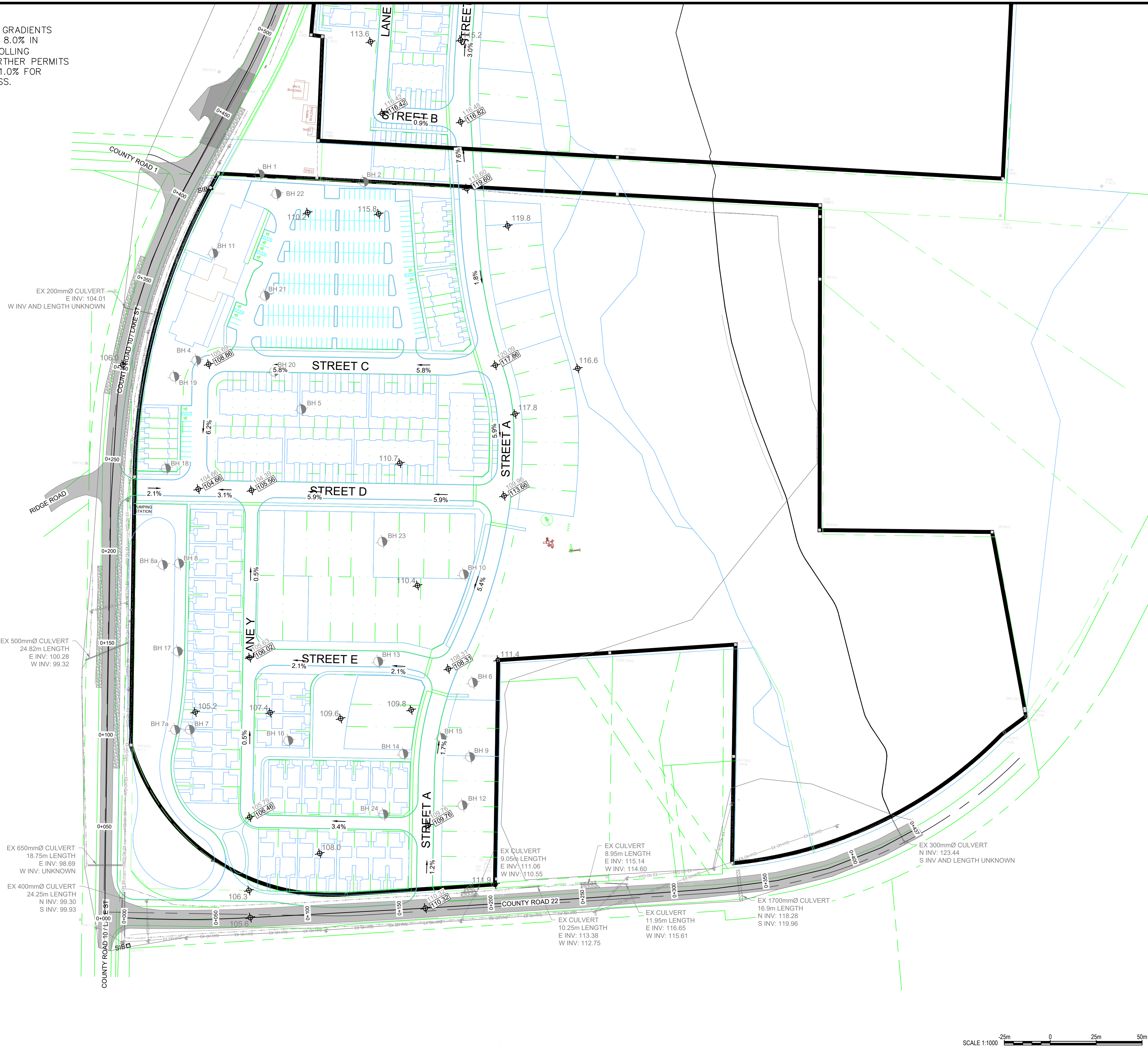
PROJECT #
23-3-6593

DRAWING # G1	DRAWING SCALE (ISO A1) HOR: 1 : 1000 VER: N/A
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SCALE 1:1000
-25m 0 25m 50m

CAD PLOTTER: Bernardo Cruz Fuentes
FILE PATH: P:\Belleville Project\6000\2336593 - Hillside North (287 Lake St)\Drawings\Working\23-3-6593 - Working.dwg
PLOT SCALE: 1:1
DATE PLOTTED: 2024 / 12 / 09 @ 11:16 AM
BORDER SIZE: ISO A1 (841mm x 594mm)

NOTE
TAC TABLE 3.3.1: MAXIMUM GRADIENTS
PERMITS A ROAD SLOPE OF 8.0% IN
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A

B

A DETAIL NO.
B DRAWING NO. - WHERE DETAILED

01	DRAFT PLAN SUBMISSION	24/12/02
REVISION	DESCRIPTION	DATE

STAMP

PROJECT
318 LAKE STREET
DEVELOPMENT

UD&D INCORPORATED
PRINCE EDWARD COUNTY, ONTARIO

DRAWING TITLE
PRELIMINARY GRADING
PLAN SOUTH SIDE

DESIGNED BY
M. MCINTOSH

DRAWN BY
B. CRUZ-FUENTES

REVIEWED BY
—

APPROVED BY
—

PROJECT DATE
2023/03/21
(YYY/MM/DD)

PROJECT #
23-3-6593

DRAWING #
G2

DRAWING SCALE (ISO A1)
HOR: 1 : 1000
VER: N/A

(METRIC SCALE - ALL DIMS IN METERS U.N.O.)