Memorandum to the Council of

Corporation of the Municipality of Temagami

Subject: Temagami North Water and Sewage System Capacity and Growth Potential

Memo No: 2025-M-067

Date: March 27, 2025

Attachment: Appendix A -Tulloch - Temagami North Water and Sewage Systems

Prepared By: Laala Jahanshahloo - CAO/ Treasurer

Recommendation

BE IT RESOLVED THAT the Council receives Memo 2025-M-067 as presented;

AND BE IT FURTHER RESOLVED THAT the Council directs staff to seek Requests for Proposals for intervention measures outlined in the report, including:

- Immediate Actions (0–2 Years): Leak detection, sewer inspections, and public education initiatives.
- Medium-Term Actions (3–5 Years): SCADA system upgrades and improvements to stormwater management.

AND BE IT FURTHER RESOLVED THAT these proposed actions and RFP outcomes be brought back to Council for further review and decision on subsequent steps.

Contents

1. Executive Summary

The Temagami North water and sewage systems are operating at critical capacity thresholds due to excessive leaks, inflow/infiltration (I&I), and aging infrastructure. Without intervention, the municipality risks exceeding system capacity, triggering a Class Environmental Assessment (EA), and facing regulatory penalties and funding restrictions.

This report proposes non-invasive, cost-effective interventions to free existing capacity, ensure compliance with Ontario Policy D-5-1, and support sustainable growth while deferring costly infrastructure expansion.

Key Findings & Solutions:

- Water System: Operating at 96.6% capacity (328 m^3/day), with peak flows exceeding 117% due to leaks and demand surges.
- Sewage System: Operating at 78% capacity (390 m^3/day), but I&I inflates per capita flow to 1,013 L/person/day (3x the provincial average).
- March 2025 Flood Crisis: Heavy rainfall drove sewage flows to 1,290 m^3/day (331% capacity), risking failure.
- Immediate Interventions: Fixing leaks, reducing I&I, and installing SCADA monitoring can free capacity for 95+ residents and defer expansion costs of $5M+.

2. System Performance and Vulnerabilities

2.1 Water System

The table below highlights the current performance issues in the Temagami North water system, including high per capita consumption and peak demand exceedances.

Metric	Temagami North	Provincial Benchmark
Rated Capacity	328 m^3/day	—
Average Daily Flow	155 m^3/day (47%)	—
Peak Flow (March 2025)	385 m^3/day (117%)	<100%
Per Capita Consumption	578 L/person/day	225–450 L/person/day
Remaining Capacity	10.75 m^3/day	—

- Critical Issue: Leaks and aging pipes waste ~328 m^3/month - enough to supply 60 additional households.

2.2 Sewage System

The table below outlines the sewage system performance, with high I&I contributing to severe peak flow events.

Metric	Temagami North	Provincial Benchmark
Rated Capacity	390 m^3/day	—
Average Daily Flow	304 m^3/day (78%)	—
Peak Flow (March 2025)	1,290 m^3/day (331% of average day, 108% of max capacity)	<100%
Per Capita Flow	1,013 L/person/day	225–450 L/person/day

- Critical Issue: I&I contributes ~709 m^3/day, nearly doubling system demand during rain events.

3. Compliance with Ontario Policy D-5-1

3.1. Water System Compliance

- Current Status: 96.6% capacity → EA required for new development approvals.
- Target: Reduce to 80% by cutting per capita use to 450 L/person/day.

3.2. Sewage System Compliance

- Current Status: 78% capacity → EA risk if I&I unresolved.
- Target: Reduce flows to 700 L/person/day by sealing cracks and redirecting stormwater.

3.3. Risk of Non-Compliance:

- EA Requirement: If no interventions are taken, new development will be halted until a full Class EA is completed.
- Provincial & Federal Grant Eligibility: High I&I and inefficiency could jeopardize funding opportunities.

4. Strategic Interventions & Cost Estimates

4.1 Immediate Actions (0–2 Years)

Action	Scope	Impact	Cost Estimate
Leak Detection & Repair	Survey 100% of water mains	Reduce losses by 30%	$75,000
Sewer Camera Inspections	Inspect 10km of sewer lines	Cut I&I by 25%	$50,000
SCADA Upgrades	Install real-time sensors & monitoring	Detect leaks 50% faster	$80,000
Public Conservation Program	Metering + low-flow rebates	Reduce household use by 15%	$40,000

- Total Immediate Investment: $245,000 (Defers $5M+ Expansion)

4.2 Medium-Term Actions (3–5 Years)

Action	Scope	Impact	Funding Sources
Stormwater Diversion	Redirect roof/sump pumps	Cut peak sewage flows by 150 m^3/day	FCM Green Infrastructure Fund
Policy Enforcement	Fines for illegal connections	Reduce I&I by 10% annually	Local Bylaws
Water Storage Optimization	Upgrade reservoirs	Handle 20% higher peak demand	Ontario Clean Water Agency Grants

- Projected Medium-Term Cost: $500,000+ (Grant Dependent)

4.3 Long-Term Readiness (5–10 Years)

Action	Scope	Cost Estimate
Climate Resilience	• Drought response plans • Flood-resistant infrastructure	1.2M - 2.5M (Grant-dependent)
Gradual Expansion	• Treatment plant upgrades • Additional storage tanks	3M - 5M (Demand-driven)

Key Rationale:

5. Risk Assessment

Risk	Impact	Mitigation
EA Triggered	Development freeze	Reduce water usage to 80% capacity
Sanitary Sewer Overflow	Fines + environmental harm	Seal I&I sources by 2026
Infrastructure Failure	Service disruption	SCADA-driven preventive maintenance

6. Conclusion

The Temagami North systems face urgent capacity constraints that threaten growth, compliance, and funding. Strategic interventions can:

- Defer $5M+ in expansion costs.
- Support 95+ residents within existing infrastructure.
- Prevent service disruptions and environmental violations.

TULLOCH

Planners | Surveyors | Biologists | Engineers

February 27, 2025
241337

Municipality of Temagami
7 Lakeshore Drive
Temagami, Ontario
P0H 2H0

Attention: Laala Jahanshahloo, Chief Administrative Officer / Treasurer

Re: Temagami North Water and Sewage Systems
Capacity Review

Dear Ms. Jahanshahloo,

TULLOCH Engineering Inc. (TULLOCH) was retained in October 2024 by the Municipality of Temagami to complete engineering analysis and review of the North Temagami Water Storage Standpipe. During completion of the engineering for the North Temagami Water Storage Standpipe project, the Municipality requested in January 2025 that TULLOCH provide an additional assessment of available capacity in the Temagami North drinking water supply system and sewage disposal system. The Municipality is considering expanding the water and sewer system to allow development of a previously approved plan of subdivision.

In late January 2025, OCWA provided the Municipality with water and sewage system data that also included an analysis of capacity based on Ministry of Environment Conservation and Parks Policy D-5-1 (OCWA memo and Policy D-5-1 are appended). The Municipality provided OCWA's data to TULLOCH.

TULLOCH has competed a capacity review following the principles of Policy D-5-1 using the data provided by OCWA. D-5-1 is used to calculate uncommitted reserve capacity (i.e.. capacity that would be available for new plans of subdivision). The principles in D-5-1 can be used to calculate the current available capacity within the existing system to allow for infilling and system expansion to connect a previously approved plan of subdivision.

Water

Rated Capacity of Water Treatment Plant:	328 cu.m./day
Average Max. Day Demand:	317.25 cu.m./day (average of the without incident 4 years of records)

% of Rated Capacity:	**96.6% (317.25 / 328)**
Remaining Max. Day Capacity:	10.75 cu.m./day
Average of 5-Years Average Day Demand:	173.4 cu.m./day
Serviced Population:	300 people
Number of Connections:	189
Average Population per Connection:	1.59 (300 / 189)
Average per capita daily consumption:	0.578 cu.m./day
	(578 litres per person per day)
Average Day to Max. Day Peaking Factor:	1.83 (317.25 / 173.4)
Remaining Max. Day Capacity:	10.75 cu.m./day
Remaining Avg. Day Capacity:	5.87 cu.m./day (10.75 / 1.83)
Allowable Population to Rated Capacity:	**10 people (5.87 / 0.578)**
Allowable Connections to Rated Capacity:	**6 (10 / 1.59)**

Sewage

Rated Capacity of Sewage Treatment Plant:	390 cu.m./day
Average of 5-Years of Average Day Demand:	304 cu.m./day
% of Rated Capacity:	**78% (304 / 390)**
Remaining Avg. Day Capacity:	86 cu.m./day
Serviced Population:	300 people
Number of Connections:	189
Average Population per Connection:	1.59 (300 / 189)
Average per capita daily flow:	1.013 cu.m./day
	(1013 litres per person per day) (304 / 300)

Remaining Avg. Day Capacity:	86 cu.m./day
Allowable Population to Rated Capacity:	**85 people (86 / 1.013)**
Allowable Connections to Rated Capacity:	**53 (85 / 1.59)**

Conclusions

Water

1. The Temagami North water supply system is operating at about 97% of rated capacity.
2. There is sufficient capacity to connect about six (6) more typical units or about 10 people.

Sewage

1. The Temagami North sewage treatment system is operating at about 78% of rated capacity.
2. There is sufficient capacity to connect about fifty-three (53) more typical units or about 85 people.

Discussion

An average daily per capita water consumption of 578 litres per person per day is high and may indicate losses in the system which could be leaks, hydrant flushing and bleeds. The Ministry of Environment Conservation and Parks typical range is 225 to 450 litres per person per day and most communities are lower in the range due to water conserving fixtures.

An average daily per capita sewage flow of 1013 litres per person per day is extremely high and indicates serious inflow and infiltration into the system which could be groundwater infiltration into sewers or inflow from the surface into manholes or “illegal” connections like sump sumps and roof leaders connected to the sanitary sewers. The Ministry of Environment Conservation and Parks typical range is 225 to 450 litres per person per day.

Recommendations

1. The Municipality should complete a leak detection program for the water system to identify why per capita water consumption is higher than provincial standards.

2. The Municipality should complete an infiltration and inflow reduction program to identify why per capita sewage flow is so high compared to provincial standards.

3. The Municipality should consider completing a Municipal Engineer's Class Environmental Assessment (MEA Class EA) to begin the process to upgrade and/or expand the existing water and sewage treatment systems since they are operating at almost 80% (sewage) and 98% (water).

4. The Municipality should consider applying for grants to undertake investigations into the programs identified in Bullets 1 and 2 above. This may include grant applications to complete a MEA Class EA.

Should you have any questions about our proposed work plan, please do not hesitate to contact the undersigned.

Sincerely,

TULLOCH Engineering Inc.

Chris Stilwell, P. Eng.
Project Manager / Principal
chris.stilwell@tulloch.ca

Temagami N WTP

Year	Maximum Flow (m^3/day)	Maximum Flow w/o incident (m^3/day)	Average Day Flow (m^3/day)	Notes
2020	**533**	329	212	Max flow of 533 due to watermain break
2021	473	**383**	196	Max flow of 473 due to watermain break
2022	303	N/A	154	
2023	367	281	150	Max flow of 367 due when HLPs left off
2024	385	276	155	Max flow of 385 due to service break + flushing

Cu = Cr - ([L x F x P]/ H)
Cu = -205 - ([40 x 1.27 x 300] / 189)
Cu = -205 - (15,240 / 189)
Cu = -205 - 80.6
Cu = -285.6

Cr = hydraulic reserve capacity = design capacity minus the recorded maximum day flow
Cr = 328 m3/day (design cap. from MDWL) – 533 m3/day (max. flow from the last 5 years)
Cr = -205 m3/day

L = No. of unconnected approved lots = 40

F = maximum day flow per capita / serviced population
F = **533** / 300 (population from OCWA's records; municipality may need to update)
F = 1.77 m3/day

Note: Lower max day flows can be used if data indicates that the highest flows occurred during an isolated incident. The calculation below uses the maximum day flow during normal operations (without incident such as a watermain breaks).

F = maximum day flow (without isolated incident) / serviced population
F = **383** / 300 (from OCWA's records)
F = 1.27 m3/day

P = existing connected population = 300

H = number of households or residential connections = 189 connections (based on municipality)

Temagami N Lagoon

Year	Average Flow (m^3/day)	Maximum Flow (m^3/day)	Notes
2020	387	1278	
2021	324	1473	
2022	248	1563	
2023	265	1201	
2024	298	1479	
Average	**304**	**1563**	

Cu = Cr-([L x F x P]/ H)

Cu = 86 - ([40 x 1.01 x 300] / 189)
Cu = 86 - (12,120 / 189)
Cu = 86 - 64.1
Cu = 21.9

Cr = hydraulic reserve capacity = design capacity minus the recorded average day flow
Cr = 390 m3/day (design cap. from ECA) – 304 m3/day (avg. flow from the last 5 years)
Cr = 86 m3/day

L = No. of unconnected approved lots = 40

F = average day flow per capita
F = 304 m3/day
F = 304 / 300 (same population as used in the water calc. above)
F = 1.01

P = existing connected population = 300

H = number of households or residential connections = 189 connections (based on municipality)

D-5-1 Calculating and Reporting Uncommitted Reserve Capacity at Sewage and Water Treatment Plants

Guide for calculating and reporting uncommitted reserve capacity at sewage and water treatment plants.

(formerly appendix A)

Last Revision
March 1995

Rationale (1.0)

It is the position of the Province that the number of lots in approved plans of subdivisions, 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. In order to ensure that capacity is not exceeded it is necessary to determine what uncommitted reserve capacity is available. This procedure provides a means for determining uncommitted reserve capacity. As noted in Section 2.2.2 of the implementation guideline, if a municipality brings forward a specific proposal for alternative approaches for calculating and reporting uncommitted reserve capacity, the Ministry of Environment and Energy (MOEE) Regional Office will consider entering into alternative arrangements with the municipality.

Prior to calculating the uncommitted reserve capacity, it is important to recognize other factors which may limit new development, such as:

- limitations to the sewage collection/pumping stations (i.e.: basement floodings, overflow conditions, etc.);

- limitations to the water distribution system (i.e.: low pressure caused by small diameter mains), and other factors.

To this end, the "owner" is responsible for ensuring these factors, as well as any of the relevant plant performance characteristics listed in Section 3.2 below, are considered before calculating uncommitted reserve capacity for water and sewage works[1].

Plant performance and hydraulic capacity should be closely related to municipal growth management objectives in order to produce environmentally sound decisions regarding servicing. Municipalities should recognize that plant expansion or upgrades typically require a minimum of 3 to 5 years to develop, and should therefore plan for their long term development needs accordingly.

Municipalities should not recommend approval, and approval authorities should not consider approval, for development proposals if the uncommitted reserve capacity calculation has not been prepared and submitted according to the principles set out in this document. Furthermore, if other factors which limit plant performance are not identified and addressed the application must be considered incomplete. MOEE is not able to process incomplete applications.

Role of the ministry of environment and energy (2.0)

MOEE, as the regulatory agency, is responsible for facilitating and promoting the compliance with the *Environmental Protection Act*, the *Ontario Water Resources Act*, and regulations enacted under those statutes. This mandate is fulfilled in part, through the issuance of Certificates of Approval, and based upon Ministry policies and guidelines. To this end, favourable comments from the MOEE on development proposals as they concern water and sewage treatment facilities, are contingent upon sufficient uncommitted hydraulic capacity and plant performance that is environmentally acceptable.

Calculating uncommitted reserve capacity for sewage and water treatment facilities (3.0)

In determining the uncommitted reserve capacity of sewage and water treatment plants, the following factors need to be considered: hydraulic capacity and plant performance in relation to environmental protection as set out in Ministry statutes, regulations and policies, and; the Certificate of Approval. Each of these matters must be considered by both the Municipality and the MOEE in assessing whether development proposals should be entertained.

Hydraulic Capacity (3.1)

The uncommitted reserve hydraulic capacity should be calculated using the following formula:

$$Cu = Cr - ([L \times F \times P] \div H)$$

Where:

Cu
uncommitted hydraulic reserve capacity (m^3/d)

Cr
hydraulic reserve capacity (m^3/d)

L
number of unconnected approved lots

P
existing connected population

H
number of households or residential connections

F
Defined under Sewage Treatment Plants: average day flow per capita ($m^3/capita/d$)

Defined under Water Treatment Plants: maximum daily flow per capita ($m^3/capita/d$)

Please refer to the definitions provided in Section 6.0 to assist you with this calculation.

Note 1: The Formula accounts for industrial, commercial, institutional and other flows by means of the per capita flow figure which includes flows from all types of land uses and other flow sources such as infiltration. In certain cases, such as where there is evidence of seasonal population fluctuations, rapid growth and/or the existence of large industries, or in cases where per capita water or sewage flows for proposed new developments will be substantially different from historical flows, etc., the Regional MOEE Director may consider it reasonable and appropriate to modify the manner in which the calculation is completed. Municipalities are advised to consult their Regional MOEE office in this regard.

In order to provide additional protection against the design capacity of the systems being overcommitted, municipalities may choose to apply separate allocations for uses such as industrial plans of subdivisions, site-specific industrial uses characterized by high water consumption, existing vacant residential lots and similar examples that could significantly reduce the calculated reserve capacity by increasing the per capita flow figure.

Note 2: In calculating the uncommitted hydraulic reserve capacity, municipalities should ensure that the variable "L" represents all unconnected servicing commitments including:

- vacant lots/units in registered plans of subdivision and condominium
- lots/units in draft approved plans of subdivision/condominium;
- the maximum development potential of lands (i.e. scale and density) as permitted under existing zoning;
- registered plans of condominium;
- vacant lots created by consent in serviced areas.

Note 3: For Water Treatment Plants:

Maximum day flows to be subtracted from uncommitted reserve capacity should be calculated on the basis of those increased max day flows at the treatment plant as opposed to a max day flow calculated for the development. The latter would be an unrealistic representation of the impact of a small development at the treatment plant in a large community.

The following are examples of calculations for sewage and water treatment plants, using the above formula:

For Sewage Treatment Plant

- Cr = 12,000 m³/day
- L = 3,000 lots
- F = .45 m³/day
- P = 25,000 people
- H = 8,000

Cu = Cr − [L × F × P] ÷ H
Cu = 12000 − (3000 × .45 × 25000) ÷ 8000
= 7,781.25 m³/day

For Water Treatment Plant

- Cr = 20,000 m³/d
- L = 3,000 lots
- F = 0.9 m³/d
- P = 25,000 people
- H = 8,000

Cu = Cr − [L × F × P] ÷ H
Cu = 20000 − [3000 × .9 × 25000] ÷ 8000
= 11562.5 m³/d

Plant Performance Characteristics Which May Affect the Use of the Above Formula (3.2)

For Sewage Treatment Plants

The following performance characteristics may be used as a basis for imposing limited or long term development constraints:

- the treatment facility is in poor condition, performing erratically or not in accordance with its design;
- the effluent quality parameters exceed or are near the limits specified in the plant's Certificate of Approval;

- the sewage strength (i.e. organic loading) varies significantly due to industrial discharges into municipal sewers.

For Water Treatment Plants

The following performance characteristics may be used as a basis for imposing limited or long term development constraints:

- the existing treatment facility is in poor condition and not capable in meeting the maximum day demands, limiting pressures, etc.
- existing water quality does not meet health related parameters of the Ontario Drinking Water Objectives as stipulated in the plant's Certificate of Approval;

Compliance with Certificate of Approval (3.3)

Municipalities are responsible for ensuring that they are incompliance with Environmental Laws and the Certificates of Approval issued for their plants. Certificates of Approval typically identify effluent limits which must be met. Noncompliance for effluent quality must limit development in the same way as insufficient hydraulic capacity.

Typical examples of limiting factors established in Certificates of Approval for sewage works which must be complied with are: biochemical oxygen demand (BOD), suspended solids and phosphorus.

In many cases the Certificates of Approval also specify additional parameters which require monitoring (e.g., ammonia) depending on plant process. As a result, it is of critical importance that municipalities be aware of the specific requirements of their certificates. If the Certificate of Approval specifies a sampling protocol, it must be followed. If not, please refer to the MOEE policy entitled "Policy to Govern Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)" (MOEE Policy 08-06).

Policies of the Ministry of Environment and Energy (3.4)

In addition to the requirements of the Certificate of Approval, there are a number of MOEE policies that govern the operation of treatment facilities (e.g. Ontario Drinking Water Objectives, Treatment Requirements for Municipal and Communal Water Works Using Ground Water Sources). This Ministry recommends that these policies be followed. Failure to comply with these policies may result in development restrictions imposed by this

Ministry. Please refer to the addendum for a listing of the policies. For copies of these policies please contact the nearest MOEE Regional or District Office.

Annual report (4.0)

Municipalities should produce an annual report within 90 days of the end of each calendar year, based on the calculation methods set out in this guideline. The annual report should address both hydraulic capacity and performance factors, and be retained by the municipality for a period of three (3) years. Under environmental legislation, these reports must be made available to Ministry personnel upon request.

The annual report must be authorized by an appropriate municipal official.[2] The date of the first annual report should be determined in consultation with the MOEE.

Note 4: Review and acceptance of an annual report by the MOEE should not be construed as confirmation of compliance with the requirements of the Certificate of Approval.

Implementation (5.0)

Each development application circulated to the planning authority should be accompanied by written certification, prepared by the appropriate municipal official, which indicates that uncommitted capacity is available and has been allocated to the development.

Explanation of terms used in calculations of hydraulic capacity (6.0)

Sewage Treatment Plants

Design Capacity

The design capacity may be defined in the Design Report or in the Certificate of Approval. The components of the wastewater flow may include:

- domestic wastewater;
- industrial wastewater;
- inflow/infiltration;
- storm water.

Average Daily Per Capita Flow

The average daily per capita flow means the total sewage flow to the sewage works over twelve (12) consecutive calendar months, or during the period of operation upon which the report is based, divided by the number of days during the same period of time. Yearly average day flows are acceptable if the effluent compliance criteria for the defined parameters is based on average yearly concentration and loading limits.

Note 5: The use of 3 vs. 5 year records in establishing representative average daily flows will be determined by the MOEE Regional Director.

Hydraulic Reserve Capacity

The hydraulic reserve capacity is defined as the design capacity minus the actual existing recorded average day flow.

Uncommitted Hydraulic Reserve Capacity

The uncommitted hydraulic reserve capacity is obtained by subtracting the previously committed flows of registered and draft approved residential, commercial and industrial lots, from the existing hydraulic reserve capacity.

Commercial/Industrial Lots

Sewage flows for commercial/industrial lots must be determined by the municipality. Municipalities should do this by estimating the water consumption/sewage figures for similarly sized, similar type developments and factor this information into the calculation of the uncommitted reserve capacity. Moreover, it should be understood that in some cases organic loading, and not hydraulic loading, may be the limiting factor.

In exceptional circumstances it is not possible to estimate water consumption/sewage figures, municipalities may estimate the flow with the prior approval of the Ministry. If the Ministry agrees that this is acceptable in the specific situation, the following approach may be used:

Industrial/institutional/commercial flows can be equated to an equivalent residential flow. A production/consumption rate of 100 gallons or 450 litres per capita per day of sewage flow or water demand should be used for designing sewage plants. This number will vary

according to municipality. Once specific industry is identified, the municipality will have a better indication of the amount of water the industry requires or the amount of sewage flows produced. The municipality will be able to determine whether its present sewage works can accommodate the industry.

Draft Approval

Draft approved lots/units are those lots granted approval subject to certain conditions. These conditions must be fulfilled before the lots can receive final approval.
Draft approval is a commitment on behalf of the province and the municipality, and is interpreted by the proponent and the public as a reasonable assurance that development can proceed. Within a serviced municipality, the Province considers capacity to be committed to a development when draft approval is granted.

Water Treatment Plants

Design Capacity

Design capacity of water treatment plants is defined as quantity of water which can be delivered to the distribution system when operating the plant under design conditions and is sufficient to meet the maximum day demand. (Greater capacities may be required depending on in-system fire flow requirements and storage capacity). The design capacity of water treatment plants can be obtained from the Certificate of Approval, Water Taking Permit, the design documents or design/operating manuals.

Hydraulic Reserve Capacity

The hydraulic reserve capacity is defined as the design capacity minus the actual existing recorded maximum day flow. In some instances, the capacity of ground water supply wells or the perennial yield of the aquifer must be determined in order to calculate the hydraulic reserve capacity for municipalities provided by such ground water supply systems.

Uncommitted Hydraulic Reserve Capacity:

The uncommitted hydraulic reserve capacity is obtained by subtracting the equivalent flow commitments to registered and draft approved residential, commercial and industrial lots from the existing hydraulic reserve capacity.

Commercial/Industrial Lots

Water consumption for commercial/industrial lots must be determined by the municipality. Water demands for commercial/industrial establishments vary greatly with the type of water-using facilities present in the development, the number of people using it etc. Industrial water demands will vary greatly with the type of industry i.e. wet or dry operations.

In exceptional circumstances, municipalities may estimate the flow with the prior approval of the Ministry.

Draft Approval
Draft approved lots/units are those lots granted approval subject to certain conditions. These conditions must be fulfilled before the lots can receive final approval.
Draft approval is a commitment on behalf of the province and the municipality, and is interpreted by the proponent and the public as a reasonable assurance that development can proceed. Within a serviced municipality, the Province considers capacity to be committed to a development when draft approval is granted.

Maximum Day Per Capita Flow
The maximum day per capita flow is based on the existing maximum day flow divided by the serviced population. Lower maximum day flow figures may be accepted if the data indicates the highest flow(s) to the system occurred on an isolated basis, or where the municipality has successfully attempted to reduce leakage from the system and has also installed flow reducing devices.
As an alternative, the maximum day flow per capita may be derived by multiplying the average daily per capita flow with the maximum day factor. The maximum day factor is available in the design report or determined by using the design manual.

Note 6: The use of 3 vs. 5 year records in establishing representative maximum day flow will be determined by the MOEE Regional Director.

Addendum

Listing of ministry of the environment and energy policies governing the operation of treatment facilities

Guideline B-1:
Water Management - Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment

Guideline B-13:
Treatment Requirements for Municipal and Communal Water Works Using Surface Water Sources

Guideline B-14:
Treatment Requirements for Municipal and Communal Water Works Using Ground Water Sources

Guideline B-15:
Use of Pesticides In and Around Water Works

Guideline F-5:
Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters

Guideline F-7:
Minimum Accepted Level of Servicing for Municipally and Privately Owned Communal Systems

Procedure F-8-1:
Policy to Govern the Provision and Operation of Phosphorus Removal Facilities at Municipal, Institutional and Private Sewage Treatment Works

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[1] The "owner" refers to the legal owner of the facility, or the person designated as owner in the Certificate of Approval for the works.

[2] "Appropriate municipal official" should be someone with credentials qualifying him/her to certify the capacity calculation as being a true and accurate reflection of the status of the sewage and water works. In an organized municipality, this would most likely refer to either the CEO or the Clerk.

Updated: July 13, 2021
Published: April 14, 2016