Kawartha Lakes
Jump In

PUBLIC INFORMATION CENTRE #2

Water and Wastewater Servicing and Capacity Master Plan Update

Wednesday June 19, 2024	**Thursday June 20, 2024**
Fenelon Falls Community Centre	Kawartha Lakes City Hall – Lindsay
6:00 – 8:00 PM	6:00 – 8:00 PM
In-Person, Info on Web	In-Person, Live Broadcast, Recorded, Info on Web

Photo: Lindsay Water Treatment Plant

TYLin | CIVICA

Land Acknowledgement

"The City of Kawartha Lakes respectfully acknowledges that we are situated on Mississauga lands and the traditional territory covered by the Williams Treaties.

We are grateful for the opportunity to work here and we thank all the generations of people who have taken care of this land - for thousands of years. We recognize and deeply appreciate their historic connection to this place. We also recognize the contributions of Métis, Inuit, and other Indigenous peoples, both in shaping and strengthening this community and country as a whole. This recognition is connected to our collective commitment to make the promise and the challenge of Truth and Reconciliation real in our community."

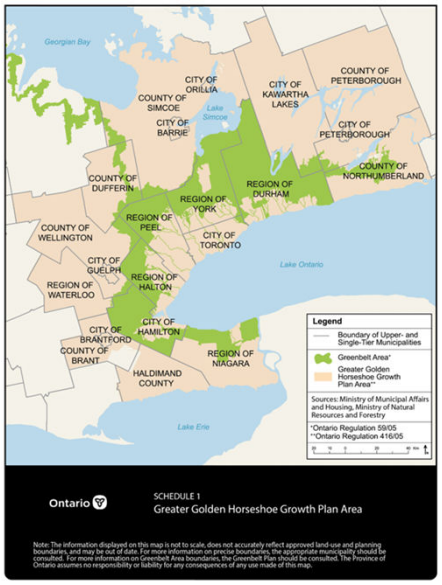
Welcome and Introductions

Kawartha Lakes Water-Wastewater Master Plan - Registration

- Introductions
- PIC Format and Housekeeping Notes
  - Have questions?
  - In-person: Raise your hand
  - Emergency Exits and Restrooms
- Open-Door versus Closed-Doors:
  - You may have questions or concerns which cannot be addressed by this process. We will try to direct you to the appropriate Contact-Person if we cannot address them.
- Provision for Technical Issues:
  - Project Website: www.kawarthalakes.ca/majorprojects

PIC #1 Recap – Study Background

The City has experienced a significant increase in growth over the recent years, which is driving demands for improvements and upgrades to its water and wastewater infrastructure.



- The City is forecasted to grow to **130,000 people and 46,600 jobs by 2051**. This is identified in the Provincial Growth Plan (*A Place to Grow*, 2020), and is reflected in the City's *Growth Management Strategy (GMS)* planning process.
- Council adopted the Province's housing target for Kawartha Lakes of 6,500 newly constructed housing units by the end of 2031.

The Objective of this Master Plan is to ensure that approved growth can be accommodated without affecting the level-of-service to existing residents and businesses.

Notes About Growth and Infrastructure Plans

- The Growth Management Strategy (GMS) process is a parallel study to this Water/Wastewater Master Plan Update
- The Forecasts presented on the next slide are preliminary, and subject to change.
- The Forecasts presented on the next slide are an appropriate basis for the Water/Wastewater Master Plan Update
- These plans are updated regularly, so that adjustments can be made as required.
- Infrastructure plans tend to be slightly conservative, so that recommended infrastructure can accommodate a degree of evolution in the various plans.

Growth Management Strategy Forecasts

Kawartha Lakes Communities with Municipal Servicing	Current Population	Forecasted Growth (GMS and Applications)	2051 Population Forecast
Bethany	391	375	766
Birch Point	323	-	323
Bobcaygeon	3,576	5,433	9,008
Canadiana Shores	475	-	475
Coboconk	304	16	320
Fenelon Falls	2,490	2,376	4,866
Janetville	300	186	486
Kings Bay	265	106	371
Kinmount	100	329	429
Lindsay	24,276	51,946	74,313
Manilla	102	150	252
Mariposa	122	-	122
Norland	265	12	177
Oakwood	694	214	908
Omemee	1,035	1,651	2,686
Pinewood (Pontypool)	447	366	813
Pleasant Point	365	366	731
Sonya	127	-	127
Southview Estates	360	-	360
Victoria Place	540	-	540
Western Trent/Palmina (Bolsover)	403	23	426
Woodville	718	317	1,035

Level of Service Objectives

- Development leads to increased water demands and wastewater flows, which may result in low pressure or fire flow in certain areas, or exceed the existing treatment plant capacities.
- **The objective of this Master Plan Update** will be to study the impact of the planned growth, and identify required solutions to maintain the level of service.

Water Systems

Water Treatment:

Ensure that water supply needs can be provided, with planning for upgrades when plant flows reach 80% of Capacity

System Pressures

Operating pressures between 350 and 550 kPa (50 and 80 psi)

Fire Flow

Under fire flow conditions, the pressure should not drop below 140 kPa (20 psi) at any point in the water system

Wastewater Systems

Wastewater Treatment:

Ensure that wastewater treatment needs can be provided, with planning for upgrades when plant flows reach 80% of Capacity

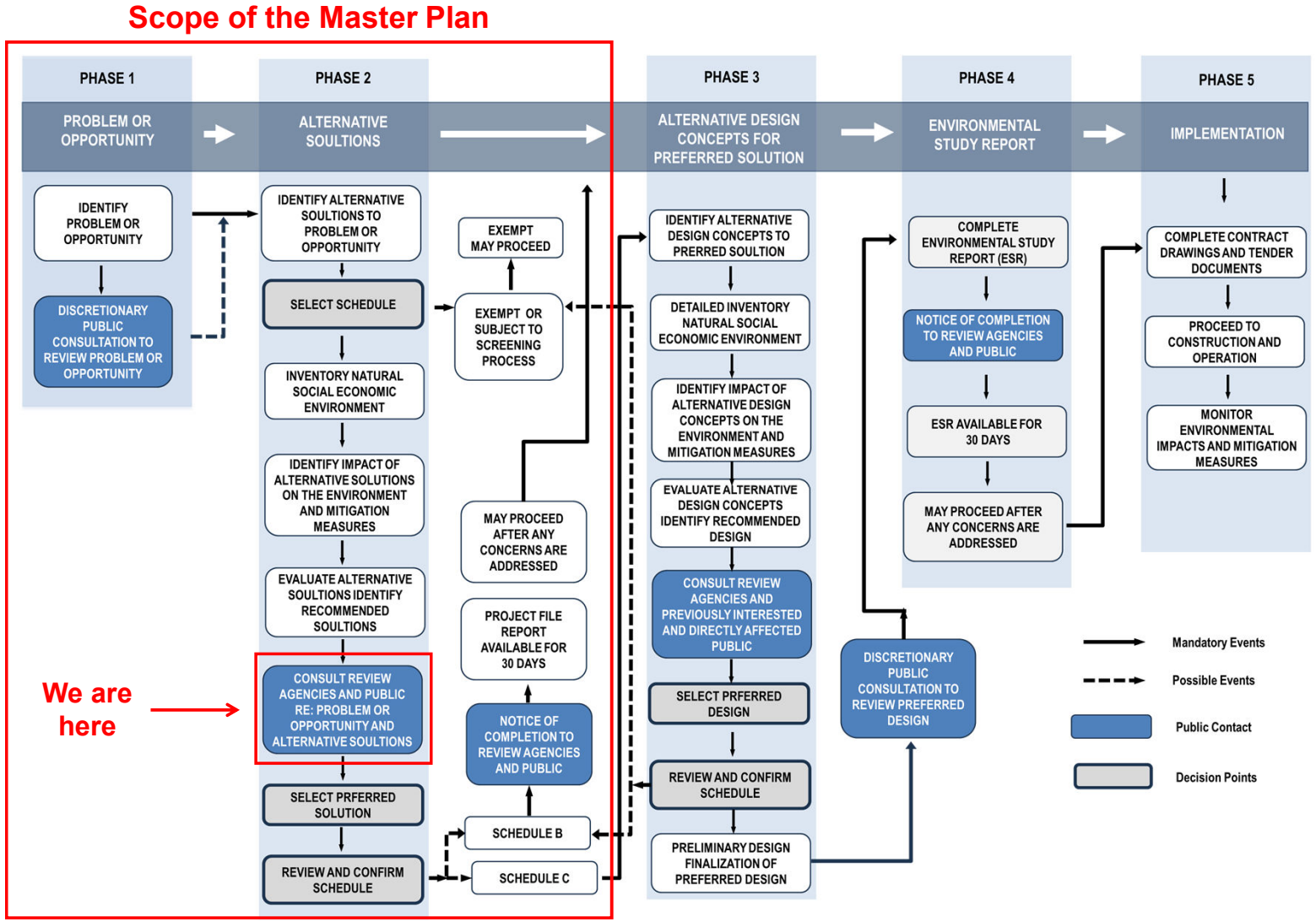
Design Flows

The sanitary sewers should not surcharge under Design Flow Conditions

System Surcharge (Policy Under Development)

Under Severe Storm Events, water levels in sanitary sewers shall be below basement levels

Environmental Assessment Process



Master Plan Objectives

- **The objective of this Master Plan Update** will be to study the impact of the planned growth, and identify the following:

1. Facility and system upgrades which need to be implemented to support the forecasted growth

2. Capital Planning investments to assist the City in financing these upgrades

3. Maintain the Level-of-Service to existing residents and businesses

Evaluation of Alternatives

- The possible alternatives are as follows:

1. **Do Nothing:**
   - Allow the growth to occur, but do not implement upgrades
   - **The systems will not have sufficient capacity.**
2. **Limit Community Growth:**
   - Establish the ultimate population can be supported by infrastructure, and do not allow the communities to grow beyond that population
   - **This does not fulfill the growth objectives established through *Places to Grow* and the *Growth Management Strategy***
3. **Water Conservation and Inflow Reduction**
   - If we can reduce water demands and wastewater flows, the existing pipes can accommodate some increases in serviced population.
   - **This is always an objective, but rarely a complete solution**
4. **Expand the Facilities and Services**
   - **Identify improvements required to Treatment, Pumping and Storage, Pipes**
   - Continue to investigate options to reduce servicing requirements

Servicing Assumptions

1. Treatment Upgrades:
   - The Preferred Alternatives (upgrade existing treatment plant; build a second treatment plant, replace existing plant with a new larger facility) will not be confirmed through this process
     - This Study will ***inform*** a subsequent "Schedule C" Class Environmental Assessment
2. Storage and Pumping Stations:
   - The need for these facility upgrades has been confirmed, and we will proceed to an assessment of Site Availability through the summer
3. Internal Development Servicing:
   - We have identified connection points based on the following:
     - Availability of existing servicing adjacent to the development
     - Preliminary Servicing Plans (where available)
     - Topography and existing streets (where Servicing Plans are not Available)
   - These assumptions are to be confirmed.

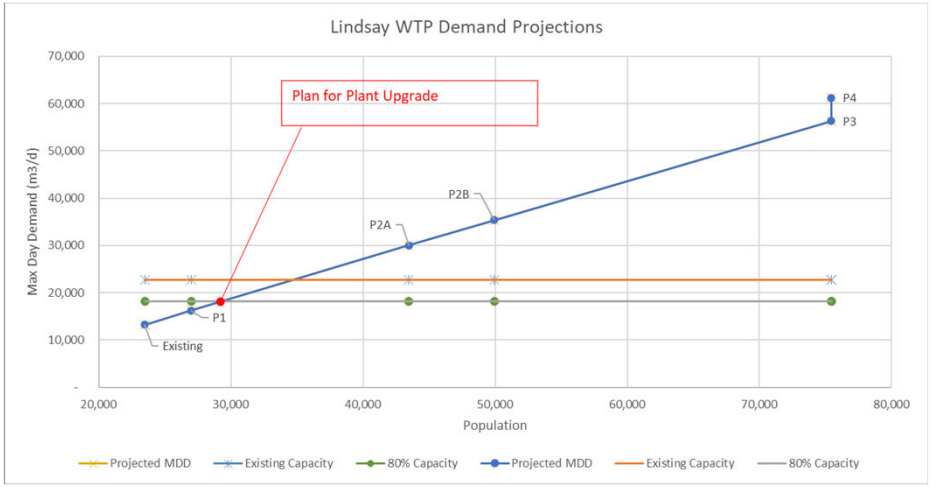
Servicing Calculations

1. **Design Flow/Demand Basis**
   - Existing Serviced Areas are based on Historical Data (Plant Flow Records and/or Sewer Flow Monitoring Data)
     - The hydraulic models have been calibrated
   - Future Development is considered at the City Design Standard (450 Lpcd)
     - This is typically a little conservative, so facility upgrades will be triggered a little 'earlier' than they might actually be required.
   - Future Development assumes Design Infiltration Allowance (0.26 L/s/ha)
     - There tends to be high historical Rainfall-Derived Inflows in the existing networks
2. **Identification of Constraints**
   - Water constraints are based on resulting system pressures and available fire flows
   - Wastewater:
     - Pipes are identified for upgrading if future flows exceed 100% of pipe capacity
     - Pipes are flagged for "future investigation" when the future flows exceed 80%

Lindsay - Water

Treatment [Current: 22,730m³/d]

Planning Horizon	Description	Additional Residential MDD [m³/d]	Additional I/C/I MDD [m³/day]	Total Additional MDD [m³/day]	Cumulative MDD [m³/day]	% of Plant Capacity
Existing		-		-	13,213	58%
P1	Committed - Existing (Agreement + Buildout started prior to 2024)	2,845	194	3,039	16,252	71%
P2A	North West Trunk, South-East Development Charges By-Law	13,332	422	13,754	30,006	132%
P2B	Other 2011 Growth Management Strategy	5,237	131	5,368	35,374	156%
P3	Continued MZO Buildout	20,663	230	20,893	56,267	248%
P4	Final MZO Buildout		4,931	4,931	61,198	269%



Water Storage [Current: 12,000 m³]

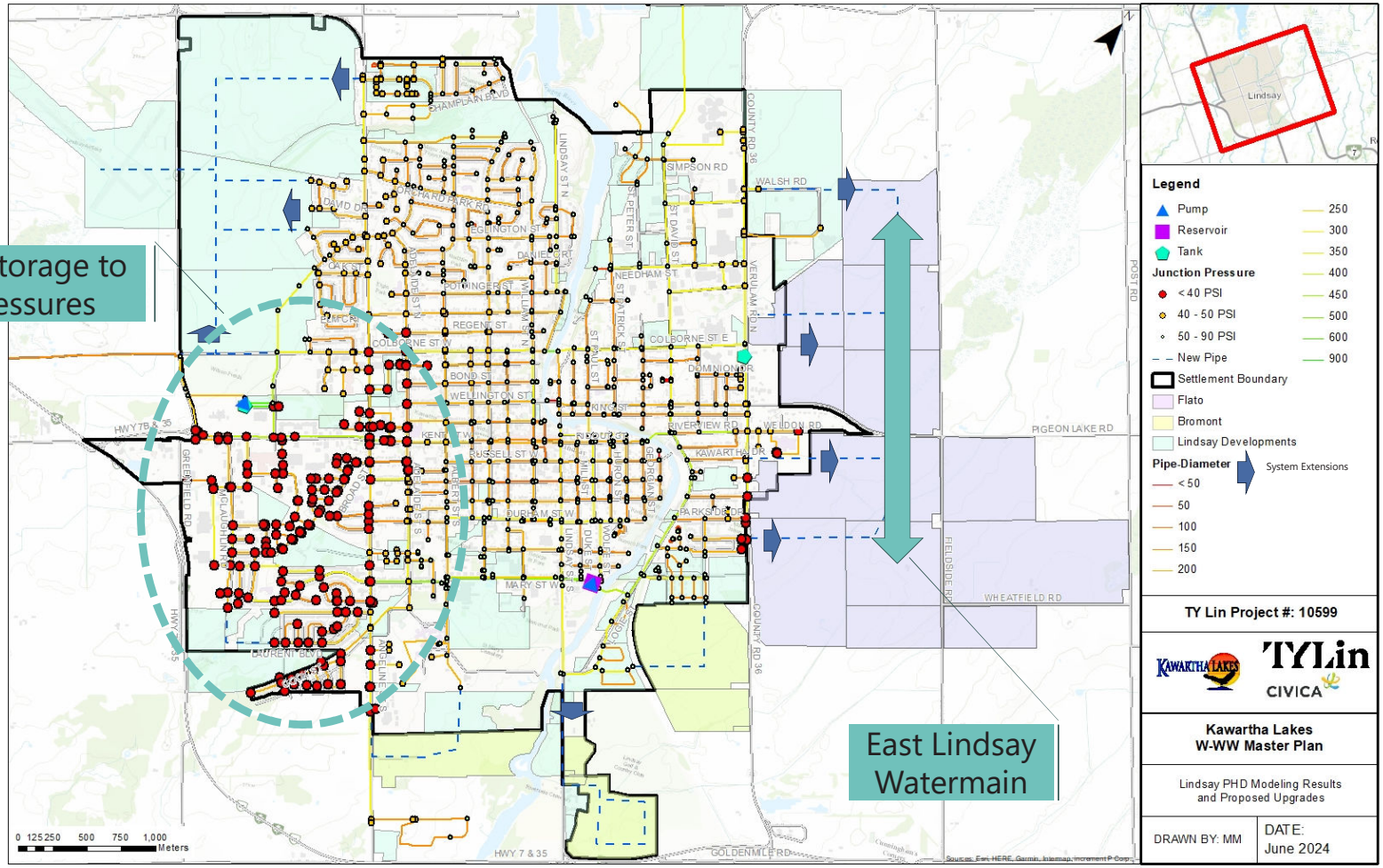
Planning Horizon	Cumulative MDD [m³/day]	Required Equal. Storage [m³]	Required Fire Storage [m³]	Required Emerg. Storage [m³]	Total Storage Needed [m³]	% of Existing Storage
Existing	13,213	3,303	4,500	1,951	9,754	82%
P1	16,252	4,063	4,500	2,141	10,704	90%
P2A	30,006	7,501	8,165	3,917	19,583	165%
P2B	35,374	8,843	8,165	4,252	21,260	179%
P3	56,267	14,067	8,165	5,558	27,789	234%
P4	61,198	15,300	8,165	5,866	29,330	247%

Recommendations

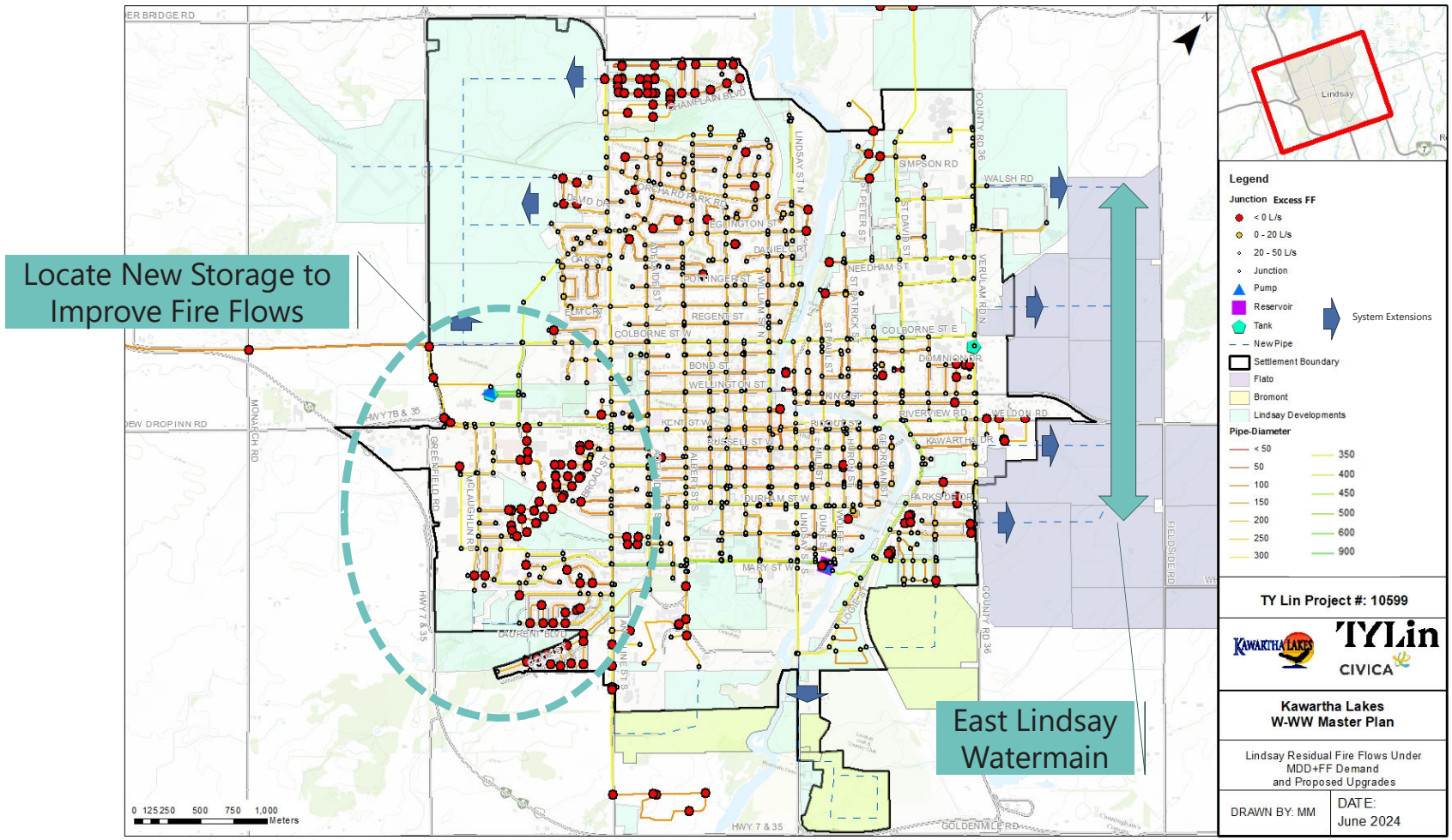
- Upgrade Water Treatment Capacity (Schedule C Class EA)
- Construct Additional Water Storage
- Targeted System Upgrades and Extensions (incl. East Lindsay Trunk Watermain)

Lindsay - Water Constraints [Peak Hour]

Locate New Storage to Stabilize Pressures



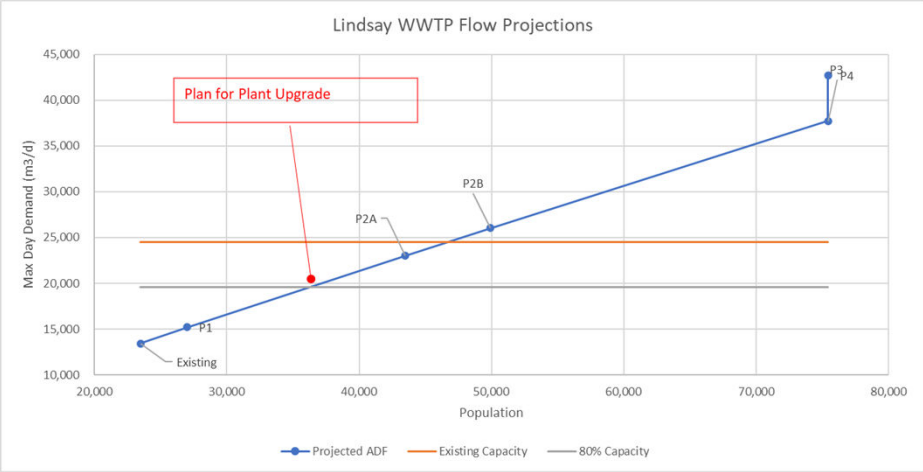
Lindsay - Water Constraints [Max Day+Fire]



Lindsay - Wastewater

Treatment [Current: 24,500m³/d]

Planning Horizon	Description	Residential ADF [m³/d]	I/C/I ADF [m³/day]	Total Additional ADF[m³/day]	Cumulative ADF [m³/day]	% of Plant Capacity
Existing		-	-	-	13,436	55%
P1	Committed - Existing (Agreement + Buildout started prior to 2024)	1580	194	1,774	15,210	62%
P2A	North West Trunk, South-East Development Charges By-Law	7406	394	7,800	23,010	94%
P2B	Other 2011 Growth Management Strategy	2909	131	3,041	26,051	106%
P3	Continued MZO Buildout	11479	219	11,698	37,750	154%
P4	Final MZO Buildout	0	4,931	4,931	42,681	174%



Pumping Stations

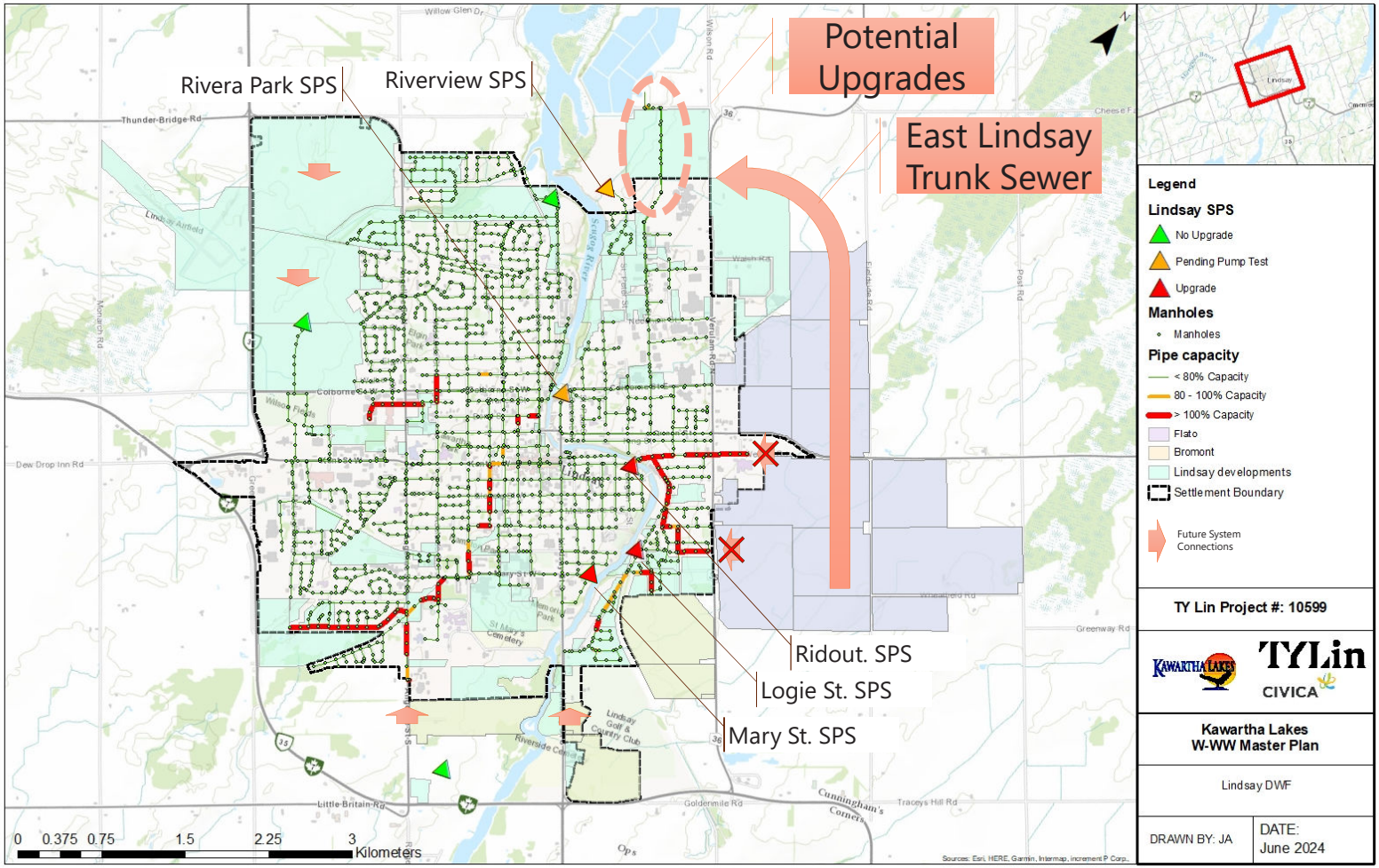
Station	Capacity [L/s]	Buildout DWF	Buildout WWF	Recommend'n
Fairgrounds	18	1	2	Maintain
Jennings Creek	400	215	351	Maintain
Lindsay St N.	470	79	302	Maintain
Logie	69	**125**	**170**	**UPGRADE**
Mary St E.	28	**57**	**65**	**UPGRADE**
Ridout	375	**373** [EL]	**636** [EL]	**UPGRADE**
Rivera Park	637-701*	250	**669**	**REVIEW**
Riverview	8-30	18	**25**	**REVIEW**
	* - Capacity to be confirmed			
	[EL] - Includes Flow from East Lindsay			

Recommendations

- Upgrade Wastewater Treatment Capacity (Schedule C Class EA)
- 2 Pumping Station Upgrades
- Targeted System Upgrades and Extensions
- New East Lindsay Trunk Sewer and SPS

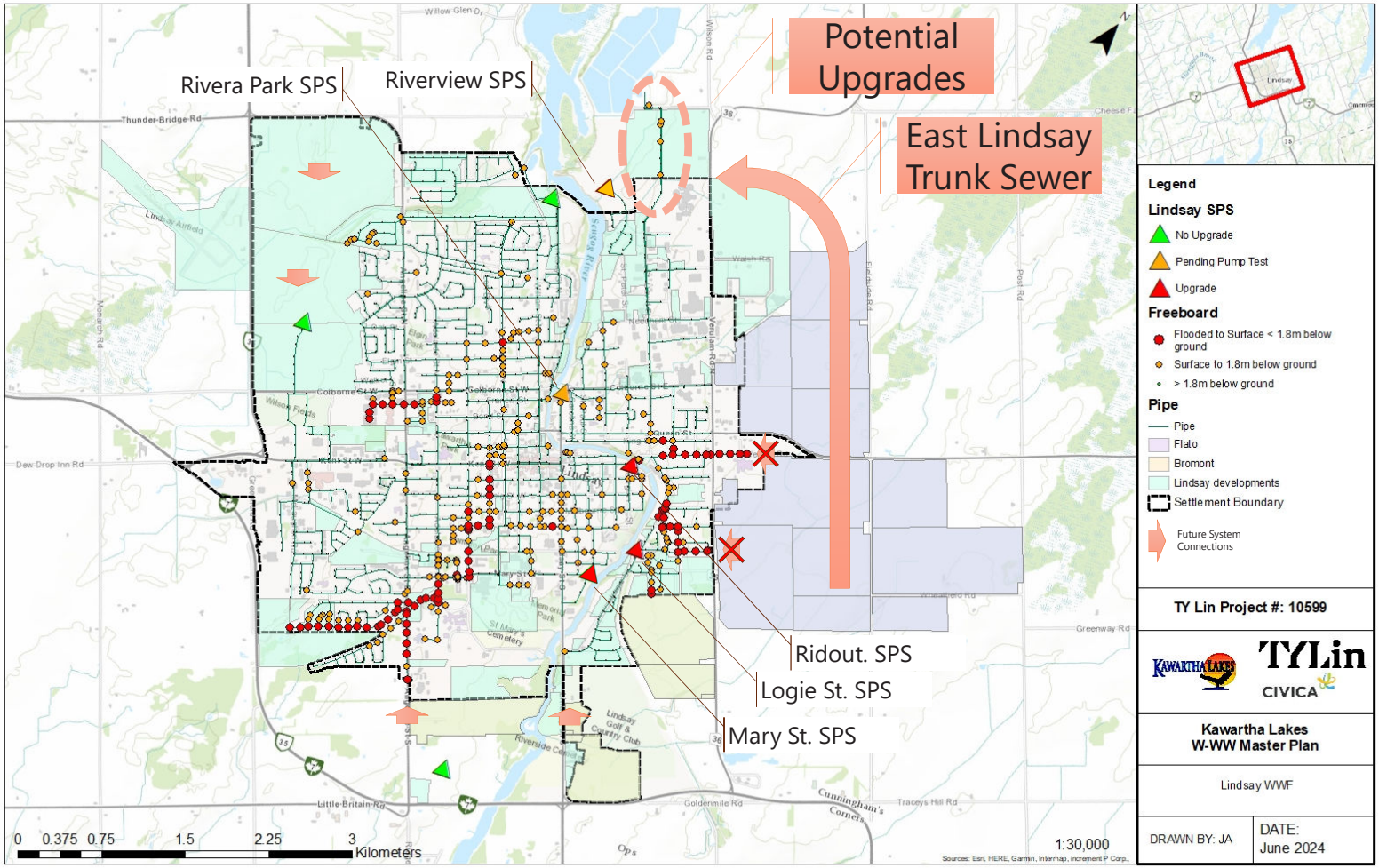
Lindsay - Wastewater Constraints [DWF]

(DWF – Dry Weather Flow)



Lindsay - Wastewater Constraints [WWF]

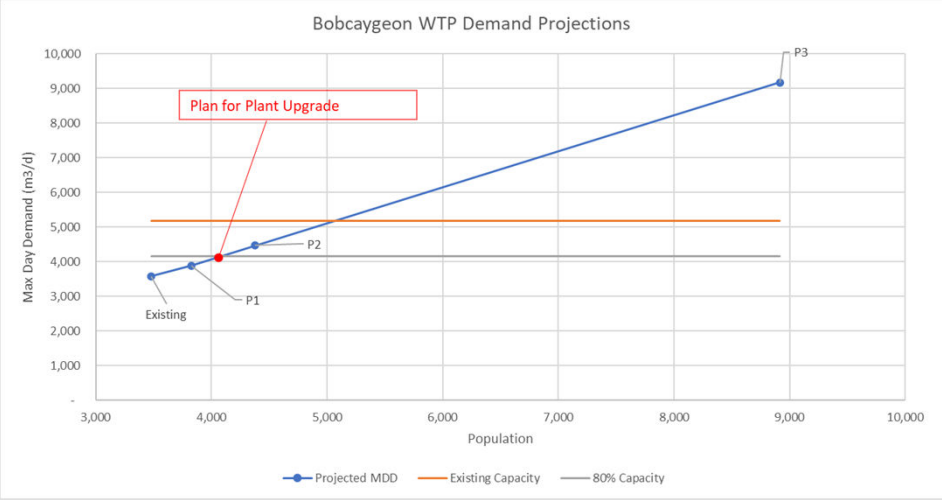
(WWF – Wet Weather Flow)



Bobcaygeon - Water

Treatment [Current: 5,184m³/d]

Planning Horizon	Description	Residential MDD [m³/d]	I/C/I MDD [m³/day]	Total Additional MDD [m³/day]	Cumulative MDD [m³/day]	% of Plant Capacity
Existing		-	-	-	3,575	69%
P1	Committed - Existing	313		313	3,888	75%
P2	Committed - Future	495	79	574	4,462	86%
P3	Other 2011 Growth Management Strategy	4,082	622	4,704	9,166	177%



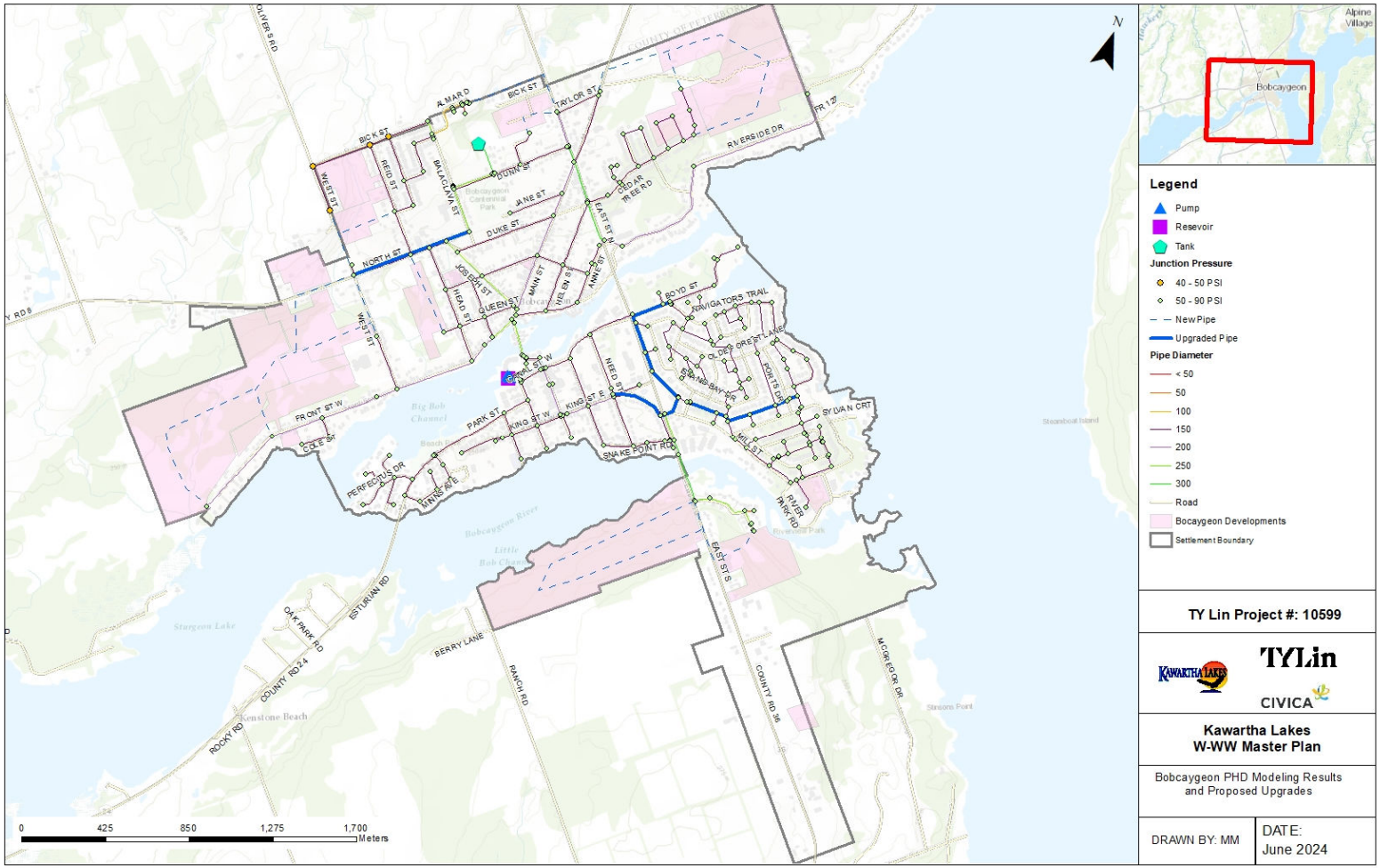
Water Storage [Current: 4,400 m³]

Planning Horizon	Cumulative MDD [m³/day]	Required Equal. Storage [m³]	Required Fire Storage [m³]	Required Emerg. Storage [m³]	Total Storage Needed [m³]	% of Existing Storage
Existing	3,575	894	900	448	2,242	51%
P1	3,888	972	900	468	2,340	53%
P2	4,462	1,115	1,037	538	2,690	61%
P3	9,166	2,291	2,041	1,083	5,416	123%

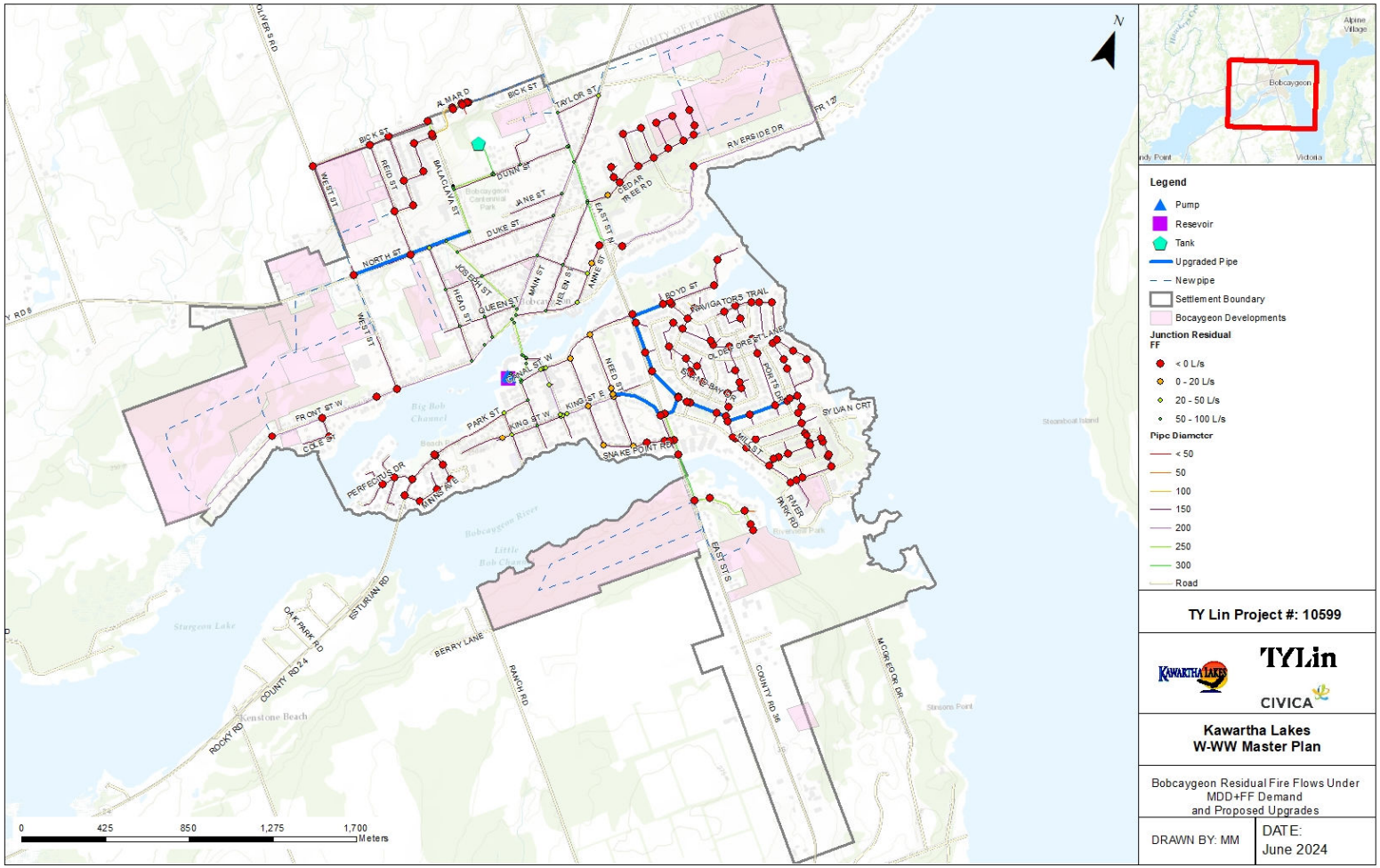
Recommendations

- Upgrade Water Treatment Capacity (Schedule C Class EA)
- Construct Additional Water Storage
- Targeted System Upgrades and Extensions

Bobcaygeon - Water Constraints [Peak Hour]



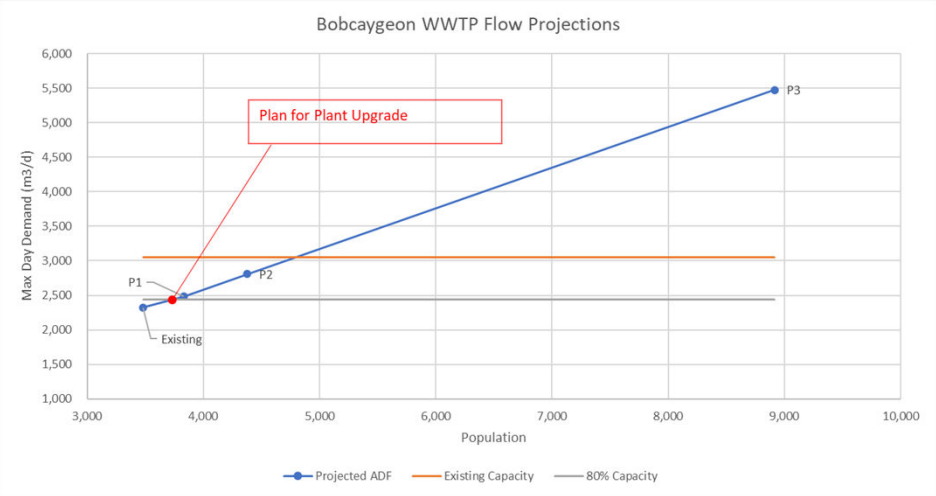
Bobcaygeon - Water Constraints [Max Day+Fire]



Bobcaygeon - Wastewater

Treatment [Current: 3,055m³/d]

Planning Horizon	Description	Residential ADF [m³/d]	I/C/I ADF [m³/day]	Total Additional ADF[m³/day]	Cumulative ADF [m³/day]	% of Plant Capacity
Existing		-	-	-	2,327	76%
P1	Committed - Existing	156		156	2,483	81%
P2	Committed - Future	247	79	327	2,810	92%
P3	Other 2011 Growth Management Strategy	2,041	622	2,663	5,473	179%



Pumping Stations

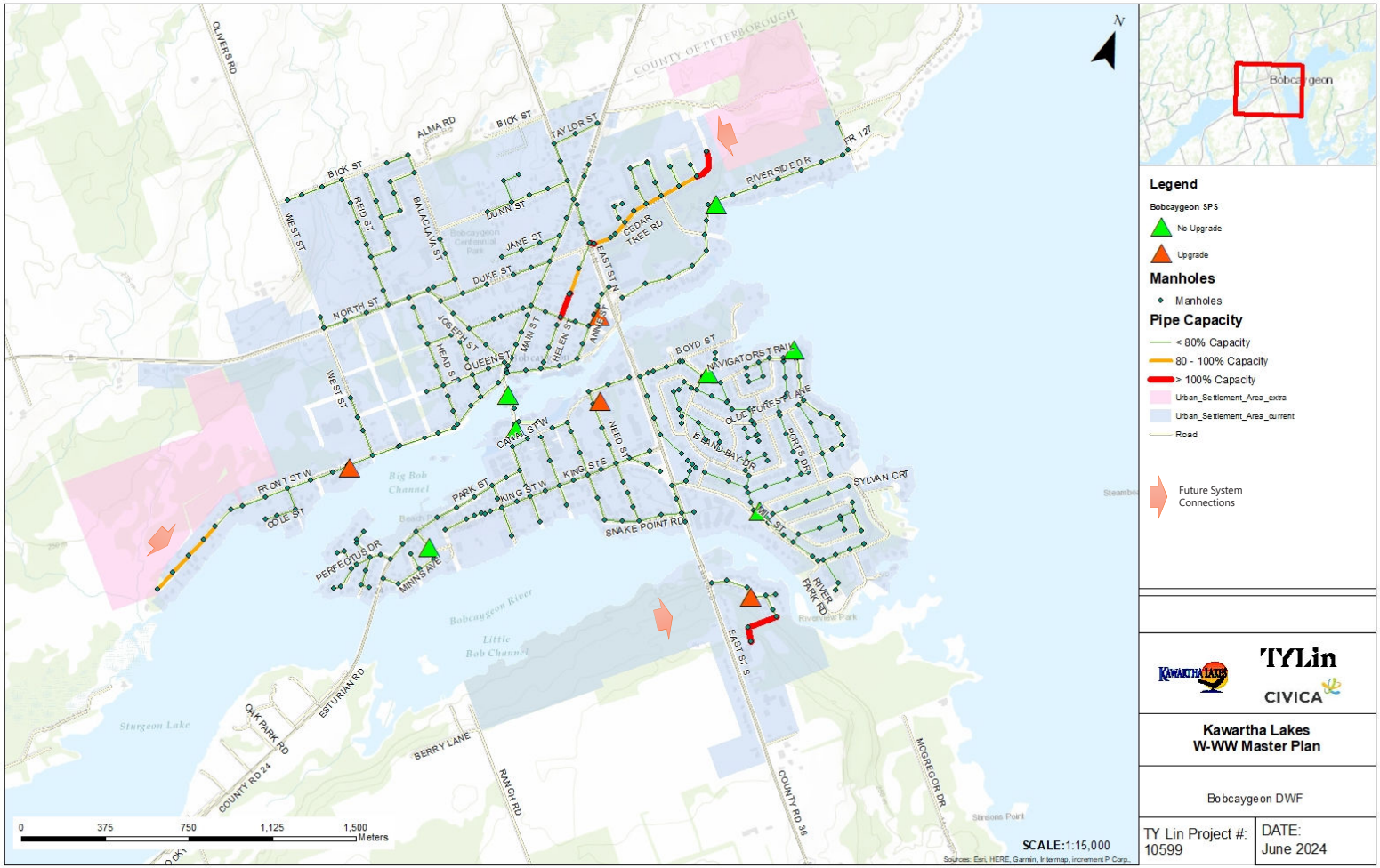
Station	Capacity [L/s]	Buildout DWF	Buildout WWF	Recommend'n
Anne St.	81	**87**	**135**	**UPGRADE**
Bolton St.	7	0.5	1	Maintain
Front St.	14	**42**	**67**	**UPGRADE**
Lance St.	14	2	5	Maintain
Little Bob Dr	15	**26**	**41**	**UPGRADE**
Main St.	6	**7**	**8**	**REVIEW**
Mill St	19	1.7	8	Maintain
8 Navigators Tr	42	18	33	Maintain
54 Navigators Tr	19	5	9	Maintain
Need St.	32	31	**47**	**UPGRADE**
Riverside Dr	14	2	7	Maintain

Recommendations

- Upgrade Wastewater Treatment Capacity (Schedule C Class EA)
- 4 Pumping Station Upgrades
- Targeted System Upgrades and Extensions

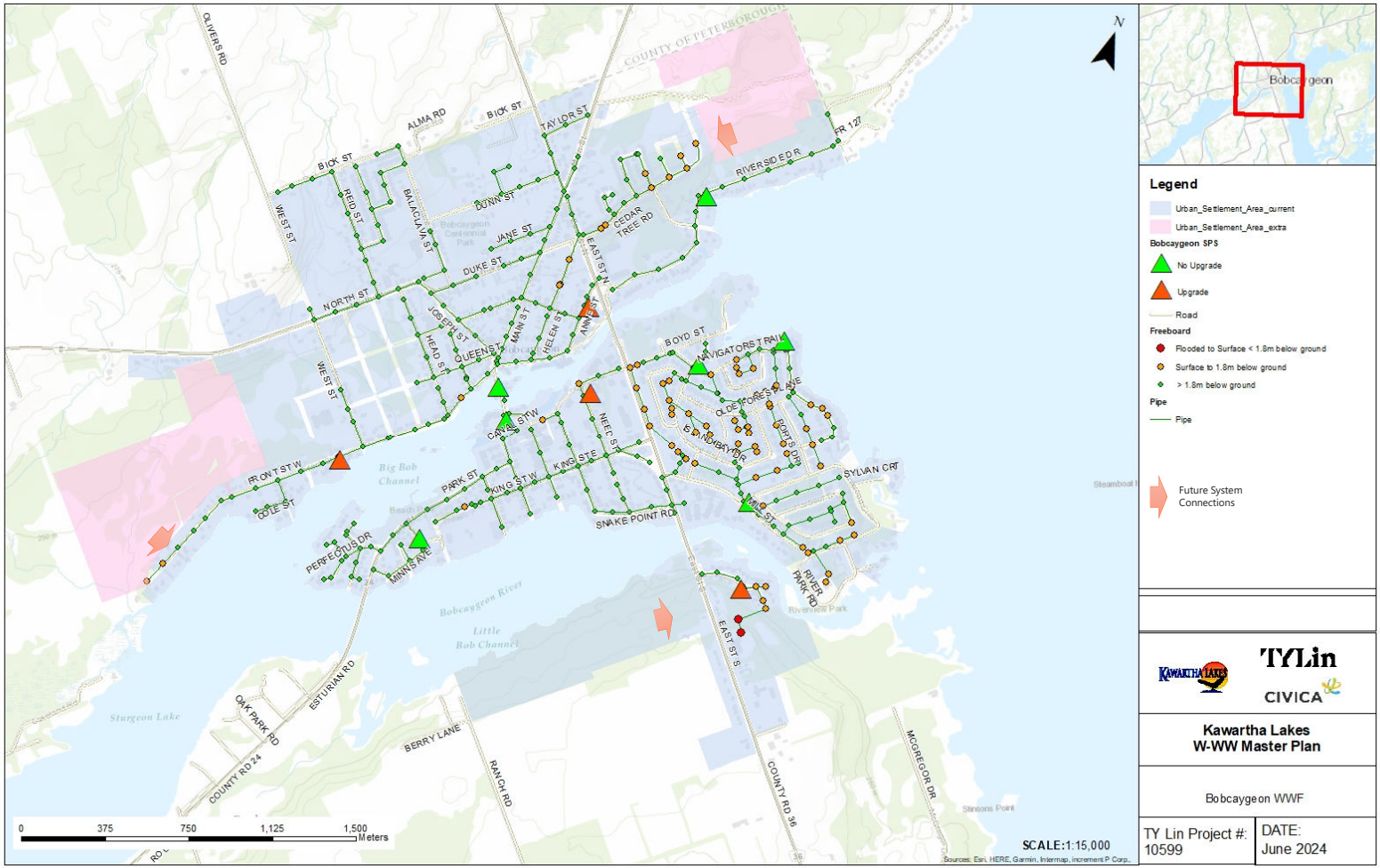
Bobcaygeon - Wastewater Constraints [DWF]

(DWF – Dry Weather Flow)



Bobcaygeon - Wastewater Constraints [WWF]

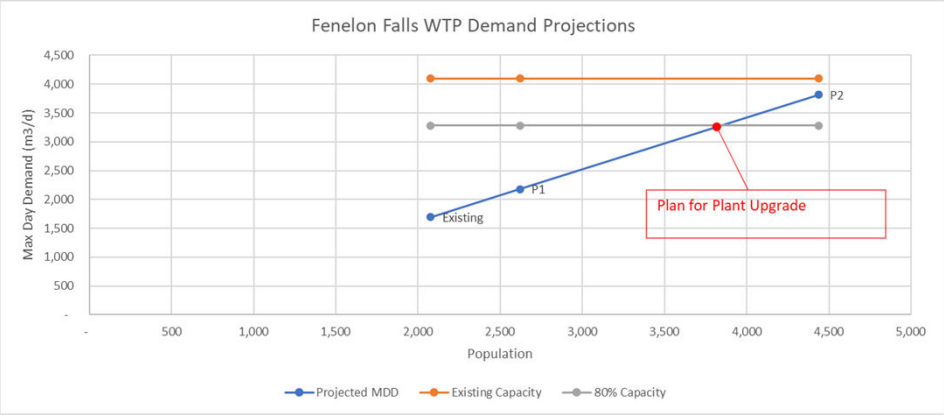
(WWF – Wet Weather Flow)



Fenelon Falls - Water

Treatment [Current: 4,100 m³/d]

Planning Horizon	Description	Additional Residential MDD [m³/d]	I/C/I MDD [m³/day]	Total Additional MDD [m³/day]	Cumulative MDD [m³/day]	% of Plant Capacity
Existing		-	0	0	1,693	41%
P1	Committed - Existing	489		489	2,182	53%
P2	2011 GMS	1,635	0	1,635	3,817	93%



Water Storage [Current: 1,245 m³]

Planning Horizon	Cumulative MDD [m³/day]	Required Equal. Storage [m³]	Required Fire Storage [m³]	Required Emerg. Storage [m³]	Total Storage Needed [m³]	% of Existing Storage
Existing	1,693	423	792	304	1,519	122%
P1	2,182	545	792	334	1,672	134%
P2	3,817	954	792	437	2,183	175%

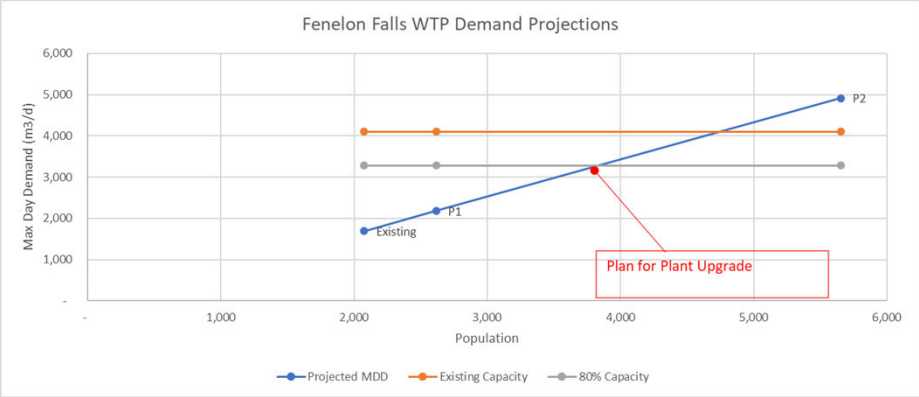
Recommendations

- Construct Additional Water Storage
- Targeted System Upgrades and Extensions

Fenelon Falls – Water [Fenelon Trails TOR Appl'n]

Treatment [Current: 4,100 m^3/d]

Planning Horizon	Description	Additional Residential MDD [m^3/d]	I/C/I MDD [m^3/day]	Total Additional MDD [m^3/day]	Cumulative MDD [m^3/day]	% of Plant Capacity
Existing		-	0	0	1,693	41%
P1	Committed - Existing	489		489	2,182	53%
P2	2011 GMS	2,730	0	2,730	4,912	120%



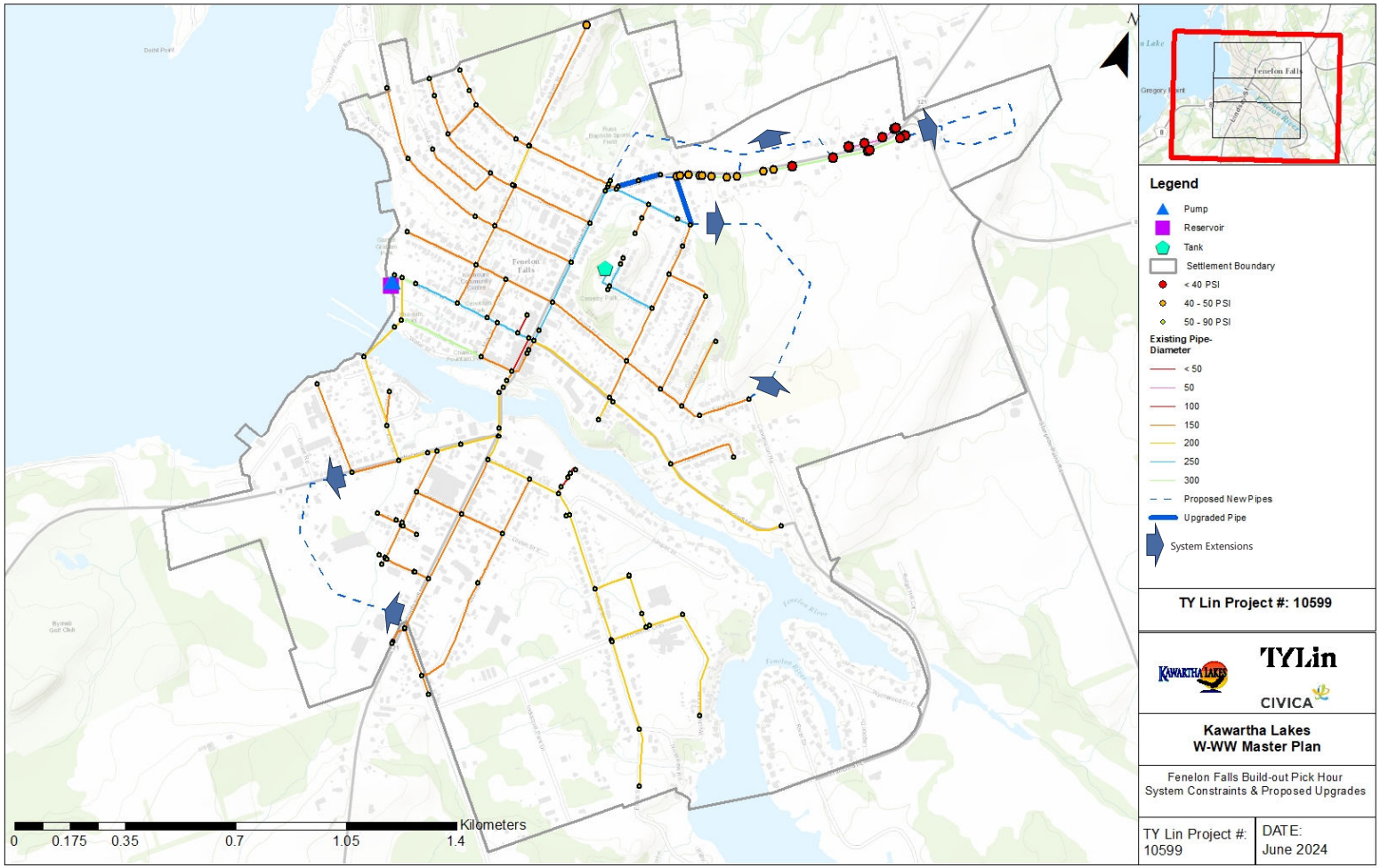
Water Storage [Current: 1,245 m^3]

Planning Horizon	Cumulative MDD [m^3/day]	Required Equal. Storage [m^3]	Required Fire Storage [m^3]	Required Emerg. Storage [m^3]	Total Storage Needed [m^3]	% of Existing Storage
Existing	1,693	423	792	304	1,519	122%
P1	2,182	545	792	334	1,672	134%
P2	3,817	954	792	437	2,183	175%

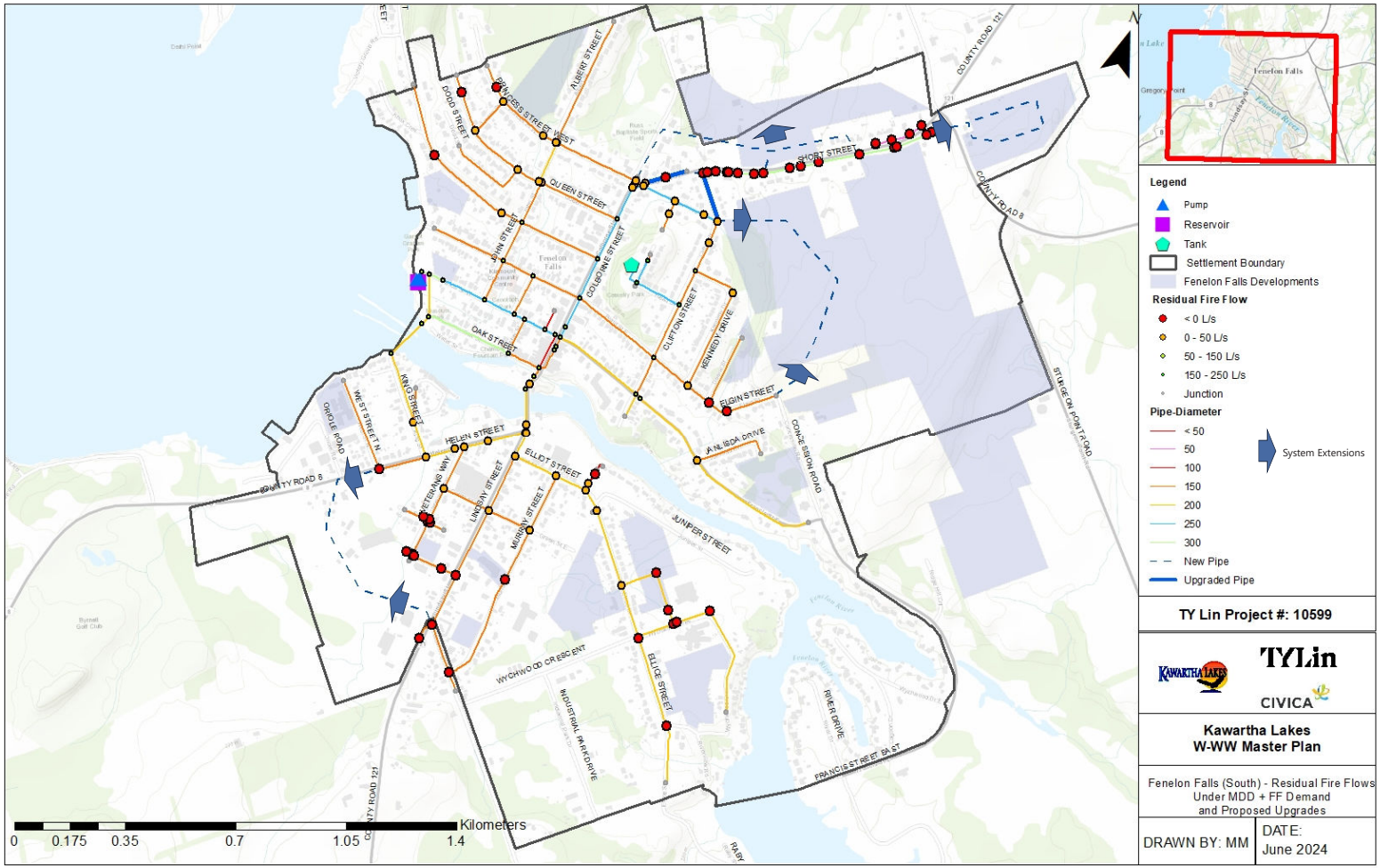
Recommendations

- Construct Additional Water Storage
- Targeted System Upgrades and Extensions
- Upgrade Water Treatment Capacity (Schedule C Class EA)

Fenelon Falls - Water Constraints [Peak Hour]



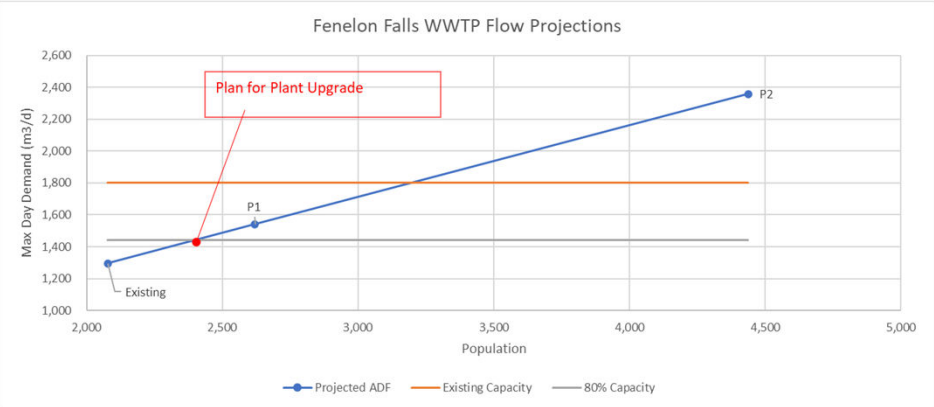
Fenelon Falls - Water Constraints [Max Day+Fire]



Fenelon Falls - Wastewater

Treatment [Current: 1,800 m³/d]

Planning Horizon	Description	Residential ADF [m³/d]	I/C/I ADF [m³/day]	Total Additional ADF[m³/day]	Cumulative ADF [m³/day]	% of Plant Capacity
Existing		-	-	-	1,297	72%
P1	Committed - Existing	244	0	244	1,541	86%
P2	2011 GMS	818	0	818	2,359	131%



Pumping Stations

Station	Capacity [L/s]	Buildout DWF	Buildout WWF	Recommend'n
Colborne St	50	42	**110**	**UPGRADE**
Ellice St	80	**110**	**146**	**UPGRADE**
Francis St E.	6	3	**11**	**UPGRADE**

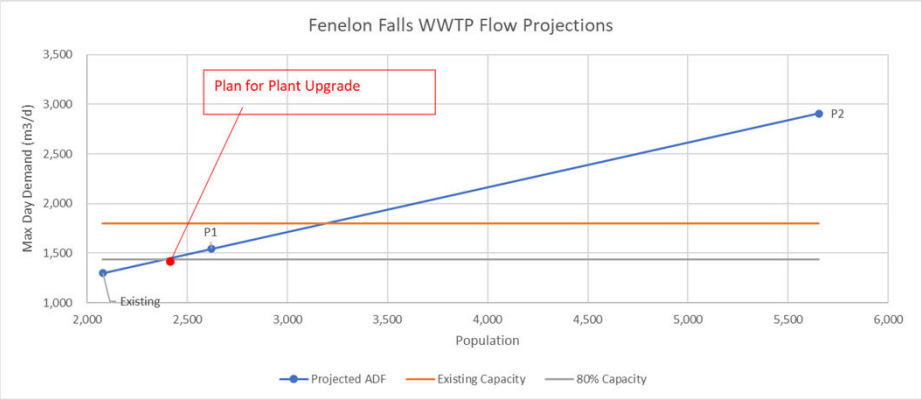
Recommendations

- Upgrade Wastewater Treatment Capacity (Schedule C Class EA)
- 3 Pumping Station Upgrades
- Targeted System Upgrades and Extensions

Fenelon Falls – Wastewater [Fenelon Trails TOR Appl'n]

Treatment [Current: 1,800 m³/d]

Planning Horizon	Description	Residential ADF [m³/d]	I/C/I ADF [m³/day]	Total Additional ADF[m³/day]	Cumulative ADF [m³/day]	% of Plant Capacity
Existing		-	-	-	1,297	72%
P1	Committed - Existing	244	0	244	1,541	86%
P2	2011 GMS	1365	0	1365	2,906	161%



Pumping Stations

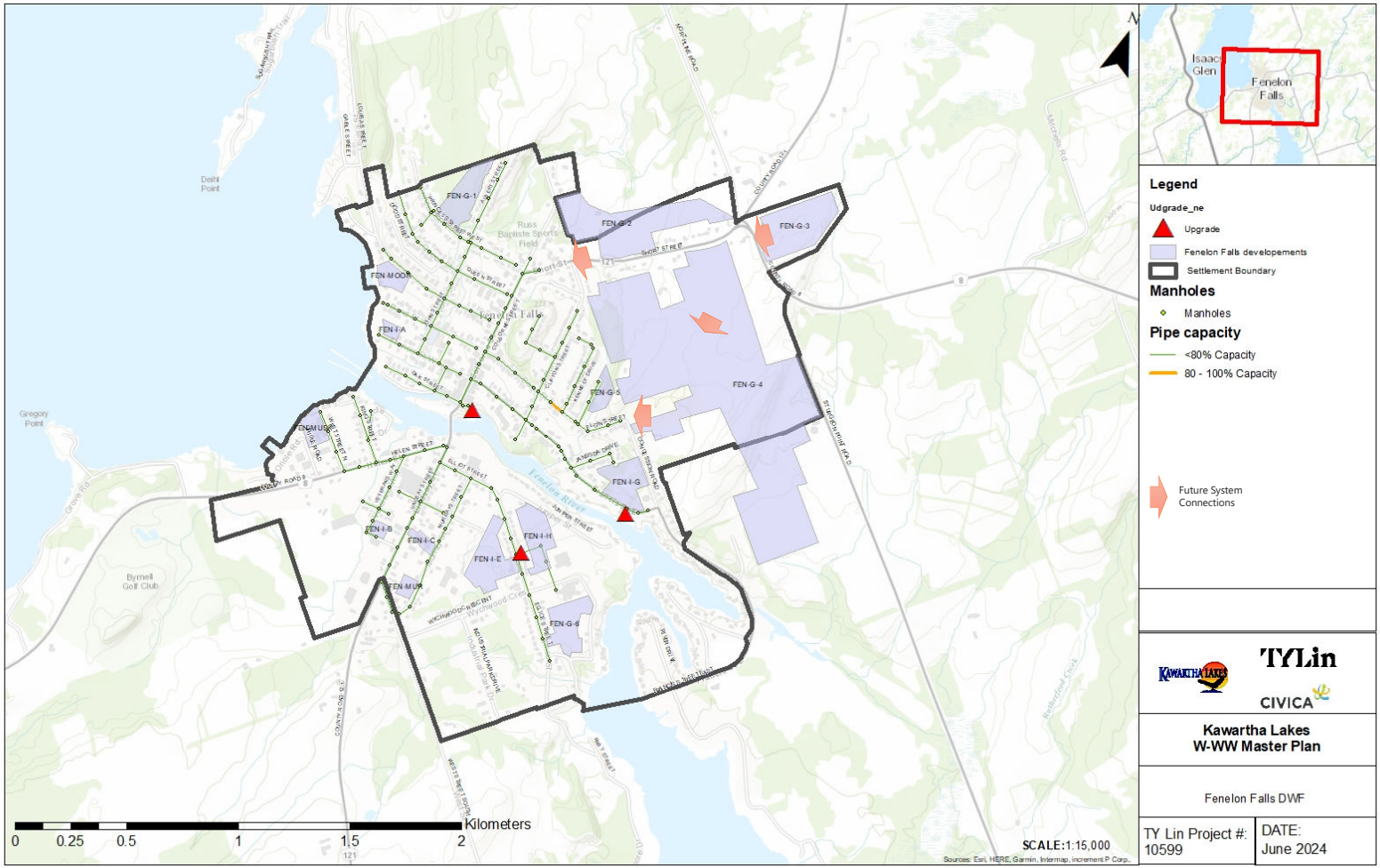
Station	Capacity [L/s]	Buildout DWF	Buildout WWF	Recommend'n
Colborne St	50	78	**146**	**UPGRADE**
Ellice St	80	**146**	**182**	**UPGRADE**
Francis St E.	6	3	**11**	**UPGRADE**

Recommendations

- Upgrade Wastewater Treatment Capacity (Schedule C Class EA)
- 3 Pumping Station Upgrades
- Targeted System Upgrades and Extensions

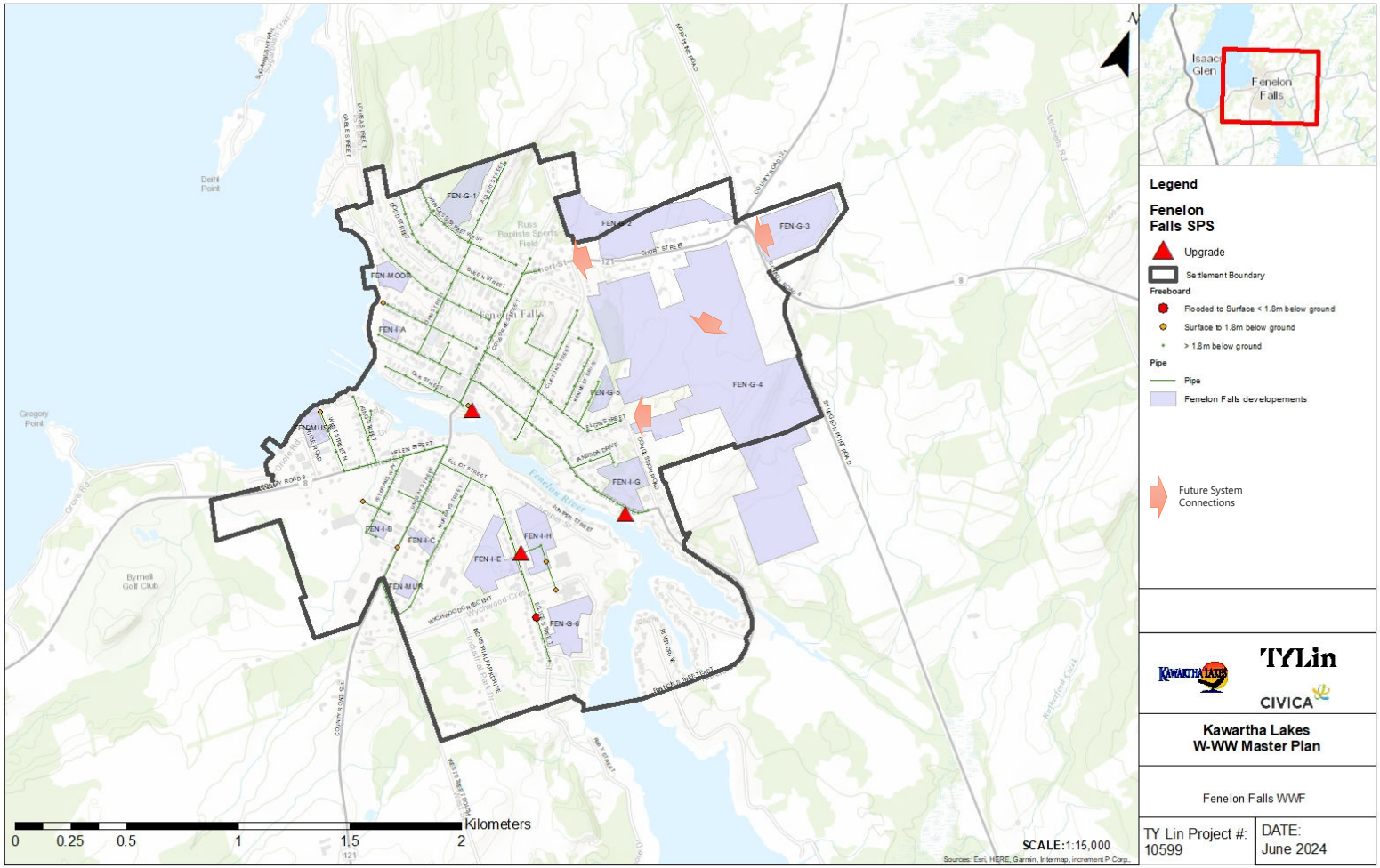
Fenelon Falls - Wastewater Constraints [DWF]

(DWF – Dry Weather Flow)



Fenelon Falls - Wastewater Constraints [WWF]

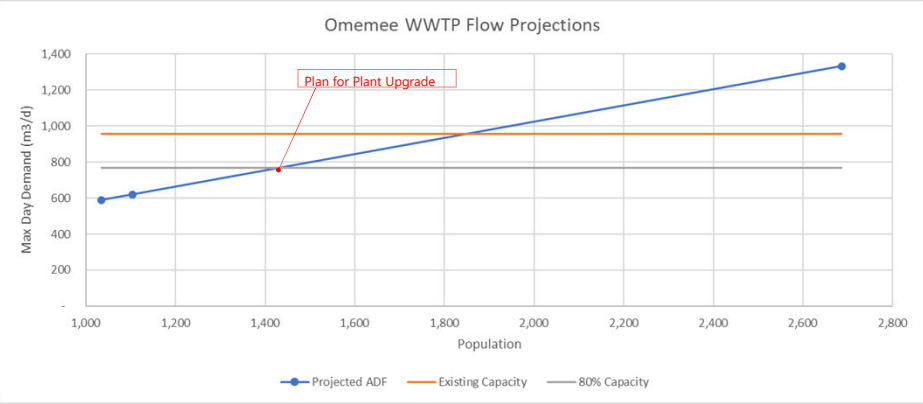
(WWF – Wet Weather Flow)



Omemee - Wastewater

Treatment [Current: 958 m³/d]

Planning Horizon	Description	Residential ADF [m³/d]	ICI ADF[m³/day]	Total Additional ADF [m³/day]	Cumulative ADF [m³/day]	% of Plant Capacity
Existing			0		590	62%
P1	Committed - Existing	31	0	31	621	65%
P2	2011 GMS	712	0	712	1,333	139%



Pumping Stations

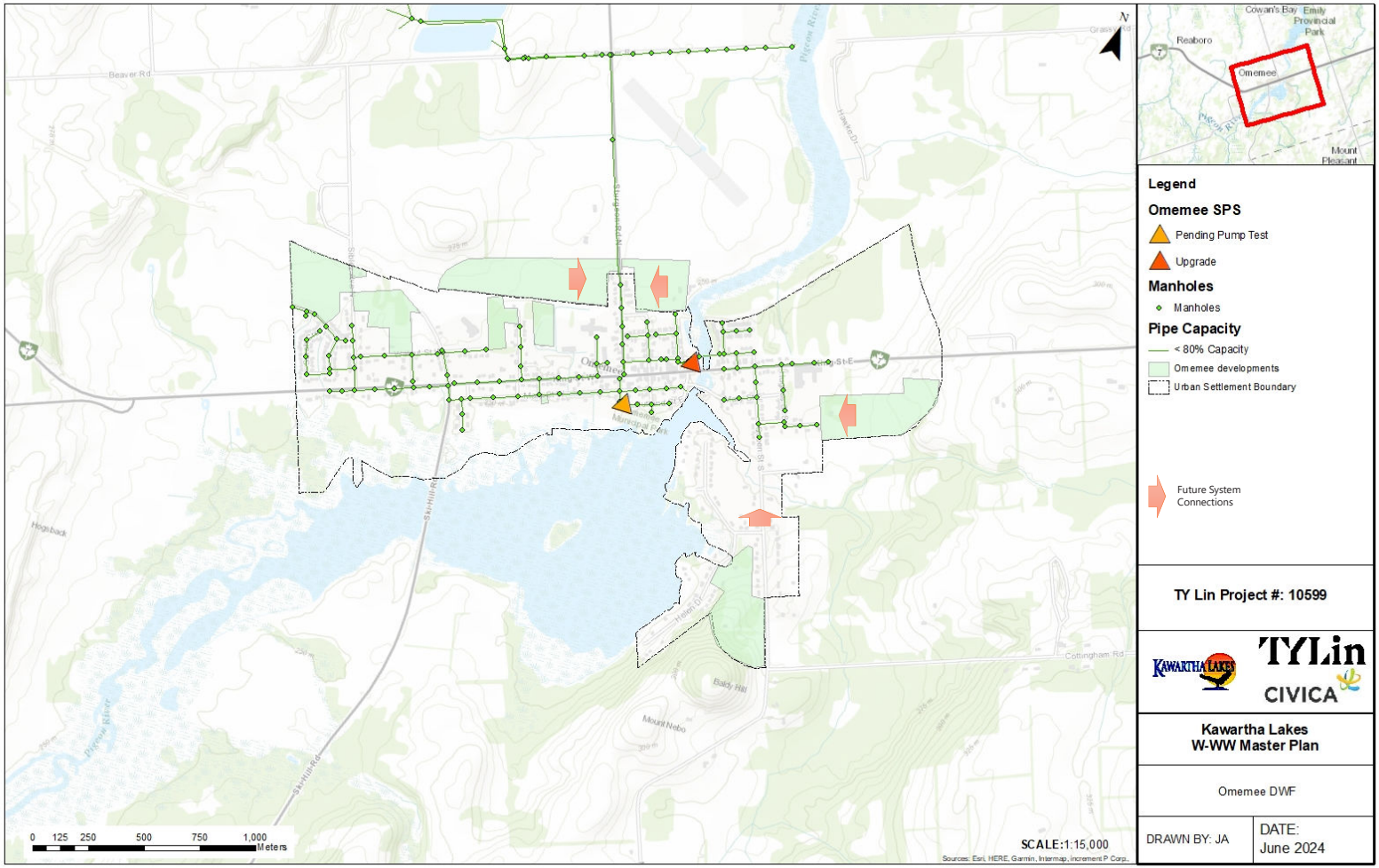
Station	Capacity [L/s]	Buildout DWF	Buildout WWF	Recommend'n
Church St	64	54	**216**	**UPGRADE**
Sturgeon Rd	122	39	81	Maintain

Recommendations

- Upgrade Wastewater Treatment Capacity (Currently Underway)
- Upgrade Church Street SPS (to be reviewed further and confirmed)
- Targeted System Upgrades

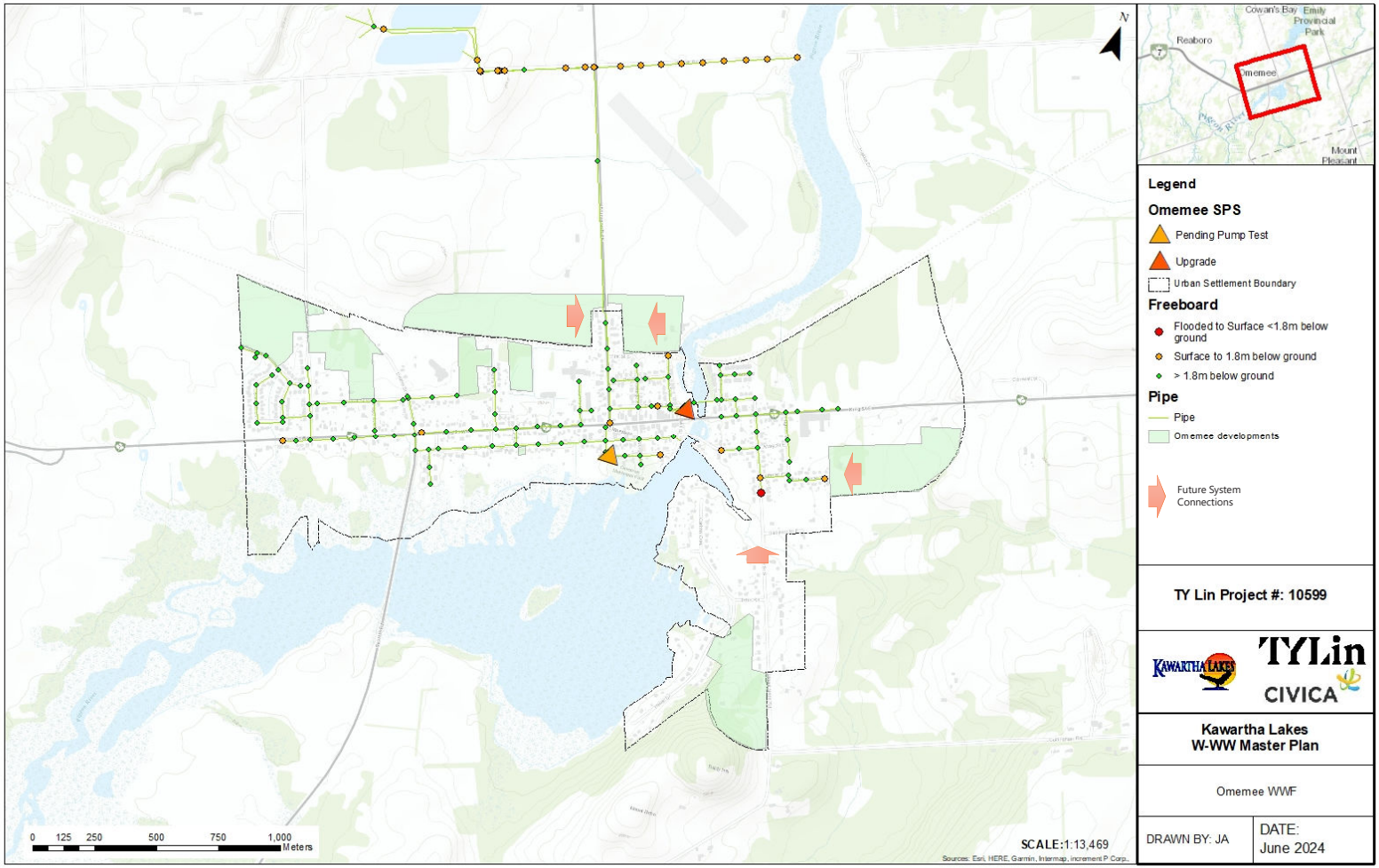
Omemee - Wastewater Constraints [DWF]

(DWF – Dry Weather Flow)



Omemee - Wastewater Constraints [WWF]

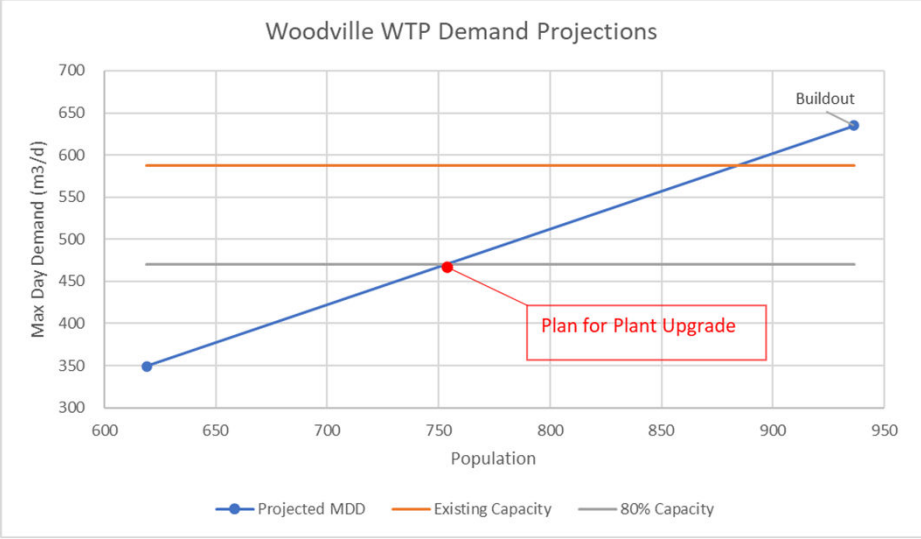
(WWF – Wet Weather Flow)



Woodville - Water

Treatment [Current: 588 m^3/d]

Planning Horizon	Additional Residential MDD [m^3/d]	Additional I/C/I MDD [m^3/day]	Total Additional MDD [m^3/day]	Cumulative MDD [m^3/day]	% of Plant Capacity
Existing	-	-	-	349	59%
Buildout	286	0	286	635	108%



Water Storage [Current: 550 m^3]

Planning Horizon	Cumulative MDD [m^3/day]	Required Equal. Storage [m^3]	Required Fire Storage [m^3]	Required Emerg. Storage [m^3]	Total Storage Needed [m^3]	% of Existing Storage
Existing	349	164	0	0	164	30%
Buildout	635	292	0	0	292	54%

Recommendations

- Consider WTP Upgrade
- Targeted System Upgrades

Woodville- Water Constraints [Peak Hour]

Next Steps

1. Review Comments from Public/Stakeholders
   - Please Submit by July 31st
2. Refine models as required
   - Updates to GMS
   - Refine potential system extensions
   - Conduct Sewage Pumping Station testing to confirm capacities
3. Review Phasing of Upgrades
   - Review existing reserve capacity in existing infrastructure
   - Confirm the "triggers" for the infrastructure projects
   - Assist City in developing the Capital Plan update
4. Finalise the Water/Wastewater Master Plan
   - Updates to the Servicing Plans by planning horizon (2031, 2036, 2041, 2046, 2051)
   - Prepare and issue Final Report
   - Make report available to Public for 30-Day Statutory Review (Fall 2024)

Thank You For Attending!

If You Have Any Questions

- Speak to a Member of the Project Team Tonight
- Send an E-Mail

Comment Forms

- These are available to be completed and Submitted
- Please Submit by July 31st

Future Updates

- Website: KawarthaLakes.ca/MajorProjects
  - Scroll Down to "City-Wide"
- Please add your name to the Contact List

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