Middlesex Centre
Servicing Master Plan

Municipal Class Environmental Assessment

Council Presentation

December 13, 2023

Agenda

Purpose of the Servicing Master Plan

Growth Projections

Discuss Existing Servicing and Recommended Future Projects:

- **Ballymote**
- **Birr**
- **Bryanston**
- **Denfield**
- **Lobo**
- **Melrose**
- **Poplar Hill / Coldstream**
- **Arva**
- **Delaware**
- **Ilderton**
- **Kilworth**
- **Komoka**

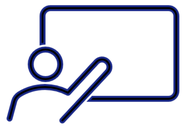
Solid Waste

Summary / Next Steps

Questions / Comments

Purpose of the Master Plan

The goals of the Master Plan include the following:



- Review of servicing for the Municipality and determine any existing deficiencies.
- Consider growth pressures on servicing infrastructure and provide recommendations for upgrades.
- Provide Opinions of Probable Construction cost to the Municipality along with recommended timing of works.
- Complete study work under the Class Environmental Assessment process. This will allow the majority of projects to proceed to design and construction.

Included in the Servicing Study

Servicing refers to municipally provided services for:

- Water distribution
- Wastewater collection
- Stormwater management
- Solid Waste Collection

How did we do this study?

1. Reviewed the existing servicing and examined the existing capacity of the system.
2. Reviewed servicing priorities and operational constraints with Municipality to identify existing and future needs.
3. Identified growth areas and growth forecasts in order to determine future servicing requirements to the year 2046.
4. Identified a list of constraints where servicing solutions or upgrades are required.
5. Developed a list of alternative solutions and evaluated those solutions through the evaluation criteria.
6. Selected a preferred solution for each of the servicing constraints.

Growth Projections

Growth for the Municipality was calculated from:

- 2021 census data was used along with growth projections from the OP reporting completed by Watson and Associates.
- Any references to implementation timing in the Master Plan have assumed linear growth in each settlement area.
- Actual implementation timing will be tied to population and/or flow triggers provided in the Master Plan.

Residential Population Growth

Growth by Area	Annual Growth Rate (%)	2021	Projected Growth	2046
Ilderton	2.4	3,695	2,990	6,685
Komoka-Kilworth	4.2	5,649	10,151	15,800
Arva	2.3	455	348	803
Delaware	2.7	1,601	1515	3,116
Sum of Hamlets and Remaining Rural Areas	0.2	8,059	413	8,472
Total Residential Population		**19,458**	**15,417**	**34,875**

Employment Growth Projections

Growth by Area	% Growth	2021	Projected Growth	2046
Ilderton	11%	698	571	1269
Komoka-Kilworth	18%	1294	928	2222
Arva	2%	324	112	436
Delaware	59%	843	3019	3862
Hamlets and Remaining Rural Areas	9%	1152	469	1621
Total Jobs	**100%**	**4310**	**5100**	**9410**

Ballymote

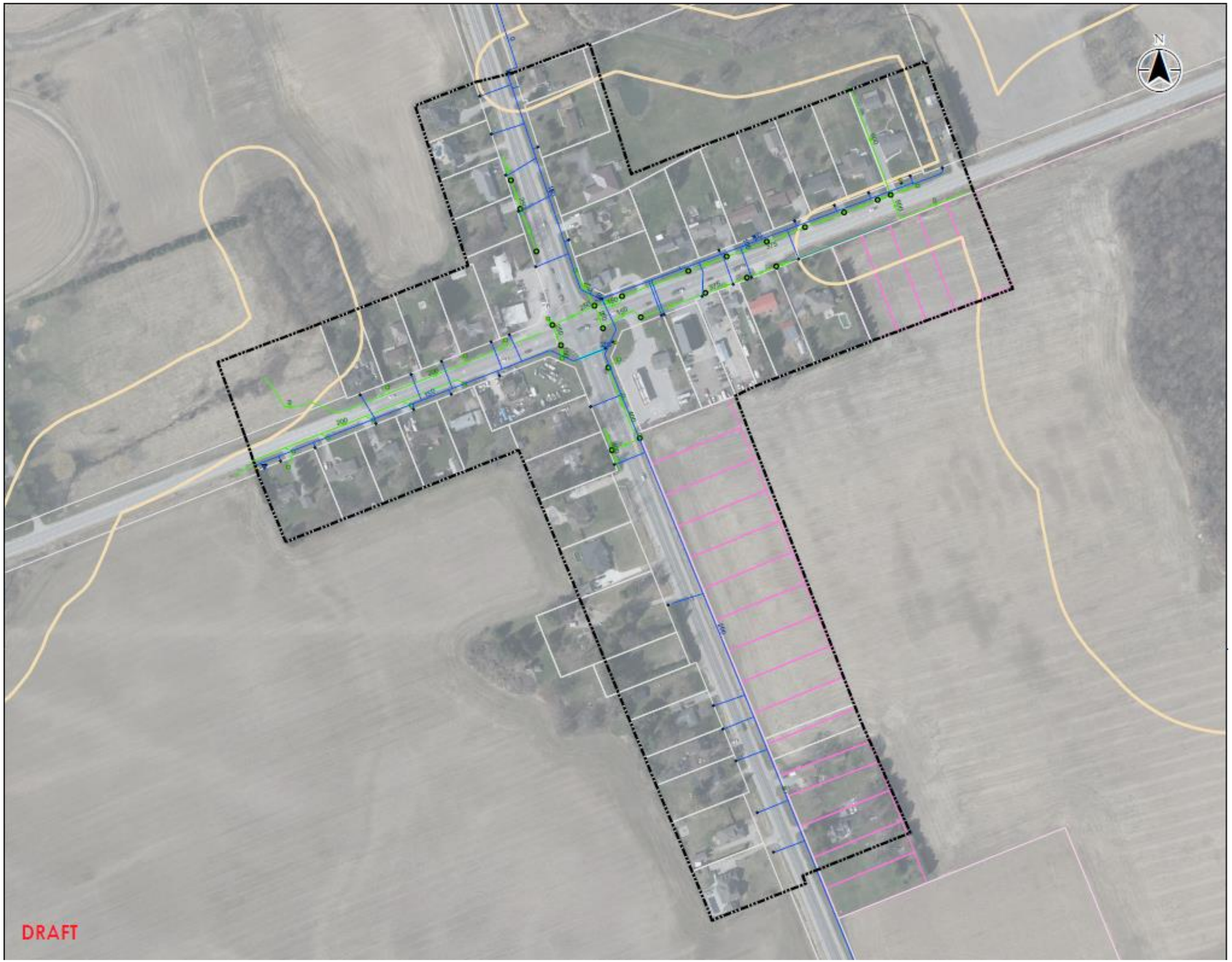
Municipal water is provided by connection to the City of London system on Highbury Avenue.

Sanitary servicing is by private septic systems.

Storm sewers within the County road allowance along with municipal drains service portions of the Hamlet

Growth in the Hamlet is limited.

No recommended changes.



Birr

Limited municipal water is provided by a municipal well system. The remainder of the Hamlet is serviced by private wells.

Sanitary servicing is by private septic systems.

Storm sewers and municipal drains service a majority of the Hamlet.

Growth in the Hamlet is limited.

No recommended changes.

Bryanston

Water is provided by private wells.

Sanitary servicing is by private septic systems.

Growth in the Hamlet is limited.

No recommended changes.

Denfield

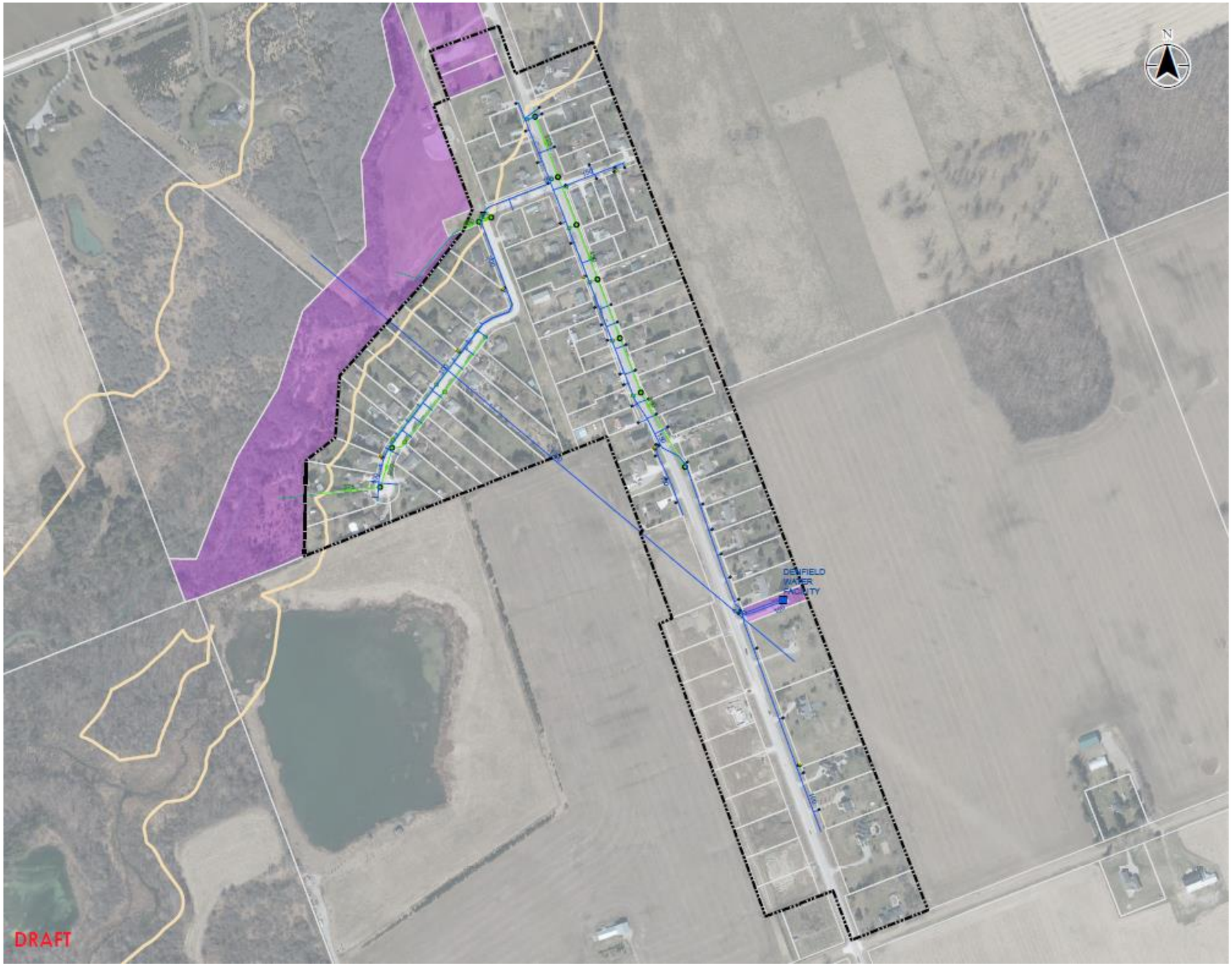
Water is provided by connection to the Lake Huron system with an in-ground tank and a booster pumping station.

Sanitary servicing is by private septic systems.

Storm sewers and municipal drains service portions of the community

Growth in the community is limited.

No recommended changes.



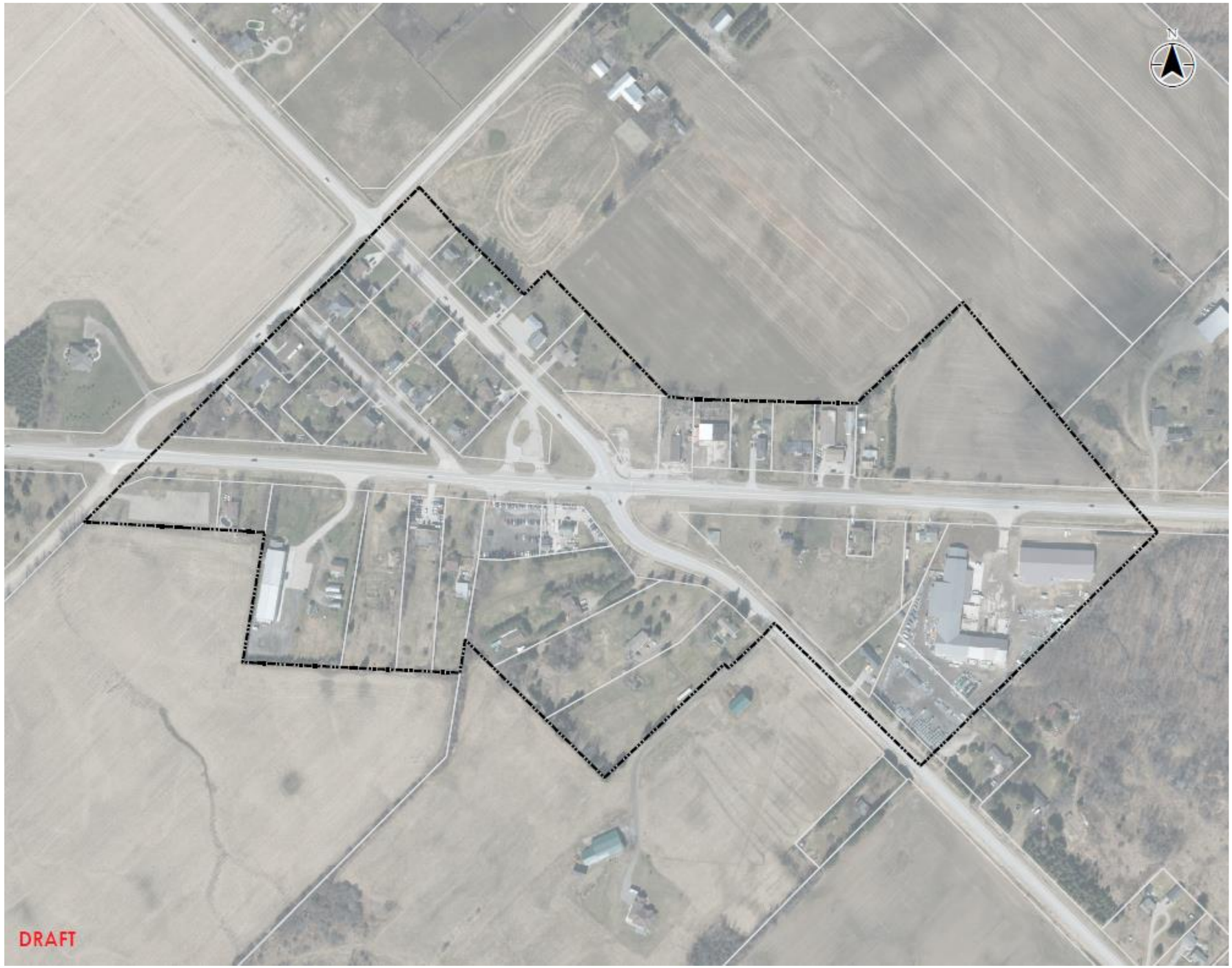
Lobo

Water is provided by private wells.

Sanitary servicing is by private septic systems.

Growth in the community is limited.

No recommended changes.



Melrose

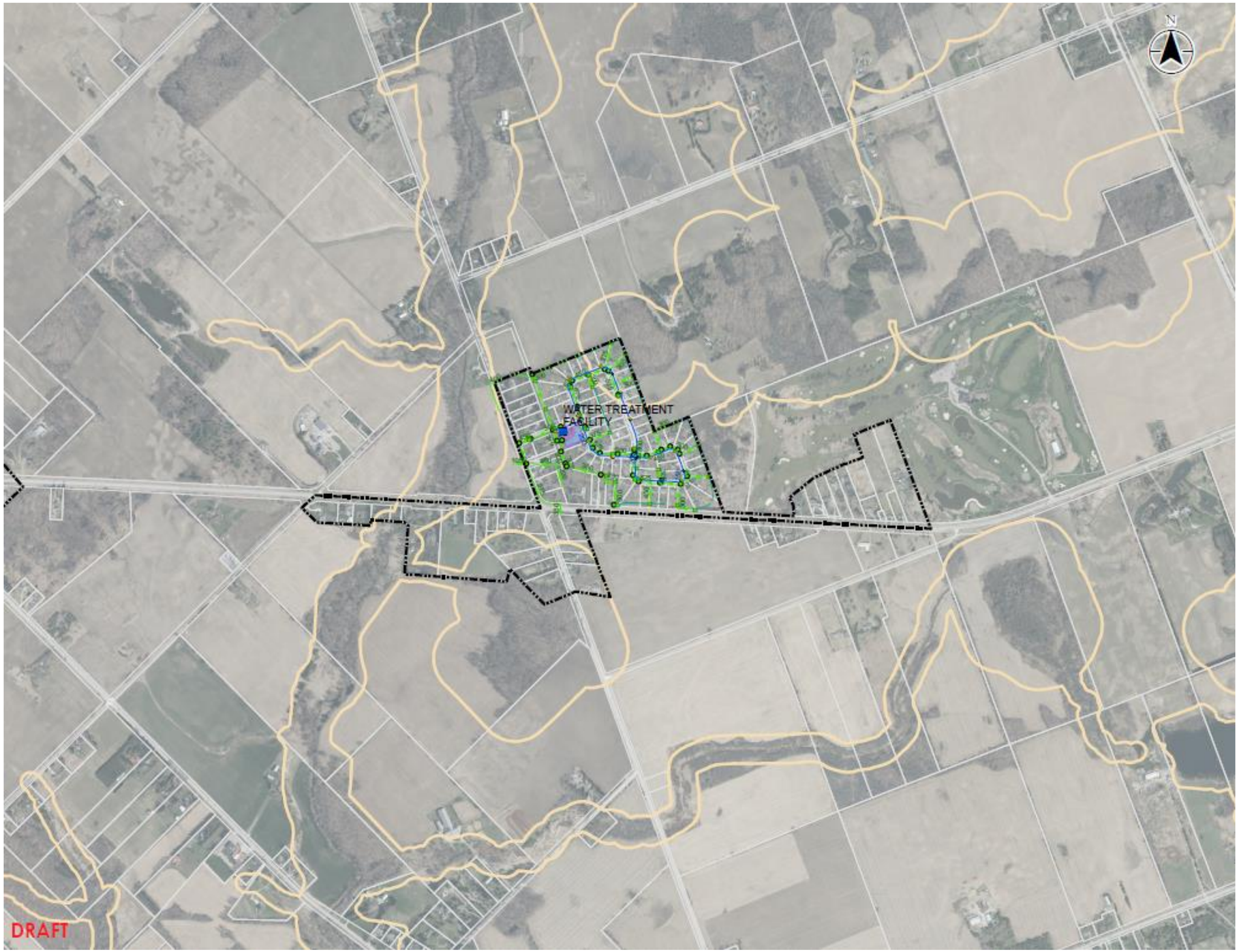
Water is currently provided by private wells and a limited municipal well system. Design is currently underway to connect to the existing municipal system to the Lake Huron water supply system.

Sanitary servicing is by private septic systems.

Storm sewers and municipal drains service a portion of the community.

Growth in the community is limited.

No recommended changes.



Poplar Hill / Coldstream

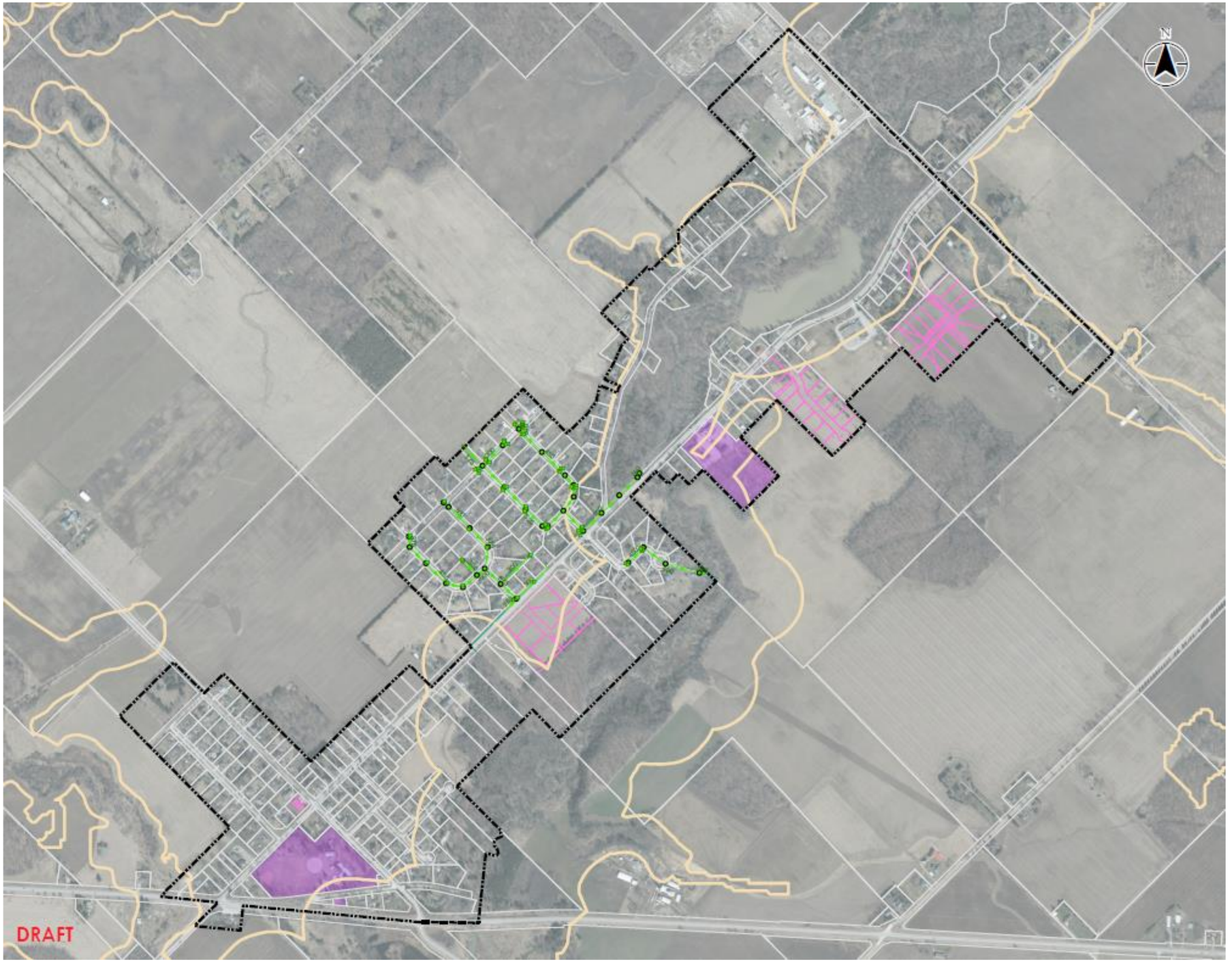
Water is provided by private wells.

Sanitary servicing is by private septic systems.

Storm sewers and municipal drains service a portion of the community.

There are currently 36 draft approved building lots in 3 separate developments, following which there is very limited infill growth opportunities.

No recommended changes.



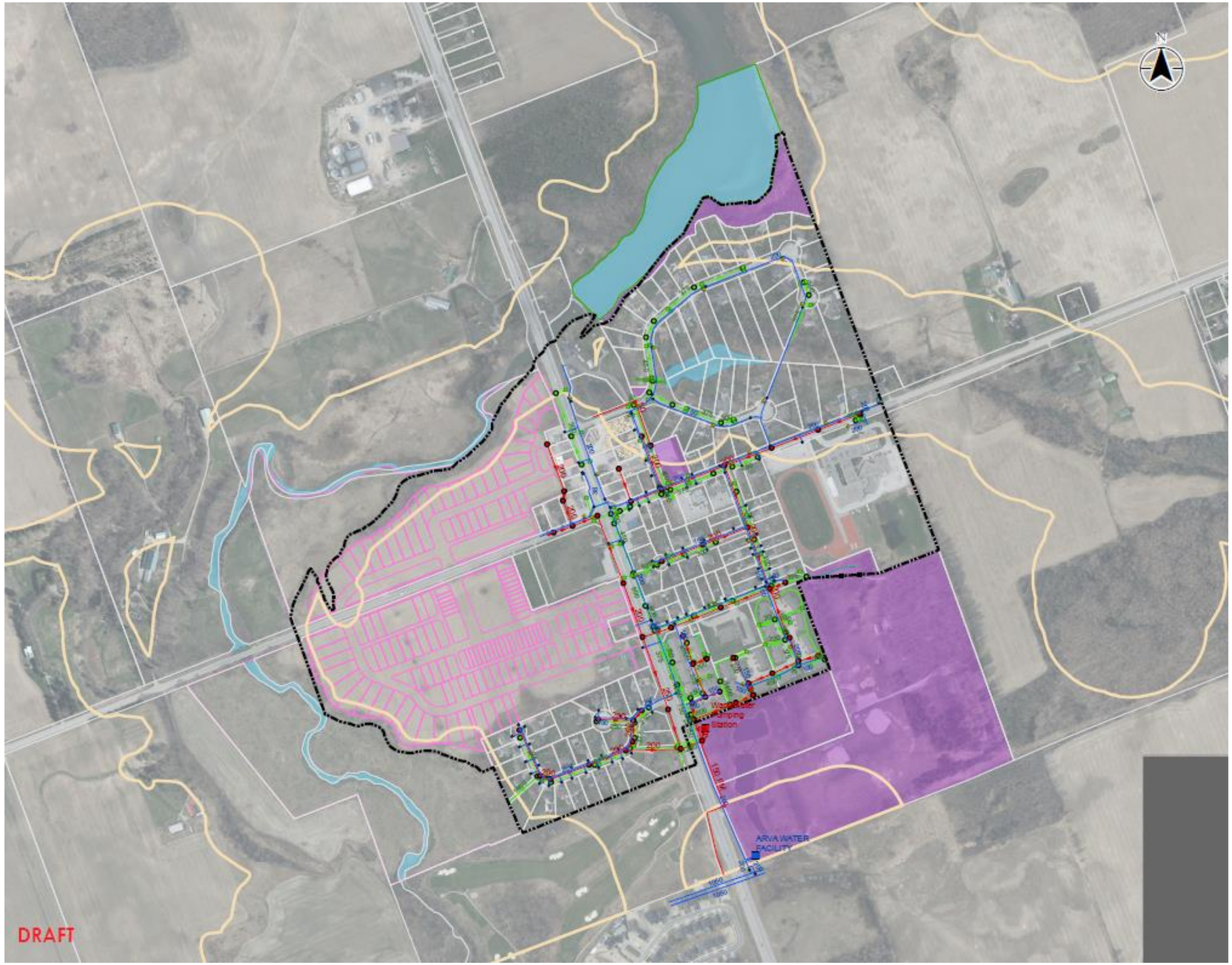
Arva

Water is provided by connection to the City of London.

Sanitary servicing is provided by sanitary sewers which discharge into an existing pumping station which pumps into the City of London. Some homes serviced by private septic systems.

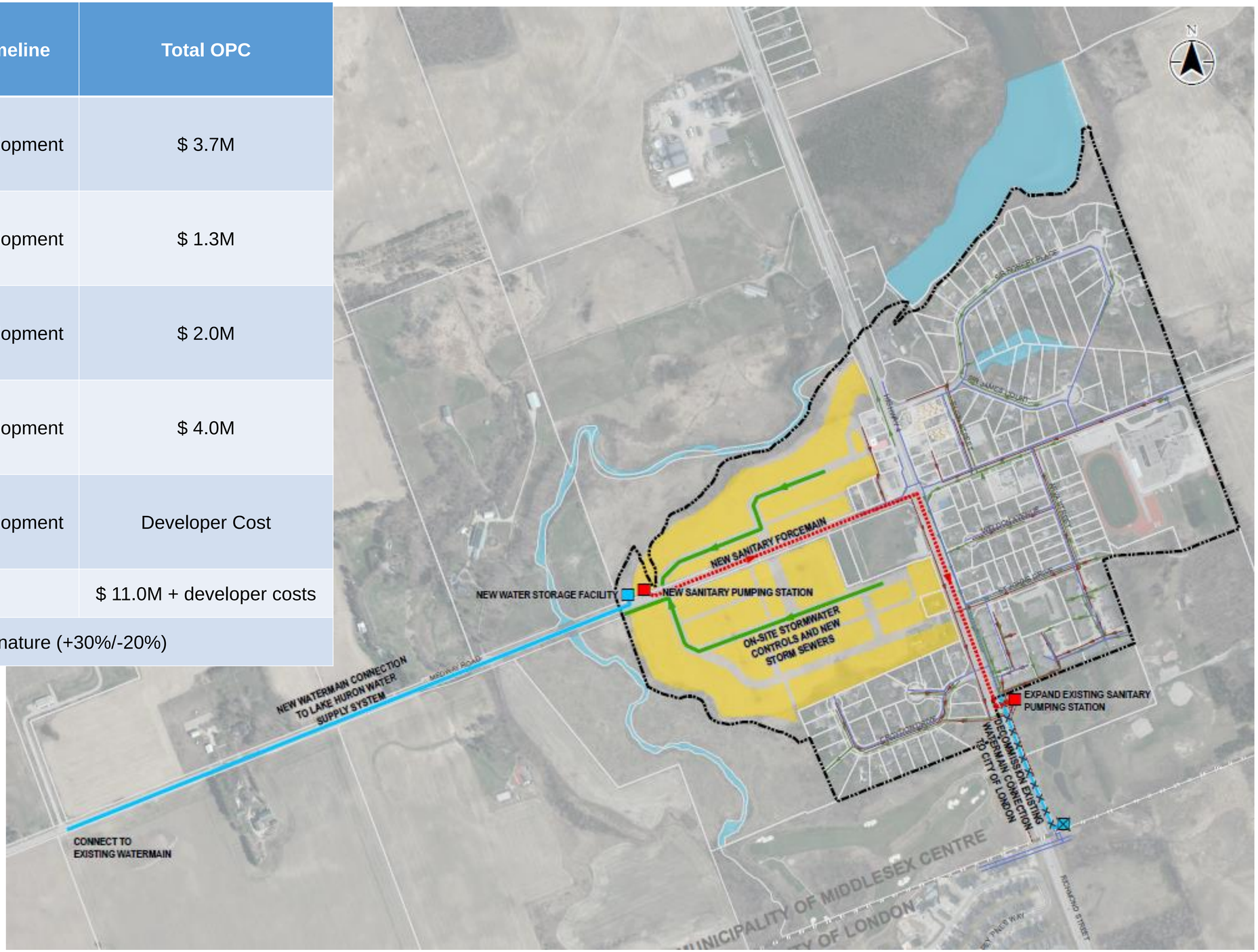
Storm sewers service the majority of the community.

Significant growth is projected for the community on the basis of full municipal services.

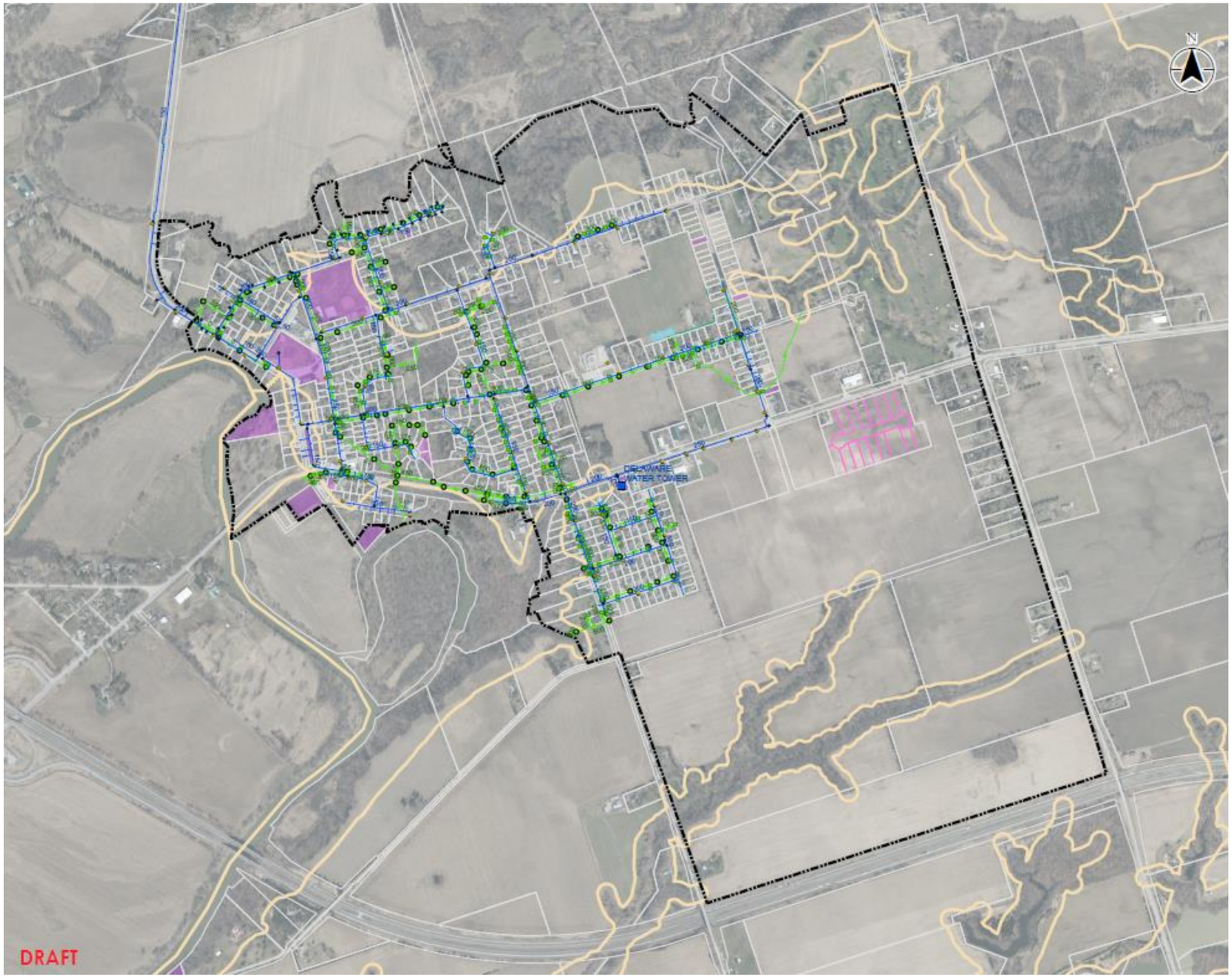


Arva

Description	Approximate Timeline	Total OPC
New Arva Sanitary Pumping Station and Forcemain	Dependent on Development	$ 3.7M
Upgrade existing Arva Pumping Station	Dependent on Development	$ 1.3M
Connect water system to Lake Huron system	Dependent on Development	$ 2.0M
Build water new storage and water booster pumping station	Dependent on Development	$ 4.0M
Construct stormwater facilities to service growth.	Dependent on Development	Developer Cost
Total OPC for the Community		$ 11.0M + developer costs
All costs are in 2023 dollars and are preliminary in nature (+30%/-20%)		



Delaware



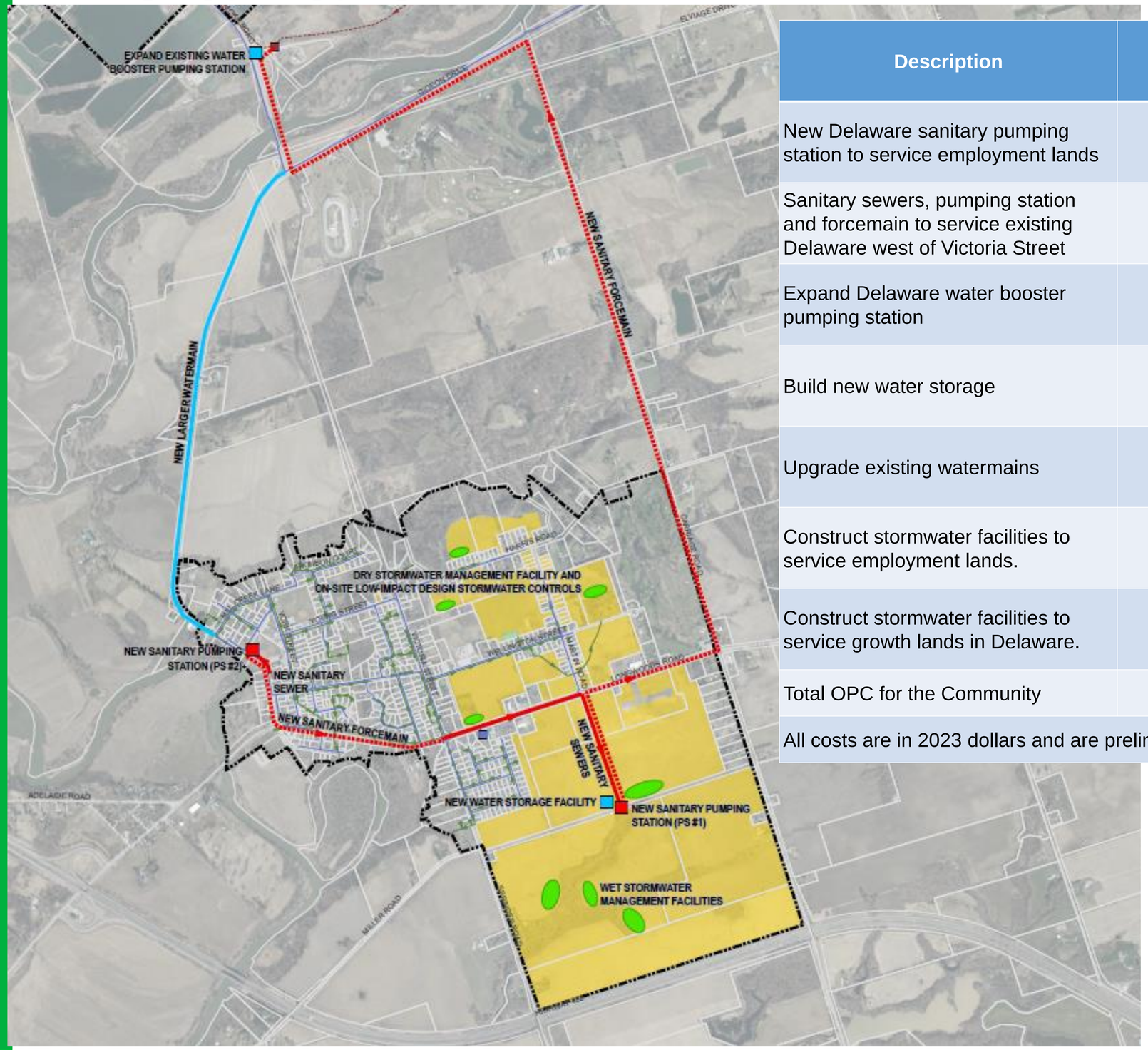
Water is provided by connection to Komoka. The community is serviced by a storage facility and a booster station.

Sanitary servicing is by private septic systems.

Storm sewers service a portion of the community.

Significant growth is projected for the community, particularly in the employment lands south of Longwoods Road.

Delaware



Description	Approximate Timeline	Total OPC [2023$]
New Delaware sanitary pumping station to service employment lands	Dependent on Development	$ 11.9M
Sanitary sewers, pumping station and forcemain to service existing Delaware west of Victoria Street	Discretion of Municipality	$ 40.8M
Expand Delaware water booster pumping station	Dependent on Development	$ 0.7M
Build new water storage	Dependent on Development	$ 4.4M
Upgrade existing watermains	Dependent on Development	$ 4.6M
Construct stormwater facilities to service employment lands.	Dependent on Development	Developer Cost
Construct stormwater facilities to service growth lands in Delaware.	Dependent on Development	Developer Cost
Total OPC for the Community		$ 62.4M + developer costs
All costs are in 2023 dollars and are preliminary in nature (+30%/-20%)		

Legend

- Settlement Boundary
- Parcel
- Future Growth Area

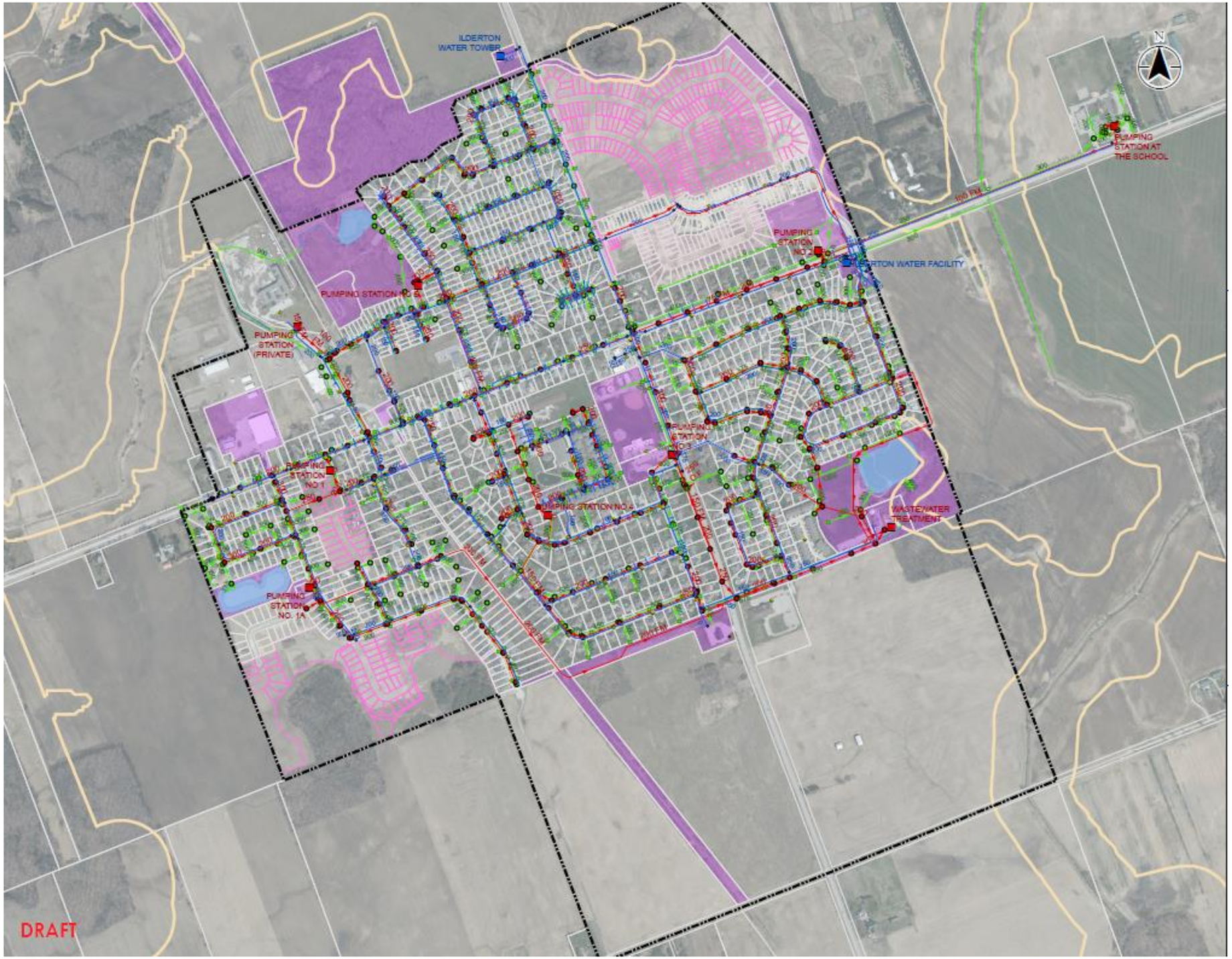
Proposed Project

- Sanitary
- Water
- Storm

Existing Servicing

- Sanitary Facility
- Sanitary Sewer
- Sanitary Forcemain
- Water Facility
- Watermain
- Storm Sewer

Ilderton



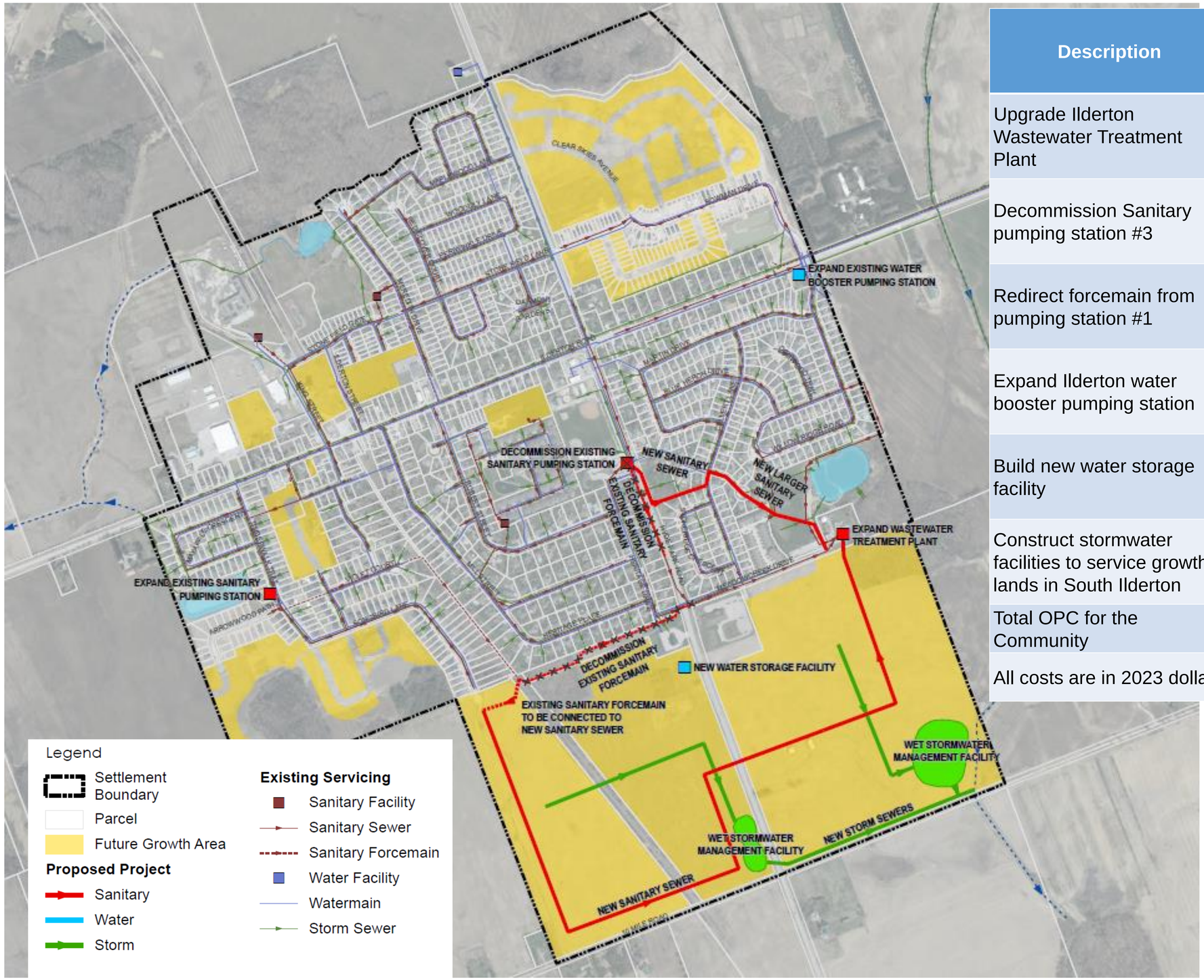
Water is provided by connection to the Lake Huron system. The community is serviced by a storage facility and a booster station.

Sanitary servicing is by discharge to four sanitary pumping stations and a wastewater treatment plant.

Storm sewers service the community.

Significant growth is projected for the community.

Ilderton



Description	Approximate Timeline	Total OPC [2023$]
Upgrade Ilderton Wastewater Treatment Plant	2028	$ 9.1M
Decommission Sanitary pumping station #3	Discretion of Municipality	$ 4.7M
Redirect forcemain from pumping station #1	Dependent on Development	$ 0.1M
Expand Ilderton water booster pumping station	2034	$ 0.9M
Build new water storage facility	2030	$ 7.0M
Construct stormwater facilities to service growth lands in South Ilderton	Dependent on Development	Developer Cost
Total OPC for the Community		$ 21.8M + developer costs

All costs are in 2023 dollars and are preliminary in nature (+30%/-20%)

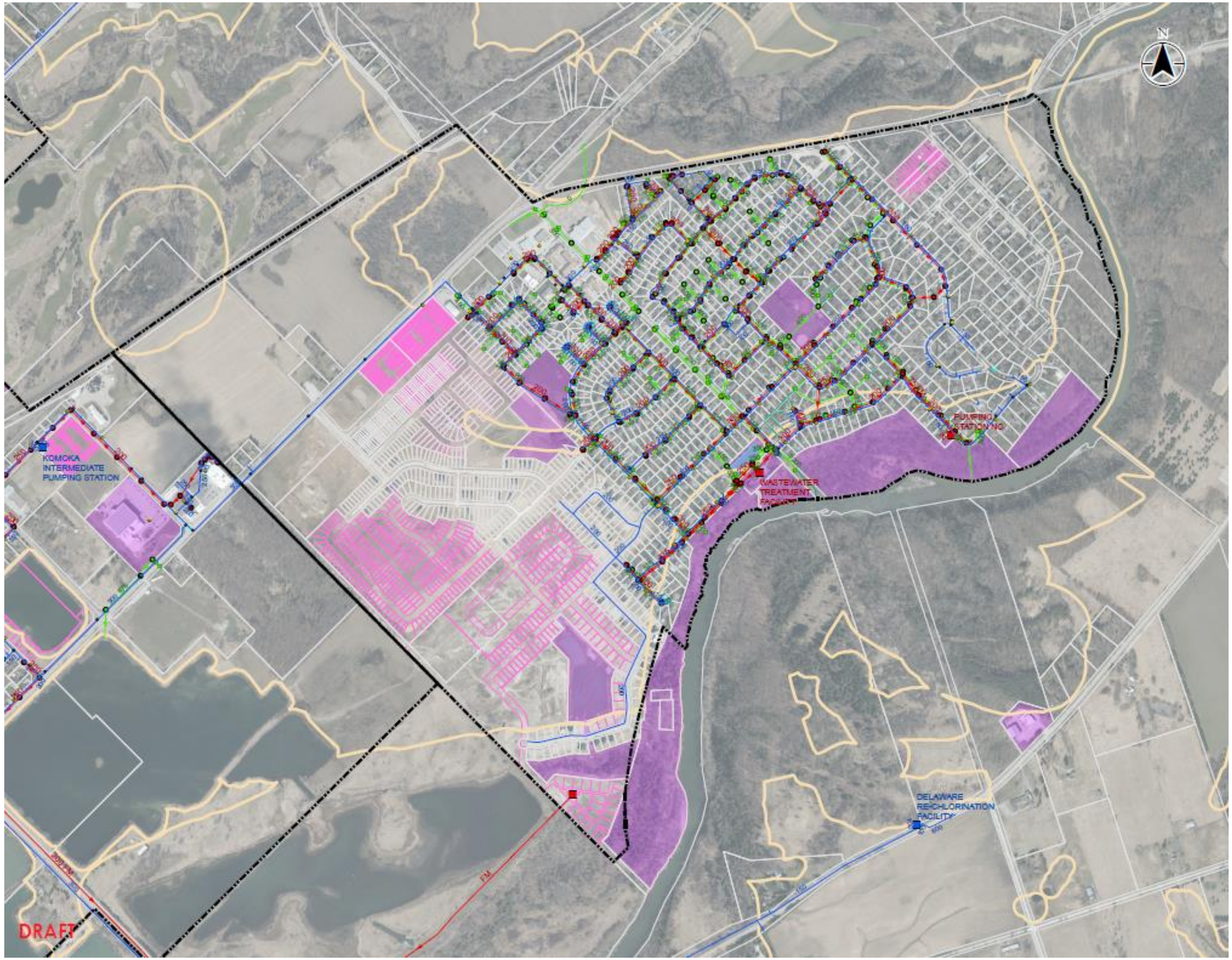
Kilworth

Water is provided by connection to Komoka. All storage and booster stations are located in Komoka.

The majority of the community is serviced by two sanitary pumping stations with discharge to the Komoka wastewater treatment plant. A portion of the eastern portion of Kilworth is serviced by private septic systems.

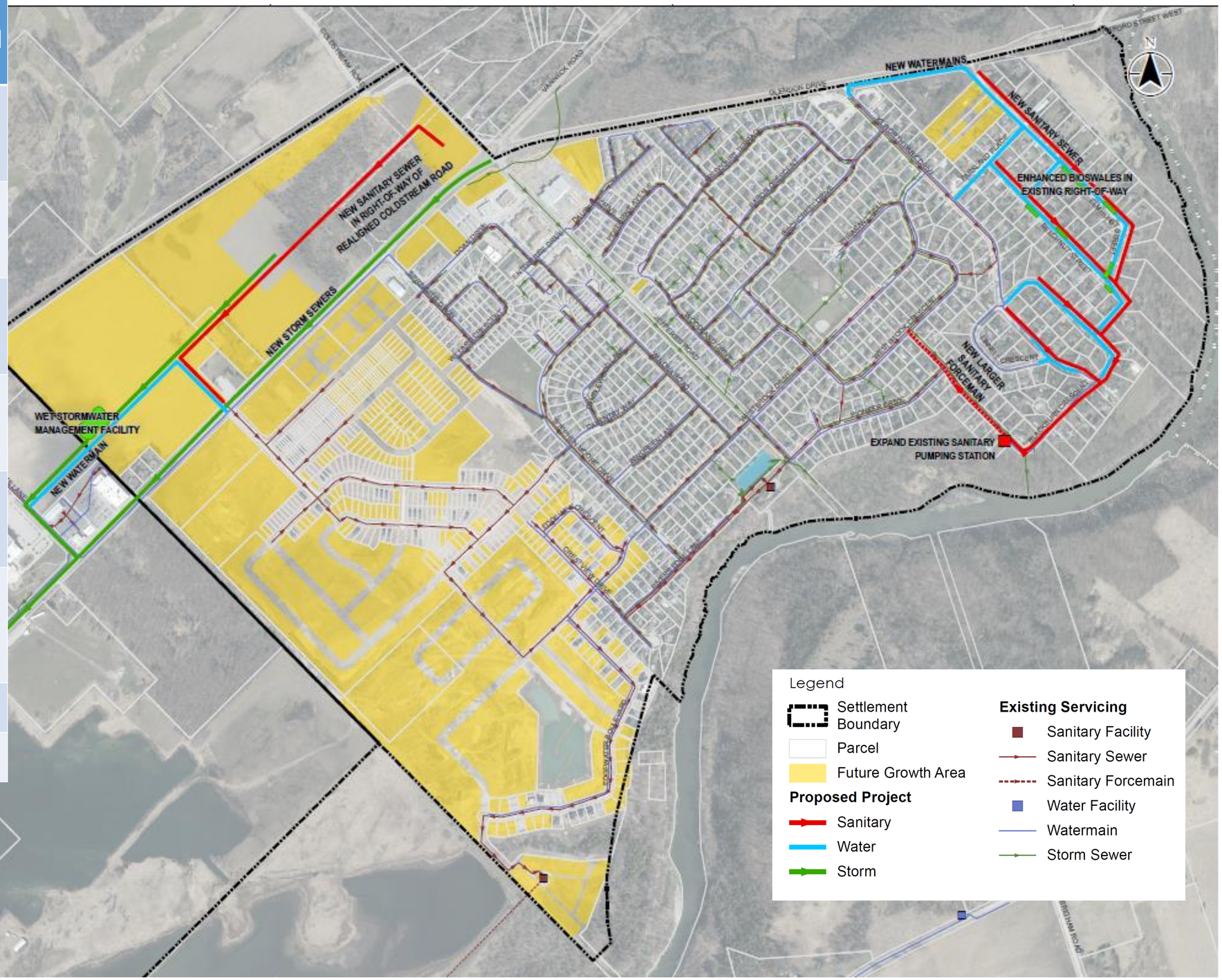
Storm sewers service most of the community with the eastern portion unserviced by sewers

Significant growth is projected for the community.



Kilworth

Description	Projected Timeline	Total OPC [2023$]
Provide sanitary servicing for Old Kilworth	Discretion of Municipality	$ 14.1M
Water distribution system to supply Old Kilworth	Discretion of Municipality	$ 8.3M
Construct bioswales for Old Kilworth	Discretion of Municipality	$ 0.5M
Upgrade Kilworth sanitary pumping station	2040	$ 1.0M
New watermain looping between Komoka and Kilworth	Dependent on Development	Developer Cost
Construct stormwater facilities to service growth lands in North Kilworth.	Dependent on Development	Developer Cost
Total OPC for the Community		$ 23.9M + developer costs
All costs are in 2023 dollars and are preliminary in nature (+30%/-20%)		



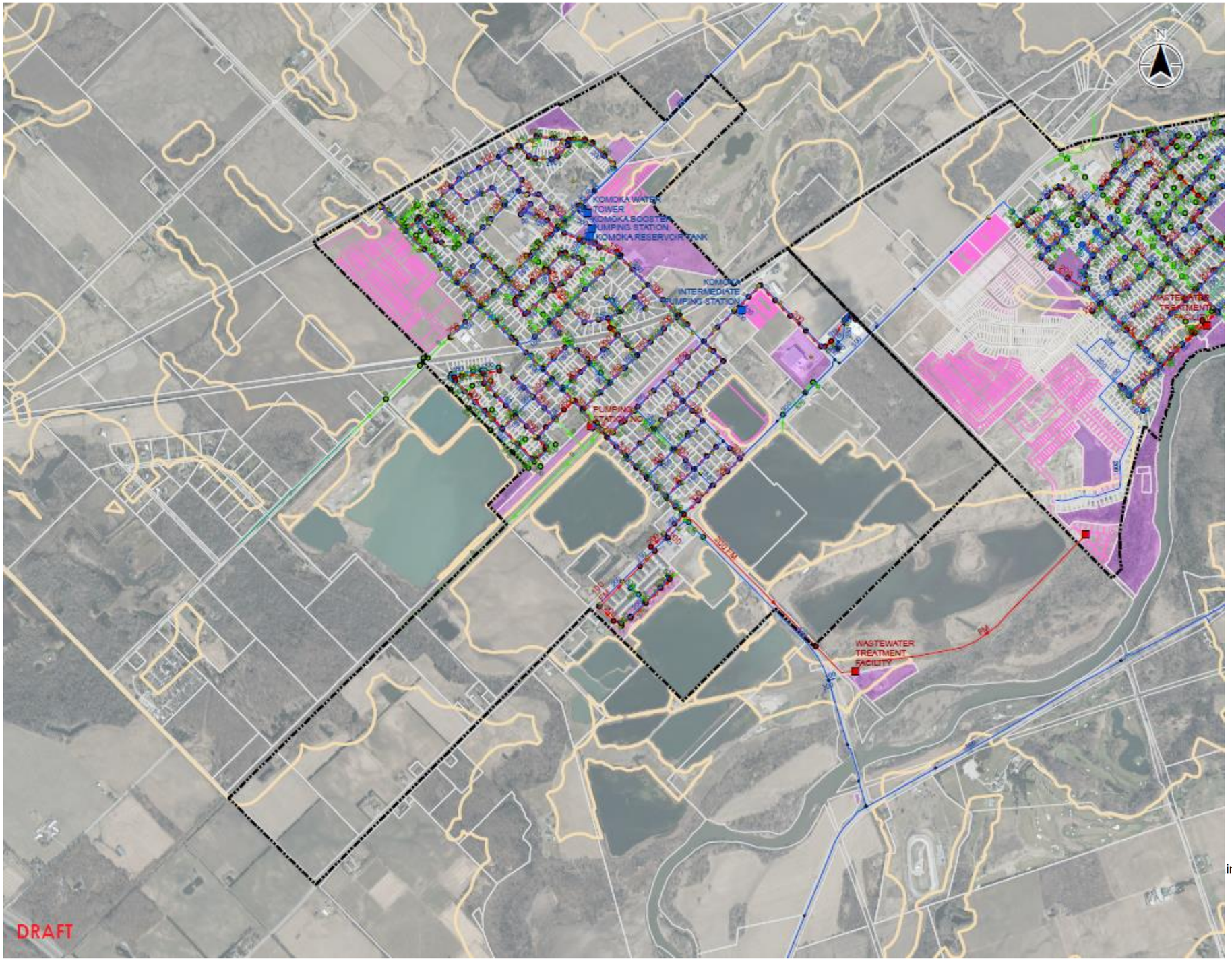
Komoka

Water is provided by connection to the Lake Huron system. The community is serviced by a storage facility (elevated tower and on-grade storage) a booster station and an intermediate booster station.

Sanitary servicing is by discharge to one sanitary pumping station which then pumps to the wastewater treatment plant.

Storm sewers service the community.

Significant growth is projected for the community.



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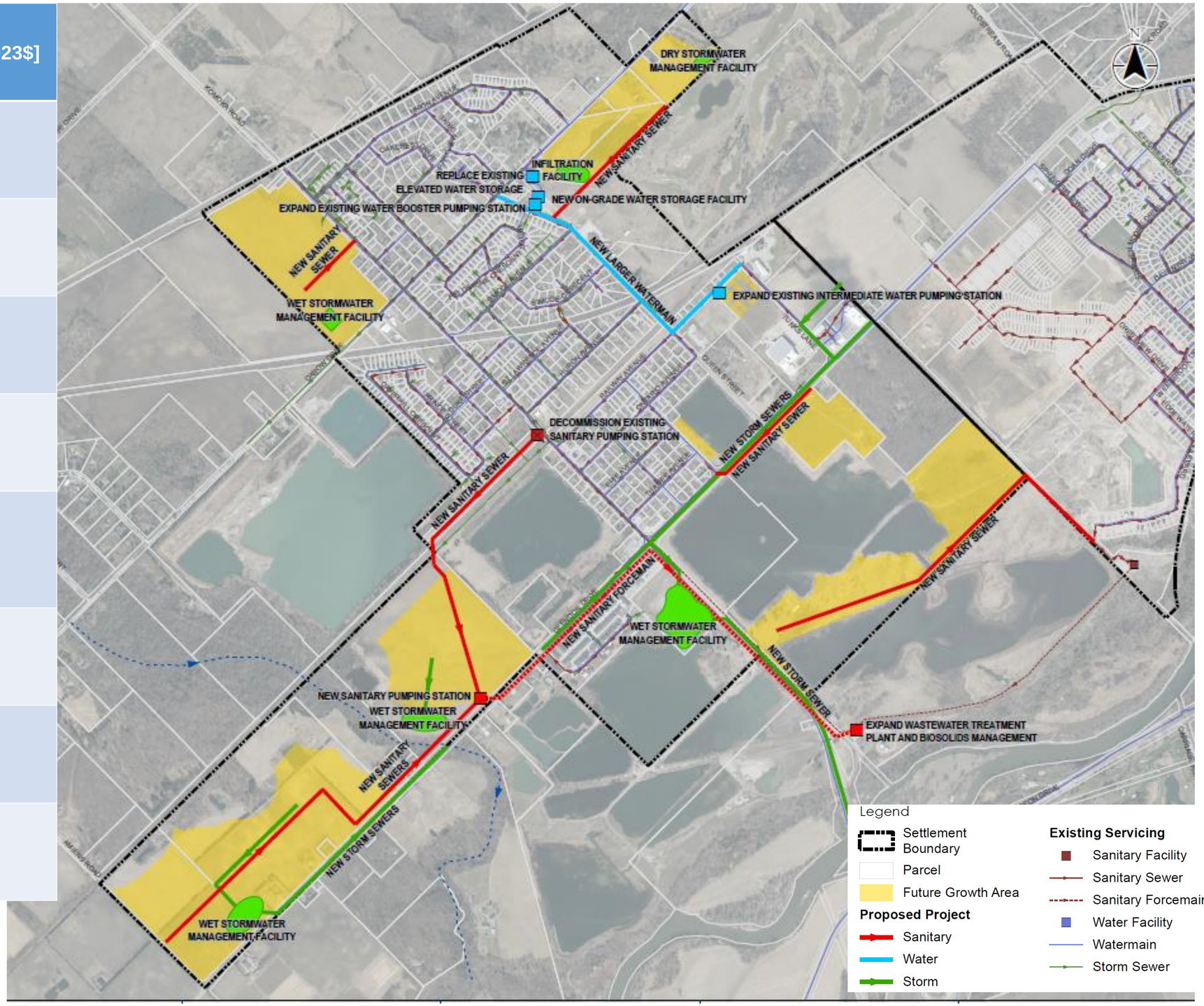
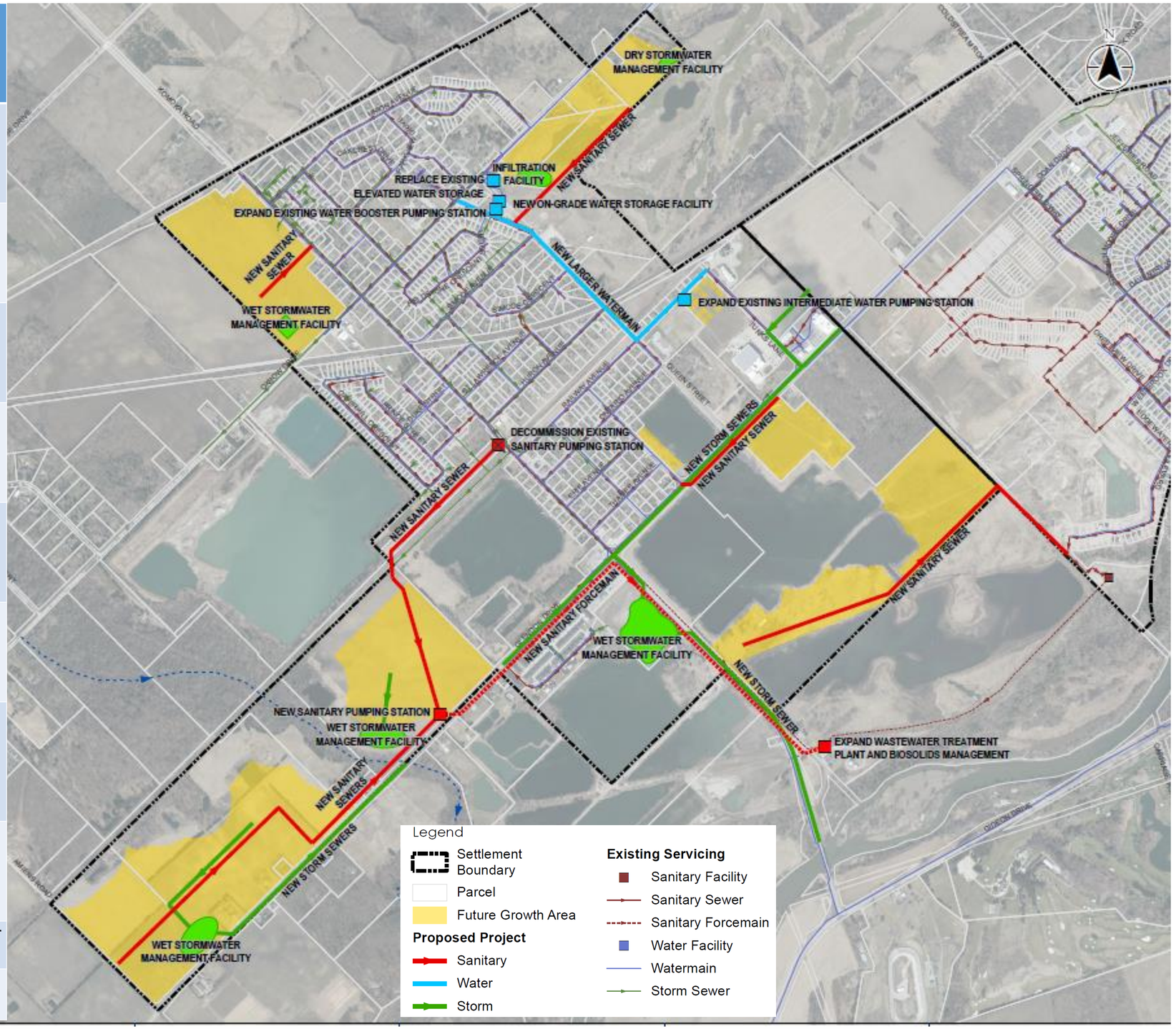
Komoka

Description	Anticipated Timeline	Total OPC [2023$]
Expansion of the Komoka Wastewater Treatment Plant – phase 1	2028	$ 22.8M
Expansion of the Komoka Wastewater Treatment Plant – phase 2	2033	$ 22.8M
Expansion of the Komoka Wastewater Treatment Plant – phase 3	2038	$ 22.8M
New Komoka sanitary pumping station	Dependent on Development	$ 5.5M
Decommission existing Komoka sanitary pumping station and connect to new pumping station	2035	$ 6.3M
Upgrade sanitary sewer on Komoka Road	Dependent on Development	$ 1.6M
Expand Komoka water booster pumping station	2026	$ 1.1M
Expand Komoka intermediate water pumping station	2026	$ 1.1M



Komoka

Description	Anticipated Timeline	Total OPC [2023$]
Expand existing water storage (in-ground reservoir)	2033	$ 3.0M
Replace existing Komoka elevated tankT	2033	$ 10.8M
Upgrade existing watermains on Queen Street and Railway Ave	2036	$ 3.8M
Construct stormwater facilities to service growth lands in West Komoka	Dependent on Development	Developer Cost
Construct stormwater facilities to service growth lands in in South Komoka	Dependent on Development	Developer Cost
Construct stormwater facilities to service growth lands in in North East Komoka	Dependent on Development	Developer Cost
Construct stormwater facilities to service growth lands in North West Komoka	Dependent on Development	Developer Cost
Construct stormwater facilities to service growth lands in central Komoka	Dependent on Development	$ 4.3M
Total OPC for the Community		$ 105.9M + developer costs
All costs are in 2023 dollars and are preliminary in nature (+30%/-20%)		



Solid Waste Servicing

Middlesex Centre currently provides solid waste collection and disposal to it's residents by contracting this work to the Bluewater Recycling Association. This is an Association of 21 member municipalities of which Middlesex Centre is one member.

Significant regulatory changes in solid waste management have been legislated and are pending, including:

- Climate change requirements to reduce the impact of solid waste on the environment;
- Extended Producer Responsibility (EPR) to ensure that companies putting products on the market are considering the full life-cycle of products and packaging. By making them responsible, they produce less waste and recycle more;
- Excess Soil Management Regulations to reduce usable soils from ending up in landfills

Opportunities to increase diversion rates from landfills still exist:

- An estimated 68% of the average waste bag contains organic matter that can be composted or digested
- Recycling has leveled off, but can be increased with EPR legislation.

Recommendations of the plan include:

- Continue to contract with BRA.
- Review opportunities to introduce an organic matter collection system with diversion to composting or anaerobic digestion.

Summary

- The Municipality is currently well serviced by existing infrastructure with no significant existing issues with existing capacity of the system.

- Significant growth is projected in the Municipality with an increase in residential population of approximately 15,000 by 2046 and an increase of 5,000 jobs by 2046.

- Projects proposed under the Master Plan are mostly driven by growth or are providing servicing to unserviced areas and total approximately $ 225M (+30%/-20%). Not including costs that are strictly developer costs.

- Opportunities exist to service areas of Delaware and Kilworth which are currently unserviced or partially serviced.

Next Steps

- An Interim Master Plan report will be provided to the Municipality which will summarize the findings to date.
- With the Interim report, the Municipality can commence their Development Charge studies.
- Work on the Master Plan will continue with further evaluation of natural environment, cultural heritage and archaeological resources. These assessments look at specific projects in the Master Plan and their impacts and are necessary to complete the Class Environmental Assessment process. The recommendations from these studies look at mitigation measures and are not expected to change the results of the Study.
- With the additional study work completed, the final version of the Master Plan will come back to Council for formal approval.
- Additional Class Environmental Assessment study work will be required for the Komoka Wastewater Treatment Facility expansion project. This study work which will build upon work completed in the Master Plan.
- All other projects in the Master Plan can proceed to design and construction phases as the Class Environmental Assessment requirements will have been completed under the Master Plan.

Questions / Comments ?