

Forest Glade North - Evaluation of Alternative Solutions for Wastewater

CRITERIA FOR EVALUATING ALTERNATIVES	1: Do Nothing	2: Connection to existing system on Tecumseh Rd. and treatment at WWTP	3: Connection to existing system at Catherine St./Lauzon and treatment at WWTP
A NATURAL ENVIRONMENT			
1	Impact migratory birds	By doing nothing, there will be no impact to migratory birds.	The proposed sanitary sewer would be constructed within the proposed road ROW. As such, no tree or shrub removal is required to accommodate the proposed development, and no impacts are expected to migratory birds.
	<i>Rating</i>	●	●
2	Impact to Woodland and Wildlife Habitat	By doing nothing, there will be no impact to woodland and wildlife habitat.	The proposed sanitary sewer would be constructed within the proposed road ROW. Tall Boneset, a provincially rare plant species is located within the future ROW. The plant will be transplanted or seeds will be collected and dispersed prior to construction. No impacts at a population level are expected.
	<i>Rating</i>	●	●
3	Impact to Aquatic Habitat	By doing nothing, there will be no impact to aquatic habitat.	Construction is located well away from the Hawkins Drain. The sanitary sewer will be connected to the City's WWTP. Wastewater will be treated appropriately prior to discharge into the environment. No impacts are anticipated.
	<i>Rating</i>	●	●
4	Impact to species at risk	There would be no impact to species at risk.	Provincially protected snake species could potentially inhabit the area. All work areas will be fenced to exclude snakes and will be monitored regularly. No impacts are expected.
	<i>Rating</i>	●	●
SUMMARY NATURAL ENVIRONMENT		●	●

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D SOCIO-CULTURAL ENVIRONMENT				
1	Property acquisition	No property will be acquired.	The sanitary sewer collection system will be constructed within existing or future road ROWs. No property acquisition will be needed beyond the property needed for the Collector Roads.	The sanitary sewer collection system will be constructed within existing or future road ROWs. No property acquisition will be needed beyond the property needed for the Collector Roads.
	<i>Rating</i>	●	●	●
2	Impacts to Cultural Heritage Resources (archaeological features, built heritage, and cultural heritage landscapes)	No archaeological resources, built heritage or cultural heritage landscapes are present. No impacts are expected.	No archaeological resources, built heritage or cultural heritage landscapes are present. If undocumented archaeological resources are uncovered during construction, all requirements under the Ontario Heritage Act will be met. Indigenous communities will be contacted. No impacts are expected.	No archaeological resources, built heritage or cultural heritage landscapes are present. If undocumented archaeological resources are uncovered during construction, all requirements under the Ontario Heritage Act will be met. Indigenous communities will be contacted. No impacts are expected.
	<i>Rating</i>	●	●	●
3	Impacts to Indigenous Treaty Rights, Claims and Interests	The Study Area is within Treaty 2, known as the McKee Purchase. The Treaty was signed by the representatives of the British Crown, the Potawatomi, Huron, Chippewa and Ottawa in May 1790. There are no known land claims. Indigenous communities likely have an interest in natural features, including the woodlot and Hawkins Drain. No impacts to the features are expected.	The Study Area is within Treaty 2, known as the McKee Purchase. The Treaty was signed by the representatives of the British Crown, the Potawatomi, Huron, Chippewa and Ottawa in May 1790. There are no known land claims. Indigenous communities likely have an interest in natural features, including the woodlot and Hawkins Drain. No impacts to the features are expected as a result of the Collector Roads.	The Study Area is within Treaty 2, known as the McKee Purchase. The Treaty was signed by the representatives of the British Crown, the Potawatomi, Huron, Chippewa and Ottawa in May 1790. There are no known land claims. Indigenous communities likely have an interest in natural features, including the woodlot and Hawkins Drain. No impacts to the features are expected as a result of the Collector Roads.
	<i>Rating</i>	●	●	●
SUMMARY SOCIO-CULTURAL ENVIRONMENT		●	●	●

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E	TECHNICAL ENVIRONMENT			
1	Ability to adequately address wastewater volumes from future development	The future development would remain unconnected to a sewer main thereby not addressing wastewater volumes for the area.	The Tecumseh Rd E sanitary sewer is a 250 mm diameter pipe that already services large commercial businesses in the Forest Glade North area. Based on the ultimate flow determined for the area, a 250 mm diameter sanitary sewer would only be adequate if placed at a very high slope (approximately 10%) which results in a velocity that exceeds the stipulated maximum, 3.0 m/s.	The Catherine St. / Lauzon Parkway sanitary sewer is a larger diameter pipe compared to other connections being considered providing more potential for capacity. Based on preliminary calculations, a minimum sanitary sewer diameter of 450 mm is recommended to service the area. However, the existing 450 mm sanitary sewer on Catherine St. has a slope of 0.2% which is not adequate to accommodate the ultimate flow. The flow and pipe size will be dependent on where the service connections are made and ultimately determined during the design phase.
	<i>Rating</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
2	Operation & Maintenance requirements and complexity	Not applicable.	Maintenance on sanitary sewer pipes is minimal. Flushing when grit builds up can be completed along with CCTV inspections to check for leaks, or degradation.	Maintenance on sanitary sewer pipes is minimal. Flushing when grit builds up can be completed along with CCTV inspections to check for leaks, or degradation.
	<i>Rating</i>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
	SUMMARY TECHNICAL ENVIRONMENT	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

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F	ECONOMIC ENVIRONMENT			
1	Relative capital costs	None	Not applicable - sewer does not have sufficient capacity to support the planning area. Upgrading the sanitary sewer on Tecumseh Rd. E is likely prohibitively costly.	Approximately \$1,215,000 – \$2,330,000 The low end of the cost range is based on an extension of the 450 mm diameter sanitary sewer along Catherine St. The high end of the cost range is based on the extension of the sanitary sewer as well as the replacement of the existing 450 mm diameter sewer to accommodate a steeper slope. The costs include engineering services.
	<i>Rating</i>	●	○	●
2	Relative operation and maintenance costs	None	Not applicable - sanitary sewer does not have sufficient capacity to support the planning area. Upgrading the sanitary sewer on Tecumseh Rd. E is likely prohibitively costly.	Approximately \$5,000 / year Cost estimate based on typical sanitary sewer maintenance including CCTV inspections and flushing.
	<i>Rating</i>	●	○	●
	SUMMARY ECONOMIC ENVIRONMENT	●	○	●

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E	PROBLEM STATEMENT			
1	Addresses Project Problem and Opportunity Statement	Doing Nothing does not address the Problem and Opportunity Statement	This Alternative addresses the Problem and Opportunity Statement	This Alternative addresses the Problem and Opportunity Statement
	SUMMARY PROBLEM STATEMENT	Do Not Move Forward	Move Forward	Move Forward

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OVERALL SUMMARY		Do Not Move Forward	Least Preferred	Most Preferred

ORDER OF PREFERENCE

- Least Preferred ○
- Less Preferred ◐
- Somewhat Preferred ◑
- Moderately Preferred ◒
- Most Preferred ●