

A.5 PUBLIC COMMENTS AND CORRESPONDENCE

Web-Map Survey Results

SELECTED PROPERTY	SETTLEMENT	OWNER	MAILING ADDRESS	PHONE	FLOOD HISTORY	FLOOD FREQUENCY	FLOODING DETAILS	COMMUNITY FLOODING	COMMENT DATE
23002 HIGHBURY AVE N	BRYANSTON	Yes	23002 highbury ave rr#3 Ilderton on. n0m2a0		Yes	2-4 times per year	My yard floods with every heavy rain or snow melting. There is a catch basin out front that cant keep up with the rain or melting snow from the farmers field and all the other houses. Maybe you should dig ditches so water flows away from town or increase size of main drain. I have been dealing with this problem for 18 years now why dont you HELP. thanks Mike McCartney		2/23/2018
9 GWENDOLYN ST	BIRR	Yes	9 Gwendolyn St. Birr Ontario NOM1P0		Yes	2-4 times per year	Swale runs along back of property (north-south), extending to neighbouring properties 8 (north) and 10 (south) Gwendolyn St. Likely runs beyond these properties as well. Swale is offset approximately 20 feet (6.1m) from the property line towards the east (onto my property). Swale doesn't functioning correctly. Either designed incorrectly, or constructed incorrectly. It does not outlet. This results in annual ponding issues in the rear yard. ponding area occasionally in excess of 100m2. Water ponds in the rear yard during annual winter snow melt, and during some heavy storm events. This swale does not appear to be designed as an Infiltration trench, as infiltration extremely is slow. This leaves a large portion of the rear yard un-useable during the spring and after heavy storm events.	neighbouring property 8 Gwendolyn St. experiences ponding in the rear yard as well. Likely others as well.	2/27/2018
59 WESTBROOK DR	KOMOKA-KILWORTH	Yes	59 Westbrook rive		No	Not applicable		none noted	2/27/2018
111 LOBO LANE	LOBO	Yes	111 Lobo Lane, Komoka ON, NOL 1R0		Yes	2-4 times per year	West corner of property - Flooded/Sopping wet all spring and does not dry up until end of June. Pooling of water in the south east open space - pooling - mostly during the spring when all the snow is melting Ditches along roads have water in them until end of June. **Most important - Our sub pump runs year round every few minutes.	Have not noticed.	3/1/2018
10124 ILBERTON RD	POPLAR HILL- COLDSTREAM	Yes	10124 Ilderton Road RR 2 Ilderton ON NOM2A0		No	Please choose		no	3/14/2018
10299 ILBERTON RD	POPLAR HILL- COLDSTREAM	Yes	102099 Ilderton Road NOM2A0		Yes	More than 10 times per year	Flooding/ponding every time it rains in our side yard beside the school, and at the front of our house at the laneway is always pools whenever it rains. Not sure where the water all drains to, but it pools all around our property. Winter is really bad when the snow melts, any rain it floods.	N/A	3/14/2018
98 KENNEDY AVE	ILBERTON	Yes	98 Kennedy Ave, PO Box 285, Ilderton, ON NOM 2A0		Yes	2-4 times per year	We have an issue with the run off of water from 102 Kennedy Ave. It runs down towards our property then down to the street. Heavy rainfalls in thunder storms and snow melting cause this. Happens throughout the year. The water will sit between our properties then when it is saturated it runs over our lawn and onto the driveway, then runs down the sidewalk and then down to the street. We also get large puddles on our front lawn. Sometimes it will be there for up to 3 days before it is completely drained off. It seems like it doesn't have anywhere to go when it gets to our front lawn. It doesn't seem to hit the drain on the street in front of our house.		3/15/2018
32 STONE FIELD LANE	ILBERTON	Yes	32 Stonefield Lane, PO Box 293, Ilderton Ontario NOM2A0		Yes	Not applicable	No major flooding events on the property or within the household. Noted three (3) occurrences in 2017 that the STM along Stonefield Lane was not able to collect and/or convey STM drainage resulting in a fair amount of overland flow. These event typically occurred during high intensity short duration rain fall events. Property line along the eastern property limit is subject to damp conditions and ponding during rain events resulting in excessive sump pump running. (Suspected due to original lot grading as there is not sufficient 2% fall from back lot to front)	Meredith Drive was noted for ponding however this was likely rectified when it was resurfaced in 2017. Neighbours to the south side of Stonefield Lane had issues with basement flooding and sump pump operation.	3/15/2018
22734 KOMOKA RD	KOMOKA-KILWORTH	Yes	22734 Komoka Road, Komoka NOL1R0		No	Please choose		No	4/24/2018
13423 ILBERTON RD	ILBERTON	Yes	13423 Ilderton Rd., Ilderton, Ont. NOM 2A0		Yes	More than 10 times per year	During snow melt and any time heavy rain, the east side of the property collects water. It usually disperses in a day or two, depending on extent of rainfall, or in a few days as snow melts. Sometimes the ponding/flooding can be more extensive than others, again, depending on amount of rainfall/speed of snowmelt.	Prior to the building of the Meadowcreek subdivision, about the middle of the 90 acres, from our yard, we could observe large ponding anytime heavy rain. This ponding could take several days to dissipate.	4/24/2018
121 ERIE AVE	KOMOKA-KILWORTH	Yes	121 Erie Ave Komoka ON NOL 1R0		Yes	5-10 times per year	After rain or during winter melts a pool of water remains on the roadway east of the driveway. It appears that the grass edge is now higher than the road edge. The water pools along the roadway and remains until it evaporates. During winter thaws this creates ice areas that spread to the driveway itself. Normal water flow in past was either to drain away from roadway onto lawn and work way down to culvert under driveway and drain west of driveway or flow along road until reaching driveway and flowing down along driveway to drain off and then into drain on west side.		5/2/2018

11 WARBLER CIR	ILDERTON	Yes	11 Warbler Circle Ilderton ON NOM2A0	Yes	2-4 times per year	Flooding occurs on property behind us and forced water onto our property. Floods have happened in January, March, May, and October. Flooding was due to catch basins not functioning along Hyde Park Road (3 of them), which forced all water to be on ground. Flood waters were on property behind us and were about 10 feet wide going into a municipal drain that is maybe 2ft by 2ft - clearly that much water can't go into the drain. Water then forces its way to our property - worst flood covered 1/2 of our backyard (entire pool was under water) - destroyed basement. All other floods we have been home and have been able to keep water from getting in our house. Main issue was that drainage lines were invaded with tree roots which caused them to not function properly. According to the engineers at the time, our flood could have been prevented if the township had of maintained the lines properly.	Yes - Ilderton has more surface flooding issues than can possibly be explained here	5/9/2018
13395 ILDERTON RD	ILDERTON	Yes	13395 Ilderton Road	Yes	About once per year	House flooding as been experienced during heavy downpours and excessive amount of rainfall. The water runs along the sidewalk and the highway from the west and doesn't properly flow into the drain at the edge of the road that it is intended to, instead it all flows down my lane way towards the house and into the basement. 2 major incidents. First involved water rising up through the expansion cracks in the concrete basement floor. Our home had to be retro fitted with a sump pump which was not required at time of build. Second major incident (June 2015) involved storm drains, including the one in the back corner of our property, incapable of managing amount of rainfall water resulting in water overflowing into our basement via a window well. Insurance claim for \$13000 damage. This incident was reported to Middlesex Centre immediately. Middlesex Center drainage manager (Jim) visited our home and admitted that the grade of our property and drainage plan with Auburn Developments was very poor. Zero action was taken by Middlesex Center. We are very unhappy that Middlesex Center has "washed their hands" of any responsibility. Furthermore, during heavy rains, we typically see a lot of ponding on the street in front of our home, despite the fact that there are two storm drains in front of our property.	Yes, neighbours property to the East of mine often has surface rain water laying along the West side of their property after heavy rainfall, no drainage. We have experienced worse drainage to the back of my property as well since the subdivision was built behind us.	6/8/2018
123 SIMCOE AVE	KOMOKA-KILWORTH	Yes	123 Simcoe Ave, Komoka NOL 1R0	Yes	2-4 times per year	dry pond design SWM no longer suitable as this area has flooded and breached its banks during a sustained rainstorm this summer. Unsure if it is connected to drain into Oxbow creek, but perhaps it should be? Ground Water Policy guidelines dictate the lifespan of this kind of SWM needs to last at least 25 years. Wynfield estates has hit that timeline, please re-evaluate and consider updating to accommodate sustained runoff	Yes. Parking lot at Komoka Community Center.	6/10/2018
7 WYNFIELD GATE	MELROSE	No	26 Wynfield Lane N6H 5L2	Yes	5-10 times per year	During heavy rains in spring, summer and fall storm water flows from street over our property and is causing significant erosion to the hill leading to conservation area and Thames River. During heavy rain in summer of 2018, water has been upwards of a foot deep at side of house rushing down the hill eroding all soil and has rolled very large boulders down the hill. Basement flooded July 2018, and has not flooded prior to that. There is no sump pump in basement which until now has been very dry.	Surface flooding in neighbours properties surrounding our house. Several neighbours have had basement flooding. Many of the neighbours have sump pumps.	8/17/2018
CON 1 S PT LOT 9 RP 33R6942 PARTS 13,22 & 23	KOMOKA-KILWORTH	Yes	7 Pioneer Drive, Komoka, Ontario. NOL 1R0	Yes	5-10 times per year	sump pump runs 24/7 365		8/28/2018
15244 TWELVE MILE RD	BRYANSTON	Yes	15244 12 mile rd Ilderton on n0m2ao	Yes	Please choose	Back yard floods every time we get a heavy rain. Drainage is not sufficient. We notified developer since spring of 2015 but problem is not yet resolved.	all 4 neighbours , lot 54,58,62,66	8/29/2018
58 TIMBERWALK TRAIL	ILDERTON	Yes	62 Timberwalk Trail	Yes	More than 10 times per year		Yes from 111 union ave to 99 union ave. Water up to my ankles walking down union ave in this area in 2013 spring ,I have pictures to prove this. Lots of yard waste gets dumped in ditch on komoka road @ union that clogs drainage pipes crossing under komoka road.	9/28/2018
115 UNION AVE	KOMOKA-KILWORTH	Yes	115 union ave n0l1ro	No	Please choose	Anytime we have any sort of significant rainfall or snow melt-off we experience a pooled standing water in the last 10-20 feet of our lot. I believe 323, 319 and 315 songbird lane have all been purposely graded to include a swale at the back of the lots to catch runoff. The runoff tends to flow within the swale from south to north ending a small standing pool of water on the north east corner of my lot. Depending on how wet the summer is, I usually have a small pond of standing water on the lot or directly behind the lot along with very soggy/drenched sod that can not be cut with a lawn mower. lot has been purposely graded to direct any rain water runoff from the lots from south to north along the backyards of 323, 319 and 315 songbird lane. The water tends to		2/17/2019
315 SONGBIRD LN	ILDERTON	Yes	315 Songbird Lane, Ilderton ON NOM 2A0	Yes	5-10 times per year		some at the rear on the land done over when they put the force main for the Sifton subdivision , when installing the force main a field tile was ripped up but never replaced so now we have ponding of water in the spring & after a heavy rain a very good place for mosquitoes to breed	2/20/2019
15 HERITAGE PL	ILDERTON	Please choose	15 heritage place p.o. bx 213	No	Please choose			2/20/2019

From: [Emery, Nick](#)
To: [Bergman, Stephanie](#); [Bohnert, Sara](#)
Subject: FW: Renwick Estates Komoka
Date: Thursday, March 12, 2020 9:25:53 PM
Attachments: [image001.png](#)
[AGM Engineering Comments - Middlesex Centre Settlement Area Stormwater Master Plan.pdf](#)

Nick Emery P.Eng.
Water Resources Engineer

Direct: 519-675-6619
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nick.emery@stantec.com

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From: Dan Wade <dan@agm.on.ca>
Sent: Monday, January 13, 2020 10:30 AM
To: Emery, Nick <nick.emery@stantec.com>; Robert Cascaden <cascaden@middlesexcentre.on.ca>
Cc: brantamdevelopments@gmail.com; Doug Stanlake <dstanlake@odyssey.on.ca>; Lukas Grabowski <lgrabowski@agm.on.ca>; Steve Brown <steve@agm.on.ca>
Subject: RE: Renwick Estates Komoka

Hello Nick

Following our review of the draft SWM Master Plan Report we have prepared some comments for consideration by yourself and Middlesex Centre. Please see attached letter.

Regards

Dan Wade
Vice President
Manager of Engineering Services AGM Plan • Survey • Engineer
3514 White Oak Road London, ON N6E 2Z9
T: 519 685 5300 E: dan@agm.on.ca W: www.agm.on.ca
F: 519 685 5303



From: dstanlake@odyssey.on.ca <dstanlake@odyssey.on.ca>

Sent: Monday, January 6, 2020 1:06 PM

To: nick.emery@Stantec.com

Cc: Dan Wade <dan@agm.on.ca>; Lukas Grabowski <lgrabowski@agm.on.ca>; brantamdevelopments@gmail.com

Subject: Renwick Estates Komoka

Good Afternoon Nick,

Thank you for taking the time to discuss the concerns my client Brantam Developments Inc. has with the management of stormwater associated with developing his draft plan of subdivision. My client's land is 9904 Oxbow Dr (NW corner and Komoka Rd and Oxbow Dr.) Rob Cascaden has provided us with an excerpt from your draft final SWM Master Plan Report for the K-K Settlement Area which has raised some additional concerns.

On June 6/19, the municipality accepted the submission of the draft plan and associated OP and ZBA applications. Unfortunately, I understand you were not provided with the documentation provided with my client's submission. However, it was not until Dec.11, 2019, we received peer review comments from the municipality on the Functional Servicing Report. We did not get a copy of the proposed draft SWM Master Plan recommendations until Jan. 4/20.

AGM is following up on the peer review comments. There were several comments on modeling of the bypass channel (noted in green on the draft plan as Blocks 184-186 inclusive) and those comments are being acted on to confirm capacities and design issues together with other matters.

As discussed, there is some uncertainty between the recommendations and the associated text in the draft Master Plan excerpt we received. Thanks for explaining the intent of the recommendation. There are a number of SWM issues but the priority needing attention is the proposal to direct flows from external lands through the proposed SWM pond. We believe AGM has provided a reasonable alternative to be able to separate external flows from internal flows without all flows being required to pass through the SWM pond and external flows being required to be piped.

Attached are the three items you requested:

- 2 versions of the draft plan of subdivision submitted to the municipality;
- The Functional Servicing Report prepared by AGM;
- The EXP report regarding tests which were completed to justify the removal of the aggregate overlay on the plan of subdivision

Should you require any additional information which might assist you, please let me know. If you have any questions after reviewing the information I have forwarded to you, please advise and either I or someone from AGM will get back to you.

Best Regards

Doug



January 13, 2020

Stantec Consulting Ltd.
600-171 Queens Avenue
London, ON N6A 5J7

Attn: Nick Emery, P. Eng.
Water Resources Engineer

Re: **Middlesex Centre Settlement Area Stormwater Master Plan
Komoka Drain No.3
Renwick Estates Subdivision**

On behalf of Brantam Developments we are writing to provide our comments on the recommendations found in the preliminary Stormwater Master Plan Report prepared by Stantec Consulting for the Municipality of Middlesex Centre.

AGM Engineering has prepared a Functional Servicing Report for the Renwick Estates Subdivision in support of the Draft Plan Application prepared by Doug Stanlake on behalf of Brantam Developments. A copy of our Functional Servicing Report was provided to you by email on January 6, 2020 as well as a copy of the Land Use Plan, Aggregate Resources Assessment and Draft Plan of Subdivision for your reference.

AGM's design for the Renwick Estates Subdivision includes the construction of a stormwater management pond in the general location shown for SWM 1 on your Figure No. ES-6. The stormwater management pond has been designed to control post development flows to pre development flows for the 2 – 100 year storms for the proposed development lands. We note that the identified preferred alternative selected for the Komoka Drain No. 3 catchment is Alternative 2. Alternative 2 proposes a SWM Facility to service only the proposed development lands, and we are in agreement with the preferred alternative. This is however contradicted in the first paragraph where it states that the facility will be designed to also provide capacity for upstream external flows from the Union Avenue Branch of the Komoka Drain.

Our current design has incorporated a bypass swale / channel to address the two external drainage areas that flow through the subject property, flows from the east side of Komoka Road (Komoka Drain, Union Avenue Branch) as well as from the north side of the CP rail line, west of Komoka Road. The external flows from both west and east of Komoka Road and north of the CP rail line are tributary to the Frank Drain. Our proposed outlet for the bypass swale is consistent with the existing condition and will therefore discharge back to the Frank Drain on the surface.

We are also not in agreement with the schematic on Figure No. ES-6 that suggests piping the external flows from Komoka Road to the proposed SWM Facility. We have prepared a hydrologic model to estimate the peak flows for the 2 to 100 year storms crossing under Komoka Road at the existing 1.47 X 0.91 culvert. The culvert is located just south of Union Avenue. We have estimated the flows to be 0.87m³/s for the 2 year storm and 2.4m³/s for the 100 year storm events. Flows from the external drainage area north of the CP rail line to the Komoka Station Subdivision are greater than the estimated 2.4m³/s that crosses under Komoka Road. The flows are reduced to 2.4m³/s due to the available storage in the Komoka Road east ditch and also in the conveyance channel in the Komoka Station Subdivision. The cost to pipe the external flows is prohibitive due to the required pipe diameter to convey the peak flows. Directing the external flows through the proposed SWM Facility would also increase the footprint of the pond and result in higher construction costs and loss of developable lands. Please refer to our Functional Servicing Report for specifics on how we propose to manage on-site and external flows traversing the Renwick Estates Subdivision.

The Municipality of Middlesex Centre received a petition under the Drainage Act to investigate flooding concerns by some of the residents of the Komoka Station Subdivision that have properties adjacent to the Komoka Drain. A consultant has been retained by the municipality and they will provide the results of their investigation for review and coordination. We understand that the Stormwater Master Plan is scheduled to be completed for the municipality by the end of January 2020. We feel that the final recommendations for the Stormwater Master Plan for the Komoka Drain No. 3 should be deferred until the outcome of the investigation is completed.

We would also like to review other acceptable options for reducing thermal impacts in lieu of an Infiltration Facility as proposed for SWM 1.

Thank you for reviewing and considering our comments.

We would like to arrange a meeting with yourself and Middlesex Centre to review the above design details. We look forward to meeting with you and we have copied Rob Cascaden to assist with scheduling the meeting.

Regards

Archibald, Gray & McKay Engineering Ltd.



Dan Wade
Project Manager

cc: Rob Cascaden, P.Eng. Director, Public Works and Engineering
Joe Hassen, Brantam Developments
Doug Stanlake



From: Brian Lima
To: [Emery, Nick](#)
Cc: [Bergman, Stephanie](#); [Dan Anderson](#)
Subject: Fwd: Flooding July 24, 2018
Date: Monday, August 27, 2018 1:43:25 AM
Attachments: [image001.png](#)

FYI - in support of Middlesex Centre's Stormwater Master Plan...

Regards,

Brian Lima, P.Eng.
Director, Public Works & Engineering
P: (519) 666-0190 Ext. 233
F: (519) 666-0271
10227 Ilderton Road
Ilderton, ON
N0M 2A0
lima@middlesexcentre.on.ca

Sent from my iPad

Begin forwarded message:

From: [REDACTED]
Date: August 19, 2018 at 3:50:14 PM EDT
To: Brian Lima <lima@middlesexcentre.on.ca>
Cc: [REDACTED] <[REDACTED]>, Derek Silva
<silva@middlesexcentre.on.ca>, Jake DeRidder
<deridder@middlesexcentre.on.ca>
Subject: Re: Flooding July 24, 2018

Hello

Thank you for your response to my concerns regarding flooding. I have a couple of questions in order to fully understand the situation we find ourselves in. I hope you can help me with these. The French drain in front of our garage easily handles rain that land on our driveway even during heavy rainfalls, and we are not so concerned about house flooding (which we can manage) as the significant erosion happening to the hill leading to the river valley (between our house and neighbours). During the last storm even very large boulders were washed downhill. Being at the low end of the street and bottom of the subdivision, the water of course heads this way when we have those unusually heavy storms, and we are left with the excess water from the subdivision flowing onto our property.

These are my questions. When the fields at the top of the subdivision were converted to roof tops and driveways, what measures were taken to ensure the water that can no longer soak in does not flow down to homes downhill? How can I confirm adequate measures were taken? It of course does not make sense to

dig up current storm sewer system but these storm are likely to become more frequent. Perhaps it would make sense and would support a number of the residents who live downhill, if the municipality installed a culvert or drain where the water rushes down hill to prevent further erosion and ponding of water affecting a number of residents. We of course expect to deal with rain that falls on our property, but cannot be expected to deal with significant overflow from the subdivision flowing onto our lot. I look forward to your response.

Respectfully

██████████

Sent from my iPad

On Aug 7, 2018, at 7:41 AM, Brian Lima <lima@middlesexcentre.on.ca> wrote:

Good Morning ██████,

I'm sorry to hear about your recent flooding issue. Despite Pioneer Drive having recently been repaved, in confidence I can honestly say the elevation of the road platform did not increase, nor were the curb lines.

The presence of the French drain in front of your garage leads me to believe that flooding or ponding of water near or in front of your garage has happened several times in past and hence was introduced to help alleviate the issue.

As Councilor Derek Silva noted, the recent significant rainfall event exceeded the capacity of our storm sewer network which is designed for up to a 100-year rainfall event. When in reality we received close to a 150-year rainfall event in a period of approximately an hour.

Unfortunately short of the Municipality replacing all of its storm sewers with larger capacity carrying pipes, when we receive further 100+ year rainfall events in future, localized flooding can be expected to occur.

As was completed with the French drain, you may want to consult a drainage contractor and undertake the necessary works on your property to prevent this from happening again.

Kindest Regards,

<image001.png>

Brian Lima, P.Eng.

Director of Public Works & Engineering
Middlesex Centre | lima@middlesexcentre.on.ca
10227 Ilderton Road, RR#2 | Ilderton, Ontario, N0M
2A0
Tel: 519.666.0190 | Fax: 519.666.0271

From: Derek Silva
Sent: Thursday, August 02, 2018 4:29 PM
To: [REDACTED]
Cc: [REDACTED]; Jake DeRidder
<deridder@middlesexcentre.on.ca>
Subject: Re: Flooding July 24, 2018

<!--[if !vml]--><!--[endif]-->Hi [REDACTED], □

I came by your home around 3:50pm to see if we could chat for a bit. I met your dog, but no one answered the door.

I'm no drainage expert, but the municipality has one. I'm CC'ing Jake DeRidder on this so that you can communicate with him.

This was a freak storm. I highly doubt this will happen on a frequent basis, but let's see if Jake can work with you to identify anything that should be rectified.

Feel free to keep me in the loop on any further communications. Thanks.

Derek Silva
Councillor, Ward 4
T: 226-448-6774
E: silva@middlesexcentre.on.ca
<https://twitter.com/dereksilva>
<https://facebook.com/dereksilvaward4>

On Tue, Jul 31, 2018 at 1:33pm, [REDACTED] wrote:

Hi Derek
We live at [REDACTED] Pioneer Drive backing on to conservation area, and had significant flooding on July 24th. I've attached 2 photos from after rain stopped and water started to recede. Water rushed down the driveway and flooded the house and washed away part of the yard and hill leading to conservation area. We have a large French drain in front of the garage which has always been able to handle heavy rain. The water this time was quite brown so looks like it may have been from construction area. Our road was also recently repaved and appears higher which may have contributed to water being

directed towards our driveway (we are on the lowest part of road). Fortunately we were able to get a restoration company in quickly to deal with finished basement and garage. I am hoping you can tell me who to speak to to ensure this does not happen again. Also the cut into the hillside is likely to continue to erode unless something is done to prevent erosion. I am not sure how to deal with this either. Hoping you have some suggestions.



From: [Emery, Nick](#)
To: [Bergman, Stephanie](#)
Subject: 7 Pioneer Drive Site Visit
Date: Tuesday, November 13, 2018 10:34:11 AM
Attachments: [FullSizeRender.jpg](#)
[FullSizeRender.jpg](#)
[FullSizeRender.jpg](#)
[FullSizeRender.jpg](#)

Stephanie,

The residents at [REDACTED] Pioneer Drive in Kilworth reported flooding on their property during the July 24, 2018 storm event. The attached photos taken both during and after the event were provided by [REDACTED].

I performed a site visit on November 9, 2018 and met with [REDACTED] to discuss the flooding that they experienced. The following is a brief summary of the information that they provided and my observations:

- [REDACTED] Pioneer Drive is located near the Pioneer Drive low point;
- There is a trench drain located at the garage – likely installed to manage runoff from the driveway. Resident noted that trench drain and downspouts connect to foundation drain and are conveyed;
- Small lumber retaining wall is located in rear yard on property line with [REDACTED] Pioneer Drive – rear yard of [REDACTED] Pioneer Drive is higher than [REDACTED] Pioneer Drive.
- Resident noted the following during July 24, 2018 storm:
 - Surface water travelled from the right-of-way to the Thames River between [REDACTED] and [REDACTED] Pioneer Drive.
 - Surface water entered the garage;
 - Surface water entered the basement windows on the east side of the home;
 - Erosion occurred both along the east foundation and underneath the deck in the rear yard; and
 - Erosion occurred on the valley slope near the property line between [REDACTED] and [REDACTED] Pioneer Drive. The erosion was subsequently repaired by the resident with riprap and geotextile.
- Santec suggested to the resident that a potential solution to mitigate future flooding may be for MOMC to obtain an easement and either grade a swale through the side yard or install a large diameter pipe to convey major flows to the Thames Valley.

Site visit photos are located here:

V:\01656\active\165630134\design\image\180911

Nick Emery P.Eng.
Water Resources Engineer

Direct: 519-675-6619
Fax: 519-645-6575
nick.emery@stantec.com

Stantec
600-171 Queens Avenue
London ON N6A 5J7 CA

From: [Emery, Nick](#)
To: [REDACTED]
Cc: [Bendig, Brandie](#); [Bergman, Stephanie](#)
Subject: RE: Fwd: Arva Flooding June 8th 2010
Date: Monday, March 11, 2019 8:40:57 PM
Attachments: [Stantec FTP Confirmation - MOMC SWM MP.msg](#)

[REDACTED]

It was good to meet with you on Wednesday night and discuss your surface drainage concerns. Unfortunately, the video that you mentioned in your e-mail didn't make it to me – our e-mail system sometimes screens out large attachments. If it's not too much trouble, could you please save the file to the Stantec FTP site? I have attached access instructions. Please let me know if you have any questions or concerns.

Regards,

Nick Emery P.Eng.
Water Resources Engineer

Direct: 519-675-6619
Fax: 519-645-6575
nick.emery@stantec.com

Stantec



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From: [REDACTED]
Sent: Friday, March 8, 2019 2:06 PM
To: Emery, Nick <nick.emery@stantec.com>
Subject: Fwd: Fwd: Arva Flooding June 8th 2010

----- Forwarded message -----

[REDACTED]

[REDACTED]

Good afternoon Nick,

Here is a video of the water coming off Weldon Park [REDACTED] at Unit 32. on the east side of the unit. The board of directors plus the owners of units 29 to 32 would very much appreciate if you and your company could look into this problem. We have had two major floods and since 2010 we have taken our own precautions to avoid it happening again. This is not a permanent solution.

Thank you

Kind regards



To:	Stephanie Bergman London ON Office	From:	Nick Emery London ON Office
File:	165630134	Date:	April 5, 2019

Reference: April 4, 2019 Site Visit - Kilworth

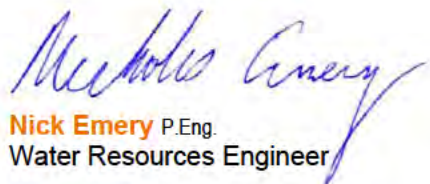
Following the March 5, 2019 PIC, the residents at [REDACTED], Ilderton contacted Stantec to discuss surface water and basement flooding concerns. The following points outline the discussion and observations:

- Several sanitary backups have occurred into the home, resulting in basement flooding;
- A sanitary backup has occurred following the installation of a backflow preventer;
- The swale on the west side of the home is persistently wet – the sump pump discharges to the swale. Lawn is too wet to mow in the summer. Most recent recorded rainfall at London Airport was March 30 – swale had ponded water at time of site visit;
- Sump pumps within the subdivision discharge to surface causing icing on the sidewalks – some residents convey sump pump discharges to the curb using plastic drainage tile;
- Brick driveway is rutted – residents attribute to poor local drainage;
- Residents noted that ponding frequently occurs at the base of the driveway;
- Walkway east of home has been previously replaced due to heaving. Recent asphalt repairs have been completed to eliminate lip caused by heaving;
- Fence posts have been replaced due to rotting/heaving. Decay at base of fence posts was observed;
- Ponding/surface flows occur along rear fence line in the park block.

Site visit photos in project directory here:

V:\01656\active\165630134\preliminary\image\190404 - Ilderton

Stantec Consulting Ltd.



Nick Emery P.Eng.
Water Resources Engineer

Phone: 519-675-6619
Fax: 519-645-6575
nick.emery@stantec.com

Attachment: Attachment

c. C.C.

From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: 22890 Highbury Ave North Ilderton
Date: Tuesday, February 4, 2020 8:05:49 AM
Attachments: [image001.png](#)

From: Brian Lima <lima@middlesexcentre.on.ca>
Sent: Monday, June 4, 2018 7:30 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>; Emery, Nick <nick.emery@stantec.com>; Dan Anderson <anderson@middlesexcentre.on.ca>
Subject: FW: [REDACTED] Highbury Ave North Ilderton

Good Morning Stephanie,

FYI - Please note the drainage matter in the last part of this resident's email...

Dan – When you get a moment, please confirm for Stantec what if any municipal drain currently runs through or benefits this resident's property.

Thanks



Brian Lima, P.Eng.

Director of Public Works & Engineering
Middlesex Centre | lima@middlesexcentre.on.ca
10227 Ilderton Road, RR#2 | Ilderton, Ontario, N0M 2A0
Tel: 519.666.0190 | Fax: 519.666.0271

From: Ryan Hillinger [<mailto:rhillinger@middlesex.ca>]
Sent: Monday, June 04, 2018 7:26 AM
To: Brian Lima <lima@middlesexcentre.on.ca>; Dan Anderson <anderson@middlesexcentre.on.ca>
Subject: RE: [REDACTED] Highbury Ave North Ilderton

Morning Brian/Dan

I've had a chance to read over her email. The last part seems to be a drainage issue or at the very least a building/permit issue.

Let me know if you don't believe this is yours.

Thanks,
Ryan

From: Brian Lima <lima@middlesexcentre.on.ca>
Sent: Sunday, June 3, 2018 4:23 PM
To: Ryan Hillinger <rhillinger@middlesex.ca>
Cc: Chris Traini <ctraini@middlesex.ca>; Jake Straus <straus@middlesexcentre.on.ca>
Subject: Fwd: [REDACTED] Highbury Ave North Ilderton

Hi Ryan,

Given the County has jurisdiction over Highbury Road, I'll defer to you to respond accordingly.

Thanks

Brian Lima, P.Eng.
Director, Public Works & Engineering
10227 Ilderton Road
Ilderton ON
NOM 2A0
Phone: (519) 666-0190 Ext. 233
Fax: (519) 666-0271
www.middlesexcentre.on.ca

Sent from my iPhone

Begin forwarded message:

From: [REDACTED]
Date: June 3, 2018 at 2:42:49 AM EDT
To: "lima@middlesexcentre.on.ca" <lima@middlesexcentre.on.ca>
Subject: [REDACTED] Highbury Ave North Ilderton

Hello

My Name is [REDACTED]

I would like to ask a couple of questions.

Our culvert has a collapse in it.

It currently is only half open and than with the sediment on the bottom, the flow of water is limited through the culvert.

I was wondering about what was needed to occur to have the culvert replaced.

At the shoulder of the road, at the end of our lane way, we have some fair size pot holes forming. I was wondering if these could be filled.

I do understand that a tractor with a blade goes by to level the edge of the road ,to the dirt on the shoulder, this leveling only covers about a third of the shoulder and does not address any issues that may be occurring on the other 2 thirds of the shoulder.

Could these pot holes please be filled in.

If the culvert was to be replaced, I was wondering if the run of the water to the catch basin could be re-assesses, as currently, our ditch is higher than our neighbours meaning that their water and our water does not flow anywhere from our ditch.

I am under the impression, that it is common knowledge with some people that the drainage runs that run north to the south, through the bark yards of our lots, has been severed by the home owner 3 houses to the south of us.

With him severing these runs and our yard being the lowest, we develop a significant lake in our back yard.

With the new construction of the lot to the north of us, leveling their lot, higher than our currently lot, again my fear is that their run off water will join my lake and increase the size of our lake.

I was wondering if the runs could be reattached, so that the water will run away verses backing up into our yard.

I was wondering if there is a lot level that the new construction must follow or are they allowed to build up their lots to whatever height they chose.

Thank you for listening to my concerns.

I look further to discussing these concerns further with you.

[REDACTED]
[REDACTED]
[REDACTED].

Ilderton Ont

From: [Emery, Nick](#)
To: [Bergman, Stephanie](#); [Kristoferson, Adam](#)
Subject: RE: MOMC Master Drainage Plan - recent flooding
Date: Monday, August 27, 2018 1:32:54 PM
Attachments: [mem_161413134_180824_july_27_storm.docx](#)

[Stephanie/Adam,](#)

Please find the attached memo that formally documents the information below for inclusion in the EA.

Nick Emery P.Eng.
Water Resources Engineer

Direct: 519-675-6619
Fax: 519-645-6575
nick.emery@stantec.com

Stantec
600-171 Queens Avenue
London ON N6A 5J7 CA

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From: Emery, Nick
Sent: Friday, August 10, 2018 10:56 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>; Kristoferson, Adam <Adam.Kristoferson@stantec.com>
Subject: MOMC Master Drainage Plan - recent flooding

[Stephanie/Adam,](#)

FYI, I spoke with Brian Lima earlier this week about flooding that occurred during the July 24th storm and in subsequent events. He noted the following reports from residents:

- ■ Baron Crescent
 - Basement flooding occurred during July 24th storm and again during storm last week
 - Sump pump could not keep up with flow, water filled sump and spilled in to basement
 - Sump pump is connected to storm PDC
 - This is a newer home
- ■ Pioneer Drive – during July 24th event:
 - Home is located at low point
 - Water came up driveway and entered garage
 - Water travelled along laneway at side of house and spilled to the Thames
 - Erosion occurred on property due to overland flow to Thames
 - Owner says there is a French drain at the garage
- Anecdotally, a vehicle was written off due to flooding from the July 24th storm according to Facebook
- Edgewater Subdivision – aggregate washed from site and resulted in creation of a bar in the Thames River – MOE and UTRCA are investigating
- Ilderton – Flooding occurred on east side of Hyde Park Road along Van Bussel Agreement Drain
 - Hyde Park Road homeowner has made previous complaints

- IBI previously prepared design to implement drain improvements
- Municipality is working with homeowner to implement improvements
- No additional rain gauge data are available for July 24th storm
- Brian noted that some catchbasins may be partially blocked due to filter cloth near construction in Kilworth Heights
- Municipality is concerned with legal action due to flooding

Brian wants us to incorporate this information into the master plan and provide solutions. My thoughts are:

- We need to investigate Kilworth Heights Subdivision further – there is a 150 mm diameter orifice that restricts minor flows - I requested that MOMC obtain the Eng Plus SWM report and circulate it to us.
- Problems at [REDACTED] Baron Crescent appear to be groundwater related, I think it's up to the homeowner to install more/bigger sump pumps and/or improve drainage on his lot, though mitigating local surface flooding should help.
- I think that the municipality needs to obtain a drainage easement at [REDACTED] Pioneer Drive, regrade and protect with permanent turf reinforcement mat, and provide slope protection, if necessary. This is a localized issue, so I don't think that we need to develop/evaluate alternatives to address.
- Edgewater Subdivision observations are not surprising – significant gravel deposits from the site in the neighboring ravine were observed during site visit several years ago.
- Noted to Brian that we are considering a SWM pond at the location of the Van Bussel Agreement Drain improvements to attenuate runoff – he noted that improvements may be a throwaway cost.

Brian provided the drawings for the Van Bussel Agreement Drain improvements.

Nick Emery P.Eng.
Water Resources Engineer

Direct: 519-675-6619
Fax: 519-645-6575
nick.emery@stantec.com

Stantec
600-171 Queens Avenue
London ON N6A 5J7 CA

From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: MOMC SWM MP
Date: Tuesday, February 4, 2020 8:04:34 AM

From: Emery, Nick <nick.emery@stantec.com>
Sent: Friday, December 14, 2018 10:43 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: MOMC SWM MP

Stephanie,

FYI, I just had a telephone call from [REDACTED], the owner of the private pond that receives the runoff from Komoka Drain No. 1. He was seeking an update on the EA status. I let him know that we are evaluating the alternatives and will be holding a public meeting in the new year. We discussed some of the drainage issues and potential solutions in Komoka. He suggested that a meeting with the local stakeholders to discuss the evaluated alternatives prior to the public meeting would likely be beneficial. He asked to be informed of the next public meeting date. His e-mail is [REDACTED]

Nick Emery P.Eng.
Water Resources Engineer
Direct: 519-675-6619
Fax: 519-645-6575
nick.emery@stantec.com

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From: [Anthony Gubbels](#)
To: [Emery, Nick](#)
Cc: [Bergman, Stephanie](#)
Subject: Re: Middlesex Centre Stormwater Master Plan
Date: Friday, July 5, 2019 3:14:18 PM

Thank you for the update Nick - greatly appreciated!

Anthony H. Gubbels, P. Eng.

Principal, Urban Land Engineering

LDS CONSULTANTS INC.

[15875 Robins Hill Road, Unit 1](#)

[London, Ontario N5V 0A5](#)

Email: anthony.gubbels@LDSconsultants.ca

Office Phone: [226-289-2952](tel:226-289-2952) x101

Cell Phone: [519-494-7785](tel:519-494-7785)

On Jul 5, 2019, at 1:18 PM, Emery, Nick <nick.emery@stantec.com> wrote:

Anthony,

We are meeting with Ontario Parks next week to discuss the alternatives that involve discharging through the existing park outlet. Once we gather more input from them, we will be in a position to identify the preferred alternative for the Komoka drainage area.

Regards,

Nick Emery P.Eng.

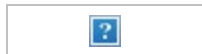
Water Resources Engineer

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nick.emery@stantec.com

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From: Anthony Gubbels <Anthony.Gubbels@ldsconsultants.ca>

Sent: Thursday, July 4, 2019 2:45 PM

To: Emery, Nick <nick.emery@stantec.com>

Cc: Bergman, Stephanie <Stephanie.Bergman@stantec.com>

Subject: RE: Middlesex Centre Stormwater Master Plan

Importance: High

Hi Nick,

I'm following up on my previous email to you dated July 2, 2019 to which we have not received a reply.

As per my previous request, can provide an update on the status of the above referenced Master Plan insofar as same relates to the village of Komoka?

Thank you very much.

Anthony H. Gubbels, P. Eng.
Principal, Urban Land Engineering

LDS CONSULTANTS INC.

15875 Robins Hill Road, Unit 1
London, Ontario N5V 0A5
Email: anthony.gubbels@LDSconsultants.ca
Office Phone: 226-289-2952 x101
Cell Phone: 519-494-7785

From: Anthony Gubbels
Sent: July 2, 2019 12:54 PM
To: 'Emery, Nick' <nick.emery@stantec.com>
Cc: 'Bergman, Stephanie' <Stephanie.Bergman@stantec.com>
Subject: Middlesex Centre Stormwater Master Plan
Importance: High

Good afternoon Nick,

Can I possibly trouble you for an update on the status of the above referenced Master Plan insofar as same relates to the village of Komoka?

Thank you very much.

Anthony H. Gubbels, P. Eng.
Principal, Urban Land Engineering

LDS CONSULTANTS INC.

15875 Robins Hill Road, Unit 1
London, Ontario N5V 0A5
Email: anthony.gubbels@LDSconsultants.ca
Office Phone: 226-289-2952 x101
Cell Phone: 519-494-7785

From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: Middlesex Centre SWM MP
Date: Tuesday, February 4, 2020 8:21:07 AM

From: [REDACTED]
Sent: Thursday, January 31, 2019 9:06 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: Re: Middlesex Centre SWM MP

We assume there have been meetings with other people who may be affected?

From: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Sent: January 28, 2019 1:33 PM
To: [REDACTED]
Cc: Emery, Nick; Dan Anderson
Subject: RE: Middlesex Centre SWM MP

Hi [REDACTED]

I assure you that no decisions have been made at this point. The public meetings in March are similarly being held to review the options being considered, and further work will be required prior to the identification of the preferred solutions.

I'll set up a time on Feb 12th at the Municipal offices, and of course we can reschedule if something comes up. We were expecting attendees to include myself, the engineers on file from Stantec, and Dan Anderson from the Municipality.

I'd be happy to discuss the intent of the meeting further over the phone. Please feel free to give me a call if you'd like to discuss.

Stephanie L. Bergman MA, ENV SP
Planner

Direct: 519-675-6614

Cell: 519-852-8945

Fax: 519-645-6575

stephanie.bergman@stantec.com

Stantec



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From: [REDACTED]

Sent: Monday, January 28, 2019 1:17 PM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: Re: Middlesex Centre SWM MP

The Glendon Dr report I read showed the pond to be at the Waste treatment facility but you say it hasn't been identified.

I suppose we can set a time for February 12 at the Municipality office and if weather is terrible we might have to reschedule. Who will be attending the meeting? How many lawyers should we bring? This is pretty short notice considering that you are wanting to go public as soon as March. Doesn't give much time for working out deals or whatever. Seems like the plans may be already set in stone now, and just looking for our consent?

From: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Sent: January 28, 2019 12:48 PM
To: [REDACTED]
Cc: Emery, Nick; Dan Anderson
Subject: RE: Middlesex Centre SWM MP

Good morning [REDACTED]

We are in the process of assessing a number of different options for a storm drainage outlet, including a number of existing ponds in the area. Part of the Environmental Assessment process involves looking at a range of feasible options, and we want to sit down with you prior to the public meeting to review the options that we have been considering.

As part of the Glendon Drive study it was identified that runoff should be directed to a new pond, but the location of the pond wasn't identified at that point. There are a number of different considerations that play into the assessment (availability of an outlet to the Thames River, future development, etc.), and we'd like to review the options with you.

Please let me know if the following dates work for you so that we can sit down to discuss (I removed Feb. 18th as an option since it is Family Day):

- Tuesday February 12 all day;
- Thursday February 14 all day;

Thanks,

Stephanie L. Bergman MA, ENV SP
Planner

Direct: 519-675-6614

Cell: 519-852-8945

Fax: 519-645-6575

stephanie.bergman@stantec.com

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From: [REDACTED]
Sent: Monday, January 28, 2019 5:30 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: Re: glendon drive

Stephanie:

Just to get this straight, for the Glendon Dr storm water it's recommend not to use private ponds but yet you want a meeting with us to discuss how Municipality storm water will be affecting our property?? This does not make any sense and we are not happy with the idea of our property being used for the runoff. Why not use our neighbors ponds on the west side of Komoka Road or run it to the SWM pond which is supposedly being created for the Glendon Drive issue.

From: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Sent: January 25, 2019 10:17 AM
To: [REDACTED]
Cc: Dan Anderson; Emery, Nick
Subject: RE: glendon drive

Hi [REDACTED]

I apologize for the delayed response. We have set dates for the second series of Public Information Centres for the Stormwater Master Plan in March, and I wanted to set up a time to meet to discuss some of the options we've been reviewing with respect to your property. Would any of these dates work for you?

- Tuesday February 12 all day;
- Thursday February 14 all day; or
- Monday February 18th afternoon.

Let me know which you would prefer. We can hold the meeting at the Municipal offices in Coldstream, or our offices in London – whichever is easier for you. Once I hear back from you I will confirm a meeting time.

Thanks and I look forward to hearing from you!

Stephanie L. Bergman MA, ENV SP
Planner

Direct: 519-675-6614

Cell: 519-852-8945
Fax: 519-645-6575
stephanie.bergman@stantec.com

Stantec



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From: [REDACTED]
Sent: Thursday, January 17, 2019 4:11 PM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: glendon drive

Stephanie:

Haven't heard or read whether there is anything new in regards to the Stormwater Plan. Do you have any update info for us? Thanks and have a great day.

[REDACTED]

 Virus-free. www.avg.com

From: [Emery, Nick](#)
To: [Bergman, Stephanie](#)
Subject: MOMC SWM MP On-Site Meeting
Date: Wednesday, May 23, 2018 4:41:02 PM
Attachments: [Scanned from a Xerox multifunction device001.pdf](#)

Stephanie,

The following are my notes for today's on-site meeting attended by ourselves, Brian Lima (MOMC), Dan Anderson (MOMC), Anthony Gubbels (LDS), [REDACTED]:

- The Komoka Municipal Drain discharges to the [REDACTED] pond. The outlet was constructed when the gravel pit was owned and operated by the municipality;
- [REDACTED] had previously constructed a berm on his property to screen his home from new development on north side of his pond. The berm blocked water from the [REDACTED] pond from entering the [REDACTED] pond. [REDACTED] provided a break in the berm to allow MOMC to approve continuing development of the Bella Lago site;
- [REDACTED] noted that a fish kill occurred in his pond this spring for the first time since he's lived there – approximately 20 years. Fish kill occurred approximately 2 weeks ago and a triaxle of dead fish was removed. Fish in the pond include crappie, sunfish, largemouth bass, smallmouth bass, sunfish and carp – the fish kill mainly affected sunfish and crappie;
- Stantec noted significant algae on the pond bottom, floating mats near the waters edge and dried algae on grate at the pond outlet. [REDACTED] noted algae was much worse than previous years. Stantec observed similar algae in the [REDACTED] pond;
- [REDACTED] noted that water levels in his pond have been gradually rising over the past 20 years – approximately 3 feet. He is concerned that high water levels may threaten his home (basement walkout);
- Water levels in the [REDACTED] m pond are regulated by a drop outlet to the downstream Johnson pond. [REDACTED] blocks off the outlet if water levels in the receiving [REDACTED] pond threaten to overtop into the neighboring trout farm pond;
- [REDACTED] ponds are interconnected and culverts are moved as necessary;
- No surface water outlet through existing pipeline easement;
- LDS [REDACTED] suggested the pond located on the east side of Komoka Road immediately north of the Provincial Park boundary as a potential outlet.

Nick Emery

P.Eng.

Water Resources Engineer

Direct: 519-675-6619

Fax: 519-645-6575

Stantec Consulting Ltd.

600-171 Queens Avenue

London ON N6A 5J7 CA

to...



POTENTIAL OVERSET IDENTIFIED
IN LSS & GRASSLAND.

ET GRASS IN
BANK

Power Line

Glennville

A Field

TRUCK
TRAIL

Hillside

DORRIS RD

KOMOKA RD

GLENON DR

GLENON DR

TRAME AVE



From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: property
Date: Tuesday, February 4, 2020 8:19:58 AM

From: [REDACTED]
Sent: Tuesday, February 5, 2019 9:26 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: FW: property

Good morning Stephanie,
I have been contacted by [REDACTED] from Komoka.
I understand you are meeting with the [REDACTED] on February 12 to discuss some proposed Stormwater options that will impact their property.
Could you please give me a call at your earliest convenience.
Thank you,

Ted Taylor,
Principal
Eng Plus Ltd.
609 William Street, Suite 100
London, Ontario
N6B 3G1
Tel: 519-438-6994 ext.23 Fax: 519-438-7052
Email: ttaylor@engplusltd.com
www.engplusltd.com



From: [REDACTED]
Sent: February 4, 2019 9:18 AM
To: ttaylor@engplusltd.com
Subject: Re: property

Good morning Ted. We were actually contacted by Stephanie Bergman from Stantec.

[REDACTED]

From: Ted Taylor <ttaylor@engplusltd.com>
Sent: February 4, 2019 9:07 AM
To: [REDACTED]
Subject: RE: property

What is the name of the person who contacted you from the municipality?

Ted Taylor,
Principal
Eng Plus Ltd.
609 William Street, Suite 100
London, Ontario
N6B 3G1
Tel: 519-438-6994 ext.23 Fax: 519-438-7052
Email: ttaylor@engplusltd.com
www.engplusltd.com



From: [REDACTED]
Sent: February 1, 2019 10:56 AM
To: Ted Taylor <ttaylor@engplusltd.com>
Subject: property

Ted:

This Municipality is driving us nuts. They are wanting to have a meeting with us this month to talk about Storm water problems, we assume they are wanting to dump their problems onto our property. I think we are going to be needing expert help to fight this or make sure we get a huge deal to accommodate. Is this something you can help with or should we be contacting a lawyer or planner or someone else? If so, who would you recommend. Thanks and have a great day Ted.

[REDACTED]

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From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: storm water
Date: Tuesday, February 4, 2020 8:19:14 AM

From: Councillor Derek Silva <silva@middlesexcentre.on.ca>
Sent: Wednesday, February 20, 2019 2:50 PM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: FW: storm water

FYI

Derek Silva
Councillor, Ward 4
T: 226-448-6774
E: silva@middlesexcentre.on.ca
<https://twitter.com/dereksilva>
<https://facebook.com/dereksilvaward4>

From: [REDACTED]
Sent: February 20, 2019 14:49
To: [Councillor Derek Silva](#)
Subject: Re: storm water

Derek:

Thank-you for the info. Alternative 3 would be the most desirable for everyone involved we would think. If a combination of 3 and 5 were to be used that also could affect our pond because the MNR pond and ours is as one. We would like to see the park land pond lowered and the clay dyke reinstated to the way it was before the park land pond overflowed and flooded over the dyke and put more of our land under water. The culvert in place on the dyke should be inspected also. We also would like to see a chain link fence installed at the west end of the dyke so people aren't accessing our property.

[REDACTED]

From: Councillor Derek Silva <silva@middlesexcentre.on.ca>
Sent: February 20, 2019 2:19 PM
To: [REDACTED]
Subject: RE: storm water

The [REDACTED] meeting went well. They had some questions as well, and shared their future plans for the properties with Stantec, just like you. I also stuck around for Jim Graham's meeting, and he brought along Anthony Gubbels from LDS to look things over.

I honestly don't know what the legality is regarding stormwater and your private pond. Seeking your own advice from a lawyer specializing in planning may be prudent.

I have a feeling that the mix of Alternative 3 and Alternative 5 I recommended is probably going to be the one recommended, as Anthony also made some good points in favour of that model. Either that, or Alternative 5 on its own with provisions for filtering in the ditches and/or new stormwater drainage pipes.

Either way, I don't think the final recommendation will have any direct impact or request to use your pond, and instead will feature the provincial park's pond as the primary outlet with the existing outlet to the Thames River. It's the least disruptive, probably least expensive option.

Derek Silva
Councillor, Ward 4
T: 226-448-6774
E: silva@middlesexcentre.on.ca
<https://twitter.com/dereksilva>
<https://facebook.com/dereksilvaward4>

From: [REDACTED]
Sent: February 19, 2019 09:34
To: [Councillor Derek Silva](#)
Subject: storm water

Derek:

We were wondering how the [REDACTED] meeting went.

We just cannot grasp on how our private ponds can possibly be used for this storm water issue. Going to have to get legal advice.

What benefit would it be to us? Last year Brian Lima said we may have to be paying storm water fees. That would be a big joke if indeed our ponds got used for the storm water.

Certainly not happy with the way this is panning out. We will be doing up a letter or e-mail with our recommendations of what would be suitable and not.

[REDACTED]

From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: Komoka Drain #1
Date: Tuesday, February 4, 2020 8:18:46 AM

[For filing.](#)

Stephanie Bergman
[519-852-8945](tel:519-852-8945)

From: [REDACTED]
Sent: Tuesday, March 5, 2019 8:43 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: Komoka Drain #1

Very small turnout for the storm water proposals. Exactly what we would expect because unless the issue is in My Back Yard, people just don't care. Surprised to see that there is now an Alternative #6.

Our position and our apparently our neighbors position has not changed. We think that Alternative #3 is the one that should be used.

When will the Alternatives be available on the Municipality's web site?

When is a decision going to be made on the preferred Alternative?

[REDACTED]

From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: Middlesex Centre Stormwater Master Plan
Date: Tuesday, February 4, 2020 8:09:43 AM
Attachments: [image001.png](#)

From: [REDACTED]
Sent: Tuesday, April 2, 2019 3:46 PM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Cc: Emery, Nick <nick.emery@stantec.com>; Bendig, Brandie <Brandie.Bendig@stantec.com>; Dan Anderson <anderson@middlesexcentre.on.ca>
Subject: RE: Middlesex Centre Stormwater Master Plan

Hi Stephanie

Thanks for the response and apologies for my tardy response. If you still have some time this Friday, I have no meetings scheduled so am flexible on timing for a call with you and Nick Emery. Bermuda is one hour ahead of you (AST).

Best,

From: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Sent: Thursday, March 28, 2019 11:50 AM
To: [REDACTED]
Cc: Emery, Nick <nick.emery@stantec.com>; Bendig, Brandie <Brandie.Bendig@stantec.com>; Dan Anderson <anderson@middlesexcentre.on.ca>
Subject: RE: Middlesex Centre Stormwater Master Plan

Hi there [REDACTED]

I apologize for the delay, but yes I can definitely help get you up to speed on the Stormwater Master Plan. I'd be happy to set up a time to have a quick chat sometime next week. Tuesday and Friday are open for me – let me know if there are a few times that would work for you, and I will coordinate with our Engineer on the file (Nick Emery) (I'm not sure what the time difference is in Bermuda).

Thanks [REDACTED] and have a great day,

Stephanie L. Bergman MA, ENV SP
Planner

Direct: 519-675-6614
Cell: 519-852-8945

Fax: 519-645-6575

stephanie.bergman@stantec.com

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From: [REDACTED]
Sent: Monday, March 25, 2019 3:51 PM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: Middlesex Centre Stormwater Master Plan

Good Afternoon Stephanie,

Greetings from Bermuda. As you may recall from our past correspondence on the Glendon Drive ESL, my wife and I have owned for the past 20 years a property on Old River Road. The property, which is approximately 15 acres, has several hundred feet including the mouth of Oxbow creek, running through it. We have only very recently become aware of the Stormwater Master Plan consultations.

We were unable to attend the second PIC, due to our residing overseas. Stantec 's presentation for the second PIC includes a map of the Kilworth Settlement area which in turn identifies three alternative strategy to service future development and protect Oxbow creek. Are you the correct person and if not who is to brief me via a telephone discussion on the concerns, the alternatives, the preliminary recommendations and more generally the extent to which recent and prospective development in the Kilworth settlement area have or will result in increased storm water runoff (treated or untreated) which directly or indirectly eventually runs into the Oxbow?

Regards,

[REDACTED]



[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

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March 26, 2019.

Mayor Aina DeViet
Municipality of Middlesex Centre
10227 Ilderton Road
Ilderton, ON N0M 2A0

Re: Water Problems at [REDACTED] Ilderton Road, Ilderton, ON

Aina:

We have been experiencing water problems and sump pump issues since last spring when Sifton Properties began development on the Clear Skies subdivision behind our property. We are located on the North side of Ilderton Road, near Willow Ridge Road. **Three homes in a row have been flooded since June 2018. One has been flooded several times!!! Two of these homes back onto the new Storm Water Management pond.**

In the spring I mentioned to our neighbour that our sump pump runs continually for days and I said "where is all this water coming from". It was reported that theirs was also running constantly.

On November 9, 2018 our basement flooded with 6 inches of water throughout our complete ranch home that had a finished basement. Our sump had failed to keep up.

We then noticed that the catch basin to the west of our driveway was full and not draining at all. We have also noticed a lot of water overflow concerns in an area in our back yard which continues to run to the neighbours yard. When the ground is saturated with water, because it has no where to go; it feeds back into our sump pump reservoir from our foundation drainage tile. Therefore the sump pump runs continually until it lowers these levels. This has only happened since the construction for Clear Skies has taken place.

On Nov. 26, 2018 we called the Municipality and spoke with Jake Deridder. He said they would look into this.

Many calls were made to the municipality. In December Dan Anderson told us a contractor was going to put camera's down to see what the problem is. On Jan. 17/2019 Dan called and informed us "**there is a blockage about 100 meters** from our home to the east. All they see is mud. They will need to dig down. They won't know if the problem is from the new construction until they dig." We asked when this is going to happen- he told us they had to get a contractor to do this and get the approval. In March we called Dan as we had not heard any updates on the progress of this investigation. Dan returned a call to us on March 18th stating "this job is too big for my contractor". He is pushing the developers and engineers to work on the

project as **an outlet has been cut off**. We asked what is the time frame on this getting done. Dan's reply was "hopefully soon".

I have added a 2nd sump pump (because of fear of failure of one sump pump) and also added a Municipal Water Jet pump that will remove the water if we have an electrical power failure. This is also a lot of added expense because this problem is not fixed. The actual "FLOOD" in our basement has been exhausting.

With this kind of "**flood record**" in our homes it has reduced our property values until we can declare that this problem has been fixed!

We feel that the engineers, **Stantec**; the developers, **Sifton**; and the **Municipality** need to fix this problem **immediately; whoever is responsible**.

We would greatly appreciate someone keeping in touch with us so we are aware how the progress is going. These "floods" can **NOT** keep reoccurring in our homes. We pay our taxes faithfully and honestly expect some help when these problems occur.

If we do not hear that this problem is being resolved you leave us no alternative. We will conclude that our next step will be to engage a legal firm to represent us and to recoup our expenses and loss of value in our home.

Sincerely

A large black rectangular redaction box covering the signature area.

cc: Stantec Consulting Ltd., Chris Henderson, Stephanie Bergman
Sifton Developers, Stephen Morris
Municipality of Middlesex Centre, Dan Anderson
John Brennan

From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: Follow Up re Water Concerns on Willow Ridge Rd Ilderton
Date: Tuesday, February 4, 2020 8:04:34 AM

From: Emery, Nick <nick.emery@stantec.com>
Sent: Friday, March 29, 2019 4:08 PM
To: [REDACTED]
Cc: Bergman, Stephanie <Stephanie.Bergman@stantec.com>; Bendig, Brandie <Brandie.Bendig@stantec.com>
Subject: RE: Follow Up re Water Concerns on Willow Ridge Rd Ilderton

[REDACTED]

Thanks very much for following up with me. I'd be happy to meet with you next week to talk further about your concerns. I'm available next week on Monday afternoon, Tuesday morning or afternoon, or Thursday afternoon. If evenings are more convenient, I can arrange to come by after 5PM, but I wouldn't be available until the following week.

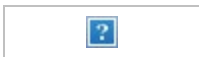
Please let me know what times work best for you. Have a good weekend.

Regards,

Nick Emery P.Eng.
Water Resources Engineer

Direct: 519-675-6619
Fax: 519-645-6575
nick.emery@stantec.com

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From: [REDACTED]
Sent: Friday, March 29, 2019 12:35 PM
To: Emery, Nick <nick.emery@stantec.com>
Subject: Follow Up re Water Concerns on Willow Ridge Rd Ilderton

Good afternoon Nick,

We met at the Ilderton Storm Water Management presentation in early March.

At that meeting we discussed the on-going and worsening water-related conditions on our street. You outlined for us the proposed/potential improvements relative to our subdivision.

We appreciated having the opportunity to dialogue with you, but were very disheartened to learn that you had no previous knowledge of the issues in this specific area.

You had offered to come out to meet with us in order to better understand our situation. At the time, you mentioned that you would be away on holidays.

We're hoping that your schedule may allow for a visit to our home in the near future. Would you let us know what might be possible in the next week or so?

Thank you.
Enjoy your day.

[REDACTED]
[REDACTED]

Sent from [Mail](#) for Windows 10

From: [Bergman, Stephanie](#)
To: [Bohnert, Sara](#)
Subject: FW: MOMC SWM MP
Date: Tuesday, February 4, 2020 8:04:34 AM

[For filing V:\01656\active\165630134\preliminary\correspondence\class_ea\Correspondence](#)

Stephanie Bergman
519-852-8945

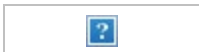
From: Emery, Nick <nick.emery@stantec.com>
Sent: Friday, December 14, 2018 10:43 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: MOMC SWM MP

Stephanie,

FYI, I just had a telephone call from [REDACTED] the owner of the private pond that receives the runoff from Komoka Drain No. 1. He was seeking an update on the EA status. I let him know that we are evaluating the alternatives and will be holding a public meeting in the new year. We discussed some of the drainage issues and potential solutions in Komoka. He suggested that a meeting with the local stakeholders to discuss the evaluated alternatives prior to the public meeting would likely be beneficial. He asked to be informed of the next public meeting date. His e-mail is [REDACTED]

Nick Emery P.Eng.
Water Resources Engineer
Direct: 519-675-6619
Fax: 519-645-6575
nick.emery@stantec.com

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Location Map



Description:
 File Number:
 Created By:
 Date: 8/07/2019
 Scale: 1:9,028

Legend
 Assessment Parcels



SITE	
TOTAL AREA:	59,127.12 m ²
LANDSCAPE AREA:	47,351.38 m ²
LOT COVERAGE:	3,246.48 m ² (5%)
APARTMENT BUILDINGS	
5 STOREY (2/3 UNITS EA.)	
160 PARKING SPACES	
6 HANDICAP	



Site Plan

Scale: 1" = 50'-0"



Municipality of Middlesex Center
Planning and Development Services
10227 Ilderton Road
Ilderton, ON N0M 2A0

July 16, 2019
File: LD-00240

VIA EMAIL

**Attention: Mr. Jake DeRidder, C. Tech.
Development Review Coordinator**

Dear Jake:

**Reference: Proposed Senior's Apartment Development
MN 22447 Komoka Road
Site Servicing Brief**

Introduction

LDS Consultants Inc. (LDS) has been retained by 1571145 Ontario Limited to provide a servicing strategy for a proposed senior's apartment development located at MN 22447 Komoka Road in the village of Komoka, (hereinafter referred to as the site).

The site is approximately 5.91 hectares (14.6 acres) in area, and is bordered to the north by commercial land-uses, to the east by Komoka Road, to the west by the Bella Lago residential development and large private pond area, to the south by low density residential lands and a pond area connected to the lands to the west. The site is occupied in part by a privately-owned pond measuring approximately 2 hectares in area which occupies the south end of the site, and a relatively flat plateau area which has potential to accommodate the proposed development.

The subject site is proposed to be developed as a high-density residential use comprising two five-storey apartment buildings yielding a total of 152 apartment units, and having an approximate even split between one-bedroom and two-bedroom type units. The development is proposed to be serviced via connections to full municipal services contained within (stormwater management), adjacent to (domestic and fire water supply), or within close proximity (sanitary) to the site.

Subject to securing requisite approvals, construction of the project is anticipated to commence within a period of six to twelve months following the receipt of Site Plan approval. The project is planned to be phased with construction of the first apartment building taking upwards of eighteen months to complete. From an occupancy perspective, it is anticipated that it may be upwards of three years to four years before the first building is fully occupied.

Development Charge Revenue Projection

A financial snapshot of the proposed development from a Development Charges Reserve Fund perspective is presented in Table 1. Revenues presented in Table 1 are based upon the Municipality of Middlesex Centre Development Charges Background Study prepared by Watson & Associates Economists Ltd., dated May 8, 2019. As highlighted in Table 1, the proposed development is projected to contribute approximately \$1.65M towards the Municipality's Development Charges Reserve Fund. Of the approximate \$1.65M of total revenue generated, approximately \$762,000 and \$113,744 is attributable to wastewater and water infrastructure projects (i.e. Urban Services) whereas the balance (\$773,536) is attributable to services required on a municipal wide basis.

Table 1 – Development Charge Revenue Projection

Service	Apartments (2 Bedrooms)	Apartments (1 Bedroom)	Total Revenue
Part 1 - Municipal Wide Services			
Roads	\$ 2,107	\$ 1,328	\$ 264,176
Public Works	\$ 1,037	\$ 654	\$ 130,048
Fire Protection	\$ 978	\$ 616	\$ 122,592
Parks and Recreation	\$ 1,819	\$ 1,146	\$ 228,032
Library	\$ -	\$ -	\$ -
Administration - Studies	\$ 229	\$ 144	\$ 28,688
Total Part 1	\$ 6,170	\$ 3,888	\$ 773,536
Part 2 - Urban Services			
Wastewater	\$ 6,078	\$ 3,830	\$ 762,000
Water	\$ 907	\$ 572	\$ 113,744
Total Part 2	\$ 6,985	\$ 4,402	\$ 875,744
Total Projected DC Revenue			\$ 1,649,280

Storm Drainage & Stormwater Management

Under current conditions, developments along the north and northwest sides of the site have two stormwater outlets for treated water which drain across the site and discharge into the existing onsite pond. The Municipality also has a stormwater outlet serving a portion of the developed village of Komoka which is located on the east side of the subject property which also discharges untreated runoff into the existing onsite pond.

Under proposed conditions, external flows from the north and northwest will be maintained through the site as will the Municipality's untreated flows. Stormwater runoff (minor system flows) from the proposed development is anticipated to be pre-treated using a combination of at-source measures such as infiltration galleries, LID's, OGS technologies, etc., and will be directed to the onsite pond for further treatment. Similar to minor system flows, major system flows will be contained on site and routed to the onsite pond.

It is noted that the Municipality has initiated a municipal wide Stormwater Master Plan, and although not complete, it is expected that the stormwater management strategy serving the proposed development can be readily integrated to meet the objectives of the yet to be determined preferred stormwater management alternative.

Sanitary Servicing

The sanitary outlet for the proposed development is the existing 300 mm diameter gravity sewer located in the vicinity of the intersection of Komoka Road and Glendon Drive. A preliminary review of servicing alternatives which is contingent upon final site grading, includes a gravity servicing option, a private pumping station and pressure forcemain option and / or a hybrid of the two.

As mentioned previously in this letter report, it is anticipated that it may be upwards of three years to four years before Phase 1 is fully occupied. Under full occupancy Phase 1 is estimated to generate and direct approximately 180 m³/day of wastewater to the Municipality's collection, conveyance and treatment systems.

In terms of the Municipality's infrastructure, it was recently revealed by the Municipality that components of the downstream wastewater conveyance system (i.e. Main Street Sewage Pumping Station) may be approaching capacity limits. Supporting documentation, including excerpts from Main Street Sewage Pumping Station Operations Manual, indicates the pumping station to have a peak flow pumping capacity of 2,800 m³/day whereas flow data from the Komoka WWTF, also provided courtesy of the Municipality and presented in Table 2, indicates peak flows increasing monthly to 1,176 m³/day in the month of April '19. Since flows at the treatment plant are conveyed exclusively by the Main Street Sewage Pumping Station, it can be concluded that there is a direct correlation between the two facilities and that sufficient capacity exists in the pumping station to support the proposed development.

Notwithstanding the availability of capacity, the Municipality, as evidenced by the inclusion of select wastewater projects in their Development Charges Background Study, has taken proactive measures, to ensure adequate conveyance capacity is available for growth anticipated within the pumping station's service area over the course of the next twenty-year planning horizon.

Table 2 - Komoka Wastewater Treatment System Flows ¹

Year	Description	Units	Jan	Feb	Mar	April	May	June
2018	Effluent Total	m ³	14,727	16,541	19,867	21,605	19,711	15,251
	Effluent Average	m ³ /day	475	591	641	720	636	508
	Effluent Max	m ³ /day	635	781	789	921	1,335	711
2019	Effluent Total	m ³	20,057	22,509	26,023	26,956	31,321	
	Effluent Average	m ³ /day	647	804	839	899	1010	-
	Effluent Max	m ³ /day	782	982	1,035	1,176	2,001	
Effluent Max (year/year)		m ³ /day	147	201	246	255	666 ²	-

1. Komoka WWTF System Flows: Average Daily Flow Rate 2,250 m³/day, Max Flow Rate 9,000 m³/day

2. Represents statistical anomaly due to major inflow of groundwater associated with pipe failure.

Domestic and Fire Water Supply / Servicing

Domestic and fire water supply for the proposed development can be provided via a connection to the recently installed watermain situated in the west boulevard of Komoka Road.

Should you have any questions concerning the foregoing and attached, please do not hesitate to contact the undersigned.

All of which is respectfully submitted by,

LDS CONSULTANTS INC.

Anthony Gubbels, P. Eng.

Principal, Community Development

o: (226) 289-2952

c: (519) 494-7785

e: anthony.gubbels@LDSConsultants.ca



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Scale :

19-015

Komoka Senior's Apartment

22447 Komoka Rd

Render - 01

May 29, 2017

A104

zedd

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Komoka Senior's Apartment

22447 Komoka Rd

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May 29, 2017

A105

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Komoka Senior's Apartment

22447 Komoka Rd

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May 29, 2017

A106

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Komoka Senior's Apartment

22447 Komoka Rd

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May 29, 2017

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19-015

Komoka Senior's Apartment

22447 Komoka Rd

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May 29, 2017

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19-015

Komoka Senior's Apartment

22447 Komoka Rd

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May 29, 2017

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 5/3/2019 12:05:08 PM

Scale :

19-015

Komoka Senior's Apartment

22447 Komoka Rd

Render - 07

May 29, 2017

A111

zedd
 ARCHITECTURE

363 horton street east london ontario N6B 1L6 519 518 9333
 www.zeddarchitecture.com info@zeddarchitecture.com



May 29, 2019

1571145 Ontario Limited
 c/o Kirkness Consulting Inc.
 1647 Cedar Creek Crescent
 London, Ontario
 N5X 0C8

**Reference: Geotechnical Design Brief
 22447 Komoka Road, Municipality of Middlesex Centre**

This letter provides geotechnical overview on the feasibility of a future residential condominium development occurring at the property located at 22447 Komoka Road, in the hamlet of Komoka. The site is approximately 5.91 ha (14.6 acres) in size, and is bordered to the north by commercial land-uses, to the east by Komoka Road, to the west by a residential development and large pond area, to the south by a residential property and a pond area connected to the lands to the west. The site is occupied in part by a separate large pond which occupies the south end of the site, and relatively flat plateau area which has potential to accommodate future development at the site.

A Key Plan is provided below (refer to Figure 1), for reference.



Figure 1: Key Plan

Legal Description: Concession 1
 North, Part Lot 4, Geographic
 Township of Lobo

Image Source: Middlesex County
 online mapping, May 2019
www.maps.middlesex.ca,

LDS visited the site on March 21, 2019 to review the current site conditions. Under current conditions, the developments along the north and northwest sides of the subject property have two stormwater outlets for treated water, which drains to the existing pond onsite. The Municipality also has an untreated stormwater outlet located on the east side of the subject property, which discharges into the existing pond onsite. Drawing 1 (appended) shows existing site features, for reference.

Very little run-off occurs at the site during/following rain events. Much of the site has grass cover, and at-source infiltration into the natural subgrade soils occurs throughout.

LDS participated in a pre-consultation meeting (March 26, 2019) with Municipality of Middlesex Centre staff, Upper Thames River Conservation Authority staff, the landowner/developer and members of the consulting team working on the file. In preparing this Geotechnical Design Brief, LDS has had regard for the geotechnical and hydrogeological items discussed during the pre-consultation meeting and in supplemental email correspondence, and has reviewed the Planning Justification Report prepared by Kirkness Consulting Inc., dated May 2019. A copy of the pre-consultation notes and email correspondence are provided with the aforementioned Planning Justification Report.

The comments provided in this document are based on a review of published resources (including geological mapping, topographic mapping, water supply well records), input from the property owner regarding site characteristics, and our familiarity with soil and groundwater conditions in the area. At this time, a site-specific field program of boreholes or test pits has not been completed.

1. Document Review

Review of Geological Mapping

The physiography and distribution of surficial material in the County of Middlesex are primarily the result of glacial activity that took place during the Late Wisconsinan approximately 23 000 to 10 000 years before present. The study area was subjected to oscillating ice margins and multiple ice lobes that have produced a complex suite of tills with distinct properties. The repeated advance and retreat of the ice lobes along with fluctuating lake levels and associated fluvial activity during this time have shaped the landscape.

Select geological mapping and publications were reviewed for the purposes of reviewing regional characteristics for soil conditions in the Komoka area. Findings are summarized below, for reference.

Source Mapping	Summarized Findings
Quaternary Geology mapping for the London area (Ontario Division of Mines, Quaternary Geology Lucan Area, Scale 1:50,000, Preliminary Map P1048, 1975).	The Quaternary Geological survey mapping indicates that the site is located near the border of a glaciofluvial outwash deposits (characterized by sand, gravel, and deltaic deposits for lands within, south and west of the hamlet of Komoka), and Rannoch Till (characterized by silt and clayey silt deposits for lands to the north and east of the hamlet of Komoka).
Physiographic mapping for Southwestern Ontario (Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 228).	The Physiographic mapping identifies that the site is located within the central part of the Physiographic Region known as the Caradoc Sand Plains and London Annex. The mapping indicates that the subgrade soils in the area generally consist of coarse-textured glaciolacustrine deposits. These soils are expected to be predominantly comprised of sand and gravel, with minor silt and clay.

Source Mapping	Summarized Findings
<p>Aggregate Resources Inventory of the County of Middlesex and the City of London, Southern Ontario, Ontario Geological Survey, Aggregate Resources Inventory Paper 78, 2016</p>	<p>Coarse-grained sediments were deposited in the meltwater channels following the present-day valleys of the Thames River and its tributaries. The significant size and thickness of the delta deposits in the Komoka area makes them a significant source of aggregate in the region.</p> <p>Aggregate operations at the site were carried out under license by Johnston Bros. (Bothwell) Limited, and primarily involved dredging activities to extract glaciolucustrine deltaic sands and sand and gravel material, extending below the stabilized groundwater level.</p>
<p>Bedrock Geology of Ontario. Ontario Geological Survey, Miscellaneous Release Data 126, 1:250 000 scale, Revised 2006.</p>	<p>The map reveals that the bedrock in the general area consists of limestone, dolostone and shale from the Hamilton Group.</p> <p>The Hamilton Group (from the middle to lower Devonian period) is characterized by limestones, dolostones, and shale, which can be upwards of 15 m thick, as documented in portions of Middlesex County.</p>

The quality of granular material in the region has resulted in the Komoka area being a primary aggregate resource over the years. This is apparent from the number of open ponds which remain in the region, as a result of aggregate extraction below the stabilized groundwater level, and directly contributes to the conditions observed in the south end of the property.

Review of Water Supply Well Records

A review of local well records available through the Ministry of Environment, Conservation, and Parks (MECP) for this area was carried out to review the water levels recorded in the nearby wells. Drawing 2 (appended) shows the location of the wells (with corresponding Well Registration No.) which are in close proximity to the site.

The majority of the water supply wells in the area are set into shallow unconfined or intermediate overburden aquifers at depths ranging from 4.6 to 19.8 m. Static water levels in these water supply wells are generally reported at depths ranging from 2.5 to 6.1 m. There is no indication that artesian groundwater conditions are present in the area.

A summary of the water supply wells is provided in the following table.

MECP Well ID	Register Date	Depth (m)	Water Found (m)	Static Level (m)	Pump Rate (L/min)	Northing	Easting
Water Supply							
4100870	04/04/1967	5.2	3.0	3.0	19.0	4755123.00	464983.50
4100871	05/04/1967	31.1	31.1	3.0	38.0	4755063.00	464913.50
4100878	07/11/1967	4.6	3.0	3.0	19.0	4754983.00	464673.50
4100880	09/11/1967	4.6	2.4	2.4	15.2	4755183.00	464853.50
4105839	17/04/1972	4.9	3.7	3.7	22.8	4755093.00	464833.50
4107164	21/02/1975	19.5	16.5	4.6	38.0	4755043.00	464513.50
4107338	07/08/1975	16.8	15.2	4.6	30.4	4755023.00	464553.50
4107397	24/09/1975	19.8	16.8	6.1	30.4	4754963.00	464613.50
4107435	10/10/1975	9.4	4.6	4.6	38.0	4755183.00	464833.50
4107742	16/07/1976	9.1	3.7	3.0	30.4	4754933.00	464593.50
4107743	12/05/1976	39.6	4.3	2.4	38.0	4754863.00	464693.50
4107826	15/11/1976	19.5	18.0	4.3	30.4	4754993.00	464563.50
4108139	01/08/1977	10.1	3.7	NR	1900.0	4754303.00	464373.50
4109064	28/08/1979	6.4	3.7	3.7	15.2	4755123.00	464953.50
4109430	15/12/1980	9.1	3.0	2.4	68.4	4754823.00	464733.50
4109675	05/04/1982	11.0	5.5	6.1	38.0	4755023.00	464913.50
4109757	05/10/1982	16.5	15.8	6.7	38.0	4755163.00	464773.50
4110349	09/08/1985	7.9	3.7	3.4	45.6	4755023.00	464793.50
4110661	03/04/1986	9.1	3.0	3.0	76.0	4754903.00	464643.50
4110717	23/01/1986	9.1	6.4	3.0	190.0	4754288.00	464353.50
4110828	13/04/1987	7.0	3.0	3.0	475.0	4754233.00	464408.50
4110872	01/07/1984	15.5	7.3	4.0	26.6	4755018.00	464993.50
4111133	30/10/1987	5.2	4.6	4.6	30.4	4755063.00	464948.50
4111787	12/07/1989	8.5	2.4	2.4	95.0	4754682.00	464486.50
4111886	28/04/1989	8.8	4.3	2.4	95.0	4754900.00	464868.50
4111887	03/01/1989	8.8	3.0	2.7	76.0	4754980.00	464773.50
4114635	30/08/2000	7.9	2.4	2.7	45.6	4754418.00	465124.00
Observation Wells							
7041428	25/01/2007	4.6	2.8	NR	NR	4754840.00	464811.00
7196652	18/09/2012	4.9	3.7	NR	NR	4754730.00	464788.00
7196653	18/09/2012	6.1	3.8	NR	NR	4754767.00	464798.00
7196654	18/09/2012	6.1	3.5	NR	NR	4754756.00	464835.00
7277015	07/11/2016	3.8	NR	NR	NR	4755144.00	465003.00
7290102	24/05/2017	4.6	NR	NR	NR	4754819.00	464839.00
7290103	24/05/2017	4.6	NR	NR	NR	4754819.00	464785.00
7290104	24/05/2017	4.6	NR	NR	NR	4754631.00	464832.00
Abandoned							
4107741	15/07/1976	24.4	NR	NR	NR	4754943.00	464633.50
7117938	10/10/2008	NR	NR	NR	NR	4754593.00	464570.00
7246709	08/07/2015	7.3	NR	5.2	38.0	4755117.00	464789.00

Shallow Groundwater Conditions

The shallow water supply wells noted in the previous section are set into an unconfined aquifer. The shallow nature of this aquifer in the hamlet of Komoka is also apparent from the number of open ponds (resulting from former and active aggregate extraction operations) in the area.

In recent years, earthworks activities (berm construction) by the owner of 22393 Komoka Road on the subject lands have resulted in changes to the natural drainage between the ponds on the subject lands and neighbouring lands, and interruption/partial blockage to the outlet of the neighbouring pond, resulted in water levels increasing within the subject lands. This activity at the site and in proximity to the site demonstrates the reactive nature of the stabilized groundwater level.

2. Geotechnical Comments

The proposed development at the site is expected to include the construction of two multi-storey (2 to 5 storey) residential buildings, with local roadways and municipal servicing. Underground parking is not planned for the site. Surface car parking is expected to be predominantly located along the north side of the site, closest to the existing commercial lands. A local roadway within the site is expected to access Komoka Road, provide access to site parking, and may connect to the existing site pavements and private roadway on the lands to the north. A Conceptual Site Layout is provided on Drawing 3, and Preliminary Site Plan is provided on Drawing 4 for reference.

The following geotechnical comments are provided from a preliminary standpoint, regarding the various aspects of the proposed development.

Site Preparation

It is understood from the landowner that some fill placement has occurred in the north end of the site, to create the level plateau that exists through that part of the site. The fill placement has not been engineered or certified from a geotechnical perspective; therefore, future geotechnical fieldwork at the site will be required to assess the quality and consistency of the existing fill.

Fill material containing building debris and / or topsoil and organic inclusions is generally not expected to be suitable to support new building foundations, infrastructure or local roadways. Offsite disposal of these soils (if required) will require analytical testing, in accordance with MECF Guidelines and classification requirements for transport and disposal. The testing requirements for disposal will depend on the requirements outlined by the receiver.

Where exposed subgrade soils are approved by the geotechnical consultant, and in areas where grades need to be raised to reach design elevations, it is anticipated that grades will be restored using structural / engineered fill. In accordance with the Ontario Building Code (Section 4.2.4.15), foundations may be set on fill material provided that it can be demonstrated that the fill is capable of safely supporting the building and that detrimental movement of the building will not occur. In this regard, it is recommended that any fill material placed in future building footprints be engineered and verified through an inspection and testing program to verify that suitable materials are used, and to confirm that suitable levels of compaction are achieved.

Engineered fill material should be placed in maximum 300 mm (12 inch) thick lifts and uniformly compacted to 100 percent Standard Proctor Maximum Dry Density (SPMDD). For best compaction results, the fill material should have a moisture content within about 3 percent of optimum, as determined by Standard Proctor testing.

An existing drainage channel (downstream of the stormwater outlets for the lands to the north and northwest of the property) crosses the plateau area and drains stormwater run-off to the onsite pond. As part of the development, it is anticipated that the existing ditch will be rerouted, or diverted through a series of pipes, to

provide clearance for the proposed buildings. The open channel should be properly decommissioned, including removing sediment build-up and restoration to design grades with approved fill material. Geotechnical oversight, including inspection and testing will be required for this work.

Site Excavations and Groundwater Control

All work associated with design and construction relative to excavations must be carried out in accordance with the Occupational Health and Safety Act (OHSA). Based on the documented sand and gravel soils and fill material which is expected to be present in the area, and in accordance with Section 226 of Ontario Regulation 213/91, the soils are generally classified as Type 3 soil above the stabilized groundwater level. Excavations which extend through or terminate in Type 3 soil, temporary excavation side slopes must be cut back at a maximum inclination of 1H:1V from the base of the excavation.

In the event that construction occurs in seasonally wet conditions or when frozen soil conditions are present, care will be required to maintain safe excavation side slopes, and suitable excavation bases. The contractor should use a reasonable effort to direct surface run-off away from open excavations. It should be noted that, if wet seams or zones are encountered, some sloughing may be expected.

Where excavations extend below the stabilized groundwater level, soils are expected to behave as a Type 4 soil, with sloughing occurring and slopes requiring a maximum gradient of 3H:1V or flatter. Excavation support should be anticipated to provide safe and stable excavations for workers. Further, excavation support and cut-off systems may need to be considered to limit water from entering the excavations, and to limit the amount of groundwater pumping required for the construction.

It should be noted that for projects requiring positive groundwater control with a removal rate in excess of 50,000 litres per day, a submission to the Environmental Activity and Sector Registry (EASR) will be required, and a Permit to Take Water (PTTW) will be required for volumes in excess of 400,000 litres per day. The dewatering volumes are subject to seasonal variations in the water table, and will also vary depending on the construction staging. The water-bearing sand soils have a moderate to high soil permeability.

It is understood that the developer intends for the new buildings to be set at a suitable elevation for building foundations to remain above the stabilized groundwater level. The geotechnical and hydrogeological assessment for the property will determine the stabilized groundwater level, and anticipated seasonal fluctuation. However, anecdotally, it is understood that water levels in the ponds have not varied much more than 0.5 to 0.6 m over the past few years.

Building Foundations

As noted above, subgrade soils in the area of the future buildings will need to be assessed to determine their suitability to support new building foundations. This will be determined through the geotechnical investigation for the site. In the event that the existing fill thickness, composition or consistency is not deemed to be suitable to support new building foundations, and if it is not deemed practical to (partially) excavate, replace or recompact the soils to support new buildings, consideration may be given to supporting future buildings on a deep foundation system set on the underlying natural undisturbed subgrade soils.

The undisturbed natural subgrade soils which are in a compact to dense state in the Komoka area can typically support building foundations with a design net bearing pressure in the range of 200 to 325 kPa, without significant subgrade improvement required. The soil bearing capacity (including serviceability limit state – SLS, and ultimate limit state – ULS) will be verified as part of the geotechnical investigation to support the proposed development.

Engineered fill should consist of suitable, compactable, inorganic soils, which are free of topsoil, organics and miscellaneous debris. Any material proposed for use as engineered fill must be examined and approved by the geotechnical consultant, prior to use onsite.

In the event that construction occurs in seasonally wet conditions, care will be required to maintain safe excavation side slopes, and suitable excavation bases. Site grades should be maintained during area grading activities to promote drainage, to minimize ponding of surface water on the engineered fill mat and to direct surface run-off away from the excavation. Rutting by construction equipment should be kept to a minimum, where possible.

Seismic Design Considerations

Multi-storey building must be designed in accordance with the Ontario Building Code, and site characterization for seismic response will be required from a geotechnical standpoint. Based on the geological mapping and our experience with soil conditions in the general area, the natural, undisturbed subgrade soils, in a compact to dense state are generally expected to be considered to be Site Class C or Site Class D, based on Section 4.1.8.4 and Table 4.1.8.4.A of the Ontario Building Code.

Confirmation of the Seismic Site Classification can be provided when the field program for the Geotechnical Investigation is complete, so that it can be incorporated into the building design, as appropriate

Site Pavements

The development is expected to be accessed via an internal roadway connecting to Komoka Road. It is anticipated that site pavements (including curbs and sidewalls) can be constructed following typical construction practices.

Once the site preparation work is completed, the exposed subgrade soils within the roadways are expected to be comprised of re-compacted soils. The road subgrade should be thoroughly proof-rolled and reviewed by the geotechnical consultant. In the event that loose or soft areas are noted, additional work may be required to sub excavate and replace unstable soils with suitable compactable material. In general terms, subgrade soils supporting site pavements should be compacted to a minimum level of 98 percent SPMDD.

Good drainage provisions will optimize pavement performance. The finished pavement surface should be free of depressions and should be sloped (preferably at a minimum grade of two percent) to provide effective surface drainage.

Recommendations and Next Steps

The Municipality and Conservation Authority have identified the need for a Geotechnical Investigation and Hydrogeological Assessment to support the proposed development. Once planning approvals are secured, it is recommended that scoping of the geotechnical and hydrogeological field program be completed, in consultation with the relevant approval authorities to ensure that the potential issues and concerns related to the proposed development can be adequately assessed and to provide technical guidance to inform the detailed design elements of proposed development.

At a minimum, the Geotechnical Investigation to be completed at the site should include the following elements:

- A summary of soil and groundwater conditions observed in sampled test holes, including detailed borehole logs and stabilized groundwater measurements;
- The results of any laboratory testing used to characterize the soil conditions at the site;
- Geotechnical comments and recommendations for the following:
 - Site Preparation, including subgrade preparation, re-use of onsite soils (if appropriate) and engineered fill placement;
 - Excavations, including excavation support recommendations;
 - Groundwater Control, including typical dewatering operations, and any operations which may be expected to require permitting (EASR or PTTW) from MECP;

- Foundation design, including soil bearing capacity, allowable settlements, frost protection requirements;
- Basement and/or concrete slab on grade construction, including lateral earth pressures, r foundation wall backfill and underfloor fill, modulus of subgrade reaction;
- Foundation drainage and waterproofing/damproofing recommendations;
- Elevator pit/shaft recommendations, including water-proofing and buoyancy recommendations, if required;
- Site servicing installation, including recommendations for pipe bedding, trench backfill and suitability of excavated soils for re-use;
- Seismic design considerations;
- Site Pavements, including recommended pavement component thicknesses and the need for pavement subdrains (if applicable);
- Recommendations for sediment and erosion control measures at the site, to prevent uncontrolled sediment discharge/release into the open pond area; and,
- Recommendations for inspection and testing to provide geotechnical certification of the construction.

As part of the scoping procedure for the Hydrogeological Assessment, an understanding of the stormwater management strategy for the village of Komoka is required. A number of options are currently being considered for the area, however a commitment has not been provided as to when a preferred strategy will be selected or implemented. Based on anecdotal evidence from the landowner, and consistent with the characteristics of allow unconfined aquifers, shallow groundwater conditions can be highly reactive to changes in water levels within the ponds, which can be influenced by a number of factors. If the preferred SWM strategy for the village of Komoka involves increasing flows directed into the existing pond, the stabilized water level at the site may be altered to accommodate the increased flows. Similarly, if downstream outlets for the pond or other downstream features restrict the natural flows which occur, this can also impact the stabilized groundwater level at the site. Similarly, groundwater quality will be influenced by changes in the stormwater being directed to the pond. The scope of the work must be appropriate to characterize the groundwater conditions with regard to the details of the proposed development, to accurately identify constraints (if applicable) and to incorporate suitable recommendations for site specific SWM design and infiltration opportunities.

There is a significant benefit to having as much information as possible available about the preferred stormwater management strategy for the site when scoping the field program for the hydrogeological work at the site. LDS would be pleased to assist in preparing scoping documents for review and consideration by all parties, when planning approvals are secured.

Monitoring wells installed at the site to monitor stabilized groundwater levels must be installed in accordance with the requirements of Ontario Regulation 903. This regulation identifies that only certified and qualified well drilling technicians are permitted to direct the installation of wells, in accordance with the Ontario Water Resources Act. When wells are no longer deemed to be required, they should be decommissioned in accordance with the same regulation. Decommissioning a well which is no longer in use helps to ensure the safety of those in the vicinity of the well, prevents surface water infiltration into an aquifer via the well, prevents the vertical movement of water within a well, conserves aquifer yield and hydraulic head and can potentially remove a physical hazard.

Closing

The format and content of this letter has been guided to address specific client needs. LDS has provided this document to provide a geotechnical overview on the proposed development and to comments on the feasibility of developing the site.

Based on our review of the available published information, and our understanding of the soil and groundwater conditions which are typical for the area and anticipated at the site, it is our opinion that the north part of the site is suitable for future development. The existing pond in the south part of the site provides a beneficial amenity space, and also provides an opportunity to supplement the stormwater design elements of the site.


Respectfully,

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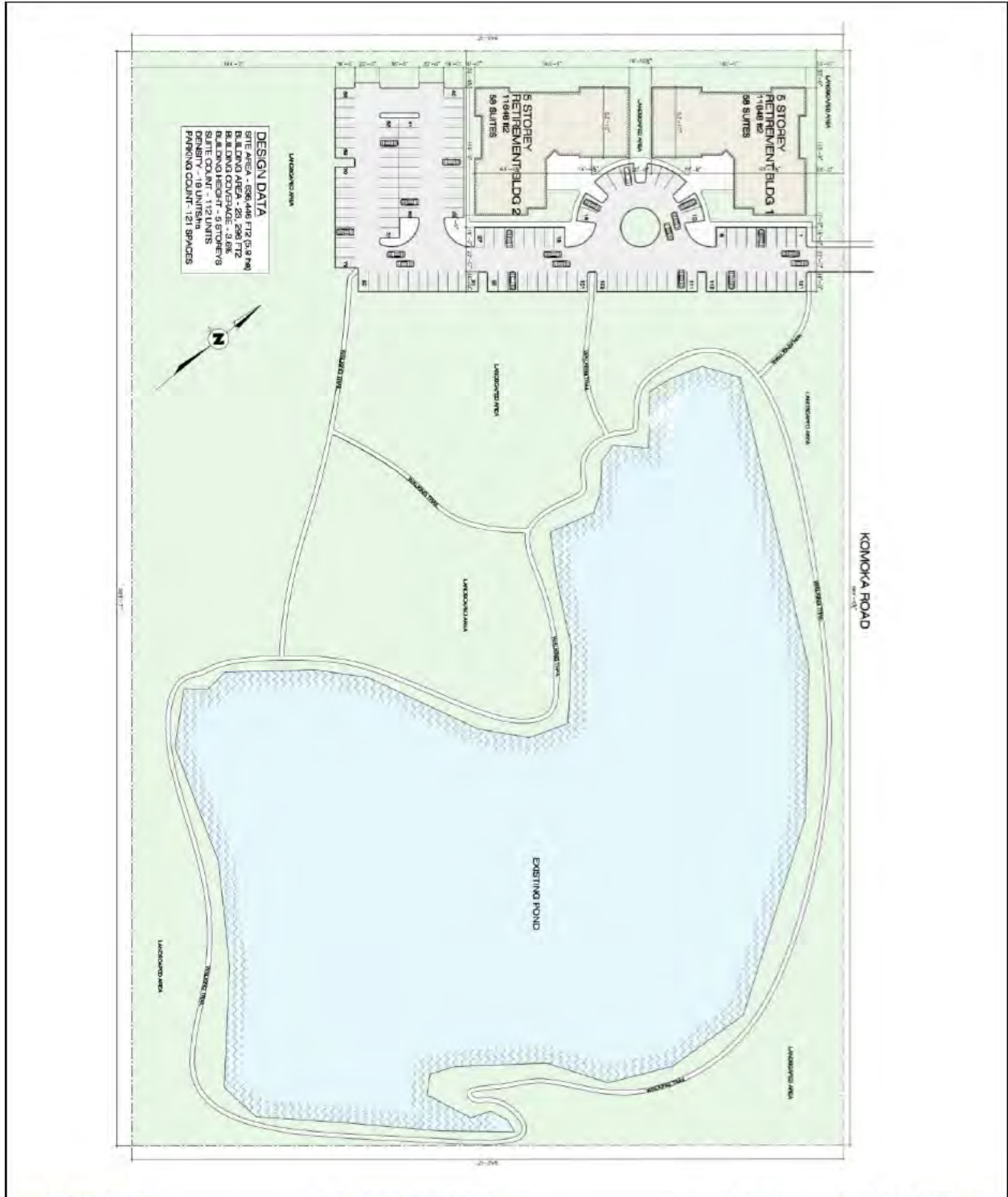



<p>PROJECT NAME Geotechnical Design Brief</p>	<p>PROJECT LOCATION 22447 Komoka Road, Komoka</p>	<p>SCALE As Shown</p>	<p>PROJECT NO. GE-00240</p>
	<p>DRAWING NAME Site Features</p>	<p>DATE May 2019</p>	<p>DRAWING NO. 1</p>




Legend
 ● MECP Well

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	<p>DRAWING NAME MECP Well Record Location Plan</p>	<p>DATE May 2019</p>	<p>DRAWING NO. 2</p>



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	<p>DRAWING NAME Conceptual Site Layout Plan (prepared by others)</p>	<p>DATE May 2019</p>	<p>DRAWING NO. 3</p>



<p>PROJECT NAME Geotechnical Design Brief</p>	<p>PROJECT LOCATION 22447 Komoka Road, Komoka</p>	<p>SCALE As Shown</p>	<p>PROJECT NO. GE-00240</p>
	<p>DRAWING NAME Preliminary Site Plan (prepared by Zedd Architecture)</p>	<p>DATE May 2019</p>	<p>DRAWING NO. 4</p>