UPPER THAMES RIVER

Meeting of the Upper Thames River Conservation Authority Hearing Committee – Agenda

Date: Tuesday May 28, 2024 Time: 1:30pm Location: 1424 Clarke Road, London, Watershed Conservation Centre Board Room

Memo to Hearing Committee Members: Sandy Levin, Paul Mitchell, Brian Petrie, Mark Schadenberg, Dean Trentowsky.

Please be advised that a meeting of the Hearings Committee will be as follows:

1. Approval of Agenda

- 2. Declaration of Conflicts of Interest
- 3. Minutes of the Previous Meeting April 25, 2024
- 4. Business Arising from the Minutes

5. Application #50-24

Proposed Development within an area regulated by the Upper Thames River Conservation Authority at 952 Southdale Road West, London

6. Adjournment

Approved by Tracy Annett, General Manager

NOTICE OF HEARING

IN THE MATTER OF

The Conservation Authorities Act, R.S.O. 1990, Chapter C. 27 as amended;

AND IN THE MATTER OF

An Application By: Westdell Development Corporation c/o Paul Kitson Landowner: Forest Edge Commons Inc. (Application #50-24)

For the permission of the Upper Thames River Conservation Authority pursuant to Regulations made under Section 28 of said Act.

TAKE NOTICE that a hearing before the Hearings Committee of the Upper Thames River Conservation Authority will be held under Section 28 of the <u>Conservation Authorities Act</u> at the offices of said Authority at the UTRCA Administration Office, 1424 Clarke Road, London, Ontario N5V 5B9 at the hour of 1:30 pm, Tuesday, May 28, 2024 with respect to the application by Forest Edge Commons Inc. c/o Paul Kitson, Westdell Development Corporation to permit interference with a flood hazard associated with a river or stream valley and within a wetland area of interference and within an area regulated by the Upper Thames River Conservation Authority under Section 28 of the <u>Conservation Authorities Act</u> and Ontario Regulation 41/24 at 952 Southdale Road West in the City of London, Ontario.

TAKE NOTICE THAT you are invited to make a delegation and submit supporting written material (electronically) to the Hearings Committee for the meeting of May 28, 2024. If you intend to appear and/or submit further written material, please contact Michael Funk ((519)-451-2800 ext. 305, e-mail: <u>funkm@thamesriver.on.ca</u>). Any further written material (submitted electronically) will be required as soon as possible, to enable the Committee members to review the material prior to the meeting.

AND FURTHER TAKE NOTICE that if you do not attend at this Hearing, the Hearings Committee may proceed in your absence, and you will not be entitled to any further notice in the proceedings.

PLEASE NOTIFY THIS OFFICE by 12:00 noon May 22, 2024 (local time) as to whether you and/or your agent(s) will be attending. A copy of Ontario Regulation 41/24 and Section 28 of the <u>Conservation Authorities Act</u> will be made available to you upon request.

DATED the 17th Day of May, 2024

Registered The Hearings Committee of The Upper Thames River Conservation Authority

<original signed by> Tracy Annett, General Manager/Secretary-Treasurer

Hearing Procedures

- Motion to sit as a Hearings Committee to consider the application by Landowner: Forest Edge Commons Inc. Applicant: Westdell Development Corporation c/o Paul Kitson 952 Southdale Road West, City of London, Ontario (Application #50-24)
- 2. Chair's opening remarks.
- 3. Staff will introduce Hearings Committee members (and the UTRCA Solicitor if present) to the applicant/owner, his/her agent and others wishing to speak.
- 4. Staff will indicate the nature and location of the subject application.
- 5. Staff will present their report on the application.
- 6. The applicant and/or his/her agent will speak and also make any comments on the staff report, if he desires.
- 7. Members of the Hearings Committee will question, if necessary, both the staff and the applicant/agent.
- 8. The Hearings Committee may make a motion to adjourn and go into camera and/or may make a motion to arrange to visit the subject site.
- 9. Upon completion of their deliberations, members of the Hearings Committee may make a motion regarding the application or may resolve to defer any decision on the application.
- 10. A motion will be carried which will culminate in the decision.
- 11. The Hearings Committee will move out of camera.
- 12. The Chair will advise the owner/applicant of the Hearings Committee decision, through Conservation Authority staff if the applicant/agent has left the Hearing location or in person if a decision is rendered with the Applicant/agent still on hand at the UTRCA office.
- 13. If decision is made to "to refuse", the Chair or Acting Chair shall notify the owner/applicant of his right to appeal the decision to the Minister of Natural Resources and Forestry within 30 days of receipt of the reasons for the decision.
- 14. Motion to move out of the Hearing.

UPPER THAMES RIVER



To: Chair and Members of the UTRCA Hearing Committee From: Michael Funk, Land Use Regulations Officer Date: May 28, 2024 File Number: HC-05-24-05 Agenda Number: 5 Subject: Section 28 Permit Application #50-24 for Proposed Development within a Riverine Flood Hazard and Wetland Area of Interference Regulated by the Upper Thames River Conservation Authority at 952 Southdale Road West, City of London, Ontario

Recommendation

THAT Application #50-24 for the proposed development within a riverine flood hazard and wetland area of interference regulated by the Upper Thames River Conservation Authority (UTRCA) at 952 Southdale Road West, City of London, Ontario be refused as it is contrary to UTRCA riverine flood hazard policies.

Application

A Section 28 permit application (#50-24) has been submitted for a proposed residential and commercial development at 952 Southdale Road West in the City of London, Ontario, which includes filling and grading works and the construction of a retaining wall within the flood hazard lands associated with a watercourse and wetland.

Site Information

The subject lands known municipally as 952 Southdale Road West in London, Ontario are regulated by the Upper Thames River Conservation Authority (in accordance with Section 28 of the *Conservation Authorities Act* and Ontario Regulation 41/24), due to the presence of a riverine flooding hazard associated with an unnamed watercourse (referred to as *UT-DC-62* on UTRCA's regulation limit mapping), as well as a wetland and the surrounding area of interference. The wetland feature is classified as a Provincially Significant Wetland (PSW) by the Ministry of Natural Resources and Forestry (MNRF); formally named the North Talbot Wetland (UT 57) and known locally as the Buttonbush Swamp.

The property is zoned Community Shopping Area (CSA1), Urban Reserve (UR), Residential (R8-4(80)) and Open Space (OS5). There are holding provisions which apply to the lands including an (h) the purpose of which is to ensure orderly development, and an (h-129) which applies to portions of the site to ensure that the results of the Hydraulic Floodway Analysis are accepted to the satisfaction of the UTRCA. The balance of the lands located outside of the limits of the wetland are used for agriculture, and more recently, for stockpiling excess fill material generated from the adjacent City of London roundabout construction project. Permit #96-23 was issued by the UTRCA on June 7, 2023 and allows the temporary stockpiling.at the western extent of the property with appropriate erosion and sediment control measures in place.

Attachment #1 – Location map for 952 Southdale Road West, London

Attachment #2 – City of London Zoning By-Law map for 952 Southdale Road West, London

Attachment #3 – UTRCA Regulation Limit Mapping for 952 Southdale Road West, London

Background

The subject property is regulated by the UTRCA due to the presence of flood hazard lands associated with a watercourse known as "UT-DC-62", as well as a PSW and the surrounding area of interference.

The UTRCA was initially involved in the planning process for the subject lands in 2007 when Application OZ-7445 was circulated (on November 2, 2007) for our input and review. The proposal pertained to a mixed-use development at 952 Southdale Road West. The UTRCA was not re-engaged again until January of 2020, when a new development proposal was submitted to the City of London for the site. At that time, City Planning Staff and the applicant were advised that the subject lands were regulated and were situated in the Dingman Screening Area which were subject to an ongoing Dingman Creek Environmental Assessment (EA). Flood modeling would be required if the applicant wished to proceed with a development application in advance of the outcome of the EA.

On November 10, 2021 a Notice of Planning Application (File No. OZ-9431) was circulated to the UTRCA for a proposed mixed-use development at 952 Southdale Road West. In correspondence dated February 11, 2022, October 5, 2022 and November 4, 2022, UTRCA staff advised the City planner and the applicant that a satisfactory Floodline Analysis was required as part of the complete application. In principle, the floodline was deemed acceptable and the required cut and fill analysis had potential. However, the Floodline Analysis could not be advanced until the development limit had been confirmed through the preparation of supporting technical studies (e.g. Environmental Impact Study (EIS), Hydrogeological Assessment).

City Planning Staff concluded that there was adequate supporting documentation to establish the zone lines/development limit for the subject lands and recommended approval of the planning application. The Conservation Authority was assured that our interests could be addressed at detailed design, the site plan process and/or as part of the UTRCA's Section 28 Permit process. The Planning Act application was to proceed to the Planning and Environment Committee (a subcommitte of London City Council) prior to the completion of the requisite Floodline Analysis, contrary to the UTRCA's advice. The UTRCA therefore requested that the zoning include a holding provision whereby a Floodline Analysis would be prepared to our satisfaction. The analysis would confirm that the proposed development was located outside of the riverine flooding hazard, would not impact upstream and downstream properties/landowners and would be safe.

Site Plan Application SPA23-046 for a proposed commercial development at 952 Southdale Road West was circulated to the UTRCA in May of 2023. In correspondence dated June 8, 2023, the UTRCA advised that the application was premature given that the requirements of holding provision h-129 (Purpose: To ensure that the results of the Hydraulic Floodway Analysis are accepted to the satisfaction of the Upper Thames River Conservation Authority) had not yet been addressed. Since that time, UTRCA staff have been working with the applicant to finalize the required technical studies to support the proposed development including the Environmental

Impact Study, the Hydrogeological Assessment, the Servicing Strategy and the Floodline Analysis.

In parallel to the UTRCA's review of SPA23-046, on May 4, 2023 the applicant applied to the UTRCA for permission to receive and stockpile fill material on the subject property generated from the City's roundabout construction project at the intersection of Southdale Road West and Colonel Talbot Road. Permit Application #96-23 was approved on June 7, 2023, with the clarification that the approval was limited to temporary stockpiling and should not be construed to imply approval for future works on the site, including future development and grading works.

Site Plan Consultation SPC24-007 was circulated to the UTRCA on January 24, 2024 for review of a residential development on the northerly portion of the subject property. On May 14, 2024, an updated Section 28 permit application was submitted to the UTRCA, for joint consideration of both the residential and commercial development proposed on the site. The technical studies which have been prepared pertain to the entire site, and therefore can and will be considered as a single permit application by the UTRCA.

Through the initial site plan application (SPA23-046) review process, the UTRCA requested justification for why the development could not be reconfigured and needs to encroach into the flood hazard. The applicant was also asked to demonstrate how all options had been considered to achieve a stage storage balance, without impacting the wetland. If a balanced stage storage was not achievable, the UTRCA required supporting evidence/justification that the development would not cause adverse impacts to the wetland and adjacent upstream and downstream lands

As part of the Floodline Analysis prepared by Stantec Consulting Ltd. (**Attachment #4**), various options were presented to address the flood hazard:

Option #1 - Shaving down the buffer for the wetland to provide storage Option #2 - Creating a basin north of the proposed commercial development for storage Option #3 - Do nothing

In all three cases, a stage storage balance is not achieved and Options #1 and #2 would adversely impact the wetland. All three options are contrary to UTRCA policies, and therefore could not be approved by UTRCA planning and Regulations Staff.

After working with the applicant to refine the Floodline Analysis, the UTRCA provided the following comments on April 2, 2024:

While UTRCA staff is generally satisfied with the provided technical information, the preferred alternative in regards to addressing the flooding hazard is not consistent with UTRCA policy. The applicant was directed to achieve a stage storage balance that would not impact the wetland.

The applicant has submitted an analysis for the preferred alternative (Option #3: Do Nothing) which in their opinion will not impact the wetland but is not balanced and will require filling resulting in a loss of flood storage. While our water resources engineering staff are satisfied with the analysis and justification for the preferred alternative, the matter cannot be approved at a staff level and must be reviewed and considered by the UTRCA's Hearing Committee. The submission of the technical studies is part of the applicant's due

diligence with respect to assembling the Section 28 permit application for the Committee's consideration.

The proposal being brought forward to the Hearing for consideration represents the "Do Nothing" Option presented in the Floodline Analysis. Portions of the development are located within the identified flood hazard lands. While no compensation will be provided for the loss of flood storage, no grading is proposed within the wetland buffer or the wetland itself, which could adversely impact the feature. Technical justification (ecology and hydrology) has been provided for this option and has been reviewed and accepted by UTRCA's technical staff from an engineering perspective.

Proposal

On May 14, 2024, UTRCA (M. Funk) received an application from Paul Kitson (Westdell Development Corporation) on behalf of Forest Edge Commons Inc. for a mixed-use development comprised of commercial and residential uses. It is understood that the applicant would continue to work with the City of London and the UTRCA to complete the required Planning Act and regulatory reviews in order to finalize the details of the development on the subject lands.

Discussion/Analysis

Copies of the UTRCA Permit Application Form and Drawing Package (**Attachment #5 and #6**), – as well as applicable UTRCA Natural Hazard policies are included with this report. The application has been evaluated for conformity with the wetland policies and riverine flood hazard policies contained within Section 4 of the UTRCA Environmental Planning Policy Manual (2006, revised 2017).

Applicable Policy

Please Note: the following policies are from the *UTRCA Environmental Planning Policy Manual,* approved by the Board of Directors, June 28, 2006. While they have been included within this report to assist with the review, we note that policies in the manual are interwoven and should always be read in their entirety. The UTRCA Environmental Planning Policy Manual (2006, Revised 2017) is available on our website at:

https://thamesriver.on.ca/wp-content/uploads/EnvPlanningPolicyManual-update2017.pdf

A hard-copy can be made available upon request. It is advised that all of the policies contained within the manual as well as other policies, not listed below, may also be applicable and should be referred to.

A) Regulation of Development

The proposed filling, grading and construction would be considered development (by definition).

Definitions

Development:

(a) the construction, reconstruction, erection or placing of a building or structure of any kind,
(b) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure,

(c) site grading, or

(d) the temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere.

(Conservation Authorities Act, R.S.O. 1990 c. C.27)

Through Section 28 of the *Conservation Authorities Act* and Ontario Regulation *41/24*, Conservation Authorities have a legislated responsibility to regulate development and activities in or adjacent to river or stream valleys, Great Lakes and inland lakes shorelines, watercourses, hazardous lands, and wetlands. Development taking place on these lands within the watershed requires permission from the Conservation Authority.

Subsection 28 (1) of the *Conservation Authorities Act* states that "no person shall carry on," "or permit another person to carry on" "development activities in areas that are within the authority's area of jurisdiction and are" "wetlands" or "river or stream valleys".

Subject to subsection 28.1 (1):

28.1 (1) An authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by section 28, if, in the opinion of the authority,

(a) the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock;

(b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

B) UTRCA Policies

Section 4 – Section 28 Review & Approval Process of the UTRCA Planning and Policy Manual, contains the following relevant policies:

4.2.2 Riverine Flooding Hazard Polices

- 1. Floodway New development is generally not permitted within the floodway of any watercourse.
- Flood Fringe Development and site alteration is permitted in identified flood fringe areas, subject to satisfying floodproofing requirements through the UTRCA's Section 28 Permit Process. Specific policies are provided below.
 - a. Residential For new development, no building openings are permitted below the Regulatory Flood Elevation. Construction drawings with floodproofing considerations must be prepared by a qualified professional. If a basement is proposed, dry, passive

floodproofing measures must be presented on detailed drawings prepared by a qualified professional. Sufficient surveys and inspections will be required to allow for the provision of as-built drawings upon completion of the project. Additions will be permitted (including bedrooms and associated increases in density) if access is safe or dry and floodproofing is achieved to the level of the Regulatory Flood Elevation. If floodproofing to the Regulatory Flood Elevation is not feasible, additions must be less than 25 per cent of the existing ground floor area and must not include bedrooms or require zoning by-law amendments to increase population density.

- b. Industrial/Commercial Access must be at a minimum of the floodway elevation and within 0.3 metres of the Regulatory Flood Elevation. Dry, passive floodproofing is preferred, with no building openings below the Regulatory Flood Elevation.
- 10. Cut and fill activities generally shall not be permitted in the floodplain of any watercourse.

The foregoing section (Floodway and Flood Fringe policy) are intended to refer to areas of the watershed identified as "Two-Zone". Two-Zones are specific to, among other things, urban areas that have both municipal water and wastewater servicing, and where the flood fringe (outer floodplain with generally slower moving shallower water that poses a lower risk to life and property during a flood event) and the floodway (main channel of the floodplain with generally higher velocity, deeper water that poses a higher risk to life and property during a flood event) have been identified through site specific modeling, depth, and velocity studies. The subject property at 952 Southdale Road West does not meet the criteria of an identified Two-Zone, and therefore the One-Zone Policy Approach would be followed whereby the regulatory floodplain is composed entirely of the floodway.

Furthermore, proposals to fill in the floodplain should also be considered under the following policy section:

4.2.5 Watercourse & Flood Plain Alteration Policies

- Major flood plain alterations (including placement of fill to create a building lot) and major watercourse alterations (including enclosures) are generally not permitted. Such alterations may be considered where justification is provided through a subwatershed study, an Environmental Assessment or similar comprehensive study and are subject to conformity with municipal planning documents.
- 2. Minor flood plain and watercourse alterations will be evaluated on an individual basis, having consideration for the following:
 - a. No negative impacts on the natural features or on the ecological functions, including fish and wildlife requirements as set out by other federal, provincial or municipal legislation/plans/technical guidelines and a net environmental benefit is achieved;
 - b. Maintenance of the natural topography of the watercourse system, flood conveyance and flood storage;
 - c. No adverse impacts on fluvial processes (meander belt);
 - d. No adverse impacts on groundwater recharge/discharge;
 - e. Geotechnical issues are addressed; and
 - f. Implementation of recommendations within UTRCA-endorsed watershed or subwatershed studies or Environmental Assessment.

Given the limited amount of floodplain encroachment and the existing development on adjacent properties, UTRCA staff would consider the proposal to be a minor floodplain alteration. In this

regard, the UTRCA would consider minor cut/fill activities within the flood hazard limits if a stage storage balance can be achieved and if the applicant provides technical support that the alteration would not adversely impact the floodplain, watercourse hydrology or adjacent properties.

Although not directly related to the Hearing Committee's deliberation, the following wetland policies were also considered by staff in review of this application and are provided for context:

4.2.4 Wetland Policies

- 1. New development and site alteration is not permitted in wetlands. Some restricted uses may be permitted provided that they are supported by an EIS or an Environmental Assessment.
- 2. Development and site alteration within the area of interference of a wetland shall only be permitted by the Authority if the applicant can demonstrate that such activity will have no impact on the control of flooding, erosion, pollution or the conservation of land. This will involve a scoping process where the UTRCA and the proponent (with the help of a qualified professional as required) will assess a proposed undertaking, having regard for the sensitivity of the wetland features and functions, the extent of encroachment and impact of use. This initial assessment will assist with the formulation of the terms of reference for a scoped EIS or a comprehensive EIS.

The proposed commercial and residential development at 952 Southdale Road West as currently proposed:

- Aligns with UTRCA wetland policies, as the wetland setbacks were supported by appropriate technical justification (i.e. EIS) and accepted by the City of London and the UTRCA.
- Does not meet UTRCA flood hazard policies. Filling in the floodplain is proposed without compensation for loss of flood storage.

Although not in conformity with UTRCA flood hazard policies, staff are of the opinion that the proposal has merit for the following reasons:

- Appropriate technical information has been provided to identify the extent of flood hazard limit, to the satisfaction of the UTRCA.
- The applicant has provided confirmation that the proposed filling, although not balanced, will not negatively impact flooding on adjacent properties. UTRCA technical staff have reviewed and accepted the submitted information.
- The development limits align with the OS5 zone for the wetland and buffer, which were previously approved by the City of London in 2021 prior to the Floodline Analysis matter being fully addressed.
- Of the three options in the Floodline Analysis (Stantec), the "Do Nothing" approach affords the greatest protection to the wetland feature and its functions because it does not require grading within the wetland feature or its buffer to compensate for the loss of flood storage.

Should this application be approved by the Hearing Committee, the requirement for final reports and drawings prepared through the municipal site plan process and to the satisfaction of the UTRCA, would be a logical condition of the approval, and would include:

- Final EIS report and Environmental Management Plan;
- Final Stormwater Management/Servicing Report;
- Final Hydrogeological Assessment Report;
- Final Civil Engineering Drawings;
- Erosion and Sediment Control Plans; and,
- Final Retaining Wall Designs, signed by P.Eng. with appropriate floodproofing.

Conclusion

The UTRCA's approval is required for the issuance of permits under Section 28 of the Conservation Authorities Act. Applications which conform to Subsection 28.1 (1) of the Act and Board-approved policy contained within the UTRCA *Environmental Planning Policy Manual* (2006, Revised 2017) may be recommended for approval by Conservation Authority staff who have been granted responsibility to process such applications. When applications for development are submitted that do not conform to Board-approved policy, UTRCA staff cannot refuse the application without the benefit of a hearing. Approval of a non-conforming application is then subject to the review and consent of the UTRCA Hearing Committee. Only the Hearing Committee can refuse the application.

This report is provided to the UTRCA Hearing Committee to advise that the application satisfies the wetland policies and the general intent of the riverine flooding hazard policies (found within Section 4 of the UTRCA Environmental Planning Policy Manual (2006, Revised 2017)). The proposal is non-conforming because it does not meet all the flood hazard, floodplain alteration and general criteria considered for similar projects, namely a stage storage balance for filling in the floodplain. Although UTRCA staff are satisfied with the technical information provided in support of the proposal, it is contrary to policy and therefore staff must recommend refusal of Application #50-24. The applicant has advised they wish to proceed with a hearing before the UTRCA Hearing Committee to obtain consent for the proposed development within the riverine flood hazard.

Recommended by: Jenna Allain, Manager, Environmental Planning and Regulations

Prepared by: Michael Funk, Land Use Regulations Officer Christine Creighton, Planner II

c.c. Members of the UTRCA Hearing Committee Tracy Annett, UTRCA Grant Inglis, UTRCA Solicitor

Attachments:

- 1. 952 Southdale Road West, London Location Map
- 2. 952 Southdale Road West, London Zoning By-Law Map
- 3. 952 Southdale Road West, London UTRCA Regulation Limit Mapping (May 2024)

- 952 Southdale Road West, London Floodline Analysis (Stantec)
 952 Southdale Road West, London Section 28 Permit Application
 952 Southdale Road West, London Civil Drawings



Attachment #2





Attachment #4



Stantec Consulting Ltd. 400-1305 Riverbend Road London ON N6K 0J5

February 26, 2024

Project/File: 161413826

Michael Funk Upper Thames Conservation Authority 1424 Clarke Road London, Ontario, Canada N5V 5B9

Dear Michael,

Reference: File No. OZ-9431 - 952 Southdale Road Development Floodplain Cut-Fill Balance

This letter builds upon the previous work completed on this referenced subject contained within a letter dated October 26, 2023 (attached). Based on the correspondence provided by the UTRCA on February 11, 2022, the analysis that was completed on the potential 250-year flood elevation of the Buttonbush Wetland produced a flood elevation of 283.57 m, which was deemed acceptable. This floodline was analyzed with respect to impacts created from the required filling of the site for development. The purpose of this letter is to highlight the preferred alternative determined by that analysis.

PROPOSED CONDITIONS

As shown on the attached Proposed Floodplain Adjustment Drawing, the latest site plan requires filling to occur on the existing floodplain, resulting in the loss of 2,037 m³ of flood storage. This filling is to occur on what was actively farmed land and is not occurring anywhere within the existing wetland or the proposed buffers. This filling area is shown on the attached figure.

The site development boundaries are driven by site access. Minimum setbacks from the roundabout required by the City set the two access points to the site. The attached site plan shows the access points and how they define the limits of the site.

MITIGATION MEASURES

Two cut-fill options were explored to mitigate the proposed filling of the floodplain. Both options required regrading within the proposed buffer and one option infringed on the wetland boundary itself, removing it from consideration. The options drew close to balancing the floodplain volume requirement, but neither were able to match at the exact stage-storage of the proposed filling.

It was determined through discussions with MTE's biologist that the additional and preferred approach would be to make no flood mitigation efforts at all, known as the 'Do Nothing' approach. This was considered the only way to not infringe upon the buffer and would eliminate the potential construction activity impacts upon the wetland entirely. The basis of this stance is that the proposed filling will have negligible impact on the wetland itself, the hydraulic and hydrologic reasoning for this is below. The biological reasoning can be found in the February 2024 letter from MTE.

Reference: File No. OZ-9431 - 952 Southdale Road Development Cut-Fill Balance

REASONING

The impacts of the proposed filling of the floodplain on the wetland are negligible for the following reasons:

- The floodline elevation is set by modelling a continuous flow of 12 m³/s (provided by the UTRCA) overtopping Southdale Road east of the site. This overtopping is not sensitive to the storage volume located upstream as the cross-section controls the flows. Therefore, no increase in flood depth would be expected.
- 2. The area analyzed, which is from wetland limit to floodplain limit on the subject property, has a storage value of 35,000 m³. When extrapolated to the wetland area as a whole, it is reasonable to estimate the total storage of the wetland is in excess of 100,000 m³. The proposed filling (2,037 m³) is a small percentage of the total storage of the system and would have insignificant impacts on the storage of the system.
- An earlier analysis (calculations attached) show that the 250-year event would only utilize 32,650 m³ of storage within the wetland, meaning actual water levels would not reach the toe of the proposed retaining wall. No impacts would be seen from the proposed filling.
- 4. The watershed of the Buttonbush wetland is over 95% developed, with only the subject property and the property immediately to the north not redeveloped. The proposed filling would not have any impact on any past or future developments based on the above points.
- 5. The wetland system outlets to a storm sewer downstream which is then controlled by the Talbot Village SWM facility. Based on this information, no increased flows or impacts are expected to the downstream system due to the proposed filling.

Reference: File No. OZ-9431 - 952 Southdale Road Development Cut-Fill Balance

CONCLUSIONS

Based on the reasoning presented above and the environmental reasoning presented in the MTE letter, we are confident that the proposed filling of the floodplain at the locations shown will have negligible to no impact on the Buttonbush wetland, the upstream or downstream conditions or the flood hazard limits.

Regards,

STANTEC CONSULTING LTD.



Digitally signed by Adam Kristoferson Date: 2024.02.26 10:37:03 -05'00'

Adam Kristoferson P.Eng. Senior Water Resources Engineer Phone: (519) 675-6669 adam.kristoferson@stantec.com

Attachment: Proposed Site Plan, Floodplain Filling Figure, Modified Rational Method Calculations Cut-Fill Options Letter from Stantec, October 2023



	Proposed
	CSAI(6)
	39,849.89m² (3.98 ha) Overall 36,721.31m² (3.67 ha) *
	137.45m (Southdale Rd. W.)
	251.06m
	1.50m
8.0m (R6-4)	89.56m
3.0m from any zone boundary & Om within the same CSA zone (OS5)	92.45m
	8.0m (R6-4) 3.0m from any zone boundary & 0m within the same CSA zone (OS5)

By-Law Regulation	Required/Permitted		Proposed	By-Law R
Rear Yard Depth Min.:	Abutting a Residential Zone	2.0m (Future R8-4 Zoning)	2.0m (@Future Zoning Boundary)	Total Gro all Superr
	Abutting a Non- Residential Zone	3.0m from any zone boundary & Om within the same	N/A	Parking A
		CSA zone		Off-Street
Exterior Side Yard Depth Min.:	I.Om		1.11m	
Lot Coverage Max.:	30%		12.26% (4,503.83m²) *	
Landscape Open Space Min.:	10%		64.87% (23,822.76m²) * <u>/9</u> /8/7	Barrier-Fr
Height Max.:	13.0m or 3 Storeys		8.0m	Bicycle Pa
Gross Floor Area Max.:	5,000m²		4,503.83m ²	
Total Gross Floor Area for Office Uses Max.:	660m²		0.0	



REPORT TO THE OWNERS ANY DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.

ALL WORKMANSHIP AND MATERIALS MUST CONFORM WITH O.B.C. AND C.M.H.C. STANDARDS AND BE APPROVED BY OWNER.

THIS DRAWING IS THE PROPERTY OF THE CONSULTANT AND SHALL NOT BE COPIED OR REPRODUCED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF THE CONSULTANT.

No.	DATE	REVISION
1	JAN.	REVISE SITE PER TRUCK
	21/23	MOVEMENT ANALYSIS
2	JAN.	MOVE GROC. PARKING
	24/23	WEST 100 - 512 SETBACK
3	JAN.	3m GROC. SETBACK/GROC.
	27/23	REDUCE GROC., ADD PRKG.
4	FEB	PER MTE REV. CURBS
	19/23	ROUNDABOUT, PER MTE,
5	FEB	ADD PROP. GRADES PER
	21/23	MTE
6	MAR.	REVISE CRU 1, 2 DEMISING
	19/23	WALLS PER W.D.
7	JULY	REVISE PER CITY REVIEW,
	6/23	COMMENTS
8	OCT.	REVISE PER MTE WEST
	30/23	ENTRY, GRADES, DATA
9	NOV.	REVISE/ENLARGE CRU 1
	12/23	PER WESTDELL
10	DEC.	REVISE PER CITY REVIEW,
	6/23	COMMENTS
11	DEC.	REVISE PER RKLA
	12/23	L CHANGES



R.Tomè & Associate Inc. 51 Wimbledon Court London ON N6C 5C9 t. 519.672.6622 r_tome@bellnet.ca





/1739626 ONTARIO INC. 1701 RICHMOND ST., SUITE 3B LONDON, ON

Project Name 952 Southdale Road West, Proposed Commercial Development

952 Southdale Road West, London, Ontario

Drawing Title Site Plan Proposal, Site

Data

DATE: SCALE: DRAWN: REVIEWED: FILE No:

JAN. 1, 2023 AS NOTED C.T. B.K. 2023-####A1.0DWG PROJECT No: 2023-####





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Liability Note: The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

Notes

Legend

SITE BOUNDARY

AREA REMOVED FROM FLOODPLAIN REMOVED AREA = 3363sq.m FLOOD PLAIN VOL. LOST= 2036cu.m

REVISED PER MNR COMMENTS		IRA	 	23.06.16
Revision		Ву	Appd.	YY.MM.DD
ISSUED FOR MNR REVIEW		 IRA	DV	23.06.16
ISSUED FOR MNR REVIEW		IRA	DV	23.02.10
Issued		Ву	Appd.	YY.MM.DD
File Name:			JAC	23.02.10
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project 1739626 ONTARIO LIMITED

952 SOUTHDALE ROAD WEST

London, ON Canada

Title

PROPOSED FLOODPLAIN ADJUSTMENT PLAN VIEW

Proiect No.	Scale	HORZ – 1	: 500
1/1/1200/		5 0	10m
101413020			
Drawing No.	Sheet		Revision
			\circ
FIG. I	1	of 3	U

Subject:Modified Rational Method - Whole WetlandProject:952 SouthdaleProject No.:1614-13826Client:WestdellDate:Sept 23 2020

Drainage Area

0				
Total Drainage Area:	77.40	ha		
% Impervious:	63%			
	Area (ha)	Runoff Coefficient	СА	
Imp. Land	48.76	0.90	43.8858	
Pervious Land	28.64	0.2	5.7276	
Composite Runoff Coefficient:			0.64	(25% incrosed
	E	vent Adjusted C:	0.80	as per MTO quidelines for

severe storm events 0.95 max)

Rainfall Intensity

Ι	=	A/	(T	+	B)	С
---	---	----	----	---	----	---

- I = Intensity of rainfall in mm/hour
- T = Time of concentration in hours
- A = 3048.22
- B = 10.03
- C = 0.888
- 0.000

Time Step

10 minutes

Storage Calculation 250-year

Target Rel	ease Rate:	3.00	m³/s	max Storage=	32645	_
Time (min.)	Rainfall Intensity (mm/hr)	Peak Runoff Rate (cms)	Incremental Runoff Volume (cu. m)	Incremental Outflow Volume (cu. m)	Storage Volume (cu. m)	
10	212.9	36.674	22004	1800	20204	
20	148.6	25.597	30716	3600	27116	
30	115.1	19.831	35695	5400	30295	
40	94.4	16.268	39043	7200	31843	
50	80.3	13.838	41513	9000	32513	
60	70.1	12.068	43445	10800	32645	<= Max Storage
70	62.2	10.719	45021	12600	32421	
80	56.0	9.655	46344	14400	31944	
90	51.0	8.793	47482	16200	31282	
100	46.9	8.080	48478	18000	30478	
110	43.4	7.479	49361	19800	29561	
120	40.4	6.966	50155	21600	28555	



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

October 26, 2023 File: 161413826

Attention: Christine Creighton Upper Thames Conservation Authority 1424 Clarke Road London, Ontario, Canada N5V 5B9

Dear Christine,

Reference: File No. OZ-9431 - 952 Southdale Road Development and the 250-year Floodline for the Buttonbush Wetland Updated

This letter builds upon the previous work completed on this referenced subject contained within a letter dated September 28, 2020. Based on the correspondence provided by the UTRCA on February 11, 2022, the analysis that was completed on the potential 250-year flood elevation of the Buttonbush Wetland produced a flood elevation of 283.57 m was deemed acceptable. This floodline has now been analyzed with respect to impacts created from the required filling of the site for development. The purpose of this letter is to outline the flood storage mitigation measures being proposed for those required earthworks based on the attached site plan.

PROPOSED CONDITIONS

As shown on the attached Proposed Floodplain Adjustment Drawing, the latest site plan requires filling to occur on the existing floodplain, resulting in the loss of 2,037 m³ of flood storage. This filling is to occur on what was actively farmed land and is not occurring anywhere within the existing wetland or the proposed buffers.

MITIGATION OPTIONS

Due to the findings above, further analysis was completed to look at how to address this loss of storage. Three options were looked at to address the loss of flood storage. This analysis is shown in the attached drawings and calculations and shows that equivalent flood storage can be provided by some regrading on site. The options are detailed below.

Option 1 – Shaving down the Buffer

By starting from the wetland boundary and grading at 1% up to the retaining wall, 2,011 m³ of additional storage is provided based on grading works. This grading work would occur on the portions of site that were actively farmed and would have little impact on the wetland itself.

Design with community in mind

October 26, 2023 Christine Creighton Page 2 of 4

Reference: File No. OZ-9431 - 952 Southdale Road Development and the 250-year Floodline for the Buttonbush Wetland Updated

Option 2 – Creating a basin behind the Grocery store

By grading flat up from inside the wetland boundary into the proposed residential area behind the grocery store, 1,911 m³ of additional storage is provided based on grading works. This grading work would primarily occur on the portions of site that were actively farmed but there is a portion where regrading would occur within the wetland limits.

Option 3 – Do Nothing

This option was raised after discussion of the above two options with the other consultants on the file as the potential best way forward (See attached email from Dave Hayman, MTE Consultants). The proposed filling of the flood plain is minor in comparison to the total storage volume of the wetland (estimated to exceed 100,000 m³). No impact in terms of increased flood elevation is expected due to the filling. It is our opinion that this is the preferable option over the two proposed above.

IMPACTS

The proposed mitigation strategies were analyzed to observe the changes they imposed on the stagestorage of the wetland itself. These changes were taken from the wetland boundary elevation of 281.3 m to the flood elevation of 283.57 m and are shown in Table 1 on the next page.

Option 1 has a greater skew to the stage storage, with more volume being added at the lower elevations and less returned at the higher elevations. It does however, come closer in balancing the cut-fill, being 26 m³ shy of equalizing. The benefit of this option is that no grading is proposed within the wetland itself.

Option 2 has a stage storage that is closer to the original floodplain, with a smaller zone of influence. However, grading would be required within the wetland boundary itself for this option. The cut-fill balance is 126 m³ short of equalizing. The benefit of this option is that the stage-storage is a better representation of the existing pattern.

Option 3 would see the 2,037 m³ of filling not be compensated and require no work near the wetland itself. There is no projected increase to flood hazard limits by the proposed filling given the small change the filling represents in the overall storage profile of the wetland. The Buttonbush wetland has a storage capacity estimated to exceed 100,000 m³ given that the small portion analyzed in this exercise had a storage total in excess of 35,000 m³. The small incremental filling at each stage would not have a noticeable impact on flood hazard limits, with the overtopping of Southdale Road being the control, a negligible increase in flood depth would be observed, if any at all.

As has previously been discussed, the area around the Buttonbush wetland has been almost fully developed, with only the subject property and the property immediately to the north remaining to be developed. As such, it can be safely assumed that no future works are being impacted by the filling proposed. Ultimately, no impact from the proposed filling would be observed.

Design with community in mind

October 26, 2023 Christine Creighton Page 3 of 4

ELEVATION (m)	Existing Stage Storage	Option 1 Stage Storage	Option 1 Difference*	Option 2 Stage Storage	Option 2 Difference*	Option 3 Stage Storage	Option 3 Difference*
281.3	66	69	-3	67	-1	66	0
281.4	223	236	-13	226	-2	223	0
281.5	478	514	-36	480	-2	478	0
281.6	657	731	-75	658	-1	657	0
281.7	804	922	-118	805	-1	804	0
281.8	913	1061	-148	914	0	913	0
281.9	1078	1245	-167	1079	0	1078	0
282.0	1203	1392	-189	1201	1	1203	0
282.1	1299	1488	-189	1295	3	1298	0
282.2	1387	1573	-187	1378	8	1383	4
282.3	1481	1658	-177	1481	0	1470	11
282.4	1580	1718	-138	1730	-150	1557	22
282.5	1676	1768	-92	1780	-103	1637	39
282.6	1766	1814	-48	1850	-84	1708	58
282.7	1849	1854	-5	1912	-63	1770	79
282.8	1927	1889	38	1967	-40	1825	101
282.9	1999	1919	80	2016	-18	1873	125
283.0	2066	1944	122	2058	8	1913	153
283.1	2126	1966	159	2091	35	1944	181
283.2	2180	1985	194	2117	62	1969	211
283.3	2230	2002	228	2141	89	1989	241
283.4	2280	2017	263	2162	118	2007	273
283.50	2328	2030	298	2181	147	2023	305
283.571	1657	1427	230	1536	121	1424	233

Table 1 - Stage Storage Values (m³)

* A negative number represents a cut in existing ground, providing more volume than originally found at that elevation. A positive number represents a filling of the floodplain, representing a loss of storage.

Reference: File No. OZ-9431 - 952 Southdale Road Development and the 250-year Floodline for the Buttonbush Wetland Updated

October 26, 2023 Christine Creighton Page 4 of 4

Reference: File No. OZ-9431 - 952 Southdale Road Development and the 250-year Floodline for the Buttonbush Wetland Updated

CONCLUSIONS AND RECOMMENDATIONS

The proposed site plan would require the filling of the floodplain in the order of 2,037 m³ of storage lost. This represents a minimal loss of flood storage, and no significant increase to flood hazard. Again, the Buttonbush wetland has a storage capacity estimated to exceed 100,000 m³. This storage can be replaced by some regrading works (as outlined in Options 1 and 2) within the buffer leading up to the retaining wall, providing an additional storage.

It is Stantec's opinion that the proposed strategy Option 3 will have the least impact on the wetland itself. However, utilizing Options 1 and 2 would see the above-mentioned storage loss mitigated with the balancing of the filled flood area. There would be short-term disturbance with the associated regrading works. Long-term though, these works are not anticipated to have any substantial impact on the ecological function of the Buttonbush wetland.

Should there be any questions, or requests for additional information related to this letter, please feel free to contact the undersigned.

Regards,

Stantec Consulting Ltd.

Adam Kristoferson P. Eng. Water Resources Engineer Phone: 519 675 6669 Fax: 519 645 6575 Adam.Kristoferson@stantec.com

Attachment: Site Plan Proposed Floodplain Adjustment Drawings and Cross-sections Email from Dave Hayman, MTE Consultants Raw Stage-Storage Data

c. Darryl Hern, Stantec Maneesh Poddar, Westdell Corp. Dave Hayman, MTE Consultants Rebecca Walker, LDS Consultants

akk w:\161413826\design\correspondence\41 design correspondence\let_161413826_20231026_buttonbush_cutfill.docx









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Liability Note: The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

Notes

Legend



SITE BOUNDARY

PROPOSED FLOODPLAIN TO BE REGRADED AREA = 4737sq.m ADDITIONAL FLOOD PLAIN VOL. = 2011cu.m

AREA REMOVED FROM FLOODPLAIN REMOVED AREA = 3363sq.m FLOOD PLAIN VOL. LOST= 2036cu.m

REVISED PER MNR COMMENTS		 	 	23.06.16
Revision		Ву	Appd.	YY.MM.DD
ISSUED FOR MNR REVIEW		IRA	DV	23.06.16
ISSUED FOR MNR REVIEW		IRA	DV	23.02.10
Issued		Ву	Appd.	YY.MM.DD
File Name:	JAC	AKK	JAC	23.02.10
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project 1739626 ONTARIO LIMITED

952 SOUTHDALE ROAD WEST

London, ON Canada

London, on Canada					
Title					
PROPOSED FI	LOODPL	AIN ADJUST <i>I</i>	MENT		
PLAN VIEW					
OPTION 1 - PI	ropose	d floodpla	AIN GRADING		
Project No.	Scale	HORZ – 1	: 500 10m		
161413826					
Drawing No.	Sheet		Revision		
FIG. 1	1	of 3	1		



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 250 YEAR WATER ELEVATION=2	283.57 ▽				
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 		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	– MNR WETLANI	BOUNDARY
 PROPOSED GRADING (1% SLOPE) 					
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ability Note: The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

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REVISED PER MNR COMMENTS	,	RA	DV	23.06.16
Revision		Ву	Appd.	YY.MM.DD
		IRA		23.06.16
ISSUED FOR MNR REVIEW		IRA	DV	23.02.10
Issued		Ву	Appd.	YY.MM.DD
File Name:	JAC	AKK	JAC	23.02.10
	Dwn.	Chkd.	Dsgn.	YY.MM.DD
Permit-Seal				

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lient/Project 1739626 ONTARIO LIMITED

952 SOUTHDALE ROAD WEST

London, ON Canada

le PROPOSED FLOODPLAIN ADJUSTMENT CROSS SECTIONS OPTION 1 - PROPOSED FLOODPLAIN GRADING Scale HORZ - 1 : 500 5 0 10m roject No. 10m 161413826 rawing No. Sheet Revision FIG. 2 2 of 3

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Notes				
Legend				
	PROPOSED 2	50 YEAR	BOUNDAR	Y
	ORIGINAL 250) YEAR B	OUNDARY	
	SITE BOUNDA (ALL FLOOD CALCULATIONS SITE BOUNDA	ry Plain Sto 5 limited Ry)	DRAGE TO	
	AREA REMOVI AREA = 336. Flood plain	ED FROM 3sq.m VOL. LOS	FLOODPL/ ST = 203	AIN REMOV
	PROPOSED B AREA = 368 ADDITIONAL F	ASIN GRA 1sq.m LOOD PL/	DING Ain Vol. :	= 1911cu.
Revision		Ву	Appd.	YY.MM.DE
ISSUED FOR MNR REVIEW		IRA	DV	
Issued				23.06.16
		Ву	Appd.	23.06.16 YY.MM.DE
File Name:		Ву 	Appd.	23.06.16 YY.MM.DD 23.02.10

Permit-Seal

Client/Project 1739626 ONTARIO LIMITED

952 SOUTHDALE ROAD WEST

London, ON C	anada		
Title			
PROPOSED F	LOODPI	AIN ADJUST	MENT
PLAN VIEW			
OPTION 2 - F	PROPOSE	D STORAGE	BASIN
Project No.	Scale	HORZ – 1	: 500
161413826			
Drawing No.	Sheet		Revision
FIG. 3		3 of 3	0

Kristoferson, Adam

From:	Dave Hayman <dhayman@mte85.com></dhayman@mte85.com>
Sent:	Wednesday, June 21, 2023 10:16 AM
То:	Kristoferson, Adam
Cc:	imeddoui@westdellcorp.com; dtraher@westdellcorp.com; rebecca.walker@LDSConsultants.ca
Subject:	OZ- 9431 952 Southdale Road

Adam:

We have reviewed the cut and fill balance options that your team has generated to respond the UTRCA flood elevation discussions as part of the above noted permit application (Stantec Letter, June 14, 2023). Only Option 1 is doable under the current planning policies which restrict development in a PSW. If the wetland were considered locally significant, both could be considered. However, with grading right up next to the wetland edge in Option 1, the possibility of impacts to the wetland increase exponentially and we would feel more comfortable with a bit more space from the cut edge. This grading would also need to be staged in increments between the wetland and development to limit potential impacts.

As discussed today, your modelling has indicated that the current loss of storage will actually have no impact on the flood elevations and therefore not pose an increased hazard to the development or surrounding lands. As such, it would be our preference to simply acknowledge this minor loss of flood storage and to not balance that small amount of flood storage loss. This option poses no risk to hazard conditions and does not introduce undue risk to the wetland from storage balance construction activities.

Dave Hayman, M.Sc. | Senior Biologist MTE Consultants Inc. T: 519-204-6510 x2241 | DHayman@mte85.com 123 St George St., London, Ontario N6A 3A1 www.mte85.com | Twitter | LinkedIn | Instagram | Facebook

MTE's structural engineering team is growing again following the acquisition of Milman & Associates. Visit our <u>website</u> to learn more.

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Caution: This email originated from outside of Stantec. Please take extra precaution.

Attention: Ce courriel provient de l'extérieur de Stantec. Veuillez prendre des précautions supplémentaires.

Atención: Este correo electrónico proviene de fuera de Stantec. Por favor, tome precauciones adicionales.

ORIGINAL FLOOD PLAIN VOLUME SECTIONS

JUNE 8,2023

ELEVATION	CU1 FACTO	FILL FACTOR	2-D AREA (m2)	FILL VOLUME (m3)	STORAGE VOLUME AT ELEVATION (m3)	STORAGE VOLUME FROM ELEVATION TO THE ELEVATION 0.1m BELOW
V-281.0	0.0000	1.0000	29888.09	0.00	0.00	0.00
V-281.1	0.0000	1.0000	29888.09	0.02	0.02	0.02
V-281.2	0.0000	1.0000	29888.09	9.57	9.57	9.55
V-281.3	0.0000	1.0000	29888.09	75.53	75.53	65.96
V-281.4	0.0000	1.0000	29888.09	298.79	298.79	223.26
V-281.5	0.0000	1.0000	29888.09	776.50	776.50	477.71
V-281.6	0.0000	1.0000	29888.09	1433.14	1433.14	656.64
V-281.7	0.0000	1.0000	29888.09	2236.98	2236.98	803.84
V-281.8	0.0000	1.0000	29888.09	3150.41	3150.41	913.43
V-281.9	0.0000	1.0000	29888.09	4228.55	4228.55	1078.14
V-282.0	0.0000	1.0000	29888.09	5431.17	5431.17	1202.62
V-282.1	0.0000	1.0000	29888.09	6729.79	6729.79	1298.62
V-282.2	0.0000	1.0000	29888.09	8116.36	8116.36	1386.57
V-282.3	0.0000	1.0000	29888.09	9597.34	9597.34	1480.98
V-282.4	0.0000	1.0000	29888.09	11177.10	11177.10	1579.76
V-282.5	0.0000	1.0000	29888.09	12853.45	12853.45	1676.35
V-282.6	0.0000	1.0000	29888.09	14619.45	14619.45	1766.00
V-282.7	0.0000	1.0000	29888.09	16468.68	16468.68	1849.23
V-282.8	0.0000	1.0000	29888.09	18395.22	18395.22	1926.54
V-282.9	0.0000	1.0000	29888.09	20393.88	20393.88	1998.66
V-283.0	0.0000	1.0000	29888.09	22459.82	22459.82	2065.94
V-283.1	0.0000	1.0000	29888.09	24585.36	24585.36	2125.54
V-283.2	0.0000	1.0000	29888.09	26764.97	26764.97	2179.61
V-283.3	0.0000	1.0000	29888.09	28994.98	28994.98	2230.01
V-283.4	0.0000	1.0000	29888.09	31274.98	31274.98	2280.00
V-283.50	0.0000	1.0000	29888.09	33602.95	33602.95	2327.97
V-283.571	0.0000) 1.0000	29888.09	35259.89	35259.89	1656.94

FLOOD PLAIN VOLUME SECTIONS AFTER SITE FILL & RETAINING WALL

JUNE 8,2023

ELEVATION					FILL VOLUME (m3)	STORAGE VOLUME AT	STORAGE VOLUME FROM
	C	UT I	FILL	2-D AREA		ELEVATION (m3)	ELEVATION TO THE ELEVATION
	FAC	TOR FA	ACTOR	<u>(</u> m2)	 		0.1m BELOW
V-281.0	0.00	00 1.0)000	21134.77	0.00	0	0
V-281.1	0.00	00 1.0)000	21134.77	0.02	0.02	0.02
V-281.2	0.00	00 1.0)000	21134.77	9.57	9.57	9.55
V-281.3	0.00	00 1.0)000	21134.77	75.53	75.53	65.96
V-281.4	0.00	00 1.0)000	21134.77	298.79	298.79	223.26
V-281.5	0.00	00 1.0)000	21134.77	776.50	776.5	477.71
V-281.6	0.00	00 1.0)000	21134.77	1433.14	1433.14	656.64
V-281.7	0.00	00 1.0)000	21134.77	2236.98	2236.98	803.84
V-281.8	0.00	00 1.0)000	21134.77	3150.41	3150.41	913.43
V-281.9	0.00	00 1.0)000	21134.77	4228.55	4228.55	1078.14
V-282.0	0.00	00 1.0)000	21134.77	5431.17	5431.17	1202.62
V-282.1	0.00	00 1.0)000	21134.77	6729.35	6729.35	1298.18
V-282.2	0.00	00 1.0)000	21134.77	8111.98	8111.98	1382.63
V-282.3	0.00	00 1.0)000	21134.77	9582.15	9582.15	1470.17
V-282.4	0.00	00 1.0	0000	21134.77	11139.61	11139.61	1557.46
V-282.5	0.00	00 1.0	0000	21134.77	12776.76	12776.76	1637.15
V-282.6	0.00	00 1.0	0000	21134.77	14484.96	14484.96	1708.2
V-282.7	0.00	00 1.0)000	21134.77	16255.09	16255.09	1770.13
V-282.8	0.00	00 1.0)000	21134.77	18080.15	18080.15	1825.06
V-282.9	0.00	00 1.0	0000	21134.77	19953.48	19953.48	1873.33
V-283.0	0.00	00 1.0	0000	21134.77	21866.73	21866.73	1913.25
V-283.1	0.00	00 1.0	0000	21134.77	23810.88	23810.88	1944.15
V-283.2	0.00	00 1.0	0000	21134.77	25779.54	25779.54	1968.66
V-283.3	0.00	00 1.0	0000	21134.77	27768.68	27768.68	1989.14
V-283.4	0.00	00 1.0)000	21134.77	29776.15	29776.15	2007.47
V-283.5	0.00	00 1.0	0000	21134.77	31799.26	31799.26	2023.11
V-283.571	0.00	000 1.0	0000	21134.77	33223.32	33223.32	1424.06

STORAGES AFFECTED BY FILL

FLOOD PLAIN VOLUME SECTIONS AFTER SITE FILL & RETAINING WALL & 1% CUT

- OPTION 1

JUNE 12,2023

ELEVATION						FILL VOLUME (m3)	STORAGE VOLUME AT	STORAGE VOLUME FROM
		CUT	FILL	2-D AREA			ELEVATION (m3)	ELEVATION TO THE ELEVATION
		FACTOR	FACTOR	(m2)				0.1m BELOW
V-281.0		0.0000	1.0000	21134.77		0.00	0] 0
V-281.1		0.0000	1.0000	21134.77		0.02	0.02	0.02
V-281.2		0.0000	1.0000	21134.77		9.59	9.59	9.57
V-281.3		0.0000	1.0000	21134.77		78.68	78.68	69.09
V-281.4		0.0000	1.0000	21134.77		314.70	314.7	236.02
V-281.5		0.0000	1.0000	21134.77		828.58	828.58	513.88
V-281.6		0.0000	1.0000	21134.77		1560.07	1560.07	731.49
V-281.7		0.0000	1.0000	21134.77		2482.00	2482	921.93
V-281.8		0.0000	1.0000	21134.77		3543.06	3543.06	1061.06
V-281.9		0.0000	1.0000	21134.77		4788.14	4788.14	1245.08
V-282.0		0.0000	1.0000	21134.77		6180.07	6180.07	1391.93
V-282.1		0.0000	1.0000	21134.77		7668.05	7668.05	1487.98
V-282.2		0.0000	1.0000	21134.77		9241.46	9241.46	1573.41
V-282.3		0.0000	1.0000	21134.77		10899.84	10899.84	1658.38
V-282.4		0.0000	1.0000	21134.77		12617.99	12617.99	1718.15
V-282.5		0.0000	1.0000	21134.77		14386.23	14386.23	1768.24
V-282.6.1	bounded	0.0000	1.0000	21134.77	0.00*	16200.67	16200.67	1814.44
V-282.7.1	bounded	0.0000	1.0000	21134.77	0.00*	18054.49	18054.49	1853.82
V-282.8.1	bounded	0.0000	1.0000	21134.77	0.00*	19943.12	19943.12	1888.63
V-282.9.1	bounded	0.0000	1.0000	21134.77	0.00*	21861.70	21861.7	1918.58
V-283.0.1	bounded	0.0000	1.0000	21134.77	0.00*	23806.03	23806.03	1944.33
V-283.1.1	bounded	0.0000	1.0000	21134.77	0.00*	25772.27	25772.27	1966.24
V-283.2.1	bounded	0.0000	1.0000	21134.77	0.00*	27757.51	27757.51	1985.24
V-283.3.1	bounded	0.0000	1.0000	21134.77	0.00*	29759.63	29759.63	2002.12
V-283.4.1	bounded	0.0000	1.0000	21134.77	0.00*	31776.86	31776.86	2017.23
V-283.50.1	bounded	0.0000	1.0000	21134.77	0.00*	33806.88	33806.88	2030.02
V-283.57.1	bounded	0.0000	1.0000	21134.77	0.00*	35234.28	35234.28	1427.4

FLOOD PLAIN VOLUME SECTIONS AFTER SITE FILL & RETAINING WALL & NEW BASIN

JUNE 8,2023

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ELEVATION				FILL VOLUME (m3)	STORAGE VOLUME AT	STORAGE VOLUME FROM
	CUT	FILL	2-D AREA		ELEVATION (m3)	ELEVATION TO THE ELEVATION
	FACTOR	FACTOR	(m2)			0.1m BELOW
NV-281.0	0.0000	1.0000	22013.32	0.00	0	0
NV-281.1	0.0000	1.0000	22013.32	0.02	0.02	0.02
NV-281.2	0.0000	1.0000	22013.32	9.83	9.83	9.81
NV-281.3	0.0000	1.0000	22013.32	76.77	76.77	66.94
NV-281.4	0.0000	1.0000	22013.32	302.34	302.34	225.57
NV-281.5	0.0000	1.0000	22013.32	782.35	782.35	480.01
NV-281.6	0.0000	1.0000	22013.32	1440.42	1440.42	658.07
NV-281.7	0.0000	1.0000	22013.32	2245.34	2245.34	804.92
NV-281.8	0.0000	1.0000	22013.32	3158.94	3158.94	913.6
NV-281.9	0.0000	1.0000	22013.32	4237.49	4237.49	1078.55
NV-282.0	0.0000	1.0000	22013.32	5438.70	5438.7	1201.21
NV-282.1	0.0000	1.0000	22013.32	6734.17	6734.17	1295.47
NV-282.2	0.0000	1.0000	22013.32	8112.38	8112.38	1378.21
NV-282.3	0.0000	1.0000	22861.03	9593.80	9593.8	1481.42
NV-282.4	0.0000	1.0000	22013.32	11323.31	11323.31	1729.51
NV-282.5	0.0000	1.0000	22013.32	13102.99	13102.99	1779.68
NV-282.6	0.0000	1.0000	22013.32	14953.21	14953.21	1850.22
NV-282.7	0.0000	1.0000	22013.32	16865.04	16865.04	1911.83
NV-282.8	0.0000	1.0000	22013.32	18832.07	18832.07	1967.03
NV-282.9	0.0000	1.0000	22013.32	20848.37	20848.37	2016.3
NV-283.0	0.0000	1.0000	22013.32	22906.14	22906.14	2057.77
NV-283.1	0.0000	1.0000	22013.32	24996.78	24996.78	2090.64
NV-283.2	0.0000	1.0000	22013.32	27114.23	27114.23	2117.45
NV-283.3	0.0000	1.0000	22013.32	29254.87	29254.87	2140.64
NV-283.4	0.0000	1.0000	22013.32	31416.84	31416.84	2161.97
NV-283.5	0.0000	1.0000	22013.32	33597.65	33597.65	2180.81
NV-283.571	0.0000	1.0000	22013.32	35134.04	35134.04	1536.39

- OPTION 2

STORAGES AFFECTED BY FILL

AND NEW BASIN

ELEVATION	Existing Stage	Do Nothing	Do Nothing	Option 1	Option 1	Option 2	Option 2
	Storage	Stage	Difference	Stage Storage	Difference	Stage Storage	Difference
		Storage					
V-281.0	0	0	0	0	0	0	0
V-281.1	0	0	0	0	0	0	0
V-281.2	10	10	0	10	0	10	0
V-281.3	66	66	0	69	-3	67	-1
V-281.4	223	223	0	236	-13	226	-2
V-281.5	478	478	0	514	-36	480	-2
V-281.6	657	657	0	731	-75	658	-1
V-281.7	804	804	0	922	-118	805	-1
V-281.8	913	913	0	1061	-148	914	0
V-281.9	1078	1078	0	1245	-167	1079	0
V-282.0	1203	1203	0	1392	-189	1201	1
V-282.1	1299	1298	0	1488	-189	1295	3
V-282.2	1387	1383	4	1573	-187	1378	8
V-282.3	1481	1470	11	1658	-177	1481	0
V-282.4	1580	1557	22	1718	-138	1730	-150
V-282.5	1676	1637	39	1768	-92	1780	-103
V-282.6	1766	1708	58	1814	-48	1850	-84
V-282.7	1849	1770	79	1854	-5	1912	-63
V-282.8	1927	1825	101	1889	38	1967	-40
V-282.9	1999	1873	125	1919	80	2016	-18
V-283.0	2066	1913	153	1944	122	2058	8
V-283.1	2126	1944	181	1966	159	2091	35
V-283.2	2180	1969	211	1985	194	2117	62
V-283.3	2230	1989	241	2002	228	2141	89
V-283.4	2280	2007	273	2017	263	2162	118
V-283.50	2328	2023	305	2030	298	2181	147
V-283.571	1657	1424	233	1427	230	1536	121
	35260	33223	2037	35234	26	35134	126
					2011		1911

CONSERVATION AUTHORITY

Upper Thames River Conservation Authority 1424 Clarke Road London, Ontario N5V 5B9 Tel. (519) 451-2800 Fax (519) 451-1188

Application For Development, Interference with Wetlands and Alterations to Shorelines and Watercourses

Conservation Authorities Act - Ontario Regulation 157/06, under O.reg. 97/04

Application #

Name of Landowner: Forest Edge Commons Inc.		Tel. Home: 519-619-1913
Address: 1701 Richmond St Unit 3B, London, ON	Postal Code: N5X 3Y2	Tel. Business: 519-850-0000 #203
Location of Project: 952 Southdale Rd W, London, ON N6P 0B3		London
Street and Number, or Lot(s) and Concession Number/ 911 Address		Municipality

DESCRIPTION OF PROJECT

General description of project: Three Residential Stacked Townhomes - 30 units

Commercial Plaza Development of Three New Commercial Retail Unit.

All applications must be accompanied by a detailed site plan, providing information on the following:

- 1. general location of property in relation to roads
- 2. location and dimensions of all existing structures on the property
- 3. location of any watercourse, wetland or steep slope on or near the subject property
- 4. intended location of all proposed work, including construction, filling/grading/excavation, wetland interference or watercourse alteration
- 5. location of septic system, if applicable and other property utilities, wells, etc.
- 6. cross-section of proposed work, showing existing and final grades and structure openings

Works including floodproofing of structures must be accompanied by detailed drawings, prepared by qualified professional engineers, with proper dates and stamps appearing on all plans. If filling is proposed, details on the type, area and volume of fill must be provided to the UTRCA, with existing and proposed grades clearly presented on plans.

UNLESS OTHERWISE REQUESTED, THE CONSERVATION AUTHORITY ONLY REQUIRES ONE COPY OF ALL PROJECT DRAWINGS. MULTI-PAGED ENGINEERING DRAWINGS MUST BE FOLDED OR REPRODUCED ON 11 x 17" SHEETS.

Dates of Commencement and Completion of Project: To be determined	to To be determined
If other approvals required for this project please indicate	
Federal - Fisheries Act X Other Site Plan	
Province - MNR Work Permit Permit to Take Water	
Municipal Duilding Dermit Taning Courses	
Name of Applicant if different than Landowner: Paul Kitson	
Mailing Address if different than above: 1701 Richmond St Unit 3B, London, ON N	5X 3Y2
Postal Code: N5X 3Y2 Phone Number: 519-850-0000 #203 Email A	ddress: pkitson@westdellcorp.com
Applicant's Signature-	
Application Date Manth, May Day, on Vear, 2024	
Application Date Month: May Day: 08 Ical: 2024	
Agent for Applicant (if different from above):	
Mailing Address: Same as above	
Postal Code: Same as above Phone Number: Same as above Email A	ddress: Same as above
20	

For UTRCA Completion Only Application fee:	Date received:	Received by:	
Regulatory floodline elevation:	Typical grou	und elevation:	
Other pertinent comments			
Project-specific requirements (refer to page 2 for	general conditions)		
Approved by:	Date app	proved:	
Site inspection: Date:	By:		

TERMS AND CONDITIONS

The Owner and Applicant, by acceptance of and in consideration of the issuance of this permit, agree to the following terms and conditions:

- 1. Permission granted by the Upper Thames River Conservation Authority cannot be transferred without prior written approval from the Upper Thames River Conservation Authority.
- Approvals may be required from other agencies prior to undertaking the work proposed. The Upper Thames River Conservation Authority does not
 exempt the Applicant from complying with any or all other approvals, laws, statutes, or regulations.
- The Upper Thames River Conservation Authority may at any time withdraw any permission given if, in the opinion of the Conservation Authority, the representations contained in the application for permission are not carried out or the conditions/requirements of the permit are not complied with.
- 4. Authorized representatives of the Upper Thames River Conservation Authority may at any time enter onto the lands that are described herein, in order to make any surveys, examinations, investigations or inspections that are required for the purpose of insuring that the work(s) authorized by this permit are being carried out according to the terms of this permit.
- 5. The Owner and Applicant agree:
- To indemnify and save harmless the Upper Thames River Conservation Authority and its officers, employees, or agents from and against all dam
 age, loss, costs, claims, demands, actions and proceedings, arising out of or resulting from any act or omission of the Owner and/or Applicant or
 any of his agents, employees or contractors relating to any of the particulars, terms or conditions of this permit;
- That this permit shall not release the Applicant from any legal liability or obligation and remains in force subject to all limitations, requirements
 and liabilities imposed by law;
- That all complaints arising from the execution of the works authorized under this permit shall be reported immediately by the Applicant to the Up
 per Thames River Conservation Authority. The Applicant shall indicate any action that has been taken, or is planned to be taken, with regard to
 each complaint.
- 6. The project shall be carried out in full accordance with the plans submitted in support of the application.
- 7. The Applicant agrees to install and maintain all sedimentation controls until all disturbed areas have been stabilized.
- 8. All disturbed areas shall be seeded, sodded, or stabilized in some other manner acceptable to the Conservation Authority as soon as possible, and prior to the expiry of this permit.
- 9. The Applicant agrees to maintain all existing drainage patterns, and not to obstruct external drainage from other adjacent private lands.

NOTE: The information on this form is being collected for the purpose of administering a regulation made pursuant to Section 28, Conservation Authorities Act, R.S.O. 1990, Chapter 27. This application and supporting documents and any other documentation received relating to this application, may be released, in whole or in part, to other persons in accordance with the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990c. M.56, as amended

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LE PATH: P:\P\52756\100\52756-100-C2.2-GRAD

April 9, 2024 – 8:28:05 AM – Plotted By: Jason C

TE FILE PATH: P:\P\52756\100\52756-100-C2.2-GRAD

9, 2024 - 8:28:09 AM - Plotted By: Jason Chil

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9, 2024 – 8:28:28 AM – Plotted By: Jason

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/EMENT MARKING PER SOUTH OF ENTRANCE TO BE SIGNED BY-OTHERS AS PART OF THE SOUTHDALE ROAD ST IMPROVEMENTS PHASE 2 SHEET SET	7.
	2. ISSUED FOR SITE PLAN APPROVAL JAC 2023-12-08 1. ISSUED FOR SITE PLAN APPROVAL DMS 2023-03-08 No. R E V I S I O N BY YYYY-MM-DD
RIOCK 133 0 2.5 5 7.5 10 12.5m Scale 1:250	<section-header></section-header>
	1739626 ONTARIO INC. C/O WESTDELL DEVELOPMENT CORP. 1701 RICHMOND ST. LONDON, ON PROJECT 952 SOUTHDALE ROAD W. COMMERCIAL DEVELOPMENT 952 SOUTHDALE ROAD W. LONDON, ON DRAWING EXTERNAL PAVEMENT MARKING PLAN
	Project Manager D. RICE Project No. 52756-100 Checked By
	Drawn By DMS Checked By Surveyed By AGM Drawing No. Date Jan.31/23 C2.6
	Scale 1:200 Sheet 6 of 8

CONSTRUCTION NOTES AND SPECIFICATIONS GENERAL THEMSELVES OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL THIS(THESE) PLAN(S) NOT FOR CONSTRUCTION ASSUME ALL LIABILITY FOR DAMAGE TO THEM. 1.1. UNTIL SIGNED AND SEALED BY ENGINEER AND 1.24. CONTRACTOR TO MAINTAIN A 'CONFINED TRENCH APPROVED BY THE CITY OF LONDON. CONDITION' IN ALL SEWER AND SERVICE THIS(THESE) PLAN(S) IS(ARE) TO BE USED FOR 1.2. TRENCHES. SERVICING AND GRADING ONLY; ANY OTHER INFORMATION SHOWN IS FOR ILLUSTRATION 1.25. FOLLOWING COMPLETION OF PROPOSED WORKS PURPOSES ONLY. THIS(THESE) PLAN(S) MUST AND PRIOR TO OCCUPANCY INSPECTION, ALL STORM AND SANITARY SEWERS ARE TO BE NOT BE USED TO SITE THE PROPOSED BUILDING. FLUSHED, AND ALL CATCHBASIN AND 1.3. NO CHANGES ARE TO BE MADE WITHOUT THE CATCHBASIN MANHOLE SUMPS ARE TO BE APPROVAL OF THE DESIGN ENGINEER. CLEANED OF DEBRIS AND SILT. THIS(THESE) PLAN(S) IS(ARE) NOT TO BE 2. STORM SEWERS REPRODUCED IN WHOLE OR IN PART WITHOUT PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B' THE PERMISSION OF MTE CONSULTANTS INC. 2.1. AS PER OPSD 802.030, 802.031, OR 802.032. 1.5. PRIOR TO CONSTRUCTION, THE CONTRACTOR PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010. BEDDING MATERIAL AND COVER 3.10. MUST: MATERIAL TO BE COARSE SAND COMPACTED TO 1.5.1. CHECK AND VERIFY ALL EXISTING CONDITIONS 95% STANDARD PROCTOR DENSITY. TRENCH LOCATIONS AND ELEVATIONS WHICH INCLUDES BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% BUT IS NOT LIMITED TO THE BENCHMARK ELEVATIONS. EXISTING SERVICE CONNECTIONS STANDARD PROCTOR DENSITY. AND FXISTING INVERTS. REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO STORM SEWERS, 150mm AND SMALLER, SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR28 PROCEEDING. ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT 1.5.2. OBTAIN ALL UTILITY LOCATES AND REQUIRED UTILIZING FLEXIBLE ELASTOMERIC SEALS. PERMITS AND LICENSES. STORM SEWERS 200mm TO 375mm SHALL BE 2.3. 1.5.3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 OR RIBBED PVC SEWER PIPE CSA AND BASEMENT FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH B182.4–M90 ASTM–F794 WITH INTEGRAL BELL THE FINAL ARCHITECTURAL DRÁWINGS. AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS. RIBBED PVC NOT TO BE USED WITHIN 4.1. 1.5.4. CONFIRM ALL DRAWINGS USED FOR RIGHT-OF-WAY CONSTRUCTION ARE OF THE MOST RECENT 2.4. STORM SEWERS, 450mm AND LARGER, SHALL BE REVISION. CONCRETE PIPE, CSA-A257.2 65-D WITH RUBBER THE CONTRACTOR SHALL ASSUME ALL LIABILITY GASKET JOINT OR RIBBED PVC SEWER PIPE CSA FOR ANY DAMAGE TO EXISTING WORKS. ANY B182.4-M90 ASTM-F794 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC UTILITIES, DAMAGED OR DISTURBED DURING SEALS. RIBBED PVC NOT TO BE USED WITHIN CONSTRUCTION, SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE RIGHT-OF-WAY. GOVERNING BODY AT THE CONTRACTOR'S 2.5. FACTORY FABRICATED WYES SHALL BE USED FOR EXPENSE ALL SERVICE CONNECTIONS. 1.7. ALL WORKS ON A MUNICIPAL RIGHT-OF-WAY WILL BE INSTALLED BY CITY OF LONDON UPON 2.6. MANHOLES AND MANHOLE CATCHBASINS 1200mm 4.3. APPLICATION BY OWNER AT OWNER'S EXPENSE DIAMETER PRECAST WITH ALUMINIUM STEPS AT OR OWNER'S CONTRACTOR MAY INSTALL WORKS 300mm CENTRES AS PER OPSD 701.010 UNLESS IN RIGHT OF WAY UPON APPLICATION AND OTHERWISE SPECIFIED. APPROPRIATE PAYMENT TO CITY. CONTRACTOR IS TO MAKE CONNECTION TO THE MANHOLES AND MANHOLE CATCHBASINS 1500mm SERVICES AND RESTORE ALL AFFECTED DIAMETER PRECAST WITH ALUMINIUM STEPS AT 4.4. PROPERTY TO ORIGINAL CONDITION. THE 300mm CENTRES AS PER OPSD 701.011 UNLESS CONTRACTOR IS RESPONSIBLE FOR RESTORATION OTHERWISE SPECIFIED. OF ALL BOULEVARD AREAS. MANHOLES AND MANHOLE CATCHBASINS 1800mm 1.8. THE DEVELOPER'S CONSULTING ENGINEER SHALL DIAMETER PRECAST WITH ALUMINIUM STEPS AT PROVIDE FULL-TIME INSPECTION AND A 300mm CENTRES AS PER OPSD 701.012 UNLESS CERTIFICATE OF COMPLETION UPON COMPLETION OTHERWISE SPECIFIED. FOR ALL WORKS TO BE CONSTRUCTED ON

EXISTING CITY STREETS AND CITY EASEMENTS. ALL UNDERGROUND SERVICES ARE TO BE 1.9. CONSTRUCTED IN FULL COMPLIANCE WITH THE ONTARIO PROVINCIAL BUILDING CODE (PART PLUMBING). THE ONTARIO PROVINCIAL STANDARI LOCAL APPLICABLE CODES AND REGULATIONS;

WHICH CODES AND REGULATIONS SHALL

- SUPERSEDE ALL OTHERS. 1.10. THE UTILITIES CO-ORDINATING COMMITTEE MUST BE INFORMED AT LEAST TWO WEEKS PRIOR TO COMMENCING CONSTRUCTION ON ANY EXISTING CITY ROAD ALLOWANCE
- 1.11. THE CONTRACTOR IS RESPONSIBLE FOR:
- 1.11.1. CONNECTING ANY EXISTING SEWER OR DRAIN 2.12. STORM SEWERS AND SERVICES TO HAVE MINIMUM ENCOUNTERED DURING CONSTRUCTION TO A NEW SEWER OR INTO ANOTHER EXISTING SEWER:
- 1.11.2. ENSURING THAT THERE IS NO INTERRUPTION OF ANY SURFACE OR SUBSURFACE DRAINAGE FLOW THAT WOULD ADVERSELY AFFECT NEIGHBORING PROPERTIES.
- 1.12. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER 48 HRS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION. ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE. DIVISION C. PART SECTION 1.2.2, GENERAL REVIEW. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE CONSTRUCTION INSPECTION AT CONTRACTORS EXPENSE.
- 1.13. PLAN TO BE READ IN CONJUNCTION WITH SERVICING REPORT PREPARED BY MTE CONSULTANTS INC.
- 1.14. SITE PLAN INFORMATION TAKEN FROM PLAN PREPARED BY R.TOME & ASSOCIATE INC./MARSH KATSIOS ARCHITECT INC, DATED JAN 1, 2023.
- 1.15. LEGAL INFORMATION TAKEN FROM PLAN PREPARED BY ARCHIBALD, GRAY AND MCKAY LTD., DATED JUNE 12, 2009. ROAD WIDENING LEGAL INFORMATION TAKEN FROM PLAN PREPARED BY STANTEC GEOMATICS LTD., DATED DECEMBER 4, 2020.
- 1.16. EXISTING TOPOGRAPHIC INFORMATION TAKEN FROM PLAN PREPARED BY ARCHIBALD, GRAY AND McKAY LTD., DATED JUNE 12, 2009.
- 1.17. CONTRACTOR TO INSTALL EROSION CONTROL 3.1. MEASURES AS SHOWN PRIOR TO CONSTRUCTION AND MAINTAIN IN GOOD CONDITION UNTIL CONSTRUCTION IS COMPLETED AND VEGETATIVE COVER IS ESTABLISHED.
- 1.18. RETAINING WALLS TO BE DESIGNED BY OTHERS. FOR WALLS EXCEEDING 1.0m IN HEIGHT. SHOP DRAWINGS MUST BE SUBMITTED FOR REVIEW AND APPROVAL AND BUILDING PERMIT MUST BE OBTAINED. WALLS OVER 0.6m IN HEIGHT REQUIRE GUARDS. HIGH SIDE OF RETAINING WALLS TO BE BACKFILLED WITH FREE DRAINING MATERIAL.
- 1.19. SITE SERVICING CONTRACTOR TO TERMINATE ALL SERVICES 1.0 METER FROM FOUNDATION WALL.
- 1.20. FILTER FABRIC TO BE TERRAFIX 200R OR APPROVED EQUIVALENT.
- 1.21. MAXIMUM GRASSED SLOPE TO BE 3:1. SLOPES 3.4. GREATER THAN 3:1 TO BE LANDSCAPED WITH LOW MAINTENANCE GROUND COVER.
- 1.22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR 3.5. MANHOLES TO BENCHED PER OPSD 701.021. ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING THE SUPPLY. INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS, AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS OF THE CITY OF LONDON AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 1.23. THE POSITION OF POLE LINES, CONDUITS WATERMAINS. SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM

- CATCHBASINS TO BE 600mm SQUARE PRECAST 2.7. AS PER OPSD 705.010.
- 2.8. ALL STORM STRUCTURES TO HAVE A MINIMUM 600mm DEEP SUMP.
- SPECIFICATIONS (OPSS) AND IN COMPLIANCE WITH 2.9. MANHOLE AND CATCHBASIN, FRAMES, GRATES, 4.5. CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.
 - 2.10. STORM MANHOLE LIDS TO BE PER OPSD 401.010 - TYPE 'B' CATCHBASIN AND CATCHBASIN MANHOLE GRATES TO BE PER OPSD 400.100.
 - 2.11. ADJUSTMENT UNITS FOR STORM STRUCTURES TO BE IN ACCORDANCE WITH OPSD 704.010 OR 704.011
 - 1.4m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED SEWER PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI-1.76 (R10) INSULATING FACTOR (TYPICALLY 50-65mm). INSULATION BOARD WIDTH SHALL BE 1.8m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 2.4m FOR 201mm-800mm DIAMETER AND 3.0m FOR 801mm-1400mm. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL COVER). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION OF 2.0% BY VOLUME. ACCEPTABLE PRODUCTS ARE DOW STYROFOAM-SM OR -HI (FULL LINE), OWENS CORNING FOAMULAR (200. 250, OR HIGHER), PLASTISPAN HD-M28 OR OTHER ENGINEER-APPROVED EQUIVALENT.
 - 2.13. UPON FULL COMPLETION OF ALL CONSTRUCTION THE CONTRACTOR SHALL FLUSH ALL SEWERS OF ANY DEBRIS AND PULL A MANDREL THROUGH ALL SEWER PIPE LEADS. THIS DEFLECTION TESTING SHALL BE DONE AS PER OPS SPECIFICATIONS (410.07.01.16.05). THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE SEWER CONSTRUCTION. ANY DEBRIS FLUSHED FROM THE SEWERS SHALL BE COLLECTED PRIOR TO IT LEAVING THE SITE.
 - 2.14. ALL WEEPING TILE DRAINAGE TO BE PUMPED TO THE STORM SEWER SYSTEM.
 - SANITARY SEWERS
 - PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B' AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010 BEDDING MATERIAL AND COVER MATERIAL TO BE COARSE SAND COMPACTED TO 95% STANDARD PROCTOR DENSITY. TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY
 - SANITARY SEWERS 150mm AND SMALLER SHALL 3.2. BE POLYVINYL CHLORIDE (PVC) PIPE DR28 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.
 - 3.3. SANITARY SEWERS 200mm TO 600mm INCLUSIVE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.
 - MANHOLES TO BE 1200mm DIAMETER PRECAST WITH ALUMINIUM STEPS AT 300mm CENTRES AS 4.13 PER OPSD 701.010 UNLESS OTHERWISE SPECIFIED.
 - 3.6. SANITARY MANHOLE LIDS TO BE PER OPSD
 - 401.010 TYPE 'A'.
 - MANHOLE FRAMES, CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.
 - 3.8. ADJUSTMENT UNITS FOR SANITARY STRUCTURES TO BE IN ACCORDANCE WITH OPSD 704.010 OR 704.011
 - 3.9. SANITARY SEWERS AND SERVICES TO HAVE MINIMUM 1.4m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "SEWER

- DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI-1.76 (R10) INSULATING FACTOR (TYPICALLY 50-65mm) INSULATION BOARD WIDTH SHALL BE 1.8m FOR FOR 201mm-800mm DIAMETER AND 3.0m FOR 801mm-1400mm. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL PLACEMENT). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION ŘAŤE OF 2.0% BY VOLUME. ACCEPTABLE PRODUCTS ARE DOW STYROFOAM-SM OR -HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD-M28 OR
- UPON FULL COMPLETION OF ALL CONSTRUCTION, THE CONTRACTOR SHALL FLUSH ALL SEWERS OF ANY DEBRIS AND PULL A MANDREL THROUGH ALL SEWER PIPE LEADS. THIS DEFLECTION TESTING SHALL BE DONE AS PER OPS SPECIFICATIONS (410.07.01.16.05) THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE SEWER CONSTRUCTION. ANY DEBRIS FLUSHED FROM THE SEWERS SHALL BE COLLECTED PRIOR TO IT LEAVING THE SITE.

OTHER ENGINEER-APPROVED EQUIVALENT.

- 3.11. CONTRACTOR RESPONSIBLE FOR TESTING OF SANITARY SEWERS IN ACCORDANCE WITH OPSS 410.
- WATERMAINS 4.
 - PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010. BEDDING MATERIAL AND COVER MATERIAL TO B COARSE SAND COMPACTED TO 95% STANDARD PROCTOR DENSITY. TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY
- WATER SERVICE CONNECTIONS 50mm AND 4.2. SMALLER, SHALL BE MUNICIPEX CROSS-LINKED POLYETHYLENE.
- WATERMAINS 100mm AND LARGER SHALL BE PVC C900 CLASS 150 INSTALLED WITH MINIMUM 1.7 METRES OF COVER. FITTINGS 100mm AND LARGER SHALL BE PC CLASS 150 (DR18) CSA B137.3
- WATERMAIN FITTINGS TO BE SUPPLIED WITH MECHANICAL JOINT RESTRAINTS. FOR WATERMAIN PIPE SIZES 150mmø OR LESS ALL PIPE JOINTS TO BE RESTRAINED WITHIN 5.0m FROM ALL FITTINGS, IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. FOR WATERMAIN PIPE SIZES GREATER THAN 150mmø ALL PIPE JOINTS TO BE RESTRAINED WITHIN 10.0m FROM ALL FITTINGS. IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. ALL TEE'S TO HAVE MINIMUM 2.0m SOLID PIPE LENGTH ON EACH RUN OF THE TEE, OR PROVIDE A THRUST BLOCK PER OPSD 1103.010.
- ALL METALLIC FITTINGS (EXCLUDING CURB/MAIN STOP AND BRASS FITTINGS) AND APPURTENANCES INCLUDING SADDLES, VALVES, TEES, BENDS ETC ARE TO BE WRAPPED WITH AN 5.5. APPROVED PETROLATUM SYSTEM CONSISTING OF PASTE, MASTIC AND TAPE. PARTICULAR ATTENTION SHALL BE PAID TO ANODE INSTALLATION, CONTRACTOR TO REFER TO THE MOST RECENT EDITION OF AREA MUNICIPALITIES SPECIFICATIONS FOR MUNICIPAL SERVICES, FOR WRAPPING DETAILS.
- WATERMAIN VALVES 100mm AND LARGER SHAL 4.6. BE AS PER AWWA C509 – MUELLER A2360–23 6.1. OR APPROVED EQUIVALENT (OPEN LEFT) INCLUDING VALVE BOX AND 2.3Kg ANODE INCLUDING ANODE PROTECTION INSTALLED PER THE CITY OF LONDON STANDARDS.
- PVC WATERMAIN SHALL HAVE TRACER WIRE 4.7. (COPPERHEAD) 12 GAUGE STRAPPED TO TOP AT 5 METRE INTERVALS. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL HYDRANTS AND CAD WELDED TO THE LOWER FLANGE OF THE HYDRANT.
- HYDRANTS SHALL BE CANADA VALVE "CENTURY 4.8 OR APPROVED EQUIVALENT WITH 2-64mm HOSE CONNECTIONS INCLUDING 5.5Kg ANODE.
- MAIN STOPS. CURB STOPS AND COUPLINGS 4.9. SHALL BE AWWA C-800 COPPER TO COPPER FLANGED OR COMPRESSION CONNECTION OR APPROVED EQUIVALENT.
- SERVICE BOXES TO BE FERGUSON ECLIPSE TYPE 4.10 FIGURE 222 SIZE NO. 9 OR APPROVED EQUIVALENT COMPLETE WITH ROD AND PLUG.
- WATER CONNECTIONS MAY BE PLACED IN THE 4.11 SAME TRENCH WITH A STORM OR SANITARY CONNECTION ONLY IF A MINIMUM VERTICAL SEPARATION OF 500mm IS MAINTAINED BETWEEN THE WATER SERVICE AND ANY OTHER PIPE. IN ACCORDANCE WITH SECTION 7.3.5.7.(2)(a)(i) OF THE ONTARIO BUILDING CODE
- MINIMUM 1.7m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "WATER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI-3.52 (R20 INSULATING FACTOR (TYPICALLY 100-130mm) INSULATION BOARD WIDTH SHALL BE 2.4m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 3.0m FOR 201mm-305mm DIAMETER. INSULATION BOARD SHALL BE INSTALLED WITH MINIMUM2-LAYERS, OVERLAPPED MINIMUM 300mm AT ALL JOINTS. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL PLACEMENT). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME.ACCEPTABLE
- PRODUCTS ARE DOW STYROFOAM-SM OR -HI (FULL LINE), OWENS CORNING FOAMULAR (200. 250, OR HIGHER), PLASTISPAN HD-M28 OR OTHER ENGINEER-APPROVED EQUIVALENT. CITY OF LONDON TO SUPPLY WATER METER.
- CONTRACTOR TO INSTALL CHAMBER. METER. ALL VALVES, PIPING AND REMOTE METER READOUT AT LOCATION ON BUILDING EXTERIOR ACCEPTABLE TO THE CITY.
- 4.14. ALL WATERMAIN TO BE PRESSURE TESTED IN ACCORDANCE WITH OPSS 441. DISINFECT ALL WATERMAIN IN ACCORDANCE WITH AWWA C651-99 INCLUDING CHLORINATION, BACKFLOW PREVENTOR AND 24 HOUR DUPLICATE SAMPLING. ALL TESTING AND DISINFECTION TO BE COMPLETED UNDER THE SUPERVISION OF THE ENGINEER. (CONTRACTOR TO SUBMIT WATER COMMISSIONING PLAN IN ACCORDANCE WITH DGSSMS. THIS PLAN MUST BE APPROVED BY THE CITY OF LONDON PRIOR TO ANY WATERMAIN

WORK).

