

To: Development Services Committee

From: Warren Munro, HBA, RPP, Commissioner,
Development Services Department

Report Number: DS-22-51

Date of Report: March 2, 2022

Date of Meeting: March 7, 2022

Subject: Results of Staff Investigation regarding a Water Drainage Issue
at 903 Black Cherry Drive

Ward: Ward 1

File: 03-05

1.0 Purpose

On September 9, 2021, the Development Services Committee considered correspondence from Ken Roberts regarding a water drainage issue at 903 Black Cherry Drive as Item DS-21-156 and referred the correspondence to staff for a report.

Mr. Roberts is the original homeowner of the single detached dwelling at 903 Black Cherry Drive. Mr. Roberts advises that he has experienced a wet backyard in the past. Mr. Roberts has experienced drainage issues with his pool since it was installed in 2019. He believes a berm on City-owned Open Space Block 89 in 40M-2264 to the rear of his property may be a contributing cause. Mr. Roberts has requested that the City remove the berm from Block 89 in 40M-2264.

The purpose of this Report is to provide the background information on the water drainage issue at 903 Black Cherry Drive.

Attachment 1 is a copy of correspondence Item DS-21-156 dated August 24, 2021.

Attachment 2 is an exhibit showing the location of 903 Black Cherry Drive and surrounding contextual elements including the location of Boreholes 7 and 9 from a Geotechnical Investigation dated May 10, 1995 prepared by Golder Associates Ltd. on behalf of the subdivider, FKT Co-Tenancy.

Attachment 3 is a Geotechnical Investigation dated May 10, 1995 prepared by Golder Associates Ltd. on behalf of FKT Co-Tenancy to determine subsurface and groundwater conditions of the area in support of the subdivision application. Owing to its size and accessibility issues, the Geotechnical Investigation is not attached to this Report but is available for viewing in Engineering Services.

Attachment 4 is a copy of the approved Lot Grading Plan for 903 Black Cherry Drive prepared by D.G Biddle and Associates Ltd. dated October 14, 2011 and submitted as part of the Building Permit process for 903 Black Cherry Drive.

Attachment 5 is a copy of a Site Alteration Permit (S.A.P.) dated May 10, 2019 for 903 Black Cherry Drive submitted by Ken Roberts for a pool installation.

Attachment 6 is a copy of a Lot Grading Certificate prepared by D.G. Biddle and Associates Ltd. on behalf of FKT Co-Tenancy for 903 Black Cherry Drive dated December 16, 2019 (Lot 49 on Plan 40M-2442).

2.0 Recommendation

That the Development Services Committee recommend to City Council that Report DS-22-51 dated March 2, 2022 concerning a drainage issue at 903 Black Cherry Drive be received for information.

3.0 Executive Summary

Not Applicable.

4.0 Input From Other Sources

The following have been consulted in the preparation of this Report:

- Commissioner, Community Services
- D.G. Biddle and Associates Ltd.

5.0 Analysis

5.1 Background and Chronology

The following are key dates associated with the development of 903 Black Cherry Drive:

- Draft Plan of Subdivision approved on April 20, 1998
- Draft Plan of Subdivision registered on June 24, 2011
- Lot Grading Plan was approved on October 14, 2011 (see Attachment 4)
- House occupancy was achieved in April 2012
- Pool Installation Site Alteration Permit was issued on May 10, 2019
- Lot Grading Certification was received on December 16, 2019
- The subdivision was assumed and the securities were released in February 2020

As part of the Draft Plan Approval Process of a subdivision, there are many conditions that accompany formal Draft Plan approval received through a Council Report. These conditions are subsequently included within a legally binding subdivision agreement that is executed between the City and the subdivider. These conditions typically include the need to hire an independent engineering company to complete detailed engineering subdivision plans and reports, including a Master Drainage Plan and Geotechnical Report. The Master Drainage Plan shows at a subdivision level, how the surface drainage will be

captured, routed, treated and outletted to the City's Storm Sewer/Creek system. The Geotechnical Report provides recommendations on the suitability of existing and imported soil, including groundwater conditions.

Once detailed engineering has been completed by the independent engineering company, and approved by the City, the subdivider can commence with road and sewer construction to service the subdivision lands and individual houses/lots. Once sewers and roads are in place, the Builder (which can sometimes can be the same company as the subdivider) can begin to apply for Building Permits. As a condition of the subdivision agreement, the Builder is required to submit a Lot Grading Plan to accompany each individual Building Permit. The Lot Grading Plan shows how drainage will be captured and routed within the individual lot, while in conformance to the overall Master Drainage Plan. Additionally, once construction/grading of the individual lot/house has been completed, the independent engineering company is required, as a condition of the subdivision agreement, to submit a Lot Grading Certificate for each individual lot that confirms that the grading has been completed in general conformance with the Lot Grading Plan and Master Drainage Plan.

In this particular case, FKT Co-Tenancy is the developer and Greycrest is the builder having purchased building lots from FKT Co-Tenancy.

5.2 Field Investigations and Desktop Review

5.2.1 Field Investigation

In the Fall of 2020 and the Spring of 2021, Engineering Services staff and Community Services staff attended the site on several occasions to consult with the homeowner and conduct field observations.

The field observations noted the following:

- Roof water leaders are currently piped underground in an area adjacent to the pool;
- Surface water was observed along the rear lot line (flowing east to west) in the swale behind the rear fence but no significant ponding/flooding was present;
- Porous stone material had been placed along the property lines (see Attachment 5); and,
- The open space area to the south of the property that is owned by the City (Block 89 in 40M-2264) is generally elevated higher than the backyard along the rear lot line, with the exception of the southwest corner of the lot which is currently providing an outlet for surface drainage.

5.2.2 Desktop Review

Engineering Services staff also conducted a desktop review including a review of available information such as the Lot Grading Plan, the Master Drainage Plan, the S.A.P. and the Geotechnical Investigation dated May 10, 1995 prepared by Golder Associates Ltd.

It is noted that the Lot Grading Plan was certified by D.G. Biddle and Associates Ltd. on December 16, 2019. Engineering Services staff have confirmed with D.G. Biddle and Associates Ltd. that the Lot Grading Certificate took into consideration the grades for the S.A.P. that authorized the grading changes associated with a swimming pool in 2019. Essentially, the grades that were approved in the Master Drainage Plan, the grades that were approved in the S.A.P. and the grades that were ultimately certified by D.G. Biddle and Associates Ltd. are aligned and confirm that the lot has the appropriate grades to drain the lot in a manner that will not adversely affect this site or neighboring lots.

It is further noted that the Geotechnical Investigation dated May 10, 1995 prepared by Golder Associates Ltd. noted the following:

- The general area surrounding 903 Black Cherry Drive was a drumlinized till plain consisting of glacial tills and containing layers of water bearing sand;
- Shallow groundwater conditions were noted in 24 of the 72 boreholes ranging in depth from 0.3 metres (1 foot) to 6.1 metres (20 feet); and,
- The shallowest water level was detected in Boreholes 7 and 9, both of which are in the Open Space Block 89 in Plan 40M-2264 in proximity to 903 Black Cherry Dr. (see Attachment 2).

5.3 Staff Comments

Prior to the assumption of a subdivision, it is the subdivider's engineer who has the responsibility to ensure that the individual lot grading conforms to the Master Drainage Plan for the subdivision. The subdivider's engineer is D.G. Biddle and Associates Ltd. who have confirmed in December of 2019 that the lot was in compliance with the Master Drainage Plan and the lot grading plan.

However, in 2019, the homeowner applied for a Pool Enclosure Permit and a S.A.P. The S.A.P. was issued in May 2019 and is signed by the homeowner (see Attachment 5). One condition of the S.A.P. requires that the Owner "acknowledges and agrees that the proposed work may downgrade the grading/drainage condition of the lot and will accept full liability of the condition changes, if any".

It is important to note the City's review of the S.A.P. is primarily limited to ensuring that the altered drainage patterns do not negatively affect a neighboring property and have an appropriate outlet. The drawing attached to the S.A.P., as provided by the applicant, indicates that surface drainage would flow north to south along the side lot lines and flow east to west along the rear fence line and outletting to the City-owned open space area (Block 89 in 40M-2264) at the southwest corner of the lot. This is what has been observed on site. It is also important to note that the City does not review or inspect the construction techniques or methods utilized by private pool contractors.

Finally, it is important to note that prior to the installation of the pool, the City has no record of any drainage complaints along Black Cherry Drive and it is inferred that the lot was draining in accordance with the approved drainage plans.

5.4 Possible Causes

It is difficult for staff to determine the exact cause of a drainage issue on private property. In staff's experience, drainage issues are commonly caused by the following:

- Alterations to existing grades by homeowners while installing fences, sheds, gardens, pools, landscaped areas, etc.
- Broken/disconnected pipes from roof leaders; and,
- High groundwater table

5.4.1 Alterations to Existing Grades

In the past, development surrounding a site would be a common cause for drainage issues. Municipal governments reacted to this issue by requiring Master Drainage Plans, Lot Grading Plans and S.A.P.s to help guide development and ensure that lots are properly graded in order to drain properly and not adversely affect adjacent properties. At the time that the subdivision was approved, the City did not have a process to require a block being transferred to the City to have a lot grading plan associated with it.

The field investigation appears to indicate that the berm at the north end of Block 89 is slightly higher than the rear of 903 Black Cherry Drive, with the exception of the southwest corner of the lot. However, staff do not believe that this is the cause of the issues related to the pool for two reasons. Firstly, there is an appropriate surface drainage outlet at the southwest corner of the lot. Secondly, there is no history of complaints prior to the pool installation.

Through the construction of the pool, porous stone material has been placed along the property lines (see Attachment 5). Water may be making its way into the pool area through the porous stone material.

5.4.2 Broken/disconnected pipe from Roof Water Leaders

The field investigation confirmed that the roof water leaders are now buried below grade. Mr. Robert advises that the roof leaders discharge at the rear of 903 Black Cherry Drive into the City-owned open space block (Block 89 in 40M-2264). It is important to note that this adaptation was advanced by the homeowner after construction of the house and is contrary to the Lot Grading Plan that was submitted during the Building Permit process. It is difficult to confirm that they are functioning properly and where they are outletting. If pool construction equipment damaged below grade piping associated with the roof leaders during the pool installation process, the result would be roof rainwater discharging underground in the vicinity of the pool.

5.4.3 High Groundwater Table/ Soils

The Geotechnical Investigation dated May 10, 1995 prepared by Golder Associates Ltd. indicates the location of boreholes (see Attachment 2). As noted in the Geotechnical Report, Boreholes 7 and 9 had the shallowest groundwater table. When considering the

underlying soil condition is water bearing sand, it is staff's opinion that groundwater and not surface water is the likely cause of the issues experienced by the pool.

In addition, it is possible that the permeability of the undisturbed soils around the pool excavation is less than the permeability of the backfill. Accordingly, water conveyed through perimeter stone material and/or as a result of a high water table may be saturating the pool area.

5.4.4 Summary

To the City's knowledge, the lot drainage was working adequately as designed prior to the installation of the pool. The associated S.A.P., as signed by the applicant, clearly outlined the applicant's responsibilities for drainage of the lot as a result of the construction of the pool.

Staff do not believe that the City berm in Block 89 of 40M-2264 is the cause of the issues related to the pool for two reasons. Firstly, there is an appropriate surface drainage outlet at the southwest corner of the lot. Secondly, there is no history of complaints prior to the pool installation.

Staff consider this to be a private property matter that the City has no obligation or responsibility to rectify as the pool damage is likely due to one or a combination of:

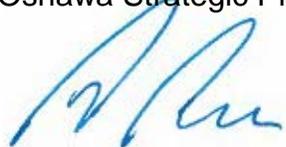
- Shallow groundwater levels;
- Roof water leader outlet/damage;
- Porous stone around the pool; and,
- Less permeable soils surrounding the pool excavation area.

6.0 Financial

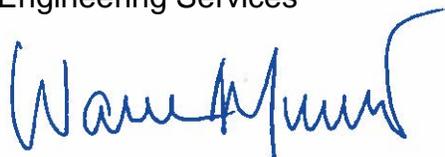
There are no financial implications as a result of the recommendation in this Report.

7.0 Relationship to the Oshawa Strategic Plan

The recommendation of this Report advances the Accountable Leadership goal of the Oshawa Strategic Plan.



Anthony Ambra, Director,
Engineering Services



Warren Munro, HBA, RPP, Commissioner,
Development Services Department

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

From: Ken Roberts <M.F.I.P.A Sec. 14(1)>

Date: Aug. 24, 2021 8:49 a.m.

Subject: 903 Black Cherry Drive water issues

To: clerks <clerks@oshawa.ca>

Cc: Rosemary McConkey <rosemcconkey@live.com>, Anthony Ambra

<AAmbra@oshawa.ca>, Ron Diskey <RDiskey@oshawa.ca>, Mike Saulnier

<MSaulnier@oshawa.ca>, Rick Kerr <RKerr@oshawa.ca>, John Neal <JNeal@oshawa.ca>, Paul

Ralph <PRalph@oshawa.ca>, Warren Munro <WMunro@oshawa.ca>

Hello

My Name is Ken Roberts the current owner at 903 Black Cherry Drive in Oshawa. I am writing this to express my concerns regarding water issues we are having in our backyard causing issues with our inground pool. I would like this matter added to the agenda of the community services committee meeting on Monday September 20th at 9:30 am.

To give a summary of some of the issues we experienced over the last few years may take a bit but I will try and keep it brief. Since we purchased the home in 2012 we have had issues with our backyard being extremely wet all the time. In 2019 we installed an inground pool in the backyard and since then we have been having major issues with the pool liner floating since day one.

Knowing that the property was extremely wet upon construction of the pool, the pool company installed weeping tile around the perimeter of the pool to try and assist with channelling the water away from the liner. This unfortunately did not work, so over the past 3 summers the pool company has worked weekly with trying to find any issues if any with the pool or with their work. They have sent service techs. out to pump out the liner on a weekly basis. They have conducted numerous sonar tests on the liner to determine if there were any holes or imperfections. July 2020 the pool company decided to change the liner out for a new one thinking this would fix the problem but it did not. The pool company has exhausted all their efforts and have nothing further to check or change, so with that being said we are still faced with having to pump out the liner on a weekly basis at our cost.

As I stated earlier, we have been having these issues even before the pool was installed. Dealing with these issues over the last 3 years and trying to determine what could be causing these water issues is when we took a closer look over the fence and noticed the small berm which could

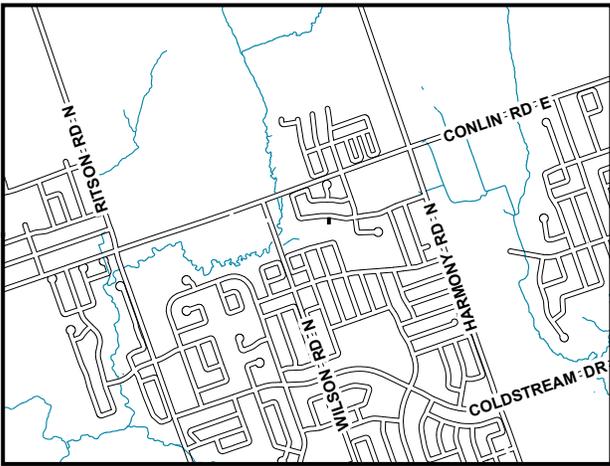
possibly be obstructing the water flow into the ravine behind our property. At this time I involved our councillor Rosemary McConkey who contacted the city for removal of this berm. City engineer Anthony Ambra did visit the property and determined that it could possibly be an issue and may help your water issues.

Trying to summarize this in an email is not easy as it has been ongoing for so long. If any further explanation is required please feel free to reach out to me. If you require me to be a delegation and speak to the committee please give me a call or provide the meeting agenda?

Thanks

Ken Roberts

<M.F.I.P.A Sec. 14(1)>



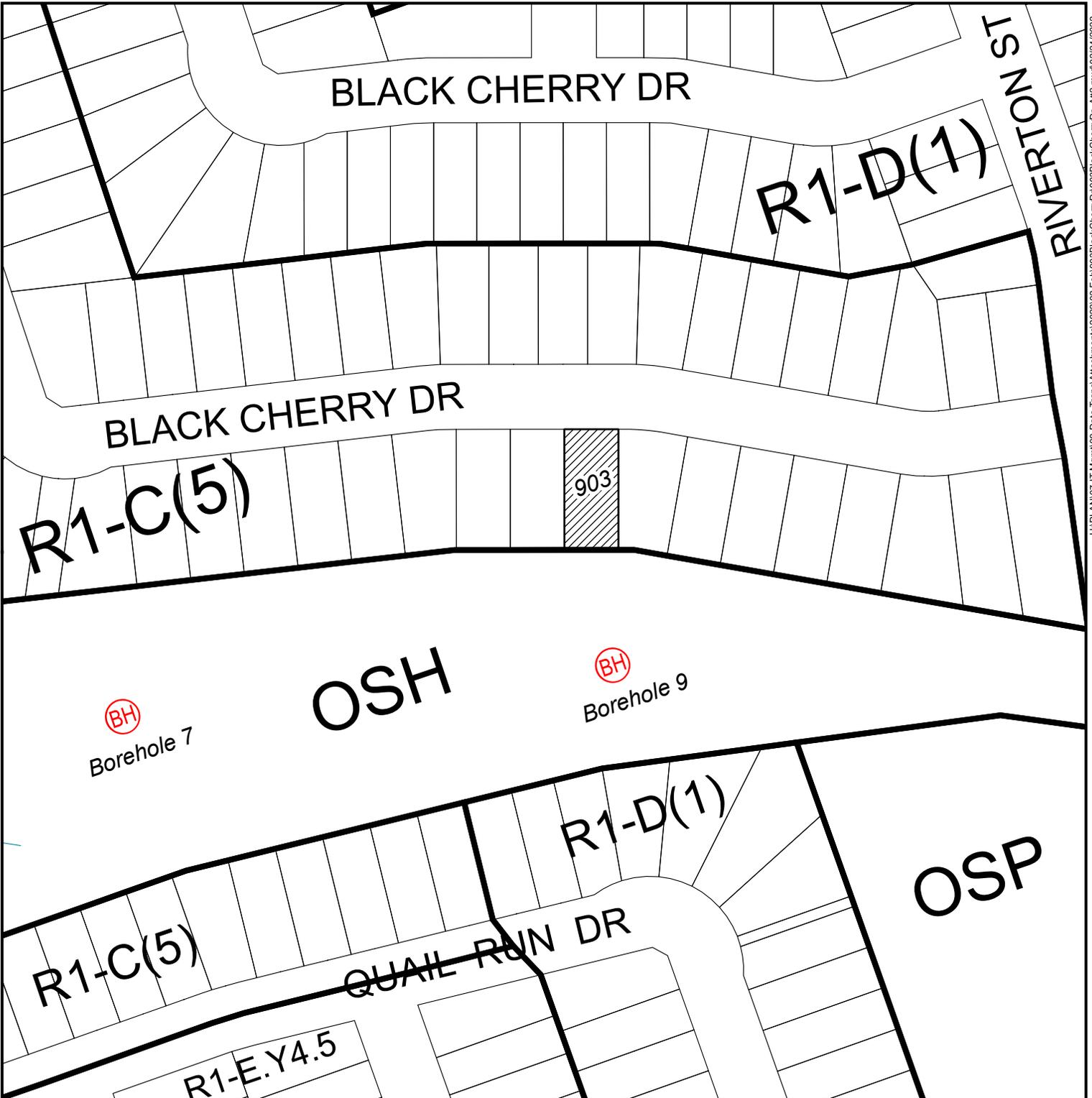
Item: DS-22-51
Attachment 2

Development Services Department

Subject: Results of Staff Investigation regarding a Water Drainage Issue at 903 Black Cherry Drive
Ward: Ward 1
File: 03-05



Borehole Sites 
Subject Site 



H:\PLAN\07-IT Mgmt\05-Data Trans\Attachments\2022\02 Feb\03\BlackCherryDr_03\BlackCherryDr_At2.mxd 10/24/2022

FOR OFFICE USE ONLY		Value	Date
a)	Erosion & Sediment Control Plans and/or Report Received	N/A	N/A
b)	Estimated cost of Erosion & Sediment Control works	N/A	N/A
c)	Permit fee and application received	\$208.00	May 17 /19
d)	Security	\$500.00	May 10 /19
e)	Date permit issued	N/A	May 10 /19
f)	Expiry date	N/A	May 10 /20
SAB: 2019-000-31			

The Site Alteration Permit is subject to the following conditions:

- a) Proposed scope of work is as per the redlined plan submitted by the agent dated and received on April 19, 2019.
- b) Owner acknowledges and agrees that the proposed work may downgrade the grading/drainage condition of his lot and will accept full liability of the condition changes, if any.
- c) The existing ground elevations of the land within 0.60m of the property lines are to remain the same as preconstruction conditions and be kept open at all times without obstruction to ensure that the existing drainage pattern is maintained. Gravel or rock that does not obstruct the flow of water way be placed within this area.
- d) The location of the pool, deck associated with it, concrete pad for the pool equipment, interlocking patio, shed and any subsequent landscaping works shall be located at a distance no less than 0.6m all property lines.
- e) Access to the property will be as shown on the aforementioned redlined plan.
- f) A road occupancy permit, road restoration deposit and any other necessary permits that may be required must be obtained by the owner, contractor or agent prior to the commencement of the works.
- g) Construction practices employed by the homeowner's contractor should have due-regard to the concerns of the surrounding residents. The proposed works shall not have an adverse impact on the neighboring properties, either during or after construction.
- h) The owner acknowledges and agrees to discharge all pool water to the street in accordance with the City's Property Standards By-law 1-2002.
- i) Excess excavated material is to be taken off site at the time of excavation.
- j) Erosion control measures may be required and will be determined by onsite inspections and monitoring.
- k) Securities will be held until a concluding inspection of the final grading is to the satisfaction of the City.

I, KEN ROBERTS declare that I have read and fully understand all the conditions and acknowledgments in the above section and agree to comply with all of them.

Signature: 

Signature Owner Authorized Agent/Applicant Date: May 10/19

Application Approved:

Name:

Harshad Patel

Title:

Water Resources Engineer

Signature:



Date:

Thursday May 9, 2019



D.G. Biddle & Associates Limited
consulting engineers and planners
98 KING ST. E., OSHAWA, ONTARIO L1H 1B8 PHONE (905) 576-8500 FAX (905) 576-8730
e-mail: info@dgbiddle.com

December 16, 2019

The Corporation of the City of Oshawa
Department of Engineering Services
50 Centre Street South
Oshawa, ON L1H 3Z7

Attention: Mr. Kim Staunton

Re: **FKT Co-Tenancy**
Forest Hills Subdivision, Phase 4B
Plan 40M - 2442
Lots 5, 6, 11, 23, 24, 25, 27, 30, 31, 32, 33, 34, 35, 36, 37, 42, 44, 45, 47, 49,
57, 74, 75, 76, 77, 88, 89, 98 and 130
City of Oshawa
Lot Grading Certification
Our File: 109001 / 111223

Dear Sir:

This is to certify that we have inspected the Lot Grading for Lots 5, 6, 11, 23, 24, 25, 27, 30, 31, 32, 33, 34, 35, 36, 37, 42, 44, 45, 47, 49, 57, 74, 75, 76, 77, 88, 89, 98 and 130 Plan 40M - 2442, City of Oshawa.

The above lots have been graded according to the approved Lot Grading Plan, Drawing No. 109001-L-G-1, 109001-L-G-2 and 109001-L-G-3, prepared by D.G. Biddle & Associates Limited.

No drainage problems were apparent at the time of inspection and it is not expected that any drainage problems will occur in the future.

We recommend the release of these lots from the Subdivision Agreement.

Yours truly,

D.G. BIDDLE & ASSOCIATES LIMITED

M. B. Carswell, P. Eng.
Municipal Design Engineer, Associate
MBCA/Members



c.c. Greycroft Homes
H. Kassinger Construction
Lot Grading Certification File
Contract Administration File